

SYMBOL	MANUFACTURER	MODEL #	FIXTURE DESCRIPTION	ACCESSORIES	SUPPLY	WASTE	VENT	REMARKS
P-1	AMERICAN STD.	270AA.001	CADET 3 RIGHT HEIGHT ELONGATED TOILET VITREOUS CHINA, 1.6 GPF-ADA	CHURCH 295C ELONGATED SEAT OPEN FRONT LESS COVER	3/4" C.W.	3"	2"	
P-2	AMERICAN STD.	270CA.001	CADET 3 RIGHT HEIGHT ELONGATED TOILET VITREOUS CHINA, 1.6 GPF	CHURCH 295C ELONGATED SEAT OPEN FRONT LESS COVER	3/4" C.W.	3"	2"	
P-3	AMERICAN STD.	0490.011	OVAL LAVATORY, COUNTER TOP	DELTA 2507LF-HDF TWO HANDLE METERING FAUCET	1/2" H.W./C.W.	2"	1-1/2"	
P-4	AMERICAN STD.	6541.132	URINAL, WALL-TYPE	SLOAN ROYAL 186-1, FLUSH VALVE	3/4" C.W.	2"	1-1/2"	
P-5	FIAT	MSB2424	MOP SINK	CHROME FAUCET, ADJUSTABLE BRACE AND PAIL HOOK	1/2" H.W./C.W.	3"	1-1/2"	
P-6	SERV-WARE	HS15S-CWP	HAND SINK	4" OC DECK FAUCET BKD3GG	1/2" H.W./C.W.	2"	1-1/2"	
P-7	SERV-WARE	E1CWP1818R-24	1-COMPARTMENT SINK W/24" DRAIN BOARD	-	1/2" H.W./C.W.	2"	1-1/2"	
P-8	SERV-WARE	E3CWP18182-24	3-COMPARTMENT SINK W/24" DRAIN BOARD	-	1/2" C.W.	2"	1-1/2"	
P-9	ELKAY	DLRS332210	STAINLESS STEEL DROP IN SINK (ONE COMPARTMENT)	GOOSENECK LK406GNO4T4	1/2" H.W./C.W.	2"	1-1/2"	
WH-1	STATE OR EQ.		60 GALLON WATER HEATER 199,000 BTU	3/4" T & P RELIEF VALVE	1" C.W. 1/2" H.W.	-	-	SEE PLAN FOR LOCATION

GENERAL PLUMBING SYMBOLS	
	UNION
	PIPE UP
	PIPE DOWN
	POINT OF CONNECTION BETWEEN NEW AND EXISTING WORK
	TEE
	ELBOW
	WCO WALL CLEANOUT
	FLOOR CLEANOUT
	GATE VALVE
	COLD WATER
	HOT WATER
	VENT PIPING
	WASTE PIPING
	RD ROOF DRAIN PIPING

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE STATE CODE AS WELL AS ALL LOCAL AND OTHER APPLICABLE CODES.

ALL WORK SHALL BE PERFORMED BY EXPERIENCED AND SKILLED CRAFTSMEN.

WATER LINES BELOW GRADE SHALL BE TYPE "K" COPPER (NO JOINTS BELOW GRADE) AND ABOVE GRADE TYPE "L" COPPER SUPPORTED AS REQUIRED AND SHALL BE HYDROSTATICALLY TESTED FOR TWO HOURS AT 100 PSI. ALL WATER PIPING AT WATER FIXTURES SHALL BE PROVIDED WITH 18" AIR CHAMBERS OR SHOCK ABSORBERS. STOPS SHALL BE PROVIDED ON HOT AND COLD WATER LINES. HOT WATER PIPING SHALL BE INSULATED WITH 1" CLOSED CELL RUBBER. THE ENTIRE WATER SYSTEM SHALL BE DISINFECTED PRIOR TO PLACING IN SERVICE. PVC/PEX MAYBE SUBSTITUTED FOR COPPER.

SANITARY SEWER LINES SHALL BE PVC.

PROVIDE PRESSURE REDUCING VALVE IF STREET WATER EXCEEDS 80 PSI

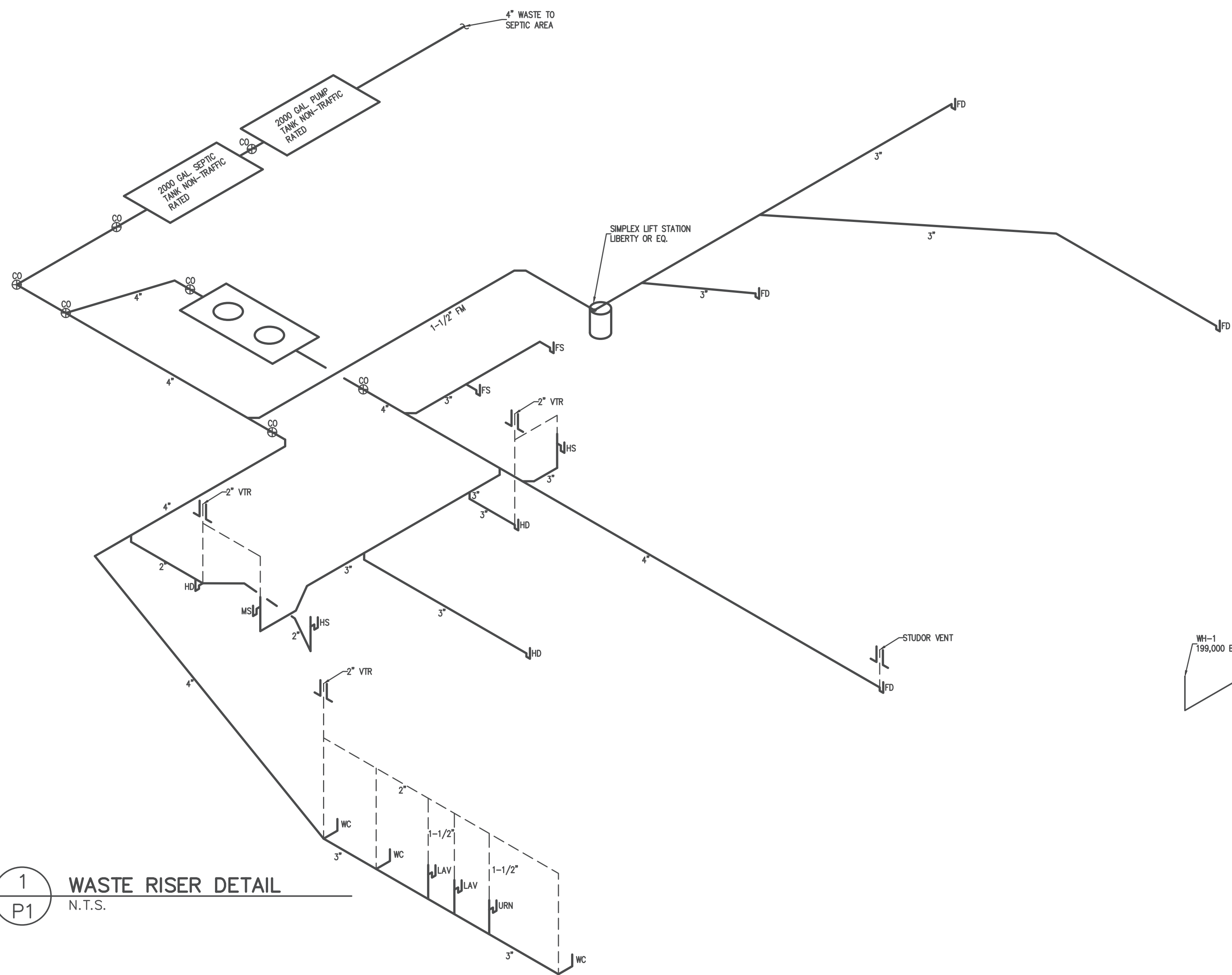
GAS PIPING WILL BE SCHEDULE 40 BLACK STEEL WITH BLACK MALLEABLE IRON SCREW-TYPE FITTINGS.

THE PLUMBING CONTRACTOR SHALL PROVIDE ALL OPENINGS REQUIRED FOR THE PLUMBING WORK AND SHALL INSTALL FIRE RATED SLEEVES WHEREVER PENETRATIONS OF RATED WALLS OR FLOORS ARE MADE. THE PATCHING SHALL BE BY THE PLUMBING CONTRACTOR. THE PLUMBING CONTRACTOR SHALL REVIEW ALL UTILITY SITE PLANS AND ARCHITECTURAL SITE PLANS FOR WORK BY OTHERS.

