PROPOSED QUICK SERVE RESTAURANT:

OM GROUP - HAWAIIAN BROS - STR: 135

INIDANAPOLIS, INDIANA





PERSPECTIVES INCLUDED FOR REFERENCE ONLY

PROJECT CONTACTS (EXCEL)

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PROJECT CONTACTS (DRAWINGS BY OTHERS)

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SIGNAGE:
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FURNITURE:
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KITCHEN HOODS:
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NATIONAL ACCOUNT VENDORS

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BDalziel@nichiha.com

GLEN GERY BRICK:
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+1 (322) 400-7226
jonathan.taylor@brickworksna.com

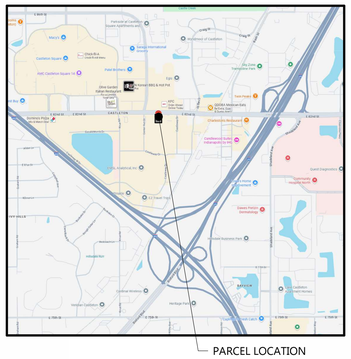
CANTILEVERED CANOPIES:
AMERICAN PRODUCTS, INC:
KERRI BEALS
+1 (813) 925-0144
specs@americanproducts.com

ABBREVIATIONS

ADD.	ADDITION	DISP.	DISPENSER	I.D.	IDENTIFICATION	R.D.	ROOF DRAIN
&	AND	D.W.	DRYWALL	INSUL.	INSULATED	REF.	REFERENCE
ACOUS.	ACOUSTICAL	EA.	EACH	INST.	INSTALL	R.F.E.	REGIONAL FLOODPLAIN
A/C	AIR CONDITIONING	E.I.F.S.	EXTERIOR INSULATION FINISH SYSTEM	INT.	INTERIOR		ELEVATION
A.F.F.	ABOVE FINISH FLOOR		ELEVATOR PIT	INV.	INVERT	SAN.	SANITARY SEWER
ALUM.	ALUMINUM	EJ.	EXPANSION JOINT	JT.	JOINT	S.C.D.	SEE CIVIL DWG.
ALT.	ALTERNATE	EL.	ELEVATION	JT.	JOINT	SEC.	SECTION
APPROX.	APPROXIMATELY	ELEC. / E	ELECTRICAL	JAN.	JANITOR	SERV.	SERVICE
ARCH.	ARCHITECT	ELEV.	ELEVATOR	J.B.	JUNCTION BOX	SFRS.	SEISMIC FORCE RESISTING SYSTEM
ASPH.	ASPHALT	ENCL.	ENCLOSED	LOUV.	LOUVER		
A.B.	ANCHOR BOLT	ENG.	ENGINEER	LAM.	LAMINATED	SHT.	SHEET
ADJ.	ADJUSTABLE	E.W.	EACH WAY	LAV.	LAVATORY	SHTG.	SHEATHING
APT.	APARTMENT	E.W.C.	ELECTRIC WATER COOLER	LB.	POUND	SDG.	SIDING
AVE.	AVENUE	EQ.	EQUAL	LT.	LIGHT	SAN.	SANITARY SEWER
AVE.	AVENUE	EQUIP.	EQUIPMENT	MACH.	MACHINE	STM.	STEAM
AGGR.	AGGREGATE	EXCAV.	EXCAVATE	MAX.	MAXIMUM	SIM.	SIMILAR
A.C.T.	ACOUSTICAL TILE	EXH.	EXHAUST	MECH.	MECHANICAL	SM.RM.	SMOOTH
B.F.	BARRIER FREE	EXT.	EXTERIOR	MIN.	MINIMUM	SPEC.	SPECIFICATION
BD.	BOARD	EXP.	EXPANSION	MECH.	MECHANICAL	SQ.	SQUARE
BLDG.	BUILDING	EXPY.	EXPRESSWAY	MEZZ.	MEZZANINE	STD.	STANDARD
B.L.L.	BUILDING LINE	EMPD.	EMPLOYED	MFR.	MANUFACTURE	SECUR.	SECURITY
BLK.	BLOCK	F.D.	FLOOR DRAIN	MH.	MAN HOLE	STL.	STEEL
BLK'G.	BLOCKING	FOUND.	FOUNDATION	MISC.	MISCELLANEOUS	STOR.	STORAGE
B.O.J.	BOTTOM OF JOIST	FDC.	FIRE EXTINGUISHER CABINET	M.S.	MACHINE SCREW	STR.	STAIR
B.O.S.	BOTTOM OF STEEL	F.E.C.	FIRE EXTINGUISHER CABINET	MTL.	METAL	STRUC.	STRUCTURAL
B.W.	BOTH WAY	F.R.	FIRE RESISTANT	MR	MOISTURE RESISTANT	SYS.	SYSTEM
B.M.	BENCH MARK	FT.	FINISH FLOOR	MTD.	MOUNTED	SS	SERVICE SINK
BTWN.	BETWEEN	FIN.	FINISH ALLOWANCE	MULL.	MULLION	ST.	STREET
BRG.	BEARING	FIN.	FINISH	MBMR	MBMRMAE	SHT.	SHEET
BRK	BRICK	FLR.	FLOOR	MEZZ.	MEZZANINE	S.S.	STAINLESS STEEL
B.T.U.	BRITISH THERMAL UNITS	FLSH.	FLASHING	M.C.	MISCELLANEOUS CHANNEL	SUSP.	SUSPENDED
B.O.W.	BOTTOM OF WALL	FLUOR.	FLUORESCENT	MWFRS.	MAIN WIND FORCE RESISTING SYSTEM	T.	TREAD
B.C.	BACK OF CURB	F.O.C.	FACE OF CURB			T.O.S.	TOP OF STUD
CA.	CARPET	FTG.	FOOTING	N.I.C.	NOT IN CONTRACT	T.O.B.	TOP OF BEARING
CAB.	CABINET	FRM'G	FRAMING	NO. or #	NUMBER	T.O.W.	TOP OF WALL
C.J.	CEILING JOIST	FT.	FOOT	N.T.S.	NOT TO SCALE	T.O.C.	TOP OF CURB
C.I.	CAST IRON	FURN.	FURNACE	NOM.	NOMINAL	T.O.F.	TOP OF FOOTING
CLG.	CEILING	FAB.	FABRICATED	NAT.	NATURAL	T&B	TOP & BOTTOM
CEM.	CEMENT	FIX.	FIXTURE	O.F.C.I.	OWNER FURNISHED CONTRACTOR INSTALLED	T.C.	TOP OF CURB
CER.	CERAMIC	FBO.	FURNISHED BY OWNER INSTALLED	O/O	OUTSIDE FACE OF STUD	TEL.	TELEPHONE
C/C	CENTER TO CENTER	F.O.S.	FACE OF STUD	OF/OI	OWNER FURNISHED	T&G.	TONGUE & GROOVE
C.I.	CONSTRUCTION JOINT/	F.O.B.	FACE OF BRICK		OWNER INSTALLED	THK.	THICK
	CONTROL JOINT	F.C.O.	FLOOR CLEAN OUT	O/O	OUT TO OUT	T.O. STL.	TOP OF STEEL
CL.	CENTER LINE	FL.	FLOOR LINE	OPP.	OPPOSITE	T.S.	TUBE STEEL
C.T.	CERAMIC TILE	F.O.C.	FACE OF CONCRETE	O.F.S.	OUTSIDE FACE OF STUD	T.S.	TUBE STEEL
C.O.	CLEAN OUT	F.O. CMU	FACE OF CMU	O.F.SH.	OUTSIDE FACE OF SHEATHING	TYP.	TYPICAL
CLR.	CLEAR	FPR.	FIREPROOFING	OPG.	OPENING	U.N.O.	UNLESS NOTED OTHERWISE
CLG.	CEILING	FURR.	FURRING	OPP.	OPPOSITE	UNFIN.	UNFINISHED
CON.	COLUMN.	F.V.	FIELD VERIFY	O.C.	ON CENTER	U.N.O.	UNLESS NOTED OTHERWISE
COMP.	COMPOSITION/COMPACT.	G.	GAS	OVERHD.	OVERHEAD	UNFIN.	UNFINISHED
CMU	CONCRETE MASONRY UNIT	GA.	GAUGE	O.F.C.	OUTSIDE FACE OF CONCRETE	UTIL.	UTILITIES
CONC.	CONCRETE	GALV.	GALVANIZED CONTRACTOR	OPNG.	OPENING	VERT.	VERTICAL
CONT.	CONTINUOUS	G.I.	GALVANIZED IRON	PA.	PAINT	VEST.	VESTIBULE
CONTR.	CONTRACTOR	GL.	GLASS	P.D.F.	POWER DRIVEN FASTENER	V.C.T.	VINYL COMPOSITION TILE
CTR.	CENTER	GL. LAM.	GLUE LAMINATED BEAM	PL.	PLASTIC LAMINATE	V.I.F.	VERIFY IN FIELD
CONN.	CONNECTION	GYP.	GYPSUM	PL.	PLATE	VOL.	VOLUME
CTSK.	COUNTER-SINK	G.B.	GYPSUM BOARD	PLAS.	PLASTER	V.T.R.	VENT THOUGH ROOF
CORR.	CORRUGATED	GALV.	GALVANIZED	PLYWD.	PLYWOOD	VPT.	VENT PIPE
C.W.	COLD WATER	GR.	GRADE	PR.	PAIR	VENT.	VENTILATION
DBL.	DOUBLE	GR'D.	GROUNDED	PRTN.	PARTITION	VERT.	VERTICAL
DEG.	DEGREE	HD.	HEAD	P.T.	PRESSURE TREATED	W.	WATER
DET.	DETAIL	HDR.	HEADER	PF.	PREFINISHED	WC.	WITH
DIAG.	DIAGONAL	HT.	HEIGHT	PT.	POINT	W.C.	WATER CLOSET
DIA. / Ø	DIAMETER	HGT.	HEIGHT	PLB.	PLUMBING	W.C.O.	WALL CLEAN OUT
DIM.	DIMENSION	HOR.	HORIZONTAL	PREFAB.	PREFABRICATED	WD.	WOOD
DN.	DITTO	H.C.	HOLLOW CORE	PR.	PAIR	W.H.	WATER HEATER
DIV.	DIVISION	H.M.	HOLLOW METAL	R.O.	ROUGH OPENING	W.S.	WEATHER STRIPPING
DR.	DOOR	HR.	HOSE BIB	REQ'D.	REQUIRED	WDW.	WINDOW
DN.	DOWN	HDWD.	HARDWOOD	RM.	ROOM	W.I.	WROUGHT IRON
DS.	DOWNSPOUT	HDWR.	HARDWARE	REV.	REVISION	W.R.	WEATHER RESISTANT
DWG.	DRAWING	H.M.	HOLLOW METAL	RFG.	ROOFING	WT.	WEIGHT
DEPT.	DEPARTMENT	HR.	HOUR	REINF. /	REINFORCING	WC.	WALL COVERING
D.F.	DRINKING FOUNTAIN	HVAC	HEATING, VENTILATING & AIR CONDITIONING	R/F		W.P.	WATER PROOF
				RS	RELIEF SCUPPER	W.M.F.	WELDED WIRE FABRIC
				RAD.	RADIUS	YD.	YARD

(ABBREVIATIONS PERTAIN TO CIVIL, ARCHITECTURAL & STRUCTURAL DRAWINGS ONLY)

LOCATION MAP


Fashion Square
Castleton Square
Hard Castleton Square Dr
Castleton Square Loop E
Castleton Square Loop W
Keystone Crossing
Keystone Pointe Apartments
Keystone Pointe Dr
Keystone Pointe Ln
Keystone Pointe Cir
Charlestown Rd
Charlestown Rd Ramp
Charlestown Rd Ramp
Mary E
Chuck Bick Dr
Chuck Bick Ln
Paint Brush Ln
Paint Brush Ct
Big Dipper Dr
Big Dipper Ct
Big Dipper Pl
Big Dipper Way
Big Dipper Cir
Big Dipper Ln
Bubbling Brook Ln
Bubbling Brook Ct
Bubbling Brook Dr
Bubbling Brook Pl
Bubbling Brook Way
Bubbling Brook Cir

PROJECT INFORMATION

APPLICABLE BUILDING CODES

2014 INDIANA BUILDING CODE
2012 INDIANA PLUMBING CODE
2014 INDIANA MECHANICAL CODE
2014 INDIANA FUEL GAS CODE
2014 INDIANA FIRE CODE
2010 INDIANA ENERGY CONSERVATION CODE
2008 NATIONAL ELECTRICAL CODE
2009 ANSI A117.1

BUILDING SIZE

FIRST FLOOR 3,364 S.F.

TOTAL AREA 3,364 S.F.

NUMBER OF STORIES

NUMBER OF STORIES TO REMAIN UNCHANGED

2014 IBC TABLE 503 MAX. (1) STORIES PER MOST RESTRICTIVE OCCUPANCY

TOTAL STORIES ALLOWED = (1)

CONSTRUCTION CLASSIFICATION

2014 IBC SECTION 601 TYPE V(B) CONSTRUCTION

ENTIRE BUILDING IS NOT EQUIPPED w/ AN AUTOMATIC SPRINKLER SYSTEM PER N.F.P.A. 13

BUILDING OCCUPANCY IS LESS THAN 100 OCCUPANTS AND OVERALL BUILDING IS LESS THAN 5,000 S.F.

ALLOWABLE HEIGHT & AREAS

2014 IBC TABLE 503 MAXIMUM ALLOWABLE BUILDING HEIGHT = 40'-0"

TOTAL ALLOWABLE BUILDING HEIGHT = 40'-0"

2014 IBC TABLE 503 MAXIMUM ALLOWABLE BUILDING AREA (At) = 6,000 S.F. PER FLOOR

TOTAL ALLOWABLE AREA TO REMAIN UNCHANGED

MEANS OF EGRESS

2014 IBC TABLE 1016.2 200 FT. EXIT ACCESS TRAVEL DISTANCE (UN-SPRINKLERED)

2014 IBC SECTION 1005.3.2 EGRESS WIDTH PER OCCUPANT SERVED = 0.2" (UN-SPRINKLERED)
(90) TOTAL OCCUPANTS x 0.2" = 18" EGRESS WIDTH REQUIRED
PROVIDED EGRESS WIDTH = 114"

EXTERIOR WALL OPENINGS

2014 IBC TABLE 705.8 BUILDING PERMITTED TO HAVE UNLIMITED UNPROTECTED OPENINGS DUE TO FIRE SEPARATION DISTANCE TO PROPERTY LINE IS GREATER THAN 30 FT.

2014 IBC 601 BUILDING PERMITTED TO HAVE UNLIMITED UNPROTECTED OPENINGS DUE TO EXTERIOR BEARING, NON-BEARING, AND STRUCTURAL FRAME IS NOT REQ'D TO BE FIRE-RESISTANCE RATED

OCCUPANCY CLASSIFICATIONS

OCCUPANCY CLASSIFICATIONS WITHIN BUILDING INCLUDE:
ASSEMBLY GROUP A-2 2014 IBC SECTION 303.3 - RESTAURANTS

OCCUPANT LOADS

OCCUPANT LOADS BASED ON 2014 IBC TABLE 1004.1.2

ROOM OR SPACE DESIGNATION	CLASSIFICATION OF OCCUPANCY FOR USE	FLOOR AREA (S.F.)	DENSITY SF/PERSON	OCCUPANT LOAD BY CALCULATION	OCCUPANT LOAD BY ACTUAL NO.	OCCUPANT LOAD BY COMBINATION	ROOM OR SPACE TOTAL	OCCUPANTS ACCOUNTED FOR IN OTHER SPACES
RESTAURANT QUEUING	ASSEMBLY UNCONCENTRATED	139	15 NET	9.27	-	-	-	-
RESTAURANT DINING ROOM	ASSEMBLY UNCONCENTRATED	1,227	15 NET	81.80	72	-	-	-
KITCHEN	KITCHEN, COMMERCIAL	942	200 GROSS	4.71	-	-	-	-
COOLERS/ STORAGE	ACCESSORY STORAGE AREAS	153	300 GROSS	0.51	-	-	-	-
MECH. ROOM	MECHANICAL EQUIPMENT ROOM	68	300 GROSS	0.23	-	-	-	-
OFFICE	BUSINESS	48	100 GROSS	0.48	-	-	-	-
OUTDOOR DINING ROOM	ASSEMBLY UNCONCENTRATED	168	15 NET	-	12	-	-	-

TOTAL OCCUPANT LOAD OF THE BUILDING =90 OCCUPANTS

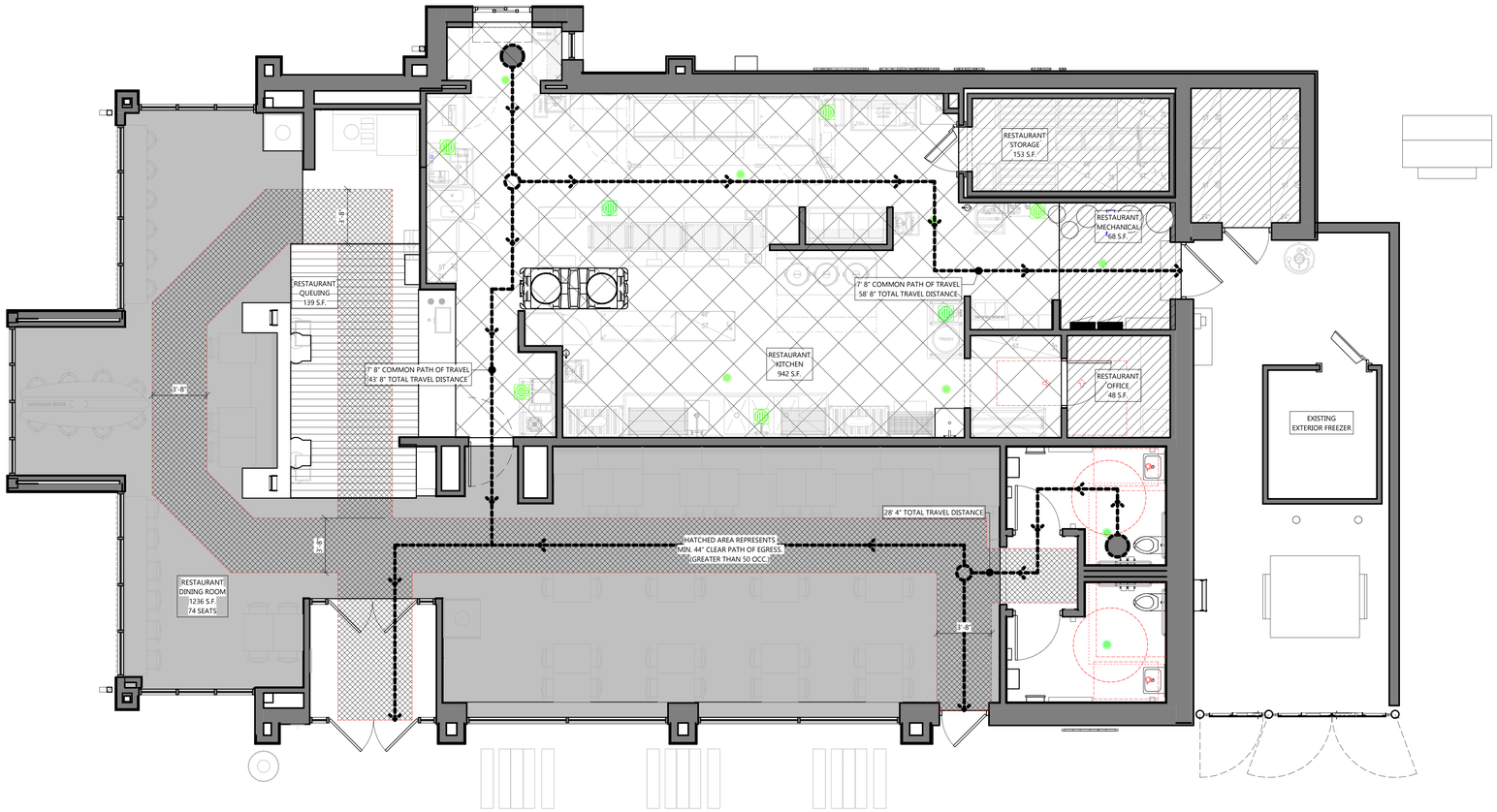
TOTAL OCCUPANT LOAD OF THE BUILDING INCLUDING EXTERIOR = 102 OCCUPANTS

SANITARY FIXTURES

PLUMBING FIXTURE FACTORS BASED ON 2014 IBC TABLE 2902.1

OCCUPANCY		WATER CLOSETS			LAVATORIES		DRINK FOUNTAINS	
TYPE	CAPACITY	FACTORS	# M. FIX.	# F. FIX.	FACTORS	# FIX.	FACTORS	# FIX.
A-2 GROUP (RESTAURANT)	102 PERSONS	1/75	0.68	0.68	1/200	0.51	1/500	A
TOTAL	102 PERSONS		0.68	0.68		0.51		A
PROVIDED FIXTURES			(2) UNISEX			2		0

A. WATER PROVIDED AT SODA FOUNTAIN



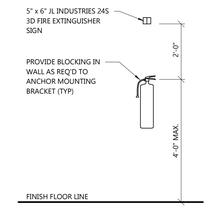
NORTH

LIFE SAFETY PLAN
SCALE: 1/4" = 1'-0"
0' 4' 8'

GENERAL LIFE SAFETY PLAN

SYMBOLS LEGEND

EXIT SIGNAGE
FIRE EXTINGUISHER -SEE T1.1 SHEET
PATH OF TRAVEL
START PATH OF TRAVEL
COMMON PATH OF TRAVEL



FIRE EXTINGUISHER SPECIFICATION:

TYPICAL:

MANUFACTURER: JL INDUSTRIES, INC.
PRODUCT: FIRE EXTINGUISHER:
- "COSMIC" 10E
10 lb. CAPACITY ; 4A-80BC RATING
BRACKET:
- MARK 'MB846' WALL BRACKET

KITCHEN:

MANUFACTURER: JL INDUSTRIES, INC.
PRODUCT: FIRE EXTINGUISHER:
- "SATURN' CLASS K WET CHEMICAL
30 lb. CAPACITY ; 1-A:K RATING
BRACKET:
- MARK 'MB881OC' WALL BRACKET

1 / T1.1 FIRE EXTINGUISHER
SCALE: 1/4" = 1'-0"

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

PROJECT INFORMATION

PROPOSED QUICK SERVE RESTAURANT FOR:
OM GROUP - HAWAIIAN BROS - STR: 135
6421 E. 82ND ST. • INDIANAPOLIS, IN 46250

PROFESSIONAL SEAL

SHEET DATES
ISSUED FOR CONSTRUCTION
IFC APR. 3, 2026

JOB NUMBER
250361400

SHEET NUMBER
T1.1

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4/3/2026 1:12:26 PM

4-Mar-26

RESPONSIBILITY MATRIX

ITEM	ITEM		LANDLORD PROVIDED/ INSTALLED	HBROS PROVIDED HBROS INSTALLED	HBROS PROVIDED G.C. INSTALLED	VENDOR SUPPLIED VENDOR INSTALLED	VENDOR SUPPLIED G.C. INSTALLED	G.C. SUPPLIED G.C. INSTALLED	COMMENTS
SITE	SITE ACCESSABILITY TO...							X	
	PARKING LOT							X	
	SITE LIGHTING							X	
	LANDSCAPING							X	
BUILDING	FLOOR SLAB	FLOOR SLAB						X	
		FLOOR SLAB SAWCUTTING						X	
	WALLS	EXTERIOR WALLS						X	
		INTERIOR ROOM WALLS						X	
		STOREFRONT GLAZING						X	
		PERIMETER WALL PATCHING						X	
	TOILET ROOMS	TOILET FIXTURES						X	
		WALL HUNG MIRROR						X	
		BABY CHANGING TABLE						X	
		GRAB BARS						X	
		SOAP DISPENSER AND DEODORIZER				CINTAS			
		ELECTRIC HAND DRYER						X	
		PAPER TOWEL DISPENSER/TRASH CAN				CINTAS			
		TOILET PAPER DISPENSER				CINTAS			
	OFFICE	SAFE			X				
		OFFICE EQUIPMENT		X					
	FIRE EXTINGUISHERS							X	
	ROOFING AND ROOF STURCTURE							X	
	DOORS	EXTERIOR DOOR/FRAMES/HARDWARE						X	
		INTERIOR DOORS/FRAMES/HARDWARE						X	
		OVERHEAD DOOR/FRAMES/HARDWARE						X	
		STOREFRONT DOORS/FRAMES/HARDWARE						X	
	CASEWORK	INTERIOR SEATING					ELITE BOOTH		
		EXTERIOR SEATING					ELITE BOOTH		
		SODA COUNTER					KATALYST		
		MERCHANDISE DISPLAY					KATALYST		
		ORDERING PODS					KATALYST		
		CABINETS/COUNTERTOP					KATALYST		
		EXTERIOR METAL SCREENS					KATALYST		
	KITCHEN EQUIPMENT	KITCHEN EQUIPMENT				DON			
		WALK-IN COOLERS				DON			DON TO SUPPLY AND INSTALL COOLER BOXES...
		SODA DISPENSOR				COCA-COLA			
		CO2 TANK				HELGATE			
		CO2 ALARM/SENSOR				HELGATE			
		PAPER TOWELS/SOAP/TRASH				CINTAS			
	FOOD SERVING	TRAYS/SILVERWARE				DON			
		CLEANING CHEMICALS				ECOLAB			
	INTERIOR FINISHES	PAINTING						X	
		WALL TILE						X	
		WALL PANELING - WOOD						X	
		VINYL WALL GRAPHIC					KATALYST		
		EPOXY FLOORING/BASE						X	
		DRYWALL						X	
		SUSPENDED CEILING						X	
		SOFFITS						X	
		EXPOSED STRUCTURE						X	
		DECORATIVE METAL PANELS					KATALYST		
		DECORATIVE METAL RAILING					KATALYST		
		WINDOW SILLS						X	
FIRE PROTECTION	FIRE PROTECTION	FIRE SPRINKLERS						X	1F REQUIRED
		FIRE ALARM						X	1F REQUIRED
PLUMBING	PLUMBING FIXTURE							X	
	ROOF DRAINAGE							X	
	WATER SERVICE							X	
	WATER METER							X	
	BACKFLOW PREVENTER							X	
	WATER SOFTENER SYSTEM							X	
	EASI-WASH SYSTEM					EASI-WASH			G.C. TO PROVIDE INFRASTUCTURE AS REQUIRED
	INTERIOR PLUMBING							X	
HVAC	GAS PIPING	GAS PIPING TO RTU						X	
		GAS PIPING TO KITCHEN EQUIPMENT						X	
		GAS PIPING TO MISC EQUIPMENT						X	
	ELECTRIC WALL HEATERS							x	
	HVAC UNITS							X	
	HVAC DUCTWORK							X	
	KITCHEN HOOD DUCTWORK							X	G.C. RESPONSIBLE FOR DUCTWORK FROM HOOD TO EXHAUST FAN
	EXHAUST	TOILET EXHAUST					X		CURBS SUPPLIED BY CAPTIVE AIRE
		KITCHEN EXHAUST					CAPTIVEAIRE		CURBS SUPPLIED BY CAPTIVE AIRE
	ANSIL SYSTEM					DON			
	KITCHEN HOODS					DON			
ELECTRICAL	ELECTRIC METER							X	
	ELECTRICAL SERVICE							X	SEE ELECTRICAL DWGS FOR SIZE
	INTERIOR ELECTRICAL	DUPLEX OUTLETS AT PERIMETER WALLS						X	SPACED PER CODE, PER DWG'S
	ELECTRICAL PANEL	MAIN DISTRUBUTION PANEL/EQUIP						X	
		BUILDING SERVICE						X	
		EXTERIOR LIGHTING/SIGNAGE PANEL						X	
	LIGHTING	INTERIOR LIGHTING						X	
		EXTERIOR LIGHTING						X	
		DECORATIVE LIGHTING						X	
		SITE LIGHTING						X	
	SIGNAGE	EXTERIOR SIGNAGE - POWER						X	
		INTERIOR SIGNAGE - POWER						X	
	EMERGENCY LIGHTING	EXIT SIGNS						X	
		EMERGENCY LIGHTS						X	
	LOW VOLTAGE	CONDUIT FOR CABLE TV						X	
		CONDUIT FOR TELEPHONE						X	
		TELEPHONE/EQUIPMENT		X					G.C. TO PROVIDE INFRASTUCTURE AS REQUIRED
		POS SYSTEM WIRING		X					G.C. TO PROVIDE INFRASTUCTURE AS REQUIRED
		POS SYSTEM		X					
		SECURITY SYSTEM WIRING				SECURITY VENDOR			G.C. TO PROVIDE INFRASTUCTURE AS REQUIRED
		SECURITY SYSTEM/CAMERAS				SECURITY VENDOR			
		MUSIC/SPEAKER SYSTEM WIRING				AV VENDOR			
		MUSIC/SPEAKER SYSTEM				AV VENDOR			
	IT CABINET	IT CABINET			X				
		IT CABINET INTERNAL COMPONENTS		X					
SIGNAGE	EXTERIOR SIGNAGE	BUILDING SIGNAGE				SIGNAGE VENDOR			
		SITE SIGNAGE				SIGNAGE VENDOR			
		SITE WAY FINDING SIGNAGE				SIGNAGE VENDOR			
		EXTERIOR OCCUPANCY SIGNAGE					KATALYST		
		SIGNAGE FOOTING (MENU BOARD, ORDER POINT, CLEARNANCE BAR, DIRECTIONALS.)						X	
	INTERIOR SIGNAGE	ADA SIGNAGE					KATALYST		
		TOILET ROOM SIGNAGE					KATALYST		
		VINYL DOOR SIGNAGE					SIGNAGE VENDOR		
		HANDWASHING SIGNAGE						X	
		INTERIOR OCCUPANCY SIGNAGE					KATALYST		
		BRANDING SIGNAGE					KATALYST/SIGNAGE VENDOR		

GENERAL RESPONSIBILITY MATRIX

EXCEL

Always a Better Plan

100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

PROJECT INFORMATION

PROPOSED QUICK SERVE RESTAURANT FOR:

OM GROUP - HAWAIIAN BROS - STR: 135

6421 E. 82ND ST. ● INDIANAPOLIS, IN 46250

PROFESSIONAL SEAL

SHEET DATES

ISSUED FOR CONSTRUCTION

IFC APR. 3, 2026

JOB NUMBER

250361400

SHEET NUMBER

T1.2

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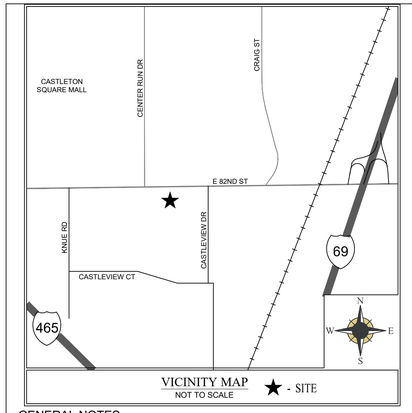

VICINITY MAP
NOT TO SCALE
★ - SITE

GENERAL NOTES:

SITE ADDRESS.:
6421 E 82ND ST, INDIANAPOLIS, IN

AREA: ±0.869 ACRES (AREA OF R/W GRANT: ±0.124 AC)

PARKING SPACE COUNT: 49 REGULAR SPACES AND 2 ADA SPACES

FLOOD ZONE:
THE PROPERTY DESCRIBED HEREON IS LOCATED IN FLOOD ZONE UNSHADED "X" (AREA DETERMINED TO BE OUTSIDE THE ANNUAL 0.2% ANNUAL CHANCE FLOODPLAIN) PER FEMA FLOOD INSURANCE MAP NO 18097C0068F,DATED APRIL 19, 2016.

FLOOD PLAIN CERTIFICATION IS RESTRICTED TO A REVIEW OF THE FLOOD INSURANCE RATE MAPS, AND SHALL NOT BE CONSTRUED AS A CONFIRMATION OR DENIAL OF FLOODING POTENTIAL. NOTE: ALL FLOOD MAPPING IN SUBJECT TO MAP SCALE UNCERTAINTY AND TO ANY OTHER UNCERTAINTY IN LOCATION OR ELEVATION ON THE REFERENCED FLOOD INSURANCE RATE MAP.

UTILITY DISCLAIMER:
THE LOCATION OF BURIED UTILITIES ARE SHOWN BASED ON MARKINGS MADE THROUGH INDIANA 811 (TICKET NO. 251104035O1 DATED NOVEMBER 4, 2025). THE SURVEYOR MAKES NO GUARANTEE OF THE ACCURACY OR COMPLETENESS OF THE UNDERGROUND UTILITIES SHOWN, HOWEVER, DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION PROVIDED. THE USER OF THIS SURVEY IS CAUTIONED THAT THERE MAY BE BURIED UTILITY LINES EITHER IN SERVICE OR ABANDONED, OR OTHER UNDERGROUND FACILITIES EXISTING ON THE PREMISES WHICH ARE NOT SHOWN ON THE WITHIN SURVEY, OR WHICH ARE SHOWN HEREON BUT THE LOCATION OF WHICH IS UNCERTAIN. UNLESS OTHERWISE NOTED, THE SURVEYOR HAS NOT PHYSICALLY LOCATED ANY BURIED UTILITY LINES AND ASSUMES NO LIABILITY FOR ANY ERRORS OR OMISSIONS RELATIVE TO UNDERGROUND UTILITY LINES OR OTHER BURIED FACILITIES.

THE UNDERSIGNED ASSUMES NO LIABILITY FOR THE ACCURACY OR AVAILABILITY OF THOSE RECORDS OR LOCATES, FOR THE FINAL LOCATION OF EXISTING UTILITIES, CONTACT THE UTILITY OWNER AND AS ALWAYS, CALL 811 BEFORE CONSTRUCTION.

UTILITY MEMBERS

COMCAST CABLE (INDIANAPOLIS)	CABLE TV
METRO FIBERNET, LLC	FIBER OPTIC
CITIZENS ENERGY (INDIANAPOLIS)	GAS, SEWER, WATER
MCI	FIBER OPTIC
CITY OF INDIANAPOLIS	FIBER OPTIC, STORM, STREET/ LIGHTS
ZAYO BANDWIDTH	FIBER OPTIC
TIME WARNER CABLE	CABLE TV
INDIANAPOLIS POWER & LIGHT COMPANY	ELECTRIC
LEVEL 3 (NOW LUMEN)	FIBER OPTIC
AT&T - DISTRIBUTION	COMMUNICATIONS

WARRANTY DISCLAIMER:
AS USED IN THIS SURVEY, CERTIFY MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION OF CONDITIONS REGARDING THOSE FACTS OR FINDING WHICH ARE THE SUBJECT OF THE CERTIFICATION AND DOES NOT CONSTITUTE A WARRANTY OR GUARANTEE, EITHER EXPRESS OR IMPLIED. INTERPRETATIONS ARE NOT A PART OF ANY CERTIFICATION.

THIS SURVEY WAS PREPARED IN ACCORDANCE WITH GENERALLY ACCEPTED SURVEY PRACTICE. NO WARRANTY EITHER EXPRESS OR IMPLIED IS MADE AS TO THE ACCURACY OR COMPLETENESS OF THE INFORMATION PROVIDED BY GOVERNMENTAL AUTHORITIES OR THIRD PARTIES OR AS TO ITS FITNESS FOR ANY PARTICULAR USE, INCLUDING BUT NOT LIMITED TO INFORMATION PRESENTED ON UNDERGROUND UTILITIES, FLOOD HAZARD ZONES, FLOODWAY ZONES, WETLANDS, RECORDING INFORMATION, ZONING AND REGULATED DRAIN INFORMATION.

IN NO EVENT WILL JQOL OR ITS EMPLOYEES, AGENTS, AND/OR ASSIGNS BE LIABLE FOR ANY DAMAGES ARISING OUT OF THE FURNISHING AND/OR USE OF SUCH INFORMATION.

ADDITIONAL ALTA ITEMS NOTE:
AT THE TIME THIS SURVEY WAS PERFORMED IN THE FIELD:
THERE WAS NO OBSERVED EVIDENCE OF EARTH MOVING WORK OR BUILDING CONSTRUCTION ACTIVITY ON THE SURVEYED PARCEL. THERE ARE NO KNOWN PROPOSED CHANGES TO ANY RIGHTS OF WAY SHOWN HEREON. THERE WAS NO OBSERVED EVIDENCE THAT THE SURVEYED PARCEL WAS USED AS A SOLID WASTE DUMP, SUMP, OR SANITARY LANDFILL.

DATUM NOTE:
THE HORIZONTAL AND VERTICAL LOCATION DATA SHOWN ON THIS SURVEY ARE BASED UPON POSITIONAL SOLUTIONS DERIVED FROM REAL-TIME KINEMATIC (RTK) GLOBAL POSITIONING SYSTEM (GPS) OBSERVATIONS PROCESSED BY THE TRIMBLE VRS NETWORK. THE BEARINGS SHOWN ARE DERIVED FROM COORDINATES BASED ON THE INDIANA STATE PLANE COORDINATE SYSTEM (EAST ZONE) NAD 83 (2011) EPOCH 2010.0). THE VERTICAL DATUM IS BASED UPON NAVD 88 PER GPS OBSERVATIONS.

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THE COPYRIGHT OF THIS DRAWING IS VESTED IN JQOL AND THIS DRAWING MAY NOT BE REPRODUCED IN WHOLE OR PART OR USED FOR THE DESIGN OF ANY IMPROVEMENTS WITHOUT THE EXPRESS PERMISSION OF THE COPYRIGHT HOLDERS.

AFFIRMATION STATEMENT:
I AFFIRM, UNDER THE PENALTIES FOR PERJURY, THAT I HAVE TAKEN REASONABLE CARE TO REDACT EACH SOCIAL SECURITY NUMBER IN THIS DOCUMENT, UNLESS REQUIRED BY LAW. - BRIAN KRIEG

SURVEYOR'S REPORT:

PURPOSE OF THIS SURVEY: TO PERFORM AN ALTA/NSPS LAND TITLE SURVEY ON 66421 EAST 82ND STREET, INDIANAPOLIS, INDIANA.

IN ACCORDANCE WITH TITLE 865, ARTICLE 1.1, CHAPTER 12, SECTION 1 THROUGH 30 OF THE INDIANA ADMINISTRATIVE CODE, THE FOLLOWING OBSERVATIONS AND OPINIONS ARE SUBMITTED REGARDING THE VARIOUS UNCERTAINTIES IN THE LOCATIONS OF THE LINES AND CORNERS ESTABLISHED ON THIS SURVEY AS A RESULT OF:

a) VARIANCE IN THE REFERENCE MONUMENTS;
b) DISCREPANCIES IN RECORD DESCRIPTION AND PLATS;
c) INCONSISTENCIES IN LINES OF OCCUPATION AND;
d) ACCEPTABLE RELATIVE POSITIONAL ACCURACY

THIS SURVEY IS A RETRACEMENT SURVEY AS DEFINED IN IAC 865, ARTICLE 1.1, CHAPTER 12 SECTIONS 6-18.

FINDING OF FACTS:
WITHOUT ADDITIONAL PROOF, THE FACT THAT SURVEYORS ACCEPT A MONUMENT DOES NOT MAKE IT CORRECT; THE MONUMENT MUST HAVE BEEN INITIALLY CORRECT. COMMON REPORT AND REPUTATION EVIDENCE DOES NOT OVERCOME CONTRARY PROOF. THEREFORE, THE LOCATION OF ANY OF THE ABOVE-DISCUSSED MONUMENTS MAY YET BE CONTRADICTED AND OVERCOME BY UNDISCOVERED EVIDENCE. AS A RESULT, ANY PROPERTY BOUNDARY, WHOSE LOCATION IS DEPENDENT ON THESE CORNER MONUMENTS, IS SUBJECT TO UNDISCOVERED EVIDENCE, WHICH MIGHT RESULT IN A DIFFERENT LOCATION FOR THE CORNERS. BECAUSE A DIMENSIONAL VALUE TO THE UNCERTAINTY OF THESE CORNERS IS SUBJECTIVE, AND FOR THESE REASONS CITED ABOVE, THE UNCERTAINTY OF THESE CORNERS IS UNKNOWN.

OF THE CORNERS SHOWN ON THIS SURVEY, SOME ARE REFERENCED AS TITLE CORNERS AND OTHERS AS RECORD CORNERS. A RECORD CORNER BEING A MONUMENT IN ITS PROPER LOCATION ACCORDING TO THE RULES OF THE SUBDIVISION OF SECTIONS. A TITLE CORNER IS AN EXISTING MONUMENT ESTABLISHED AND HAVING BEEN ACCEPTED OVER A PERIOD OF TIME AS THE PROPER CORNER. A TITLE CORNER IS SUBJECT TO UNDISCOVERED EVIDENCE.

THERE MAY BE DIFFERENCES OF DEEDED/PLATTED DIMENSIONS VERSUS MEASURED DIMENSIONS ALONG THE BOUNDARY LINES SHOWN HEREON, LIKEWISE, THERE MAY BE SURVEY MONUMENTS OR MARKERS NEAR, BUT NOT PRECISELY AT, SOME BOUNDARY CORNERS AND LINES. IN CASES WHERE THE MAGNITUDE OF THESE DIFFERENCES ARE LESS THAN THE RELATIVE POSITIONAL ACCURACY STATED BELOW AND LESS THAN THE REFERENCE MONUMENT UNCERTAINTIES, THE DIFFERENCES MAY BE CONSIDERED NEGLIGIBLE AND ARE SHOWN ONLY FOR INFORMATIONAL PURPOSES. SUCH DIFFERENCES THAT ARE GREATER THAN THE RELATIVE POSITIONAL ACCURACY AND THE REFERENCE MONUMENT UNCERTAINTIES SHOULD BE CONSIDERED WORTHY OF NOTICE AND ARE FURTHER DISCUSSED BELOW.

THERE MAY EXIST UNWRITTEN RIGHTS ALONG ROADS ADJOINING THE SUBJECT PARCEL. WHERE NO RECORD RIGHT OF WAY COULD BE FOUND, THE EDGE OF PAVEMENT MAY POSSIBLY ACT AS AN EASEMENT BY PRESCRIPTION.

AS A RESULT OF THE ABOVE OBSERVATIONS, IT IS TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THE UNCERTAINTIES IN THE LOCATIONS OF THE LINES AND CORNERS ESTABLISHED ON THIS SURVEY AREA AS FOLLOWS:

RELATIVE POSITIONAL ACCURACY:
THE RELATIVE POSITIONAL ACCURACY IS DETERMINED BY THE FUTURE AND CURRENT USE OF THE PROPERTY. THE PARCEL IS CURRENTLY LOCATED IN INDIANAPOLIS, INDIANA AND APPEARS TO BE NON RESIDENTIAL USE. THEREFORE THIS SURVEY IS CLASSIFIED AS AN URBAN SURVEY. URBAN SURVEYS ARE PERFORMED ON LAND LYING WITHIN OR CONTIGUOUS WITH A CITY OR TOWN, EXCEPT FOR SINGLE FAMILY RESIDENTIAL LOTS. URBAN SURVEYS INCLUDE (A) COMMERCIAL AND INDUSTRIAL PROPERTIES. URBAN SURVEYS ACCEPTABLE RELATIVE POSITIONAL ACCURACY IS 0.07 FEET (21 MILLIMETERS) PLUS 50 PARTS PER MILLION.

DUE TO VARIANCES IN REFERENCE MONUMENTS:
MONUMENTS WERE SET OR FOUND DURING THE COURSE OF THIS SURVEY, THOSE SET IN THE GROUND ARE 5/8" REBAR WITH RED PLASTIC CAPS STAMPED "JQOL 0154", UNLESS OTHERWISE NOTED. MONUMENTS SET IN HARD SURFACED AREAS, SUCH AS ASPHALT, ARE AS INDICATED ON THE DRAWING AND HAVE A WASHER STAMPED "JQOL 0154" WHERE POSSIBLE. THERE MAY BE 5/8" REBAR WITH RED PLASTIC CAPS STAMPED "TRAVERSE", WOODEN STAKES, OR SPIKE NAILS FOUND ON OR NEAR THE SUBJECT REAL ESTATE. THESE ARE WORKING POINTS AND SHOULD NOT BE CONFUSED WITH MONUMENTS MARKING THE BOUNDARIES OF THE SUBJECT PROPERTY. MONUMENTS FOUND AT OR NEAR THE DEED CORNERS, OR ALONG THE DEED LINES OF THE SUBJECT REAL ESTATE ARE INDICATED ON THE DRAWING. BECAUSE THE DIFFERENCE IS DEEMED INSIGNIFICANT, MONUMENTS WERE NOT SET IN THOSE CASES WHERE A FOUND MONUMENT WAS NOT IN EXACT AGREEMENT WITH THIS SURVEY, BUT WITHIN THE TOLERANCES REQUIRED FOR A CERTAIN CLASS OF SURVEY. THE DIFFERENCE MAY BE SHOWN ON THE SURVEY TO ACCENTUATE THE UNCERTAINTY OF THAT MONUMENT. IN THOSE CASES WHERE THE DIFFERENCE IS GREATER THAN THE RELATIVE POSITIONAL ACCURACY OR UNCERTAINTY IN CONTROLLING MONUMENTS, CAUTION SHOULD BE EXERCISED BEFORE MAKING ANY IMPROVEMENTS ALONG THE LINES AFFECTED. THOSE UNCERTAINTIES CONSIDERED TO BE SIGNIFICANT ARE DISCUSSED BELOW.

"A" CALCULATED POSITION OF THE SOUTHWEST CORNER OF THE SOUTHEAST QUARTER OF SECTION 22, TOWNSHIP 17 NORTH, RANGE 4 EAST. THIS MONUMENT WAS NOT FOUND. THE COUNTY REFERENCES TIES WERE USED TO RE-ESTABLISH THIS CORNER. THE UNCERTAINTY ASSOCIATED WITH THIS MONUMENT IS ESTIMATED TO BE NEGLIGIBLE.

"B" HARRISON MONUMENT AT THE CENTER OF SECTION 22, TOWNSHIP 17 NORTH, RANGE 4 EAST, FOUND PER COUNTY TIES. THE UNCERTAINTY ASSOCIATED WITH THIS MONUMENT IS ESTIMATED TO BE NEGLIGIBLE.

"C" HARRISON MONUMENT AT THE NORTHEAST CORNER OF THE SOUTHEAST QUARTER OF SECTION 22, TOWNSHIP 17 NORTH, RANGE 4 EAST, FOUND PER COUNTY TIES. THE UNCERTAINTY ASSOCIATED WITH THIS MONUMENT IS ESTIMATED TO BE NEGLIGIBLE

NO OTHER MONUMENTS WERE FOUND DURING THE COURSE OF THIS SURVEY

DUE TO DISCREPANCIES IN THE RECORD DESCRIPTIONS: NONE APPARENT

DUE TO INCONSISTENCIES IN LINES OF OCCUPATION: THERE ARE CURBS RUNNING ALONG A PORTION OF THE PERIMETER OF THE SUBJECT PARCEL, AS SHOWN. THERE ARE PAINTED PARKING SPACES ALONG THE SOUTH AND WEST LINES OF THE SUBJECT PARCEL, AS SHOWN.

THEORY OF LOCATION
THE SUBJECT PARCEL IS BOUND TO THE NORTH BY THE NORTH LINE OF THE SOUTHEAST QUARTER SECTION 22, TOWNSHIP 17 NORTH, RANGE 4 EAST. THE EAST AND WEST LINES WERE CALLED OUT AS PARALLEL TO THE WEST LINE OF SAID SOUTHEAST QUARTER OF SECTION 22. THE ADJOINING DEEDS ALL HAD DISTANCES THAT MATCHED WITH THE SUBJECT DEED, THEREFORE THE DEEDED DISTANCES WERE HELD. THE SOUTHERLY RIGHT OF WAY OF 82ND STREET (FORMERLY STATE ROAD 100) IS A CURVE, OFFSET 50 FEET FROM A PR LINE PER INDOT PLANS FOR PROJECT FA-246 SECTION A(2). THESE PLANS DID NOT RELATE THIS PR LINE TO A SECTION LINE. A SURVEY RECORDED AS INSTRUMENT 2025-036749 SHOWS A CALCULATED DISTANCE OF 33.53 FEET FROM THE NORTH LINE OF THE SOUTHEAST QUARTER OF SECTION 22 TO SAID SOUTHERLY RIGHT OF WAY ALONG THE EAST LINE OF THE WEST ADJOINER. THIS DISTANCE WAS HELD AS THE BEST EVIDENCE OF THE LOCATION OF THIS RIGHT OF WAY.

TITLE REPORT REFERENCE:

THIS SURVEY WAS CONDUCTED ACCORDING TO THE DESCRIPTION SHOWN, FURNISHED BY FIRST AMERICAN TITLE INSURANCE COMPANY, COMMITMENT NO. NCS-1277477-PHX1 , DATED OCTOBER 8, 2025. EASEMENTS CREATED OR RELINQUISHED AFTER THIS DATE ARE NOT SHOWN HEREON

LAND DESCRIPTION: (PER TINST 2005-039311)
PART OF THE SOUTHEAST QUARTER OF SECTION 22, TOWNSHIP 17 NORTH, RANGE 4 EAST IN MARION COUNTY, INDIANA, DESCRIBED AS FOLLOWS:

BEGINNING ON THE NORTH LINE OF THE SOUTHEAST QUARTER OF SECTION 22, TOWNSHIP 17 NORTH, RANGE 4 EAST, 898.71 FEET NORTH 90 DEGREES 00 MINUTES 00 SECONDS EAST (ASSUMED BEARING) OF THE NORTHWEST CORNER THEREOF; THENCE SOUTH 00 DEGREES 07 MINUTES 10 SECONDS WEST PARALLEL WITH THE WEST LINE OF SAID QUARTER, 233.75 FEET; THENCE SOUTH 89 DEGREES 45 MINUTES 59 SECONDS EAST PARALLEL WITH THE SOUTH RIGHT OF WAY LINE OF EAST 82ND STREET; 162.00 FEET; THENCE NORTH 00 DEGREES 07 MINUTES 10 SECONDS EAST PARALLEL WITH THE WEST LINE OF SAID QUARTER, 234.41 FEET TO THE NORTH LINE OF SAID QUARTER; THENCE NORTH 90 DEGREES 00 MINUTES 00 SECONDS WEST ON AND ALONG SAID NORTH LINE, 162.00 FEET TO THE POINT OF BEGINNING.

ALSO, A NON-EXCLUSIVE EASEMENT FOR INGRESS AND EGRESS AND UTILITIES FOR THE BENEFIT OF AND APPURTENANT TO THE FOREGOING DESCRIBED REAL ESTATE, AS CREATED BY A DECLARATION OF EASEMENT DATED MARCH 3, 1978, RECORDED MARCH 3, 1978, AS INSTRUMENT NO. 78-11872, IN THE OFFICE OF THE RECORDER OF MARION COUNTY, INDIANA.

TITLE REPORT SCHEDULE B EXCEPTIONS: (ITEMS CIRCLED ARE SHOWN HEREON)

3. TERMS, PROVISIONS AND CONDITIONS CONTAINED IN LEASE BY AND BETWEEN CNL INCOME FUND XVI, LTD., A FLORIDA LIMITED PARTNERSHIP, LESSOR, AND RTM INDIANAPOLIS, INC., A OHIO CORPORATION, LESSEE, DATED AUGUST 18, 1995 AS DISCLOSED BY A MEMORANDUM OF LEASE RECORDED SEPTEMBER 08, 1995 AS DOCUMENT 1995-0111694, AND ALL RIGHTS THEREUNDER OF AND ALL ACTS DONE AND SUFFERED THEREUNDER OF SAID LESSEE OR ANY PARTIES CLAIMING BY, THROUGH OR UNDER SAID LESSEE. NOTE: BLANKET IN NATURE
NOTE: SAID LEASE IS FOR A TERM OF TWENTY (20) YEARS.
NOTE: SAID LEASE PROVIDES OPTION TO EXTEND FOR TWO (2) ADDITIONAL PERIODS OF FIVE (5) YEARS EACH.

4. RIGHT OF FIRST REFUSAL AS CONTAINED IN MEMORANDUM OF LEASE RECORDED SEPTEMBER 08, 1995 AS DOCUMENT 1995-0111694, AND THE TERMS AND PROVISIONS CONTAINED THEREIN. NOTE: BLANKET IN NATURE

5. TERMS AND PROVISIONS AS CONTAINED IN DECLARATION OF EASEMENT AS SET OUT IN INSTRUMENT DATED MARCH 3, 1978 AND RECORDED MARCH 3, 1978, AS INSTRUMENT NO. 78-11872.

6. TERMS AND PROVISIONS AS CONTAINED IN GRANT OF EASEMENT AS SET OUT IN INSTRUMENT DATED OCTOBER 1, 1976 AND RECORDED OCTOBER 6, 1976, AS INSTRUMENT NO. 76-60801.

7. COMMITMENTS RELATIVE TO USE OR DEVELOPMENT OF INSURED REAL ESTATE RECORDED NOVEMBER 3, 1976, AS INSTRUMENT NO. 76-66702. NOTE: BLANKET IN NATURE

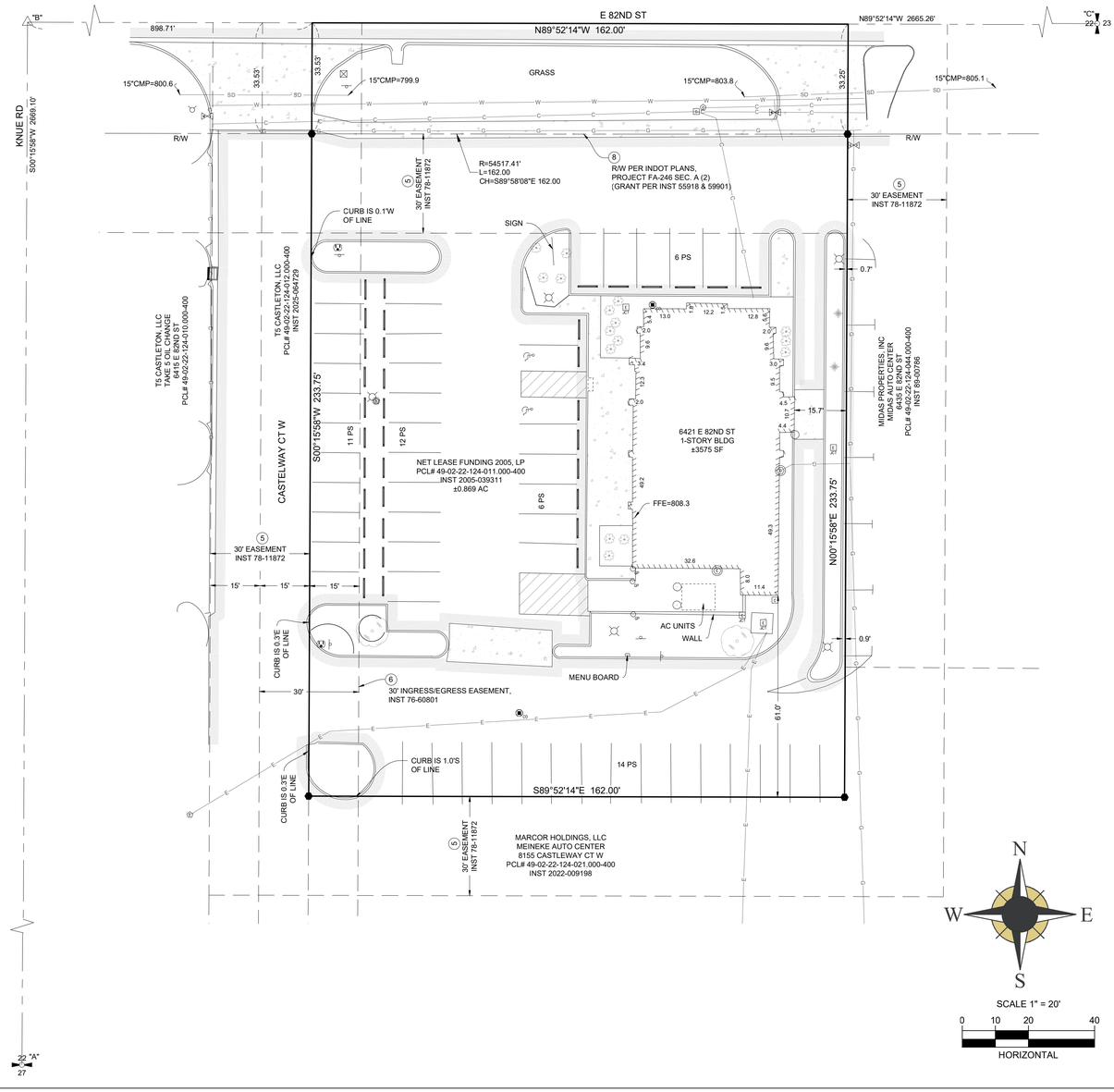
8. RIGHT OF WAY GRANTED TO THE STATE OF INDIANA BY INSTRUMENTS RECORDED NOVEMBER 27, 1941 AS INSTRUMENT NO: 55918 AND 55901, DEED RECORD 1076.

9. SEWER SERVICE AGREEMENT WITH THE CITY OF INDIANAPOLIS, DEPARTMENT OF PUBLIC WORKS, RECORDED MARCH 13, 1978, AS INSTRUMENT NO. 78-13766. NOTE: BLANKET IN NATURE

LEGEND

- MAG NAIL WITH WASHER STAMPED "JQOL 0154" SET
- ASPHALT (ASPH)
- CONCRETE (CONC)
- FFE FINISHED FLOOR ELEVATION
- PS PARKING SPACE
- R/W RIGHT OF WAY
- POC POINT OF COMMENCEMENT
- POB POINT OF BEGINNING

LINE TYPES
- BUILDING LINE
- G UNDERGROUND GAS
- W UNDERGROUND WATER
- E UNDERGROUND ELECTRIC
- C UNDERGROUND COMMS
- SD STORM DRAIN
- FIRE HYDRANT
- SIGN
- TREE
- BUSH
- LIGHT POLE
- ADA PARKING SPACE
- ELECTRIC METER
- CABLE TELEVISION PEDESTAL
- PARKING WHEEL STOP
- COMMUNICATIONS PEDESTAL
- COMMUNICATIONS HANDHOLE
- CLEANOUT
- ELECTRIC JUNCTION BOX
- WATER VALVE
- ELECTRIC OUTLET
- CURB INLET
- POST
- BOLLARD
- ELECTRIC HANDHOLE



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W E
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SCALE 1" = 20'
0 10 20 40
HORIZONTAL

CERTIFICATE OF SURVEY
TO AMIT D PATEL AND FIRST AMERICAN TITLE INSURANCE COMPANY:

TO THE BEST OF MY KNOWLEDGE INFORMATION AND BELIEF THE WITHIN PLAT REPRESENTS A SURVEY MADE UNDER MY SUPERVISION IN ACCORDANCE WITH TITLE 865, ARTICLE 1, CHAPTER 12 OF THE INDIANA ADMINISTRATIVE CODE.

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 3, 4, 5, 7A, 7B1, 8, 9, 11A, 13, 14, 16, AND 17 OF TABLE A, THEREOF. THE FIELD WORK WAS COMPLETED ON NOVEMBER 18, 2025.

PRELIMINARY

BRIAN KRIEG
PROFESSIONAL LAND SURVEYOR #LS22500002

JOHN BRIAN KRIEG REGISTERED NO. LS22500002 STATE OF INDIANA LAND SURVEYOR

I AFFIRM, UNDER THE PENALTIES FOR PERJURY, THAT I HAVE TAKEN REASONABLE CARE TO REDACT EACH SOCIAL SECURITY NUMBER IN THIS DOCUMENT, UNLESS REQUIRED BY LAW. - BRIAN KRIEG

22 "A"
27

JQOL
QUALITY OF LIFE
8440 ALLISON POINTE BOULEVARD
SUITE 425
INDIANAPOLIS, IN 46250
WWW.JQOLUSA.COM
317.661.1964

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ALTA/NSPS LAND TITLE SURVEY
EXCEL ENGINEERING, INC
6421 E 82ND ST
INDIANAPOLIS, MARION COUNTY, INDIANA

REVIEWED: BM/SD	DATE: 11/27/2025
DRAWN: JBK	11/27/2025
SCALE: 1" = 20'	SHEET: 1 OF 1
PROJECT: 2025.211	

© 2025 JQOL
Q:\PROJECTS\2025\2025.211 EXCEL ENGINEERING - ALTA SURVEY - EAST 82ND STREET - INDIANAPOLIS IN\08 - SURVEYING\DRAWINGS\2025.211 82ND ALTA.DWG

ARCHITECTURAL SPECIFICATIONS

DIVISION 00 PROCUREMENT AND CONTRACTING

00 72 00 GENERAL CONDITIONS

A. THE AIA GENERAL CONDITIONS A201 LATEST EDITION IS A PART OF THESE DOCUMENTS. COPIES ARE ON FILE AT THE OFFICE OF EXCEL ENGINEERING, INC.

00 73 16 INSURANCE REQUIREMENTS

A. PRIOR TO COMMENCEMENT OF WORK, THE CONTRACTOR SHALL SUBMIT TO THE OWNER CERTIFICATE OF INSURANCE FOR NOT LESS THAN THE FOLLOWING LIMITS:
   1. WORKER'S COMPENSATION AND EMPLOYERS' LIABILITY:
      a. PER STATUTORY LIMITS
   2. COMMERCIAL GENERAL LIABILITY:
      a. GENERAL AGGREGATE: $2,000,000
      b. PRODUCTS AND COMPLETED OPERATIONS AGGREGATE: $2,000,000
      c. PERSONAL AND ADVERTISING INJURY: $1,000,000
      d. EACH OCCURRENCE: $1,000,000
      e. CONTRACTOR SHALL LIST EXCEL ENGINEERING, INC. AS ADDITIONAL INSURED.

DIVISION 01 GENERAL REQUIREMENTS

01 11 00 SUMMARY OF WORK

A. THE PLANS AND SPECIFICATIONS ARE INTENDED TO GIVE A DESCRIPTION OF THE WORK. NO DEVIATION FROM THE PLANS AND SPECIFICATIONS SHALL BE MADE WITHOUT THE WRITTEN CONSENT OF EXCEL ENGINEERING, INC. THE CONTRACTOR IS TO CLARIFY ANY DISCREPANCIES WITH EXCEL ENGINEERING, INC. PRIOR TO BIDDING. THE CONTRACTOR SHALL VISIT THE SITE TO VERIFY EXISTING CONDITIONS AND ACCESS TO THE WORK AREA.
B. REFERENCE TO "GENERAL CONTRACTOR" OR "GC" IN THE CONSTRUCTION DOCUMENTS IS INTENDED TO REPRESENT THE CONTRACTOR RESPONSIBLE FOR OVERALL CONSTRUCTION AND COORDINATION OF THE WORK. THE "GC" COULD BE A GENERAL CONTRACTOR, CONSTRUCTION MANAGER OR ANY OTHER CONTRACTOR RESPONSIBLE FOR THE OVERALL PROJECT. IT IS THE RESPONSIBILITY OF THE GC TO ASSIGN RESPONSIBILITY FOR ALL WORK.
C. THE FOLLOWING LIST IS INTENDED TO AID THE GC IN DIRECTING THE SUBCONTRACTORS REGARDING RESPONSIBILITY OF WORK. THE DRAWINGS MAY OR MAY NOT IDENTIFY RESPONSIBILITY FOR THESE SCOPES OF WORK. THIS LIST IS INTENDED TO PROVIDE THE GC AN AID TO ASSIGN THIS WORK SO SCOPE OF WORK IS PROPERLY BID. THE LIST IS NOT INTENDED TO BE ALL INCLUSIVE AND IT REMAINS THE RESPONSIBILITY OF THE GC TO ENSURE ALL SCOPES OF WORK ARE ASSIGNED AND PROVIDED.
   1. TEMPORARY ELECTRIC SERVICE
   2. TEMPORARY PHONE / INTERNET
   3. TEMPORARY HEATING
   4. TEMPORARY WATER
   5. TEMPORARY TOILETS
   6. PERMITS AND SALES TAX
   7. DEMOLITION
   8. INTERIOR CONCRETE EQUIPMENT PADS
   9. EXTERIOR CONCRETE EQUIPMENT PADS AND POLE BASES
   10. OPENINGS IN EXISTING CONSTRUCTION
   11. REINFORCING STEEL JOISTS FOR HANGING LOADS
   12. LARGE OPENINGS IN METAL DECK
   13. SMALL OPENINGS IN METAL DECK
   14. PIPE SLEEVES IN MASONRY, POURED CONCRETE AND FOUNDATION WALLS
   15. BOX OUT OPENINGS IN POURED CONCRETE AND FOUNDATION WALLS.
   16. SMALL OPENINGS IN INSULATED METAL PANELS
   17. TRIM AROUND INSULATED METAL PANEL OPENINGS
   18. PATCHING OPENINGS IN FLOORS, WALLS AND ROOF
   19. ROOFING, FLASHING AND INSULATION AT ROOF CURBS
   20. EXCAVATION AND BACKFILL FOR MEP WORK.
   21. SAWCUTTING AND REMOVAL OF FLOOR FOR UTILITIES
   22. CONCRETE FLOOR REPLACEMENT WHERE SAWCUT
   23. INSTALLATION OF CEILING/WALL ACCESS PANELS
   24. INSTALLATION OF ROOF CURBS AND ASSOCIATED BLOCKING
   25. PAINTING
   26. SEALANTS
   27. INTERIORS AND EXTERIOR DRAIN TILES AND BLEEDERS
   28. TUB, SHOWERS, MOP SINK, FLOOR DRAIN SAFING.
   29. INSTALLATION OF APPLIANCES.
   30. WATERPROOF MEMBRANES AT ABOVE GRADE FLOORS.

01 25 13 PRODUCT SUBSTITUTION PROCEDURES

A. REFERENCE TO MATERIALS OR SYSTEMS HEREIN BY NAME, MAKE OR CATALOG NUMBER IS INTENDED TO ESTABLISH A QUALITY STANDARD, AND NOT TO LIMIT COMPETITION. THE WORDS "OR APPROVED EQUIVALENT" ARE IMPLIED FOLLOWING EACH BRAND NAME/MODEL NUMBER UNLESS STATED OTHERWISE. "OR APPROVED EQUIVALENT" MATERIALS SHALL BE APPROVED BY EXCEL ENGINEERING, INC. PRIOR TO BIDS BEING ACCEPTED AND ACCEPTANCE FOR USE. PROVIDE A LETTER FROM THE MANUFACTURER CERTIFYING THAT THE PRODUCT MEETS OR EXCEEDS THE SPECIFIED PRODUCT.

01 31 00 PROJECT MANAGEMENT AND COORDINATION

A. THE CONTRACTOR HAS THE SOLE RESPONSIBILITY FOR AND SHALL HAVE CONTROL OF CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND SAFETY PRECAUTIONS AND PROCEDURES USED TO CONSTRUCT THE WORK.
B. THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIAL (INCLUDING TAXES) AND EQUIPMENT AS NECESSARY TO COMPLETE THE WORK. PERMITS SHALL BE OBTAINED AND PAID FOR BY THE RESPECTIVE CONTRACTOR, INCLUDING TEMPORARY OCCUPANCY PERMIT IF REQUIRED.
C. REVIT / AUTOCAD FILES OF CONSTRUCTION DOCUMENTS MAY BE OBTAINED BY CONTACTING EXCEL ENGINEERING, INC. 3 DIMENSIONAL MODEL MAY BE PROVIDED TO CONVEY DESIGN INTENT. FILE REQUESTS SHALL BE EMAILED TO EXCEL PROJECT MANAGER AND PROJECT ASSISTANT AND SHALL INCLUDE THE FOLLOWING INFORMATION:
   1. EXCEL ENGINEERING PROJECT NAME
   2. EXCEL ENGINEERING PROJECT NUMBER
   3. SHEET NUMBERS REQUESTED
D. REVIT / AUTOCAD FILES REQUEST SHALL BE MADE TO:
   1. PROJECT MANAGER: JAY.JOHNSON@EXCELENGINEER.COM
   2. PROJECT ASSISTANT: LYDIA GREENFIELD AT ARCHETAIL@EXCELENGINEER.COM
E. REVIT / AUTOCAD FILES WILL BE SENT BY METHOD OF EXCEL ENGINEERING, INC. CHOOSING AS SOON AS POSSIBLE.
F. REVIT / AUTOCAD FILES SHALL NOT BE USED FOR COMPONENT SUBMITTALS OR SHOP DRAWINGS. SUBMITTALS AND SHOP DRAWINGS USING EXCEL ENGINEERING, INC. CAD FILES WILL BE RETURNED REJECTED AND UN-REVIEWED.
G. ALL "REQUEST FOR INFORMATION" (RFI) SHALL BE MADE THROUGH THE GENERAL CONTRACTOR FOR LOGGING AND TRACKING PURPOSES. RFI'S SHALL BE SUBMITTED TO THE EXCEL ENGINEERING PROJECT ASSISTANT. RFI'S SHALL BE SUBMITTED ON AN ARCHITECT APPROVED FORM, NUMBER SEQUENCE AND INCLUDE THE FOLLOWING INFORMATION:
   1. EXCEL ENGINEERING PROJECT NAME
   2. EXCEL ENGINEERING PROJECT NUMBER
   3. DIVISION OF CONSTRUCTION REFERENCED
   4. POTENTIAL SCHEDULE IMPACTS
   5. POTENTIAL COST IMPACTS OF ANY SUGGESTED ALTERNATES FROM THE CONSTRUCTION DOCUMENTS

01 32 00 SCHEDULING OF WORK

A. THE CONTRACTOR SHALL OBTAIN THE OWNER'S APPROVAL OF THE CONSTRUCTION SCHEDULE PRIOR TO PROCEEDING WITH THE WORK.

01 33 23 SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

A. SUBMIT FOR APPROVAL ARCHITECTURAL, CIVIL, STRUCTURAL, HVAC, PLUMBING, FIRE PROTECTION AND ELECTRICAL SHOP DRAWINGS, PRODUCT DATA, TEST RESULTS AND SAMPLES INDICATED IN THE CONSTRUCTION ADMINISTRATION SUBMITTAL LIST (CASL). SEE DISCIPLINE SPECIFICATIONS FOR DISCIPLINE SPECIFIC CASL.
B. SHOP DRAWINGS SUBMITTALS SHALL BE MADE TO EXCEL ENGINEERING, INC. FOR APPROVAL PRIOR TO FABRICATION AND INSTALLATION.
C. SUBMITTALS SHALL BE MADE BY ELECTRONIC SUBMISSION IN PORTABLE DOCUMENT FORMAT (PDF) UNLESS NOTED OTHERWISE. WHEN HARD COPY SUBMISSIONS ARE REQUIRED, COORDINATE WITH EXCEL ENGINEERING, INC. PRIOR TO SUBMISSION.
D. SUBMITTALS SHALL BE MADE TO THE EXCEL ENGINEERING, INC. PROJECT ASSISTANT.
   1. LYDIA GREENFIELD AT ARCHETAIL@EXCELENGINEER.COM
E. SUBMITTALS SHALL BE MADE USING APPROVED SUBMITTAL FORM CONTAINING AT MINIMUM THE FOLLOWING INFORMATION:
   1. EXCEL ENGINEERING PROJECT NAME
   2. EXCEL ENGINEERING PROJECT NUMBER
   3. SUBMITTAL DIVISION OF CONSTRUCTION
   4. MATERIAL SUPPLIER / SUBCONTRACTOR
   5. SUBMITTAL DESCRIPTION (i.e. CONCRETE MIX DESIGN)
F. SUBMITTALS SHALL BE REVIEWED AND STAMPED BY THE CONTRACTOR PRIOR TO SUBMITTING FOR APPROVAL. CONTRACTOR SHALL COMPLETE ALL FIELD VERIFICATIONS PRIOR TO SUBMITTAL SUBMISSION.
G. SUBMITTALS MUST BE 100% COMPLETE AND IN ONE (1) PACKAGE FOR THE ITEM BEING SUBMITTED. NON-COMPLETE SUBMITTALS WILL BE RETURNED TO THE CONTRACTOR WITHOUT COMMENT AND STAMPED "REJECTED-RESUBMIT". CONTRACTORS WHO KNOWINGLY WANT TO SUBMIT NON-COMPLETE SUBMITTALS OR BREAK SINGLE SYSTEM SUBMITTALS INTO MULTIPLE SUBMITTALS WILL BE RESPONSIBLE TO ARRANGE WITH EXCEL ENGINEERING, PRIOR TO SUBMITTING THE SUBMITTAL(S), AND TO COMPENSATE EXCEL ENGINEERING FOR THE EXTRA WORK INVOLVED.
H. SHOP DRAWINGS SHALL CLEARLY INDICATE SPECIFIC MODEL BEING PROVIDED WHERE CUT SHEETS SHOW MULTIPLE MODELS.
I. FAILURE TO SUBMIT SHOP DRAWINGS SHALL NOT RELIEVE THE CONTRACTOR FROM PROVIDING THE SPECIFIED EQUIPMENT AND MATERIALS.
J. PHYSICAL SAMPLES FOR FINISHES ARE TO BE SUBMITTED TO EXCEL ENGINEERING, INC. FOR APPROVAL PRIOR TO INSTALLATION.
K. BUILDING COMPONENTS REQUIRING SUBMISSION "FOR RECORD" TO THE AUTHORITY HAVING JURISDICTION REQUIRE SEALED AND SIGN HARD COPIES, PROVIDE TWO (2) HARD COPIES WITH WET SEAL AND ORIGINAL SIGNATURE IN ADDITION TO THE ELECTRONIC SUBMISSION IN PORTABLE DOCUMENT FORMAT (PDF).
L. TEST RESULTS SHALL BE SUBMITTED TO REVIEW WITHIN 24 HOURS OF COMPLETION OF TEST.
M. CONTRACTOR SHALL ALLOW 10 WORKING DAYS IN SCHEDULE FOR A/E TO REVIEW SUBMITTALS. IF SUBMITTALS REQUIRE AN EXPEDITED REVIEW PROCESS, CONTACT EXCEL ENGINEERING, INC. PRIOR TO SUBMITTING THE SUBMITTAL(S) TO MAKE THE APPROPRIATE ARRANGEMENT.
N. SUBMITTALS REQUIRING RESUBMISSION SHALL HAVE CHANGES MADE TO A PREVIOUSLY REVIEWED SUBMITTAL DENOTED WITH REVISION CLOUDS AND TAGS IDENTIFYING CHANGES.
O. ARCHITECTURAL CONSTRUCTION ADMINISTRATION SUBMITTAL LIST:
   1. UNIT MASONRY
   2. MASONRY VENEER
   3. BRICK
   4. STONE VENEER
   5. CAST STONE
   6. ROUGH CARPENTRY MATERIALS
   7. EXTERIOR FINISH CARPENTRY MATERIALS
   8. INTERIOR FINISH CARPENTRY MATERIALS
   9. WATERPROOFING
   10. INSULATION
   11. EXTERIOR INSULATION AND FINISH SYSTEMS (EIFS)
   12. WEATHER BARRIER
   13. AIR AND MOISTURE BARRIERS
   14. MEMBRANE ROOFING SYSTEMS
   15. ROOFING ACCESSORIES
   16. PENETRATION FIRE STOPPING
   17. SEALANTS
   18. HOLLOW METAL DOORS AND FRAMES
   19. FLUSH WOOD DOORS
   20. ALUMINUM FRAMED ENTRANCES AND STOREFRONTS
   21. DOOR HARDWARE
   22. GLAZING
   23. DRYWALL STUDS
   24. GYPSUM BOARD
   25. TILING
   26. ACOUSTICAL PANEL CEILINGS
   27. WOOD FLOORING
   28. WALL COVERING
   29. PAINTING SYSTEMS
   30. SIGNAGE
   31. FIRE EXTINGUISHERS
   32. TOILET ACCESSORIES
   33. TOILET PARTITIONS
P. STRUCTURAL AND ARCHITECTURAL PLANS SHOW DIMENSIONS AND ELEVATIONS TO SIGNIFICANT WORKING POINTS. SHOP DRAWING DETAILERS AND SUPPLIERS ARE RESPONSIBLE FOR THE DETERMINATION OF ALL DIMENSIONS, PITCHES, ELEVATIONS, ETC., BEYOND THOSE NOTED AS NECESSARY TO THOROUGHLY DETAIL / FABRICATE THEIR WORK. CONTACT A/E WITH ANY DISCREPANCIES FOUND.
Q. IN NO CASE SHALL CHANGES BE MADE TO WORK SHOWN OR PROCEDURE SPECIFIED ON STRUCTURAL PLANS UNLESS FIRST APPROVED IN WRITING BY A/E. REVIEW OF SHOP DRAWINGS BY A/E DOES NOT CONSTITUTE ACCEPTANCE OF A DESIGN CHANGE. PROPOSED CHANGES BY CONTRACTOR MUST BE SUBMITTED IN RFI FORMAT AND MUST BE APPROVED IN THE SAME MANNER. CONTRACTOR REQUESTING CHANGE MAY BE BILLED ON A TIME AND EXPENSE BASIS BY A/E FOR ALL REDESIGN WORK, FOR ALL NEW SKETCHES PREPARED, AND FOR ALL ADDITIONAL REVIEW TIME RELATED TO THE CHANGES.

01 40 00 QUALITY REQUIREMENTS

A. IN AS MUCH AS THE SPECIFICATIONS ARE BRIEF, THE CONTRACTOR SHALL PROVIDE WORKMANSHIP THAT IS NEAT, SECURE AND OF THE BEST QUALITY WITH THE BEST POSSIBLE APPEARANCE AND UTILITY MEETING ALL APPLICABLE STANDARDS. FAULTY WORK SHALL BE REPAIRED OR REPLACED AT NO COST TO THE OWNER. INDUSTRY STANDARDS SHALL BE USED AS THE GUIDE FOR QUALITY OF MATERIALS AND WORKMANSHIP.

01 41 00 REGULATORY REQUIREMENTS

A. ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES, ORDINANCES AND REGULATIONS, INCLUDING THE REQUIREMENTS OF THE AMERICAN WITH DISABILITIES ACT (A.D.A.) ARE MADE PART OF THESE SPECIFICATIONS AND SHALL BE COMPLIED WITH AS FAR AS THEY APPLY TO WORK UNDER THIS CONTRACT.

01 45 00 QUALITY CONTROL

A. NOTIFY ARCHITECT ONE WEEK IN ADVANCE TO SCHEDULE FINAL COMPLIANCE WALK-THRU. PRIOR TO THIS WALK THRU, PROVIDE THE ARCHITECT WITH THE FIRE PROTECTION SYSTEM TEST REPORT AND A COPY OF THE ELEVATOR INSPECTION REPORT AS APPLICABLE. ALL COMPONENT SUBMITTALS SHOULD BE FILED AND AVAILABLE FOR REVIEW AT THE WALK THRU. THE BUILDING SHALL BE COMPLETE AND ALL SYSTEMS OPERATIONAL AT THE TIME OF THE WALK THRU. IF THE ARCHITECT IS REQUIRED TO MAKE ADDITIONAL VISITS DUE TO NON-COMPLIANCE, THEY WILL BE CHARGED TO THE REQUESTING CONTRACTOR.

01 52 00 CONSTRUCTION FACILITIES

A. THE CONTRACTOR SHALL FURNISH TEMPORARY OFFICE, TOILET FACILITIES, WORKING TELEPHONE, ELECTRICITY, HEAT, WATER AND FIRE EXTINGUISHERS AS REQUIRED FOR COMPLETION OF THE WORK UNLESS THE OWNER HAS AGREED IN WRITING TO FURNISH OR WAIVE ANY OF THE ABOVE ITEMS.

01 53 00 TEMPORARY CONSTRUCTION

A. THE CONTRACTOR SHALL FURNISH TEMPORARY BRACING OF ALL BUILDING ELEMENTS DURING CONSTRUCTION. TEMPORARY BRACING SYSTEMS SHALL BE DESIGNED TO WITHSTAND CODE DESIGN LOADS. CONTRACTOR SHALL RETAIN SERVICES OF A PROFESSIONAL ENGINEER TO DESIGN AND SUPERVISE BRACING INSTALLATION IF THEY DO NOT HAVE THE EXPERTISE REQUIRED.

01 71 00 FIELD ENGINEERING

A. THE CONTRACTOR SHALL PROVIDE ALL LAYOUT AS REQUIRED, COMPETENT FULLTIME ON SITE SUPERVISION, AND BROOM CLEANING OF CONSTRUCTION SITE INCLUDING DUMPSTERS FOR REFUSE DISPOSAL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAFETY ON SITE AND PROTECTION OF SITE PER LOCAL, STATE AND FEDERAL REQUIREMENTS.

01 78 00 CLOSEOUT SUBMITTALS

A. THE CONTRACTOR SHALL FURNISH "AS-BUILT" DRAWINGS REFLECTING ALL CHANGES DURING CONSTRUCTION. PROVIDE TWO (2) COPIES OF OPERATING AND MAINTENANCE MANUALS TO OWNER FOR ALL FURNISHED EQUIPMENT.

01 78 36 WARRANTIES

A. THE CONTRACTOR SHALL GUARANTEE ALL WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE YEAR AFTER SUBSTANTIAL COMPLETION OF THE PROJECT. FURNISH MANUFACTURER'S WRITTEN WARRANTIES FOR SPECIFIED EQUIPMENT STATING EFFECTIVE WARRANTY DATE.

01 91 13 GENERAL COMMISSIONING REQUIREMENTS

A. COMMISSIONING REQUIREMENTS:
   1. COMMISSIONING ENCOMPASSES AND COORDINATES THE TRADITIONALLY SEPARATE FUNCTIONS OF SYSTEM DOCUMENTATION, EQUIPMENT STARTUP, CONTROL SYSTEM CALIBRATION, TESTING AND BALANCING, TRAINING, AND PERFORMANCE TESTING. COMMISSIONING DURING THE CONSTRUCTION PHASE IS INTENDED TO ACHIEVE THE FOLLOWING SPECIFIC OBJECTIVES:
      a. VERIFY THAT APPLICABLE EQUIPMENT AND SYSTEMS ARE INSTALLED ACCORDINGLY TO THE MANUFACTURERS RECOMMENDATIONS AND TO THE INDUSTRY ACCEPTED MINIMUM STANDARDS AND THAT THEY RECEIVE ADEQUATE OPERATIONAL CHECKOUT BY INSTALLING SUBCONTRACTORS.
      b. VERIFY THE PERFORMANCE OF APPLICABLE EQUIPMENT AND SYSTEMS MEETS THE DESIGN CRITERIA, AS DOCUMENTED THROUGH FUNCTIONAL TESTING
   2. COMMISSIONING ACTIVITIES WILL BE LED BY THE COMMISSIONING PROVIDER (CXP).
   3. THE COMMISSIONING PROVIDER SHALL PROVIDE A COMMISSIONING PLAN CONTAINING THE FOLLOWING:
      a. A NARRATIVE DESCRIPTION OF THE ACTIVITIES THAT WILL BE ACCOMPLISHED DURING EACH PASE OF COMMISSIONING, INCLUDING THE PERSONNEL INTENDED TO ACCOMPLISH EACH OF THE ACTIVITIES.
      b. A LISTING OF THE SPECIFIC EQUIPMENT, APPLIANCES OR SYSTEMS TO BE TESTED AND A DESCRIPTION OF THE TEST TO BE PERFORMED.
      c. FUNCTIONS TO BE TESTED INCLUDING, BUT NOT LIMITED TO, CALIBRATIONS AND ECONOMIZER CONTROLS.
      d. CONDITIONS UNDER WHICH THE TEST WILL BE PERFORMED. TESTING SHALL AFFIRM WINTER AND SUMMER DESIGN CONDITIONS AND FULL OUTSIDE AIR CONDITIONS.
      e. MEASURABLE CRITERIA FOR PERFORMANCE
   4. SEE DIVISION 22 08 00 COMMISSIONING OF PLUMBING FOR ADDITIONAL REQUIREMENTS.
   5. SEE DIVISION 23 08 00 COMMISSIONING OF HVAC FOR ADDITIONAL REQUIREMENTS.
   6. SEE DIVISION 26 08 00 COMMISSIONING OF ELECTRICAL FOR ADDITIONAL REQUIREMENTS.
B. COMMISSIONING COORDINATION:
   1. THE GENERAL CONTRACTOR SHALL SCHEDULE SUBCONTRACTORS TO PARTICIPATE IN AND PERFORM COMMISSIONING PROCESS ACTIVITIES AND COORDINATE SCHEDULE WITH OWNER AND COMMISSIONING PROVIDER.
   2. THE COMMISSIONING TEAM WILL BE DETERMINED BY THE COMMISSIONING PROVIDER, BUT WILL USUALLY INCLUDE THE COMMISSIONING PROVIDER, DESIGN TEAM, GENERAL CONTRACTOR, SITE SUPERVISOR, HVAC, ELECTRICAL, AND PLUMBING SUBCONTRACTORS.
   3. COMMISSIONING TEAM MEMBERS SHALL BE REQUIRED TO PARTICIPATE IN THE FOLLOWING TEAM MEETINGS WHICH MAY TAKE PLACE VIA CONFERENCE CALL OR VIRTUAL MEETING.
      a. PRECONSTRUCTION COMMISSIONING KICKOFF MEETING.
         i. THIS MEETING WILL BE AN OVERVIEW OF THE COMMISSIONING PROCESS SUBMITTALS AND SCHEDULE. THE COMMISSIONING PROVIDER WILL REVIEW THE ONSITE FUNCTIONAL TEST PROCESS PROCEDURE.
      b. ON SITE FUNCTIONAL TESTING DEFICIENCIES MEETING.
         i. THIS MEETING WILL BE AN OVERVIEW OF ANY DEFICIENCIES THAT WERE FOUND DURING THE ON-SITE FUNCTIONAL TEST PROCESS. DEFICIENCIES WILL BE DOCUMENTED IN AN ISSUES LOG AND DISTRIBUTED TO ALL PARTIES.
   4. THE GENERAL CONTRACTOR SHALL INTEGRATE AND COORDINATE THE COMMISSIONING PROCESS ACTIVITIES WITHIN THE CONSTRUCTION SCHEDULE. THE CONSTRUCTION SCHEDULE SHALL INCLUDE A 1 DAY ACTIVITY CALLED BUILDING COMMISSIONING. THIS ACTIVITY SHALL NOT TAKE PLACE UNTIL ALL SUBMITTALS HAVE BEEN RECEIVED AND REVIEWED BY THE COMMISSIONING PROVIDER AND ALL SYSTEMS HAVE BEEN INSTALLED, STARTED UP AND ARE FULLY OPERATIONAL.
C. COMMISSIONING TESTING AND SUBMITTALS:
   1. FUNCTIONAL TEST SHALL BE COMPLETED BY THE COMMISSIONING PROVIDER IN COLLABORATION WITH THE OTHER MEMBERS OF THE COMMISSIONING TEAM.
   2. TEST AND BALANCE REPORT SHALL BE PROVIDED TO THE OWNER, ENGINEER AND COMMISSIONING PROVIDER PRIOR TO THE FUNCTIONAL TESTING DATE.
   3. PERFORM COMMISSIONING FUNCTIONAL TEST PROCEDURES UNDER THE COMMISSIONING PROVIDERS DIRECTION. TEST RESULTS ARE DOCUMENTED BY THE COMMISSIONING PROVIDER. TEST PROCEDURES ARE COMPLETED BY THE COMMISSIONING PROVIDER IN COLLABORATION WITH THE CONTRACTOR AND SUBCONTRACTOR. FUNCTIONAL TESTS ARE DOCUMENTED TESTS OF THE DYNAMIC OPERATION OF THE EQUIPMENT AND SYSTEMS WITH THE GOAL OF VERIFYING THAT THE ACCEPTANCE CRITERIA ARE MET.
   4. COMMISSIONING PROVIDER SHALL PROVIDE A PRELIMINARY COMMISSIONING REPORT TO THE OWNER WHICH SHALL INCLUDE THE FOLLOWING:
      a. TENDAZATION OF DEFICIENCIES FOUND DURING TESTING REQUIRED THAT HAVE NOT BEEN CORRECTED AT THE TIME OF REPORT PREPARATION.
      b. DEFERRED TESTS THAT CANNOT BE PERFORMED AT THE TIME OF REPORT PREPARATION BECAUSE OF CLIMATIC CONDITIONS.
      c. CLIMATIC CONDITIONS REQUIRED FOR PERFORMANCE OF THE DEFERRED TESTS.
      d. RESULTS OF FUNCTIONAL PERFORMANCE TESTS.
      e. FUNCTIONAL PERFORMANCE TEST PROCEDURES USED DURING THE COMMISSIONING PROCESS, INCLUDING MEASURABLE CRITERIA FOR TEST ACCEPTANCE.
   5. COMMISSIONING PROVIDER SHALL PROVIDE FINAL COMMISSIONING REPORT TO THE OWNER WITHIN 90 DAYS OF THE DATE OF RECEIPT OF CERTIFICATE OF OCCUPANCY.
      a. MECHANICAL SECTIONS OF FINAL REPORT SHALL INCLUDE:
         i. RESULTS OF FUNCTIONAL PERFORMANCE TESTS.
         ii. DEFICIENCIES FOUND DURING TESTING AND DETAILS OF CORRECTIVE MEASURES USED OR PROPOSED.
         iii. TEST AND BALANCE REPORT.
      b. ELECTRICAL SECTION OF FINAL REPORT SHALL INCLUDE:
         i. RESULTS OF FUNCTIONAL PERFORMANCE TESTS.
         ii. DEFICIENCIES FOUND DURING TESTING AND DETAILS OF CORRECTIVE MEASURES USED OR PROPOSED.
   6. GENERAL CONTRACTOR SHALL COORDINATE SUBMITTAL OF THE FOLLOWING DOCUMENTATION WITH THE ELECTRICAL SUBCONTRACTOR TO THE OWNER WITHIN 90 DAYS OF THE DATE OF RECEIPT OF CERTIFICATE OF OCCUPANCY.
      a. OPERATING AND MAINTENANCE MANUALS SHALL BE PROVIDED AND INCLUDE THE FOLLOWING:
         i. NAME AND ADDRESS OF NOT LESS THAN ONE SERVICE AGENCY FOR INSTALLED EQUIPMENT
         ii. A NARRATIVE OF HOW EACH SYSTEM IS INTENDED TO OPERATE, INCLUDING RECOMMENDED SET POINTS.
         iii. SUBMITTAL DATA INDICATING ALL SELECTED OPTIONS FOR EACH PIECE OF LIGHTING EQUIPMENT AND LIGHTING CONTROLS
         iv. OPERATION AND MAINTENANCE MANUALS FOR EACH PIECE OF LIGHTING EQUIPMENT. REQUIRED ROUTINE MAINTENANCE ACTIONS, CLEANING AND RECOMMENDED RELAMPING SHALL BE CLEARLY IDENTIFIED.
         v. IT'S SCHEDULE FOR INSPECTING AND RECALIBRATING ALL LIGHTING CONTROLS.
         vi. AS BUILT DRAWINGS THAT INCLUDE THE LOCATION AND CATALOGUE NUMBER OF EACH PIECE OF EQUIPMENT.

DIVISION 02 EXISTING CONDITIONS

02 41 19 SELECTIVE DEMOLITION

A. CONDUCT DEMOLITION AND DEBRIS REMOVAL OPERATIONS TO ENSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, WALKS, AND OTHER ADJACENT OCCUPIED AND USED FACILITIES.
B. IT IS UNKNOWN WHETHER HAZARDOUS MATERIALS WILL BE ENCOUNTERED, DO NOT DISTURB, IMMEDIATELY NOTIFY ARCHITECT AND OWNER.
C. DEMOLISH AND REMOVE EXISTING CONSTRUCTION ONLY TO THE EXTENT REQUIRED BY NEW CONSTRUCTION AND AS SHOWN ON THE DEMOLITION PLANS. USE METHODS REQUIRED TO COMPLETE THE WORK WITHIN LIMITATIONS OF GOVERNING REGULATIONS.
D. EXCEPT FOR ITEMS OR MATERIALS INDICATED TO BE REUSED, SALVAGED, REINSTALLED OR TO REMAIN OWNER'S PROPERTY, REMOVE DEMOLISHED MATERIALS FROM PROJECT SITE AND LEGALLY DISPOSE OF THEM IN AN EPA APPROVED LANDFILL.

DIVISION 03 CONCRETE

03 30 00 CAST-IN-PLACE CONCRETE

A. SEE STRUCTURAL SPECIFICATIONS.

03 60 00 GROUT

A. SEE STRUCTURAL PLANS.

DIVISION 04 MASONRY

04 20 00 UNIT MASONRY

A. SEE STRUCTURAL SPECIFICATIONS.

04 31 13 BRICK

A. ALL BRICK MATERIALS AND INSTALLATION SHALL COMPLY WITH LOCAL AND STATE CODES, AND SPECIFICATIONS OF THE BRICK INSTITUTE OF AMERICA (BIA). ALL BRICK WORK SHALL BE LAID IN TYPE N CEMENT AND LIME MORTAR, WITH ALL BRICK FACES FULL BEDDED IN PLACE HAVING BOTH VERTICAL AND HORIZONTAL JOINTS ON STRAIGHT LINES. PROVIDE A 3/8" CONTROL JOINT AT 20'-0" O.C. UNLESS SHOWN OTHERWISE ON PLANS.
B. INSTALL WEEP VENTS AT TOP AND BOTTOM COURSE OF BRICK, AND ABOVE ALL OPENINGS IN EXTERIOR WALLS AT 32" ON CENTER OR AS INDICATED ON THE DRAWINGS.
C. CONTRACTOR SHALL ALLOW FOR COLOR MATCH MORTAR.
D. CONTROL JOINTS SHALL BE SPACED PER BIA TECHNICAL NOTE 18 — VOLUME CHANGES AND EFFECTS OF MOVEMENT, PART 1 AND BIA TECHNICAL NOTE 21B — BRICK MASONRY CAVITY WALL - DETAILING AND AS INDICATED ON PLANS. CONTROL JOINT CAULK COLOR TO MATCH COLOR OF THE FIELD BRICK ADJACENT TO JOINT. CONTROL JOINTS TO ALIGN WITH EXPOSED CONCRETE FOUNDATION WALL JOINTS IF APPLICABLE.

DIVISION 06 WOOD, PLASTICS AND COMPOSITES

06 10 00 ROUGH CARPENTRY

A. SEE STRUCTURAL SPECIFICATIONS.

06 16 00 SHEATHING

A. WOOD
   1. PARAPET VERTICAL: MINIMUM 7/16" PLYWOOD DOC PS-1 OR 2, EXPOSURE 1 MINIMUM CLASSIFICATION.
   2. COORDINATE SHEATHING INSTALLATION SO SHEATHING IS NOT DIRECTLY EXPOSED TO PRECIPITATION OR PROVIDE SHEATHING WARRANTED FOR THE EXPOSURE.
   3. EXPOSED INTERIOR WALL SHEATHING SHALL BE MINIMUM CDX GRADE.
   4. PROVIDE FIRE TREATED SHEATHING WHERE SPECIFIED ON PLANS.
   5. SEE STRUCTURAL SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
B. GLASS MAT SHEATHING
   1. INSTALL IN ACCORDANCE WITH MANUFACTURER INSTRUCTIONS.
   2. NONCOMBUSTIBLE AS TESTED IN ACCORDANCE WITH ASTM E136.
   3. MANUFACTURED TO MEET ASTM C1177.
   4. MOLD RESISTANCE PER ASTM D3273 OF 10.
   5. FLAME SPREAD AND SMOKE DEVELOP RATING OF 0/0 WHEN TESTED IN ACCORDANCE WITH ASTM E84.
   6. WALL
      a. PRODUCT: DENSGLASS GOLD EXTERIOR SHEATHING.
      b. TREATED, WATER-RESISTANT GYPSUM CORE SURFACED WITH FIBERGLASS MATS AND A PRIMER COATING.
      c. MIN. 1/2" THICK. MINIMUM SPAN RATING EQUAL TO SUPPORT SPACING.
      d. 1.9 LBS/SF, >23 PERMS, 0.56 R VALUE.
   7. ROOF
      a. VERTICAL
         i. PRODUCT: DENSDECK PRIME ROOF BOARD.
         ii. FIBERGLASS MATS MECHANICALLY BONDED TO FRONT AND BACK OF HIGH-DENSITY GYPSUM CORE WITH FACE MAT ENHANCEMENTS TO ALLOW UNIFORM ADHESIVE SPREADING.
         iii. 900 PSI COMPRESSIVE STRENGTH.
         iv. 2.0 LBS/SF, >35 PERMS, 0.56 R VALUE FOR 1/2" THICK.
         v. UL 790 CLASSIFIED FOR USE AS A FIRE BARRIER OVER COMBUSTIBLE AND NONCOMBUSTIBLE DECKS.
         vi. UL 1256 CLASSIFIED FOR INTERNAL (UNDER DECK) FIRE EXPOSURE.
         vii. FM CLASS 1 FIRE RATING.
         viii. MINIMUM SPAN RATING EQUAL TO SUPPORT SPACING.
      b. HORIZONTAL
         i. PRODUCT: DENSDECK ROOF BOARD.
         ii. FIRE BARRIER, THERMAL BARRIER, COVERBOARD AND RECOVERY BOARD.
         iii. FIBERGLASS MATS MECHANICALLY BONDED TO FRONT AND BACK OF HIGH-DENSITY GYPSUM CORE.
         iv. 900 PSI COMPRESSIVE STRENGTH.
         v. 2.0 LBS/SF, >35 PERMS, 0.56 R VALUE FOR 1/2" THICK.
         vi. UL 790 CLASSIFIED FOR USE AS A FIRE BARRIER OVER COMBUSTIBLE AND NONCOMBUSTIBLE DECKS.
         vii. UL 1256 CLASSIFIED FOR INTERNAL (UNDER DECK) FIRE EXPOSURE.
         viii. FM CLASS 1 FIRE RATING.
         ix. MINIMUM SPAN RATING EQUAL TO FLUTE SPACING.

06 17 53 WOOD TRUSSES

A. SEE STRUCTURAL SPECIFICATIONS.

06 20 13 EXTERIOR FINISH CARPENTRY

A. INSTALL EXTERIOR FINISH CARPENTRY LEVEL, PLUMB, TRUE, AND ALIGNED WITH ADJACENT MATERIALS.
B. SCRIBE A

ARCHITECTURAL SPECIFICATIONS (CONT)

1. IT IS THE INTENTION OF THIS SPECIFICATION THAT ALL JOINTS ARE TO RECEIVE SEALANT.
2. APPLY SEALANT IN ALL INDICATED LOCATIONS ACCORDING TO THE MANUFACTURER'S WRITTEN INSTRUCTIONS, INCLUDING BUT NOT LIMITED TO, JOINT WIDTH, SURFACE PREPARATION, PRIMERS, APPLICATION TEMPERATURE AND MATERIAL STORAGE.
3. APPLY SEALANT AFTER FINISH OPERATIONS ARE COMPLETE.
4. SEALANT COLOR TO MATCH ADJACENT FINISH.
5. PROVIDE APPROPRIATE SIZED BACKER RODS AND BOND BREAK AT ALL JOINTS UNLESS OTHERWISE NOTED IN THE MANUFACTURER'S INSTRUCTIONS.

B. SEE SCHEDULE ON PLANS.

DIVISION 08 OPENINGS

08 11 13 HOLLOW METAL DOORS AND FRAMES

A. HOLLOW METAL FRAMES: COMPLY WITH ANSI/SDI A250.11.
1. SET FRAMES ACCURATELY IN POSITION, PLUMBED, ALIGNED, AND BRACED SECURELY UNTIL PERMANENT ANCHORS ARE SET. AFTER WALL CONSTRUCTION IS COMPLETE, REMOVE TEMPORARY BRACES, LEAVING SURFACES SMOOTH AND UNDAMAGED.
2. AT FIRE-PROTECTION-RATED OPENINGS, INSTALL FRAMES ACCORDING TO NFPA 80.

B. HOLLOW METAL DOORS: FIT HOLLOW METAL DOORS ACCURATELY IN FRAMES, WITHIN CLEARANCES. SHIM AS NECESSARY TO ACHIEVE CLEARANCES INDICATED.
1. FIRE-RATED DOORS: INSTALL DOORS WITH CLEARANCES ACCORDING TO NFPA 80.
2. SMOKE-CONTROL DOORS: INSTALL DOORS ACCORDING TO NFPA 105.

C. SEE PLAN FOR PRODUCT SPECIFICATION AND LOCATION. FURNISH AND INSTALL ALL DOORS AND FRAMES AS INDICATED ON THE PLANS.

08 14 16 FLUSH WOOD DOORS

A. INSTALL DOORS TO COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS AND THE REFERENCED QUALITY STANDARD, AND AS INDICATED.
1. INSTALL FIRE-RATED DOORS IN CORRESPONDING FIRE-RATED FRAMES ACCORDING TO NFPA 80.

B. ALIGN IN FRAMES FOR UNIFORM CLEARANCE AT EACH EDGE.

C. SEE PLAN FOR PRODUCT SPECIFICATION AND LOCATION. FURNISH AND INSTALL ALL DOORS AS INDICATED ON THE PLANS.

08 39 23 IMPACT TRAFFIC DOORS

A. INSTALL IMPACT TRAFFIC DOORS COMPLETE WITH NECESSARY SUPPORT FRAME, HARDWARE, ANCHORS, BUMPERS, INSERTS, HANGERS, AND EQUIPMENT SUPPORTS; ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS AND AS DRAWN AND SPECIFIED.

B. ADJUST HARDWARE AND MOVING PARTS TO FUNCTION SMOOTHLY SO THAT DOORS OPERATE EASILY, FREE OF WARP, TWIST, OR DISTORTION. LUBRICATE BEARINGS AND SLIDING PARTS AS RECOMMENDED BY MANUFACTURER.

C. SEE PLAN FOR PRODUCT SPECIFICATION AND LOCATION. FURNISH AND INSTALL ALL DOORS AS INDICATED ON THE PLANS.

08 41 13 ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS

A. INSTALLATION:
1. COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
2. DO NOT INSTALL DAMAGED COMPONENTS.
3. FIT JOINTS TO PRODUCE HAIRLINE JOINTS FREE OF BURRS AND DISTORTION.
4. RIGIDLY SECURE NONMOVEMENT JOINTS.
5. INSTALL ANCHORS WITH SEPARATORS AND ISOLATORS TO PREVENT METAL CORROSION AND ELECTROLYTIC DETERIORATION.
6. SEAL JOINTS WATERTIGHT UNLESS OTHERWISE INDICATED.

B. INSTALL COMPONENTS TO DRAIN WATER PASSING JOINTS, CONDENSATION OCCURRING WITHIN FRAMING MEMBERS, AND MOISTURE MIGRATING WITHIN THE SYSTEM TO EXTERIOR.

C. INSTALL COMPONENTS PLUMB AND TRUE IN ALIGNMENT WITH ESTABLISHED LINES AND GRADES, AND WITHOUT WARP OR RACK.

D. ENTRANCE DOORS: INSTALL DOORS TO PRODUCE SMOOTH OPERATION AND TIGHT FIT AT CONTACT POINTS.

E. SEE PLAN FOR PRODUCT SPECIFICATION AND LOCATION. FURNISH AND INSTALL ALL ENTRANCES AND STOREFRONTS AS INDICATED ON THE PLANS.

08 71 00 HARDWARE

A. REQUIREMENTS:
1. ALL LOCKSETS SHALL BE LEVER TYPE AS REQUIRED TO MEET REQUIREMENTS OF A.D.A.
2. ALL OTHER HARDWARE SHALL CONFORM TO THE REQUIREMENTS OF A.D.A.
3. ALL EXIT DOORS SHALL BE EQUIPPED WITH LEVER TYPE OR PANIC TYPE EXIT HARDWARE OPENABLE FROM THE INSIDE WITHOUT THE USE OF A LATCH, KEY OR BOLT.
4. CONTRACTOR TO COORDINATE KEYING SCHEDULE WITH OWNER.

B. MOUNTING HEIGHTS: MOUNT DOOR HARDWARE UNITS AT HEIGHTS REQUIRED TO COMPLY WITH GOVERNING REGULATIONS.

C. INSTALL EACH DOOR HARDWARE ITEM TO COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.

D. THRESHOLDS: SET THRESHOLDS FOR EXTERIOR AND ACOUSTICAL DOORS IN FULL BED OF SEALANT.

E. ADJUSTMENT: ADJUST AND CHECK EACH OPERATING ITEM OF DOOR HARDWARE AND EACH DOOR TO ENSURE PROPER OPERATION OR FUNCTION OF EVERY UNIT. REPLACE UNITS THAT CANNOT BE ADJUSTED TO OPERATE AS INTENDED. ADJUST DOOR CONTROL DEVICES TO COMPENSATE FOR FINAL OPERATION OF HEATING AND VENTILATING EQUIPMENT AND TO COMPLY WITH REFERENCED ACCESSIBILITY REQUIREMENTS.

F. SEE PLAN FOR PRODUCT SPECIFICATION AND LOCATION. FURNISH AND INSTALL ALL HARDWARE AS INDICATED ON THE PLAN.

08 80 00 GLAZING

A. COMPLY WITH COMBINED WRITTEN INSTRUCTIONS OF MANUFACTURERS OF GLASS, SEALANTS, GASKETS, AND OTHER GLAZING MATERIALS, UNLESS MORE STRINGENT REQUIREMENTS ARE INDICATED, INCLUDING THOSE IN REFERENCED GLAZING PUBLICATIONS.

B. PROTECT GLASS EDGES FROM DAMAGE DURING HANDLING AND INSTALLATION. REMOVE DAMAGED GLASS FROM PROJECT SITE AND LEGALLY DISPOSE OF OFF PROJECT SITE. DAMAGED GLASS IS GLASS WITH EDGE DAMAGE OR OTHER IMPERFECTIONS THAT, WHEN INSTALLED, COULD WEAKEN GLASS AND IMPAIR PERFORMANCE AND APPEARANCE.

C. PROVIDE SAFETY GLASS IN ALL GLAZING AS LISTED BELOW UNLESS NOTED OTHERWISE:
1. WHERE REQUIRED BY FEDERAL, STATE AND LOCAL CODES.

D. SAFETY GLASS REQUIREMENTS:
1. SAFETY GLASS SHALL BE, BUT NOT LIMITED TO
   a. TEMPERED GLASS
   b. LAMINATED GLASS
   c. SAFETY PLASTIC
   d. SAFETY INSULATING UNITS WHICH MEET THE TEST REQUIREMENTS OF ANSI Z97.1, AND WHICH ARE CONSTRUCTED, TREATED, OR COMBINED WITH OTHER MATERIALS SO AS TO MINIMIZE THE LIKELIHOOD OF CUTTING AND PIERCING INJURIES RESULTING FROM HUMAN IMPACT WITH THE GLAZING MATERIAL.
2. ALL SAFETY GLAZING MATERIAL SHALL BE LABELED PER LOCAL, STATE, AND FEDERAL REQUIREMENTS.

E. SEE PLAN FOR PRODUCT SPECIFICATION AND LOCATION. FURNISH AND INSTALL THE GLAZING AS INDICATED ON THE PLAN.

DIVISION 09 FINISHES

09 01 00 FINISHES

A. REQUIREMENTS:
1. PROVIDE AND INSTALL ALL FINISHES AS INDICATED ON PLANS.
2. INSTALL ALL MATERIALS PER MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.
3. "FINISH" INSTALLER INSPECT SUBSURFACE AND PREPARE AS PER MANUFACTURER'S SPECIFICATIONS PRIOR TO INSTALLATION OF PRODUCT.
4. ALL FINISHES TO MEET ALL CODE REQUIREMENTS AND REGULATIONS INCLUDING FLAME SPREAD AND SMOKE DEVELOPMENT.

B. EXTRA MATERIAL:
1. PROVIDE NEW, EXTRA MATERIAL OF EACH FINISH TYPE AND COLOR TO BE TURNED OVER TO OWNER AT JOB COMPLETION FOR THE FOLLOWING ITEMS:
   a. PAINT: PROVIDE 1 GALLON FOR FIELD COLORS AND 1 QUART FOR ACCENT COLORS APPLIED.
   b. RESILIENT TILE FLOORING: PROVIDE 1 BOX FOR EVERY 50 BOXES OR FRACTION THEREOF INSTALLED. FURNISH MINIMUM 10 LINEAR FEET FOR EACH 500 LINEAR FEET OR FRACTION THEREOF OF EACH TYPE OF RESILIENT ACCESSORY SUPPLIED.
   c. ACOUSTICAL CEILING TILE: PROVIDE FULL-SIZE UNITS EQUAL TO 2% OF QUANTITY INSTALLED, BUT NOT LESS THAN 1 BOX OF EACH TYPE OF CEILING TILE SUPPLIED.
   d. WOOD FLOORING: PROVIDE FULL-SIZE UNITS EQUAL TO 3% OF QUANTITY INSTALLED, BUT NOT LESS THAN 50 S.F.
   e. LAMINATE FLOORING: PROVIDE FULL-SIZE UNITS EQUAL TO 3% OF QUANTITY INSTALLED, BUT NOT LESS THAN 50 S.F.
   f. RESILIENT SHEET FLOORING: PROVIDE NOT LESS THAN 10 LINEAR FEET FOR EACH 500 LINEAR FEET OR FRACTION THEREOF INSTALLED.
   g. WALL COVERING MATERIAL: PROVIDE FULL-SIZE UNITS EQUAL TO 5 PERCENT INSTALLED.
   h. TILE CARPET: PROVIDE FULL-SIZE UNITS EQUAL TO 5 PERCENT OF THE AMOUNT INSTALLED, BUT NOT LESS THAN 10 SQ. YD.
   i. SHEET CARPET: PROVIDE FULL-WIDTH ROLLS EQUAL TO 5 PERCENT OF THE AMOUNT INSTALLED, BUT NOT LESS THAN 10 SQ. YD.
   j. CERAMIC, QUARRY AND PORCELAIN TILE: PROVIDE FULL-SIZE UNITS EQUAL TO 3% OF QUANTITY INSTALLED, BUT NOT LESS THAN 50 S.F.

09 22 16 DRYWALL STUDS (INTERIOR NON-BEARING)

A. REQUIREMENTS:
1. STUDS SHALL BE SECURED TO TOP AND BOTTOM TRACK WITH (1) #8ML SCREW IN EACH FLANGE (UNLESS A SLIP TRACK IS REQUIRED AT THE TOP OF THE WALL).
2. PROVIDE SLIP TRACK AT TOP OF FULL HEIGHT PARTITIONS.
3. STUDS SHALL BE INSTALLED PER "GYPSUM CONSTRUCTION HANDBOOK" AS PUBLISHED BY UNITED STATES GYPSUM COMPANY LATEST EDITION.
4. DRYWALL STUDS SHALL BE ACCORDING TO THE LIST BELOW OR AS INDICATED ON THE PLANS (THESE HEIGHTS ARE BASED ON THE STUDS HAVING (1) LAYER OF DRYWALL EACH FACE).
5. STUD SIZE — GAUGE — LIMITING HEIGHT WITH STUD SPACING
   a. 3 5/8" — 25 GA. — 13'-6" AT 16" O.C. — 11'-9" AT 24" O.C.
   b. 3 5/8" — 22 GA. — 15'-3" AT 16" O.C. — 13'-4" AT 24" O.C.
   c. 3 5/8" — 20 GA. — 15'-11" AT 16" O.C. — 13'-11" AT 24" O.C.
   d. 3 5/8" — 362s250-54 — 25'-0" AT 12" O.C. - 22'-8" AT 16" O.C.
   e. 6" — 25 GA. — 20'-0" AT 16" O.C. — 17'-6" AT 24" O.C.
   f. 6" — 22 GA. — 22'-9" AT 16" O.C. — 19'-11" AT 24" O.C.
   g. 6" — 20 GA. — 23'-9" AT 16" O.C. — 20'-9" AT 24" O.C.

09 29 00 GYPSUM BOARD (GYP)

A. DRYWALL SHALL BE INSTALLED PER THE LATEST EDITIONS OF "RECOMMENDED SPECIFICATIONS FOR THE APPLICATION AND FINISHING OF GYPSUM BOARD" GA-216 AS PUBLISHED BY THE GYPSUM ASSOCIATION AND THE "GYPSUM CONSTRUCTION HANDBOOK" AS PUBLISHED BY UNITED STATES GYPSUM COMPANY.
1. PROVIDE CONTROL JOINTS PER THESE REQUIREMENTS.

B. COMPLY WITH ASTM C36 OR ASTM C 1396 AS APPLICABLE TO THE TYPE OF GYPSUM BOARD INDICATED.

C. SUBJECT TO COMPLIANCE WITH REQUIREMENTS, MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:
1. AMERICAN GYPSUM CO.
2. BPB AMERICAN INC.
3. G-P GYPSUM
4. LAFARGE NORTH AMERICA INC.
5. NATIONAL GYPSUM COMPANY
6. USG CORPORATION

D. AT ALL TOILET ROOMS, LOCKERS ROOMS, COOLER/FREEZER ROOMS, UNDER FRP PANELS OR OTHER DAMP/WET LOCATIONS PROVIDE:
1. GOLD BOND XP GYPSUM BOARD BY NATIONAL GYPSUM OR EQUAL.

E. UNDER CERAMIC AND PORCELAIN TILE IN TOILET ROOMS, LOCKER ROOMS OR OTHER DAMP/WET LOCATIONS PROVIDE:
1. FIBEROCK AQUA-TOUGH TILE BACKER BOARD BY USG CORPORATION OR EQUAL.

F. UNDER CERAMIC AND PORCELAIN TILE IN SHOWERS, TUBS, KITCHEN WASH DOWN AREAS OR OTHER HIGH-MOISTURE AREAS PROVIDE:
1. DUROCK CEMENT BOARD BY USG CORPORATION OR EQUAL

G. DRYWALL FINISHES SHALL BE INSTALLED PER THE LATEST EDITION OF "RECOMMENDED LEVELS OF GYPSUM BOARD FINISH" GA-214 AS PUBLISHED BY THE AWCI, PAINTING AND DECORATING CONTRACTORS OF AMERICA, GYPSUM ASSOCIATION AND CISCA.

H. LEVELS OF FINISH:
1. SEE PLANS FOR FINISH LOCATIONS.
2. LEVEL 0 — NO TAPING, FINISHING OR ACCESSORIES REQUIRED.
3. LEVEL 1 — JOINTS AND INTERIOR ANGLES HAVE TAPE SET IN JOINT COMPOUND; SURFACE IS FREE OF EXCESS JOINT COMPOUND; TOOL MARKS AND RIDGES ARE ACCEPTABLE; TAPE AND FASTENERS ARE NOT COVERED WITH JOINT COMPOUND.
4. LEVEL 2 — JOINTS AND INTERIOR ANGLES HAVE TAPE EMBEDDED IN JOINT COMPOUND AND HAVE A THIN COAT OF JOINT COMPOUND OVER JOINTS AND INTERIOR ANGLES; FASTENER HEADS AND ACCESSORIES ARE COVERED WITH JOINT COMPOUND; SURFACE IS FREE OF EXCESS JOINT COMPOUND; TOOL MARKS AND RIDGES ARE ACCEPTABLE.
5. LEVEL 3 — JOINTS AND INTERIOR ANGLES HAVE TAPE EMBEDDED IN JOINT COMPOUND AND ONE ADDITIONAL COAT OF JOINT COMPOUND OVER ALL JOINTS AND INTERIOR ANGLES; FASTENER HEADS AND ACCESSORIES COVERED WITH TWO (2) COATS OF JOINT COMPOUND; NO TOOL MARKS OR RIDGES.
6. LEVEL 4 — JOINTS AND INTERIOR ANGLES HAVE TAPE EMBEDDED IN JOINT COMPOUND AND TWO SEPARATE COATS OF JOINT COMPOUND APPLIED OVER ALL FLAT JOINTS AND ONE SEPARATE COAT APPLIED OVER INTERIOR ANGLES; FASTENER HEADS AND ACCESSORIES ARE COVERED WITH THREE (3) SEPARATE COATS OF JOINT COMPOUND; NO TOOL MARKS OR RIDGES.
7. LEVEL 5 — IN ADDITION TO REQUIREMENTS OF LEVEL 4, A THIN SKIM COAT OF JOINT COMPOUND OR EQUAL SHALL BE APPLIED TO THE ENTIRE SURFACE: NO TOOL MARKS OR RIDGES ON THIS SURFACE.

09 30 00 PORCELAIN TILE (PT) (PWT) / CERAMIC TILE (CT) (CWT) / QUARRY TILE (QT) / GLASS TILE (GWT)

A. COMPLY WITH TCNA "HANDBOOK FOR CERAMIC TILE INSTALLATION" FOR TCNA INSTALLATION METHODS SPECIFIED IN TILE INSTALLATION SCHEDULES.

B. LOCATE JOINTS IN TILE SURFACE DIRECTLY ABOVE JOINTS IN CONCRETE SUBSTRATES. BRIDGE CRACKS OR JOINTS IN CONCRETE SLABS WITH 'NOBLESEAL CIS' COMPOSITE SHEET MEMBRANE. INSTALL JOINT BRIDGING MATERIAL PER MFR SPECS AND DETAILS.

C. PROVIDE MANUFACTURER'S STANDARD TILE AS SPECIFIED COMPLYING WITH STANDARD GRADE REQUIREMENTS OF ANSI A137.1 STATIC COEFFICIENT OF FRICTION TO BE 0.60 MIN AND A DYNAMIC COEFFICIENT OF FRICTION OF 0.42 MIN.

D. PROVIDE COLORED CEMENTITIOUS GROUT AT ALL INTERIOR TILE SURFACES -COLOR TO BE SELECTED BY ARCHITECT/OWNER.

E. EXTEND TILE WORK INTO RECESSES AND UNDER OR BEHIND EQUIPMENT AND FIXTURES TO FORM COMPLETE COVERING WITHOUT INTERRUPTIONS UNLESS OTHERWISE INDICATED. TERMINATE WORK NEATLY AT OBSTRUCTIONS, EDGES AND CORNERS WITHOUT DISRUPTING PATTERN OR JOINT ALIGNMENTS.

F. ACCURATELY FORM INTERSECTIONS AND RETURNS. PERFORM CUTTING AND DRILLING OF TILE WITHOUT MARRING VISIBLE SURFACES. CAREFULLY GRIND CUT EDGES OF TILE ABUTTING TRIM, FINISH OR BUILT-IN ITEMS FOR STRAIGHT ALIGNED JOINTS. FIT TILE CLOSELY TO ELECTRICAL OUTLETS, PIPING, FIXTURES AND OTHER PENETRATIONS SO PLATES, COLLARS OR COVERS OVERLAP TILE.

G. JOINTING PATTERN: LAY TILE IN GRID PATTERN UNLESS OTHERWISE INDICATED. LAY OUT TILE WORK AND CENTER TILE FIELDS IN BOTH DIRECTIONS IN EACH SPACE OR ON EACH WALL AREA. LAY OUT TILE WORK TO MINIMIZE THE USE OF PIECES THAT ARE LESS THAN HALF OF A TILE. PROVIDE UNIFORM JOINT WIDTHS UNLESS OTHERWISE INDICATED. TILE BASE TO LINE UP WITH FLOOR TILE JOINTS.

H. METAL EDGE STRIPS: INSTALL WHERE EXPOSED EDGE OF TILE FLOORING MEETS CARPET, WOOD OR OTHER FLOORING THAT FINISHES FLUSH WITH OR BELOW TOP OF TILE AND NO THRESHOLD IS INDICATED.SEE PLAN FOR PRODUCT SPECIFICATION AND LOCATION.

09 51 13 ACOUSTICAL CEILINGS (ACT/ VCGB)

A. PANELS
1. PROVIDE MANUFACTURER'S STANDARD CEILING TILE AS SCHEDULED COMPLYING WITH ASTM 1264 CLASSIFICATIONS.
2. INSTALL PANELS WITH UNDAMAGED EDGES AND FIT ACCURATELY INTO SUSPENSION SYSTEM RUNNERS AND EDGE MOLDINGS. SCRIBE AND CUT PANELS AT BORDERS AND PENETRATIONS TO PROVIDE A NEAT, PRECISE FIT.
3. PROVIDE HOLD-DOWN CLIPS AT ENTRY VESTIBULE(S) AND FOR FIRST 12' OF CORRIDOR(S) IN FRONT OF EACH EXTERIOR DOOR.
4. PROVIDE APPROVED FIRE RATED GRID SYSTEM FOR FIRE RATED CEILINGS.
5. SEE PLAN FOR PRODUCT SPECIFICATION AND LOCATION.

B. GRID
1. COMPLY WITH ASTM C636 (STANDARD PRACTICE FOR INSTALLATION OF METAL CEILING SUSPENSION SYSTEMS FOR ACOUSTICAL TILE AND LAY-IN PANELS) AND C635 (STANDARD SPECIFICATION FOR THE MANUFACTURE, PERFORMANCE AND TESTING OF METAL SUSPENSION SYSTEMS FOR ACOUSTICAL TILE AND LAY-IN PANEL CEILINGS) AND SEISMIC DESIGN REQUIREMENTS INDICATED, PER MANUFACTURER'S WRITTEN INSTRUCTIONS AND CISCA'S "CEILING SYSTEMS HANDBOOK".
2. SUSPEND CEILING HANGERS FROM BUILDING'S STRUCTURAL MEMBERS, PLUMB AND FREE FROM CONTACT WITH INSULATION OR OTHER OBJECTS WITHIN CEILING PLENUM. SPLAY HANGERS ONLY WHERE REQUIRED AND, IF PERMITTED WITH FIRE-RESISTANCE-RATED CEILINGS, TO MISS OBSTRUCTIONS, OFFSET RESULTING HORIZONTAL FORCES BY BRACING, COUNTER SPLAYING, OR OTHER EQUALLY EFFECTIVE MEANS. WHERE WIDTH OF DUCTS AND OTHER CONSTRUCTION WITHIN CEILING PLENUM PRODUCES HANGER SPACING THAT INTERFERE WITH LOCATION OF HANGERS, USE TRAPEZES OR EQUIVALENT DEVICES. WHEN STEEL FRAMING DOES NOT PERMIT INSTALLATION OF HANGER WIRES AT SPACING REQUIRED, INSTALL CARRYING CHANNELS OR OTHER SUPPLEMENTAL SUPPORT FOR ATTACHMENT OF HANGER WIRES.
3. WIRE HANGERS TO BE ZINC-COATED CARBON STEEL WIRE COMPLYING WITH ASTM A641 STANDARDS, SIZED TO WITHSTAND SIX THE HANGER DESIGN LOAD BUT NOT LESS THAN 0.106" IN DIAMETER.
4. INSTALL EDGE MOLDINGS AND TRIM AT PERIMETER OF ACOUSTICAL CEILING AREA AND WHERE NECESSARY TO CONCEAL EDGES OF ACOUSTICAL PANELS. SCREW ATTACH MOLDINGS TO SUBSTRATE, LEVELING WITH CEILING SUSPENSION SYSTEM. MITER CORNERS ACCURATELY AND CONNECT SECURELY.
5. INSTALL SUSPENSION SYSTEM RUNNERS SO THEY ARE SQUARE AND SECURELY INTERLOCKED WITH ONE ANOTHER. REMOVE AND REPLACE DENTED, BENT, OR KINKED MEMBERS. SUSPENSION SYSTEM AS REQUIRED FOR THE SPECIFIED TILE-INTERMEDIATE DUTY CLASSIFICATION.
6. PROVIDE CORROSION RESISTANT GRID IN SHOWER AND EXTREME ENVIRONMENT AREAS.

09 64 00 WOOD FLOORING (WF)

A. COMPLY WITH FLOORING MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS, BUT NOT LESS THAN APPLICABLE RECOMMENDATIONS IN NWFA'S "INSTALLATION GUIDELINES: WOOD FLOORING".

B. PROVIDE EXPANSION SPACE AT WALLS AND OTHER OBSTRUCTIONS AND TERMINATIONS OF FLOORING.

C. SOLID-WOOD FLOORING: BLIND NAIL OR STAPLE FLOORING TO SUBSTRATE.

D. PROTECT INSTALLED WOOD FLOORING DURING REMAINDER OF CONSTRUCTION PERIOD WITH COVERING OF HEAVY KRAFT PAPER OR OTHER SUITABLE MATERIAL. DO NOT USE PLASTIC SHEET OR FILM THAT MIGHT CAUSE CONDENSATION.

E. SEE PLAN FOR PRODUCT SPECIFICATION AND LOCATION.

09 66 31 RESINOUS FLOORING — EPOXY (EPX)

A. 1/4" EPOXY FLOORING.

B. PREPARE CONCRETE FLOOR BY MECHANICAL MEANS BY USE OF SCABBLER, SCARIFIER OR SHOT BLASTING. KEY CHASE ALL EDGES WHICH DO NOT ABUT A VERTICAL SURFACE (I.E. DOOR THRESHHOLDS AND DRAINS).

C. HEAT WORK AREA TO 65 TO 90 DEG F FOR A MINIMUM 3 DAYS PRIOR TO AND 2 DAYS AFTER INSTALLATION.

D. PERFORM A MOISTURE TEST ON THE CONCRETE SLAB TO CONFIRM CONDITIONS MEET MFR'S REQUIREMENTS PRIOR TO INSTALLING THE FLOOR.

E. INSTALL TWO COMPONENT EPOXY PRIMER, THREE COMPONENT MORTAR CONSISTING OF EPOXY RESIN, CURING AGENTS AND GRADED AGGREGATES AND A TWO COMPOINENT 100% SOLIDS GENERAL SURFACE EPOXY COATING WITH TEXTURE AS SELECTED BY OWNER.

F. CUT IN EXPANSION AND CONTROL JOINTS IN EPOXY AT SAME LOCATION AS CONCRETE FLOOR JOINTS. FILL WITH FLEXIBLE POLYURETHANE SEALANT.

G. SUBMIT COLOR AND TEXTURE SAMPLES AND MANUFACTURER'S TECHNICAL DATA FOR APPROVAL (MATCH EXISTING FINISH AND COLOR). OBTAIN ALL MATERIALS FROM A SINGLE MANUFACTURER WITH NOT LESS THAN 10 YEARS OF EXPERIENCE. THE CONTRACTOR SHALL HAVE COMPLETED AT LEAST 5 PROJECTS OF SIMILAR SIZE IN PRIOR 2 YEARS.

H. FURNISH A NON-PRORATED WARRANTY COVERING MATERIALS AND WORKMANSHIP FOR A 2 YEAR PERIOD FROM DATE OF INSTALLATION.

I. EPOXY BASE (EPX)
1. MATCH PREPARATION, MATERIALS, AND CONSTRUCTION OF FLOOR SYSTEM.

09 72 00 VINYL WALL COVERING (VWC)

A. CLEAN SUBSTRATES OF SUBSTANCES THAT COULD IMPAIR BOND OF WALL COVERING, INCLUDING DIRT, OIL, GREASE, MOLD, MILDEW, AND INCOMPATIBLE PRIMERS.

B. PREPARE SUBSTRATES TO ACHIEVE A SMOOTH, DRY, CLEAN, STRUCTURALLY SOUND SURFACE FREE OF FLAKING, UNSOUND COATINGS, CRACKS, AND DEFECTS.

C. ACCLIMATIZE WALL-COVERING MATERIALS BY REMOVING THEM FROM PACKAGING IN THE INSTALLATION AREAS NOT LESS THAN 24 HOURS BEFORE INSTALLATION.

D. CUT WALL-COVERING STRIPS IN ROLL NUMBER SEQUENCE. CHANGE ROLL NUMBERS AT PARTITION BREAKS AND CORNERS.

E. INSTALL WALL COVERING WITH NO GAPS OR OVERLAPS, NO LIFTED OR CURLING EDGES, AND NO VISIBLE SHRINKAGE.

F. MATCH PATTERN AT 72" ABOVE FINISHED FLOOR.

G. EXTEND WALL COVERING A MINIMUM OF 6" BEHIND PERMANENT CASEWORK AND EQUIPMENT. EXTEND WALL COVERING A MIN. OF 6" BEHIND PERMANENT CASEWORK AND EQUIPMENT.

H. INSTALL SEAMS VERTICAL AND PLUMB AT LEAST 6 INCHES (150 MM) FROM OUTSIDE CORNERS AND 3 INCHES (75 MM) FROM INSIDE CORNERS UNLESS A CHANGE OF PATTERN OR COLOR EXISTS AT CORNER. NO HORIZONTAL SEAMS ARE PERMITTED.

I. FULLY BOND WALL COVERING TO SUBSTRATE. REMOVE AIR BUBBLES, WRINKLES, BLISTERS, AND OTHER DEFECTS.

J. REMOVE EXCESS ADHESIVE AT FINISHED SEAMS, PERIMETER EDGES, AND ADJACENT SURFACES.

K. ADHESIVE TO BE MILDEW RESISTANT, NON-STAINING AS RECOMMENDED BY THE WALL COVERING MANUFACTURER.

L. SEE PLAN FOR PRODUCT SPECIFICATION AND LOCATION.

09 91 00 PAINTING

A. FURNISH ALL LABOR, MATERIALS, TOOLS, EQUIPMENT AND SCAFFOLDING REQUIRED FOR COMPLETING SURFACE PREPARATION, PAINTING, FINISHING AND RELATED ITEMS.

B. SEAL TOPS, BOTTOMS AND CUTOUTS OF UNPRIMED WOOD DOORS WITH A HEAVY COAT OF SEALER IMMEDIATELY UPON DELIVERY TO THE PROJECT.

C. PREPARATION
1. REMOVE AND/OR PROTECT ALL HARDWARE, HARDWARE ACCESSORIES, MACHINED SURFACES, PLATES, LIGHTING FIXTURES, SPRINKLER HEADS AND SIMILAR ITEMS THAT ARE NOT TO BE PAINTED BUT REQUIRE PROTECTION FROM THE PAINTING PROCESS. RE-INSTALL SAME AFTER COMPLETION OF PAINTING. MASK OFF ALL NAMEPLATES, EQUIPMENT IDENTIFICATION AND SIMILAR ITEMS. REMOVAL AND REINSTALL OF ITEMS IS TO BE DONE BY CONTRACTOR SKILLED IN SUCH WORK.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER PREPARATION OF ALL SURFACES PRIOR TO THE PAINTING INSTALLATION.
3. REVIEW CLEANING SOLVENTS AND PROTOCOLS WITH COATING MANUFACTURER TO DETERMINE TEMPERATURE AND CHEMICAL RESISTANCE.
4. MILD STEEL
   a. PREPARE UNPRIMED STEEL TO SSPC-SP-2 OR 3 (HAND OR POWER TOOL CLEANING).
   b. PREPARE ALL FIELD WELDED LOCATIONS PER THE REQUIREMENTS SET FORTH IN THIS SECTION.
   c. VERIFY FINISH COAT COLORS WITH OWNER.
5. GALVANIZED METAL
   a. CLEAN PER SSPC-SP-1 USING DETERGENT AND WATER OR A DEGREASING CLEANER TO REMOVE GREASES AND OILS.
   b. APPLY A TEST AREA, PRIMING AS REQUIRED. ALLOW THE COATING TO DRY AT LEAST ONE WEEK BEFORE TESTING.
   c. IF ADHESION IS POOR, BRUSH BLAST PER SSPC-SP16 IS NECESSARY TO REMOVE THESE TREATMENTS.
6. CONCRETE BLOCK (CMU)
   a. PREPARE ALL CMU SURFACES PER COATING MANUFACTURER'S RECOMMENDATIONS RELATED TO CLEANLINESS, DRYNESS AND SURFACE PROFILE.
   b. FILL ALL CMU SURFACES TO REMOVE VOIDS AND PROVIDE A SURFACE PROFILE CONSISTENT WITH REQUIREMENTS FOR INTERMEDIATE AND/OR FINISH COATING APPLICATIONS.
   c. VERIFY FINISH COAT COLORS WITH OWNER.
7. PRECAST CONCRETE
   a. PREPARE PRECAST SURFACES PER SSPC-SP-13
   b. IF REQUIRED BY THE COATING MANUFACTURER, ACHIEVE THE APPROPRIATE CONCRETE SURFACE PROFILE (CSP) AS DEFINED BY ICRI GUIDELINES 310.2R-2013.

D. CONTRACTOR TO VERIFY THAT PAINT IS COMPATIBLE WITH PRIMER OF SHOP PRIMED SURFACES. NOTIFY EXCEL ENGINEERING IF THERE ARE ANY COMPATIBILITY ISSUES.

E. ALL PAINT COLORS, STAIN COLORS, AND VARNISH TO BE SELECTED BY ARCHITECT/OWNER FROM A FULL RANGE OF AVAILABLE COLORS UNLESS NOTED OTHERWISE.

F. THE FINISH PRODUCT SHALL HAVE A CONSISTENT, SMOOTH APPEARANCE OF THE SPECIFIED LUSTER.

G. APPLY PAINT PER MANUFACTURER'S TEMPERATURE AND HUMIDITY REQUIREMENTS.

H. COMPLETED WORK SHALL BE FREE FROM DEFECTS AND FLAWS.

I. THE CONTRACTOR SHALL KEEP EMPTY CONTAINERS ON THE PROJECT SITE UNTIL ALL PRODUCTS ARE VERIFIED AS TO COLOR AND/OR SHEEN. THE CONTRACTOR SHALL LEAVE WITH THE OWNER ALL OPENED PAINT CONTAINERS.

J. DISPOSE OF EXCESS MATERIALS, CONTAINERS AND OTHER ITEMS NECESSARY FOR THE COMPLETION OF THE WORK IN A MANNER THAT MEETS OR EXCEEDS THE STRICTEST LAWS GOVERNING THE PROJECT'S MUNICIPALITY AND/OR STATE. THE PAINTING CONTRACTOR IS RESPONSIBLE FOR COMPLETE ADHERENCE TO ALL DISPOSAL REGULATIONS.

K. COATING MAINTENANCE MANUAL
1. UPON CONCLUSION OF THE PROJECT, THE CONTRACTOR OR PAINT MANUFACTURER/SUPPLIER SHALL FURNISH A COATING MAINTENANCE MANUAL, SUCH AS SHERWIN WILLIAMS "CUSTODIAN PROJECT COLOR AND PRODUCT INFORMATION" REPORT OR EQUAL. MANUAL SHALL INCLUDE AN AREA SUMMARY WITH FINISH SCHEDULE, AREA DETAIL DESIGNATING WHERE EACH PRODUCT/COLOR/FINISH WAS USED, PRODUCT DATA PAGES, MATERIAL SAFETY DATA SHEETS, CARE AND CLEANING INSTRUCTIONS, TOUCH-UP PROCEDURES, AND COLOR SAMPLES OF EACH COLOR AND FINISH USED.

L. EXPOSED MECHANICAL PIPING SYSTEM SHALL BE PAINTED PER APPROPRIATE METAL TYPE SPECIFICATION AND AS FOLLOWS:
1. GAS PIPING — YELLOW
2. FIRE PROTECTION — RED (GALVANIZED AND STAINLESS STEEL PIPE AND FITTINGS SHALL NOT BE PAINTED).

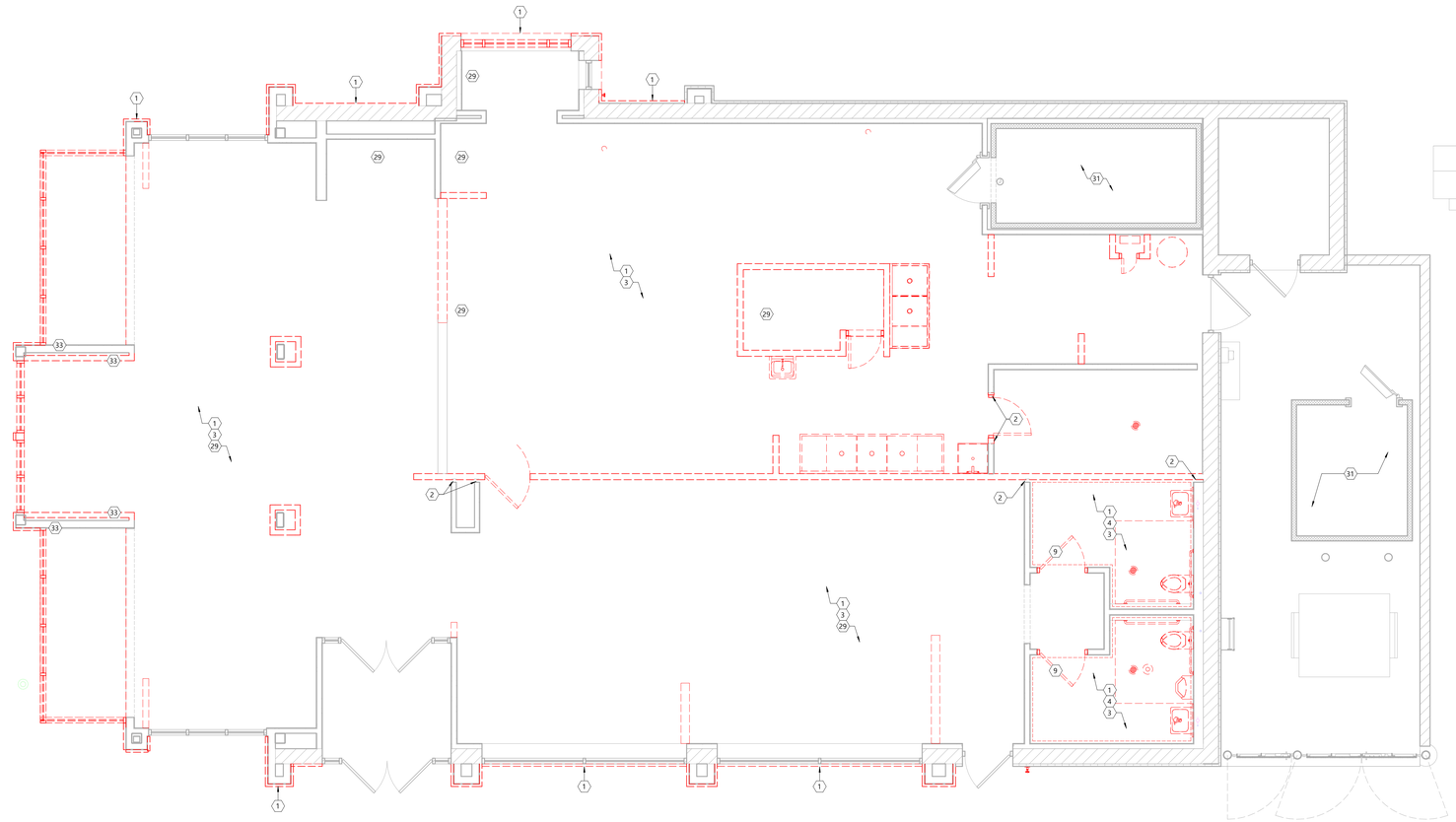
M. PAINT VENT THRU ROOFS ON PITCHED ROOF SAME COLOR AS ROOFING MATERIAL.

N. PAINT ALL EXPOSED MISCELLANEOUS ITEMS, FINISHED OR UNFINISHED (INCLUDING H.V.A.C. RETURN AIR GRILLES, CONDUIT, ETC.) TO MATCH ADJOINING WALL SURFACES.

O. PAINT CEILING ACCESS PANELS TO MATCH ADJACENT CEILING FINISH.

P. PROVIDE A YELLOW STRIPED AREA, 3' DEEP BY THE WIDTH OF THE ELECTRICAL PANELS, ON THE CONCRETE FLOOR IN FRONT OF THE ELECTRICAL PANELS AND SWITCHGEAR. AT THE SWITCHGEAR, PAINT THE EXPOSED PORTION OF THE CONCRETE HOUSEKEEPING PAD YELLOW.

Q. ALL EXPOSED EX



NORTH

DEMO FLOOR PLAN

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

0" 4" 8"

SYMBOLS LEGEND

EXISTING WALL TO REMAIN

EXISTING WALL TO BE DEMOLISHED

SEE PLAN FOR ALL WALL WIDTHS

EXISTING DOOR TO REMAIN

EXISTING DOOR TO BE DEMOLISHED

EXISTING DOOR TO BE RELOCATED - SEE FLOOR PLAN FOR NEW LOCATION

GENERAL NOTES

- NOTIFY EXCEL ENGINEERING OF ANY DISCREPANCIES BETWEEN EXISTING PLANS AND FIELD CONDITIONS BEFORE REMOVAL.
- REVIEW WITH THE OWNER WHICH ITEMS ARE TO BE TURNED OVER TO THE OWNER BEFORE STARTING DEMOLITION WORK. REMOVE ANY ITEM NOT WANTED BY THE OWNER AND DISPOSE OF IN THE PROPER AND LEGAL MANNER.
- REMOVE ALL WALLS SHOWN "HEAVY DASHED" OR RED. NOTIFY EXCEL ENGINEERING IF ANY OF THE WALLS ARE FOUND TO BE LOAD BEARING BEFORE REMOVAL.
- REMOVE ALL DOORS SHOWN "HEAVY DASHED" OR RED INCLUDING FRAME AND ALL HARDWARE AND ACCESSORIES.
- REMOVE ALL WINDOWS SHOWN "HEAVY DASHED" OR RED INCLUDING FRAME AND SILLS.
- REMOVE ALL MISC ITEMS SHOWN "HEAVY DASHED" OR RED.
- CUT WALLS FOR INSTALLATION OF NEW ELECTRICAL RECEPTACLE AND SWITCH BOXES AND ASSOCIATED CONDUITS. SEE ELECTRICAL PLANS FOR LOCATIONS.
- CUT WALLS FOR INSTALLATION OF NEW BLOCKING OR BACKING IN EXISTING WALLS.
- NOT ALL NEW OPENINGS FOR MEP WORK ARE SHOWN IN WALLS AND FLOORS. PROVIDE ADDITIONAL OPENINGS NOT SHOWN FOR WORK.
- PROVIDE TEMPORARY ENCLOSURES FOR KEEPING THE FACILITY IN OPERATION DURING CONSTRUCTION. ENCLOSURE SHALL BE A WALLED-IN DUST BARRIER (WATERPROOF WHERE EXPOSED TO THE EXTERIOR). PROVIDE MEP WORK TO KEEP THE FACILITY OPERATIONAL. SEE PLAN FOR ENCLOSURE LOCATIONS.
- MAINTAIN REQUIRED EGRESS PATHS AND SAFETY PRECAUTIONS FOR CONSTRUCTION IN EXISTING OCCUPIED BUILDING.

DEMO PLAN KEYNOTES

1	REMOVE EXISTING WALL FINISH DOWN TO BARE SUBSTRATE AND REPLACE AS REQUIRED. PREP FOR INSTALLATION OF NEW SCHEDULED FINISH.
2	REMOVE PORTION OF WALL FOR NEW OPENING AND/OR WALL.
3	REMOVE AND GRIND FLOOR FINISH TO BARE, CLEAN SUBSTRATE APPROPRIATE FOR NEW SCHEDULED FINISH.
4	REMOVE AND REINSTALL EXISTING PLUMBING FIXTURES/EQUIPMENT AS REQUIRED FOR NEW FINISHES. SEE SHEET AS.0 FOR MORE INFORMATION.
29	REMOVE ALL EXISTING FURNITURE/CASEWORK. PATCH AND REPAIR FLOOR WHERE ANCHORS ARE REMOVED.
31	EXISTING COOLER TO REMAIN INCLUDING WALLS, DOORS, FLOORS, AND CEILINGS.
33	REMOVE EXISTING WALLS AS REQUIRED UP TO STRUCTURAL STEEL FRAMING FOR SLAB CUT AND FOUNDATION WORK. WALLS TO BE RE FRAMED IN SAME LOCATION.