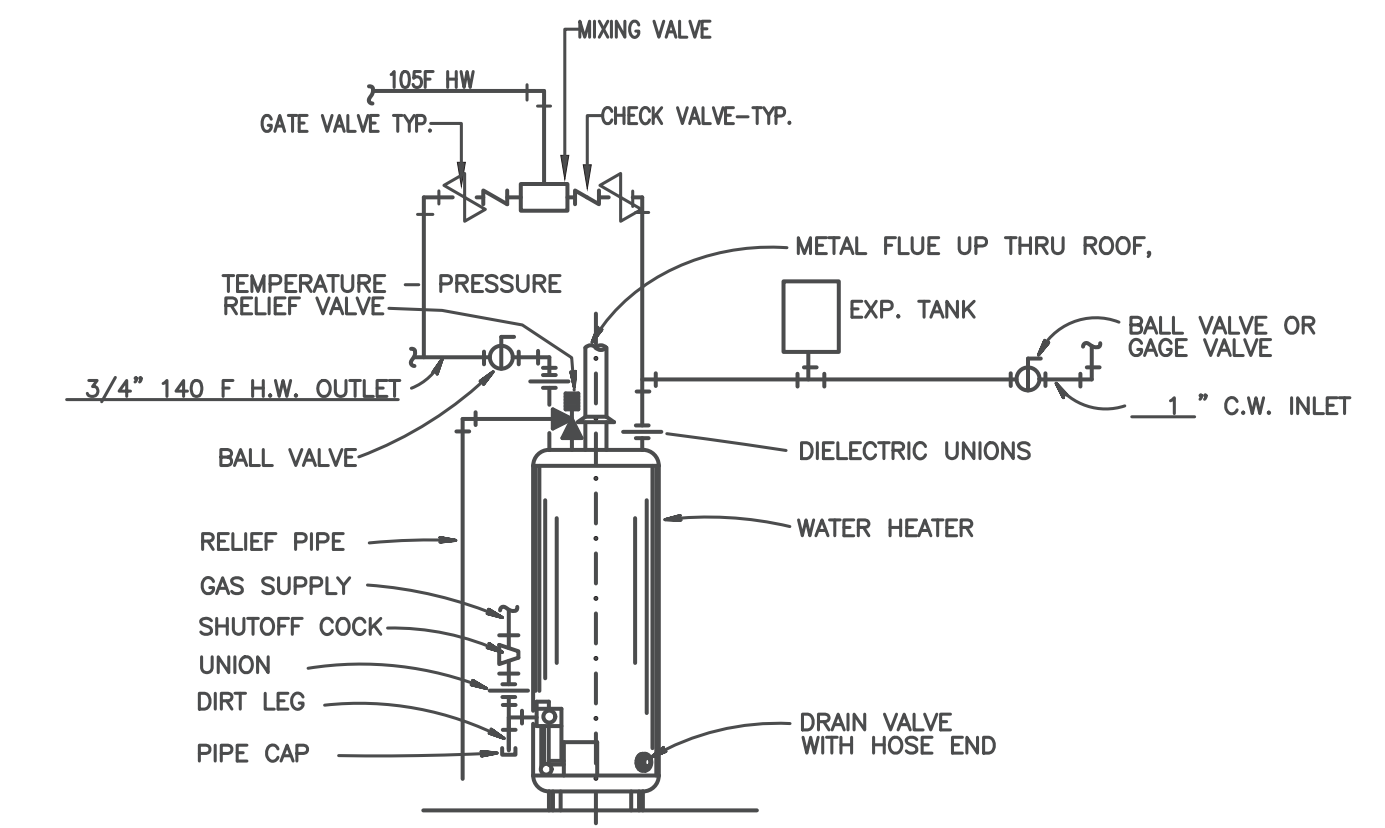
LOCATION OF UTILITIES (WASTE AND WATER LINES, MANHOLES ETC.) THAT ARE TO BE CONNECTED TO ARE ASSUMED. IT SHALL BE THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR TO VERIFY THESE LOCATIONS AND MAKE THE FINAL CONNECTION AS REQUIRED.

ALL FLOOR DRAINS SHALL BE PROVIDED WITH TRAP PRIMERS

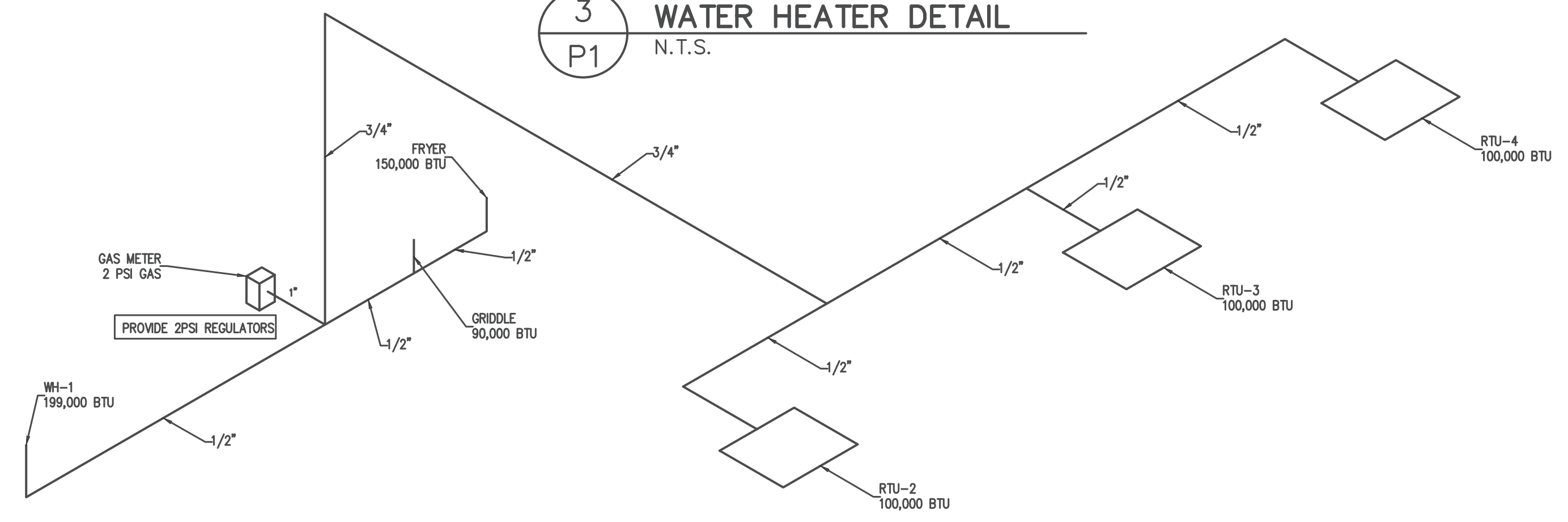
2 PLUMBING NOTES
N.T.S.



1 WASTE RISER DETAIL
N.T.S.



3 WATER HEATER DETAIL
N.T.S.



4 GAS RISER DETAIL
N.T.S.

NOTE: 2PSI NATURAL GAS
ALL PIPING SCHED. 40 BLACK STEEL
TOTAL GAS DEMAND-739,000 BTU
MAX. DEVELOPED LENGTH OF PIPING 90 FEET
SEE TABLE 402.4(5)

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NO.	DATE

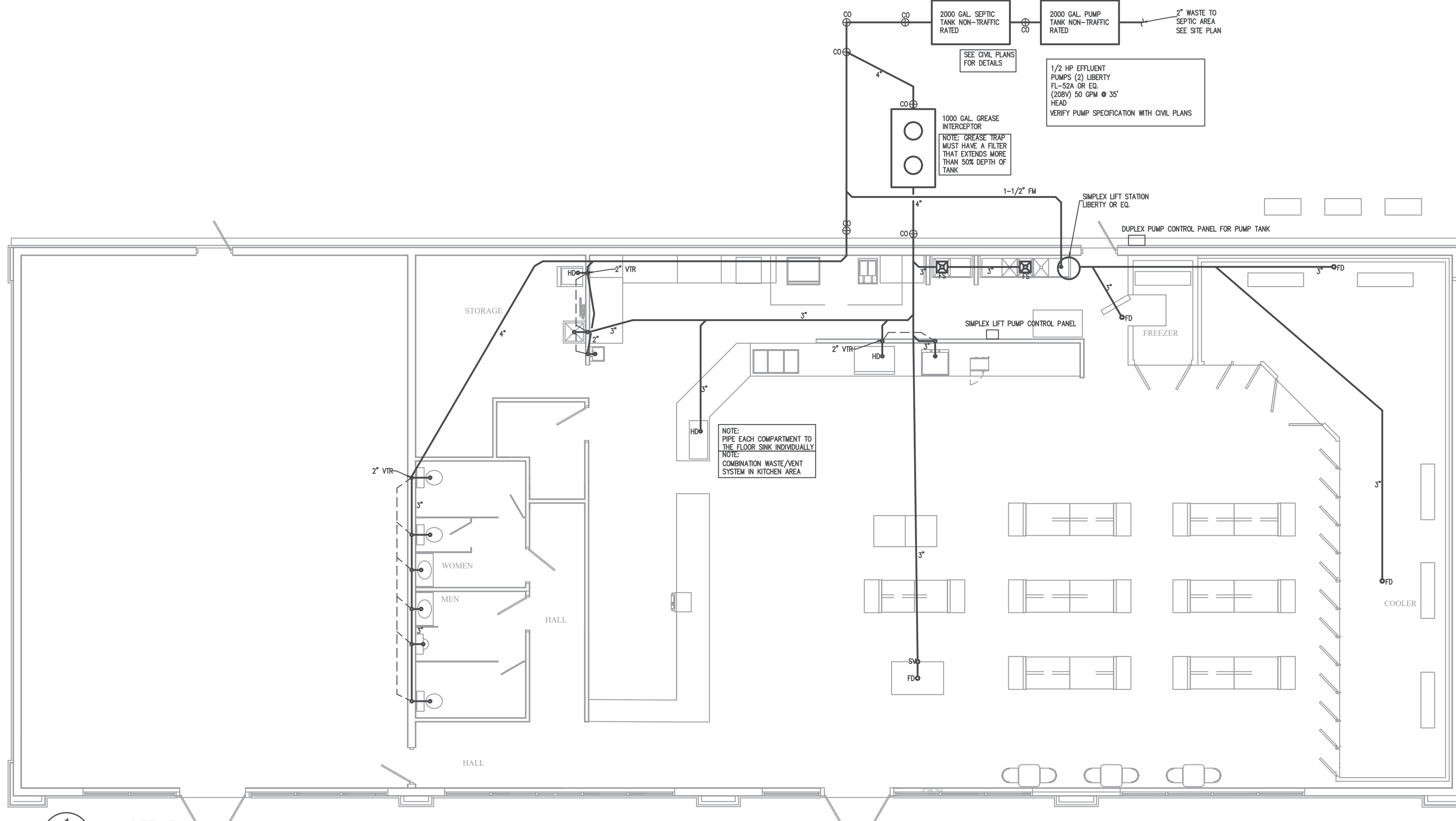
A NEW CHAMPS CONVENIENCE STORE
U.S. HWAY 401 NORTH
Fuquay-Varina, North Carolina 27526

Coastal Plains Engineering, P.A.
Pine # C-2069
205 Lochlear Rd.
P.O. Box 1117
Fayetteville, NC 28372
www.coastalplainseng.com

SCALE: 3/16"=1'-0"
DRAWN BY: AJD
DATE:
CHECKED BY:
DWG. NUMBER:
JOB NUMBER: 2024-056

SHEET NO:
P1
May 01, 2024
SEAL
NORTH CAROLINA
PROFESSIONAL
ENGINEER
CHRISTOPHER S. LOCKLEAR

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1
P2 WASTE PLAN
3/16"=1'-0"