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PROJECT INFORMATION

PROPOSED QUICK SERVE RESTAURANT FOR:

OM GROUP - HAWAIIAN BROS - STR: 135

6421 E. 82ND ST. ● INDIANAPOLIS, IN 46250

PROFESSIONAL SEAL

SHEET DATES

ISSUED FOR CONSTRUCTION

IFC	APR. 3, 2026

JOB NUMBER

250361400

SHEET NUMBER

AD1.1

ARCHITECTURAL DEMO FLOOR PLAN

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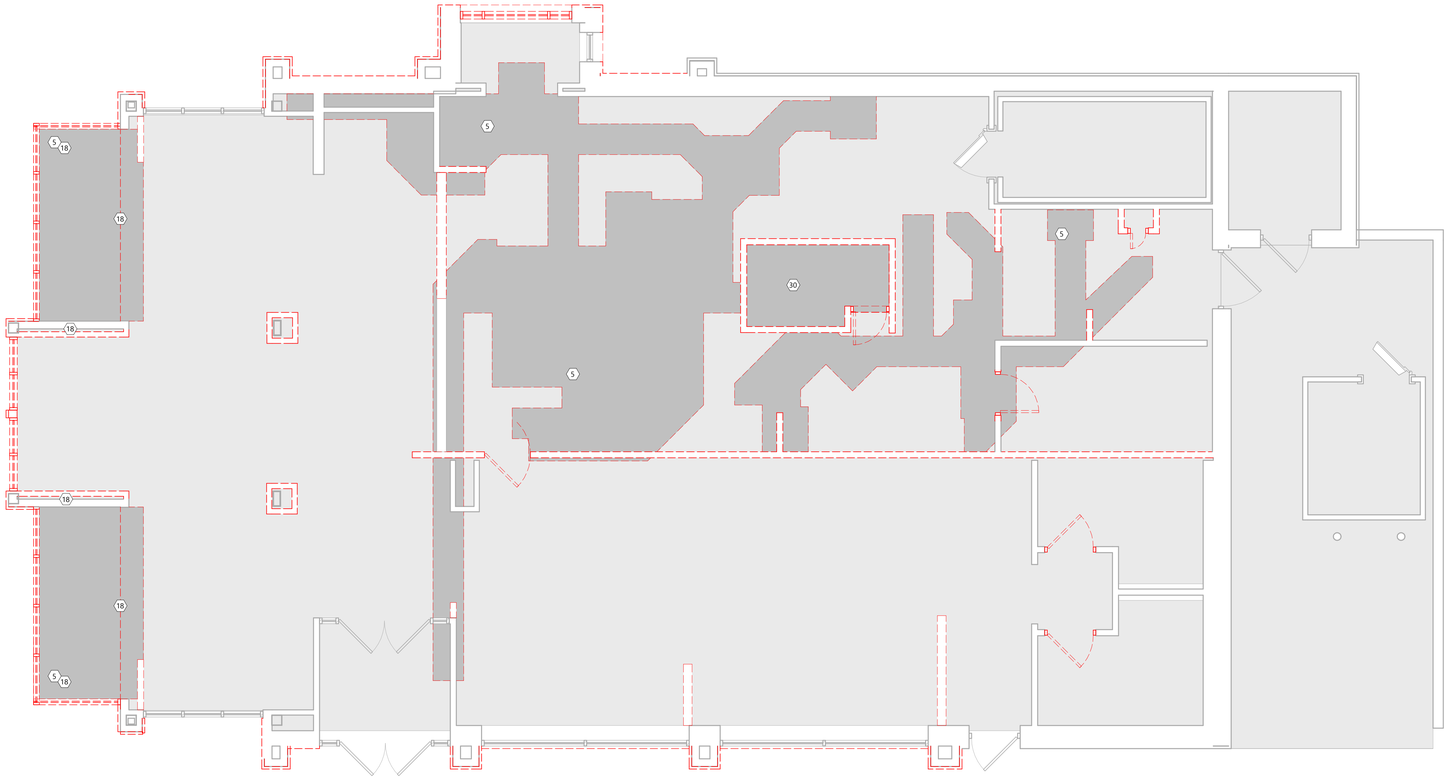

DEMO SLAB PLAN

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

0' 4' 8'

NORTH

SYMBOLS LEGEND

- EXISTING WALL TO REMAIN
- EXISTING WALL TO BE DEMOLISHED

SEE PLAN FOR ALL WALL WIDTHS

- EXISTING DOOR TO REMAIN
- EXISTING DOOR TO BE DEMOLISHED
- EXISTING DOOR TO BE RELOCATED - SEE FLOOR PLAN FOR NEW LOCATION

GENERAL NOTES

- NOTIFY EXCEL ENGINEERING OF ANY DISCREPANCIES BETWEEN EXISTING PLANS AND FIELD CONDITIONS BEFORE REMOVAL.
- REVIEW WITH THE OWNER WHICH ITEMS ARE TO BE TURNED OVER TO THE OWNER BEFORE STARTING DEMOLITION WORK. REMOVE ANY ITEM NOT WANTED BY THE OWNER AND DISPOSE OF IN THE PROPER AND LEGAL MANNER.
- REMOVE ALL WALLS SHOWN "HEAVY DASHED" OR RED. NOTIFY EXCEL ENGINEERING IF ANY OF THE WALLS ARE FOUND TO BE LOAD BEARING BEFORE REMOVAL.
- REMOVE ALL DOORS SHOWN "HEAVY DASHED" OR RED INCLUDING FRAME AND ALL HARDWARE AND ACCESSORIES.
- REMOVE ALL WINDOWS SHOWN "HEAVY DASHED" OR RED INCLUDING FRAME AND SILLS.
- REMOVE ALL MISC ITEMS SHOWN "HEAVY DASHED" OR RED.
- CUT WALLS FOR INSTALLATION OF NEW ELECTRICAL RECEPTACLE AND SWITCH BOXES AND ASSOCIATED CONDUITS. SEE ELECTRICAL PLANS FOR LOCATIONS.
- CUT WALLS FOR INSTALLATION OF NEW BLOCKING OR BACKING IN EXISTING WALLS.
- NOT ALL NEW OPENINGS FOR MEP WORK ARE SHOWN IN WALLS AND FLOORS. PROVIDE ADDITIONAL OPENINGS NOT SHOWN FOR WORK.
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- MAINTAIN REQUIRED EGRESS PATHS AND SAFETY PRECAUTIONS FOR CONSTRUCTION IN EXISTING OCCUPIED BUILDING.

DEMO PLAN KEYNOTES

- 5 REMOVE CONCRETE SLAB. REMOVAL AREA IS APPROXIMATE. VERIFY WITH OTHER WORK EXTENT REQUIRED. ADDITIONAL SLAB MAY BE REMOVED TO FACILITATE WORK.
- 18 VERIFY EXTENTS OF FOUNDATION WALLS AT SLAB REMOVAL. REMOVE AND REPLACE AS REQUIRED AT NEW WORK.
- 30 REMOVE EXISTING RAISED FLOOR AND ALL ASSOCIATED STRUCTURE.

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PROJECT INFORMATION

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OM GROUP - HAWAIIAN BROS - STR: 135

6421 E. 82ND ST. • INDIANAPOLIS, IN 46250

PROFESSIONAL SEAL

SHEET DATES

ISSUED FOR CONSTRUCTION

IFC	APR. 3, 2026

JOB NUMBER

250361400

SHEET NUMBER

AD1.1S

ARCHITECTURAL DEMO FLOOR SLAB PLAN

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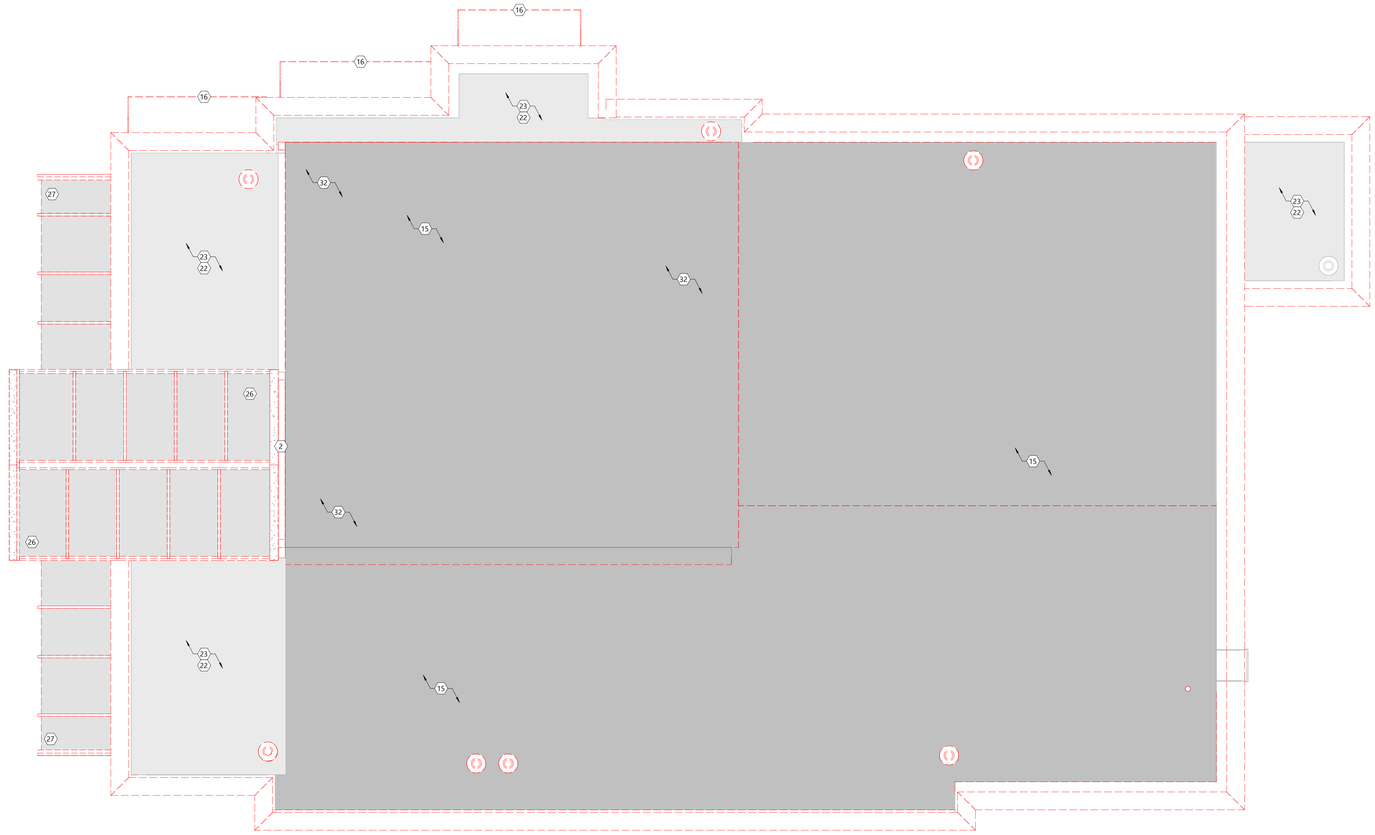

NORTH

DEMO ROOF PLAN

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

0' 4' 8'

SYMBOLS LEGEND

EXISTING WALL TO REMAIN

EXISTING WALL TO BE DEMOLISHED

SEE PLAN FOR ALL WALL WIDTHS

EXISTING DOOR TO REMAIN

EXISTING DOOR TO BE DEMOLISHED

EXISTING DOOR TO BE RELOCATED - SEE FLOOR PLAN FOR NEW LOCATION

GENERAL NOTES

- NOTIFY EXCEL ENGINEERING OF ANY DISCREPANCIES BETWEEN EXISTING PLANS AND FIELD CONDITIONS BEFORE REMOVAL.
- REVIEW WITH THE OWNER WHICH ITEMS ARE TO BE TURNED OVER TO THE OWNER BEFORE STARTING DEMOLITION WORK. REMOVE ANY ITEM NOT WANTED BY THE OWNER AND DISPOSE OF IN THE PROPER AND LEGAL MANNER.
- REMOVE ALL WALLS SHOWN "HEAVY DASHED" OR RED. NOTIFY EXCEL ENGINEERING IF ANY OF THE WALLS ARE FOUND TO BE LOAD BEARING BEFORE REMOVAL.
- REMOVE ALL DOORS SHOWN "HEAVY DASHED" OR RED INCLUDING FRAME AND ALL HARDWARE AND ACCESSORIES.
- REMOVE ALL WINDOWS SHOWN "HEAVY DASHED" OR RED INCLUDING FRAME AND SILLS.
- REMOVE ALL MISC ITEMS SHOWN "HEAVY DASHED" OR RED.
- CUT WALLS FOR INSTALLATION OF NEW ELECTRICAL RECEPTACLE AND SWITCH BOXES AND ASSOCIATED CONDUITS. SEE ELECTRICAL PLANS FOR LOCATIONS.
- CUT WALLS FOR INSTALLATION OF NEW BLOCKING OR BACKING IN EXISTING WALLS.
- NOT ALL NEW OPENINGS FOR MEP WORK ARE SHOWN IN WALLS AND FLOORS. PROVIDE ADDITIONAL OPENINGS NOT SHOWN FOR WORK.
- PROVIDE TEMPORARY ENCLOSURES FOR KEEPING THE FACILITY IN OPERATION DURING CONSTRUCTION. ENCLOSURE SHALL BE A WALLED IN DUST BARRIER (WATERPROOF WHERE EXPOSED TO THE EXTERIOR). PROVIDE MEP WORK TO KEEP THE FACILITY OPERATIONAL. SEE PLAN FOR ENCLOSURE LOCATIONS.
- MAINTAIN REQUIRED EGRESS PATHS AND SAFETY PRECAUTIONS FOR CONSTRUCTION IN EXISTING OCCUPIED BUILDING.

DEMO PLAN KEYNOTES

2	REMOVE PORTION OF WALL FOR NEW OPENING AND/OR WALL.
15	REMOVE EXISTING ROOF STRUCTURE IN ITS ENTIRETY.
16	REMOVE EXISTING CANOPIES/AWNINGS. PREP SURFACE FOR INSTALLTION OF NEW SCHEDULED FINISH.
22	REMOVE EXISTING ROOF MEMBRANE AND PREP SURFACE FOR NEW ROOF INSULATION AND MEMBRANE.
23	EXISTING ROOF STRUCTURE TO REMAIN.
26	REMOVE EXISTING STOREFRONT AND WALL FINISHES IN ITS ENTIRETY. PROTECT EXISTING STRUCTURE AND RE-FRAME FOR NEW TOWER. PREP FOR INSTALLATION OF NEW SCHEDULED FINISH. SEE PLANS AND ELEVATIONS FOR MORE INFORMATION.
27	REMOVE EXISTING STOREFRONT AND WALL FINISHES IN ITS ENTIRETY. EXSITING STRUCTURE ABOVE STOREFRONT TO REMAIN. PREP FOR INSTALLATION OF NEW SCHEDULED STOREFRONT AND FINISHES. SEE PLANS AND ELEVATIONS FOR MORE INFORMATION.
32	REMOVE EXISTING WALLS IN BARREL VAULT AS REQUIRED FOR NEW ROOF STRUCUTRE.

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PROJECT INFORMATION

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OM GROUP - HAWAIIAN BROS - STR: 135

6421 E. 82ND ST. ● INDIANAPOLIS, IN 46250

PROFESSIONAL SEAL

SHEET DATES

ISSUED FOR CONSTRUCTION

IFC	APR. 3, 2026

JOB NUMBER

250361400

SHEET NUMBER

AD1.2

ARCHITECTURAL DEMO ROOF PLAN

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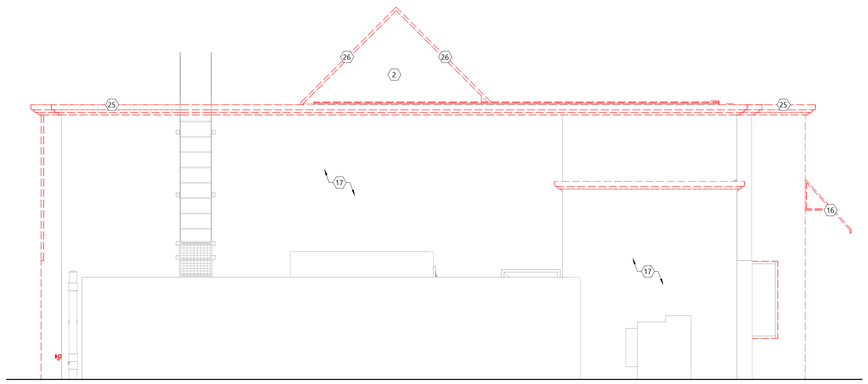
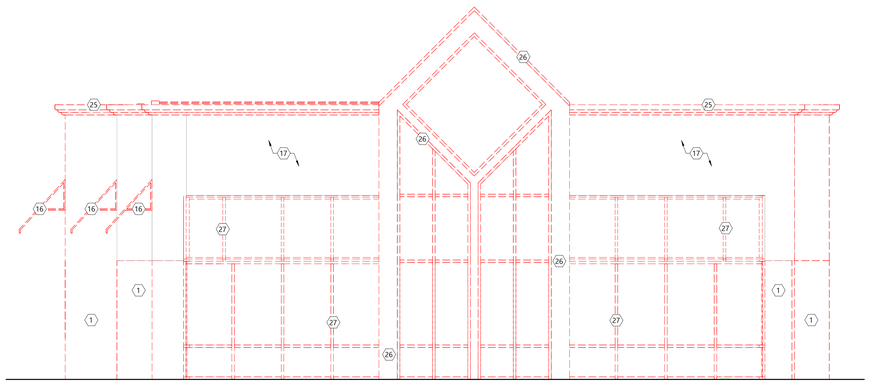


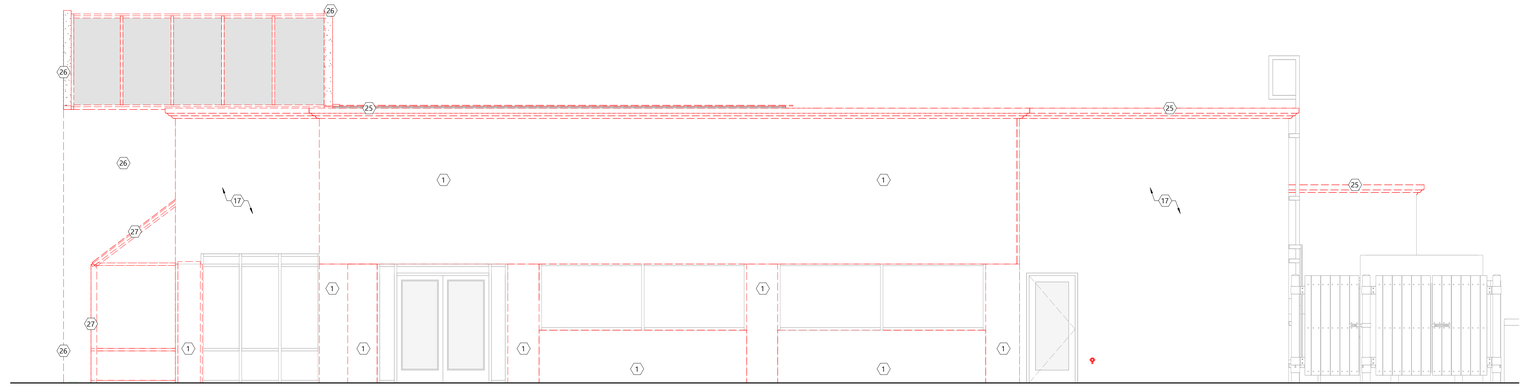
DEMO SOUTH ELEVATION

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



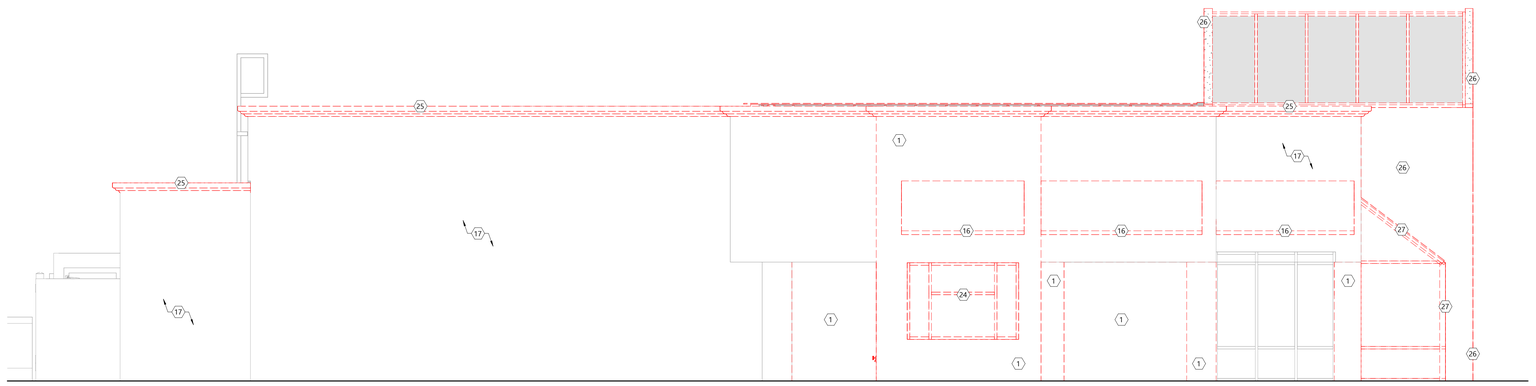
DEMO NORTH ELEVATION

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



DEMO WEST ELEVATION

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



DEMO EAST ELEVATION

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

SYMBOLS LEGEND

EXISTING WALL TO REMAIN

EXISTING WALL TO BE DEMOLISHED

SEE PLAN FOR ALL WALL WIDTHS

EXISTING DOOR TO REMAIN

EXISTING DOOR TO BE DEMOLISHED

EXISTING DOOR TO BE RELOCATED - SEE FLOOR PLAN FOR NEW LOCATION

GENERAL NOTES

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DEMO PLAN KEYNOTES

#	
1	REMOVE EXISTING WALL FINISH DOWN TO BARE SUBSTRATE AND REPLACE AS REQUIRED. PREP FOR INSTALLATION OF NEW SCHEDULED FINISH.
2	REMOVE PORTION OF WALL FOR NEW OPENING AND/OR WALL.
16	REMOVE EXISTING CANOPIES/AWNINGS. PREP SURFACE FOR INSTALLTION OF NEW SCHEDULED FINISH.
17	PREP EXSITING EXTERIOR FINISH FOR NEW EIFS PATTERN. SEE A2.0 SHEETS FOR MORE INFORMATION.
24	REMOVE EXISTING STOREFRONT AND INFILL WALL AS REQUIRED. SEE PLANS AND ELEVATIONS FOR NEW WORK.
25	REMOVE EXISTING CORNICE AND REPAIR WALL AS REQUIRED FOR NEW FINISHES.
26	REMOVE EXISTING STOREFRONT AND WALL FINISHES IN ITS ENTIRETY. PROTECT EXISTING STRUCTURE AND RE-FRAME FOR NEW TOWER. PREP FOR INSTALLATION OF NEW SCHEDULED FINISH. SEE PLANS AND ELEVATIONS FOR MORE INFORMATION.
27	REMOVE EXISTING STOREFRONT AND WALL FINISHES IN ITS ENTIRETY. EXSITING STRUCTURE ABOVE STOREFRONT TO REMAIN. PREP FOR INSTALLATION OF NEW SCHEDULED STOREFRONT AND FINISHES. SEE PLANS AND ELEVATIONS FOR MORE INFORMATION.

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PROJECT INFORMATION

PROPOSED QUICK SERVE RESTAURANT FOR:

OM GROUP - HAWAIIAN BROS - STR: 135

6421 E. 82ND ST. ● INDIANAPOLIS, IN 46250

PROFESSIONAL SEAL

SHEET DATES

ISSUED FOR CONSTRUCTION

IFC	APR. 3, 2026

JOB NUMBER

250361400

SHEET NUMBER

AD2.0

ARCHITECTURAL DEMO ELEVATIONS

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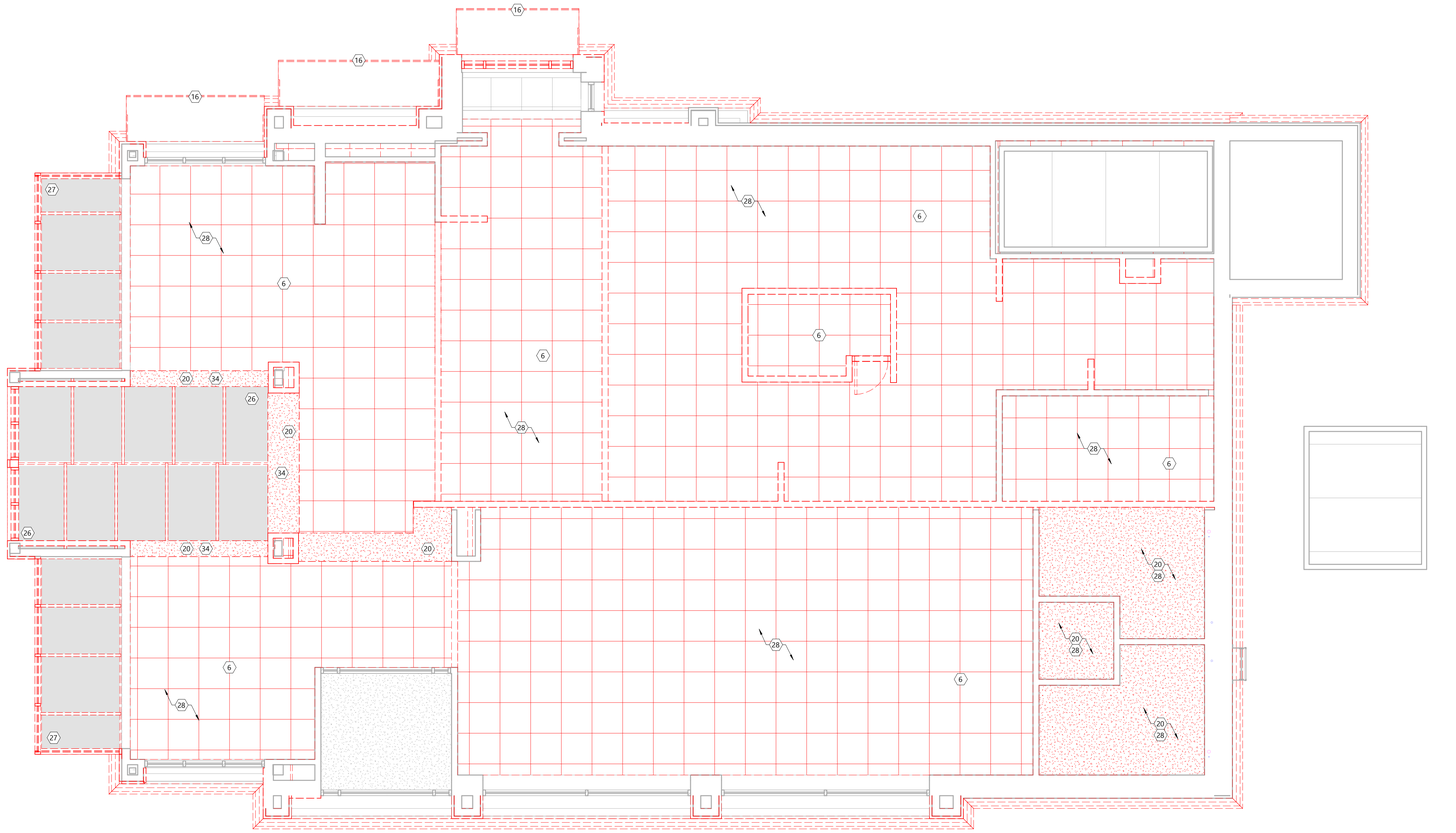

NORTH

DEMO REFLECTED CEILING PLAN

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

0' 4' 8'

SYMBOLS LEGEND

EXISTING WALL TO REMAIN

EXISTING WALL TO BE DEMOLISHED

SEE PLAN FOR ALL WALL WIDTHS

EXISTING DOOR TO REMAIN

EXISTING DOOR TO BE DEMOLISHED

EXISTING DOOR TO BE RELOCATED - SEE FLOOR PLAN FOR NEW LOCATION

GENERAL NOTES

- NOTIFY EXCEL ENGINEERING OF ANY DISCREPANCIES BETWEEN EXISTING PLANS AND FIELD CONDITIONS BEFORE REMOVAL.
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- MAINTAIN REQUIRED EGRESS PATHS AND SAFETY PRECAUTIONS FOR CONSTRUCTION IN EXISTING OCCUPIED BUILDING.

DEMO PLAN KEYNOTES

6	REMOVE CEILING TILE, METAL GRID, AND HANGERS.
16	REMOVE EXISTING CANOPIES/AWNINGS. PREP SURFACE FOR INSTALLTION OF NEW SCHEDULED FINISH.
20	REMOVE EXISTING CEILING AND PREP SURFACE FOR NEW SCHEDULED FINISH.
26	REMOVE EXISTING STOREFRONT AND WALL FINISHES IN ITS ENTIRETY. PROTECT EXISTING STRUCTURE AND RE-FRAME FOR NEW TOWER. PREP FOR INSTALLATION OF NEW SCHEDULED FINISH. SEE PLANS AND ELEVATIONS FOR MORE INFORMATION.
27	REMOVE EXISTING STOREFRONT AND WALL FINISHES IN ITS ENTIRETY. EXSITING STRUCTURE ABOVE STOREFRONT TO REMAIN. PREP FOR INSTALLATION OF NEW SCHEDULED STOREFRONT AND FINISHES. SEE PLANS AND ELEVATIONS FOR MORE INFORMATION.
28	REMOVE ALL INSULATION BELOW ROOF DECK. PREP SURFACE FOR INSTALLATION OF NEW SCHEDULED FINISH.
34	REMOVE EXISTING WALLS ABOVE SOFFIT TO STRUCTURE ABOVE.

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PROJECT INFORMATION

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OM GROUP - HAWAIIAN BROS - STR: 135

6421 E. 82ND ST. ● INDIANAPOLIS, IN 46250

PROFESSIONAL SEAL

SHEET DATES

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IFC	APR. 3, 2026

JOB NUMBER

250361400

SHEET NUMBER

AD7.1

ARCHITECTURAL DEMO REFLECTED CEILING PLAN

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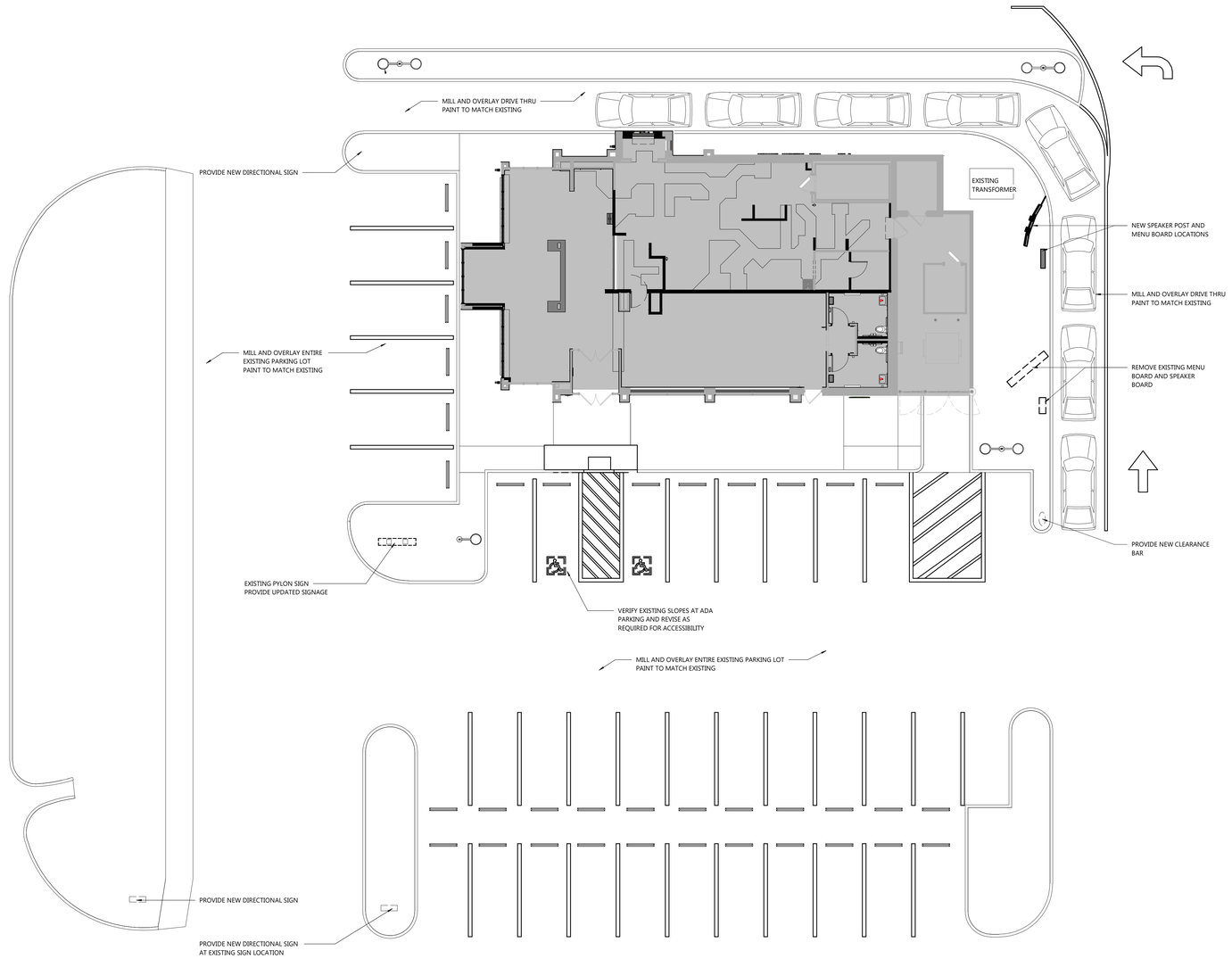

NORTH

ARCHITECTURAL SITE PLAN

SCALE: 1" = 10'-0"

0' 10' 20'

ARCHITECTURAL SITE PLAN

EXCEL

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PROJECT INFORMATION

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PROFESSIONAL SEAL

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JOB NUMBER

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SHEET NUMBER

A1.0

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SALES & SERVICE COUNTERS

IN RETAIL STORES WHERE COUNTERS HAVE CASH REGISTERS AND ARE PROVIDED FOR SALES OR DISTRIBUTION OF GOODS OR SERVICES TO THE PUBLIC, AT LEAST ONE OF EACH TYPE SHALL HAVE A PORTION OF THE COUNTER WHICH IS AT LEAST 36" IN LENGTH WITH A MAXIMUM HEIGHT OF 36" ABOVE THE FINISH FLOOR. COUNTER SHALL BE ON AN ACCESSIBLE ROUTE COMPLYING WITH A.D.A. GUIDELINE 4.3.

KEYNOTES

#	
1	EXISTING COOLER TO REMAIN. G.C. TO ENSURE EXISTING COOLER IS IN GOOD WORKING ORDER. NEW CONDENSER BY SUPPLIER.
2	EASI-WASH HOOK UP ON EXTERIOR WALL. EASI-WASH TO PROVIDE CONTROL BOX (ON/WARM/SOAP), SS WALL PLATE, BALL VALVE AND QUICK DISCONNECT. COORDINATION WITH EASI-WASH SUPPLIER. CONTACT: info@easiwash.comG.C. TO PROVIDE BOX OUT AND CONDUIT STUBS FOR EASI-WASH SYSTEM. SEE PLUMBING FOR ADDITIONAL INFORMATION
3	G.C. TO PROVIDE AND MOUNT NU-SET KEY STORAGE BOX 2085-3 ON EXTERIOR OF BUILDING AT 48" MAX TOP OF BOX. PLACE AT RIGHT OR LEFT OF DOOR. (PREFERRED LOCATION ON LATCH SIDE OF DOOR. SEE DETAIL ON SHEET.
5	PROVIDE KEY LOCK (KNOX BOX). G.C. TO COORDINATE LOCATION WITH LOCAL FIRE DEPARTMENT
6	PROVIDE 4" RAISED PAD AT PLUMBING EQUIPMENT
7	GAS METER. PAINT TO MATCH ADJACENT WALL. SEE MECHANICAL DRAWINGS.
8	ELECTRICAL EQUIPMENT. PAINT TO MATCH ADJACENT WALL. SEE ELECTRICAL DRAWINGS.
11	PROVIDE CARBON DIOXIDE METER ABOVE BAG IN BOX. SEE DRAWINGS FROM KITCHEN SUPPLIER FOR FINAL BAG-IN BOX LOCATION. PROVIDE HELGET GAS RAD-0102 REMOTE CO2 STORAGE SAFETY ALARM WITH LCD DISPLAY, AUDIBLE/STROBE ALARM.
27	PROVIDE CHASE IN WALL FOR CO2 LINES AND PLUMBING
28	CO2 TANK ON CONCRETE SLAB BY OTHERS
31	NEW FURRING WALL BUILT ON EXISTING WALL. SEE A5.0 SHEET FOR MORE INFORMATION.

GENERAL NOTES

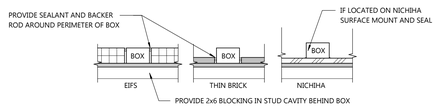
- ALL INTERIOR DIMS. ARE FROM FACE-OF-STUD TO FACE OF-STUD.
- PROVIDE SOUND BATT INSULATION AROUND PERIMETER OF TOILET ROOM AND KITCHEN WALLS.
- MISCELLANEOUS HARDWARE INCLUDED: HANDICAP HARDWARE.
- PROVIDE WOOD BLOCKING FOR ANY FURNISHINGS BY OWNER/FURNITURE SUPPLIER/KITCHEN SUPPLIER. (VERIFY LOCATIONS)
- ALL EXTERIOR WINDOWS TO HAVE ALUMINUM FLASHING RETURNS AT HEAD, JAMBS, AND SILL OF ALL WINDOWS.
- FOOD PREP AREA TO BE VERIFIED W/ OWNER. PROVIDE SHOP DRAWINGS ON EQUIPMENT.

SYMBOLS LEGEND

- 128 — SEE SHEET A4.0 FOR INTERIOR WALL TYPES
- E1a — SEE SHEET A2.0 FOR EXTERIOR WALL TYPES
- EXIT SIGNAGE
- FE — FIRE EXTINGUISHER -SEE T1.1 SHEET
- D.S. — DOWNSPOUT LOCATION -SEE DETAIL ON SHEET A1.3
- STUD WALL
- CONCRETE WALL
- MASONRY VENEER
- C.M.U. WALL

SEE PLAN FOR ALL WALL WIDTHS

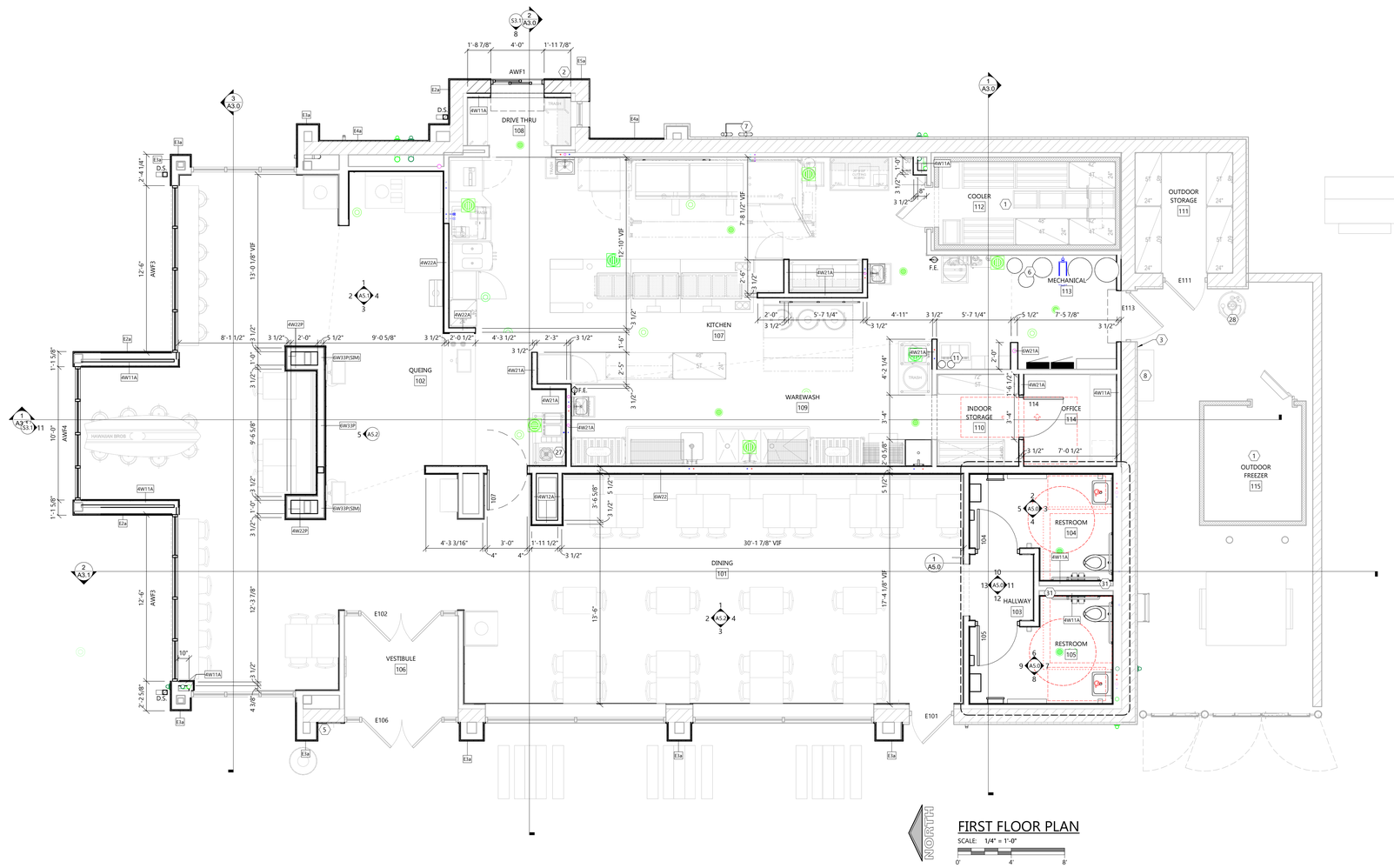
- NEW DOOR



G.C. TO PROVIDE AND INSTALL NU-SET KEY STORAGE BOX 2085-3 ON EXTERIOR OF BUILDING AT 48" MAX TOP OF BOX. PLACE AT RIGHT OR LEFT OF DOOR (PREFERRED LOCATION TO BE ON LATCH SIDE OF DOOR)

1 / A1.1 LOCKBOX MOUNTING

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



NORTH

FIRST FLOOR PLAN

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

0' 4' 8'

ARCHITECTURAL FIRST FLOOR PLAN

EXCEL

Always a Better Plan

100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

PROJECT INFORMATION

PROPOSED QUICK SERVE RESTAURANT FOR:

OM GROUP - HAWAIIAN BROS - STR: 135

6421 E. 82ND ST. • INDIANAPOLIS, IN 46250

PROFESSIONAL SEAL

SHEET DATES

ISSUED FOR CONSTRUCTION

IFC APR. 3, 2026

JOB NUMBER

250361400

SHEET NUMBER

A1.1

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SALES & SERVICE COUNTERS

IN RETAIL STORES WHERE COUNTERS HAVE CASH REGISTERS AND ARE PROVIDED FOR SALES OR DISTRIBUTION OF GOODS OR SERVICES TO THE PUBLIC, AT LEAST ONE OF EACH TYPE SHALL HAVE A PORTION OF THE COUNTER WHICH IS AT LEAST 36" IN LENGTH WITH A MAXIMUM HEIGHT OF 36" ABOVE THE FINISH FLOOR. COUNTER SHALL BE ON AN ACCESSIBLE ROUTE COMPLYING WITH A.D.A. GUIDELINE 4.3.

KEYNOTES

6	PROVIDE 4" RAISED PAD AT PLUMBING EQUIPMENT
29	NEW CONCRETE SLAB TO MATCH EXISTING.
35	PATCH AND REPAIR EXISTING CONCRETE SLAB. REMOVE AS REQUIRED.

GENERAL NOTES

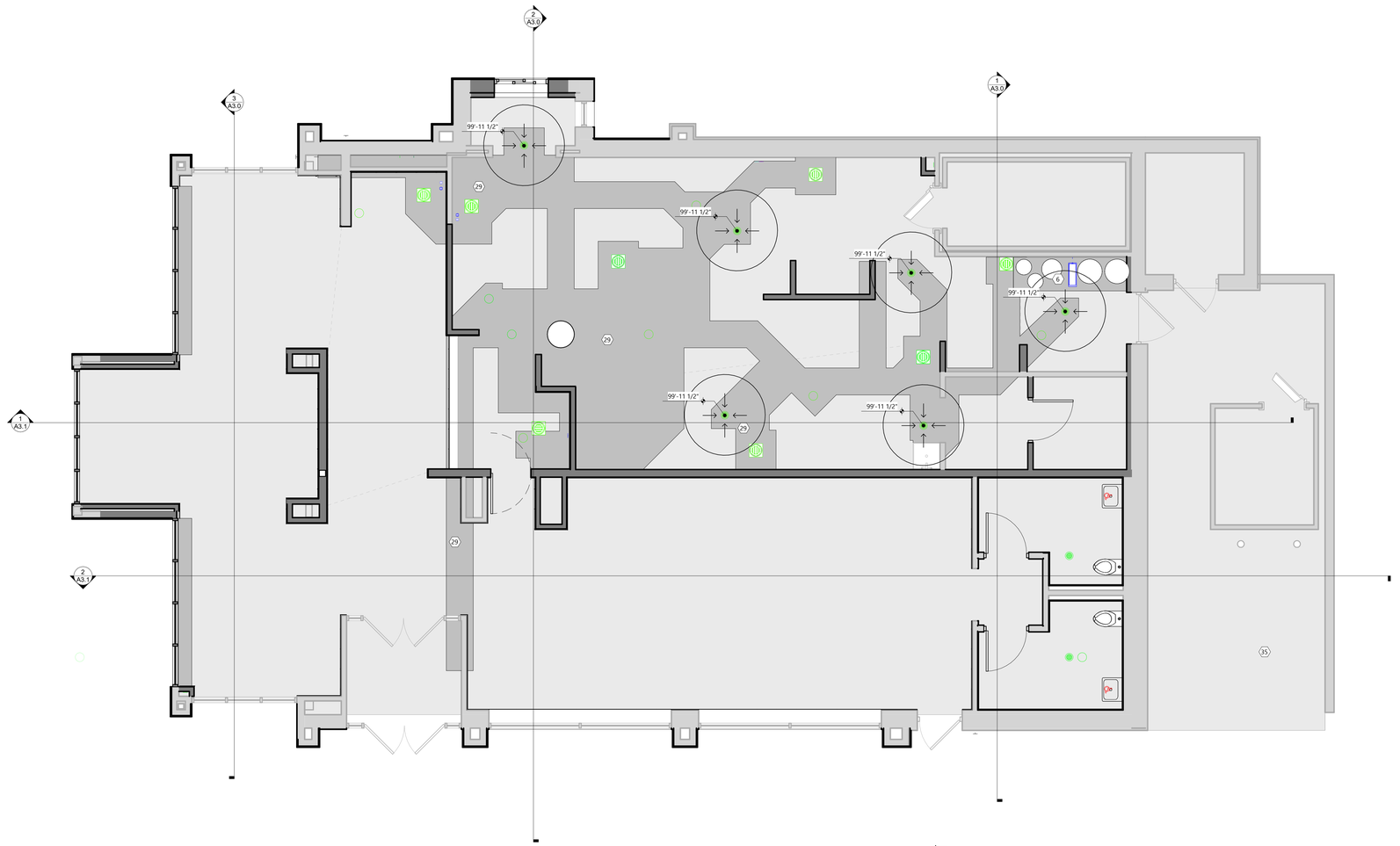
- ALL INTERIOR DIMS. ARE FROM FACE-OF-STUD TO FACE OF-STUD.
- PROVIDE SOUND BATT INSULATION AROUND PERIMETER OF TOILET ROOM AND KITCHEN WALLS.
- MISCELLANEOUS HARDWARE INCLUDED: HANDICAP HARDWARE.
- PROVIDE WOOD BLOCKING FOR ANY FURNISHINGS BY OWNER/FURNITURE SUPPLIER/KITCHEN SUPPLIER. (VERIFY LOCATIONS)
- ALL EXTERIOR WINDOWS TO HAVE ALUMINUM FLASHING RETURNS AT HEAD, JAMBS, AND SILL OF ALL WINDOWS.
- FOOD PREP AREA TO BE VERIFIED W/ OWNER. PROVIDE SHOP DRAWINGS ON EQUIPMENT.

SYMBOLS LEGEND

- SEE SHEET A4.0 FOR INTERIOR WALL TYPES
- SEE SHEET A2.0 FOR EXTERIOR WALL TYPES
- EXIT SIGNAGE
- FIRE EXTINGUISHER -SEE T1.1 SHEET
- D.S. DOWNSPOUT LOCATION -SEE DETAIL ON SHEET A1.3
- STUD WALL
- CONCRETE WALL
- MASONRY VENEER
- C.M.U. WALL

SEE PLAN FOR ALL WALL WIDTHS

NEW DOOR



NORTH

FIRST FLOOR SLAB PLAN

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

0' 4' 8'

ARCHITECTURAL FIRST FLOOR SLAB PLAN

EXCEL

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PROFESSIONAL SEAL

SHEET DATES

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IFC	APR. 3, 2026

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250361400

SHEET NUMBER

A1.1S

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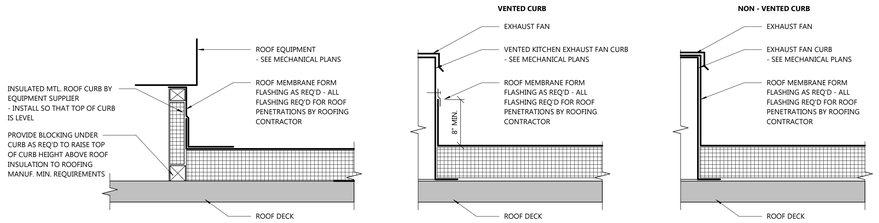
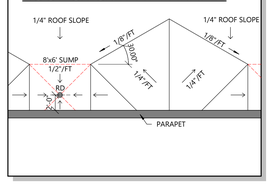


2 / A1.2 ROOF TOP EQUIPMENT CURB DETAIL
SCALE: 1 1/2" = 1'-0"

3 / A1.2 EXHAUST FAN CURB DETAIL
SCALE: 1 1/2" = 1'-0"

ROOF CRICKET AT PARAPET



DOWNSPOUT SPEC:

DOWNSPOUTS:
- PLAIN RECTANGULAR COMPLETE WITH MITERED ELBOWS, MANUFACTURED FROM THE FOLLOWING EXPOSED METAL, FURNISH WITH METAL HANGERS, FROM SAME MATERIAL AS DOWNSPOUTS, AND ANCHORS.
- FORMED ALUMINUM: 0.032" (0.81 MM) THICK
- SIZE: 4"X4"
- COLOR: SW7674 PEPPERCORN (U.N.O.)

ROOF CONSTRUCTION:

ROOF CONSTRUCTION TYPE A: (WOOD DECK)
- ADHERED ROOFING MEMBRANE
- PROTECTION BOARD AS REQUIRED
- RIGID INSULATION
- WOOD SHEATHING (SEE STRUCTURAL)
- WOOD FRAMING (SEE STRUCTURAL)

ROOF CONSTRUCTION TYPE B: (WOOD DECK)
- ADHERED ROOFING MEMBRANE
- PROTECTION BOARD AS REQUIRED
- EXISTING SHEATHING (SEE STRUCTURAL)
- EXISTING FRAMING (SEE STRUCTURAL)

ROOF PAVERS:

- PROVIDE WALK PAD LAYOUT FROM ROOF ACCESS TO ALL MECHANICAL UNITS. ROOFING CONTRACTOR TO COORDINATE WITH HVAC CONTRACTOR FOR UNIT MAINTENANCE SIDE/ACCESS REQUIREMENTS. SUBMIT PAD LAYOUT AS SHOP DWG. FOR ARCHITECT REVIEW PRIOR TO INSTALL.
- PROVIDE SLIP RESISTANT 24"x24" CONTINUOUS RUBBER WALK PADS TO ALL MECHANICAL EQUIPMENT AND VALVE STATIONS. INSTALL PER STANDARD MANUFACTURER DETAILS AND SPECS. PATH TO BE VERIFIED. PROVIDE COST PER LINEAL FOOT.

PRE-MANUFACTURED METAL CANOPIES

MANUFACTURER: AMERICAN PRODCUTIONS, INC

PRODUCT: API-MC8000 CANILEVERED CANOPY
SEE PLANS FOR LOCATIONS AND SIZES
SEE COVER SHEET FOR CONTACT INFORMATION

CONSTRUCTION:
- MATERIAL: ALUMINUM
- COLOR: POWDER COAT SW7674 PEPPERCORN
- INTEGRAL GUTTER AND DOWNSPOUT NOZZLE
- INTEGRAL 12" C-CHANNEL FACIA
- SOFFIT CONSTRUCTION
  A. PANEL TYPE: FLUSH WITH REVEAL JOINTS
  B. PANEL WIDTH: 11" WITH 1" REVEAL

ADHERED ROOFING MEMBRANE SPEC.:

NOTE:
THIS IS TYPICAL ROOF CONSTRUCTIONS SPEC.

PRODUCT: CARLISE SURE-WELD FULLY ADHERED ROOFING SYSTEM OR VERSICO VERSIWELD TPO FULLY ADHERED ROOFING SYSTEM

MATERIALS:60 MIL. FLEXIBLE SHEET TPO COMPLYING W/ ASTM D4637, TYPE I

*ACCEPTED ALTERNATE ROOF - 60 MIL. PVC

POLYISOCYANURATE BOARD INSULATION COMPLYING W/ ASTM C 1289, TYPE II, FELT OF GLASS FIBER, MAT FACER ON BOTH MAJOR SURFACES

GENERAL: EXTERIOR FIRE TEST EXPOSURE CLASS A; ASTM108 FOR APPLICATION AND SLOPES INDICATED.

WARRANTY: 10 YEAR TOTAL SYSTEM, NO DOLLAR LIMIT, MANUF. WARRANTY W/ FULL ROOF REPLACEMENT AND LABOR

INSTALL ROOFING OVER 1/2" PROTECTION BOARD(IF REQ'D BY ROOF MANUFACTURER) OVER MIN. LAYER(S) OF RIGID POLYISOCYANURATE INSULATION (**R = 30 TOTAL, MINIMUM**) OVER ROOF DECKING. PROVIDE TAPERED RIGID INSULATION OF TYPES SUITABLE FOR THE APPLICATION AS REQUIRED AND AS SHOWN ON ROOF PLAN (HATCHED AREAS). SEE GENERAL ROOFING NOTES.

GENERAL ROOF NOTES:

- EXPANDED POLYSTYRENE (1 LB. DENSITY) R=4.17 PER INCH
- EXTRUDED POLYSTYRENE R=5 PER INCH
- POLYISOCYANURATE R=6 (1") R=12.1 (2") R=18.5 (3") R=25 (4")
- HIGH DENSITY FIBERBOARD (1/2") R=1.3
- PERLITE (3/4") R=2.08
- ALL TAPERED INSULATION TO BE E.P.S. AT 1/4" PER FOOT SLOPE. PROVIDE HIGH DENSITY FIBERBOARD PROTECTION.
- ROOFING CONTRACTOR SHALL PROVIDE MEMBRANE FORM FLASHING FOR ALL ROOF PENETRATIONS PER ROOF MEMBRANE MANUFACTURER'S REQUIREMENTS.
- SEE MECHANICAL DRAWINGS FOR LOCATION AND SIZE OF ALL ROOF PENETRATIONS AND CURBS REQUIRED FOR MECHANICAL EQUIPMENT.
- PIPE STANDS NOT INSTALLED ON CURBS SHALL BE INSTALLED ON SLEEPERS OR CONCRETE PADS 6" LARGER THAN EQUIPMENT.
- PROVIDE SINGLE PLY ROOFING MEMBRANE NOT ADHERED TO ROOF UNDER ALL FREE STANDING PIPE AND EQUIPMENT STANDS 6" LARGER THAN STANDS.
- PROVIDE ROOF PATCH AT ALL REMOVED EQUIPMENT/STRUCTURES. PATCH PER MANUFACTURERS SPECS/INSTRUCTIONS TO MAINTAIN ROOF WARRANTY.

ROOF LEGEND

RD	ROOF DRAIN
OFD	OVERFLOW DRAIN
BRD	BI-FUNCTIONAL ROOF DRAIN
D.S.	DOWNSPOUT LOCATION
→	ROOF SLOPE DIRECTION
	ROOF STRUCTURE IS PITCHED TO ACHIEVE SLOPE
	TAPERED INSULATION AT MIN. 1/4" PER FOOT SLOPE UNLESS INDICATED OTHERWISE
△	CRICKET ON HIGH SIDE OF ROOF EQUIPMENT

KEYNOTES

12	CURB MOUNTED MECHANICAL EQUIPMENT. SEE "ROOF CURB FOR DETAIL"
13	INSTALL NEW CRICKET AT HIGH SIDE OF NEW EQUIPMENT. TIE INTO EXISTING ROOF PER ROOF MANUFACTURERS SPECS AND INSTRUCTIONS TO MAINTAIN ROOF WARRANTY.
14	MANUFACTURED CANOPY. SEE SPECIFICATIONS ON A1.2 FOR ADDITIONAL INFORMATION. SEE STRUCTURAL FOR BLOCKING REQUIREMENTS.
15	ROOF EXHAUST FAN - SEE MECHANICAL DRAWINGS AND SHEET A1.3 FOR DETAIL.
16	COOLER EQUIPMENT/CONDENSERS. SEE MECHANICAL AND KITCHEN EQUIPMENT DRAWINGS.
17	ROOF PIPE PENETRATION. SEE DETAIL ON A1.3
33	PROVIDE NEW ROOF MEMBRANE AND INSULATION. SEE ROOF CONSTRUCTION AND SPEC FOR GENERAL REQUIREMENTS.
36	PROVIDE RIGID INSULATION AS REQUIRED TO MAINTAIN POSITIVE DRAINAGE AND SLOPE.

SCUPPER BOX & DOWNSPOUT SPEC.:

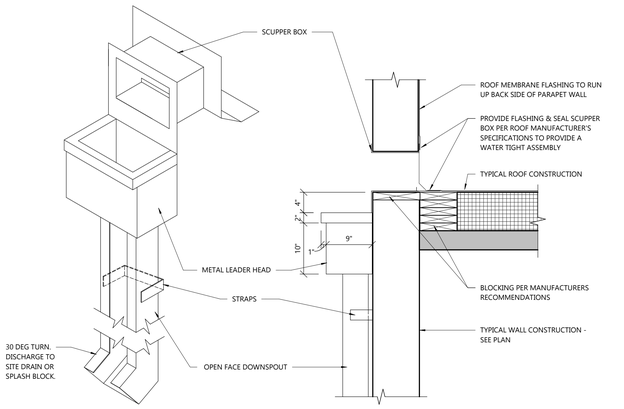
MANUFACTURER:
- METL-ERA, INC.

PRODUCT:
- SEAL TITE PRODUCT LINE

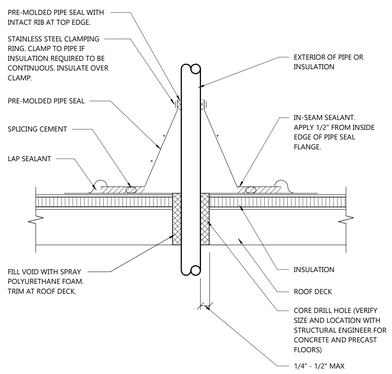
CLOSED THRU-WALL SCUPPER NO COLLECTOR BOX
- MATERIAL - 24 GAUGE GALVANIZED STEEL
- 3" WIDE, 4-SIDED PICTURE FRAME FRONT
- 3" WIDE, 3-SIDED PICTURE FRAME BACK
- COLOR: SW7674 PEPPERCORN (U.N.O.)
- PROVIDE ALL ACCESSORIES REQUIRED FOR A COMPLETE INSTALLATION

CLOSED THRU-WALL SCUPPER AND COLLECTOR BOX
- MATERIAL - 24 GAUGE GALVANIZED STEEL
- 3" WIDE, 4-SIDED PICTURE FRAME FRONT
- 3" WIDE, 3-SIDED PICTURE FRAME BACK
- DROPPED BOX, COLLECTOR BOX STYLE 1
- COLOR: SW7674 PEPPERCORN (U.N.O.)
- PROVIDE ALL ACCESSORIES REQUIRED FOR A COMPLETE INSTALLATION

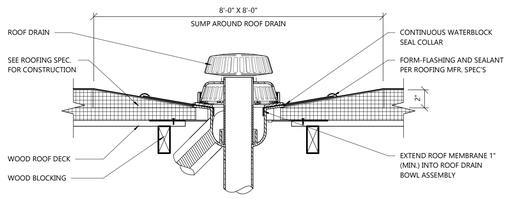
WARRANTY:
- 5 YEAR WARRANTY ON WORKMANSHIP COVERING REPLACEMENT OR REPAIR OF PRODUCTS THAT ARE DEFECTIVE IN MATERIAL OR WORKMANSHIP.
- 20 YEAR TRANSFERABLE WARRANTY FOR PREFINISHED COIL-COATED STEEL COATED WITH KYNAR-500 STANDARD COLORS COVERING FADE, CHALK AND FILM INTEGRITY.
- STARTING WITH DATE OF FINAL INSPECTION AND ACCEPTANCE.



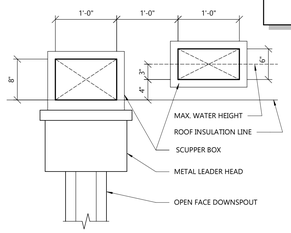
13 / A1.2 CLOSED SCUPPER AND DOWNSPOUT DETAIL w/ ADJACENT OVERFLOW
SCALE: 1" = 1'-0"

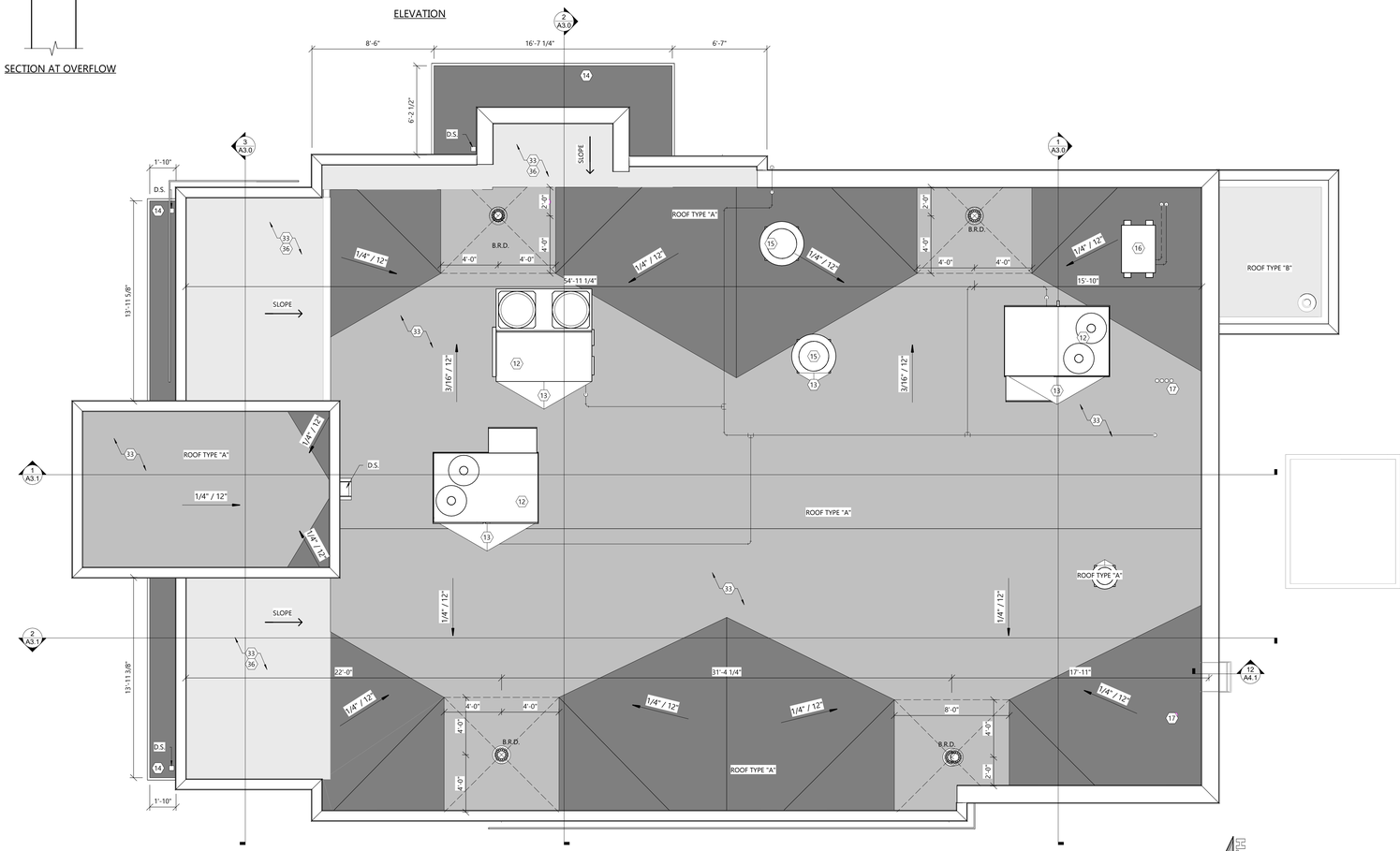


4 / A1.2 ROOF PIPE PENETRATION DETAIL
SCALE: 1 1/2" = 1'-0"



12 / A1.2 BI-FUNCTIONAL ROOF DRAIN - WOOD DECK
SCALE: 1 1/2" = 1'-0"





NORTH

ROOF PLAN
SCALE: 1/4" = 1'-0"
0' 4' 8'

ARCHITECTURAL ROOF PLAN

EXCEL
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100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

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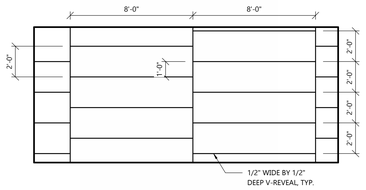


3 / A2.0 EIFS PATTERN
SCALE: 1/4" = 1'-0"

GENERAL NOTES

- ALL HVAC UNITS TO BE SCREENED BY PARAPETS.
- COORDINATE FINAL SIGNAGE BLOCKING AND SIGNAGE REQUIREMENTS WITH SIGNAGE VENDOR.

KEYNOTES

#	
14	MANUFACTURED CANOPY. SEE SPECIFICATIONS ON A1.2 FOR ADDITIONAL INFORMATION. SEE STRUCTURAL FOR BLOCKING REQUIREMENTS.
18	PAINT DOORS, FIXTURE, AND EQUIPMENT TO MATCH FINISH MATERIAL BEHIND, DOORS, FIXTURE, LADDER, AND EQUIPMENT.
19	SIGNAGE SHOWN FOR REFERENCE ONLY. COORDINATE INTERIOR AND EXTERIOR SIGNAGE LOCATIONS WITH SIGNAGE SUPPLIER AND PROVIDE BLOCKING AS REQUIRED.
20	SEE SHEET A1.2 FOR DOWNSPOUT SPEC AND COLOR
21	PAINT MECHANICAL AND ELECTRICAL EQUIPMENT TO MATCH ADJACENT WALL.
30	PAINT EXISTING STOREFRONT FRAMES SW6767 AQUARIUM. SEE A6.0 SHEETS FOR MORE INFORMATION.

EXTERIOR MATERIAL KEY

THIN BRICK
MFR: GLEN-GERY
STYLE: EXTRUDED
TEXTURE: SMOOTH
COLOR: ASPEN WHITE (GROUT COLOR: G-501)

WOOD LOOK SIDING
PRODUCT: NICHIHA - VINTAGEWOOD
MATERIAL: FIBER CEMENT
COLOR: CEDAR
SEE T1.2 FOR NATIONAL VENDOR CONTACT INFORMATION

EXISTING EIFS
MFR: EXISTING
TEXTURE: EXISTING (SEE DETAIL ON SHEET FOR REVEALS)
COLOR: PAINTED SW6767 AQUARIUM

METAL STRUCTURE
COLOR: PAINTED SW7674 PEPPERCORN

METAL COPING
MATERIAL: PAC CLAD 24 GUAGE STEEL
COLOR: CHARCOAL

VINYL SCREEN
PATTERN: WAVE GRAPHIC
FRAME AND SIGNAGE PROVIDED BY SIGNAGE VENDOR
COLOR: WHITE/GRAY

PAINTED EXISTING CMU
COLOR: SW7005 PURE WHITE

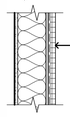
EXISTING EIFS
MFR: EXISTING
TEXTURE: EXISTING (SEE DETAIL ON SHEET FOR REVEALS)
COLOR: PAINTED SW7005 PURE WHITE

EXTERIOR WALL TYPE LEGEND

EXTERIOR WALL TYPE — 1 / E1

GENERAL NOTES
- SEE EXTERIOR MATERIAL KEY FOR ALL EXTERIOR FINISHES
- SEE INTERIOR FINISH SCHEDULE FOR ALL INTERIOR FINISH
- NOT ALL WALL TYPES WILL BE USED ON ALL PROJECTS

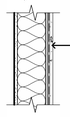
E1 EIFS (TYP. WOOD STUD CONSTRUCTION)



- EIFS INSTALLED PER MFR SPECIFICATIONS *
- 1" RIGID INSUL. (U.N.O.) AND INTEG. DRAINAGE PLANE *
- LIQUID APPLIED AIR/MOISTURE BARRIER *
- WOOD SHEATHING
- 2X6 WOOD STUD (U.N.O.) @ 16" O.C. W/ R -21 BATT INSUL.
- VAPOR RETARDER
- 5/8" GYPSUM BOARD

E1A EXTERIOR FINISH (*) TO BE APPLIED OVER EXISTING SHEATHING AND STUDS

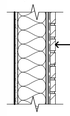
E2 NICHIHA (TYP. WOOD STUD CONST.)



- NICHIHA FIBER CEMENT PANEL *
- LIQUID APPLIED AIR/MOISTURE BARRIER *
- WOOD SHEATHING
- 2X6 WOOD STUD (U.N.O.) @ 16" O.C. W/ R -21 BATT INSUL.
- VAPOR RETARDER
- 5/8" GYPSUM BOARD

E2A EXTERIOR FINISH (*) TO BE APPLIED OVER EXISTING SHEATHING AND STUDS

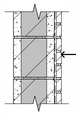
E3 THIN BRICK (TYP. WOOD STUD CONST.)



- THIN BRICK VENEER *
- SCRATCH COAT *
- LIQUID APPLIED AIR/MOISTURE BARRIER *
- WOOD SHEATHING
- 2X6 WOOD STUD (U.N.O.) @ 16" O.C. W/ R -21 BATT INSUL.
- VAPOR RETARDER
- 5/8" GYPSUM BOARD

E3A EXTERIOR FINISH (*) TO BE APPLIED OVER EXISTING SHEATHING AND STUDS

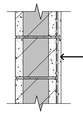
E4 THIN BRICK (TYP. CMU CONSTRUCTION)



- THIN BRICK VENEER *
- SCRATCH COAT *
- 8" CMU BLOCK GROUTED SOLID
- PAINT

E4A EXTERIOR FINISH (*) TO BE APPLIED OVER EXISTING SHEATHING AND STUDS

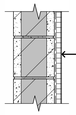
E5 NICHIHA (TYP. CMU CONSTRUCTION)



- NICHIHA FIBER CEMENT PANEL *
- LIQUID APPLIED AIR/MOISTURE BARRIER *
- 8" CMU BLOCK GROUTED SOLID
- PAINT

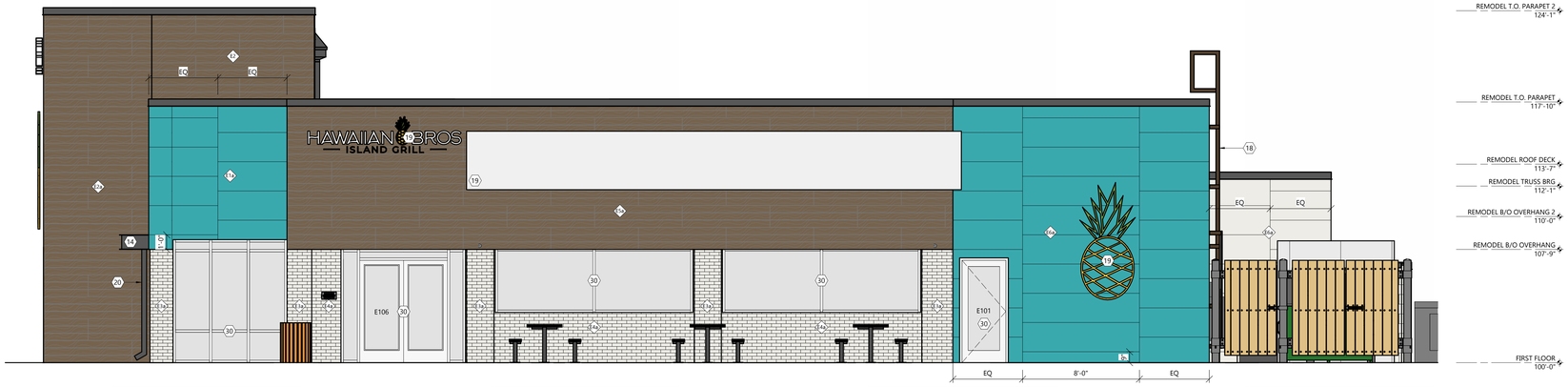
E5A EXTERIOR FINISH (*) TO BE APPLIED OVER EXISTING SHEATHING AND STUDS

E6 EIFS (TYP. CMU CONSTRUCTION)

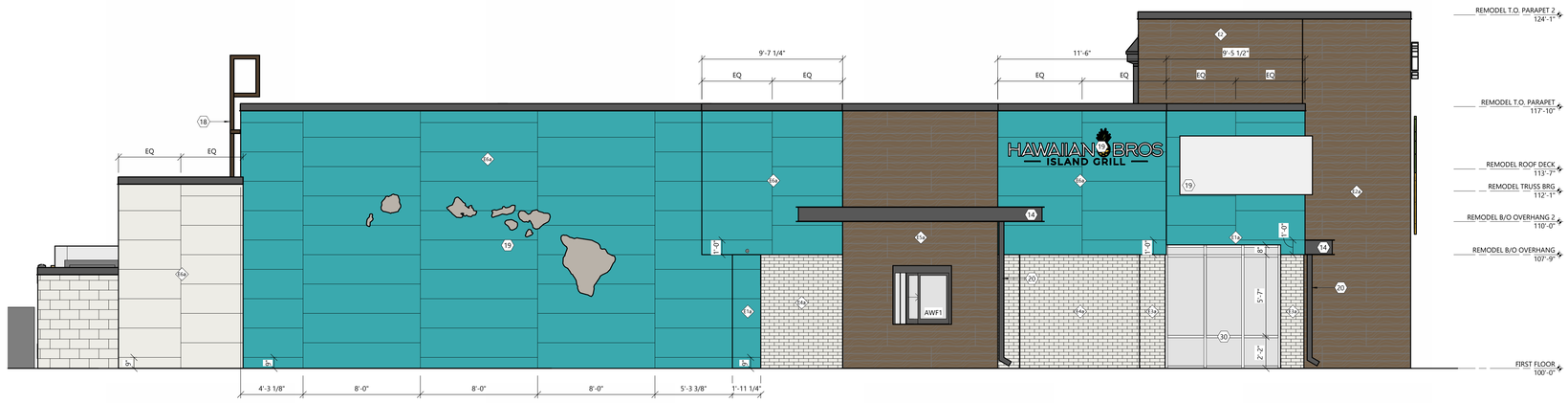


- EIFS INSTALLED PER MFR SPECIFICATIONS *
- 1" RIGID INSUL. (U.N.O.) AND INTEG. DRAINAGE PLANE *
- LIQUID APPLIED AIR/MOISTURE BARRIER *
- 8" CMU BLOCK GROUTED SOLID
- PAINT

E6A EXTERIOR FINISH (*) TO BE APPLIED OVER EXISTING SHEATHING AND STUDS



WEST ENTRANCE ELEVATION
SCALE: 1/4" = 1'-0"



EAST DRIVE THRU ELEVATION
SCALE: 1/4" = 1'-0"

ARCHITECTURAL EXTERIOR ELEVATIONS

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SHEET NUMBER
A2.0

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GENERAL NOTES

- ALL HVAC UNITS TO BE SCREENED BY PARAPETS.
- COORDINATE FINAL SIGNAGE BLOCKING AND SIGNAGE REQUIREMENTS WITH SIGNAGE VENDOR.

KEYNOTES

#	
14	MANUFACTURED CANOPY. SEE SPECIFICATIONS ON A1.2 FOR ADDITIONAL INFORMATION. SEE STRUCTURAL FOR BLOCKING REQUIREMENTS.
18	PAINT DOORS, FIXTURE, AND EQUIPMENT TO MATCH FINISH MATERIAL BEHIND. DOORS, FIXTURE, LADDER, AND EQUIPMENT.
19	SIGNAGE SHOWN FOR REFERENCE ONLY. COORDINATE INTERIOR AND EXTERIOR SIGNAGE LOCATIONS WITH SIGNAGE SUPPLIER AND PROVIDE BLOCKING AS REQUIRED.
20	SEE SHEET A1.2 FOR DOWNSPOUT SPEC AND COLOR
21	PAINT MECHANICAL AND ELECTRICAL EQUIPMENT TO MATCH ADJACENT WALL.
30	PAINT EXISTING STOREFRONT FRAMES SW6767 AQUARIUM. SEE A6.0 SHEETS FOR MORE INFORMATION.

EXTERIOR MATERIAL KEY

THIN BRICK
MFR: GLEN-GERY
STYLE: EXTRUDED
TEXTURE: SMOOTH
COLOR: ASPEN WHITE (GROUT COLOR: G-501)

WOOD LOOK SIDING
PRODUCT: NICHIHA - VINTAGEWOOD
MATERIAL: FIBER CEMENT
COLOR: CEDAR
SEE T1.2 FOR NATIONAL VENDOR CONTACT INFORMATION

EXISTING EIFS
MFR: EXISTING
TEXTURE: EXISTING (SEE DETAIL ON SHEET FOR REVEALS)
COLOR: PAINTED SW6767 AQUARIUM

METAL STRUCTURE
COLOR: PAINTED SW7674 PEPPERCORN

METAL COPING
MATERIAL: PAC CLAD 24 GUAGE STEEL
COLOR: CHARCOAL

VINYL SCREEN
PATTERN: WAVE GRAPHIC
FRAME AND SIGNAGE PROVIDED BY SIGNAGE VENDOR
COLOR: WHITE/GRAY

PAINTED EXISTING CMU
COLOR: SW7005 PURE WHITE

EXISTING EIFS
MFR: EXISTING
TEXTURE: EXISTING (SEE DETAIL ON SHEET FOR REVEALS)
COLOR: PAINTED SW7005 PURE WHITE

EXTERIOR WALL TYPE LEGEND

EXTERIOR WALL TYPE — 1 E1

GENERAL NOTES
- SEE EXTERIOR MATERIAL KEY FOR ALL EXTERIOR FINISHES
- SEE INTERIOR FINISH SCHEDULE FOR ALL INTERIOR FINISH
- NOT ALL WALL TYPES WILL BE USED ON ALL PROJECTS

E1 EIFS (TYP. WOOD STUD CONSTRUCTION)

- EIFS INSTALLED PER MFR SPECIFICATIONS *
- 1" RIGID INSUL. (U.N.O.) AND INTEG. DRAINAGE PLANE *
- LIQUID APPLIED AIR/MOISTURE BARRIER *
- WOOD SHEATHING
- 2X6 WOOD STUD (U.N.O.) @ 16" O.C. W/ R -21 BATT INSUL.
- VAPOR RETARDER
- 5/8" GYPSUM BOARD

E1a EXTERIOR FINISH (*) TO BE APPLIED OVER EXISTING SHEATHING AND STUDS

E2 NICHIHA (TYP. WOOD STUD CONST.)

- NICHIHA FIBER CEMENT PANEL *
- LIQUID APPLIED AIR/MOISTURE BARRIER *
- WOOD SHEATHING
- 2X6 WOOD STUD (U.N.O.) @ 16" O.C. W/ R -21 BATT INSUL.
- VAPOR RETARDER
- 5/8" GYPSUM BOARD

E2a EXTERIOR FINISH (*) TO BE APPLIED OVER EXISTING SHEATHING AND STUDS

E3 THIN BRICK (TYP. WOOD STUD CONST.)

- THIN BRICK VENEER *
- SCRATCH COAT *
- LIQUID APPLIED AIR/MOISTURE BARRIER *
- WOOD SHEATHING
- 2X6 WOOD STUD (U.N.O.) @ 16" O.C. W/ R -21 BATT INSUL.
- VAPOR RETARDER
- 5/8" GYPSUM BOARD

E3a EXTERIOR FINISH (*) TO BE APPLIED OVER EXISTING SHEATHING AND STUDS

E4 THIN BRICK (TYP. CMU CONSTRUCTION)

- THIN BRICK VENEER *
- SCRATCH COAT *
- 8" CMU BLOCK GROUTED SOLID
- PAINT

E4a EXTERIOR FINISH (*) TO BE APPLIED OVER EXISTING SHEATHING AND STUDS

E5 NICHIHA (TYP. CMU CONSTRUCTION)

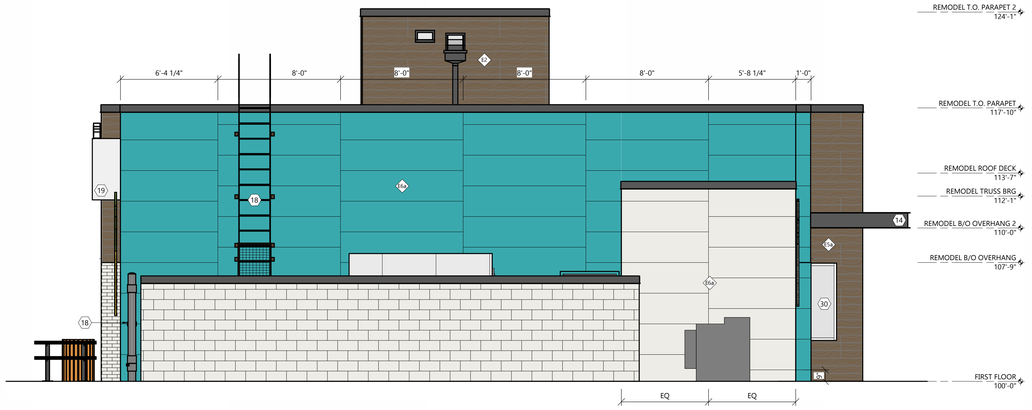
- NICHIHA FIBER CEMENT PANEL *
- LIQUID APPLIED AIR/MOISTURE BARRIER *
- 8" CMU BLOCK GROUTED SOLID
- PAINT

E5a EXTERIOR FINISH (*) TO BE APPLIED OVER EXISTING SHEATHING AND STUDS

E6 EIFS (TYP. CMU CONSTRUCTION)

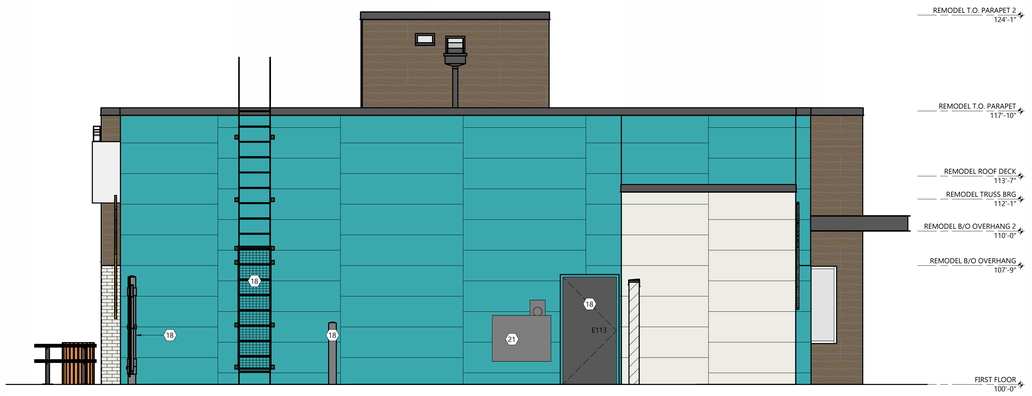
- EIFS INSTALLED PER MFR SPECIFICATIONS *
- 1" RIGID INSUL. (U.N.O.) AND INTEG. DRAINAGE PLANE *
- LIQUID APPLIED AIR/MOISTURE BARRIER *
- 8" CMU BLOCK GROUTED SOLID
- PAINT

E6a EXTERIOR FINISH (*) TO BE APPLIED OVER EXISTING SHEATHING AND STUDS



SOUTH REAR ELEVATION

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



SOUTH REAR ELEVATION

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



E 82ND ST
NORTH ELEVATION

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

ARCHITECTURAL EXTERIOR ELEVATIONS

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100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

PROJECT INFORMATION

PROPOSED QUICK SERVE RESTAURANT FOR:

OM GROUP - HAWAIIAN BROS - STR: 135

6421 E. 82ND ST. • INDIANAPOLIS, IN 46250

PROFESSIONAL SEAL

SHEET DATES

ISSUED FOR CONSTRUCTION

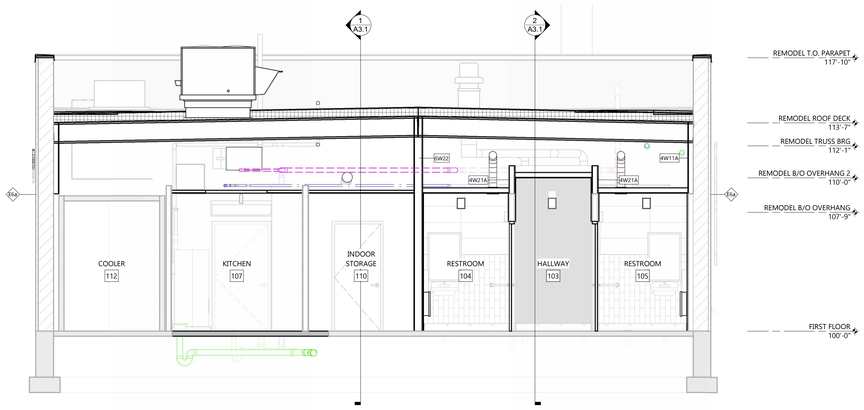
IFC APR. 3, 2026

JOB NUMBER

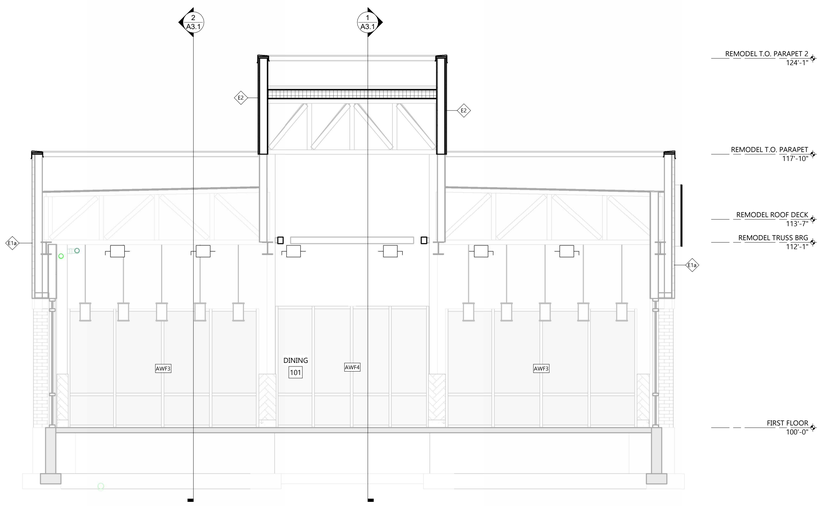
250361400

SHEET NUMBER

A2.1



1 A3.0 BUILDING SECTION
SCALE: 1/4" = 1'-0"



3 A3.0 BUILDING SECTION
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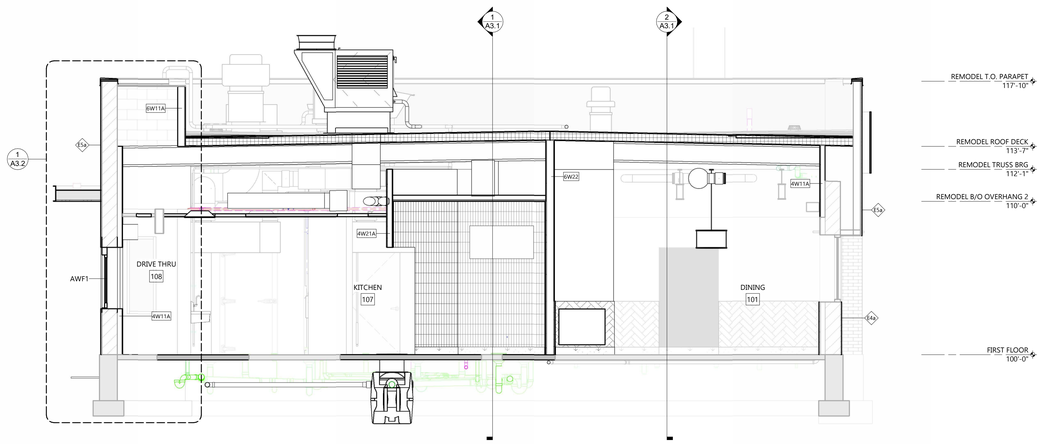


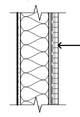
2 A3.0 BUILDING SECTION
SCALE: 1/4" = 1'-0"

EXTERIOR WALL TYPE LEGEND

EXTERIOR WALL TYPE — 1 / E1

GENERAL NOTES
- SEE EXTERIOR MATERIAL KEY FOR ALL EXTERIOR FINISHES
- SEE INTERIOR FINISH SCHEDULE FOR ALL INTERIOR FINISH
- NOT ALL WALL TYPES WILL BE USED ON ALL PROJECTS

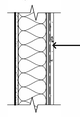
E1 EIFS (TYP. WOOD STUD CONSTRUCTION)



- EIFS INSTALLED PER MFR SPECIFICATIONS *
- 1" RIGID INSUL. (U.N.O.) AND INTEG. DRAINAGE PLANE *
- LIQUID APPLIED AIR/MOISTURE BARRIER *
- WOOD SHEATHING
- 2X6 WOOD STUD (U.N.O.) @ 16" O.C. W/ R -21 BATT INSUL.
- VAPOR RETARDER
- 5/8" GYPSUM BOARD

E1a EXTERIOR FINISH (*) TO BE APPLIED OVER EXISTING SHEATHING AND STUDS

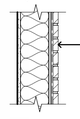
E2 NICHIHA (TYP. WOOD STUD CONST.)



- NICHIHA FIBER CEMENT PANEL *
- LIQUID APPLIED AIR/MOISTURE BARRIER *
- WOOD SHEATHING
- 2X6 WOOD STUD (U.N.O.) @ 16" O.C. W/ R -21 BATT INSUL.
- VAPOR RETARDER
- 5/8" GYPSUM BOARD

E2a EXTERIOR FINISH (*) TO BE APPLIED OVER EXISTING SHEATHING AND STUDS

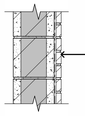
E3 THIN BRICK (TYP. WOOD STUD CONST.)



- THIN BRICK VENEER *
- SCRATCH COAT *
- LIQUID APPLIED AIR/MOISTURE BARRIER *
- WOOD SHEATHING
- 2X6 WOOD STUD (U.N.O.) @ 16" O.C. W/ R -21 BATT INSUL.
- VAPOR RETARDER
- 5/8" GYPSUM BOARD

E3a EXTERIOR FINISH (*) TO BE APPLIED OVER EXISTING SHEATHING AND STUDS

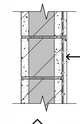
E4 THIN BRICK (TYP. CMU CONSTRUCTION)



- THIN BRICK VENEER *
- SCRATCH COAT *
- 8" CMU BLOCK GROUTED SOLID
- PAINT

E4a EXTERIOR FINISH (*) TO BE APPLIED OVER EXISTING SHEATHING AND STUDS

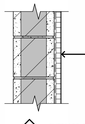
E5 NICHIHA (TYP. CMU CONSTRUCTION)



- NICHIHA FIBER CEMENT PANEL *
- LIQUID APPLIED AIR/MOISTURE BARRIER *
- 8" CMU BLOCK GROUTED SOLID
- PAINT

E5a EXTERIOR FINISH (*) TO BE APPLIED OVER EXISTING SHEATHING AND STUDS

E6 EIFS (TYP. CMU CONSTRUCTION)



- EIFS INSTALLED PER MFR SPECIFICATIONS *
- 1" RIGID INSUL. (U.N.O.) AND INTEG. DRAINAGE PLANE *
- LIQUID APPLIED AIR/MOISTURE BARRIER *
- 8" CMU BLOCK GROUTED SOLID
- PAINT

E6a EXTERIOR FINISH (*) TO BE APPLIED OVER EXISTING SHEATHING AND STUDS

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100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

PROJECT INFORMATION

PROPOSED QUICK SERVE RESTAURANT FOR:
OM GROUP - HAWAIIAN BROS - STR: 135
6421 E. 82ND ST. • INDIANAPOLIS, IN 46250

PROFESSIONAL SEAL

SHEET DATES
ISSUED FOR CONSTRUCTION
IFC APR. 3, 2026

JOB NUMBER
250361400

SHEET NUMBER
A3.0

ARCHITECTURAL BUILDING SECTIONS

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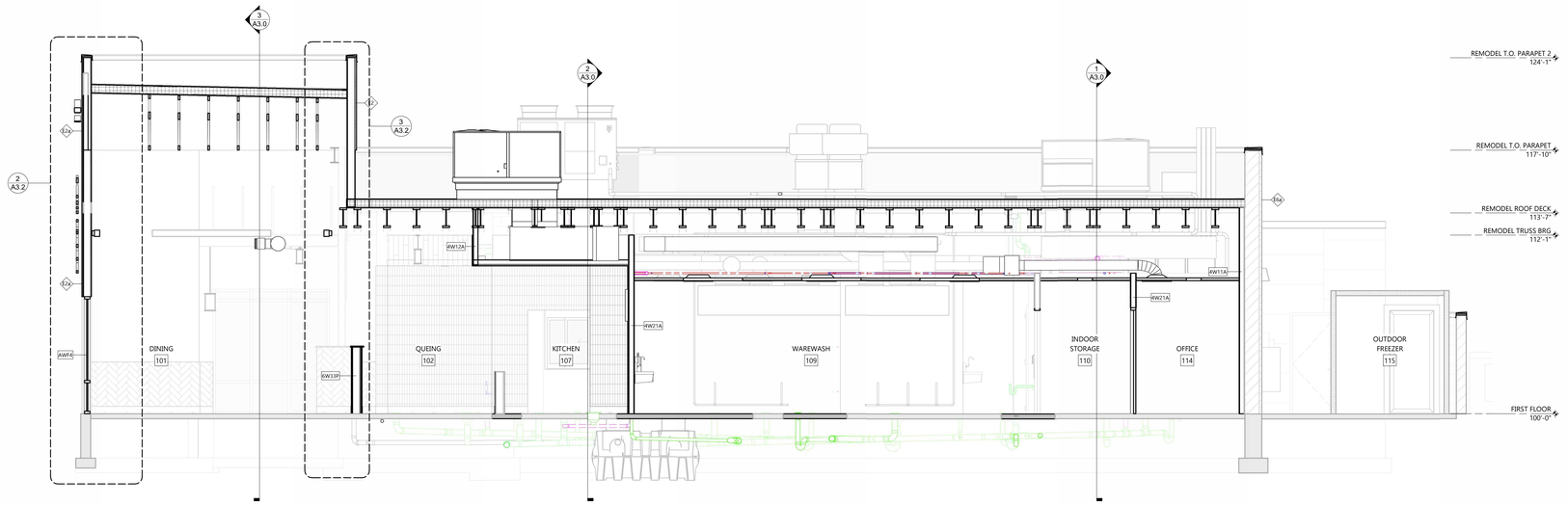
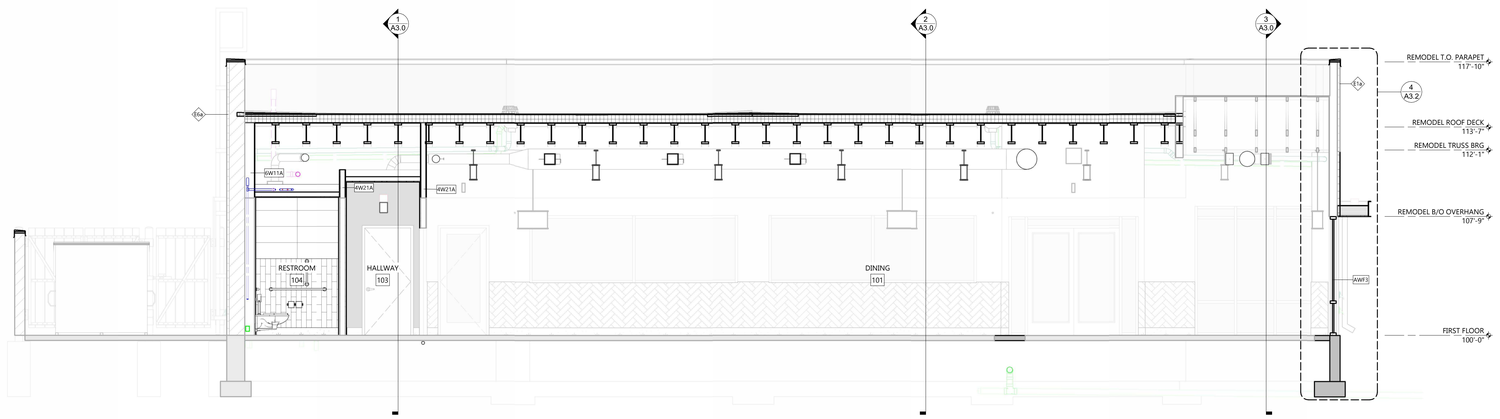


1 A3.1 BUILDING SECTION
SCALE: 1/4" = 1'-0"



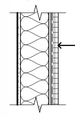
2 A3.1 BUILDING SECTION
SCALE: 1/4" = 1'-0"

EXTERIOR WALL TYPE LEGEND

EXTERIOR WALL TYPE — E1

GENERAL NOTES
- SEE EXTERIOR MATERIAL KEY FOR ALL EXTERIOR FINISHES
- SEE INTERIOR FINISH SCHEDULE FOR ALL INTERIOR FINISH
- NOT ALL WALL TYPES WILL BE USED ON ALL PROJECTS

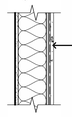
E1 EIFS (TYP. WOOD STUD CONSTRUCTION)



- EIFS INSTALLED PER MFR SPECIFICATIONS *
- 1" RIGID INSUL. (U.N.O.) AND INTEG. DRAINAGE PLANE *
- LIQUID APPLIED AIR/MOISTURE BARRIER *
- WOOD SHEATHING
- 2X6 WOOD STUD (U.N.O.) @ 16" O.C. W/ R -21 BATT INSUL.
- VAPOR RETARDER
- 5/8" GYPSUM BOARD

E1x EXTERIOR FINISH (*) TO BE APPLIED OVER EXISTING SHEATHING AND STUDS

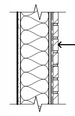
E2 NICHIHA (TYP. WOOD STUD CONST.)



- NICHIHA FIBER CEMENT PANEL *
- LIQUID APPLIED AIR/MOISTURE BARRIER *
- WOOD SHEATHING
- 2X6 WOOD STUD (U.N.O.) @ 16" O.C. W/ R -21 BATT INSUL.
- VAPOR RETARDER
- 5/8" GYPSUM BOARD

E2x EXTERIOR FINISH (*) TO BE APPLIED OVER EXISTING SHEATHING AND STUDS

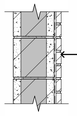
E3 THIN BRICK (TYP. WOOD STUD CONST.)



- THIN BRICK VENEER *
- SCRATCH COAT *
- LIQUID APPLIED AIR/MOISTURE BARRIER *
- WOOD SHEATHING
- 2X6 WOOD STUD (U.N.O.) @ 16" O.C. W/ R -21 BATT INSUL.
- VAPOR RETARDER
- 5/8" GYPSUM BOARD

E3x EXTERIOR FINISH (*) TO BE APPLIED OVER EXISTING SHEATHING AND STUDS

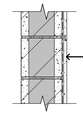
E4 THIN BRICK (TYP. CMU CONSTRUCTION)



- THIN BRICK VENEER *
- SCRATCH COAT *
- 8" CMU BLOCK GROUTED SOLID
- PAINT

E4x EXTERIOR FINISH (*) TO BE APPLIED OVER EXISTING SHEATHING AND STUDS

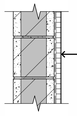
E5 NICHIHA (TYP. CMU CONSTRUCTION)



- NICHIHA FIBER CEMENT PANEL *
- LIQUID APPLIED AIR/MOISTURE BARRIER *
- 8" CMU BLOCK GROUTED SOLID
- PAINT

E5x EXTERIOR FINISH (*) TO BE APPLIED OVER EXISTING SHEATHING AND STUDS

E6 EIFS (TYP. CMU CONSTRUCTION)



- EIFS INSTALLED PER MFR SPECIFICATIONS *
- 1" RIGID INSUL. (U.N.O.) AND INTEG. DRAINAGE PLANE *
- LIQUID APPLIED AIR/MOISTURE BARRIER *
- 8" CMU BLOCK GROUTED SOLID
- PAINT

E6x EXTERIOR FINISH (*) TO BE APPLIED OVER EXISTING SHEATHING AND STUDS

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OM GROUP - HAWAIIAN BROS - STR: 135
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PROFESSIONAL SEAL

SHEET DATES
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IFC APR. 3, 2026

JOB NUMBER
250361400

SHEET NUMBER
A3.1

ARCHITECTURAL BUILDING SECTIONS

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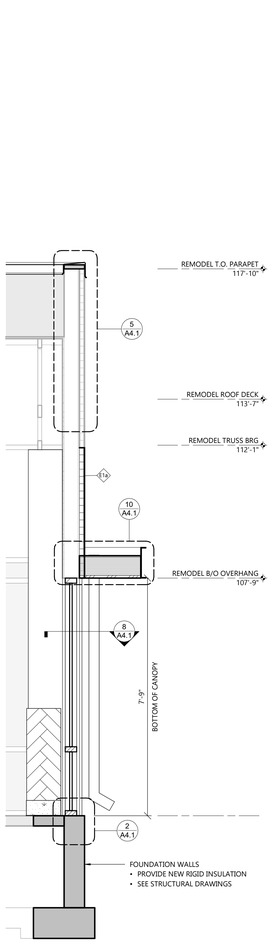
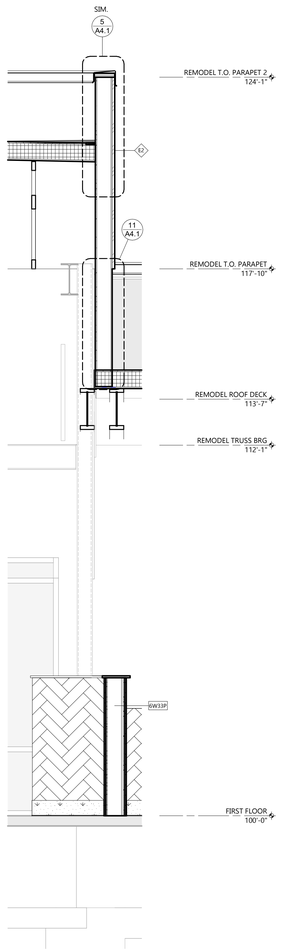
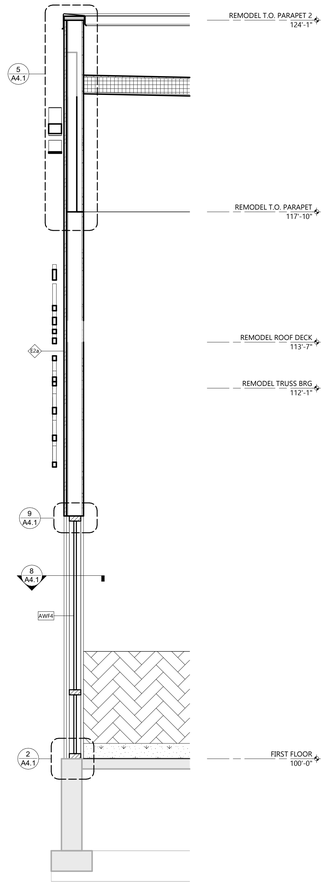


4 A3.2 WALL SECTION
SCALE: 1/2" = 1'-0"



3 A3.2 WALL SECTION
SCALE: 1/2" = 1'-0"



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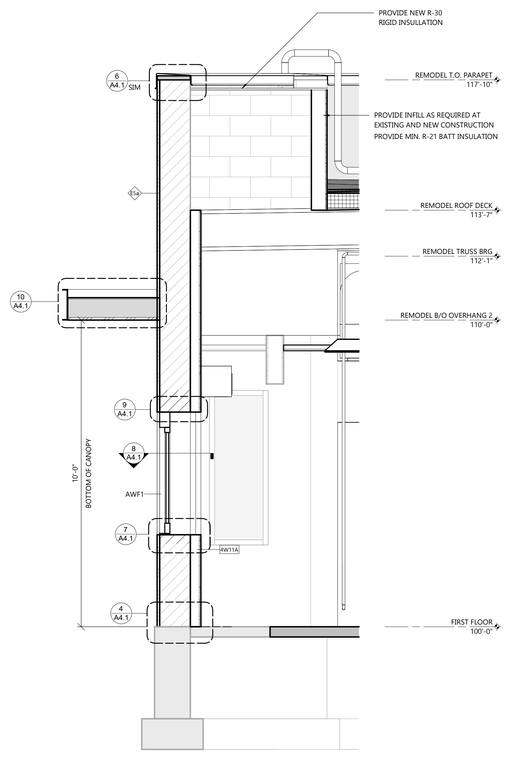

1 A3.2 WALL SECTION
SCALE: 1/2" = 1'-0"

ARCHITECTURAL WALL SECTIONS

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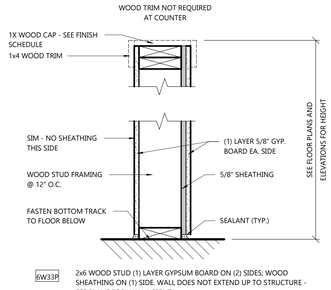
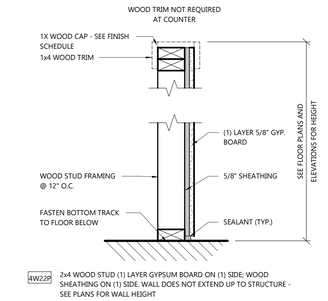


6W33P 2x6 WOOD STUD (1) LAYER GYPSUM BOARD ON (2) SIDES; WOOD SHEATHING ON (1) SIDE. WALL DOES NOT EXTEND UP TO STRUCTURE - SEE PLANS FOR WALL HEIGHT

6W33P(SIM.) 2x6 WOOD STUD (1) LAYER GYPSUM BOARD ON (1) SIDE; WOOD SHEATHING ON (1) SIDE. WALL DOES NOT EXTEND UP TO STRUCTURE - SEE PLANS FOR WALL HEIGHT

INTERIOR WALL TYPE - 6W33P

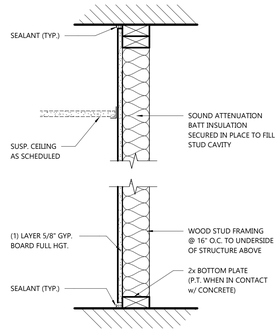
NOT TO SCALE



4W22P 2x4 WOOD STUD (1) LAYER GYPSUM BOARD ON (1) SIDE; WOOD SHEATHING ON (1) SIDE. WALL DOES NOT EXTEND UP TO STRUCTURE - SEE PLANS FOR WALL HEIGHT

INTERIOR WALL TYPE - 4W22P

NOT TO SCALE



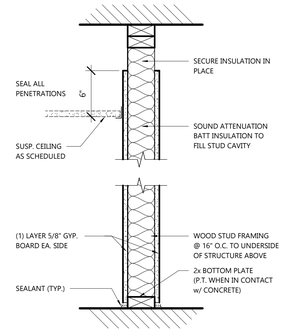
4W12 2x4 WOOD STUD (1) LAYER GYPSUM BOARD ON (1) SIDE

4W12A SIM. TO '4W12' BUT NO ACOUSTICAL INSULATION

4W12R SIM. TO '4W12' GYPSUM BOARD SHALL BE ABUSE RESISTANT ON CORRIDOR SIDE OF WALL

INTERIOR WALL TYPE - 4W12

NOT TO SCALE



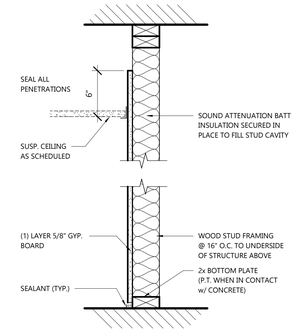
4W21 2x4 WOOD STUD (1) LAYER GYPSUM BOARD ON (2) SIDES

4W21A SIM. TO '4W21' BUT NO ACOUSTICAL INSULATION

4W21R SIM. TO '4W21' GYPSUM BOARD SHALL BE ABUSE RESISTANT ON CORRIDOR SIDE OF WALL

INTERIOR WALL TYPE - 4W21

NOT TO SCALE



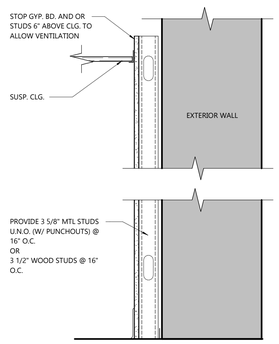
4W11 2x4 WOOD STUD (1) LAYER GYPSUM BOARD ON (1) SIDE

4W11A SIM. TO '4W11' BUT NO ACOUSTICAL INSULATION

4W11R SIM. TO '4W11' GYPSUM BOARD SHALL BE ABUSE RESISTANT ON CORRIDOR SIDE OF WALL

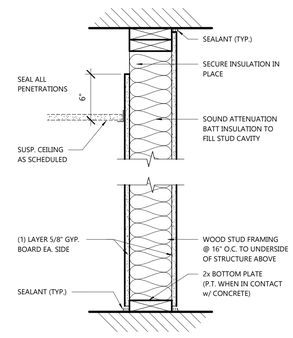
INTERIOR WALL TYPE - 4W11

NOT TO SCALE



PLUMBING FURRING DETAIL

NOT TO SCALE



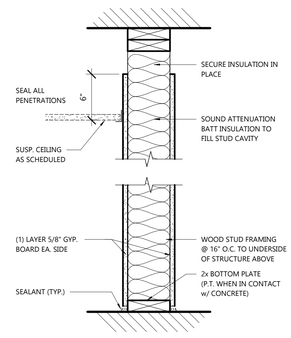
6W22 2x6 WOOD STUD (1) LAYER GYPSUM BOARD ON (2) SIDES

6W22A SIM. TO '6W22' BUT NO ACOUSTICAL INSULATION

6W22R SIM. TO '6W22' GYPSUM BOARD SHALL BE ABUSE RESISTANT ON CORRIDOR SIDE OF WALL

INTERIOR WALL TYPE - 6W22

NOT TO SCALE



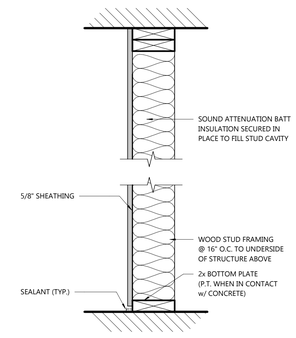
6W21 2x6 WOOD STUD (1) LAYER GYPSUM BOARD ON (2) SIDES

6W21A SIM. TO '6W21' BUT NO ACOUSTICAL INSULATION

6W21R SIM. TO '6W21' GYPSUM BOARD SHALL BE ABUSE RESISTANT ON CORRIDOR SIDE OF WALL

INTERIOR WALL TYPE - 6W21

NOT TO SCALE



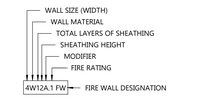
6W11 2x6 WOOD STUD (1) LAYER WOOD SHEATHING ON (1) SIDE

6W11A SIM. TO '6W11' BUT NO ACOUSTICAL INSULATION

INTERIOR WALL TYPE - 6W11

NOT TO SCALE

INTERIOR PARTITION TAG KEY



WALL SIZE (WIDTH)			
TAG VALUE	BLOCK/CMU	METAL STUD	WOOD STUD
1	-	7/8"	3/4"
2	-	1 5/8"	1 1/2"
3	-	2 1/2"	-
4	3 5/8"	3 5/8"	3 1/2"
6	5 5/8"	6"	5 1/2"
8	7 5/8"	8"	7 1/4"
10	9 5/8"	-	-
12	11 5/8"	-	-

FIRE RATING	
FW	FIRE WALL
FB	FIRE BARRIER
FP	FIRE PARTITION
.1	(1) HOUR RATED
.2	(2) HOUR RATED
.3	(3) HOUR RATED
.4	(4) HOUR RATED

WALL MATERIAL	
B	BLOCK/CMU
M	METAL STUD
P	PRECAST
W	WOOD STUD

SHEATHING HEIGHT	
1	6" ABOVE CEILING (1 SIDE)
2	6" ABOVE CEILING (1) SIDE, FULL HEIGHT (1) SIDE
3	FULL HEIGHT BOTH SIDES

MODIFIER	
A	NO INSULATION
B	BRACED TO STRUCT.
P	PARTIAL HEIGHT
R	ABUSE RESISTANT

GENERAL NOTES

- ALLOW FOR DEFLECTION AT TOP OF WALL IN NON-LOAD BEARING APPLICATIONS.
- HOLD GYP. BD. OFF FLOOR 5/8" TO PREVENT WICKING. PROVIDE CONTINUOUS NON-HARDENING ACOUSTICAL CAULKING BEADS ON EACH SIDE OF THE BOTTOM STUD RUNNER AT THE THREE-WAY INTERSECTION BETWEEN THE RUNNER, FLOOR AND DRYWALL.
- MULTIPLE LAYER OF GYPSUM BOARD ARE TO BE APPLIED WITH STAGGERED JOINTS.
- LABEL ALL FIRE RATED PARTITIONS ACCORDING TO THEIR RATING WITH STENCILED RED LETTERS. 4" HIGH MIN. AND 1/2" STROKE. LABEL FIRE RATING JUST ABOVE THE FINISHED CEILING, OR AT 10'-0" AFF FOR SPACES WITHOUT FINISHED CEILING AT INTERVALS OF NOT MORE THAN 10'-0" APART AND AT LEAST TWICE ON EACH PARTITION.
- SEAL ALL VOIDS AND PENETRATIONS IN FIRE RATED WALLS AS REQUIRED TO MAINTAIN CONTINUOUS FIRE RATING.
- REFER TO ROOM FINISH SCHEDULE FOR WALLS W/ LEVEL 5 DRYWALL.
- UL RATED ASSEMBLY NUMBER MAY BE CHANGED AND SUBMITTED FOR REVIEW BY ARCHITECT. REFERENCE ACTUAL UL RATED ASSEMBLY FOR ALL MATERIAL AND TYPE REQUIREMENTS AS THOSE SHOWN ON THESE PLANS ARE ONLY A SUMMARY FOR REFERENCE.

WALL SUBSTRATE: (INTERIOR AND EXTERIOR)

- SEE SPECIFICATIONS FOR GYPSUM BOARD TYPES AND LOCATIONS
- WALL BOARD TO VERIFY DEPENDING ON WALL FINISH
- FOR INTERIOR AND EXTERIOR KITCHEN WALLS PROVIDE FROM FLOOR TO 24" A.F.F. 3/4" CEMENT BOARD AND PLYWOOD FROM 24" A.F.F. TO TRUSS BEARING. SEE KITCHEN PLANS
- KITCHEN HOOD WALL TO BE CEMENT BOARD FROM FLOOR TO TRUSS BEARING. STAINLESS STEEL PANEL TO BE INSTALLED ON ALL SIDES OF THE HOOD WALL. AT LOCATIONS OF THE TYPE 1 HOOD, STAINLESS STEEL PANEL TO BE INSTALL 18" ABOVE THE HOOD PER INTERNATIONAL MECHANICAL CODE.

ARCHITECTURAL INTERIOR WALL TYPES

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

PROJECT INFORMATION

PROPOSED QUICK SERVE RESTAURANT FOR:

OM GROUP - HAWAIIAN BROS - STR: 135

6421 E. 82ND ST. • INDIANAPOLIS, IN 46250

PROFESSIONAL SEAL

SHEET DATES

ISSUED FOR CONSTRUCTION

IFC APR. 3, 2026

JOB NUMBER

250361400

SHEET NUMBER

A4.0

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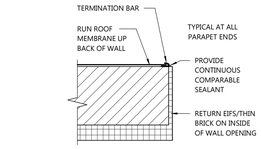

12 A4.1 EIFS RETURN
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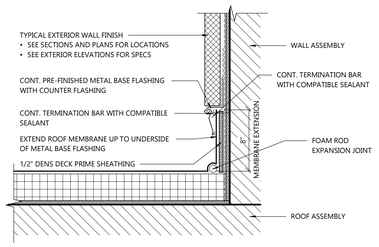

11 A4.1 ROOF TO WALL FLASHING DETAIL
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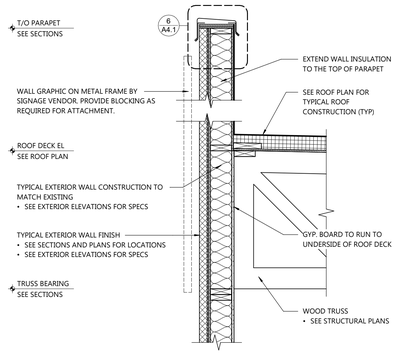

5 A4.1 PARAPET DETAIL
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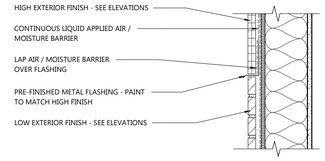

1 A4.1 HORIZONTAL MATERIAL CHANGE
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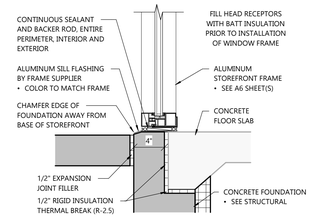

2 A4.1 STOREFRONT BASE
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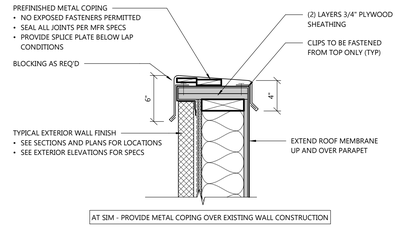

6 A4.1 COPING
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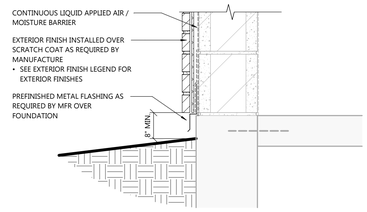

3 A4.1 BASE DETAIL
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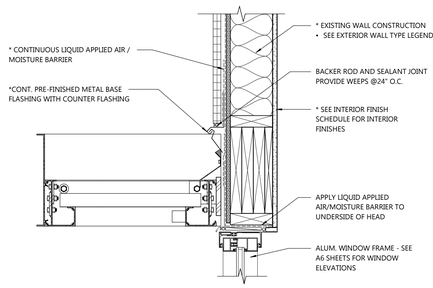
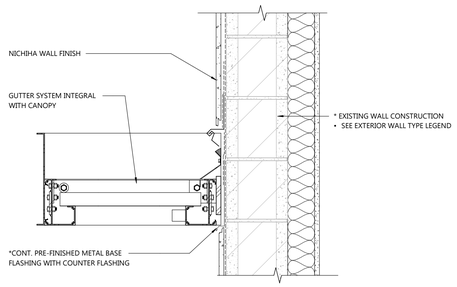


@ EIFS



@ NICHIHA

* = APPLIES TO ALL CONDITIONS

10 A4.1 CANOPY DETAIL
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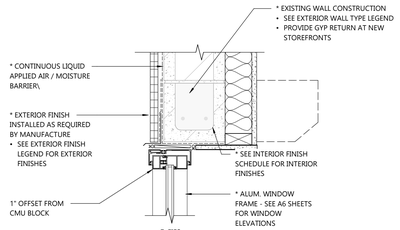

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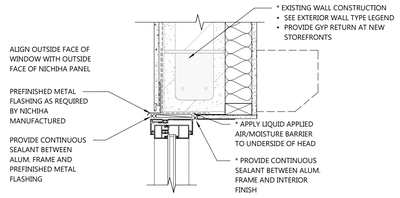
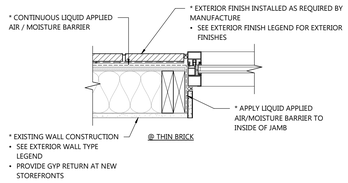


@ NICHIHA

* = APPLIES TO ALL CONDITIONS

9 A4.1 STOREFRONT HEAD
SCALE: 1 1/2" = 1'-0"



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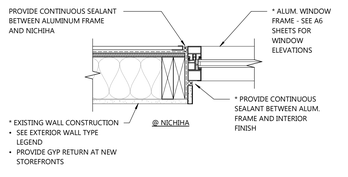

@ NICHIHA

* = APPLIES TO ALL CONDITIONS

8 A4.1 STOREFRONT JAMB
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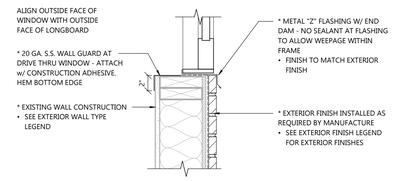
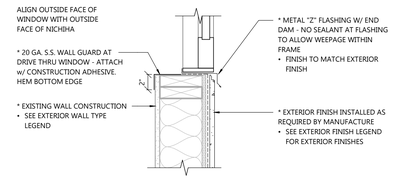


@ THIN BRICK

* = APPLIES TO ALL CONDITIONS



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* = APPLIES TO ALL CONDITIONS

7 A4.1 WINDOW SILL DETAIL
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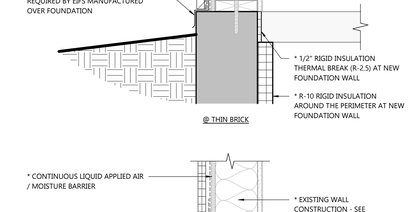

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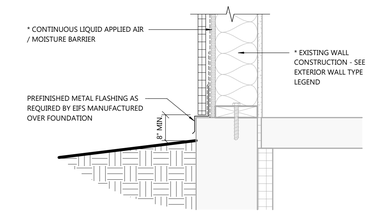

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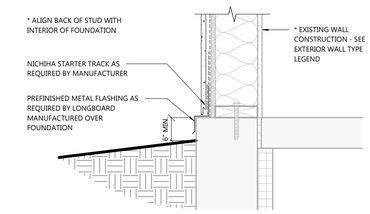

@ NICHIHA

* = APPLIES TO ALL CONDITIONS

4 A4.1 BASE DETAIL
SCALE: 1 1/2" = 1'-0"

ARCHITECTURAL DETAILS

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

PROJECT INFORMATION

PROPOSED QUICK SERVE RESTAURANT FOR:
OM GROUP - HAWAIIAN BROS - STR: 135
6421 E. 82ND ST. • INDIANAPOLIS, IN 46250

PROFESSIONAL SEAL

SHEET DATES
ISSUED FOR CONSTRUCTION
IFC APR. 3, 2026

JOB NUMBER
250361400

SHEET NUMBER
A4.1

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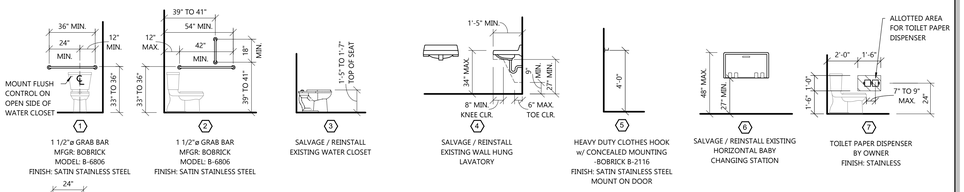
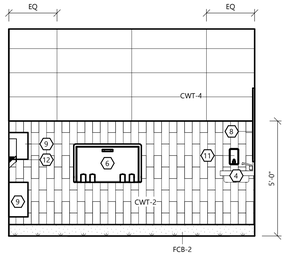
KEYED TOILET ROOM ACCESSORY LEGEND



TOILET ROOM ACCESSORY SPECIFICATIONS:

GENERAL NOTES:

- SEE KEYED TOILET ROOM ACCESSORY LEGEND FOR MODEL NUMBERS, FINISH, AND COLORS
- GENERAL CONTRACTOR SHALL PROVIDE BLOCKING AS REQ'D AT ALL ACCESSORY LOCATIONS
- GENERAL CONTRACTOR SHALL VERIFY ROUGH OPENING REQ'S FOR ALL RECESSED EQUIPMENT/ACCESSORIES
- SEE MATERIAL LEGEND ON A6.0 FOR WALL FINISHES



2 A5.0 RESTROOM ELEV.
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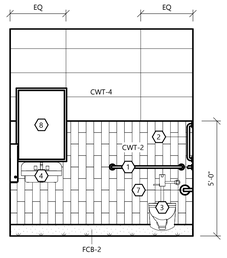

3 A5.0 RESTROOM ELEV.
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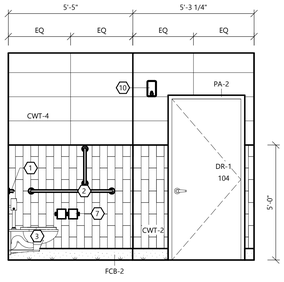

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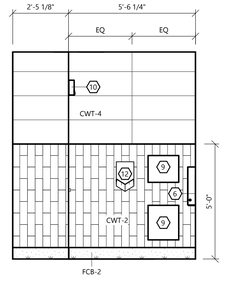

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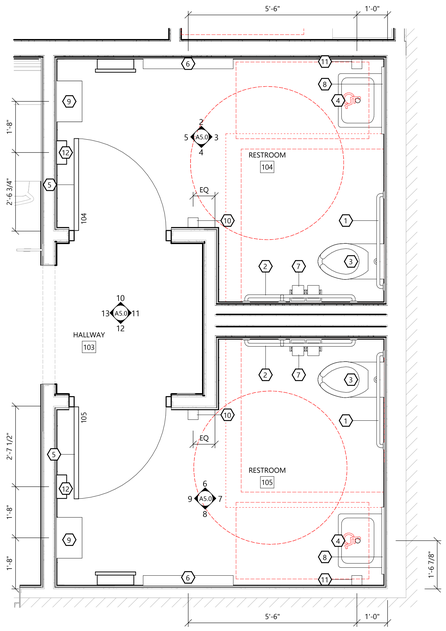

1 A5.0 ENLARGED WASHROOM
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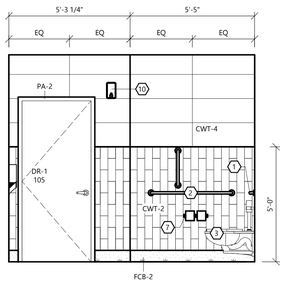

6 A5.0 RESTROOM ELEV.
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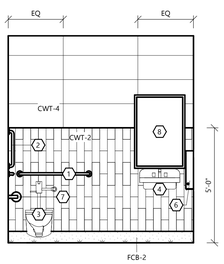

7 A5.0 RESTROOM ELEV.
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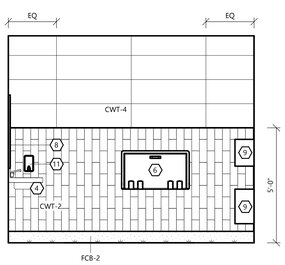

8 A5.0 RESTROOM ELEV.
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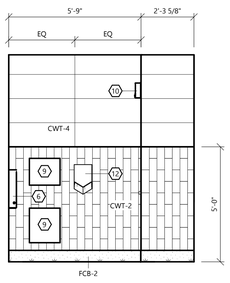

9 A5.0 RESTROOM ELEV.
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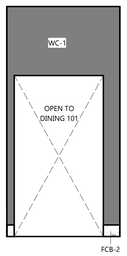

13 A5.0 HALLWAY ELEVATION
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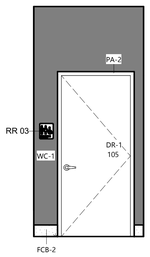
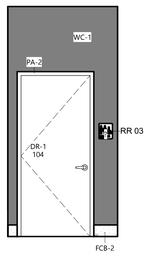


12 A5.0 HALLWAY ELEVATION
SCALE: 3/8" = 1'-0"



11 A5.0 HALLWAY ELEVATION
SCALE: 3/8" = 1'-0"



10 A5.0 HALLWAY ELEVATION
SCALE: 3/8" = 1'-0"

ARCHITECTURAL ENLARGED PLANS

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
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PROJECT INFORMATION

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PROFESSIONAL SEAL

SHEET DATES
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JOB NUMBER
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A5.0

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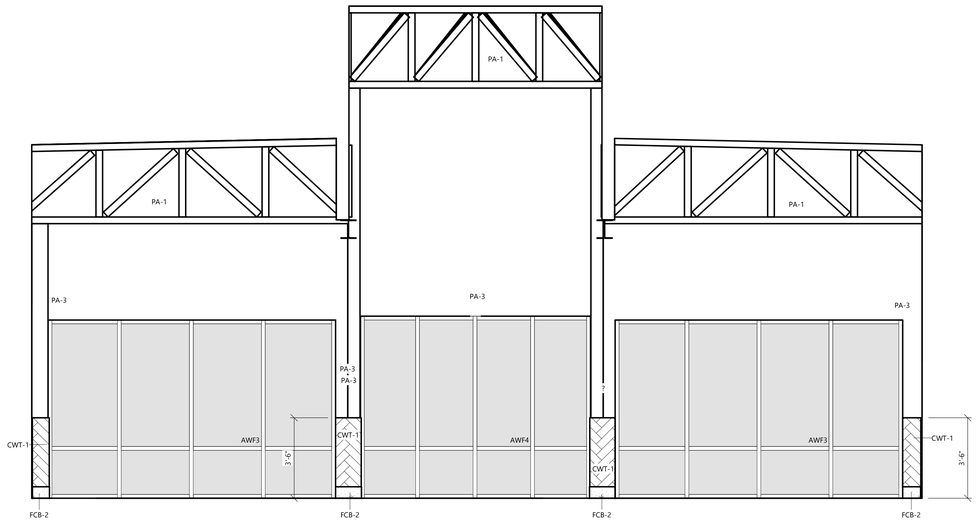
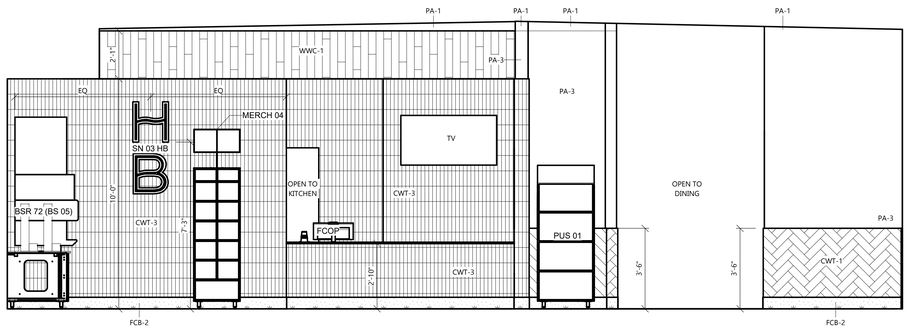


2 A5.1 F.O.H. ELEVATION
SCALE: 3/8" = 1'-0"

1 A5.1 F.O.H. ELEVATION
SCALE: 3/8" = 1'-0"



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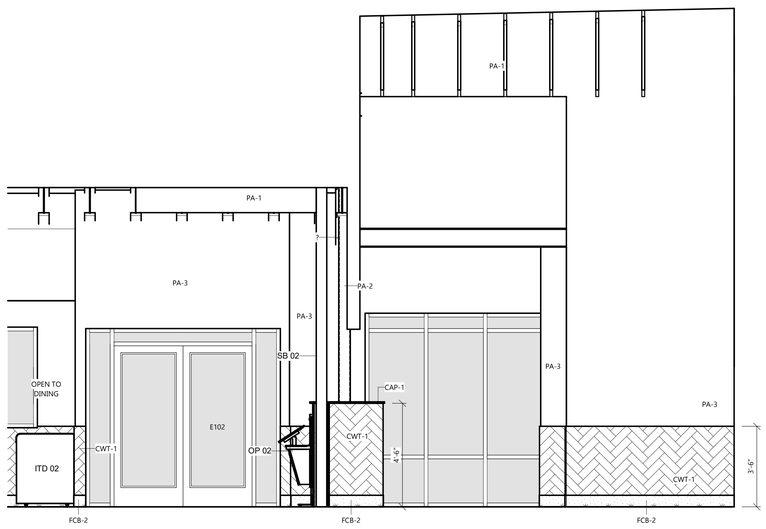

3 A5.1 F.O.H. ELEVATION
SCALE: 3/8" = 1'-0"

ARCHITECTURAL INTERIOR ELEVATIONS

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EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

PROJECT INFORMATION

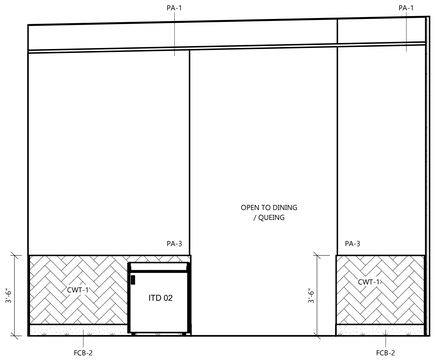
PROPOSED QUICK SERVE RESTAURANT FOR:
OM GROUP - HAWAIIAN BROS - STR: 135
6421 E. 82ND ST. • INDIANAPOLIS, IN 46250

PROFESSIONAL SEAL

SHEET DATES
ISSUED FOR CONSTRUCTION
IFC APR. 3, 2026

JOB NUMBER
250361400

SHEET NUMBER
A5.1



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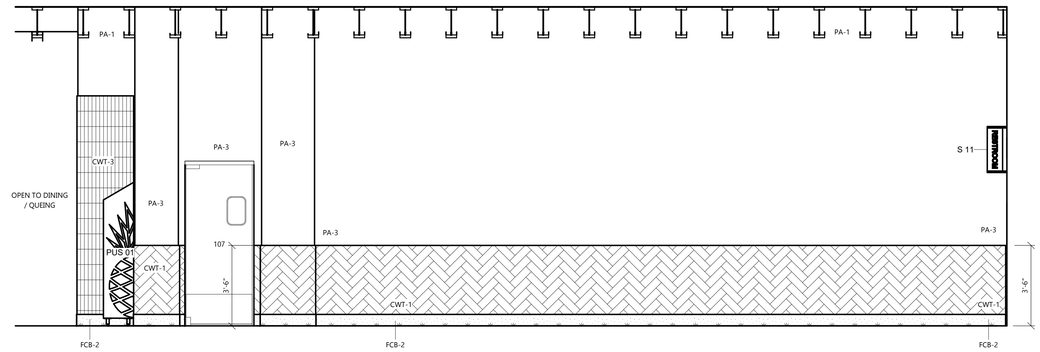

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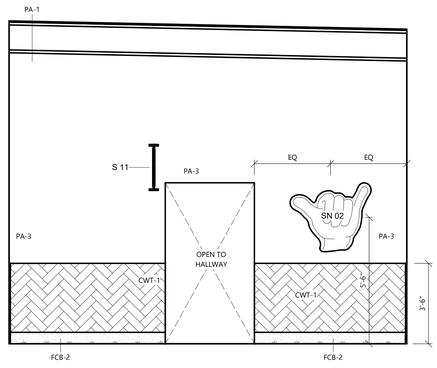

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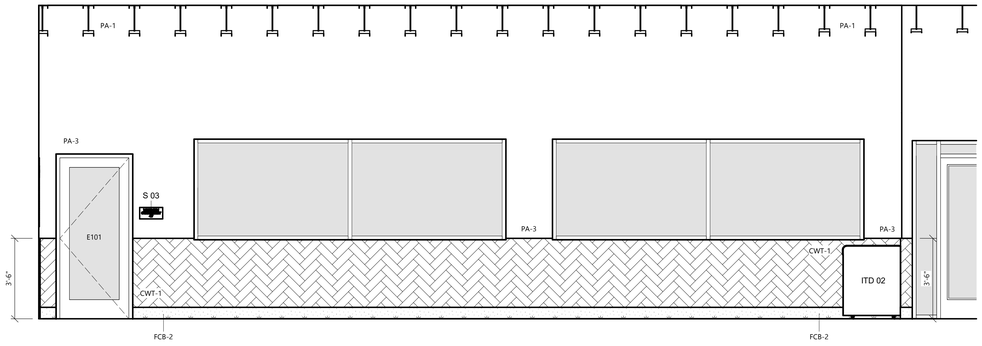

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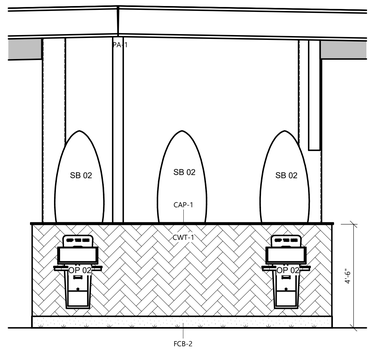

5 A5.2 F.O.H. ELEVATION
SCALE: 3/8" = 1'-0"

ARCHITECTURAL INTERIOR ELEVATIONS

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
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JOB NUMBER
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SHEET NUMBER
A5.2

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MATERIAL LEGEND

CODE	FINISH GROUP	MANUFACTURER	STYLE	COLOR	SIZE	NOTES	CONTACT
FLOOR FINISHES							
EPX-1	EPOXY	DUR-A-FLEX	POLY-CRETE SLB - SOLID COLOR	DARK GRAY	--	--	MARC PIEPER 608-322-9890 MARC.R.PIEPER@SHERWIN.COM
EPX-2	EPOXY	DUR-A-FLEX	HYBRI-FLEX-EC SPECIAL ARMOR TOP SATIN W/ DUR-A-GRIT	Q28-17	--	BLEND ALL TRANSITIONS APPROX. 2" SAND PORTION OF FLOOR DESIGN	MARC PIEPER 608-322-9890 MARC.R.PIEPER@SHERWIN.COM
EPX-3	EPOXY	DUR-A-FLEX	HYBRI-FLEX-EC SPECIAL ARMOR TOP SATIN W/ #54 ALUMINUM OXIDE & DUR-A-GRIT	CS-25443-3MAC/F9984 SONIC	--	BLEND ALL TRANSITIONS APPROX. 2" WAVE PORTION OF FLOOR DESIGN	MARC PIEPER 608-322-9890 MARC.R.PIEPER@SHERWIN.COM
EPX-4	EPOXY	DUR-A-FLEX	HYBRI-FLEX-EC SPECIAL ARMOR TOP SATIN W/ #54 ALUMINUM OXIDE & DUR-A-GRIT	CS-27322-1 MAC	--	BLEND ALL TRANSITIONS APPROX. 2" WATER/OCEAN PORTION OF FLOOR DESIGN	MARC PIEPER 608-322-9890 MARC.R.PIEPER@SHERWIN.COM
EPX-5	EPOXY	DUR-A-FLEX	HYBRI-FLEX-EC SPECIAL ARMOR TOP SATIN W/ #54 ALUMINUM OXIDE & DUR-A-GRIT	F9307 SCHIST STONE	--	BLEND ALL TRANSITIONS APPROX. 2" WHITECAPS PORTION OF FLOOR DESIGN	MARC PIEPER 608-322-9890 MARC.R.PIEPER@SHERWIN.COM
FCB-1	FLASH COVE BASE	DUR-A-FLEX	POLY-CRETE SLB - SOLID COLOR	DARK GRAY	6"H	--	MARC PIEPER 608-322-9890 MARC.R.PIEPER@SHERWIN.COM
FCB-2	FLASH COVE BASE	DUR-A-FLEX	HYBRI-FLEX-EC SPECIAL ARMOR TOP SATIN W/ #54 ALUMINUM OXIDE & DUR-A-GRIT	VARIES	6"H	--	MARC PIEPER 608-322-9890 MARC.R.PIEPER@SHERWIN.COM
WALL FINISHES							
CWT-1	CERAMIC WALL TILE	DALTILE	COLOR WHEEL	ARTIC WHITE - SEMI-GLOSS	4"x12"	USE GR-2, DIAGONAL HERRINGBONE	DANIELLE WEYMAN 303-990-1998 danielle.weyman@daltile.com
CWT-2	CERAMIC WALL TILE	CERAMIC TILE WORKS	FRAGMENTS	WHITE	2.5"X8"	USE GR-2, VERTICAL 1/3 OFFSET	LIZ NELSON 414-412-0828 liz@ceramictileworksmn.com
CWT-3	GLAZED WALL TILE	SUNDERLAND BROTHERS	SENECA STUDIO	WATER LILY	2"X8"	USE GR-3, STACKED BOND	NICOLE BOYCE 913-244-0719
CWT-4	CERAMIC WALL TILE	--	ORIGINAL STYLE	MULTI-COLOR	12.99"X38.97"	USE GR-1, 2 MM GROUT JOINT, STRAIGHT INSTALLATION	KAMRYN CZAPLEWSKI 262-790-8453 kamrync@21stcenturytile.com RUSSELL HOMEYARD 617-966-8527 rhomeyard@orginalstyle.com
FRP-1	FIBERGLASS REINFORCED PLASTIC	PANOLAM FRP	GENERAL PURPOSE EMBOSSED FINISH	WHITE	4' x 8', 9', 10', 12'	USE MFGR RECOMMENDED ADHESIVE & TRIM PIECES, USE APPROPRIATE SIZE FOR CEILING HEIGHT OF ROOM	INSTALL PLYWOOD BEHIND FRP IN LIEU OF GYP BD SO NO BLOCKING IS NEEDED
PA-3	PAINT	SHERWIN WILLIAMS	EGG-SHEL FINISH	SW 7015 REPOSE GRAY	--	USE APPROPRIATE PAINT TYPE FOR SUBSTRATE	--
WC-1	WALL COVERING	SPOONFLOWER WALL COVERING	NON-PASTED TRADITIONAL PEBBLE	PADDLING OUT BY MIRHAMAUNO	2' ROLL - SEE ELEVATIONS	WALL TO BE PRIMED BEFORE INSTALLATION - KATALYST TO PROVIDE/INSTALL	ALEXIS NORBY 816-221-0121 alexis@katgroup.com
WWC-1	WOOD WALL CLADDING	RESAWN TIMBER CO	APLINE WHITE OAK, ORIGINAL CUT, CHARACTER GRADE, PREFINISHED W/MATTE POLYURETHANE, VOIDS FILLED, TONGUE & GROOVE, ENDMATCHED, MICROBEVELED EDGES & ENDS	--	ENGINEERED 5/8" x 7" x 2'-10'	4MM WEAR LAYER, PROVIDE TRIM TO MATCH AT EXPOSED EDGES. PROVIDE 5/8" WOOD SHEATHING SUBSTRATE.	BRENDAN PRIMODIE 215-710-1131 EXT 127 EMAIL: bprimodie@resawntimberco.com
CEILING FINISHES							
ACT-1	ACOUSTIC CEILING TILE	ARMSTRONG	KITCHEN ZONE SQUARE LAY-IN - 673	WHITE	24" x 24" x 5/8"	USE WITH 15/16" G PRELUDE GRID IN WHITE	EDAN KIRCHIRO 414-299-8702 EKIRCHIRO@ARMSTRONGCEILINGS.COM
ES-1	EXPOSED STRUCTURE	--	--	SEE FINISH SCHEDULE	--	--	--
PA-1	PAINT	SHERWIN WILLIAMS	FLAT FINISH	SW 7005 PURE WHITE	--	USE APPROPRIATE PAINT TYPE FOR SUBSTRATE	--
CASEWORK, COUNTERTOPS & SILLS							
SS-1	SOLID SURFACE COUNTER	MSI SURFACES	QUARTZ	FROST WHITE	3 CM	PROVIDED AND INSTALLED BY G.C.	
OTHER							
CAP-1	WOOD WALL CAP	G.C.	WHITE OAK WOOD SPECIES	MATCH WWC-1	1"x VARIES	G.C. TO PROVIDE AND INSTALL	--
GR-1	WOOD DOOR	VT INDUSTRIES	WHITE MAPLE WOOD SPECIES	CLEAR CL1B	--	--	--
GR-1	GROUT	LATICRETE	PERMACOLOR	#67 AUTUMN GREEN	--	--	--
GR-2	GROUT	BOSTIK	HYDROMENT VIVID	STORM H198	--	--	--
GR-3	GROUT	MAPEI	ULTRACOLOR PLUS	FROST #77	--	--	--
PA-2	PAINT	SHERWIN WILLIAMS	SEMI-GLOSS FINISH	SW 7069 IRON ORE	--	USE APPROPRIATE PAINT TYPE FOR SUBSTRATE	--
TR-1	TRIM	SCHLUTER	JOLLY	SATIN ANODIZED ALUMINUM AE	--	USE AT THE EDGE OF EXPOSED WALL TILE	--

SEALANT SCHEDULE

LOCATION	MFR	PRODUCT	DESCRIPTION
EXTERIOR			
WINDOW, DOOR, LOUVER OPENINGS	TREMCO	DYNOMIC FC	ONE PART HIGH PERFORMANCE POLYURETHANE SEALANT
DIFFERENT MATERIALS MEET	TREMCO	DYNOMIC FC	ONE PART HIGH PERFORMANCE POLYURETHANE SEALANT
ROOF OPENINGS	TREMCO	GUTTER SEAL	SYNTHETIC RUBBER AND RESIN SEALANT
EAVES AND SOFFITS	TREMCO	GUTTER SEAL	SYNTHETIC RUBBER AND RESIN SEALANT
THRESHOLDS TO SUBSTRATE	TREMCO	BUTYL SEALANT	MULTI-COMPONENT SEALANT
CMU CONTROL JOINTS	TREMCO	DYNOMIC FC	ONE PART HIGH PERFORMANCE POLYURETHANE SEALANT
PRE-CAST CONCRETE PANEL JOINTS	TREMCO	DYNOMIC FC	ONE PART HIGH PERFORMANCE POLYURETHANE SEALANT
PRE-CAST TO MASONRY JOINTS	TREMCO	DYNOMIC FC	ONE PART HIGH PERFORMANCE POLYURETHANE SEALANT
PRE-CAST TO CAST-IN-PLACE CONCRETE JOINTS	TREMCO	DYNOMIC FC	ONE PART HIGH PERFORMANCE POLYURETHANE SEALANT
INSULATED METAL PANEL BASE CHANNEL TO FOUNDATION	TREMCO	BUTYL SEALANT	MULTI-COMPONENT SEALANT
	TREMCO	440 TAPE	BUTYL SEALANT TAPE
INSULATED METAL PANEL TO BASE CHANNELS	SIKA	SIKALASTOMER - 511	NON-SKINNING BUTYL SEALANT
INSULATED METAL PANEL TO PANEL JOINTS	SIKA	SIKALASTOMER - 511	NON-SKINNING BUTYL SEALANT
INSULATED METAL PANEL FACE JOINTS WHERE INDICATED	TREMCO	SPECTREM 2	ONE PART SILICONE SEALANT
TRAFFIC SURFACE JOINTS (I.E. CONCRETE PAVEMENT, SIDEWALKS & PADS)	TREMCO	VULKEM 45 SSL	ONE PART POURABLE SELF-LEVELING POLYURETHANE SEALANT
JOINTS IN TRAFFIC SURFACES SLOPING IN EXCESS OF 1/2" PER FOOT	TREMCO	DYNOMIC FC	ONE PART HIGH PERFORMANCE POLYURETHANE SEALANT
INTERIOR			
COUNTERTOP AND BACKSLASH	TREMCO	TREMSIL 200	
PLUMBING FIXTURE PERIMETER	TREMCO	TREMSIL 200	
UNDER DRYWALL PARTITION BASE TRACK	DAP	ALEX PLUS	PAINTABLE ACRYLIC LATEX - SILICONIZED SEALANT
INTERIOR DOOR AND WINDOW FRAMES	DAP	ALEX PLUS	PAINTABLE ACRYLIC LATEX - SILICONIZED SEALANT
WALL ANGLE AT SUSPENDED CEILINGS	DAP	ALEX PLUS	PAINTABLE ACRYLIC LATEX - SILICONIZED SEALANT
CMU CONTROL JOINTS	TREMCO	DYNOMIC FC	ONE PART HIGH PERFORMANCE POLYURETHANE SEALANT
EXPOSED CONCRETE SLAB JOINTS	VERSA-FLEX	SL/85	TWO PART SELF-LEVELING POLYUREA SEALANT
PRE-CAST CONCRETE PANEL JOINTS	TREMCO	DYNOMIC FC	ONE PART HIGH PERFORMANCE POLYURETHANE SEALANT
PRE-CAST TO MASONRY JOINTS	TREMCO	DYNOMIC FC	ONE PART HIGH PERFORMANCE POLYURETHANE SEALANT
PRE-CAST TO CAST-IN-PLACE CONCRETE JOINTS	TREMCO	DYNOMIC FC	ONE PART HIGH PERFORMANCE POLYURETHANE SEALANT
INSULATED METAL PANEL AND TOP OF CONCRETE CURB JOINT	TREMCO	DYMERIC 240FC	MULTI-COMPONENT CHEMICALLY CURING POLYURETHANE SEALANT
INSULATED METAL PANEL AND TRIM ELEMENTS JOINT	TREMCO	SPECTREM 2	ONE PART SILICONE SEALANT
COOLER AND FREEZER FLOOR JOINTS	M&M	SPAL-PRO RSF	TWO COMPONENT POLYUREA JOINT FILLER
JOINTS IN ROOMS WITH "STRANLOK" FINISH	TREMCO	DYNOMIC FC	ONE PART HIGH PERFORMANCE POLYURETHANE SEALANT

REMODEL ROOM SCHEDULE

ROOM #	ROOM NAME	FLOOR	BASE	CEILING FINISH	REMARKS
101	DINING	EPX-2, EPX-3, EPX-4, EPX-5	FCB-2	ES-1/PA-1	1, 2, 4
102	QUEING	EPX-2, EPX-3, EPX-4, EPX-5	FCB-2	ES-1/PA-1	1, 2, 4
103	HALLWAY	EPX-2	FCB-2	PA-1	2
104	RESTROOM	EPX-2	FCB-2	PA-1	2
105	RESTROOM	EPX-2	FCB-2	PA-1	2
106	VESTIBULE	EPX-4	FCB-2	PA-1	
107	KITCHEN	EPX-1	FCB-1	ACT-1	3
108	DRIVE THRU	EPX-1	FCB-1	ACT-1	3
109	WAREWASH	EPX-1	FCB-1	ACT-1	3
110	INDOOR STORAGE	EPX-1	FCB-1	ACT-1	3
111	OUTDOOR STORAGE	--	--	--	--
112	COOLER	EPX-1	FCB-1	--	5
113	MECHANICAL	EPX-1	FCB-1	ACT-1	3
114	OFFICE	EPX-1	FCB-1	ACT-1	
115	OUTDOOR FREEZER	--	--	--	

GENERAL NOTES:

- ALL BIDDING EPOXY CONTRACTORS SHOULD PROVIDE A SAMPLE SHOWING THEIR CAPABILITIES OF DESIGN AND BLENDING FOR OWNER REVIEW PRIOR TO THE JOB BEING AWARDED OR INSTALLED
- REFER TO FINISH PLAN FOR COLOR OF HOLLOW METAL FRAMES & DOORS
- ELEC. SWITCHES/OUTLETS/DEVICES TO BE WHITE (SEE ELEC. DWGS)
- WALL RETURN GRILLS TO BE PAINTED TO MATCH ADJACENT WALL COLOR.
- ALL SIGNAGE, CASEWORK, & KIOSKS PROVIDED BY KATALYST,ONE STRATUS, OWNER TO REVIEW & MAKE FINAL SELECTIONS
- ALL PAINT TO CURE FOR A MIN. OF 3 DAYS BEFORE APPLICATION OF ANY GRAPHIC. ANY GRAPHIC TO BE APPLIED TO WALL AND FINISHED A MIN. OF 7 DAY BEFORE CERTIFICATE OF OCCUPANCY IS ISSUED. PROVIDE ZINSSER BULLS EYE 1-2-3 PRIMER, WHITE, WATER BASED INTERIOR/EXTERIOR PRIMER AND SEALER.
- SEE REFLECTED CEILING FOR ADDITIONAL INFORMATION IN REGARDS TO CEILINGS FINISHES

REMARKS:

1. SEE A8.1 FOR EPOXY FLOORING LAYOUT
2. SEE INTERIOR ELEVATIONS FOR ADDITIONAL WALL FINISH NOTES
3. SEE KITCHEN PLANS FOR LOCATIONS OF STAINLESS STEEL PANELS
4. PAINT EXPOSED JOIST/TRUSSES, UNDERSIDE OF ROOF SHEATHING, EXPOSED CONDUIT, DUCTWORK AND EXPOSED PLUMING PIPES PA-1.
5. SEE KITCHEN PLAN FOR FINISH/CONSTRUCTIONS OF COOLERS

ROOM FINISH NOTES

- REFERENCES TO PRODUCTS OR SYSTEMS HEREIN BY NAME, MAKE, OR CATALOG NUMBER IS INTENDED TO ESTABLISH A MIN. STANDARD QUALITY. AND IS NOT MEANT TO LIMIT COMPETITION IN ANY FASHION. APPROVED EQUIVALENTS SHALL BE ACCEPTED AFTER ARCHITECT APPROVAL
- CONTRACTORS SHALL PROVIDE PRODUCTS COMPLETE w/ ALL ACCESSORIES, TRIM, FINISH, FASTENERS, AND OTHER REQ'D ITEMS NEEDED FOR A COMPLETE INSTALLATION AS INDICATED

TRIMS

- HOLLOW METAL FRAMES SHOULD RECEIVE 1 COAT PRIMER & 2 COATS FINISH PAINT
- ALL WOOD TRIM TO BE PLAIN SAWN WHITE OAK (STAIN & VARNISH) - PROVIDE SAMPLE FOR ARCHITECTS APPROVAL

FLOORS

- FLOORING CONTRACTOR SHALL PREPARE FLOOR SURFACES RECEIVING NEW FINISHES AS REQ'D FOR A SMOOTH AND LEVEL SURFACE PRIOR TO INSTALLING NEW FINISHES
- USE MFR RECOMMENDED FLOORING PREP AND ADHESIVE
- FLOORING CONTRACTOR TO PROVIDE TRANSITION STRIPS AND EDGING AT ALL MATERIAL TRANSITIONS - SEE MATERIAL LEGEND AND SUBMIT STYLES TO BE APPROVED BY DESIGNER.
- PITCH EPOXY FLOORS TO FLOOR DRAINS

WALLS & CEILINGS

- ALL GYPSUM BOARD SHALL BE INSTALLED IN ACCORDANCE W/ THE GYPSUM CONSTRUCTION HANDBOOK. LEVEL OF FINISH AS PER GA-214 ARE AS FOLLOWS:
  - LEVEL 1: INTERIOR AND EXTERIOR WALL: CONCEALED AND ABOVE CEILINGS
  - LEVEL 3: ALL EXPOSED BELOW CEILING AREAS WITH HEAVY OR MEDIUM TEXTURE.
  - LEVEL 4: ALL EXPOSED BELOW CEILING ARES WITH FLAT PAINT, SMOOTH OR LIGHT TEXTURE OR WALL COVERINGS UNLESS OTHERWISE NOTED.
  - LEVEL 5: WHERE NOTED
- USE APPROPRIATE PRIMER FOR SUBSTRATE
- VACANT CONSTRUCTION WITH CEILING SURFACES RECEIVING DRYWALL PAINT SHOULD RECEIVE 2 SOLVENT BASED FINISH COATS
- ALL GYPSUM BOARD BULKHEADS SHALL BE PAINTED PA-1
- WHERE PORCELAIN TILE IS APPLIED, SURFACE SHOULD BE 5/8" DENS-SHIELD TILE BACKER BOARD AS REQUIRED

ARCHITECTURAL SCHEDULES

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DOOR HARDWARE KEY

	HINGES				
><	DESCRIPTION / FINISH	Ives	Hager	McKinney	Stanley
H1	STANDARD (626)	5BB1	BB1279	TA2714	FBB179
H2	HEAVY (626)	5BB1HW	BB1168	T4A3786	FBB168
H3	STANDARD (630)	5BB1 SS	BB1191	TA2314	FBB191
H4	HEAVY (630)	5BB1HW SS	BB1199	T4A3386	FBB199

	CONTINUOUS HINGES			
><	DESCRIPTION / FINISH	Roton (Hager)	McKinney	Select	Pemko
H5	AL. GEAR TYPE (MATCH)	780-112HD	MCK-112HD	SL-11HD	CFMHD
H6	AL. GEAR TYPE (630)	780-224HD	MCK-224HD	SL-24HD	CFMHD
H7	SS PIN/BARREL (630)	790-900	MCK-FM300	SL-300	SPDFM

	LOCKSETS				
><	DESCRIPTION / FINISH	Schlage ND Series (RHO)	Sargent 10-Line (LL)	Best 93K (15D)	SARGENT 8200 (L)
L1	ENTRANCE (626)	ND53PD	10G05	93K AB	-
L2	CLASSROOM (626)	ND70PD	10G37	93K R	-
L3	PRIVACY (626)	ND40S	10J65	93K L	-
L4	STOREROOM (626)	ND80PD	10G04	93K D	-
L5	RIM CYLINDER (626)	20-022	34 SERIES	1E-72	-
L6	INSTITUTION (626)	ND82PD	10G17	93K W	-
L7	MORTISE CYLINDER (626)	20-001	40 SERIES	1E-74	-
L8	DEADLOCK (626)	B660P	480 SERIES	83T SERIES	-
L9	PASSAGE (626)	ND10S	10J15	93K N	-
L10	EXIT ONLY (626)	ND25	10G13	93K Y	-
L11	DUMMY TRIM (626)	ND170	10J93	93K 1DT	-
L12	PRIVACY (626)	-	-	-	65 W/ 45 OCC IND.

	STOPS			
><	DESCRIPTION / FINISH	Ives	Hager	Rockwood
S1	FLOOR MTD. (626)	FS43I	241F	441
S2	WALL MTD. (626)	WS407/CCV	236W	409

	OVERHEAD STOPS			
><	DESCRIPTION / FINISH	Glynn-Johnson	Sargent	Rixson
S3	HD SURFACE MTD. (630)	90 Series	590	9 Series
S4	HD CONCEALED (630)	100 Series	690	1 Series
S5	STD. CONCEALED (630)	410 Series	1530	2 Series
S6	STD. SURFACE MTD. (630)	450 Series	1540	10 Series

	CLOSERS			
><	DESCRIPTION / FINISH	LCN	Sargent	Norton
C1	PULL SIDE REG. (689)	4040 XP REG	351 O	7501
C2	PULL SIDE HOLD-OPEN (689)	4040XP H	351 H	7501H
C3	PUSH SIDE REG. (689)	4040XP EDA	351 P10	P87501
C4	PUSH SIDE w/ STOP (689)	4040XP CUSH	351 PS	CLP7501
C5	PUSH SIDE HOLD-OPEN (689)	4040XP HCUSH	351 PSH	CLP7501H
C6	PUSH SIDE EXT. DOORS (689)	4040XP SCUSH	351 CPS	UNI7501
C7	DROP PLATE (689)	4040XP-18PA	351-D	778B

	EXIT DEVICES				
		VonDuprin		Sargent	
><	DESCRIPTION / FINISH	Med./Wide Stile	Narrow Stile	Med./Wide Stile	Narrow Stile
E1	RIM - EXIT ONLY (626)	98/99EO	33EO	8810	8400 Series
E2	RIM - LEVER (626)	98/99Lx996L	33Lx360L	8813 ETL	
E3	SURF. RODS - LEVER (626)	98/9927Lx996L	3327Lx360L	8713 ETL	
E4	CON. RODS - LEVER (626)	98/9947Lx996L	3347Lx360L	8613 ETL	
E5	RIM - EXIT ONLY (630)	98EO		8810	
E6	RIM - LEVER (630)	98Lx996L		8813 ETL	
E7	SURF. RODS - LEVER (630)	9827Lx996L		8713 ETL	

When a cylinder lockset is scheduled with an exit device, trim w/ cylinder should be provided. If no cylinder lockset is scheduled, trim shall be blank escutcheon (unless specified otherwise)

	PUSH-PULL / KICKPLATES			
><	DESCRIPTION / FINISH	Rockwood	Hager	Ives
PP1	PUSH PLATE (630)	70C	3IS	8200 4"x16"
PP2	PULL w/ PLATE (630)	106x70C	33E	8302
PP3	PUSH-PULL BAR (630)	BF158K7	160D	9190-12
K1	KICKPLATE 8"x2"LDW (630)	K1050-B4E	190S	8400

	WEATHERSTRIP, SWEEPS, & THRESHOLDS			
><	DESCRIPTION	National Guard	Reese	Pemko
T1	THRESHOLD	8424	S282A	252x2 FG
T2	SS SADDLE THRESHOLD	-	2125	154SS
T3	SS THERMAL THRESHOLD	-	-	252-3SSFG
SW1	SWEEP	200NA	772	315N
WS1	WEATHERSTRIP	160VA	DS106C	294AV
WS2	SMOKE SEAL	5050B	797B	S88

	MISC. HARDWARE			
><	DESCRIPTION	Ives	Rockwood	KAWNEER
CO1	COORDINATOR (626 Chrome)	COR Series	2600 Series	
CO2	COORDINATOR (Painted Black)	COR Series	2600 Series	
FB1	AUTO - METAL (626)	FB31P	2842	
FB2	AUTO - WOOD (626)	FB41P	2948	
FB3	MANUAL - METAL (626)	FB458	555	
FB4	MANUAL - WOOD (626)	FB358	557	
FB5	AUTO - SS (630)	-	2848	
B1	SURFACE BOLT - SS (630)	-	580 - 12" (24" at doors > 7')	
RL1	ROLLERLATCH (630)	RL32	592	
LP1	LATCH PADDLE DEVICE (630)			AR4590
><		VonDuprin	HES	Securitron
ES1	AT RIM EXIT DEVICE (630)	6300	9500/9600 Series	N/A
ES2	AT STD. LOCKSET (630)	6211	1006 Series	UNL
><		VonDuprin	Sargent	
RM1	REMOVABLE MULLION (626)	KR4954	L980	
><		Pemko	Zero International	
AS1	'T' ASTRAGAL	355CS	-	
AS2	SECURITY ASTRAGAL	-	#43SP	
AS3	SECURITY ASTRAGAL (630)	-	#43STST	

GLAZING SCHEDULE

GLAZING SHALL MEET THE FOLLOWING STANDARDS AND GUIDELINES AS APPLICABLE FOR EACH TYPE:
- ASTM E 1300, ASTM C 1036, ASTM C 1048, ASTM E 774
- GANA GLAZING MANUAL
- SIGMA TM-3000 VERTICAL GLAZING GUIDELINES
- PER SECTION 2406 OF THE IBC, PROVIDE TEMPERED GLAZING AS REQUIRED.

IG-1: LOW-E INSULATED GLAZING

- PRODUCT:
  PPG INDUSTRIES, INC.
  'SOLARBAN' 60(2), 'Clear'

U-VALUE		SHADING	SOLAR HEAT GAIN
WINTER (NIGHT)	SUMMER (DAY)	COEFFICIENT	COEFFICIENT
0.29	0.24	0.39	0.39

  1" UNIT w/ 1/2" AIRSPACE AND (2) 1/4" LITES
  LOW-EMISSIVITY COATING ON THIRD SURFACE
- INDOOR LITE: TYPE I, CLASS I, QUALITY Q3
  FLOAT GLASS, KIND HS (HEAT STRENGTHENED),
  CONDITION A
- OUTDOOR LITE: TYPE I, CLASS II, QUALITY Q3
  FLOAT GLASS, KIND HS (HEAT STRENGTHENED),
  CONDITION A

IG-2: LOW-E INSULATED TEMPERED GLAZING

- PRODUCT:
  PPG INDUSTRIES, INC.
  'SOLARBAN' 60(2), 'Clear'

U-VALUE		SHADING	SOLAR HEAT GAIN
WINTER (NIGHT)	SUMMER (DAY)	COEFFICIENT	COEFFICIENT
0.29	0.24	0.39	0.39

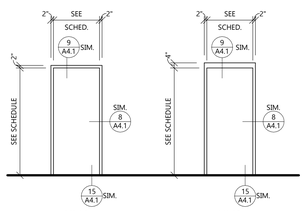
  1" UNIT w/ 1/2" AIRSPACE AND (2) 1/4" LITES
  LOW-EMISSIVITY COATING ON THIRD SURFACE
- INDOOR LITE: TYPE I, CLASS I, QUALITY Q3
  FLOAT GLASS, KIND FT (FULLY TEMPERED),
  CONDITION A
- OUTDOOR LITE: TYPE I, CLASS II, QUALITY Q3
  FLOAT GLASS, KIND FT (FULLY TEMPERED),
  CONDITION A
- LOW-EMISSIVITY COATING ON THIRD SURFACE

VERIFY TINT ON EXISTING WINDOWS AND NOTIFY EXCEL ENGINEERING IF DIFFERENT THAN ABOVE

DOOR SCHEDULE - REMODEL

DOOR NO.	DOOR SIZE			DOOR TYPE	UC/GRILL	FRAME TYPE	FIRE RATING	DOOR HARDWARE								REMARKS
	WIDTH	HEIGHT	THICKNESS					HINGE	LOCKSET	STOPS	CLOSER	EXIT DEVICE	PUSH-PULL / KICK	MISC.	W.S., SWEEP, THRESHOLD	
104	3'-0"	7'-0"	1 3/4"	WD1	1"	HM1		H1	L12		C1	-	K1	-	-	
105	3'-0"	7'-0"	1 3/4"	WD1	1"	HM1		H1	L12		C1	-	K1	-	-	
107	3'-0"	7'-0"	1 3/4"	ID1	-	IF1		-	-		-	-	-	-	-	
114	3'-0"	7'-0"	1 3/4"	MD1	-	HM1		H1	L9		C1	-	-	-	-	
E101	3'-0"	7'-0"	1 3/4"	EXIST	-	EXIST		EXIST	EXIST	EXIST	EXIST	EXIST	EXIST	-	SW1, WS1	1,3,4
E102	3'-0"	7'-0"	1 3/4"	EXIST	-	EXIST		EXIST	EXIST	EXIST	EXIST	EXIST	EXIST	-	EXIST	1,4
E106	3'-0"	7'-0"	1 3/4"	EXIST	-	EXIST		EXIST	EXIST	EXIST	EXIST	EXIST	EXIST	-	SW1, WS1	1,3,4
E111	3'-0"	6'-8"	1 3/4"	EXIST	-	EXIST		EXIST	EXIST	EXIST	EXIST	EXIST	EXIST	-	EXIST	4
E113	3'-6"	7'-0"	1 3/4"	EXIST	-	EXIST		EXIST	EXIST	EXIST	EXIST	EXIST	EXIST	-	EXIST	4

REMARKS:
1. PROVIDE SIGNAGE ON DOOR PER 2014 IBC 1008.1.9.3 "THIS DOOR TO REMAIN UNLOCKED WHEN THIS SPACE IS OCCUPIED"
2. PROVIDE ELECTRIC STRIKE. SEE ELECTRICAL FOR REQUIREMENTS.
3. INSTALL PINEAPPLE DOOR PULL PROVIDE BY KATALYST.
4. G.C. TO VERIFY WORKING ORDER OF EXISTING HARDWARE. REPLACE AS REQUIRED. RE-KEY EXISTING LOCKSETS.



HM1

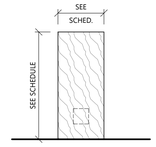
HOLLOW METAL FRAME
PAINT FRAME PA-2 U.N.O. ON FINISH FLOOR PLAN OR EXTERIOR ELEVATIONS

HM2

HOLLOW METAL FRAME
PAINT FRAME PA-2 U.N.O. ON FINISH FLOOR PLAN OR EXTERIOR ELEVATIONS

HOLLOW METAL FRAME ELEVATIONS

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

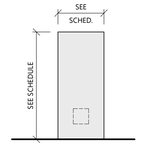


WD1

SOLID CORE WOOD DOOR
WHITE MAPLE WOOD SPECIES
MFR: VT INDUSTRIES
SEE FINISH SCHEDULE: DR-1

WOOD DOOR ELEVATION

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

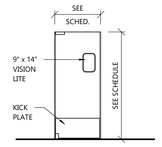


MD1

HOLLOW METAL DOOR
PAINT DOOR PA-2 U.N.O. ON FINISH FLOOR PLAN

METAL DOOR ELEVATIONS

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

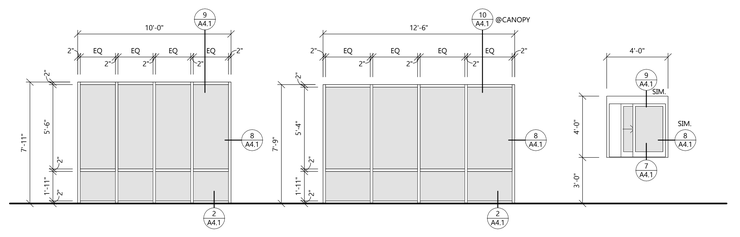


ID1

STAINLESS STEEL IMPACT TRAFFIC DOOR
ELIASON CORP SCG-3
(PEDESTRIAN TRAFFIC)
HINGES AND ALL ASSOCIATED HARDWARE BY DOOR MANUF.
(IF1) = PROVIDE CASED OPEN FRAME

IMPACT DOOR ELEV.

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



AWF4

KAWNEER 451T
CLEAR ANODIZED ALUMINUM
GLAZING: IG-1

AWF3

KAWNEER 451T
CLEAR ANODIZED ALUMINUM
GLAZING: IG-1

AWF1

QUIKSERV IFSC-4040
CLEAR ANODIZED ALUMINUM
OPEN RIGHT TO LEFT FROM INSIDE

WINDOW FRAME ELEVATION

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

GENERAL DOOR AND FRAME NOTES:

- ALL DOORS SHALL MEET A.D.A. REQUIREMENTS
- ALL DOOR THRESHOLDS SHALL NOT EXCEED 1/2" IN HEIGHT
- VERIFY FRAME DEPTHS W/ WALL THICKNESS. PROVIDE WRAP AROUND FRAMES AT STUD WALLS
- PROVIDE SEALANT BOTH SIDES OF DOOR FRAMES, WHERE DIFFERENT MATERIALS MEET AND FOR WEATHER TIGHTNESS
- GENERAL CONTRACTOR TO VERIFY SIZE OF ALL EQUIPMENT (ELECTRICAL, MECHANICAL, KITCHEN, LAUNDRY, ETC.) SELECTED FOR THE PROJECT TO DETERMINE THAT ALL DOORS (INCLUDING PATH OF TRAVEL) ARE OF ADEQUATE SIZE TO ACCOMMODATE INSTALLATION AND REPLACEMENT
- VERIFY ALL ROUGH OPENING REQUIREMENTS WITH MANUFACTURERS DRAWINGS
- SEE SHEET A0.1 FOR GENERAL BUILDING SPECIFICATIONS
- DOOR, FRAME AND HARDWARE SCHEDULE TO BE PROVIDED BY HARDWARE SUPPLIER FOR A/E REVIEW - NUMBERING SYSTEM AND NOMENCLATURE SHALL MATCH THOSE FOUND IN CONSTRUCTION DOCUMENTS
- HARDWARE SUPPLIER IS RESPONSIBLE FOR COORDINATING KEYING REQUIREMENTS WITH OWNER
- ALUMINUM SUPPLIER SHALL FURNISH AND INSTALL ALL HARDWARE FOR ALUMINUM DOORS AS NOTED ON PLANS - THE SAME MANUFACTURERS AND MODELS SHALL BE USED FOR BOTH ALUMINUM AND OTHER DOOR HARDWARE
- CONTRACTOR TO PROVIDE PRODUCTS AND SYSTEMS COMPLETE WITH ALL ACCESSORIES, TRIM, FINISH, FASTENERS AND OTHER ITEMS NEEDED FOR A COMPLETE INSTALLATION AND INTENDED USE AND EFFECT
- DOOR UNDERCUTS, WHERE NOTED, SHALL BE 1" FROM FINISHED FLOOR (TYP.)
- SEE ELECTRICAL PLANS FOR DOOR CARD READER LOCATIONS
- SEE FLOOR PLANS & STRUCTURAL FOUNDATION PLANS FOR GUARD POST AND GOAL POST LOCATIONS
- FERROUS METAL (PAINTED) - DOORS, FRAMES, HANDRAILS & MISC. METALS:
  (1) COAT SW KEM KROMIC UNIVERSAL METAL PRIMER, B50WZ SERIES
  (2) COATS PRO MAR 200 ALKYD ENAMEL EG-SHEL OR SEMI GLOSS B33 OR B34 SERIES

HOLLOW METAL DOOR & FRAME SPECIFICATIONS:

MANUFACTURER:
- CURRIES (APPROVED EQUIVALENT: STEELCRAFT)

CONSTRUCTION:
- DOORS
  - 707 N SERIES
  - MIN. 18 ga. w/ POLYSTYRENE CORE @ INTERIOR DOORS, R VALUE = 7.25
  - MIN. 16 ga. w/ POLYURETHANE CORE AND FLUSH TOP CAP @ EXTERIOR DOORS, R VALUE = 10
- FRAMES
  - 'M' PROFILE w/ CONT. WELD FACE SEAMS AT FULL WIDTH OF JAMB
  - MIN. 16 ga. @ INTERIOR FRAMES
  - MIN. 14 ga. @ EXTERIOR FRAMES w/ URETHANE FOAM INSUL.
- GENERAL REQUIREMENTS
  - ALL EXTERIOR DOORS AND FRAMES TO BE GALVANIZED
  - ALL DOORS & FRAMES TO HAVE BAKED ON PRIMER FINISH
  - ALL DOORS & FRAMES TO BE REINFORCED AND PREPARED FOR HARDWARE
  - ALL REINFORCEMENT TO BE MIN. 12 ga.
  - PROVIDE WELDED-IN BASE ANCHORS
  - PROVIDE (3) SILENCERS PER JAMB @ ALL METAL DOOR FRAMES
  - PROVIDE BITUMINOUS COATING ON INT. FACE OF FRAMES IN MASONRY WALLS
  - PROVIDE METAL FRAME FOR LITES & GRILLES
  - PAINT LITE FRAMES TO MATCH DOOR FRAMES

EXTERIOR ALUM. STOREFRONT SPECIFICATIONS:

MANUFACTURER:
- KAWNEER

PRODUCT:
- TRIFAB VG 451T THERMALLY BROKEN FRAMING SYSTEM

CONSTRUCTION:
- 2" x 4 1/2" DEEP FRAMING MEMBERS. ASTM B 221; 6063-T5 ALLOY AND TEMPER
- CENTER GLAZING SYSTEM
- SUPPLIER TO VERIFY ALL WIND LOAD AND DEFLECTION CRITERIA AND PROVIDE ALL ACCESSORIES AND REINFORCEMENT AS REQ'D BY APPLICABLE CODES AND FOR A COMPLETE INSTALLATION
- SUPPLIER TO PROVIDE AND INSTALL ANY REQ'D BRAKE METAL PANELS AS REQ'D TO COVER ANY STRUCTURE, FRAMING, OR ADJACENT / INTERVENING CONSTRUCTION
- PROVIDE CONT. EXTRUDED SILL FLASHING AT EACH EXT. FRAMING UNIT
- PROVIDE CONT. EXTRUDED, THERMALLY BROKEN HEAD RECEPTOR AT EACH FRAMING UNIT
- PROVIDE CONT. EXTRUDED, THERMAL FLAT FILLER TO JAMB MEMBERS
- FRAMES TO BE PAINTED SW6767 AQUARIUM
- WHERE ALUMINUM WILL CONTACT DISSIMILAR METALS, PROTECT AGAINST GALVANIC REACTIONS BY PAINTING CONTACT SURFACES WITH PRIMER OR BY APPLYING SEALANT OR TAPE PER MANUF. SPEC'S

CLEAR ANODIZED

FINISH TO BE KAWNEER PERMANODIC AA-M12C22A31, AAMA 611, ARCHITECTURAL CLASS II CLEAR ANODIC COATING
COLOR TO BE #17 CLEAR

SOLID CORE WOOD DOOR SPECIFICATIONS:

MANUFACTURER:
- VT INDUSTRIES

CONSTRUCTION:
- 5 PLY CONSTRUCTION w/ STILES AND RAILS BONDED TO CORE
- PARTICLE BOARD CORE OR STRUCTURAL COMPOSITE LUMBER CORE PER MANUFACTURER RECOMMENDATIONS w/ HARDWOOD EDGES TO MATCH FACE SPECIES AS REQ'D FOR CUTOUTS
- MINERAL CORE w/ HARDWOOD EDGES TO MATCH FACE SPECIES AS REQ'D FOR FIRE RATED DOORS
- WHITE MAPLE, PLAIN SLICED WDMA CUSTOM GRADE w/ GRADE A FACES STANDARD DUTY DOOR UNLESS NOTED OTHERWISE
- VENEER LEAVES TO BE BOOK MATCH, RUNNING MATCH PAIR AND SET MATCH @ DOORS IN SAME OPENING OR FRAME
- FACTORY FINISHED w/ STAIN AND TR-6 PREMIUM FINISH, SEE FINISH SCHEDULE FOR DOOR FINISH.
- PROVIDE BLOCKING AS REQ'D TO ELIMINATE THROUGH BOLTING OF ALL HARDWARE
- PROVIDE MANUF. STANDARD FLUSH WOOD BEAD AT LITES & GRILLES (WDMA OPTION: M1)
- ALL RATED DOORS ARE TO BE CATEGORY A, POSITIVE PRESSURE, UL10C

WARRANTY:
- LIFETIME

ARCHITECTURAL DOOR SCHEDULE

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

PROJECT INFORMATION

PROPOSED QUICK SERVE RESTAURANT FOR:
OM GROUP - HAWAIIAN BROS - STR: 135
6421 E. 82ND ST. • INDIANAPOLIS, IN 46250

PROFESSIONAL SEAL

SHEET DATES
ISSUED FOR CONSTRUCTION
IFC APR. 3, 2026

JOB NUMBER
250361400

SHEET NUMBER
A6.1

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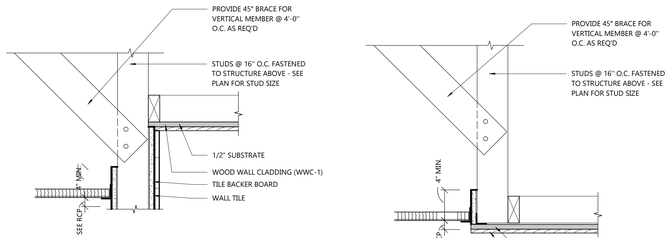
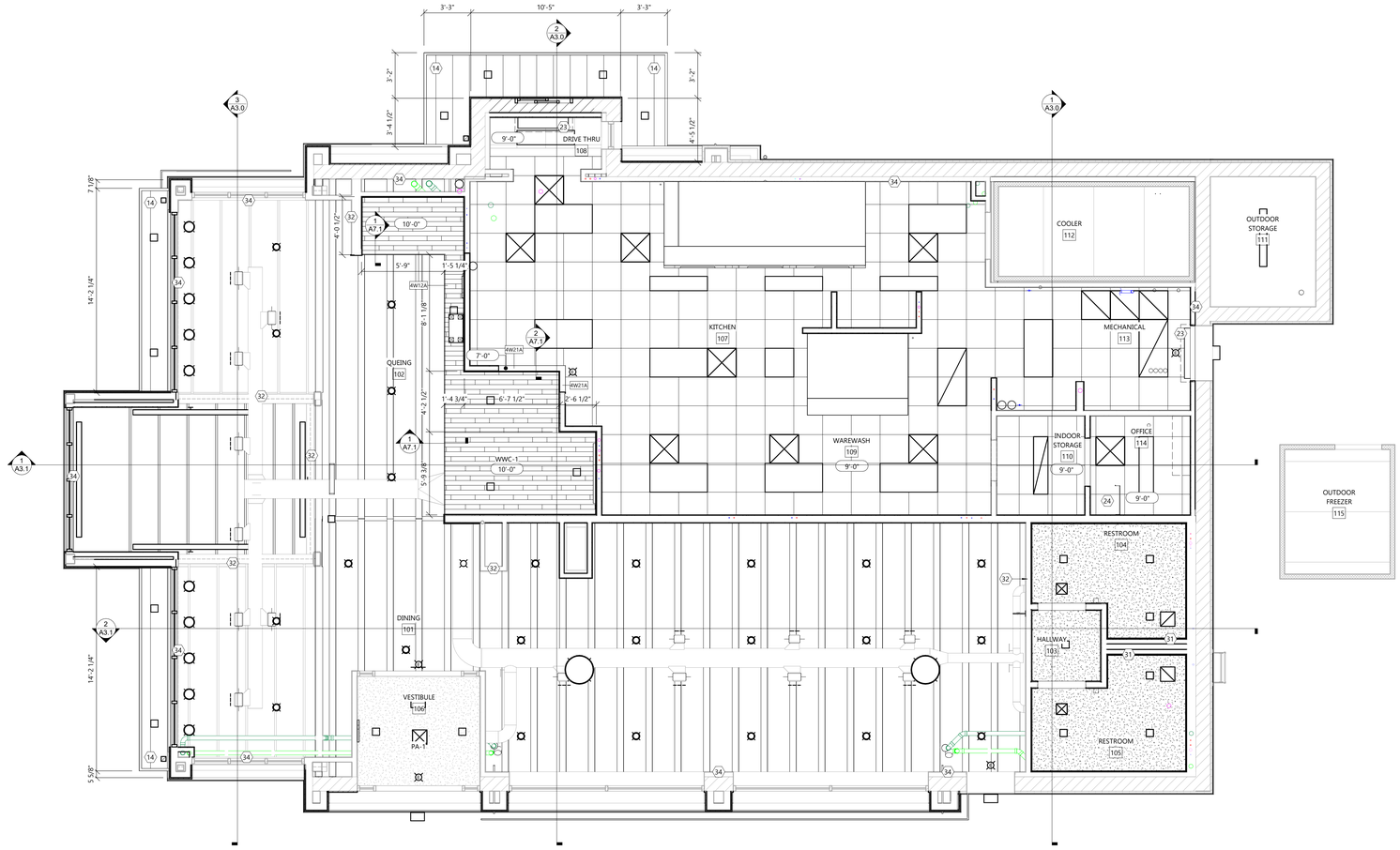


2 A7.1 BULKHEAD DETAIL
SCALE: 1 1/2" = 1'-0"

1 A7.1 SOFFIT DETAIL
SCALE: 1 1/2" = 1'-0"



NORTH

REFLECTED CEILING PLAN
SCALE: 1/4" = 1'-0"
0' 4' 8'

SYMBOLS LEGEND

- ACOUSTICAL TILE CEILING PANELS - SEE ROOM FINISH SCHEDULE FOR TYPE
- GYPSUM BOARD CEILING - SEE ROOM FINISH SCHEDULE
- WOOD PANELS - SEE ROOM FINISH SCHEDULE
- LIGHT FIXTURE - SEE ELECTRICAL PLANS
- LIGHT FIXTURE - SEE ELECTRICAL PLANS
- LIGHT FIXTURE - SEE ELECTRICAL PLANS
- RECESSED EMERGENCY LIGHT
- CEILING SUPPLY GRILLE - SEE HVAC PLANS
- CEILING RETURN, TRANSFER OR EXHAUST GRILLE - SEE HVAC PLANS
- CEILING SLOT DIFFUSER - SEE HVAC PLANS
- X'-X" DESIGNATES CEILING/BULKHEAD HEIGHT A.F.F.
- E EXIT LIGHT
- OCCUPANCY SENSOR
- C CEILING MOUNTED SPEAKER
- FIRE ALARM SPEAKER UNIT
- EXTERIOR EMERGENCY LIGHTING

KEYNOTES

#	
14	MANUFACTURED CANOPY. SEE SPECIFICATIONS ON A1.2 FOR ADDITIONAL INFORMATION. SEE STRUCTURAL FOR BLOCKING REQUIREMENTS.
23	PROVIDE AIR CURTAIN - SEE HVAC FOR SPECIFICATIONS
24	PROVIDE BLOCKING FOR IT CABINET. SEE ELECTRICAL FOR ADDITIONAL INFORMATION.
31	NEW FURRING WALL BUILT ON EXISTING WALL. SEE A5.0 SHEET FOR MORE INFORMATION.
32	EXISTING WALLS TO EXTEND UP TO ROOF DECK. MATCH EXISTING CONSTRUCTION. VERIFY IN FIELD.
34	PROVIDE NEW INSULATION AT EXTERIOR WALLS WHERE REMOVED AND RUN GYP BOARD TO BOTTOM OF ROOF DECK. VERIFY IN FIELD.

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SHEET NUMBER
A7.1

ARCHITECTURAL FIRST FLOOR REFLECTED CEILING PLAN

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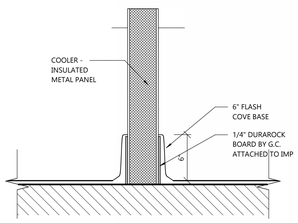
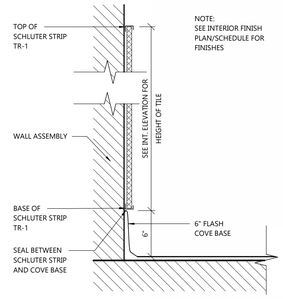


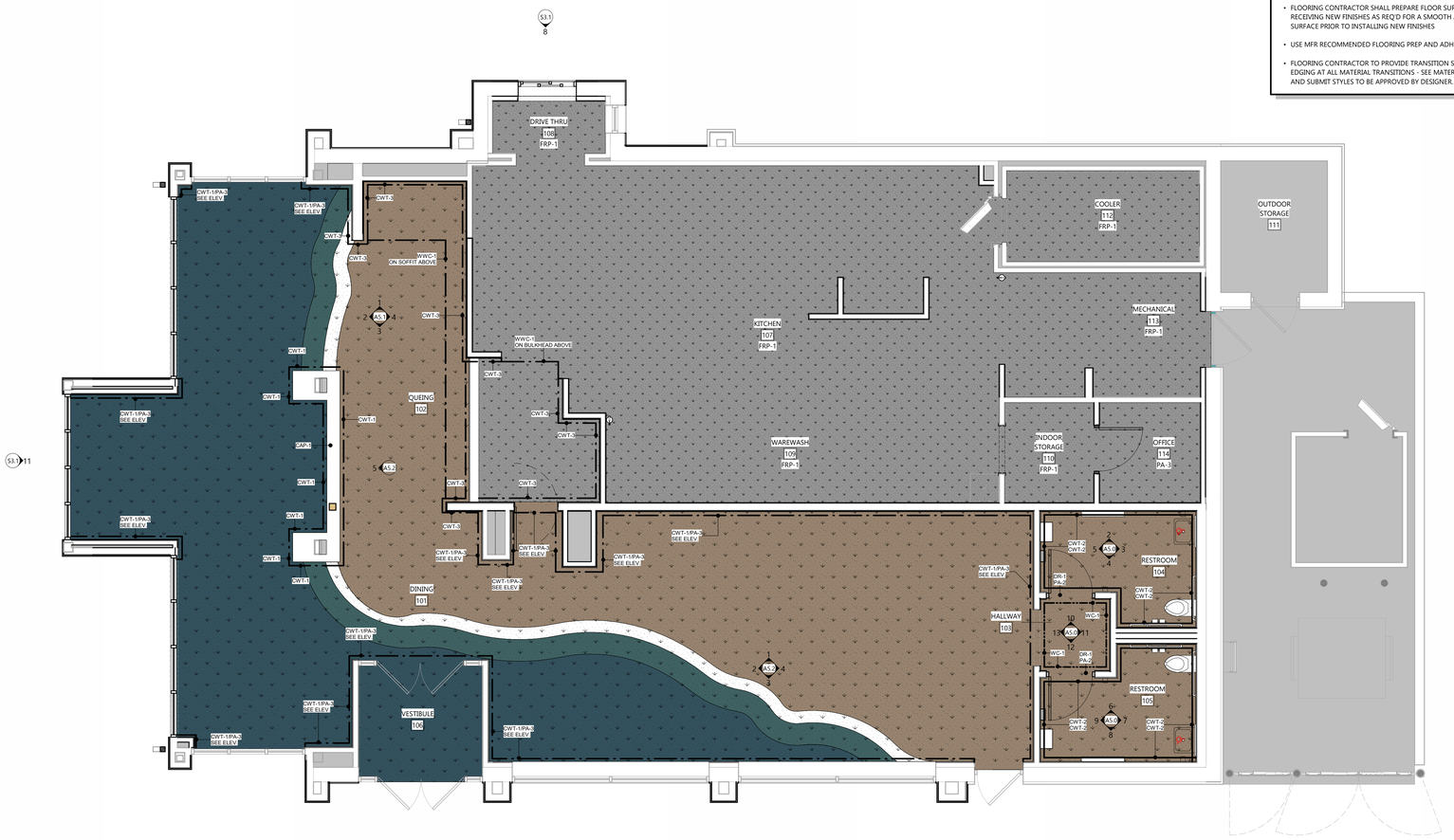
2 / A8.1 COOLER EPOXY BASE

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



1 / A8.1 BASE TRIM DETAIL

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



NORTH

FINISH PLAN

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

0' 4' 8'

ROOM FINISH NOTES

- REFERENCES TO PRODUCTS OR SYSTEMS HERIN BY NAME, MAKE, OR CATALOG NUMBER IS INTENDED TO ESTABLISH A MIN. STANDARD QUALITY, AND IS NOT MEANT TO LIMIT COMPETITION IN ANY FASHION. APPROVED EQUIVALENTS SHALL BE ACCEPTED AFTER ARCHITECT APPROVAL
- CONTRACTORS SHALL PROVIDE PRODUCTS COMPLETE w/ ALL ACCESSORIES, TRIM, FINISH, FASTENERS, AND OTHER REQ'D ITEMS NEEDED FOR A COMPLETE INSTALLATION AS INDICATED

WALLS & CEILINGS

- ALL GYPSUM BOARD SHALL BE INSTALLED IN ACCORDANCE W/ THE GYPSUM CONSTRUCTION HANDBOOK. LEVEL OF FINISH AS PER GA-214 ARE AS FOLLOWS:
  - LEVEL 1: INTERIOR AND EXTERIOR WALL: CONCEALED AND ABOVE CEILINGS
  - LEVEL 3: ALL EXPOSED BELOW CEILING AREAS WITH HEAVY OR MEDIUM TEXTURE.
  - LEVEL 4: ALL EXPOSED BELOW CEILING ARES WITH FLAT PAINT, SMOOTH OR LIGHT TEXTURE OR WALL COVERINGS UNLESS OTHERWISE NOTED.
  - LEVEL 5: WHERE NOTED
- USE APPROPRIATE PRIMER FOR SUBSTRATE
- VACANT CONSTRUCTION WITH CEILING SURFACES RECEIVING DRYFALL PAINT SHOULD RECEIVE 2 SOLVENT BASED FINISH COATS
- ALL GYPSUM BOARD BULKHEADS SHALL BE PAINTED PA-1
- WHERE PORCELAIN TILE IS APPLIED, SURFACE SHOULD BE 5/8" DENS-SHIELD TILE BACKER BOARD AS REQUIRED

TRIMS

- HOLLOW METAL FRAMES SHOULD RECEIVE 1 COAT PRIMER & 2 COATS FINISH PAINT
- ALL WOOD TRIM TO BE PLAIN SAWN RED MAPLE (STAIN & VARNISH) - PROVIDE SAMPLE FOR ARCHITECTS APPROVAL

FLOORS

- FLOORING CONTRACTOR SHALL PREPARE FLOOR SURFACES RECEIVING NEW FINISHES AS REQ'D FOR A SMOOTH AND LEVEL SURFACE PRIOR TO INSTALLING NEW FINISHES
- USE MFR RECOMMENDED FLOORING PREP AND ADHESIVE
- FLOORING CONTRACTOR TO PROVIDE TRANSITION STRIPS AND EDGING AT ALL MATERIAL TRANSITIONS - SEE MATERIAL LEGEND AND SUBMIT STYLES TO BE APPROVED BY DESIGNER.

FLOORING LEGEND

- EPX-1 EPOXY (GRAY)
- EPX-2 EPOXY (SAND)
- EPX-3 EPOXY (WAVE)
- EPX-4 EPOXY (WATER)
- EPX-5 EPOXY (WHITE CAPS)

SYMBOL LEGEND

- XX-X — ACCENT WALL MATERIAL - SEE FLOOR & ELEVATIONS PLAN FOR START/STOP LOCATION
- CORNER GUARD - SEE FLOOR PLAN FOR LOCATIONS

GENERAL NOTES

ALL FURNITURE IS TO BE PURCHASED AND INSTALLED BY OWNER. FURNITURE SHOWN ON PLAN IS FOR REFERENCE ONLY.

ARTWORK AND ACCESSORIES PURCHASED AND INSTALLED BY OWNER.

WINDOW TREATMENTS PURCHASED AND INSTALLED BY OWNER.

SIGNAGE PURCHASED AND INSTALLED BY OWNER.

PAINTING CONTRACTOR IS TO PAINT ANY EXPOSED WALL MOUNTED GRILLES THE COLOR OF THE ADJACENT WALL.

SEE INTERIOR ELEVATIONS FOR HEIGHTS OF WALL FINISHES.

SEE KITCHEN PLANS FOR LOCATIONS OF STAINLESS STEEL WALL PANEL.

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IFC	APR. 3, 2026

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SHEET NUMBER

A8.1

ARCHITECTURAL FIRST FLOOR FINISH PLAN

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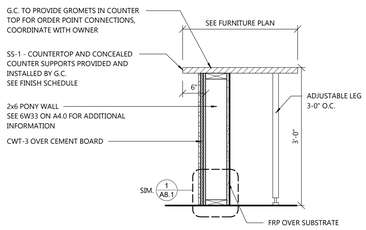
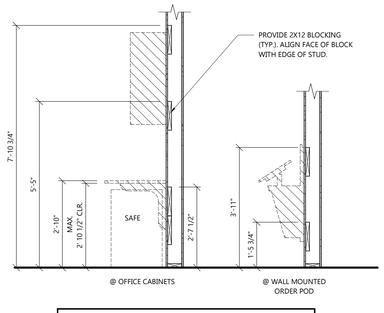


2 A9.1 **FRONT COUNTER**
SCALE: 3/4" = 1'-0"



NOTE:
VERIFY ALL BLOCKING REQUIREMENT WITH FURNITURE/CABINET SUPPLIER

1 A9.1 **FURNITURE BLOCKING**
SCALE: 1/2" = 1'-0"

GENERAL NOTES

ALL FURNITURE IS TO BE PURCHASED BY OWNER, G.C. TO INSTALL FURNITURE. FURNITURE SHOWN ON PLAN IS FOR REFERENCE ONLY. COORDINATE ALL BLOCKING REQUIREMENTS WITH SUPPLIER

ARTWORK AND ACCESSORIES PURCHASED AND INSTALLED BY OWNER.

WINDOW TREATMENTS PURCHASED AND INSTALLED BY OWNER.

SIGNAGE PURCHASED AND INSTALLED BY OWNER. G.C. TO COORDINATE ALL BLOCKING REQUIRED FOR INTERIOR SIGNAGE.

PAINTING CONTRACTOR IS TO PAINT ANY EXPOSED WALL MOUNTED GRILLES THE COLOR OF THE ADJACENT WALL.

FOR ALL BLOCKING DETAILS
-SEE DETAIL 1/A9.1

GENERAL COMMENTS:

- VERIFY BLOCKING REQUIREMENTS WITH FURNITURE SUPPLIER
- PROVIDE 2% ACCESSIBLE SEATING

REMARKS:

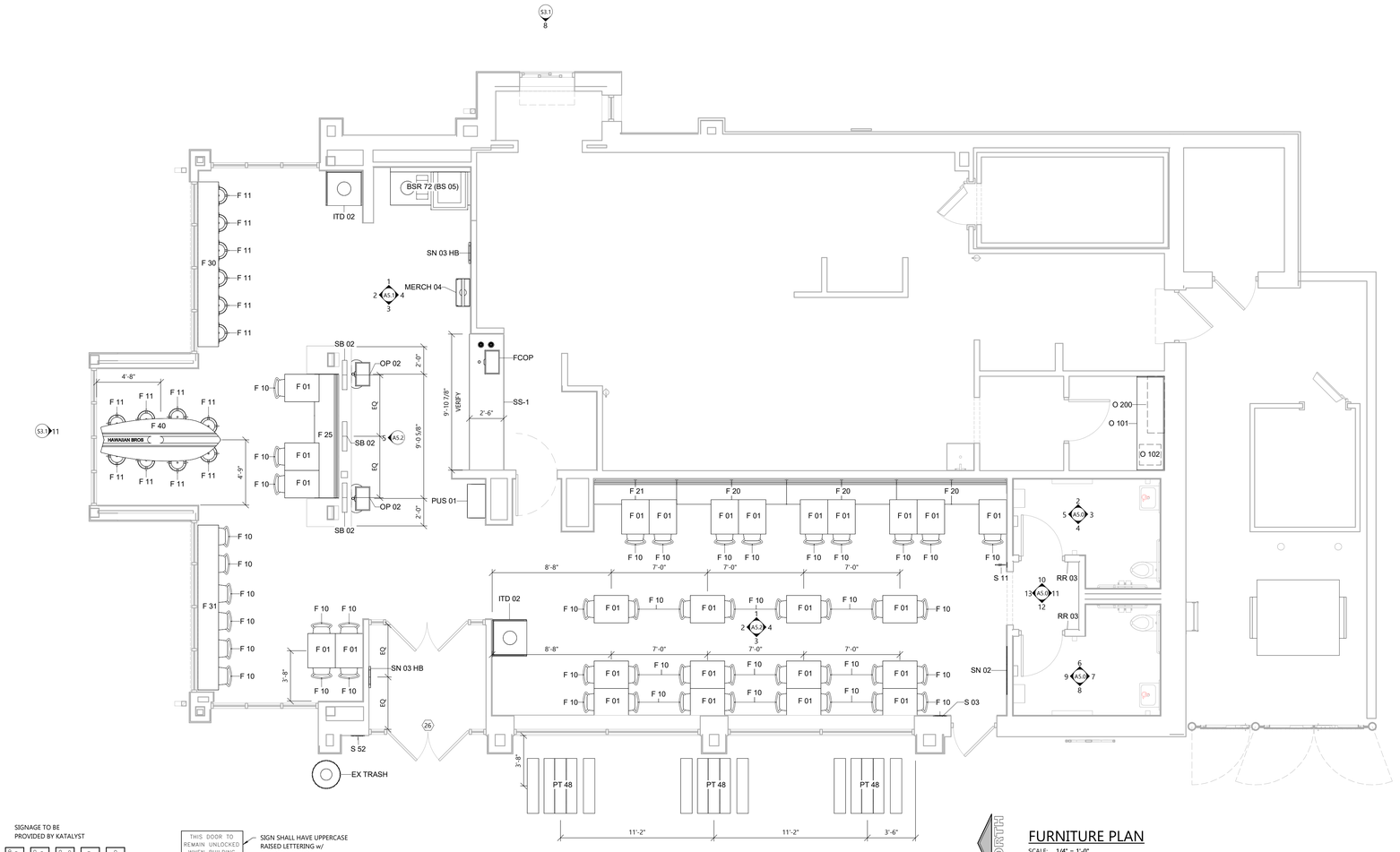
1. SEE PLUMBING DRAWINGS FOR PLUMBING REQUIREMENTS
2. SEE ELECTRICAL DRAWINGS FOR ELECTRICAL REQUIREMENTS.
3. PROVIDE BLOCKING AS REQUIRED FOR INSTALLATION

KEYNOTES

(#)
26 VINYL STORE INFORMATION SIGNAGE. SIGNAGE VENDOR TO VERIFY ALL LOCAL REQUIREMENTS AND PROVIDED ADDITIONAL SIGNAGE AS REQUIRED BY CITY.

FURNITURE SCHEDULE REMODEL

QUANTITY	FIXTURE CODE	MODEL NUMBER	DESCRIPTION	PROVIDED BY	REMARKS
1	BSR 72 (BS 05)	ADA HEIGHT BEVERAGE STATION "UNIVERSAL- 72"	Soda Dispenser Sits on Left or Right Side of Cabinetry	KATALYST	1,2
1	EX TRASH	LINER - 32 GALLON	Exterior Trash	ELITE BOOTH	
26	F 01		24" x 30" Dining Table	ELITE BOOTH	
46	F 10		Dining Chair	ELITE BOOTH	
14	F 11		Barstool	ELITE BOOTH	
3	F 20		96" Booth	EDWARD DON/ELITE BOOTH	
1	F 21		72" Booth	EDWARD DON/ELITE BOOTH	
1	F 25		192" Booth	ELITE BOOTH	
1	F 30		96" High Top Table	EDWARD DON/ELITE BOOTH	
1	F 31		84" ADA Table	EDWARD DON/ELITE BOOTH	
1	F 40		Surfboard Table	EDWARD DON/ELITE BOOTH	
1	FCOP		Front Counter w/ Order Point	IT/G.C. TO PROVIDE/INSTALL COUNTERTOP SS-1	2,3
2	ITD 02	HBROS-IWS-05-0100-00	Single Interior Trash Station	KATALYST	
1	MERCH 04	HBROS-MERCH-DISPLAY-MINI	MIN MERCH DISPLAY	KATALYST	
1	O 101	HBROS-O-0101-00	Office Counter	KATALYST	2,3
1	O 102	HBROS-O-102-00	Office Cabinet	KATALYST	2,3
1	O 200	HBROS-UPPER-200-2PC-00	Office Upper Cabinet	KATALYST	2,3
2	OP 02	HBROS-OP-0200-00	Wall Mounted Order Pod	KATALYST	2,3
3	PT 48	HBROS-PT-48	48" Picnic Table with Benches (4 Person)	ELITE BOOTH	
1	PUS 01	HBROS-PUS-0000-00	Online Order Pick-Up Shelf (Single)	KATALYST	
2	RR 03	HBROS-RR-ADA-UNISEX	Restroom Sign - ADA Unisex	KATALYST	
1	S 03	HBROS-INTOCC	Vinyl - Int. Occupancy Sign	KATALYST	
1	S 11	HBROS-RR-BSIGN-00	Blade Sign - Restroom (2'-0" tall)	KATALYST	
1	S 52	HBROS-EXTOCC	Vinyl - Ext. Occupancy Sign	KATALYST	
3	SB 02	HBROS-SURFBOARDWALL	Half wall mounted surfboard	KATALYST	
1	SN 02		Wall Mounted Neon Sign - Shaka	SIGNAGE VENDOR	2
2	SN 03 HB		Wall Mounted Neon Sign - HB	SIGNAGE VENDOR	2
1	SS-1		Front Solid Surface Counter	G.C.	



NORTH

FURNITURE PLAN
SCALE: 1/4" = 1'-0"
0' 4' 8'

SIGNAGE TO BE PROVIDED BY KATALYST

6" MIN.

MEN | MEN | WOMEN | WOMEN | UNISEX | ACCESSIBLE | WOMEN

WALL SIGNAGE (TYP.)

THIS DOOR TO REMAIN UNLOCKED WHEN BUILDING IS OCCUPIED

SIGN SHALL HAVE UPPERCASE RAISED LETTERING w/ BACKGROUND OF CONTRASTING COLOR
- LETTERING HGT: 1" (25 mm.)

SIGNAGE AT EXT. DOORS w/ DEAD BOLTS

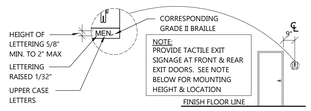
SIGNAGE TO BE PROVIDED BY KATALYST

MAXIMUM OCCUPANCY ###

42"

FINISH FLOOR LINE

OCCUPANT LOAD SIGNAGE



GENERAL NOTE:
ALL WALL MOUNTED SIGNAGE TO BE LOCATED 9" TO THE CENTERLINE OF THE SIGN ON THE LATCH SIDE OF DOOR CLEAR OF DOOR-SWING AND MOUNTED AT 48" MIN ABOVE THE FINISH FLOOR OR GROUND SURFACE MEASURED FROM THE BASELINE OF THE LOWEST LINE OF BRAILLE CELLS AND 60" MAX ABOVE FINISH FLOOR OR GROUND SURFACE MEASURED FROM THE BASELINE OF THE HIGHEST LINE OF RAISED CHARACTERS. SIGN SHALL BE LOCATED SO THAT A CLEAR FLOOR SPACE OF 18" MINIMUM BY 18" MINIMUM IS CENTERED ON THE TACTILE CHARACTERS AND CLEAR OF THE DOOR-SWING IN THE CLOSED AND 45 DEGREE OPEN POSITION. CHARACTERS AND THEIR BACKGROUND SHALL HAVE A NON-GLARE FINISH. CHARACTERS SHALL CONTRAST WITH THEIR BACKGROUND

3 A9.1 **SIGNAGE**
SCALE: 1/4" = 1'-0"

ARCHITECTURAL FURNITURE PLAN

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

PROJECT INFORMATION

PROPOSED QUICK SERVE RESTAURANT FOR:
OM GROUP - HAWAIIAN BROS - STR: 135
6421 E. 82ND ST. • INDIANAPOLIS, IN 46250

PROFESSIONAL SEAL

SHEET DATES
ISSUED FOR CONSTRUCTION
IFC APR. 3, 2026

JOB NUMBER
250361400

SHEET NUMBER
A9.1

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BASIC STRUCTURAL REQUIREMENTS

A. SEE DIVISION 00 PROCUREMENT AND CONTRACTING AND DIVISION 01 GENERAL REQUIREMENT FOR ADDITIONAL REQUIREMENTS.
B. SUBSTITUTIONS
1. SEE DIVISION 01 25 13 PRODUCT SUBSTITUTION PROCEDURES FOR ADDITIONAL REQUIREMENTS.
2. CONTRACTOR SHALL PROVIDE ALL SUPPORTING DATA AND ASSUME THE BURDEN OF PROOF THAT ANY SUBSTITUTE IS EQUIVALENT AS TO APPEARANCE, CONSTRUCTION, CAPACITY, AND PERFORMANCE. THE JUDGMENT OF EQUIVALENCY SHALL BE MADE BY THE ENGINEER AT THE TIME OF SHOP DRAWING REVIEW, NOT DURING BIDDING.
C. SHOP DRAWINGS, PRODUCT DATA, TEST RESULTS, PROJECT CLOSEOUT DOCUMENTS:
1. SEE DIVISION 01 33 23 SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES ON ARCHITECTURAL PLANS FOR ADDITIONAL REQUIREMENTS.
2. DESIGN DRAWINGS SHALL NOT BE USED AS SHOP DRAWINGS.
3. THE CONTRACTOR SHALL PREPARE A SCHEDULE OF ALL ITEMS TO BE SUBMITTED FOR A/E REVIEW. SCHEDULE SHALL SHOW ITEMS TO BE SUBMITTED AND ANTICIPATED DATE OF SUBMISSION. THIS SUBMITTAL SCHEDULE SHALL BE GIVEN TO THE A/E WITHIN 20 DAYS OF AWARD OF CONTRACT.
4. IF SHOP DRAWINGS REQUIRE AN EXPEDITED REVIEW PROCESS, CONTACT A/E PRIOR TO SUBMITTING THE SHOP DRAWINGS TO MAKE THE APPROPRIATE ARRANGEMENT.
5. STRUCTURAL AND ARCHITECTURAL PLANS SHOW DIMENSIONS AND ELEVATIONS TO SIGNIFICANT WORKING POINTS. SHOP DRAWING DETAILERS AND SUPPLIERS ARE RESPONSIBLE FOR THE DETERMINATION OF ALL DIMENSIONS, PITCHES, ELEVATIONS, ETC., BEYOND THOSE NOTED ABOVE AS NECESSARY TO THOROUGHLY DETAIL/FABRICATE THEIR WORK. CONTACT A/E WITH ANY DISCREPANCIES FOUND.
6. IN NO CASE SHALL CHANGES BE MADE TO WORK SHOWN OR PROCEDURE SPECIFIED ON STRUCTURAL PLANS UNLESS FIRST APPROVED IN WRITING BY A/E. REVIEW OF SHOP DRAWINGS BY A/E DOES NOT CONSTITUTE ACCEPTANCE OF A DESIGN CHANGE. PROPOSED CHANGES BY CONTRACTOR MUST BE SUBMITTED IN RFI FORMAT AND MUST BE APPROVED IN THE SAME MANNER. CONTRACTOR REQUESTING CHANGE MAY BE BILLED ON A TIME AND EXPENSE BASIS BY A/E FOR ALL REDESIGN WORK, FOR ALL NEW SKETCHES PREPARED, AND FOR ALL ADDITIONAL REVIEW TIME RELATED TO THE CHANGES.
7. CONSTRUCTION ADMINISTRATION SUBMITTAL LIST:
a. SOILS AND SUBGRADE:
i. COMPACTION TEST REPORTS
b. CONCRETE:
i. MIX DESIGNS
ii. TEST REPORTS FOR SLUMP, AIR ENTRAINMENT AND COMPRESSIVE STRENGTH
iii. FOUNDATION POUR SCHEDULE, INCLUDING YARDS TO BE REPLACED
iv. SLAB ON GRADE POUR SCHEDULE, INCLUDING YARDS TO BE PLACED AND JOINT LAYOUT PLAN
v. REINFORCING FOR SLAB ON GRADE, INCLUDING SUPPLEMENTAL REINFORCING AT REENTRANT CORNERS, OBSTRUCTIONS, AND DOORS/OPENINGS
c. SUN SHADES AND CONNECTIONS TO STRUCTURE
d. CANOPIES AND CONNECTIONS TO STRUCTURE
D. DELEGATED DESIGN SUBMITTALS
1. CONTRACTOR SHALL FURNISH COMPLETE AND DETAILED SHOP DRAWINGS AND SUBMITTALS FOR REVIEW AND APPROVAL BY THE ENGINEER OF RECORD.
2. COMPONENTS AND SYSTEMS DESIGNED AS A DELEGATED DESIGN SUBMITTAL MUST INCLUDE A CALCULATION PACKAGE STAMPED AND SIGNED BY A REGISTERED PROFESSIONAL ENGINEER LICENSED IN THE STATE THE PROJECT WILL BE CONSTRUCTED PRIOR TO SUBMITTAL FOR APPROVAL TO THE ENGINEER OF RECORD.
3. THE FOLLOWING ITEMS ARE DESIGNATED AS DELEGATED DESIGN SUBMITTALS. DELEGATED DESIGN SUBMITTAL ITEMS SHALL BE SUBMITTED TO THE A/E FOR REVIEW. IN NO CASE SHALL ANY OF THE DELEGATED DESIGN SUBMITTAL ITEMS BE INSTALLED PRIOR TO REVIEW BY A/E AND APPLICABLE BUILDING OFFICIALS.
a. SUN SHADES AND CONNECTIONS TO STRUCTURE
b. CANOPIES AND CONNECTIONS TO STRUCTURE
E. FINISHING AND PAINTING
1. SEE DIVISION 09 91 00 FINISH AND PAINTING FOR ADDITIONAL REQUIREMENTS.
F. GENERAL STRUCTURAL NOTES:
1. IN THE FOLLOWING NOTES, THE TERM "CONTRACTOR" REFERS TO ALL CONTRACTORS, SUBCONTRACTORS, AND SUPPLIERS ENGAGED IN THE EXECUTION OF WORK SHOWN ON THESE PLANS. THE TERM "A/E" REFERS TO EXCEL ENGINEERING, INC.
2. CONTRACTOR SHALL CROSS CHECK WITH ARCHITECTURAL, HVAC AND PLUMBING PLANS FOR ADDITIONAL DETAILS, DIMENSIONS, ELEVATIONS, OPENINGS, INSERTS, BRICK LEDGES, ETC. NOTIFY A/E OF ANY CONFLICTS BEFORE BEGINNING WORK.
3. IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE IN ORDER TO ENSURE THE SAFETY OF THE BUILDING, WORKMEN, AND OCCUPANTS DURING CONSTRUCTION (MEANS & METHODS OF CONSTRUCTION). THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF SHORING, UNDERPINNING, AND TEMPORARY BRACING, AS NECESSARY. A/E MAY BILL CONTRACTOR ON A TIME AND EXPENSE BASIS FOR ADDITIONAL WORK, FOR ALL NEW SKETCHES, AND FOR ALL ADDITIONAL REVIEW TIME RELATED TO MEANS & METHODS.
4. WHERE DETAILS ARE CALLED FOR IN ONE AREA OF THE BUILDING THEY SHALL BE DUPLICATED AT SIMILAR CONDITIONS, UNLESS SHOWN OTHERWISE.
5. IN THE EVENT OF ANY CONFLICT BETWEEN PLANS, DETAILS, STRUCTURAL NOTES, STRUCTURAL AND ARCHITECTURAL DRAWINGS, AND SPECIFICATIONS, CONTRACTOR SHALL BRING THE CONFLICT TO THE A/E'S ATTENTION. CONTRACTOR SHALL BID THE MOST EXPENSIVE INSTALLATION CALLED OUT.
6. CONTRACTOR SHALL SURVEY THE EXISTING BUILDING FOR ALL DIMENSIONS, ELEVATIONS, AND CONDITIONS NEEDED TO PERFORM THE WORK SHOWN ON THESE PLANS. THIS INCLUDES VERIFYING DIMENSIONS, ELEVATIONS, & CONDITIONS SHOWN ON THE CONSTRUCTION DOCUMENTS. CONTRACTOR SHALL REPORT ANY NON-CONFORMANCE WITH DESIGN DRAWINGS TO THE A/E IMMEDIATELY.
7. ALL MEMBERS/WORK SHOWN ARE NEW UNLESS SPECIFICALLY NOTED "EXISTING".
8. REMOVE AND REPLACE AND/OR MODIFY ALL EXISTING CONSTRUCTION (ELECTRICAL, MECHANICAL, HVAC, STRUCTURAL, ARCHITECTURAL) AS REQUIRED IN ORDER TO PLACE NEW STRUCTURAL WORK SHOWN ON THESE DRAWINGS.
9. THESE STRUCTURAL PLANS DEPICT A STRUCTURAL FRAMING SYSTEM AND THE MAJOR COMPONENTS OF THAT SYSTEM. MINOR ITEMS SUCH AS POURSTOPS, DECK SUPPORT ANGLES AT COLUMNS, FRAMES AT FLOOR AND ROOF DECK OPENINGS, ETC., SHALL BE SUPPLIED BY THE CONTRACTOR AS NEEDED TO PROVIDE A COMPLETE SYSTEM.
10. BOTTOM OF FOOTING ELEVATION SHALL BE A MINIMUM OF 3'-0" BELOW ADJACENT EXTERIOR GRADE. NOTIFY A/E OF ANY FOOTING ELEVATION CHANGE REQUIRED IN ORDER TO PROVIDE 3'-0" FROST PROTECTION BEFORE PLACING FOOTINGS.
11. FOUNDATION SHORING AND/OR UNDERPINNING SHALL BE DESIGNED BY THE CONTRACTOR TO LIMIT HORIZONTAL AND VERTICAL MOVEMENT OF EXISTING CONSTRUCTION TO 3/16".
G. POST-INSTALLED ANCHORS:
1. CONTRACTOR SHALL PROVIDE EXCEL ENGINEERING WITH SPECIFICATIONS AND DESIGN INFORMATION FOR ALL ALTERNATE ANCHORS. CONTRACTOR SHALL MAKE ARRANGEMENTS TO COMPENSATE EXCEL ENGINEERING FOR THE EXTRA WORK INVOLVED.
2. CLEAN SURFACES THOROUGHLY PRIOR TO INSTALLATION. PREPARE SURFACES USING THE METHODS RECOMMENDED BY THE MANUFACTURER FOR ACHIEVING THE BEST RESULTS FOR THE SUBSTRATE UNDER THE PROJECT CONDITIONS.
3. DO NOT BEGIN INSTALLATION UNTIL SUBSTRATES HAVE BEEN PROPERLY PREPARED. IF SUBSTRATE PREPARATION IS THE RESPONSIBILITY OF ANOTHER INSTALLER, NOTIFY CONTRACTOR OF UNSATISFACTORY PREPARATION BEFORE PROCEEDING.
4. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS AND AS REQUIRED BY APPLICABLE CODE.
5. APPLY ANCHOR ITEMS NEATLY, WITH ANCHORS MOUNTED PLUMB AND LEVEL UNLESS OTHERWISE INDICATED.
6. EXCEL ENGINEERING RESERVES THE RIGHT TO REQUIRE THE ANCHOR MANUFACTURER'S REPRESENTATIVE TO DEMONSTRATE PROPER INSTALLATION PROCEDURES FOR POST-INSTALLED ANCHORS AND TO OBSERVE CONTRACTOR'S INSTALLATION PROCEDURES, AT NO EXTRA COST TO OWNER.
7. EXCEL ENGINEERING RESERVES THE RIGHT TO REQUIRE PULLOUT OR SHEAR TESTS TO DETERMINE ADEQUACY OF ANCHORS, AT NO EXTRA COST TO OWNER.

DIVISION 03 CONCRETE

03 30 00 CAST-IN-PLACE CONCRETE

A. DESIGN AND CONSTRUCTION OF ALL CAST-IN-PLACE CONCRETE WORK SHALL CONFORM TO ACI 318 BUILDING CODE AND CRSI MANUAL OF STANDARD PRACTICE.
B. PREPARATION OF THE SUBGRADE AND BASE COURSE/DRAINAGE LAYER FOR CONCRETE SLAB ON GRADE CONSTRUCTION TO BE PROVIDED PER MORE STRINGENT REQUIREMENTS OF GEOTECHNICAL REPORT OR CONSTRUCTION DOCUMENTS.
C. DESIGN MIXES SHALL BE IN ACCORDANCE WITH ASTM C94.
1. SEE CONCRETE MIX DESIGN SCHEDULE ON PLANS.
2. SEE SPECIFICATIONS ON CIVIL PLANS FOR DESIGN MIXES ASSOCIATED WITH EXTERIOR CONCRETE FLATWORK SHOWN ON THE CIVIL PLANS.
D. PLACE SLABS ON GRADE WITH POUR JOINT, CONSTRUCTION JOINT, OR SAW JOINT AS INDICATED ON THE PLANS. SAW CUT TO BE DONE WITH EARLY ENTRY SAW AND WITHIN 1 TO 4 HOURS AFTER CONCRETE IS PLACED.
E. EXTERIOR SLABS ON GRADE SHALL BE SEPARATED FROM BUILDINGS WITH CONTINUOUS 1/2" FIBER EXPANSION JOINT AND/OR 1/4" FIBER EXPANSION JOINT AT DECORATIVE MASONRY UNITS. INTERIOR SLABS SHALL BE SEPARATED FROM FOUNDATION WALLS AND PIERS WITH FORM RELEASE AGENT, 15 LB. FELT OR AS DETAILED ON PLANS.
F. MAINTAIN FLOOR LEVEL AT WALLS AND PITCH SURFACES UNIFORMLY TO DRAINS UNLESS INDICATED OTHERWISE ON PLANS.
G. CONCRETE CURING.
1. ALL CONCRETE IS TO BE CURED A MINIMUM OF 7 DAYS BY ONE OF THE FOLLOWING METHODS:
a. STANDARD — UNLESS NOTED OTHERWISE IN ARCHITECTURAL PLANS
i. DISSIPATING CURING COMPOUND USING EUCLID KUREZ DR VOX.
ii. WET CURE ABSORPTIVE COVER USING ARMORLON TRANSGUARD 2000 MANUFACTURER'S SPECIFICATION.
iii. WET CURE PONDING WITH WATER OR CONTINUOUS SPRINKLING/FOGGING OF WATER/WATER-FOG SPRAY.
b. CURE AND SEAL— SEE ARCHITECTURAL ROOM FINISH SCHEDULE FOR LOCATIONS
i. SOLVENT BASED — PROVIDE EUCLID CHEMICAL SOLVENT BASED CURE AND & SEAL, DIAMOND CLEAR.
ii. WATER BASED (VERY LOW ODOR, VOC CONTENT OF 88 g/l OR LESS) — PROVIDE EUCLID CHEMICAL WATER BASED CURE AND & SEAL, SUPER DIAMOND CLEAR VOX.
H. CONCRETE FLOOR FINISHING: DO NOT PLACE ANY MATERIALS ON THE CONCRETE SURFACE THAT MAY CAUSE STAINING, ETCHING OR SCRATCHING
1. TROWEL FINISH: APPLY TO ALL INTERIOR MONOLITHIC SLAB SURFACES THAT ARE EXPOSED TO VIEW AND SLAB SURFACES TO BE COVERED WITH RESILIENT FLOORING, CARPET, PAINT, OR OTHER THIN FILM-FINISH COATING SYSTEM.
2. BROOM FINISH: APPLY TO ALL EXTERIOR STOOPS, LANDINGS, STEPS, AND RAMPS.
3. NON-SLIP LIGHT BROOM FINISH: SEE ARCHITECTURAL ROOM FINISH SCHEDULE FOR LOCATIONS.
4. POLISHED CONCRETE: HARD-STEEL TROWELED (3 PASSES) CONCRETE, NO BURNISHING MARKS (FINISH TO ACI 302.1R, CLASS 5 FLOOR). SEE ARCHITECTURAL ROOM FINISH SCHEDULE FOR LOCATIONS.
I. CONCRETE WALLS SHALL HAVE JOINTS AS DETAILED ON PLANS.
J. CONCRETE WALL FINISHING.
1. ALL EXPOSED FOUNDATION WALLS TO HAVE TIES AND FINS REMOVED AND RECEIVE THE FOLLOWING FINISHES PER ACI 301-20, 5.3.3.3 AND 5.3.3.4.
a. AS-CAST FINISHES - USE FORM-FACING MATERIALS MEETING THE REQUIREMENTS OF 4.2.1.1. UNLESS OTHERWISE SPECIFIED, PRODUCE AS-CAST FORMED FINISHES TO COMPLY WITH THE FOLLOWING:
i. SURFACE FINISH-3.0 (SF-3.0):
(A). PATCH VOIDS LARGER THAN 3/4 IN. WIDE OR 1/2 IN. DEEP
(B). REMOVE PROJECTIONS LARGER THAN 1/8 IN.
(C). PATCH TIE HOLES
(D). SURFACE TOLERANCE CLASS A AS SPECIFIED IN ACI 117
K. BACKFILLING OF FOUNDATIONS:
1. BACKFILLING OF OPPOSITE SIDES OF UNBRACED FOUNDATION WALLS SHALL MAINTAIN A MAXIMUM 2 FOOT DIFFERENTIAL IN ELEVATION PRIOR TO ACHIEVING FINAL SPECIFIED GRADE.
2. TEMPORARY CONSTRUCTION BRACING DURING BACKFILLING.
a. FOUNDATION WALLS WITH PERMANENT TOP LATERAL SUPPORTS SHALL BE TEMPORARILY BRACED UNTIL TOP SUPPORT SYSTEMS ARE INSTALLED. TEMPORARY CONSTRUCTION BRACING SHALL BE DESIGNED AND INSTALLED BY THE CONTRACTOR.
b. THE BOTTOM OF THE BASEMENT WALLS SHALL BE TEMPORARILY BRACED UNTIL THE BASEMENT FLOOR SLAB IS IN PLACE. TEMPORARY CONSTRUCTION BRACING SHALL BE DESIGNED AND INSTALLED BY THE CONTRACTOR.
L. ALL REINFORCING BARS SHALL BE ASTM A615 GRADE 60. THICKNESS OF CONCRETE COVER OVER REINFORCEMENT SHALL BE NOT LESS THAN 3" WHERE CONCRETE IS DEPOSITED AGAINST THE GROUND WITHOUT THE USE OF FORMS AND NOT LESS THAN 1 1/2" FOR UP TO #5, 2" FOR #6 TO #10 IN ALL OTHER LOCATIONS. ALL REINFORCING SHALL BE LAPPED 48 DIAMETERS FOR UP TO #6 BARS, 62 DIAMETERS FOR #7 TO #9 BARS, 68 DIAMETERS FOR #10 BARS OR AS NOTED ON THE DRAWINGS AND EXTENDED AROUND CORNERS WITH CORNER BARS. PLACING AND DETAILING OF STEEL REINFORCING AND REINFORCING SUPPORTS SHALL BE IN ACCORDANCE WITH CRSI AND ACI MANUAL AND STANDARD PRACTICES. THE REINFORCEMENT SHALL NOT BE PAINTED AND MUST BE FREE OF GREASE/OIL, DIRT OR DEEP RUST WHEN PLACED IN THE WORK. ALL WELDED WIRE FABRIC SHALL MEET THE REQUIREMENT OF ASTM A1064 WELDED WIRE FABRIC SHALL BE PLACED 2" FROM TOP OF SLAB, UNLESS INDICATED OTHERWISE.
M. COORDINATE INTERIOR CONCRETE HOUSEKEEPING PAD SIZES WITH RESPECTIVE CONTRACTORS. THE TOP OF PAD SHALL BE LEVEL UNLESS SPECIFIED OTHERWISE ON PLANS. THE THICKNESS INDICATED ON PLANS SHALL BE AT HIGHEST FLOOR ELEVATION FOR PADS ON TOP OF SLOPED FLOORS. PADS INSTALLED ON PRECAST DECK WITH TOPPING, TO BE PLACED AFTER PRECAST TOPPING HAS BEEN POURED.
N. PROTECT FRESHLY PLACED CONCRETE FROM PREMATURE DRYING AND EXCESSIVE COLD OR HOT TEMPERATURES. IN HOT, DRY, AND WINDY WEATHER, APPLY AN EVAPORATION-CONTROL COMPOUND ACCORDING TO MANUFACTURER'S INSTRUCTIONS AFTER SCREEDING AND BULL FLOATING, BUT BEFORE POWER FLOATING AND TROWELING.
O. CONTRACTOR SHALL ENGAGE A QUALIFIED INDEPENDENT TESTING AND INSPECTING AGENCY TO SAMPLE MATERIALS, PERFORM TESTS, AND SUBMIT TEST REPORTS DURING CONCRETE PLACEMENT. TESTS WILL BE PERFORMED ACCORDING TO ACI 301-20. CAST AND LABORATORY CURE ONE SET OF FOUR STANDARD CYLINDERS FOR EACH COMPOSITE SAMPLE FOR EACH DAY'S POUR OF EACH CONCRETE MIX UP TO 25 CU. YD., PLUS ONE SET FOR EACH ADDITIONAL 50 CU. YD. OR FRACTION THEREOF. PERFORM COMPRESSIVE-STRENGTH TESTS ACCORDING TO ASTM C 39. TEST TWO SPECIMENS AT 7 DAYS AND TWO SPECIMENS AT 28 DAYS. PERFORM SLUMP TESTING ACCORDING TO ASTM C 143. PROVIDE ONE TEST AT POINT OF PLACEMENT FOR EACH COMPOSITE SAMPLE, BUT NOT LESS THAN ONE TEST FOR EACH DAY'S POUR OF EACH CONCRETE MIX. PERFORM ADDITIONAL TESTS WHEN CONCRETE CONSISTENCY APPEARS TO CHANGE.
P. TEST RESULTS WILL BE REPORTED IN WRITING TO ARCHITECT, READY-MIX PRODUCER, AND CONTRACTOR WITHIN 24 HOURS AFTER TESTS. REPORTS OF COMPRESSIVE STRENGTH TESTS SHALL CONTAIN THE PROJECT IDENTIFICATION NAME AND NUMBER, DATE OF CONCRETE PLACEMENT, NAME OF CONCRETE TESTING SERVICE, CONCRETE TYPE AND CLASS, LOCATION OF CONCRETE BATCH IN STRUCTURE, DESIGN COMPRESSIVE STRENGTH AT 28 DAYS, CONCRETE MIX PROPORTIONS AND MATERIALS, COMPRESSIVE BREAKING STRENGTH, AND TYPE OF BREAK FOR BOTH 7-DAY TESTS AND 28-DAY TESTS.

03 60 00 GROUT

A. NONMETALLIC, SHRINKAGE-RESISTANT GROUT SHALL BE ASTM C1107/C1107M, FACTORY-PACKAGED, NONMETALLIC AGGREGATE GROUT, NONCORROSIVE AND NONSTAINING, MIXED WITH WATER TO A CONSISTENCY SUITABLE FOR APPLICATION.
B. GROUT TO BE USED UNDER BEARING PLATES AND COLUMN BASE PLATES. PACK GROUT SOLIDLY BETWEEN BEARING SURFACES AND PLATES SO NO VOIDS REMAIN. NEATLY FINISH EXPOSED SURFACES, PROTECT GROUT AND ALLOW TO CURE. COMPLY WITH MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS FOR GROUTING.
C. MINIMUM COMPRESSIVE STRENGTH: 8000 PSI AT 28 DAYS.
D. FOR GROUT USED TO FILL MASONRY CORES SEE DIVISION 04 MASONRY.

DIVISION 06 WOOD, PLASTICS AND COMPOSITES

06 10 00 ROUGH CARPENTRY

A. LUMBER SHALL BE GRADED AND STAMPED WITH MINIMUM STRUCTURAL DESIGN VALUES AS LISTED BELOW.
1. #1/#2 DOUG FIR — 850 PSI FB, 180 PSI FV, 1,600 KSI E (BEAMS, LINTELS & HEADERS, UNLESS NOTED);
2. #1/#2 S.P.F. — 875 PSI FB, 1,150 PSI FC, 1,400 KSI E (ALL STUDS & PLATES, UNLESS NOTED)
3. LVL @ 1,800 KSI E OR MICRO-LAM @ 1,900 KSI E — 2600 PSI FB, 285 PSI FV (OR AS NOTED ON THE PLANS).
4. WOOD HEADER MATERIAL SHALL BE FREE OF ALL SPLITS, SHAKES AND CHECKS.
B. MISCELLANEOUS LUMBER: PROVIDE NO. 3 OR STANDARD GRADE LUMBER OF ANY SPECIES FOR SUPPORT OR ATTACHMENT OF OTHER CONSTRUCTION, INCLUDING ROOFTOP EQUIPMENT CURBS AND SUPPORT BASES, CANT STRIPS, BUCKS, NAILERS, BLOCKING, AND SIMILAR MEMBERS.
C. PROTECTION AGAINST DECAY WITH PRESERVATIVE-TREATED WOOD. PRESSURE TREATED WOOD SHALL BE REQUIRED IN THE FOLLOWING AREAS:
1. ALL WOOD SILL PLATES, FRAMING, AND FURRING STRIPS ATTACHED TO EXTERIOR BELOW GRADE MASONRY AND CONCRETE WALLS.
2. ALL WOOD PLATES, BLOCKING, FRAMING AND FURRING STRIPS ATTACHED TO EXTERIOR, SINGLE-WYTHE MASONRY WALLS.
3. ALL WOOD CAP FLASHING BLOCKING ATTACHED TO MASONRY OR CONCRETE PARAPETS.
4. ALL WOOD SLEEPERS AND SILL PLATES ON CONCRETE SLABS IN DIRECT CONTACT WITH EARTH.
5. EXCEPTION: WOOD SILL PLATES ON CONCRETE SLABS SEPARATED FROM DIRECT CONTACT TO THE EARTH WITH A 10 MIL POLYETHYLENE VAPOR RETARDANT WILL NOT REQUIRE PRESERVATIVE-TREATMENT.
6. ALL WOOD IN CONTACT WITH GROUND OR EXPOSED TO THE WEATHER.
D. FINISHES FOR FASTENERS AND HARDWARE IN CONTACT WITH PRESERVATIVE-TREATED WOOD ARE BASED ON THE FOLLOWING ASSUMPTIONS:
1. ALL INTERIOR TREATED WOOD SHALL USE AN ACQ-C, ACQ-D (CARBONATE), CBA-A, OR CA-B TREATMENT WITH RETENTION LEVELS LESS THAN OR EQUAL TO 0.40 PCF, 0.40 PCF, 0.41 PCF, AND 0.21 PCF RESPECTIVELY.
2. ALL CONNECTION HARDWARE AND FASTENERS IN DIRECT CONTACT WITH INTERIOR TREATED WOOD SHALL BE HOT-DIPPED GALVANIZED, MECHANICALLY GALVANIZED, OR STAINLESS STEEL.
3. ALL CONNECTION HARDWARE AND FASTENERS IN DIRECT CONTACT WITH EXPOSED EXTERIOR TREATED WOOD OR UNKNOWN TREATMENTS SHALL BE STAINLESS STEEL.
4. USE TAPCON "CLIMASEAL" FASTENERS TO CONNECT ACQ-TREATED WOOD BLOCKING TO MASONRY OR CONCRETE PARAPETS.
E. SHOP DRAWINGS FOR PRESERVATIVE-TREATED WOOD, HARDWARE, AND FASTENERS.
1. THE CONTRACTOR SHALL FURNISH MATERIAL CERTIFICATES FOR ALL PRESERVATIVE-TREATED WOOD TYPES, SPECIFYING THE NAME OF THE TREATING COMPANY, THE PRESERVATIVE USED, THE LEVEL OF TREATMENT (0.10, 0.25, 0.40, ETC.), THE INTENDED USE (ABOVE GROUND, GROUND CONTACT, ETC.), AND A REFERENCE TO THE APPROPRIATE AWPA STANDARD.
2. THE CONTRACTOR SHALL FURNISH MATERIAL DATA SHEETS FOR HARDWARE AND FASTENERS IN CONTACT WITH PRESERVATIVE-TREATED WOOD.

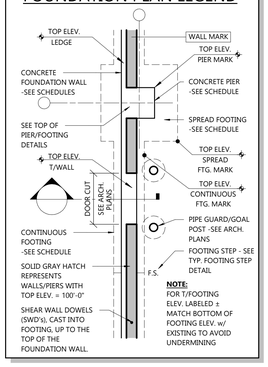
06 16 00 SHEATHING

A. WOOD
1. ALL SHEATHING TO BE APA RATED PS-1 OR PS-2.
2. SEE STRUCTURAL PLANS FOR EXPOSURE RATING.
3. PLYWOOD / OSB THICKNESS & REQUIRED SPAN RATING
a. 7/16", 15/32", & 1/2" THICK PANELS ARE INTERCHANGEABLE EXCEPT @ SHEARWALLS. 7/16 — 1/2" SHEATHING ARE REQUIRED TO HAVE A MINIMUM SPAN RATING OF 24/16.
b. 19/32" & 5/8" SHEATHING ARE INTERCHANGEABLE. 19/32" & 5/8" SHEATHING ARE REQUIRED TO HAVE A MINIMUM SPAN RATING OF 40/20.
c. 23/32" & 3/4" THICK PANELS ARE INTERCHANGEABLE. 23/32" & 3/4" SHEATHING ARE REQUIRED TO HAVE A MINIMUM SPAN RATING OF 48/24
4. EXTERIOR WALL: SEE STRUCTURAL PLANS.
5. SUBFLOOR: SEE STRUCTURAL PLANS.
a. ALL SHEATHING SHALL BE TONGUE AND GROOVE.
6. ROOF: SEE STRUCTURAL PLANS.
a. AT 7/16", 15/32", & 1/2" THICK PANELS INSTALL H-CLIPS AT JOINTS CENTERED BETWEEN JOISTS/TRUSSES.
b. AT 19/32" & 5/8" THICK PANELS:
i. FOR ROOF AREAS WITH EXPOSED UNDERSIDE OF ROOF DECK IN CONTACT WITH CONTINUOUS INSULATION, SHEATHING SHALL BE TONGUE AND GROOVE.
ii. FOR ALL OTHER ROOF AREAS, INSTALL H-CLIPS AT JOINTS CENTERED BETWEEN JOISTS/TRUSSES.
c. AT 23/32" & 3/4" THICK PANELS, EDGES SHALL BE TONGUE AND GROOVE.
7. PROVIDE MINIMUM 1/8" GAP BETWEEN ALL SHEATHING PANEL EDGES.
8. SEE ARCHITECTURAL SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

TABLE 2304.10.1
WOOD CONNECTION FASTENING SCHEDULE

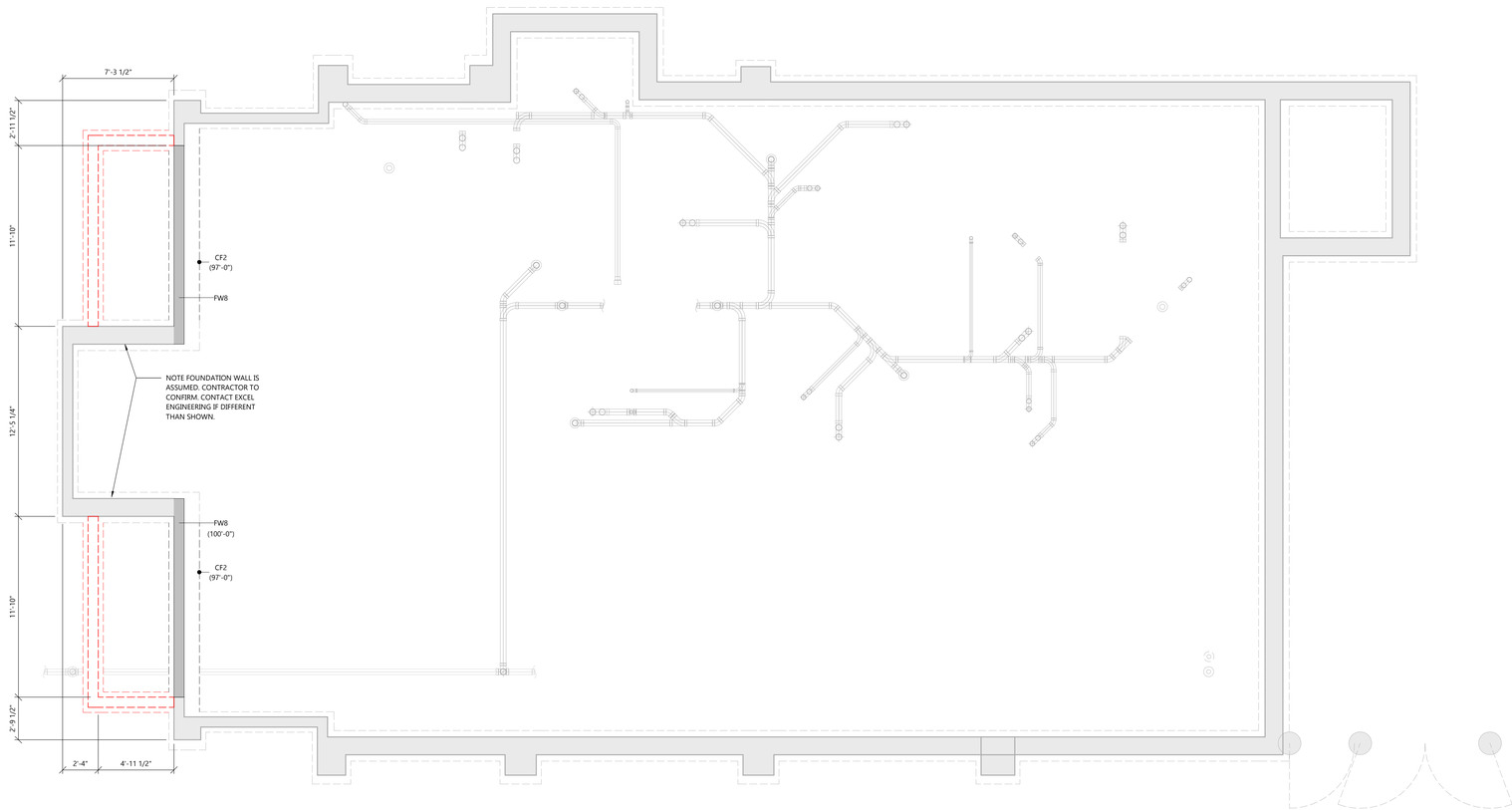
CONNECTION	FASTENING (ALIM)	LOCATION
ROOF		
1. BLOCKING BETWEEN CEILING JOISTS, RAFTERS OR TRUSSES TO TOP PLATE OR OTHER FRAMING BELOW	3 - 8d COMMON 3 - 10d BOX 3 - 3" X 0.131" NAILS 2 - 3" X 14 GAGE STAPLES	EACH END, TOENAIL
BLOCKING BETWEEN RAFTERS OR TRUSS NOT AT THE WALL TOP PLATE, TO RAFTER OR TRUSS	2 - 8d COMMON 3 - 3" X 0.131" NAILS 2 - 3" X 14 GAGE STAPLES	EACH END, TOENAIL
	2 - 16d COMMON 3 - 3" X 0.131" NAILS 3 - 3" X 14 GAGE STAPLES	END NAIL
FLAT BLOCKING TO TRUSS AND WEB FILLER	16d COMMON @ 6" O.C. 3" X 0.131" NAILS @ 6" O.C. 3" X 14 GAGE STAPLES @ 6" O.C.	FACE NAIL
2. CEILING JOISTS TO TOP PLATE	3 - 8d COMMON 3 - 10d BOX 3 - 3" X 0.131" NAILS 3 - 3" X 14 GAGE STAPLES	EACH JOIST, TOENAIL
3. CEILING JOIST NOT ATTACHED TO PARALLEL RAFTER, LAPS OVER PARTITIONS (NO THRUST) (SEE SECTION 2308.7.3.1, TABLE 2308.7.3.1)	3 - 16d COMMON 4 - 10d BOX 4 - 3" X 0.131" NAILS 4 - 3" X 14 GAGE STAPLES	FACE NAIL
4. CEILING JOIST ATTACHED TO PARALLEL RAFTER (HEEL JOINT) (SEE SECTION 2308.7.3.1, TABLE 2308.7.3.1)	PER TABLE 2308.7.3.1	FACE NAIL
5. COLLAR TIE TO RAFTER	3 - 10d COMMON 4 - 10d BOX 4 - 3" X 0.131" NAILS 4 - 3" X 14 GAGE STAPLES	FACE NAIL
6. RAFTER OR ROOF TRUSS TO PLATE (SEE SECTION 2308.7.5, TABLE 2308.7.5)	3 - 10d COMMON 3 - 16d BOX 4 - 10d BOX 4 - 3" X 0.131" NAILS 4 - 3" X 14 GAGE STAPLES	TOENAIL [c]
7. ROOF RAFTERS TO RIDGE VALLEY OR HIP RAFTERS; OR ROOF RAFTER TO 2-INCH RIDGE BEAM	2 - 16d COMMON 3 - 10d BOX 3 - 3" X 0.131" NAILS 3 - 3" X 14 GAGE STAPLES	END NAIL
	3 - 10d COMMON 3 - 16d BOX 4 - 10d BOX 4 - 3" X 0.131" NAILS 4 - 3" X 14 GAGE STAPLES	TOENAIL
WALL		
8. STUD TO STUD (NOT AT BRACED WALL PANELS)	16d COMMON 10d BOX 3" X 0.131" NAILS 3 - 3" X 14 GAGE STAPLES	24" O.C. FACE NAIL 16" O.C. FACE NAIL
9. STUD TO STUD AND ABUTTING STUDS AT INTERSECTING WALL CORNERS (AT BRACED WALL PANELS)	16d COMMON 16d BOX 3" X 0.131" NAILS 3 - 3" X 14 GAGE STAPLES	16" O.C. FACE NAIL 12" O.C. FACE NAIL 12 O.C. FACE NAIL
10. BUILT-UP HEADER (2" TO 2" HEADER)	16d COMMON 16d BOX	16" O.C. EACH EDGE, FACE NAIL 12" O.C. EACH EDGE, FACE NAIL
11. CONTINUOUS HEADER TO STUD	4 - 8d COMMON 4 - 10d BOX	TOENAIL
12. TOP PLATE TO TOP PLATE	16d COMMON 10d BOX 3" X 0.131" NAILS 3" X 14 GAGE STAPLES	16" O.C. FACE NAIL 12" O.C. FACE NAIL
13. TOP PLATE TO TOP PLATE, AT END JOINTS	8 - 16d COMMON 12 - 10d BOX 12 - 3" X 0.131" NAILS 12 - 3" X 14 GAGE STAPLES	EACH SIDE OF END JOINT, FACE NAIL (MINIMUM 24" LAP SPLICE LENGTH AT EACH SIDE OF END JOINT)
14. BOTTOM PLATE TO JOIST, RIM JOIST, BAND JOIST, OR BLOCKING (NOT AT BRACED WALL PANELS)	16d COMMON 16d BOX 3" X 0.131" NAILS 3" X 14 GAGE STAPLES	16" O.C. FACE NAIL 12" O.C. FACE NAIL
15. BOTTOM PLATE TO JOIST, RIM JOIST, BAND JOIST, OR BLOCKING AT BRACED WALL PANELS	2 - 16d COMMON 3 - 16d BOX 4 - 3" X 0.131" NAILS 4 - 3" X 14 GAGE STAPLES	16" O.C. FACE NAIL
16. STUD TO TOP OR BOTTOM PLATE	4 - 8d COMMON 4 - 10d BOX 4 - 3" X 0.131" NAILS 4 - 3" X 14 GAGE STAPLES	TOENAIL
	2 - 16d COMMON 3 - 10d BOX 3 - 3" X 0.131" NAILS 3 - 3" X 14 GAGE STAPLES	END NAIL
17. TOP OR BOTTOM PLATE TO STUD	2 - 16d COMMON 3 - 10d BOX 3 - 3" X 0.131" NAILS 3 - 3" X 14 GAGE STAPLES	END NAIL
18. TOP PLATES, LAPS AT CORNERS AND INTERSECTIONS	2 - 16d COMMON 3 - 10d BOX 3 - 3" X 0.131" NAILS 3 - 3" X 14 GAGE STAPLES	FACE NAIL
19. 1" BRACE TO EACH STUD AND PLATE	2 - 8d COMMON 2 - 10d BOX 2 - 3" X 0.131" NAILS 2 - 3" X 14 GAGE STAPLES	FACE NAIL
20. 1" X 6" SHEATHING TO EACH BEARING	2 -8d COMMON 2 - 10d BOX	FACE NAIL
21. 1" X 8" AND WIDER SHEATHING TO EACH BEARING	3 - 8d COMMON 3 - 10d BOX	FACE NAIL
FLOOR		
22. JOIST TO SILL, TOP PLATE, OR GIRDER	3 - 8d COMMON 3 - 10d BOX 3 - 3" X 0.131" NAILS 3 - 3" X 14 GAGE STAPLES	TOENAIL
23. RIM JOIST, BAND JOIST, OR BLOCKING TO TOP PLATE, SILL OR OTHER FRAMING BELOW	8d COMMON 10d BOX 3" X 0.131" NAILS 3" X 14 GAGE STAPLES	6" O.C., TOENAIL
24. 1" X 6" SUBFLOOR OR LESS TO EACH JOIST	2 - 8d COMMON 2 - 10d BOX	FACE NAIL
25. 2" SUBFLOO

FOUNDATION PLAN LEGEND



FOUNDATION NOTES

- SEE DESIGN LOADS ON S0 SHEETS FOR ALL DESIGN LOADS NOT SHOWN ON PLANS.
- SEE GENERAL BUILDING SPECIFICATIONS ON A0 SHEETS AND STRUCTURAL SPECIFICATIONS ON S0 SHEETS FOR MATERIAL SPECIFICATIONS NOT SHOWN ON PLANS.
- FOUNDATION BACKFILL MATERIAL AND PREPARATION SHALL BE PER RECOMMENDATIONS OF GEOTECHNICAL REPORT (U.N.O.).
- SEE S2 SHEETS FOR ADDITIONAL FOUNDATION DETAILS NOT REFERENCED ON FOUNDATION PLANS.
- SEE SPECIFICATIONS FOR PERIMETER FOUNDATION INSULATION AND FOUNDATION DRAINAGE PANEL THICKNESS.
- COORDINATE AND VERIFY ALL UNDERGROUND WORK PRIOR TO POURING CONCRETE FLOOR SLAB.
- SEE CIVIL PLANS AND SPECIFICATIONS ON CIVIL PLANS FOR ALL EXTERIOR CONCRETE FLATWORK NOT SPECIFICALLY SHOWN/DETAILED ON THE STRUCTURAL PLANS.
- SEE S2 SHEETS FOR SLAB TYPES.
- SEE ARCHITECTURAL FLOOR PLANS FOR TAGS OF ALL GUARDPOSTS & GOALPOSTS. GUARDPOST & GOALPOST SCHEDULE & DETAILS LOCATED ON ARCH SHEETS.
- PIPE, CONDUIT AND DUCT LINES SHOWN ON THIS PLAN ARE FOR GENERAL LAYOUT INTENT PURPOSES ONLY. REFER TO THE CIVIL/MEP PLANS FOR SPECIFIC INFORMATION.
- WOOD SHEAR WALL DOWELS ARE A PART OF THIS FOUNDATION DESIGN AND MUST BE PLACED IN COORDINATION w/ THE FOOTINGS AND FOUNDATION WALLS PRIOR TO POURING FOUNDATIONS. (THESE DOWELS RUN FROM THE FOOTING UP INTO THE SLAB OVERPOUR.) CONTRACTORS MUST HAVE A CLEAR UNDERSTANDING OF WHAT IS REQUIRED PRIOR TO BEGINNING FOUNDATION WORK. CONTRACTORS ARE TO REVIEW THE WOOD SHEAR WALL SCHEDULE AND DETAIL FOR DOWEL INFORMATION AND IDENTIFY ALL LOCATIONS PRIOR TO POURING. CONTACT EXCEL ENGINEERING, INC. WITH ANY QUESTIONS YOU MAY HAVE PRIOR TO BEGINNING WORK.



NORTH

FOUNDATION PLAN

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

0' 4' 8'

STRUCTURAL FOUNDATION PLAN

EXCEL

Always a Better Plan

100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

PROJECT INFORMATION

PROPOSED QUICK SERVE RESTAURANT FOR:

OM GROUP - HAWAIIAN BROS - STR: 135

6421 E. 82ND ST. ● INDIANAPOLIS, IN 46250

PROFESSIONAL SEAL

SHEET DATES

ISSUED FOR CONSTRUCTION

IFC	APR. 3, 2026

JOB NUMBER

250361400

SHEET NUMBER

S1.1

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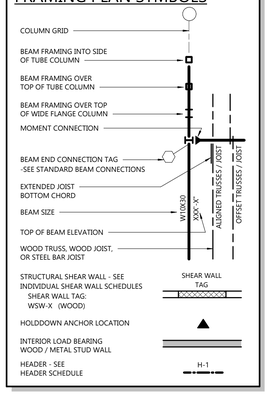
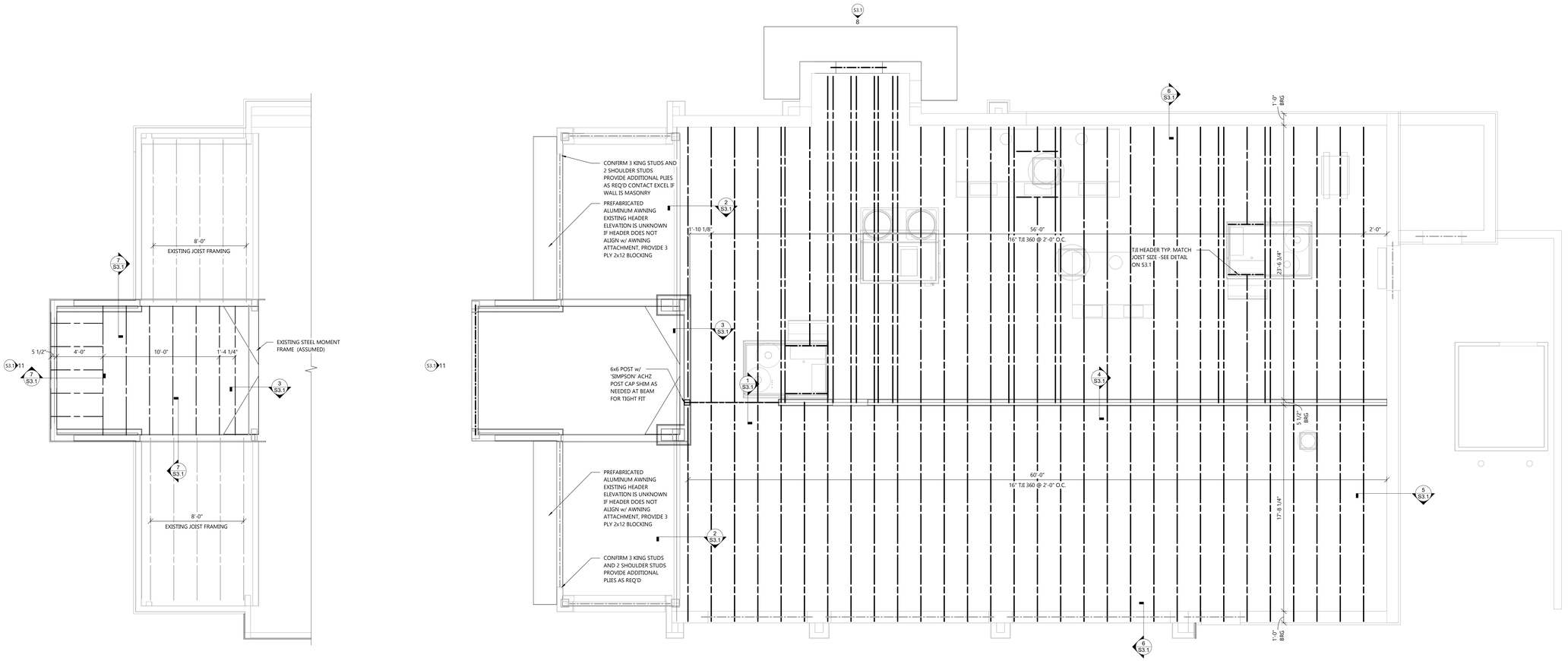
FRAMING PLAN SYMBOLS



TRUSS FRAMING NOTES

- ROOF FRAMING PLANS ARE "SCHEMATIC" ONLY - TRUSS MANUFACTURER TO PREPARE FINAL FRAMING PLANS FOR THE CONTRACTOR'S USE IN FIELD. NOTIFY ARCHITECT / ENGINEER OF ANY CHANGES.
- SEE BUILDING CROSS SECTIONS AND DETAILS FOR TRUSS PROFILES & PRESENCE OF BOTTOM CHORD SHEATHING.
- ALL PERMANENT TRUSS BRACING; INCLUDING CONTINUOUS LATERAL, DIAGONAL, BOTTOM CHORD, AND PIGGY-BACK, AND THEIR CONNECTIONS, SHALL BE DESIGNED BY TRUSS MANUFACTURER - SEE TRUSS MANUFACTURER'S DRAWINGS FOR WEB & LATERAL BRACING SIZE & LOCATION REQUIREMENTS. ALL BRACING SHALL BE INSTALLED BY G.C.
- G.C. TO PROVIDE TRUSS MANUFACTURER W/ LOCATIONS & WEIGHTS OF EQUIPMENT LOADS.
- ALL METAL TRUSS HANGERS BY TRUSS MANUFACTURER WHERE REQUIRED.
- PROVIDE (2) 2x6 WOOD BLOCKING W/ 'SIMPSON' LUS26-2 HANGERS EACH END AROUND ALL ROOF DECK OPENINGS & UNDER ROOF CURBS, SCUPPERS, ROOF DRAINS, ETC . . .
- THE NUMBER AND SIZE OF NAILS CONNECTING WOOD MEMBERS SHALL NOT BE LESS THAN THAT SET FORTH IN I.B.C. TABLE 2304.10.1 "FASTENING SCHEDULE" - SEE STRUCTURAL DRAWINGS.
- USE (1) "SIMPSON" H8 TRUSS TIE @ EACH ROOF TRUSS END W/ (5) 10d x 1 1/2" NAILS INTO TRUSS & (5) 10d x 1 1/2" NAILS INTO TOP PLATES. USE (2) "SIMPSON" H8 TRUSS TIES @ EACH DOUBLE TRUSS END W/ (5) 10d x 1 1/2" NAILS INTO TRUSS & (5) 10d x 1 1/2" NAILS INTO TOP PLATES.
- USE 'SIMPSON' LGT TRUSS HANGERS @ ALL GIRDER TRUSSES BEARING ON STUD WALLS. PROVIDE MULTI-MEMBER POST @ BEARING LOCATIONS. (NUMBER OF MEMBERS IN POST TO MATCH NUMBER OF TRUSS PLIES - (3) PLY MIN. POST). -SEE DETAIL ZZ/S3.1
- SEE DETAIL 1/S3.2 FOR ROOF SHEATHING NAILING REQUIREMENTS.
- UNLESS NOTED OTHERWISE, WALL SHEATHING TO BE 7/16" THICK. NAIL WALL SHEATHING 6" O.C. @ PANEL EDGES W/ 8d NAILS. NAIL 12" O.C. (MIN.) @ INTERMEDIATE SUPPORTS.
- ALL NAILS USED IN FRAMING CONNECTIONS TO BE COMMON WIRE UNLESS NOTED OTHERWISE.
- SEE WOOD STUD SCHEDULE ON S3 SHEETS FOR WALL STUD REQUIREMENTS.
- TRUSS SUPPLIER TO MAINTAIN 21" CLEAR DISTANCE BETWEEN ROOF TRUSSES AT ROOFTOP EQUIPMENT LOCATIONS TO ALLOW FOR DUCT PENETRATIONS THROUGH TRUSSES. COORDINATE FINAL ROOFTOP EQUIPMENT LOCATIONS AND DUCT DROP SIZES W/ HVAC DRAWINGS.
- **NOTE: TEMP SHORING WILL BE REQUIRED TO SUPPORT WALL DURING ROOF DEMO AND REINSTALLATION DESIGN OF SHORING IS BY OTHERS**



NORTH

HIGH ROOF FRAMING PLAN

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

0' 4' 8'

NORTH

LOW ROOF FRAMING PLAN

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

0' 4' 8'

STRUCTURAL ROOF FRAMING PLAN

EXCEL

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100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

PROJECT INFORMATION

PROPOSED QUICK SERVE RESTAURANT FOR:

OM GROUP - HAWAIIAN BROS - STR: 135

6421 E. 82ND ST. • INDIANAPOLIS, IN 46250

PROFESSIONAL SEAL

SHEET DATES

ISSUED FOR CONSTRUCTION

IFC	APR. 3, 2026

JOB NUMBER

250361400

SHEET NUMBER

S1.2

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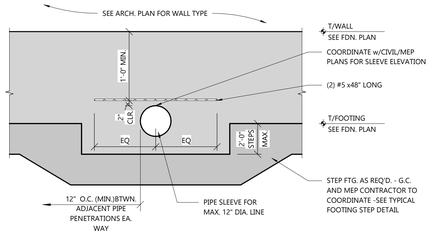
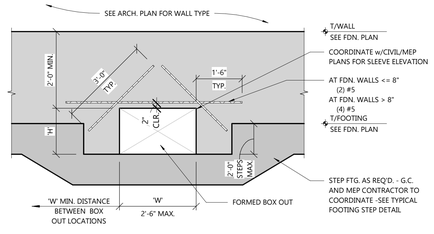


SLEEVED PENETRATION



FORMED PENETRATION

TYPICAL FOUNDATION PENETRATION DETAIL

NOT TO SCALE

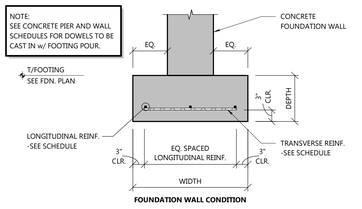
CONCRETE CONTINUOUS FOOTING SCHEDULE NOTES:

- ALL FOOTINGS ARE CENTERED ON FOUNDATION WALLS UNLESS DIMENSIONED OTHERWISE ON PLANS.
- SEE TYPICAL CONTINUOUS FOOTING DETAIL FOR TYPICAL CONSTRUCTION & NOTES.
- SEE FOUNDATION PLAN FOR TOP OF FOOTING ELEVATIONS.
- SEE GENERAL BUILDING SPECIFICATIONS FOR CONSTRUCTION MATERIAL REQ'S AND SPEC'S.

CONTINUOUS FOOTING SCHEDULE

MARK	FOOTING SIZE		REINFORCING				REMARKS
	WIDTH	DEPTH	LONGITUDINAL (BOTTOM)	TRANSVERSE (BOTTOM)	LONGITUDINAL (TOP)	TRANSVERSE (TOP)	
CF2	2'-0"	12"	(2) #5 BARS	-	-	-	

NOTE:
SEE CONCRETE PIER AND WALL SCHEDULES FOR DOWELS TO BE CAST IN w/ FOOTING POUR.



FOUNDATION WALL CONDITION

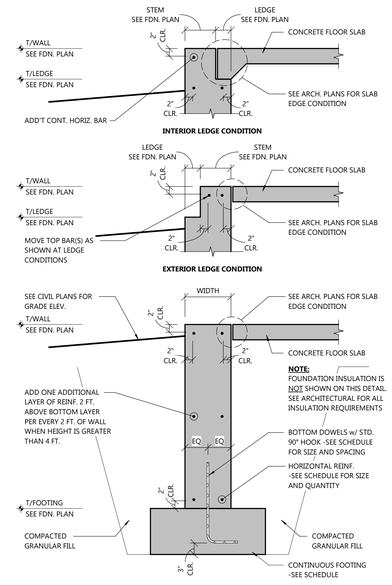
TYPICAL CONTINUOUS FOOTING DETAIL

CONCRETE FROST WALL SCHEDULE NOTES:

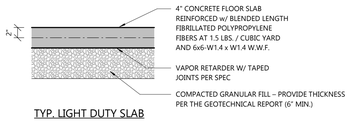
- SEE TYPICAL CONCRETE FROST WALL DETAIL FOR TYPICAL CONSTRUCTION & NOTES.
- SEE FOUNDATION PLAN FOR TOP OF WALL & LEDGE (IF APPLICABLE) ELEVATIONS.
- SEE GENERAL BUILDING SPECIFICATIONS FOR CONSTRUCTION MATERIAL REQ'S AND SPEC'S.

FROST WALL SCHEDULE

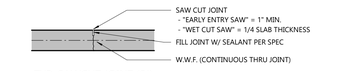
MARK	WIDTH	HORIZONTAL REINF.	BOTTOM DOWEL	REMARKS
FW8	8"	(2) #4 TOP & BOT.	#4 x 21" + HOOK @ 18" O.C.	



TYPICAL FROST WALL DETAIL

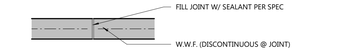


TYP. LIGHT DUTY SLAB



TYP. SAWCUT JOINT (SJ)

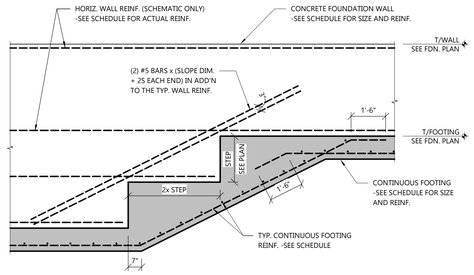
SAWCUT JOINT @ MAX. 10'-0" OC



TYP. POUR JOINT (PJ)

POUR JOINT @ MAX. 40'-0" O.C.

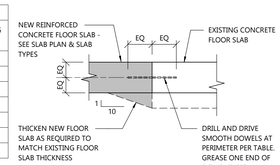
4" LIGHT DUTY SLAB DETAIL



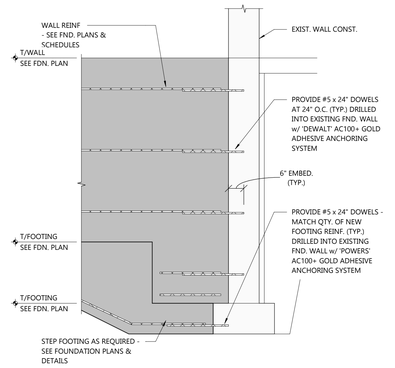
STEPPED FOOTING DETAIL

NOT TO SCALE

SMOOTH DOWEL SIZE & SPACING (PER ACI 302)			
SLAB DEPTH (IN.)	DIAMETER (IN.)	TOTAL LENGTH (IN.)	SPACING (IN.)
4	1/2	12	12
5	5/8	12	12
6	3/4	16	12
7	7/8	16	12
8	1	18	12
9	1 1/8	18	12
>/=10	1 1/4	20	12



NEW TO EXISTING SLAB JOINT DETAIL



NEW FND. TO EXIST. FND. DOWEL DETAIL

STRUCTURAL FOUNDATION SCHEDULES & DETAILS

EXCEL
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IFC APR. 3, 2026

JOB NUMBER

250361400

SHEET NUMBER

S2.0

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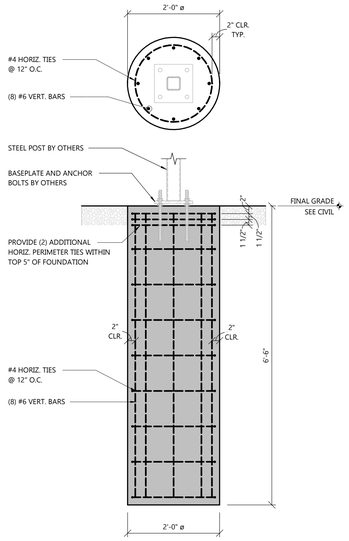
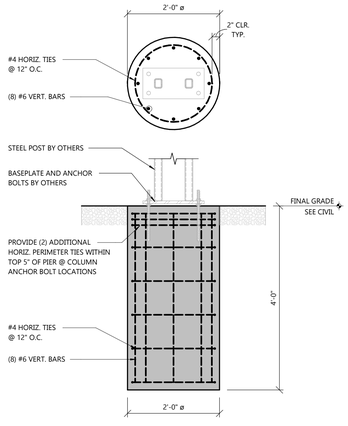


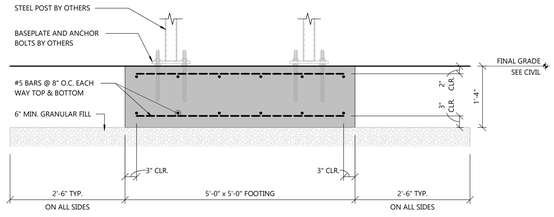
NOTE:
COORDINATE W/ FINAL CIVIL PLANS FOR MONUMENT SIGN LOCATIONS ON SITE.

5 S2.1 MONUMENT SIGN FOUNDATIONS
SCALE: 3/4" = 1'-0"



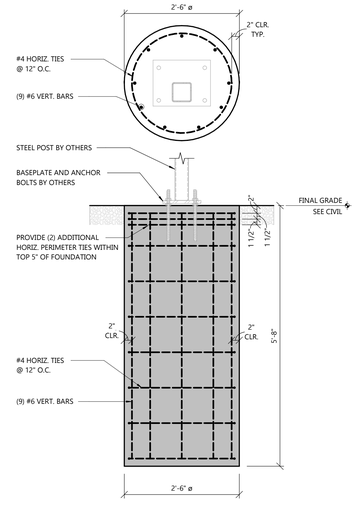
NOTE:
COORDINATE W/ FINAL CIVIL PLANS FOR DIRECTIONAL SIGN LOCATIONS ON SITE.

4 S2.1 DIRECTIONAL SIGN FOUNDATIONS
SCALE: 3/4" = 1'-0"



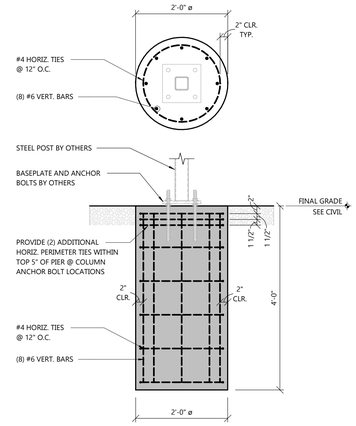
NOTE:
COORDINATE W/ FINAL CIVIL PLANS FOR DRIVE THRU MENU BOARD LOCATIONS ON SITE.

3 S2.1 DRIVE THRU MENU BOARD FOUNDATIONS
SCALE: 3/4" = 1'-0"



NOTE:
COORDINATE W/ FINAL CIVIL PLANS FOR DRIVE THRU ORDER CANOPY LOCATIONS ON SITE.

2 S2.1 DRIVE THRU ORDER CANOPY FOUNDATIONS
SCALE: 3/4" = 1'-0"



NOTE:
COORDINATE W/ FINAL CIVIL PLANS FOR DRIVE THRU CLEARANCE BAR LOCATIONS ON SITE.

1 S2.1 DRIVE THRU CLEARANCE BAR FOUNDATIONS
SCALE: 3/4" = 1'-0"

STRUCTURAL SITE FOUNDATION DETAILS

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

PROJECT INFORMATION

PROPOSED QUICK SERVE RESTAURANT FOR:
OM GROUP - HAWAIIAN BROS - STR: 135
6421 E. 82ND ST. • INDIANAPOLIS, IN 46250

PROFESSIONAL SEAL

SHEET DATES
ISSUED FOR CONSTRUCTION
IFC APR. 3, 2026

JOB NUMBER
250361400

SHEET NUMBER
S2.1

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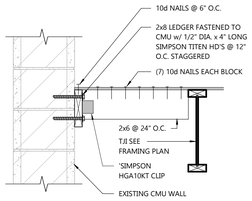
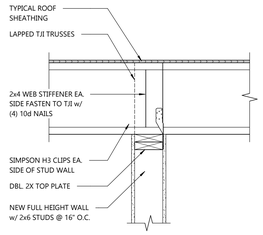
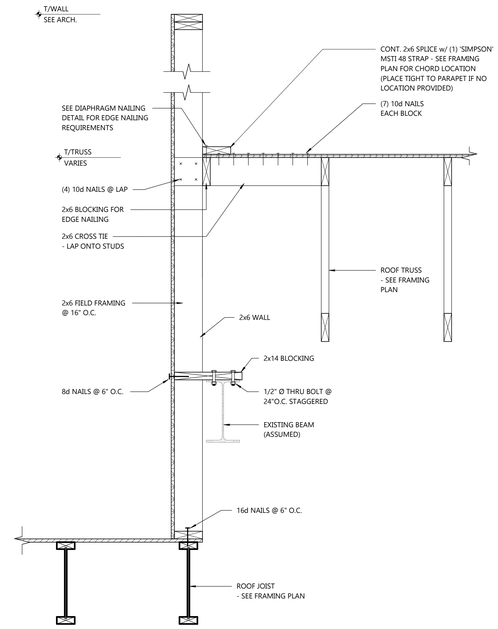


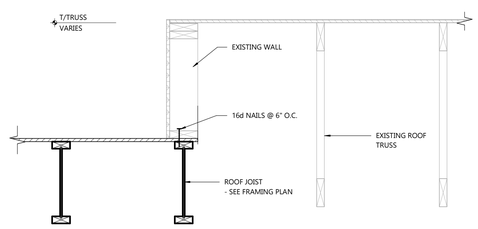
5 S3.1 FRAMING DETAIL
SCALE: 1" = 1'-0"



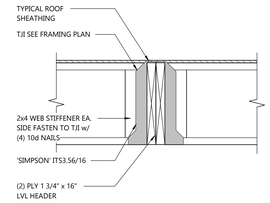
4 S3.1 FRAMING DETAIL
SCALE: 1" = 1'-0"



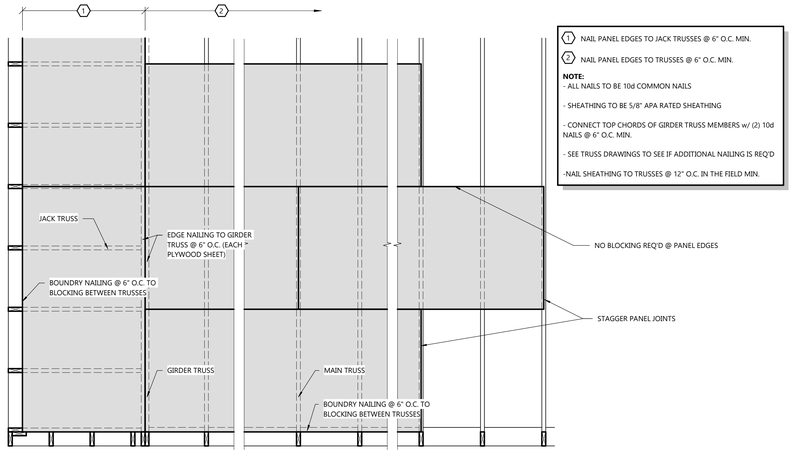
3 S3.1 HIGH LOW FRAMING DETAIL
SCALE: 1" = 1'-0"



2 S3.1 HIGH LOW FRAMING DETAIL
SCALE: 1" = 1'-0"



1 S3.1 FRAMING DETAIL
SCALE: 1" = 1'-0"



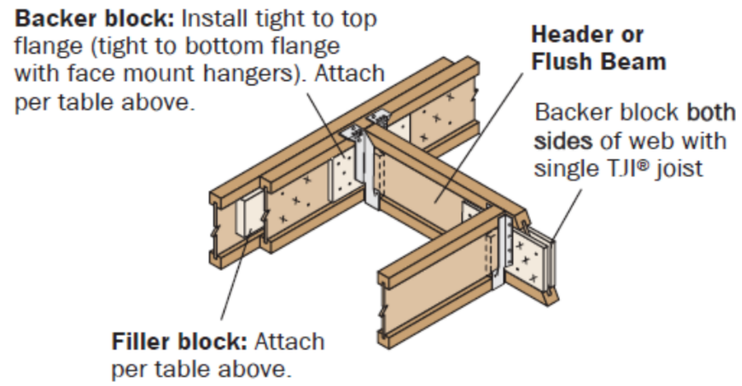
1 NAIL PANEL EDGES TO JACK TRUSSES @ 6" O.C. MIN.

2 NAIL PANEL EDGES TO TRUSSES @ 6" O.C. MIN.

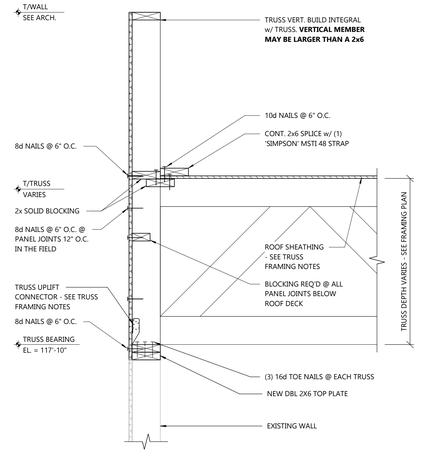
NOTE:
- ALL NAILS TO BE 10d COMMON NAILS
- SHEATHING TO BE 5/8" APA RATED SHEATHING
- CONNECT TOP CHORDS OF GIRDER TRUSS MEMBERS w/ (2) 10d NAILS @ 6" O.C. MIN.
- SEE TRUSS DRAWINGS TO SEE IF ADDITIONAL NAILING IS REQ'D
-NAIL SHEATHING TO TRUSSES @ 12" O.C. IN THE FIELD MIN.

STANDARD ROOF FASTENING

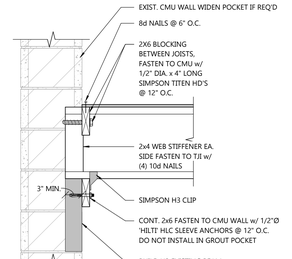
TJI	360	REMARKS
DEPTH	16"	• IF NECESSARY, INCREASE FILLER AND BACKER BLOCK HEIGHT FOR FACE MOUNT HANGERS AND MAINTAIN 1/8" GAP AT TOP OF JOIST. • CLINCH NAILS WHEN POSSIBLE • FOR FILLER BLOCK CONNECTION, NAILS SHALL BE DRIVEN FROM ALTERNATING SIDES.
FILLER BLOCK	2x8 + 1/2" SHEATHING	
BACKER BLOCK	7/8" OR 1" NET	
NAIL SIZE (FILLER & BACKER)	(0.131" x 3")	
NAIL QUANTITY (FILLER & BACKER)	15	
MAXIMUM POINT LOAD	1.440 LB	
HANGER	'SIMPSON' IUS 3.56/16	



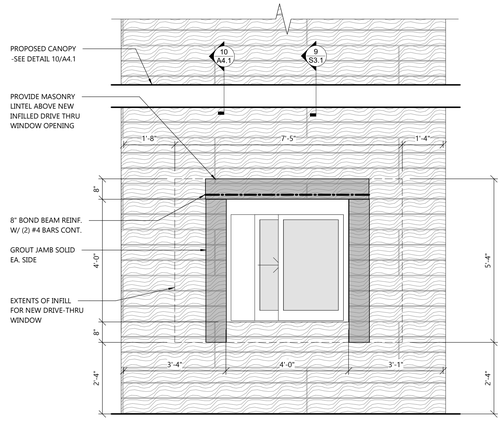
2-PLY TJI JOIST FASTENING AND HEADER DETAIL



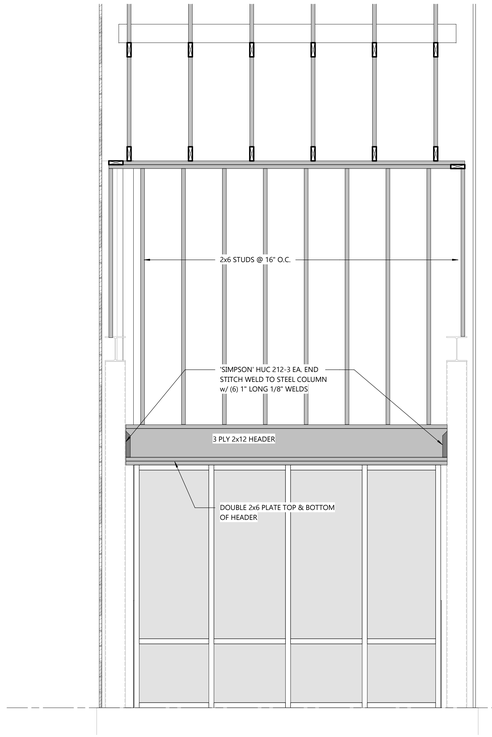
7 S3.1 TRUSS DETAIL
SCALE: 1" = 1'-0"



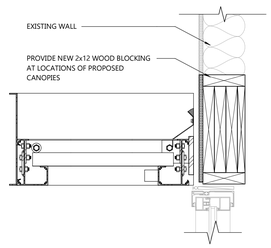
6 S3.1 FRAMING DETAIL
SCALE: 1" = 1'-0"



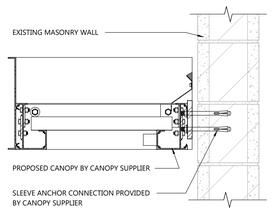
8 S3.1 DRIVE-THRU WINDOW INFILL ELEVATION
SCALE: 1/2" = 1'-0"



11 S3.1 FRAMING ELEVATION
SCALE: 1/2" = 1'-0"



10 S3.1 CANOPY DETAIL
SCALE: 1 1/2" = 1'-0"



9 S3.1 MASONRY CANOPY DETAIL
SCALE: 1 1/2" = 1'-0"

STRUCTURAL FRAMING DETAILS

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

PROJECT INFORMATION

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6421 E. 82ND ST. • INDIANAPOLIS, IN 46250

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PLUMBING SPECIFICATIONS

DIVISION 22 PLUMBING

22 05 00 BASIC PLUMBING REQUIREMENTS

A. SEE DIVISION 00 PROCUREMENT AND CONTRACTING AND DIVISION 01 GENERAL REQUIREMENT FOR ADDITIONAL REQUIREMENTS.
B. PLUMBING CONTRACTOR SHALL VERIFY REQUIREMENTS FOR TEMPORARY WATER WITH GENERAL CONTRACTOR AND INCLUDE IN HIS SCOPE OF WORK WHEN DIRECTED BY G.C., INSTALL IN ACCORDANCE WITH ALL CODE AND OSHA REQUIREMENTS FOR CONSTRUCTION PROJECTS.
C. SUBSTITUTIONS
1. SEE DIVISION 01 23 00 PRODUCT SUBSTITUTION PROCEDURES FOR ADDITIONAL REQUIREMENTS.
2. CONTRACTOR SHALL PROVIDE ALL SUPPORTING DATA AND ASSUME THE BURDEN OF PROOF THAT ANY SUBSTITUTE IS EQUIVALENT AS TO APPEARANCE, CONSTRUCTION, CAPACITY, AND PERFORMANCE. THE JUDGMENT OF EQUIVALENCY SHALL BE MADE BY THE ENGINEER AT THE TIME OF SHOP DRAWING REVIEW, NOT DURING BIDDING.
3. WHERE SUBSTITUTE EQUIPMENT REQUIRES REDESIGN OF ANY PART OF THE PROJECT, THE COST OF REDESIGN AND ADDITIONAL COSTS OF THE WORK SHALL BE PAID BY THE CONTRACTOR. REDESIGN SHALL BE SUBJECT TO THE APPROVAL OF ALL AUTHORITIES HAVING JURISDICTION OVER THE WORK INCLUDING THE ARCHITECT/ ENGINEER.
4. CONTRACTOR SHALL ASSUME ALL COORDINATION RESPONSIBILITIES FOR SUBSTITUTE EQUIPMENT INCLUDING COORDINATION ACROSS TRADES AND COORDINATION OF PREVIOUSLY REVIEWED AND APPROVED SHOP DRAWING SUBMITTALS, SHOULD THESE SHOP DRAWINGS BE AFFECTED BY THE SUBSTITUTED EQUIPMENT.
D. SHOP DRAWINGS, PRODUCT DATA, TEST RESULTS AND SAMPLE SUBMITTALS:
1. SEE DIVISION 01 33 23 SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES FOR ADDITIONAL REQUIREMENTS.
2. PLUMBING CONSTRUCTION ADMINISTRATION SUBMITTAL LIST:
a. PIPING
b. PIPE IDENTIFICATION
c. FIXTURES
d. INSULATION
e. HANGERS
f. DRAINS AND CLEANOUTS
g. VALVES
h. BACKFLOW PREVENTERS
i. WATER HEATERS
j. WATER HEATER FLUES
k. PUMPS
l. WATER TREATMENT EQUIPMENT
m. INTERCEPTORS
3. PROJECT CLOSEOUT
a. PROVIDE PLUMBING EQUIPMENT OPERATING AND MAINTENANCE MANUALS TO THE OWNER PER IECC IECC C303.3 AND C503.2.9.3.
4. AS-BUILT DRAWINGS SHALL BE MARKED ON A FINAL SET OF DRAWINGS WHICH INCLUDES ALL REVISIONS.
E. FINISHING AND PAINTING
1. SEE DIVISION 09 91 00 FINISH AND PAINTING FOR ADDITIONAL REQUIREMENTS.
2. PREPARE EXPOSED PIPE, FITTINGS, SUPPORTS, AND ACCESSORIES FOR FINISH PAINTING IN ROOMS THAT WILL HAVE CEILING AND STRUCTURE PAINTED.
3. COORDINATE WORK WITH THE PAINTERS SO THAT ALL EQUIPMENT IS INSTALLED PRIOR TO PAINTING. P.C. SHALL PAINT ITEMS IF NOT IN PLACE PRIOR TO NORMAL ROUTINE PAINTING.
4. IF FINISH BECOMES RUSTED, CORRODED, SCRATCHED, OR FLAKED DURING STORAGE OR INSTALLATION, REFINISH THE EQUIPMENT TO THE SATISFACTION OF THE OWNER.
5. WHERE THE PLUMBING CONTRACTOR IS REQUIRED TO PAINT, THE PAINTING SHALL BE DONE IN ACCORDANCE WITH THE PAINTING PORTION OF THE ARCHITECTURAL SPECIFICATION.
F. DETAILS AND SCHEDULES ARE SHOWN TO AID THE CONTRACTOR AND ARE NOT MEANT TO BE INCLUSIVE OF ALL DEVICES. PROVIDE REQUIRED EQUIPMENT AND ACCESSORIES FOR A COMPLETE INSTALLATION.
G. INSTALL ALL EQUIPMENT PER MANUFACTURER'S INSTALLATION INSTRUCTIONS AND REQUIREMENTS. PROVIDE ADDITIONAL WORK AND MATERIALS AS REQUIRED.
H. REGULATORY REQUIREMENTS
1. PERFORM WORK PER ALL LOCAL AND STATE CODES, ORDINANCES AND REGULATIONS HAVING JURISDICTION.
2. PROVIDE CERTIFICATE OF COMPLIANCE FROM AUTHORITY HAVING JURISDICTION INDICATING APPROVAL BACKFLOW PREVENTION DEVICES INSTALLATION.
I. COORDINATE INSTALLATION OF PLUMBING WORK WITH THE OTHER CONTRACTORS TO AVOID CONFLICTS WITH OTHER WORK.
J. VERIFY CONNECTION REQUIREMENTS FOR EQUIPMENT FURNISHED BY OTHERS WITH FINAL SHOP DRAWINGS.
K. CUTTING AND PATCHING
1. PROVIDE ALL CUTTING AND PATCHING NECESSARY FOR PLUMBING WORK INSTALLATION UNLESS THIS WORK IS IDENTIFIED TO BE THE WORK OF OTHER CONTRACTORS. PATCHING SHALL MATCH ADJACENT SURFACES.
L. FIRE RATED INTERIOR WALL AND FLOOR PIPE PENETRATIONS
1. SLEEVE REQUIRED FOR PENETRATION OF CONCRETE AND MASONRY WALLS AND FLOORS.
2. SEAL OPENING AROUND PIPE WITH A UL APPROVED FIRE-STOP SYSTEM HAVING AN F-RATING NOT LESS THAN THE HOURLY RATING OF THE ASSEMBLY BEING PENETRATED.
3. WHERE A SLEEVE IS REQUIRED, FURNISH AND INSTALL SLEEVES FOR NEW DRYWALL WALLS AND CONCRETE WALLS AND FLOORS. FURNISH SLEEVES TO THE MASON CONTRACTOR FOR INSTALLATION IN NEW MASONRY WALLS.
M. SEALANTS
1. PLUMBING CONTRACTOR SHALL PROVIDE ALL SEALANTS WHERE JOINT IS HIDDEN AND WHERE JOINT IS EXPOSED IN MECHANICAL ROOM.
2. SEALANT CONTRACTOR SHALL PROVIDE SEALANTS AT ALL EXPOSED LOCATIONS IN FINISHED ROOMS.
3. SEE SECTION 07 92 00 SEALANTS FOR ADDITIONAL INFORMATION.
N. ESCUTCHEONS
1. INSTALL ONE-PIECE (TWO PIECE FOR EXISTING PIPING) POLISHED CHROME PLATED STEEL ESCUTCHEONS AT PENETRATIONS EXPOSED IN FINISHED ROOMS (ROOMS WHICH DON'T HAVE UNFINISHED CONCRETE FLOORS).
2. ESCUTCHEONS WITH SPRINGS FOR WALL AND CEILING LOCATIONS.
3. ID TO CLOSELY FIT AROUND PIPE/INSULATION, OD THAT COMPLETELY COVERS THE OPENING.
4. ESCUTCHEONS REQUIRED IN CABINETS AND CASEWORK.
O. PROJECT COMPLETION
1. CLEAN FIXTURES AND EQUIPMENT AND LEAVE IN PROPER WORKING CONDITION AT THE TIME OF FINAL CLEAN-UP.
2. REMOVE, CLEAN AND REPLACE AERATORS AFTER FLUSHING WATER PIPING.
3. PROVIDE OPERATING INSTRUCTIONS FOR A TOTAL OF ONE (1) HOURS. MAINTAIN A RECORD OF OPERATING INSTRUCTION PERIODS AND OBTAIN OWNER SIGNOFF THAT INSTRUCTIONS HAVE BEEN COMPLETED.
P. ACCESS
1. FURNISH ACCESS PANELS OF ADEQUATE SIZE TO PERMIT SERVICE OF EQUIPMENT, VALVES, OR OTHER SPECIALTIES WHICH REQUIRE MAINTENANCE OR ADJUSTMENT WHICH ARE INSTALLED BEHIND WALLS OR ABOVE NON-LAYIN CEILING SURFACES.
2. PANELS SHALL BE SUITABLE FOR INSTALLATION IN THE MATERIAL FORMING THE FINISHED SURFACE, WITH FLANGED FLUSH METAL FRAME, FLUSH HINGED STEEL DOOR, FLUSH SCREWDRIVER OPERATED LATCH.
3. PANELS UL LISTED TO CONFORM TO THE FIRE RATING OF THE SURFACE INSTALLED IN.
4. TURN ACCESS PANEL OVER TO CONTRACTOR SKILLED IN THE CONSTRUCTION OF THE SURFACES INVOLVED FOR INSTALLATION.
5. ARCHITECT TO APPROVE ACCESS PANEL LOCATION PRIOR TO INSTALLATION OF EQUIPMENT REQUIRING ACCESS.
6. COORDINATE WITH THE OTHER CONTRACTORS AND WHEREVER PRACTICAL, GROUP DEVICES IN SUCH A MANNER SO AS TO MINIMIZE PANELS.