NOTE: PIPE EACH COMPARTMENT TO THE FLOOR SINK INDIVIDUALLY
NOTE: COMBINATION WASTE/VENT SYSTEM IN KITCHEN AREA

2000 GAL. SEPTIC TANK NON-TRAFFIC RATED
2000 GAL. PUMP TANK NON-TRAFFIC RATED
1/2 HP EFFLUENT PUMPS (2) LIBERTY FL-52A OR EQ. (208V) 50 GPM @ 35' HEAD
VERIFY PUMP SPECIFICATION WITH CIVIL PLANS

1000 GAL. GREASE INTERCEPTOR
NOTE: GREASE TRAP MUST HAVE A FILTER THAT EXTENDS MORE THAN 50% DEPTH OF TANK

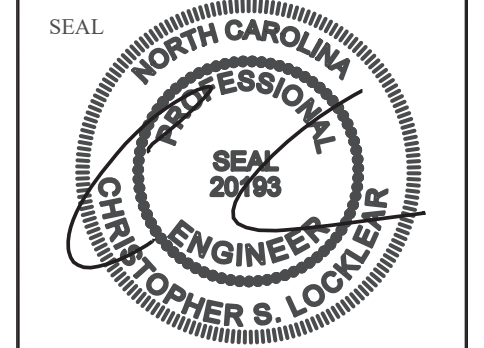
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Fuquay-Varina, North Carolina 27526

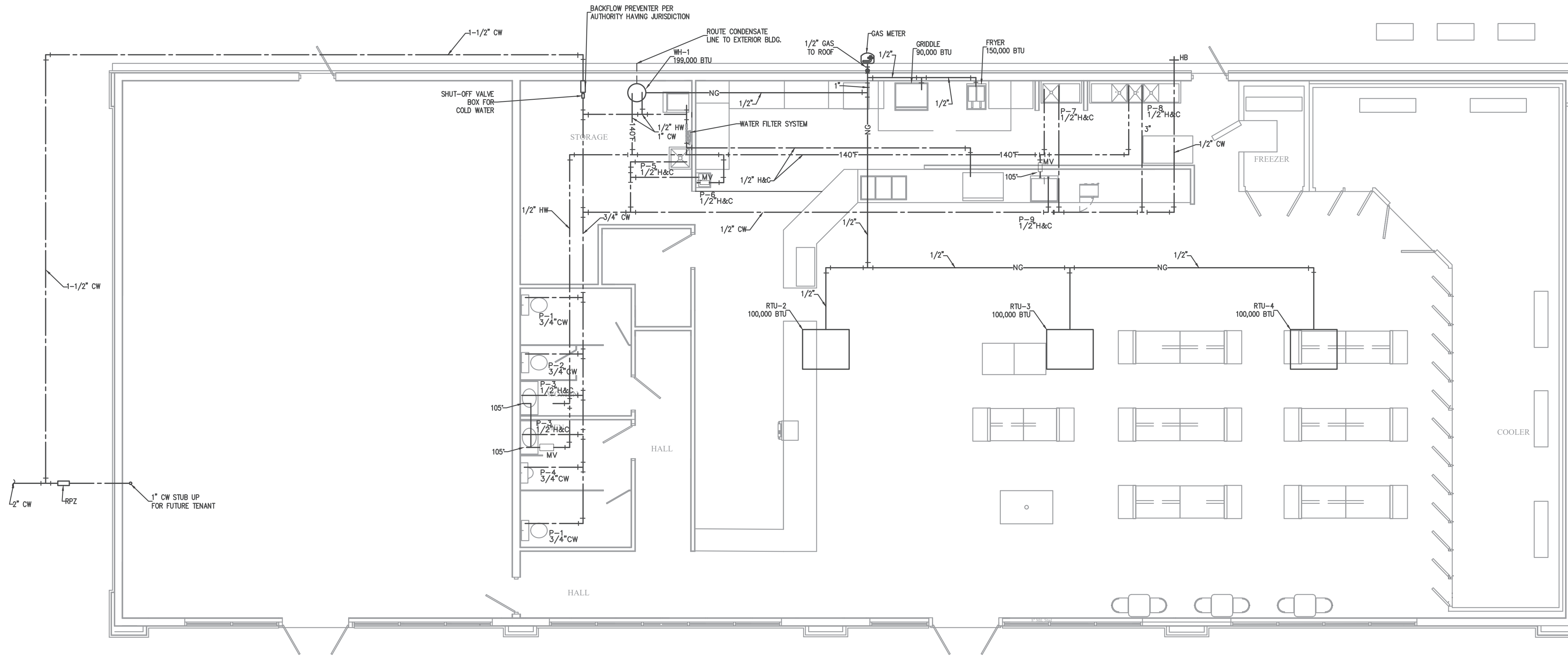
Coastal Plains Engineering, P.A.
 P.E.M. # C-2069
 295 Locklear Rd.
 Fuquay-Varina, NC 28372
 Phone: 910-521-7213
 www.coastalplainseng.com

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1 WATER PLAN
 P3 3/16"=1'-0"

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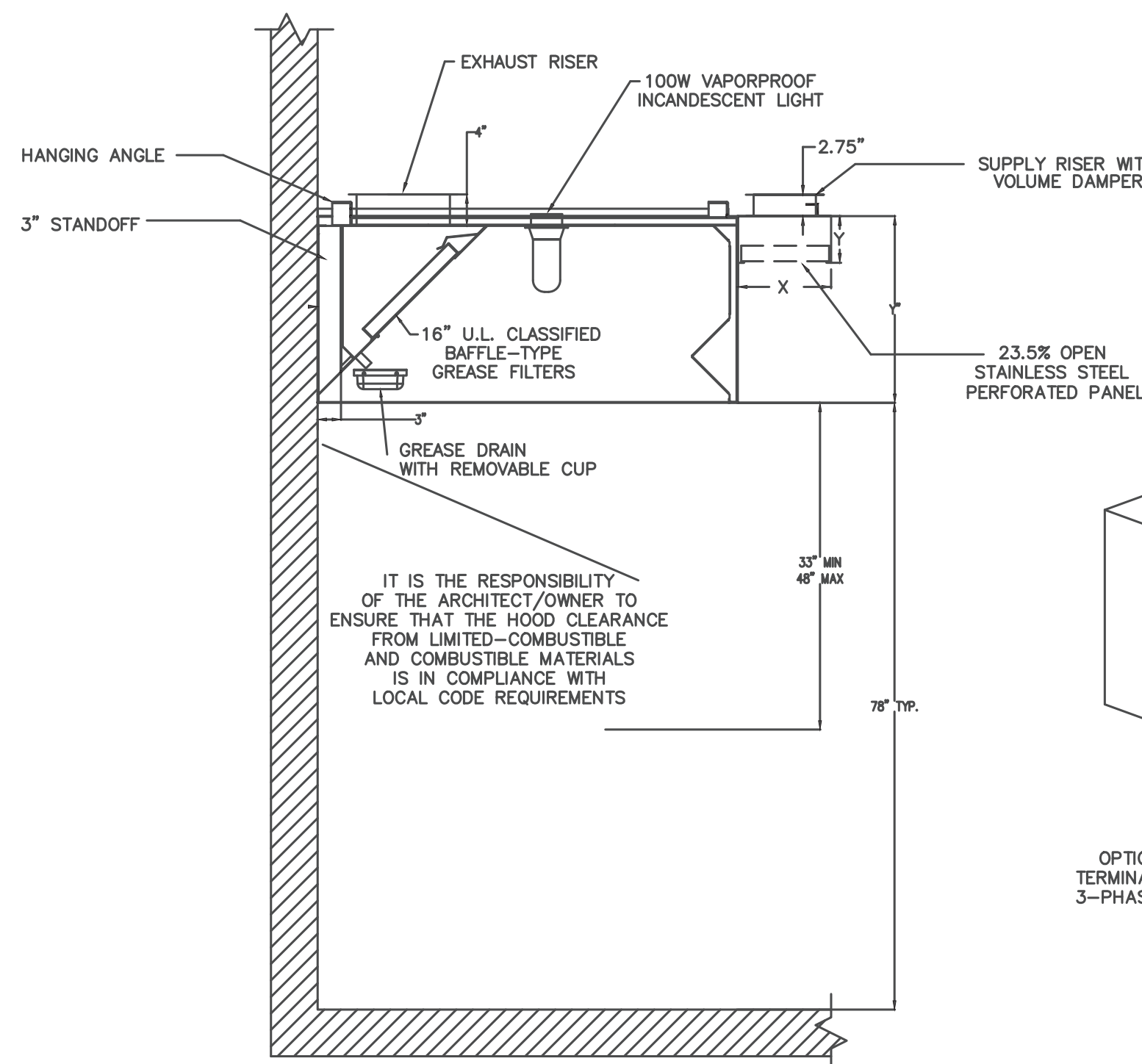
Coastal Plains Engineering, P.A.
 PLAN # C-2024
 205 Locklear Rd
 P.O. Box 1117 29672
 Fuquay-Varina, NC
 www.coastalplainseng.com