22 05 19 METERS AND GAUGES

A. PRESSURE GAUGES AND THERMOMETERS
1. MANUFACTURERS: TRERICE, U.S. GAUGE, ASHCROFT, MARSH, WEISS, WEKSLER.
2. PRESSURE GAUGES
a. GENERAL PURPOSE: TRERICE 600CB PBF CERTIFIED LEAD FREE CAST ALUMINUM CASE, PHOSPHOR BRONZE BOURDON TUBE; TRERICE 872-1PBF LEAD FREE BRASS PRESSURE SNUBBER.
1). GAUGE COCK: APOLLO 77FLF-100 LEAD FREE FULL PORT THREADED BRASS VALVE, 150 PSI SWP, 400 DEG F MAXIMUM TEMPERATURE.
3. STEM THERMOMETERS:
a. GENERAL PURPOSE: TRERICE BX9, ASTM E1, ORGANIC SPIRIT LIQUID FILL, CAST ALUMINUM CASE WITH EPOXY FINISH, CAST ALUMINUM ADJUSTABLE JOINT WITH POSITIVE LOCKING DEVICE, 9" SCALE, 3/4" NPT BRASS STEM, WITH EXTENSIONS AS REQUIRED FOR INSULATION.
b. PROVIDE THERMOWELL FOR ALL THERMOMETERS. BRASS IN COPPER TUBING, SIZE AND INSERTION LENGTH FOR APPLICATION. PROVIDE HEAT TRANSFER MEDIUM.
4. SCALE RANGES AND MINIMUM INCREMENT AS FOLLOWS:
a. COLD WATER: 0-100 PSIG/ 1 PSIG; 0-100 DEG F/ 1 DEG F
b. HOT WATER: 0-100 PSIG/ 1 PSIG; 0-160 DEG F/ 2 DEG F.
5. EXTEND NIPPLES TO ALLOW INSULATION CLEARANCE.
6. INSTALL WHERE READ FROM NORMAL OPERATING LEVEL.
7. CALIBRATE FOR ACCURACY.

22 05 29 PIPE AND EQUIPMENT HANGERS AND SUPPORTS

A. MANUFACTURERS: B-LINE, EMPIRE INDUSTRIES, GLOBAL PIPE HANGER PRODUCTS, GRINNEL, NATIONAL PIPE HANGER, UNI STRUT.
B. ANGLES, CHANNELS, AND BEAMS: ASTM A36 AND A572 AS REQUIRED.
C. HANGERS SHALL NOT BE ATTACHED TO JOIST BRIDGING.
D. ATTACHMENT TO METAL DECK: HANGERS MAY BE ANCHORED TO METAL FLOOR/ROOF DECK IF ALL THE FOLLOWING CONDITIONS ARE MET:
1. MAXIMUM HANGER LOAD OF 50 LBS.
2. ANCHORED TO BOTTOM OF DECK FLUTES, NOT UPPER FLUTE.
3. ANCHOR LENGTH SHALL EXCEED DECK DEPTH.
E. PIPE HANGERS/SUPPORTS
1. SEE DETAILS ON PLANS FOR ADDITIONAL PIPE HANGER SPECIFICATIONS.
2. SEE SCHEDULE ON PLANS FOR HANGER SPACING.
3. CONFORM TO ASME B31.9 AND MANUFACTURER'S STANDARDIZATION SOCIETY (MSS) SP-58-2009.
4. INSTALL HANGERS AND SUPPORTS SO PIPING LIVE AND DEAD LOADS AND STRESSES FROM MOVEMENT WILL NOT BE TRANSMITTED TO CONNECTED EQUIPMENT. ADJUST HANGERS TO DISTRIBUTE LOADS EQUALLY ON ATTACHMENTS AND TO PROVIDE INDICATED PIPE SLOPES.
5. PROVIDE SWAY BRACING ON HORIZONTAL DRAINAGE PIPES ABOVE GRADE 4" AND LARGER AT ALL CHANGES IN DIRECTION GREATER THAN 45 DEG WITHIN 12" OF CHANGE IN DIRECTION.
6. MATERIALS
a. V BOTTOM CLEVIS HANGER: MSS SP-58 TYPE 1, B-LINE FIGURE B3106 AND FIGURE B3106V PRE-GALVANIZED PLASTIC PIPE SUPPORT CHANNEL FOR PEX PIPING TO INCREASE HANGER SPACING
F. PROVIDE SEISMIC-RESTRAINT HANGERS AND SUPPORTS FOR PIPING AND EQUIPMENT AND OBTAIN APPROVAL FROM AUTHORITIES HAVING JURISDICTION.
G. STRUT SYSTEM
1. COMPLY WITH THE LATEST REVISION OF MFMA STANDARDS PUBLICATION NUMBER MFMA-3, "METAL FRAMING STANDARDS PUBLICATION".
2. INSTALL STRUT IN ACCORDANCE WITH MFMA-102 "GUIDELINES FOR THE USE OF METAL FRAMING"; IN ACCORDANCE WITH EQUIPMENT MANUFACTURER'S RECOMMENDATIONS, AND WITH RECOGNIZED INDUSTRY PRACTICES.
3. COLD FORMED LOW CARBON STEEL METAL FRAMING CHANNEL STRUT; B-LINE TYPE B CHANNEL.
4. 1-5/8 INCHES WIDE IN VARYING HEIGHTS AND WELDED COMBINATIONS AS REQUIRED TO MEET LOAD CAPACITIES.
5. MANUFACTURER'S STANDARD FINISH OR PLAIN FINISH
H. PROVIDE SUPPORT FOR UTILITY METERS IN ACCORDANCE WITH REQUIREMENTS OF UTILITY COMPANIES.
I. CONCRETE PADS
1. COORDINATE FINAL EQUIPMENT CONCRETE PAD SIZE REQUIREMENTS. PADS SHALL EXTEND MINIMUM 4" BEYOND EQUIPMENT FOOTPRINT

22 05 53 MECHANICAL IDENTIFICATION

A. PIPE IDENTIFICATION
1. INDOOR SELF-ADHESIVE PIPE MARKERS
a. MANUFACTURERS: MARKING SERVICES MS-900, BRADY B-736, SETON OPTI-CODE.
b. FLEXIBLE PVC FILM WITH PRESSURE SENSITIVE ACRYLIC ADHESIVE BACKING WITH PRINTED MARKINGS.
c. SECURE WITH 2" WIDE TAPE WITH ARROWS INDICATING FLOW.
2. COLOR, OVERALL SIZE AND LETTER HEIGHT SHALL CONFORM TO ASME A13.1- 2007 "SCHEME FOR THE IDENTIFICATION OF PIPING SYSTEMS".
3. IDENTIFY PIPE SERVICE, FLOW DIRECTION, AND PRESSURE.
4. LOCATIONS
a. LOCATE TO FACE GREATEST POINT OF VISIBILITY. ALL ADJACENT LABELS TO BE INSTALLED NEATLY IN A ROW.
b. LOCATE IDENTIFICATION NOT-TO-EXCEED 50 FEET FOR EXPOSED PIPING.
c. LOCATE IDENTIFICATION NOT-TO-EXCEED 25 FEET FOR PIPING ABOVE CEILINGS.
d. MINIMUM ONE LOCATION PER ROOM.
e. INSTALL IDENTIFICATION AFTER PIPING AND INSULATION IS COMPLETE TO ENSURE MAXIMUM VISIBILITY OF THE IDENTIFICATION SYSTEM.
f. BEHIND ACCESS PANELS AND ALL OTHER ACCESSIBLE POINTS OF SERVICE.
g. NEAR LOCATIONS WHERE PIPES PENETRATE WALLS, FLOORS OR CEILINGS.
h. NEAR EACH VALVE AND CONTROL DEVICE.
i. AT EACH MAJOR PIECE OF EQUIPMENT.

22 07 00 INSULATION

A. GENERAL
1. SEE INSULATION SCHEDULES ON PLANS FOR ADDITIONAL INFORMATION.
2. INSULATION, INSULATION SYSTEMS AND JACKETS SHALL MEET UL-723/ASTM E84 REQUIREMENTS OF MAX. FIRE HAZARD CLASSIFICATION OF 25, AND MAX. FLAME SPREAD, FUEL CONTRIBUTED, AND SMOKE DEVELOPED OF 50 WHEN INSTALLED IN RETURN AIR PLENUMS.
3. INSTALL MATERIALS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND MICA PUBLICATION "COMMERCIAL AND INDUSTRIAL STANDARDS", 2011 SEVENTH EDITION.
4. CONTINUE INSULATION WITHOUT INTERRUPTIONS THROUGH WALLS AND FLOOR PENETRATIONS AND HANGERS.
B. FIBERGLASS (F.G.) INSULATION
1. RIGID PIPING:
a. O.C. FIBERGLAS PIPE INSULATION, KNAUF EARTHWOOL PIPE INSULATION,
b. SINGLE OR DOUBLE ADHESIVE SELF-SEALING LAP SYSTEM FOR LONGITUDINAL JOINT, PRESSURE SENSITIVE BUTT STRIP SEALS, ALL SERVICE JACKET VAPOR BARRIER COVERING.
c. 3.5-5.5 LB./CU.FT., R=4.3 / NOMINAL INCH AT 75 DEG F.
d. MAX. 850 DEG F. JACKET MAX 150 DEG F. 0.02 PERM.
e. COMPRESSIVE STRENGTH AT 10% DEFORMATION 125 LB./S.F.
f. VALVES, FITTINGS, AND FLANGE COVERS:
1). ZESTON 2000/300 SERIES, CEELCO 300 SERIES, PROTO LOSMOKE PVC JACKET
2). HIGH IMPACT 30 MIL WHITE PVC WITH PRECUT FIBERGLASS INSERTS. MAX TEMP 150 DEG
C. ELASTOMERIC FOAM INSULATION
1. SEAL BUTT JOINTS WITH ADHESIVE.
2. SHEET
a. MANUFACTURERS: AEROFLEX AEROCEL, K-FLEX INSUL-SHEET, ARMACELL AP ARMAFLEX.
b. EPDM/PVC BASE ELASTOMERIC FOAM MATERIAL
c. MAX. 'K' VALUE 0.245 AT 75 DEG F
d. MAX. CONTINUOUS TEMPERATURE 220 DEG F
e. MAX. 0.05 PERM PER ASTM E96
f. MAX. FIRE/SMOKE DEVELOPED OF 25/50 PER ASTM E84 FOR UP TO 2" THICK.
g. ADHERE WITH 100% ADHESIVE COVERAGE, BOTH SURFACES.
3. PIPE
a. MANUFACTURERS: AEROFLEX AEROCEL SSPT, K-FLEX INSUL-LOCK DS, ARMACELL AP/ARMAFLEX BLACK LAPSEAL.
b. EPDM/PVC BASE ELASTOMERIC FOAM MATERIAL
c. DUAL TAPE CLOSURE
d. MAX. 'K' VALUE 0.245 AT 75 DEG F
e. MAX. CONTINUOUS TEMPERATURE 220 DEG F
f. MAX. 0.05 PERM PER ASTM E96
g. MAX. FIRE/SMOKE DEVELOPED OF 25/50 PER ASTM E84 FOR UP TO 2" THICK.
h. PROVIDE MANUFACTURER PREFORMED INSULATION OVER VALVES AND FITTINGS
i. FIELD CUTTING AND GLUING LONGITUDINAL JOINT NOT PERMITTED.
D. PIPE INSULATION REQUIREMENTS
1. INSULATE ENTIRE PIPING SYSTEM INCLUDING VALVES AND FITTINGS PER MICA INSULATION STANDARDS PLATES 10 THRU 18.
2. SEAL ALL INSULATION ENDS.

22 10 00 EXCAVATION AND BACKFILL

A. P.C. SHALL EXCAVATE AND BACKFILL TRENCHES FOR PLUMBING WORK.
B. PROTECT TREES, PLANTS, LAWNS, AND OTHER FEATURES REMAINING AS PORTION OF FINAL LANDSCAPING.
C. PROTECT BENCHMARKS, EXISTING STRUCTURES, FENCES, SIDEWALKS, PAVING, AND CURBS FROM EXCAVATING EQUIPMENT AND VEHICULAR TRAFFIC.
D. MAINTAIN, PROTECT, AND TEMPORARILY SUPPORT ABOVE AND BELOW GRADE UTILITIES WHICH ARE TO REMAIN.
E. PROVIDE AND MAINTAIN ALL FENCING, BARRICADES, SIGNS, WARNING LIGHTS, AND/OR OTHER EQUIPMENT NECESSARY TO KEEP ALL EXCAVATION PITS AND TRENCHES AND THE ENTIRE SUBGRADE AREA SAFE UNDER ALL CIRCUMSTANCES AND AT ALL TIMES. NO EXCAVATION SHALL BE LEFT UNATTENDED WITHOUT ADEQUATE PROTECTION.
F. ELEVATIONS SHOWN ON THE PLANS ARE SUBJECT TO SUCH REVISIONS AS MAY BE NECESSARY TO FIT FIELD CONDITIONS.
G. EXCAVATING
1. CUT TRENCHES SUFFICIENTLY WIDE TO ENABLE INSTALLATION AND ALLOW INSPECTION. REMOVE WATER OR MATERIALS THAT INTERFERE WITH WORK.
2. DO NOT INTERFERE WITHIN 45 DEGREE BEARING SPLAY OF FOUNDATIONS.
3. EXCAVATE MINIMUM 4" BELOW BOTTOM OF PIPE IF STONE GREATER THAN 1" OR BEDROCK IS ENCOUNTERED.
4. REMOVE UNSTABLE AREAS OF SUBGRADE BELOW PIPE TO MINIMUM 24" BELOW PIPE OR TO STABLE MATERIAL. BACKFILL WITH PEA GRAVEL, LIMESTONE SCREENINGS, OR EQUIVALENT AND COMPACT TO DENSITY EQUAL TO REQUIREMENTS FOR SUBSEQUENT BACKFILL MATERIAL.
5. STOCKPILE EXCAVATED MATERIAL IN AREA DESIGNATED ON SITE AND REMOVE EXCESS MATERIAL NOT BEING USED FROM SITE.
H. BEDDING AND BACKFILL:
1. LINES PASSING UNDER FOUNDATIONS:
a. INSTALL WITH MINIMUM OF 1-1/2 INCH CLEARANCE TO CONCRETE AND ENSURE THERE IS NO DISTURBANCE OF BEARING SOIL
b. BACKFILL WITH COMPACTED ENGINEER FILL PER GEOTECH REPORT.
2. MECHANICALLY COMPACT BEDDING AND BACKFILL TO PREVENT SETTLEMENT. THE INITIAL COMPACTED LIFT TO NOT EXCEED 24" COMPACTED TO 95% DENSITY PER MODIFIED PROCTOR TEST (ASTM D-1557). SUBSEQUENT LIFTS UNDER PAVEMENTS, CURBS, WALKS AND STRUCTURES ARE NOT TO EXCEED 12" AND BE COMPACTED TO 95% DENSITY PER MODIFIED PROCTOR TEST. IN ALL OTHER AREAS WHERE CONSTRUCTION ABOVE THE EXCAVATION IS NOT ANTICIPATED WITHIN 2 YEARS, MECHANICALLY COMPACT BACKFILL IN LIFTS NOT EXCEEDING 24" TO 90% DENSITY PER MODIFIED PROCTOR TEST.
3. MAINTAIN OPTIMUM MOISTURE CONTENT OF FILL MATERIALS TO ATTAIN REQUIRED COMPACTION DENSITY.
4. DRAIN PIPING
a. BEDDING: WHERE OVEREXCAVATED, BRING BACK TO BOTTOM OF PIPE ELEVATION WITH DRY SAND, GRAVEL, PEA GRAVEL, WASHED STONE OR CRUSHED STONE PASSING A 3/4" SIEVE.
b. BACKFILL TO A DEPTH OF 12" OVER THE PIPE WITH SAND, CRUSHED STONE THAT PASSES A 1" SIEVE. PLACE IN WELL TAMPED MAXIMUM 6" LAYERS FOR LENGTH OF SEWER AND WIDTH OF TRENCH.
5. BACKFILL ABOVE 12" ABOVE THE PIPE:
a. UNDER EXISTING AND FUTURE UTILITIES AND BUILDINGS: GRANULAR MATERIALS, PIT RUN SAND, GRAVEL, OR CRUSHED STONE, FREE FROM LARGE STONES, ORGANIC, AND FROZEN MATERIALS.
6. DIRECT SURFACE WATER AWAY FROM STOCKPILE SITE TO PREVENT EROSION OR DETERIORATION OF MATERIALS. REMOVE STOCKPILE, LEAVE AREA IN A CLEAN AND NEAT CONDITION. GRADE SITE SURFACE TO PREVENT FREESTANDING SURFACE WATER.

22 11 00 WATER PIPING AND VALVES

A. PIPING
1. SEE PIPE SCHEDULE ON PLANS FOR ADDITIONAL INFORMATION.
B. PIPING INSTALLATION
1. DRAWINGS AND DIAGRAMS SHOW SIZE AND APPROXIMATE LOCATION OF PIPING. THE DRAWINGS SHALL NOT BE SCALED TO DETERMINE EXACT LOCATION. PROVIDE ADDITIONAL OFFSETS TO COORDINATE WITH INSTALLATION REQUIREMENTS OF OTHER SYSTEMS.
2. ROUTE ABOVE GROUND PIPING IN ORDERLY MANNER, PARALLEL TO BUILDING STRUCTURE. OFFSET PIPE CONNECTIONS AT EQUIPMENT TO ALLOW FOR SERVICE, SUCH AS REMOVAL OF THE EQUIPMENT.
3. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
4. INSTALL PIPING TO CONSERVE BUILDING SPACE AND NOT INTERFERE WITH USE OF SPACE AND OTHER WORK. GROUP PIPING WHENEVER PRACTICAL AT COMMON ELEVATIONS.
5. INSTALL PIPING TO ALLOW FOR EXPANSION AND CONTRACTION WITHOUT STRESSING PIPE, JOINTS, OR CONNECTED EQUIPMENT WITH RESPECT TO THE BUILDING AND PLUMBING SYSTEM.
6. PROVIDE CLEARANCE FOR INSTALLATION OF INSULATION AND ACCESS TO VALVES.
7. DO NOT ROUTE PIPING ABOVE TRANSFORMERS, PANELBOARDS, MOTOR CONTROL CENTERS, SWITCHBOARDS OR OTHER ELECTRICAL DISTRIBUTION EQUIPMENT.
8. PROVIDE NON-CONDUCTING DIELECTRIC CONNECTIONS WHEREVER JOINTING DISSIMILAR METALS.
9. USE ONLY NEW MATERIAL, FREE OF DEFECTS, RUST AND SCALE, AND MEETING THE LATEST REVISION OF THE ASTM SPECIFICATIONS.
10. PREPARE EXPOSED UNFINISHED PIPE, FITTINGS, SUPPORTS, AND ACCESSORIES, READY FOR FINISH PAINTING.
11. SLOPE PIPING AND ARRANGE SYSTEMS TO DRAIN AT LOW POINTS. USE TOP CONNECTIONS FOR TAKEOFFS TO EQUIPMENT ABOVE THE MAINS AND BOTTOM CONNECTIONS FOR TAKEOFFS TO EQUIPMENT BELOW THE MAINS.
12. USE LONG RADIUS ELBOWS FOR ALL 90 DEGREE ELBOWS.
13. INSTALL VALVE STEM BETWEEN THE VERTICAL (UPRIGHT) OR HORIZONTAL POSITION.
14. DO NOT SUPPORT WEIGHT OF PIPING ON VALVE.
C. PIPING TESTING
1. EACH TEST MUST BE WITNESSED BY THE OWNER'S REPRESENTATIVE. IF LEAKS ARE FOUND, REPAIR THE AREA WITH NEW MATERIALS AND REPEAT THE TEST. DO NOT INSULATE PIPE UNTIL IT HAS BEEN SUCCESSFULLY TESTED.
2. MEASURE AND RECORD TEST PRESSURE AT THE HIGH POINT IN THE SYSTEM.
3. TEST WATER DISTRIBUTION SYSTEM WITH POTABLE WATER UNDER A WATER PRESSURE OF 100 PSIG OR THE WORKING PRESSURE OF THE SYSTEM (WHICHEVER IS GREATER) FOR A PERIOD OF (4) HOURS. IF LOCAL AUTHORITIES REQUIRE MORE STRINGENT TESTING, CONTRACTOR SHALL COMPLY WITH THOSE REQUIREMENTS.
D. WATER PIPING BALANCING
1. VERIFY THAT SUFFICIENT WATER FLOW, PRESSURE AND TEMPERATURE ARE AVAILABLE AT EACH OUTLET AND EQUIPMENT CONNECTION.
2. BALANCE CIRCULATING HOT WATER SYSTEM TO ENSURE PROPER CIRCULATION OF HOT WATER IN THE SYSTEM WITH HOT WATER AVAILABLE TO ALL FIXTURES AND CONNECTIONS.
3. BALANCE VALVE MINIMUM FLOW: 0.5 GPM.
E. FLUSH AND DISINFECT DOMESTIC WATER SUPPLY SYSTEM AS FOLLOWS:
1. FILL PIPING WITH POTABLE WATER AND ALLOW TO STAND FOR 24 HOURS.
2. FLUSH EACH OUTLET BEGINNING WITH OUTLET CLOSEST TO BUILDING CONTROL VALVE AND THEN EACH SUCCESSIVE OUTLET IN THE SYSTEM.
3. FLUSH EACH OUTLET MINIMUM 1 MINUTE AND UNTIL WATER APPEARS CLEAR AT THE OUTLET.
4. FILL SYSTEM WITH WATER/CHLORINE SOLUTION OF 50 PPM OF CHLORINE AND LET STAND FOR 24 HOURS, OR 200 PPM FOR 3 HOURS.
5. FLUSH WITH POTABLE WATER.
6. REPEAT DISINFECTION IF BACTERIOLOGICAL CONTAMINATION EXISTS.
7. PERFORM WATER QUALITY TEST IF REQUIRED BY LOCAL AUTHORITIES.
8. IF LOCAL AUTHORITIES REQUIRE MORE STRINGENT FLUSHING AND DISINFECTION, CONTRACTOR SHALL COMPLY WITH THOSE REQUIREMENTS.
F. VALVES
1. MANUFACTURERS: NIBCO, APOLLO, KEYSTONE, CENTERLINE, DEZURIK, CRANE, MUELLER, POWELL, VIEGA, GRINNELL, SIOUX CHIEF. LISTING OF MODEL NUMBER DOES NOT PRECLUDE OTHER ACCEPTABLE MANUFACTURERS FROM PROVIDING EQUIVALENT VALVES.
2. PROVIDE BRONZE VALVE FOR COPPER PIPE.
3. SHUTOFF VALVES 1" AND SMALLER
a. PEX BALL VALVE
1). APOLLO 77X SERIES
2). BRONZE THREE PIECE BODY, CHROME PLATED BRASS BALL, FULL PORT, TEFLON SEATS AND STUFFING BOX RING, LEVER HANDLE WITH VALVE EXTENSIONS FOR INSULATED PIPING, CRIMP JOINT ENDS, 200 PSI WOG, NSF 61 LISTED.
4. SHUTOFF VALVES 2" AND SMALLER
a. BRONZE BALL VALVE:
1). SOLDERED: NIBCO S-685-66-LF.
2). PRESS FITTING: VIEGA SERIES 2970.*ZL OR SERIES 2971.*ZL
3). TWO PIECE, CHROME PLATED BRASS OR STAINLESS STEEL BALL, FULL PORT, REINFORCED PTFE SEATS AND STUFFING BOX RING, LEVER HANDLE WITH LOCKABLE HANDLE AND VALVE STEM EXTENSIONS FOR INSULATED PIPING, 250 PSI, NSF 61 ANNEX G LISTED.
b. CPVC BALL VALVE
1). SIOUX CHIEF 648 SERIES
2). TWO PIECE BRASS BODY, CHROME PLATED BRASS OR STAINLESS STEEL BALL, FULL PORT, TEFLON SEATS AND STUFFING BOX RING, LEVER HANDLE WITH VALVE EXTENSIONS FOR INSULATED PIPING, CPVC SOCKET ENDS, 150 PSI WORKING PRESSURE.
5. MANUAL BALANCE VALVES 2" AND SMALLER
a. BELL & GOSSETT A-549LFP(C), CALEFFI, NIBCO, FLOWSET, ARMSTRONG, AND IMI HYDRONIC ENGINEERING); BRONZE BODY WITH CALIBRATED BRASS ORIFICE OR VENTURI, MEMORY STOP, SOLDERED ENDS AND PRESSURE TAPS. 125 PSIG RATING AT 240 DEG F, NSF 61 ANNEX G LISTED LEAD FREE.
b. INSTALL 5 PIPE DIAMETERS DOWNSTREAM AND 2 PIPE DIAMETERS UPSTREAM OF A FITTING.
6. DRAIN VALVES: SHUTOFF VALVE WITH THREADED CAP. PROVIDE FOR COMPLETE SYSTEM DRAINAGE, NSF 61 LISTED.
7. SPRING LOADED CHECK VALVES
a. 2" AND SMALLER:
1). THREADED: NIBCO MODEL 480-Y-LF
2). BRONZE BODY, TFE SEAT AND DISC, STAINLESS STEEL SPRING, CLASS 125, NSF 61 ANNEX G LISTED LEAD FREE.
8. WATER HAMMER ARRESTORS: SEE SCHEDULE. INSTALL IN ACCESSIBLE LOCATION.

22 13 00 DRAIN PIPING AND VALVES

A. PIPING INSTALLATION
1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
2. FIELD VERIFY EXISTING AND PROPOSED SEWER ELEVATIONS AND SIZES AND NOTIFY THE OWNER'S REPRESENTATIVE IN WRITING OF ANY VARIATION OF THE ELEVATIONS BEFORE BEGINNING ANY SEWER AND BUILDING DRAIN WORK.
3. DRAWINGS AND DIAGRAMS SHOW SIZE AND APPROXIMATE LOCATION OF PIPING. THE DRAWINGS SHALL NOT BE SCALED TO DETERMINE EXACT LOCATION. PROVIDE ADDITIONAL OFFSETS TO COORDINATE WITH INSTALLATION REQUIREMENTS OF OTHER SYSTEMS.
4. ROUTE ABOVE GROUND PIPING IN ORDERLY MANNER, PARALLEL TO BUILDING STRUCTURE. OFFSET PIPE CONNECTIONS AT EQUIPMENT TO ALLOW FOR SERVICE, SUCH AS REMOVAL OF THE EQUIPMENT.
5. INSTALL PIPING TO CONSERVE BUILDING SPACE AND NOT INTERFERE WITH USE OF SPACE AND OTHER WORK. GROUP PIPING WHENEVER PRACTICAL AT COMMON ELEVATIONS.
6. INSTALL PIPING TO ALLOW FOR EXPANSION AND CONTRACTION WITHOUT STRESSING PIPE, JOINTS, OR CONNECTED EQUIPMENT WITH RESPECT TO THE BUILDING AND PLUMBING SYSTEM.
7. PROVIDE CLEARANCE FOR INSTALLATION OF INSULATION AND ACCESS TO VALVES.
8. DO NOT ROUTE PIPING ABOVE TRANSFORMERS, PANELBOARDS, MOTOR CONTROL CENTERS, SWITCHBOARDS OR OTHER ELECTRICAL DISTRIBUTION EQUIPMENT.
9. PROVIDE NON-CONDUCTING DIELECTRIC CONNECTIONS WHEREVER JOINTING DISSIMILAR METALS.
10. PROVIDE NO-HUB ADAPTER ON PVC PIPE WHERE USING NO-HUB COUPLINGS.
11. SLOPE SANITARY PIPE 2" AND SMALLER 1/4" PER FOOT, 3" AND LARGER PIPING 1/8" PER FOOT.
12. SLOPE GREASE WASTE LINES UPSTREAM OF GREASE INTERCEPTOR MINIMUM 1/4" PER FOOT.
13. SLOPE STORM PIPE TO SLOPE INDICATED ON DRAWINGS WITH MAXIMUM VARIATIONS OF 1/8" IN 10 FEET FROM TRUE SLOPE.
14. MAINTAIN SEPARATION OF SEWER PIPING FROM WATER MAINS IN ACCORDANCE WITH REQUIRED CODES AND REGULATIONS.
B. STORM AND SANITARY DRAIN PIPING TESTING: TEST DRAIN AND VENT PIPING PER CODE REQUIREMENTS.

22 40 00 PLUMBING FIXTURES

A. FIXTURES
1. SEE SCHEDULES FOR ADDITIONAL IN

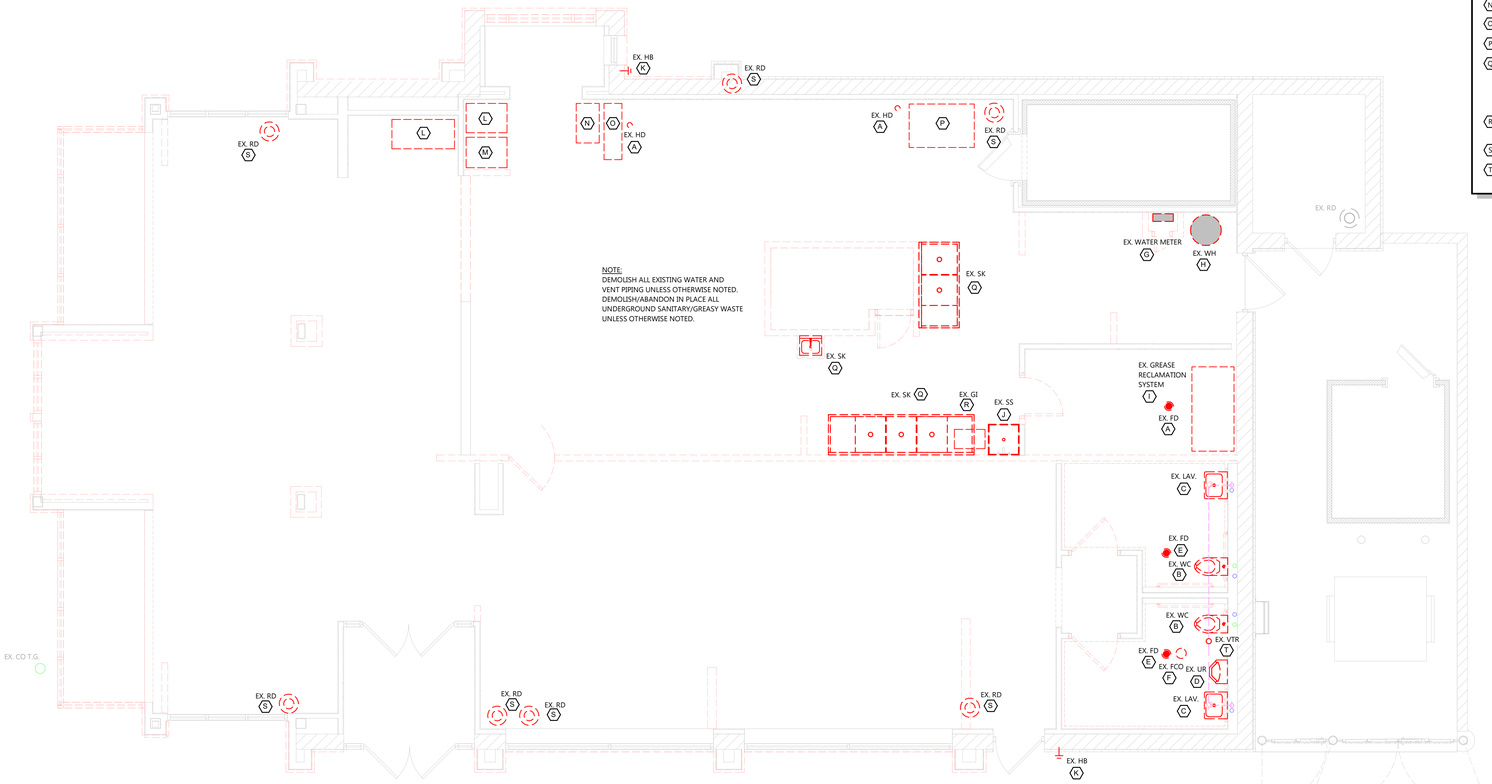
DEMOLITION PLAN NOTES:

- ALL PIPING, FIXTURES, AND EQUIPMENT SHOWN "HEAVY DASHED" ARE TO BE DEMOLISHED.
- ALL PIPING, FIXTURES, AND EQUIPMENT SHOWN "LIGHTER" ARE EXISTING TO REMAIN.
- COORDINATE DEMOLITION OF EXISTING PIPING TO BE REMOVED WITH GC.
- NO EXISTING PLANS OF UNDERGROUND PIPING EXIST. PIPING SHOWN IS ENGINEER'S ESTIMATION OF ROUTING. FIELD VERIFY LOCATIONS OF EXISTING PIPE MAINS. REUSE ANY PIPING OF SUFFICIENT SIZE IN GOOD CONDITION. REROUTE AS REQUIRED BY ACTUAL CONDITIONS.
- WHERE EXISTING PIPING IS SHOWN TO BE REMOVED, CAP BRANCH PIPE IF NOT BEING USED FOR NEW CONSTRUCTION.
- WHERE EXISTING PIPING IS SHOWN TO BE REMOVED IN AN EXISTING WALL CAVITY WHERE WALL IS TO REMAIN, ABANDONMENT OF EXISTING PIPING IS ACCEPTABLE. CAP ABANDONED PIPING AT BOTH ENDS.

KEYNOTES:

NOT ALL KEYNOTES MAY APPEAR ON PLAN.

- (A) REMOVE EXISTING HUB/FLOOR DRAIN AND P-TRAP. PLUG/CAP PIPE BELOW LEVEL OF NEW FINISHED FLOOR. ABANDON ALL DOWNSTREAM PIPING IN PLACE.
- (B) REMOVE EXISTING WATER CLOSET. SALVAGE FOR REINSTALLATION. VERIFY EXISTING SANITARY PIPING IS OF SUFFICIENT CONDITION FOR REUSE.
- (C) REMOVE EXISTING LAVATORY AND ALL ACCESSORIES. SALVAGE FOR REINSTALLATION. VERIFY EXISTING SANITARY PIPING IS OF SUFFICIENT CONDITION FOR REUSE.
- (D) REMOVE EXISTING URINAL AND ALL ACCESSORIES. PLUG/CAP SANITARY BELOW LEVEL OF NEW FINISHED FLOOR. REMOVE EXISTING WATER ROUGH-INS AS REQUIRED. ABANDON WATER PIPES IN WALL AND CAP SANITARY AND WATER STUB OUT BEHIND NEW FINISHED WALL FACE.
- (E) REMOVE EXISTING FLOOR DRAIN AND P-TRAP. VERIFY EXISTING PIPING IS OF SUFFICIENT CONDITION FOR REUSE.
- (F) REMOVE EXISTING FCO. VERIFY EXISTING PIPING IS OF SUFFICIENT CONDITION FOR REUSE.
- (G) REMOVE EXISTING 1" DOMESTIC WATER METER AND ALL ASSOCIATED PIPING AS REQUIRED FOR NEW WORK.
- (H) REMOVE EXISTING WATER HEATER AND ALL ASSOCIATED PIPING.
- (I) REMOVE EXISTING GREASE RECLAMATION TANK AND ALL ASSOCIATED PIPING AND ACCESSORIES.
- (J) REMOVE EXISTING SERVICE SINK AND PIPING AS REQUIRED FOR NEW WORK. SALVAGE SINK FOR REINSTALLATION.
- (K) REMOVE EXISTING HOSE BIBB AND ALL ASSOCIATED PIPING.
- (L) REMOVE EXISTING BEVERAGE CENTER AND ALL ACCESSORIES.
- (M) REMOVE SOFT SERVE EQUIPMENT AND ALL ACCESSORIES.
- (N) REMOVE LEMONADE MACHINE AND ALL ACCESSORIES.
- (O) REMOVE BUNN HOT WATER MACHINE AND ALL ACCESSORIES.
- (P) REMOVE EXISTING ICE MACHINE AND ALL ACCESSOIRES.
- (Q) REMOVE EXISTING SINK AND ALL ACCESSORIES. PLUG/CAP SANITARY BELOW LEVEL OF NEW FINISHED FLOOR. REMOVE EXISTING WATER ROUGH-INS AS REQUIRED. ABANDON WATER PIPES IN WALL AND CAP SANITARY AND WATER STUB OUT BEHIND NEW FINISHED WALL FACE.
- (R) REMOVE EXISTING GREASE INTERCEPTOR AND ALL ACCESSORIES.
- (S) REMOVE EXISTING ROOF DRAIN AND ALL ASSOCIATED PIPING.
- (T) REMOVE EXISTING VTR AND REROUTE EXISTING VENTING ONE TRUSS BAY OVER SO NEW VTR IS NOT UNDER ROOF LADDER.



PLUMBING FIRST FLOOR DEMOLITION PLAN

EXCEL

Always a Better Plan

100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

PROJECT INFORMATION

PROPOSED QUICK SERVE RESTAURANT FOR:

OM GROUP - HAWAIIAN BROS - STR: 135

6421 E. 82ND ST. ● INDIANAPOLIS, IN 46250

PROFESSIONAL SEAL

SHEET DATES

ISSUED FOR CONSTRUCTION

IFC	APR. 3, 2026

JOB NUMBER

250361400

SHEET NUMBER

PD1.1

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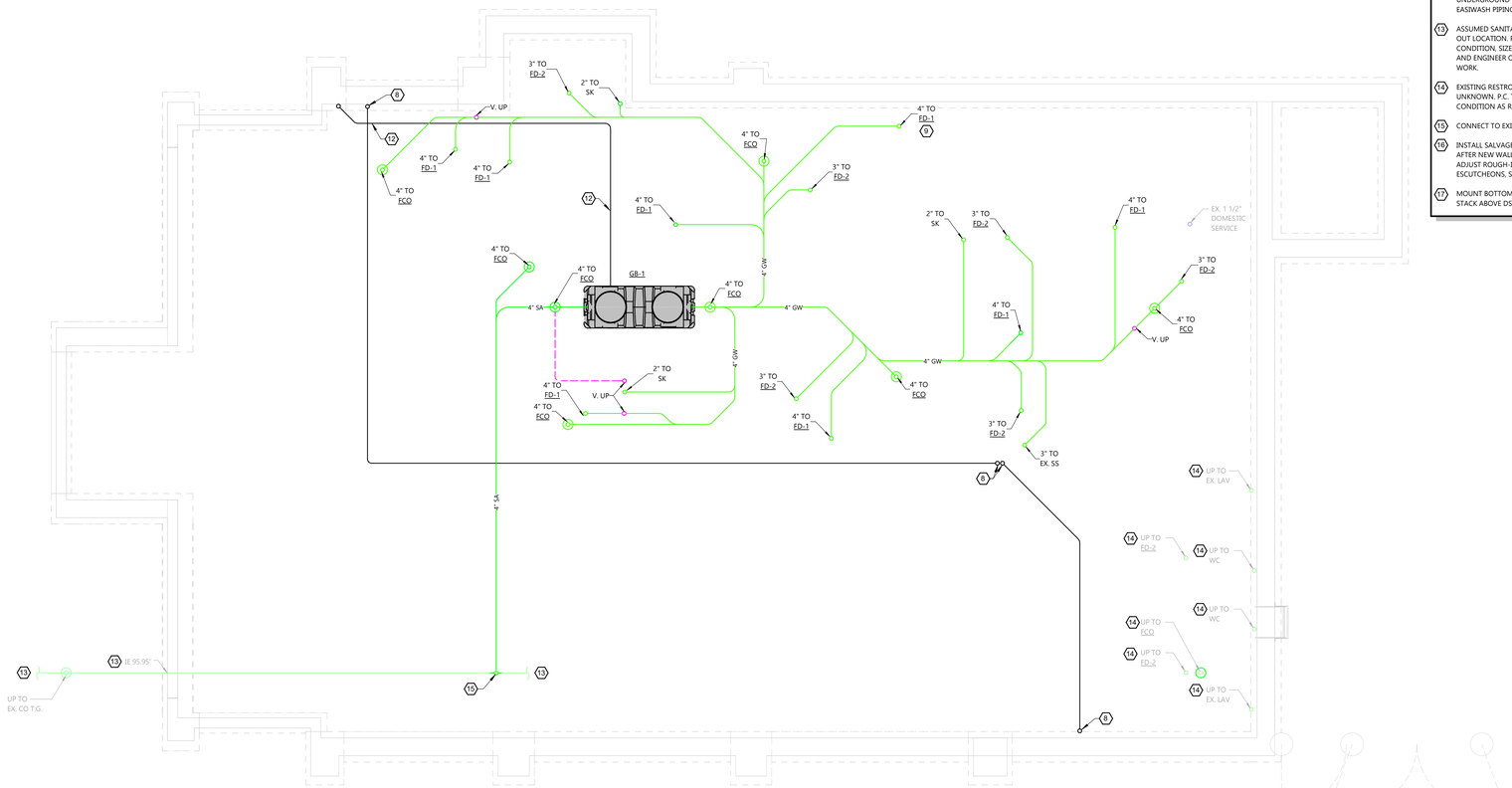
GENERAL NOTES:

- NO UNDERGROUND BUILDING DRAIN PIPING SHALL BE INSTALLED UNTIL BUILDING SEWERS ARE BROUGHT TO THE BUILDING AND INVERT ELEVATIONS VERIFIED. COSTS INCURRED FOR FAILURE TO DO SO SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
- ALL PIPING IS TO BE CONCEALED. IF BUILDING CONSTRUCTION DOES NOT PERMIT CONCEALING PIPING, LOCATIONS AND ROUTING ARE TO BE APPROVED BY ARCHITECT/OWNER PRIOR TO INSTALLATION.
- INSTALL CLEANOUTS AT STACKS WHICH PENETRATE THE LOWEST FLOOR LEVEL 28" AFF UNLESS NOTED OTHERWISE.
- FLOOR AND WALL CLEANOUT LOCATIONS NOT PERMITTED TO BE MOVED WITHOUT APPROVAL OF ARCHITECT/ENGINEER.
- SEE ARCHITECTURAL A5 SHEETS FOR ADA RELATED INSTALLATION DETAILS.
- SLOPE ALL ST/OFD PIPING AT 1/8"/FT UNLESS NOTED OTHERWISE.
- INSTALL HOSE BIBBS AT 18" A.F.F..
- INSTALL DOWNSPOUT NOZZLE AT 18" A.F.F..

KEYNOTES:

1. CONCRETE PAD.
2. INTAKE AND EXHAUST FLUES UP TO VENTS THRU ROOF. INSTALL PER MANUFACTURER REQUIREMENTS.
3. 6" SCHEDULE 40 PVC WITH 24" SWEEP ELBOWS. COORDINATE SIZE AND TERMINATION LOCATION WITH BEVERAGE VENDOR PRIOR TO ROUGH-IN.
4. EVAPORATOR CONDENSATE. SEE WALK-IN DRAIN LINE DETAIL ON KITCHEN EQUIPMENT SHEET QF300 FOR MORE INFORMATION.
5. SEE WATER SOFTENER PIPING DETAIL FOR CONTINUATION.
6. SEE WATER HEATER PIPING DETAIL FOR CONTINUATION.
7. PROVIDE 2" PVC CONDUIT THROUGH WALL FOR EASIWASH HOSE AND CABLE. HOSE AND CABLE PROVIDED BY KITCHEN EQUIPMENT CONTRACTOR. COORDINATE OPEN FITTING LOCATIONS FOR HOSE/CABLE PULL BY KITCHEN CONTRACTOR. VERIFY WALL TERMINATION REQUIREMENTS PRIOR TO TURN OVER.
8. 2" CONDUIT THROUGH FLOOR FOR EASIWASH SYSTEM HOSE AND CABLE. ALL BENDS SHALL BE A MINIMUM OF 24" SWEEP.
9. PROVIDE CAST IRON P-TRAP AND PIPING 15' DOWNSTREAM OF FD-1.
10. SEE RO SYSTEM DETAIL FOR CONTINUATION.
11. PB-1 MOUNTED ON WALL ABOVE WATER METER AND BFP-1.
12. PUMP OUT PORT FOR GREASE INTERCEPTOR. 3" PVC UNDERGROUND PIPING TO GI-1. ROUTE PIPING BELOW EASIWASH PIPING.
13. ASSUMED SANITARY LOCATION BASED ON EXISTING CLEAN OUT LOCATION. P.C. TO SCOPE AND VERIFY LOCATION. CONDITION, SIZE AND INVERT ELEVATION. NOTIFY OWNER AND ENGINEER OF ANY ISSUES PRIOR TO BEGINNING NEW WORK.
14. EXISTING RESTROOM SANITARY, EXACT ROUTING UNKNOWN. P.C. TO SCOPE AND VERIFY LOCATION AND CONDITION AS REQUIRED FOR NEW WORK.
15. CONNECT TO EXISTING.
16. INSTALL SALVAGED FIXTURE ON EXISTING ROUGH-INS AFTER NEW WALL AND FLOOR FINISHES ARE INSTALLED. ADJUST ROUGH-INS AS REQUIRED. REUSE OF EXISTING ESCUTCHEONS, STOPS, SUPPLIES AND TRAPS IS PROHIBITED.
17. MOUNT BOTTOM OF OVERFLOW DSN 30" ABOVE GRADE. STACK ABOVE DSN SERVING PRIMARY STORM DRAINAGE.



NORTH

UNDERGROUND PLAN

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

0' 4' 8'

PLUMBING UNDERGROUND PLAN

EXCEL

Always a Better Plan

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IFC	APR. 3, 2026

JOB NUMBER

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SEISMIC NOTE:

- PROJECT IS SEISMIC DESIGN CATEGORY C. ALL EQUIPMENT AND ALL PIPING WEIGHING MORE THAN 20 LBS OR 5LB/FT (INCLUDING CONTENTS) SHALL BE POSITIVELY ATTACHED TO STRUCTURE.

FOOD SERVICE EQUIPMENT NOTES:

- XX = EQUIPMENT NUMBER FROM KITCHEN PLAN. EQUIPMENT FURNISHED BY OWNER, ROUGH-INS AND FINAL CONNECTIONS BY P.C.. SEE KITCHEN EQUIPMENT PLAN SHEETS QF300 AND QF400 FOR MORE INFORMATION.
- MODIFY FLOOR SINK GRATES AS REQUIRED FOR DRAINS.
- CUT INDIRECT KITCHEN WASTE DRAINS AT 45° ANGLE AT DISCHARGE.

FOOD SERVICE EQUIPMENT NOTES:

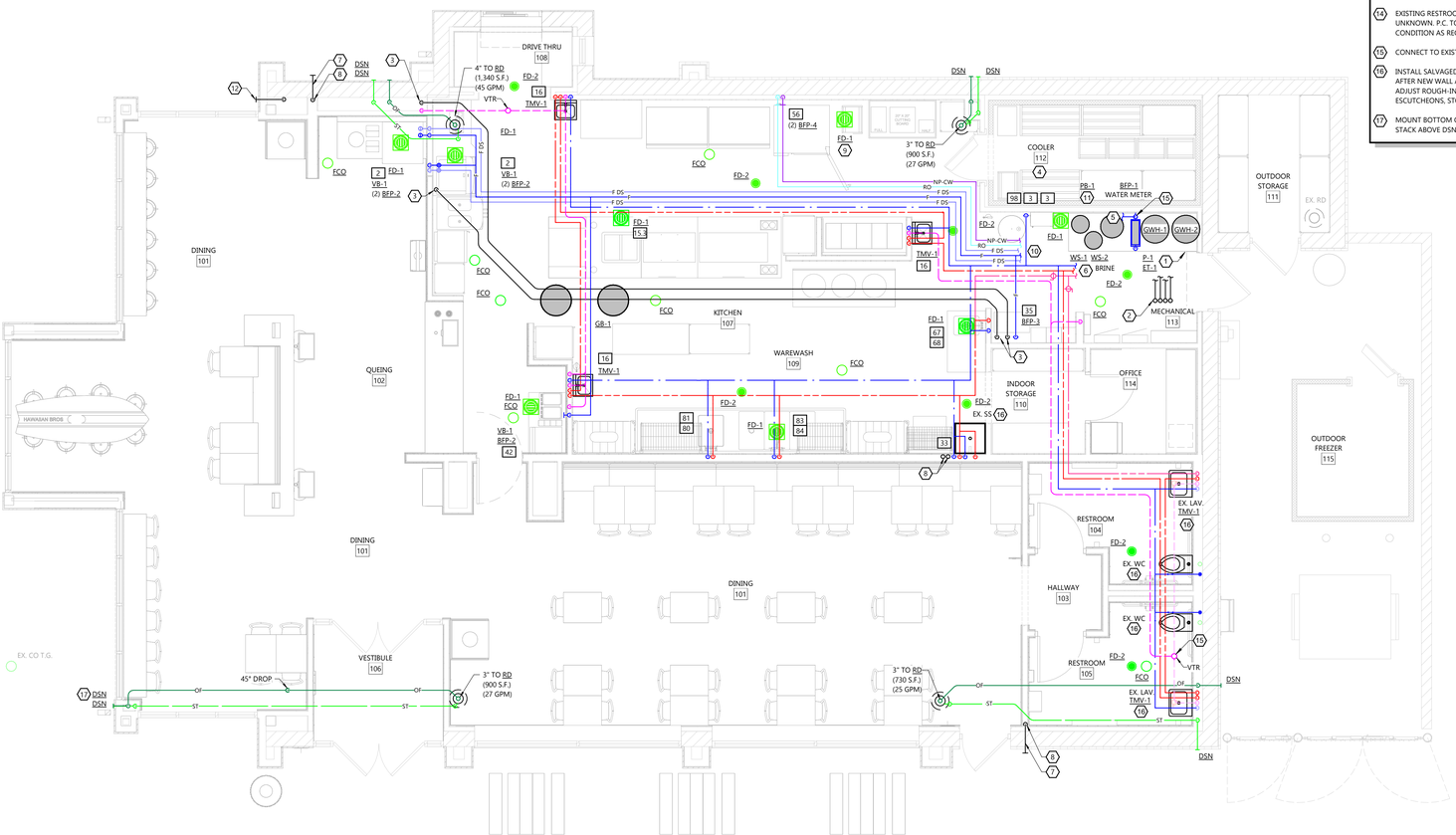
- 2 ICE MACHINE - PROVIDE 1/2" CW DN TO VB-1. PROVIDE 1/2" FILTERED FROM ITEM 3 AT 14" A.F.F. PROVIDE BFP-2 AND INDIRECT WASTE TO FD-1. TERMINATE VIA AIR GAP.
- 3 SCALE INHIBITOR - SEE RO SYSTEM DETAIL FOR MORE INFORMATION.
- 15.3 DOUBLE COLD WELL - PROVIDE INDIRECT WASTE FROM DOUBLE COLD WELL TO FD-1. TERMINATE VIA AIR GAP.
- 16 WALL MOUNT HAND SINK - INSTALLED BY P.C.
- 33 EASIWASH - TERMINATE 1/2" CW & HW AT 3'-4" FROM CEILING FOR EXTENSION BY EQUIPMENT VENDOR.
- 35 BAG AND BOX - PROVIDE 3/4" CW AT 60" A.F.F. VERIFY ROUGH-IN REQUIREMENTS WITH EQUIPMENT VENDOR. PROVIDE BFP-3.
- 42 FROZEN CARBONATED BEVERAGE DISPENSER - PROVIDE 1/2" FILTERED LINE AT 60" A.F.F. VERIFY ROUGH-IN REQUIREMENTS WITH EQUIPMENT SUPPLIER. PROVIDE BFP-2.
- 56 DOUBLE-STACKED COMBI OVEN - PROVIDE RO WATER WITH BFP-4 & NP-CW @54" A.F.F. TO UPPER OVEN WATER INLETS. P.C. TO PROVIDE AND INSTALL SHUT-OFF VALVES AND BFPS PER COMBI OVEN DETAIL. PROVIDE RO WATER WITH BFP-4 & NP-CW @18" A.F.F. TO LOWER OVEN WATER INLETS. P.C. TO PROVIDE AND INSTALL SHUT-OFF VALVES AND BFPS PER COMBI OVEN DETAIL. PROVIDE INDIRECT WASTE TO FD-1. TERMINATE VIA AIR GAP.
- 67 / 68 WORK TABLE W/ SINK AND FAUCET - PROVIDE 1/2" CW & HW AT 14" A.F.F. PROVIDE INDIRECT WASTE TO FD-1. TERMINATE VIA AIR GAP.
- 80 / 81 PRE-RINSE SINK AND FAUCET - PROVIDE 1/2" CW & HW AT 14" A.F.F. PROVIDE INDIRECT WASTE TO FD-1. TERMINATE VIA AIR GAP.
- 83 / 84 3 COMPARTMENT SINK WITH FAUCET - PROVIDE 1/2" CW & HW AT 14" A.F.F. PROVIDE INDIRECT WASTE TO FD-1. TERMINATE EACH DRAIN INDEPENDENTLY VIA AIR GAP.
- 58 REVERSE OSMOSIS SYSTEM - PROVIDE 3/4" SOFT WATER WITH ROOM TO REPLACE FILTER(S). P.C. TO EXTEND RO, FILTERED RO AND NP COLD WATER TO COMBI OVENS AND SODA/ICE MACHINES AS REQUIRED. P.C. TO PROVIDE INDIRECT WASTE FROM RO SYSTEM TO FD-1. TERMINATE VIA AIR GAP.

GENERAL NOTES:

- NO UNDERGROUND BUILDING DRAIN PIPING SHALL BE INSTALLED UNTIL BUILDING SEWERS ARE BROUGHT TO THE BUILDING AND INVERT ELEVATIONS VERIFIED. COSTS INCURRED FOR FAILURE TO DO SO SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
- ALL PIPING IS TO BE CONCEALED. IF BUILDING CONSTRUCTION DOES NOT PERMIT CONCEALING PIPING, LOCATIONS AND ROUTING ARE TO BE APPROVED BY ARCHITECT/OWNER PRIOR TO INSTALLATION.
- INSTALL CLEANOUTS AT STACKS WHICH PENETRATE THE LOWEST FLOOR LEVEL 28" AFF UNLESS NOTED OTHERWISE.
- FLOOR AND WALL CLEANOUT LOCATIONS NOT PERMITTED TO BE MOVED WITHOUT APPROVAL OF ARCHITECT/ENGINEER.
- SEE ARCHITECTURAL AS SHEETS FOR ADA RELATED INSTALLATION DETAILS.
- SLOPE ALL ST/OFD PIPING AT 1/8"/FT UNLESS NOTED OTHERWISE.
- INSTALL HOSE BIBBS AT 18" A.F.F..
- INSTALL DOWNSPOUT NOZZLE AT 18" A.F.F..

KEYNOTES:

1. CONCRETE PAD.
2. INTAKE AND EXHAUST FLUES UP TO VENTS THRU ROOF. INSTALL PER MANUFACTURER REQUIREMENTS.
3. 6" SCHEDULE 40 PVC WITH 24" SWEEP ELBOWS. COORDINATE SIZE AND TERMINATION LOCATION WITH BEVERAGE VENDOR PRIOR TO ROUGH-IN.
4. EVAPORATOR CONDENSATE. SEE WALK-IN DRAIN LINE DETAIL ON KITCHEN EQUIPMENT SHEET QF300 FOR MORE INFORMATION.
5. SEE WATER SOFTENER PIPING DETAIL FOR CONTINUATION.
6. SEE WATER HEATER PIPING DETAIL FOR CONTINUATION.
7. PROVIDE 2" PVC CONDUIT THROUGH WALL FOR EASIWASH HOSE AND CABLE. HOSE AND CABLE PROVIDED BY KITCHEN EQUIPMENT CONTRACTOR. COORDINATE OPEN FITTING LOCATIONS FOR HOSE/CABLE PULL BY KITCHEN CONTRACTOR. VERIFY WALL TERMINATION REQUIREMENTS PRIOR TO TURN OVER.
8. 2" CONDUIT THROUGH FLOOR FOR EASIWASH SYSTEM HOSE AND CABLE. ALL BENDS SHALL BE A MINIMUM OF 24" SWEEP.
9. PROVIDE CAST IRON P-TRAP AND PIPING 15' DOWNSTREAM OF FD-1.
10. SEE RO SYSTEM DETAIL FOR CONTINUATION.
11. PB-1 MOUNTED ON WALL ABOVE WATER METER AND BFP-1.
12. PUMP OUT PORT FOR GREASE INTERCEPTOR. 3" PVC UNDERGROUND PIPING TO GI-1. ROUTE PIPING BELOW EASIWASH PIPING.
13. ASSUMED SANITARY LOCATION BASED ON EXISTING CLEAN OUT LOCATION. P.C. TO SCOPE AND VERIFY LOCATION. CONDITION, SIZE AND INVERT ELEVATION. NOTIFY OWNER AND ENGINEER OF ANY ISSUES PRIOR TO BEGINNING NEW WORK.
14. EXISTING RESTROOM SANITARY, EXACT ROUTING UNKNOWN. P.C. TO SCOPE AND VERIFY LOCATION AND CONDITION AS REQUIRED FOR NEW WORK.
15. CONNECT TO EXISTING.
16. INSTALL SALVAGED FIXTURE ON EXISTING ROUGH-INS AFTER NEW WALL AND FLOOR FINISHES ARE INSTALLED. ADJUST ROUGH-INS AS REQUIRED. REUSE OF EXISTING ESCUTCHEONS, STOPS, SUPPLIES AND TRAPS IS PROHIBITED.
17. MOUNT BOTTOM OF OVERFLOW DSN 30" ABOVE GRADE. STACK ABOVE DSN SERVING PRIMARY STORM DRAINAGE.



NORTH

FIRST FLOOR PLAN

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

0' 4' 8'

PLUMBING FIRST FLOOR PLAN

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PROJECT INFORMATION

PROPOSED QUICK SERVE RESTAURANT FOR:

OM GROUP - HAWAIIAN BROS - STR: 135

6421 E. 82ND ST. ● INDIANAPOLIS, IN 46250

PROFESSIONAL SEAL

SHEET DATES

ISSUED FOR CONSTRUCTION

IFC	APR. 3, 2026

JOB NUMBER

250361400

SHEET NUMBER

P1.1

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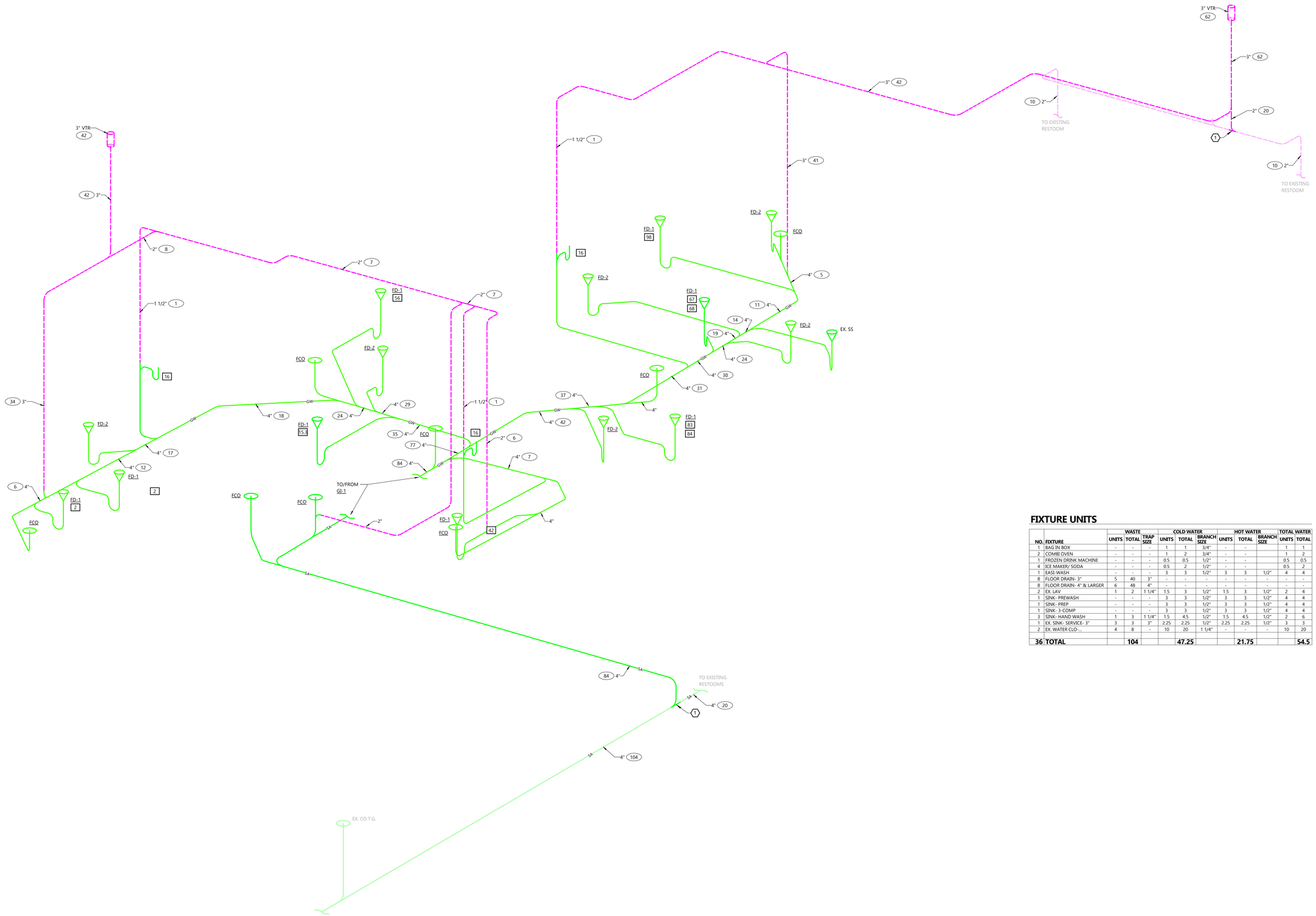
GENERAL NOTES:

- SEE FLOOR PLANS AND FIXTURE UNIT SCHEDULE FOR RUNOUT TRAP SIZE TO FIXTURE.

KEYNOTES:

1. CONNECT TO EXISTING.



DRAIN, WASTE, AND VENT ISOMETRIC

NOT TO SCALE

FIXTURE UNITS

NO.	FIXTURE	WASTE UNITS	WASTE TOTAL	WASTE TRAP SIZE	COLD WATER UNITS	COLD WATER TOTAL	COLD WATER BRANCH SIZE	HOT WATER UNITS	HOT WATER TOTAL	HOT WATER BRANCH SIZE	TOTAL WATER UNITS	TOTAL WATER TOTAL
1	BAG IN BOX	-	-	-	1	1	3/4"	-	-		1	1
2	COMBI OVEN	-	-	-	1	2	3/4"	-	-		1	2
1	FROZEN DRINK MACHINE	-	-	-	0.5	0.5	1/2"	-	-		0.5	0.5
4	ICE MAKER/ SODA	-	-	-	0.5	2	1/2"	-	-		0.5	2
1	EASI-WASH	-	-	-	3	3	1/2"	3	3	1/2"	4	4
8	FLOOR DRAIN- 3"	5	40	3"	-	-	-	-	-	-	-	-
8	FLOOR DRAIN- 4" & LARGER	6	48	4"	-	-	-	-	-	-	-	-
2	EX. LAV	1	2	1 1/4"	1.5	3	1/2"	1.5	3	1/2"	2	4
1	SINK- PREWASH	-	-	-	3	3	1/2"	3	3	1/2"	4	4
1	SINK- PREP	-	-	-	3	3	1/2"	3	3	1/2"	4	4
1	SINK- 3-COMP	-	-	-	3	3	1/2"	3	3	1/2"	4	4
3	SINK- HAND WASH	1	3	1 1/4"	1.5	4.5	1/2"	1.5	4.5	1/2"	2	6
1	EX. SINK- SERVICE- 3"	3	3	3"	2.25	2.25	1/2"	2.25	2.25	1/2"	3	3
2	EX. WATER CLO-..	4	8	-	10	20	1 1/4"	-	-	-	10	20
36	**TOTAL**		**104**			**47.25**			**21.75**			**54.5**

PLUMBING WASTE AND VENT ISOMETRICS AND SCHEDULES

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PROJECT INFORMATION

PROPOSED QUICK SERVE RESTAURANT FOR:

OM GROUP - HAWAIIAN BROS - STR: 135

6421 E. 82ND ST. • INDIANAPOLIS, IN 46250

PROFESSIONAL SEAL

SHEET DATES

ISSUED FOR CONSTRUCTION

IFC	APR. 3, 2026

JOB NUMBER

250361400

SHEET NUMBER

P3.0

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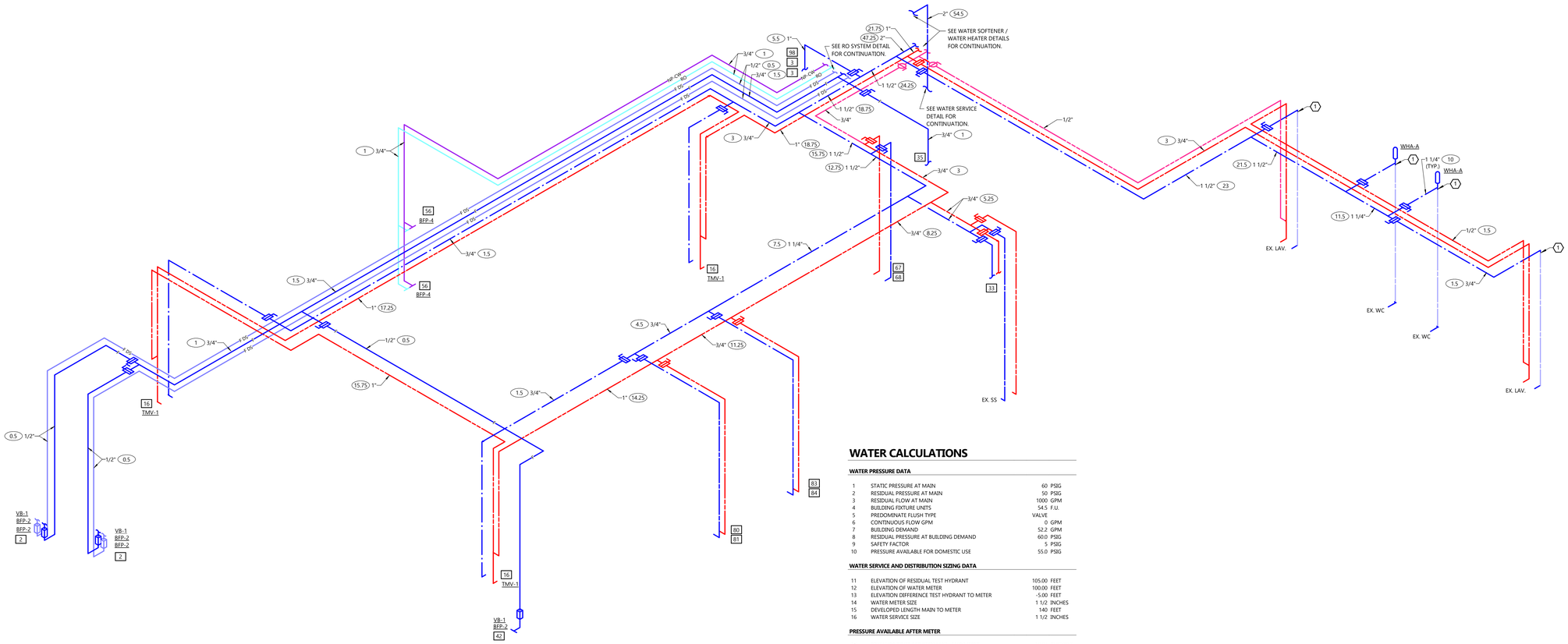
GENERAL NOTES:

- SEE FIXTURE UNIT SCHEDULE ON SHEET P3.0 AND DETAILS FOR RUNOUT PIPING SIZE TO FIXTURE.
- PIPING SIZED BASED ON TYPE L COPPER TUBING/EXPANSION JOINT PEX. IF CPVC OR PEX IS SUBSTITUTED RESIZE PER TABLE IN WATER CALCULATIONS.
- PROVIDE ADDITIONAL AIR CHAMBERS AND/OR WATER HAMMER ARRESTORS AT EACH FIXTURE/CONNECTION/TERMINATION AS REQUIRED BY LOCAL CODE AND/OR DETAILS. NOT SHOWN FOR CLARITY.

KEYNOTES:

1. CONNECT TO EXISTING.



WATER CALCULATIONS

WATER PRESSURE DATA

1	STATIC PRESSURE AT MAIN	60	PSIG
2	RESIDUAL PRESSURE AT MAIN	50	PSIG
3	RESIDUAL FLOW AT MAIN	1000	GPM
4	BUILDING FIXTURE UNITS	54.5	F.U.
5	PREDOMINATE FLUSH TYPE	VALVE	
6	CONTINUOUS FLOW GPM	0	GPM
7	BUILDING DEMAND	52.2	GPM
8	RESIDUAL PRESSURE AT BUILDING DEMAND	60.0	PSIG
9	SAFETY FACTOR	5	PSIG
10	PRESSURE AVAILABLE FOR DOMESTIC USE	55.0	PSIG

WATER SERVICE AND DISTRIBUTION SIZING DATA

11	ELEVATION OF RESIDUAL TEST HYDRANT	105.00	FEET
12	ELEVATION OF WATER METER	100.00	FEET
13	ELEVATION DIFFERENCE TEST HYDRANT TO METER	-5.00	FEET
14	WATER METER SIZE	1 1/2	INCHES
15	DEVELOPED LENGTH MAIN TO METER	140	FEET
16	WATER SERVICE SIZE	1 1/2	INCHES

PRESSURE AVAILABLE AFTER METER

17	PRESSURE DROP BETWEEN MAIN AND METER	10.84	PSIG/100'
18	FRICTION PRESSURE LOSS BETWEEN MAIN AND METER	15.2	PSIG
19	ELEVATION PRESSURE LOSS BETWEEN MAIN AND METER	-2.2	PSIG
20	METER PRESSURE LOSS	2	PSIG
21	BACKFLOW PREVENTER PRESSURE LOSS	0	PSIG
22	PRESSURE AVAILABLE AFTER METER	39.9	PSIG
23	PRESSURE IF BOOSTER PUMP	31	PSIG
25	AVAILABLE BUILDING WATER PRESSURE	70.9	PSIG

WATER DISTRIBUTION SIZING - COLD WATER

A	AVAILABLE BUILDING WATER PRESSURE	70.9	PSIG																														
B	START POINT TAG (SEE ISOMETRIC FOR TAG LOCATION)	METER														A												B					
C	DIST. PREVIOUS START POINT TO THIS START POINT															0	FT											0	FT					
D	UNIFORM LOSS PREV. START POINT TO THIS START POINT															0	PSIG/100'											0	PSIG/100'					
E	PIPE PRESSURE DROP FROM METER TO START POINT															0.0	PSIG											0.0	PSIG					
F	CONTROLLING FIXTURE:	ID:	EX. WC			COPPER		CPVC		PEX						16			COPPER		CPVC		PEX					COPPER		CPVC		PEX		
	ROOM NAME & NO.:		RESTOOM '105'	PIPE SIZE	FLUSH TANK	FLUSH VALVE	FLUSH TANK	FLUSH VALVE	FLUSH TANK	FLUSH VALVE						DRIVE THRU '108'	PIPE SIZE	FLUSH TANK	FLUSH VALVE	FLUSH TANK	FLUSH VALVE	FLUSH TANK	FLUSH VALVE				KITCHEN '107'	PIPE SIZE	FLUSH TANK	FLUSH VALVE	FLUSH TANK	FLUSH VALVE	FLUSH TANK	FLUSH VALVE
	PRESSURE REQUIRED:		25	PSIG	3/4	16.5	4.0	12.5	4.0	6.0	NP					8	PSIG	3/4	16.5	4	12.5	4	6	NP				35	PSIG	3/4	14	4	10	4	5	NP
G	ELEV. DIFF. BETW. METER AND CONTROLLING FIXTURE		2	FEET	1	31.0	6.5	24.0	5.5	20.5	4.5					2	FEET	1	31	6.5	24	5.5	20.5	4.5				3	FEET	1	31	6.5	23	5	19	4.5
H	PRESSURE LOSS DUE TO WATER SOFTENER		10	PSIG	1 1/4	58.0	15.0	41.0	8.0	34.0	7.0					10	PSIG	1 1/4	58	15	41	8	34	7				10	PSIG	1 1/4	58	15	41	8	34	7
I	PRESSURE LOSS DUE TO MIXING VALVE		0	PSIG	1 1/2	107.0	37.0	68.0	19.0	55.0	13.5					0	PSIG	1 1/2	107	37	68	19	55	13.5				11	PSIG	1 1/2	107	37	68	19	55	13.5
J	PRESSURE AVAILABLE FOR PIPING PRESSURE DROP		35.0	PSIG	2	260.0	136.0	171.0	73.0	135.0	53.0					52.0	PSIG	2	260	136	171	73	135	53				13.6	PSIG	2	260	136	171	73	135	53
K	DEVELOPED LENGTH START PT. TO CONTR. FIXTURE		85	FEET	2 1/2	469.0	356.0	385.0	255.0							100	FEET	2 1/2	469	356	385	255						90	FEET	2 1/2	469	356	385	255		
L	EQUIVALENT LENGTH START PT. TO CONTR. FIXTURE		128	FEET	3	752.0	698.0	655.0	572.0							150	FEET	3	752	698	655	572						135	FEET	3	752	698	655	572		
M	PRESSURE AVAILABLE FOR UNIFORM LOSS		27.48	PSIG/100'	4	1792.0	1792.0	1094.0	1094.0							34.69	PSIG/100'	4	1792	1792	1094	1094						10.07	PSIG/100'	4	1792	1792	1094	1094		

WATER DISTRIBUTION SIZING - HOT WATER

A	AVAILABLE BUILDING WATER PRESSURE	70.9	PSIG																														
B	START POINT TAG (SEE ISOMETRIC FOR TAG LOCATION)	METER														A																	
C	DIST. PREVIOUS START POINT TO THIS START POINT															0	FT																
D	UNIFORM LOSS PREV. START POINT TO THIS START POINT															0	PSIG/100'																
E	PIPE PRESSURE DROP FROM METER TO START POINT															0.0	PSIG																
F	CONTROLLING FIXTURE:	ID:	L-1			COPPER		CPVC		PEX						16			COPPER		CPVC		PEX										
	ROOM NAME & NO.:		RESTROOM '105'	PIPE SIZE		FLUSH TANK		FLUSH TANK		FLUSH TANK						DRIVE THRU '108'	PIPE SIZE		FLUSH TANK		FLUSH TANK		FLUSH TANK										
	PRESSURE REQUIRED:		8	PSIG	3/4	16.5		12.5		6.0						8	PSIG	3/4	16.5		12.5		6.0										
G	ELEV. DIFF. BETW. METER AND CONTROLLING FIXTURE		3	FEET	1	31.0		24.0		20.5						3	FEET	1	31.0		24.0		20.5										
H	PRESSURE LOSS DUE TO WATER SOFTENER		10	PSIG	1 1/4	58.0		41.0		34.0						10	PSIG	1 1/4	58.0		41.0		34.0										
I	PRESSURE LOSS DUE TO MIXING VALVE		7	PSIG	1 1/2	107.0		68.0		55.0						7	PSIG	1 1/2	107.0		68.0		55.0										
J	PRESSURE AVAILABLE FOR PIPING PRESSURE DROP		44.6	PSIG	2	260.0		171.0		135.0						44.6	PSIG	2	260.0		171.0		135.0										
K	DEVELOPED LENGTH START PT. TO CONTR. FIXTURE		175	FEET	2 1/2	469.0		385.0								215	FEET	2 1/2	469.0		385.0												
L	EQUIVALENT LENGTH START PT. TO CONTR. FIXTURE		263	FEET	3	752.0		655.0								323	FEET	3	752.0		655.0												
M	PRESSURE AVAILABLE FOR UNIFORM LOSS		16.99	PSIG/100'	4	1792.0		1094.0								13.83	PSIG/100'	4	1792.0		1094.0												

PLUMBING WATER ISOMETRICS AND CALCULATIONS

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PROJECT INFORMATION

PROPOSED QUICK SERVE RESTAURANT FOR:

OM GROUP - HAWAIIAN BROS - STR: 135

6421 E. 82ND ST. • INDIANAPOLIS, IN 46250

PROFESSIONAL SEAL

SHEET DATES

ISSUED FOR CONSTRUCTION

IFC APR. 3, 2026

JOB NUMBER

250361400

SHEET NUMBER

P3.1

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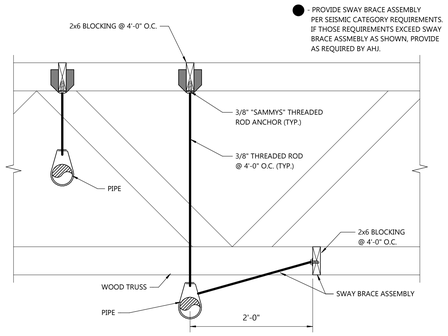
NOTE:
- PROVIDE SWAY BRACE ASSEMBLY AT ALL CHANGES OF DIRECTION OF 45° OR MORE FOR PIPES 4" OR LARGER.

● - PROVIDE SWAY BRACE ASSEMBLY PER SEISMIC CATEGORY REQUIREMENTS. IF THOSE REQUIREMENTS EXCEED SWAY BRACE ASSEMBLY AS SHOWN, PROVIDE AS REQUIRED BY AHJ.

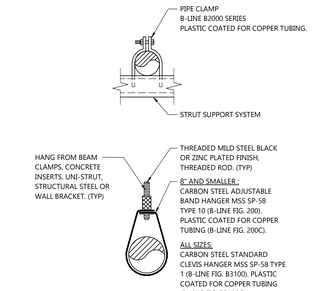


4 P4.0 TRUSS HANGER CONNECTION DETAIL
NOT TO SCALE

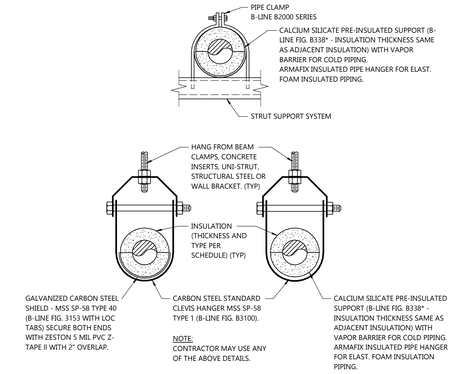
MAX. SPACING BETWEEN PIPE SUPPORTS AND MIN. HANGER ROD SIZES									
PIPE SIZE	STEEL			COPPER		PVC CPVC	PEX	MIN. ROD	
	WATER	VAPOR	NAT. GAS	WATER	VAPOR			METAL PIPE	PLASTIC PIPE
1/4"-1/2"	7'	8'	6'	5'	6'	4'	32"	3/8"	3/8"
3/4"	7'	9'	8'	5'	7'	4'	32"	3/8"	3/8"
1"	7'	9'	8'	6'	8'	4'	32"	3/8"	3/8"
1 1/4"	7'	9'	10'	7'	9'	4'	32"	3/8"	3/8"
1 1/2"	9'	12'	10'	8'	10'	4'	32"	3/8"	3/8"
2"	10'	12'	10'	8'	11'	4'	-	3/8"	3/8"
2 1/2"	11'	12'	10'	9'	12'	4'	-	3/8"	3/8"
3"	12'	12'	10'	10'	12'	4'	-	3/8"	3/8"
4"	12'	12'	10'	12'	12'	4'	-	3/8"	3/8"
6"	12'	12'	10'	12'	12'	4'	-	3/8"	3/8"
8"	12'	12'	-	-	-	4'	-	1/2"	3/8"
10"	12'	12'	-	-	-	4'	-	1/2"	3/8"
12"	12'	12'	-	-	-	4'	-	5/8"	3/8"
14"	12'	12'	-	-	-	4'	-	5/8"	3/8"
16"	12'	12'	-	-	-	4'	-	3/4"	3/8"
MAX VERT. (1)	15'	15'	-	10'	10'	10'	10'	-	-

(1) SUPPORT AT MINIMUM EVERY FLOOR LEVEL OR SPACING LISTED.
MSS = MANUFACTURER'S STANDARDIZATION SOCIETY
- INSTALL ADDITIONAL HANGERS WITHIN 12" OF ELBOWS AND TEES AND AT CONCENTRATED LOADS, INCLUDING VALVES, FLANGES AND STRAINERS 2 1/2" AND LARGER.

3 P4.0 PIPE SUPPORT SCHEDULE
NOT TO SCALE



2 P4.0 UNINSULATED PIPE HANGER DETAIL
NOT TO SCALE



1 P4.0 INSULATED PIPE HANGER DETAILS
NOT TO SCALE

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PROJECT INFORMATION

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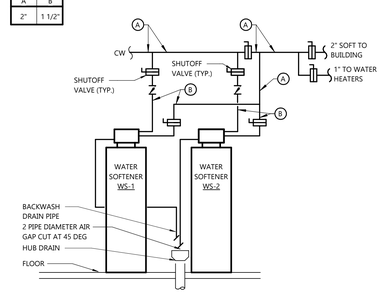
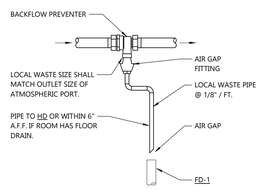
OM GROUP - HAWAIIAN BROS - STR: 135
6421 E. 82ND ST. • INDIANAPOLIS, IN 46250

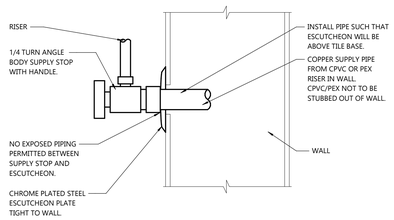
PIPE SIZE (INCHES)	
A	B
2"	1 1/2"



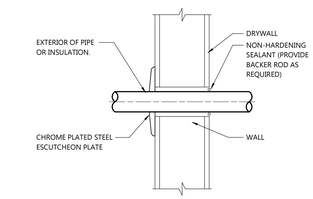
9 P4.0 WATER SOFTENER DETAIL
NOT TO SCALE



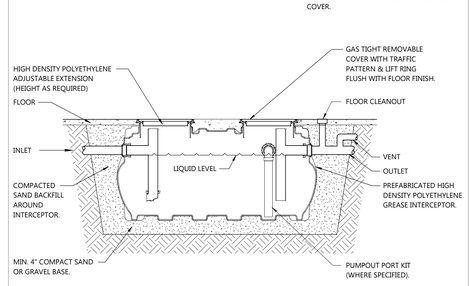
8 P4.0 ATMOSPHERIC PORT BACKFLOW PREVENTER DETAIL
NOT TO SCALE



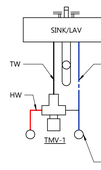
7 P4.0 ANGLE STOP DETAIL
NOT TO SCALE



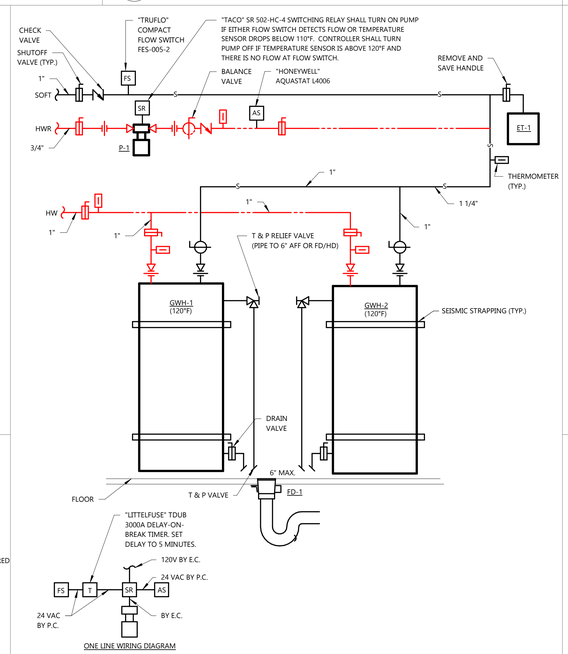
6 P4.0 PIPE PENETRATION THRU STUD WALL
NOT TO SCALE



15 P4.0 INTERIOR GREASE INTERCEPTOR DETAIL
NOT TO SCALE

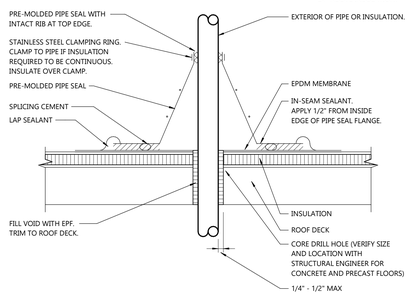


14 P4.0 TMV-1 DETAIL
NOT TO SCALE

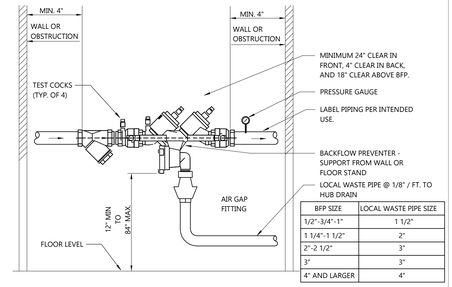


18 P4.0 WATER HEATER DETAIL
NOT TO SCALE

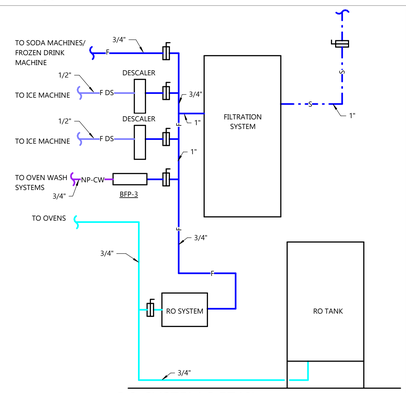
NOTE:
WHERE PIPE TERMINATES ABOVE ROOF PIPE SHALL EXTEND MIN. 24" ABOVE INSULATION.



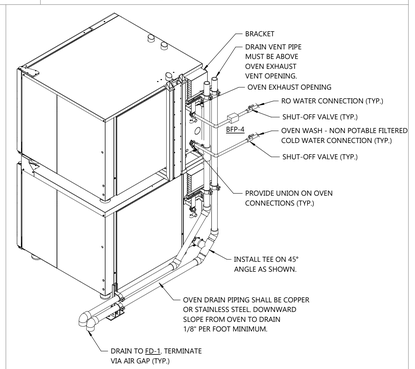
12 P4.0 ROOF PIPE BOOT PENETRATION DETAIL
NOT TO SCALE



11 P4.0 BACKFLOW PREVENTER DETAIL
NOT TO SCALE

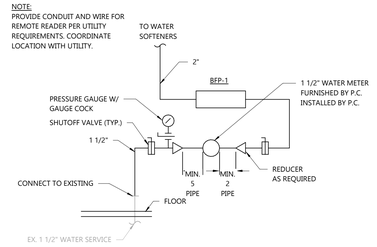


20 P4.0 RO SYSTEM DETAIL
NOT TO SCALE

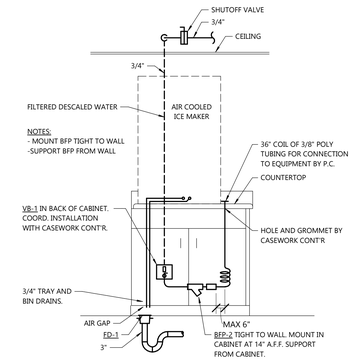


19 P4.0 DOUBLE OVEN
NOT TO SCALE

NOTE:
PROVIDE CONDUIT AND WIRE FOR REMOTE READER PER UTILITY REQUIREMENTS. COORDINATE LOCATION WITH UTILITY.



17 P4.0 WATER SERVICE PIPING DETAIL
NOT TO SCALE



16 P4.0 ICE MAKER DETAIL
NOT TO SCALE

PROFESSIONAL SEAL

SHEET DATES
ISSUED FOR CONSTRUCTION
IFC APR. 3, 2026

JOB NUMBER
250361400

SHEET NUMBER
P4.0

PLUMBING DETAILS

C:\Revit Local\250361400_Plbg Central_R25_chris.hoffman@KYA.rvt
4/2/2026 12:54:05 PM

PIPE SCHEDULE

SERVICE	LOCATION	PIPE SIZE	COPPER											PEX			PVC						CPVC						CAST IRON			
			C12200 TUBE		FITTING							JOINT					PIPE			FITTING		JOINT		PIPE			FITTING		JOINT	PIPE & FITTING		JOINT	
			ASTM B88 TYPE L HARD DRAWN	ASTM B88 TYPE K SOFT	ASME B16.15 CAST BRONZE THREADED (1)	ASME B16.18 CAST COPPER SOLDER (1)	ASME B16.51 COPPER PRESS FITTINGS WITH EPDM O-RINGS (4)	ASTM B88 CDA 89833 CAST OR ASTM B75 C12200 WROT COPPER ALLOY GROOVED FITTING (5)	ASME B16.22 WROUGHT COPPER SOLDER (2)	LEAD FREE SOLDER	ASTM B32 AWS A5.8 BCuP SILVER BRAZE	COLD PRESS MECH. JOINT (4)	COUPLING JOINT (5) (6)	ASTM F876, F877, F2023	ASTM F1960, F2159	PER MFR REQUIREMENTS	SCH. 40 PRESSURE RATED ASTM D1784, D1785	DWV CELL CORE NON-PRESS. RATED ASTM D4396, F891	SCH. 40 SOLID WALL NON-PRESS. RATED ASTM D1784, D2665	SCH. 40 ASTM D 2466	SCH. 40 DWV ASTM D2665	ASTM F656 PRIMER, ASTM D2564 SOLVENT CEMENT	ASTM F477 ELASTOMERIC GASKET	SCHEDULE	ASTM D2846 - SDR 11	ASTM D1784 CLASS 23447, F441	ASTM F2618, D3311	ASTM D1784, F3618	ASTM D1784, F439	SOLVENT CEMENT ASTM F493, NSF 14	HUBLESS ASTM A888, CISPI 301	BELL AND SPIGOT ASTM A74 SERVICE WEIGHT	ASTM C1277, CISPI 310 STD TYPE 304 S.S. CLAMP & SHIELD ASTM C564 RUBBER GASKET	ASTM C1540, CISPI 310 HEAVY DUTY TYPE 304 S.S. CLAMP & SHIELD ASTM C564 RUBBER GASKET
WATER	ABOVE GROUND	ALL	X		X	X	X	X	X	X		X	X	X	X	X								(16)	X	X		X	X			
	BELOW GROUND	<2"		X							(11)			X		(11)																
WATER SERVICE	BELOW GROUND (18)	ALL		X		X					(11)			X		(11)	X			X		X										
SANITARY, STORM AND CLEAR WATER DRAIN AND VENT	ABOVE GROUND	ALL															X	X	X		X	X							X		<=4"	>4"
	UNDER BUILDING	ALL															X		X		X	X							X	X	<=4"	>4"
COMM. DISH, PAN, UTENSIL WASHER DRAIN AND WASTE (VENT PIPING PER SAN. DRAIN)	WITHIN 15' OF HUB																												X	X	<=4"	>4"

- ALL MATERIALS SHALL COMPLY WITH LATEST VERSION OF LISTED STANDARD. ALL IMPORTED MATERIAL SHALL BE CERTIFIED BY A DOMESTIC THIRD PARTY FOR COMPLIANCE WITH STANDARD.
(1) LEAD-FREE DEZINCIFICATION-RESISTANT (DZR) BRASS ALLOY C87850 PER ASTM B584.
(2) LEAD-FREE PER ASTM B75 ALLOY C12200.
(4) INSTALL PER MANUFACTURER'S INSTRUCTIONS. 50 YEAR WARRANTY AGAINST MANUFACTURING DEFECTS.
(5) INSTALL PER MANUFACTURER'S INSTRUCTIONS. 10 YEAR WARRANTY AGAINST MANUFACTURING DEFECTS.
(6) GRINNELL FIG 6400 OR EQUIVALENT. DUCTILE IRON ASTM A536 GRADE 65-45-12 HOUSING WITH COPPER ACRYLIC ENAMEL COATING.
BOLTS CONFORMING TO SAE J429 GRADE 5 WITH ASTM A563 GRADE A HEX NUTS (BOTH ZINC PLATED), GRADE "EP" EPDM (COPPER COLOR CODE) NSF 61 APPROVED COMPOUND GASKET SUITABLE FOR WATER TEMPERATURE.
(11) NO JOINT BELOW BUILDING.
(16) PIPING SHALL BE SCH. 80 SPEARS EVERTUFF FOR 2 1/2" THROUGH 4" SIZES. GREATER THAN 4" CPVC NOT PERMITTED.
(18) PROVIDE MAGNETIC DETECTABLE CONDUCTOR TRACE WIRE IMPRINTED WITH "WATER SERVICE" FOR NON-METALLIC PIPING.

VALVE BOX SCHEDULE (VB)

NO.	SERVICE	MOUNTING	VALVE	BOX MATERIAL	WATER INLET SIZE	WATER OUTLET SIZE	DRAIN SOCKET SIZE	MODEL	REMARKS
1	ICE MAKER	RECESSED	1/4 TURN	PLASTIC	1/2" COLD	3/8" COMP.	-	37687	OATEY

- ACCEPTABLE MANUFACTURERS: OATEY, SIOUX CHIEF, SYMMONS, GUY GRAY.
- ABS PLASTIC BOX AND FRAME, GALVANIZED STEEL MOUNTING BRACKET, BRASS VALVE BODY, INTEGRAL WATER HAMMER ARRESTOR AND TRIM.
- BOX SHALL BE RATED FOR THE WALL SYSTEM IN WHICH IT IS INSTALLED.

WATER HAMMER ARRESTOR SCHEDULE (WHA)

NO.	OVERALL LENGTH	CONNECTION SIZE (NPT)	PRECHARGE PRESSURE PSI	CAPACITY CUBIC INCHES	MAX. SYSTEM PRESSURE PSIG	MODEL	MFR
A	6.25"	1/2"	60.0	5	150	SC-500A	PRECISION PLUMBING PRODUCTS
B	7.25"	3/4"	60.0	7	150	SC-750B	PRECISION PLUMBING PRODUCTS
C	9.5"	1"	60.0	11	150	SC-1000C	PRECISION PLUMBING PRODUCTS
D	9.25"	1"	60.0	20	150	SC-1250D	PRECISION PLUMBING PRODUCTS
E	11"	1"	60.0	29	150	SC-1500E	PRECISION PLUMBING PRODUCTS
F	12"	1"	60.0	36	150	SC-2000F	PRECISION PLUMBING PRODUCTS

- ACCEPTABLE MANUFACTURERS: PRECISION PLUMBING PRODUCTS, SIOUX CHIEF, WATTS, ZURN-WILKINS.
- NOT ALL WHA SCHEDULED ARE USED ON THE PROJECT

BACKFLOW PREVENTER / VACUUM BREAKER SCHEDULE (BFP)

NO.	LOC.	GP M	P.D. (PSI)	INDIRECT WASTE REQ'D	SIZE	MAX. OP TEMP DEG. F.	TYPE	BFP/VB PRESS.	APPLICATION	ASSE STD.	MODEL	REMARKS
1	MECHANICAL	72.0	9.0	YES (6)	2"	180	REDUCED PRESS. PRINCIPLE BFP	HIGH	CONTIN.	BLDG POTABLE WATER SYSTEM PROTECTION	1013	LF919QT-FS	WATTS (1)
2	SEE DWG	1.5	10.0	YES	3/8"	130	BFP FOR CARB. BEVERAGES	-	-	CARB. BEV. DISPENSER, ICE MACHINE	1022	SD-3	WATTS (1)
3	SEE DWG	5.0	11.0	YES (6)	3/4"	180	REDUCED PRESS. PRINCIPLE BFP	HIGH	CONTIN.	OVEN WASH	1013	LF919QT-FS	WATTS (1)
4	SEE DWG	0.5	3.0	YES	1/2"-3/4"	250	BFP W/ INT. ATM VENT	LOW	CONTIN.	OVENS	1012	LF9D	WATTS (1)

- ACCEPTABLE MANUFACTURERS: WATTS, AMES, ZURN/WILKINS, APOLLO.
(1) LEAD FREE BODY.
(6) PROVIDE AIR GAP FITTING.

CLEANOUT SCHEDULE

NO.	LOCATION	SIZES	BODY MAT'L	PLUG MAT'L	ACCESS COVER MAT'L	ACCESS COVER MISC.	MISC.	FIGURE	REMARKS
FCO	FINISHED ROOMS W/O CARPET (2)	2" - 6"	C.I.	PVC	N.B.	-	-	Z-1400	ZURN
FCO	FINISHED ROOMS WITH CARPET (2)	2" - 6"	C.I.	PVC	N.B.	CARPET MARKER	-	Z-1400-CM	ZURN
WCO	WALL	3" - 4"	(5)	POLY	S.S.	-	-	Z-1469	ZURN
WCO	WALL	2" & =>6"	(6)	POLY	S.S.	-	-	Z-1469	ZURN
CO T.G.	OUTSIDE	2" - 6"	C.I.	PVC	C.I.	-	-	Z-1474-N	ZURN

- ACCEPTABLE MANUFACTURERS: J.R. SMITH, SCHIER, JOSAM, WADE, ZURN.
- RECESSED TAPER THREAD PLUG WITH SLOTTED RECESS.
(2) FINISHED ROOMS ARE ROOMS WITH CARPET OR FLOOR TILE OR ROOMS ACCESSIBLE BY A DOOR LESS THAN 42" WIDE.
(5) PROVIDE "HOLDRITE" TESTRITE TEST/CLEANOUT TEE. THREADED PLUG WITH BRASS INSERT. MATERIAL SHALL MATCH PIPE MATERIAL TO WHICH TEE IS BEING CONNECTED.
(6) PROVIDE TEST/CLEANOUT TEE. THREADED PLUG WITH BRASS INSERT. MATERIAL SHALL MATCH PIPE MATERIAL TO WHICH TEE IS BEING CONNECTED.

DRAIN SCHEDULE

NO.	TYPE	APPLICATION	OUTLET SIZE	BODY MAT'L	STRAINER/TOP MAT'L	SIZE	MISC.	MODEL	REMARKS
RD-1	ROOF/OVERFLOW	INSULATED ROOF	3"-8" (2)	CAST IRON	CAST IRON	12"	(18)	100C*LP-DU-DP	FROET
FD-1	FLOOR	FLOOR SINK	(2)	CAST IRON	N. B. "TYPE B"	12" x 12"	ALUM. DOME	861-23X	SIOUX CHIEF (19)
FD-2	FLOOR	PEDESTRIAN TRAFFIC	(2)	CAST IRON	N. B. "TYPE B"	5" DIA		ZN-415-5B	ZURN (19)
DSN		DOWNSPOUT NOZZLE	3"-10" (2)	ALUMINUM	-	-	HINGED COVER	ZF199 (20)	ZURN
HD-R	HUB DRAIN	INDIRECT WASTE	(2)	-	STUB DRAIN PIPE 2" A.F.F. AND PROVIDE 1 PIPE SIZE INCREASE ON END OF PIPE.				

- ACCEPTABLE MANUFACTURERS: ZURN, J.R. SMITH, JOSAM, WADE, WATTS, SCHIER, KUSEL, SIOUX CHIEF.
(1) TOP SET DECK PLATE AND ADJUSTABLE EXTENSION 1/2" LESS THAN INSULATION THICKNESS AT ROOF DRAIN.
(18) DECK MOUNTING PLATE FOR DRAIN TO BE BOLTED DIRECTLY TO PLATE, RING EXTENSIONS TO EXTEND SUMP BODY TO BELOW TOP OF ROOF INSULATION, OVERFLOW STRAINER.
(2) AS NOTED ON DRAWINGS
(19) PROVIDE BARRIER TYPE INSERT DRAIN TRAP SEAL COMPLIANT WITH ASSE 1072.
(20) PROVIDE JET BLACK COLOR OPTION.

INTERIOR GREASE INTERCEPTOR SCHEDULE (GI)

NO.	SIZE L x W x H	GPM	GREASE CAPACITY (LBS.)	LIQUID CAPACITY (GALLONS)	INLET & OUTLET SIZE	MAT'L	RECESS	EXTENSION	MODEL	REMARKS
1	68 x 34 x 52		1,076	275	4	(1)	FULL	YES	GB 250	SCHIER (2)(3)

- ACCEPTABLE MANUFACTURERS: SCHIER, STRIEM, ENDURA, J.R. SMITH, WATTS, GREEN TURTLE, MIFAB.
- FULLY RECESSED INTERCEPTORS TOPS FLUSH WITH FLOOR, AND ANCHOR FLANGE.
(1) HIGH DENSITY POLYETHYLENE BODY.
(2) GARBAGE DISPOSER BASIN BYPASSES GREASE INTERCEPTOR PER SPS 382.34 (5)(b)(1)b.
(3) PROVIDE PUMP OUT PORT KIT. SEE PLAN FOR OUTLET LOCATION.

INTERIOR GREASE INTERCEPTOR CALCULATIONS

FIXTURE	COMPARTMENT NUMBER OF	COMPARTMENT LENGTH (INCHES)	COMPARTMENT WIDTH (INCH)	COMPARTMENT DEPTH (INCHES)	VOLUME (CU. IN.)	VOLUME (GALLONS)	0.75 x VOLUME	FLOW RATE (GPM)
3-COMP	3	30	20	16	28,800	125	94	94
PREP	1	20	16	10	3,200	14	10	10
HAND WASH	3	15.5	14	5	3,255	14	11	11
PRE WASH	1	20	24	16	7,680	33	25	25
SERVICE SINK	1	24	24	10	5,760	25	19	19
TOTAL (MINIMUM FLOW RATE)								158
MINIMUM GREASE HOLDING CAPACITY								316
HOLDING CAPACITY OF SINKS							158	GALLONS
REQUIRED LIQUID HOLDING CAPACITY							158	GALLONS

INSULATION SCHEDULE

SERVICE	LOCATION	INSULATION TYPE (1)	JACKET	PIPE SIZE <1.5"	PIPE SIZE =>1.5"
CW	GENERAL BUILDING	RIGID F.G. OR ELAST. FOAM (10)	NR	1/2"	1/2"
CW	UNDERGROUND	NR	NR	NR	NR
CW	IW WALLS	ELASTOMERIC FOAM	NR	1/2"	1/2"
CW (PEX AND CPVC)	ALL	NR	NR	NR	NR
HW, HWR (=<140°F)	GENERAL BUILDING	RIGID F.G. OR ELAST. FOAM (10)	NR	1"	1 1/2"
HW NOT ON RECIRC. LOOP	GENERAL BUILDING	RIGID F.G. OR ELAST. FOAM (10)	NR	1"	1"
HW BRANCH	IW WALLS	ELASTOMERIC FOAM	NR	1/2"	1/2"
STORM AND OVERFLOW DRAINS	GENERAL BUILDING	(11)	NR	1"	1"

NR = NOT REQUIRED
COLD WATER = HARD, SOFT, IRRIGATION, HOSE STATION, ETC. AT ALL PRESSURES.
HOT WATER = WATER SYSTEMS OPERATING AT TEMPERATURES GREATER THAN 105 DEG F AT ALL PRESSURES.
(1) WHERE INSULATION IS PROVIDED ON PIPING INSULATE METERS, VALVES, BACKFLOW PREVENTERS AND ALL INLINE EQUIPMENT.
(10) INSULATION NOT REQUIRED FOR EXPOSED FINAL PIPING CONNECTIONS TO FIXTURES.

ELECTRICAL/STARTER/DISCONNECT SCHEDULE

NO.	ELECTRICAL DATA HP	KW	AMPS	MCA	MOP	VOLT	PH.	STARTER TYPE	STARTER LOCATION	STARTER FURN. BY	STARTER ACCESS-ORIES	DISCONNECT DIS-CONNECT	DISCONNECT FURN. BY	REMARKS
GWH-1	-	-	-	-	-	120	1	INTEG	INTEGRAL	EM	-	NR	-	REC.
GWH-2	-	-	-	-	-	120	1	INTEG	INTEGRAL	EM	-	NR	-	REC.
P-1	-	0.052	-	-	-	120	1	(18)	WATER HEATER	PC	-	NR	-	-
PB-1	2	-	-	-	-	208	1	INTEG	CONTR. PANEL	EM	HOA	R	EM	-
WS-1	-	-	-	-	-	120	1	INTEG	INTEGRAL	EM	-	NR	-	REC.
WS-2	-	-	-	-	-	120	1	INTEG	INTEGRAL	EM	-	NR	-	REC.

STARTER TYPE:
INTEG.= INTEGRAL: PROVIDED INTEGRAL WITH EQUIPMENT.
RELAY= UL LISTED MOTOR RATED RELAY WITH SEPARATE ENTRANCES FOR INPUT AND OUTPUT CONTACTS (RIBT SERIES), OVERIDE SWITCH AND LED STATUS INDICATOR.
CONTACT RATING, CONFIGURATION, AND COIL VOLTAGE SUITABLE FOR APPLICATION.

FURNISHED BY:
EM = EQUIPMENT MANUFACTURER
PC = PLUMBING CONTRACTOR
EC = ELECTRICAL CONTRACTOR
HC = HEATING CONTRACTOR

ACCESSORIES:
HOA = HAND-OFF-AUTO
PL = PILOT LIGHT
PB = PUSH BUTTON
2-SP = TWO SPEED
RV = REDUCED VOLTAGE

DISCONNECT:
NR= NOT REQUIRED
R = REQUIRED
WP = WEATHERPROOF
F= FUSED

REMARKS:
REC.=RECEPTACLE
S.REC.=SWITCHED RECEPTACLE

- ACCEPTABLE MANUFACTURERS: ALLEN BRADLEY, CUTLER HAMMER, SQUARE D, GENERAL ELECTRIC.
- VERIFY VOLTAGE AND PHASE WITH ELECTRICAL CONTRACTOR BEFORE ORDERING EQUIPMENT.
- FURNISH MOTOR STARTERS TO E.C. FOR INSTALLATION AND WIRING WHEN THE STARTER SCHEDULE CALLS FOR P.C. TO FURNISH.
(18) 120V TO SWITCHING RELAY AND FROM SWITCHING RELAY TO PUMP BY E.C.. 24V WIRING FROM SWITCHING RELAY TO OTHER DEVICES BY P.C.

GAS WATER HEATER SCHEDULE (GWH)

NO.	LOC.	MOUNTING	SIZE DIA.	GAS IMPUT MBH	THERMAL EFF.	REC. GPH (1)	TANK SIZE GAL.	MAX. WORKING PRESS.	T & P REL VALVE SETTING	LINING	TANK TEMP DEG. F.	MODEL	REMARKS
1	110	FLOOR	22"	100	96.0	129	33	150 PSIG	100 PSIG	GLASS	125	GHX-34-100-N (2)	STATE
2	110	FLOOR	22"	100	96.0	129	33	150 PSIG	100 PSIG	GLASS	125	GHX-34-100-N (2)	STATE

- ACCEPTABLE MANUFACTURERS: BRADFORD WHITE, RHEEM, LOCHINVAR, STATE, BOCK, A.O. SMITH.
- SEE WATER HEATER PIPING DETAIL(S) FOR ADDITIONAL CONTROLS REQUIRED FOR IECC COMPLIANCE.
(1) RECOVERY BASED ON 90 DEGREE F TEMPERATURE RISE.
(2) DIRECT VENT, SEALED COMBUSTION WATER HEATER. PROVIDE SCREENED AIR INTAKE ELBOW AND EXHAUST COUPLING TERMINATION.
CONTRACTOR RESPONSIBLE FOR COMBUSTION AIR AND VENT PIPE SIZING BASED ON ACTUAL EQUIVALENT LENGTH OF INSTALLATION.

CIRCULATING PUMP SCHEDULE (P)

NO.	SERVICE	FLUID TEMP F	GPM	HEAD (FT)	RPM	MOTOR H.P.	VOLT/ PHASE	MIN. EFF.	TYPE	MODEL	REMARKS
1	HOT WATER CIRC	120	2	17	2950	125 WATT	120/1	-	IN-LINE	NBF-25	B&G (1) (2)

- ACCEPTABLE MANUFACTURERS: GRUNDFOS, B & G, ARMSTRONG, TACO, ALLIS-CHALMERS, AMTROL.
- SEE WATER HEATER PIPING DETAIL FOR CONTROLS REQUIRED FOR IECC COMPLIANCE.
- LEAD FREE BRONZE BODY.
(1) PROVIDE "INTERMATIC" MODEL ST01 DIGITAL 7-DAY SWITCH TIMER TO CONTROL PUMP OPERATION.
(2) SET TO SPEED 3.

PRESSURE BOOSTER SCHEDULE (PB)

NO.	SERVICE	PUMP TYPE	PUMP GPM	PUMP PRESSURE (PSIG)	PUMP HP	PUMP VOLT/ PHASE	PUMP MODEL	TANK TYPE	TANK WORKING PRESSURE	TANK VOLUME (GALLONS)	TANK DIAMETER X HEIGHT	TANK MODEL
1	BUILDING	SIMPLEX	60	31	5	208/1	GOULDS SAVN32MS12JKZ (1)	BLADDER	125 PSIG	19.9	15 x 32	GOULDS V60 (2)

- ACCEPTABLE MANUFACTURERS: B & G, ARMSTRONG, TACO, ALLIS-CHALMERS, AMTROL, TIGERFLOW, GOULDS, QUANTUMFLO, GRUNDFOS.
(1) VARIABLE FREQUENCY DRIVE SIMPLEX BOOSTER PUMP PACKAGE WITH PUMP, CONTROLLER PANEL AND PRESSURE VESSEL.
SET OUTLET PRESSURE TO MAINTAIN 70 PSIG.
(2) PROVIDE WITH "AWT1" TANK BASE EXTENSION.

WATER SOFTENER SCHEDULE (WS)

NO.	WATER HARDNESS	FLOW GPM	P.D. PSI	MINERAL TANK SIZE DIA x HT	MINERAL TANK BACK-WASH	MINERAL TANK RESIN CU. FT.	MINERAL TANK METER SIZE	MINERAL TANK METER P.D.	BRINE TANK CAPACITY GRAINS	BRINE TANK SIZE @ LBS	BRINE TANK DIA x HT	BRINE TANK DRY SALT STORAGE	MODEL	REMARKS
1	10	26	8	14" x 65"	4.2 GPM	3	1.5"	0.4	84,000	30	18" x 40"	300	H151-90	HELLENBRAND
2	10	26	8	14" x 65"	4.2 GPM	3	1.5"	0.4	84,000	30	-	-	H151-90	HELLENBRAND

- ACCEPTABLE MANUFACTURERS: ADDIE, HELLENBRAND, CULLIGAN, WATER CONTROL, WATER-RIGHT.
- PROVIDE COMPLETE FILL OF BRINE TANK AT PROJECT COMPLETION.
- PROVIDE "SYSTEMMATE" ELECTRONIC DEMAND RECALL CONTROLLER/METER AT EACH MINERAL TANK. PROGRAM FOR IMMEDIATE REGENERATION AND TO PREVENT BOTH UNITS FROM REGENERATING AT THE SAME TIME.

EXPANSION TANK SCHEDULE (ET)

NO.	MOUNTING	TANK TYPE	CONN. SIZE	TANK CAP. (GAL.)	ACCEPT. CAPACITY (GAL.)	PRECHARGE PRESSURE (PSIG.)	WORKING PRESS (PSIG)	DIA.	HEIGHT	WEIGHT FILLED (LBS.)	MODEL	REMARKS
1	PIPE	DIAPHRAGM	3/4"	4.8	2.2	76	150	11"	14.5"	29	PH 12	FLEXCON

- ACCEPTABLE MANUFACTURERS: FLEXCON, AMTROL, WESSELS, ZILMET.

THERMOSTATIC MIXING VALVE SCHEDULE (TMV)

NO.	SERVICE	INLETS	OUTLET	MAX. FLOW (GPM)	ACTUAL FLOW (GPM)	ACT. P.D. (PSI)	INLET CONDITIONS COLD (DEG F)	INLET CONDITIONS PRESS. (PSIG)	INLET CONDITIONS HOT (DEG F)	INLET CONDITIONS PRESS. (PSIG)	RECIRC RATE (GPM)	TEMP. SETTING (DEG F)	MODEL	REMARKS
1	SINK	3/8"	3/8"	3.0	2.0	4	NA	-	NA	-	NA	105	LFe480-11	POWERS (3)

- ACCEPTABLE MANUFACTURERS: LEONARD, SYMMONS, WATTS, POWERS.
- LEAD FREE BODY, REMOVABLE CARTRIDGE WITH STRAINER, STAINLESS STEEL SPRING, EPDM O-RINGS AND SOLID WAX THERMOSTAT ASSEMBLY.
- P.C. SHALL FIELD ADJUST TMV TO TEMPERATURE SETTING INDICATED IN SCHEDULE.
(1) POINT OF USE TMV SHALL COMPLY WITH ASSE 1070.

PLUMBING SCHEDULES

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

PROJECT INFORMATION

PROPOSED QUICK SERVE RESTAURANT FOR:
OM GROUP - HAWAIIAN BROS - STR: 135
6421 E. 82ND ST. • INDIANAPOLIS, IN 46250

PROFESSIONAL SEAL

SHEET DATES
ISSUED FOR CONSTRUCTION
IFC APR. 3, 2026

JOB NUMBER
250361400

SHEET NUMBER
P5.0

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HVAC SPECIFICATIONS

DIVISION 23 HVAC

23 05 00 BASIC HVAC REQUIREMENTS

A. SEE DIVISION 00 PROCUREMENT AND CONTRACTING AND DIVISION 01 GENERAL REQUIREMENT FOR ADDITIONAL REQUIREMENTS.
B. HVAC CONTRACTOR SHALL VERIFY REQUIREMENTS FOR TEMPORARY HEATING WITH GENERAL CONTRACTOR AND INCLUDE IN HIS SCOPE OF WORK WHEN DIRECTED BY G.C. INSTALL IN ACCORDANCE WITH ALL CODE AND OSHA REQUIREMENTS FOR CONSTRUCTION PROJECTS.
C. SUBSTITUTIONS
   1. SEE DIVISION 01 23 00 PRODUCT SUBSTITUTION PROCEDURES FOR ADDITIONAL REQUIREMENTS.
   2. CONTRACTOR SHALL PROVIDE ALL SUPPORTING DATA AND ASSUME THE BURDEN OF PROOF THAT ANY SUBSTITUTE IS EQUIVALENT AS TO APPEARANCE, CONSTRUCTION, CAPACITY, AND PERFORMANCE. THE JUDGMENT OF EQUIVALENCY SHALL BE MADE BY THE ENGINEER AT THE TIME OF SHOP DRAWING REVIEW, NOT DURING BIDDING.
   3. WHERE SUBSTITUTE EQUIPMENT REQUIRES REDESIGN OF ANY PART OF THE PROJECT, THE COST OF REDESIGN AND ADDITIONAL COSTS OF THE WORK SHALL BE PAID BY THE CONTRACTOR. REDESIGN SHALL BE SUBJECT TO THE APPROVAL OF ALL AUTHORITIES HAVING JURISDICTION OVER THE WORK INCLUDING THE ARCHITECT/ENGINEER.
   4. CONTRACTOR SHALL ASSUME ALL COORDINATION RESPONSIBILITIES FOR SUBSTITUTE EQUIPMENT INCLUDING COORDINATION ACROSS TRADES AND COORDINATION OF PREVIOUSLY REVIEWED AND APPROVED SHOP DRAWING SUBMITTALS, SHOULD THESE SHOP DRAWINGS BE AFFECTED BY THE SUBSTITUTED EQUIPMENT.
D. SHOP DRAWINGS, PRODUCT DATA, TEST RESULTS, PROJECT CLOSEOUT DOCUMENTS:
   1. SEE DIVISION 01 33 23 SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES FOR ADDITIONAL REQUIREMENTS
   2. CONSTRUCTION ADMINISTRATION SUBMITTAL LIST:
      a. DUCTWORK
      b. DUCTWORK ACCESSORIES
      c. INSULATION
      d. KITCHEN DUCTWORK
      e. PIPING
      f. PIPE HANGERS
      g. VALVES
      h. GRILLES
      i. FANS
      j. ELECTRIC WALL HEATERS
      k. ELECTRIC RADIANT HEATERS
      l. RADIANT GAS UNIT HEATERS
      m. ROOFTOP AIR CONDITIONING UNITS
      n. TEST AND BALANCE REPORT
   3. PROJECT CLOSEOUT
      KEEP FOR PROJECTS IN WISCONSIN
      a. PROVIDE HVAC EQUIPMENT OPERATING AND MAINTENANCE MANUALS TO THE OWNER PER SPS 364.0313(3).
      KEEP FOR PROJECTS OUTSIDE OF WISCONSIN — 2015 IECC
      b. PROVIDE HVAC EQUIPMENT OPERATING AND MAINTENANCE MANUALS TO THE OWNER PER IECC C303.3 AND C408.2.5.1.
      KEEP FOR PROJECTS OUTSIDE OF WISCONSIN — 2018 IECC
      c. PROVIDE HVAC EQUIPMENT OPERATING AND MAINTENANCE MANUALS TO THE OWNER PER IECC C408.1.1 AND C408.3.2.2.
      d. AS-BUILT DRAWINGS SHALL BE MARKED ON A FINAL SET OF DRAWINGS WHICH INCLUDES ALL REVISIONS.
E. FINISHING AND PAINTING
   1. SEE DIVISION 09 91 00 FINISH AND PAINTING FOR ADDITIONAL REQUIREMENTS.
   2. PREPARE EXPOSED PIPE, FITTINGS, SUPPORTS, AND ACCESSORIES FOR FINISH PAINTING IN ROOMS THAT WILL HAVE CEILING AND STRUCTURE PAINTED.
   3. COORDINATE WORK WITH THE PAINTERS SO THAT ALL EQUIPMENT IS INSTALLED PRIOR TO PAINTING. H.C. SHALL PAINT ITEMS IF NOT IN PLACE PRIOR TO NORMAL ROUTINE PAINTING.
   4. IF FINISH BECOMES RUSTED, CORRODED, SCRATCHED, OR FLAKED DURING STORAGE OR INSTALLATION, REFINISH THE EQUIPMENT TO THE SATISFACTION OF THE OWNER.
   5. WHERE THE HEATING CONTRACTOR IS REQUIRED TO PAINT, THE PAINTING SHALL BE DONE IN ACCORDANCE WITH THE PAINTING PORTION OF THE ARCHITECTURAL SPECIFICATION.
F. DETAILS AND SCHEDULES ARE SHOWN TO AID THE CONTRACTOR AND ARE NOT MEANT TO BE INCLUSIVE OF ALL DEVICES. PROVIDE REQUIRED EQUIPMENT AND ACCESSORIES FOR A COMPLETE INSTALLATION.
G. INSTALL ALL EQUIPMENT PER MANUFACTURER'S INSTALLATION INSTRUCTIONS AND REQUIREMENTS. PROVIDE ADDITIONAL WORK AND MATERIALS AS REQUIRED.
H. COORDINATE INSTALLATION OF HVAC WORK WITH THE OTHER CONTRACTORS TO AVOID CONFLICTS WITH OTHER WORK.
I. VERIFY CONNECTION REQUIREMENTS FOR EQUIPMENT FURNISHED BY OTHERS WITH FINAL SHOP DRAWINGS.
J. PROVIDE ALL CUTTING AND PATCHING NECESSARY FOR HVAC WORK INSTALLATION UNLESS THIS WORK IS IDENTIFIED TO BE THE WORK OF OTHER CONTRACTORS. PATCHING SHALL MATCH ADJACENT SURFACES.
K. REMOVE HVAC DUCTWORK, PIPING, EQUIPMENT, ETC. INDICATED BY THE DRAWINGS TO BE DEMOLISHED FROM THE JOB SITE, UNLESS INDICATED TO BE TURNED OVER TO THE OWNER.
L. PROJECT COMPLETION
   1. INSTALL CLEAN SET OF FILTERS IN ALL UNITS AT TIME OF TESTING AND BALANCING.
   2. CLEAN GRILLES AND EQUIPMENT AND LEAVE IN PROPER WORKING CONDITION AT THE TIME OF FINAL CLEAN-UP.
   3. PROVIDE OPERATING INSTRUCTIONS FOR A TOTAL OF FOUR (4) HOURS. MAINTAIN A RECORD OF OPERATING INSTRUCTION PERIODS AND OBTAIN OWNER SIGNOFF THAT INSTRUCTIONS HAVE BEEN COMPLETED.
M. ACCESS
   1. FURNISH ACCESS PANELS OF ADEQUATE SIZE TO PERMIT SERVICE OF EQUIPMENT, VALVES, OR OTHER SPECIALTIES WHICH REQUIRE MAINTENANCE OR ADJUSTMENT WHICH ARE INSTALLED BEHIND WALLS OR ABOVE CEILING SURFACES.
   2. PANELS SHALL BE SUITABLE FOR INSTALLATION IN THE MATERIAL FORMING THE FINISHED SURFACE, WITH FLANGED FLUSH METAL FRAME, FLUSH HINGED STEEL DOOR, FLUSH SCREWDRIVER OPERATED LATCH.
   3. PANELS UL LISTED TO CONFORM TO THE FIRE RATING OF THE SURFACE INSTALLED IN.
   4. TURN ACCESS PANEL OVER TO CONTRACTOR SKILLED IN THE CONSTRUCTION OF THE SURFACES INVOLVED FOR INSTALLATION.
   5. ARCHITECT TO APPROVE ACCESS PANEL LOCATION PRIOR TO INSTALLATION OF EQUIPMENT REQUIRING ACCESS.
   6. COORDINATE WITH THE OTHER CONTRACTORS AND WHEREVER PRACTICAL, GROUP DEVICES IN SUCH A MANNER SO AS TO MINIMIZE PANELS.

23 05 13 MOTORS AND ELECTRICAL WORK

A. MOTORS
   1. MANUFACTURERS: GENERAL ELECTRIC, LOUIS ALLIS, MARATHON, AND BALDOR.
   2. MOTORS LESS THAN 250 WATTS: EQUIPMENT MANUFACTURER'S STANDARD AND NEED NOT CONFORM TO THESE SPECIFICATIONS.
   3. OPEN DRIP-PROOF TYPE EXCEPT TOTALLY ENCLOSED FAN COOLED FOR THE FOLLOWING MOTORS:
      a. EXTERIOR LOCATIONS
      b. WHERE NOTED ON EQUIPMENT SCHEDULES
   4. DESIGN FOR CONTINUOUS OPERATION IN 40 DEGREES C ENVIRONMENT AND FOR TEMPERATURE RISE IN ACCORDANCE WITH NEMA MG 1 LIMITS.
   5. SINGLE PHASE POWER (PERMANENT-SPLIT CAPACITOR MOTORS) WITH STARTING TORQUE EXCEEDING ONE FOURTH OF FULL LOAD TORQUE AND STARTING CURRENT UP TO SIX TIMES FULL LOAD CURRENT. CLASS A (50 DEGREES C TEMPERATURE RISE) INSULATION, MINIMUM 1.0 SERVICE FACTOR, PRELUBRICATED SLEEVE OR BALL BEARINGS, AUTOMATIC RESET OVERLOAD PROTECTOR.
   6. THREE PHASE POWER (SQUIRREL CAGE MOTORS) WITH STARTING TORQUE BETWEEN 1 AND 1-1/2 TIMES FULL LOAD TORQUE AND STARTING CURRENT SIX TIMES FULL LOAD CURRENT. NEMA DESIGN B MOTOR AND INSULATION SYSTEM. MINIMUM 1.15 SERVICE FACTOR FOR OPEN DRIP-PROOF MOTORS, 1.0 (MINIMUM) FOR OTHER TYPES. MINIMUM 85% NOMINAL POWER FACTOR UNDER RATED LOAD CONDITIONS. GREASE LUBRICATED ANTI-FRICTION BALL BEARINGS, RATED FOR MINIMUM AFBMA 9, L-10 LIFE OF 200,000 HOURS.
B. STARTERS
   1. SEE ELECTRICAL STARTER DISCONNECT SCHEDULE ON PLANS.

23 05 29 PIPE AND EQUIPMENT HANGERS AND SUPPORTS

A. MANUFACTURERS: B-LINE, EMPIRE INDUSTRIES, GLOBAL PIPE HANGER PRODUCTS, GRINNELL, NATIONAL PIPE HANGER, UNI STRUT.
B. HOT DIP GALVANIZED HANGERS, RODS, AND ACCESSORIES AFTER FABRICATION WHICH ARE EXPOSED TO WEATHER.
   KEEP FOR PROJECTS IN SEISMIC D ZONES
C. PROVIDE SEISMIC-RESTRAINT HANGERS AND SUPPORTS FOR PIPING AND EQUIPMENT AND OBTAIN APPROVAL FROM AUTHORITIES HAVING JURISDICTION.
   KEEP FOR PROJECTS IN HIGH WIND ZONES
D. PROVIDE ATTACHMENT OF ROOFTOP EQUIPMENT IN COMPLIANCE WITH APPLICABLE ASCE7 FOR WIND LOADING.
E. ANGLES, CHANNELS, AND BEAMS: ASTM A36 AND A572 AS REQUIRED.
F. HANGERS SHALL NOT BE ATTACHED TO JOIST BRIDGING.
G. PIPE HANGERS AND SUPPORTS
   1. SEE DETAILS ON PLANS FOR ADDITIONAL PIPE HANGER SPECIFICATIONS.
   2. SEE SCHEDULE ON PLANS FOR HANGER SPACING.
   3. CONFORM TO ASME B31.9 AND MANUFACTURER'S STANDARDIZATION SOCIETY (MSS) SP-58-2009.
   4. MATERIALS
   5. INSTALL HANGERS AND SUPPORTS SO PIPING LIVE AND DEAD LOADS AND STRESSES FROM MOVEMENT WILL NOT BE TRANSMITTED TO CONNECTED EQUIPMENT. ADJUST HANGERS TO DISTRIBUTE LOADS EQUALLY ON ATTACHMENTS AND TO PROVIDE INDICATED PIPE SLOPES.

23 07 00 INSULATION

A. GENERAL
   1. SEE INSULATION SCHEDULES ON PLANS FOR ADDITIONAL INFORMATION.
   2. INSULATION, INSULATION SYSTEM AND JACKETS SHALL MEET UL-723/ASTM E84 REQUIREMENTS OF MAX. FIRE HAZARD CLASSIFICATIONS OF 25, AND MAX. FLAME SPREAD, FUEL CONTRIBUTED, AND SMOKE DEVELOPED OF 50 WHEN INSTALLED IN A RETURN AIR PLENUM.
   3. INSTALL MATERIALS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND MICA PUBLICATION "NATIONAL COMMERCIAL AND INDUSTRIAL STANDARDS", 2011 SEVENTH EDITION.
   4. CONTINUE INSULATION WITHOUT INTERRUPTIONS THROUGH WALLS AND FLOOR PENETRATIONS AND HANGERS.
   5. REPAIR INSULATION ON EXISTING DUCTWORK WHICH IS DAMAGED DUE TO CONNECTING OF NEW DUCTWORK. MAINTAIN EXISTING VAPOR BARRIER INTEGRITY.
B. FIBERGLASS (F.G.) INSULATION
   1. FLEX. F.G.:
      a. O.C. SOFTR DUCT WRAP, KNAUF FRIENDLY FEEL DUCT WRAP, CERTAINTEED SOFTTOUCH, JOHNS MANVILLE MICROLITE EQ FSK DUCT WRAP.
      b. GLASS FIBER INSULATION FACTORY LAMINATED TO FRK/FSK VAPOR RETARDER. LISTED THICKNESS IS NOMINAL.
      c. 0.75 LB/CU. FT., R=3.3 / NOMINAL INCH AT 75 DEG F.
      d. MAX 250 DEG F, JACKET MAX 150 DEG F, 0.02 PERM.
   2. ACOUSTICAL DUCT LINING
      a. O.C. QUIETR ROTARY DUCT LINER, KNAUF EQUIPMENT LINER M, CERTAINTEED TOUGHGARD 2, JOHNS MANVILLE LINATEX.
      b. DUCT LINER COMPLYING WITH ASTM C1071, NFPA 90A AND 90B.
      c. LININGS MUST MEET ASTM C1338, ASTM G21 FUNGI TEST AND ASTM G22 BACTERIA TEST.
      d. AIR STREAM SURFACES SHALL BE EVALUATED IN ACCORDANCE WITH THE "EROSION TEST" IN UL 181 AND SHALL NOT BREAK AWAY, CRACK, PEEL, FLAKE OFF, OR SHOW EVIDENCE OF DELAMINATION OR CONTINUED EROSION UNDER TEST CONDITIONS.
      e. EDGE COAT ALL TRANSVERSE JOINTS AND EXPOSED EDGES.
      f. R= 4.2 /INCH AT 75 DEG F.
      g. MAX 250 DEG F
C. ELASTOMERIC FOAM INSULATION
   1. SEAL BUTT JOINTS WITH ADHESIVE. INSTALL PER MANUFACTURER INSTRUCTIONS.
   2. PIPE
      a. MANUFACTURERS. AEROFLEX,AEROCEL SSPT, K-FLEX INSUL-LOCK DS, ARMACELL AP/ARMAFLEX BLACK LAPSEAL
      b. EPDM/PVC BASE ELASTOMERIC FOAM MATERIAL
      c. DUAL TAPE CLOSURE
      d. MAX. 'K' VALUE 0.245 AT 75 DEG F
      e. MAX. CONTINUOUS TEMPERATURE 220 DEG F
      f. MAX. 0.05 PERM PER ASTM E96
      g. MAX. FIRE/SMOKE DEVELOPED OF 25/50 PER ASTM E84 FOR UP TO 2" THICK.
      h. PROVIDE MANUFACTURER PREFORMED INSULATION OVER VALVES AND FITTINGS
D. FIRE RATED: THERMAL CERAMICS FASTWRAP XL COMMERCIAL KITCHEN GREASE DUCT WRAP OR EQUIVALENT GREASE DUCT ENCLOSURE COMPLYING WITH ASTM E2336. INSTALL PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
E. JACKETS
   1. PVC:
      a. ZESTON, CEELCO, PROTO LOSMOKE PVC JACKET
      b. 30 MIL WHITE PVC. MAX TEMP 150 DEG F.
      c. FULLY ADHERE JOINT WITH SOLVENT WELDED ADHESIVE. CIRCUMFERENTIAL SEAMS MINIMUM 1" OVERLAP, LONGITUDINAL SEAMS MINIMUM 1.5" OVERLAP. LOCATE JOINT AT LEAST VISIBLE SIDE OF PIPE.
      d. PROVIDE SLIP JOINTS PERIODICALLY ON LONG RUNS OF STRAIGHT PIPE BY INCREASING CIRCUMFERENTIAL OVERLAP TO MINIMUM 8" AND APPLYING A FLEXIBLE WHITE CAULKING IN THE OVERLAP AREA.
F. DUCT INSULATION REQUIREMENTS
   1. INSULATE FITTINGS, JOINTS, FLANGES, FLEXIBLE CONNECTIONS, DAMPERS, AND IN-LINE ACCESSORIES WITHOUT INTERNAL LINING/INSULATION WITH SAME MATERIAL AND THICKNESS AS SPECIFIED FOR THE DUCT SYSTEM. STOP AND POINT INSULATION AROUND ACCESS DOORS AND DAMPER OPERATORS TO ALLOW OPERATION WITHOUT DISTURBING WRAPPING.
G. PIPE INSULATION REQUIREMENTS
   1. INSULATE ENTIRE PIPING SYSTEM INCLUDING VALVES AND FITTINGS PER MICA INSULATION STANDARDS PLATES 10 THRU 18.
   2. SEAL ALL INSULATION ENDS.

23 08 00 COMMISSIONING OF HVAC

A. SEE DIVISION 01 91 13 GENERAL COMMISSIONING REQUIREMENTS FOR ADDITIONAL REQUIREMENTS.
B. COMMISSIONING COORDINATION
   1. GENERAL CONTRACTOR TO COORDINATE WITH OWNER AND COMMISSIONING PROVIDER FOR HVAC COMMISSIONING AND FORWARD ALL REQUIRED COMMISSIONING FORMS TO THE HC.
   2. THE GENERAL CONTRACTOR WILL ESTABLISH A DATE FOR ON-SITE COMMISSIONING FUNCTIONAL TESTING AND COORDINATES WITH OWNER AND COMMISSIONING PROVIDER. THE HC MUST CONFIRM THEIR AVAILABILITY TO BE ON-SITE FOR THE COMMISSIONING.
   3. HC TO PROVIDE A SERVICE TECHNICIAN FAMILIAR WITH THE PROJECT TO BE ON-SITE DURING COMMISSIONING TO ASSIST COMMISSIONING PROVIDER WITH THE FUNCTIONAL TESTING OF THE EQUIPMENT.
C. COMMISSIONING TESTING PREPARATION
   1. CERTIFY THAT HVAC SYSTEMS, SUBSYSTEMS AND EQUIPMENT HAVE BEEN INSTALLED, CALIBRATED AND STARTED AND THAT THEY ARE OPERATING IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND APPROVED SUBMITTALS.
   2. CERTIFY THAT HVAC INSTRUMENTATION AND CONTROL SYSTEMS HAVE BEEN COMPLETED AND CALIBRATED, POINT-TO-POINT CHECKOUT HAS BEEN SUCCESSFULLY COMPLETED, AND SYSTEMS ARE OPERATING IN ACCORDANCE WITH THEIR DESIGN SEQUENCE OF OPERATION, CONTRACT DOCUMENTS AND APPROVED SUBMITTALS. CERTIFY THAT ALL SENSORS ARE OPERATING WITHIN SPECIFIED ACCURACY AND ALL SYSTMS ARE SET TO AND MAINTAINING SET POINTS AS REQUIRED BY THE DESIGN DOCUMENTS.
   3. CERTIFY THAT TAB PROCEDURES HAVE BEEN COMPLETED AND THAT TAB REPORTS HAVE BEEN SUBMITTED, DISCREPANCIES CORRECTED, AND CORRECTIVE WORK APPROVED.
   4. SET SYSTEMS, SUBSYSTEMS AND EQUIPMENT INTO OPERATING MODE TO BE TESTED IN ACCORDANCE WITH APPROVED TEST PROCEDURES (EXAMPLE: NORMAL SHUTDOWN, NORMAL AUTO POSITION, NORMAL MANUAL POSITION, UNOCCUPIED CYCLE, EMERGENCY POWER, AND ALARM CONDITIONS).
D. SCOPE OF FUNCTIONAL TESTING
   1. EQUIPMENT FUNCTIONAL TESTING SHALL DEMONSTRATE THE INSTALLATION AND OPERATION OF HVAC SYSTEMS, SUBSYSTEMS AND EQUIPMENT ARE OPERATING IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND APPROVED SUBMITTALS. FUNCTIONAL TESTING SHALL INCLUDE ALL MODES OF THE SEQUENCE OF OPERATION, INCUDING UNDER FULL-LOAD AND PARTIAL-LOAD CONDITIONS.
      a. ALL MODES AS DESCRIBED IN THE SEQUENCE OF OPERATION.
      b. REDUNDANT OR AUTOMATIC BACK-UP MODE
      c. PERFORMANCE ALARMS
   2. EQUIPMENT TO BE TESTED
      a. ROOFTOP UNITS
      b. MAKE UP AIR UNIT
      c. EXHAUST FANS
      d. DESTRATIFICATION FANS
      e. ELECTRIC HEATING EQUIPMENT
E. FINAL COMMISSIONING REPORT
   1. COMMISSIONING PROVIDER SHALL PROVIDE FINAL COMMISSIONING REPORT TO THE OWNER WITHIN 90 DAYS OF THE DATE OF RECEIPT OF CERTIFICATE OF OCCUPANCY. MECHANICAL SECTIONS OF FINAL REPORT SHALL INCLUDE:
      a. RESULTS OF FUNCTIONAL PERFORMANCE TESTS.
      b. DEFICIENCIES FOUND DURING TESTING AND DETAILS OF CORRECTIVE MEASURES USED OR PROPOSED.
      c. TEST AND BALANCE REPORT. HC IS RESPONSIBLE FOR PROVIDING THIS INFORMATION FOR SUBMITTAL OF THE FINAL COMMISSIONING REPORT IN A TIMELY MANNER.

23 31 13 DUCTWORK

A. PERFORM WORK IN ACCORDANCE WITH THE LATEST EDITIONS OF SMACNA - HVAC DUCT CONSTRUCTION STANDARDS, NFPA 90A.
B. GENERAL
   1. SEAL ALL OUTSIDE AIR DUCT JOINTS WATERTIGHT WITH SILICONE SEALANT.
   2. PAINT THE INSIDE OF ALL DUCTS VISIBLE THROUGH GRILLES IN ROOMS WITH CEILINGS WITH DULL BLACK PAINT.
   3. CERTAIN VERTICAL AND HORIZONTAL OFFSETS ARE INDICATED IN DUCTS TO INDICATE THE GENERAL POSITION RELATIONSHIP OF THE DUCTWORK SYSTEMS; PROVIDE ADDITIONAL OFFSETS AS REQUIRED TO COORDINATE WITH THE INSTALLATION OF OTHER SYSTEMS, CEILINGS AND STRUCTURE. THE DRAWINGS SHALL NOT BE SCALED TO DETERMINE EXACT LOCATION OF DUCTWORK.
   4. PROVIDE TEMPORARY CLOSURES OF METAL OR TAPED POLYETHYLENE ON OPEN DUCTWORK TO PREVENT CONSTRUCTION DUST FROM ENTERING DUCTWORK SYSTEM.
   5. LOCATE DUCTS WITH SUFFICIENT SPACE AROUND EQUIPMENT TO ALLOW NORMAL OPERATING AND MAINTENANCE ACTIVITIES.
   6. INCREASE DUCT SIZES GRADUALLY, NOT EXCEEDING 15 DEGREES WHENEVER POSSIBLE. 30 DEGREE MAXIMUM.
   7. ROUND DUCTS MAY BE SUBSTITUTED FOR RECTANGULAR IF SIZED IN ACCORDANCE WITH ASHRAE TABLES OF EQUIVALENT RECTANGULAR AND ROUND DUCTS.
C. ROUND DUCTWORK
   1. CONCEALED BRANCH DUCTWORK TO GRILLES AND DIFFUSERS MAY BE LONGITUDINAL LOCKSEAM. ALL OTHER ROUND DUCTWORK SHALL BE SPIRAL LOCKSEAM WITH FITTINGS AND COUPLINGS MINIMUM 2 GAUGES HEAVIER THAN DUCT.
D. FLEXIBLE DUCTWORK
   1. MANUFACTURERS: THERMAFLEX, FLEXMASTER, CLEVAFLEX.
   2. U.L. 181 LISTED CLASS 1 FACTORY FABRICATED FLEXIBLE AIR DUCT, COMPLY WITH NFPA 90A, FLAME SPREAD OF 25 OR LESS, SMOKE DEVELOPED RATING OF 50 OR LESS.
   3. MINIMUM PRESSURE RANGE -1/2" TO 4" W.C., TEMPERATURE RANGE 0-200 DEG F.
   4. ACOUSTIC: THERMAFLEX M-KE OR G-KM, FLEXMASTER TYPE 1 OR 6
      a. POLYETHYLENE, SPUNBOUND NYLON OR CHLORINATED POLYETHYLENE LINER.
      b. DUCTWORK TO HAVE TESTED ACOUSTICAL PERFORMANCE NOT LESS THAN 2 DB LESS THAN THE TYPES SPECIFIED.
   5. SEMI-RIGID FLEXIBLE ALUMINUM DUCTWORK NOT PERMITTED.
   6. SUPPLY DUCTWORK SHALL BE INSULATED WITH FIBERGLASS INSULATION, MINIMUM R VALUE 4, WITH VAPOR BARRIER JACKET WITH MAXIMUM 0.10 PERM RATING
   7. CONNECT TO SUPPLY DUCTWORK BY SLIDING CORE OVER COLLAR, TAPE JOINT WITH MINIMUM 3 WRAPS OF TAPE, AND APPLY METAL BAND CLAMP OR PANDUIT. FOR INSULATED DUCTWORK, PULL INSULATION AND OUTER JACKET BACK INTO POSITION, AND TAPE WITH MINIMUM 3 WRAPS OF TAPE BETWEEN FLEX DUCT AND DUCT INSULATION.
   8. CONNECT TO GRILLES AND RETURN AND TRANSFER DUCTWORK WITH METAL BAND CLAMP OR PANDUIT.
   9. MAXIMUM LENGTH FROM DUCTWORK TO GRILLES OR SLOTS 8'-0" WITH ONE 90 DEG ELBOW.
   10. DO NOT RUN THROUGH WALLS OR PARTITIONS.

LEGEND

NOTE: ALL SYMBOLS SHOWN MAY NOT APPEAR ON DRAWINGS.

SYM.	ABBR.	IDENTIFICATION	SYM.	ABBR.	IDENTIFICATION
DUCTWORK					
R / R		DUCT (R)ISE/(D)ROP			SA OR OA DUCT DOWN OR AWAY
		RADIUS ELBOW			EA DUCT DOWN OR AWAY
		SQUARE ELBOW WITH TURNING VANES			RA DUCT DOWN OR AWAY
		SQUARE ELBOW WITHOUT TURNING VANES		VD	VOLUME DAMPER
		SQUARE OR RECTANGULAR BRANCH TAKEOFF		BDD	BACKDRAFT DAMPER
		RECTANGULAR TO ROUND TAKEOFF		MOD	MOTOR OPERATED DAMPER
		TEE WITH TURNING VANES	SD	DSD	DUCT SMOKE DETECTOR
		ROUND TO ROUND CONICAL TAKEOFF	F	FD	FIRE DAMPER
		ECCENTRIC TRANSITION	S	SD	SMOKE DAMPER
		CONCENTRIC TRANSITION	F/S	FSD	FIRE/SMOKE DAMPER
		SQUARE TO ROUND TRANS.		SG	SUPPLY GRILLE
		DUCT CAP	EG,RG, TG		(E)XHAUST / (R)ETURN / (T)RANSFER GRILLE
	ALD	ACOUSTICALLY LINED DUCT	UCD	UCD	UNDERCUT DOOR (BY GC)
	SA	SUPPLY AIR DUCT UP	DTG (0 SF)	DTG	DOOR TRANSFER GRILLE
	OA	OUTSIDE AIR DUCT UP		FC	FLEXIBLE CONNECTION
	RA	RETURN AIR DUCT UP		AD	ACCESS DOOR
	EA	EXHAUST AIR DUCT UP			
MISCELLANEOUS AND CONTROLS					
		DETAIL OR SECTION NUMBER / SHEET NUMBER			STATIC PRESS. SENSOR
H		HUMIDISTAT / HUMID. SENSOR	SS		SLAB TEMPERATURE SENSOR
T		THERMOSTAT / TEMP. SENSOR			COMBINATION STARTER
VFD	VFD	VARIABLE FREQUENCY DRIVE	MS		MANUAL STARTER
	AFF	ABOVE FINISHED FLOOR		OC	ON CENTER
	AFG	ABOVE FINISHED GRADE		PC	PLUMBING CONTRACTOR
	AP	ACCESS PANEL		RAO	RETURN AIR OPENING
	BJ	BETWEEN JOISTS		TAO	TRANSFER AIR OPENING
	BOD	BOTTOM OF DUCT		EAO	EXHAUST AIR OPENING
	BOG	BOTTOM OF GRILLE		TCC	TEMPERATURE CONTROL CONTRACTOR
	EC	ELECTRICAL CONTRACTOR		TCP	TEMPERATURE CONTROL PANEL
	GC	GENERAL CONTRACTOR / CONSTRUCTION MANAGER		TJ	THRU JOISTS
	HC	HVAC CONTRACTOR		TYP.	TYPICAL
	IMP	INSULATED METAL PANEL		TTS	TIGHT TO STRUCTURE
	NIC	NOT IN CONTRACT		TV	TURNING VANES
	NTS	NOT TO SCALE		WWM	WELDED WIRE MESH
PIPING					
		SHUTOFF VALVE		PRV	PRESS. REDUCING VALVE
		BALANCE VALVE		SRV	SAFETY RELIEF VALVE
		CHECK VALVE			STEAM TRAP
		COMBINATION VALVE			ANCHOR
		STRAINER			GUIDE
		DRAIN VALVE			PIPING BOTTOM TAKE-OFF
		GLOBE VALVE			PIPING TOP TAKE-OFF
		THERMOMETER			PIPE DOWN OR AWAY
	PG	PRESSURE GAUGE			PIPE UP
		GAUGE COCK			PIPING CAP
	TCV	TEMP. CONTROL VALVE			UNION/FLANGE
		TEST CONNECTION			PIPE PITCH DOWN
	MAV	MANUAL AIR VENT			CONCENTRIC REDUCER
	FM	FLOW METER			ECCENTRIC REDUCER
		FLOW CONTROL / SHUTOFF VALVE		FC	FLEXIBLE CONNECTION
		FLOW CONTROL VALVE		BF	BLIND FLANGE
	GEO-S/GEO-R	GEOTHERMAL SUPPLY/RETURN		HWS/HWR	HOT WATER SUPPLY/RETURN
	CTS/CTR	COOLING TOWER WATER SUPPLY/RETURN		GS/GR	GLYCOL SUPPLY/RETURN
	MU	MAKEUP WATER		RWS/RWR	RADIANT WATER SUPPLY/RETURN
	LPS/LPC	LOW PRESSURE STEAM/CONDENSATE		SMS/SMR	SNOW MELT SUPPLY/RETURN
	HPS/HPC	HIGH PRESSURE STEAM/CONDENSATE		FOS/FOR	FUEL OIL SUPPLY/RETURN
	PC	PUMPED CONDENSATE		BF	BOILER FEED
	G/LP	NATURAL GAS/LP GAS		CF	CHEMICAL FEED
	D	DRAIN		A	COMPRESSED AIR
	CHWS/CHWR	CHILLED WATER SUPPLY/RETURN		V	VENT
FIRE RATED WALLS					
		FIRE - 1 HOUR			FIRE - 3 HOUR
		FIRE - 2 HOUR			FIRE - 4 HOUR

PROJECT DESIGN CRITERIA

MECHANICAL CODE **IN MC 2014**
ENERGY CODE **IN ECC 2010**
SEISMIC DESIGN CATEGORY **A**
NEAREST ASHRAE CITY **INDIANAPOLIS EXEC.**
ELEVATION **922**

	OUTSIDE	
	DB	WB
WINTER:	**-1**	**N/A**
SUMMER:	**90.4**	**77.9**

BASED ON ASHRAE 0.4% DESIGN CONDITIONS

SHEET INDEX

NUMBER	SHEET NAME
HVAC	
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H0.2	SPECIFICATIONS
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EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

PROJECT INFORMATION

PROPOSED QUICK SERVE RESTAURANT FOR:
OM GROUP - HAWAIIAN BROS - STR: 135
6421 E. 82ND ST. ● INDIANAPOLIS, IN 46250

PROFESSIONAL SEAL

SHEET DATES
ISSUED FOR CONSTRUCTION
IFC APR. 3, 2026

JOB NUMBER
250361400

SHEET NUMBER
H0.1

HVAC LEGEND AND SPECIFICATIONS

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HVAC SPECIFICATIONS (CONT.)