SCALE: 3/16"=1'-0"
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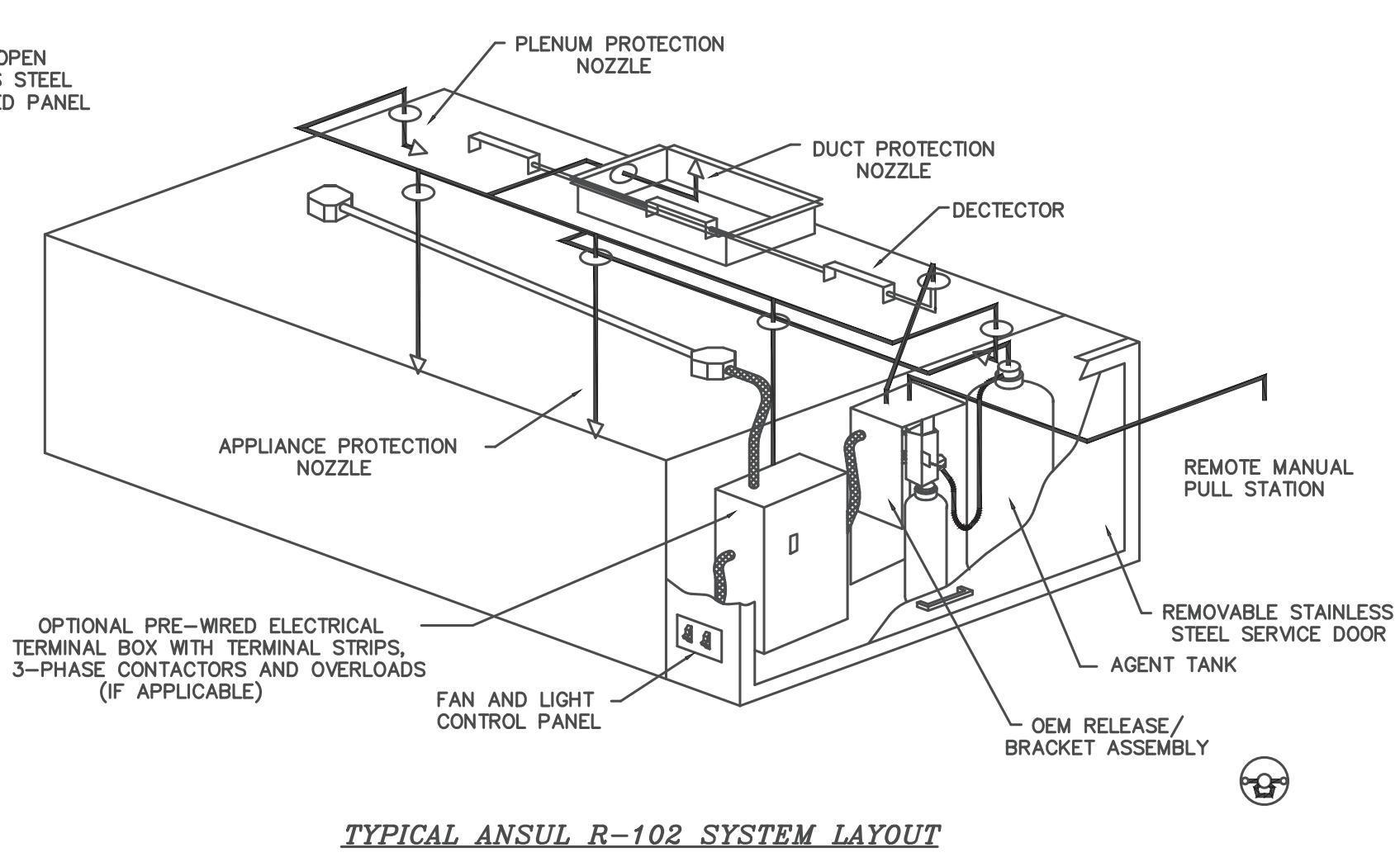
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 SEAL 20163
 CLAYTON OPPER & LOCKLEAR

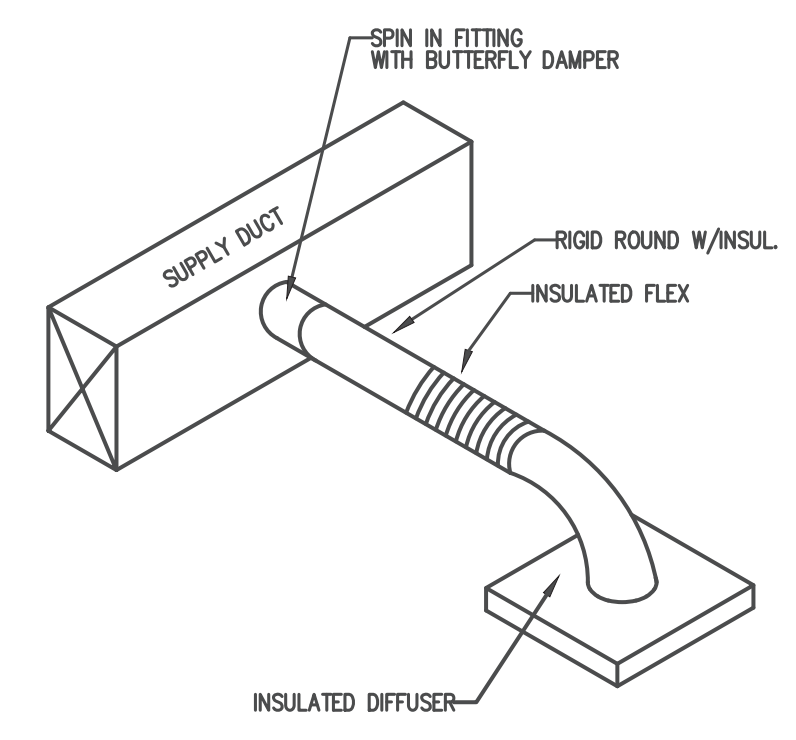
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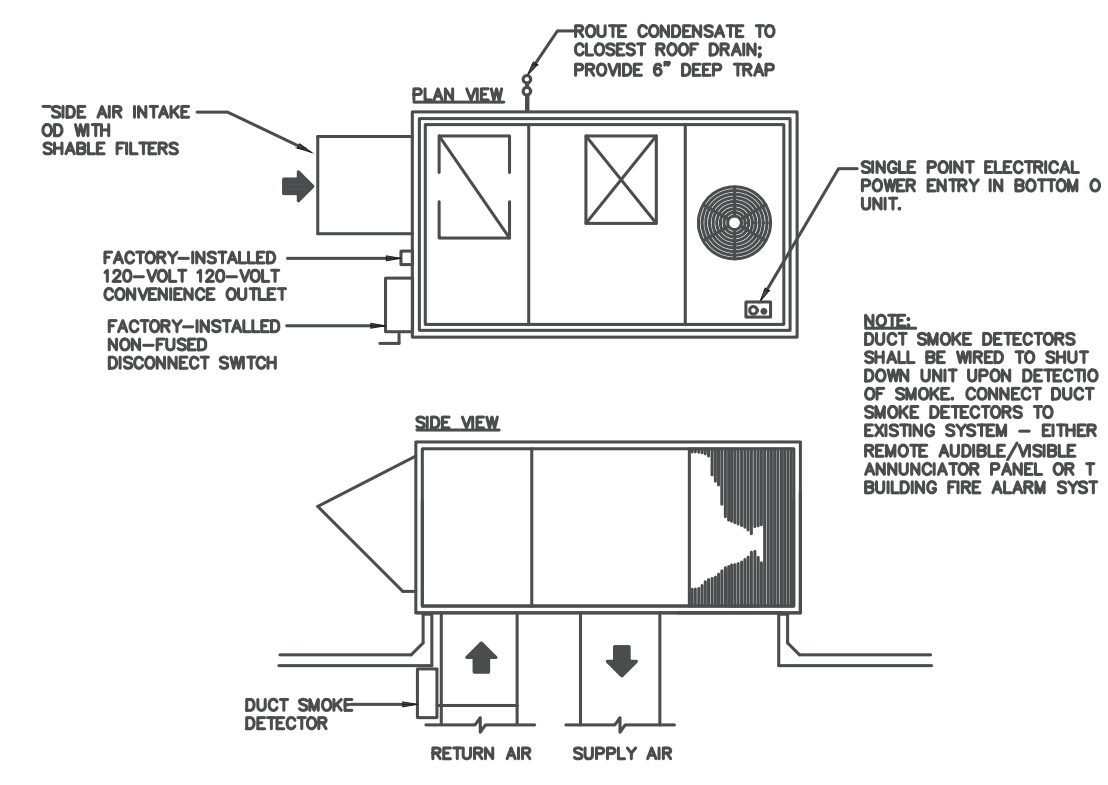
1
M1
KITCHEN HOOD DETAILS
N.T.S.



TYPICAL ANSUL R-102 SYSTEM LAYOUT



2
M1
DIFFUSER TAKEOFF DETAIL
N.T.S.



4
M1
ROOF TOP UNIT DETAIL
N.T.S.

OUTSIDE AIR CALCULATION - NC 2018 MECHANICAL CODE (TABLE 403.3.1.1) Vbz = RpPz + RaAz

OCCUPANCY TYPE:	SF (A)	# OF OCCUPANTS PER 1000 SF (B)	# OF OCCUPANTS (P)	O.A. CFM PER PERSON (Rp) (C)	O.A. CFM PER Sq Ft (Ra) (D)	O.A. CFM REQUIRED (Vbz) (E)	EXHAUST CFM REQUIRED (F)
OFFICE	60	5	0.3	5	0.06	5	0
STORAGE	139	5	0.695	5	0.06	12	0
MEN'S RESTROOM	139	5	0.695	5	0.08	12	140
WOMEN'S RESTROOM	41	0	0	0	0	0	140
HALL	41	0	0	0	0.06	2	0
TOTAL CFM REQUIRED						31	280
TOTAL CFM FURNISHED						31	280
KITCHEN	426	0	0	0	0	0	284
SLABS	1322	15	19.83	7.5	0.12	307	0
TOTAL CFM REQUIRED						307	284
TOTAL CFM FURNISHED						307	284
SLABS	1322	15	19.83	7.5	0.12	307	0
TOTAL CFM REQUIRED						307	0
TOTAL CFM FURNISHED						307	0

ROOFTOP UNIT SCHEDULE

UNIT NO.	TOTAL CFM	O.A. CFM	EXT. S.P.	EVAP. FAN HP	COMPRESSOR AMPS	NO. OF COMPR.	CAPACITIES				REMARKS	REFRIG.	UNIT NET WEIGHT						
							FAN AMPS	NO. OF FANS	UNIT MCA	UNIT MOCP									
RTU-1	2000	300	0.50"	1	15.9	1	1.4	1	29	40	208	3	60,000	12.0/14.0	100,000	81%	TRANE YSC060 PACKAGED ROOFTOP GAS/ELEC W/GFCI RECEIPT	R410A	682 LBS.
RTU-2	2000	300	0.50"	1	15.9	1	1.4	1	29	40	208	3	60,000	12.0/14.0	100,000	81%	TRANE YSC060 PACKAGED ROOFTOP GAS/ELEC W/GFCI RECEIPT	R410A	682 LBS.
RTU-3	2000	300	0.50"	1	15.9	1	1.4	1	29	40	208	3	60,000	12.0/14.0	100,000	81%	TRANE YSC060 PACKAGED ROOFTOP GAS/ELEC W/GFCI RECEIPT	R410A	682 LBS.

DIFFUSER/RETURN SCHEDULE

MARK ON PLANS	CFM	AIR PATTERN	NECK SIZE	RUNOUT SIZE	REMARKS
A	50-145	4 WAY	6 X 6	6"	PRICE SERIES ASD SQUARE CONE DIFFUSER WHITE POWDER COAT FINISH, ALUMINUM
B	150-275	4 WAY	8 X 8	8"	PRICE SERIES ASD SQUARE CONE DIFFUSER WHITE POWDER COAT FINISH, ALUMINUM
C	285-400	4 WAY	10 X 10	10"	PRICE SERIES ASD SQUARE CONE DIFFUSER WHITE POWDER COAT FINISH, ALUMINUM
D		N/A	12 X 12	SEE PLAN	PRICE SERIES 630FF WHITE POWDER COAT FINISH, ALUMINUM, FILTER RETURN GRILLE
E		N/A	20 X 20	SEE PLAN	PRICE SERIES 630FF WHITE POWDER COAT FINISH, ALUMINUM, FILTER RETURN GRILLE

FAN SCHEDULE

MARK	LOCATION	SERVICE	CFM	S.P.	WATTS /HP	RPM	VOLT	PHASE	DRIVE	REMARKS
EF-1,2	CEILING	TOILETS	140	125"	128	1050	120	1	DIRECT	CEILING MOUNTED FAN. PROVIDE W/B.D.D. AND WALL CAP GREENHECK SPA-70 OR EQ. 6" TO ROOF/WALL CAP
EF-3	ROOF	KITCHEN	3050	1"	1 HP	1730	208	1	DIRECT	PROVIDED BY KITCHEN EQUIP. SUPPLIER
SF-1	ROOF	KITCHEN	2440	0.5"	1 HP	1800	208	1	DIRECT	PROVIDED BY KITCHEN EQUIP. SUPPLIER

AIR BALANCE SCHEDULE

ID	TOTAL AIR	RECIQ. AIR	O/S AIR	EXH. CFM	MUA
RTU-1	2000	1764	300		
RTU-2	2000	1795	300		
RTU-3	2000	1795	300		
EF-3				3050	
SF-1					2440
TOTALS			+900	-3050	+2440

BUILDING PRESSURIZATION +290 CFM

ALL WORK SHALL BE IN ACCORDANCE WITH THE 2018 NC MECHANICAL CODE.

ALL DUCTWORK SHALL BE CONSTRUCTED OF GALVANIZED SHEET METAL IN ACCORDANCE WITH ASHRAE & SMACNA. DUCT SIZES SHOWN ARE NET FREE AREA REQUIRED. ALL SUPPLY AND RETURN DUCTS AND FLEX SHALL BE INSULATED WITH MIN. R-6.0 INSULATION UNLESS OTHERWISE NOTED IN THE DRAWING.

ALL EXPOSED ROUND DUCT SHALL BE DOUBLE WALL INSULATED. EXPOSED RECTANGULAR DUCT SHALL BE INTERNALLY LINED WITH INSULATION.

ALL DUCTS SHALL BE AIR TIGHT, RIGID AND FREE FROM VIBRATION AND NOISE. ALL LAP JOINTS SHALL BE IN THE DIRECTION OF FLOW. VOLUME OR SPLITTER DAMPERS SHALL BE INSTALLED WHERE NECESSARY TO GUIDE AND CONTROL THE AIR FLOW. PROVIDE SHEET METAL SLEEVES AND COLLARS WHERE DUCTS PASS THROUGH WALLS.

STRUCTURAL MEMBERS OF THE BUILDING SHALL NOT BE CUT IN ANY MANNER FOR THE INSTALLATION OF ANY EQUIPMENT UNLESS PRIOR APPROVAL IS OBTAINED FROM THE ARCHITECT.

MECHANICAL CONTRACTOR TO CONFIRM BREAKER/DISCONNECT SIZES OF HIS EQUIPMENT WITH THE ELECTRICAL CONTRACTOR.

FURNISH AND INSTALL A DUCT MOUNTED SMOKE DETECTOR IN THE RETURN DUCT OF THE A/C UNIT IN ACCORDANCE WITH 2018 NC MECHANICAL CODE. THE DETECTOR SHALL BE WIRED TO SHUT DOWN THE FAN IN THE EVENT THE DETECTOR IS ACTIVATED. THE MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL THE DUCT DETECTOR AND RUN THE NECESSARY CONTROL WIRING FROM THE DETECTOR TO HIS EQUIPMENT. SMOKE DETECTORS ARE ONLY REQUIRED FOR UNITS SUPPLYING 2000 CFM OR MORE.

MECHANICAL CONTRACTOR SHALL PROVIDE A TEST AND BALANCE REPORT SYSTEM COMPLIANCE STATEMENT A WRITTEN TEST REPORT.

FINAL PROJECT SIGNOFF WILL BE DENIED WITHOUT THIS REPORT.

MECHANICAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE LOCATIONS AND ROUTING OF ALL DUCTWORK WITH OTHER TRADES TO AVOID CONFLICTS.

ALL EQUIPMENT MATERIALS AND WORKMANSHIP SHALL BE GUARANTEED TO BE FREE OF DEFECTS FOR A PERIOD OF ONE YEAR AFTER FINAL ACCEPTANCE OF THE WORK OR IN ACCORDANCE WITH THE PARTICULAR MANUFACTURER'S STANDARD GUARANTEE. IF LONGER. ANY FAILURE MATERIAL OR WORKMANSHIP OR FAILURE OF ANY PART OF THE SYSTEM DURING NORMAL OPERATIONS UNDER THIS GUARANTEE SHALL BE CORRECTED WITHOUT COST TO THE OWNER.

ALL THERMOSTATS SHALL BE OF A PROGRAMMABLE TYPE.

BUILDING CONTRACTOR SHALL PROVIDE PERMANENT ACCESS TO ROOF STRUCTURE FOR ACCESS TO MECHANICAL EQUIPMENT WHEN ROOF STRUCTURE IS GREATER THAN 16'-0" HIGH.

3
M1
HVAC NOTES
N.T.S.

APPENDIX B 2018 BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS

MECHANICAL DESIGN

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

Thermal Zone 8A

winter dry bulb:	22'
summer dry bulb:	93'

Interior design conditions

winter dry bulb:	75'
summer dry bulb:	75'
relative humidity:	50%

Building heating load: 95,137 BTU/H

Building cooling load: 131,765 BTU/H

Mechanical Spacing Conditioning System

Binary

description of unit:	SPLIT SYSTEM HEAT PUMP
heating efficiency:	8.50 HSPF
cooling efficiency:	17.0 SEER
size category of unit:	<65,000 BTU

Boiler
Size category. If oversized, state reason: _____

Chiller
Size category. If oversized, state reason: _____

List equipment efficiencies: _____

REVISIONS

NO.	DATE

A NEW CHAMPS CONVENIENCE STORE
U.S. HWAY 401 NORTH
Fuquay-Varina, North Carolina 27526

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508 Lehighway 2A
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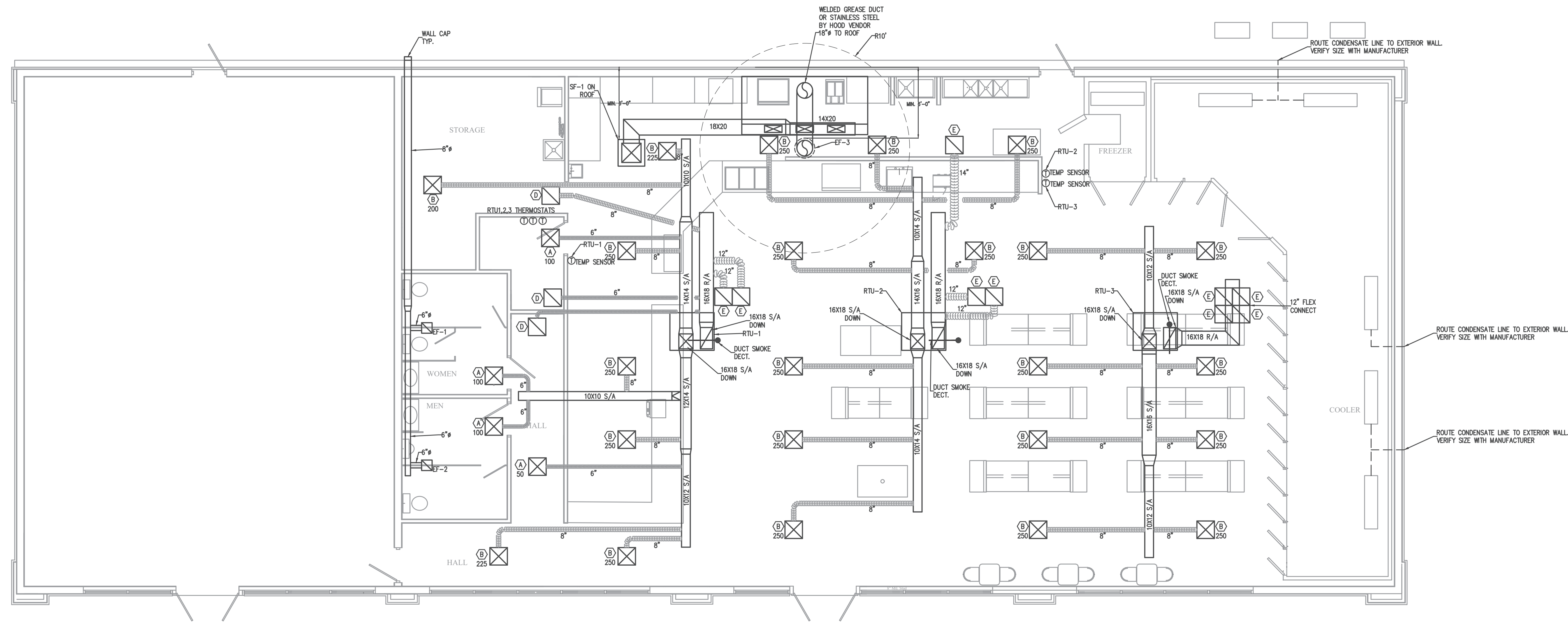
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SHEET NO:
M1

May 01, 2024

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER
20163
LOPHER & LOCKER

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1
M2
MECHANICAL PLAN
3/16"=1'-0"

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Fuquay-Varina, North Carolina 27526