E. DUCTWORK SEALANTS
1. MANUFACTURERS: HARDCAST SURE-GRIP 404 SOLVENT BASED DUCT SEALANT OR EQUIVALENT.
   a. SYNTHETIC RUBBER RESIN BASE.
   b. -20 TO 200 DEG F.
   c. PRESSURE CLASSES UP TO 10" W.C., MEETING SEAL CLASS A.
   d. MAXIMUM FLAME SPREAD OF 25, SMOKE DEVELOPED OF 50.
   e. APPLY MINIMUM 20-MIL THICK WET FILM AT TEMPERATURES BETWEEN 35-100 DEG F.
2. HARDCAST ALUMA-GRIP 701 OR EQUIVALENT PRESSURE SENSITIVE DUCT JOINT ROLLED SEALANT MAY BE USED IN PLACE OF MASTIC. SEALANT SHALL COMPLY WITH THE FOLLOWING:
   a. MILL FINISH ALUMINUM SUSTRATE WITH GRAY ADHESIVE.
   b. MINIMUM 30 MIL THICK
   c. MIN. 17 LB PER LINEAR INCH PEEL STRENGTH
   d. MAX FLAME SPREAD OF 25, MAX SMOKE DEVELOPED OF 50 WHEN TESTED IN ACCORDANCE WITH ASTM G-53.
   e. VOC: 0 G/L, COMPLIANT WITH LEED SCAQMD RULE 1168.
   f. PRESSURE CLASSES UP TO 10" W.C.

F. TYPE I KITCHEN HOOD EXHAUST DUCTWORK
1. LIQUID TIGHT, CONTINUOUS EXTERNAL WELDED SEAMS, JOINTS AND PENETRATIONS.
2. PROVIDE LISTED ACCESS PANELS IN THE DUCTWORK PER NFPA 96 AT MAXIMUM 12'-0" INTERVALS AND AT ALL CHANGES IN DIRECTION. PLACE A SIGN ON ALL ACCESS PANELS STATING THE FOLLOWING: "ACCESS PANEL - DO NOT OBSTRUCT".
3. PITCH HORIZONTAL DUCTS DOWN IN THE DIRECTION OF AIR FLOW MINIMUM 2% FOR HORIZONTAL RUNS UP TO 75 FEET AND 8% IN RUNS GREATER THAN 75 FEET. PROVIDE RESIDUE TRAP AT THE BASE OF EACH VERTICAL RISE WITH PROVISIONS FOR CLEANOUT NEAR THE BOTTOM OF THE TRAP.

G. TYPE II KITCHEN HOOD EXHAUST DUCTWORK
1. LIQUID TIGHT, CONTINUOUS EXTERNAL SEALED SEAMS, JOINTS AND PENETRATIONS.
2. PITCH DUCTWORK DOWN TO CONNECTION AT HOOD.

H. DUCT CLEANING
1. PROTECT DUCTWORK AGAINST ENTRY OF FOREIGN MATTER DURING CONSTRUCTION. PROVIDE TEMPORARY END CAPS AND SEALS. PROVIDE TEMPORARY FILTERS OVER RETURN OR EXHAUST AIR INLETS IF DUCTWORK IS USED DURING CONSTRUCTION.
2. REMOVE ALL DIRT AND FOREIGN MATTER AND CLEAN DIFFUSERS, REGISTERS, AND GRILLES BEFORE OPERATING FANS.

I. SEALING DUCT PENETRATIONS
1. THRU NON-RATED WALLS WHERE DRYWALL, CONCRETE, OR MASONRY EXTENDS TO STRUCTURE, FILL VOID BETWEEN DUCT AND WALL WITH MINERAL WOOL AND CAULK BOTH SIDES WITH NON-HARDENING CAULK.

23 33 00 DUCTWORK ACCESSORIES

A. GENERAL - ALL DUCT ACCESSORIES SHALL BE CONSTRUCTED OF SAME MATERIAL AS DUCTWORK BEING INSTALLED IN.

B. TURNING VANES
1. MANUFACTURERS: AERO/DYNE CO. H.E.P., HART & COOLEY, UNITED MCGILL, SEMCO.
2. RECTANGULAR DUCTWORK: AIRFOIL TURNING VANES IN ACCORDANCE WITH SMACNA FIG. 2-3 AND 2-4. VANE RADIUS AS PROVIDED BY AERO/DYNE H.E.P. OR 4-1/2 INCHES WITH A 3-1/2 INCH SPACING.
3. ROUND DUCTWORK: TWO-PIECE MITERED, MINIMUM 20 GAUGE.

C. MANUAL VOLUME DAMPERS
1. MANUFACTURERS: RUSKIN, VENT PRODUCTS, UNITED MCGILL.
2. DAMPERS WITH EXTENDED SHAFTS AND QUADRANTS, OPERATOR WITH LOCKING DEVICE, POSITION INDICATOR, AND ELEVATED PLATFORM FOR EXTERNALLY INSULATED DUCTWORK.
3. EVERY SUPPLY, RETURN AND EXHAUST GRILLE SHALL HAVE EITHER A VOLUME DAMPER IN THE BRANCH DUCT OR AT THE GRILLE WHERE SHOWN. IF ONE IS NOT SHOWN, CONTRACTOR SHALL PROVIDE VOLUME DAMPER IN DUCT IF DUCT IS ACCESSIBLE, OTHERWISE AT THE GRILLE.
4. RECTANGULAR DAMPERS WHICH DO NOT EXCEED 12" HIGH OR 36" WIDE: BUTTERFLY DAMPER, MINIMUM 22 GAUGE. SHAFT ALONG ENTIRE LENGTH OF DAMPER FOR DAMPERS EXCEEDING 18" IN WIDTH.
5. RECTANGULAR DAMPERS GREATER THAN 12" HIGH OR 36" WIDE: MULTI-BLADE DAMPER WITH CONNECTING LINKAGE TO CONTROL FROM A SINGLE POINT. BLADES MINIMUM 16 GAUGE WITH OPPOSED BLADE ACTION.
6. ROUND DAMPERS: MINIMUM 20 GAUGE BUTTERFLY DAMPER.

D. TAKE-OFF FITTINGS
1. MANUFACTURERS: FLEXMASTER, UNITED MCGILL.
2. ROUND BRANCH TAKE-OFFS TO MULTIPLE GRILLES SHALL BE CONICAL.
3. RECTANGULAR BRANCH TAKE-OFFS TO MULTIPLE GRILLES SHALL BE PER DUCT FITTING DETAIL ON PLANS.
4. ROUND TAKE-OFFS TO INDIVIDUAL GRILLES AND SLOT DIFFUSERS: ONE PIECE SPIN-IN WITH INTEGRAL FACTORY INSTALLED LOCKING TYPE BALANCING DAMPERS.

E. DUCT ACCESS DOORS
1. MANUFACTURERS: CESCO, FLEXMASTER, VENT PRODUCTS, KEES, UNITED MCGILL, SEMCO, DUCTMATE.
2. HINGE, LATCHES, HANDLES, AND RUBBER GASKET IN FRAME. 1" INSULATED DOUBLE WALL CONSTRUCTION FOR DOORS IN LINED OR EXTERNALLY INSULATED DUCTWORK. ATTACHMENT CABLES FOR SPIN-IN UNITS. DOOR SUITABLE FOR DUCT STATIC PRESSURE CLASS.
3. DOOR SIZE 2" LESS THAN THE WIDTH OF THE DUCT (MAX. DOOR SIZE 24"X 24" (24" DIA.).
4. ROUND DUCTWORK: 16 GAUGE ROLLED SHEET METAL HINGED ACCESS DOOR WITH BUCKLE LOCKS.
5. PROVIDE AT:
   a. UPSTREAM SIDE OF TURNING VANES IN RETURN AND EXHAUST DUCTWORK
   b. DRAIN PANS
   c. DUCT MOUNTED SMOKE DETECTORS
   d. AT ANY DEVICE IN THE DUCT WHICH REQUIRES MAINTENANCE, SERVICE OR CLEANING.
6. USE HINGED ACCESS DOORS WHERE POSSIBLE. USE CAM OPERATED REMOVABLE DOORS WHERE SPACE PREVENTS THE OPENING OF A HINGED MODEL.

F. FLEXIBLE CONNECTIONS
1. MANUFACTURERS: VENTFABRICS, DURO-DYNE.
2. MATERIAL BOLTED SECURELY TO THE EQUIPMENT AND CONNECTING DUCTWORK WITH #16 GAUGE GALVANIZED IRON BAND (LOOP) CLAMPS BOLTED TIGHT TO MAKE AN AIRTIGHT CONNECTION, MINIMUM 6" WIDE.
3. PROVIDE AT INLET AND OUTLET OF ALL AIR HANDLING UNITS AND FANS IN ACCORDANCE WITH SMACNA FIGURE 2-19.
4. CONVENTIONAL INTERIOR: VENTGLAS, -20 TO 200 DEG F., 30 OZ. PER SQUARE YARD GLASS FABRIC DOUBLE COATED WITH NEOPRENE, UL 214 APPROVED.

23 90 00 TEMPERATURE CONTROLS

A. INSTALLER QUALIFICATIONS: AUTOMATIC CONTROL SYSTEM MANUFACTURER'S AUTHORIZED REPRESENTATIVE WHO IS TRAINED AND APPROVED FOR INSTALLATION OF SYSTEM COMPONENTS REQUIRED FOR THIS PROJECT.

B. ALL PRODUCTS USED IN THIS INSTALLATION SHALL BE NEW, CURRENTLY UNDER MANUFACTURE, AND SHALL BE APPLIED IN STANDARD OFF THE SHELF PRODUCTS. THIS INSTALLATION SHALL NOT BE USED AS A TEST SITE FOR ANY NEW PRODUCTS UNLESS EXPLICITLY APPROVED BY THE ENGINEER IN WRITING. SPARE PARTS SHALL BE AVAILABLE FOR AT LEAST 5 YEARS AFTER COMPLETION OF THIS CONTRACT.

C. ELECTRICAL COMPONENTS, DEVICES, AND ACCESSORIES: LISTED AND LABELED AS DEFINED IN NFPA 70, ARTICLE 100, BY A TESTING AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION, AND MARKED FOR INTENDED USE.

D. LABOR AND MATERIALS FOR THE CONTROL SYSTEM SPECIFIED SHALL BE WARRANTED FREE FROM DEFECTS FOR A PERIOD OF 12 MONTHS AFTER FINAL COMPLETION AND ACCEPTANCE. CONTROL SYSTEM FAILURES DURING THE WARRANTY PERIOD SHALL BE ADJUSTED, REPAIRED, OR REPLACED AT NO ADDITIONAL COST OR REDUCTION IN SERVICE TO THE OWNER.

E. CONNECT AND CONFIGURE EQUIPMENT AND SOFTWARE TO ACHIEVE SEQUENCE OF OPERATION SPECIFIED.

F. CONTROLLER HARDWARE USED OUTDOORS AND/OR IN WET AMBIENT CONDITIONS SHALL BE MOUNTED WITHIN NEMA 3R ENCLOSURES, AND RATED FOR OPERATION AT -40 DEG F TO 150 DEG F AND 10 TO 90% RH. HARDWARE USED IN CONDITIONED SPACE SHALL BE MOUNTED IN AN ENCLOSURE AND BE RATED FOR OPERATION AT 32 DEG F TO 120 DEG F.

G. POWER SUPPLIES: UL LISTED TRANSFORMERS WITH CLASS 2 CURRENT-LIMITING TYPE OR OVERCURRENT PROTECTION; LIMIT CONNECTED LOADS TO 80 PERCENT OF RATED CAPACITY. DC POWER SUPPLY SHALL MATCH OUTPUT CURRENT AND VOLTAGE REQUIREMENTS AND BE FULL-WAVE RECTIFIER TYPE.

H. POWER LINE FILTERING: INTERNAL OR EXTERNAL TRANSIENT VOLTAGE AND SURGE SUPPRESSION.

I. ELECTRONIC SENSORS/TRANSMITTERS

1. INSTALLATION
   a. INSTALL ALL SENSORS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
   b. ROOM TEMPERATURE SENSORS SHALL BE INSTALLED ON CONCEALED JUNCTION BOXES PROPERLY SUPPORTED BY THE WALL FRAMING WITH CONDUIT STUB TO ABOVE THE CEILING.
   c. INSTALL DEVICES WHICH HAVE ADJUSTMENT 48 INCHES ABOVE THE FLOOR OR COMPLY WITH CURRENT ADA REQUIREMENTS. INSTALL NON-ADJUSTABLE CONTROL SENSORS AT 60 INCHES ABOVE THE FLOOR.
   d. COORDINATE LOCATION OF THERMOSTATS, HUMIDISTATS, AND OTHER EXPOSED CONTROL SENSORS WITH PLANS AND ROOM DETAILS BEFORE INSTALLATION.
   e. ALL WIRES ATTACHED TO SENSORS SHALL BE AIR SEALED IN THEIR RACEWAYS OR IN THE WALL TO STOP AIR TRANSMITTED FROM OTHER AREAS AFFECTING SENSOR READINGS.

J. THERMOSTATS
1. ELECTRIC, SOLID-STATE, MICROCOMPUTER-BASED ROOM THERMOSTAT WITH REMOTE SENSOR (7 DAY PROGRAMMABLE): HONEYWELL VISIONPRO 8000 WITH RED LINK. THERMOSTAT SHALL HAVE THE CAPABILITY TO SET BACK OR TEMPORARILY OPERATE THE SYSTEM TO MAINTAIN ZONE TEMPERATURES DOWN TO 55 DEG. F AND SHALL HAVE OPTIMAL START CAPABILITY AND REMOTE MONITORING AND CONTROL.
   a. SEE "SEQUENCE OF OPERATION" FOR ADDITIONAL INFORMATION.
   b. PROVIDE HONEYWELL REDLINK INTERNET GATEWAY.
2. RELAYS: SEE ELECTRICAL STARTER DISCONNECT SCHEDULE.
3. VOLTAGE TRANSFORMERS: UL/CSA RECOGNIZED, 600 VAC RATED, COMPLETE WITH BUILT-IN FUSE PROTECTION. SUITABLE FOR AMBIENT TEMPERATURES OF 40 TO 130 DEG F. PROVIDE PLUS OR MINUS 0.5% ACCURACY AT 24 VAC AND A 5 VA LOAD. WINDINGS COMPLETELY ENCLOSED WITH METAL OR PLASTIC MATERIAL.

K. ELECTRICAL WIRING AND CONNECTION INSTALLATION
1. PROVIDE 120 VAC POWER TO ANY CONTROL PANELS RELATED TO THIS SECTION NOT SHOWN ON THE DRAWINGS.
2. ALL CONTROL AND INTERLOCK WIRING SHALL COMPLY WITH NATIONAL AND LOCAL ELECTRICAL CODES AND ELECTRICAL SPECIFICATION. WHERE THE REQUIREMENTS OF THIS SECTION DIFFER WITH THOSE IN THE ELECTRICAL SPECIFICATIONS, THE MORE STRINGENT REQUIREMENTS SHALL TAKE PRECEDENCE.
3. ALL NEC CLASS 1 (LINE VOLTAGE) WIRING SHALL BE UL LISTED IN APPROVED RACEWAY PER NEC AND ELECTRICAL SPECIFICATIONS.
4. SEE ELECTRICAL SPECIFICATIONS FOR CONDUIT REQUIREMENTS.
5. ALL LOW-VOLTAGE WIRING SHALL MEET NEC CLASS 2 REQUIREMENTS. (LOW-VOLTAGE POWER CIRCUITS SHALL BE SUB-FUSED WHEN REQUIRED TO MEET CLASS 2 CURRENT-LIMIT).
6. ALL WIRING IN MECHANICAL, ELECTRICAL, OR SERVICE ROOMS AND WHERE SUBJECT TO DAMAGE SHALL BE INSTALLED IN RACEWAY.
7. WHERE NEC CLASS 2 (CURRENT-LIMITED) WIRES ARE IN CONCEALED AND ACCESSIBLE LOCATIONS, APPROVED CABLES NOT IN RACEWAY MAY BE USED PROVIDED THAT CABLES ARE UL LISTED FOR THE INTENDED APPLICATION.
8. DO NOT INSTALL CLASS 2 WIRING IN RACEWAY, BOXES AND PANELS CONTAINING CLASS 1 WIRING.
9. SUPPORT CABLES AND RACEWAYS FROM STRUCTURAL MEMBERS. CABLES AND RACEWAYS SHALL NOT BE SUPPORTED BY DUCTWORK, ELECTRICAL RACEWAYS, PIPING, OR CEILING SUSPENSION SYSTEMS. SECURE AND SUPPORT CABLE AT INTERVALS NOT EXCEEDING 30 INCHES AND NOT MORE THAN 6 INCHES FROM CABINETS, BOXES, FITTINGS, OUTLETS, RACKS, FRAMES, AND TERMINALS.
10. INSTALL WIRING IN SLEEVES WHERE IT PASSES THROUGH WALLS AND FLOORS. MAINTAIN FIRE RATING AT ALL PENETRATIONS.
11. SIZE OF WIRE AND RACEWAY SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, AND BE PER THE MANUFACTURER'S RECOMMENDATION AND NEC REQUIREMENTS.
12. INCLUDE ONE PULL STRING IN EACH RACEWAY 1" OR LARGER.
13. LOCATE CONTROL AND STATUS RELAYS IN DESIGNATED ENCLOSURES ONLY.
14. FLEXIBLE METAL RACEWAYS ARE NOT PERMITTED OVER 6 FEET.
15. MAINTAIN UPDATED (AS-BUILT) WIRING DIAGRAMS WITH TERMINATIONS IDENTIFIED AT THE JOB SITE.
16. IDENTIFICATION OF HARDWARE AND WIRING
   a. LABEL ALL WIRING AND CABLING, INCLUDING THAT WITHIN FACTORY-FABRICATED PANELS, AT EACH END WITHIN 2" OF TERMINATION WITH THE DDC ADDRESS OR TERMINATION NUMBER.
   b. PERMANENTLY LABEL OR CODE EACH POINT/OBJECT OF FIELD TERMINAL STRIPS TO SHOW THE INSTRUMENT OR ITEM SERVED.

L. DUCT SMOKE DETECTORS AND THE INTERLOCK REQUIRED FOR AIR HANDLING EQUIPMENT SHUTDOWN ARE FURNISHED AND INSTALLED UNDER ELECTRICAL SPECIFICATIONS OR BY THE EQUIPMENT MANUFACTURER.

M. INSTALLATION
1. INSTALL EQUIPMENT, PIPING, AND WIRING/RACEWAY PARALLEL TO BUILDING LINES (I.E., HORIZONTAL, VERTICAL, AND PARALLEL TO WALLS) WHEREVER POSSIBLE.
2. INSTALL ALL EQUIPMENT IN READILY ACCESSIBLE LOCATIONS AS DEFINED BY CHAPTER 1, ARTICLE 100, PART A OF THE NATIONAL ELECTRICAL CODE (NEC).
3. THE CONTRACTOR SHALL PROTECT ALL WORK AND MATERIAL FROM DAMAGE BY HIS WORK OR EMPLOYEES, AND SHALL BE LIABLE FOR ALL DAMAGE THUS CAUSED.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HIS WORK AND EQUIPMENT UNTIL FINALLY INSPECTED, TESTED, AND ACCEPTED. THE CONTRACTOR SHALL PROTECT ANY MATERIAL THAT IS NOT IMMEDIATELY INSTALLED.
5. TEST AND BALANCE: FURNISH ALL TOOLS NECESSARY TO INTERFACE TO THE CONTROL SYSTEM FOR TEST AND BALANCE PURPOSES. PROVIDE A QUALIFIED TECHNICIAN TO ASSIST IN THE TEST AND BALANCE PROCESS.

N. FIELD QUALITY CONTROL
1. INSPECT, TEST, AND ADJUST FIELD-ASSEMBLED COMPONENTS AND EQUIPMENT INSTALLATION, AND TO ASSIST IN FIELD TESTING.
2. PERFORM THE FOLLOWING FIELD TESTS AND INSPECTIONS AND PREPARE TEST REPORTS:
   a. OPERATIONAL TEST: AFTER ELECTRICAL CIRCUITRY HAS BEEN ENERGIZED, START UNITS TO CONFIRM PROPER UNIT OPERATION. REMOVE AND REPLACE MALFUNCTIONING UNITS AND RETEST.
   b. TEST AND ADJUST CONTROLS AND SAFETIES.
   c. TEST CALIBRATION OF ELECTRONIC CONTROLLERS BY DISCONNECTING INPUT SENSORS AND SIMULATING OPERATION WITH COMPATIBLE SIGNAL GENERATOR.
   d. TEST EACH POINT THROUGH ITS FULL OPERATING RANGE TO VERIFY THAT SAFETY AND OPERATING CONTROL SET POINTS ARE AS REQUIRED.
   e. TEST EACH CONTROL LOOP TO VERIFY STABLE MODE OF OPERATION AND COMPLIANCE WITH SEQUENCE OF OPERATION. ADJUST PID ACTIONS.
   f. TEST EACH SYSTEM FOR COMPLIANCE WITH SEQUENCE OF OPERATION.
   g. TEST SOFTWARE AND HARDWARE INTERLOCKS.

O. CALIBRATING AND ADJUSTING:
1. CALIBRATE INSTRUMENTS.
2. MAKE THREE-POINT CALIBRATION TEST FOR BOTH LINEARITY AND ACCURACY FOR EACH ANALOG INSTRUMENT.
3. CALIBRATE EQUIPMENT AND PROCEDURES USING MANUFACTURER'S WRITTEN RECOMMENDATIONS AND INSTRUCTION MANUALS. USE TEST EQUIPMENT WITH ACCURACY AT LEAST DOUBLE THAT OF INSTRUMENT BEING CALIBRATED.
4. CONTROL SYSTEM INPUTS AND OUTPUTS:
   a. CHECK ANALOG INPUTS AT 0, 50, AND 100 PERCENT OF SPAN.
   b. CHECK ANALOG OUTPUTS USING MILLIAMPERE METER AT 0, 50, AND 100 PERCENT OUTPUT.
   c. CHECK DIGITAL INPUTS USING JUMPER WIRE.
   d. CHECK DIGITAL OUTPUTS USING OHMMETER TO TEST FOR CONTACT MAKING OR BREAKING.
   e. CHECK RESISTANCE TEMPERATURE INPUTS AT 0, 50, AND 100 PERCENT OF SPAN USING A PRECISION-RESISTANT SOURCE.
5. TEMPERATURE:
   a. CALIBRATE RESISTANCE TEMPERATURE TRANSMITTERS AT 0, 50, AND 100 PERCENT OF SPAN USING A PRECISION-RESISTANCE SOURCE.
   b. CALIBRATE TEMPERATURE SWITCHES TO MAKE OR BREAK CONTACTS.

P. TRAINING
1. PROVIDE A MINIMUM OF TWO ONSITE TRAINING CLASSES, 2 HOURS EACH SEPARATED BY TWO WEEKS, AT THE COMPLETION OF CALIBRATING AND ADJUSTING FOR PERSONNEL DESIGNATED BY THE OWNER.
2. PROVIDE DOCUMENTATION OF ITEMS COVERED IN TRAINING EITHER IN HARD COPY OR ELECTRONIC FORMAT.
3. TRAIN THE OWNER DESIGNATED DAY-TO-DAY OPERATORS TO ENABLE THEM TO:
   a. PROFICIENTLY OPERATE THE SYSTEM
   b. ADJUST AND CHANGE SYSTEM SETPOINTS, TIME SCHEDULES, AND HOLIDAY SCHEDULES
   c. UNDERSTAND SYSTEM DRAWINGS, AND OPERATION AND MAINTENANCE MANUAL
   d. UNDERSTAND THE JOB LAYOUT AND LOCATION OF CONTROL COMPONENTS
4. OCCUPANCY ADJUSTMENTS: WHEN REQUESTED WITHIN 12 MONTHS OF DATE OF SUBSTANTIAL COMPLETION, PROVIDE ON-SITE ASSISTANCE IN ADJUSTING SYSTEM TO SUIT ACTUAL OCCUPIED CONDITIONS. PROVIDE UP TO TWO VISITS TO PROJECT DURING OTHER THAN NORMAL OCCUPANCY HOURS FOR THIS PURPOSE.

23 90 10 SEQUENCE OF OPERATION

A. ROOFTOP AIR CONDITIONING UNITS
1. PROVIDE A HONEYWELL VISION PRO 8000 SEVEN DAY PROGRAMMABLE HEATING/COOLING THERMOSTAT CAPABLE OF 2 STAGES OF HEATING AND 2 STAGES OF COOLING (CONVENTIONAL), WITH ECONOMIZER/TIME OF DAY OUTPUT. (SEE TEMPERATURE CONTROLS SECTION FOR ADDITIONAL INFORMATION ON THERMOSTAT)
   a. SET FAN SETTING TO "ON" FOR FAN TO RUN CONTINUOUSLY IN OCCUPIED PERIODS, AND TO RUN WITH EQUIPMENT OPERATION DURING UNOCCUPIED PERIODS.
   b. SET INSTALLER SETUP NUMBERS TO MATCH INSTALLED SYSTEM IN ADDITION TO THE FOLLOWING (CONTACT ENGINEER WITH ANY QUESTIONS REGARDING ANY SETUP NUMBERS):
      1). 101 APPLICATION: COMMERCIAL
      2). 326 EXTENDED FAN RUN TIME IN HEAT: 60 SECONDS.
2. PROVIDE HONEYWELL C7770A DUCT MOUNTED REMOTE SENSOR(S) WHERE SHOWN ON THE DRAWINGS. REMOTE SENSORS SHALL DETERMINE THERMOSTAT OUTPUT.
3. ECONOMIZER PACKAGE PROVIDED WITH ROOFTOP UNITS. MONITOR FAULT DETECTION AND DIAGNOSTICS SYSTEM FOR FAULTS.
4. POWER RELIEF: CONTROLLED BY ROOFTOP UNIT BASED ON OUTSIDE AIR DAMPER POSITION.
5. HOT GAS REHEAT: INSTALL HUMIDITY SENSOR FURNISHED BY ROOFTOP UNIT MANUFACTURER IN RETURN DUCTWORK. PROGRAM ROOFTOP UNIT CONTROLS TO MAINTAIN 50% RELATIVE HUMIDITY SETPOINT.
6. MOUNT AND WIRE ALL CONTROL WIRING ASSOCIATED WITH THE ROOFTOP AND PROVIDE ANY ADDITIONAL DEVICES NECESSARY FOR A COMPLETE OPERATIONAL SYSTEM.

B. MAKE UP AIR UNIT (MUA-1)
1. CONTROL OF MAKE UP AIR UNIT BY KITCHEN EQUIPMENT SUPPLIER.

C. EXHAUST FANS (EF'S)
1. CONTROL OF KITCHEN HOOD EXHAUST FANS BY KITCHEN EQUIPMENT SUPPLIER.
2. EXISTING TOILET ROOM EXHAUST FAN INTERLOCK TO REMAIN. FAN TO OPERATE CONTINUOUSLY DURING OCCUPIED CYCLE OF ROOFTOP UNITS.
3. CO2 EXHAUST FAN TO OPERATE UPON ALARM FROM CO2 DETECTOR.
4. TOILET ROOM EXHAUST FAN TO OPERATE CONTINUOUSLY DURING OCCUPIED CYCLE OF ROOFTOP UNITS.

23 95 00 TESTING, ADJUSTING AND BALANCING

A. QUALITY ASSURANCE
1. PERFORM TOTAL SYSTEM BALANCE IN ACCORDANCE WITH AABC NATIONAL STANDARDS FOR FIELD MEASUREMENT AND INSTRUMENTATION, TOTAL SYSTEM BALANCE OR NEBB PROCEDURAL STANDARDS FOR TESTING, BALANCING AND ADJUSTING OF ENVIRONMENTAL SYSTEMS, AND ASHRAE STANDARD 111.
2. THE TESTING, ADJUSTING AND BALANCING (TAB) CONTRACTOR SHALL BE AN INDEPENDENT COMPANY SPECIALIZING IN THE TESTING, ADJUSTING, AND BALANCING OF SYSTEMS WITH MINIMUM THREE YEARS EXPERIENCE AND NOT ASSOCIATED WITH THE SUPPLIERS OF EQUIPMENT OR THE INSTALLING CONTRACTOR.
3. PERFORM WORK UNDER SUPERVISION OF AABC CERTIFIED TEST AND BALANCE ENGINEER OR NEBB CERTIFIED TESTING, BALANCING AND ADJUSTING SUPERVISOR.

B. SUBMITTALS
1. CONTRACTOR SHALL SUBMIT THE FINAL TESTING AND BALANCING REPORT TO LOCAL AHJ PRIOR TO PROJECT COMPLETION AND IN ADVANCE OF DATE OF OCCUPANCY. SUBMIT REPORTS ON AABC NATIONAL STANDARDS FOR TOTAL SYSTEM BALANCE OR NEBB FORMS.
2. SUBMIT THE DESIGN AND ACTUAL DATA FOR EACH SCHEDULED PIECE OF EQUIPMENT: MODEL; SUPPLY, RETURN, AND OUTSIDE AIR FLOWS; STATIC PRESSURE PROFILES OF AIR HANDLING UNIT COMPONENTS AND ALL FANS; FAN RPM, BHP, AMPERAGE; FAN AND MOTOR SHEAVE, DIAMETER, BORE AND MAKE; BELT SIZE AND QUANTITY; MOTOR SHEAVE CENTER LINE AND OPERATOR DISTANCE; ROOM AIR FLOW; EQUIPMENT FLOW RATES AND PRESSURE DROPS.

C. INSTALLATION TOLERANCES
1. AIR HANDLING SYSTEMS: ADJUST SUPPLY SYSTEMS TO WITHIN PLUS OR MINUS 5 PERCENT OF DESIGN AND RETURN AND EXHAUST SYSTEMS TO PLUS OR MINUS 10 PERCENT OF DESIGN.
2. AIR OUTLETS AND INLETS: ADJUST TOTAL AIR FLOW TO SPACE TO WITHIN PLUS 10 PERCENT AND MINUS 5 PERCENT OF DESIGN.
3. ADJUST OUTLETS AND INLETS IN SPACE TO WITHIN PLUS OR MINUS 10 PERCENT OF DESIGN.

D. AIR SYSTEM BALANCE
1. VARY TOTAL SYSTEM AIR QUANTITIES BY ADJUSTING FAN SPEEDS. VARY BRANCH AIR QUANTITIES BY DAMPER REGULATION.
2. ADJUST SETTINGS ON DIRECT DRIVE FANS WITH ECM MOTORS AS REQUIRED TO ACHIEVE DESIGN AIRFLOW.
3. ADJUST OUTSIDE AIR, RETURN AIR, AND EXHAUST AIR AUTOMATIC DAMPERS FOR DESIGN CONDITIONS.
4. TEST AIR HANDLING UNITS AT MINIMUM AND 100% OUTSIDE AIR.
5. FOR BELT DRIVE FANS WITH A VFD, ADJUST BELT AND SHEAVES TO ACHIEVE DESIGN AIRFLOW WITH VFD AT 60 HERTZ. VFD IS NOT TO BE USED FOR INITIAL BALANCING

E. FANS WITH FIXED MOTOR SHEAVES - TEST THE FAN EQUIPMENT. IF THE DESIGN CONDITIONS ARE NOT OBTAINED, CALCULATE THE FINAL FIXED MOTOR SHEAVE AND/OR BELTS REQUIRED TO OBTAIN DESIGN CONDITIONS. HEATING CONTRACTOR SHALL OBTAIN THE FINAL FIXED MOTOR SHEAVE AND BELT(S) FROM THE FAN MANUFACTURER AND TURN THEM OVER TO THE TAB CONTRACTOR FOR INSTALLATION.

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PROJECT INFORMATION

PROPOSED QUICK SERVE RESTAURANT FOR:
OM GROUP - HAWAIIAN BROS - STR: 135
6421 E. 82ND ST. ● INDIANAPOLIS, IN 46250

PROFESSIONAL SEAL

SHEET DATES
ISSUED FOR CONSTRUCTION
IFC APR. 3, 2026

JOB NUMBER
250361400

SHEET NUMBER
H0.2

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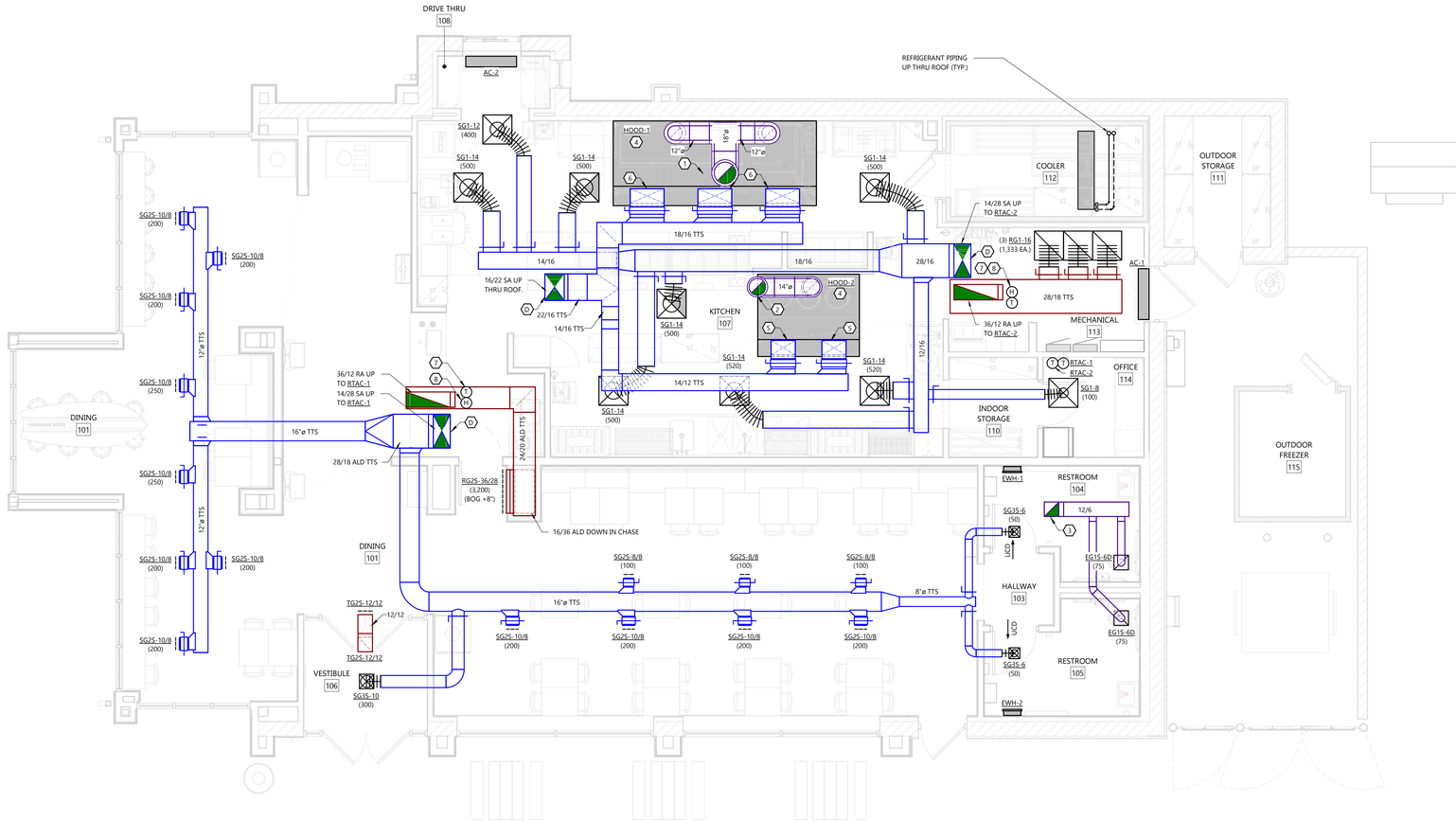
GENERAL NOTES

- DUCT FITTINGS SHALL BE TYPE SHOWN ON PLAN OR CALLED OUT BY KEYNOTE. SEE DETAIL 1/H3.0 FOR ADDITIONAL FITTING DETAIL.
- VERIFY BUILDING OPENING AND CURB SIZES LISTED ON PLANS WITH ACTUAL EQUIPMENT SCHEDULED AND SUPPLIED. COORDINATE REQUIRED OPENING SIZES AND LOCATIONS WITH CONTRACTORS PROVIDING OPENING. SCHEDULES AND ACTUAL EQUIPMENT SIZES SHALL TAKE PRECEDENCE OVER SIZES SHOWN ON PLANS.
- DETAIL REFERENCES ON PLANS ARE TO AID THE CONTRACTOR IN IDENTIFYING THE APPLICABLE DETAIL. NOT ALL DETAILS OR INSTANCES OF DETAILS, ARE REFERENCED ON PLANS. CONTRACTOR IS RESPONSIBLE TO REVIEW AND COMPLY WITH ALL APPLICABLE DETAILS WHETHER OR NOT REFERENCED ON PLANS.
- COORDINATE LOCATION OF ALL EXPOSED PIPING AND DUCTWORK WITH OWNER PRIOR TO INSTALLATION.
- IF DUCT SYSTEMS ARE USED FOR TEMPORARY HEAT, PROVIDE TEMPORARY FILTERS AT RETURN AIR OPENINGS AND INSTALL FILTERS IN THE UNITS EQUIVALENT TO THE EFFICIENCY OF THE SPECIFIED FILTERS FOR THE UNIT. IF PROPER EFFICIENCY FILTERS ARE NOT INSTALLED IN UNIT, UNIT AND ALL DUCTWORK DOWNSTREAM OF UNIT SHALL BE CLEANED BEFORE TEST AND BALANCE.

KEYNOTES

- (A) - (H) SEE DUCT FITTING DETAILS 1/H3.0
- (1) 18"ø EA UP - TRANSITION IN CURB TO CONNECTION SIZE AT KEF-1.
- (2) 14"ø EA UP - TRANSITION IN CURB TO CONNECTION SIZE AT KEF-2.
- (3) 12/12 EA UP THRU ROOF TO EF-3.
- (4) KITCHEN HOOD - FURNISHED BY KITCHEN EQUIPMENT SUPPLIER AND INSTALLED BY H.C.
- (5) 20/12 SA CONNECTION ON SA PLENUM. BALANCE TO 480 CFM.
- (6) 28/12 SA CONNECTION ON SA PLENUM. BALANCE TO 814 CFM.
- (7) THERMOSTAT REMOTE SENSOR IN RA DUCT
- (8) HUMIDITY SENSOR LOCATED IN RA DUCT.



NORTH

FIRST FLOOR PLAN

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

0' 4' 8'

HVAC FIRST FLOOR PLAN

EXCEL

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100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
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PROJECT INFORMATION

PROPOSED QUICK SERVE RESTAURANT FOR:

OM GROUP - HAWAIIAN BROS - STR: 135

6421 E. 82ND ST. • INDIANAPOLIS, IN 46250

PROFESSIONAL SEAL

SHEET DATES

ISSUED FOR CONSTRUCTION

IFC APR. 3, 2026

JOB NUMBER

250361400

SHEET NUMBER

H1.1

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GAS SPECIFICATIONS

DIVISION 23 HVAC

23 05 00 BASIC HVAC REQUIREMENTS

A. SEE DIVISION 00 PROCUREMENT AND CONTRACTING AND DIVISION 01 GENERAL REQUIREMENT FOR ADDITIONAL REQUIREMENTS.
B. HVAC CONTRACTOR SHALL VERIFY REQUIREMENTS FOR TEMPORARY HEATING WITH GENERAL CONTRACTOR AND INCLUDE IN HIS SCOPE OF WORK WHEN DIRECTED BY G.C. INSTALL IN ACCORDANCE WITH ALL CODE AND OSHA REQUIREMENTS FOR CONSTRUCTION PROJECTS.
C. SHOP DRAWINGS, PRODUCT DATA, TEST RESULTS, PROJECT CLOSEOUT DOCUMENTS:
   1. SEE DIVISION 01 33 23 SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES FOR ADDITIONAL REQUIREMENTS
   2. CONSTRUCTION ADMINISTRATION SUBMITTAL LIST:
      a. PIPING
      b. PIPE HANGERS
      c. VALVES
D. FINISHING AND PAINTING
   1. SEE DIVISION 09 91 00 FINISH AND PAINTING FOR ADDITIONAL REQUIREMENTS.
   2. PREPARE EXPOSED PIPE, FITTINGS, SUPPORTS, AND ACCESSORIES FOR FINISH PAINTING IN ROOMS THAT WILL HAVE CEILING AND STRUCTURE PAINTED.
   3. COORDINATE WORK WITH THE PAINTERS SO THAT ALL EQUIPMENT IS INSTALLED PRIOR TO PAINTING. H.C. SHALL PAINT ITEMS IF NOT IN PLACE PRIOR TO NORMAL ROUTINE PAINTING.
   4. IF FINISH BECOMES RUSTED, CORRODED, SCRATCHED, OR FLAKED DURING STORAGE OR INSTALLATION, REFINISH THE EQUIPMENT TO THE SATISFACTION OF THE OWNER.
   5. WHERE THE HEATING CONTRACTOR IS REQUIRED TO PAINT, THE PAINTING SHALL BE DONE IN ACCORDANCE WITH THE PAINTING PORTION OF THE ARCHITECTURAL SPECIFICATION.
E. DETAILS AND SCHEDULES ARE SHOWN TO AID THE CONTRACTOR AND ARE NOT MEANT TO BE INCLUSIVE OF ALL DEVICES. PROVIDE REQUIRED EQUIPMENT AND ACCESSORIES FOR A COMPLETE INSTALLATION.
F. INSTALL ALL EQUIPMENT PER MANUFACTURER'S INSTALLATION INSTRUCTIONS AND REQUIREMENTS. PROVIDE ADDITIONAL WORK AND MATERIALS AS REQUIRED.
G. COORDINATE INSTALLATION OF WORK WITH THE OTHER CONTRACTORS TO AVOID CONFLICTS WITH OTHER WORK.
H. VERIFY CONNECTION REQUIREMENTS FOR EQUIPMENT FURNISHED BY OTHERS WITH FINAL SHOP DRAWINGS.
I. PROVIDE ALL CUTTING AND PATCHING NECESSARY FOR INSTALLATION UNLESS THIS WORK IS IDENTIFIED TO BE THE WORK OF OTHER CONTRACTORS. PATCHING SHALL MATCH ADJACENT SURFACES.
J. GAS SERVICE
   1. CONNECTED GAS LOAD TO EXISTING METER IS BEING INCREASED AND METER WILL NEED TO BE REPLACED BY GAS COMPANY. CONTACT GAS UTILITY TO COORDINATE METER REPLACEMENT AND ASSIST OWNER IN APPLYING FOR LARGER SERVICE.
   2. GAS SERVICE COST BY OWNER.

23 05 29 PIPE AND EQUIPMENT HANGERS AND SUPPORTS

A. MANUFACTURERS: B-LINE, EMPIRE INDUSTRIES, GLOBAL PIPE HANGER PRODUCTS, GRINNELL, NATIONAL PIPE HANGER, UNI STRUT.
B. HOT DIP GALVANIZED HANGERS, RODS, AND ACCESSORIES AFTER FABRICATION WHICH ARE EXPOSED TO WEATHER.
C. ANGLES, CHANNELS, AND BEAMS: ASTM A36 AND A572 AS REQUIRED.
D. HANGERS SHALL NOT BE ATTACHED TO JOIST BRIDGING.
E. PIPE HANGERS AND SUPPORTS
   1. SEE DETAILS ON PLANS FOR ADDITIONAL PIPE HANGER SPECIFICATIONS.
   2. SEE SCHEDULE ON PLANS FOR HANGER SPACING.
   3. CONFORM TO ASME B31.9 AND MANUFACTURER'S STANDARDIZATION SOCIETY (MSS) SP-58-2009.
   4. MATERIALS
   5. INSTALL HANGERS AND SUPPORTS SO PIPING LIVE AND DEAD LOADS AND STRESSES FROM MOVEMENT WILL NOT BE TRANSMITTED TO CONNECTED EQUIPMENT. ADJUST HANGERS TO DISTRIBUTE LOADS EQUALLY ON ATTACHMENTS AND TO PROVIDE INDICATED PIPE SLOPES.

23 11 23 NATURAL GAS PIPING AND ACCESSORIES

A. PIPING
   1. INSTALL, INSPECT, TEST, AND PURGE GAS PIPING IN CONFORMANCE WITH NFPA 54, UTILITY COMPANY AND ALL OTHER GOVERNING CODES.
   2. MAKE BRANCH CONNECTIONS TO THE MAIN FROM THE TOP OR SIDE.
   3. PAINTING GAS PIPING IS NOT BY HEATING CONTRACTOR. PAINTING PER SPECIFICATION 09 91 00 PAINTING.
B. GAS VALVES
   1. UL LISTED FOR USE AS NATURAL GAS SHUTOFF.
   2. BALL VALVES (MANUFACTURERS: NIBCO S85/580-70UL, WATTS B6000UL): BRONZE BODY, THREADED ENDS, CHROME PLATED BRONZE BALL, FULL/CONVENTIONAL PORT, TEFLON SEAT, BLOWOUT-PROOF STEM, TWO-PIECE CONSTRUCTION, 150 PSIG WORKING PRESSURE.
   3. PLUG VALVES (MANUFACTURERS: DEZURIK PEC, HOMESTEAD SERIES 612): CAST IRON BODY, FLANGED ENDS, BRONZE BEARINGS, ELECTROLESS NICKEL PLATED CAST IRON PLUG WITH HYCAR RESILIENT PLUG SEAL, BUNA-N STEM SEAL PACKING, LEVER ACTUATOR, 175 PSIG WOG.

GENERAL NOTES

- DETAIL REFERENCES ON PLANS ARE TO AID THE CONTRACTOR IN IDENTIFYING THE APPLICABLE DETAIL, NOT ALL DETAILS, OR INSTANCES OF DETAILS, ARE REFERENCED ON PLANS. CONTRACTOR IS RESPONSIBLE TO REVIEW AND COMPLY WITH ALL APPLICABLE DETAILS WHETHER OR NOT REFERENCED ON PLANS.

KEYNOTES

1. 1-1/2" GAS DOWN ALONG WALL. SEE DETAIL 1 ON SHEET H3.0G.
2. 1" GAS DOWN ALONG WALL. SEE DETAIL 1 ON SHEET H3.0G.
3. SEE 3/H3.0G FOR GAS PIPE SUPPORT. SEE 4/H3.0G FOR SPACING.

GAS LOAD SUMMARY

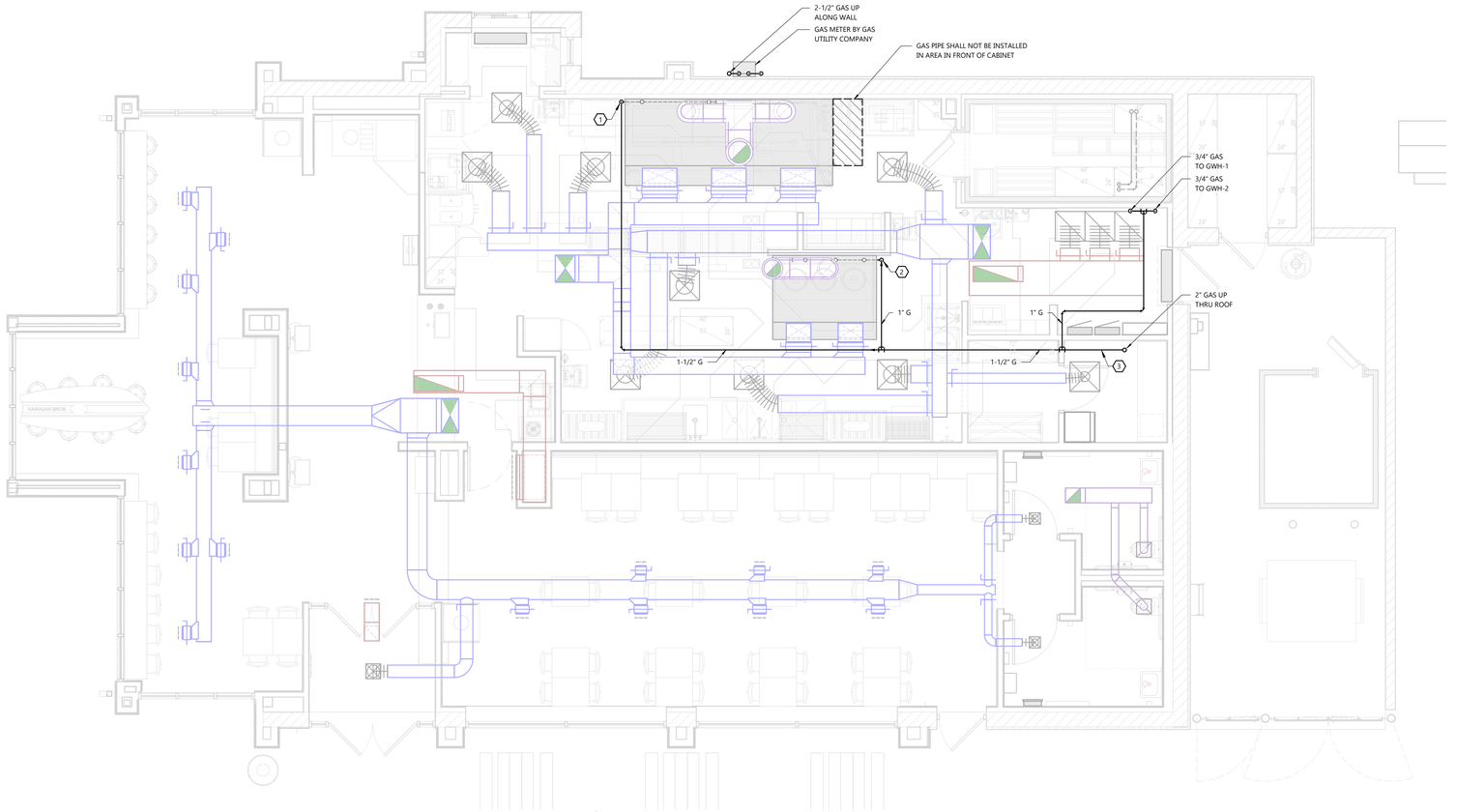
ITEM	MBH INPUT	REQUIRED PRESSURE (1)
RTAC-1	224	7" W.C.
RTAC-2	180	7" W.C.
MPU-1	332	7" W.C.
GWH-1	100	7" W.C.
GWH-2	100	7" W.C.
RICE COOKER	35	7" W.C.
RICE COOKER	35	7" W.C.
RICE COOKER	35	7" W.C.
GRIDDLE	120	7" W.C.
GRIDDLE	120	7" W.C.
TOTAL	1,281	

- GAS PRESSURE AT METER = 7" W.C.

PIPE SCHEDULE

SERVICE	PIPE SIZE	STEEL												COPPER			PLASTIC					PEX
		PIPE						FITTINGS						PIPE	FITTINGS							
		BLACK STEEL	GALVANIZED	ASTM A53 GRADE B F	ASTM A53 GRADE B E	ASTM A53 GRADE B S	SCHEDULE	CAST IRON THREADED ASTM A126/ANSI B16.4	MALLEABLE IRON THREADED ASME/ANSI B16.3	FORGED STEEL THREADED OR WELDED ASTM A105 GRADE II/ ANSI B16.11	SEAMLESS CARBON STEEL WELDED ASTM A234, GR. WPB/ ANSI 16.9	COLD PRESS MECHANICAL JOINT	CLASS	ASTM B280 TYPE ACR PRECHARGED LINE SET	ASME B16.22 WROUGHT COPPER	SOLDER / BRAZING	PRESSURE RATED	NON-PRESSURE RATED	SCHEDULE	PVC ASTM D1784, D1785, D2672	PVC ASTM D2464, D2467, D1784	
GAS (INDOOR ≤ 5 PSIG)	1/2" - 3"	X		X	X	40	X	X	X	X	(3)	125/150									
GAS (OUTDOOR)	1/2" - 4"	X		X	X	40	X	X	X	X	(3)	125/150									
GAS REGULATOR VENTS	ALL SIZES	X		X	X	40	X	X	X	X	(3)	125/150									

(3) VIEGA MEGAPRESS FITTING COMPLYING WITH ASTM A420 OR ASME B16.3. HNBR SEAL FOR GAS.
10 YEAR WARRANTY IN MATERIAL AND WORKMANSHIP. INSTALL PER MFR INSTALLATION INSTRUCTIONS.



NORTH

GAS PIPING FLOOR PLAN

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

0' 4' 8'

HVAC GAS PIPING PLAN

EXCEL
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PROJECT INFORMATION

PROPOSED QUICK SERVE RESTAURANT FOR:
OM GROUP - HAWAIIAN BROS - STR: 135
6421 E. 82ND ST. ● INDIANAPOLIS, IN 46250

PROFESSIONAL SEAL

SHEET DATES
ISSUED FOR CONSTRUCTION
IFC APR. 3, 2026

JOB NUMBER
250361400

SHEET NUMBER
H1.1G

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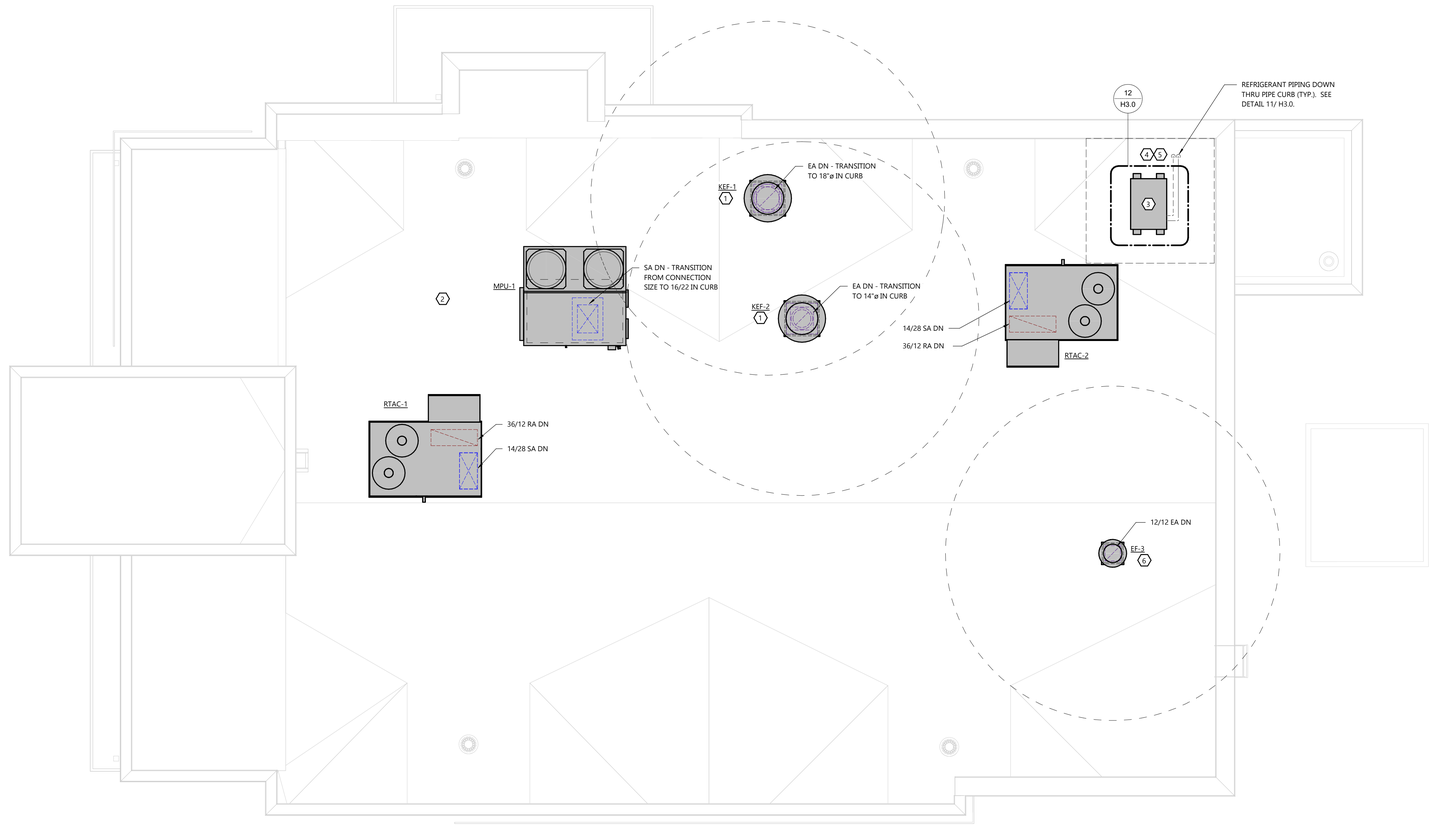
GENERAL NOTES

- VERIFY BUILDING OPENING AND CURB SIZES LISTED ON PLANS WITH ACTUAL EQUIPMENT SCHEDULED AND SUPPLIED. COORDINATE REQUIRED OPENING SIZES AND LOCATIONS WITH CONTRACTORS PROVIDING OPENING. SCHEDULES AND ACTUAL EQUIPMENT SIZES SHALL TAKE PRECEDENCE OVER SIZES SHOWN ON PLANS.
- DETAIL REFERENCES ON PLANS ARE TO AID THE CONTRACTOR IN IDENTIFYING THE APPLICABLE DETAIL. NOT ALL DETAILS, OR INSTANCES OF DETAILS, ARE REFERENCED ON PLANS. CONTRACTOR IS RESPONSIBLE TO REVIEW AND COMPLY WITH ALL APPLICABLE DETAILS WHETHER OR NOT REFERENCED ON PLANS.
- DASHED LINES AROUND EXHAUST TERMINATIONS INDICATE 10'-0" REQUIRED CLEARANCE TO OUTSIDE AIR INTAKES.

KEYNOTES

1. KITCHEN HOOD EXHAUST FAN - FURNISHED BY KITCHEN EQUIPMENT SUPPLIER AND INSTALLED BY H.C.
2. MAKE UP AIR UNIT - FURNISHED BY KITCHEN EQUIPMENT SUPPLIER, INSTALLED BY H.C.
3. CONDENSING UNIT FURNISHED BY KITCHEN EQUIPMENT SUPPLIER, INSTALLED BY H.C. SET CONDENSING UNITS ON EQUIPMENT SUPPORT RAILS. FASTEN PER MANUFACTURER'S REQUIREMENTS.
4. REFRIGERANT PIPING BY H.C. PIPE SIZING BY CONDENSING UNIT MANUFACTURER. INSTALL ANY MANUFACTURER FURNISHED REFRIGERANT SPECIALTIES PER MANUFACTURER'S REQUIREMENTS. SEE AIRDYNE REFRIGERATION PLANS. LEAK TEST AND CHARGE REFRIGERANT CIRCUITS PER MANUFACTURER'S REQUIREMENTS.
5. SEE 12/H3.0 FOR REFRIGERANT PIPING SUPPORTS. SEE 3/H3.0 FOR SPACING.



NORTH

ROOF PLAN

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

0' 4' 8'

HVAC ROOF PLAN

EXCEL

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PROJECT INFORMATION

PROPOSED QUICK SERVE RESTAURANT FOR:

OM GROUP - HAWAIIAN BROS - STR: 135

6421 E. 82ND ST. • INDIANAPOLIS, IN 46250

PROFESSIONAL SEAL

SHEET DATES

ISSUED FOR CONSTRUCTION

IFC	APR. 3, 2026

JOB NUMBER

250361400

SHEET NUMBER

H1.2

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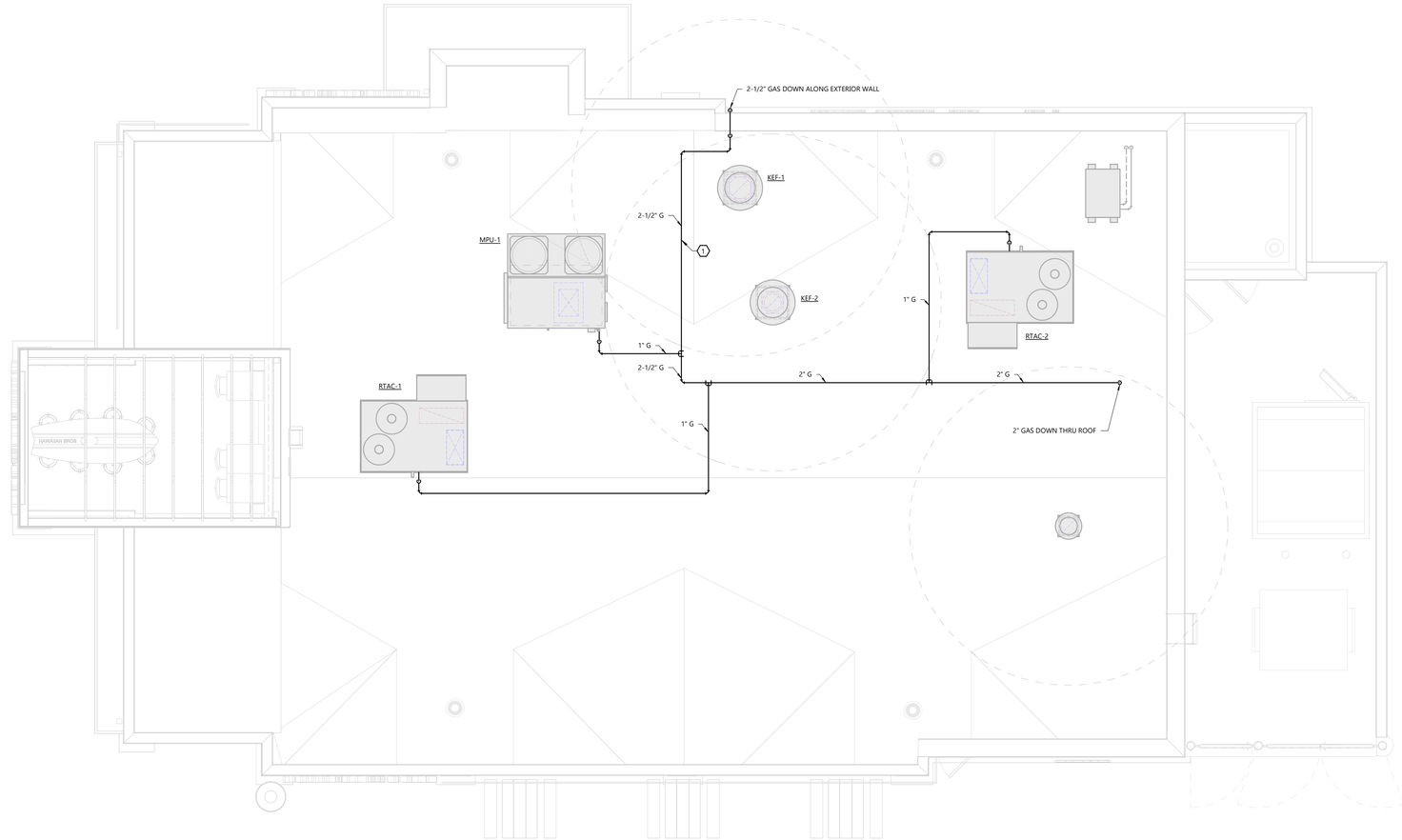
GENERAL NOTES

- DETAIL REFERENCES ON PLANS ARE TO AID THE CONTRACTOR IN IDENTIFYING THE APPLICABLE DETAIL. NOT ALL DETAILS, OR INSTANCES OF DETAILS, ARE REFERENCED ON PLANS. CONTRACTOR IS RESPONSIBLE TO REVIEW AND COMPLY WITH ALL APPLICABLE DETAILS WHETHER OR NOT REFERENCED ON PLANS.
- TERMINATE ALL GAS REGULATOR VENTS MINIMUM 10'-0" FROM EDGE OF ROOF. VENTS SHALL NOT BE TERMINATED OUT EXTERIOR WALLS.

KEYNOTES

1. SEE 5/H3.0G FOR GAS PIPING SUPPORT. SEE 4/H3.0G FOR SPACING.



NORTH

GAS PIPING ROOF PLAN

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

0' 4' 8'

HVAC GAS PIPING ROOF PLAN

EXCEL

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PROJECT INFORMATION

PROPOSED QUICK SERVE RESTAURANT FOR:

OM GROUP - HAWAIIAN BROS - STR: 135

6421 E. 82ND ST. ● INDIANAPOLIS, IN 46250

PROFESSIONAL SEAL

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250361400

SHEET NUMBER

H1.2G

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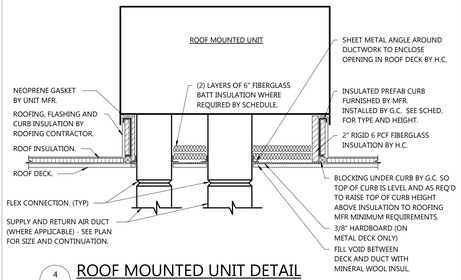
UNIT	INSULATION	BALLAST
RTAC-1	YES	NO
RTAC-2	YES	NO
MPU-1	YES	NO

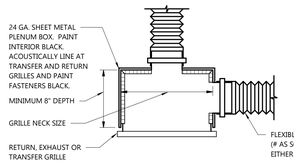


4 H3.0 ROOF MOUNTED UNIT DETAIL
NOT TO SCALE

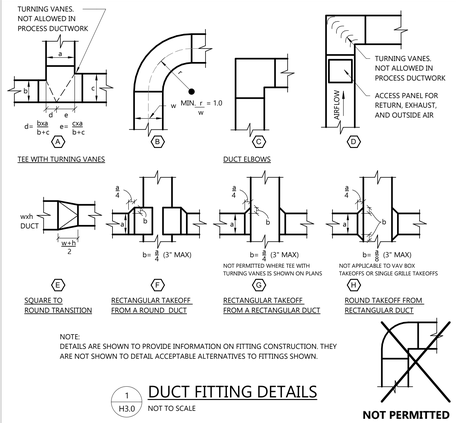
MAX. SPACING BETWEEN PIPE SUPPORTS AND MIN. HANGER ROD SIZES									
PIPE SIZE	STEEL			COPPER			PVC	PEX	MIN. ROD
	WATER	VAPOR	NAT. GAS	WATER	VAPOR		CPVC		METAL PIPE	PLASTIC PIPE
1/4"-1/2"	7'	8'	6'	5'	6'		4'	32"	3/8"	3/8"
3/4"	7'	9'	8'	5'	7'		4'	32"	3/8"	3/8"
1"	7'	9'	8'	6'	8'		4'	32"	3/8"	3/8"
1 1/4"	7'	9'	10'	7'	9'		4'	32"	3/8"	3/8"
1 1/2"	9'	12'	10'	8'	10'		4'	32"	3/8"	3/8"
2"	10'	12'	10'	8'	11'		4'	-	3/8"	3/8"
2 1/2"	11'	12'	10'	9'	12'		4'	-	3/8"	3/8"
3"	12'	12'	10'	10'	12'		4'	-	3/8"	3/8"
4"	12'	12'	10'	12'	12'		4'	-	3/8"	3/8"
6"	12'	12'	10'	12'	12'		4'	-	3/8"	3/8"
8"	12'	12'	-	-	-		4'	-	1/2"	3/8"
10"	12'	12'	-	-	-		4'	-	1/2"	3/8"
12"	12'	12'	-	-	-		4'	-	5/8"	3/8"
14"	12'	12'	-	-	-		4'	-	5/8"	3/8"
16"	12'	12'	-	-	-		4'	-	3/4"	3/8"
MAX VERT. (1)	15'	15'	-	10'	10'		10'	10'	-	-

(1) SUPPORT AT MINIMUM EVERY FLOOR LEVEL OR SPACING LISTED.
MSS = MANUFACTURER'S STANDARDIZATION SOCIETY
- INSTALL ADDITIONAL HANGERS WITHIN 12" OF ELBOWS AND TEES AND AT CONCENTRATED LOADS, INCLUDING VALVES, FLANGES AND STRAINERS 2 1/2" AND LARGER.

3 H3.0 PIPE SUPPORT SCHEDULE
NOT TO SCALE

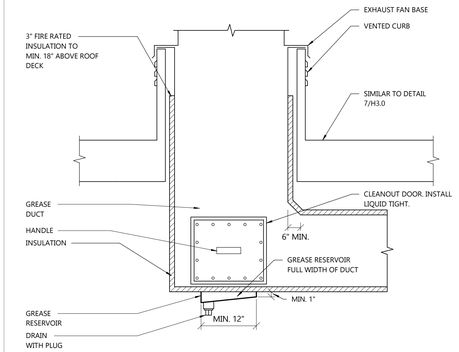


2 H3.0 GRILLE PLENUM BOX DETAIL
NOT TO SCALE

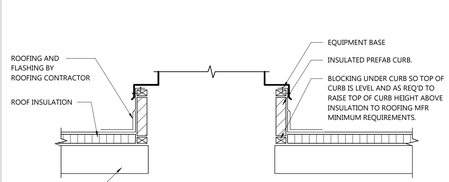


NOTE:
DETAILS ARE SHOWN TO PROVIDE INFORMATION ON FITTING CONSTRUCTION. THEY ARE NOT SHOWN TO DETAIL ACCEPTABLE ALTERNATIVES TO FITTINGS SHOWN.

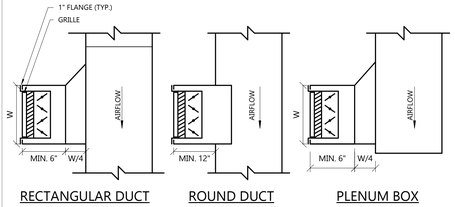
1 H3.0 DUCT FITTING DETAILS
NOT TO SCALE



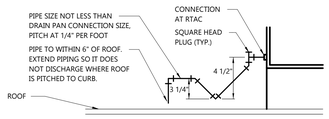
8 H3.0 EXHAUST FAN DETAIL (KEF-1)
NOT TO SCALE



7 H3.0 TYPICAL ROOF CURB DETAIL
NOT TO SCALE

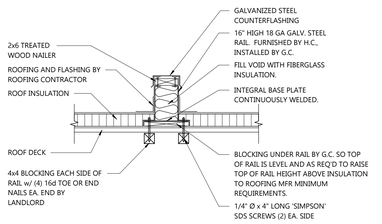


6 H3.0 DUCT/PLENUM MOUNTED GRILLE DETAIL
NOT TO SCALE

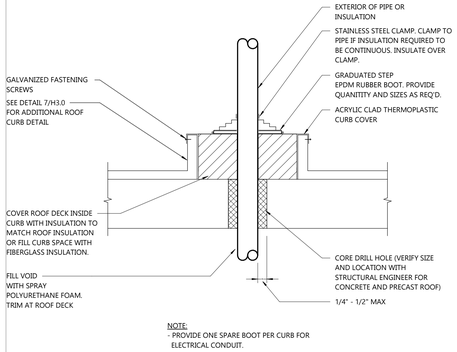


NOTES:
- MANUALLY FILL TRAP ON INITIAL START-UP.

5 H3.0 RTAC CONDENSATE DRAIN TRAP PIPING DETAIL
NOT TO SCALE

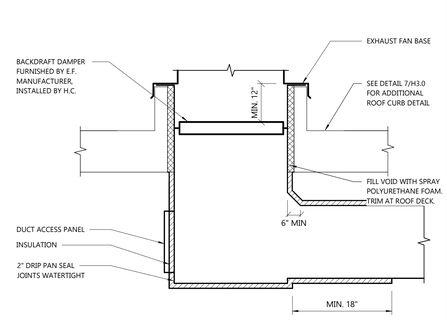


12 H3.0 EQUIPMENT SUPPORT RAIL DETAIL
NOT TO SCALE

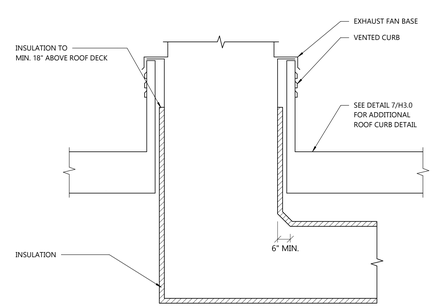


NOTE:
- PROVIDE ONE SPARE BOOT PER CURB FOR ELECTRICAL CONDUIT.

11 H3.0 ROOF PIPE CURB PENETRATION DETAIL
NOT TO SCALE

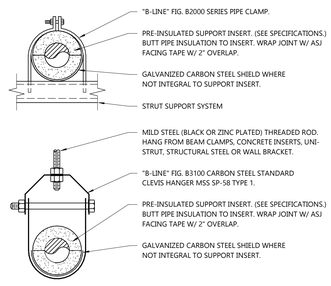


10 H3.0 EXHAUST FAN DETAIL (EF-3)
NOT TO SCALE

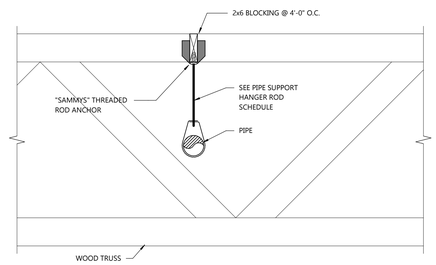


9 H3.0 EXHAUST FAN DETAIL (KEF-2)
NOT TO SCALE

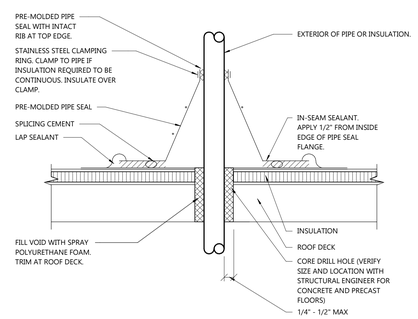
NOTES:
- CONTRACTOR MAY USE EITHER DETAIL SHOWN.
- INSERT THICKNESS SAME AS ADJACENT INSULATION.
- PROVIDE VAPOR BARRIER FOR COLD PIPING.



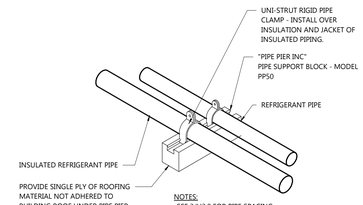
16 H3.0 INSULATED PIPE HANGER DETAILS
NOT TO SCALE



15 H3.0 TRUSS PIPE HANGER CONNECTION DETAIL
NOT TO SCALE



14 H3.0 ROOF PIPE BOOT PENETRATION DETAIL
NOT TO SCALE



NOTES:
-SEE 3/H3.0 FOR PIPE SPACING.
-PROVIDE DIELECTRIC BREAK AT ALL UNINSULATED PIPING.

13 H3.0 REFRIGERANT PIPE SUPPORT ON ROOF DETAIL
NOT TO SCALE

HVAC DETAILS

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EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

PROJECT INFORMATION

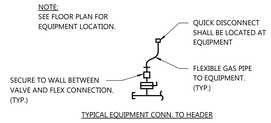
PROPOSED QUICK SERVE RESTAURANT FOR:
OM GROUP - HAWAIIAN BROS - STR: 135
6421 E. 82ND ST. • INDIANAPOLIS, IN 46250

PROFESSIONAL SEAL

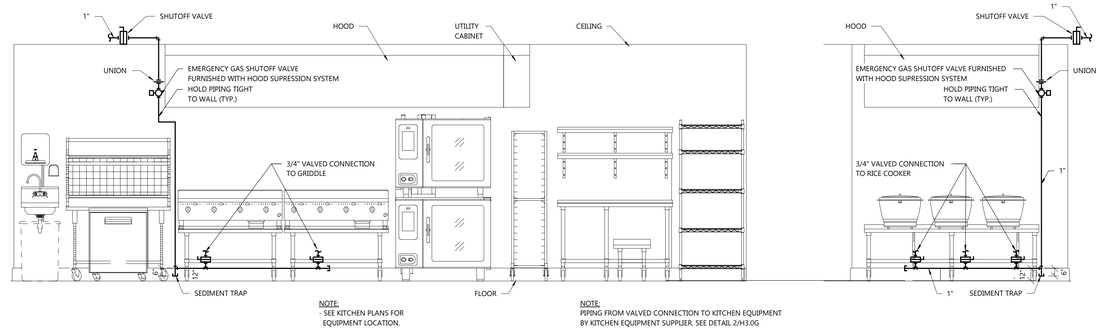
SHEET DATES
ISSUED FOR CONSTRUCTION
IFC APR. 3, 2026

JOB NUMBER
250361400

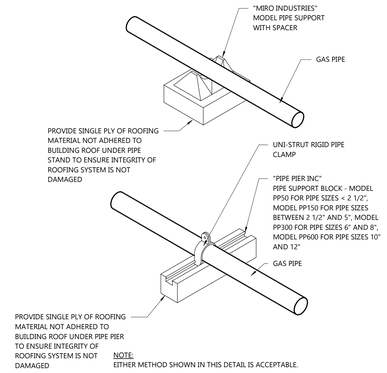
SHEET NUMBER
H3.0



2 H3.0G COOK LINE EQUIPMENT GAS PIPING DETAIL
NOT TO SCALE



1 H3.0G KITCHEN EQUIPMENT GAS PIPING DETAIL
NOT TO SCALE

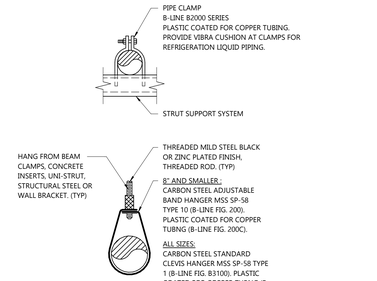


5 H3.0G GAS PIPE SUPPORT ON ROOF DETAIL
NOT TO SCALE

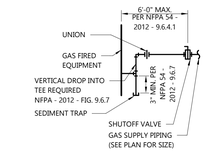
MAX. SPACING BETWEEN PIPE SUPPORTS AND MIN. HANGER ROD SIZES		
PIPE SIZE	STEEL NAT. GAS	MIN. ROD METAL PIPE
1/4"-1/2"	6'	3/8"
3/4"	8'	3/8"
1"	8'	3/8"
1 1/4"	10'	3/8"
1 1/2"	10'	3/8"
2"	10'	3/8"
2 1/2"	10'	3/8"
3"	10'	3/8"
4"	10'	3/8"
6"	10'	3/8"

MSS = MANUFACTURER'S STANDARDIZATION SOCIETY
- INSTALL ADDITIONAL HANGERS WITHIN 12" OF ELBOWS AND
TEES AND AT CONCENTRATED LOADS.

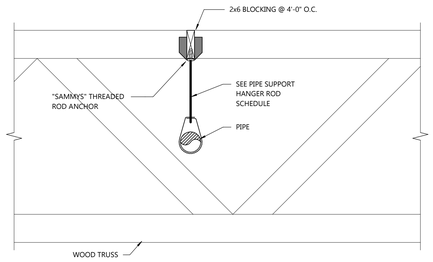
4 H3.0G PIPE SUPPORT SCHEDULE
NOT TO SCALE



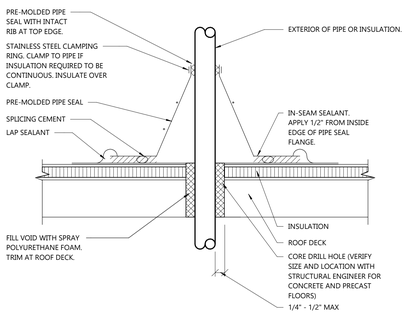
3 H3.0G UNINSULATED PIPE HANGER DETAIL
NOT TO SCALE



8 H3.0G GAS PIPE CONNECTION DETAIL
NOT TO SCALE



7 H3.0G TRUSS HANGER CONNECTION DETAIL
NOT TO SCALE



6 H3.0G ROOF PIPE BOOT PENETRATION DETAIL
NOT TO SCALE

HVAC GAS DETAILS

EXCEL
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100 Camelot Drive
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H3.0G

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ROOFTOP AIR CONDITIONING UNIT SCHEDULE (R.T.A.C.)

NO.	NOM. TONS	SUPPLY FAN CFM	SUPPLY FAN OA CFM	SUPPLY FAN EXT. SP	SUPPLY FAN DRIVE TYPE	SUPPLY FAN MOTOR BHP	SUPPLY FAN MOD. TYPE	RELIEF	COOLING EAT DB / WB	COOLING MBH CAP.	COOLING AMB. TEMP F	COOLING NO. COMPR.	COOLING NO. STAGES	HEATING KW	HEATING MBH IN	HEATING MBH OUT	HEATING NO. STAGES	OUTSIDE AIR	SMOKE DETECTOR	CURB (7) HEIGHT BY MFR.	CURB (7) TYPE	MCA	MOP	VOLT/ PHASE	EFFICIENCY MIN. CODE	EFFICIENCY UNIT RATING	EFFICIENCY TEST PROC.	WEIGHT (LBS.)	MODEL	REMARKS
1	10	3,200	800	1.0	DIRECT (2)	1.98	2 SPEED (6)	FAN	79.6/67.2	114.1	105	2	2	-	224	180	2	(5)	YES (3)	14"	STANDARD	56.0	60	208/3	12.6 IEER	15.0 IEER	ARI 340/360	1,600	48FE	CARRIER (1)(4)
2	10	4,000	400	1.0	DIRECT (2)	3.02	2 SPEED (6)	FAN	77.4/65.5	116.1	105	2	2	-	180	148	2	(5)	YES (3)	14"	STANDARD	62.0	70	208/3	12.6 IEER	15.0 IEER	ARI 340/360	1,600	48FE	CARRIER (1)(4)

- ACCEPTABLE MANUFACTURERS: TRANE, CARRIER, DAIKIN, AAON, LENNOX. USE OF MANUFACTURER OR MODEL OTHER THAN LISTED IN SCHEDULE ABOVE SHALL BE CONSIDERED A SUBSTITUTION.
  DRAWINGS SHOWING REVISED DUCT ROUTING, ROOF OPENINGS, STRUCTURAL STEEL, ETC. WILL BE REQUIRED AT TIME OF RTAC SHOP DRAWINGS SUBMITTAL.
- SEE MOTOR SPECIFICATIONS FOR MOTOR REQUIREMENTS.
- PROVIDE PRE-INSULATED ROOF CURB.
- PROVIDE WITH 2" ASHRAE STD 52.2 MERV 8 T.A. FILTERS .
- RTAC DESIGNED TO PREVENT RAIN INTRUSION INTO THE AIRSTREAM WHEN TESTED AT DESIGN AND NO AIRFLOW PER SECTION 58 OF UL 1995.
- PROVIDE UNIT WITH INTEGRAL MANUFACTURER INSTALLED WATER-LEVEL MONITORING DEVICE IN THE PRIMARY DRAIN PAN TO SHUT OFF THE EQUIPMENT PER IMC 307.2.3.1.
- PROVIDE WITH HAIL GUARD FOR CONDENSING COILS.
- PROVIDE WITH FACTORY INSTALLED HINGED ACCESS DOORS.
- PROVIDE FACTORY INSTALLED UN-POWERED CONVENIENCE RECEPTACLE.

(1) PROVIDE UNIT MOUNTED NEMA 3R DISCONNECT.

--

(3) PROVIDE FACTORY INSTALLED DUCT SMOKE DETECTOR IN SUPPLY AIR SECTION WIRED TO SHUT DOWN SUPPLY FAN ON DETECTION OF SMOKE.
PROVIDE SMOKE DETECTOR SIGNALING AND TESTING DEVICE WITH ADD ON "SMOKE" STROBE AT AHJ APPROVED LOCATION.
SMOKE DETECTORS SHALL BE TESTED BY AN APPROVED AGENCY OR QUALIFIED THIRD PARTY SPECIAL INSPECTOR. SPECIAL INSPECTOR / TESTING AGENCY SHALL BE AN INDEPENDENT THIRD PARTY INDIVIDUAL OR FIRM AND SHALL NOT BE THE INSTALLING CONTRACTOR.
HVAC AUTOMATIC SHUTOFF TEST REPORT REQUIRED TO BE SUBMITTED TO THE BUILDING INSPECTOR OR BUILDING OFFICIAL.

(4) PROVIDE HOT GAS RE-HEAT DEHUMIDIFICATION COIL AND ASSOCIATED CONTROLS. FURNISH DUCT MOUNTED HUMIDITY SENSOR FOR FIELD INSTALLATION.

(5) PROVIDE MODULATING ECONOMIZER DAMPERS AND ACTUATOR WITH DIFFERENTIAL ENTHALPY CONTROL. CONTROL SHALL INCLUDE FAULT DETECTION AND DIAGNOSTICS SYSTEM COMPLYING WITH 2015 IECC C403.2.4.7.

AIR CURTAIN SCHEDULE (A.C.)

NO.	CFM	LENGTH (IN.)	DOOR HEIGHT	HP	VOLT. / PH.	WEIGHT (LBS.)	MODEL	REMARKS
1	1,200	48	-	1/6	208/1	40	LPV248-1UD-OB	MARS (1)(2)
2	1,200	48	-	1/6	208/1	40	LPV248-1UD-OB	MARS (1)(3)

- ACCEPTABLE MANUFACTURERS: MARS, POWERED AIRE.
- PROVIDE WITH ADJUSTABLE AIR DISCHARGE NOZZLE WITH 40 DEG SWEEP, 5 YEAR PARTS WARRANTY, AND NON-FUSED DISCONNECT SWITCH.

(1) PROVIDE WITH STANDARD CORROSION RESISTANT PAINT FINISH. COLOR SHALL BE OBSIDIAN BLACK.

(2) PROVIDE WITH STANDARD DOOR LIMIT TO TURN ON FAN WHEN DRIVE THRU WINDOW IS OPEN.

ELECTRIC WALL HEATER SCHEDULE - (E.W.H.)

NO.	CFM	EAT F	LAT F	MBH	HTG KW	THERMOSTAT	CABINET RECESS DEPTH	CABINET HGT. AFF	MODEL	COLOR	REMARKS
1	100	60	122	6.8	2	INTEG., PREWIRED, TAMPER-RESISTANT	-	12"	FRC-4020	WHITE	"BERKO"
2	100	60	122	6.8	2	INTEG., PREWIRED, TAMPER-RESISTANT	-	12"	FRC-4020	WHITE	"BERKO"

- ACCEPTABLE MANUFACTURERS: BERKO, RAYWALL, Q-MARK, MARKEL.
- PROVIDE ALL EWH'S WITH PREWIRED DISCONNECT SWITCH, PREWIRED AUTOMATIC RESET THERMAL OVERLOAD PROTECTION, BUILT-IN FAN DELAY CONTROLS, 18 GAUGE FRONT BAR GRILLE.

SUPPLY GRILLE SCHEDULE (S.G.)

NO.	TYPE	CFM RANGE	NECK/ FACE SIZE	INLET DUCT DIA.	MAT'L	VOL. DMPR	FINISH	FRAME	THROW	MODEL	REMARKS
1-6	PERF.	0-75	24 X 24	6"	STEEL	(1)	WHITE	LAY-IN	(3)	PAS	"TITUS" (5)
1-8	PERF.	76-250	24 X 24	8"	STEEL	(1)	WHITE	LAY-IN	(3)	PAS	"TITUS" (5)
1-10	PERF.	251-325	24 X 24	10"	STEEL	(1)	WHITE	LAY-IN	(3)	PAS	"TITUS" (5)
1-12	PERF.	326-425	24 X 24	12"	STEEL	(1)	WHITE	LAY-IN	(3)	PAS	"TITUS" (5)
1-14	PERF.	426-525	24 X 24	14"	STEEL	(1)	WHITE	LAY-IN	(3)	PAS	"TITUS" (5)
1-16	PERF.	526-650	24 X 24	16"	STEEL	(1)	WHITE	LAY-IN	(3)	PAS	"TITUS" (5)
2S	DBL DEFL.	SEE DWG	(2)	-	STEEL	(1)	WHITE	SURFACE MOUNT	DBL DEFL. (4)	300R	"TITUS"
3S-6	PLAQUE	0-75	12 X 12	8"	STEEL	(1)	WHITE	(6)	(3)	OMNI	"TITUS" (5)
3S-8	PLAQUE	76-275	12 X 12	8"	STEEL	(1)	WHITE	(6)	(3)	OMNI	"TITUS" (5)
3S-10	PLAQUE	276-375	20 X 20	10"	STEEL	(1)	WHITE	(6)	(3)	OMNI	"TITUS" (5)

- ACCEPTABLE MANUFACTURERS: TITUS, PRICE, CARNES, METALAIRE, ANEMOSTAT, KRUEGER, NAILOR.
- NOT ALL SUPPLY GRILLES SCHEDULED ARE USED ON THE PROJECT.

(1) VOLUME DAMPER AT THE GRILLE INDICATED BY A "D" AFTER THE GRILLE DESIGNATION. EXAMPLE: SG1S-8D IS SG1S-8 WITH A DAMPER.

(2) NECK SIZE INDICATED ON PLAN AT GRILLE IDENTIFICATION.

(3) NUMBER OF THROW DIRECTION INDICATED ON PLAN BY GRILLE SHADING. SHADED QUADRANT DOES NOT HAVE AIRFLOW.

(4) FRONT BLADES IN THE HORIZONTAL DIRECTION.

(5) PROVIDE MOLDED FIBERGLASS INSULATION BLANKET ON BACK SIDE OF GRILLE.

(6) PROVIDE GRILLE WITH LAY-IN FRAME AND MODEL TRM-S MOUNTING FRAME TO INSTALL GRILLE.

RETURN GRILLE SCHEDULE (RG)

NO.	TYPE	MAX. CFM	NECK/ FACE SIZE	FLEX. DUCT. DIA.	MAT'L	VOL. DMPR	FINISH	FRAME	MODEL	REMARKS
1-18	PERF.	2,200	24 X 24	18"	STEEL	(1)	WHITE	LAY-IN	PAR	"TITUS"
2S	LOUVERED	SEE DWG.	(2)	-	STEEL	(1)	WHITE	SURFACE MOUNT	350R (4)	"TITUS"

- ACCEPTABLE MANUFACTURERS: TITUS, PRICE, CARNES, METALAIRE, ANEMOSTAT, KRUEGER, NAILOR.

(1) VOLUME DAMPER AT THE GRILLE INDICATED BY A "D" AFTER THE GRILLE DESIGNATION. EXAMPLE: RG1S-8D IS RG1S-8 WITH A DAMPER.

(2) NECK SIZE INDICATED ON PLAN AT GRILLE IDENTIFICATION.

(4) BLADES IN HORIZONTAL DIRECTION.

EXHAUST GRILLE SCHEDULE (EG)

NO.	TYPE	CFM RANGE	NECK/ FACE SIZE	FLEX. DUCT. DIA.	MAT'L	VOL. DMPR	FINISH	FRAME	MODEL	REMARKS
1S-6	LOUVERED	0-75	8 X 8	6"	STEEL	(1)	WHITE	SURFACE MOUNT	350RL	"TITUS"

- ACCEPTABLE MANUFACTURERS: TITUS, PRICE, CARNES, METALAIRE, ANEMOSTAT, KRUEGER, NAILOR.

(1) VOLUME DAMPER AT THE GRILLE INDICATED BY A "D" AFTER THE GRILLE DESIGNATION. EXAMPLE: EG1S-8D IS EG1S-8 WITH A DAMPER.

TRANSFER GRILLE SCHEDULE (TG)

NO.	TYPE	MAX CFM	NECK/ FACE SIZE	FLEX. DUCT. DIA.	MAT'L	FINISH	FRAME	MODEL	REMARKS
2S	LOUVERED	SEE DWG	(2)	-	STEEL	WHITE	SURFACE MOUNT	350R (4)	"TITUS"

- ACCEPTABLE MANUFACTURERS: TITUS, PRICE, CARNES, METALAIRE, ANEMOSTAT, KRUEGER, NAILOR.

(2) NECK SIZE INDICATED ON PLAN AT GRILLE IDENTIFICATION.

(4) BLADES IN HORIZONTAL DIRECTION.

DUCTWORK AND DUCTWORK INSULATION SCHEDULE

SERVICE	LOCATION	DUCT MAT'L	SMACNA PRESS. CLASS	INSULATION RECTANGULAR DUCT	INSULATION ROUND DUCT	INSUL. JACKET
SUPPLY DOWNSTREAM OF RTAC-1	CONCEALED	GALV. ST.	+1"	1" ALD (1)	1.5" FLEX. F.G.	N.R.
SUPPLY DOWNSTREAM OF RTAC-1	EXPOSED IN ROOMS SERVED BY UNIT	GALV. ST.	+1"	1" ALD (1)	N.R.	N.R.
SUPPLY DOWNSTREAM OF RTAC-2	CONCEALED	GALV. ST.	+1"	1.5" FLEX. F.G.	1.5" FLEX. F.G.	N.R.
RETURN UPSTREAM OF FAN - RTAC-1	CONCEALED AND EXPOSED	GALV. ST.	-1"	1" ALD (1)	N.R.	N.R.
RETURN UPSTREAM OF FAN - RTAC-2	CONCEALED AND EXPOSED	GALV. ST.	-1"	N.R.	N.R.	N.R.
TRANSFER	CONCEALED	GALV. ST.	+1"	N.R.	N.R.	N.R.
EXHAUST UPSTREAM OF EF	CONCEALED	GALV. ST.	-1"	1.5" FLEX. F.G. (2)	1.5" FLEX. F.G. (2)	N.R.
EXHAUST TYPE I KITCHEN HOOD	CONCEALED	(5)	-3"	(4)	(4)	N.R.
EXHAUST TYPE II KITCHEN HOOD	CONCEALED	GALV. ST.	-3"	1.5" FLEX. F.G.	1.5" FLEX. F.G.	N.R.

N.R. = NOT REQUIRED
CONCEALED = HIDDEN FROM VIEW BY WALLS AND CEILINGS.
EXPOSED = VISIBLE FROM OCCUPIED SPACE.
MATERIALS:
GALV. STEEL: ASTM A653, LOCK FORMING QUALITY, 1.25 OUNCES/ S.F. ZINC COATING (G90 IN ACCORDANCE WITH ASTM A90 BOTH SIDES).

- ALL JOINTS, LONGITUDINAL AND TRANSVERSE SEAMS AND CONNECTIONS IN DUCTWORK SHALL BE SEALED PER 2010 `IN ECC 403.2.9.

(1) PROVIDE 1" ACOUSTICAL DUCT LINING IN DUCTS NOTED AS "ALD" DUCT DIMENSIONS ARE SHEET METAL DIMENSIONS AND INCLUDE LINING.

(2) INSULATE FROM 18" UPSTREAM OF THE BACKDRAFT OR MOTOR OPERATED DAMPER TO THE POINT WHERE THE DUCT EXITS THE BUILDING.

(4) INSULATE CONCEALED DUCTWORK AND SURFACES OF TYPE 1 KITCHEN HOODS WITH (2) LAYERS OF 1 1/2" FIRE RATED INSULATION.

(5) DUCTWORK AND SUPPORT MINIMUM 18 GA NO. 28 MILL ROLLED FINISH S.S. OR 16 GA. STEEL. WELD FINISH SHALL BE AS WELDED.

PIPE SCHEDULE

SERVICE	PIPE SIZE	STEEL PIPE BLACK STEEL	STEEL PIPE GALVANIZED	STEEL PIPE ASTM A53 GRADE B F	STEEL PIPE ASTM A53 GRADE B E	STEEL PIPE ASTM A53 GRADE B S	STEEL PIPE SCHEDULE	STEEL FITTINGS CAST IRON THREADED ASTM A126/ANSI B16.4	STEEL FITTINGS MALLEABLE IRON THREADED ASME/ANSI B16.3	STEEL FITTINGS FORGED STEEL THREADED OR WELDED ASTM A105 GRADE II/ ANSI B16.11	STEEL FITTINGS SEAMLESS CARBON STEEL WELDED ASTM A234, GR. WPB/ ANSI 16.9	STEEL FITTINGS COLD PRESS MECHANICAL JOINT	STEEL FITTINGS CLASS	COPPER PIPE ASTM B280 TYPE ACR	COPPER FITTINGS PRECHARGED LINE SET	COPPER FITTINGS ASME B16.22 WROUGHT COPPER	COPPER FITTINGS SOLDER / BRAZING	PLASTIC PIPE PRESSURE RATED	PLASTIC PIPE NON-PRESSURE RATED SCHEDULE	PLASTIC FITTINGS PVC ASTM D1784, D1785, D2672	PLASTIC FITTINGS PVC ASTM D2464, D2467, D1784	PEX
REFR. SUCTION AND LIQUID	ALL													X		X	(1)						
COND. DRAIN	ALL																		X	40	X	(2)	

(1) AWS A5.8 BCuP SILVER/PHOSPHOROUS/COPPER ALLOY BRAZING WITH MELTING RANGE OF 1190 TO 1480 DEG F.

(2) ASTM F656 SOLVENT WELD WITH ASTM D2564 CLEAR SOLVENT CEMENT.

PIPE INSULATION SCHEDULE

SERVICE	LOCATION	INSULATION TYPE	JACKET	PIPE SIZE < 1"	PIPE SIZE 1" - 1.25"	PIPE SIZE 1.5" - 3"	PIPE SIZE 4" - 6"	PIPE SIZE > 6"
REFRIGERATION SUCTION	OUTDOORS	ELASTOMERIC FOAM	PVC	1/2"	1"	1"	1"	1"
REFRIGERATION SUCTION	INDOORS	ELASTOMERIC FOAM	N.R.	1/2"	1"	1"	1"	1"
REFRIGERATION LIQUID	ALL	N.R.	N.R.	-	-	-	-	-

ELECTRICAL/STARTER/DISCONNECT SCHEDULE

SYM.	ELECTRICAL DATA HP	KW	FLA	MCA	MOP	VOLT	PH.	STARTER TYPE	LOCATION	FURN. BY	AUX. CONTACT	ACCESS-ORIES	SMOKE DETECTOR	DISCONNECT DIS-CONNECT	DISCONNECT FURN. BY	REMARKS
RTAC-1	-	-	-	56.0	60	208	3	INTEG.	INTEGRAL	EM	-	-	(6)	R, F	EC	-
RTAC-2	-	-	-	62.0	70	208	3	INTEG.	INTEGRAL	EM	-	-	(6)	R, F	EC	-
MPU-1	-	-	-	60.9	70	208	3	INTEG.	INTEGRAL	EM	-	-	-	R	EM (2)	-
KEF-1	3	-	-	-	-	208	3	VFD	INTEGRAL	HC	-	-	-	R	EM (2)	(3)
KEF-2	1/2	-	-	-	-	208	1	INTEG.	INTEGRAL	HC	-	-	-	R	EM (2)	(3)
EF-3	1/4	-	-	-	-	120	1	RELAY	(28)	HC	-	-	-	R	EM (2)	-
AC-1	1/6	-	-	-	-	208	1	INTEG.	INTEGRAL	EM	-	-	-	R	EM (2)	-
AC-2	1/6	-	-	-	-	208	1	INTEG.	INTEGRAL	EM	-	-	-	R	EM (2)	-
EWH-1	-	2	-	-	-	208	1	INTEG.	INTEGRAL	EM	-	-	-	R	EM	-
EWH-2	-	2	-	-	-	208	1	INTEG.	INTEGRAL	EM	-	-	-	R	EM	-

STARTER TYPE:
INTEG.= INTEGRAL: PROVIDED INTEGRAL WITH EQUIPMENT.
RELAY= UL LISTED MOTOR RATED RELAY WITH SEPARATE ENTRANCES FOR INPUT AND OUTPUT CONTACTS (RIBT SERIES), OVERRIDE SWITCH AND LED STATUS INDICATOR. CONTACT RATING, CONFIGURATION, AND COIL VOLTAGE SUITABLE FOR APPLICATION.
MAN= MANUAL: NEMA ICS 2, AC GENERAL PURPOSE CLASS A MANUALLY OPERATED, FULL-VOLTAGE CONTROLLER WITH QUICK MAKE AND BREAK TOGGLE ACTION AND DOUBLE BREAK SILVER ALLOY CONTACTS. BIMETALLIC OR MELTING ALLOY TYPE THERMAL OVERLOAD UNITS. NEMA ICS 6 GENERAL PURPOSE FLUSH MOUNTED ENCLOSURE WITH STAINLESS STEEL COVER PLATE IN FINISHED AREAS AND TYPE 1 SURFACE MOUNTED IN UNFINISHED AREAS.
MAG= MAGNETIC: NEMA ICS 2, AC GENERAL PURPOSE CLASS A MAGNETIC ACROSS-THE-LINE CONTROLLER. DOUBLE BREAK SILVER ALLOY CONTACTS. NEMA SOLID STATE OVERLOAD RELAY WITH USER SELECTABLE SETTINGS, CLASS 10, 20, AND 30; BUILT-IN MEMORY TO PREVENT HOT MOTOR RESTART. OPERATING TEMPERATURE: -20 DEGREE C TO +70 DEGREE C. PHASE CURRENT LOSS PROTECTION. PHASE CURRENT UNBALANCE PROTECTION (ADJUSTABLE 20-50%). PROVIDE NEMA ICS 6, TYPE 1 ENCLOSURE AUXILIARY CONTACT(S) AS REQUIRED FOR CONTROL. PROVIDE 120V, 60 HZ, SECONDARY, 100VA FUSED MINIMUM, TRANSFORMER IN EACH STARTER. FUSED PRIMARY AND SECONDARY, BOND UNFUSED LEG OF SECONDARY TO ENCLOSURE.
COMB= COMBINATION: COMBINE MAGNETIC STARTER AND NON-FUSED DISCONNECT SWITCH IN COMMON ENCLOSURE. LOCKABLE IN OPEN POSITION, MOLDED CAST TYPE MOTOR CIRCUIT PROTECTOR (MAGNETIC PROTECTION ONLY).
VFD= VARIABLE FREQUENCY DRIVE- SEE SPECS.

FURNISHED BY:
EM = EQUIPMENT MANUFACTURER
HC = HEATING CONTRACTOR
EC = ELECTRICAL CONTRACTOR

ACCESSORIES:
HOA = HAND-OFF-AUTO
PL =LED PILOT LIGHT
PB = PUSH BUTTON

DISCONNECT:
NR= NOT REQUIRED
R = REQUIRED
3R = NEMA 3R
F = FUSED

REMARKS:
REC.=RECEPTACLE

- ACCEPTABLE MANUFACTURERS: ALLEN BRADLEY, CUTLER HAMMER, SQUARE D, GENERAL ELECTRIC.
- VERIFY VOLTAGE AND PHASE WITH ELECTRICAL CONTRACTOR BEFORE ORDERING EQUIPMENT.
- FURNISH MOTOR STARTERS TO E.C. FOR INSTALLATION AND WIRING WHEN THE STARTER SCHEDULE CALLS FOR H.C. TO FURNISH.

(2) DISCONNECT FACTORY MOUNTED AND PREWIRED BY EQUIPMENT MANUFACTURER.

(3) HOOD EXHAUST FANS CONTROLLED THRU HOOD CONTROL PANEL MOUNTED ON HOOD-1. EC SHALL INSTALL CONTROL WIRING FURNISHED BY FAN MANUFACTURER FROM HOOD CONTROL PANEL TO FANS. COORDINATE INSTALLATION WITH KITCHEN EQUIPMENT SUPPLIER.

(6) SMOKE DETECTOR PROVIDED WITH RTAC TO SHUT DOWN UNIT ON SMOKE DETECTION.

(28) MOUNT RELAY ON WALL NEAR ELECTRICAL PANEL THAT SERVES FAN. COORDINATE LOCATION WITH ELECTRICAL CONTRACTOR.

HVAC SCHEDULES

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

PROJECT INFORMATION

PROPOSED QUICK SERVE RESTAURANT FOR:
OM GROUP - HAWAIIAN BROS - STR: 135
6421 E. 82ND ST. • INDIANAPOLIS, IN 46250

PROFESSIONAL SEAL

SHEET DATES
ISSUED FOR CONSTRUCTION
IFC APR. 3, 2026

JOB NUMBER
250361400

SHEET NUMBER
H4.0

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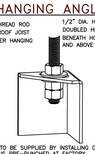
ND-2 HANGING ANGLE DETAIL



*ROD AND NUTS TO BE SUPPLIED BY INSTALLING CONTRACTOR
HANGING ANGLE IS PRE-PUNCHED AT FACTORY

HANGING ANGLE LOCATIONS

HOOD STYLE	DIM FROM REAR	DIM FROM FRONT (24"H)	DIM FROM FRONT (30"H)
CANOPY ND2	4.166"	2.246"	2.246"
ND2-PSP-F	4.166"	2.246"	2.246"
BACKSHELF BD-2	4.166"	2.246	–
VHB/VHB-G	36"X36"	42"X42"	48"X48"
FRONT/BACK DIMS BY SIZE	2.246"	2.246"	2.246"

CALCULATIONS UTILIZED

EXHAUST CFM=LENGTH OF HOOD X CFM/LIN.FT. (LOAD)

SUPPLY CFM=EXHAUST CFM X PERCENTAGE REQUIRED

TOTAL DUCT AREA=144 X $\frac{\text{CFM}}{\text{FPM(*)}}$

DUCT LENGTH= $\frac{\text{TOTAL DUCT AREA}}{\text{DUCT DEPTH}}$

*CAPTIVE-AIRE DUCT CONNECTION SIZES ARE CALCULATED USING AN EXHAUST VELOCITY OF 1500-1800 FPM AND A SUPPLY VELOCITY OF 300-400 FPM.

BUILDING CODES

CAPTIVE-AIRE HOODS ARE BUILT IN COMPLIANCE WITH:

ETL LISTED #3054804-001 & #3054804-002 — UL STANDARD 710 — INTERTEK — BUILT IN ACCORDANCE WITH NFPA No. 96

Listed under ETL File number 3054804-001/002

CLEARANCE TO COMBUSTIBLES

CAPTIVE-AIRE HOODS HAVE OPTIONAL CLEARANCE REDUCTION SYSTEMS AVAILABLE AS FOLLOWS:

MATERIAL	CLEARANCE REDUCTION SYSTEM
NON-COMBUSTIBLE	NONE REQUIRED
LIMITED-COMBUSTIBLE	3" UNINSULATED STANDOFF
COMBUSTIBLE	1" INSULATED STANDOFF

GENERAL NOTES

INSTALLATION

1. ALL ELECTRICAL "FIELD" CONNECTIONS AND RELATED INTERCONNECTIONS BY ELECTRICAL CONTRACTORS.
2. ALL PLUMBING "FIELD" CONNECTIONS AND RELATED INTERCONNECTIONS BY PLUMBING CONTRACTORS.
3. HANGING BRACKETS LOCATED AND WELDED AS SHOWN ON PLANS. ALL OTHER HANGER MATERIALS PROVIDED BY INSTALLING CONTRACTORS.
4. ALL CONNECTIONS FROM CAPTIVE-AIRE DUCT PER MECHANICAL CONTRACTOR'S PLANS.
5. COOKING EQUIPMENT TO SHUTOFF IN EVENT OF FIRE.
6. EXHAUST FANS TO TURN ON IN EVENT OF FIRE.
7. ALL LIGHTS FIXTURE SHOWN INSTALLED BY CAPTIVE-AIRE ARE FACTORY PREWIRED. INTERCONNECTIONS BETWEEN HOODS AND TO SWITCHES BY ELECTRICAL CONTRACTORS.
8. LAMPS FOR LIGHT FIXTURES BY INSTALLING CONTRACTORS.
9. SEISMIC RESTAINTS ARE RESPONSIBILITY OF INSTALLING CONTRACTOR.
10. INSTALLING CONTRACTORS ASSUME ALL RELATED RESPONSIBILITIES FOR THE ACCURACY OF DIMENSIONAL DATA CONTAINED ON THESE DOCUMENTS FOR ACCURACY, INTEGRATION, AND ADMINISTRATION OF CODE REQUIREMENTS IN EFFECT PRIOR TO ANY RELEASE FOR PRODUCTION OF EQUIPMENT SHOWN.

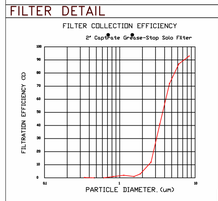
BALANCE

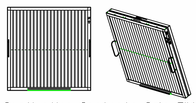
11. KITCHEN HOODS MUST BE BALANCED WITH KITCHEN.
12. KITCHEN SHALL BE NEGATIVE WITH RESPECT TO DINING AREA.
13. RESTAURANT SHALL BE POSITIVE WITH RESPECT TO AMBIENT PRESSURE.

ADDITIONAL

14. WRITTEN HOOD DIMENSIONS HAVE PRECEDENCE OVER SCALE.
15. SIGNED AND "APPROVED" COPIES OF THIS DOCUMENT MUST BE RECEIVED BY THE FACTORY PRIOR TO COMMENCEMENT OF FABRICATION.

FILTER DETAIL





CaptiveAire Captrate Solo Filter
ETL Listed Grease Extracting Filters
Made From 430 Stainless Steel

HOOD INFORMATION – JOB#8361560

HOOD NO	TAG	MODEL	MANUFACTURER	LENGTH	MAX COOKING TEMP	TYPE	APPLIANCE DUTY	DESIGN CFM/FT	TOTAL EXH CFM	EXHAUST PLENUM RISER(S) WIDTH	LENG	HEIGHT	DIA	CFM	VEL	SP	TOTAL SUPPLY CFM	HOOD CONSTRUCTION	HOOD CONFIG END TO END	ROW
1	KH-1	6024 ND-2-PSP-F	CAPTIVEAIRE	13' 0"	450 DEG	I	MEDIUM	235	3055			4"	12"	1527	1944	-1.088"	2444	430 SS WHERE EXPOSED	ALONE	ALONE
2	KH-2	5424 VHB-PSP-F-ND	CAPTIVEAIRE	6' 8"	700 DEG	II	N/A	175	1167			4"	14"	1167	1092	-0.133"	934	430 SS 100%	ALONE	ALONE

HOOD INFORMATION

HOOD NO	TAG	FILTER(S) TYPE	QTY	HEIGHT	LENGTH	EFFICIENCY @ 7 MICRONS	LIGHT(S) QTY	TYPE	WIRE GUARD	UTILITY CABINET(S) LOCATION	SIZE	FIRE SYSTEM TYPE	FIRE SYSTEM SIZE	ELECTRICAL MODEL #	SWITCHES QUANTITY	FIRE SYSTEM PIPING	HOOD HANGING WEIGHT
1	KH-1	CAPTRATE SOLO FILTER	9	16"	16"	85% SEE FILTER SPEC	4	RECESSED ROUND	NO	RIGHT	12"x60"x24"	TANK FS	4.0/4.0	DCV-2111	1 LIGHT 1 FAN	YES	1199 LBS
2	KH-2						2	RECESSED ROUND	NO							NO	362 LBS

HOOD OPTIONS

HOOD NO	TAG	OPTION
1	KH-1	FIELD WRAPPER 18.00" HIGH FRONT, LEFT, RIGHT.
		RIGHT QUARTER END PANEL 23" TOP WIDTH, 0" BOTTOM WIDTH, 23" HIGH 430 SS.
		BALANCE DAMPERS.
		STRUCTURAL FRONT PANEL.
		RISER SENSOR INSTALL 6IN PLEN.
		LEFT WIDE VERTICAL END PANEL 42" TOP WIDTH, 36" BOTTOM WIDTH, 80" HIGH INSULATED 430 SS.
2	KH-2	FIELD WRAPPER 18.00" HIGH FRONT, LEFT, RIGHT.
		RIGHT QUARTER END PANEL 23" TOP WIDTH, 0" BOTTOM WIDTH, 23" HIGH 430 SS.
		LEFT QUARTER END PANEL 23" TOP WIDTH, 0" BOTTOM WIDTH, 23" HIGH 430 SS.

PERFORATED SUPPLY PLENUM(S)

HOOD NO	TAG	POS	LENGTH	WIDTH	HEIGHT	TYPE	RISER(S) WIDTH	LENG	DIA	CFM	SP
1	KH-1	Front	168"	16"	6"	MUA	12"	28"		814	0.213"
						MUA	12"	28"		814	0.213"
						MUA	12"	28"		814	0.213"
2	KH-2	Front	80"	14"	6"	MUA	12"	20"		467	0.121"
						MUA	12"	20"		467	0.121"

SPECIFICATION: CAPTRATE® GREASE-STOP® SOLO FILTER

THE CAPTRATE GREASE-STOP SOLO FILTER IS A SINGLE-STAGE FILTER FEATURING A UNIQUE S-BAFFLE DESIGN IN CONJUNCTION WITH A SLOTTED REAR BAFFLE DESIGN, TO DELIVER EXCEPTIONAL FILTRATION EFFICIENCY.

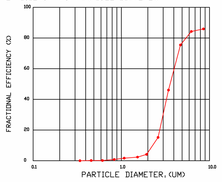
FILTER IS STAINLESS STEEL CONSTRUCTION, AND SIZED TO FIT INTO STANDARD 2-INCH DEEP HOOD CHANNEL(S).

UNITS SHALL INCLUDE STAINLESS STEEL HANDLES AND A FASTENING DEVICE TO SECURE THE TWO COMPONENTS WHEN ASSEMBLED.

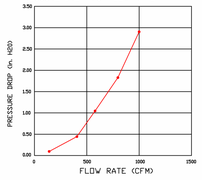
GREASE EXTRACTION EFFICIENCY PERFORMANCE SHALL REMOVE AT LEAST 75% OF GREASE PARTICLES FIVE MICRONS IN SIZE, AND 85% GREASE PARTICLES SEVEN MICRONS IN SIZE AND LARGER, WITH A CORRESPONDING PRESSURE DROP NOT TO EXCEED 1.0 INCHES OF WATER GAUGE.

THE CAPTRATE GREASE-STOP SOLO WAS TESTED TO ASTM STANDARD ASTM F2519-05. MANUFACTURER APPROVED FOR USE IN SOLID FUEL APPLICATIONS AS A SPARK ARRESTER.

EFFICIENCY VS. PARTICLE DIAMETER



PRESSURE DROP VS. FLOW RATE



CAPTRATE FILTERS ARE BUILT IN COMPLIANCE WITH.
NFPA #96.
NSF STANDARD #2.
UL STANDARD #1046.
INT. MECH. CODE (IMC).
ULC-S649.

FOR QUESTIONS, CALL THE:
KANSAS CITY REGIONAL OFFICE
1126 SWIFT STREET, KANSAS CITY, MO 64116
PHONE: (816) 221-8575
FAX: (816) 221-8311

CUSTOMER APPROVAL TO MANUFACTURE:

Approved as Noted ☐
Approved with NO Exception Taken ☐
Revise and Resubmit ☐

SIGNATURE _____
Your Title _____ Date _____

***** NOTE *****

ALL WALLS AND STRUCTURES THAT COME WITHIN 18" OF HOOD MUST BE METAL STUDS AND SHEETROCK. WOOD STUDS OR ANY OTHER COMBUSTIBLE MATERIAL WITHIN 18" OF HOOD NO ALLOWED.

***** NOTE *****

HOOD MANUFACTURER RECOMMENDS NO RETURNS OR 4-WAY DIFFUSERS WITHIN 10 FEET OF HOOD IN ALL DIRECTION.

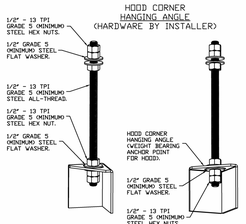
***** NOTE *****

MAKEUP AIR SHALL BE DELIVERED INTO SPACE IN MANNER THAT WILL NOT DISRUPT HOODS ABILITY TO CAPTURE AND CONTAIN.

PATENT NUMBERS

AC-PSP (UNITED STATES) - US PATENT 7963830 B2.
AC-PSP WALL (CANADA) - CA PATENT 2820509.
AC-PSP ISLAND (CANADA) - CA PATENT 2520330.

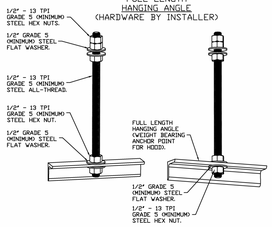
HOOD CORNER HANGING ANGLE (HARDWARE BY INSTALLER)



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.

FULL LENGTH HANGING ANGLE (HARDWARE BY INSTALLER)



ASSEMBLY INSTRUCTIONS

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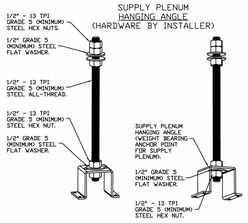
SUPPLY PLENUM HANGING ANGLE (HARDWARE BY INSTALLER)



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REVISIONS

	DESCRIPTION	DATE:
△		
△		
△		
△		

CAPTIVEAIRE
Air Solutions
1329 East Kemper Rd., Ste. 4210, Cincinnati, OH. 45246 PHONE: (513) 860 - 5555 EMAIL: reg120@captiveaire.com
www.captiveaire.com

Hawaiian Bros - Indianapolis, IN
6421 East 82nd Street,
Indianapolis, IN, 46250

DATE: 12/15/2025
DWG.#: 8361560
DRAWN BY: MC-120
SCALE: 3/4" = 1'-0"
MASTER DRAWING
SHEET NO. 1

EXCEL
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100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

PROJECT INFORMATION

PROPOSED QUICK SERVE RESTAURANT FOR:
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PROFESSIONAL SEAL

SHEET DATES
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IFC APR. 3, 2026

JOB NUMBER 250361400

SHEET NUMBER **H5.1**

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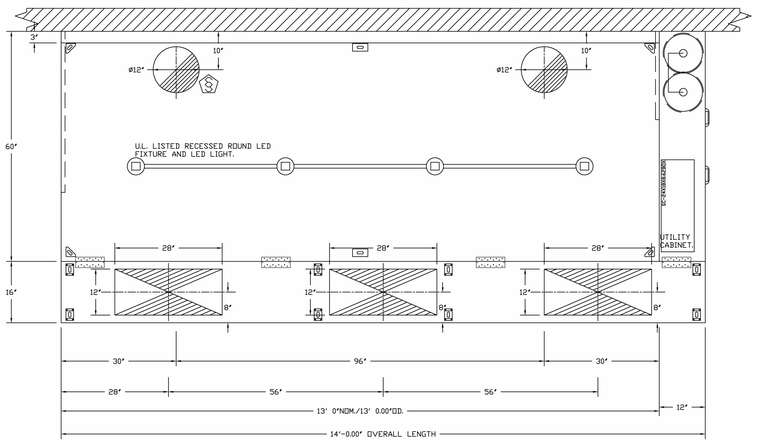
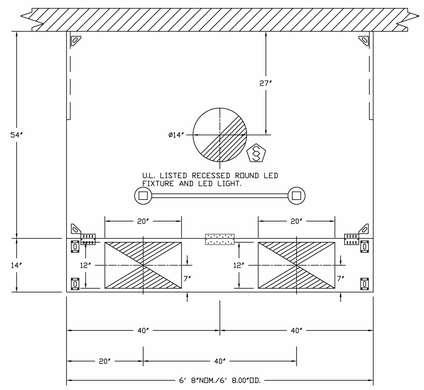
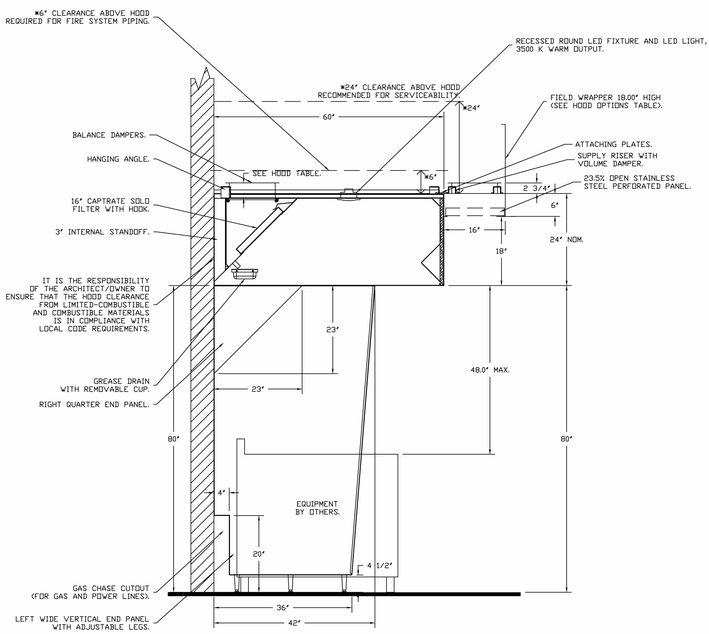


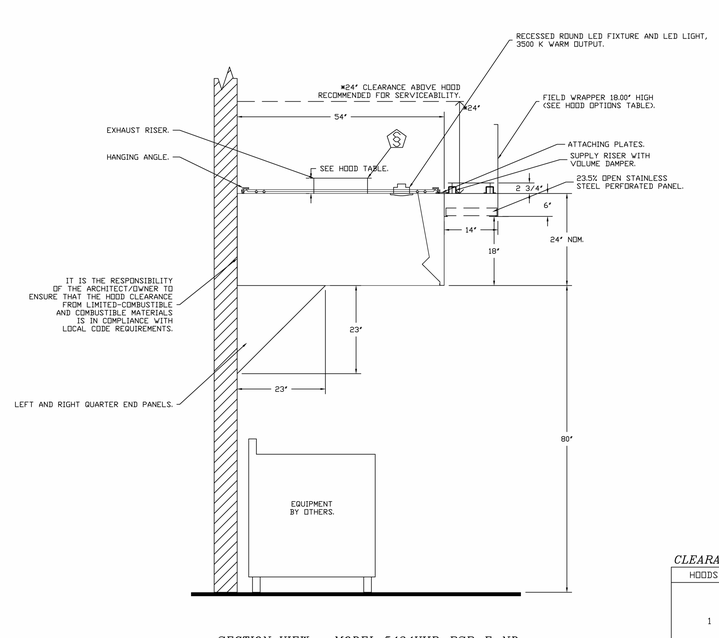
PLAN VIEW – HOOD #1 (KH-1)
13' 0.00" LONG 6024ND-2-PSP-F
NOTE: ADDITIONAL HANGING ANGLES PROVIDED FOR HOODS 12" AND LONGER.



PLAN VIEW – HOOD #2 (KH-2)
6' 8.00" LONG 5424VHB-PSP-F-ND



SECTION VIEW – MODEL 6024ND-2-PSP-F
HOOD – #1 (KH-1)



SECTION VIEW – MODEL 5424VHB-PSP-F-ND
HOOD – #2 (KH-2)

CLEARANCE TO COMBUSTIBLES

HOODS #	SURFACE	*CLEARANCE
1	TOP	18"
	FRONT	0"
	BACK	18"
	LEFT	18"
	RIGHT	0"

- *0" CLEARANCE TO COMBUSTIBLES CONFORMS TO UL710 STANDARD.
- HOOD MOUNTED UTILITY CABINETS REQUIRE 36" SERVICE CLEARANCE.

REVISIONS

	DESCRIPTION	DATE:
△		
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JOB NUMBER 250361400

SHEET NUMBER H5.2

HVAC CAPTIVEAIRE DRAWINGS

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FIRE SYSTEM INFORMATION – JOB#8410895

FIRE SYSTEM NO	TAG	TYPE	SIZE	MAX FP	DESIGN FP	INSTALLATION	
						SYSTEM	LOCATION ON HOOD
1		TANK FS	4.0/4.0	40	36	FIRE CABINET RIGHT	RIGHT, HOOD 1

GAS VALVE(S)

FIRE SYSTEM NO	TAG	TYPE	SIZE	SUPPLIED BY
1		SC ELECTRICAL	1.250	CAPTIVEAIRE SYSTEMS
1		SC ELECTRICAL	1.250	CAPTIVEAIRE SYSTEMS

FIRE SYSTEM PARTS LIST KEY

FIRE SYSTEM NO	TAG	KEY NUMBER – PART DESCRIPTION	QTY BY FACTORY	QTY BY DIST
1		0 – 0 – TANK FIRE SUPPRESSION POST-DISCHARGE PROCEDURE UTILITY CABINET LABEL SHEET.	1	0
		0 – 0 – TANK FIRE SUPPRESSION MAINTENANCE GUIDE UTILITY CABINET LABEL SHEET.	1	0
		0 – 0 – 12-F28021-32144-DT-360 DUCT FIRE THERMOSTAT WITH 12 FOOT WIRE LEADS. NO, CLOSE ON TEMP RISE AT 360°F. (A0034310).	2	0
		0 – 0 – 32-00002 QUIK SEAL – 1/2" (UL).	2	0
		0 – 0 – 4429K153 1/2" MALE NPT TO 1/2" FEMALE NPT ELBOW, BRASS.	2	0
		0 – 0 – 4429K422 1/2" X 1/4" BRASS REDUCING BUSHING.	1	0
		0 – 0 – 79525 1/2" 90 PRO-PRESS ELBOW WITH 1/2" NPT FEMALE CONNECTION, VIEGA.	1	0
		0 – 0 – 79580 1/2" X 1/2" PRO-PRESS TEE X 1/2" NPT FEMALE CONNECTION, VIEGA.	2	0
		0 – 0 – 87-120042-001 SECONDARY ACTUATOR VALVE (SVA) – SINGLE ACTUATOR, REQUIRES PRIMARY RELEASE ACTUATOR, TANK FIRE SUPPRESSION.	1	0
		0 – 0 – 87-120045-001 HOSE, SECONDARY ACTUATOR HOSE, 7.5' BRAIDED STAINLESS STEEL, TANK FIRE SUPPRESSION.	1	0
		0 – 0 – 87-300001-001 TANK – PRESSURIZED TANK USED FOR TANK FIRE SUPPRESSION.	2	0
		0 – 0 – 87-300030-001 PRIMARY ACTUATOR KIT (PAK) – ACTUATOR AND RELEASE SOLENOID ASSEMBLY, ONE NEEDED PER FIRE SYSTEM, SUPERVISED, TANK FIRE SUPPRESSION.	1	0
		0 – 0 – 87-300033-001 DIN CONNECTOR, CANFIELD PART #5J560-201-EU0A, TANK FIRE SUPPRESSION, SUBMINATURE SOLENOID CONNECTION (CED VENDOR 30377).	1	0
		0 – 0 – 87-300152-001 HARDWARE, SVA BOLTS, TANK FIRE SUPPRESSION.	8	0
		0 – 0 – 9055455PC PRO PRESS 1/2 PRESS X PRESS 90 ELBOW LD.	6	0
		0 – 0 – 9097200PC PRO PRESS PC611 1/2 PRESS TEE LD.	7	0
		0 – 0 – 98694A115 HARDWARE, DATANKLOCK LOCKING BRACKET SQUARE NUTS 5/16" ZINC, TANK FIRE SUPPRESSION.	4	0
		0 – 0 – A0034332 JUNCTION BOX FOR MANUAL PULL STATION. 1.5" DEEP BACK BOX, RED COLOR.	1	0
		0 – 0 – A31484 1/4" NPT SCHRADER VALVE AND CAP, JB INDUSTRIES. 1/4" FLARE X 1/4" MPT HALF UNION. USED ON TANK SERVICE PORT.	1	0
		0 – 0 – B1145 3/8" BLACK IRON 90 ELL.	4	0
		0 – 0 – DATANKLOCK DISCHARGE ADAPTER TANK LOCKING PLATE FOR FIRE SYSTEM TANK INSTALLATION IN UTILITY CABINETS, TANK FIRE SUPPRESSION.	2	0
		0 – 0 – TANK STRAP TANK STRAP – USED FOR TANK FIRE SUPPRESSION.	6	0
		0 – 0 – TFS-UCTANKBRACKET TANK BRACKET FOR FIRE SYSTEM TANK INSTALLATION IN UTILITY CABINETS, TANK FIRE SUPPRESSION.	2	0
		0 – 0 – WK-283952-000 DISCHARGE ADAPTER, TANK FIRE SUPPRESSION.	2	0
		16 – 16 – 79210 1/2" X 3/8" NPT MALE ADAPTER, VIEGA.	8	0
		16 – 16 – DL-F NOZZLE – TANK PROTECTION APPLIANCE COVERAGE NOZZLE (INCLUDES METAL BLOW OFF CAP, LANYARD, USED WITH CHROME-PLATED PIPE).	8	0
		26 – 26 – QSA-3/8 QUIK SEAL – 3/8" (UL).	8	0
		34 – 34 – A0034331 RED COLOR – 24VDC SINGLE ACTION MANUAL ACTUATION DEVICE (PUSH/PULL STATION) WITH PROTECTIVE COVER, ONE (1) NORMALLY OPEN CONTACT.	1	0

NOTES
- FIELD PIPE DROPS AS SHOWN
  PIPING, ELBOWS, TEES, AND NOZZLES SUPPLIED BY CAS.
- FIELD INSTALLED DROP: FACTORY WILL PROVIDE QTY 2 60IN LONG PIECES OF CHROME PLATED PIPING SHIPPED LOOSE TO BE FIELD-INSTALLED.
- SHIP LOOSE DROP: FACTORY WILL PROVIDE THE EXACT CHROME PIPE LENGTH NEEDED SHIPPED LOOSE TO BE FIELD-INSTALLED.
- RELOCATE NOZZLES IF FLOW PATTERN IS BLOCKED BY SHELVING, SALAMANDERS, ETC.
- OVERLAPPING COVERAGE SHALL NOT BE USED ON ANY APPLIANCE WITH AN OBSTRUCTION.
- IF APPLICABLE, EXTENDED PRE-PIPED 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.

- THIS PRE-ENGINEERED FIRE SYSTEM COMPLIES WITH U.L. 300 REQUIREMENTS.

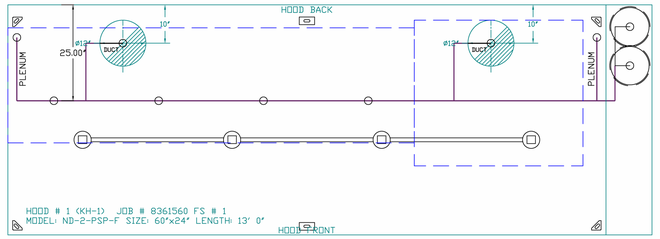
- DL-F NOZZLE PART NUMBER REPLACES 3070-3/8H-10-SS

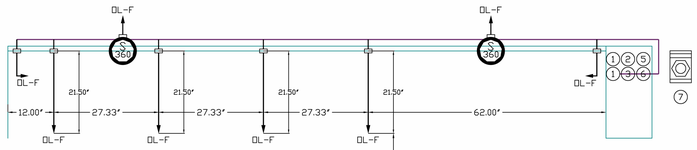
JOB #: 8361560.
JOB NAME: HAWAIIAN BROS – INDIANAPOLIS, IN (HEAT ONLY).

SYSTEM SIZE: TANK-SP-2 DESIGN FP: 36. MAXIMUM FP: 40.
HOOD # 1 13' 0.00" LONG x 60" WIDE x 24" HIGH.
RISER # 1 SIZE: 12" DIA.
RISER # 2 SIZE: 12" DIA.
HOOD # 1 METAL BLOW-OFF CAPS INCLUDED.

- HEAVY-DUTY APPLIANCES (RATED 600°F) WILL REQUIRE AN ADDITIONAL DOWNSTREAM FIRESTAT IN THE EVENT THAT THE DUCTWORK CONTAINS ANY HORIZONTAL RUNS OVER 25 FT IN LENGTH.
- MEDIUM TO LIGHT-DUTY APPLIANCES (RATED 450°F) WILL NOT REQUIRE ANY ADDITIONAL DOWNSTREAM DETECTION.

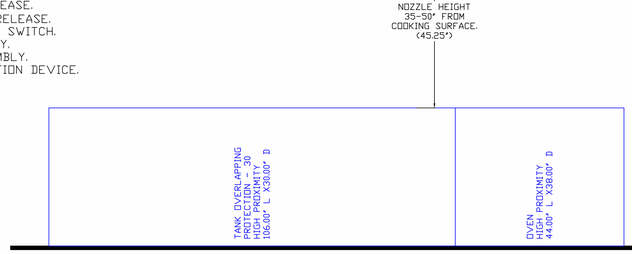
AGENT DISTRIBUTION PIPING LIMITATIONS	
PIPE SECTION	MAX PIPE LENGTH (FT)
MAX SUPPLY LINE TO FIRST OVERLAPPING NOZZLE	42
OVERLAPPING NOZZLE APPLIANCE BRANCH	10
DEDICATED NOZZLE APPLIANCE BRANCH	10





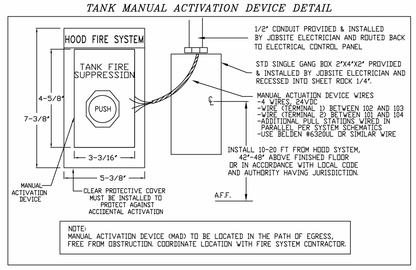
LEGEND – FIRE CABINET TANK SYSTEM

1 4 GALLON TANK.
2 PRIMARY ACTUATOR RELEASE.
3 SECONDARY ACTUATOR RELEASE.
4 PRESSURE SUPERVISION SWITCH.
5 PRIMARY HOSE ASSEMBLY.
6 SECONDARY HOSE ASSEMBLY.
7 REMOTE MANUAL ACTUATION DEVICE.



INCLUDES: FIELD INSTALLATION AND HOOKUP DURING NORMAL BUSINESS HOURS BY CERTIFIED INSTALLERS ONLY IN THE LOCATION NOTED ABOVE. TWO SITE VISITS ONLY (ONE VISIT TO SET PULL STATION & SYSTEM HOOKUP AND ONE VISIT FOR ONE TEST; ADDITIONAL VISITS WILL RESULT IN ADDITIONAL CHARGES). ONE MECHANICAL OR ELECTRICAL GAS VALVE PER SYSTEM AT A MAXIMUM SIZE OF 2", PERMIT, AND SYSTEM TEST.
EXCLUDES: UNION LABOR & PREVAILING WAGE (LABOR & WAGES WILL BE ADDED IF APPLICABLE), GAS VALVE INSTALLATION, ELECTRICAL HOOKUP AND CONNECTIONS, HANGING OF FIRE CABINET, SHUNT TRIP, HANDHELD EXTINGUISHER(S), ON-SITE RE-PIPING DUE TO EQUIPMENT LAYOUT CHANGES.

TANK MANUAL ACTIVATION DEVICE DETAIL



NOTE:
MANUAL ACTIVATION DEVICE (MAD) TO BE LOCATED IN THE PATH OF EGRESS, FREE FROM OBSTRUCTION. COORDINATE LOCATION WITH FIRE SYSTEM CONTRACTOR.

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PROJECT INFORMATION

PROPOSED QUICK SERVE RESTAURANT FOR:
OM GROUP - HAWAIIAN BROS - STR: 135
6421 E. 82ND ST. • INDIANAPOLIS, IN 46250

PROFESSIONAL SEAL

SHEET DATES
ISSUED FOR CONSTRUCTION
IFC APR. 3, 2026

JOB NUMBER
250361400

SHEET NUMBER
H5.3

REVISIONS

	DESCRIPTION	DATE:
1		
2		
3		
4		
5		

CAPTIVEAIRE
Air Solutions
1329 East Kemper Rd., Ste. 4210, Cincinnati, OH, 45246 PHONE: (513) 860 - 5555 EMAIL: reg12@captiveaire.com
www.captiveaire.com

Hawaiian Bros – Indianapolis, IN
6421 East 82nd Street,
Indianapolis, IN, 46250

DATE: 12/15/2025
DWG.#: 8361560
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SCALE: 3/4" = 1'-0"
MASTER DRAWING

SHEET NO. 3

HVAC CAPTIVEAIRE DRAWINGS

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EXHAUST FAN INFORMATION – JOB#8410895

FAN UNIT NO	TAG	QTY	FAN UNIT MODEL #	MANUFACTURER	CFM	ESP	RPM	MOTOR ENCL	HP	BHP	PHASE	VOLT	FLA	DISCHARGE VELOCITY	WEIGHT (LBS)	SONES
1	KEF-1	1	DU180HFA	CAPTIVEAIRE	3055	1.800	1430	ODP,PREMIUM	3.000	1.9060	3	208	9.5	706 FPM	186	22.8
2	KEF-2	1	DU50HFA	CAPTIVEAIRE	1167	0.750	1479	TEAO-ECM	0.500	0.3070	1	208	3.8	444 FPM	80	12.1

DOAS/RTU FAN SCHEDULE – JOB#8410895

FAN INFORMATION											ELECTRICAL INFORMATION					COOLING INFORMATION										GAS HEAT INFORMATION						A2L MINIMUM ROOM VOLUME			
FAN UNIT NO	TAG	QTY	DOAS/RTU MODEL #	MANUFACTURER	BLOWER	TOTAL CFM	MAX OUTSIDE AIR CFM	RETURN AIR CFM	WEIGHT (LBS)	ESP	HP	PHASE	VOLT	MCA	MOCP	OUTSIDE AIR		MIXED AIR		LEAVING AIR			CAPACITY		IEER	ISMRE2	GAS TYPE	INPUT BTUs	OUTPUT BTUs	TEMP RISE	REQUIRED INPUT GAS PRESSURE	ROOM AREA (FT2)	AIRFLOW (CFM)	HEIGHT (FT)	NOTES
																DB	WB	DB	WB	DB	WB	DP	TOTAL	SENS.										
3	MPU-1	1	CAS-HVAC2-1.440-18-10T-MPU	CAPTIVEAIRE	18MF-2-RTU	3378	3378	0	2114	0.500	3.00	3	208	60.9A	70A	86.9°F	77.2°F	86.9°F	77.2°F	68.4°F	66.2°F	65.2°F	139.7 MBH	64.8 MBH	18.6	7.3	NATURAL	331765	268730	67°F	7 IN. W.C. – 14 IN. W.C.	381.8	687	7.2	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16

NOTES:
1. INVERTER SCROLL COMPRESSOR WITH INTEGRATED OIL SENSOR. DIGITAL OR STAGED SCROLL NOT AN APPROVED EQUAL
2. DIRECT DRIVE PLENUM BLOWER. BELT DRIVEN BLOWERS ARE NOT ACCEPTABLE
3. INTEGRATED MONITORING VIA CELLULAR CONNECTION BY MANUFACTURER
4. REFRIGERATION PRESSURE MONITORING ON HIGH AND LOW PRESSURE SIDE OF SYSTEM INCLUDED THROUGH DIGITAL INTERFACE
5. EC MOTOR CONDENSING FANS
6. ELECTRONIC EXPANSION VALVE. TXV NOT ACCEPTABLE
7. SUCTION LINE ACCUMULATOR
8. FACTORY COMMISSIONING WITH 5 YEAR PARTS WARRANTY, 25 YEAR WARRANTY ON STAINLESS STEEL HEAT EXCHANGER
9. AVERAGING INTAKE, EVAP AND DISCHARGE TEMPERATURE SENSORS (DISCHARGE SENSOR TO BE FACTORY MOUNTED WITHIN UNIT)
10. 2" EXTERIOR DUAL-WALL CONSTRUCTION W/ R-13 INSULATION-MINIMUM 20GA EXTERIOR W/ 14GA BASE
11. 81% EFFICIENT FURNACE, WITH MODULATING INDUCER TO MAINTAIN CONSTANT COMBUSTION EFFICIENCY ACROSS FIRING RANGE. 6:1 TURNDOWN WITH NG AND 5:1 TURNDOWN WITH LP
12. SUPPLY CFM MONITORING INTEGRAL TO UNIT WITH CFM MEASUREMENT INCLUDED THROUGH DIGITAL INTERFACE
13. 15 DEGREE LOW AMBIENT OPERATION
14. DOWN DISCHARGE/NO RETURN
15. MINIMUM ROOM AREA ASSUMED 7.2' SUPPLY DIFFUSER HEIGHT AND IS CALCULATED PER UL60335-2-40 4TH ED. VALUES BASED ON FACTORY CHARGE. ACTUAL SITE CHARGE MAY DIFFER.
16. SCCR RATING OF 10kAMP

FAN ACCESSORIES

FAN UNIT NO	TAG	EXHAUST			SUPPLY			
		GREASE CUP	GRAVITY DAMPER	WALL MOUNT	SIDE DISCHARGE	GRAVITY DAMPER	MOTORIZED DAMPER	WALL MOUNT
1	KEF-1	YES						
2	KEF-2	YES						

CURB ASSEMBLIES

NO	ON FAN	TAG	R-VALUE	WEIGHT	ITEM	SIZE
1	# 1	KEF-1		52 LBS	CURB	26.500"W X 26.500"L X 24.000"H VENTED HINGED.
2	# 2	KEF-2		34 LBS	CURB	19.500"W X 19.500"L X 24.000"H VENTED HINGED.
3	# 3	MPU-1	4.3	90 LBS	CURB	49.500"W X 75.000"L X 14.000"H INSULATED.

1" R4.3 FOIL FACED FIBERGLASS INSULATION. COMPLIES WITH UL/ULC,ASTM, & ASHRAE STANDARDS.

FAN OPTIONS

FAN UNIT NO	TAG	QTY	DESCRIPTION
1	KEF-1	1	GREASE BOX
		1	FAN BASE CERAMIC SEAL - DU/DR180HFA - INSTALLED AT PLANT - FOR GREASE DUCTS
		1	EXHAUST FAN HEAT BAFFLE
		1	2 YEAR PARTS WARRANTY
2	KEF-2	1	FAN BASE CERAMIC SEAL - DU/DR50HFA - INSTALLED AT PLANT - FOR GREASE DUCTS
		1	EXHAUST FAN HEAT BAFFLE
		1	GREASE BOX
		1	ECM WIRING PACKAGE - PWM SIGNAL FROM ECPM03 PREWIRE (TELCO MOTOR), CCW ROTATION
		1	2 YEAR PARTS WARRANTY
3	MPU-1	1	INLET PRESSURE GAUGE, 0-35"
		1	MANIFOLD PRESSURE GAUGE, 0 TO 10" WC, 1 FURNACE
		1	COOLING OVERRIDE
		1	SINGLE POINT ELECTRICAL CONNECTION FOR RTU. 750VA TRANSFORMER USED. IF A NON-DCV PREWIRE CONTROLS THIS UNIT, THE #28, #47, "MA", OR "E2" PREWIRE OPTION MUST BE SELECTED. DOES NOT PROVIDE SUPPLY STARTER IN PREWIRE
		1	RTU BLOWER DOOR SWITCH
		1	RTU2 DOWN DISCHARGE, 440 MBH
		1	2" MERV 13 FILTERS FOR RTU2 (QTY. 4)
		1	2" MERV 8 FILTERS FOR RTU2 (QTY. 4)
		1	TOTAL CFM MONITORING
		1	VFD FACTORY MOUNTED AND WIRED IN RTU COMMERCIAL CONTROL VESTIBULE
		1	RTU FIXED 100% OA INTAKE CONTROL
		1	DISCHARGE FIRESTAT SET TO 240°F
		1	INTAKE FIRESTAT SET TO 135°F
		1	RTU2 NO RETURN - 100% OA - MPU
		1	2" METAL MESH FILTERS FOR RTU2 OUTDOOR INTAKE
		1	CASLINK BUILDING MONITORING SYSTEM - INTERNET OR CELLULAR CONNECTION REQUIRED
		1	RTU2 CURB DUCT HANGER
		1	24VAC FIRE INPUT
		1	10 TON MODULATING COOLING OPTION, 208/230V. R454B REFRIGERANT, VARIABLE SPEED COMPRESSOR, ECM CONDENSING FANS
		1	LOW AMBIENT COOLING OPERATION - DOWN TO 0F AMBIENT
		1	R454B LEAK DETECTOR OPTION FOR RTUS
		1	SIZE 2 MOISTURE ELIMINATOR FOR SIZE 2, 10 TON RTU. NO REHEAT
		1	FREEZESTAT
		1	VAV PACKAGE W/ 0-10VDC INPUT CONTROL (571 VFD INCLUDED)
		1	5 YEAR ENTIRE UNIT PARTS WARRANTY, 10 YEAR ENTIRE UNIT PARTS WARRANTY WITH REMOTE MONITORING AND CAPTIVEAIRE SERVICE CONTRACT, 25 YEAR STAINLESS STEEL FURNACE PARTS WARRANTY (SEE ADDITIONAL DETAILS)
		1	EXTERIOR GAS CONNECTION PROVIDED BY FACTORY WITH QUICK SEAL AND ANTI-ROTATION BRACKET

HMI SCHEDULE				
UNIT NUMBER	HMI #	HMI LOCATION	TEMP AVERAGING	MODBUS ADDRESS
FAN #3	HMI #1 - UNIT	IN UNIT	NOT AVERAGED	55

HVAC CAPTIVEAIRE DRAWINGS

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100 Camelot Drive
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REVISIONS

DESCRIPTION	DATE

CAPTIVEAIRE
Air Solutions
1329 East Kemper Rd., Ste. 4210, Cincinnati, OH. 45246 PHONE: (513) 860 - 5555 EMAIL: reg120@captiveaire.com
www.captiveaire.com

Hawaiian Bros - Indianapolis, IN
6421 East 82nd Street,
Indianapolis, IN, 46250

DATE: 12/15/2025

DWG.#: 8361560

DRAWN BY: MC-120

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

MASTER DRAWING

SHEET NO. 4

PROJECT INFORMATION

PROPOSED QUICK SERVE RESTAURANT FOR:
OM GROUP - HAWAIIAN BROS - STR: 135
6421 E. 82ND ST. • INDIANAPOLIS, IN 46250

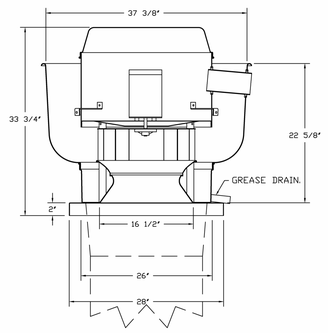
PROFESSIONAL SEAL

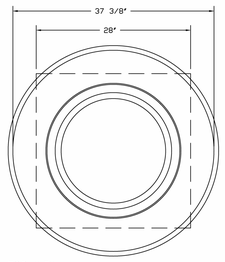
SHEET DATES
ISSUED FOR CONSTRUCTION
IFC APR. 3, 2026

JOB NUMBER
250361400

SHEET NUMBER
H5.4

FAN #1 DU180HFA - EXHAUST FAN (KEF-1)





TOP VIEW

FEATURES:

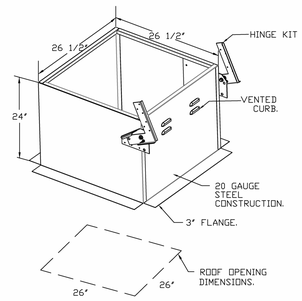
- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS).
- ROOF MOUNTED FANS.
- RESTAURANT MODEL.
- UL705 AND UL762 AND ULC-S645
- VARIABLE SPEED CONTROL.
- INTERNAL WIRING.
- THERMAL OVERLOAD PROTECTION (SINGLE PHASE).
- HIGH HEAT OPERATION 300°F (149°C).
- GREASE CLASSIFICATION TESTING.
- NEMA 3R SAFETY DISCONNECT SWITCH.

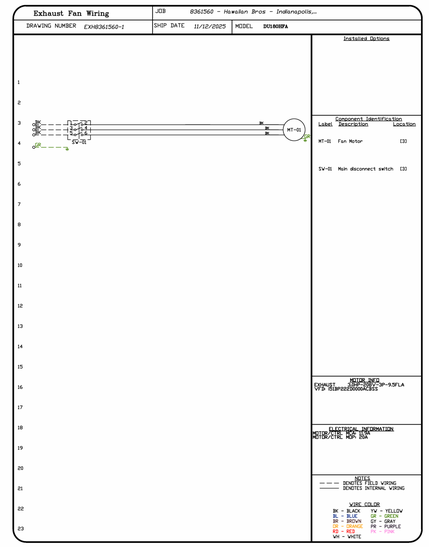
NORMAL TEMPERATURE TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 300°F (149°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DETERIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

ABNORMAL FLARE-UP TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING BURNING GREASE VAPORS AT 600°F (316°C) FOR A PERIOD OF 15 MINUTES WITHOUT THE FAN BECOMING DAMAGED TO ANY EXTENT THAT COULD CAUSE AN UNSAFE CONDITION.

OPTIONS

- GREASE BOX.
- FAN BASE CERAMIC SEAL - DU/DR180HFA - INSTALLED AT PLANT - FOR GREASE DUCTS.
- EXHAUST FAN HEAT BAFFLE.
- 2 YEAR PARTS WARRANTY.





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PROJECT INFORMATION

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PROFESSIONAL SEAL

CAPTIVEAIRE
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1329 East Kemper Rd., Ste. 4210, Cincinnati, OH, 45246 PHONE: (513) 860 - 5555 EMAIL: reg120@captiveaire.com

REVISIONS

	DESCRIPTION	DATE:
1		
2		
3		
4		

Hawaiian Bros - Indianapolis, IN
6421 East 82nd Street,
Indianapolis, IN, 46250

DATE: 12/15/2025

DWG.#: 8361560

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MASTER DRAWING

SHEET NO. 5

SHEET DATES
ISSUED FOR CONSTRUCTION
IFC APR. 3, 2026

JOB NUMBER
250361400

SHEET NUMBER
H5.5

HVAC CAPTIVEAIRE DRAWINGS

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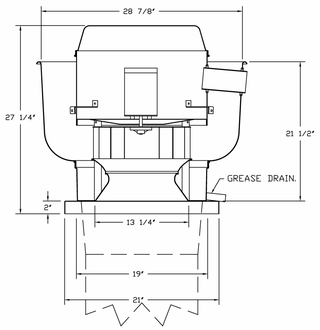
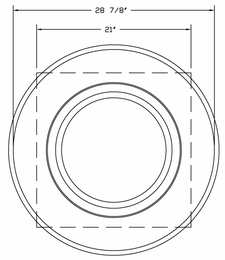
FAN #2 DU50HFA - EXHAUST FAN (KEF-2)





TOP VIEW

FEATURES:

- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS).
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- RESTAURANT MODEL.
- UL705 AND UL762 AND ULC-S645
- VARIABLE SPEED CONTROL.
- INTERNAL WIRING.
- THERMAL OVERLOAD PROTECTION (SINGLE PHASE).
- HIGH HEAT OPERATION 300°F (149°C).
- GREASE CLASSIFICATION TESTING.
- NEMA 3R SAFETY DISCONNECT SWITCH.

NORMAL TEMPERATURE TEST
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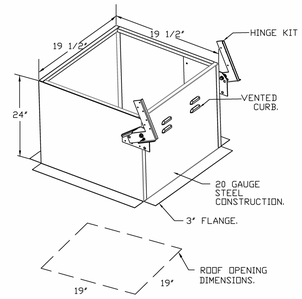
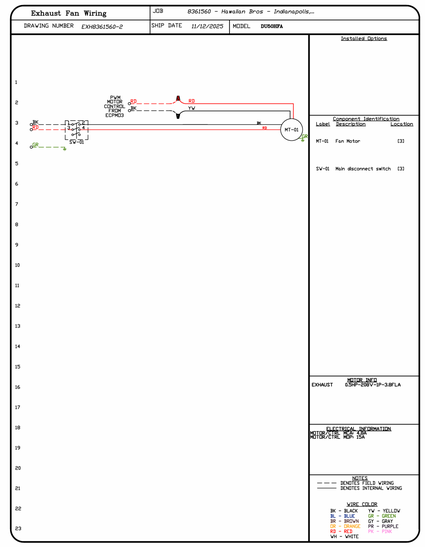
ABNORMAL FLARE-UP TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING BURNING GREASE VAPORS AT 600°F (316°C) FOR A PERIOD OF 15 MINUTES WITHOUT THE FAN BECOMING DAMAGED TO ANY EXTENT THAT COULD CAUSE AN UNSAFE CONDITION.

OPTIONS

- FAN BASE CERAMIC SEAL - DU/DR50HFA - INSTALLED AT PLANT - FOR GREASE DUCTS.
- EXHAUST FAN HEAT BAFFLE.
- GREASE BOX.
- ECM WIRING PACKAGE - PWM SIGNAL FROM ECPWED PREWIRE (TELCO MOTOR), CCW ROTATION.
- 2 YEAR PARTS WARRANTY.





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MASTER DRAWING

SHEET NO. 6

SHEET DATES
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JOB NUMBER
250361400

SHEET NUMBER
H5.6

HVAC CAPTIVEAIRE DRAWINGS

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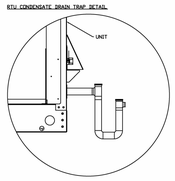
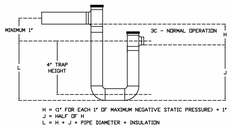
FAN #3 CAS-HVAC2-I.440-18MF-10T-MPU - HEATER (MPU-1)

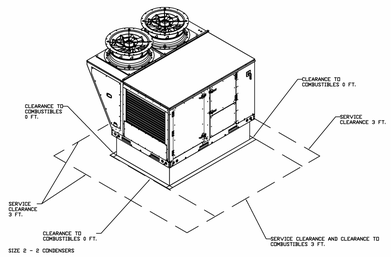
NOTES:
1. DO NOT OBSTRUCT OUTSIDE AIR INLET, OUTSIDE AIR COIL OR OUTSIDE AIR FAN.
2. ( ) DENOTES CORNER WEIGHT.
3. ROOF OPENING MUST BE 2" SMALLER THAN CURB DIMENSIONS IN BOTH DIRECTIONS.
4. CONNECTION FROM BREAKER TO UNITS SAFETY DISCONNECT SWITCH TO BE COPPER WIRE ONLY.
5. EXTERIOR GAS CONNECTION PROVIDED BY FACTORY WITH QUICK SEAL AND ANTI-ROTATION BRACKET.

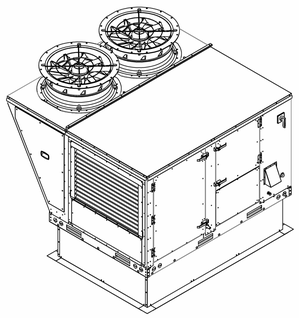
*NOTE: SUPPLY DUCT MUST BE INSTALLED TO MEET SMACNA STANDARDS. A MINIMUM STRAIGHT DUCT LENGTH MUST BE MAINTAINED DOWNSTREAM OF UNIT DISCHARGE AS OUTLINED IN AMCA PUBLICATION 201. WHEN USING RECTANGULAR DUCTWORK, ELBOWS MUST BE RADIUS THROAT, RADIUS BACK WITH TURNING VANES. FLEXIBLE DUCTWORK AND SQUARE THROAT/SQUARE BACK ELBOWS SHOULD NOT BE USED. ANY TRANSITION AND/OR TURNS IN THE DUCTWORK WILL CAUSE SYSTEM EFFECT. SYSTEM EFFECT WILL DRASTICALLY INCREASE STATIC PRESSURE AND REDUCE AIRFLOW. DO NOT RELY ON UNIT TO SUPPORT DUCT IN ANY WAY. FAILURE TO PROPERLY SIZE DUCTWORK MAY CAUSE SYSTEM EFFECTS AND REDUCE PERFORMANCE OF THE EQUIPMENT.
SUGGESTED SUPPLY STRAIGHT DUCT SIZE IS 24" x 30-1/4".

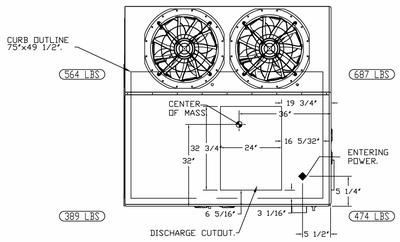
RTU CONDENSATE DRAIN TRAP DETAIL

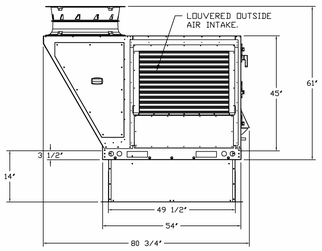


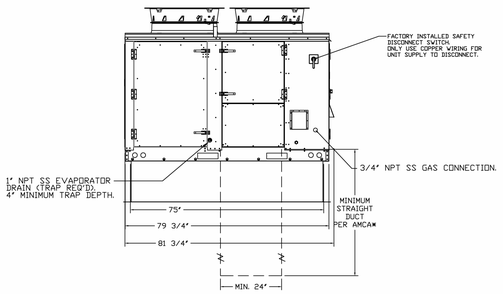


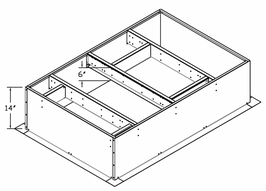


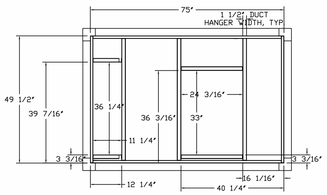


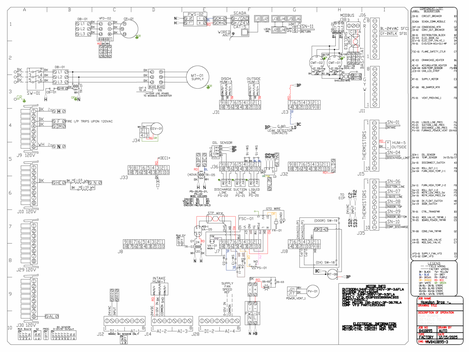


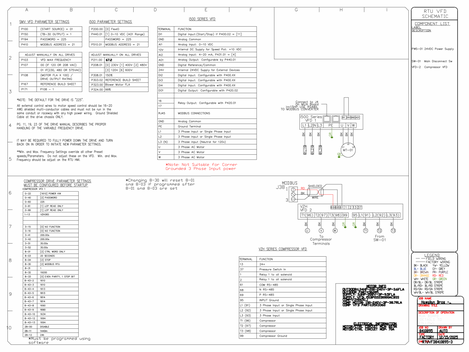


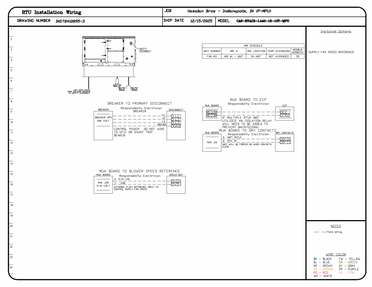












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PROJECT INFORMATION

PROPOSED QUICK SERVE RESTAURANT FOR:
OM GROUP - HAWAIIAN BROS - STR: 135
6421 E. 82ND ST. • INDIANAPOLIS, IN 46250

REVISIONS

	DESCRIPTION	DATE:
1		
2		
3		
4		

CAPTIVEAIRE
Air Solutions
1329 East Kemper Rd., Ste. 4210, Cincinnati, OH, 45246 PHONE: (513) 860 - 5555 EMAIL: reg120@captiveaire.com
www.captiveaire.com

Hawaiian Bros - Indianapolis, IN
6421 East 82nd Street,
Indianapolis, IN, 46250

DATE: 12/15/2025

DWG.#: 8410895

DRAWN BY: MC-120

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

MASTER DRAWING

SHEET NO. 7

PROFESSIONAL SEAL

SHEET DATES

ISSUED FOR CONSTRUCTION

IFC APR. 3, 2026

JOB NUMBER 250361400

SHEET NUMBER H5.7

HVAC CAPTIVEAIRE DRAWINGS

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PROJECT INFORMATION

PROPOSED QUICK SERVE RESTAURANT FOR:

OM GROUP - HAWAIIAN BROS - STR: 135

6421 E. 82ND ST. • INDIANAPOLIS, IN 46250

ELECTRICAL PACKAGE – JOB#8410895

NO	TAG	PACKAGE #	LOCATION	SWITCHES		OPTION	FANS CONTROLLED					
				LOCATION	QUANTITY		FAN TAG	TYPE	Φ	HP	VOLT	FLA
1	CONTROLS	DCV-2111	UTILITY CABINET RIGHT	UTILITY CABINET RIGHT	1 LIGHT	SMART CONTROLS DCV	KEF-1	EXHAUST	3	3.000	208	9.5
							KEF-2	EXHAUST	1	0.500	208	3.8
				HOOD # 1	1 FAN		MPU-1	SUPPLY	3	3.000	208	9.5



CASLink Monitor and Control

- Hood control panel to support communications to cloud-based Building Management System.
- Hood Control Panel to allow cloud-based Building Management System to monitor real time parameters outlined as MONITOR in the points list.
- Hood Control Panel to allow cloud-based Building Management System to control parameters outlined as CONTROL in the points list.
- Hood control panel to allow remote changes to system setting such as VFD Frequencies, ECM speeds, temperature set points, fan and wash schedules, etc.

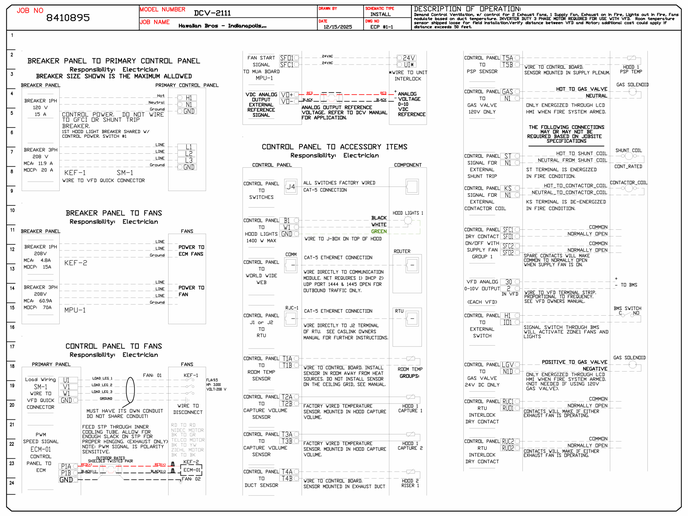
MONITORING AND CONTROL POINTS LIST

DCV Packages	Function
Room Temperature	MONITOR
Duct Temperature(s)	MONITOR
MUA Discharge Temperature	MONITOR
Kitchen RTU Discharge Temperature	MONITOR
Fan Speed	MONITOR
Fan Amperage	MONITOR
Fan Power	MONITOR
VFD Faults	MONITOR
Controller Faults	MONITOR
PCU Filter Clog Percentages	MONITOR
Fan Faults	MONITOR
Fan Status	MONITOR
PCU Faults	MONITOR
PCU Filter Clog Percentages	MONITOR
Fire Condition	MONITOR
CORE Fire System	MONITOR
Building Pressures	MONITOR
Prep Tine Button	MONITOR & CONTROL
Fans Button	MONITOR & CONTROL
Lights Button	MONITOR & CONTROL
Wash Button	MONITOR & CONTROL

SC Packages	Function
Room Temperature(s)	MONITOR
Duct Temperature(s)	MONITOR
MUA Discharge Temperature	MONITOR
Controller Faults	MONITOR
Fan Faults	MONITOR
Fan Status	MONITOR
PCU Faults	MONITOR
PCU Filter Clog Percentages	MONITOR
Fire Condition	MONITOR
CORE Fire System	MONITOR
Building Pressures	MONITOR
Fans Button(s)	MONITOR & CONTROL
Lights Button(s)	MONITOR & CONTROL
Wash Button	MONITOR & CONTROL

JOB NO 8410895 | MODEL NUMBER DCV-2111 | JOB NAME Hawaiian Bros – Indianapolis,... | DRAWN BY | DATE 10/15/2025 | SCHEMATIC TYPE INSTALL | DWG NO ECP #1-2

DESCRIPTION OF OPERATION:
Demand Control Ventilation, w/ control for 2 Exhaust Fans, 1 Supply Fan, Exhaust up to 9 Fire Lights out in Fire, Fans and Lights to be Activated by Fire System. Fire System #1 TANK 75 – 42/42, Twin-Speed Fire Protection System equipped with Electronic Detection utilizing CORE sensor shipped loose for field installation/verify distance between VFD and Motor; additional cost could apply if distance exceeds 50 feet.



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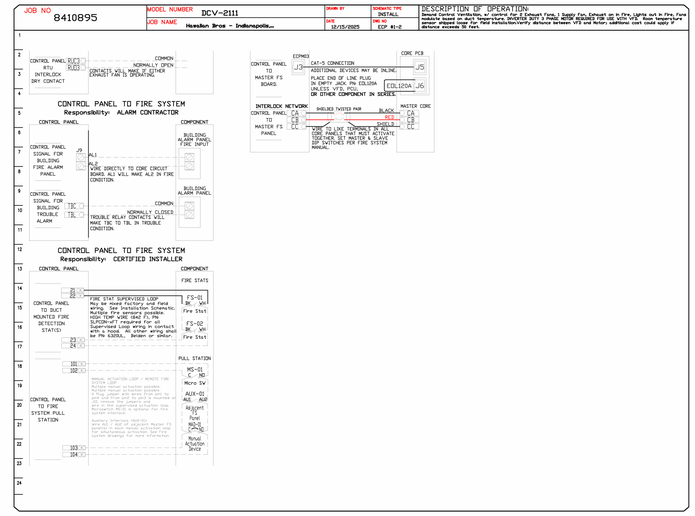


JOB NO 8410895 | MODEL NUMBER DCV-2111 | JOB NAME Hawaiian Bros – Indianapolis,... | DRAWN BY | DATE 10/15/2025 | SCHEMATIC TYPE INSTALL | DWG NO ECP #1-3

DESCRIPTION OF OPERATION:
Fire System #1 TANK 75 – 42/42, Twin-Speed Fire Protection System equipped with Electronic Detection utilizing CORE board as a Listed Release Mechanism. Installed in Hood Utility Cabinet with integral hood private panel.

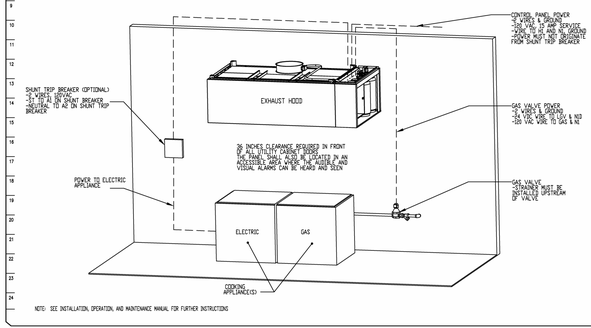
TANK PROTECTION ELECTRICAL DETAIL

02/10/2021 Rev. 2

FS-1: MASTER

ELECTRICIAN
1. WIRE MAIN CONTROL PANEL PER INCLUDED SCHEMATIC
2. WIRE DUCT TEMP SENSOR PER SCHEMATIC
3. WIRE ROOF TEMP SENSOR PER SCHEMATIC
4. WIRE UVC APPLIANCE KILL SWITCH, IF EQUIPPED (OPTIONAL)
5. WIRE GAS VALVE

ELECTRICAL CONTRACTOR REQUIREMENT					
ITEM	CONNECTION IN PANEL	CONNECTION IN DEVICE	VOLTAGE	AMPERAGE	COMMENTS
SHUNT TRIP BREAKER (OPTIONAL)	ST & N1	BREAKER COIL OR L & N2	120 VAC	< 4 AMPS	ST TO A1 ON SHUNT BREAKER COIL, AND NEUTRAL TO A2 ON SHUNT TRIP BREAKER COIL
CONTROL PANEL POWER	H1 & N1 + GROUND	CIRCUIT BREAKER	120 VAC	15 AMPS	CONTROL PANEL POWER MUST NOT BE RUN THROUGH SHUNT TRIP BREAKER
UDS APPLIANCE KILL SWITCH (OPTIONAL)	KTS & N1	KTS & N1	120 VAC	< 4 AMPS	KILL SWITCH TERMINALS MUST BE IN SERIES WITH OTHER KILL SWITCHES
REMOTE 120VAC ANGUL AUTOMAN (OPTIONAL)	AUL, AUZ	SOLENOID	120 VAC	< 6 AMPS	120V TO AUL, AUZ TO ANGUL ELECTRIC AUTOMAN, ANGUL SOLENOID TO NEUTRAL
GAS VALVE	10V & N2 (IF 24 VDC) GAS & N2 (IF 120 VAC)	RED/RED/GREEN	24 VDC OR 120 VAC	< 10 AMPS	IF 24 VDC - 3 WIRES & GROUND N2 TO RED, 10V TO RED, AND GREEN TO GROUND IF 120 VAC - 2 WIRES & GROUND GAS TO RED, N2 TO RED, AND GREEN TO GROUND



NOTE: SEE INSTALLATION, OPERATION, AND MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS

JOB NO 8410895 | MODEL NUMBER DCV-2111 | JOB NAME Hawaiian Bros – Indianapolis,... | DRAWN BY | DATE 10/15/2025 | SCHEMATIC TYPE INSTALL | DWG NO ECP #1-4

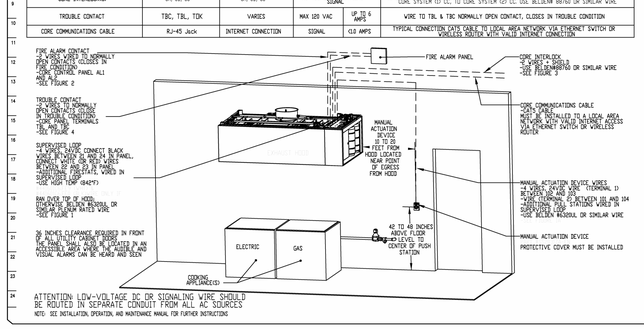
DESCRIPTION OF OPERATION:
Fire System #1 TANK 75 – 42/42, Twin-Speed Fire Protection System equipped with Electronic Detection utilizing CORE board as a Listed Release Mechanism. Installed in Hood Utility Cabinet with integral hood private panel.

TANK PROTECTION LOW-VOLTAGE DETAIL

FS-1: MASTER

ALARM CONTRACTOR
1. WIRE MANUAL ACTUATION DEVICE(S), #REMOTE FIRESTAT(S), CORE INTERLOCK(S), FIRE SENSOR(S) AND FIRE ALARM CONTACTS
2. COMPLETE FINAL CONNECTIONS TO SYSTEM
3. VERIFY FINAL FIRE SYSTEM TEST
#REMOTE FIRESTATS MAYBE BE REQUIRED DEPENDING ON THE DUCT LAYOUT AND HOOD TEMPERATURE RATING REFERENCE MANUAL FOR LOCATION AND GUIDELINES.

ALARM CONTRACTOR REQUIREMENT					
ITEM	CONNECTION IN PANEL	CONNECTION ON DEVICE	VOLTAGE	AMPERAGE	COMMENTS
MANUAL ACTUATION DEVICE(S)	101 AND 104 102 AND 103	1 & 2	24 VDC	< 10 AMPS	WIRE MANUAL ACTUATION DEVICE TERMINAL 1 BETWEEN CORE PANEL TERMINALS 102 AND 103 WIRE MANUAL ACTUATION DEVICE TERMINAL 2 BETWEEN CORE PANEL TERMINALS 101 AND 104 JUMPER 101 TO 104 AND 102 TO 103 IF NO MANUAL ACTUATION DEVICE IS USED
MANUAL ACTUATION DEVICE COVER	N/A	N/A	N/A	N/A	MANUAL ACTUATION DEVICE COVER MUST BE INSTALLED
REMOTE FIRESTAT SENSOR(S)	03 AND 04 03 AND 23	BLACK AND WHITE	24 VDC	< 10 AMPS	2 SPARE HEAT SENSORS ARE SHIPPED WITH EACH CORE BOARD WIRE BETWEEN HOOD CORE PANEL TERMINALS 03 AND 04 WIRE FIRESTAT BLACK WIRE BETWEEN HOOD CORE PANEL TERMINALS 03 AND 04 HIGH TEMP FIRESTAT #4400[DUCT MOUNT] & #4400[DUCT MOUNT] OR EQUIVALENT SHOULD BE USED IF WIRE OTHERWISE BELOW) BELDEN 83200UL OR SIMILAR PLENUM RATED WIRE SEE FIGURE 1
FIRE ALARM CONTACT	AL1, AL2	VARIES	70V MAX DC/VAC	UP TO 1 AMP	FIRE ALARM RELAY CONTACTS ARE TYPICALLY LOCATED IN THE FIRE ALARM CONTROL PANEL.
CORE INTERLOCK(S)	CA, CB, CC	CA, CB, CC	RS-485 COMMUNICATIONS SIGNAL		CORE SYSTEM 1(1 CA, TO CORE SYSTEM 2(1 CA, CORE SYSTEM 1(1 CB, TO CORE SYSTEM 2(1 CB CORE SYSTEM 1(2 CC, TO CORE SYSTEM 2(2 CC USE BELDEN 88760 OR SIMILAR WIRE
TROUBLE CONTACT	TBC, TBL, TDK	VARIES	MAX 120 VAC	UP TO 6 AMPS	WIRE TO TBL & TBC NORMALLY OPEN CONTACT, CLOSES IN TROUBLE CONDITION
CORE COMMUNICATIONS CABLE	RJ-45 Jack	INTERNET CONNECTION	SIGNAL	<10 AMPS	TYPICAL CONNECTION TAKE FROM THE LOCAL NETWORK VIA ETHERNET SWITCH OR WIRELESS ROUTER WITH VALID INTERNET CONNECTION



ATTENTION LOW-VOLTAGE DC OR SIGNALING WIRE SHOULD BE ROUTED IN SEPARATE CONDUIT FROM ALL AC SOURCES

NOTE: SEE INSTALLATION, OPERATION, AND MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS

REVISIONS

	DESCRIPTION	DATE:
1		
2		
3		
4		

CAPTIVEAIRE
Air Solutions
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Hawaiian Bros - Indianapolis, IN
6421 East 82nd Street,
Indianapolis, IN, 46250

DATE: 12/15/2025

DWG.#: 8361560

DRAWN BY: MC-120

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

MASTER DRAWING

SHEET NO. 8

PROFESSIONAL SEAL

SHEET DATES
ISSUED FOR CONSTRUCTION
IFC APR. 3, 2026

JOB NUMBER 250361400

SHEET NUMBER **H5.8**

HVAC CAPTIVEAIRE DRAWINGS

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PROJECT INFORMATION

OM GROUP - HAWAIIAN BROS - STR: 135

PROPOSED QUICK SERVE RESTAURANT FOR:

6421 E. 82ND ST. • INDIANAPOLIS, IN 46250

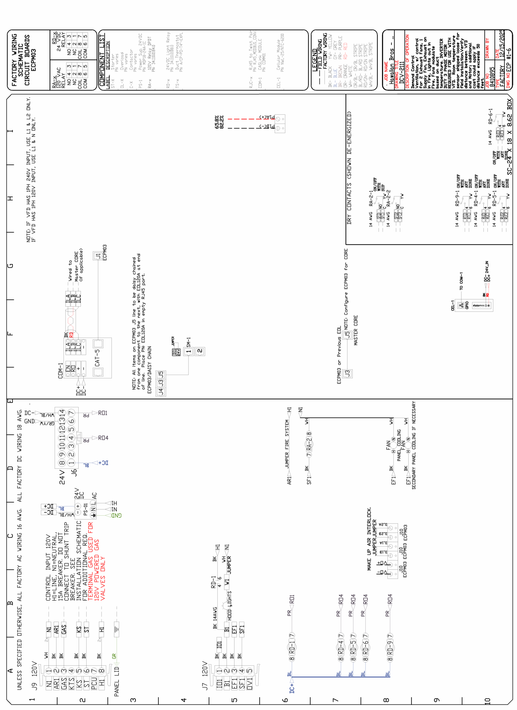
PROFESSIONAL SEAL

SHEET DATES
ISSUED FOR CONSTRUCTION
IFC APR. 3, 2026

JOB NUMBER
250361400

SHEET NUMBER
H5.9

HVAC CAPTIVEAIRE DRAWINGS







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DESCRIPTION	DATE

CAPTIVEAIRE Air Solutions
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Hawaiian Bros - Indianapolis, IN
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DRAWN BY: MC-120
SCALE: 3/4" = 1'-0"
MASTER DRAWING
SHEET NO. 9

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PROJECT INFORMATION

PROPOSED QUICK SERVE RESTAURANT FOR:

OM GROUP - HAWAIIAN BROS - STR: 135

6421 E. 82ND ST. • INDIANAPOLIS, IN 46250

PROFESSIONAL SEAL

SHEET DATES

ISSUED FOR CONSTRUCTION

IFC	APR. 3, 2026

JOB NUMBER

250361400

SHEET NUMBER

H5.10

HVAC CAPTIVEAIRE DRAWINGS

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ELECTRICAL SPECIFICATIONS

DIVISION 26 ELECTRICAL

26 05 00 BASIC ELECTRICAL REQUIREMENTS

A. SEE DIVISION 00 PROCUREMENT AND CONTRACTING AND DIVISION 01 GENERAL REQUIREMENT FOR ADDITIONAL REQUIREMENTS.
B. ELECTRICAL CONTRACTOR SHALL VERIFY REQUIREMENTS FOR TEMPORARY LIGHTING AND POWER WITH GENERAL CONTRACTOR AND INCLUDE IN HIS SCOPE OF WORK WHEN DIRECTED BY G.C. INSTALL IN ACCORDANCE WITH ALL CODE AND OSHA REQUIREMENTS FOR CONSTRUCTION PROJECTS.
C. SUBSTITUTIONS
   1. SEE DIVISION 01 23 00 PRODUCT SUBSTITUTION PROCEDURES FOR ADDITIONAL REQUIREMENTS.
   2. CONTRACTOR SHALL PROVIDE ALL SUPPORTING DATA AND ASSUME THE BURDEN OF PROOF THAT ANY SUBSTITUTE IS EQUIVALENT AS TO APPEARANCE, CONSTRUCTION, CAPACITY, AND PERFORMANCE. THE JUDGMENT OF EQUIVALENCY SHALL BE MADE BY THE ENGINEER AT THE TIME OF SHOP DRAWING REVIEW, NOT DURING BIDDING.
   3. WHERE SUBSTITUTE EQUIPMENT REQUIRES REDESIGN OF ANY PART OF THE PROJECT, THE COST OF REDESIGN AND ADDITIONAL COSTS OF THE WORK SHALL BE PAID BY THE CONTRACTOR. REDESIGN SHALL BE SUBJECT TO THE APPROVAL OF ALL AUTHORITIES HAVING JURISDICTION OVER THE WORK INCLUDING THE ARCHITECT/ENGINEER.
D. SHOP DRAWINGS, PRODUCT DATA, TEST RESULTS AND SAMPLE SUBMITTALS:
   1. SEE DIVISION 01 33 23 SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES FOR ADDITIONAL REQUIREMENTS.
   2. ELECTRICAL CONSTRUCTION ADMINISTRATION SUBMITTAL LIST:
      a. PANELBOARDS
      b. LIGHT FIXTURES
      c. OCCUPANCY SENSORS
   3. INCLUDE OUTLINE AND GENERAL ARRANGEMENT DRAWINGS, DATA SHEETS AND WIRING DIAGRAMS.
   4. SHOP DRAWINGS SHALL CLEARLY INDICATE SPECIFIC MODEL BEING PROVIDED WHERE CUT SHEETS SHOW MULTIPLE MODELS.
   5. LIGHT FIXTURE SHOP DRAWINGS SHALL CLEARLY INDICATE INDENTIFICATION TAG AS INDICATED IN LIGHT FIXTURE SCHEDULE. ALL OPTIONS, ACCESSORIES AND FINISHES BEING PROVIDED SHALL BE CLEARLY INDICATED.
   6. SYSTEM WIRING RISER DIAGRAMS SHALL INDICATE ALL COMPONENTS SHOWN ON THE FLOOR PLANS, TYPE AND TERMINATION POINT OF CABLE TO EACH COMPONENT.
   7. PROJECT CLOSEOUT
      a. MARK RECORD DRAWINGS ON A FINAL SET OF DRAWINGS WHICH INCLUDES ALL REVISIONS.
E. FINISHING AND PAINTING
   1. SEE DIVISION 09 91 00 FINISH AND PAINTING FOR ADDITIONAL REQUIREMENTS.
   2. PREPARE EXPOSED CONDUIT, FITTINGS, SUPPORTS, AND ACCESSORIES FOR FINISH PAINTING IN ROOMS THAT WILL HAVE CEILING AND STRUCTURE PAINTED.
   3. E.C. SHALL PROVIDE A FACTORY OR FIELD APPLIED PRIME AND FINISH COAT OF COLOR SELECTED BY THE OWNER'S REPRESENTATIVE TO ALL ROOF MOUNTED EQUIPMENT AND OTHER EXTERIOR MATERIALS, INCLUDING SUPPORT HARDWARE.
   4. COORDINATE WORK WITH THE PAINTERS SO THAT ALL EQUIPMENT IS INSTALLED PRIOR TO PAINTING. E.C. SHALL PAINT ITEMS IF NOT IN PLACE PRIOR TO NORMAL ROUTINE PAINTING.
   5. IF FINISH BECOMES RUSTED, CORRODED, SCRATCHED, OR FLAKED DURING STORAGE OR INSTALLATION, REFINISH THE EQUIPMENT TO THE SATISFACTION OF THE OWNER.
   6. WHERE THE ELECTRICAL CONTRACTOR IS REQUIRED TO PAINT, THE PAINTING SHALL BE DONE IN ACCORDANCE WITH THE PAINTING PORTION OF THE ARCHITECTURAL SPECIFICATION.
F. DETAILS AND SCHEDULES ARE SHOWN TO AID THE CONTRACTOR AND ARE NOT MEANT TO BE INCLUSIVE OF ALL DEVICES. PROVIDE REQUIRED EQUIPMENT AND ACCESSORIES FOR A COMPLETE INSTALLATION.
G. INSTALL ALL EQUIPMENT PER MANUFACTURER'S INSTALLATION INSTRUCTIONS AND REQUIREMENTS. PROVIDE ADDITIONAL WORK AND MATERIALS AS REQUIRED.
H. COORDINATE INSTALLATION OF ELECTRICAL WORK WITH THE OTHER CONTRACTORS TO AVOID CONFLICTS WITH OTHER WORK.
I. MAINTAIN MAXIMUM HEADROOM AND SPACE CONDITION AT ALL POINTS IN THE BUILDING. WHERE HEADROOM OR SPACE CONDITIONS APPEAR INADEQUATE, NOTIFY ARCHITECT/ENGINEER BEFORE PROCEEDING WITH THE INSTALLATION.
J. COMPLY WITH THE REQUIREMENTS OF NFPA; NATIONAL, STATE AND LOCAL ELECTRICAL CODES AND LOCAL UTILITY REGULATIONS.
K. MATERIAL SHALL BEAR U.L. AND/OR OTHER APPROVED AGENCY LISTING.
L. INSTALL MOTOR STARTERS/VFDS FURNISHED BY HVAC AND PLUMBING CONTRACTORS, AND WIRE FROM THE POWER SOURCE TO THE STARTER/VFD AND FROM THE STARTER/VFD TO THE MOTOR.
M. VERIFY ELECTRICAL SIZE AND CONNECTION REQUIREMENTS FOR EQUIPMENT FURNISHED BY OTHERS WITH FINAL SHOP DRAWINGS.
N. CONTRACTOR SHALL CALL LOCAL UTILITY LOCATING SERVICE AND CONDUCT A PRIVATE UTILITY LOCATE TO ENSURE THAT ALL ELECTRICAL FEEDERS, BRANCH CIRCUITS, LOW VOLTAGE CABLES AND FIBER OPTIC HAVE BEEN LOCATED BEFORE STARTING SITE DEMOLITION. DESIGN ENGINEER AND GENERAL CONTRACTOR SHALL BE NOTIFIED OF ANY DISCREPANCIES BETWEEN PLAN AND FIELD CONDITIONS PRIOR TO CONSTRUCTION.
O. SCHEDULE REQUIRED POWER, TELEPHONE OR DATA OUTAGES IN OCCUPIED AREAS OF THE BUILDING WITH THE OWNER. CONTRACTOR SHALL WORK UNTIL SERVICE IS RESTORED. OUTAGE WORK SHALL BE PERFORMED DURING NON-WORKING HOURS, WEEKENDS, OR HOLIDAYS.
P. PROVIDE ALL CUTTING AND PATCHING NECESSARY FOR ELECTRICAL WORK INSTALLATION UNLESS THIS WORK IS IDENTIFIED TO BE THE WORK OF OTHER CONTRACTORS. PATCHING SHALL MATCH ADJACENT SURFACES. CORE DRILL OR SAW-CUT OPENINGS THROUGH EXISTING CONCRETE.
Q. REMOVE FROM THE JOB SITE ELECTRICAL CONDUIT, PANELS, CABLE, WIRE, EQUIPMENT, ETC. INDICATED BY THE DRAWINGS TO BE DEMOLISHED, UNLESS INDICATED TO BE TURNED OVER TO THE OWNER.
R. PROJECT COMPLETION
   1. CLEAN FIXTURES AND EQUIPMENT AND LEAVE IN PROPER WORKING CONDITION AT THE TIME OF FINAL CLEAN-UP.
S. PROVIDE OPERATING INSTRUCTIONS AS FOLLOWS:
   1. TWO (2) HOURS FOR BUILDING ELECTRICAL SYSTEM.
   2. FOUR (2) HOURS FOR LIGHTING CONTROL BY A MFR'S AUTHORIZED TECHNICIAN.
   3. FOUR (2) HOURS FOR FIRE ALARM SYSTEM. THE SUPPLIER SHALL REVIEW THE FIRE ALARM PANEL SEQUENCES OF OPERATION.
   4. MAINTAIN A RECORD OF OPERATING INSTRUCTION PERIODS.
   5. RECORD A VIDEO OF ALL OPERATING INSTRUCTIONS AND TURN OVER A COPY OF DVD TO OWNER.
T. LOCATION
   1. THE ARCHITECT SHALL RESERVE THE RIGHT TO MAKE OUTLET POSITION CHANGES UP TO 10' BEFORE INSTALLATION WITHOUT ANY ADDITIONAL COST TO PROJECT.
   2. DO NOT LOCATE OUTLETS OR EQUIPMENT WHERE THE USEFULNESS AND/OR OPERATION WILL BE AFFECTED BY THE WORK OF OTHER TRADES, DOOR SWING, COUNTER, EQUIPMENT, ETC.
U. ACCESS
   1. INSTALL EQUIPMENT, JUNCTION BOXES, PULL BOXES AND ACCESSORIES TO PERMIT ACCESS WITHOUT RELOCATING INSTALLED OR YET TO BE INSTALLED EQUIPMENT.
   2. ACCESS PANELS
      a. FURNISH ACCESS PANELS OF ADEQUATE SIZE TO PERMIT SERVICE OF CONCEALED DEVICES. PANELS SHALL BE SUITABLE FOR INSTALLATION IN THE MATERIAL FORMING THE FINISHED SURFACE, WITH FLUSH METAL FRAME, FLUSH HINGED STEEL DOOR, FLUSH SCREWDRIVER OPERATED LATCH.
      b. PANELS UL LISTED TO CONFORM TO THE FIRE RATING OF THE SURFACE INSTALLED IN.
      c. TURN ACCESS PANEL OVER TO CONTRACTOR SKILLED IN THE CONSTRUCTION OF THE SURFACES INVOLVED FOR INSTALLATION.
      d. ARCHITECT TO APPROVE ACCESS PANEL LOCATION PRIOR TO INSTALLATION OF EQUIPMENT REQUIRING ACCESS.
      e. COORDINATE WITH THE OTHER CONTRACTORS AND WHEREVER PRACTICAL, GROUP DEVICES IN SUCH A MANNER SO AS TO MINIMIZE PANELS.
V. EXCAVATION AND BACKFILL
   1. VERIFY ALL EXISTING UNDERGROUND ELECTRICAL FEEDERS, BRANCH CIRCUITS, LOW VOLTAGE CABLES AND FIBER OPTIC AND PLUMBING PIPING HAVE BEEN LOCATED PRIOR TO EXCAVATION. CONTRACTOR SHALL NOT USE MACHINE EXCAVATORS AROUND EXISTING BURIED ELECTRICAL AND PLUMBING LINES.
   2. EXCAVATE AND BACKFILL TRENCHES FOR ELECTRICAL WORK. BACKFILL AND COMPACTION SHALL MEET REQUIREMENTS SPECIFIED ELSEWHERE.
   3. CONDUIT PASSING UNDER FOOTINGS AND FOUNDATION WALLS ARE ALLOWED WHERE PERMITTED BY NEC. MAINTAIN MINIMUM 1-1/2" CLEARANCE UNDER FOOTINGS AND FOUNDATION WALLS.
   4. BURY CONDUIT AND CABLE A MINIMUM 24" DEEP WITH 6" SAND BED ABOVE AND BELOW, AND WARNING MARKER TAPE MINIMUM 12" ABOVE.
   5. RESTORE EXISTING GROUND, LAWNS, PAVING, WALKS, ETC. TO ORIGINAL CONDITION.
   6. BRANCH CIRCUITS SIZED LESS THAN 100 AMPS MAY BE TRENCHED IN USING A "DITCH WITCH" STYLE TRENCHER OR VIBRATORY PLOW WHERE SOILS ARE SUITABLE FOR SUCH INSTALLATION METHODS AND WHERE ALLOWED BY STATE AND LOCAL CODES AND LOCAL AUTHORITY HAVING JURISDICTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVE INSTALLATION DEPTHS TO THE AUTHORITY HAVING JURISDICTION.
W. DEMOLITION
   1. CONTRACTOR SHALL INCLUDE REMOVAL OF ALL ELECTRICAL MATERIALS BEING DEMOLISHED FROM THE JOBSITE.
   2. ALL FLUORESCENT AND HID LAMPS AND BALLASTS SHALL BE DISPOSED OF IN A MANNER APPROVED BY STATE, FEDERAL, AND E.P.A. STANDARDS.
X. REMODELING IN EXISTING CONSTRUCTION
   1. CONCEAL CONDUIT IN WALLS, ABOVE CEILING, OR BELOW FLOORS.
   2. WHERE IT IS IMPOSSIBLE TO CONCEAL CONDUIT AND WHEN APPROVED BY ARCHITECT, METAL SURFACE RACEWAY MAY BE USED FOR 110 VOLT OR GREATER POWER. PLASTIC SURFACE RACEWAY MAY BE USED UNDER THE FOLLOWING CIRCUMSTANCES:
      a. EACH LINE VOLTAGE CIRCUIT IN THE RACEWAY IS PROVIDED WITH A SEPARATE GREEN GROUND WIRE.
      b. RACEWAY HAS DIVIDERS BETWEEN THE LOW VOLTAGE AND LINE VOLTAGE COMPARTMENTS.
      c. WIRE HOLDDOWN CLIPS ARE PROVIDED IN THE RACEWAY.

26 05 02 UTILITIES

A. MODIFY EXISTING ELECTRIC SERVICE AS SHOWN ON THE DRAWINGS.
B. ASSIST THE OWNER IN APPLYING FOR ELECTRICAL SERVICE AND COORDINATE ANY MODIFICATIONS WITH THE UTILITY COMPANY. PROVIDE METERING EQUIPMENT, TRANSFORMER PAD, AND CONDUIT ROUGH-IN AS REQUIRED BY THE UTILITY.
C. ELECTRIC UTILITY
   1. EXISTING
   2. UTILITY COST BY OWNER.
D. TELEPHONE UTILITIES
   1. EXISTING TELEPHONE SERVICE
   2. TELEPHONE UTILITY COSTS BY OWNER
E. CABLE TELEVISION UTILITY
   1. EXISTING CABLE TELEVISION SERVICE
   2. CABLE UTILITY COSTS BY OWNER

26 05 19 LOW VOLTAGE POWER CONDUCTORS AND CABLES (600V AND LESS)

A. TYPE AND SIZE
   1. NO. 10 & 12: SOLID OR STRANDED COPPER, 600V, THHN/THWN.
   2. NO. 8 TO 3: STRANDED COPPER, 600V, THHN/THWN.
   3. NO. 2 TO 4/0: STRANDED COPPER OR ALUMINUM, 600V, THHN/THWN.
   4. 250 KCMIL AND LARGER: STRANDED COPPER OR ALUMINUM, 600V, XHHW.
   5. MINIMUM BRANCH CIRCUIT WIRE SIZE NO. 12.
   6. CONTROL WIRING: STRANDED COPPER, MINIMUM NO. 14.
   7. GREEN INSULATION, COPPER STRANDED EQUIPMENT GROUND.
   8. NM CABLE SHALL NOT BE PERMITTED.
   9. UF CABLE SHALL NOT BE PERMITTED.
   10. TYPE AC OR MC CABLE SHALL NOT BE PERMITTED.
B. NEUTRALS AND GROUNDS SHALL BE COLOR CODED PER NEC.
C. WIRE COLORS
   1. 120/208-VOLT SYSTEM: PHASE-A (BLACK), PHASE-B (RED), PHASE-C (BLUE).
D. VOLTAGE DROP
   1. AT NO POINT IN THE ELECTRICAL SYSTEM SHALL THERE BE MORE THAN 5 PERCENT TOTAL VOLTAGE DROP.
   2. THE CONTRACTOR SHALL APPROPRIATELY INCREASE THE SIZE OF ALL CIRCUIT CONDUCTORS TO LIMIT VOLTAGE DROP TO 2 PERCENT OR LESS FOR FEEDERS, AND 3 PERCENT OR LESS FOR BRANCH CIRCUITS.
   3. VOLTAGE DROP ON BRANCH CIRCUITS FOR LIGHTING OR RECEPTACLES SHALL BE CALCULATED USING 80 PERCENT AMPACITY OF THE BRANCH CIRCUITS OVERCURRENT PROTECTION DEVICE.
E. PROVIDE GROUND CONDUCTOR(S) WITH EVERY BRANCH CIRCUIT AND EVERY FEEDER.
F. WHEN USING ALUMINUM CONDUCTORS: THE CONTRACTOR SHALL SEAL ALL EXPOSED ALUMINUM WHEN CONDUCTOR IS EXPOSED IN A LUG WITH AN ANTI-OXIDANT COMPOUND. THE CONDUCTORS SHALL BE COMPACT CONCENTRIC STRANDED PURE ALUMINUM CONDUCTORS.
G. PROVIDE A SEPARATE GROUND CONDUCTOR AND A SEPARATE NEUTRAL CONDUCTOR WHEN AN INDIVIDUAL RECEPTACLE OR PIECE OF EQUIPMENT IS SHOWN WITH AN INDIVIDUAL HOMERUN.
H. PROVIDE A SEPARATE NEUTRAL CONDUCTOR FOR EACH LIGHTING BRANCH CIRCUIT THAT SERVES HID, ELECTRONIC FLUORESCENT BALLASTS AND SOLID-STATE LED DRIVERS OR PROVIDE A NEUTRAL CONDUCTOR ONE SIZE LARGER THAN THE LARGEST SOURCE CONDUCTOR WHEN THE NEUTRAL IS SHARED.
I. TESTING: ALL CIRCUITS SHALL BE TESTED FOR PROPER OPERATION AND FUNCTION. REPAIR ALL NON-WORKING, NEWLY INSTALLED, CIRCUITS.
J. VERIFY LUG SIZES AND TERMINATION LOCATION PRIOR TO INSTALLING FEEDERS.

26 05 26 GROUNDING AND BONDING

A. GROUNDING AND BONDING PRODUCTS
   1. GOVERNING REQUIREMENTS: WHERE TYPES, SIZES, RATINGS, AND QUANTITIES INDICATED ARE IN EXCESS OF NEC REQUIREMENTS, MORE STRINGENT REQUIREMENTS AND GREATER SIZE, RATING, AND QUANTITY INDICATIONS GOVERN.
B. WIRE AND CABLE GROUNDING CONDUCTORS
   1. CONFORM TO NEC TABLE 8, EXCEPT AS OTHERWISE INDICATED FOR CONDUCTOR PROPERTIES, INCLUDING STRANDING.
      a. MATERIAL: COPPER.
   2. EQUIPMENT GROUNDING CONDUCTORS: INSULATED WITH GREEN COLOR INSULATION.
   3. GROUNDING-ELECTRODE CONDUCTORS: STRANDED CABLE.
   4. UNDERGROUND CONDUCTORS: BARE, TINNED, STRANDED, EXCEPT AS OTHERWISE INDICATED.
   5. BARE COPPER CONDUCTORS:
      a. SOLID CONDUCTORS: AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) B3.
      b. ASSEMBLY OF STRANDED CONDUCTORS: ASTM B8.
      c. TINNED CONDUCTORS: ASTM B33.
C. MISCELLANEOUS CONDUCTORS
   1. GROUNDING BUS: BARE, ANNEALED COPPER BARS OF RECTANGULAR CROSS SECTION
   2. BRAIDED BONDING JUMPERS: COPPER TAPE, BRAIDED NO. 3/0 AMERICAN WIRE GAUGE (AWG) BARE COPPER WIRE, TERMINATED WITH COPPER FERRULES.
   3. BONDING STRAPS: SOFT COPPER, 0.05 INCH (1 MILLIMETER) THICK AND 2 INCHES (50 MILLIMETERS) WIDE, EXCEPT AS INDICATED.
D. CONNECTOR PRODUCTS
   1. PRESSURE CONNECTORS: HIGH CONDUCTIVITY PLATED UNITS.
   2. BOLTED CLAMPS: HEAVY-DUTY TYPE.
   3. EXOTHERMIC-WELDED CONNECTIONS: PROVIDED IN KIT FORM AND SELECTED PER MANUFACTURER'S WRITTEN INSTRUCTIONS FOR SPECIFIC TYPES, SIZES, AND COMBINATIONS OF CONDUCTORS AND CONNECTED ITEMS.
E. GROUNDING ELECTRODES
   1. GROUNDING RODS: COPPER-CLAD STEEL.
      a. SIZE: 3/4 INCH BY 120 INCHES.
      b. PLATE ELECTRODES: COPPER, SQUARE OR RECTANGULAR SHAPE. MINIMUM 0.10 INCH THICK, SIZE AS INDICATED.
F. APPLICATION
   1. EQUIPMENT GROUNDING CONDUCTORS: COMPLY WITH NEC ARTICLE 250 FOR TYPES, SIZES, AND QUANTITIES OF EQUIPMENT GROUNDING CONDUCTORS, EXCEPT WHERE SPECIFIC TYPES, LARGER SIZES, OR MORE CONDUCTORS THAN REQUIRED BY NEC ARE INDICATED.
      a. INSTALL EQUIPMENT GROUNDING CONDUCTOR WITH CIRCUIT CONDUCTORS FOR ITEMS BELOW IN ADDITION TO THOSE REQUIRED BY CODE:
         1). FEEDERS AND BRANCH CIRCUITS.
         2). LIGHTING CIRCUITS.
         3). RECEPTACLE CIRCUITS.
         4). SINGLE-PHASE MOTOR OR APPLIANCE BRANCH CIRCUITS.
         5). THREE-PHASE MOTOR OR APPLIANCE BRANCH CIRCUITS.
         6). FLEXIBLE RACEWAY RUNS.
         7). ARMORED AND METAL-CLAD CABLE RUNS.
      b. BUSWAY SUPPLY CIRCUITS: INSTALL SEPARATE EQUIPMENT GROUNDING CONDUCTOR FROM GROUNDING BUS IN DISTRIBUTION PANEL TO EQUIPMENT GROUNDING-BAR TERMINAL ON BUSWAY.
      c. COMPUTER EQUIPMENT CIRCUITS: INSTALL SEPARATE EQUIPMENT GROUNDING CONDUCTOR IN BRANCH CIRCUIT RUNS FROM COMPUTER AREA POWER PANELS OR POWER-DISTRIBUTION UNITS.
      d. NONMETALLIC RACEWAYS: INSTALL EQUIPMENT GROUNDING CONDUCTOR IN NONMETALLIC RACEWAYS UNLESS THEY ARE DESIGNATED FOR TELEPHONE OR DATA CABLES.
      e. WATER HEATER, HEAT-TRACING, AND ANTIFROST HEATER CIRCUITS: INSTALL SEPARATE EQUIPMENT GROUNDING CONDUCTOR TO EACH ELECTRIC WATER HEATER, HEAT-TRACING ASSEMBLY, AND ANTIFROST HEATING CABLE. BOND CONDUCTOR TO HEATER UNITS, PIPING, CONNECTED EQUIPMENT, AND COMPONENTS.
   2. SIGNAL AND COMMUNICATION SYSTEMS: FOR TELEPHONE, ALARM, VOICE AND DATA, AND OTHER COMMUNICATION SYSTEMS, PROVIDE NO. 4 AWG MINIMUM INSULATED GROUNDING CONDUCTOR IN RACEWAY FROM GROUNDING-ELECTRODE SYSTEM TO EACH SERVICE LOCATION, TERMINAL CABINET, WIRING CLOSET, AND CENTRAL EQUIPMENT LOCATION.
      a. SERVICE AND CENTRAL EQUIPMENT LOCATIONS AND WIRING CLOSETS: TERMINATE GROUNDING CONDUCTOR ON 1/4 BY 2 BY 12 INCHES (6 BY 50 BY 300 MILLIMETERS) GROUNDING BUS.
      b. TERMINAL CABINETS: TERMINATE GROUNDING CONDUCTOR ON CABINET GROUNDING TERMINAL.
   3. SEPARATELY DERIVED SYSTEMS: WHERE NEC REQUIRES GROUNDING, GROUND ACCORDING TO NEC PARAGRAPH 250-30.
   4. METAL POLES SUPPORTING OUTDOOR LIGHTING FIXTURES: GROUND POLE TO GROUNDING ELECTRODE IN ADDITION TO SEPARATE EQUIPMENT GROUNDING CONDUCTOR RUN WITH SUPPLY BRANCH CIRCUIT.
   5. PIPING SYSTEMS AND OTHER EQUIPMENT: COMPLY WITH NEC ARTICLE 250 FOR BONDING REQUIREMENTS.
G. INSTALLATION
   1. GROUND ELECTRICAL SYSTEMS AND EQUIPMENT ACCORDING TO NEC REQUIREMENTS, EXCEPT WHERE DRAWINGS OR SPECIFICATIONS EXCEED NEC REQUIREMENTS.
   2. GROUNDING RODS: LOCATE MINIMUM OF 1 ROD LENGTH FROM EACH OTHER AND AT LEAST SAME DISTANCE FROM ANY OTHER GROUNDING ELECTRODE.
      a. DRIVE UNTIL TOPS ARE 2 INCHES (50 MILLIMETERS) BELOW FINISHED FLOOR OR FINAL GRADE, EXCEPT AS OTHERWISE INDICATED.
      b. INTERCONNECT WITH GROUNDING-ELECTRODE CONDUCTORS. USE EXOTHERMIC WELDS, EXCEPT AT TEST WELLS AND AS OTHERWISE INDICATED. MAKE THESE CONNECTIONS WITHOUT DAMAGING COPPER COATING OR EXPOSING STEEL.
   3. GROUNDING CONDUCTORS: ROUTE ALONG SHORTEST AND STRAIGHTEST PATHS POSSIBLE, EXCEPT AS OTHERWISE INDICATED. AVOID OBSTRUCTING ACCESS OR PLACING CONDUCTORS WHERE THEY MAY BE SUBJECTED TO STRAIN, IMPACT, OR DAMAGE.
   4. UNDERGROUND GROUNDING CONDUCTORS: USE BARE TINNED COPPER WIRE. BURY AT LEAST 30 INCHES (600 MILLIMETERS) BELOW GRADE.
   5. METAL WATER SERVICE PIPE: PROVIDE INSULATED COPPER GROUNDING CONDUCTORS, SIZED AS INDICATED, IN CONDUIT, FROM BUILDING'S MAIN SERVICE EQUIPMENT, OR GROUNDING BUS, TO MAIN METAL WATER SERVICE ENTRANCES TO BUILDING. CONNECT GROUNDING CONDUCTORS TO MAIN METAL WATER SERVICE PIPES BY GROUNDING-CLAMP CONNECTORS. WHERE DIELECTRIC MAIN WATER FITTING IS INSTALLED, CONNECT GROUNDING CONDUCTOR TO STREET SIDE OF FITTING. DO NOT INSTALL GROUNDING JUMPER ACROSS DIELECTRIC FITTINGS. BOND GROUNDING-CONDUCTOR CONDUIT TO CONDUCTOR AT EACH END.
   6. WATER METER PIPING: USE BRAIDED-TYPE BONDING JUMPERS TO ELECTRICALLY BYPASS WATER METERS. CONNECT TO PIPE WITH GROUNDING-CLAMP CONNECTORS.
   7. BOND INTERIOR METAL PIPING SYSTEMS AND METAL AIR DUCTS TO EQUIPMENT GROUNDING CONDUCTORS OF ASSOCIATED PUMPS, FANS, BLOWERS, ELECTRIC HEATERS, AND AIR CLEANERS. USE BRAIDED-TYPE BONDING STRAPS.
   8. CONCRETE-ENCASED GROUNDING ELECTRODE (GROUNDING BUILDING/STRUCTURE FOOTING): FABRICATE ACCORDING TO NEC ARTICLE 250 USING MINIMUM OF 20 FEET (6 METERS) OF BARE TINNED COPPER CONDUCTOR NOT SMALLER THAN NO. 4 AWG OR MINIMUM 20 FEET (6 METERS) REBAR 1/2 INCH OR LARGER IN DIAMETER. BOND GROUNDING CONDUCTOR TO REINFORCING STEEL TO AT LEAST 4 LOCATIONS, AND TO ANCHOR BOLTS. EXTEND GROUNDING CONDUCTOR UP IN FOUNDATION WALL.
H. CONNECTIONS
   1. MAKE CONNECTIONS SO POSSIBILITY OF GALVANIC ACTION OR ELECTROLYSIS IS MINIMIZED. SELECT CONNECTORS, CONNECTION HARDWARE, CONDUCTORS, AND CONNECTION METHODS SO METALS IN DIRECT CONTACT WILL BE GALVANICALLY COMPATIBLE.
      a. USE ELECTROPLATED OR HOT-TIN-COATED MATERIALS TO ASSURE HIGH CONDUCTIVITY AND TO MAKE CONTACT POINTS CLOSER IN ORDER OF GALVANIC SERIES.
      b. MAKE CONNECTIONS WITH CLEAN, BARE METAL AT POINTS OF CONTACT.
      c. MAKE ALUMINUM-TO-STEEL CONNECTIONS WITH STAINLESS-STEEL SEPARATORS AND MECHANICAL CLAMPS.
      d. MAKE ALUMINUM-TO-GALVANIZED STEEL CONNECTIONS WITH TIN-PLATED COPPER JUMPERS AND MECHANICAL CLAMPS.
      e. COAT AND SEAL CONNECTIONS HAVING DISSIMILAR METALS WITH INERT MATERIAL TO PREVENT FUTURE PENETRATION OF MOISTURE TO CONTACT SURFACES.
   2. EXOTHERMIC-WELDED CONNECTIONS: USE FOR CONNECTIONS TO STRUCTURAL STEEL AND FOR UNDERGROUND CONNECTIONS, EXCEPT THOSE AT TEST WELLS. COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS. WELDS THAT ARE PUFFED UP OR THAT SHOW CONVEX SURFACES INDICATING IMPROPER CLEANING ARE NOT ACCEPTABLE.
   3. EQUIPMENT GROUNDING-WIRE TERMINATIONS: FOR NO. 8 AWG AND LARGER, USE PRESSURE-TYPE GROUNDING LUGS. NO. 10 AWG AND SMALLER GROUNDING CONDUCTORS MAY BE TERMINATED WITH WINGED PRESSURE-TYPE CONNECTORS.
   4. NONCONTACT METAL RACEWAY TERMINATIONS: WHERE METALLIC RACEWAYS TERMINATE AT METAL HOUSINGS WITHOUT MECHANICAL AND ELECTRICAL CONNECTION TO HOUSING, TERMINATE EACH CONDUIT WITH A GROUNDING BUSHING. CONNECT GROUNDING BUSHINGS WITH BARE GROUNDING CONDUCTOR TO GROUNDING BUS OR TERMINAL IN HOUSING. BOND ELECTRICALLY NONCONTINUOUS CONDUITS AT BOTH ENTRANCES AND EXITS WITH GROUNDING BUSHINGS AND BARE GROUNDING CONDUCTORS, EXCEPT AS OTHERWISE INDICATED.
   5. TIGHTEN SCREWS AND BOLTS FOR GROUNDING AND BONDING CONNECTORS AND TERMINALS ACCORDING TO MANUFACTURER'S PUBLISHED TORQUE-TIGHTENING VALUES. WHERE THESE REQUIREMENTS ARE NOT AVAILABLE, USE THOSE SPECIFIED IN UL 486A AND UL 486B.
   6. COMPRESSION TYPE CONNECTIONS: USE HYDRAULIC COMPRESSION TOOLS TO PROVIDE CORRECT CIRCUMFERENTIAL PRESSURE FOR COMPRESSION CONNECTORS. USE TOOLS AND DIES RECOMMENDED BY MANUFACTURER OF CONNECTORS. PROVIDE EMBOSSING DIE CODE OR OTHER STANDARD METHOD TO MAKE VISIBLE INDICATION THAT CONNECTOR HAS BEEN ADEQUATELY COMPRESSED ON GROUNDING CONDUCTOR.
   7. MOISTURE PROTECTION: WHERE INSULATED GROUNDING CONDUCTORS ARE CONNECTED TO GROUNDING RODS OR GROUNDING BUSES, INSULATE ENTIRE AREA OF CONNECTION AND SEAL AGAINST MOISTURE PENETRATION OF INSULATION AND CABLE.

26 05 29 HANGERS AND SUPPORTS

A. CONDUIT HANGERS, ATTACHMENTS, AND SUPPORTS
   1. PROVIDE PROPER FITTINGS AND SUPPORT SUITABLE FOR AMBIENT/ENVIRONMENTAL CONDITIONS AND SERVICE DUTY.
   2. ATTACH TO STRUCTURAL COMPONENTS TO NOT JEOPARDIZE STRUCTURAL INTEGRITY.
   3. PROVIDE ANGLES, CHANNELS, AND BEAMS AS REQUIRED.
B. BACKBOARDS
   1. 3/4" PLYWOOD PAINTED ON BOTH SIDES AND EDGES WITH TWO COATS OF WHITE ENAMEL PAINT TO MOUNT EQUIPMENT WHERE SHOWN.
   2. SUPPORT WITH PAINTED OR GALVANIZED STEEL CHANNEL.
C. CONCRETE PADS
   1. COORDINATE FINAL EQUIPMENT CONCRETE PAD SIZE REQUIREMENTS. PADS SHALL EXTEND MINIMUM 2" BEYOND EQUIPMENT FOOTPRINT.

26 05 30 CONDUIT

A. RMC
   1. ALLOWED FOR ALL SIZES BELOW GRADE AND INSIDE ABOVE GRADE.
   2. REQUIRED WHERE CALLED OUT ON PLANS.
   3. REQUIRED FOR ALL SIZES OF OUTDOOR ABOVE GRADE CONDUIT.
   4. GALVANIZED RIGID STEEL REQUIRED FOR ALL UNDERGROUND 90 DEGREE BENDS.
   5. GALVANIZED RIGID STEEL WITH GALVANIZED RIGID STEEL FITTINGS, THREADED WATERTIGHT.
B. EMT
   1. ALLOWED FOR INSIDE ABOVE GRADE CONDUIT 2" AND SMALLER.
   2. STEEL SET SCREW OR COMPRESSION TYPE FITTINGS WITH INSULATED THROAT.
   3. CAST METAL SET SCREW FITTINGS NOT ALLOWED.
C. ENT
   1. SIZES: MINIMUM 1/2", MAXIMUM 1".
   2. ALLOWED FOR ABOVE GRADE CONDUIT WHICH IS CONCEALED INSIDE NON-RATED WALLS AND WHERE PERMITTED BY CODE AND LOCAL AUTHORITY HAVING JURISDICTION.
   3. SUPPORT MINIMUM EVERY TWO FEET.
D. FLEXIBLE
   1. MINIMUM SIZE 1/2".
   2. MAXIMUM LENGTH 36" FOR CONNECTION TO HVAC EQUIPMENT
   3. MAXIMUM LENGTH 72" FOR CONNECTION TO FIXTURES IN TILE CEILINGS.
   4. STEEL FITTINGS WITH INSULATED THROAT, UL LISTED.
E. PVC
   1. USE FOR CONDUIT IN CONCRETE, UNDER FLOOR SLABS, OR IN EARTH WHEN PERMITTED BY CODE AND LOCAL ORDINANCES.
   2. MINIMUM SIZE 3/4".
   3. SCHEDULE 40 PVC.
F. FITTINGS
   1. FITTING MATERIAL SHALL MATCH CONDUIT MATERIAL UNLESS OTHERWISE NOTED IN PLANS AND SPECIFICATIONS OR WITH WRITTEN APPROVAL BY ENGINEER.
G. INSTALLATION
   1. DRAWINGS AND DIAGRAMS SHOW SIZE AND APPROXIMATE LOCATION OF CONDUIT. THE DRAWINGS ARE DIAGRAMMATIC AND SHALL NOT BE SCALED TO DETERMINE EXACT LOCATION. PROVIDE ADDITIONAL OFFSETS AS REQUIRED FOR FIELD CONDITIONS. ROUTE CONDUIT IN ORDERLY MANNER, PARALLEL TO BUILDING STRUCTURE. CONCEAL CONDUIT IN FINISHED AREAS.
   2. INSTALL UL APPROVED EXPANSION FITTINGS COMPLETE WITH GROUNDING JUMPERS WHERE CONDUITS CROSS BUILDINGS EXPANSION JOINTS AND IN LONG CONDUIT RUNS WHERE DIFFERENTIAL EXPANSION OR CONTRACTION WOULD CAUSE BENDING OR SEPARATION.
   3. WHERE CONDUIT IS INSTALLED IN EXISTING WALLS, FLOORS OR HARD CEILINGS THE CONTRACTOR SHALL CUT AND PATCH SURFACES TO MATCH EXISTING FOR INSTALLING CONDUIT AND RACEWAYS. THE CUTTING AND PATCHING SHALL BE DONE BY THIS CONTRACTOR TO THE SATIFACTION OF THE GENERAL CONTRACTOR.
   4. INSTALL CONDUIT WITH ADEQUATE DRAINAGE.
   5. PROVIDE PULL STRING IN ALL EMPTY CONDUITS.
   6. WHEN REQUIRED BY STATE AND LOCAL CODES AND ORDINANCES, PROVIDE SEPARATE CONDUIT/RACEWAY FOR FIRE ALARM AND TELECOMMUNICATION SYSTEMS.
   7. ROUTE CONDUIT ABOVE LAY-IN SUSPENDED CEILINGS SO AS NOT TO INTERFERE WITH TILE REMOVAL.
   8. INSTALL FLEXIBL

ELECTRICAL SPECIFICATIONS (CONT.)

26 28 16 ENCLOSED DISCONNECT SWITCHES

A. ELECTRICAL COMPONENTS, DEVICES, AND ACCESSORIES: LISTED AND LABELED AS DEFINED IN NFPA 70, ARTICLE 100, BY A TESTING AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION, AND MARKED FOR INTENDED USE.
B. NONFUSIBLE SWITCH: TYPE GD WITH LOCKABLE HANDLE.
C. FUSIBLE SWITCH: TYPE HD WITH CLIPS TO ACCOMMODATE FUSES. HANDLE LOCKABLE IN OPEN AND CLOSED POSITION. HANDLE INTERLOCKED WITH COVER IN CLOSED POSITION WITH INTERLOCK BYPASS.
D. ENCLOSURES: NEMA AB 1 AND NEMA KS 1 TO MEET ENVIRONMENTAL CONDITIONS OF INSTALLED LOCATION.
   1. OUTDOOR LOCATIONS: NEMA 250 TYPE 3R.
   2. KITCHEN AREAS: NEMA 250 TYPE 4X, STAINLESS STEEL.
   3. OTHER WET OR DAMP INDOOR LOCATIONS: NEMA 250 TYPE 4.
   4. HAZARDOUS AREAS INDICATED ON DRAWINGS: NEMA 250 TYPE 7C
E. MANUFACTURER'S STANDARD PRIME-COAT FINISH READY FOR FIELD PAINTING.
F. LABEL: EACH ENCLOSURE WITH ENGRAVED METAL OR LAMINATED-PLASTIC NAMEPLATE MOUNTED WITH CORROSION-RESISTANT SCREWS.
G. INSTALL EQUIPMENT GROUNDING CONNECTIONS FOR SWITCHES AND CIRCUIT BREAKERS WITH GROUND CONTINUITY TO MAIN ELECTRICAL GROUND BUS.
H. DEMONSTRATE PRODUCT CAPABILITY AND COMPLIANCE WITH REQUIREMENTS AFTER INSTALLATION AND AFTER ELECTRICAL CIRCUITRY HAS BEEN ENERGIZED.
   1. PERFORM VISUAL AND MECHANICAL INSPECTION AND ELECTRICAL TEST. CERTIFY COMPLIANCE WITH TEST PARAMETERS.
   2. CORRECT MALFUNCTIONING UNITS, ON-SITE WHERE POSSIBLE, AND RETEST TO DEMONSTRATE COMPLIANCE.

26 43 13 SURGE PROTECTION DEVICE

A. ACCEPTABLE MANUFACTURERS: APT, CUTLER HAMMER, CURRENT TECHNOLOGIES, LIEBERT, SQUARE D.
B. PROVIDE SURGE PROTECTION DEVICE, EXTERNALLY MOUNTED, FOR MAINBOARD(S) AND PANELBOARD(S) DESIGNATED ON THE ONELINE DIAGRAM. PROVIDE 60-AMP FEEDS FOR THE MAINBOARDS AND 30-AMP FEEDS FOR THE PANELBOARDS.
C. LENGTH OF CONDUCTORS FEEDING FREE STANDING UNITS EXCEEDING 3-FEET IN LENGTH SHALL BE INCREASED TWO CONDUCTOR SIZES AND SHALL NOT EXCEED 6-FEET.
D. SHOP DRAWING SUBMITTAL: PROVIDE A UL COMPLIANCE LETTER, OR A COPY OF LISTING CLASSIFICATION PAGE FROM THE UL ENGINEERING FILE.
E. UL 1449 THIRD EDITION, 1283 LISTED, AND IEEE C62.45 LISTED, MINIMUM 5 YEAR WARRANTY, REPLACEABLE MODULES. THE UNIT SHALL BE UL LISTED AND CARRY THE UL LABEL.
F. UNITS SHALL BE FREE STANDING.
G. EACH METAL OXIDE VARISTORS (MOV) SHALL BE INDIVIDUALLY FUSED OR SURGE RATED FUSES AND THERMAL CUTOUTS COORDINATED TO THE MOV FAILURE MODE CHARACTERISTICS SHALL BE PROVIDED.
H. THE UNIT SHALL BE UL 1283 LISTED AS AN ELECTROMAGNETIC INTERFERENCE FILTER.
I. FRONT PANEL ALARM WITH TEST SILENCE SWITCH.
J. OPERATIONAL INDICATORS TO INDICATE "CIRCUIT OPERATIONAL", "REDUCED PROTECTION", "LOSS OF PROTECTION".
K. THE SURGE PROTECTION DEVICE SHALL MAINTAIN MECHANICAL INTEGRITY DURING FAILURE MODE CONDITIONS.
L. MAINBOARD SURGE PROTECTION
   1. CAPABLE OF SURVIVING MORE THAN 12,000 CATEGORY C3 TRANSIENTS WITHOUT FAILURE OR DEGRADATION OF UL 1449 SUPPRESSION VOLTAGE RATING.
   2. SUITABLE FOR IEEE C62.41 CATEGORY C3 ENVIRONMENTS.
   3. PARALLEL CONNECTED FOR C3 APPLICATIONS.
   4. MINIMUM SURGE CAPACITY: 240KA/PHASE. L-N: 120KA. L-G: 120KA. N-G: 120KA.
M. PANELBOARD SURGE PROTECTION
   1. CAPABLE OF SURVIVING MORE THAN 3,000 CATEGORY C1 TRANSIENTS WITHOUT FAILURE OR DEGRADATION OF UL 1449 SUPPRESSION VOLTAGE RATING.
   2. SUITABLE FOR IEEE C62.41 CATEGORY C1 ENVIRONMENTS.
   3. PARALLEL CONNECTED FOR C1 APPLICATIONS.
   4. MINIMUM SURGE CAPACITY: 120KA/PHASE. L-N: 60KA. L-G: 60KA. N-G: 60KA.

DIVISION 27 COMMUNICATIONS

27 05 01 GENERAL COMMUNICATIONS REQUIREMENTS

A. SCOPE OF WORK:
   1. THE FOLLOWING SECTION SHALL PROVIDE THE INFORMATION REQUIRED FOR UNIFORM DESIGN, CONSTRUCTION AND INSTALLATION OF THE EQUIPMENT AT THIS FACILITY. IT IS NOT THE INTENT OF THIS SECTION TO COMPLETELY SPECIFY ALL DETAILS OF DESIGN, CONSTRUCTION AND INSTALLATION; NEVERTHELESS, EQUIPMENT SHALL IN ALL RESPECTS CONFORM TO THE HIGHEST STANDARDS OF ENGINEERING, DESIGN AND WORKMANSHIP.

B. QUALITY ASSURANCE:
   1. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO KNOW ALL APPLICABLE CODES AND ENSURE THAT ALL WORK AND EQUIPMENT MEETS OR EXCEEDS APPLICABLE NATIONAL STANDARDS, INCLUDING:
      a. THE AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)
      b. THE INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS (IEEE)
      c. THE NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)
      d. THE NATIONAL ELECTRICAL CODE (NEC)THE NATIONAL ELECTRICAL SAFETY CODE (NESC)
      e. THE UNDERWRITERS' LABORATORIES, INC. (UL).
      f. COMPLY WITH NFPA 70.
   2. ELECTRICAL COMPONENTS, DEVICES, AND ACCESSORIES:
      a. LISTED AND LABELLED AS DEFINED IN NFPA 70, ARTICLE 100, BY A TESTING AGENCY ACCEPTABLE TO AHJ'S, AND MARKED FOR INTENDED USE.
      b. COMPLY WITH TIA-568-C SERIES OF TELECOMMUNICATION STANDARDS:
         1). SECTIONS REQUIRING TESTING OF COPPER CABLE:
            a). CONTRACTOR SHALL FIELD-VERIFY EACH CABLE AND ITS TERMINATIONS IAW TIA-568-C.2 — BALANCED TWISTED-PAIR TELECOMMUNICATION CABLING AND COMPONENTS STANDARD. THREE COPIES OF THIS REPORT SHALL BE PROVIDED TO THE OWNER AS PART OF RECORD DRAWINGS.
         2). SECTIONS THAT REQUIRE OPTICAL FIBER CABLING AND COMPONENTS:
            a). CONTRACTOR SHALL FIELD-VERIFY ALL COMPONENTS AND COMPLY WITH TIA-568-C.3 — OPTICAL FIBER CABLING COMPONENTS STANDARD. THREE COPIES OF THIS REPORT SHALL BE PROVIDED TO THE OWNER AS PART OF RECORD DRAWINGS
      c. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE ALL ELECTRICAL CONSTRUCTION AND MATERIALS PROVIDED MEETS SEISMIC ZONE STANDARDS FOR THE building LOCATION WHERE PROJECT IS BEING IMPLEMENTED.
      d. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO KNOW ALL APPLICABLE CODES AND ENSURE THAT ALL WORK AND EQUIPMENT MEETS OR EXCEEDS ALL APPLICABLE STATE AND CITY ELECTRICAL CODES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE PROPER LICENSED PERSONNEL TO PERFORM ANY WORK AT OWNER FACILITIES BASED UPON STATE AND LOCAL CODES.
      e. ALL ELECTRICAL WORK WILL REQUIRE INSPECTIONS BY THE LOCAL GOVERNING AGENCIES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ACQUIRE ALL NECESSARY PERMITS, AND PROVIDE SCHEDULING AND REPRESENTATION DURING INSPECTION.
      f. COORDINATE THE FEATURES OF MATERIALS AND EQUIPMENT SO THEY FORM AN INTEGRATED SYSTEM. MATCH COMPONENTS AND INTERCONNECTIONS FOR OPTIMUM FUTURE PERFORMANCE.

C. GENERAL REQUIREMENTS:
   2. OWNER FURNISHED EQUIPMENT (OFE):
      a. WHEN REQUIRED TO INSTALL OFE, CONTRACTOR SHALL ENSURE COMPLIANCE WITH THE SECTION SPECIFICATION AND NOTIFY OWNER IF EQUIPMENT FURNISHED BY OWNER IS INSUFFICIENT OR WILL NOT ALLOW COMPLIANCE.
      b. ANY SUBSTITUTED EQUIPMENT SPECIFIED HEREIN TO BE OFE INSTALLED BY CONTRACTOR THAT IS NOT A PRE-APPROVED SUBSTITUTION, SHALL BE REMOVED AND REPLACED BY CONTRACTOR WITH THE APPROVED OFE COMPONENT WITHOUT COST TO OWNER.

D. INSTALLATION MEANS AND METHODS:
   1. EXECUTION OF WORK:
      a. ALL METHODS OF CONSTRUCTION AND DETAILS OF WORKMANSHIP, WHERE NOT SPECIFICALLY DESCRIBED IN THIS SPECIFICATION OR SHOWN IN THE PLANS ARE SUBJECT TO THE FINAL APPROVAL OF THE OWNER. ALL CONTRACTORS SHALL CONSULT THE (GC) IF IN QUESTION AS TO THE METHOD OR MATERIAL TO BE EMPLOYED DURING INSTALLATION. ALL WORK DEEMED NOT ACCEPTABLE BY THE (GC) SHALL BE REWORKED, AT COST TO THE CONTRACTOR, UNTIL SUCH CONDITIONS AS CORRECTED ARE DEEMED ACCEPTABLE TO THE APPROPRIATE (GC) PROJECT REPRESENTATIVE.
      b. PROVIDE QUALITY WORKMANSHIP EQUAL TO THE HIGHEST PREVAILING IN THE CONSTRUCTION INDUSTRY.
   2. BONDING AND GROUNDING:
      a. THE CONDUIT SYSTEM SHALL NOT BE CONSIDERED SUITABLE FOR EQUIPMENT GROUNDING.
      b. BONDING THE NEUTRAL TO EARTH GROUND SHALL NOT BE DONE ANYWHERE EXCEPT AT THE SECONDARY SIDE OF THE CONTROL TRANSFORMER WHERE IT MUST BE DONE (INCLUDING CONTROL VOLTAGE TRANSFORMERS).
   3. GENERAL WIRING REQUIREMENTS:
      a. USE TECHNIQUES, PRACTICES, AND METHODS THAT ARE CONSISTENT WITH EIA/TIA-568 RATING OF COMPONENTS AND THAT ENSURE CATEGORY PERFORMANCE LEVEL FOR THE COMPLETED AND LINKED SIGNAL PATHS, END TO END.
      b. USE UL-LISTED PLENUM CABLE IN ENVIRONMENTAL AIR SPACES, INCLUDING PLENUM CEILINGS AS REQUIRED. UNLESS SPECIFIED OTHERWISE, INSTALL WIRING IN RACEWAY AND CABLE TRAY EXCEPT WITHIN CONSOLES, CABINETS, DESKS, AND COUNTERS.
      c. THE MAXIMUM ALLOWABLE CABLE LENGTH IS 295 FEET (90 M).
      d. MAKE SPLICES, TAPS, AND TERMINATIONS ONLY AT INDICATED OUTLETS, TERMINALS, AND CROSS-CONNECT AND PATCH PANELS.
      e. USE SPLICE AND TAP CONNECTORS COMPATIBLE WITH MEDIA TYPES IAW MANUFACTURERS INSTRUCTIONS.:
      f. ALL WIRES LEAVING ENCLOSURES SHALL BE INSTALLED IN CONDUITS OR SUITABLE RACEWAYS.
      g. PROVIDE AND INSTALL ADDITIONAL, APPROPRIATE NEMA-RATED JUNCTION AND PULL BOXES WHEREVER NECESSARY TO FACILITATE THE INSTALLATION OF WIRES AND CABLES.
      h. ALL BACKBONE CABLING SHALL HAVE A MINIMUM 25FT SLACK LOOP INSTALLED AT EACH INTERIOR IDF AND MDF. PROVIDE A 25FT SLACK LOOP IN EACH EXTERIOR HANDHOLE JUNCTION AND AT FIRST EXTERIOR CABLE BUILDING TERMINATION POINT.
      i. ALL HORIZONTAL STATION CABLING SHALL HAVE A 10FT SLACK LOOP MANAGED IN THE IDF ROOM. HORIZONTAL STATION CABLING SHALL BE ROUTED TO THE BOTTOM OF THE VERTICAL CABLE MANAGEMENT SYSTEM BEFORE BEING TERMINATED AT THE ASSOCIATED PATCH PANEL LOCATION.

E. PROJECT COMPLETION:
   1. WARRANTY:
      a. THE WARRANTY SHALL BE COMPREHENSIVE. NO DEDUCTIBLES SHALL BE ALLOWED FOR TRAVEL TIME, SERVICE HOURS, AND REPAIR PARTS COST.
      b. SUBMIT A WRITTEN WARRANTY EXECUTED BY THE INSTALLER AGREEING TO REPAIR OR REPLACE ANY CABLING THAT FAILS WITHIN THE WARRANTY PERIOD.
      c. DURING THE WARRANTY PERIOD THERE SHALL BE NO CHARGES TO THE OWNER FOR SERVICE CALLS FOR WARRANTY WORK. HOWEVER, WHEN SERVICE WORK IS REQUIRED TO REPAIR ITEMS DAMAGED BY NEGLECT, MISUSE, OR VANDALISM, COSTS SHALL BE REIMBURSED TO THIS CONTRACTOR.
      d. THE WARRANTY SHALL NOT DEPRIVE THE OWNER OF OTHER RIGHTS THE OWNER MAY HAVE UNDER OTHER PROVISIONS OF THE CONTRACT DOCUMENTS AND WILL BE IN ADDITION TO AND RUN CONCURRENT WITH OTHER WARRANTIES MADE BY THE CONTRACTOR UNDER THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.

27 05 26 BONDING AND GROUNDING

A. ABBREVIATIONS AND DEFINITIONS:
   1. ABBREVIATIONS:
      a. BCT- BONDING CONDUCTOR FOR TELECOMMUNICATIONS
      b. GE — GROUNDING EQUALIZER
      c. TBB — TELECOMMUNICATIONS BONDING BACKBONE
      d. TGB — TELECOMMUNICATIONS GROUNDING BUSBAR
      e. TMGB — TELECOMMUNICATIONS MAIN GROUNDING BUSBAR
   2. DEFINITIONS:
      a. BONDING — THE PERMANENT JOINING OF METALLIC PARTS TO FORM AN ELECTRICALLY CONDUCTIVE PATH THAT WILL ASSURE ELECTRICAL CONTINUITY AND THE CAPACITY TO CONDUCT SAFELY ANY CURRENT LIKELY TO BE IMPOSED.
      b. BONDING CONDUCTOR FOR TELECOMMUNICATIONS (BCT) — A CONDUCTOR THAT INTERCONNECTS THE TELECOMMUNICATIONS BONDING INFRASTRUCTURE TO THE BUILDING'S SERVICE EQUIPMENT (POWER) GROUND.
      c. GROUNDING EQUALIZER (GE) — A conductor that BONDS TBB'S USED IN MULTISTORY BUILDINGS. WHEN TWO OR MORE TBB'S ARE USED IN A MULTISTORY BUILDING, THE TBB'S SHALL BE BONDED TOGETHER WITH A GROUNDING EQUALIZER (GE) AT THE TOP FLOOR AND AT A MINIMUM OF EVERY THIRD FLOOR IN BETWEEN TO THE LOWEST FLOOR LEVEL.
      d. TELECOMMUNICATIONS BONDING BACKBONE (TBB) — A CONDUCTOR THAT INTERCONNECTS THE TELECOMMUNICATIONS MAIN GROUNDING BUSBAR (TMGB) TO THE TELECOMMUNICATIONS GROUNDING BUSBAR (TGB).
      e. TELECOMMUNICATIONS GROUNDING BUSBAR (TGB) — THE INTERFACE TO THE BUILDING TELECOMMUNICATIONS GROUNDING SYSTEM GENERALLY LOCATED IN TELECOMMUNICATIONS ROOM.
      f. TELECOMMUNICATIONS MAIN GROUNDING BUSBAR (TMGB) — A BUSBAR PLACED IN A CONVENIENT AND ACCESSIBLE LOCATION AND BONDED BY MEANS OF THE BONDING CONDUCTOR FOR TELECOMMUNICATIONS TO THE BUILDING SERVICE EQUIPMENT (POWER) GROUND.
      g. TELECOMMUNICATIONS ROOM — THE LOCATION OF THE COMMON ACCESS POINT FOR BACKBONE AND HORIZONTAL PATHWAYS

B. BONDING AND GROUNDING:
   1. GENERAL REQUIREMENTS:
      a. GROUNDING MUST CONFORM TO APPLICABLE BUILDING CODES AS WELL AS ANSI-J-STD-607-A AND THE NEC.
      b. GROUND CABLE SHIELDS, DRAIN CONDUCTORS, AND EQUIPMENT TO ELIMINATE SHOCK HAZARD AND TO MINIMIZE GROUND LOOPS, COMMON-MODE RETURNS, NOISE PICKUP, CROSS TALK, AND OTHER IMPAIRMENTS.
      c. BOND SHIELDS AND DRAIN CONDUCTORS TO GROUND AT ONLY ONE POINT IN EACH CIRCUIT.
      d. SHORT METALLIC PATHWAYS (WALL AND FLOOR SLEEVES) ARE NOT REQUIRED TO BE BONDED.
   2. TELECOMMUNICATIONS MAIN GROUNDING (TMGB) REQUIREMENTS:
      a. THE (TMGB) SHALL BE UL LISTED, A MINIMUM 1/4" THICK, 4" WIDE, 12" IN LENGTH AND BE INSULATED FROM ITS SUPPORT BY A MINIMUM OF 2".
      b. THE (TMGB) SHALL SERVE TELECOMMUNICATIONS EQUIPMENT THAT IS LOCATED IN THE SAME ROOM.
      c. LOCATE (TMGB) NEAR THE TELECOMMUNICATIONS SERVICE ENTRANCE AND THE ELECTRICAL SERVICE ENTRANCE. IT SHOULD ALSO BE LOCATED SO THAT IT IS ACCESSIBLE TO TELECOMMUNICATIONS PERSONNEL
      d. BUSBAR SHALL BE CLEANED PRIOR TO FASTENING OF CONDUCTORS AND AN ANTI-OXIDANT SHOULD BE APPLIED TO THE CONTACT AREA TO CONTROL CORROSION AND REDUCE CONTACT RESISTANCE.
   3. TELECOMMUNICATIONS GROUNDING BUSBAR (TGB) REQUIREMENTS:
      a. THE (TGB) SHALL BE UL LISTED, A MINIMUM 1/4" THICK, 2" WIDE, 12" IN LENGTH AND BE INSULATED FROM ITS SUPPORT BY A MINIMUM OF 2"
      b. ALL TGB'S SHALL BE BONDED together back to the trngb.
      c. ALL METALLIC RACEWAYS FOR TELECOMMUNICATIONS CABLING located in the same room as the idf or mdf shall be connected to the associated tgb.
      d. CONNECTIONS TO THE (TGB) SHALL UTILIZE LISTED COMPRESSION LUGS, SUITABLE AND EQUIVALENT ONE HOLE NON-TWISTING LUGS OR OTHER IRREVERSIBLE COMPRESSION TYPE CONNECTIONS. TWO-HOLE LUGS ARE PREFERRED.
      e. MULTIPLE (TGB)'S MAY BE INSTALLED WITHIN THE SAME TELECOMMUNICATIONS ROOM TO AID IN MINIMIZING BONDING CONDUCTOR LENGTHS AND TERMINATING SPACE.
   4. BONDING CONDUCTOR FOR TELECOMMUNICATIONS (BCT) REQUIREMENTS:
      a. (BCT) BONDING CONDUCTOR SHALL BOND THE (TMGB) TO THE SERVICE EQUIPMENT GROUND AND SHALL BE 4/0 bare copper conductor.
      b. CONNECTIONS SHALL UTILIZE EXOTHERMIC WELDING (BELOW GRADE), LISTED COMPRESSION LUGS, SUITABLE AND EQUIVALENT ONE HOLE NON-TWISTING LUGS OR OTHER IRREVERSIBLE COMPRESSION TYPE CONNECTIONS. TWO-HOLE LUGS ARE PREFERRED.
   5. TELECOMMUNICATIONS BONDING BACKBONE (TBB) REQUIREMENTS:
      a. THE (TBB) SHALL BE NO LESS THAN #6 AWG AND NO MORE THAN 1'3' IN LENGTH. IT SHALL ORIGINATE AT THE (TMGB) AND INTERCONNECT ALL (TGB)'S WITH THE (TMGB) THROUGHOUT THE BUILDING USING THE TELECOMMUNICATIONS BACKBONE PATHWAYS.
      b. (TBB) CONDUCTORS SHALL BE INSTALLED WITHOUT SPLICES UNLESS LOCATED IN TELECOMMUNICATIONS SPACES, JOINED SEGMENTS OF A PLENUM IS SHALL BE CONNECTED USING EXOTHERMIC WELDING, IRREVERSIBLE COMPRESSION-TYPE CONNECTORS, OR EQUIVALENT. IF (TBB) IS INSULATED, IT SHALL MEET THE FIRE RATINGS OF ITS PATHWAY.
      c. THE METALLIC CABLE SHIELD OR INTERIOR PIPING SYSTEM OF THE BUILDING SHALL NOT BE USED AS A (TBB).
      d. IF LONGER LENGTHS ARE REQUIRED, A LARGER AWG CONDUCTOR IS REQUIRED AS SHOWN BELOW:
         1). 14' TO 20' - #4 AWG
         2). 21' TO 26' - #3 AWG
         3). 27' TO 33' - #2 AWG
         4). 34' TO 41' - #1 AWG
         5). 42' TO 52' - 1/0 AWG
         6). 53' TO 66' - 2/0 AWG
         7). OVER 66' - 3/0 AWG
   6. GROUNDING EQUALIZER (GE) REQUIREMENTS:
      a. THE (GE) CONNECTS ELEMENTS OF THE TELECOMMUNICATIONS GROUNDING INFRASTRUCTURE IN BUILDINGS WITH MULTIPLE STORIES AND SHALL BE SIZED AS THE LARGEST GAUGE (TBB).
      b. WHEN TWO OR MORE TGB's ARE USED IN A MULTISTORY BUILDING, THE TGB's SHALL BE BONDED TOGETHER WITH A (GE) AT THE TOP FLOOR AND AT A MINIMUM OF EVERY THIRD FLOOR IN BETWEEN TO THE LOWEST FLOOR.

27 10 00 STRUCTURED CABLING SYSTEM

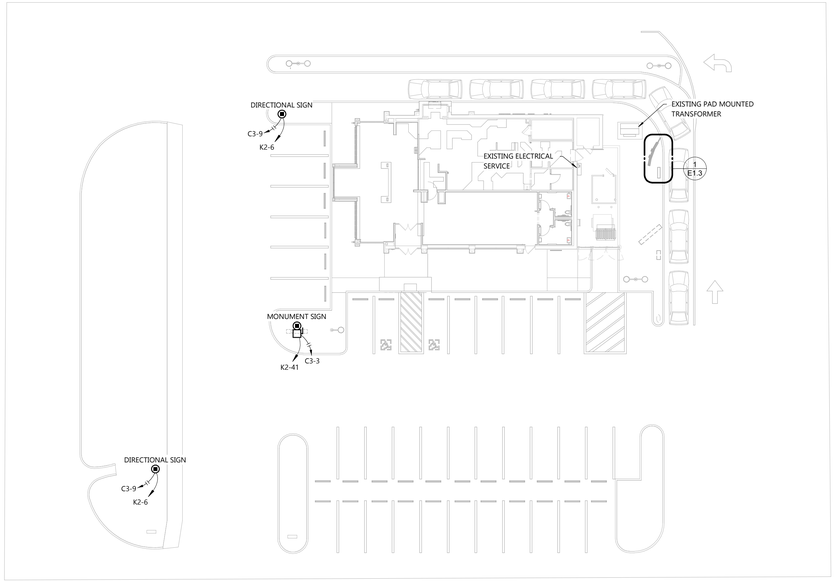
A. SCOPE OF WORK:
   1. PROVIDE WIRES, CABLES AND SUPPORTING EQUIPMENT AS SPECIFIED BELOW AND SHOWN ON PLANS:
B. ABBREVIATIONS AND DEFINITIONS:
   1. ABBREVIATIONS:
      a. CABLE TYPES:
         1). UTP — UNSHIELDED TWISTED PAIR
         2). F/UTP (FTP) — AN OVERALL FOIL SHIELD WITH UNSHIELDED TWISTED PAIRS (UTP).
         3). S/UTP (STP) — AN OVERALL BRAID SCREEN WITH UNSHIELDED TWISTED PAIRS (UTP).
         4). S/FTP — AN OVERALL FOIL SHIELD WITH INDIVIDUALLY SHIELDED TWISTED PAIRS
      b. CP — CONSOLIDATION POINT
      c. MDF — MAIN DISTRIBUTION FACILITY
      d. HC — HORIZONTAL CROSS-CONNECT
      e. IDC — INSULATION DISPLACEMENT CONNECTOR
      f. IDF — INTERMEDIATE DISTRIBUTION FACILITY
      g. MDF — MAIN DISTRIBUTION FRAME
      h. PVC — POLYVINYL CHLORIDE
      i. TIA — TELECOMMUNICATION INDUSTRY ASSOCIATION
      j. TIA-FOCIS: FIBER OPTIC CONNECTOR INTERMATEABILITY STANDARD
      k. TR — TELECOMMUNICATIONS ROOM
      l. UTP — UNSHIELDED TWISTED PAIR (CABLE)
   2. DEFINITIONS:
      a. BACKBONE CABLE (TRUNK CABLE) — CABLES THAT PERMIT CONNECTION BETWEEN SYSTEM DISTRIBUTION POINTS OR FRAMES.
      b. CONSOLIDATION POINT — AND INTERCONNECTION SCHEME THAT CONNECTS HORIZONTAL CABLES THAT EXTEND FROM BUILDING PATHWAYS TO HORIZONTAL CABLES THAT EXTEND INTO WORK AREA PATHWAYS
      c. CROSS-CONNECT — A FACILITY ENABLING TERMINATION OF CABLES AND THEIR CONNECTION VIA PATCH CORDS OR JUMPERS.
      d. ENTRANCE FACILITY — THIS AREA PROVIDES THE ENTRANCE POINT FOR THE COMMUNICATION SERVICES THAT ENTER THE FACILITY FROM THE AP OR THE CABLE SERVICE PROVIDER. LIGHTNING PROTECTION SHALL BE INSTALLED, UNLESS OTHERWISE NOTED. THIS IS WHERE THE OUTSIDE CABLE TYPE SHALL CONVERT TO INSIDE CABLING, UNLESS OTHERWISE NOTED. THE OUTSIDE CABLING CAN BE EXTENDED TO THE EQUIPMENT ROOM IN METAL CONDUIT. IT IS RECOMMENDED, HOWEVER NOT REQUIRED, THAT THE LIGHTNING PROTECTION BE INSTALLED AS SOON AS THE CABLE ENTERS THE BUILDING. THE ENTRANCE FACILITY MAY BE SHARED WITH OTHER SERVICES. THE LIGHTNING PROTECTION SHALL BE GROUNDED TO THE BUILDING MAIN GROUND (THIS CAN BE DONE BY ATTACHING TO THE TMGB).
      e. HORIZONTAL CABLING — THE CABLE USED TO CARRY THE INFORMATION FROM THE WORKSTATION OR END DEVICE TO THE LEAST SIGNIFICANT DISTRIBUTION POINT. FOR THE VOICE AND DATA THIS WILL BE THE TELECOMMUNICATIONS ROOM. THE PAGING, SECURITY, AND CATV WILL BE WHERE DISTRIBUTION POINTS ARE; NORMALLY THIS IS IN THE EQUIPMENT ROOM OR TELECOMMUNICATION ROOM OR EQUIPMENT ROOM.
      f. TELECOMMUNICATIONS ROOM (TR) — GENERALLY A 'FLOOR SERVING' FACILITY FOR HORIZONTAL CABLE DISTRIBUTION THAT MAY ALSO BE USED FOR INTERMEDIATE AND MAIN CROSS-CONNECTS. THIS LOCATION PROVIDES A COMMON ACCESS POINT FOR BACKBONE AND HORIZONTAL PATHWAYS

C. IDENTIFICATION AND LABELING
   1. USE A UNIQUE, THREE-SYLLABLE ALPHANUMERIC DESIGNATION FOR EACH CABLE, AND LABEL CABLE AND JACKS, CONNECTORS, AND TERMINALS TO WHICH IT CONNECTS WITH THE SAME DESIGNATION. USE LOGICAL AND SYSTEMATIC DESIGNATIONS FOR FACILITY'S ARCHITECTURAL ARRANGEMENT.
      a. FIRST SYLLABLE IDENTIFIES AND LOCATES WIRING CLOSET OR EQUIPMENT ROOM WHERE CABLE ORIGINATES.
      b. SECOND SYLLABLE IDENTIFIES AND LOCATES CROSS-CONNECT OR PATCH-PANEL FIELD IN WHICH CABLE TERMINATES.
      c. THIRD SYLLABLE DESIGNATES TYPE OF MEDIA (COPPER OR FIBER) AND POSITION OCCUPIED BY CABLE PAIRS OR FIBERS IN THE FIELD.
   2. WORKSTATIONS:
      a. LABEL CABLES WITHIN J-BOXES.
      b. FACEPLATES SHALL HAVE LABEL TABS ABOVE AND BELOW JACK INSERTS WITH CLEAR WINDOWS TO FACILITATE THE PRINTING OF LABELS
   3. DISTRIBUTION RACKS AND FRAMES:
      a. LABEL EACH UNIT AND FIELD WITHIN THAT UNIT.
      b. LABEL EACH PATCH PANEL JACK WITH CORRESPONDING STATION CABLING LOCATION.
   4. CABLES, GENERAL:
      a. WHERE INSTALLED IN CABINETS AND J-BOXES, LABEL EACH CABLE WITHIN 4 INCHES OF EACH TERMINATION AND TAP, WHERE IT IS ACCESSIBLE.
   5. CABLE SCHEDULES:
      a. SCHEDULES SHALL BE POSTED IN A PROMINENT LOCATION AT MDF AS FOLLOWS:
         1). LIST INCOMING AND OUTGOING CABLES AND THEIR DESIGNATIONS, ORIGINS, AND DESTINATIONS.
         2). PROTECT CABLE SCHEDULE WITH CLEAR PLASTIC COVER.
         3). PROVIDE ELECTRONIC COPY OF FINAL COMPREHENSIVE SCHEDULES FOR PROJECT, IN SOFTWARE AND FORMAT SELECTED BY OWNER OR OWNER'S IT STAFF AS DIRECTED.

D. INSTALLATION MEANS AND METHODS:
   1. RACEWAYS - CONDUIT
      a. ALL EXPOSED RACEWAY IN FINISHED AREAS SHALL BE PAINTED TO MATCH ADJACENT SURFACE COLOR.
      b. ALL LOW VOLTAGE WIRING IN DRY- THRU TUNNEL SHALL BE IN SEALED CONDUIT.
      c. RACEWAY IN PERMANENTLY CONCEALLED LOCATIONS SUCH AS, HOLLOW STUD WALLS, MASONRY, AND CHASES, ETC SHALL BE IN CONDUIT.
      d. STANDARD CONDUIT DROPS FOR VOICE, DATA AND OTHER LV SYSTEMS SHALL BE 1" IN DIAMETER UNLESS OTHERWISE NOTED ON PLANS.
      e. CONDUITS FEEDING TELEVISIONS, DISPLAYS OR FLOORBOXES CONTAINING AUDIO-VIDEO CABLES SHALL BE A MINIMUM SIZE OF 1.25" ID UNLESS OTHERWISE NOTED ON PLANS. AT NO TIME SHALL CONDUIT FILL EXCEED 40%.
      f. THERE SHALL BE NO MORE THAN TWO (2) 90-DEGREE BENDS IN CONDUIT BETWEEN PULL POINTS. IF A CONDUIT RUN REQUIRES MORE THAN TWO BENDS OR IF THE CONDUIT RUN IS IN EXCESS OF 100' IN TOTAL LENGTH, INSERT A PULL BOX. IF IT IS NOT PRACTICAL TO INSTALL A PULL BOX IN THE RUN DUE TO FIELD CONDITIONS, THE CONDUIT SIZE SHALL BE INCREASED TO THE NEXT TRADE SIZE FOR EACH ADDITIONAL 90-DEGREE BEND. OFFSETS SHALL BE CONSIDERED AS EQUIVALENT TO A 90-DEGREE BEND.
      g. ALL CONDUITS TO BE LABELED AT THE SOURCE BOX WITH THE DESTINATION BOX IN A CLEAR AND LOGICAL MANNER.
      h. ENDS OF ALL CONDUITS ARE TO BE DE-BURRED AND BUSHED. ALL CONDUITS NOT TERMINATING INSIDE A JBOX OR PULL BOX BUT TERMINATING INSIDE OF A RACK OR ENCLOSURE SHALL BE PROVIDED WITH PLASTIC INSULATED BUSHINGS.
      i. A POLY PULL-LINE SHALL BE PROVIDED IN EACH CONDUIT.
      j. FOR LINE VOLTAGE CONDUIT RUNS LONGER THAN 10 FEET, EC SHALL MAINTAIN A MINIMUM OF 24" SEPARATION FROM AUDIO OR VIDEO SIGNAL CONDUITS EXCEPT TO CROSS AT 90-DEGREE ANGLES WHEN NECESSARY.
   2. RACEWAY — FREE AIR:
      a. TELECOMMUNICATION CABLES SHALL BE INSTALLED FREE AIR ABOVE ACCESSIBLE SUSPENDED CEILING AREAS, IN IMP SPACES, IN WAREHOUSES, AND EXPOSED OFFICE AREAS.
      b. VERTICAL CABLING DROPS SHALL BE PROVIDED IN CONDUIT CONCEALED IN WALLS IN OFFICE SPACES. VERTICAL CABLE DROPS ON EXISTING WALLS SHALL BE IN CONDUIT BELOW 10'-0" ABOVE FINISHED FLOOR.
      c. PROVIDE AND INSTALL DEDICATED J-HOOK SYSTEM FOR DATA AND SEPARATE J-HOOK SYSTEM FOR OTHER SYSTEMS THROUGHOUT THE CEILING SPACE AND OTHER EXPOSED AREAS WHERE CABLES ARE RUN. THE "J" SHALL HAVE FLAT BOTTOM TO ELIMINATE SINGLE POINT STRESS ON CABLES SUPPORTED. MIN SIZE IS 1 5/16" (CADDY CAT21HP). MAINTAIN AT LEAST A 12" SEPARATION FROM FLUORESCENT OR NEON FIXTURES. A 40 — INCH SEPARATION FROM TRANSFORMERS, MOTORS OR OTHER SOURCES OF ELECTROMAGNETIC FIELDS AND A 36" SEPARATION FROM UNSHIELDED POWER CABLES.
      d. J-HOOK SPACING TO BE A MAXIMUM OF 60 - INCHES ON CENTER AND SHALL ALLOW FOR 50% SPARE CAPACITY IN ALL RUNS OF J HOOKS. PROVIDE ADDITIONAL RUNS AS REQUIRED TO MEET THIS REQUIREMENT.
      e. NON-DATA J-HOOK SYSTEMS SHALL BE RUN PARALLEL TO THE DATA AND FIRE ALARM J HOOK SYSTEMS.
      f. CONDUITS THAT ARE STUBBED INTO THE ACCESSIBLE CEILING SPACE THAT ARE ACTING AS CABLE RACEWAYS SHALL BE EXTENDED INTO THE NEAREST CORRIDOR SPACE, OR, AS AN OPTION, THE CONTRACTOR SHALL INSTALL A SLEEVE THROUGH ANY WALL SEPARATING THE ROOM FROM THE CORRIDOR AREA.
      g. CABLES SHALL BE ROUTED AT 90 DEGREES FROM THE ROOM TO THE J-HOOK SUPPORT SYSTEM IN THE CORRIDOR. THE CORRIDOR AREA SHALL GENERALLY BE DEFINED AS THE AREA WHERE THE J-HOOK SUPPORT SYSTEM SHALL BE INSTALLED. HOWEVER, IN THE EVENT THAT THERE IS NOT ADEQUATE CORRIDOR SPACE, THE J-HOOK SYSTEM MAY BE MOVED INTO THE ADJACENT ROOMS.
      h. J-HOOK SYSTEM SHALL BE INSTALLED IN STRAIGHT LINES PERPENDICULAR, RIGHT ANGLE TO THE BUILDING WALLS. GROUPS OF J-HOOKS SHALL BE USED WHERE THE SINGLE J-HOOK SYSTEM IS NOT ADEQUATE TO SUPPORT THE CABLING TO ALLOW FOR 50% SPARE CAPACITY.
      i. SUSPENDED CEILING SYSTEM SHALL NOT BE USED TO SUPPORT CABLES.
      j. CEILING JOISTS AND PERLINS MAY BE USED FOR CABLE SUPPORT PROVIDED THEY ARE NOT MORE THAN 60 - INCHES APART. PROVIDE A FLATE SURFACE FOR CABLE. CABLE SHALL NOT BE INSTALLED IN DECK FLUTES SPACE ABOVE JOISTS. CABLE SHALL RUN ABOVE BOTTOM CORD OF JOIST.
      k. BRIDAL RING SUPPORTS SHALL NOT BE PERMITTED
      l. FREE AIR CABLES SHALL NOT BE ROUTED THROUGH NON-ACCESSIBLE CEILING AREAS, UNLESS NOTED OTHERWISE ON THE DRAWING

GENERAL NOTES

- EXTERIOR RECEPTACLES SHALL BE GFI TYPE. PROVIDE PASS & SEYMOUR SERIES "WI UC" OR EQUIVALENT COVER. (PER NEC 406.8(B) AND AHJ). COLOR SHALL BE SELECTED BY ARCHITECT.
- SEE SHEET E4.0 FOR BRANCH CIRCUIT FEEDER SIZES.
- SEE HVAC AND PLUMBING PLANS FOR LOCATIONS OF HEATING, VENTILATING, AIR CONDITIONING AND PLUMBING EQUIPMENT. DO NOT REFERENCE ELECTRICAL DRAWINGS FOR EXACT LOCATION.



NORTH

SITE PLAN

SCALE: 1" = 20'-0"

0' 20' 40'

ELECTRICAL SITE PLAN

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Owner

PROJECT INFORMATION

PROPOSED QUICK SERVE RESTAURANT FOR:

OM GROUP - HAWAIIAN BROS - STR: 135

6421 E. 82ND ST. ● INDIANAPOLIS, IN 46250

PROFESSIONAL SEAL

SHEET DATES

ISSUED FOR CONSTRUCTION

IFC APR. 3, 2026

JOB NUMBER

250361400

SHEET NUMBER

E1.0

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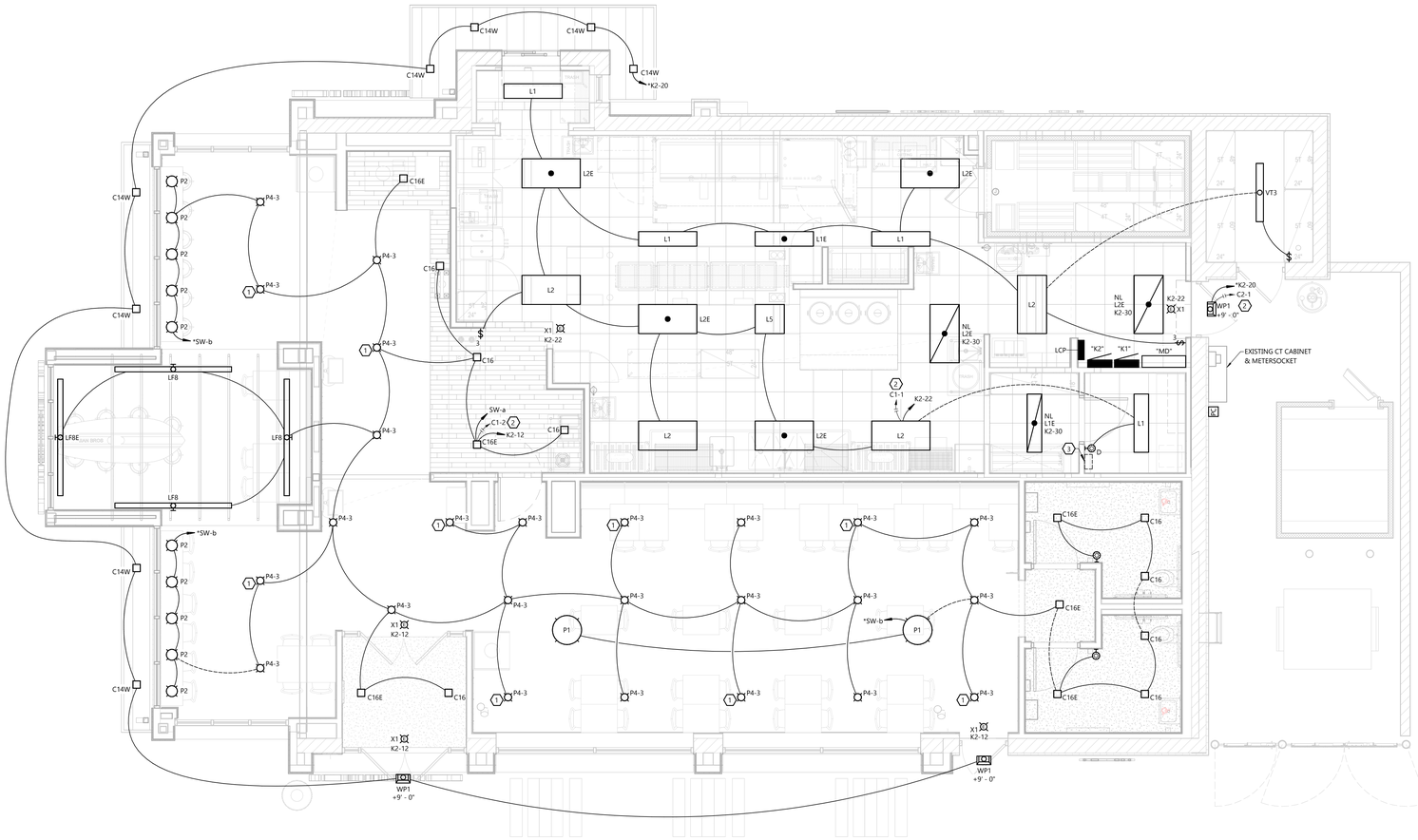

NORTH

FIRST FLOOR PLAN - LIGHTING

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

0' 4' 8'

TYPE	DESCRIPTION	VOLTAGE	LIGHT SOURCE	CCT	FIXTURE WATTS	MIN. LUMENS	DL PART #	REMARKS
C14W	6" RECESSED SQUARE WAFER DOWNLIGHT - DIMMABLE	120 V	LED	4,000K	13 VA	1,000	LITHONIA / WF6 SQ S LED 30K40K50K 90CRI MW	
C16	6" RECESSED SQUARE DOWNLIGHT - DIMMABLE	120 V	LED	2,700K	11 VA	1,000	DL163688	
C16E	6" RECESSED SQUARE DOWNLIGHT - DIMMABLE W/ EMERGENCY BATTERY	120 V	LED	2,700K	11 VA	1,000	DL163689	
L1	1X4 LAY-IN FLAT PANEL - 0-10V DIMMING	120 V	LED	3,500K	45 VA	4,700	DL160319	
L1E	1X4 LAY-IN FLAT PANEL - 0-10V DIMMING W/ EMERGENCY BATTERY	120 V	LED	3,500K	45 VA	4,700	DL163691	
L2	2X4 LAY-IN FLAT PANEL - 0-10V DIMMING	120 V	LED	3,500K	45 VA	4,700	DL157316	
L2E	2X4 LAY-IN FLAT PANEL - 0-10V DIMMING W/ EMERGENCY BATTERY	120 V	LED	3,500K	45 VA	4,700	DL163692	
L5	2X2 LAY-IN FLAT PANEL - 0-10V DIMMING	120 V	LED	3,500K	45 VA	4,700	DL162455	
L5E	2X2 LAY-IN FLAT PANEL - 0-10V DIMMING W/ EMERGENCY BATTERY	120 V	LED	3,500K	38 VA	4,000	DL163693	
LF8	8' WALL BRACKET - UP/DOWN DISTRIBUTION - WHITE HOUSING - DIMMABLE	120 V	LED	2,700K	33 VA	3,500	LEDALITE / 2926L922735WW087DEW	
LF8E	8' WALL BRACKET - UP/DOWN DISTRIBUTION - WHITE HOUSING - DIMMABLE- EMERGENCY BATTERY BACK-UP	120 V	LED	2,700K	33 VA	3,500	LEDALITE / 2926L922735WW08NDEW	
P1	DECORATIVE PENDANT - LED	120 V	LED	2,700K	40 VA	2,500	DL163695	(3)
P2	DECORATIVE MINI PENDANT - LED	120 V	LED	2,700K	9 VA	550	DL163696	(3)
P4-3	PENDANT MOUNT CYLINDER LIGHT - LED - DIMMABLE	120 V	LED	2,700K	21 VA	2,000	DL163697	(2)
VT3	LED VAPOR TIGHT	120 V	LED	3,500K	23 VA	4,000	DL138217	
WP1	EXTERIOR LED FULL CUT-OFF WALL PAK W/ EMERGENCY BATTERY	120 V	LED	4,000K	18 VA	-	DL154505	
X1	SINGLE FACE POLYCARBONATE EXIT - W/ BATTERY - RED LETTERS - SELF-DIAGNOSTICS	120 V	LED	-	5 VA	-	DL05111	

GENERAL NOTES

- FIXTURE MODEL NUMBER MAY NOT REFLECT ALL MOUNTING HARDWARE. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY MOUNTING EQUIPMENT, LENSES, STEMS, SAFETY CHAINS, END PLATES, AND ALL OTHER HARDWARE NECESSARY FOR A COMPLETE FIXTURE INSTALLATION. SEE MOUNTING DETAILS WHEN APPLICABLE.
- LINE VOLTAGE DRIVERS MAY BE SUBSTITUTED FOR "UNIVERSAL" OR "MULTI-VOLTAGE" DRIVERS.
- ALL LIGHT FIXTURE POLES SHALL BE RATED FOR WIND ZONE SITE IS LOCATED IN OR 100 MPH WINDS WHICHEVER IS GREATER.
- ALL FIXTURES SHALL BE UL OR ETL LISTED.
- ALL FIXTURES IN DIRECT CONTACT WITH INSULATION SHALL BE IC RATED OR INSULATION SHALL BE KEPT A MINIMUM OF 3" FROM ALL SIDES OF FIXTURES.

LED REQUIREMENTS

- ALL LED FIXTURES SHALL BE 3500K WITH A MINIMUM 80 PERCENT COLOR RENDERING INDEX UNLESS NOTED OTHERWISE.
- PROVIDE DIMMABLE DRIVERS FOR ALL FIXTURE TYPES SHOWN TO BE "DIMMABLE".
- CONTRACTOR SHALL VERIFY WITH HIS SUPPLIER(S) ALL DIMMERS AND DIMMABLE FIXTURES ARE 100% COMPATIBLE.
- PROVIDE DUAL CIRCUIT TYPE DRIVERS OR TWO DRIVERS PER FIXTURES WHEN FIXTURES ARE SHOWN ON PLANS TO BE "DUAL LEVEL" SWITCHED.
- ALL LED FIXTURES SHALL HAVE MINIMUM 50,000 L70.

REMARKS:

(1) PROVIDE FUSEBLOCK IN HANDHOLE OF POLE.
(2) PENDANT MOUNT FIXTURE 10'-2" AFF.
(3) PENDANT MOUNT FIXTURE 7'-0" AFF.

NOTE:

FIXTURES ARE PROVIDED AS PART OF NATIONAL ACCOUNT WITH CBMC LIGHTING SOLUTIONS. CONTACT DARRYL ZIDE FOR ORDERING OF FIXTURES.
PHONE:(760)601-6069
EMAIL:DZIDE@CBMCINC.COM

GENERAL NOTES

- VERIFY ALL EXPOSED CONDUIT ROUTING WITH ARCHITECT/ENGINEER WHERE CONDUIT IS EXPOSED IN FINISHED ROOMS.
- WIRE EMERGENCY LIGHTS UNSWITCHED TO LIGHTING CIRCUIT SERVING SAME ROOM, OR TO "NIGHT LIGHT" CIRCUIT WHEN AVAILABLE.
- COORDINATE LIGHT FIXTURE LOCATIONS IN MECHANICAL EQUIPMENT ROOMS WITH OTHER CONTRACTORS PRIOR TO ROUGH IN.
- SEE ARCHITECTURAL REFLECTED CEILING AND ELEVATION PLANS FOR LOCATION OF ALL LIGHTING FIXTURES. LOCATE FIXTURES IN ACCORDANCE WITH CEILING AND ELEVATION PLANS.
- DEVICE LOCATIONS MAY BE DISTORTED FOR CLARITY. LOCATE DEVICES SYMMETRICALLY WITH THE ARCHITECTURAL ELEMENTS.
- SEE LIGHTING FIXTURE LEGEND FOR FIXTURE WIRING INFORMATION.
- WIRE EMERGENCY LIGHTS UNSWITCHED TO LIGHTING CIRCUIT SERVING SAME ROOM, OR TO "NIGHT LIGHT" CIRCUIT WHEN AVAILABLE.
- EXISTING CONDUITS AND WIRING MAY BE RE-USED IF IN GOOD WORKING CONDITION AND MEETS REQUIREMENTS OF SPECIFICATIONS.

KEYNOTES

1. PROVIDE REMOTE MOUNT LED DRIVER IOTA-CP10 IN NEMA 1 ENCLOSURE. MOUNT CLOSE TO STRUCTURE AND PAINT TO MATCH. DRIVER TO PROVIDE EMERGENCY POWER FOR FIXTURE TYPE P4-3.
2. CIRCUIT NOTED SWITCH LEGS IN BRANCH CIRCUIT THUR TIMECLOCK CONTROLLED RELAY FOR AUTOMATIC ON/OFF CONTROL OF LIGHTING. SEE LIGHTING CONTROL SCHEDULE FOR ADDITIONAL INFORMATION.
3. SEE SWITCH BANK DETAIL 7/E3.0

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OM GROUP - HAWAIIAN BROS - STR: 135
6421 E. 82ND ST. • INDIANAPOLIS, IN 46250

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ELECTRICAL FIRST FLOOR PLAN - LIGHTING

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GENERAL NOTES

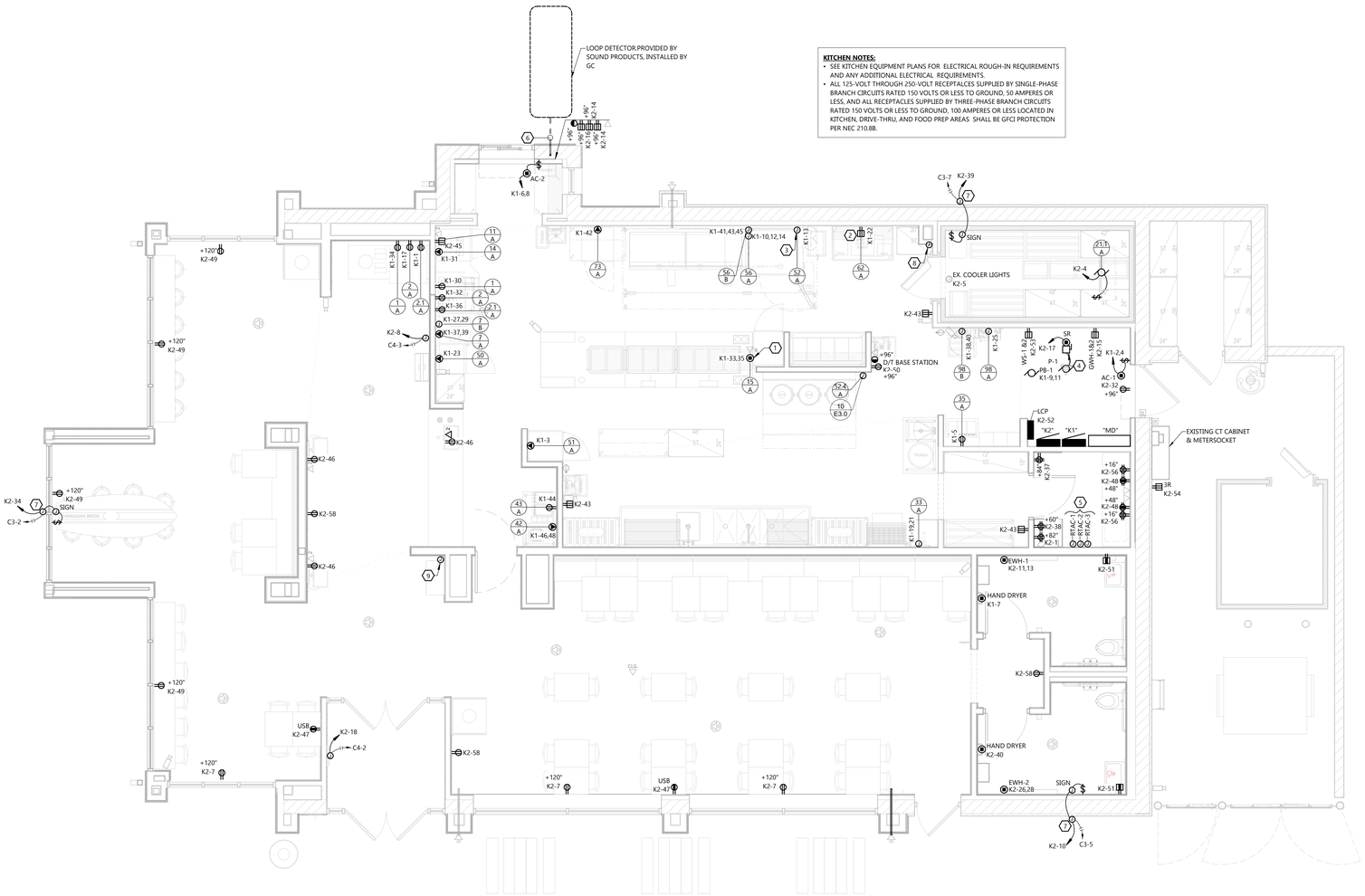
- VERIFY ALL EXPOSED CONDUIT ROUTING WITH ARCHITECT/ENGINEER WHERE CONDUIT IS EXPOSED IN FINISHED ROOMS.
- EXTERIOR RECEPTACLES SHALL BE GFI TYPE. PROVIDE PASS & SEYMOUR SERIES "WI UC" OR EQUIVALENT COVER. (PER NEC 406.8(B) AND AHJ). COLOR SHALL BE SELECTED BY ARCHITECT.
- ROUGH-IN RECEPTACLES FOR ELECTRIC WATER COOLERS (EWC) BEHIND UNIT. VERIFY LOCATION PRIOR TO ROUGH-IN.
- PROVIDE GFI PROTECTION FOR ALL SINGLE PHASE RECEPTACLES IN THE FOLLOWING LOCATIONS: BATHROOMS, KITCHENS, ROOFS, LOCKER ROOMS & SHOWERING FACILITIES, SERVING WATER COOLERS & VENDING MACHINES, GARAGES & SERVICE BAYS, WITHIN 6'-0" OF A SINK, AND ALL OTHER WET LOCATIONS.
- SEE SHEET E4.0 FOR BRANCH CIRCUIT FEEDER SIZES.
- ALL CONDUITS TO ISLAND CABINETRY AND TABLES SHALL BE UNDERGROUND.
- DEVICE LOCATIONS MAY BE DISTORTED FOR CLARITY. LOCATE DEVICES SYMMETRICALLY WITH THE ARCHITECTURAL ELEMENTS.
- SEE HVAC AND PLUMBING PLANS FOR LOCATIONS OF HEATING, VENTILATING, AIR CONDITIONING AND PLUMBING EQUIPMENT. DO NOT REFERENCE ELECTRICAL DRAWINGS FOR EXACT LOCATION.
- SEE HVAC SHEET PLANS FOR AREAS THAT ARE USED AS A RETURN AIR PLENUM. PROVIDE PLENUM RATED CONSTRUCTION.

KEYNOTES

1. CONNECT PRODUCTION COUNTER CIRCUIT BREAKER PANEL VIA UTILITY CHASE IN CEILING TO A 2-POLE, 50 AMP CIRCUIT BREAKER IN PANEL SHOWN. VERIFY ALL REQUIREMENTS WITH ACTUAL EQUIPMENT SPECIFIED IN KITCHEN PLANS. THE MANUFACTURER WILL FULLY PRE-WIRE THE COMPLETE PRODUCTION COUNTER LINE. THE UNITS WILL THEN BE PULLED APART FOR SHIPPING PURPOSES. ALL CONNECTION POINTS WILL BE MARKED. THE CONDUIT RUNS WILL BE COILED UP FOR FIELD INSTALLATION. SOME ELECTRICAL COMPONENTS MAY BE REMOVED FOR EASE OF DISASSEMBLING THE LINE-UP. THE ELECTRICAL CONTRACTOR WILL BE FULLY RESPONSIBLE FOR MAKING THE PROPER FIELD CONNECTIONS FROM THE ROUGH-IN LOCATION TO THE MANUFACTURER PROVIDED BREAKER PANEL BOX. IN ADDITION, THE ELECTRICAL CONTRACTOR WILL BE RESPONSIBLE FOR ANY SPLICE POINTS AND/OR JUNCTION BOXES THAT NEED TO BE RECONNECTED. SOME ELECTRICAL COMPONENT ASSEMBLY MAY ALSO BE REQUIRED.
2. RECEPTACLE TO BE MOUNTED HORIZONTALLY, SEE KITCHEN EQUIPMENT PLANS.
3. EC SHALL PROVIDE WIRING FROM UTILITY CONTROL PANEL TO LIGHTS ON SECOND HOOD.
4. PROVIDE POWER FROM SWITCHING RELAY TO PUMP. L.V. WIRING BY P.C. SEE WATER HEATER PIPING DETAIL ON P3.0. FOR MORE INFORMATION.
5. INSTALL DUCT SMOKE DETECTOR REMOTE INDICATOR LIGHT FOR EACH RTU HIGH ON WALL AT LOCATION SHOWN, BELOW CEILING LINE.
6. EC TO PROVIDE 1"C. FROM GROUND LOOP PROVIDED BY SOUND PRODUCTS AND INSTALLED BY GC TO ABOVE ACCESSIBLE CEILING. CONDUIT RUN NOT TO EXCEED 20' IN LENGTH. COORDINATE LOCATION OF GROUND LOOP WITH GC PRIOR TO ROUGH-IN.
7. PROVIDE JUNCTION BOX(ES) WITH LOCAL TOGGLE SWITCH DISCONNECT LOCATED ABOVE ACCESSIBLE CEILING AND ASSOCIATED 120V, 1Ø, 20 AMP CIRCUIT(S) FOR SIGNAGE. FIELD VERIFY EXACT ROUGH-IN LOCATION. CIRCUIT THRU TIMECLOCK CONTROLLED RELAY FOR AUTOMATIC ON/OFF CONTROL OF LIGHTING.
8. PROVIDE 18/2 WIRE FROM TEMPERATURE SENSOR CONTROLLER (PROVIDED BY OTHERS) LOCATED ABOVE DOOR IN OFFICE TO EXTERNAL SENSOR (PROVIDED BY OTHERS) LOCATED ON COOLER.
9. PROVIDE 18/2 WIRE FROM WIRELESS BOOSTER CONTROLLER (PROVIDED BY OTHERS) LOCATED ABOVE DOOR IN OFFICE TO WIRELESS BOOSTER (PROVIDED BY OTHERS).

KITCHEN NOTES:

- SEE KITCHEN EQUIPMENT PLANS FOR ELECTRICAL ROUGH-IN REQUIREMENTS AND ANY ADDITIONAL ELECTRICAL REQUIREMENTS.
- ALL 125-VOLT THROUGH 250-VOLT RECEPTACLES SUPPLIED BY SINGLE-PHASE BRANCH CIRCUITS RATED 150 VOLTS OR LESS TO GROUND, 50 AMPERES OR LESS, AND ALL RECEPTACLES SUPPLIED BY THREE-PHASE BRANCH CIRCUITS RATED 150 VOLTS OR LESS TO GROUND, 100 AMPERES OR LESS LOCATED IN KITCHEN, DRIVE-THRU, AND FOOD PREP AREAS SHALL BE GFCI PROTECTION PER NEC 210.88.



NORTH

FIRST FLOOR PLAN - POWER

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

0' 4' 8'

ELECTRICAL FIRST FLOOR PLAN - POWER

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PROJECT INFORMATION

PROPOSED QUICK SERVE RESTAURANT FOR:

OM GROUP - HAWAIIAN BROS - STR: 135

6421 E. 82ND ST. ● INDIANAPOLIS, IN 46250

PROFESSIONAL SEAL

SHEET DATES

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250361400

SHEET NUMBER

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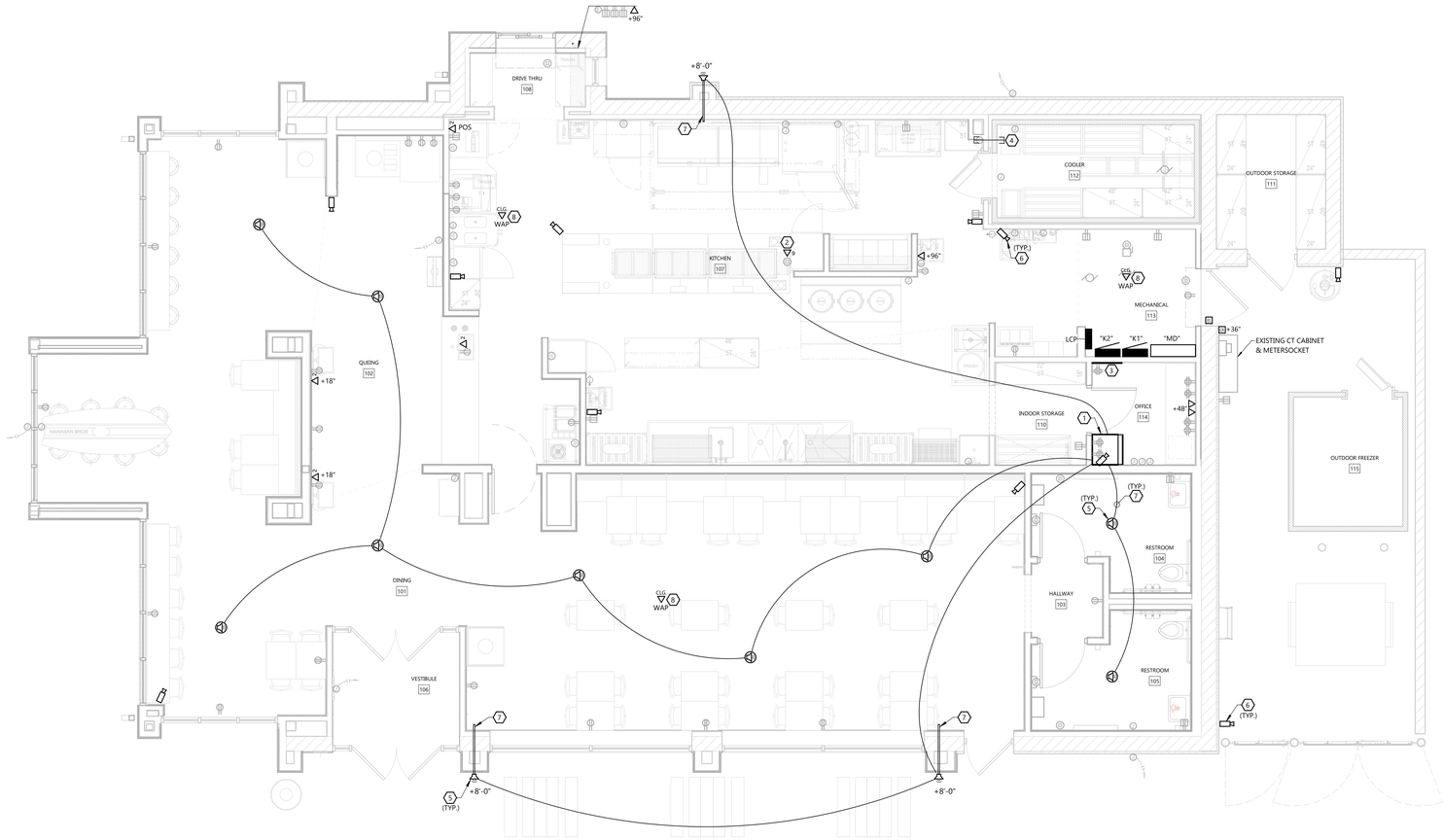
GENERAL NOTES

- VERIFY ALL EXPOSED CONDUIT ROUTING WITH ARCHITECT/ENGINEER WHERE CONDUIT IS EXPOSED IN FINISHED ROOMS.
- ALL CONDUITS TO UNDERGROUND CABINETRY AND TABLES SHALL BE UNDERGROUND.

KEYNOTES

1. PROVIDE WAVENET CBTF-WM18U-SW 18U AND CBTF-WM9U-SW 9U WALL MOUNT RACK. VERIFY MOUTING HEIGHT WITH OWNER. REFER TO DETAIL 6/E3.0 FOR MORE INFORMATION.
2. PROVIDE (9) INDIVIDUAL DATA RUNS FROM DATA RACK IN OFFICE TO PRODUCTION COUNTER VIA CHASE UTILITY CHASE TO CEILING FURNISHED WITH PRODUCTION LINE. LAND (6) DATA RUNS ON SCREENS MOUNTED TO PRODUCTION LINE, (2) PRINTERS LOCATED ON PRODUCTION LINE, COIL (1) DATA LINE FOR SPARE WITH-IN PRODUCTION LINE. RUN DATA LINES FROM CEILING THROUGH UTILITY CHASE AND THEN THROUGH CONDUIT/CHASES FURNISHED WITH-IN PRODUCTION LINE TO EACH DEVICE.
3. TELEPHONE BOARD, SEE DETAIL FOR MORE INFORMATION.
4. EC SHALL PROVIDE 1/2" C. THRU COOLER WALL APPROXIMATELY 7'-0" AFF FROM INTERNAL TEMPERATURE PROBE TO EXTERNAL SENSOR. COORDINATE ROUTING WITH COOLER SUPPLIER AND OWNER.
5. SPEAKER, ALL MOUNTING HARDWARE AND WIRING IS FURNISHED AND INSTALLED BY SOUND PRODUCTS, INC. TYPICAL ALL SPEAKER LOCATIONS.
6. EC TO PROVIDE CAT5E WIRE(S) FROM DATA RACK TO THIS LOCATION FOR CONNECTION TO SECURITY CAMERA SUPPLIED BY OTHERS.
7. EC TO PROVIDE CONDUIT STUB PER SPECIFICATIONS WERE WIRING IS TO BE RAN THROUGH WALLS TO EXTERIOR SPEAKERS. WIRING IS FURNISHED AND INSTALLED BY SOUND PRODUCTS, INC.
8. PROVIDE ONE DATA CABLE FROM DATA RACK TO WAP LOCATION SHOWN. COIL 5' 0" OF WIRE AT CEILING STRUCTURE. WAP IS TO PROVIDED BY OWNER.

CAT5 CONDUIT FILL TABLE	
CONDUIT TRADE...	QUANTITY
1/2"	0
3/4"	3
1"	6
1-1/4"	10
1-1/2"	15
2"	20
2-1/2"	30



NORTH

FIRST FLOOR PLAN - SYSTEMS

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

0' 4' 8'

ELECTRICAL FIRST FLOOR PLAN - SYSTEMS

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PROJECT INFORMATION

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OM GROUP - HAWAIIAN BROS - STR: 135

6421 E. 82ND ST. • INDIANAPOLIS, IN 46250

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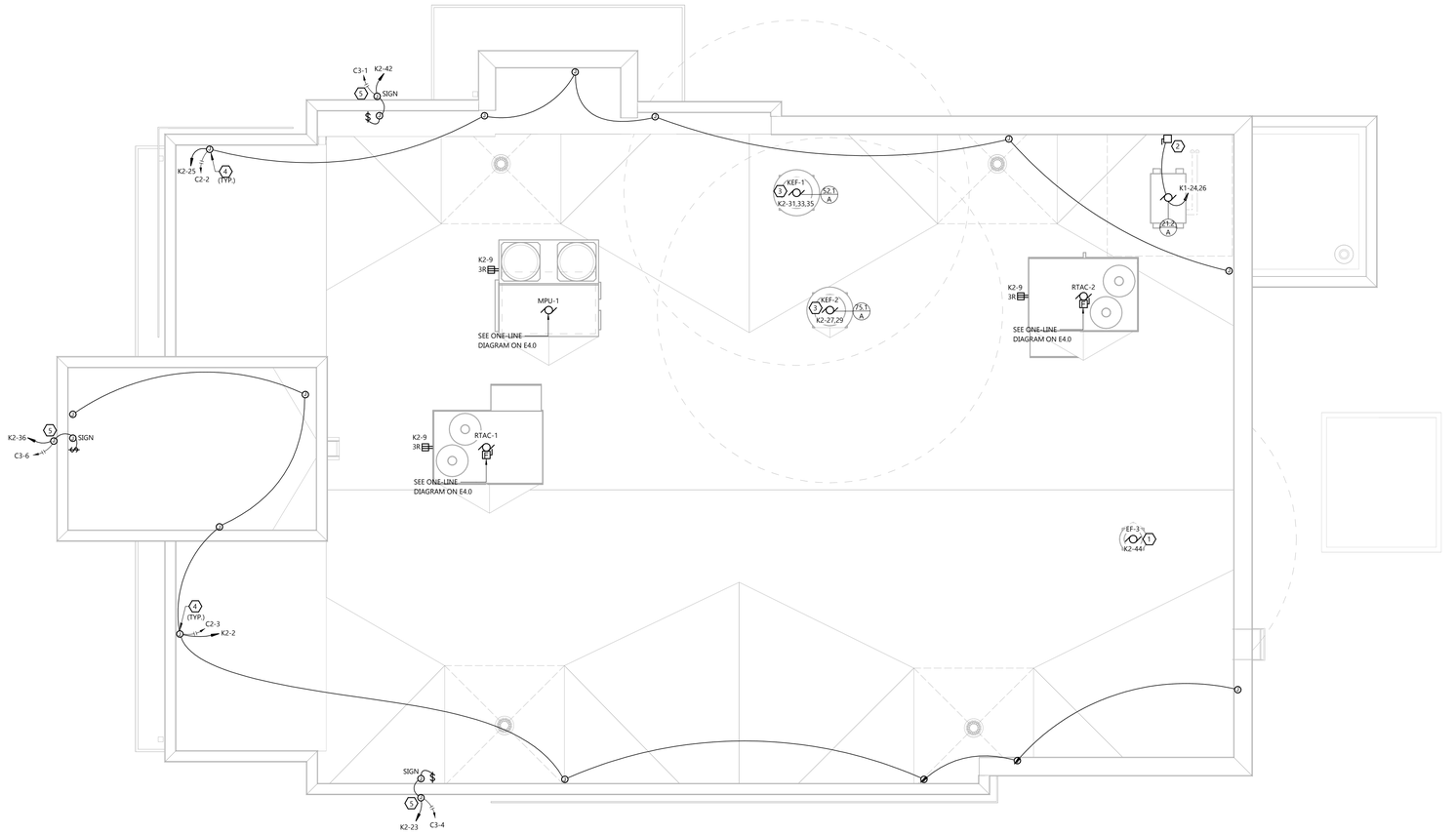

NORTH

ROOF PLAN

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

0' 4' 8'

GENERAL NOTES

- VERIFY ALL EXPOSED CONDUIT ROUTING WITH ARCHITECT/ENGINEER WHERE CONDUIT IS EXPOSED IN FINISHED ROOMS.
- EXTERIOR RECEPTACLES SHALL BE GFI TYPE. PROVIDE PASS & SEYMOUR SERIES "WI UC" OR EQUIVALENT COVER. (PER NEC 406.8(B) AND AHJ). COLOR SHALL BE SELECTED BY ARCHITECT.
- SEE SHEET E4.0 FOR BRANCH CIRCUIT FEEDER SIZES.
- DEVICE LOCATIONS MAY BE DISTORTED FOR CLARITY. LOCATE DEVICES SYMMETRICALLY WITH THE ARCHITECTURAL ELEMENTS.
- SEE HVAC AND PLUMBING PLANS FOR LOCATIONS OF HEATING, VENTILATING, AIR CONDITIONING AND PLUMBING EQUIPMENT. DO NOT REFERENCE ELECTRICAL DRAWINGS FOR EXACT LOCATION.