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FORM # C-9059
295 Lockline Rd
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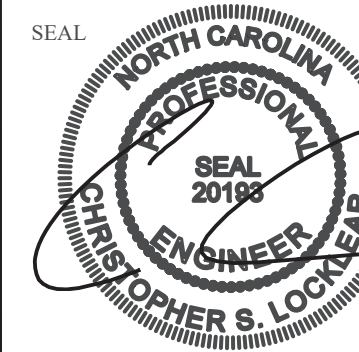
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May 01, 2024

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A											
ROOM MOUNTING FLUSH FED FROM UTILITY NOTE			VOLTS 208Y/120V 3P 4W BUS AMPS 200 NEUTRAL 100%			AIC 22,000 MAIN BKR MLO LUGS STANDARD					
CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA			CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA		
			A	B	C				A	B	C
1	20/1	WH-1	2.4			2	20/1	OUTSIDE AND STORAGE RECEPTACLE	0.9		
3	20/1	ICE MAKER		1.82		4	20/1	STORAGE RECEPTACLE		0.54	
5	40/3	RTU-1			2.72	6	20/1	OFFICE RECEPTACLE			0.72
7			2.72			8	20/1	MEN & WOMEN TOILET RECEPTACLE	0.36		
9				2.72		10	20/1	HALL RECEPTACLE		0.72	
11	20/1	PIZZA PREP TABLE			0.528	12	20/1	CASHIER AREA RECEPTACLE			1.08
13	20/1	ROOFTOP RECEPTACLE	0.18			14	20/2	DISPLAY CASE HEATED	1.22		
15	20/2	SF-1		0.96		16				1.22	
17					0.96	18	20/2	EF-3			0.96
19	-/1	SHUNT TRIP	0			20			0.96		
21	20/1	STORAGE,MEN & WOMEN & HALL EF-1, EF-2, LIGHTING		0.563		22	20/1	SPACE		0	
23	20/1	SPACE			0	24	20/1	SPACE			0
25	20/1	SPACE	0			26	20/1	SPACE	0		
27	20/1	SPACE		0		28	20/1	SPACE		0	
29	20/1	SPACE			0	30	20/1	SPACE			0
31	20/1	SPACE	0			32	20/1	SPACE	0		
33	20/1	SPACE		0		34	20/1	SPACE		0	
35	20/1	SPACE			0	36	20/1	SPACE			0
37	20/1	SPACE	0			38	20/1	SPACE	0		
39	20/1	SPACE		0		40	20/1	SPACE		0	
41	20/1	SPACE			0	42	20/1	SPACE			0
TOTAL CONNECTED KVA BY PHASE									8.74	8.55	6.97
			CONN KVA	CALC KVA					CONN KVA	CALC KVA	
LIGHTING			0.307	0.384	(125%)	KITCHEN EQUIPMENT			0.528	0.528	(100%)
LARGEST MOTOR			1.92	0.48	(25%)	CONTINUOUS			4.26	5.33	(125%)
MOTORS			4.1	4.1	(100%)	NONCONTINUOUS			2.4	2.4	(100%)
RECEPTACLES			4.5	4.5	(50%>10)	HEATING			1.75	0	(0%)
						COOLING			8.17	8.17	(100%)
						TOTAL LOAD				25.9	
						BALANCED 3-PHASE LOAD				71.9 A	

C											
ROOM MOUNTING FLUSH FED FROM UTILITY NOTE			VOLTS 208Y/120V 3P 4W BUS AMPS 200 NEUTRAL 100%			AIC 22,000 MAIN BKR MLO LUGS STANDARD					
CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA			CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA		
			A	B	C				A	B	C
1	40/3	RTU-3	2.72			2	20/1	ROOFTOP RECEPTACLE	0.18		
3				2.72		4	20/1	WIF EVAPORATOR		0.5	
5					2.72	6	20/1	WIC EVAPORATOR			0.5
7	20/1	WIC EVAPORATOR	0.5			8	20/1	WIC EVAPORATOR	0.5		
9	20/1	WIC EVAPORATOR		0.5		10	20/1	WIC EVAPORATOR		0.5	
11	40/3	WIF CONDENSOR			2.84	12	30/3	WIC BEER CONDENSOR			2
13			2.84			14			2		
15				2.84		16				2	
17	30/3	WIC CONDENSOR			2	18	20/1	SPACE			0
19			2			20	20/1	SPACE	0		
21				2		22	20/1	SPACE		0	
23	30/2	PUMP TANK			1.18	24	20/1	SPACE			0
25			1.18			26	20/1	SPACE	0		
27	20/1	SPACE			0	28	20/1	SPACE		0	
29	20/1	SPACE			0	30	20/1	SPACE			0
31	20/1	SPACE	0			32	20/1	SPACE	0		
33	20/1	SPACE		0		34	20/1	SPACE		0	
35	20/1	SPACE			0	36	20/1	SPACE			0
37	20/1	SPACE	0			38	125/3	PANEL D	0		
39	20/1	SPACE		0		40				0	
41	20/1	SPACE			0	42					0
TOTAL CONNECTED KVA BY PHASE									11.9	11.1	11.2
			CONN KVA	CALC KVA					CONN KVA	CALC KVA	
LARGEST MOTOR			8.52	2.13	(25%)	RECEPTACLES			0.18	0.18	(50%>10)
MOTORS			25.9	25.9	(100%)	HEATING			1.75	0	(0%)
						COOLING			8.17	8.17	(100%)
						TOTAL LOAD				36.4	
						BALANCED 3-PHASE LOAD				101 A	

B											
ROOM MOUNTING FLUSH FED FROM UTILITY NOTE			VOLTS 208Y/120V 3P 4W BUS AMPS 200 NEUTRAL 100%			AIC 22,000 MAIN BKR MLO LUGS STANDARD					
CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA			CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA		
			A	B	C				A	B	C
1	40/3	RTU-2	2.72			2	20/1	ROOFTOP RECEPTACLE	0.18		
3				2.72		4	20/1	FLY FAN		0.76	
5					2.72	6	20/1	SIGNAGE			0.25
7	20/1	SALES RECEPTACLE	0.72			8	20/2	FRIG. MERCHANDISER	1.2		
9	30/2	3 WELL DROP IN HOT WELLS		1.81		10		GFCI BKR		1.2	
11		GFCI BKR			1.81	12	20/1	ICE MAKER			0.984
13	20/1	ICE/BEVERAGE DISPENSER	0.345			14	20/1	MICROWAVE OVEN	1.8		
15	20/1	KITCHEN GFCI RECEPTACLE		0.36		16	20/1	KITCHEN GFCI RECEPTACLE		0.54	
17	20/1	COOLER			0.516	18	20/1	KITCHEN RECEPTACLE			0.54
19	20/1	SALES LIGHTING	0.692			20	20/1	SALES LIGHTING	0.735		
21	20/1	SALES LIGHTING		1.04		22	20/1	FREEZER & COOLER LIGHTING		0.32	
23	20/1	WALL PACK LIGHTING			0.369	24	20/1	KITCHEN RECEPTACLE GFCI BKR			0.36
25	20/2	LIFT PUMP	1.18			26	-/1	SHUNT TRIP	0		
27				0		28	20/1	KITCHEN LIGHTING		0.389	
29	20/1	SPACE			0	30	20/1	SPACE			0
31	20/1	SPACE	0			32	20/1	SPACE	0		
33	20/1	SPACE		0		34	20/1	SPACE		0	
35	20/1	SPACE			0	36	20/1	SPACE			0
37	20/1	SPACE	0			38	20/1	SPACE	0		
39	20/1	SPACE		0		40	20/1	SPACE		0	
41	20/1	SPACE			0	42	20/1	SPACE			0
TOTAL CONNECTED KVA BY PHASE									9.57	9.14	7.55
			CONN KVA	CALC KVA					CONN KVA	CALC KVA	
LIGHTING			3.79	4.74	(125%)	KITCHEN EQUIPMENT			2.32	2.32	(100%)
LARGEST MOTOR			2.4	0.6	(25%)	CONTINUOUS			4.6	5.75	(125%)
MOTORS			3.58	3.58	(100%)	NONCONTINUOUS			1.11	1.11	(100%)
RECEPTACLES			2.7	2.7	(50%>10)	HEATING			1.75	0	(0%)
						COOLING			8.17	8.17	(100%)
						TOTAL LOAD				29	
						BALANCED 3-PHASE LOAD				80.4 A	

CONTRACTOR SHALL COORDINATE WITH LOCAL UTILITY FOR SERVICE. A COMPLETE AND WORKING SYSTEM IS REQUIRED FOR COMPLIANCE WITH THESE DOCUMENTS. DETERMINE THE POINT OF CONNECTION TO THE UTILITY WITH THE UTILITY REPRESENTATIVE AND PROVIDE ACCORDINGLY FOR A COMPLETE WORKING SYSTEM.

WIRE AND CABLE SHALL BE INSULATED, TYPE THHN OR THWN, 600 VOLTS, WITH COPPER CONDUCTORS. CONDUCTOR SIZES NO. 8 AWG AND LARGER MAY BE STRANDED. CONDUCTORS SIZES NO. 10 AWG AND SMALLER MAY BE SOLID OR STRANDED. NO ROMEX PERMITTED.

EMT SHALL BE GALVANIZED STEEL TUBING, 1/2-INCH MINIMUM SIZE, EQUAL TO ELECTRUNITE BRAND OR APPROVED AND USED ONLY WITH HEXAGONAL ALL STEEL COMPRESSION FITTINGS.

PLASTIC CONDUIT SHALL BE RIGID, 3/4-INCH MINIMUM NON-METALLIC, HEAVY DUTY, HIGH IMPACT, POLYVINYLCHLORIDE (PVC), TYPE I WILL BE USED FOR CONCRETE ENCASUREMENT. FITTINGS SHALL BE THE SAME MATERIALS AND MANUFACTURER AS THE PLASTIC CONDUIT.

FLEXIBLE METAL CONDUIT SHALL BE 1/2- INCH MINIMUM SINGLE STRIP, STEEL, HOT DIPPED GALVANIZED INSIDE AND OUTSIDE. MAXIMUM LENGTH 72 INCHES FOR LIGHTING AND 36" FOR MOTORS. FLEXIBLE METAL CONDUIT SHALL BE LIQUIDTIGHT OR WATERIGHT WITH PVC JACKET WHERE USED IN DAMP, WET OR OUTSIDE AREAS, AND LIQUIDTIGHT OR WATERIGHT CONNECTORS SHALL BE USED.