KEYNOTES

1. HC SHALL FURNISH RELAY TO EC FOR INSTALLATION ON WALL NEAR ELECTRICAL PANEL THAT SERVES FAN.
2. MOUNT DISCONNECT FURNISHED WITH CU BY EQUIPMENT SUPPLIER TO PARAPET. DISCONNECT SHALL NOT BE PERMITTED TO BE MOUNTED ON CU.
3. EXHAUST FAN CONTROLLED THRU HOOD CONTROL PANEL MOUNTED ON HOOD. EC SHALL INSTALL CONTROL WIRING FURNISHED BY FAN MANUFACTURER FROM HOOD CONTROL PANEL TO FAN. COORDINATE INSTALLATION WITH KITCHEN EQUIPMENT SUPPLIER.
4. PROVIDE J-BOX FOR POWER TO QWIK BOX POWER SUPPLY PROVIDED BY COMET SIGNS FOR EYEBROW LIGHTING. EC SHALL TERMINATE POWER IN J-BOX FOR FUTURE CONNECTION TO QWIK BOX BY COMET SIGNS. COORDINATE EXACT LOCATION OF J-BOX WITH COMET SIGNS. REFER TO DETAIL 3/E3.1 FOR MORE INFORMATION.
5. PROVIDE JUNCTION BOX(ES) WITH LOCAL TOGGLE SWITCH DISCONNECT LOCATED 1'-0" ABOVE ROOF ON PARAPET AND ASSOCIATED 120V, 1Ø, 20 AMP CIRCUIT(S) FOR SIGNAGE. FIELD VERIFY EXACT ROUGH-IN LOCATION AND REQUIREMENTS WITH SIGNAGE VENDOR. CIRCUIT THRU TIMECLOCK CONTROLLED RELAY FOR AUTOMATIC ON/OFF CONTROL OF LIGHTING.

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PROJECT INFORMATION

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OM GROUP - HAWAIIAN BROS - STR: 135

6421 E. 82ND ST. • INDIANAPOLIS, IN 46250

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ELECTRICAL ROOF PLAN

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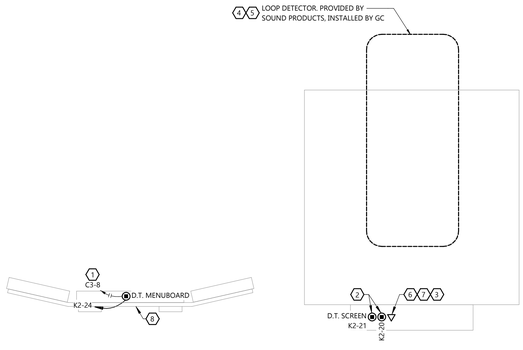
GENERAL NOTES

- VERIFY ALL EXPOSED CONDUIT ROUTING WITH ARCHITECT/ENGINEER WHERE CONDUIT IS EXPOSED IN FINISHED ROOMS.
- SEE ARCHITECTURAL REFLECTED CEILING AND ELEVATION PLANS FOR LOCATION OF ALL LIGHTING FIXTURES. LOCATE FIXTURES IN ACCORDANCE WITH CEILING AND ELEVATION PLANS.
- DEVICE LOCATIONS MAY BE DISTORTED FOR CLARITY. LOCATE DEVICES SYMMETRICALLY WITH THE ARCHITECTURAL ELEMENTS.
- SEE LIGHTING FIXTURE LEGEND FOR FIXTURE WIRING INFORMATION.
- EXTERIOR RECEPTACLES SHALL BE GFI TYPE. PROVIDE PASS & SEYMOUR SERIES "WI UC" OR EQUIVALENT COVER. (PER NEC 406.8(B) AND AH)). COLOR SHALL BE SELECTED BY ARCHITECT.
- SEE SHEET E4.0 FOR BRANCH CIRCUIT FEEDER SIZES.
- EXISTING CONDUITS AND WIRING MAY BE RE-USED IF FOUND TO BE IN GOOD WORKING WORKING CONDITION AND MEETS THE MINIMM INTENT OF SPECIFICATIONS.

KEYNOTES

1. ROUTE CIRCUIT THRU TIME CLOCK CONTROLLED RELAY.
2. PROVIDE (1) 3/4" CONDUIT WITH PULL STRING FROM PANELBOARD "K2" TO ORDER SCREEN. CONDUIT SHALL BE ROUTED UNDERGROUND FROM PANELBOARD "K2" AND STUBBED UP IN BOTTOM OF ORDER SCREEN (PROVIDED BY SIGNAGE VENDOR) TO PROVIDE POWER FOR ORDER SCREEN AND CANOPY LIGHTS. CANOPY LIGHTS SHALL BE CIRCUITED AND CONTROLLED WITH EXTERIOR BUILDING LIGHTS.
3. PROVIDE (1) 3/4" CONDUIT WITH PULL STRING FROM DATA RACK TO ORDER SCREEN. CONDUIT SHALL BE ROUTED UNDERGROUND FROM ORDER SCREEN TO INTERIOR OF BUILDING AND STUBBED UP TO ABOVE ACCESSIBLE CEILING FOR ROUTING TO DATA RACK. CONDUIT AT EXTERIOR SHALL BE STUBBED UP IN BOTTOM OF ORDER SCREEN (PROVIDED BY SIGNAGE VENDOR) TO PROVIDE DATA CONNECTION FOR ORDER SCREEN.
4. EC TO PROVIDE 1"C. FROM GROUND DETECTOR LOOP PROVIDED BY SOUND PRODUCTS AND INSTALLED BY GC. CONDUIT SHALL BE STUBBED UP IN BOTTOM OF ORDER SCREEN (PROVIDED BY SIGNAGE VENDOR) FOR CONNECTION TO ORDER SCREEN. CONDUIT RUN NOT TO EXCEED 20' IN LENGTH. COORDINATE LOCATION OF GROUND LOOP WITH GC PRIOR TO ROUGH-IN.
5. EC TO PROVIDE 1"C. WITH PULL STRING FROM ABOVE ACCESSIBLE CEILING INSIDE OF BUILDING TO ORDER SCREEN. CONDUIT SHALL BE ROUTED UNDERGROUND FROM ORDER SCREEN TO INTERIOR OF BUILDING AND STUBBED UP TO ABOVE ACCESSIBLE CEILING. CONDUIT ON EXTERIOR SHALL BE STUBBED UP IN BOTTOM OF ORDER SCREEN (PROVIDED BY SIGNAGE VENDOR) FOR CONNECTION TO ORDER SCREEN FOR GROUND LOOP DETECTOR .
6. EC TO PROVIDE 2"C. WITH PULL STRING FROM ABOVE ACCESSIBLE CEILING INSIDE OF BUILDING TO ORDER SCREEN. CONDUIT SHALL BE ROUTED UNDERGROUND FROM ORDER SCREEN TO INTERIOR OF BUILDING AND STUBBED UP TO ABOVE ACCESSIBLE CEILING. CONDUIT AT EXTERIOR SHALL BE STUBBED UP IN BOTTOM OF ORDER SCREEN (PROVIDED BY SIGNAGE VENDOR) FOR FUTURE HDMI CONNECTION TO ORDER SCREEN.
7. EC TO PROVIDE 3/4"C. WITH PULL STRING FROM ABOVE ACCESSIBLE CEILING INSIDE OF BUILDING TO ORDER SCREEN. CONDUIT SHALL BE ROUTED UNDERGROUND FROM ORDER SCREEN TO INTERIOR OF BUILDING AND STUBBED UP TO ABOVE ACCESSIBLE CEILING. CONDUIT AT EXTERIOR SHALL BE STUBBED UP IN BOTTOM OF ORDER SCREEN (PROVIDED BY SIGNAGE VENDOR) FOR FUTURE CONNECTION TO ORDER SCREEN VIDEO CAMERA.
8. EC SHALL PROVIDE 2" C. WITH PULL STRING FROM DATA RACK LOCATED IN OFFICE TO MENUBOARD FOR HDMI CABLE CONNECTION. CONDUIT SHALL BE ROUTED UNDERGROUND FROM EXTERIOR MENUBOARD TO INTERIOR OF BUILDING AND STUBBED UP TO ABOVE ACCESSIBLE CEILING FOR ROUTING TO DATA RACK.



FIRST FLOOR PLAN - DRIVE THRU

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

2' 0' 2' 4'

ELECTRICAL FIRST FLOOR PLAN - DRIVE THRU

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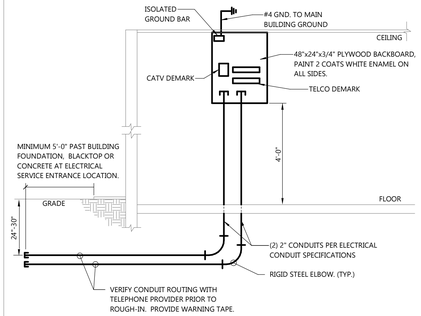
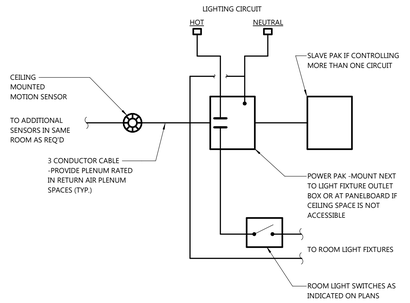
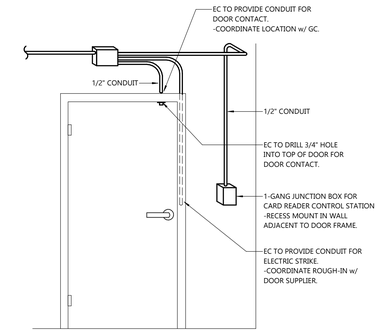


NOTES:
- PROVIDE GROUNDING INSULATING BUSHING ON ALL STEEL CONDUIT STUBS. MINIMUM 5'-0" PAST BUILDING FOUNDATION, BLACKTOP OR CONCRETE AT ELECTRICAL SERVICE ENTRANCE LOCATION.

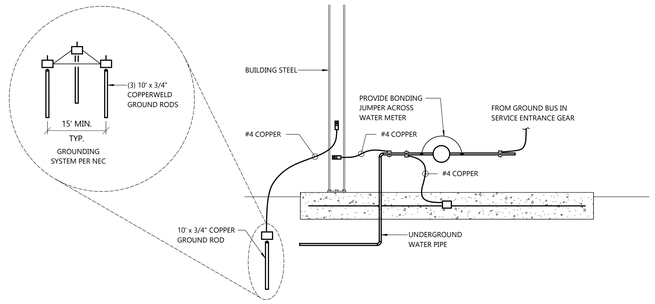
3 E3.0 TELEPHONE BOARD DETAIL
NOT TO SCALE



2 E3.0 MOTION SENSOR DETAIL
NOT TO SCALE



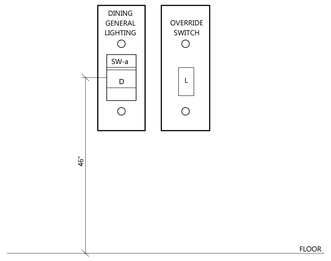
1 E3.0 CARD READER DOOR CONTACT/STRIKE DETAIL
NOT TO SCALE



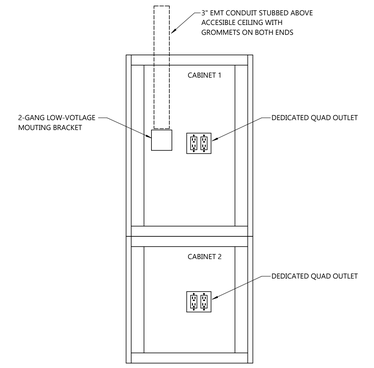
8 E3.0 GROUNDING SYSTEM RISER DETAIL
NOT TO SCALE

NOTE:
PROVIDE 0-10V SLIDE DIMMER WITH ON/OFF SWITCH PER LIGHT MANUFACTURER RECOMMENDATIONS.

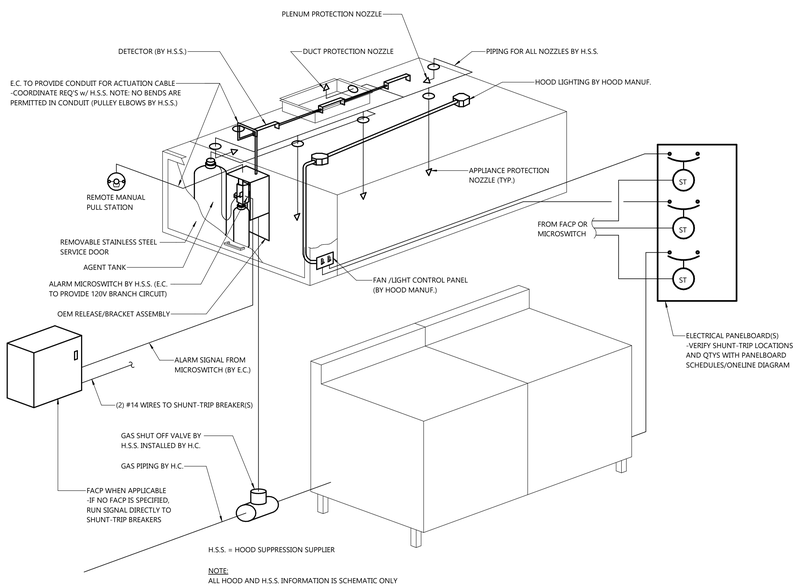
D - 0-10V DIMMER WITH ON/OFF SWITCH
L- LOW VOLTAGE OVERRIDE SWITCH



7 E3.0 SWITCHBANK DETAIL
NOT TO SCALE

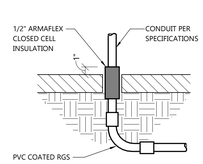


6 E3.0 2 DATA CABINET SETUP
NOT TO SCALE

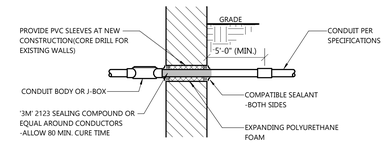


NOTE:
ALL HOOD AND H.S.S. INFORMATION IS SCHEMATIC ONLY

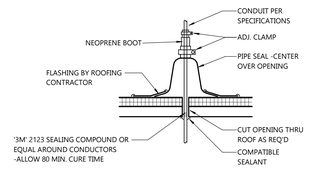
10 E3.0 KITCHEN HOOD DETAIL
NOT TO SCALE



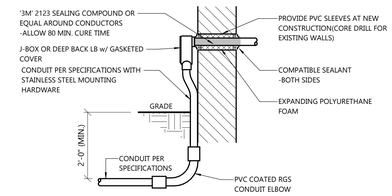
SLAB ON GRADE FLOORS



BELOW GRADE WALLS



MEMBRANE ROOF



ABOVE GRADE WALLS

NOTES:
- SEE SPECIFICATIONS FOR CONDUIT MATERIAL BEYOND COUPLINGS.
- SEE SPECIFICATIONS FOR INTERIOR WALL AND FLOOR PENETRATION REQ'S.

9 E3.0 CONDUIT PENETRATION DETAILS
NOT TO SCALE

ELECTRICAL DETAILS

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

Owner

PROJECT INFORMATION

PROPOSED QUICK SERVE RESTAURANT FOR:
OM GROUP - HAWAIIAN BROS - STR: 135
6421 E. 82ND ST. • INDIANAPOLIS, IN 46250

PROFESSIONAL SEAL

SHEET DATES
ISSUED FOR CONSTRUCTION
IFC APR. 3, 2026

JOB NUMBER
250361400

SHEET NUMBER
E3.0

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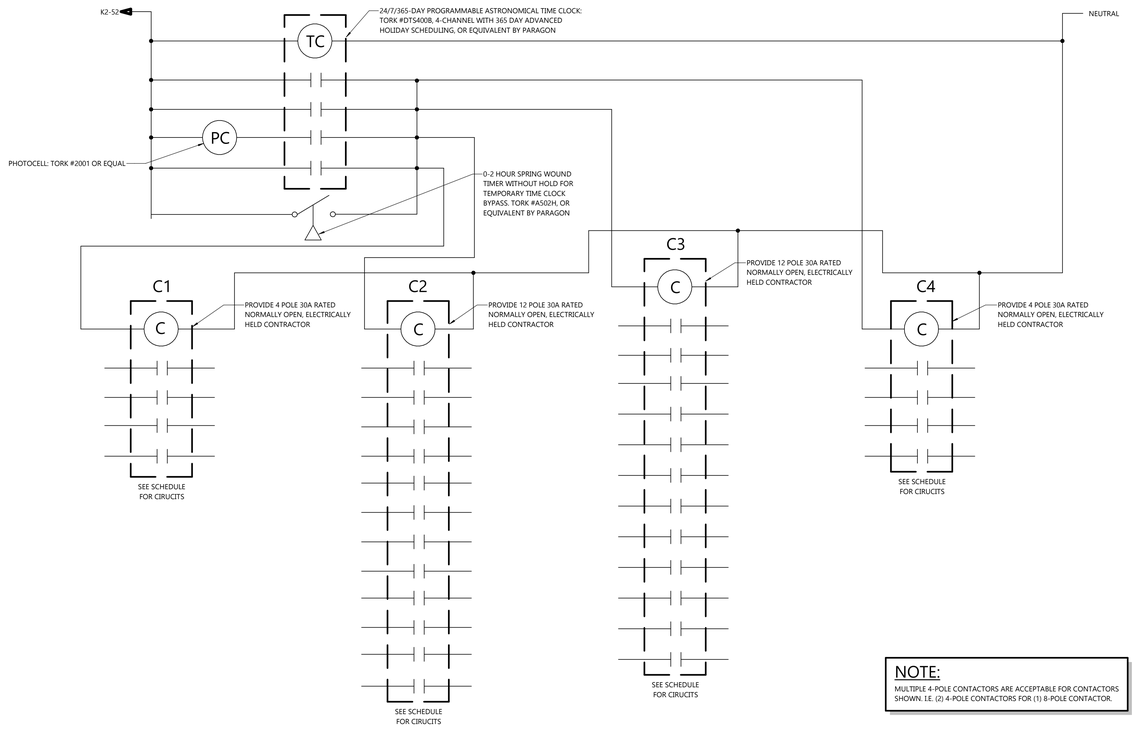


1 E3.1 LIGHTING TIMECLOCK AND CONTACTOR DETAIL
NOT TO SCALE

NOTE:
MULTIPLE 4-POLE CONTACTORS ARE ACCEPTABLE FOR CONTACTORS SHOWN. I.E. (2) 4-POLE CONTACTORS FOR (1) 8-POLE CONTACTOR.

LIGHTING CONTACTOR C1

RELAY CIRCUIT	VOLTAGE	SUPPLY FROM PANEL	SUPPLY FROM CIRCUIT	ROOM / AREA	ON/OFF
C1-1	120 V	K2	22	KITCHEN LIGHTS	8AM / 1AM
C1-2	120 V	K2	12	DINING ROOM LIGHTS	8AM / 1AM
C1-3	0 V			SPARE	-
C1-4	0 V			SPARE	-

LIGHTING CONTACTOR C2

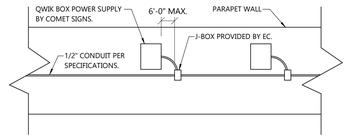
RELAY CIRCUIT	VOLTAGE	SUPPLY FROM PANEL	SUPPLY FROM CIRCUIT	ROOM / AREA	ON/OFF
C2-1	120 V	K2	20	EXTERIOR BUILDING LIGHTS	DUSK / 2AM
C2-2	120 V	K2	25	EYEBROW LIGTHING	DUSK / 2AM
C2-3	120 V	K2	2	EYEBROW LIGTHING	DUSK / 2AM
C2-4	120 V	K2	3	EX. WEST POLE LIGHT	DUSK / 2AM
C2-5	208 V	K2	55,57	EX. SOUTH POLE LIGHT	DUSK / 2AM
C2-6	208 V	K2	55,57	EX. SOUTH POLE LIGHT	DUSK / 2AM
C2-7	208 V	K2	59,61	EX. EAST POLE LIGHT	DUSK / 2AM
C2-8	208 V	K2	59,61	EX. EAST POLE LIGHT	DUSK / 2AM
C2-9	0 V			SPARE	-
C2-10	0 V			SPARE	-
C2-11	0 V			SPARE	-
C2-12	0 V			SPARE	-

LIGHTING CONTACTOR C3

RELAY CIRCUIT	VOLTAGE	SUPPLY FROM PANEL	SUPPLY FROM CIRCUIT	ROOM / AREA	ON/OFF
C3-1	120 V	K2	42	EXTERIOR SIGNAGE	DUSK / 12AM
C3-2	120 V	K2	34	EXTERIOR SIGNAGE	DUSK / 12AM
C3-3	120 V	K2	41	MONUMENT SIGN	DUSK / 12AM
C3-4	120 V	K2	23	EXTERIOR SIGNAGE	DUSK / 12AM
C3-5	120 V	K2	10	EXTERIOR SIGNAGE	DUSK / 12AM
C3-6	120 V	K2	36	EXTERIOR SIGNAGE	DUSK / 12AM
C3-7	120 V	K2	39	EXTERIOR SIGNAGE	DUSK / 12AM
C3-8	120 V	K2	24	EXTERIOR MENUBOARD	DUSK / 12AM
C3-9	120 V	K2	6	DIRECTIONAL SIGN	DUSK / 12AM
C3-10	0 V			SPARE	-
C3-11	0 V			SPARE	-
C3-12	0 V			SPARE	-

LIGHTING CONTACTOR C4

RELAY CIRCUIT	VOLTAGE	SUPPLY FROM PANEL	SUPPLY FROM CIRCUIT	ROOM / AREA	ON/OFF
C4-1	120 V	K2	19	INTERIOR ALOHA SIGN	11AM / 12AM
C4-2	120 V	K2	18	INTERIOR HB SIGN	11AM / 12AM
C4-3	120 V	K2	8	INTERIOR HB SIGN	11AM / 12AM
C4-4	0 V			SPARE	



2 E3.1 QWIK BOX POWER SUPPLY WIRING DETAIL
NOT TO SCALE

ELECTRICAL DETAILS

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com

Owner

PROJECT INFORMATION

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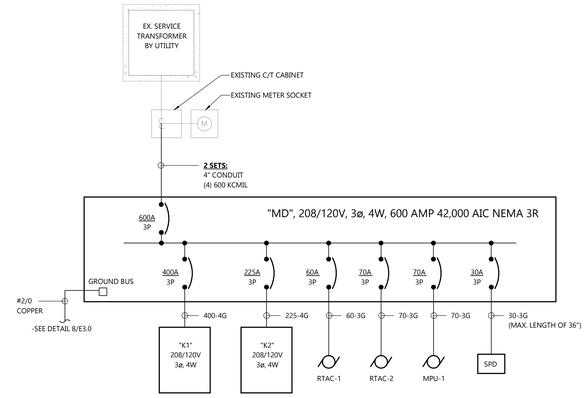
GENERAL NOTES

- ONELINE DIAGRAMS AND RISER DIAGRAMS ARE A DIAGRAMMATIC REPRESENTATION TO AID THE CONTRACTOR IN UNDERSTANDING THE FUNCTION AND OPERATION OF THE SYSTEMS. EC SHALL REVIEW THE ONELINES, RISERS AND FLOOR PLANS FOR THE LOCATION OF ALL EQUIPMENT.

3 ø FEEDER SCHEDULES - COPPER

3 WIRE FEEDERS			4 WIRE FEEDERS		
FEEDER DESIGNATION	CONDUIT SIZE(S)	CONDUCTORS & GROUNDING CONDUCTOR(S) SIZES	FEEDER DESIGNATION	CONDUIT SIZE(S)	CONDUCTORS & GROUNDING CONDUCTOR(S) SIZES
20 - 3G	3/4"	(3) #12 & #12 GND	20 - 4G	3/4"	(4) #12 & #12 GND
25 - 3G	3/4"	(3) #10 & #10 GND	25 - 4G	3/4"	(4) #10 & #10 GND
30 - 3G	3/4"	(3) #10 & #10 GND	30 - 4G	3/4"	(4) #10 & #10 GND
35 - 3G	3/4"	(3) #10 & #10 GND	35 - 4G	3/4"	(4) #10 & #10 GND
40 - 3G	1"	(3) #8 & #10 GND	40 - 4G	1"	(4) #8 & #10 GND
45 - 3G	1"	(3) #8 & #10 GND	45 - 4G	1"	(4) #8 & #10 GND
50 - 3G	1"	(3) #8 & #10 GND	50 - 4G	1"	(4) #8 & #10 GND
60 - 3G	1"	(3) #6 & #8 GND	60 - 4G	1"	(4) #6 & #8 GND
65 - 3G	1"	(3) #6 & #8 GND	65 - 4G	1"	(4) #6 & #8 GND
70 - 3G	1"	(3) #4 & #8 GND	70 - 4G	1-1/4"	(4) #4 & #8 GND
80 - 3G	1"	(3) #4 & #8 GND	80 - 4G	1-1/4"	(4) #4 & #8 GND
90 - 3G	1-1/4"	(3) #3 & #8 GND	90 - 4G	1-1/4"	(4) #3 & #8 GND
100 - 3G	1-1/4"	(3) #3 & #8 GND	100 - 4G	1-1/4"	(4) #3 & #8 GND
110 - 3G	1-1/4"	(3) #2 & #6 GND	110 - 4G	1-1/2"	(4) #2 & #6 GND
125 - 3G	1-1/4"	(3) #1 & #6 GND	125 - 4G	1-1/2"	(4) #1 & #6 GND
150 - 3G	1-1/2"	(3) #1/0 & #6 GND	150 - 4G	2"	(4) #1/0 & #6 GND
175 - 3G	2"	(3) #2/0 & #6 GND	175 - 4G	2"	(4) #2/0 & #6 GND
200 - 3G	2"	(3) #3/0 & #4 GND	200 - 4G	2"	(4) #3/0 & #4 GND
225 - 3G	2"	(3) #4/0 & #4 GND	225 - 4G	2-1/2"	(4) #4/0 & #4 GND
250 - 3G	2-1/2"	(3) 250 KCMIL & #4 GND	250 - 4G	3"	(4) 250 KCMIL & #4 GND
300 - 3G	2-1/2"	(3) 350 KCMIL & #3 GND	300 - 4G	3"	(4) 350 KCMIL & #3 GND
350 - 3G	3"	(3) 500 KCMIL & #3 GND	350 - 4G	3-1/2"	(4) 500 KCMIL & #3 GND
400 - 3G	(2) 2"	2 SETS OF (3) #3/0 & #2 GND	400 - 4G	(2) 2-1/2"	2 SETS OF (4) #3/0 & #2 GND
450 - 3G	(2) 2-1/2"	2 SETS OF (3) #4/0 & #2 GND	450 - 4G	(2) 2-1/2"	2 SETS OF (4) #4/0 & #2 GND
500 - 3G	(2) 2-1/2"	2 SETS OF (3) 250 KCMIL & #2 GND	500 - 4G	(2) 3"	2 SETS OF (4) 250 KCMIL & #2 GND
550 - 3G	(2) 2-1/2"	2 SETS OF (3) 300 KCMIL & #1 GND	550 - 4G	(2) 3"	2 SETS OF (4) 300 KCMIL & #2 GND
600 - 3G	(2) 3"	2 SETS OF (3) 350 KCMIL & #1 GND	600 - 4G	(2) 3"	2 SETS OF (4) 350 KCMIL & #1 GND
700 - 3G	(2) 3"	2 SETS OF (3) 500 KCMIL & #1/0 GND	700 - 4G	(2) 3-1/2"	2 SETS OF (4) 500 KCMIL & #1/0 GND
800 - 3G	(3) 3"	3 SETS OF (3) 300 KCMILk #1/0 GND	800 - 4G	(3) 3"	3 SETS OF (4) 300 KCMIL & #1/0 GND
900 - 3G	(3) 3"	3 SETS OF (3) 350 KCMIL & #2/0 GND	900 - 4G	(3) 3"	3 SETS OF (4) 350 KCMIL & #2/0 GND
1000 - 3G	(3) 3"	3 SETS OF (3) 400 KCMIL & #2/0 GND	1000 - 4G	(3) 3-1/2"	3 SETS OF (4) 400 KCMIL & #2/0 GND
1200 - 3G	(4) 3"	4 SETS OF (3) 350 KCMIL & #3/0 GND	1200 - 4G	(4) 3"	4 SETS OF (4) 350 KCMIL & #3/0 GND

- CONDUCTOR SIZES LISTED ABOVE ARE FOR COPPER THHN/XHHW. CONTRACTOR SHALL ADJUST ACCORDINGLY FOR DIFFERENT WIRING TYPES.
- CONTRACTOR SHALL MAKE ADJUSTMENTS TO FEEDERS SIZES FOR AMBIENT TEMPERATURES AND VOLTAGE DROP ACCORDINGLY.
- WHERE PARALLEL CONDUCTORS ARE INDICATED, THE CONTRACTOR SHALL VERIFY LUG CONFIGURATIONS OF EQUIPMENT BEING CONNECTED.
- EQUIPMENT GROUNDING CONDUCTOR SIZE MAY BE REDUCED BASE ON OVERCURRENT AND/OR GROUND FAULT PROTECTION EQUIPMENT (NEC 250).



ONELINE DIAGRAM

NOT TO SCALE

3 ø FEEDER SCHEDULES - ALUMINUM

3 WIRE FEEDERS			4 WIRE FEEDERS		
FEEDER DESIGNATION	CONDUIT SIZE(S)	CONDUCTORS & GROUNDING CONDUCTOR(S) SIZES	FEEDER DESIGNATION	CONDUIT SIZE(S)	CONDUCTORS & GROUNDING CONDUCTOR(S) SIZES
100 - 3G	1-1/2"	(3) #1 & #6 GND	100 - 4G	1-1/2"	(4) #1 & #6 GND
110 - 3G	1-1/2"	(3) #1/0 & #6 GND	110 - 4G	2"	(4) #1/0 & #6 GND
125 - 3G	2"	(3) #2/0 & #4 GND	125 - 4G	2"	(4) #2/0 & #4 GND
150 - 3G	2"	(3) #3/0 & #4 GND	150 - 4G	2"	(4) #3/0 & #4 GND
175 - 3G	2-1/2"	(3) #4/0 & #2 GND	175 - 4G	2-1/2"	(4) #4/0 & #2 GND
200 - 3G	2-1/2"	(3) 250 KCMIL & #1/0 GND	200 - 4G	3"	(4) 250 KCMIL & #1/0 GND
225 - 3G	2-1/2"	(3) 300 KCMIL & #1/0 GND	225 - 4G	3"	(4) 300 KCMIL & #1/0 GND
250 - 3G	3"	(3) 350 KCMIL & #1/0 GND	250 - 4G	3"	(4) 350 KCMIL & #1/0 GND
300 - 3G	3"	(3) 500 KCMIL & #1/0 GND	300 - 4G	3-1/2"	(4) 500 KCMIL & #1/0 GND
350 - 3G	(2) 2-1/2"	2 SETS OF (3) #4/0 & #1/0 GND	350 - 4G	(2) 2-1/2"	2 SETS OF (4) #4/0 & #1/0 GND
400 - 3G	(2) 2-1/2"	2 SETS OF (3) 250 KCMIL & #1/0 GND	400 - 4G	(2) 3"	2 SETS OF (4) 250 KCMIL & #1/0 GND
450 - 3G	(2) 3"	2 SETS OF (3) 300 KCMIL & #3/0 GND	450 - 4G	(2) 3"	2 SETS OF (4) 300 KCMIL & #3/0 GND
500 - 3G	(2) 3"	2 SETS OF (3) 350 KCMIL & #3/0 GND	500 - 4G	(2) 3"	2 SETS OF (4) 350 KCMIL & #3/0 GND
600 - 3G	(2) 3"	2 SETS OF (3) 500 KCMIL & #4/0 GND	600 - 4G	(2) 3-1/2"	2 SETS OF (4) 500 KCMIL & #4/0 GND
700 - 3G	(3) 3"	3 SETS OF (3) 350 KCMIL & #4/0 GND	700 - 4G	(3) 3-1/2"	3 SETS OF (4) 350 KCMIL & #4/0 GND
800 - 3G	(3) 3"	3 SETS OF (3) 400 KCMIL & #4/0 GND	800 - 4G	(3) 3-1/2"	3 SETS OF (4) 400 KCMIL & #4/0 GND
900 - 3G	(3) 3"	3 SETS OF (3) 500 KCMIL & #4/0 GND	900 - 4G	(3) 3-1/2"	3 SETS OF (4) 500 KCMIL & #4/0 GND
1000 - 3G	(4) 3"	4 SETS OF (3) 350 KCMIL & #250 GND	1000 - 4G	(4) 3-1/2"	4 SETS OF (4) 350 KCMIL & #250 GND
1200 - 3G	(4) 3"	4 SETS OF (3) 500 KCMIL & #250 GND	1200 - 4G	(4) 3-1/2"	4 SETS OF (4) 500 KCMIL & #250 GND
1600 - 3G	(6) 3"	6 SETS OF (3) 400 KCMIL & #350 GND	1600 - 4G	(6) 3-1/2"	6 SETS OF (4) 400 KCMIL & #350 GND
2000 - 3G	(8) 3"	8 SETS OF (3) 350 KCMIL & #400 GND	2000 - 4G	(8) 3-1/2"	8 SETS OF (4) 350 KCMIL & #400 GND

- CONDUCTOR SIZES LISTED ABOVE ARE FOR ALUMINUM THHN/XHHW. CONTRACTOR SHALL ADJUST ACCORDINGLY FOR DIFFERENT WIRING TYPES.
- CONTRACTOR SHALL MAKE ADJUSTMENTS TO FEEDERS SIZES FOR AMBIENT TEMPERATURES AND VOLTAGE DROP ACCORDINGLY.
- WHERE PARALLEL CONDUCTORS ARE INDICATED, THE CONTRACTOR SHALL VERIFY LUG CONFIGURATIONS OF EQUIPMENT BEING CONNECTED.
- EQUIPMENT GROUNDING CONDUCTOR SIZE MAY BE REDUCED BASE ON OVERCURRENT AND/OR GROUND FAULT PROTECTION EQUIPMENT (NEC 250).

BRANCH CIRCUIT FEEDER SCHEDULE

AMP / POLE	CONDUIT SIZE	CONDUCTORS & GROUNDING CONDUCTOR SIZES
15A/1P OR 15A/2P	1/2"	(2) #12 & #12 GND
20A/1P OR 20A/2P	1/2"	(2) #12 & #12 GND
15A/3P OR 20A/3P	1/2"	(3) #12 & #12 GND
25A/1P OR 25A/2P	3/4"	(2) #10 & #10 GND
30A/1P OR 30A/2P	3/4"	(2) #10 & #10 GND
25A/3P OR 30A/3P	3/4"	(3) #10 & #10 GND
35A/1P OR 35A/2P	3/4"	(2) # 8 & #10 GND
40A/1P OR 40A/2P	3/4"	(2) # 8 & #10 GND
35A/3P OR 40A/3P	3/4"	(3) #8 & #10 GND
45A/1P OR 45A/2P	1"	(2) #6 & #10 GND
45A/3P OR 50A/3P	1"	(3) #6 & #10 GND
50A/1P OR 50A/2P	1"	(2) #6 & #10 GND
60A/1P OR 60A/2P	1"	(2) #4 & #8 GND
60A/3P	1-1/4"	(3) #4 & #8 GND
70A/3P OR 80A/3P	1-1/4"	(3) #4 & #8 GND
90A/3P	1-1/4"	(3) #3 & #8 GND
100A/3P OR 110A/3P	1-1/2"	(3) #2 & #6 GND
125A/3P	1-1/2"	(3) #1 & #6 GND

- PROVIDE BRANCH CIRCUIT FEEDERS AS NOTED ABOVE, UNLESS NOTED OTHERWISE

SHORT CIRCUIT CALCULATIONS

THE FOLLOWING CALCULATIONS ARE BASED UPON THE "POINT BY POINT" METHOD AS FOLLOWS:

$$I(SCA) = I(SCA)\ X\ M \qquad M = \frac{1}{(1+F)} \qquad F = \frac{1.732 \times L \times I}{N \times C \times E\ (L\text{-}L)}$$

FAULT POINT	PANEL / S.E.S. TRANSFORMER	"T" AMPS	CONDUIT TYPE	COND. MATERIAL	COND. / PHASE	WIRE SIZE	"C" VALUE	"E" L-L	Ø	"L" LENGTH	"F"	"M"	ISC
1	UTIL TRANSFORMER	52,000											
2	SERVICE EQUIPMENT	52,000	NON-METALLIC	COPPER	2	350	22737	208	3	35	0.333	0.750	39001.9
3	"MD"	39,002	METALLIC	COPPER	2	350	19704	208	3	5	0.041	0.960	37458.4
4	"K1"	37,458	NON-METALLIC	COPPER	2	3 OTT	13923	208	3	25	0.280	0.781	29263.6
5	"K2"	37,458	NON-METALLIC	COPPER	1	4 OTT	16673	208	3	25	0.468	0.681	25522.0

NOTES:
- VALUES ABOVE ARE BASED ON THE ASSUMPTION THE UTILTY WILL PROVIDE A 300KVA TRANSFORMER WITH 1.6%Z.
CONTRACTOR SHALL NOTIFY ENGINEER OF RECORD OF ANY DISCREPANCIES.
- SERIES RATING OF BREAKERS MAY BE UTILIZED AT CONTRACTORS DISCRETION.
- "C" VALUES ARE EQUAL TO ONE OVER THE IMPEDANCE PER FOOT, AND ARE BASED UPON IEEE STANDARD TABLES.
- CONTRACTOR SHALL NOTIFY ENGINEER OF RECORD OF ANY DISCREPANCIES.
- VALUES ABOVE DO NOT REFLECT MOTOR CONTRIBUTIONS FROM THE BUILDING.
- ELECTRICAL CONTRACTOR TO PROVIDE ARC-FLASH HASZARD WARNING FIELD MARKING PER NEC 110.16
- ELECTRICAL CONTRACTOR TO PROVIDE SERIES RATED LABELING PER NEC 110-22(B) WHERE THERE IS AN APPLIED SERIES RATING AS SHOWN ON THE DRAWINGS.
- ANY ADDITIONAL COSTS FOR FAILURE TO COMPLY WITH THE ABOVE REQUIREMENTS WILL BE STRICTLY AT CONTRACTORS EXPENSE.

OVERALL SERVICE CALCULATIONS				
LOAD	CONNECTED (VA)	DEMAND (VA)	CONNECTED (AMPS)	DEMAND (AMPS)
RECEPTACLE	13,640	11,820	37.86	32.81
LIGHTING	1,636	2,045	4.54	5.68
MOTOR	78,538	78,538	218.00	218.00
EL HEAT	7,560	7,560	20.98	20.98
KITCHEN	93,348	60,676	259.11	168.42
OTHER (MISC)	34,002	34,002	94.38	94.38
		TOTALS	635	540

DEMAND LOAD KEY	
LOAD DESCRIPTION	DEMAND FACTOR
RECEPTACLES	FIRST 10,000 @ 100%
	REMAINDER @ 50%
LIGHTING	125%
KITCHEN EQUIPMENT	65%
MOTORS	100%
MISCELLANOUS	100%
EL HEAT	100%

KITCHEN EQUIPMENT DEMAND FACTOR	
UNITS	FACTOR
1	100%
2	100%
3	90%
4	80%
5	70%
6 AND MORE	65%

CHART IS BASED ON CURRENT NEC SECTION 220.56

PANELBOARD: K1

LOCATION: MECHANICAL 113 | **VOLTS:** 120/208 WYE | **A.I.C. RATING:** 42,000
SUPPLY FROM: MD | **PHASES:** 3 | **MAINS TYPE:** MLO
MOUNTING: SURFACE | **WIRES:** 4 | **BUS RATING:** 400A
ENCLOSURE: NEMA 1 | **MCB RATING:** -

NOTES:
SEE BRANCH CIRCUIT FEEDER SCHEDULE FOR FEEDER DESIGNATIONS.
-S SUFFIX DENOTES SHUNT TRIP BREAKER
-G SUFFIX DENOTES GFI TYPE BREAKER -L SUFFIX DENOTES LOCKABLE STYLE BREAKER

CKT	CIRCUIT DESCRIPTION	TRIP	POLES	A	B	C	POLES	TRIP	CIRCUIT DESCRIPTION	CKT
1	RECEPTACLE - CARBONATOR(2.1)	20 A	1	1200 260			2	15 A	ELECTRIC HEAT - AC-1	2
3	KITCHEN - HOLDING CABINET(51)	20 A	1		1800 260		--	-- --	--	4
5	KITCHEN - BAG-N-BOX(35)	G 20 A	1			1920 260	2	15 A	ELECTRIC HEAT - AC-2	6
7	ELECTRIC HEAT - HAND DRYER	20 A	1	1000 260			--	-- --	--	8
9	MOTOR - PB-1	25 A	2		1435 6588		3	70 A S	KITCHEN - DOUBLE STACKED COMBI OVEN(56)	10
11	--	-- --	--			1435 6588	--	-- --	--	12
13	OTHER - EXHAUST HOOD (52)	20 A	1	1800 6588			--	-- --	--	14
15	SPARE	-- 20 A	1		0 --		1	-- --	SPACE FOR SHUNT TRIP BREAKER	16
17	RECEPTACLE - SODA DISPENSER(2)	20 A	1			1920 0	1	20 A --	SPARE	18
19	KITCHEN - EASI-WASH(33)	20 A	2	3120 0			1	20 A --	SPARE	20
21	--	-- --	--		3120 1920		1	20 A	RECEPTACLE - UTILITY OUTLET(62)	22
23	KITCHEN - REACH-IN REF.(50)	G 20 A	1			240 1113	2	20 A	MOTOR - WALK-IN COOLER COMP.(21.2)	24
25	OTHER - REVERSE OSMOSIS(98)	20 A	1	96 1113			--	-- --	--	26
27	OTHER - DOLE WHIP MACHINE(7B)	35 A	2		2600 0		1	20 A --	SPARE	28
29	--	-- --	--			2600 1956	1	20 A G	RECEPTACLE - ICE MACHINE(1)	30
31	RECEPTACLE - UNDER COUNTER REFR.(14)	G 20 A	1	384 1920			1	20 A G	RECEPTACLE - SODA DISPENSER(2)	32
33	OTHER - LOAD CENTER(15)	50 A	2		5262 1956		1	20 A	RECEPTACLE - ICE MACHINE(1)	34
35	--	-- --	--			5262 1200	1	20 A G	RECEPTACLE - CARBONATOR(2.1)	36
37	RECEPTACLE - DOLE WHIP MACHINE(7A)	G 40 A	2	3120 52			2	20 A	OTHER - REVERSE OSMOSIS(98)	38
39	--	-- --	--		3120 52		--	-- --	--	40
41	KITCHEN - DOUBLE STACKED COMBI OVEN(56)	S 70 A	3			6588 312	1	20 A G	KITCHEN - U.C. REF.(73)	42
43	--	-- --	--	6588 1020			1	20 A G	KITCHEN - TWIN BUBBLER(43)	44
45	--	-- --	--		6588 2080		2	25 A G	KITCHEN - FROZEN CARBONATED BEV. DISP.(42)	46
47	SPACE FOR SHUNT TRIP BREAKER	-- --	1			-- 2080	--	-- --	--	48
49	SPARE	-- 20 A	1	0 0			1	20 A --	SPARE	50
51	SPARE	-- 20 A	1		0 0		1	20 A --	SPARE	52
53	SPARE	-- 20 A	1			0 0	1	20 A --	SPARE	54
55	SPARE	-- 20 A	1	0 0			1	20 A --	SPARE	56
57	SPARE	-- 20 A	1		0 0		1	20 A --	SPARE	58
59	SPARE	-- 20 A	1			0 0	1	20 A --	SPARE	60
61	SPARE	-- 20 A	1	0 0			1	20 A --	SPARE	62
63	SPARE	-- 20 A	1		0 0		1	20 A --	SPARE	64
65	SPARE	-- 20 A	1			0 0	1	20 A --	SPARE	66
67	SPARE	-- 20 A	1	0 0			1	20 A --	SPARE	68
69	SPARE	-- 20 A	1		0 0		1	20 A --	SPARE	70
71	SPARE	-- 20 A	1			0 0	1	20 A --	SPARE	72
		TOTAL LOAD:		28521 VA	36781 VA	33474 VA				
		TOTAL AMPS:		238 A	313 A	285 A				

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
Motor	5096 VA	114.08%	5813 VA		
Other	23964 VA	100.00%	23964 VA	TOTAL CONN. LOAD	98776 VA
Receptacle	1920 VA	100.00%	1920 VA	TOTAL EST. DEMAND	76479 VA
Kitchen	65756 VA	65.00%	42741 VA	TOTAL CONN.	274 A
				TOTAL EST. DEMAND	212 A

PANELBOARD: K2

LOCATION: MECHANICAL 113 | **VOLTS:** 120/208 WYE | **A.I.C. RATING:** 42,000
SUPPLY FROM: MD | **PHASES:** 3 | **MAINS TYPE:** MLO
MOUNTING: SURFACE | **WIRES:** 4 | **BUS RATING:** 225A
ENCLOSURE: NEMA 1 | **MCB RATING:** -

NOTES:
SEE BRANCH CIRCUIT FEEDER SCHEDULE FOR FEEDER DESIGNATIONS.
(L) SUFFIX DENOTES LOCKABLE STYLE BREAKER (G) SUFFIX DENOTES GFI TYPE BREAKER
(*) SUFFIX INDICATES EXISTING CIRCUIT FROM DEMOLISHED PANEL TO BE DISCONNECTED AND RECONNECTED TO PANEL AS NECESSARY

CKT	CIRCUIT DESCRIPTION	TRIP	POLES	A	B	C	POLES	TRIP	CIRCUIT DESCRIPTION	CKT
1	RECEPTACLE - DATA RACK	20 A	1	360 1248			1	20 A	OTHER - EYEBROW LIGHTING	2
3	LIGHTING - EX. WEST POLE LIGHT	(*) 20 A	1		400 192		1	20 A	MOTOR - WALK-IN COOLER EVAP(21.1)	4
5	OTHER - EX. COOLER LIGHTS	(*) 20 A	1			1800 1000	1	20 A	OTHER - DIRECTIONAL SIGN	6
7	RECEPTACLE - SHOW WINDOW	20 A	1	540 0			1	20 A	OTHER - INTERIOR SIGNAGE	8
9	RECEPTACLE - ROOFTOP	20 A	1		540 1200		1	20 A	OTHER - EXTERIOR SIGNAGE	10
11	ELECTRIC HEAT - EWH-1	20 A	2			1000 924	1	20 A	LIGHTING - DINING / RESTROOMS	12
13	--	-- --	--	1000 360			1	20 A	RECEPTACLE - DRIVE THRU VIDEO MONITOR	14
15	RECEPTACLE - GWH-1&2	20 A	1		500 180		1	20 A	RECEPTACLE - TIMER LED MONITOR	16
17	MOTOR - SWITCHING RELAY	20 A	1			552 0	1	20 A	OTHER - INTERIOR SIGNAGE	18
19	OTHER - INTERIOR SIGNAGE	20 A	1	0 558			1	20 A	LIGHTING - EXTERIOR BUILDING / DINING	20
21	OTHER - D.T ORDER SCREEN	20 A	1		400 663		1	20 A	LIGHTING - KITCHEN	22
23	OTHER - EXTERIOR SIGNAGE	20 A	1			1200 400	1	20 A	OTHER - D.T. MENUBOARD	24
25	OTHER - EYEBROW LIGHTING	20 A	1	1056 1000			2	20 A	ELECTRIC HEAT - EWH-2	26
27	MOTOR - KEF-2(75.1) ROOFTOP	20 A	2		582 1000		--	-- --	--	28
29	--	-- --	--			582 135	1	20 A	LIGHTING - NIGHT LIGHTS	30
31	MOTOR - KEF-1(52.1) ROOFTOP	20 A	3	1320 180			1	20 A	RECEPTACLE - NEAR REAR DOOR	32
33	--	-- --	--		1320 1200		1	20 A	OTHER - EXTERIOR SIGNAGE	34
35	--	-- --	--			1320 1200	1	20 A	OTHER - EXTERIOR SIGNAGE	36
37	RECEPTACLE - TELEPHONEBOARD	G 20 A	1	360 360			1	20 A	RECEPTACLE - DATA RACK	38
39	OTHER - EXTERIOR SIGNAGE	20 A	1		1200 1000		1	20 A	ELECTRIC HEAT - HAND DRYER	40
41	OTHER - MONUMENT SIGN	20 A	1			1500 1200	1	20 A	OTHER - EXTERIOR SIGNAGE	42
43	RECEPTACLE - KITCHEN GENERAL	20 A	1	540 696			1	15 A	MOTOR - EF-3 ROOFTOP	44
45	RECEPTACLE - POS STATION (11)	20 A	1		1920 540		1	20 A	RECEPTACLE - ORDER KIOSK	46
47	RECEPTACLE - DINING	20 A	1			360 720	1	20 A	RECEPTACLE - OFFICE	48
49	RECEPTACLE - SHOW WINDOW	20 A	1	720 180			1	20 A	RECEPTACLE - DRIVE-THRU BASE STATION	50
51	RECEPTACLE - RESTROOMS	20 A	1		360 0		1	20 A (L)	LCP	52
53	RECEPTACLE - WS-1&WS-2	20 A	1			300 180	1	20 A --	RECEPTACLE - EXTERIOR	54
55	LIGHTING - EX. SOUTH POLE LIGHT	(*) 20 A	2	200 720			1	20 A	RECEPTACLE - OFFICE	56
57	--	-- --	--		200 540		1	20 A	RECEPTACLE - DINING	58
59	LIGHTING - EX. EAST POLE LIGHT	(*) 20 A	2			100 360	1	20 A	RECEPTACLE - DINING TV'S	60
61	--	-- --	--	100 0			1	20 A --	SPARE	62
63	SPARE	-- 20 A	1		0 0		1	20 A --	SPARE	64
65	SPARE	-- 20 A	1			0 0	1	20 A --	SPARE	66
67	SPARE	-- 20 A	1	0 0			1	20 A --	SPARE	68
69	SPARE	-- 20 A	1		0 0		1	20 A --	SPARE	70
71	SPARE	-- 20 A	1			0 0	1	20 A --	SPARE	72
73	SPACE	-- --	1	-- --			1	-- --	SPACE	74
75	SPACE	-- --	1		-- --		1	-- --	SPACE	76
77	SPACE	-- --	1			-- --	1	-- --	SPACE	78
79	SPACE	-- --	1	-- --			1	-- --	SPACE	80
81	SPACE	-- --	1		-- --		1	-- --	SPACE	82
83	SPACE	-- --	1			-- --	1	-- --	SPACE	84
		TOTAL LOAD:		11498 VA	13937 VA	14833 VA				
		TOTAL AMPS:		96 A	119 A	127 A				

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
Lighting	2880 VA	125.00%	3600 VA		
Motor	6064 VA	116.33%	7054 VA	TOTAL CONN. LOAD	40268 VA
Other	15504 VA	100.00%	15504 VA	TOTAL EST. DEMAND	41568 VA
Receptacle	10820 VA	96.21%	10410 VA	TOTAL CONN.	112 A
				TOTAL EST. DEMAND	115 A

EXCEL
Always a Better Plan
100 Camelot Drive
Fond du Lac, WI 54935
920-926-9800
excelengineer.com
Owner

PROJECT INFORMATION

PROPOSED QUICK SERVE RESTAURANT FOR:
OM GROUP - HAWAIIAN BROS - STR: 135
6421 E. 82ND ST. ● INDIANAPOLIS, IN 46250

PROFESSIONAL SEAL

SHEET DATES
ISSUED FOR CONSTRUCTION
IFC APR. 3, 2026

JOB NUMBER
250361400

SHEET NUMBER
E4.0

ELECTRICAL ONELINE DIAGRAM & SCHEDULES

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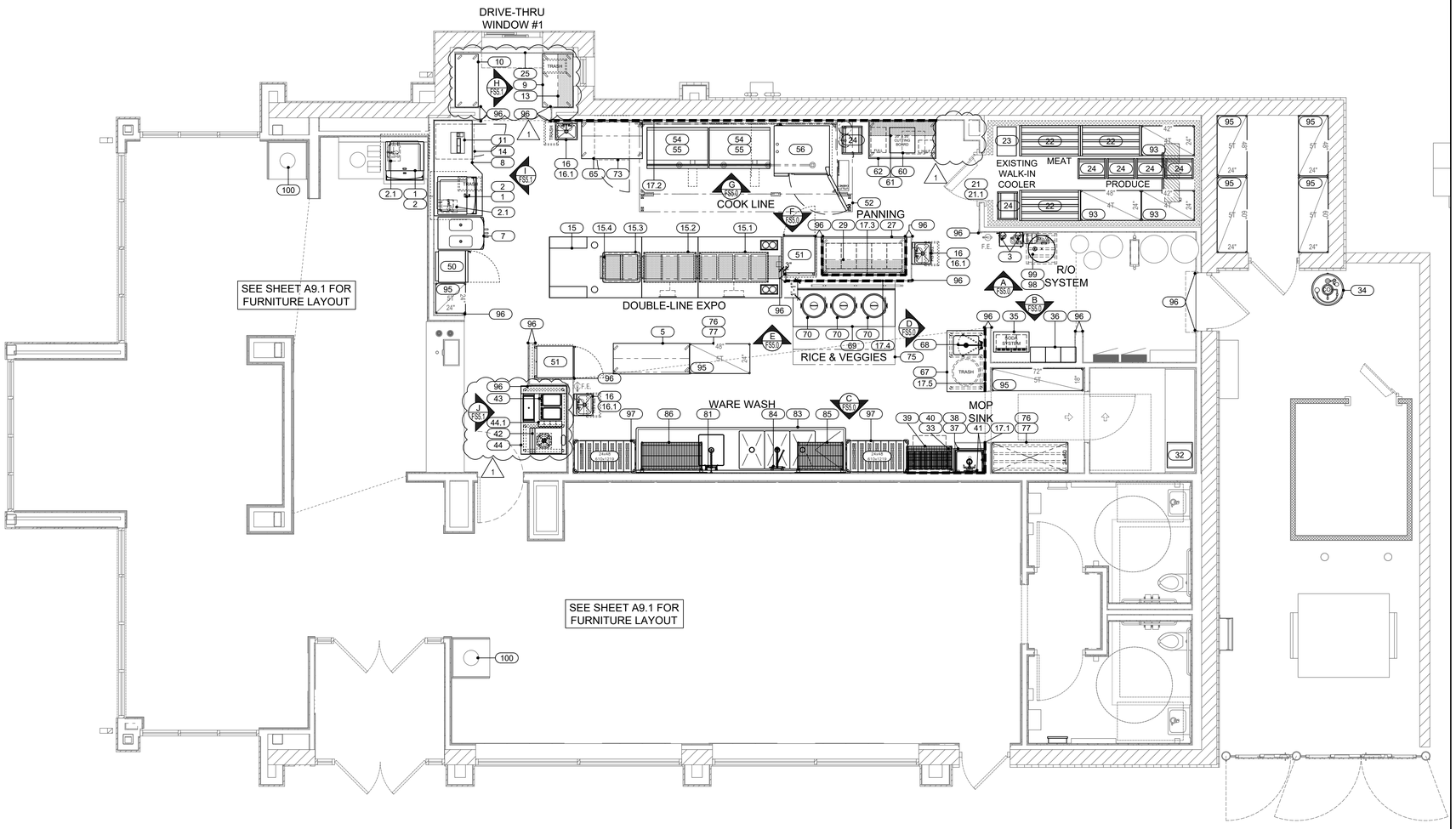

EQUIPMENT PLAN
SCALE: 1/4" = 1'-0"

REMOTE COMPRESSORS & CONDENSING UNITS

THESE NOTES APPLY TO MULTI-SYSTEM COMPRESSOR RACKS AS WELL AS INDIVIDUAL COMPRESSORS AND CONDENSORS.

EXISTING REMOTE COMPRESSOR WALK-IN COOLER

21.2

EXACT LOCATION OF COMPRESSORS ARE TO BE DETERMINED BY ARCHITECT. FREE & EASY ACCESS INTO AREA FOR COMPRESSORS MUST BE PROVIDED BY OTHERS, TO ALLOW PLACEMENT OF RACK AS WELL AS MAINTAIN MINIMUM CLEARANCE REQUIREMENTS.

SUFFICIENT AIR CHANGES MUST BE PROVIDED IN THIS AREA TO ALLOW ADEQUATE AIR CIRCULATION FOR WATER COOLED OR AIR COOLED COMPRESSORS.

STRUCTURAL SUPPORT AS WELL AS CURBS, PADS OR REDWOOD RAILS FOR COMPRESSORS, ON ROOF OR INSIDE STRUCTURE, TO BE PROVIDED BY OTHERS.

SEE MANUFACTURER'S SHOP DRAWINGS FOR DETAILED REQUIREMENTS FOR CLEARANCE ACTUAL SIZES, MECHANICAL, PLUMBING & ELECTRICAL REQUIREMENTS. FOR WATER COOLED UNITS, STRICT ADHERENCE TO MANUFACTURERS REQUIREMENTS FOR MIN./MAX. WATER TEMP AND PRESSURE MUST BE MAINTAINED.

ASHRAE CALCULATIONS AND ANY RESULTING REQUIREMENTS FOR COMPRESSOR AREA, PIPING CHASES AND FREON DETECTION SYSTEMS SHALL BE THE RESPONSIBILITY OF OTHERS.

ALL REFRIGERANT PIPING CHASES AND BUILDING PENETRATIONS SHALL BE THE RESPONSIBILITY OF THE BUILDING TRADES AND TO COMPLY WITH ALL LOCAL CODES. EXACT LINE RUNS OF REFRIGERATION PIPING SHALL BE DETERMINED IN COORDINATION WITH THE REFRIGERATION INSTALLER.

ALL ELECTRICAL DISCONNECTS TO BE PROVIDED BY OTHERS.

ROOFTOP EXHAUST FANS & MAKE-UP AIR UNITS

THESE ROOF TOP ITEMS ARE TO BE LOCATED BY THE ARCHITECT & ENGINEERS IN CONJUNCTION WITH THE EXHAUST HOOD MANUFACTURER'S SHOP DRAWING. REFER TO ARCHITECTURAL/ENGINEERING DRAWINGS FOR EXACT LOCATIONS.

REFER TO THE LATEST APPROVED MANUFACTURER'S SHOP DRAWINGS FOR COMPLETE INFORMATION AND DETAILS REGARDING ALL ASPECTS OF FANS &/OR MAKE UP AIR UNITS, INCLUDING ACTUAL SIZES, REQUIRED CLEARANCE, ETC.

ALL PENETRATIONS THRU ROOF OR BUILDING STRUCTURE, INCLUDING WALLS, FLOORS, JOISTS OR OTHER STRUCTURAL MEMBERS, IS TO BE BY OTHERS.

ALL ELECTRICAL DISCONNECTS TO BE PROVIDED BY OTHERS.

EXHAUST FAN (SEE TYPE 1 HOOD) — 52.1

EXHAUST FAN (SEE TYPE II HOOD) — 75.1

DOAS 1

GENERAL NOTES

1. THESE DRAWINGS ARE TO BE USED AS AN INSTRUMENT OF REFERENCE BY ALL OTHER TRADES AND CONTRACTORS. ALL TRADES SHALL VERIFY THE INFORMATION AS INDICATED ON THESE PLANS.
2. DIMENSIONS AND REQUIREMENTS FOR ALL EQUIPMENT THAT IS LISTED AS EXISTING, PROVIDED BY OTHERS OR PROVIDED BY OWNER, MUST BE VERIFIED WITH THE APPROPRIATE PARTIES.
3. ALL LOCAL, STATE AND NATIONAL CODES SHALL APPLY.
4. ALL DIMENSIONS ON THESE PLANS ARE BASED ON FINISHED WALL AND FLOOR DIMENSIONS. ANY DISCREPANCIES BETWEEN THESE DRAWINGS AND ACTUAL OR INTENDED CONDITIONS IN THE FIELD SHOULD BE REPORTED TO EDWARD DON & COMPANY IMMEDIATELY.
5. UNLESS OTHERWISE NOTED, ARCHITECT TO LOCATE. GENERAL CONTRACTOR TO PROVIDE ALL ROOF/BUILDING PENETRATIONS AND CURBS FOR EXHAUST/SUPPLY AIR SYSTEMS AND REMOTE COMPRESSORS.
6. ARCHITECT TO LOCATE ALL REMOTE COMPRESSORS AND CONDENSERS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
7. UNLESS OTHERWISE NOTED ALL DIMENSIONS SHOWN ON THIS PLAN ARE FROM THE FINISHED FLOOR, CEILING OR WALLS TO THE CENTERLINE OF THE ROUGH-INS.
8. EDWARD DON & COMPANY DOES NOT EMPLOY A LICENSED ARCHITECT OR ENGINEER. THESE DOCUMENTS PROVIDED BY EDWARD DON & COMPANY ARE GUIDELINE DOCUMENTS ONLY AND ARE INTENDED TO BE INCORPORATED INTO THE FINAL CONSTRUCTION DOCUMENTS BY A LICENSED ARCHITECT OR ENGINEER THAT IS EMPLOYED BY THE OWNER. FINAL CODE COMPLIANCE, PLAN SUBMITTAL AND ASSOCIATED FEES ARE THE RESPONSIBILITY OF THE ARCHITECT AND/OR GENERAL CONTRACTOR.

Design • Equipment • Contract

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THESE DRAWINGS ARE NOT FOR CONSTRUCTION UNLESS THEY BEAR THE APPROVAL STAMP OF JURISDICTIONAL REGULATING AGENCY THAT THE PROJECT IS LOCATED IN.

HAWAIIAN BROS
6421 E. 82ND ST.
INDIANAPOLIS, IN 46250

MEP SET

DESIGNER Nathan Schulz
(708) 883-8835 SchultzN@don.com

DESIGN MGR. Trina Iverson
(253)258-3964 trinaiverson@don.com

DRAFTSPERSON Nathan Schulz
(708) 883-8835 SchultzN@don.com

SHEET SIZE
D size (24" x 36")
SCALE: **1/4"=1'0" (UON)**

Food Service Revision List		
#	Description	Date
1	1ST SUBMITTAL SET	11/19/2025
2	OWNER CHANGES	01/12/2026

FOODSERVICE EQUIPMENT PLAN

FS1.0

EQUIPMENT SCHEDULE

REV	ITEM NO	QTY	EQUIPMENT CATEGORY	MANUFACTURER	MODEL NUMBER
	1	2	ICE MAKER W/O BIN	MANITOWOC	RNP0620A
	2	2	SODA DISPENSER	BY BEVERAGE VENDOR	
	2.1	2	CARBONATOR	BY BEVERAGE VENDOR	
	3	2	SCALE INHIBITOR FOR ICE MAKER	ANTUNES	SI-QD-SP
	4	-	SPARE NUMBER		
	5	1	PORK WORKSTATION	METRO	TWS2460SU-304B-S
	6	-	SPARE NUMBER		
	7	1	DOLE WHIP DISPENSER, FLOOR MODEL	TAYLOR COMPANY	C712
	8	1	STAINLESS STEEL TABLE	CLASSIC STAINLESS	CUSTOM
	9	1	STAINLESS STEEL TABLE	CLASSIC STAINLESS	CUSTOM
	10	1	STAINLESS STEEL TABLE	CLASSIC STAINLESS	CUSTOM
	11	1	POS - BY OTHERS	BY OTHERS	
	12	-	SPARE NUMBER	CLASSIC STAINLESS	CUSTOM
1	13	2	WALL-MOUNTED SHELF, 3'-6"	CLASSIC STAINLESS	CUSTOM
	14	1	UNDERCOUNTER REFRIGERATOR	TURBO AIR	MUR-28-N
	15	1	DOUBLE SIDED SERVING COUNTER	CLASSIC STAINLESS	CUSTOM
	15.1	1	DROP-IN HOT WELL - INSTALLED AS PART OF SERVING LINE #15	ALTO-SHAAM	400-HWI/D6
	15.2	1	DROP-IN HOT WELL - INSTALLED AS PART OF SERVING LINE #15	ALTO-SHAAM	300-HWI/D6
	15.3	1	DOUBLE COLD WELL - INSTALLED AS PART OF SERVING LINE #15	ATLAS METAL	WCMD-C-2
	15.4	LOT	MONITOR MOUNT	PRACTICAL QUALITY SYSTEMS	80100
	16	3	WALL MOUNT HAND SINK WITH FAUCET & SPLASH GUARD	EAGLE GROUP	BPHS-1014-F-LRS
	16.1	3	SOAP & TOWEL DISPENSER - BY OTHERS	BY OTHERS	
	17.1	LOT	SS WALL PANELS	CLASSIC STAINLESS	CUSTOM
	17.2	LOT	SS WALL PANELS	CLASSIC STAINLESS	CUSTOM
	17.3	LOT	SS WALL PANELS	CLASSIC STAINLESS	CUSTOM
	17.4	LOT	SS WALL PANELS	CLASSIC STAINLESS	CUSTOM
	17.5	LOT	SS WALL PANELS	CLASSIC STAINLESS	CUSTOM
	18-20	-	SPARE NUMBER		
	21	1	WALK-IN COOLER - EXISTING	EXISTING	
	21.1	1	WALK-IN COOLER EVAPORATOR COIL - EXISTING	EXISTING	
	21.2	1	WALK-IN COOLER REMOTE COMPRESSOR - EXISTING	EXISTING	
	22	3	DUNNAGE RACK, 48"	NEW AGE	6005
	23	1	FOOD BOX DOLLY	PRAIRIE VIEW INDUSTRIES	D1525323
	24	6	PAN RACK	NEW AGE	1505
	25	1	DRIVE-THRU WINDOW (INTERIOR) TRIM	CLASSIC STAINLESS	CUSTOM
	26	-	SPARE NUMBER		
	27	1	MOBILE WORK TABLE W/ ROLLED EDGES	CLASSIC STAINLESS	CUSTOM
	28	-	SPARE NUMBER		
	29	2	WALL MOUNTED SHELF, 5'-6"	CLASSIC STAINLESS	CUSTOM
	30-31	-	SPARE NUMBER		
	32	1	OFFICE SAFE	BY OTHERS	
	33	1	EASIWASH - BY OTHERS	BY OTHERS	
	34	1	CO2 TANK - BY OTHERS	BY OTHERS	
	35	1	BAG AND BOX SYSTEM - BY OTHERS	BY OTHERS	
	36	1	SET OF LOCKERS	WINHOLT EQUIPMENT	WL-66
	37	1	MOP SINK - TO BE PROVIDED BY G.C.	EAGLE GROUP	F1916-X
	38	1	WALL MOUNT SERVICE SINK FAUCET - TO BE PROVIDED BY G.C.	T&S BRASS	B-0667-POL
	39	2	MOP SINK SMARTWALL	METRO	1436NK4
	40	1	FLOOR CLEANING MACHINE - BY OWNER	BY OTHERS	

EQUIPMENT SCHEDULE

REV	ITEM NO	QTY	EQUIPMENT CATEGORY	MANUFACTURER	MODEL NUMBER
	41	2	MOP HANGER	EAGLE GROUP	312688-X
	42	1	FROZEN CARBINATED BEVERAGE DISPENSER	ICEE	373
	43	1	SIMPLICITY TWIN BUBBLER	CRATHCO	CS-2D-16-290
1	44	1	STAINLESS STEEL TABLE W/ ICE BIN	CLASSIC STAINLESS	CUSTOM
	44.1	1	CUP HOLDER	ICEE	CUSTOM
	45-49	-	SPARE NUMBER		
	50	1	REACH-IN REFRIGERATOR, SINGLE-DOOR	TURBO AIR	TGM-7SD-N6
	51	2	HOLDING CABINET, FULL SIZE	CARTER-HOFFMANN	HL3-18
	52	1	EXHAUST HOOD (TYPE I) W/ FSS - SEE MECHANICAL DRAWINGS	CAPTIVE-AIRE	CUSTOM
	52.1	2	EXHAUST FAN - SEE MECHANICAL DRAWINGS	CAPTIVE-AIRE	CUSTOM
	53	-	SPARE NUMBER		
	54	2	GRIDDLE, GAS, 48"	STAR	848MA
	55	2	EQUIPMENT STAND	CLASSIC STAINLESS	CUSTOM
	56	1	DOUBLE-STACK COMBI OVEN, ELECTRIC, TOP OVEN COMBISMOKE	ALTO-SHAAM	PRODIGI PRO 7-20E
	57-59	-	SPARE NUMBER		
	60	1	CHICKEN DOLLY	CLASSIC STAINLESS	CUSTOM
	61	2	WALL-MOUNTED SHELF, STACKED, 4'-5"	CLASSIC STAINLESS	CUSTOM
	62	1	CUSTOM CHICKEN PREP TABLE, FULL PAN ON RIGHT	CLASSIC STAINLESS	CUSTOM
	63-64	-	SPARE NUMBER		
	65	1	SAUCE TABLE	METRO	TWS3048SU-304B-S
	66	-	SPARE NUMBER		
	67	1	WORK TABLE W/ SINK	CLASSIC STAINLESS	CUSTOM
	68	1	DOUBLE JOINTED DECK MOUNT FAUCET	T&S BRASS	B-0245
	69	1	EQUIPMENT STAND	CLASSIC STAINLESS	CUSTOM
	70	3	RICE COOKER	TOWN EQUIPMENT	RM-55N-R
	71-72	-	SPARE NUMBER		
	73	1	UNDERCOUNTER REFRIGERATOR, SINGLE-DOOR	TURBO AIR	MUR-28-N
	74	-	SPARE NUMBER		
	75	1	EXHAUST HOOD (TYPE II) - SEE MECHANICAL DRAWINGS	CAPTIVE-AIRE	CUSTOM
	75.1	1	EXHAUST FAN - SEE MECHANICAL DRAWINGS	CAPTIVE-AIRE	CUSTOM
	76	1	DUNNAGE RACK, 60" - FOR BULK STORAGE	NEW AGE	6019
	77	1	DRY STORAGE SHELVING - 86" HIGH, 3 TIER, EPOXY	EAGLE	2460VG-X
	78-80	-	SPARE NUMBER		
	81	1	SPLASH MOUNT PRE-RINSE FAUCET	T&S BRASS	B-0133-B08
	82	-	SPARE NUMBER		
	83	1	4-COMPARTMENT SINK TABLE	CLASSIC STAINLESS	CUSTOM
	84	1	WALL MOUNT PRE-RINSE FAUCET	T&S BRASS	B-0133-A14-B08
	85	1	WARE WASH SMARTWALL	METRO	2136NK4
	86	1	WARE WASH SMARTWALL	METRO	2148NK4
	87-92	-	SPARE NUMBER		
	93	LOT	WALK-IN COOLER SHELVING - 74" HIGH, 4 TIER, EPOXY	EAGLE GROUP	2448VG-X
	94	-	SPARE NUMBER		
	95	LOT	GENERAL DRY STORAGE SHELVING - 86" HIGH, 5 TIER, EPOXY	EAGLE GROUP	QTR24363-E
	96	23	CORNER GUARD	CLASSIC STAINLESS	CUSTOM
	97	LOT	DISH STORAGE SHELVING	METRO	MAX4-2448G
	98	1	REVERSE OSMOSIS SYSTEM	ANTUNES	AQ-RO-600, VZN-521H, 7000829
	99	1	REVERSE OSMOSIS TANK RACK	NEW AGE	2031
	100	4	TRASH DOLLY	CLASSIC STAINLESS	CUSTOM
	DOAS1	1	DEDICATED OUTDOOR AIR SYSTEM (RTU1) - SEE MECHANICAL DRAWINGS	CAPTIVE-AIRE	CUSTOM

BUILD

Design • Equipment • Contract

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HAWAIIAN BROS

6421 E. 82ND ST.
INDIANAPOLIS, IN 46250

MEP SET

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SHEET SIZE
D size (24" x 36")

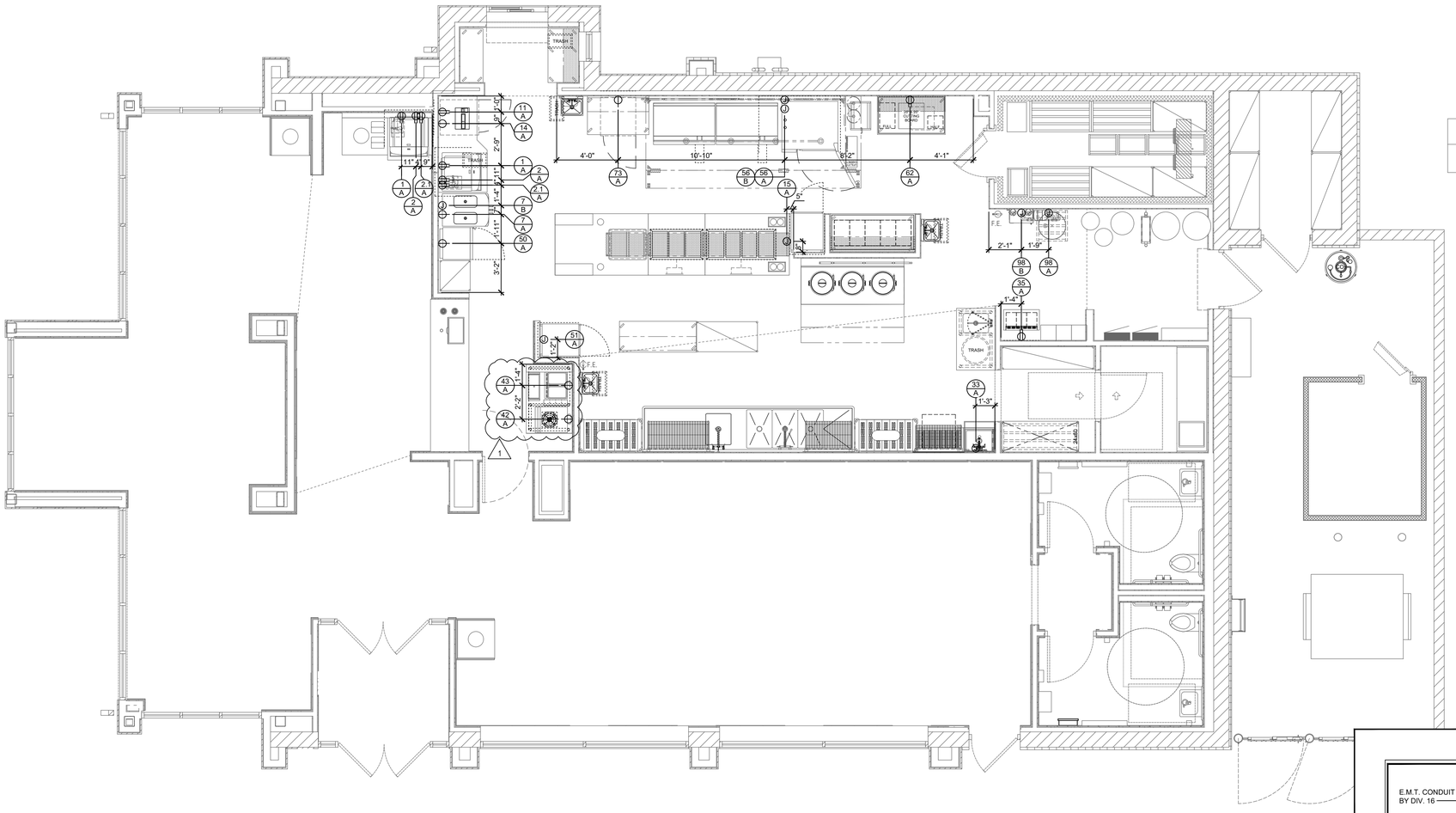
SCALE: **1/4"=1'0" (UON)**

Food Service Revision List

#	Description	Date
1	1ST SUBMITTAL SET	11/19/2025
2	OWNER CHANGES	01/12/2026

FOODSERVICE EQUIPMENT SCHEDULE

FS1.1



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

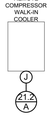
ELECTRICAL REQUIREMENTS

- (1 / A) ICE MACHINE
  120/60/1, 16.3 AMPS [EACH], NEMA 5-20 CORD & PLUG BY PEPSI, DR 72" AFF
- (2 / A) SODA DISPENSER - BY OTHERS
  120/60/1, 9.3 AMPS [EACH], NEMA 5-20, DR 48" AFF, VERIFY ALL ROUGH-IN REQUIREMENTS W/ PURVEYOR
- (2.1 / A) CARBONATOR - BY OTHERS
  120/60/1, 10.0 AMPS [EACH], NEMA 5-15P, DR 18" AFF, VERIFY ALL ROUGH-IN REQUIREMENTS W/ PURVEYOR
- (7 / A) DOLE WHIP MACHINE, FLOOR MODEL
  208-230/60/1, 30.0 AMPS [EACH], NEMA L6-30, SR 24" AFF.
- (7 / B) DOLE WHIP MACHINE, FLOOR MODEL
  208-230/60/1, 25.0 AMPS [EACH], DIRECT CONNECTION, JB 24" AFF.
- (11 / A) POS STATION - BY OWNER
  120/60/1, 16.0 AMPS [EACH], NEMA 5-20, DR 48" AFF, VERIFY ROUGH-IN REQUIREMENTS & LOCATIONS W/ OWNER
- (14 / A) UNDERCOUNTER REFRIGERATOR
  120/60/1, 2.9 AMPS, NEMA 5-15P, SR 24" AFF
- (15 / A) LOAD CENTER
  SEE BREAKER PANEL SCHEDULE THIS SHEET. D.F.A. DIRECT CONNECTION
- (27 / A) UTILITY OUTLET
  120/60/1, 16.0 AMPS, NEMA 5-20, DR 48" AFF, MOUNT HORIZONTAL
- (33 / A) EASIWASH - BY OTHERS
  208/60/1, 30 AMPS, DIRECT CONNECTION, JB 72" AFF, EC TO PROVIDE CORD TO BE HARDWIRED TO UNIT AT TIME OF INSTALL, VERIFY ALL ROUGH-IN REQUIREMENTS WITH OWNER
- (35 / A) BAG-N-BOX - BY OTHERS
  120/60/1, 16.0 AMPS, DR 66" AFF, VERIFY ROUGH-IN REQUIREMENTS W/ PURVEYOR
- (42 / A) FROZEN CARBINATED BEVERAGE DISPENSER
  215-245/60/1, 20.0 AMPS, NEMA L6-20R, SR 54" AFF, VERIFY ROUGH-IN REQUIREMENTS W/ PURVEYOR
- (43 / A) SIMPLICITY TWIN BUBBLER
  120/60/1, 8.5 AMPS, NEMA 5-15P, SR 48" AFF
- (45 / A) UTILITY OUTLET
  120/60/1, 16.0 AMPS, NEMA 5-20, DR 48" AFF, MOUNT HORIZONTAL
- (50 / A) REACH-IN REFRIGERATOR, SINGLE-DOOR
  120/60/1, 1.4 AMPS, NEMA 5-15P, SR 12" AFF.
- (51 / A) HOLDING CABINET, FULL SIZE
  120/60/1, 15.0 AMPS, DIRECT CONNECTION, JB 48" AFF
- (52.1 / A) EXHAUST FAN
  SEE MECHANICAL/ELECTRICAL DRAWINGS
- (52.2 / A) REMOTE FIRE PULL
  REFER TO DETAIL ON THIS SHEET, VERIFY WITH MANUFACTURER
- (56 / A) DOUBLE-STACKED COMBI OVEN, ELECTRIC, TOP-OVEN COMBISMOKE
  208/60/3, 54.7 AMPS, HARDWIRED, JB 54" AFF, SHUNT TRIP
- (56 / B) DOUBLE-STACKED COMBI OVEN
  208/60/3, 53.4 AMPS, HARDWIRED, JB 12" AFF, SHUNT TRIP
- (62 / A) UTILITY OUTLET
  120/60/1, 16.0 AMPS [EACH], NEMA 5-20, DR 48" AFF, MOUNT HORIZONTAL
- (73 / A) UNDERCOUNTER REFRIGERATOR
  120/60/1, 2.9 AMPS, NEMA 5-15P, SR 24" AFF
- (75.1 / A) EXHAUST FAN
  SEE MECHANICAL/ELECTRICAL DRAWINGS
- (98 / A) REVERSE OSMOSIS SYSTEM
  100-240/(50/60)/1, 0.8 AMPS, JB 90" AFF
- (98 / B) REVERSE OSMOSIS SYSTEM
  220/50/1, 0.5 AMPS, JB 54" AFF
- (—) D.O.A.S. 1
  SEE MECHANICAL/ELECTRICAL DRAWINGS

REMOTE COMPRESSORS & CONDENSING UNITS

THESE NOTES APPLY TO MULTI-SYSTEM COMPRESSOR RACKS AS WELL AS INDIVIDUAL COMPRESSORS AND CONDENSORS.

EXISTING REMOTE COMPRESSOR WALK-IN COOLER



EXACT LOCATION OF COMPRESSORS ARE TO BE DETERMINED BY ARCHITECT. FREE & EASY ACCESS INTO AREA FOR COMPRESSORS MUST BE PROVIDED BY OTHERS, TO ALLOW PLACEMENT OF RACK AS WELL AS MAINTAIN MINIMUM CLEARANCE REQUIREMENTS.

SUFFICIENT AIR CHANGES MUST BE PROVIDED IN THIS AREA TO ALLOW ADEQUATE AIR CIRCULATION FOR WATER COOLED OR AIR COOLED COMPRESSORS.

STRUCTURAL SUPPORT AS WELL AS CURBS, PADS OR REDWOOD RAILS FOR COMPRESSORS, ON ROOF OR INSIDE STRUCTURE, TO BE PROVIDED BY OTHERS.

SEE MANUFACTURER'S SHOP DRAWINGS FOR DETAILED REQUIREMENTS FOR CLEARANCE ACTUAL SIZES, MECHANICAL, PLUMBING & ELECTRICAL REQUIREMENTS. FOR WATER COOLED UNITS, STRICT ADHERENCE TO MANUFACTURERS REQUIREMENTS FOR MIN./MAX. WATER TEMP AND PRESSURE MUST BE MAINTAINED.

ASHRAE CALCULATIONS AND ANY RESULTING REQUIREMENTS FOR COMPRESSOR AREA, PIPING CHASES AND FREON DETECTION SYSTEMS SHALL BE THE RESPONSIBILITY OF OTHERS.

ALL REFRIGERANT PIPING CHASES AND BUILDING PENETRATIONS SHALL BE THE RESPONSIBILITY OF THE BUILDING TRADES AND TO COMPLY WITH ALL LOCAL CODES. EXACT LINE RUNS OF REFRIGERATION PIPING SHALL BE DETERMINED IN COORDINATION WITH THE REFRIGERATION INSTALLER.

ALL ELECTRICAL DISCONNECTS TO BE PROVIDED BY OTHERS.

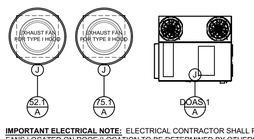
ROOFTOP EXHAUST FANS & MAKE-UP AIR UNITS

THESE ROOF TOP ITEMS ARE TO BE LOCATED BY THE ARCHITECT & ENGINEERS IN CONJUNCTION WITH THE EXHAUST HOOD MANUFACTURER'S SHOP DRAWING. REFER TO ARCHITECTURAL/ENGINEERING DRAWINGS FOR EXACT LOCATIONS.

REFER TO THE LATEST APPROVED MANUFACTURER'S SHOP DRAWINGS FOR COMPLETE INFORMATION AND DETAILS REGARDING ALL ASPECTS OF FANS &/OR MAKE UP AIR UNITS, INCLUDING ACTUAL SIZES, REQUIRED CLEARANCE, ETC.

ALL PENETRATIONS THRU ROOF OR BUILDING STRUCTURE, INCLUDING WALLS, FLOORS, JOISTS OR OTHER STRUCTURAL MEMBERS, IS TO BE BY OTHERS.

ALL ELECTRICAL DISCONNECTS TO BE PROVIDED BY OTHERS.



IMPORTANT ELECTRICAL NOTE: ELECTRICAL CONTRACTOR SHALL PROVIDE WIRE, CONDUIT AND DISCONNECTS TO EXHAUST & SUPPLY FANS LOCATED ON ROOF (LOCATION TO BE DETERMINED BY OTHERS) W/ INTERCONNECTIONS TO SWITCHES BELOW. SEE MANUFACTURERS SHOP DRAWING FOR COMPLETE ELECTRICAL DETAILS.

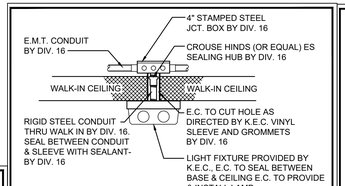
(15 / A) BREAKER PANEL SCHEDULE

120-208/60/1,52 AMPS D.F.A. EC TO STUB DOWN THRU SS CHASE FROM ABOVE & CONNECT TO BREAKER PANEL. EC TO PROVIDE INTERCONNECTIONS IN COUNTER AS REQUIRED. VERIFY ALL DETAILS WITH MANUFACTURER'S SHOP DRAWINGS.
BREAKER PANEL TO BE PRE-WIRED TO THE FOLLOWING ITEMS:

(15.1 / A)	HOT WELL 208/60/1, 10.0 AMPS
(15.2 / A)	HOT WELL 208/60/1, 7.5 AMPS
(15.3 / A)	DOUBLE COLD WELL 120/60/1, 3.9 AMPS
(51 / A)	HOLDING CABINET, FULL SIZE 120/60/1, 15.0 AMPS
(—)	MONITORS - BY OWNER 120/60/1, 15.0 AMPS

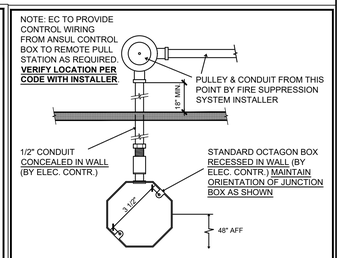
ELECTRICAL SYMBOLS

(1 / A) ITEM NUMBER / CONNECTION NUMBER	ELECTRICAL ROUGH-IN NOTE (SEE SCHEDULE)
	SINGLE RECEPTACLE
	DUPLEX RECEPTACLE
	QUAD RECEPTACLE
	ISOLATED GROUND DUPLEX RECEPTACLE
	HIGH VOLTAGE RECEPTACLE
J	JUNCTION BOX
	SPECIAL OUTLET
	WALL SWITCH
	TELEPHONE
	DATA
	USB RECEPTACLE
	ELECTRICAL INTERCONNECTION



1. ALL CONDUIT TO BE RUN ON EXTERIOR OF WALK-IN BY DIV. 16 UNLESS BOX IS LOCATED OUTDOORS. THEN CONDUIT IS TO RUN BELOW CEILING.
2. ALL PENETRATIONS THRU WALK-IN TO BE THOROUGHLY SEALED
3. ALL LIGHT FIXTURES TO BE FURNISHED BE K.E.C.
4. MOUNTING FIXTURES, ALL CONDUIT AND ALL INTER-WIRING BY DIV. 16.
5. ALL LAMPS (BULBS) TO BE FURNISHED BY OTHERS.

WALK-IN LIGHT DETAIL
NOT TO SCALE



REMOTE FIRE PULL DETAIL
NOT TO SCALE

ELECTRICAL NOTES

1. THESE DRAWINGS ARE TO BE USED AS AN INSTRUMENT OF REFERENCE BY ALL OTHER TRADES AND CONTRACTORS. ALL TRADES SHALL VERIFY THE INFORMATION AS INDICATED ON THESE PLANS.
2. DIMENSIONS AND REQUIREMENTS FOR ALL EQUIPMENT THAT IS LISTED AS EXISTING, PROVIDED BY OTHERS OR PROVIDED BY OWNER, MUST BE VERIFIED WITH THE APPROPRIATE PARTIES.
3. ALL LOCAL, STATE AND NATIONAL CODES SHALL APPLY.
4. THESE UTILITY REQUIREMENT DRAWINGS INDICATE THE UTILITY AND LOCATION OF REQUIREMENTS BASED ON THE EQUIPMENT SPECIFIED.
5. ALL EQUIPMENT SHALL BE WIRED IN STRICT CONFORMANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND/OR SHOP DRAWINGS.
6. UNLESS OTHERWISE NOTED, ALL DIMENSIONS SHOWN ON THIS PLAN ARE FROM THE FINISHED FLOOR, CEILING, WALLS OR COLUMN CENTERLINES TO THE CENTERLINE OF THE ROUGH-INS.
7. ALL ELECTRICAL CONNECTIONS ARE TO BE EXTENDED AND INTERCONNECTED TO CONNECTION POINTS ON THE EQUIPMENT BY OTHERS. UNLESS SPECIFIED, ALL HARDWARE REQUIRED FOR THESE CONNECTIONS SHALL BE SUPPLIED BY THE ELECTRICAL CONTRACTOR.
8. SURFACE MOUNTED WIRE AND CONDUIT WILL NOT BE ALLOWED. ALL ELECTRICAL LINES AND CONDUIT SHALL BE EXTENDED THROUGH AND OUT OF BUILDING WALLS WHERE POSSIBLE. WHERE SURFACE MOUNTED CONDUIT IS UNAVOIDABLE, IT MUST BE COORDINATED WITH EDWARD DON & COMPANY.
9. ROUGH-INS OUT OF FLOOR SHOULD BE STUBBED UP 4" ABOVE FINISHED FLOOR AND BROUGHT TO THE REQUIRED HEIGHT AFTER EQUIPMENT IS SET IN PLACE.
10. ALL 120 VOLT UTILITY OUTLETS TO BE G.F.C.I. OUTLETS.
11. ALL NECESSARY ELECTRICAL DISCONNECTS, SHUNT TRIP BREAKERS AND STARTERS ARE TO BE FURNISHED AND INSTALLED BY OTHERS, UNLESS PROVIDED AS A STANDARD OR SPECIFIED EQUIPMENT COMPONENT OF THE EQUIPMENT MANUFACTURER. THIS SHALL INCLUDE ELECTRICAL DISCONNECTS FOR ALL REMOTE COMPRESSORS, BOOSTER HEATERS AND OTHER ITEMS REQUIRED BY CODE.
12. ALL ELECTRICAL ITEMS SUPPLIED UNDER COOKING LINE EXHAUST HOOD ARE TO SHUT DOWN WITH SHUNT TRIP BREAKERS (BY OTHERS) CONNECTED TO FIRE SYSTEM. ELECTRICAL ENGINEER TO CONFIRM COMPLIANCE TO ALL CODES.
13. ALL OUTLETS, JUNCTION BOXES, DISCONNECTS, ETC. SHALL BE INSTALLED SO AS NOT TO INTERFERE WITH THE PERFORMANCE, FUNCTION, OR PLACEMENT OF THE EQUIPMENT.
14. STARTERS. RELAYS, HEATERS AND SWITCHES REQUIRED FOR EXHAUST AND SUPPLY FANS ARE TO BE PROVIDED AND INSTALLED BY THE ELECTRICAL CONTRACTOR.
15. ALL ELECTRICAL CONDUIT TO BE RUN ON TOP (EXTERIOR) OF WALK-IN COOLER BOX WHERE POSSIBLE.
16. UNLESS PROVIDED BY THE MANUFACTURER, ALL LIGHT BULBS FOR FOODSERVICE EQUIPMENT TO BE PROVIDED BY OTHERS.
17. MOUNT DISCONNECT FURNISHED WITH CU BY ELECTRICIAN TO PARAPET. DISCONNECT SHALL NOT BE PERMITTED TO BE MOUNTED ON CU.

DON BUILD
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HAWAIIAN BROS
6421 E. 82ND ST.
INDIANAPOLIS, IN 46250

MEP SET

DESIGNER Nathan Schulz
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DESIGN MGR. Trina Iverson
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DRAFTSPERSON Nathan Schulz
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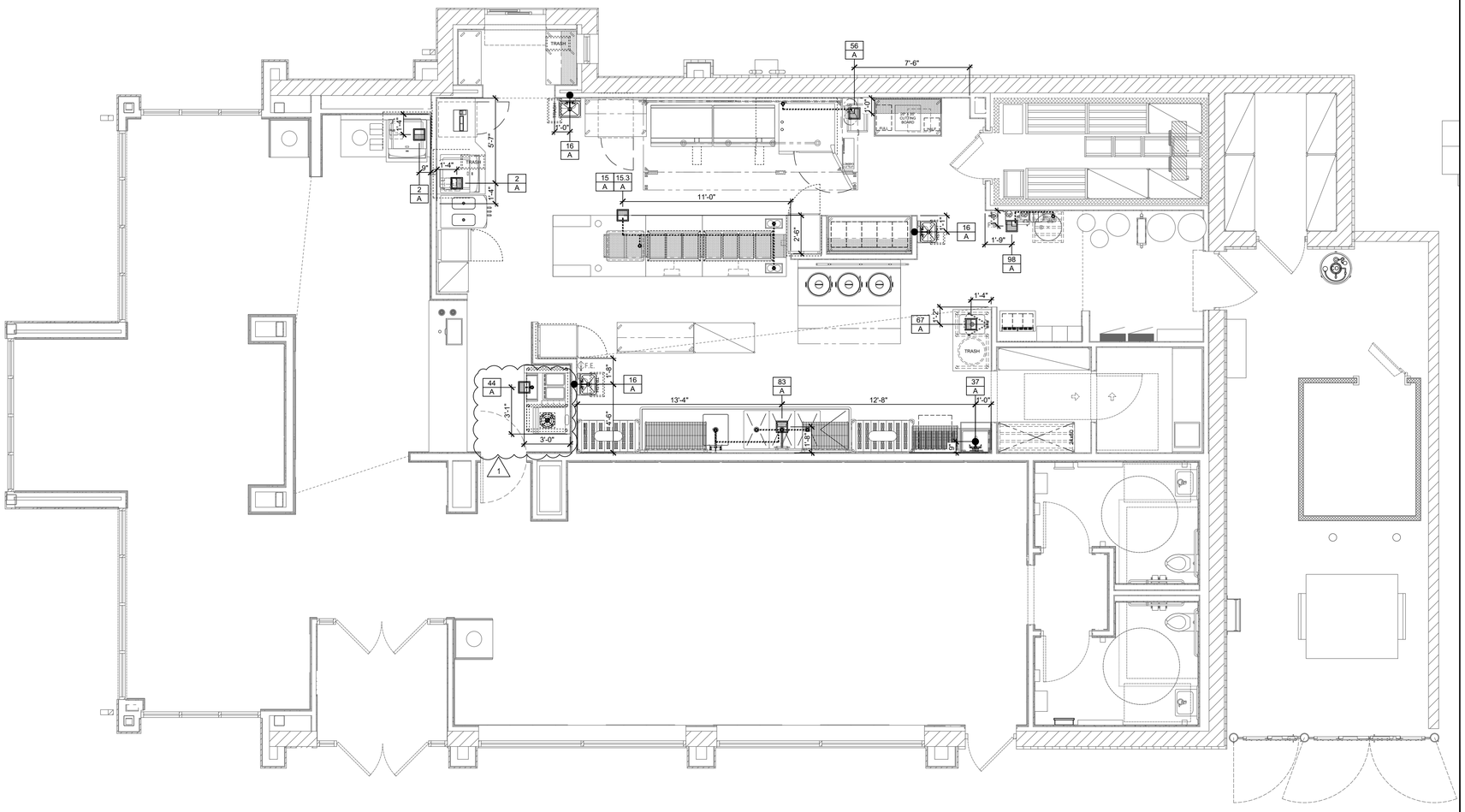
SHEET SIZE
D size (24" x 36")
SCALE: 1/4"=1'0" (UON)

Food Service Revision List		
#	Description	Date
1	1ST SUBMITTAL SET	11/19/2025
2	OWNER CHANGES	01/12/2026

FOODSERVICE ELECTRICAL PLAN

FS2.0



UNDERGROUND PLUMBING PLAN
SCALE: 1/4" = 1'-0"

UNDERGROUND PLUMBING REQUIREMENTS

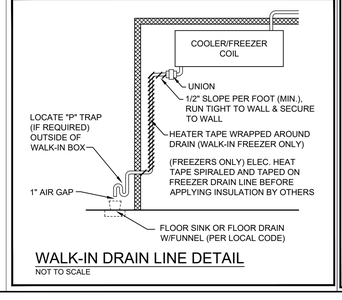
2 / A	ICE MACHINE FLOOR SINK, PC TO EXTEND INDIRECT WASTE FROM ICE MACHINE AND SODA DISPENSER TO FLOOR SINK
15 / A	DOUBLE SIDED SERVING COUNTER FLOOR SINK, PC TO EXTEND INDIRECT WASTE FROM COLD WELL TO FLOOR SINK
15.3 / A	DOUBLE COLD WELL FLOOR SINK, PC TO EXTEND INDIRECT WASTE FROM COLD WELL TO FLOOR SINK
16 / A	WALL-MOUNTED HAND SINK 1-1/2" DIRECT WASTE, 16" AFF
37 / A	MOP SINK 1-1/2" DIRECT WASTE, STUB UP, VERIFY ALL ROUGH-IN REQUIREMENTS WITH OWNER
44 / A	S/S TABLE ICE BIN INDIRECT DRAIN, PC TO EXTEND INDIRECT WASTE FROM ICE BIN TO FLOOR SINK (1)
56 / A	DOUBLE-STACKED COMBI OVEN, ELECTRIC, TOP-OVEN COMBISMOKE FLOOR SINK, PC TO EXTEND INDIRECT WASTE FROM DOUBLE-STACKED COMBI OVEN TO FLOOR SINK. ONE DRAIN LINE PER OVEN, TOTAL TWO DRAIN LINES.
67 / A	WORK TABLE W/ SINK FLOOR SINK, PC TO EXTEND INDIRECT WASTE FROM PREP SINK TO FLOOR SINK
83 / A	FOUR COMPARTMENT SINK FLOOR SINK, PC TO EXTEND INDIRECT WASTE FROM (4) SINKS TO FLOOR SINK
98 / A	REVERSE OSMOSIS SYSTEM INDIRECT DRAIN, PC TO EXTEND INDIRECT WASTE FROM R/O SYSTEM TO MOP SINK.
DOAS 1	DOAS 1 SEE MECHANICAL DRAWINGS

PLUMBING NOTES

1. THESE DRAWINGS ARE TO BE USED AS AN INSTRUMENT OF REFERENCE BY ALL OTHER TRADES AND CONTRACTORS. ALL TRADES SHALL VERIFY THE INFORMATION AS INDICATED ON THESE PLANS.
2. DIMENSIONS AND REQUIREMENTS FOR ALL EQUIPMENT THAT IS LISTED AS EXISTING, PROVIDED BY OTHERS OR PROVIDED BY OWNER, MUST BE VERIFIED WITH THE APPROPRIATE PARTIES.
3. ALL LOCAL, STATE AND NATIONAL CODES SHALL APPLY.
4. THESE UTILITY REQUIREMENT DRAWINGS INDICATE THE UTILITY AND LOCATION OF REQUIREMENTS BASED ON THE EQUIPMENT SPECIFIED.
5. ALL EQUIPMENT SHALL BE PLUMBED IN STRICT CONFORMANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND/OR SHOP DRAWINGS.
6. UNLESS OTHERWISE NOTED, ALL DIMENSIONS SHOWN ON THIS PLAN ARE FROM THE FINISHED FLOOR, CEILING, WALLS OR COLUMN CENTERLINES TO THE CENTERLINE OF THE ROUGH-INS.
7. ALL PLUMBING CONNECTIONS SHALL BE EXTENDED AND INTERCONNECTED TO CONNECTION POINTS ON THE EQUIPMENT BY OTHERS. UNLESS SPECIFIED, ALL HARDWARE REQUIRED FOR THESE CONNECTIONS SHALL BE SUPPLIED BY THE PLUMBING CONTRACTOR.
8. SURFACE MOUNTED PIPING WILL NOT BE ALLOWED. ALL PIPING SHALL BE EXTENDED THROUGH AND OUT OF BUILDING WALLS WHERE POSSIBLE. WHERE SURFACE MOUNTED PLUMBING IS UNAVOIDABLE, IT MUST BE COORDINATED WITH EDWARD DON & COMPANY.
9. ROUGH-INS OUT OF FLOOR SHOULD BE STUBBED UP 4" ABOVE FINISHED FLOOR AND BROUGHT TO THE REQUIRED HEIGHT AFTER EQUIPMENT IS SET IN PLACE.
10. ONLY COMPONENTS SUPPLIED STANDARD BY THE MANUFACTURER ARE INCLUDED. ALL HARDWARE REQUIRED FOR CONNECTIONS SHALL BE SUPPLIED BY THE PLUMBING CONTRACTOR. SUCH COMPONENTS INCLUDE BUT ARE NOT LIMITED TO, SHUT-OFFS, PRESSURE REGULATORS, VACUUM BREAKERS, P-TRAPS, BACKFLOW PREVENTERS, ETC.
11. PLUMBING CONTRACTOR TO VERIFY THAT ALL APPLIANCES ARE SUPPLIED WITH APPROPRIATE GAS PRESSURE AND THAT ANY VARIANCES IN GAS PRESSURE BE CLEARLY IDENTIFIED AND BROUGHT TO THE IMMEDIATE ATTENTION OF EDWARD DON & COMPANY.
12. ALL INDIRECT WASTE AND CONDENSATE DRAIN LINES SHALL BE EXTENDED FROM EQUIPMENT FITTINGS TO APPROPRIATE DRAINS AS CODES REQUIRE, BY OTHERS.
13. UNLESS OTHERWISE SPECIFIED, HOT WATER SUPPLIED TO BOOSTER HEATER SHALL BE A MINIMUM TEMPERATURE OF 140° F.
14. PLUMBING CONTRACTOR TO VERIFY WATER TEMPERATURE REQUIREMENTS FOR EACH PIECE OF EQUIPMENT. ANY DISCREPANCY BETWEEN MANUFACTURER'S REQUIREMENTS AND TEMPERATURES PROVIDED SHALL BE CLEARLY IDENTIFIED AND BROUGHT TO THE IMMEDIATE ATTENTION OF EDWARD DON & COMPANY.
15. PLUMBING CONTRACTOR TO PROVIDE INSULATED HOT WATER CONNECTIONS BETWEEN BOOSTER HEATER AND DISHMACHINE.
16. UNLESS OTHERWISE SPECIFIED BY CODE, ALL DRAIN LINES FOR DISPOSERS SHALL BY-PASS GREASE INTERCEPTORS.
17. NO GENERAL PURPOSE FLOOR DRAINS ARE SHOWN ON THESE PLANS. THE SPECIFICATION OF THOSE DRAINS, AS WELL AS THE DESIGN FOR REQUIRED SLOPES IN THE FLOOR TO THOSE DRAINS, SHALL BE THE RESPONSIBILITY OF THE ARCHITECT AND/OR ENGINEERS.

PLUMBING SYMBOLS

1 / A	ITEM NUMBER / CONNECTION NUMBER — PLUMBING ROUGH-IN NOTE (SEE SCHEDULE)
	COLD WATER CONNECTION
	HOT WATER CONNECTION
	HOT WATER CONNECTION - 140° MINIMUM
	FLOOR SINK
	FLOOR SINK-HALF COVER
	FLOOR DRAIN
	FUNNEL FLOOR DRAIN
FT	FILTERED COLD WATER
	INDIRECT DRAIN
	DIRECT DRAIN
G	GAS



WALK-IN DRAIN LINE DETAIL
NOT TO SCALE

REMOTE COMPRESSORS & CONDENSING UNITS

THESE NOTES APPLY TO MULTI-SYSTEM COMPRESSOR RACKS AS WELL AS INDIVIDUAL COMPRESSORS AND CONDENSORS.

EXISTING REMOTE COMPRESSOR WALK-IN COOLER

EXACT LOCATION OF COMPRESSORS ARE TO BE DETERMINED BY ARCHITECT. FREE & EASY ACCESS INTO AREA FOR COMPRESSORS MUST BE PROVIDED BY OTHERS, TO ALLOW PLACEMENT OF RACK AS WELL AS MAINTAIN MINIMUM CLEARANCE REQUIREMENTS.

SUFFICIENT AIR CHANGES MUST BE PROVIDED IN THIS AREA TO ALLOW ADEQUATE AIR CIRCULATION FOR WATER COOLED OR AIR COOLED COMPRESSORS.

STRUCTURAL SUPPORT AS WELL AS CURBS, PADS OR REDWOOD RAILS FOR COMPRESSORS, ON ROOF OR INSIDE STRUCTURE, TO BE PROVIDED BY OTHERS.

SEE MANUFACTURER'S SHOP DRAWINGS FOR DETAILED REQUIREMENTS FOR CLEARANCE ACTUAL SIZES, MECHANICAL, PLUMBING & ELECTRICAL REQUIREMENTS. FOR WATER COOLED UNITS, STRICT ADHERENCE TO MANUFACTURERS REQUIREMENTS FOR MIN./MAX. WATER TEMP AND PRESSURE MUST BE MAINTAINED.

ASHRAE CALCULATIONS AND ANY RESULTING REQUIREMENTS FOR COMPRESSOR AREA, PIPING CHASES AND FREON DETECTION SYSTEMS SHALL BE THE RESPONSIBILITY OF OTHERS.

ALL REFRIGERANT PIPING CHASES AND BUILDING PENETRATIONS SHALL BE THE RESPONSIBILITY OF THE BUILDING TRADES AND TO COMPLY WITH ALL LOCAL CODES. EXACT LINE RUNS OF REFRIGERATION PIPING SHALL BE DETERMINED IN COORDINATION WITH THE REFRIGERATION INSTALLER.

ALL ELECTRICAL DISCONNECTS TO BE PROVIDED BY OTHERS.

PLUMBING NOTE:
VERIFY ALL DETAILS WITH MANUFACTURERS LATEST SHOP DRAWINGS.

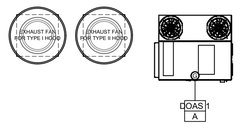
ROOFTOP EXHAUST FANS & MAKE-UP AIR UNITS

THESE ROOF TOP ITEMS ARE TO BE LOCATED BY THE ARCHITECT & ENGINEERS IN CONJUNCTION WITH THE EXHAUST HOOD MANUFACTURER'S SHOP DRAWING. REFER TO ARCHITECTURAL/ENGINEERING DRAWINGS FOR EXACT LOCATIONS.

REFER TO THE LATEST APPROVED MANUFACTURER'S SHOP DRAWINGS FOR COMPLETE INFORMATION AND DETAILS REGARDING ALL ASPECTS OF FANS &/OR MAKE UP AIR UNITS, INCLUDING ACTUAL SIZES, REQUIRED CLEARANCE, ETC.

ALL PENETRATIONS THRU ROOF OR BUILDING STRUCTURE, INCLUDING WALLS, FLOORS, JOISTS OR OTHER STRUCTURAL MEMBERS, IS TO BE BY OTHERS.

ALL ELECTRICAL DISCONNECTS TO BE PROVIDED BY OTHERS.



BUILD
Design • Equipment • Contract

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HAWAIIAN BROS
6421 E. 82ND ST.
INDIANAPOLIS, IN 46250

MEP SET

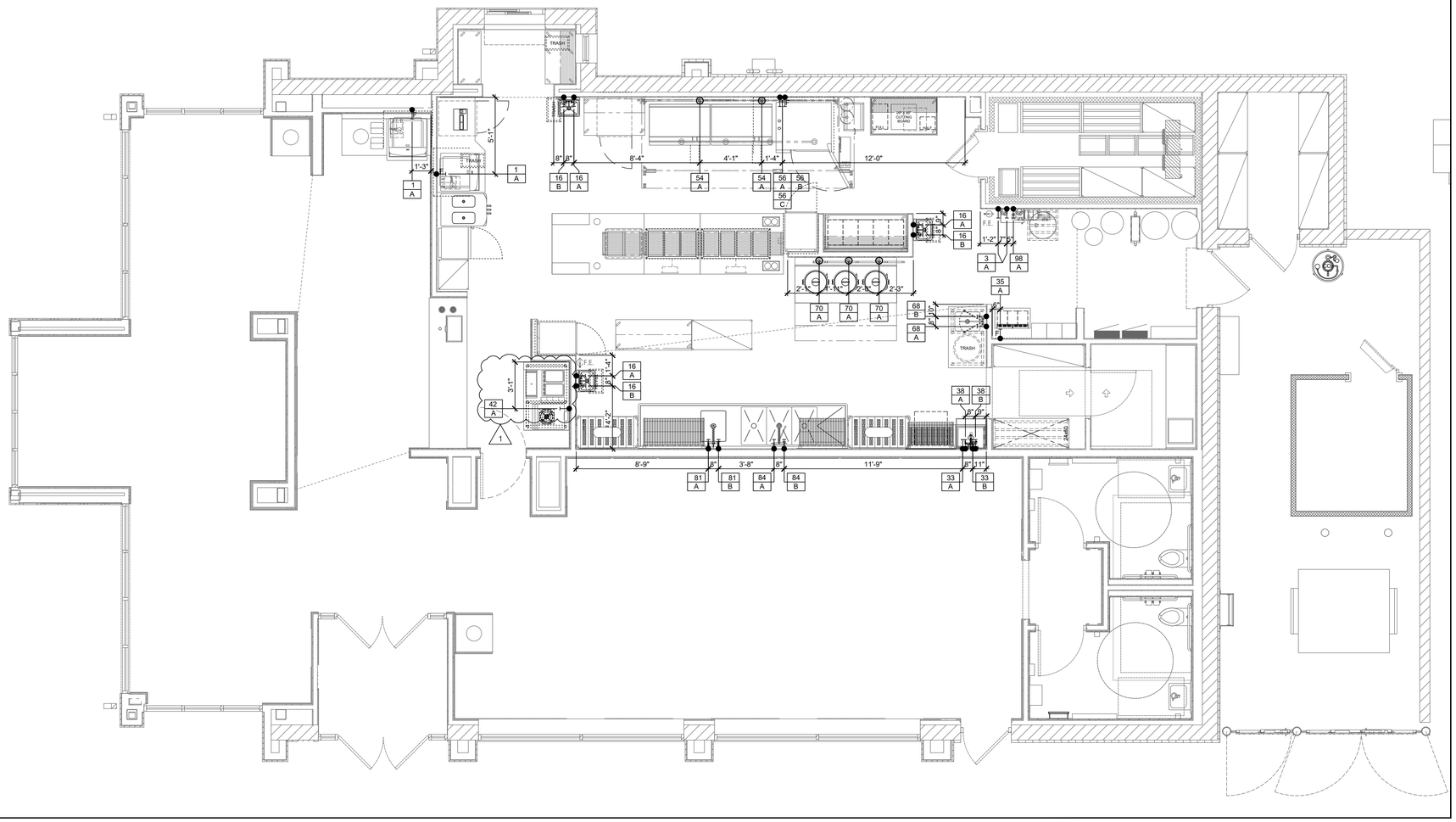
DESIGNER Nathan Schulz
(708) 883-8835 SchultzN@don.com
DESIGN MGR. Trina Iverson
(253)258-3964 trinaiverson@don.com
DRAWTSPERSON Nathan Schulz
(708) 883-8835 SchultzN@don.com

SHEET SIZE
D size (24" x 36")
SCALE: **1/4"=1'0" (UON)**

Food Service Revision List		
#	Description	Date
1	1ST SUBMITTAL SET	11/19/2025
2	OWNER CHANGES	01/12/2026

FOODSERVICE UNDERGROUND PLUMBING PLAN

FS3.0



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

PLUMBING REQUIREMENTS

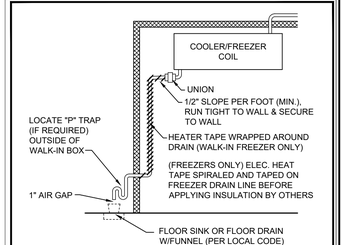
1 A	ICE MACHINE 1/2" CW, 14" AFF INSTALLED UNDERCOUNTER
3 A	SCALE INHIBITOR 3/4" CW, 14" AFF, INSTALLED UNDERCOUNTER WITH ROOM TO REPLACE FILTER, PC TO EXTEND FILTERED WATER TO ICE MACHINE(ITEM#1).
16 A	WALL-MOUNTED HAND SINK 1/2" CW, 14" AFF
16 B	WALL-MOUNTED HAND SINK 1/2" HW, 14" AFF
33 A	EASIWASH - BY OTHERS 1/2" CW, PC TO INSTALL ROUGH-IN 3-4" FROM CEILING, VERIFY ALL ROUGH-IN REQUIREMENTS WITH OWNER
33 B	EASIWASH - BY OTHERS 1/2" HW, PC TO INSTALL ROUGH-IN 3-4" FROM CEILING, VERIFY ALL ROUGH-IN REQUIREMENTS WITH OWNER
35 A	SODA SYSTEM - BY OTHERS 3/4" CW, 96" AFF, VERIFY ROUGH-IN REQUIREMENTS W/ PURVEYOR
38 A	MOP SINK FAUCET 1/2" CW, 36" AFF, VERIFY ALL ROUGH-IN REQUIREMENTS WITH OWNER
38 B	MOP SINK FAUCET 1/2" HW, 36" AFF, VERIFY ALL ROUGH-IN REQUIREMENTS WITH OWNER
42 A	FROZEN CARBINATED BEVERAGE DISPENSER 3/8" CW, 60" AFF, VERIFY ROUGH-IN REQUIREMENTS W/ PURVEYOR
54 A	GRIDDLE 3/4" GAS (120,000 BTU) [EACH], 18" AFF, QUICK DISCONNECT HOSES PROVIDED BY KEC
56 A	DOUBLE-STACKED COMBI OVEN, ELECTRIC, TOP-OVEN COMBISMOKE 3/4" CW, 54" AFF, PC TO RUN CW LINE TO UNTREATED WATER INLET. PC TO PROVIDE AND INSTALL SHUT-OFF VALVE AND BACKFLOW PREVENTER.
56 B	DOUBLE-STACKED COMBI OVEN, ELECTRIC, TOP-OVEN COMBISMOKE 3/4" CW, 18" AFF, PC TO RUN CW LINE TO UNTREATED WATER INLET. PC TO PROVIDE AND INSTALL SHUT-OFF VALVE AND BACKFLOW PREVENTER.
56 C	DOUBLE-STACKED COMBI OVEN, ELECTRIC, TOP-OVEN COMBISMOKE 3/4" CW(FILTERED), 18" & 54" AFF, PC TO RUN CW LINE FROM R/O SYSTEM FILTER(ITEM#98) TO #56(COMBI OVEN) TREATED WATER INLET. TOTAL TWO TREATED WATER CONNECTIONS.
68 A	PREP SINK FAUCET 1/2" CW, 14" AFF
68 B	PREP SINK FAUCET 1/2" HW, 14" AFF
70 A	RICE COOKER 3/4" GAS (34,600 BTU [EACH]), 18" AFF, QUICK DISCONNECT HOSES PROVIDED BY KEC
81 A	PRE-RINSE FAUCET 1/2" CW, 14" AFF
81 B	PRE-RINSE FAUCET 1/2" HW, 14" AFF
84 A	PRE-RINSE FAUCET 1/2" CW, 14" AFF
84 B	PRE-RINSE FAUCET 1/2" HW, 14" AFF
98 A	REVERSE OSMOSIS SYSTEM 3/4" CW, 84" AFF, INSTALLED WITH ROOM TO REPLACE FILTER(S), PC TO EXTEND R/O FILTERED WATER TO SODA DISPENSER(#35), AND COMBI OVENS(#56).
	DOAS 1 SEE MECHANICAL DRAWINGS

PLUMBING NOTES

1. THESE DRAWINGS ARE TO BE USED AS AN INSTRUMENT OF REFERENCE BY ALL OTHER TRADES AND CONTRACTORS. ALL TRADES SHALL VERIFY THE INFORMATION AS INDICATED ON THESE PLANS.
2. DIMENSIONS AND REQUIREMENTS FOR ALL EQUIPMENT THAT IS LISTED AS EXISTING, PROVIDED BY OTHERS OR PROVIDED BY OWNER, MUST BE VERIFIED WITH THE APPROPRIATE PARTIES.
3. ALL LOCAL, STATE AND NATIONAL CODES SHALL APPLY.
4. THESE UTILITY REQUIREMENT DRAWINGS INDICATE THE UTILITY AND LOCATION OF REQUIREMENTS BASED ON THE EQUIPMENT SPECIFIED.
5. ALL EQUIPMENT SHALL BE PLUMBED IN STRICT CONFORMANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND/OR SHOP DRAWINGS.
6. UNLESS OTHERWISE NOTED, ALL DIMENSIONS SHOWN ON THIS PLAN ARE FROM THE FINISHED FLOOR, CEILING, WALLS OR COLUMN CENTERLINES TO THE CENTERLINE OF THE ROUGH-INS.
7. ALL PLUMBING CONNECTIONS SHALL BE EXTENDED AND INTERCONNECTED TO CONNECTION POINTS ON THE EQUIPMENT BY OTHERS. UNLESS SPECIFIED, ALL HARDWARE REQUIRED FOR THESE CONNECTIONS SHALL BE SUPPLIED BY THE PLUMBING CONTRACTOR.
8. SURFACE MOUNTED PIPING WILL NOT BE ALLOWED. ALL PIPING SHALL BE EXTENDED THROUGH AND OUT OF BUILDING WALLS WHERE POSSIBLE. WHERE SURFACE MOUNTED PLUMBING IS UNAVOIDABLE, IT MUST BE COORDINATED WITH EDWARD DON & COMPANY.
9. ROUGH-INS OUT OF FLOOR SHOULD BE STUBBED UP 4" ABOVE FINISHED FLOOR AND BROUGHT TO THE REQUIRED HEIGHT AFTER EQUIPMENT IS SET IN PLACE.
10. ONLY COMPONENTS SUPPLIED STANDARD BY THE MANUFACTURER ARE INCLUDED. ALL HARDWARE REQUIRED FOR CONNECTIONS SHALL BE SUPPLIED BY THE PLUMBING CONTRACTOR. SUCH COMPONENTS INCLUDE BUT ARE NOT LIMITED TO, SHUT-OFFS, PRESSURE REGULATORS, VACUUM BREAKERS, P-TRAPS, BACKFLOW PREVENTERS, ETC.
11. PLUMBING CONTRACTOR TO VERIFY THAT ALL APPLIANCES ARE SUPPLIED WITH APPROPRIATE GAS PRESSURE AND THAT ANY VARIANCES IN GAS PRESSURE BE CLEARLY IDENTIFIED AND BROUGHT TO THE IMMEDIATE ATTENTION OF EDWARD DON & COMPANY.
12. ALL INDIRECT WASTE AND CONDENSATE DRAIN LINES SHALL BE EXTENDED FROM EQUIPMENT FITTINGS TO APPROPRIATE DRAINS AS CODES REQUIRE, BY OTHERS.
13. UNLESS OTHERWISE SPECIFIED, HOT WATER SUPPLIED TO BOOSTER HEATER SHALL BE A MINIMUM TEMPERATURE OF 140° F.
14. PLUMBING CONTRACTOR TO VERIFY WATER TEMPERATURE REQUIREMENTS FOR EACH PIECE OF EQUIPMENT. ANY DISCREPANCY BETWEEN MANUFACTURER'S REQUIREMENTS AND TEMPERATURES PROVIDED SHALL BE CLEARLY IDENTIFIED AND BROUGHT TO THE IMMEDIATE ATTENTION OF EDWARD DON & COMPANY.
15. PLUMBING CONTRACTOR TO PROVIDE INSULATED HOT WATER CONNECTIONS BETWEEN BOOSTER HEATER AND DISHMACHINE.
16. UNLESS OTHERWISE SPECIFIED BY CODE, ALL DRAIN LINES FOR DISPOSERS SHALL BY-PASS GREASE INTERCEPTORS.
17. NO GENERAL PURPOSE FLOOR DRAINS ARE SHOWN ON THESE PLANS. THE SPECIFICATION OF THOSE DRAINS, AS WELL AS THE DESIGN FOR REQUIRED SLOPES IN THE FLOOR TO THOSE DRAINS, SHALL BE THE RESPONSIBILITY OF THE ARCHITECT AND/OR ENGINEERS.

PLUMBING SYMBOLS

A / A	ITEM NUMBER / CONNECTION NUMBER — PLUMBING ROUGH-IN NOTE (SEE SCHEDULE)
	COLD WATER CONNECTION
	HOT WATER CONNECTION
	HOT WATER CONNECTION - 140° MINIMUM
	FLOOR SINK
	FLOOR SINK-HALF COVER
	FLOOR DRAIN
	FUNNEL FLOOR DRAIN
FT	FILTERED COLD WATER
	INDIRECT DRAIN
	DIRECT DRAIN
	GAS



WALK-IN DRAIN LINE DETAIL
NOT TO SCALE

REMOTE COMPRESSORS & CONDENSING UNITS

THESE NOTES APPLY TO MULTI-SYSTEM COMPRESSOR RACKS AS WELL AS INDIVIDUAL COMPRESSORS AND CONDENSORS.

EXISTING REMOTE COMPRESSOR WALK-IN COOLER

EXACT LOCATION OF COMPRESSORS ARE TO BE DETERMINED BY ARCHITECT. FREE & EASY ACCESS INTO AREA FOR COMPRESSORS MUST BE PROVIDED BY OTHERS, TO ALLOW PLACEMENT OF RACK AS WELL AS MAINTAIN MINIMUM CLEARANCE REQUIREMENTS.

SUFFICIENT AIR CHANGES MUST BE PROVIDED IN THIS AREA TO ALLOW ADEQUATE AIR CIRCULATION FOR WATER COOLED OR AIR COOLED COMPRESSORS.

STRUCTURAL SUPPORT AS WELL AS CURBS, PADS OR REDWOOD RAILS FOR COMPRESSORS, ON ROOF OR INSIDE STRUCTURE, TO BE PROVIDED BY OTHERS.

SEE MANUFACTURER'S SHOP DRAWINGS FOR DETAILED REQUIREMENTS FOR CLEARANCE ACTUAL SIZES, MECHANICAL, PLUMBING & ELECTRICAL REQUIREMENTS. FOR WATER COOLED UNITS, STRICT ADHERENCE TO MANUFACTURERS REQUIREMENTS FOR MIN./MAX. WATER TEMP AND PRESSURE MUST BE MAINTAINED.

ASHRAE CALCULATIONS AND ANY RESULTING REQUIREMENTS FOR COMPRESSOR AREA, PIPING CHASES AND FREON DETECTION SYSTEMS SHALL BE THE RESPONSIBILITY OF OTHERS.

ALL REFRIGERANT PIPING CHASES AND BUILDING PENETRATIONS SHALL BE THE RESPONSIBILITY OF THE BUILDING TRADES AND TO COMPLY WITH ALL LOCAL CODES. EXACT LINE RUNS OF REFRIGERATION PIPING SHALL BE DETERMINED IN COORDINATION WITH THE REFRIGERATION INSTALLER.

ALL ELECTRICAL DISCONNECTS TO BE PROVIDED BY OTHERS.

PLUMBING NOTE:
VERIFY ALL DETAILS WITH MANUFACTURERS LATEST SHOP DRAWINGS.

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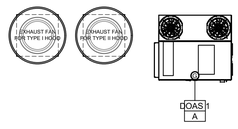

BUILD
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SHEET SIZE
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SCALE: **1/4"=1'0" (UON)**

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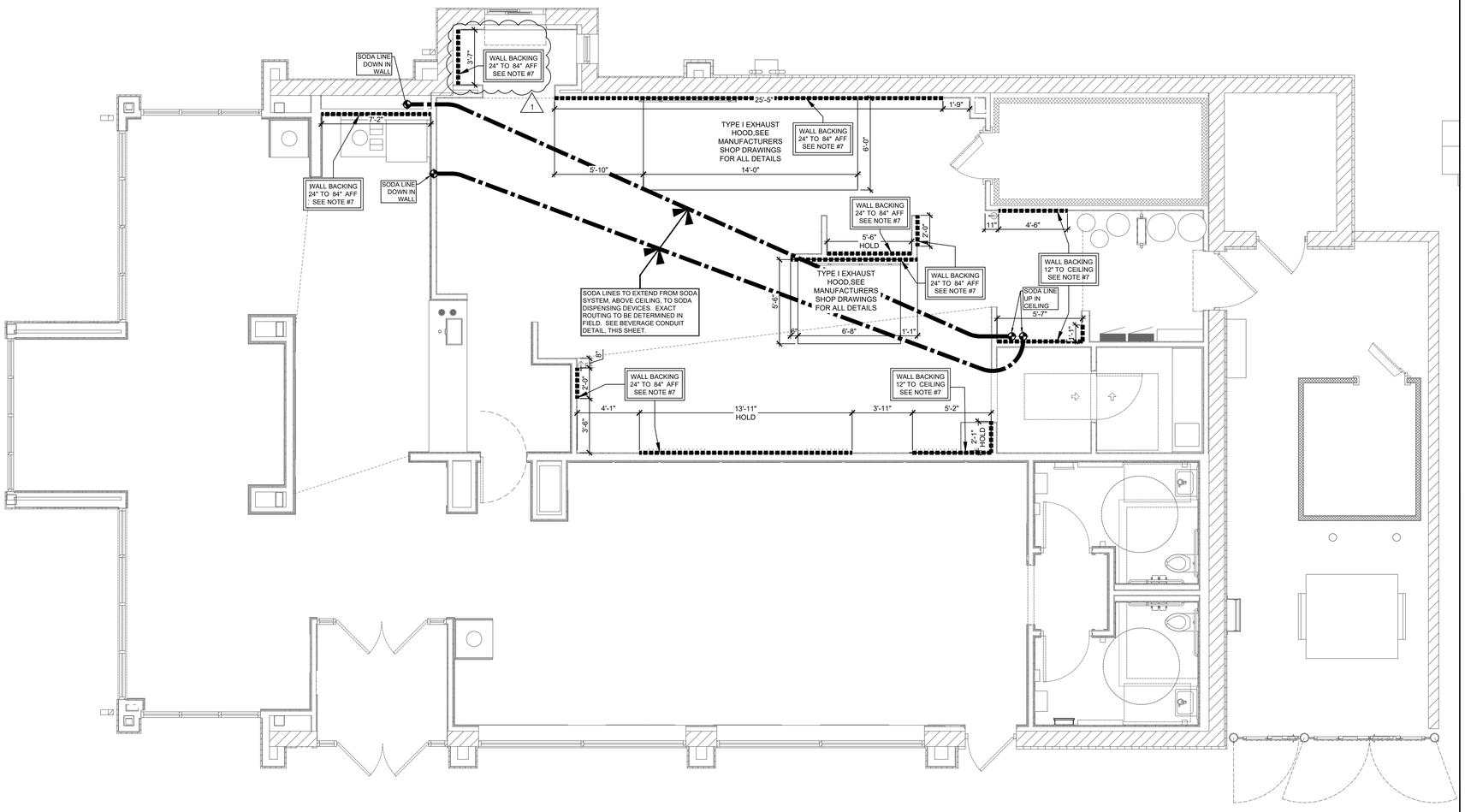
FOODSERVICE PLUMBING PLAN

FS3.1



BACKING / SPECIAL CONDITIONS PLAN
SCALE: 1/4" = 1'-0"

GENERAL CONSTRUCTION NOTES

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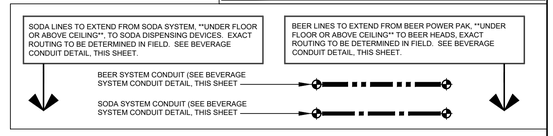
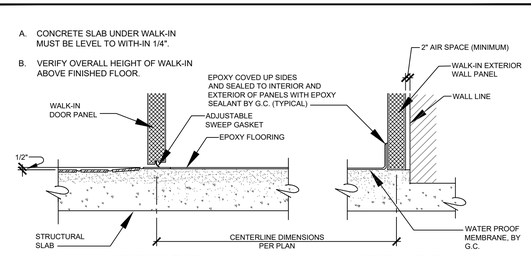
3. ALL LOCAL, STATE AND NATIONAL CODES SHALL APPLY.
4. ARCHITECT TO LOCATE, GENERAL CONTRACTOR TO PROVIDE ALL OPENINGS IN WALLS, FLOORS, CEILINGS, AND ROOFS FOR THE EXTENSION OF REFRIGERATION LINES, BEVERAGE LINES, ELECTRICAL LINES, PLUMBING LINES, EXHAUST AND SUPPLY VENTILATION DUCTS. CURBS, PITCH POCKETS OR SPECIAL FINISHING FOR THESE OPENINGS SHALL BE SUPPLIED BY OTHERS.
5. SUPPLY FANS TO BE LOCATED A MINIMUM OF 10'-0" FROM ANY AIR INLET OR OUTLET ON THE ROOF SUCH AS EXHAUST FANS, VENT STACKS, AIR CONDITIONERS, REFRIGERATION COMPRESSORS, ETC.
6. ALL INFORMATION PROVIDED FOR FOOD SERVICE HOOD SYSTEMS PERTAINING TO QUANTITY, SIZE AND LOCATION OF EXHAUST AND SUPPLY DUCT COLLARS, CFM RATINGS AND STATIC PRESSURE MUST BE CONFIRMED WITH THE MANUFACTURER'S APPROVED SHOP DRAWINGS.
7. GENERAL CONTRACTOR TO PROVIDE 3/4" WALL BACKING, TYPE PER LOCAL CODE, ON WALLS FOR WALL MOUNTED EQUIPMENT. ALTERNATIVE FOR PLYWOOD MUST BE USED UNDER HOODS AND AT FIRE RATED WALLS PER LOCAL CODES. ALL WALL BACKING MUST BE BEHIND WALL FINISH. NO EXPOSED WALL BACKING SHALL BE ALLOWED. LOCATION AND HEIGHT TO BE COORDINATED WITH MANUFACTURER'S SHOP DRAWINGS AND SPECIFICATION SHEETS.
8. PROVIDE COVED BASES AT ALL VERTICAL INTERSECTIONS OF FLOORS IN KITCHEN AND STORAGE AREAS.
9. ALL HVAC REGISTERS ARE TO BE LOCATED SO AS TO PREVENT ANY INTERFERENCE IN PERFORMANCE OF EXHAUST HOODS, HEATERS OR WARMERS.
10. BOTTOM OF HOODS ARE TO BE MOUNTED AT 6'-6" ABOVE FINISHED FLOOR, UNLESS OTHERWISE SPECIFIED BY LOCAL CODES.
11. RECOMMENDED CEILING HEIGHTS ARE LISTED BELOW. CONTACT EDWARD DON & COMPANY IMMEDIATELY IF MINIMUM HEIGHTS ARE LESS THAN THOSE INDICATED:
    A. KITCHEN AREAS WITH EXHAUST HOODS: 8'6"
    B. KITCHEN AREAS WITH WALK-IN COOLER/FREEZERS: 9'-6"
    C. KITCHEN AREAS WITH ICE MACHINES &/or COMPRESSORS: 9'-0"
    D. GENERAL KITCHEN AREAS: 8'-0"
12. REMOTE CONDENSING UNITS & COMPRESSOR UNITS ARE TO BE LOCATED OUTSIDE WHERE POSSIBLE. FOR INSIDE LOCATIONS, VERIFY PROVISION OF SUFFICIENT VENTILATION WITH MANUFACTURER. ARCHITECT TO LOCATE ALL REMOTE COMPRESSORS AND CONDENSERS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

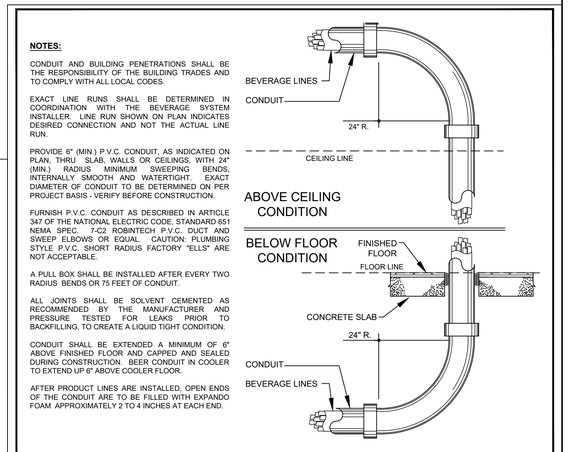
GENERAL CONSTRUCTION & BUILDING WORKS LEGEND

- BEVERAGE LINE
- IN WALL BACKING
- SODA LINE CONDUIT
- BEER/WINE LINE CONDUIT





WALK-IN COOLER FLOOR DETAILS
(NO SCALE)



BEVERAGE SYSTEM CONDUIT DETAIL
NO SCALE

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SHEET SIZE
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SCALE: **1/4"=1'0" (UON)**

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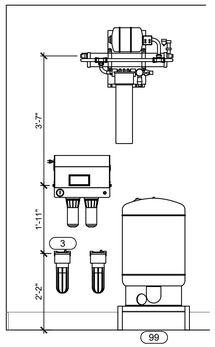
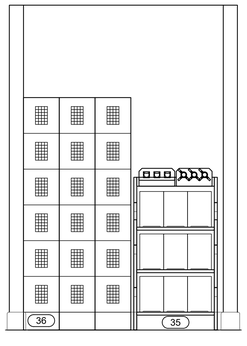
FOODSERVICE BACKING / SPECIAL CONDITIONS

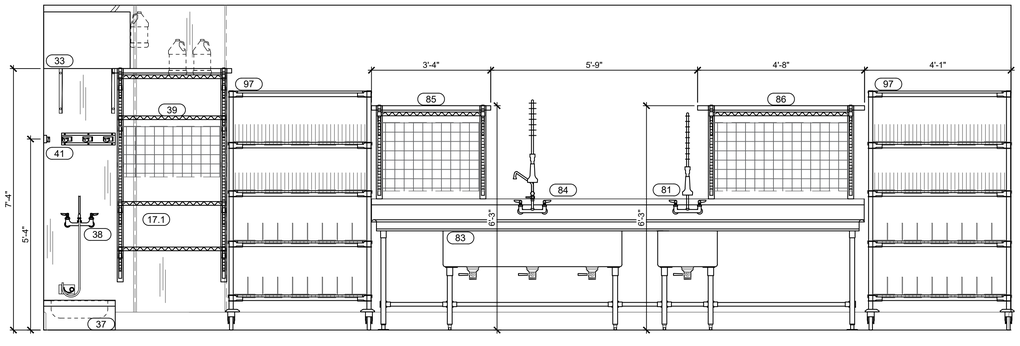
FS4.0



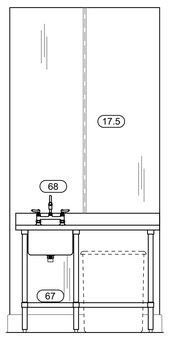
REVERSE OSMOSIS SYSTEM - ELEVATION 'A'
SCALE: 1/2" = 1'-0"



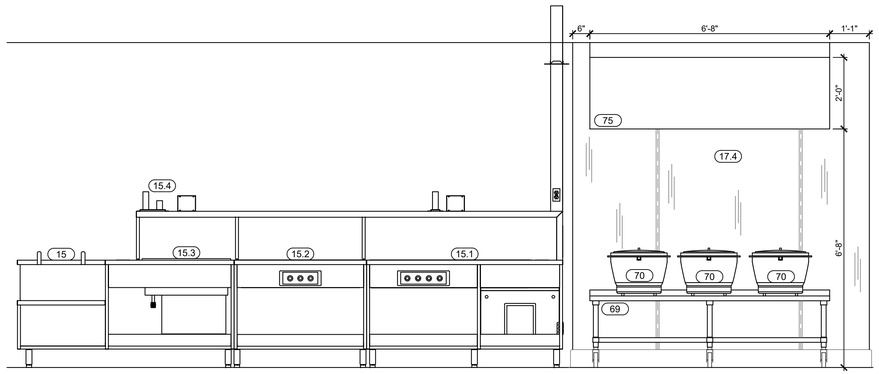
EMPLOYEE LOCKERS / SODA SYSTEM - ELEVATION 'B'
SCALE: 1/2" = 1'-0"



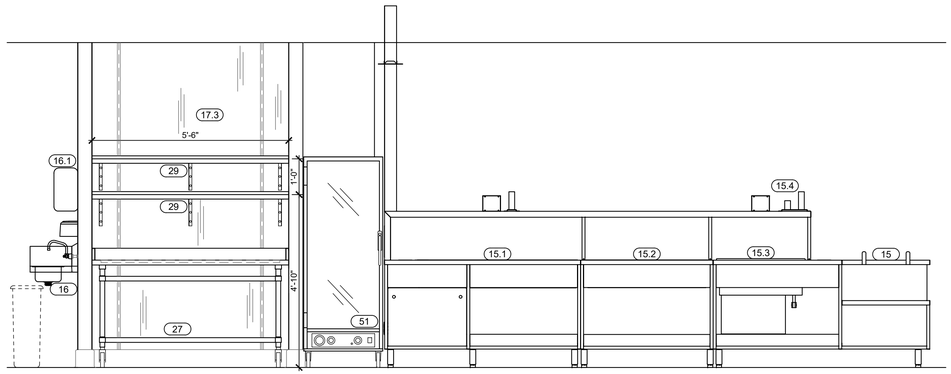
MOP SINK / WARE WASH - ELEVATION 'C'
SCALE: 1/2" = 1'-0"



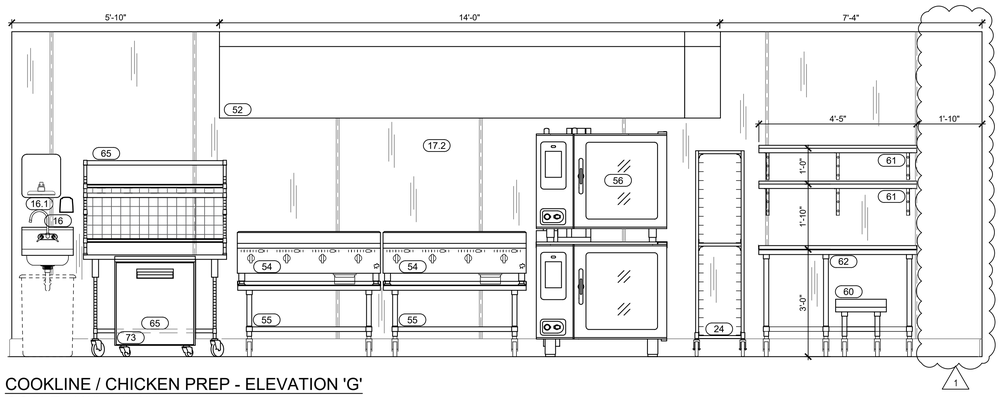
RICE/VEGGIE WASH - ELEVATION 'D'
SCALE: 1/2" = 1'-0"



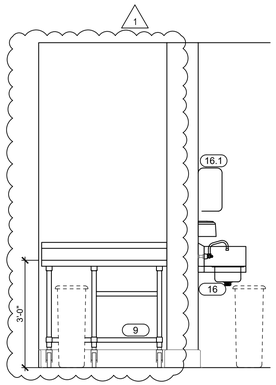
DOUBLE EXPO LINE / RICE & VEGGIE COOKING AREA - ELEVATION 'E'
SCALE: 1/2" = 1'-0"



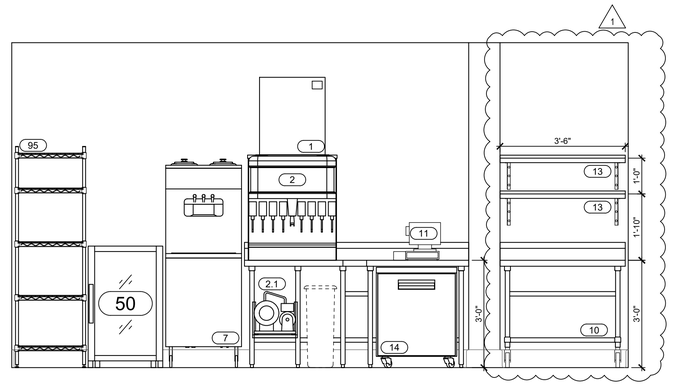
PANNING STATION / DOUBLE EXPO LINE - ELEVATION 'F'
SCALE: 1/2" = 1'-0"



COOKLINE / CHICKEN PREP - ELEVATION 'G'
SCALE: 1/2" = 1'-0"



DRIVE-THRU PICK-UP WINDOW #1 - ELEVATION 'H'
SCALE: 1/2" = 1'-0"



DRIVE-THRU PICK-UP WINDOW #1 - ELEVATION 'I'
SCALE: 1/2" = 1'-0"

BUILD
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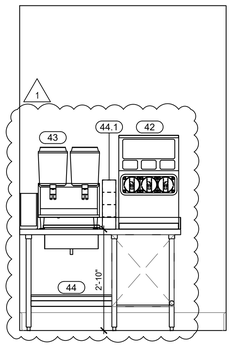
FOODSERVICE EQUIPMENT ELEVATIONS

FS5.0



BEVERAGE COUNTER - ELEVATION 'J'
SCALE: 1/2" = 1'-0"

BUILD

Design • Equipment • Contract

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HAWAIIAN BROS
6421 E. 82ND ST.
INDIANAPOLIS, IN 46250

MEP SET

DESIGNER: Nathan Schulz
(708) 883-8835 SchultzN@don.com

DESIGN MGR: Trina Iverson
(253)258-3964 trinaiverson@don.com

DRAFTSPERSON: Nathan Schulz
(708) 883-8835 SchultzN@don.com

SHEET SIZE
D size (24" x 36")

SCALE: 1/4"=1'0" (UON)

Food Service Revision List		
#	Description	Date
1	1ST SUBMITTAL SET	11/19/2025
2	OWNER CHANGES	01/12/2026

FOODSERVICE EQUIPMENT ELEVATIONS

FS5.1

Stratus

onestratus.com
888.503.1569

LOCATION NUMBER:

135

SITE ADDRESS:

6421 E 82nd St
Indianapolis, IN 46250-4592

View in Google Maps

HAWAIIAN BROS®

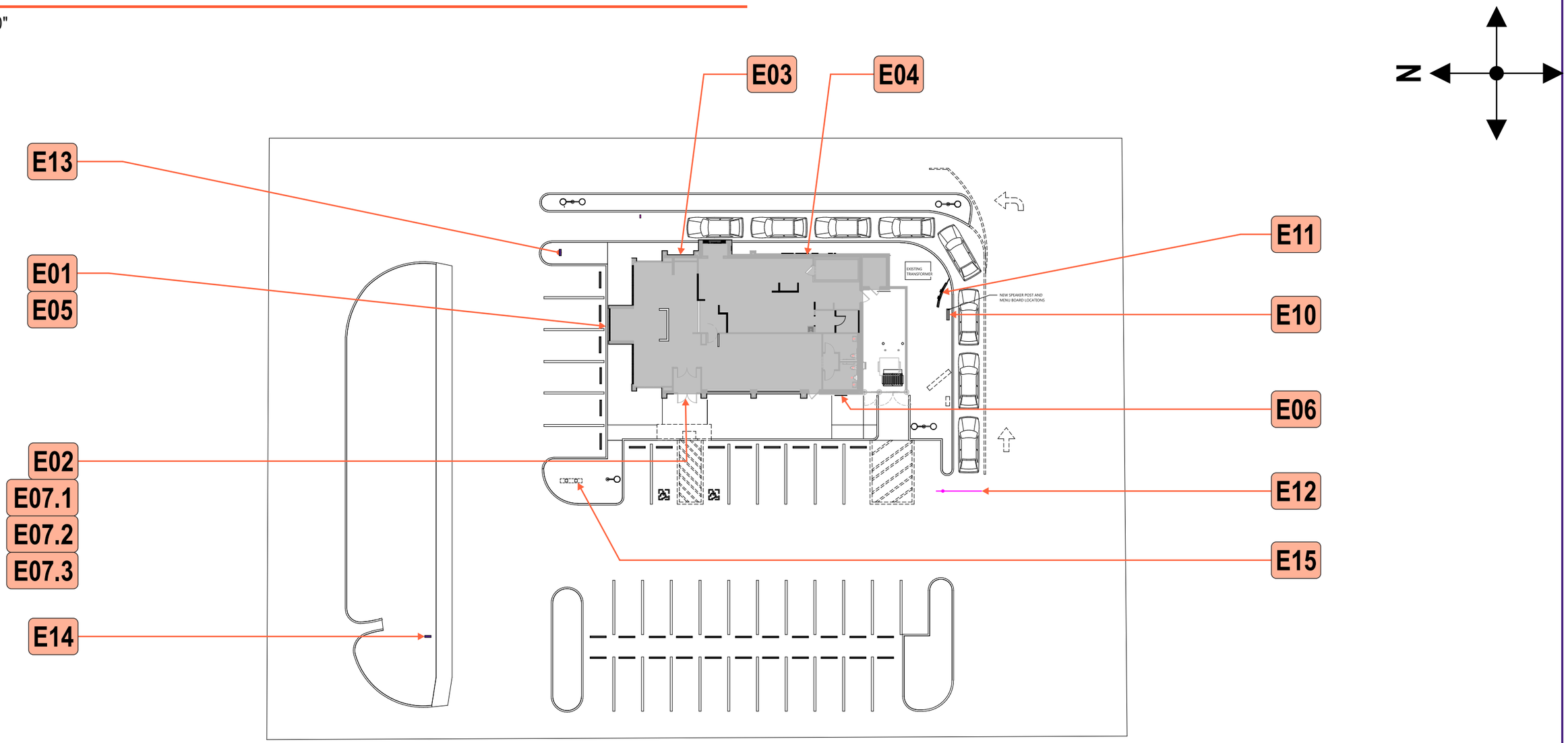
ISLAND GRILL

PRINTS ARE THE EXCLUSIVE PROPERTY OF STRATUS. T

Infinite possibilities, ideal solutions.

SITE PLAN

Scale: 1/32"=1'-0"



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CLIENT: HAWAIIAN BROS ISLAND GRILL

ADDRESS: 6421 E 82nd St, Indianapolis, IN 46250-4592

PAGE NO.: 2

ORDER NUMBER: 1249892

PROJECT NUMBER: 89222

SITE NUMBER: 135

PROJECT MANAGER: ANDY CONCEPCION

ELECTRONIC FILE NAME: G:\ACCOUNTS\H\H-BROS_LOCATIONS\2025\IN\135_Indianapolis\135_Indianapolis.cdr

Rev #	Req #	Date/Artist	Description	Rev #	Req #	Date/Artist	Description
Original	564665	11/20/25 JY					

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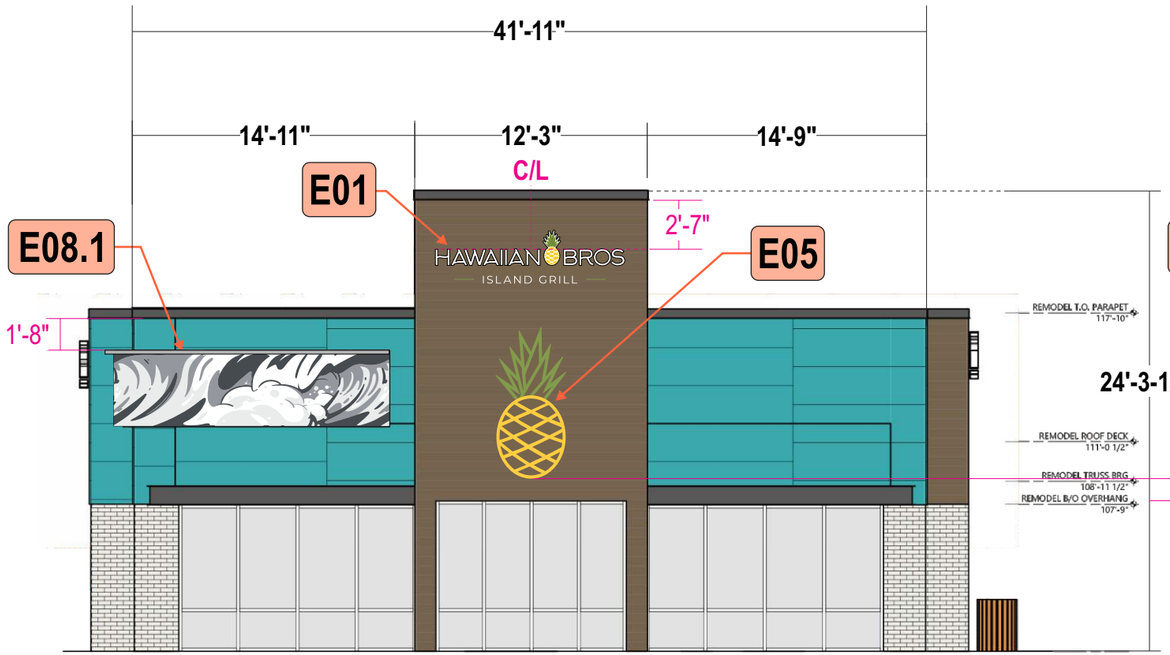
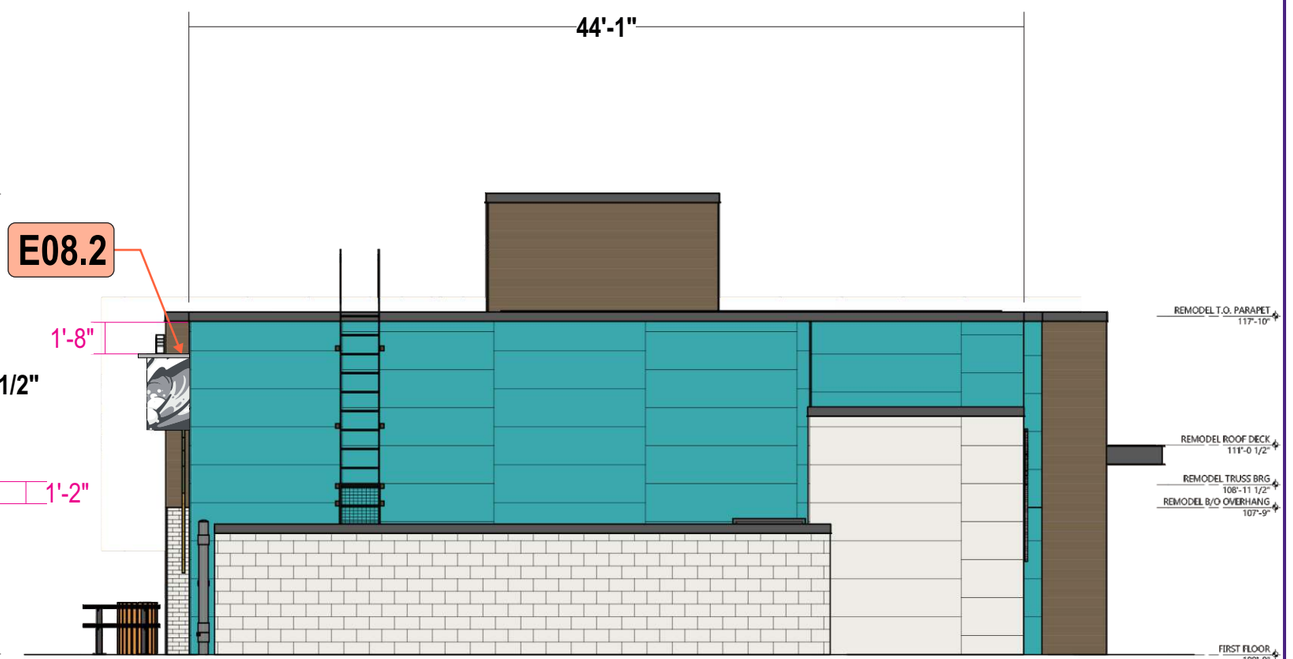
BUILDING ELEVATIONS

Scale: 1/8"=1'-0"

ALL SIGN SIZES HAVE BEEN CALCULATED OFF ARCHITECTURAL PRINTS AS SHOWN



NORTH ELEVATION



SOUTH ELEVATION

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BUILDING ELEVATION

Scale: 1/8"=1'-0"

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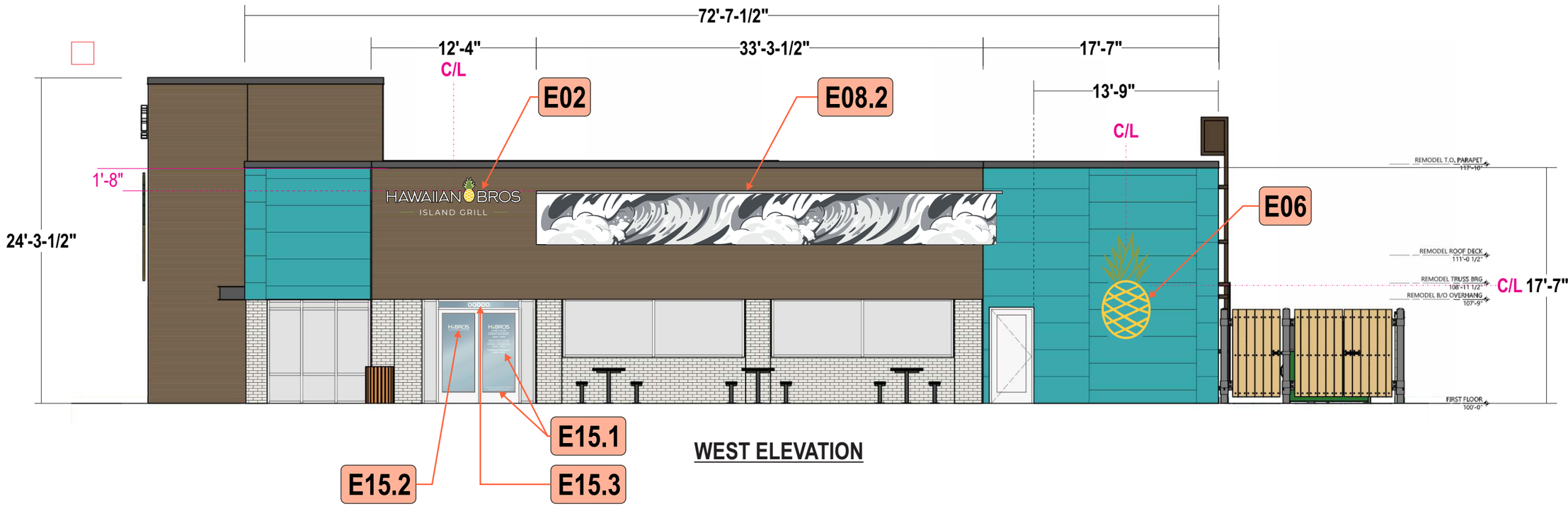

WEST ELEVATION

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ORDER NUMBER: 1249892

PROJECT NUMBER: 89222

SITE NUMBER: 135

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BUILDING ELEVATION

Scale: 1/8"=1'-0"

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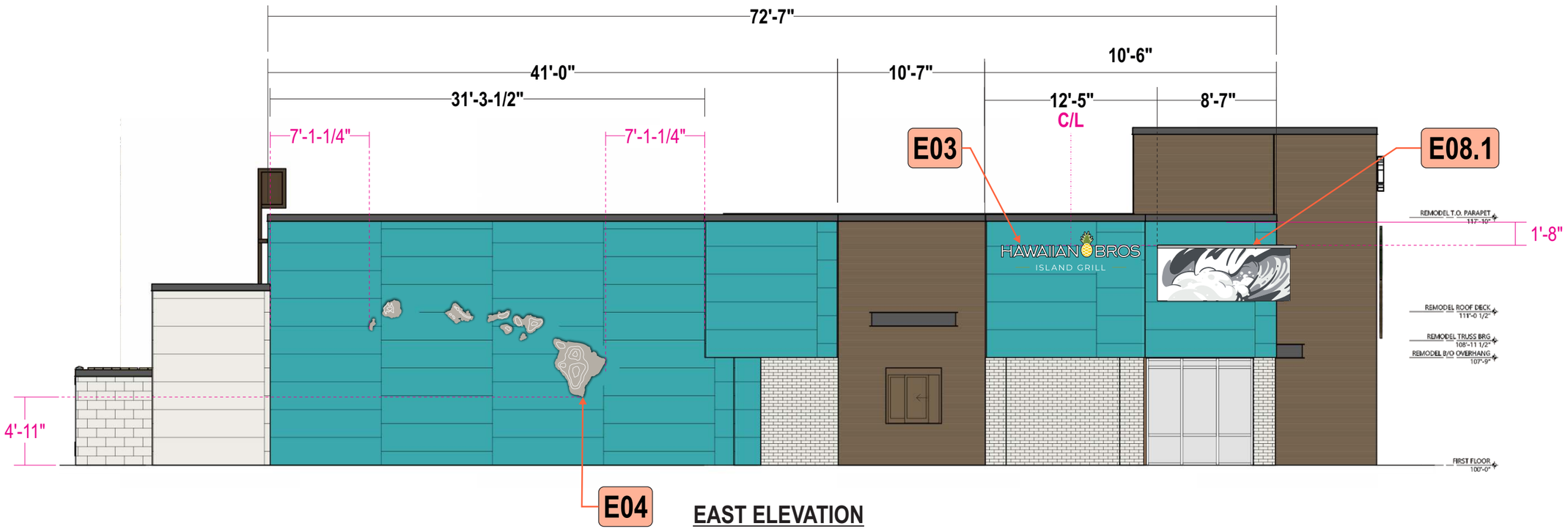

EAST ELEVATION

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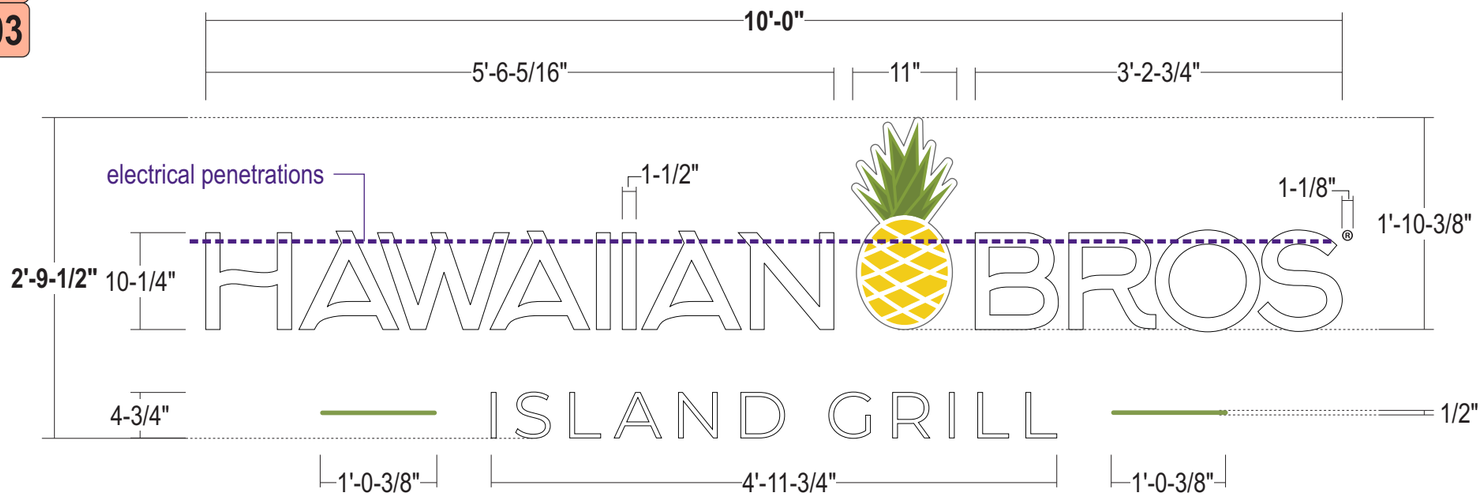
E01
E02
E03

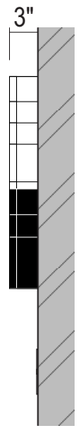
FACE LIT CHANNELS | NON-ILLUM. FLAT CUT OUTS

FL10.i.w.f

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

27.9 square feet





SIDE VIEW

FACES: .177" #7328 white acrylic w/ surface applied digitally printed translucent vinyl

TRIMCAP: 1" black jewelite trimcap - letters; 1" white jewelite trimcap - logo

RETURNS: 3" Deep .040" alum. returns pre-finished white interior.
Letters - Exterior pre-finished black; logo - Exterior pre-finished white

BACKS: .063" alum. insides painted Reflective white

ILLUM.: Principal Sloan White LED's as required by manufacturer;
Remote Power Supplies

"ISLAND GRILL": .125" thk. aluminum flat cut out painted white and green as shown;
stud mounted flush to wall; penetrations silicone filled

"(R)": .125" thk. aluminum flat cut out painted black with white vinyl applied;
stud mounted flush to wall; penetrations silicone filled

WALL MATERIAL: E01 & E02 - Aluminum siding & E03 - EIFS

INSTALL: Thru bolted flush to wall surface using all thread into approved blocking
12" standard length of min 3/8" threaded rod will be supplied unless otherwise noted;

QUANTITY: **(3) THREE SETS REQUIRED**

SIMULATED NIGHT VIEW:



COLOR PALETTE

- Black
- Pantone 576 Burnt Leaf Green
- Pantone 129C Yellow
- Pantone 575 Palm Green
- White 3M 7725-10 "R" mark

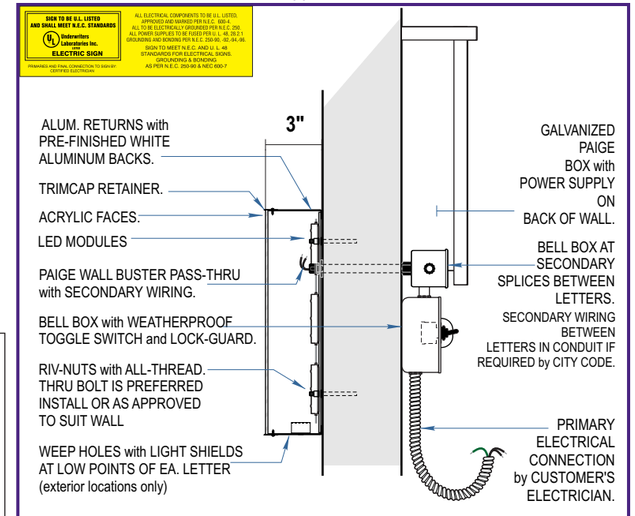
Paint finish to be satin unless otherwise specified

ALL SIGNS TO COMPLY WITH UL 48 AND WILL BE MARKED AS SUCH WITH APPROPRIATE LABORATORY LABELS.

THIS SIGN IS INTENDED TO BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF ARTICLE 600 OF THE NATIONAL ELECTRICAL CODE AND/OR OTHER APPLICABLE LOCAL CODES. THIS INCLUDES PROPER GROUNDING AND BONDING OF THE SIGN.

THE LOCATION OF THE DISCONNECT SWITCH AFTER INSTALLATION SHALL COMPLY WITH ARTICLE 600.6(A) (1) OF THE NATIONAL ELECTRIC CODE.

Contact PRODUCTION CONTROL for approval on deviation from Stratus standards.



FACE LIT CHANNELS: remote

CHL-01 NOT TO SCALE

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PROJECT NUMBER: 89222

SITE NUMBER: 135

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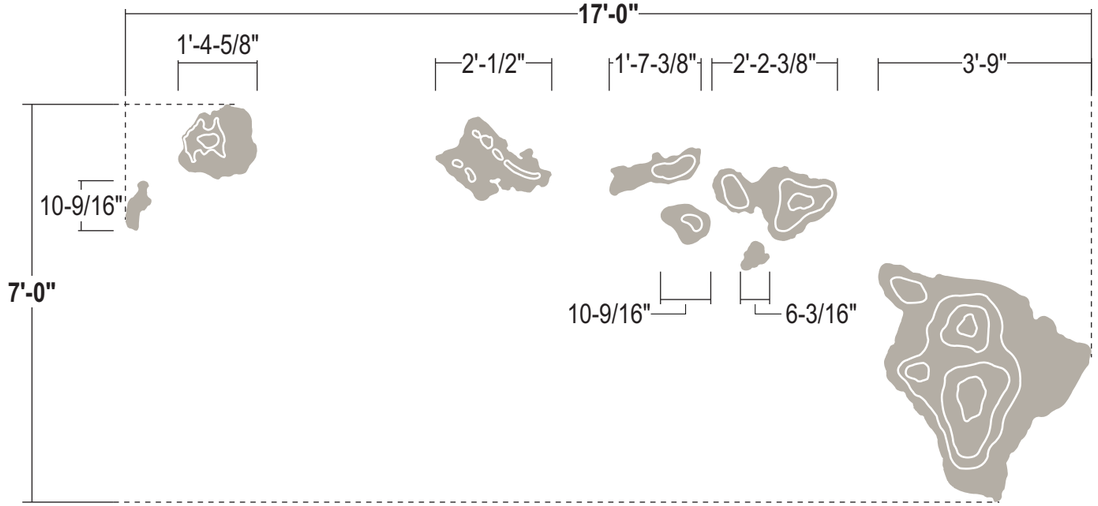
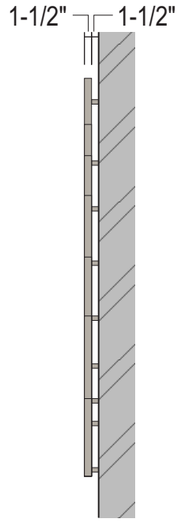
E04 HALO LIT CHANNELS | LARGE ISLAND DISPLAY

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

HL84.i.l.al.so

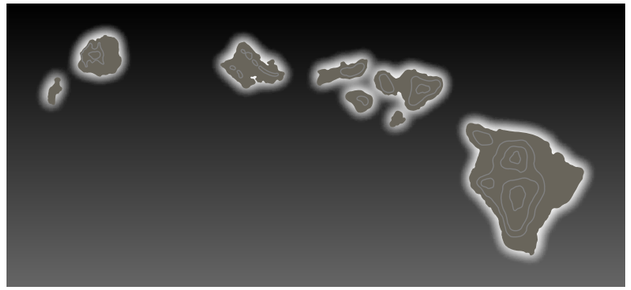
119.0 square feet





SIDE VIEW

SIMULATED NIGHT VIEW:



FACES: .090" alum. faces painted Gray with surface applied White vinyl decoration

RETURNS: 1-1/2" deep .063" aluminum returns; returns welded to faces;
All welds sanded smooth; painted gray

BACKS: .177" Clear polycarbonate w/ applied White diffuser film to diffuse LED's

ILLUM.: Principal Sloan White LED's as required by manufacturer;
Remote Power Supplies

WALL MAT.: EIFS

INSTALL: Thru bolted to wall surface with 1-1/2" stand offs into approved blocking
12" standard length of min 3/8" threaded rod will be supplied unless otherwise noted;
Spacers to be provided and painted to match sign band

QUANTITY: **(1) ONE REQUIRED**

COLOR PALETTE

- SW 7023 "Requisite Gray"
- 3M 7725-10 white
- 3M 7725-70 diffuser
- Spacers - TO MATCH WALL

Paint finish to be satin unless otherwise specified

ALL SIGNS TO COMPLY WITH UL 48 AND WILL BE MARKED AS SUCH WITH APPROPRIATE LABORATORY LABELS.

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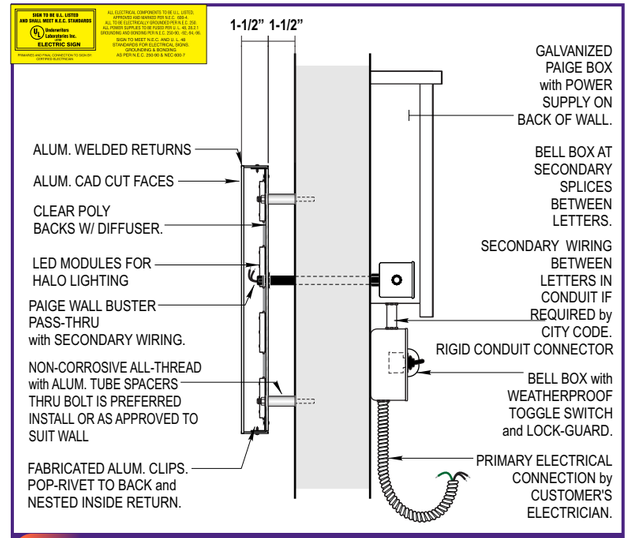
THE LOCATION OF THE DISCONNECT SWITCH AFTER INSTALLATION SHALL COMPLY WITH ARTICLE 600.6(A) (1) OF THE NATIONAL ELECTRIC CODE.

Contact PRODUCTION CONTROL for approval on deviation from Stratus standards.



HALO LIT CHANNELS: Stand Off

CHL-02 NOT TO SCALE

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PROJECT NUMBER: 89222

SITE NUMBER: 135

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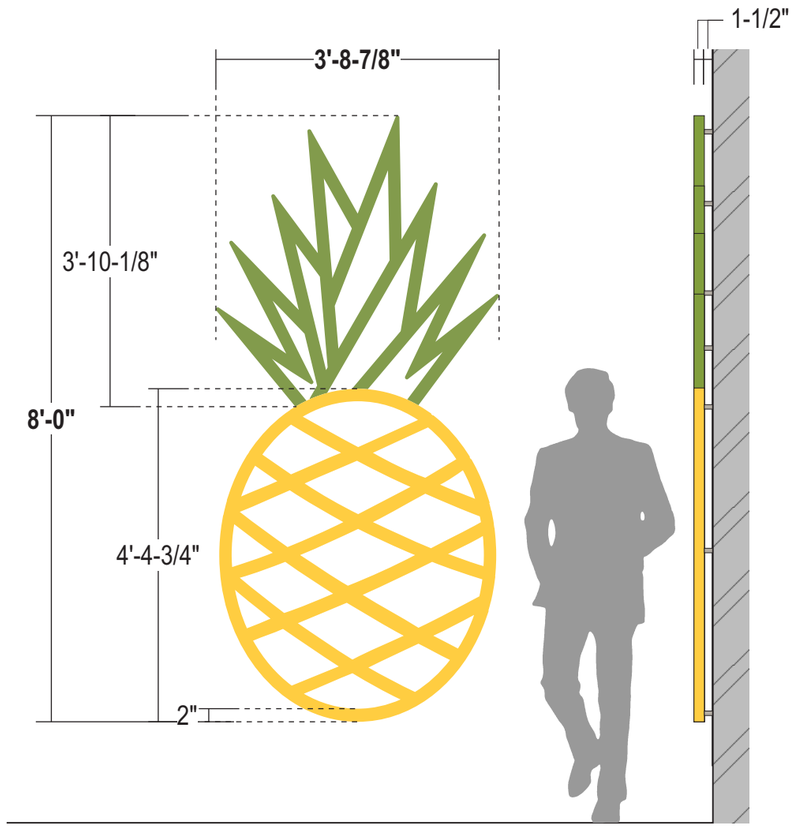
E05
E06

HALO LIT PINEAPPLE LOGO

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

HL96.i.l.al.so

29.9 square feet



SIDE VIEW



SIMULATED NIGHT VIEW

FACES: .125" aluminum faces painted yellow and green

RETURNS: 1-1/2" deep .063" aluminum returns; returns welded to faces;
All welds sanded smooth; painted yellow and green

BACKS: .177" Clear polycarbonate w/ applied White diffuser film to diffuse LED's

ILLUM.: Principal Sloan White LED's as required by manufacturer;
Remote Power Supplies

WALL MAT.: E05-Aluminum siding & E06-EIFS

INSTALL: Thru bolted to wall surface with 1-1/2" stand offs into approved blocking
12" standard length of min 3/8" threaded rod will be supplied unless otherwise noted;
Spacers to be provided and painted to match sign band

QUANTITY: **(2) TWO SETS REQUIRED**

COLOR PALETTE

- Pantone 129C Yellow
- Pantone 576 Burnt Leaf Green
- Spacers - TO MATCH WALL
- 3M 3635-70 diffuser

Paint finish to be satin unless otherwise specified

ALL SIGNS TO COMPLY WITH UL 48 AND WILL BE MARKED AS SUCH WITH APPROPRIATE LABORATORY LABELS.

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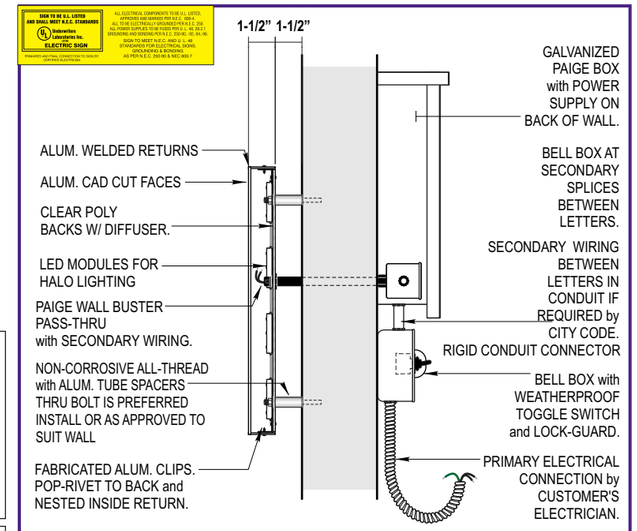

HALO LIT CHANNELS: Stand Off

CHL-02 NOT TO SCALE

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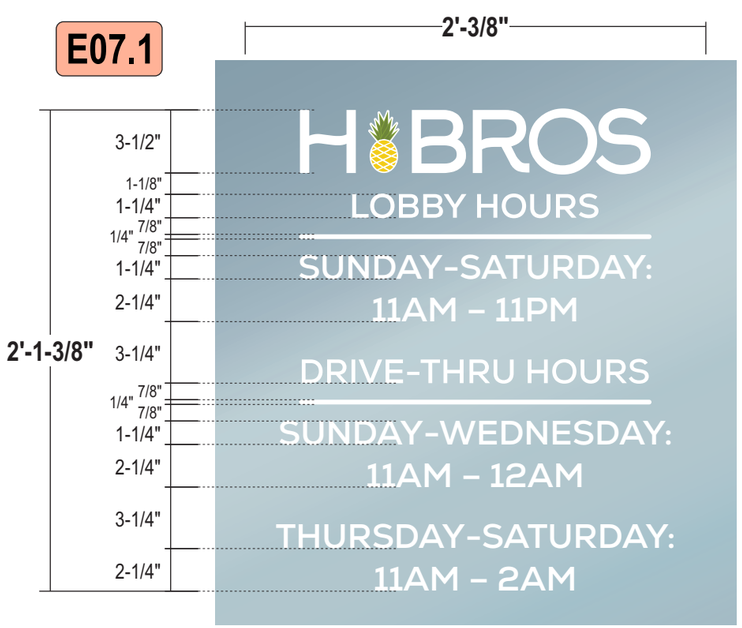
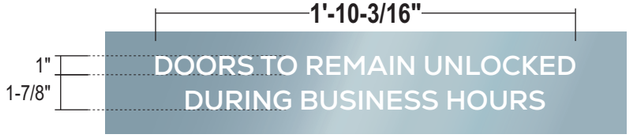
DOOR VINYL - (DOUBLE DOOR W/ LOGO)

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

E07.1



VERIFY HOURS PRIOR TO MANUFACTURE



NOTE: To be applied first surface of inside of door

GRAPHICS: Surface applied white vinyl and digitally printed logo applied first surface

FONT: Nexa (Bold)

QUANTITY: (1) ONE REQUIRED

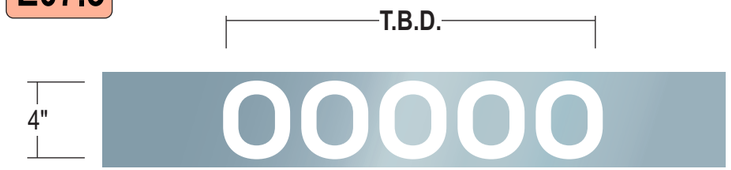
E07.2



GRAPHICS: 7725-10 white die cut vinyl applied 1st surface

QUANTITY: (1) ONE REQUIRED

E07.3



VERIFY ADDRESS PRIOR TO MANUFACTURE

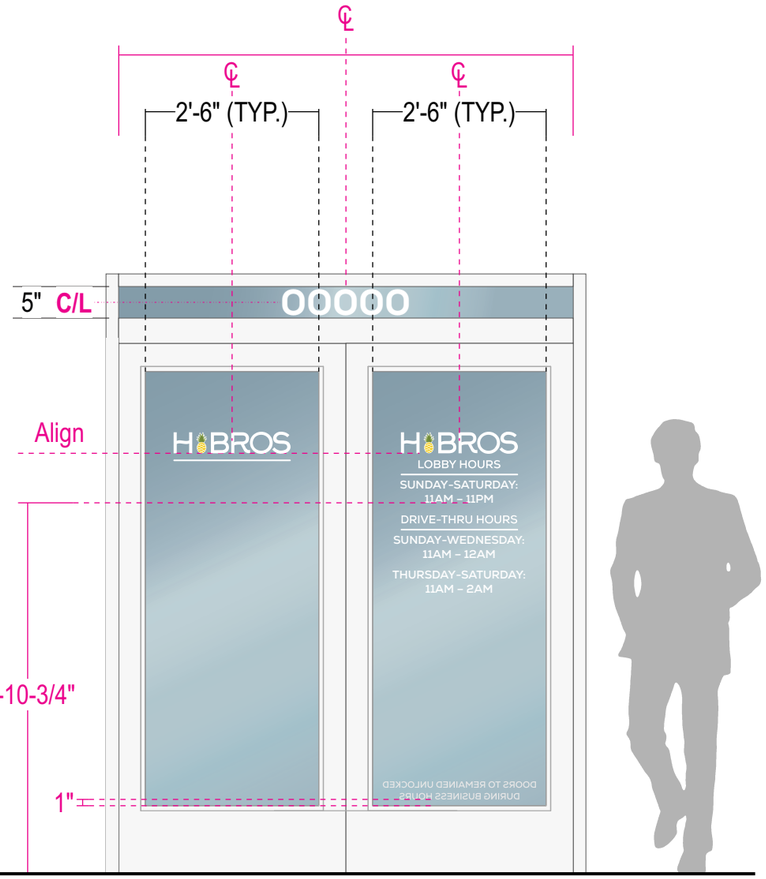
GRAPHICS: 7725-10 white die cut vinyl applied 1st surface

FONT: Nexa Extra Bold (Regular, ExtraBold)

QUANTITY: (1) ONE REQUIRED

COLOR PALETTE

- Pantone 129C Yellow
- Pantone 576 Burnt Leaf Green
- 3M 7725-10 white



TYPICAL INSTALL

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

NOTE: NO HOURS ON PATIO DOORS

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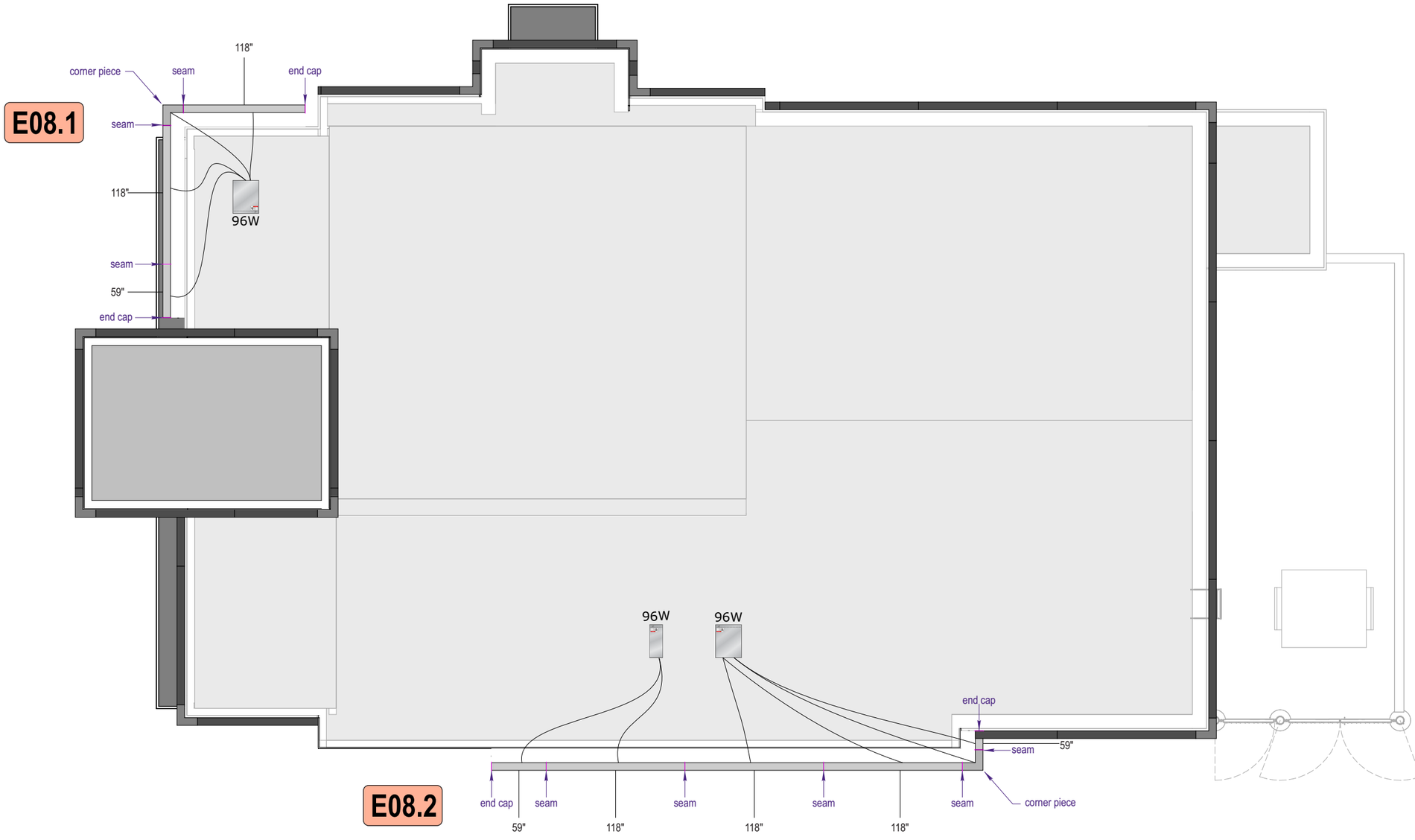
E08 WAVE WALL | EYEBROW LIGHTING

Scale: 1/8"=1'-0"



WAVE WALL PARTS LIST (7000K SILVER)

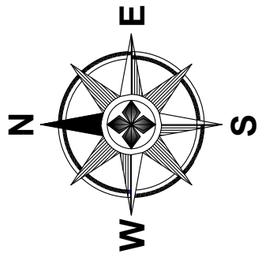
2	QWIK BOX (Ea.), 2-96w 24v Power Supplies
1	QWIK BOX (Ea.), 1-96w 24v Power Supplies
3	SINGLE PACK 59" EYEBROW
1	SINGLE PACK, 118" EYEBROW
2	TWIN PACK, 118" EYEBROWS
2	CORNER PIECE (17 3/4" x 17 3/4")
-	INSIDE CORNER PIECE (17 3/4" x 17 3/4")
4	ENDCAP (Ea.)
8	SEAM PLATE (Ea.)
3	INSTALL KIT (25 Screws & Touch-up Paint Bottle)

COLOR PALETTE

Wave Wall - Exterior
Matthews Sparkle Silver SV952SP

Interior
White Light Enhancing Finish

Paint finish to be satin unless otherwise specified



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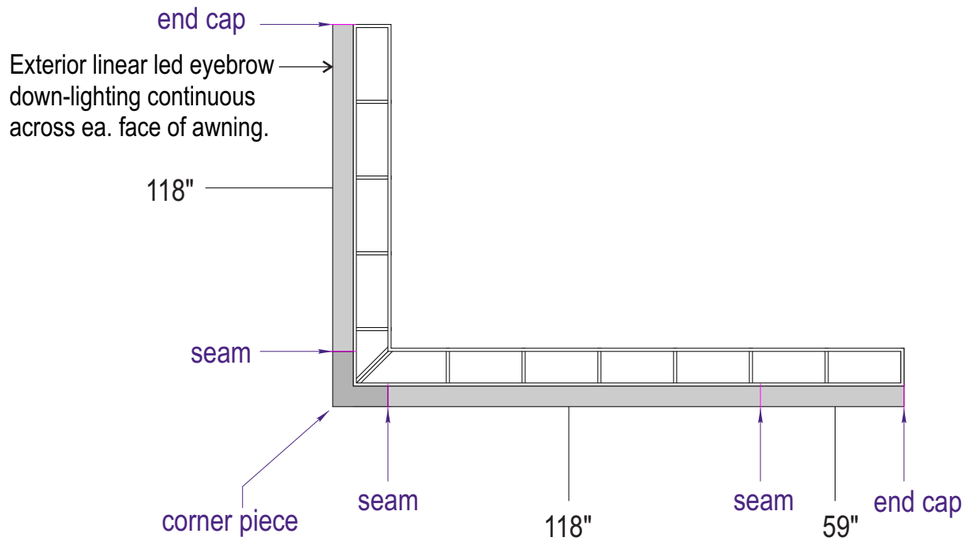
E08.1 AWNING | WAVE WALL W/ EYEBROW LIGHTING

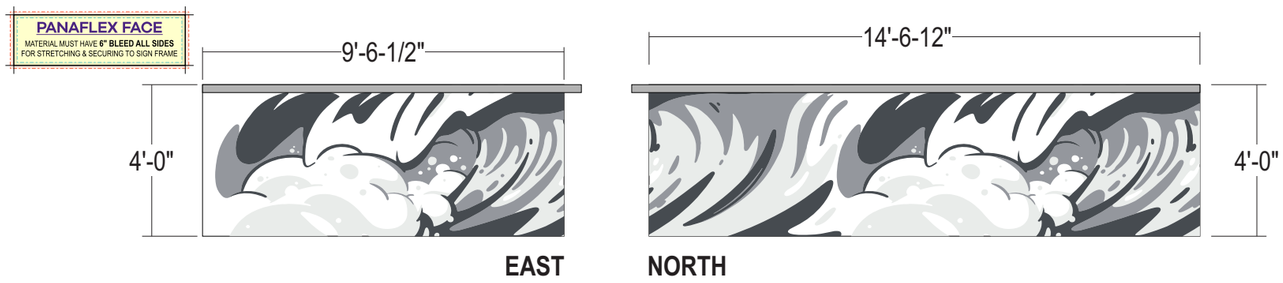
Scale: 1/4"=1'-0"

AWN48.e.l.p.f

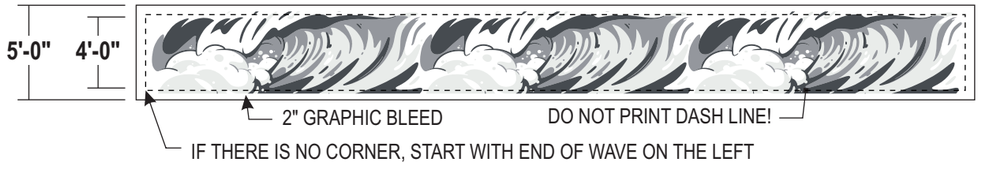
150 square feet

SURVEY REQUIRED — SURVEY





EAST NORTH



FULL GRAPHIC

Scale: 1/8"=1'-0"

FRAME:	1" x 1" Aluminum Square Tube Frame; and 1" x 1" aluminum staple stitch frame at face perimeter; paint silver
FABRIC:	Duratex 13oz Black Back Banner material
GRAPHICS:	Digitally printed opaque graphics from customer provided file; (no visible frame when stretched)
ILLUM:	Principal Sloan white (7000k) LEDs across top in extruded aluminum eyebrow continuous across top face; Remote power supplies
WALL MAT.:	Brick
INSTALL:	Thru bolted to wall using z-clips and min. 3/8" all thread into blocking
QUANTITY:	**(1) ONE REQUIRED**

EYEBROW COLOR PALETTE

- Exterior: Matthews Sparkle Silver SV952SP
- Interior: White Light Enhancing Finish

Paint finish to be satin unless otherwise specified

WAVE WALL COLOR PALETTE

- Digital print to match C:70 M:60 Y:54 K:36
- Digital print to match C:45 M:36 Y:33 K:1
- Digital print to match R:246 G:246 B:247

ALL SIGNS TO COMPLY WITH UL 48 AND WILL BE MARKED AS SUCH WITH APPROPRIATE LABORATORY LABELS.

THIS SIGN IS INTENDED TO BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF ARTICLE 600 OF THE NATIONAL ELECTRICAL CODE AND/OR OTHER APPLICABLE LOCAL CODES. THIS INCLUDES PROPER GROUNDING AND BONDING OF THE SIGN.

THE LOCATION OF THE DISCONNECT SWITCH AFTER INSTALLATION SHALL COMPLY WITH ARTICLE 600.6(A) (1) OF THE NATIONAL ELECTRIC CODE.

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CLIENT: HAWAIIAN BROS ISLAND GRILL

ADDRESS: 6421 E 82nd St, Indianapolis, IN 46250-4592

PAGE NO.: 11

ORDER NUMBER: 1249892

PROJECT NUMBER: 89222

SITE NUMBER: 135

PROJECT MANAGER: ANDY CONCEPCION

ELECTRONIC FILE NAME: G:\ACCOUNTS\H\H-BROS_LOCATIONS\2025\IN\135_Indianapolis\135_Indianapolis.cdr

Rev #	Req #	Date/Artist	Description	Rev #	Req #	Date/Artist	Description
Original	564665	11/20/25 JY					

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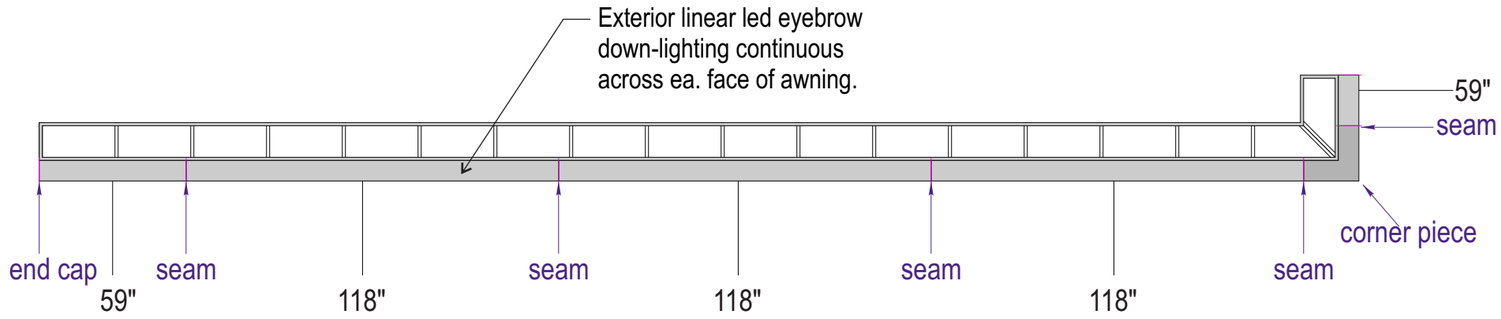
E08.2 AWNING | WAVE WALL W/ EYEBROW LIGHTING

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

AWN48.e.l.p.f

150 square feet

SURVEY REQUIRED — SURVEY



FRAME: 1" x 1" Aluminum Square Tube Frame; and 1" x 1" aluminum staple stitch frame at face perimeter; paint silver

FABRIC: Duratex 13oz Black Back Banner material

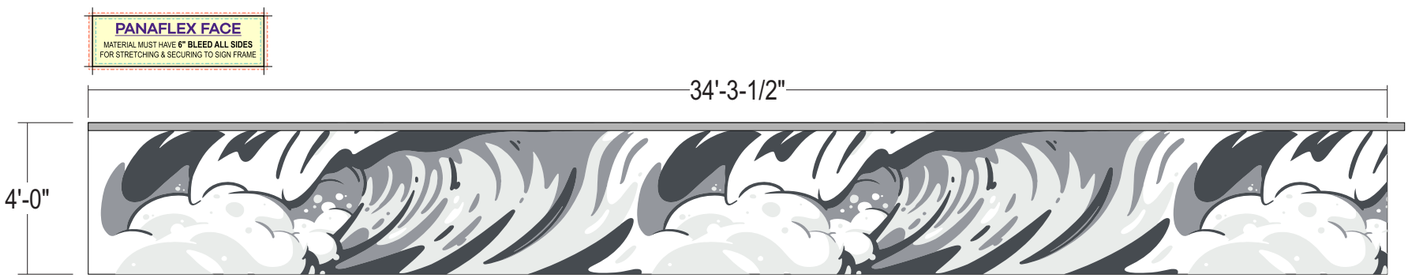
GRAPHICS: Digitally printed opaque graphics from customer provided file; (no visible frame when stretched)

ILLUM: Principal Sloan white (7000k) LEDs across top in extruded aluminum eyebrow continuous across top face; Remote power supplies

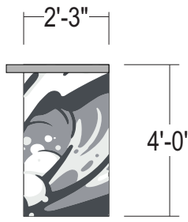
WALL MAT.: Brick

INSTALL: Thru bolted to wall using z-clips and min. 3/8" all thread into blocking

QUANTITY: **(1) ONE REQUIRED**



WEST



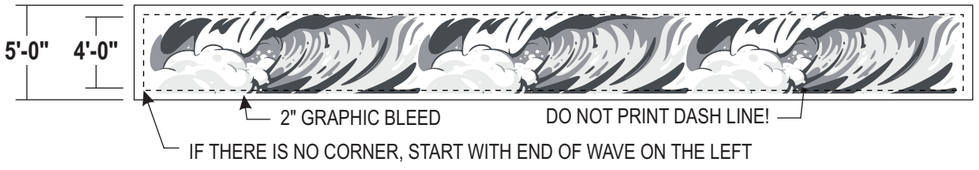
SOUTH

EYEBROW COLOR PALETTE

Exterior
Matthews Sparkle Silver SV952SP

Interior
White Light Enhancing Finish

Paint finish to be satin unless otherwise specified



FULL GRAPHIC

Scale: 1/8"=1'-0"

WAVE WALL COLOR PALETTE

Digital print to match
C:70 M:60 Y:54 K:36

Digital print to match
C:45 M:36 Y:33 K:1

Digital print to match
R:246 G:246 B:247

ALL SIGNS TO COMPLY WITH UL 48 AND WILL BE MARKED AS SUCH WITH APPROPRIATE LABORATORY LABELS.

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CLIENT: HAWAIIAN BROS ISLAND GRILL

ADDRESS: 6421 E 82nd St, Indianapolis, IN 46250-4592

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ORDER NUMBER: 1249892

PROJECT NUMBER: 89222

SITE NUMBER: 135

PROJECT MANAGER: ANDY CONCEPCION

ELECTRONIC FILE NAME: G:\ACCOUNTS\H\H-BROS_LOCATIONS\2025\IN\135_Indianapolis\135_Indianapolis.cdr

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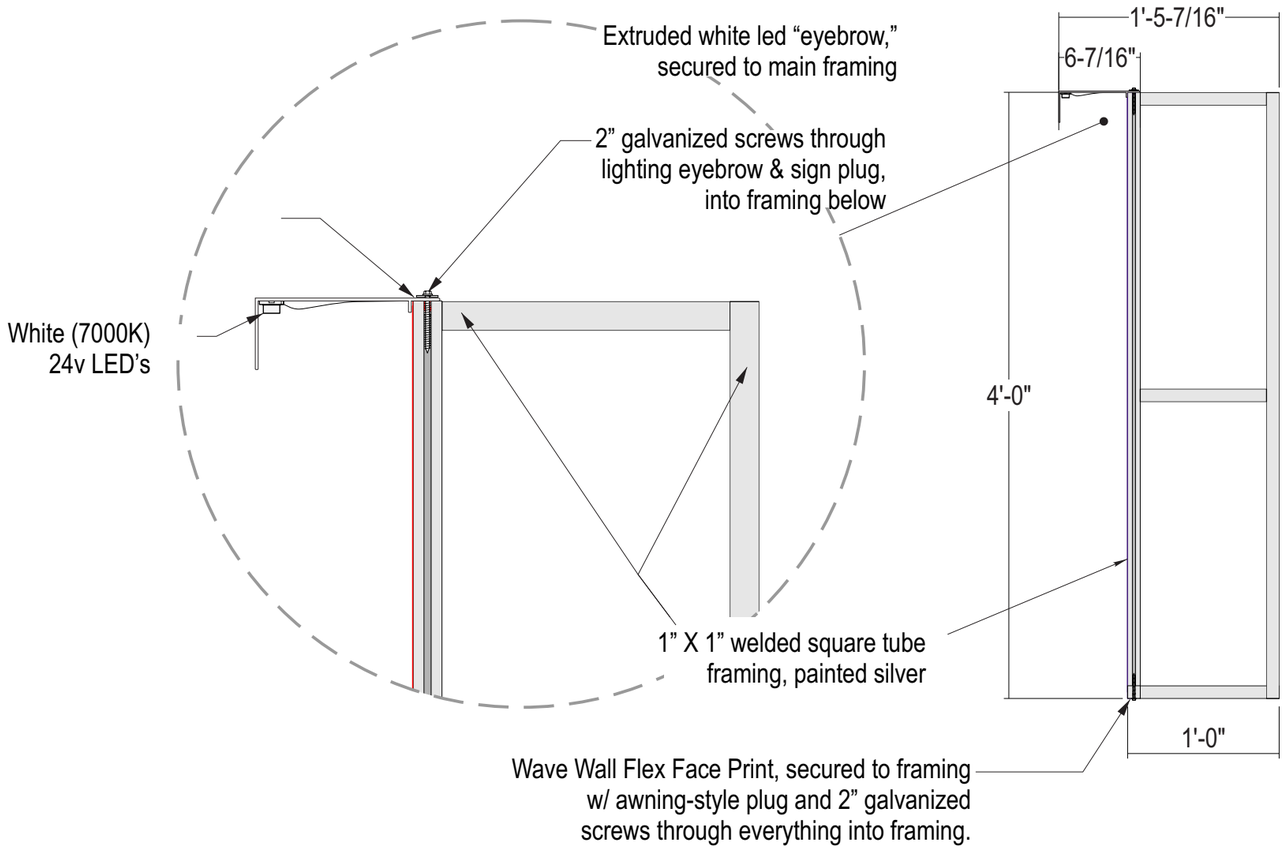
E08 EYEBROW DETAILS



AWNING FRAME & LIGHTING DETAIL

Scale: 1"=1'-0"

COLOR PALETTE

- Wave Wall Exterior
  Matthews Sparkle Silver SV952SP
- Interior
  White Light Enhancing Finish

Paint finish to be satin unless otherwise specified

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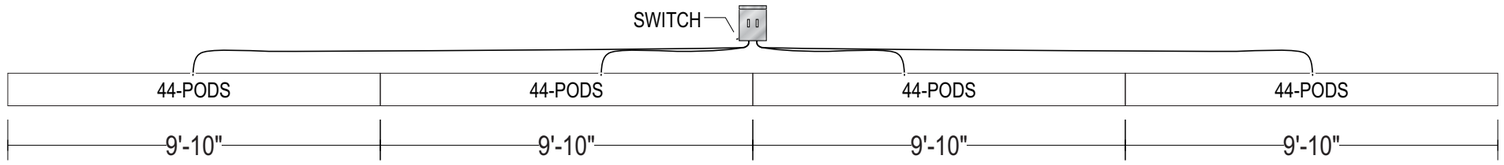
E08
E09

EYEBROW DETAILS

Scale: As noted



11-1/16" x 8-⅝" x 4-¾" QWIK BOX.
MAX 44-PODS PER LEG.

* EACH QWIK BOX PULLS 2.2 AMPS

COLOR PALETTE

- Bldg Eyebrow Exterior
  SW #7674 Peppercorn
- Wave Wall Exterior
  Matthews Sparkle Silver SV952SP
- Interior
  White Light Enhancing Finish

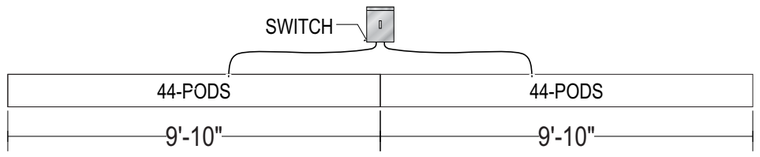
Paint finish to be satin unless otherwise specified

LED WAVE WALL EYEBROW
White (7000K)

LED BUILDING EYEBROW
White (5000K)

LED DOUBLE QWIK BOX DETAILS

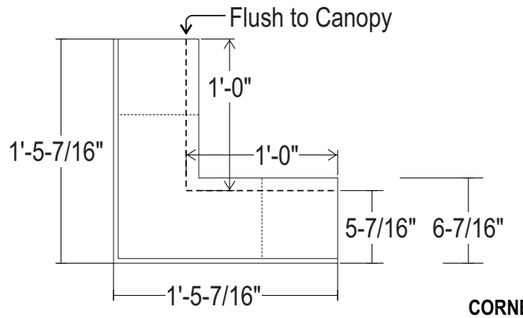
Scale: ¼" = 1'-0"



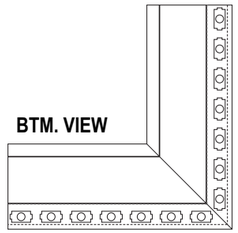
11-1/16" x 8-⅝" x 4-¾" QWIK BOX.
MAX 44-PODS PER LEG.

* EACH QWIK BOX PULLS 1.1 AMPS

TOP VIEW



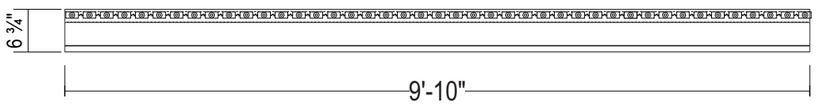
BTM. VIEW

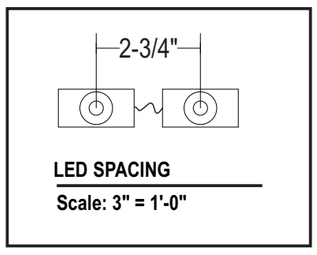


CORNER

LED SINGLE QWIK BOX DETAILS

Scale: ¼" = 1'-0"





LED SPACING

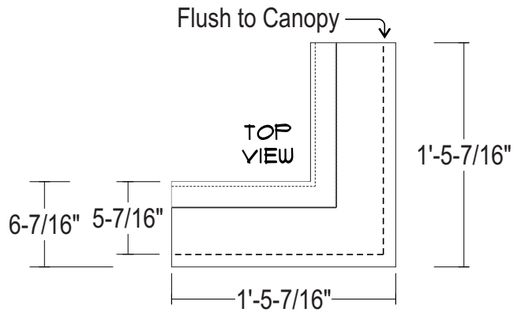
Scale: 3" = 1'-0"

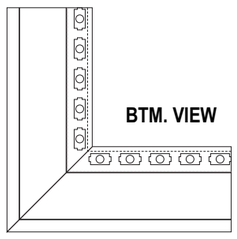
LED LAYOUT UNDER HOOD - TYPICAL BOTTOM VIEW

Scale: ½" = 1'-0"

TYPICAL CORNER PIECE W/ ILLUMINATION

Scale: 1" = 1'-0"





TYPICAL INSIDE CORNER PIECE W/ ILLUMINATION

Scale: 1" = 1'-0"

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PAGE NO.: 14

ORDER NUMBER: 1249892

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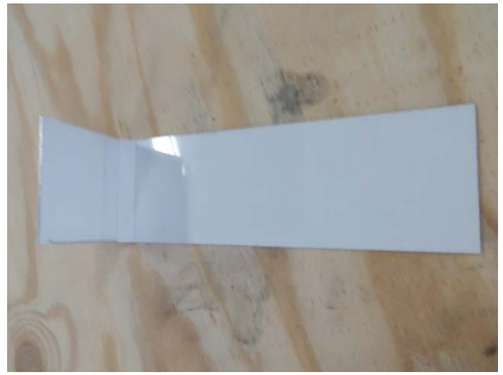
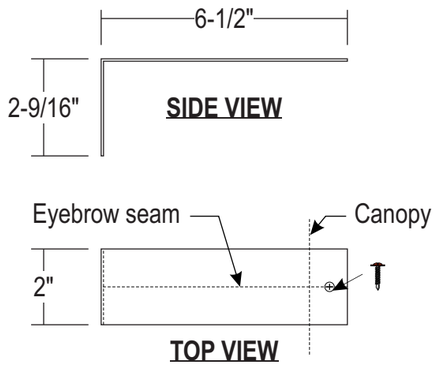
E08 EYEBROW SEAM COVER / END CAP DETAILS

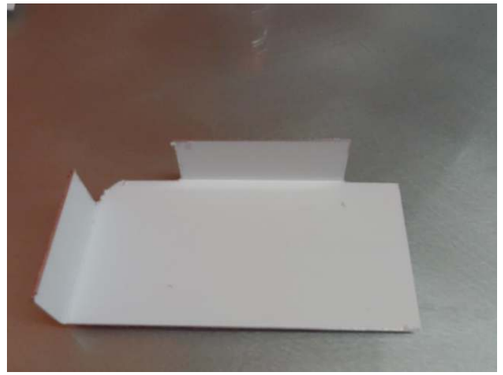
E09

Scale: 3"=1'-0"



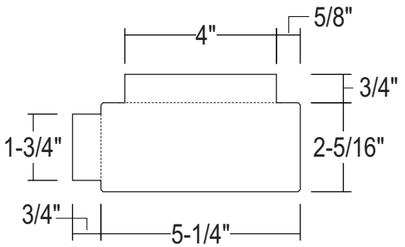


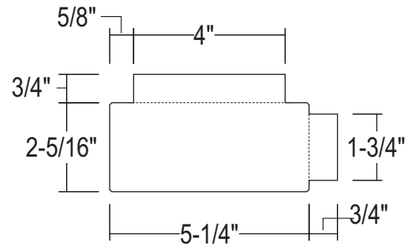
SEAM PLATE





END CAP





SEAM COVER: .063" thk. pre-finished white brake formed panel.
Exterior painted:
WAVE WALL EYEBROW: Sparkle Silver
BLDG. EYEBROW: Peppercorn Gray
Interior White

END CAP: .063" thk. pre-finished white brake formed cap.
Exterior painted:
WAVE WALL EYEBROW: Sparkle Silver
BLDG. EYEBROW: Peppercorn Gray
Interior White

INSTALL: Secure with self-drilling truss head screws over top of seams and at ends; paint screws heads with touch up paint

ALL FASTENERS PROVIDED BY INSTALLER

COLOR PALETTE

- Bldg Eyebrow Exterior
  SW #7674 Peppercorn
- Wave Wall Exterior
  Matthews Sparkle Silver SV952SP
- Interior
  White Light Enhancing Finish

Paint finish to be satin unless otherwise specified

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PAGE NO.: 15

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E09 BUILDING | EYEBROW LIGHTING

Scale: 1/8"=1'-0"

ALL PIECES CUT TO LENGTH IN THE FIELD
SUGGESTED TOOLS FOR CUTTING EYEBROW
SKILSAW WITH FINE METAL BLADE
OR
JIGSAW WITH FINE METAL BLADE

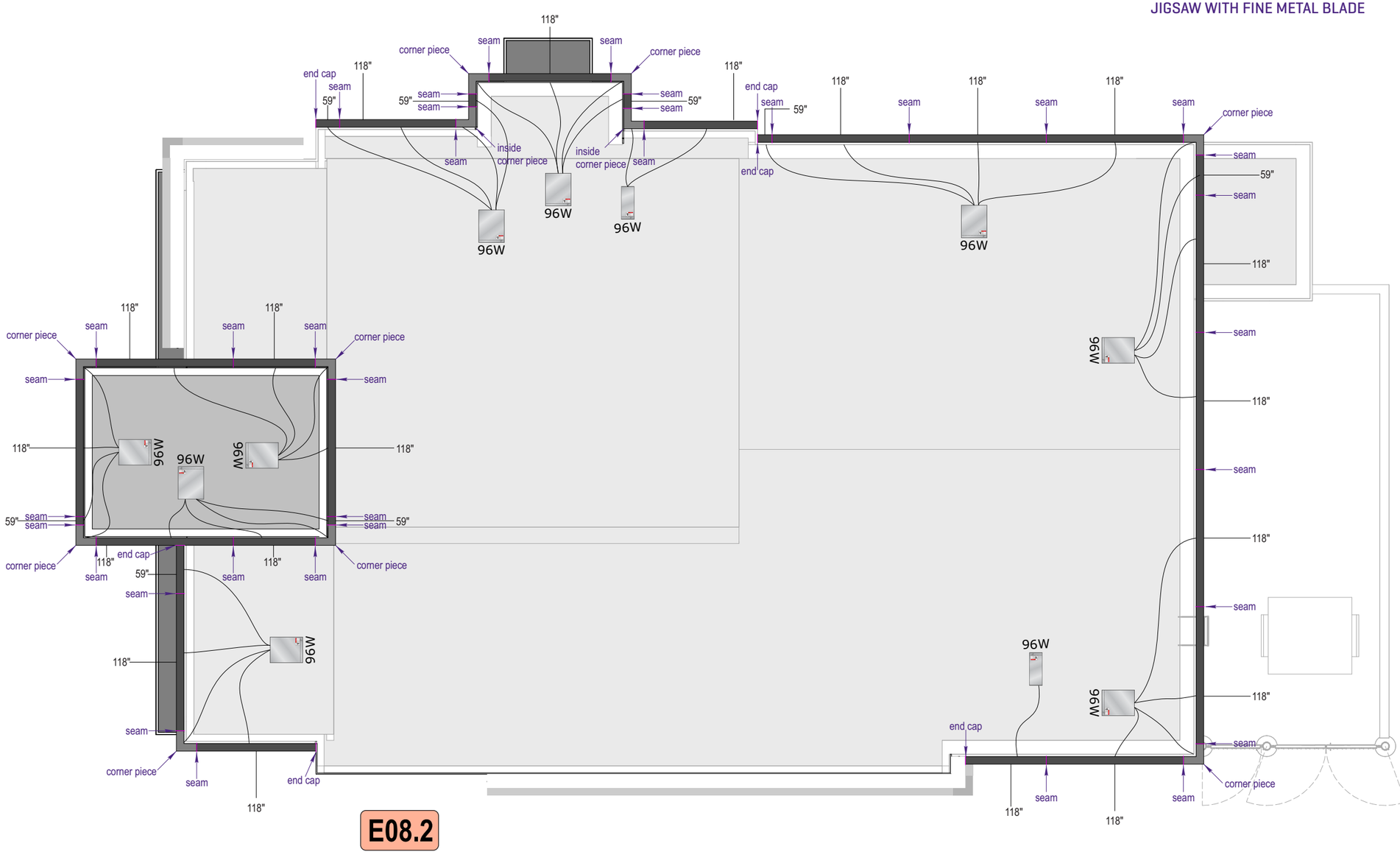
ON-BLDG PARTS LIST (5000K Peppercorn)

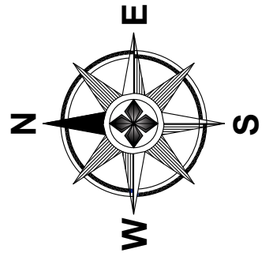
9	QWIK BOX (Ea.), 2-96w 24v Power Supplies
2	QWIK BOX (Ea.), 1-96w 24v Power Supplies
8	SINGLE PACK 59" EYEBROW
-	SINGLE PACK, 118" EYEBROW
10	TWIN PACK, 118" EYEBROWS
9	CORNER PIECE (17 3/4" x 17 3/4")
2	INSIDE CORNER PIECE (17 3/4" x 17 3/4")
6	ENDCAP (Ea.)
35	SEAM PLATE (Ea.)
11	INSTALL KIT (25 Screws & Touch-up Paint Bottle)

COLOR PALETTE

- Bldg Eyebrow Exterior SW #7674 Peppercorn
- Interior White Light Enhancing Finish

Paint finish to be satin unless otherwise specified





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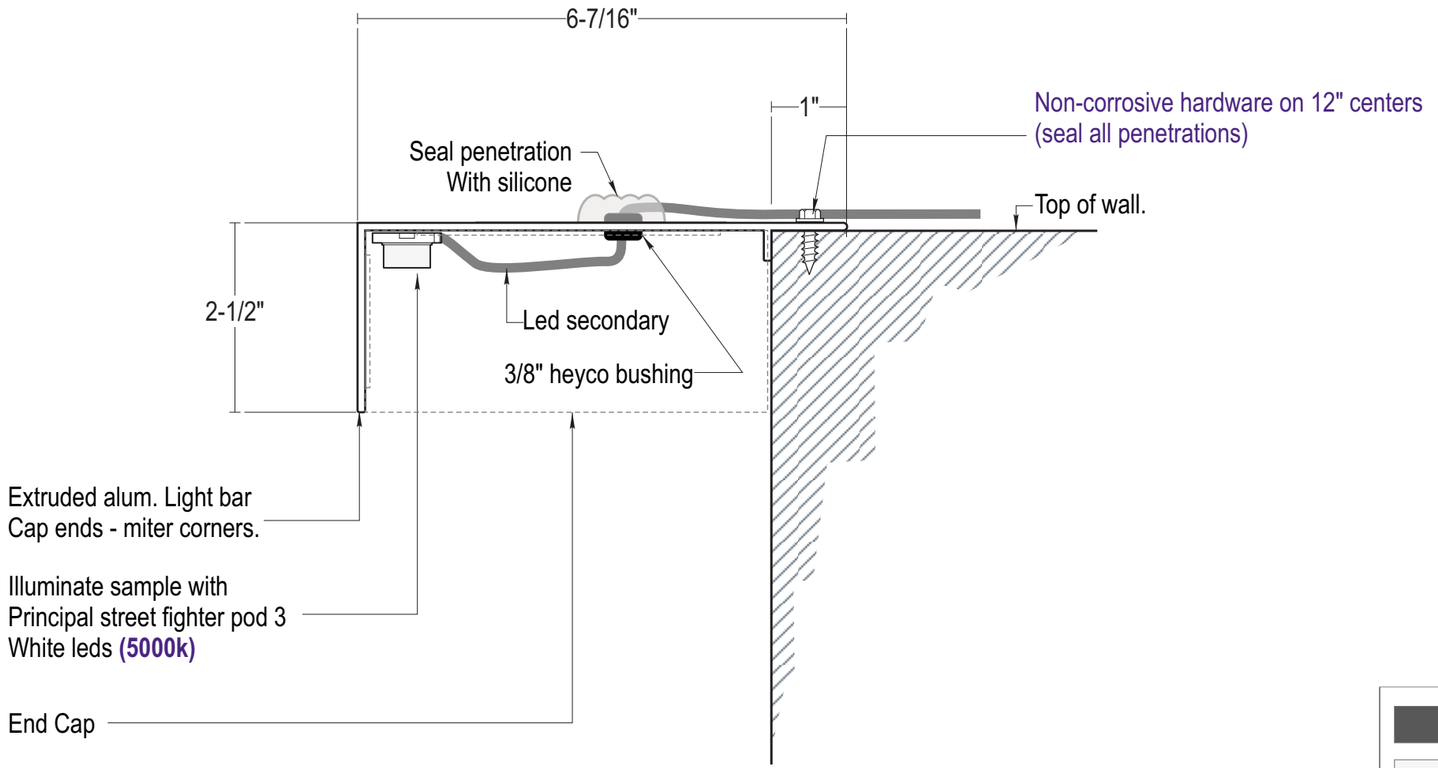
E09 BUILDING | EYEBROW LIGHTING DETAILS

Scale: 1:2



COLOR PALETTE

- Bldg Eyebrow Exterior
  SW #7674 Peppercorn
- Interior
  White Light Enhancing Finish

Paint finish to be satin unless otherwise specified

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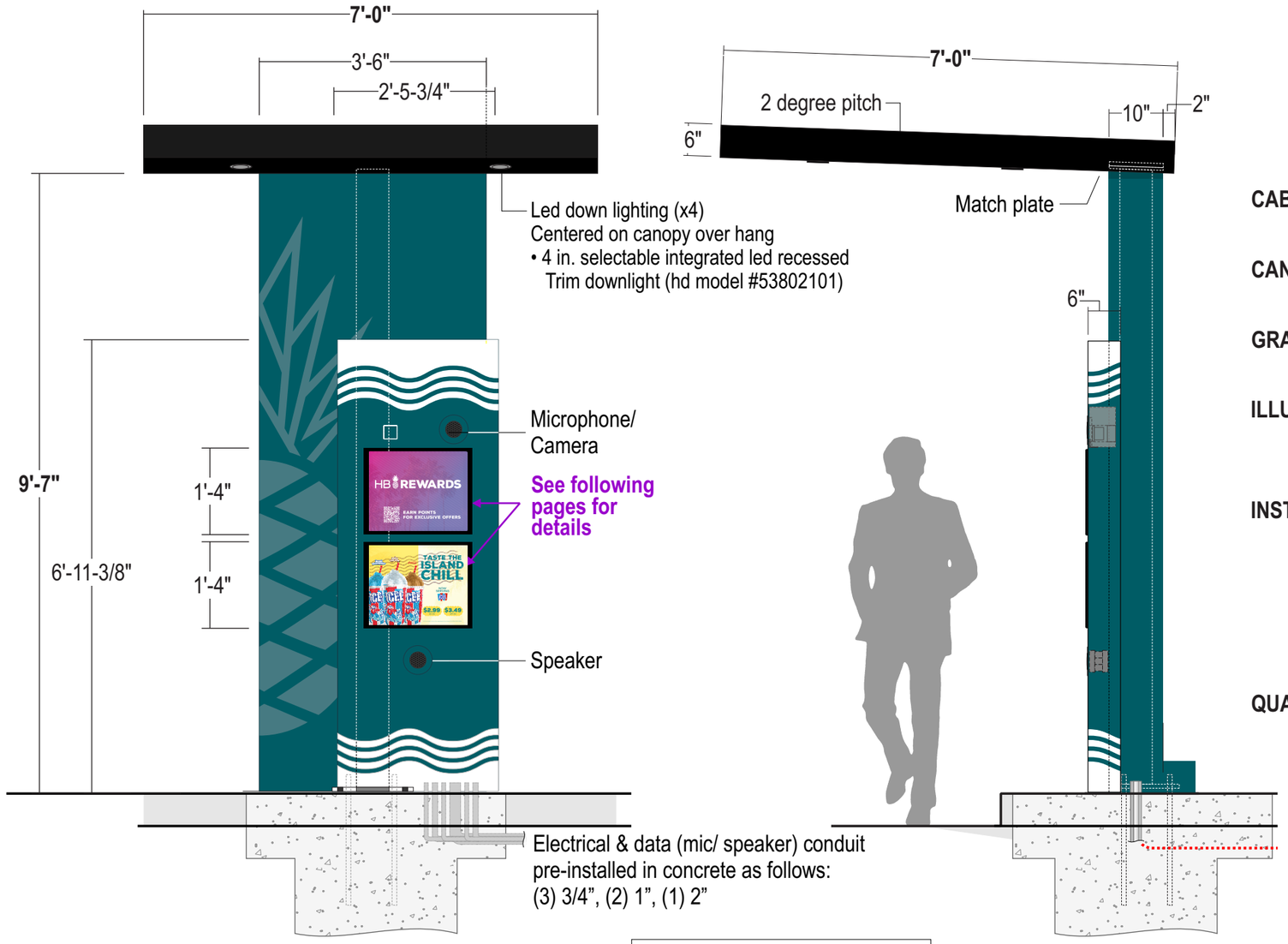
E10 DRIVE-THRU ORDER CANOPY - (BY OTHERS)

CS115.is.al.cs

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



FRONT VIEW

RIGHT SIDE VIEW

FOUNDATION BY OTHERS

CABINET: .125" thk. aluminum cladding with 1" x 1" x.125" aluminum sq. tube internal frame; painted Wave Blue

CANOPY: .080" thk. aluminum cladding on top and bottom with .063" thk. aluminum cladding on sides; 2" x .125" aluminum tube internal tube frame; paint black

GRAPHICS: 1st surface white vinyl wave graphic on all sides; digitally printed vinyl pineapple logo

ILLUM. .060" thk. white polycarbonate digitally printed 11" x 17" snap frame media.

Princpal Sloan white LED illumination with self-contained power supplies behind snap frame media.

INSTALL: TS 6" x 6" x 3/16" steel tube support with 1" thk. steel base plate and 9-5/8" x 9-5-8" thk. steel match plate at canopy; support ships inside support cover.

NOTE: Concrete footing engineered by clients' G.C.
Anchors & mounting templates provided by Stratus.

See following pages for rear and left side elevation

QUANTITY: (1) ONE REQUIRED

COLOR PALETTE

- Pantone Natural Black
- Pantone 5473 Wave Blue
- Pantone 5473 Wave Blue (80% for pineapple logo)
- 3M 7725-10 white vinyl

Paint finish to be satin unless otherwise specified

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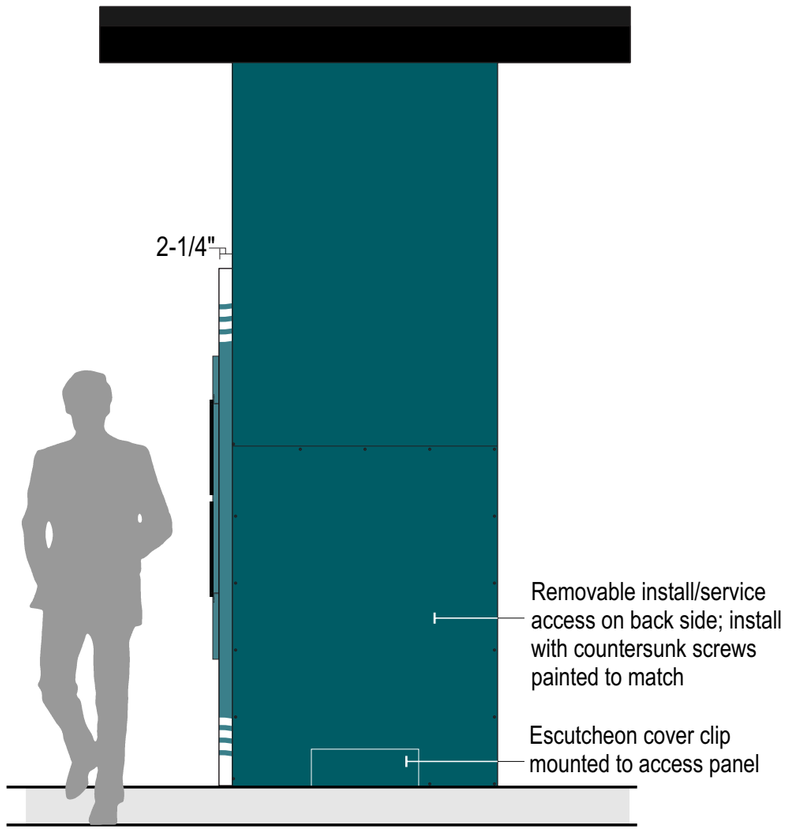
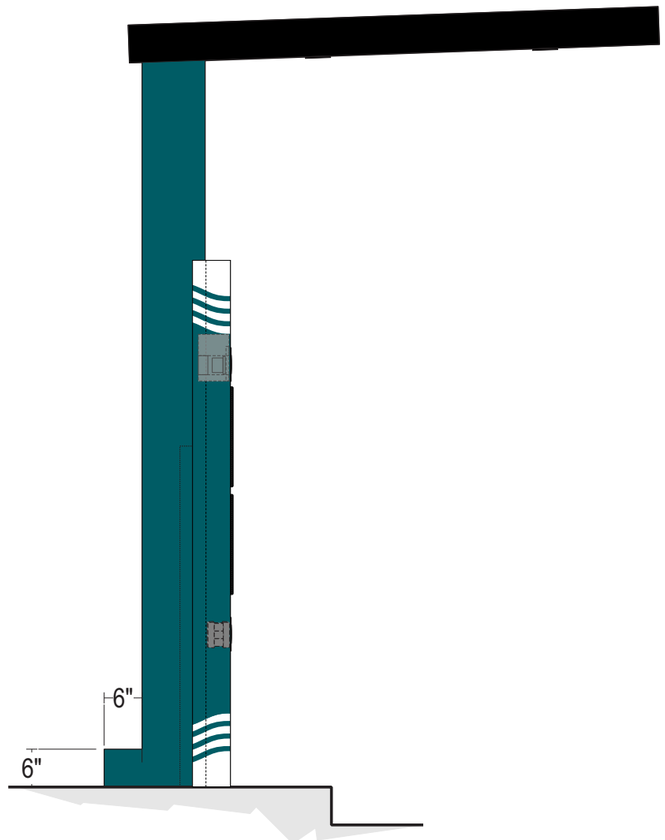
E10 DRIVE-THRU ORDER CANOPY - (BY OTHERS)

CS115.is.al.cs

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



REAR VIEW



LEFT SIDE VIEW

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E10 DRIVE THRU ORDER SNAP FRAMES

CS115.is.al.cs

Scale: 3" = 1'-0"

1'-8" frame size

1'-4" frame size



1'-2" x 1'-6" visible opening
1'-3-1/2" x 1'-7-3/16" insert size

UPPER FRAME

FRAME: Black alum. snap frames. Model S-23416BL (Uline Part #); modify back to allow for illumination

INSERT: .060" thk. white polycarbonate with digital print graphics **(By Others)**

GRAPHICS: 1st surface digitally printed graphics from customer provided files

QUANTITY: **(1) ONE REQUIRED**

1'-8" frame size



1'-2" x 1'-6" visible opening
1'-3-1/2" x 1'-7-3/16" insert size

LOWER FRAME

FRAME: Black alum. snap frames. Model S-23416BL (Uline Part #); modify back to allow for illumination

INSERT: .060" thk. white polycarbonate with digital print graphics **(By Others)**

GRAPHICS: 1st surface digitally printed graphics from customer provided files

QUANTITY: **(1) ONE REQUIRED**

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8959 Tyler Boulevard
Mentor, Ohio 44060
888.503.1569

CLIENT: HAWAIIAN BROS ISLAND GRILL

ADDRESS: 6421 E 82nd St, Indianapolis, IN 46250-4592

PAGE NO.: 20

ORDER NUMBER: 1249892

PROJECT NUMBER: 89222

SITE NUMBER: 135

PROJECT MANAGER: ANDY CONCEPCION

ELECTRONIC FILE NAME: G:\ACCOUNTS\H\H-BROS_LOCATIONS\2025\IN\135_Indianapolis\135_Indianapolis.cdr

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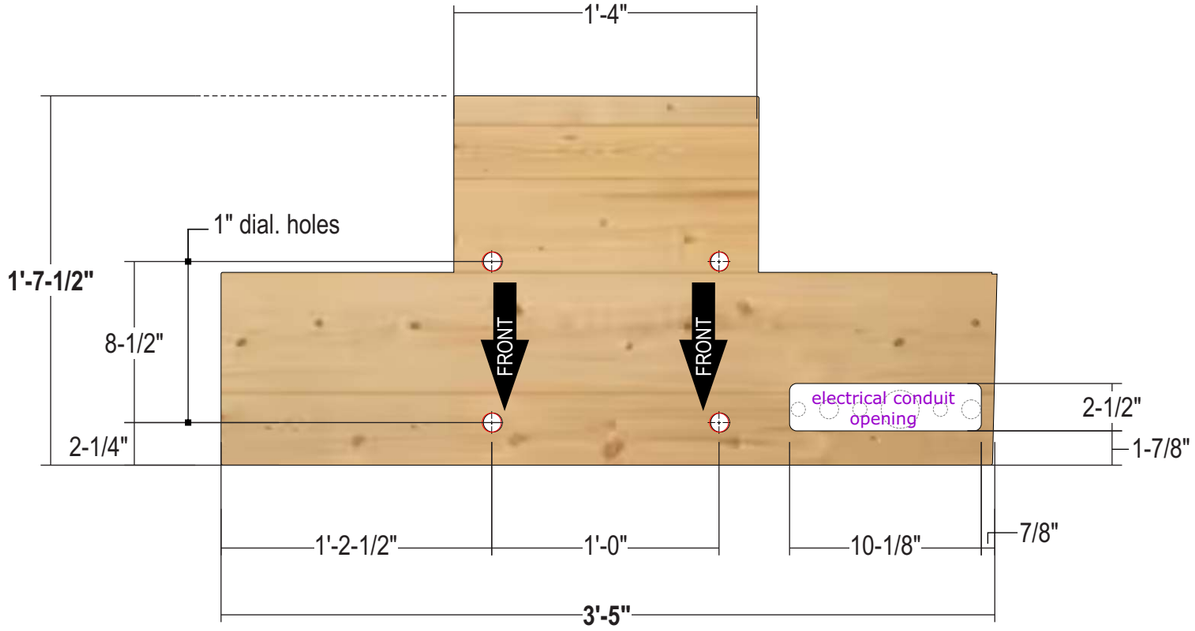
E10 DRIVE THRU ORDER MOUNTING TEMPLATE

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



TOP LEVEL INSTALLATION GUIDE TEMPLATE (AT GRADE)
ORDER POINT - WOODEN INSTALLATION TEMPLATE (UPPER)

TEMPLATE: 1/2" plywood with 1" dia. routed holes

INSTALL: G.C. to use to set anchor bolts to match anchor points on drive-thru canopy base plate

QUANTITY: **(1) ONE REQUIRED**

SIMPSON Strong-Tie Anchor Designer™ Software
Version 3.1.2303.1

Company:		Date:	7/1/2024
Engineer:		Page:	1/6
Project:			
Address:			
Phone:			
E-mail:			

1.Project information

Customer company:
Customer contact name:
Customer e-mail:
Comment:

Project description:
Location:
Fastening description:

2. Input Data & Anchor Parameters

General
Design method:ACI 318-19
Units: Imperial units

Anchor Information:
Anchor type: Cast-in-place
Material: AB
Diameter (inch): 0.750
Effective Embedment depth, h_{ef} (inch): 18.000
Anchor category: -
Anchor ductility: Yes
h_{min} (inch): 20.25
C_{min} (inch): 4.50
S_{min} (inch): 4.50

Base Material
Concrete: Normal-weight
Concrete thickness, h (inch): 60.00
State: Cracked
Compressive strength, f'_c (psi): 2500
$\Psi_{c,V}$: 1.4
Reinforcement condition: Supplementary reinforcement present
Supplemental edge reinforcement: Not applicable
Reinforcement provided at corners: No
Ignore concrete breakout in tension: Yes
Ignore concrete breakout in shear: No
Ignore 6do requirement: No
Build-up grout pad: No

Base Plate
Length x Width x Thickness (inch): 12.00 x 15.00 x 0.25

Recommended Anchor
Anchor Name: PAB Pre-Assembled Anchor Bolt - PAB6 (3/4"Ø)

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ORDER NUMBER: 1249892

PROJECT NUMBER: 89222

SITE NUMBER: 135

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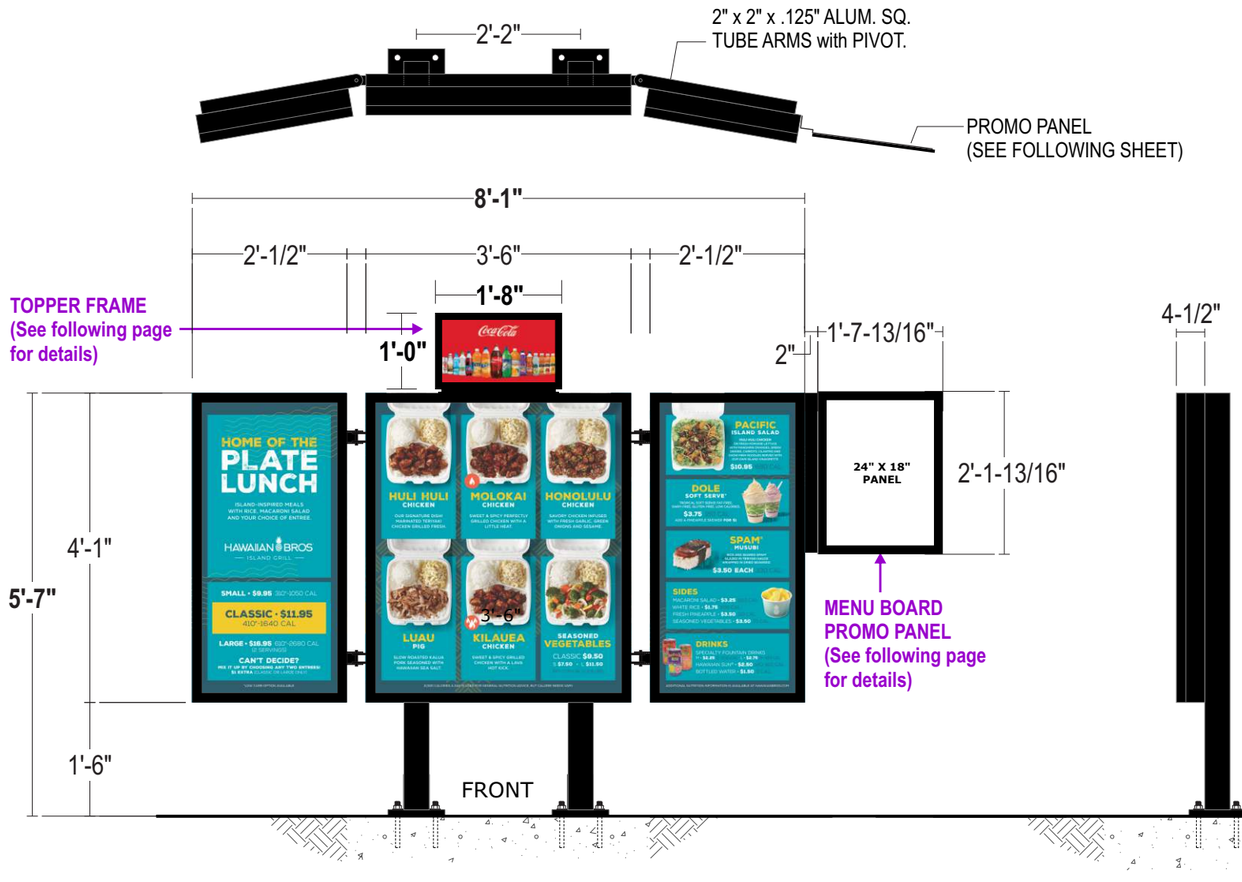
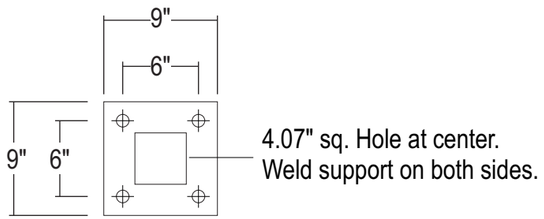
E11 MENU BOARD

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

DIM42.is.fpl.

30.9 square feet





CABINET: Extruded aluminum cabinet with 1-1/2" retainer; painted black

FACES: .177" thk. clear polycarbonate faces with 2nd surface applied digitally printed graphics from customer provided file - VERIFY PRIOR TO PRODUCTION

ILLUM.: Principal Sloan white LED illumination; self contained power supplies in each cabinet

INSTALL: TS 4" x 4" 1/4" aluminum sq. tube supports with 2" x 2" x .125" alum. sq. tube pivot arms; 9" x 1" thk. aluminum base plates with 1" dia. holes on 6" centers; 3/8" dia. kwik bolt wedge anchors into concrete footer by GC. Stratus to provide mounting template and anchors
NOTE: Concrete footing engineered by clients' G.C.
Anchors & mounting plates provided by Stratus.

QUANTITY: (1) ONE REQUIRED

COLOR PALETTE

Pantone Natural Black

Paint finish to be satin unless otherwise specified

ALL SIGNS TO COMPLY WITH UL 48 AND WILL BE MARKED AS SUCH WITH APPROPRIATE LABORATORY LABELS.

THIS SIGN IS INTENDED TO BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF ARTICLE 600 OF THE NATIONAL ELECTRICAL CODE AND/OR OTHER APPLICABLE LOCAL CODES. THIS INCLUDES PROPER GROUNDING AND BONDING OF THE SIGN.

THE LOCATION OF THE DISCONNECT SWITCH AFTER INSTALLATION SHALL COMPLY WITH ARTICLE 600.6(A) (1) OF THE NATIONAL ELECTRIC CODE.

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CLIENT: HAWAIIAN BROS ISLAND GRILL

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PROJECT NUMBER: 89222

SITE NUMBER: 135

PROJECT MANAGER: ANDY CONCEPCION

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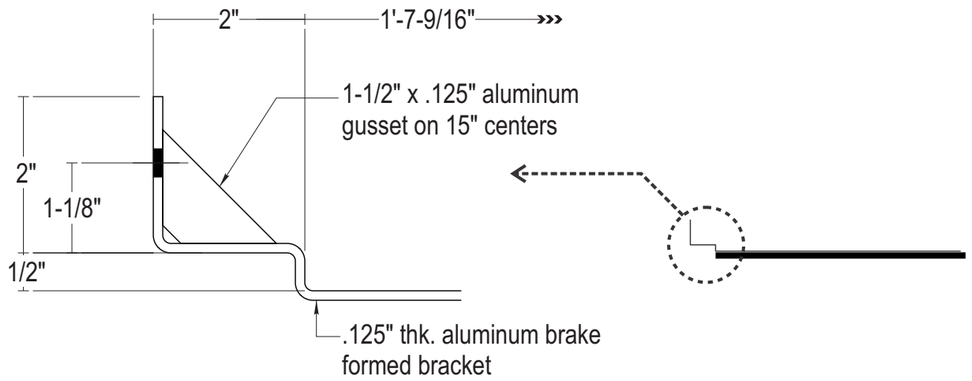
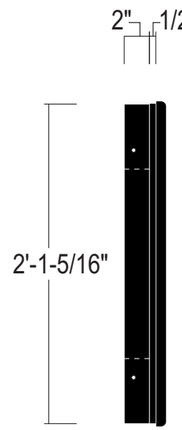
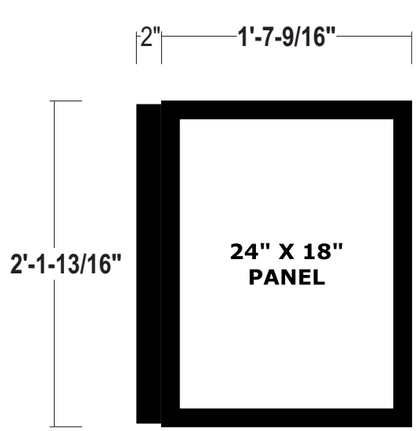
E11.1 MENU BOARD PROMO PANEL

CS25.n.cs

Scale: 1"=1'-0"







FRAME: Aluminum snap frame; pre-finished black

BRACKET: .125" thk. aluminum brake formed bracket; pop-rivet to snap frame; painted black

FACE: .060" thk. clear polycarbonate cover

INSTALL: Through bolt to side of menu board with 1/4" dia. machine bolts; paint black.

QUANTITY: **(1) ONE REQUIRED**

COLOR PALETTE

Pantone Natural Black

Paint finish to be satin unless otherwise specified

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PROJECT MANAGER: ANDY CONCEPCION

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E11.2 PUMP TOPPER FRAME - SIDE LOAD

Scale: 3"=1'-0"

CS12.f

1.7 square feet

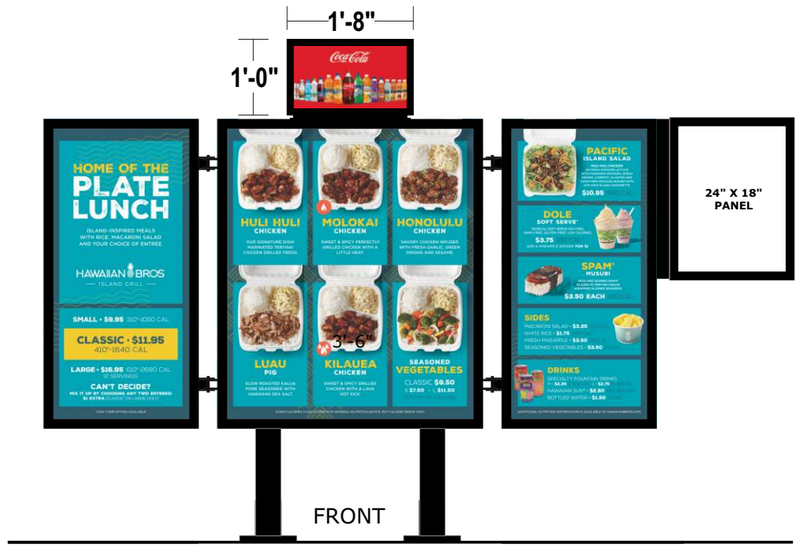


FRAME: C-Store signs direct 12"x20" black aluminum frames - side load

INSERT: **By others**

INSTALL: Flush mount with d/s foam tape on existing menu board ***by others***

QUANTITY: **(1) ONE REQUIRED**



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

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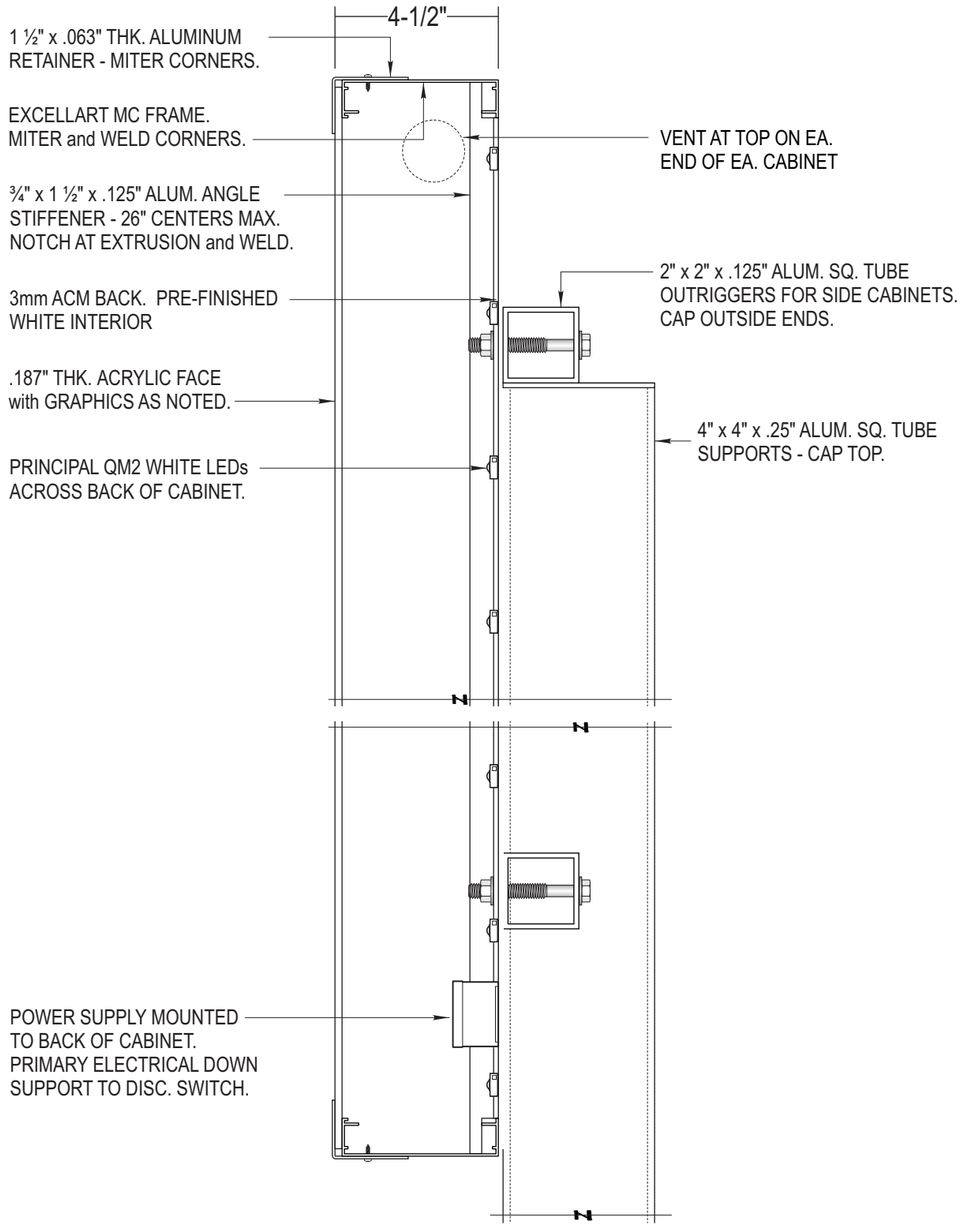
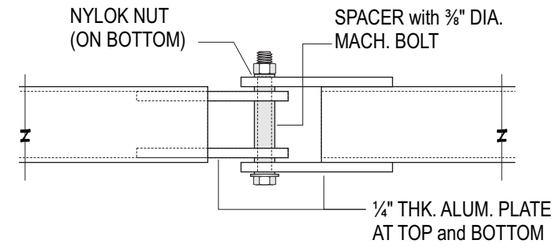
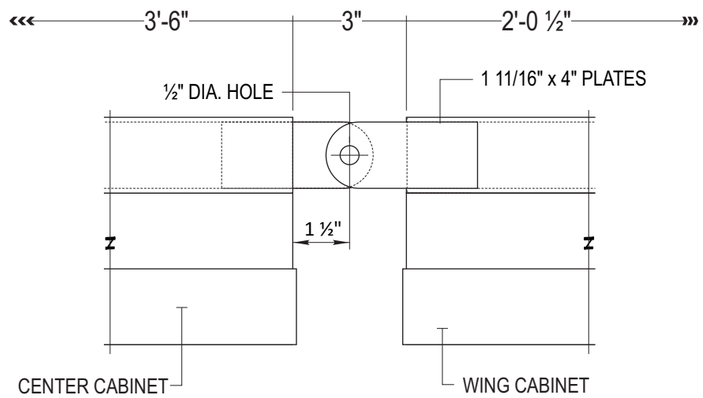
E11 MENU BOARD SECTION DETAILS

CS25.n.cs

Scale: 3"=1'-0"







PIVOT DETAIL

Scale: 3"=1'-0"

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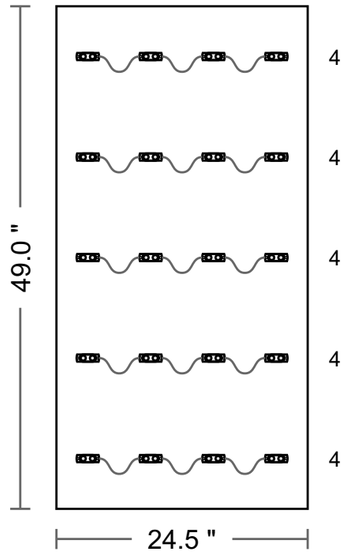
E11 **MENU BOARD LED LAYOUT - (QTY. 2)** **CS25.n.cs**

Scale: NTS

QWIKMOD

PRINCIPAL LED
WE SPEAK SIGN LANGUAGE

3490 Venture Dr.
San Angelo, TX 76905
325.227.4577
www.p-led.com
layouts@p-led.com



Date January 6, 2023 07:02 AM PST	**Module** (20) Qwik Mod 2	**Power Supply** (1) Universal 120W	**Total Watts** 15.60 watts	**Area** 8.3 sq ft
Lighting LED Module	**Module Part Number** PL-QM2-TW150-P	**Power Supply Part Number** PL-120-12-U	**Row Spacing** 9.8 in	**Perimeter** 12.3 feet
Layout Type Face Lit	**Module SKU** M-QMDX0-71	**Power Supply SKU** P-OH120-12-PL	**Can Depth** 4.00 in	**Max Modules per PS** 150

NOTICE: THIS LAYOUT IS ONLY AN ESTIMATE

Channel letter depth, face color, material, and thickness can vary, which may affect the number of modules required. To ensure accuracy, it is recommended that you test light in a darkened environment prior to installing or shipping to the site to ensure that the light output is commercially acceptable. Final material estimates are the responsibility of the sign manufacturer.
ALL LAYOUTS ARE BASED ON THE USE OF ACRYLIC FACES.

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E11 **MENU BOARD LED LAYOUT - (QTY. 1)** **CS25.n.cs**

Scale: NTS

QWIKMOD

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San Angelo, TX 76905
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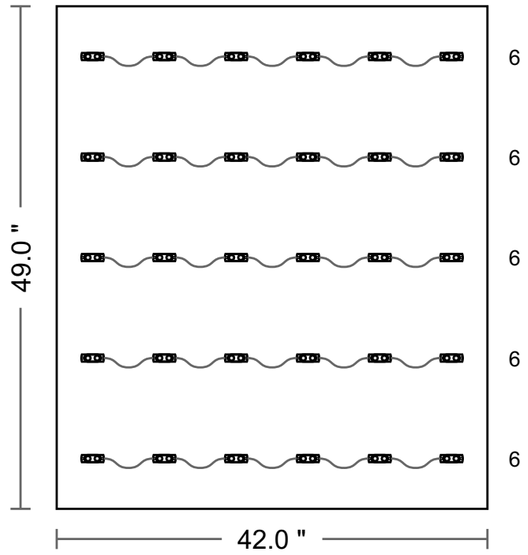
www.p-led.com
layouts@p-led.com



Date January 6, 2023 07:02 AM PST	**Module** (30) Qwik Mod 2	**Power Supply** (1) Universal 120W	**Total Watts** 23.40 watts	**Area** 14.3 sq ft
Lighting LED Module	**Module Part Number** PL-QM2-TW150-P	**Power Supply Part Number** PL-120-12-U	**Row Spacing** 9.8 in	**Perimeter** 15.2 feet
Layout Type Face Lit	**Module SKU** M-QMDX0-71	**Power Supply SKU** P-OH120-12-PL	**Can Depth** 4.00 in	**Max Modules per PS** 150

NOTICE: THIS LAYOUT IS ONLY AN ESTIMATE

Channel letter depth, face color, material, and thickness can vary, which may affect the number of modules required. To ensure accuracy, it is recommended that you test light in a darkened environment prior to installing or shipping to the site to ensure that the light output is commercially acceptable. Final material estimates are the responsibility of the sign manufacturer.

ALL LAYOUTS ARE BASED ON THE USE OF ACRYLIC FACES.

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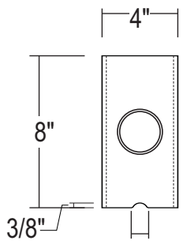
E12 CLEARANCE BAR

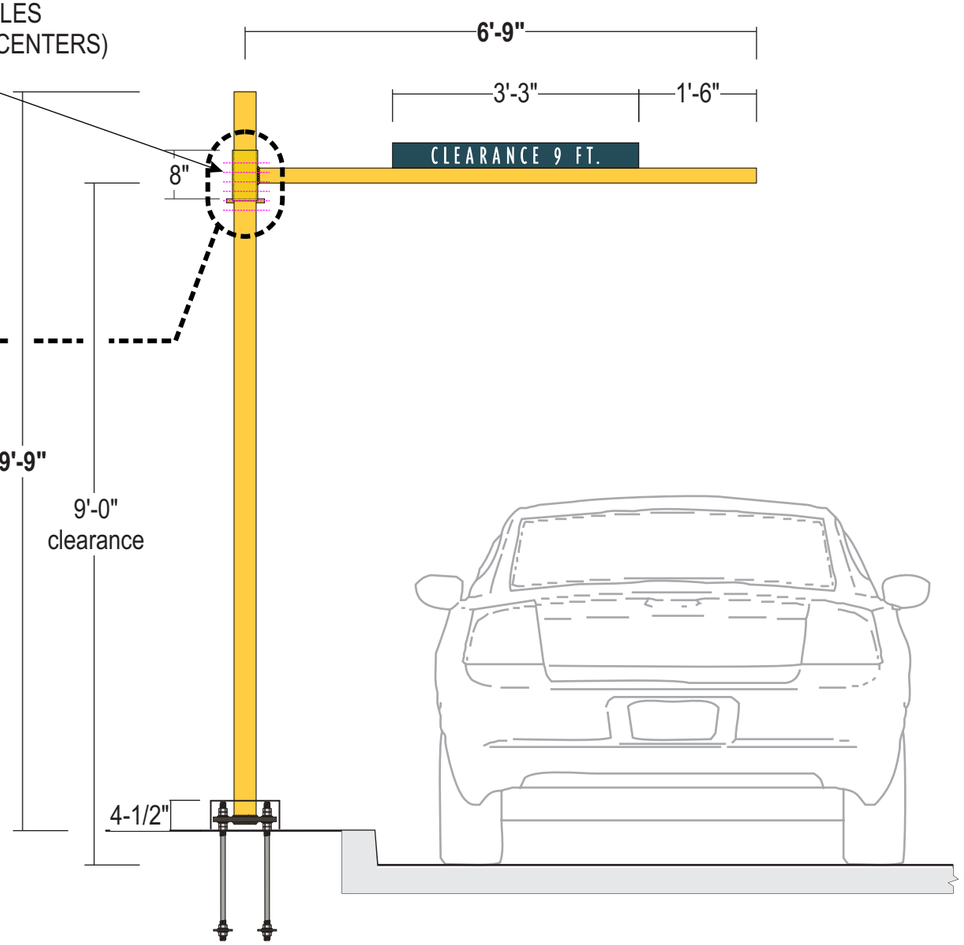
Scale: 1/2"=1'-0"



ADJUSTABLE
PIN HOLES
(1 1/2" CENTERS)



END VIEW
Scale: 1-1/2"=1'-0"





CLEARANCE BAR PANEL DETAIL

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

SUPPORT: 3-1/2" dia. x .216" wall pipe; cap end; painted yellow

OUTRIGGER: 4" dia. x .226" wall sleeve; 2-3/8" dia. x .154" wall outrigger welded to sleeve; cap end; painted yellow

PANEL: .125" thk. alum. panel with brake formed return on back of panel to match radius of outrigger; apply 1st surface reflective white vinyl copy; paint green; secure with self-tapping screws to outrigger

BASE PLATE: 10" x 3/4" thk. steel base plate with 1" dia. holes on 7" centers in each direction; weld pipe on both sides of plate; paint yellow; 12" x 1" non-shrink grout under base plate

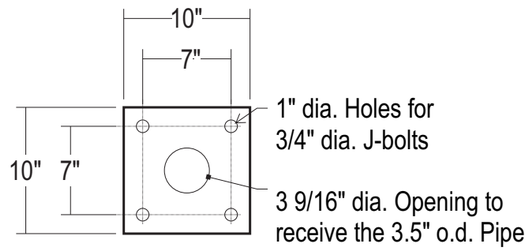
NOTE: Concrete footing engineered by clients' G.C.
Anchors & mounting templates provided by Stratus.

QUANTITY: **(1) ONE REQUIRED**

COLOR PALETTE

- Pantone 7477C Deep Sea Blue
- Pantone 129C Pineapple Yellow
- 3M 510-10 White Reflective

Paint finish to be satin unless otherwise specified



3/4" **STEEL PLATE**
Scale: 1" = 1'-0"

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SITE NUMBER: 135

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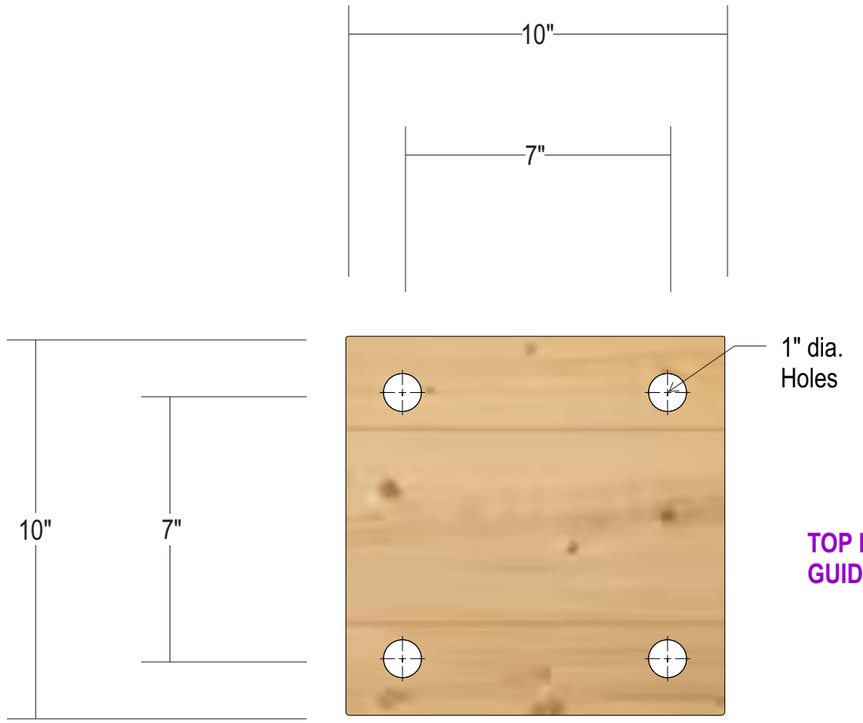
E12 CLEARANCE BAR BOLT TEMPLATE

Scale: 3"=1'-0"



TOP LEVEL INSTALLATION GUIDE TEMPLATE (AT GRADE)

CLEARANCE BAR WOODEN INSTALLATION TEMPLATE (UPPER & LOWER)

TEMPLATE: 1/2" plywood with 1" dia. routed holes

INSTALL: G.C. to use to set anchor bolts to match anchor points on clearance bar base plate

QUANTITY: **(1) ONE REQUIRED**

Anchor Designer™ for Concrete Software
Version 3.3.2403.1

Company:		Date:	11/20/2024
Engineer:		Page:	1/6
Project:			
Address:			
Phone:			
E-mail:			

1.Project information

Project description:
Location:
Fastening description:

Comment:

2. Input Data & Anchor Parameters

General
Design method:ACI 318-14
Units: Imperial units

Anchor Information:
Anchor type: Cast-in-place
Material: AB
Diameter (inch): 0.750
Effective Embedment depth, h_{ef} (inch): 24.000
Anchor category: -
Anchor ductility: Yes
h_{min} (inch): 26.25
C_{min} (inch): 4.50
S_{min} (inch): 4.50

Base Material
Concrete: Normal-weight
Concrete thickness, h (inch): 32.50
State: Cracked
Compressive strength, f'_c (psi): 2500
$\Psi_{c,V}$: 1.0
Reinforcement condition: B tension, B shear
Supplemental edge reinforcement: Not applicable
Reinforcement provided at corners: No
Ignore concrete breakout in tension: No
Ignore concrete breakout in shear: No
Ignore 6do requirement: No
Build-up grout pad: No

Base Plate
Length x Width x Thickness (inch): 10.00 x 10.00 x 0.75
Yield stress: 36000 psi

Profile type/size: 3STD

Recommended Anchor
Anchor Name: PAB Pre-Assembled Anchor Bolt - PAB6 (3/4"Ø)



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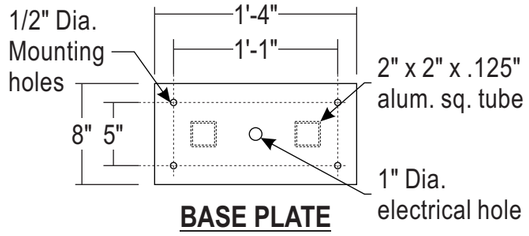
E13 D/F ILLUMINATED DIRECTIONAL

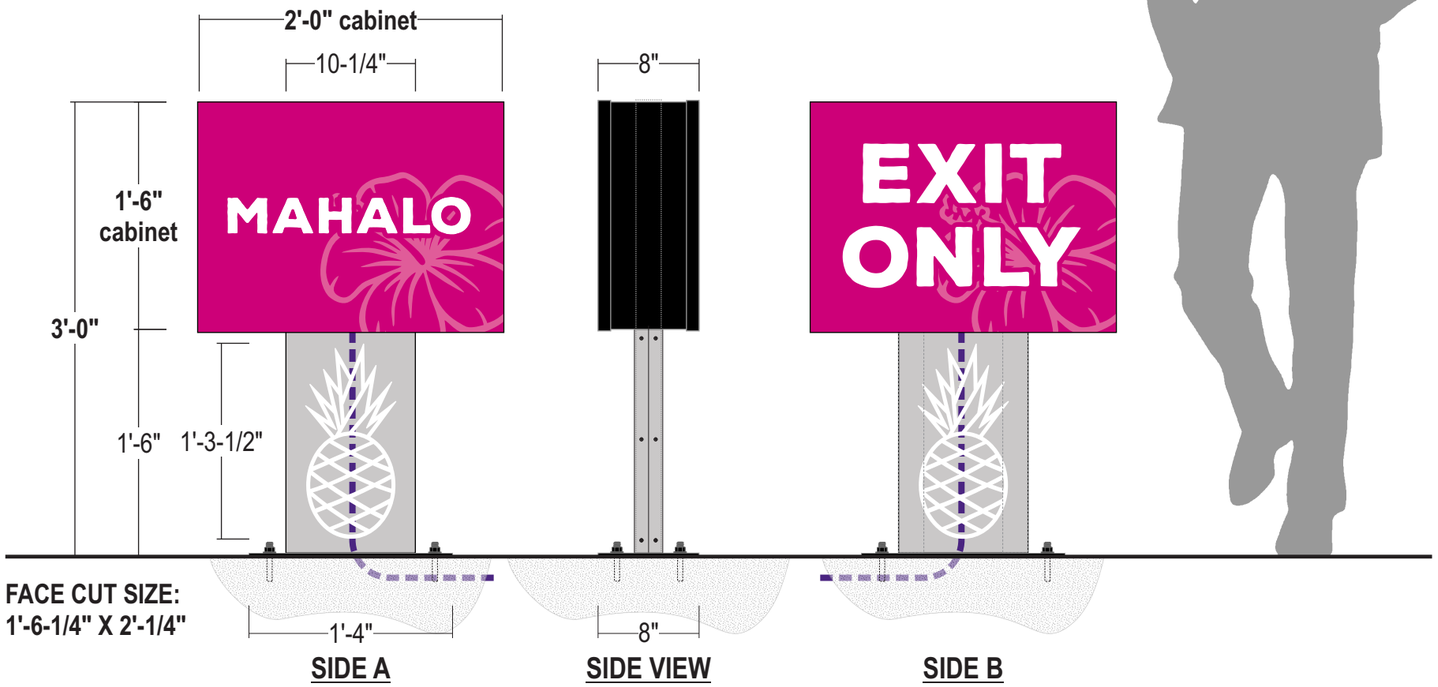
Scale: 1"=1'-0"

DR18.is.ac.

3.0 square feet



BASE PLATE



SIDE A **SIDE VIEW** **SIDE B**

FACE CUT SIZE:
1'-6-1/4" X 2'-1/4"

FOUNDATION BY OTHERS

CABINET: 8" deep fabricated aluminum cabinet w/ .090" alum. skin; All exposed surfaces painted black

FACES: 3/16" #7328 white acrylic faces with 1" black trimcap retainers at perimeter (CUT SIZE: 1'-6-1/4" X 2'-1/4")

GRAPHICS: 1st surface digitally printed vinyl; 1st surface white vinyl logo applied to support cover

ILLUM.: Principal Sloan white LED's as required by manufacturer; LEDs mounted to baffles on ea. side of supports; ***POWER SUPPLIES HOUSED WITHIN CABINET***

POLE COVER: .063" thk. aluminum brake formed pole cover; clamshells around supports, painted gray

INSTALL: 2" x 2" x .125" aluminum sq. tube supports; welded to 8" x 1'-4" x 3/8" thk. aluminum plate; anchor with 3/8" dia. kwik bolt wedge anchors into existing concrete.

QUANTITY: **(1) ONE REQUIRED**

NOTE: Concrete footing engineered by clients' G.C.
Anchors & mounting plates provided by Stratus

SIMULATED NIGHT VIEW:



COLOR PALETTE

- Pantone 233C Magenta
- Pantone 233C Magenta (75%)
- 3M 7725-10 white vinyl
- Pantone Cool Gray 3C
- Pantone Natural Black

Paint finish to be satin unless otherwise specified

ALL SIGNS TO COMPLY WITH UL 48 AND WILL BE MARKED AS SUCH WITH APPROPRIATE LABORATORY LABELS.

THIS SIGN IS INTENDED TO BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF ARTICLE 600 OF THE NATIONAL ELECTRICAL CODE AND/OR OTHER APPLICABLE LOCAL CODES. THIS INCLUDES PROPER GROUNDING AND BONDING OF THE SIGN.

THE LOCATION OF THE DISCONNECT SWITCH AFTER INSTALLATION SHALL COMPLY WITH ARTICLE 600.6(A) (1) OF THE NATIONAL ELECTRIC CODE.

Stratus
onestratus.com
8959 Tyler Boulevard
Mentor, Ohio 44060
888.503.1569

CLIENT: HAWAIIAN BROS ISLAND GRILL

ADDRESS: 6421 E 82nd St Indianapolis, IN 46250-4592

PAGE NO.: 30

ORDER NUMBER: 1249892

PROJECT NUMBER: 89222

SITE NUMBER: 135

PROJECT MANAGER: ANDY CONCEPCION

ELECTRONIC FILE NAME: G:\ACCOUNTS\H\H-BROS_LOCATIONS\2025\IN\135_Indianapolis\135_Indianapolis.cdr

Rev #	Req #	Date/Artist	Description	Rev #	Req #	Date/Artist	Description
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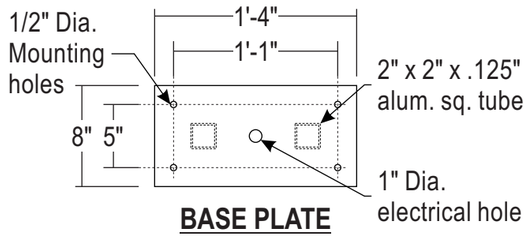
E14 D/F ILLUMINATED DIRECTIONAL

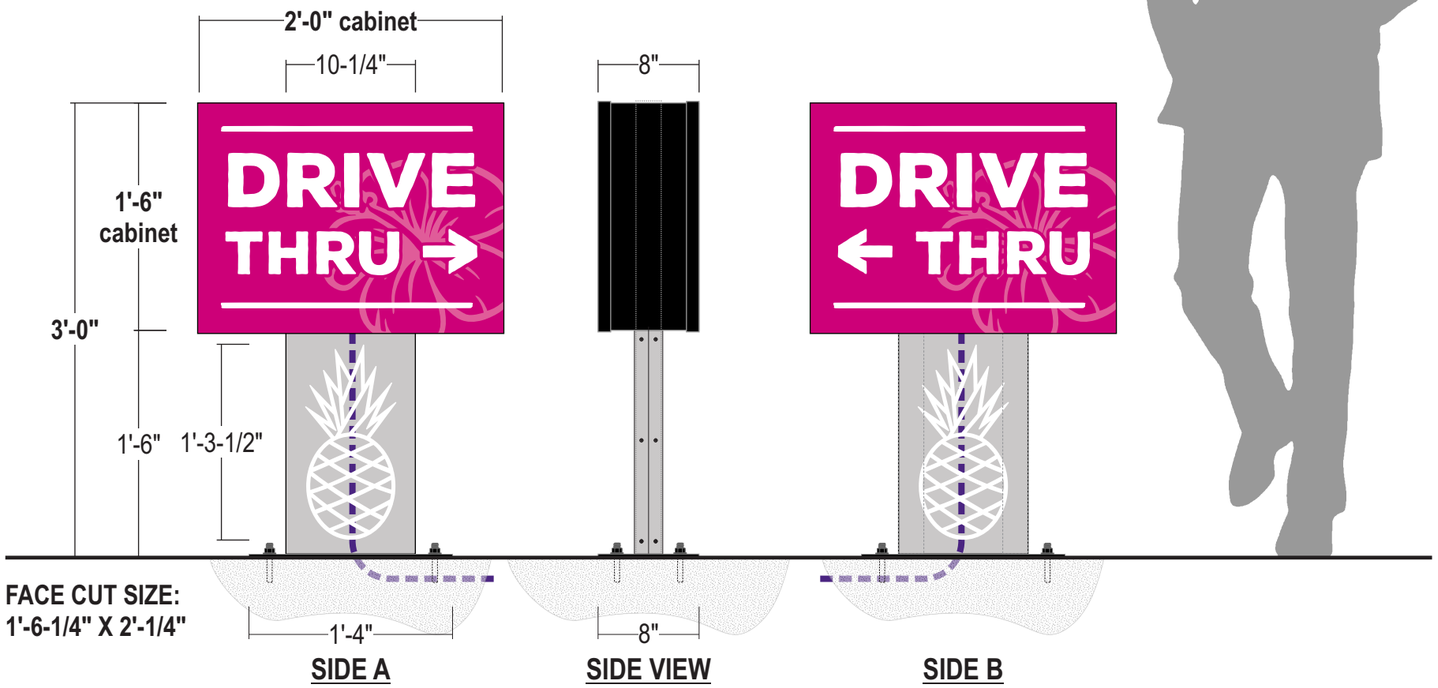
Scale: 1"=1'-0"

DR18.is.ac.

3.0 square feet



BASE PLATE



FACE CUT SIZE:
1'-6-1/4" X 2'-1/4"

SIDE A **SIDE VIEW** **SIDE B**

FOUNDATION BY OTHERS

CABINET: 8" deep fabricated aluminum cabinet w/ .090" alum. skin; All exposed surfaces painted black

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QUANTITY: **(1) ONE REQUIRED**

NOTE: Concrete footing engineered by clients' G.C.
Anchors & mounting plates provided by Stratus

SIMULATED NIGHT VIEW:



COLOR PALETTE

- Pantone 233C Magenta
- Pantone 233C Magenta (75%)
- 3M 7725-10 white vinyl
- Pantone Cool Gray 3C
- Pantone Natural Black

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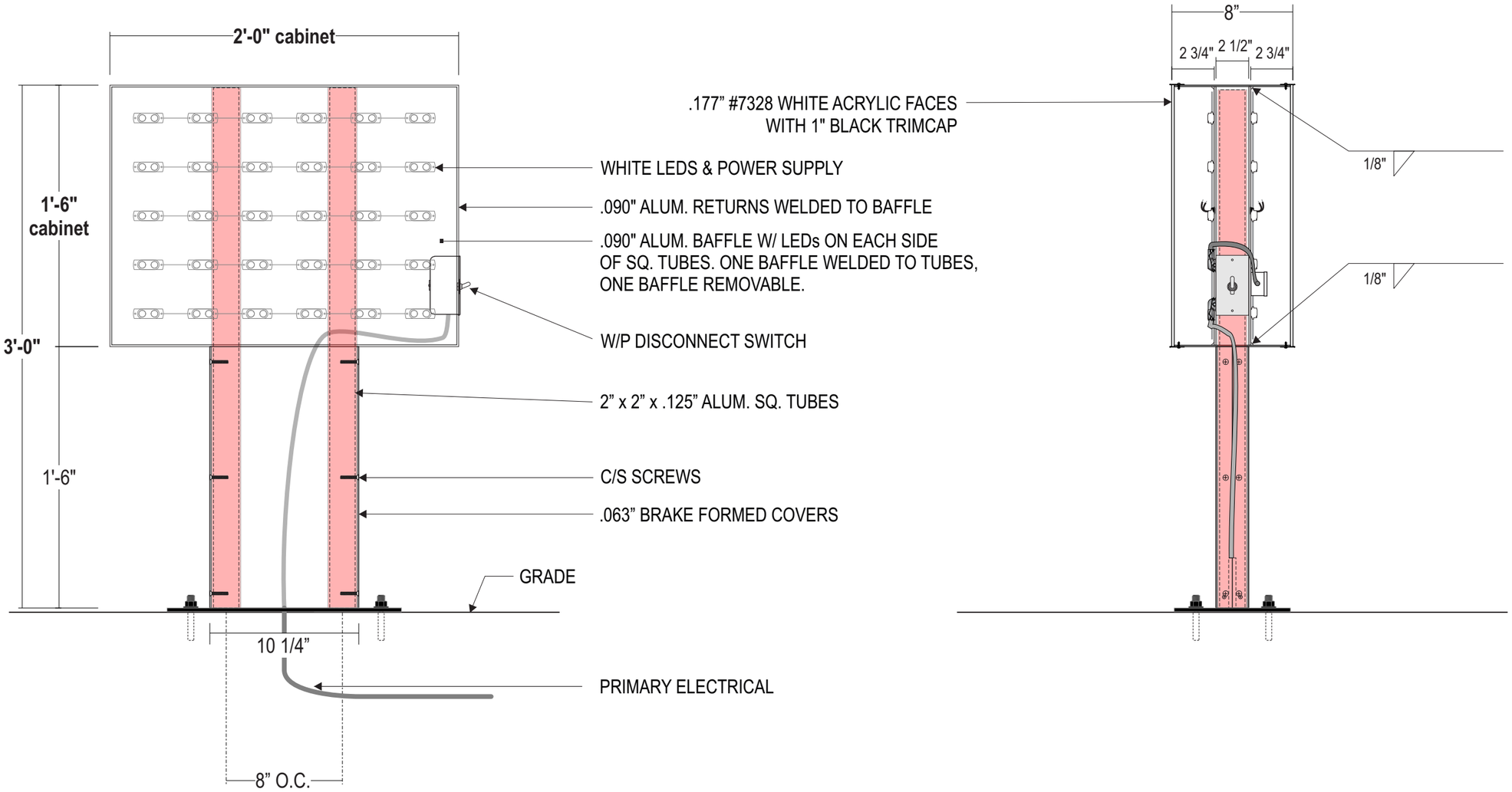
E13 D/F ILLUMINATED DIRECTIONAL DETAILS

E14

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

DR18.is.ac.

3.0 square feet



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E13
E14

D/F ILLUMINATED DIRECTIONAL LED LAYOUT

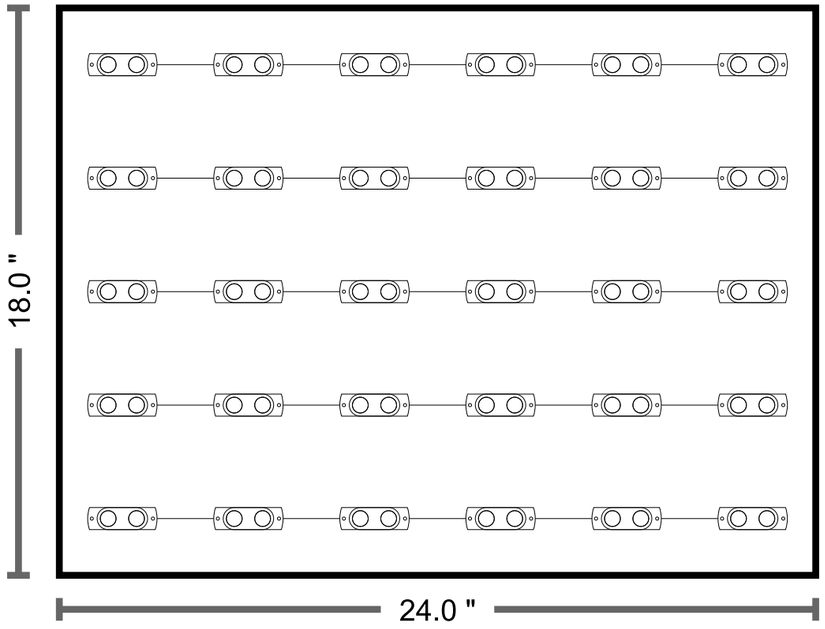
DR18.IS.AC

Scale: NTS

QWIKMOD

PRINCIPAL LED
WE SPEAK SIGN LANGUAGE

3490 Venture Dr.
San Angelo, TX 76905
325.227.4577
www.p-led.com
layouts@p-led.com



ELECTRICAL INFO
(1) D/F CABINET

EA. CABINET SIDE
(30) PRINCIPAL QWIK MOD 2. LEDS (7100K) = 18'-0"
76 MODULES MAX. PER 12-60W POWER SUPPLY

TOTAL CABINET
(60) PRINCIPAL QWIK MOD 2. LEDS (7100K) = 36'-0"
76 MODULES MAX. PER 12-60W POWER SUPPLY

(1) 12-60W U POWER SUPPLIES @ 1.1 AMPS EA.
TOTAL AMP LOAD = 1.1 AMPS @ 120V

(1) 12-60W U POWER SUPPLIES @ 0.45 AMPS EA.
TOTAL AMP LOAD = 0.45 AMPS @ 277V

(1) CUSTOMER PROVIDED
DEDICATED CIRCUITS REQUIRED

Date May 23, 2022 07:00 AM PDT	**Module** (30) Qwik Mod 2	**Power Supply** (1) Universal 60W	**Total Watts** 23.40 watts	**Area** 3.0 sq ft
Lighting LED Module	**Module Part Number** PL-QM2-TW150-P	**Power Supply Part Number** PL-60-12-U	**Row Spacing** 3.6 in	**Perimeter** 7.0 feet
Layout Type Face Lit	**Module SKU** M-QMDX0-71	**Power Supply SKU** P-OH060-12-PL	**Can Depth** 3.00 in	**Max Modules per PS** 76

NOTICE: THIS LAYOUT IS ONLY AN ESTIMATE

Channel letter depth, face color, material, and thickness can vary, which may affect the number of modules required. To ensure accuracy, it is recommended that you test light in a darkened environment prior to installing or shipping to the site to ensure that the light output is commercially acceptable. Final material estimates are the responsibility of the sign manufacturer.

ALL LAYOUTS ARE BASED ON THE USE OF ACRYLIC FACES.

THESE DRAWINGS AND SPECIFICATIONS ARE THE CONFIDENTIAL PROPERTY OF PRINCIPAL LED, LLC. ANY REPRODUCTION OR USE WITHOUT PRIOR WRITTEN CONSENT IS PROHIBITED.

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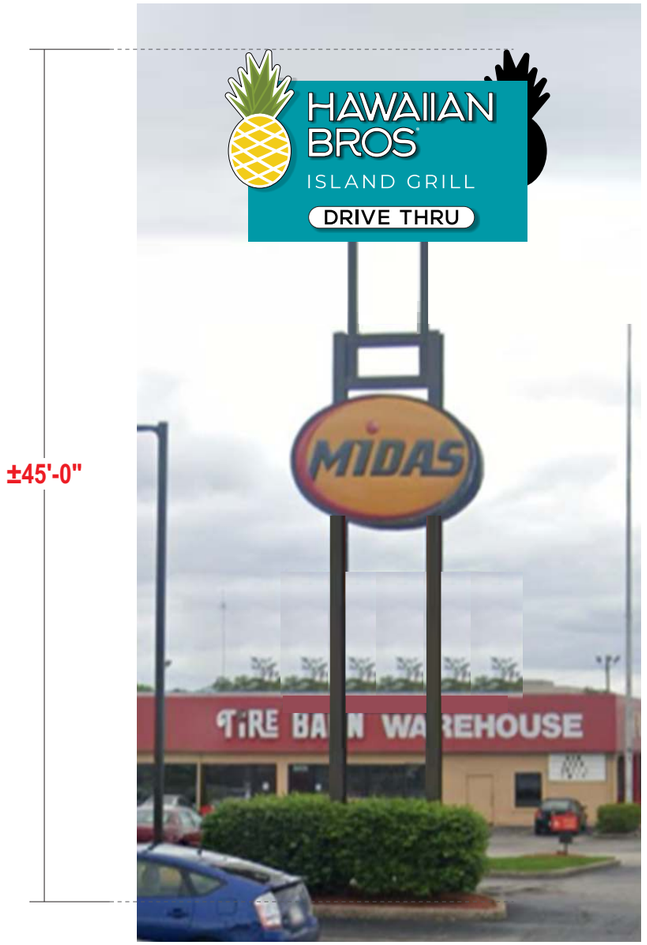
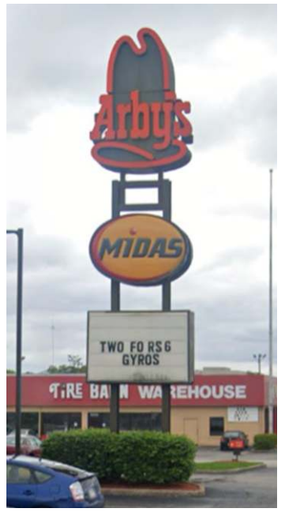
E15 PYLON ELEVATION

Scale: 1/8"=1'-0"



SURVEY REQUIRED
SURVEY
SURVEY REQUIRED

EXISTING CONDITION



Existing Arby's d/f cabinet and d/f readerboard cabinet to be removed; Install new Hawaiian Bros main id d/f cabinet on top of existing steel supports

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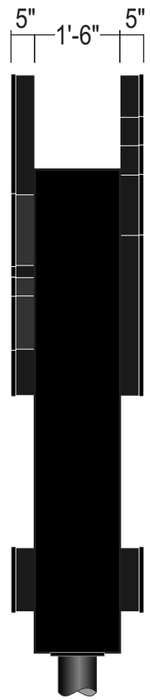
E15 **D/F ILLUMINATED PYLON** **PY121.is.s.al.p**

Scale: 3/8"=1'-0" 164.6 square feet

Stratus SHOP DRAWINGS REQUIRED





SIDE VIEW

SURVEY REQUIRED SURVEY

CABINET:	Fabricated aluminum cabinet with routed copy;.125" thk. aluminum face; .063" thk. aluminum filler; faces painted blue; filler painted black
CHANNEL LTR. FACES:	.177 #7328 white acrylic w/ surface applied translucent vinyl for pineapple and black vinyl for Drive thru capsule
TRIMCAP:	1" Black Jewelite trimcap
RETURNS:	5" Deep x .040" alum. returns pre-finished white interior / exterior painted black
BACKS:	.063 alum. insides painted Reflective white. Backside of pineapple logo to be finished and painted Black
ILLUM.:	Pineapple, Letters, Capsule & Cabinet "Island Grill" copy to illuminate w/ Principal Sloan White LED's as required by manufacturer; **Power Supplies located inside cabinet**
"ISLAND GRILL":	Routed copy backed with .125" thk. #7328 white acrylic
"R":	Opaque white vinyl applied to face
INSTALL:	Cabinet fastened to existing steel supports via match plates; *Details to be verified by engineering*
QUANTITY:	**(1) ONE REQUIRED**

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COLOR PALETTE

- Black — 3M 7725-12 Black Opaque
- Pantone 129C — Pineapple Yellow
- Pantone 320C — Pacific Blue
- Pantone 576 — Burnt Leaf Green
- Pantone 575 — Palm Green
- 3M 7725-10 white

Paint finish to be satin unless otherwise specified

SIMULATED NIGHT VIEW:



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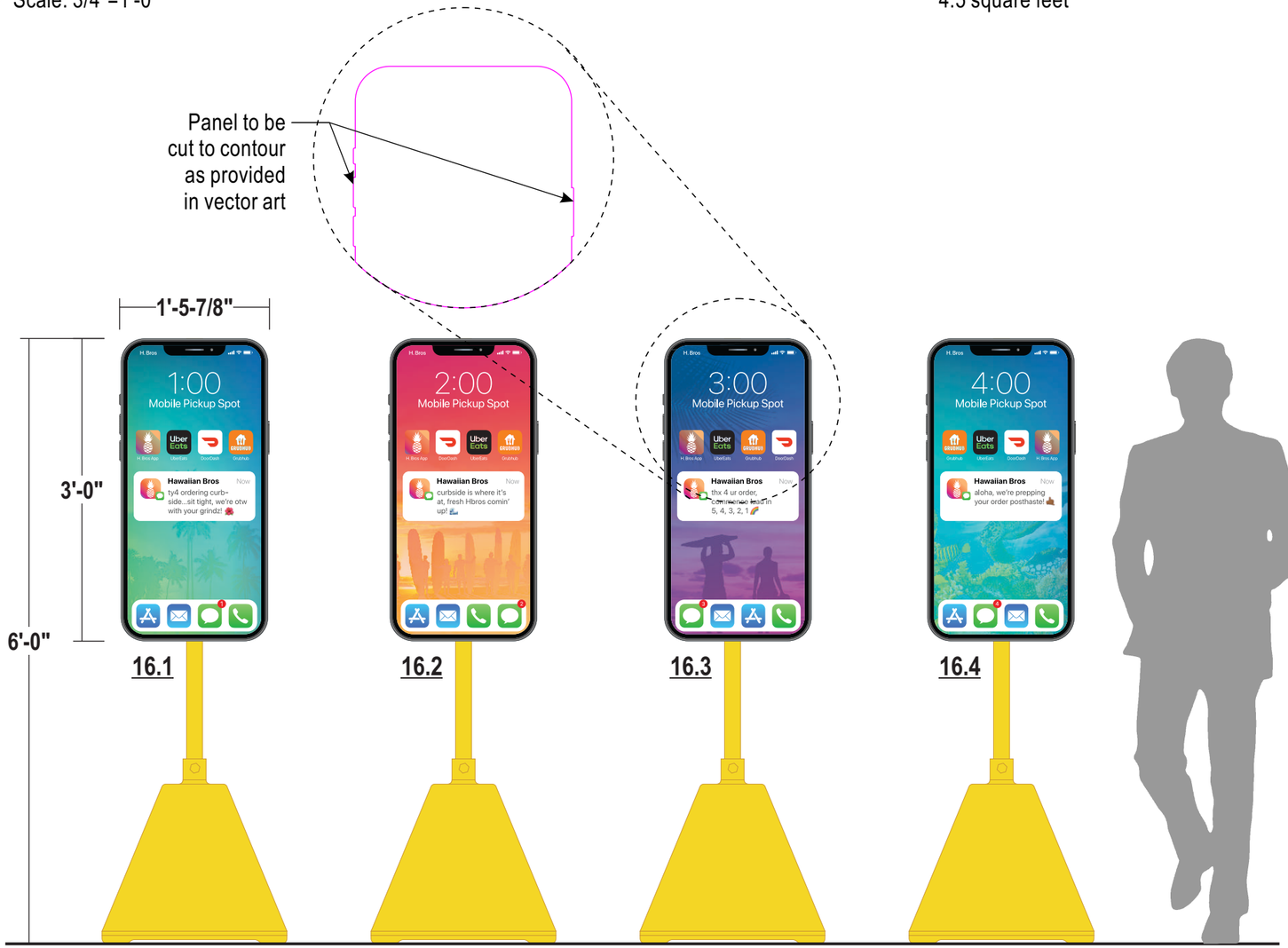
E16 S/F CURBSIDE PICK-UP PANELS

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

4.5 square feet





PANEL: .080" thk. aluminum flat panel with direct digital print.

BASE: Yellow portable pyramid base 22"h X 22"w X 22"d LDPE plastic w/ UV and anti-static adhesives.

POST: 1.66 OD 14 gauge sleeved in HDPE plastic 1.9" OD w/ plastic cap. Fill with water, sand or concrete

INSTALL: Panels fastened to post w/ pan head screws painted black.

QUANTITY: **(4) FOUR REQUIRED**



AVAILABLE WITH OR WITHOUT WHEELS

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T01 **BANNER**

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

BNR48.

32 square feet



BKGD: 13 oz. White banner material;
Hemmed with grommets for installation as required
(2" stitching inset, 1" grommets spaced approx. every 2'-0")

GRAPHICS: Digitally printed to match colors shown

INSTALL: [Option 1:] Rope to be supplied by install crew for banner installation & to secure as necessary
[Option 2:] Banner to be secured with rope and sandbags supplied by install crew as necessary

QUANTITY: **(1) ONE REQUIRED**

COLOR PALETTE

- Pantone 576 Burnt Leaf Green
- Pantone 575 Palm Green
- Pantone 129C Yellow
- Black
- White

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