NO RECEPTACLES OR TEL. OUTLETS TO BE MOUNTED BACK TO BACK, KEEP AT LEAST 2 INCHES BETWEEN RECEPTACLES AND TEL. OUTLETS.

ALL CONDUCTOR SHALL BE COPPER WITH A MINIMUM SIZE OF #12 AWG EXCEPT FOR FIRE ALARM. THESE CONDUCTORS SHOULD COMPLY WITH NFPA.

CONTRACTOR SHALL ALIGN FIXTURES, SMOKE DETECTORS, CEILING DIFFUSERS ETC. AS REQUIRED TO PROVIDE A UNIFORM PRESENTATION. AT NO TIME WILL AN IONIZATION DETECTOR BE LOCATED WITHIN 3'-0" OF A SUPPLY OR RETURN AIR GRILLE.

CIRCUIT BREAKERS AND WIRE ARE SIZED FOR SPECIFIC EQUIPMENT. BEFORE ORDERING WIRE, BREAKERS AND CONDUIT FOR THIS PROJECT THE CONTRACTOR SHALL COORDINATE WITH THE OTHER CONTRACTORS ON THE JOB AND VERIFY THE ELECTRICAL DATA FOR THE EQUIPMENT WHICH WILL ACTUALLY BE INSTALLED, RECOMPUTING WIRE AND BREAKER SIZES IF REQUIRED BY THE NEC.

ALL CONDUIT TERMINATING IN THE CEILING CAVITIES IS TO BE LABELED.

ALL CONDUIT SHALL BE COLOR CODED WITH 1/2" WIDE TAPE, 10'-0" ON CENTER IN ACCORDANCE WITH STANDARD INDUSTRY PRACTICE.

THE MOUNTING HEIGHTS AND LOCATIONS OF ALL WALL MOUNTED OUTLETS AND JUNCTION BOXES SHALL BE REVIEWED AND COORDINATED WITH THE ARCHITECT AND OWNER, PRIOR TO INSTALLATION, FOR USE WITH ACTUAL EQUIPMENT.

EACH CONTRACTOR WILL PROVIDE HIS OWN SUPPORT OF ALL DEVICES AND EQUIPMENT PROVIDED BY HIM AND SHALL SUPPORT SUCH EQUIPMENT PER APPROVED GOVERNING CODES OR PER APPROVAL OF THE ENGINEER/ARCHITECT. UNACCEPTABLE WORKMANSHIP OR MATERIALS SHALL BE REPLACED AT THE REQUEST OF THE ENGINEER/ARCHITECT AT THE CONTRACTORS EXPENSE.

THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR FLOOR PLAN DIMENSIONS.

THE CONTRACTOR SHALL COORDINATE ANY AND ALL WORK WITH OTHER TRADES INVOLVED IN THIS PROJECT PRIOR TO THE INSTALLATION OF HIS EQUIPMENT, SO AS TO AVOID CONFLICTS DURING CONSTRUCTION AND ALLOW FOR OPTIMUM WORKING SPACE AND MAINTENANCE.

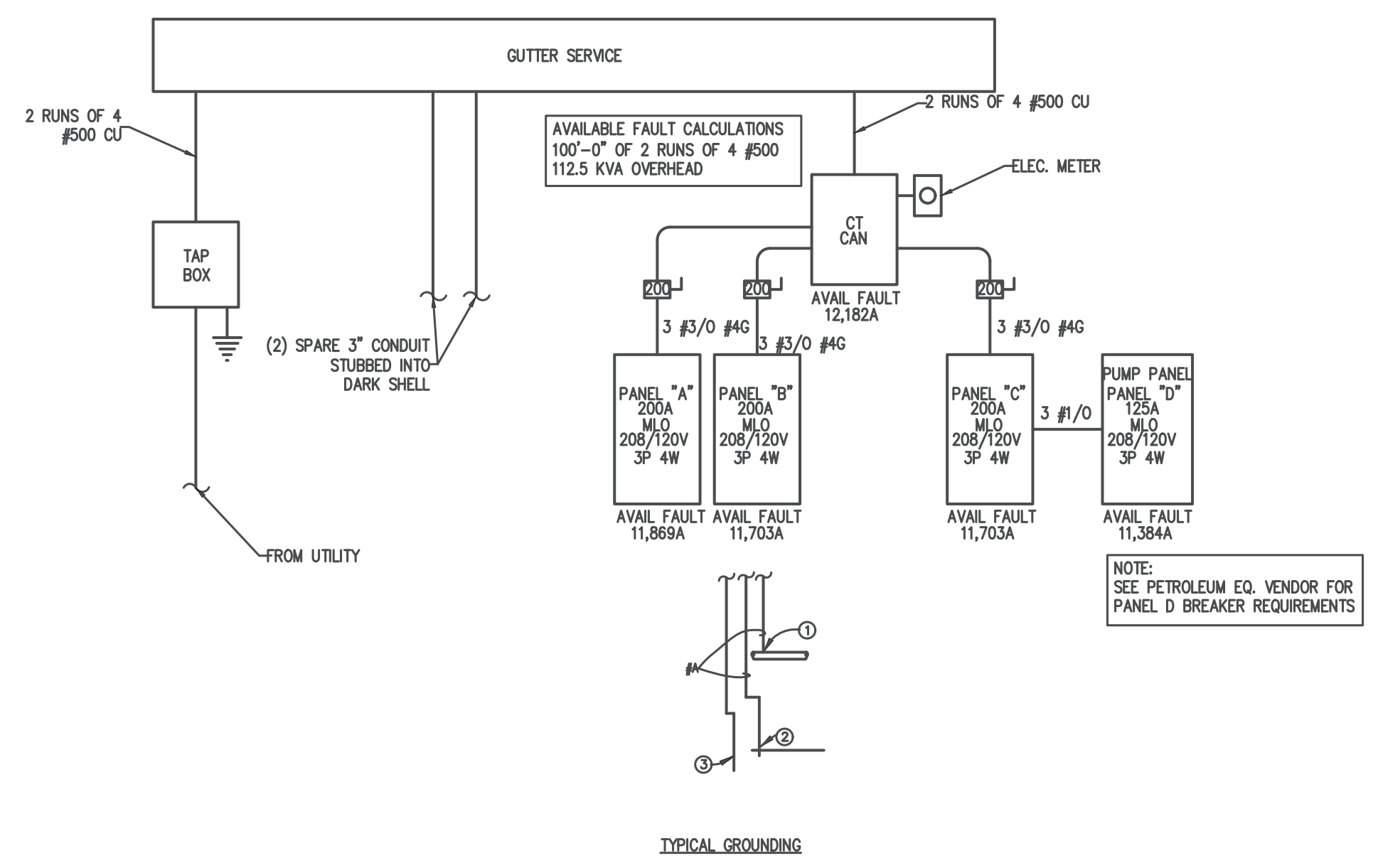
ALL FUSES DISCONNECT SWITCHES AND BREAKER SIZES SHOWN FOR MECHANICAL EQUIPMENT SHALL BE VERIFIED BEFORE PURCHASE AND INSTALLATION OF SAID EQUIPMENT WITH THE EQUIPMENT SUPPLIER AND MECHANICAL CONTRACTOR.

WHERE EQUIPMENT PENETRATES EXTERIOR WALL OR ROOF THEY SHALL BE PROPERLY SEALED WITH METHODS APPROVED BY THE ARCHITECT/ENGINEER.

ALL WORK IS TO BE DONE IN STRICT COMPLIANCE WITH THE LATEST VERSION OF THE NEC AND APPLICABLE STATE CODES

RECESSED FIXTURES INSTALLED IN RATED ASSEMBLIES SHALL BE INSTALLED WITH AN ENCLOSURE SO AS TO MAINTAIN THE RATING OF ASSEMBLY

2 ELECTRICAL NOTES
E1 N.T.S.



GROUNDING ELECTRODE DETAILS
GROUNDING ELECTRODE CONDUCTORS SHALL BE #4 BARE COPPER. OTHER MATERIAL AND INSTALLATION PER NEC

① CONNECT TO METALLIC WATER PIPE AS REQ'D.
② #4 COPPER GROUND PLACED TO BLDG STEEL
③ 3/4"x10' LONG COPPER CLAD GROUNDING ROD W/ #6 COPPER GROUND.

A=#4 CU PANEL A,B,C

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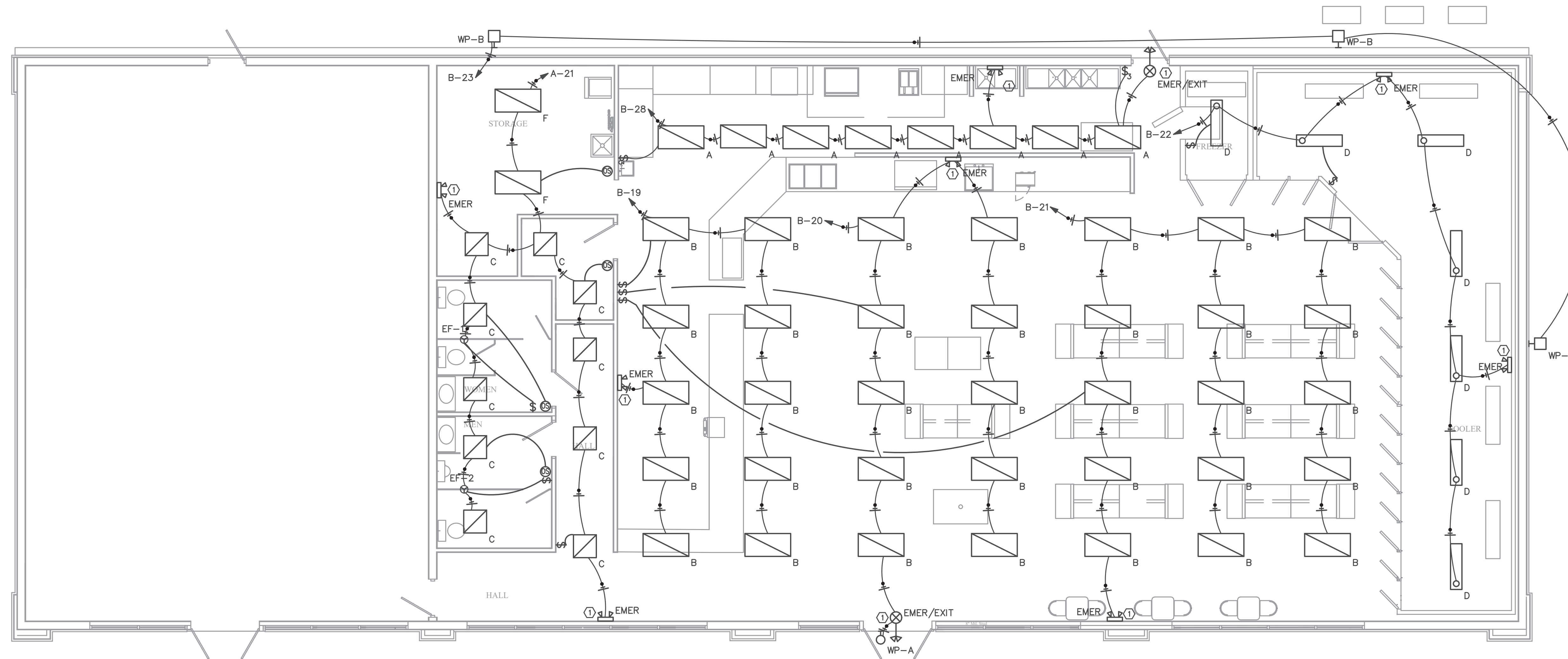
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Fayetteville, NC 28372
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SCALE: 3/16"=1'-0"
DRAWN BY: AJO
DATE:
CHECKED BY:
DWG. NUMBER:
JOB NUMBER: 2024-056

SHEET NO:
E1
May 01, 2024
SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER
SEAL 20193
CRAIG D. FISHER S. LOCKNER

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1 LIGHTING PLAN
E2 3/16"=1'-0"

- OS BRYANT (HUBBELL) MSD1000M1 OR EQUAL WALL SWITCH OCCUPANCY SENSOR DUAL (ULTRASONIC AND PASSIVE INFRARED) TECHNOLOGY 1,000 SQUARE FOOT COVERAGE 800W INCANDESCENT, 1000W FLUORESCENT AT 120V AC ALL O.S. TO BE WALL MOUNTED TO ALLOW FOR OCCUPANT MANUAL OVERRIDE
- ① UNSWITCHED LEG OF CIRCUIT TO BATT PACK, SWITCHED LEG TO NORMAL LED DRIVER

DIX B 2018 BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS

MECHANICAL DESIGN
ELECTRICAL SYSTEM AND EQUIPMENT

if Compliance:
Energy Code: Prescriptive Performance
SHRAE 90.1: Prescriptive Performance

fixture schedule (each fixture type)
lamp type required in fixture
number of lamps in fixture
ballast type used in the fixture
number of ballasts in fixture
total wattage per fixture
total interior wattage specified vs. allowed (whole building or space by space)
total exterior wattage specified vs. allowed

SEE FIXTURE SCHEDULE

- Additional Prescriptive Compliance
- 506.2.1 More Efficient HVAC Equipment
 - 506.2.2 Reduced Lighting Power Density
 - 506.2.3 Energy Recovery Ventilation Systems
 - 506.2.4 Higher Efficiency Service Water Heating
 - 506.2.5 On-Site Supply of Renewable Energy
 - 506.2.6 Automatic Daylighting Control Systems

LUMINAIRE SCHEDULE

CALLOUT	SYMBOL	LAMP	DESCRIPTION	BALLAST	MOUNTING	MODEL	INPUT WATTS	VOLTS
A		LED	2' X 4' LED TROFFER WITH EMERGENCY BATTERY PACK	ELECTRONIC	RECESSED	METALUX 24GR-LD5-64-F1-UNV-EL14W-LB40-CD1-U	48	120V 1P 2W
B		(336) 4000K CCT, 80 CRI LEDS	METALUX GR 2X4 LED TROFFER WITH F1 LENS	ELECTRONIC	RECESSED	COOPER LIGHTING SOLUTIONS - METALUX (FORMERLY EATON), 24GR-LD5-90-F1-UNV-L930-CD1-U	69	120V 1P 2W
C		(1) LED	2' X 2' LED TROFFER	ELECTRONIC	RECESSED	METALUX 22GR-LD5-28-F1-UNV-LB40-CD1-U OR EQUAL	22.9	120V 1P 2W
D		(1) 45.2W 4000K LED	4' LED STRIP	ELECTRONIC	SURFACE	MAXLITE LSV4U4540	45.2	120V 1P 2W
EMER		(2) LED	SQUARE HEAD LED EMERGENCY LIGHT	ELECTRONIC	WALL/CEILING	METALUX AP2SQLED OR EQUAL	1.8	120V 1P 2W
EMER/EXIT		(2) LED	LED COMBINATION EXIT/EMERGENCY LIGHT	ELECTRONIC	WALL/CEILING	METALUX APCH7RSQ OR EQUAL	3.4	120V 1P 2W
F		(1) LED	2' X 4' LED TROFFER	ELECTRONIC	RECESSED	METALUX 24GR-LD5-48-F1-UNV-LB40-CD1-U OR EQUAL	37.4	120V 1P 2W
WP-A		(1) (1) 2700K CCT, 90 CRI LED	LUMIERE LANTERRA 9004 LED WALL LUMINAIRE, RECESSED LENS, FLOOD OPTIC, BLACK HOUSING.	ELECTRONIC	CEILING	COOPER LIGHTING SOLUTIONS - LUMIERE (FORMERLY EATON), 9004-W2-[RW, RI]-LED2790-F-BK-L2-UNV	40.2	120V 1P 2W
WP-B		(1) LED	LED WALL PACK WITH FULL CUTOFF LENS	ELECTRONIC	WALL	METALUX/COOPER AXCL12A-PC-VS/AXCL OR EQUAL	123	120V 1P 2W

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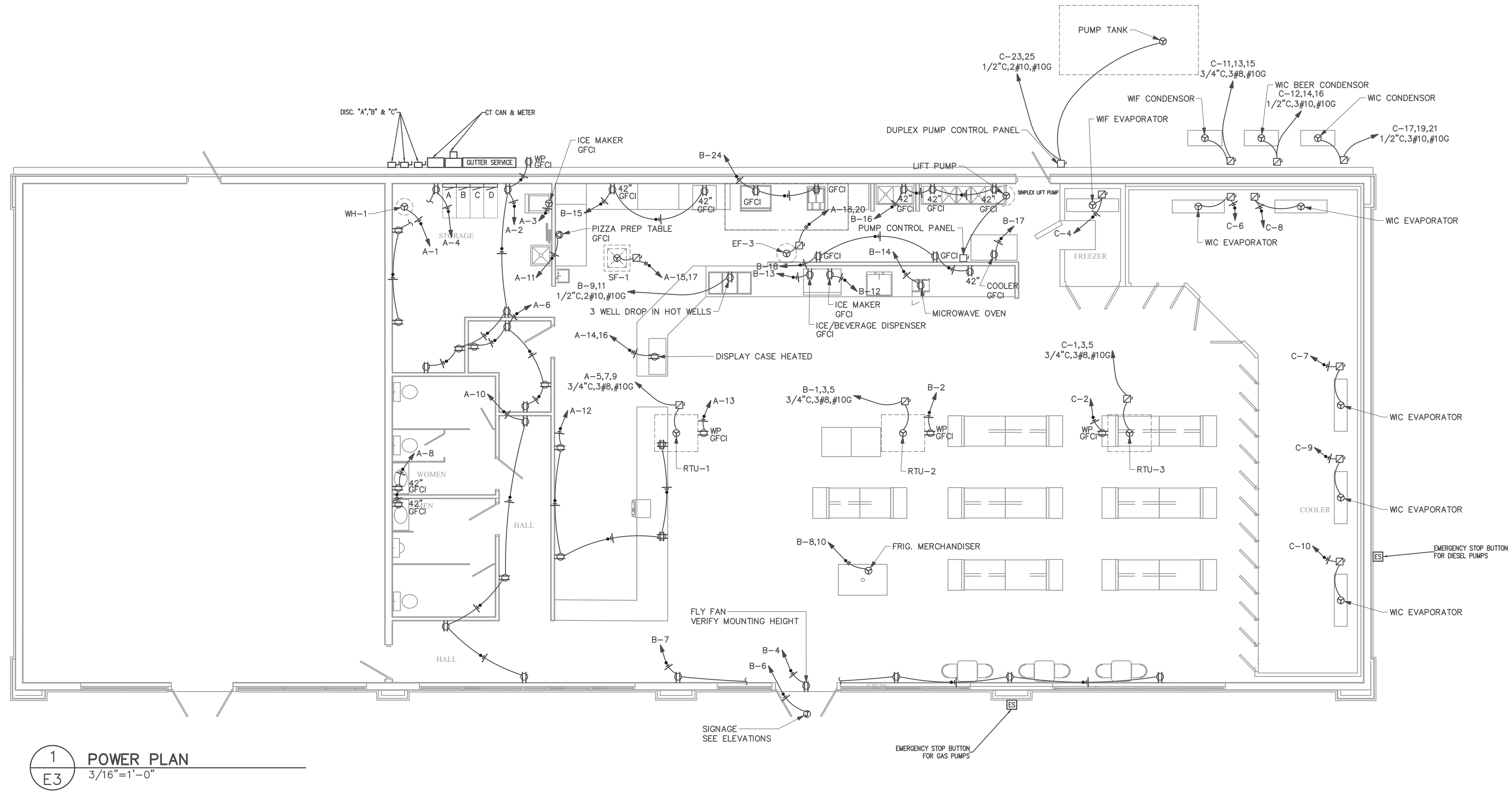
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1 POWER PLAN
E3 3/16"=1'-0"

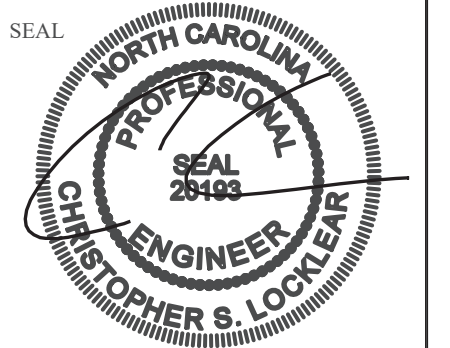
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