

USE GROUP OR SPACE DESCRIPTION	EXIT WIDTH								
	(a)		(b)		(c)		EXIT WIDTH (in)		
	AREA ¹ SQ. FT.	AREA ¹ PER OCCUPANT (TABLE 1004.1.2)	CALCULATED OCCUPANT LOAD (a/b)	EGRESS WIDTH PER OCCUPANT (TABLE 1005.1)	REQUIRED WIDTH (SECTION 1005.1) (a/b) x c	ACTUAL WIDTH SHOWN ON PLANS	STAIR	LEVEL	
FACTORY (F-1)	3,750	100 GROSS	38	N/A	.2	N/A	7.6"	N/A	N/A

- SEE TABLE 1004.1.2 TO DETERMINE WHETHER NET OR GROSS AREA IS APPLICABLE. SEE DEFINITION "AREA, GROSS" AND "AREA, NET" (SECTION 1002, DEFINED IN CHAPTER 2)
- MINIMUM STAIRWAY WIDTH (SECTION 1011.2); MIN. CORRIDOR WIDTH (SECTION 1020.2); MIN. DOOR WIDTH (SECTION 1010.1.1)
- MINIMUM WIDTH OF EXIT PASSAGEWAY (SECTION 1024)
- SEE SECTION 1005.6 FOR CONVERGING EXITS.
- THE LOSS OF ONE MEANS OF EGRESS SHALL NOT REDUCE THE AVAILABLE CAPACITY TO LESS THAN 50% OF THE TOTAL REQUIRED (SECTION 1005.5)
- ASSEMBLY OCCUPANCIES (SECTION 1029)

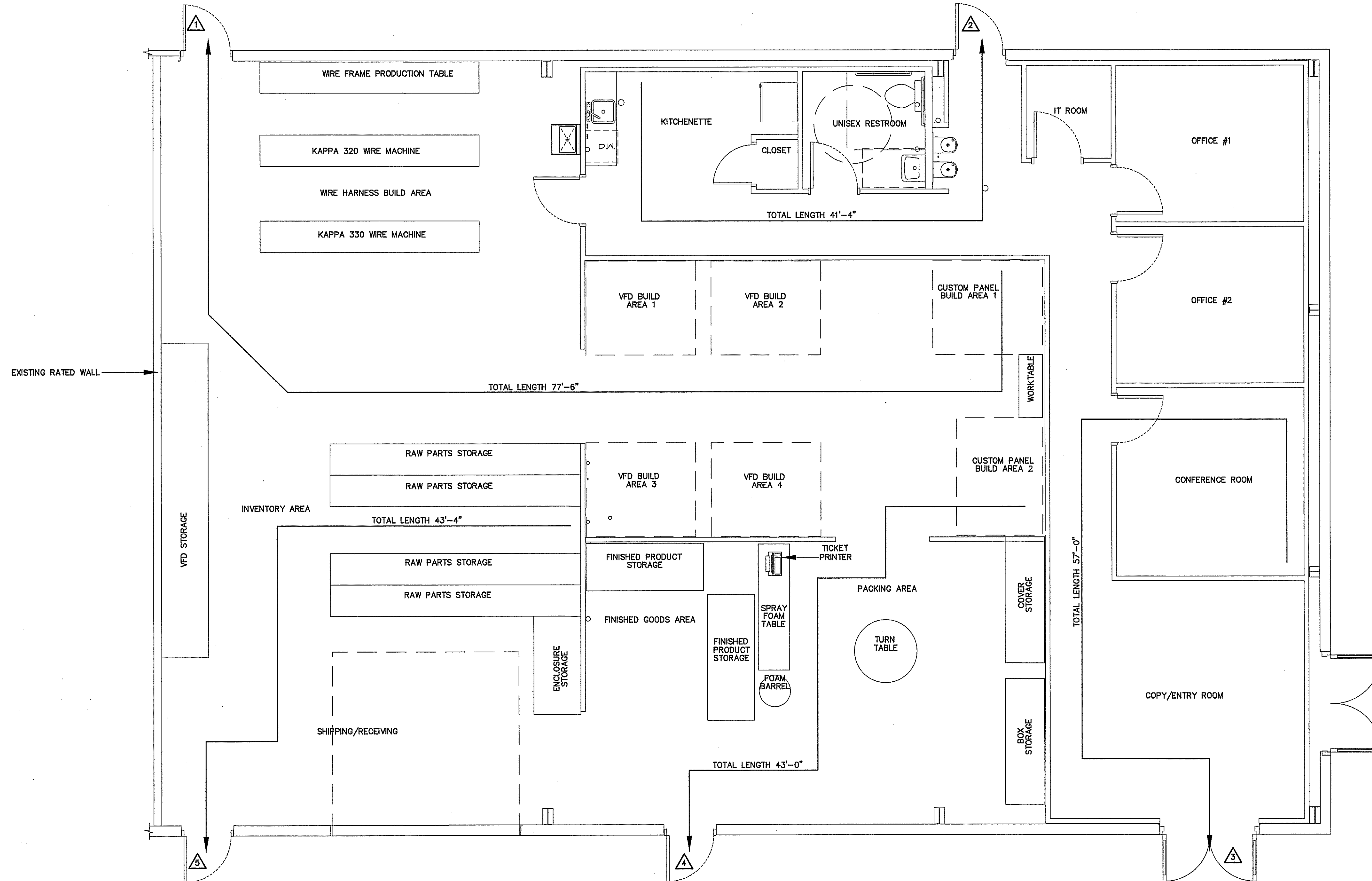
FLOOR, ROOM OR SPACE DESIGNATION	EXIT REQUIREMENTS: NUMBER AND ARRANGEMENTS OF EXITS				LIFE SAFETY PLAN REQUIREMENTS:			
	MINIMUM ² NO. OF EXITS		TRAVEL DISTANCE		ARRANGEMENT MEANS OF EGRESS ^{1,3} (SECTION 1016-1021)			
	REQ'D.	SHOWN ON PLANS	ALLOWABLE TRAVEL DISTANCE (TABLE 1017.2)	ACTUAL TRAVEL DISTANCE SHOWN ON PLANS	REQUIRED DISTANCE BETWEEN EXIT DOORS	ACTUAL DISTANCE SHOWN ON PLANS	REQUIRED DISTANCE BETWEEN EXIT DOORS	ACTUAL DISTANCE SHOWN ON PLANS
FACTORY (F-1)	2	5	200'	77'-6"	44'-7"	81'-3"		

- CORRIDOR DEAD ENDS (SECTION 1020.4)
- BUILDINGS W/SINGLE EXITS (TABLE 1006.3.2(2)), SPACES W/ONE EXIT OR EXIT ACCESS DOORWAY (TABLE 1006.2.1)
- COMMON PATH OF TRAVEL (SECTION 1029.8)

- LIFE SAFETY PLAN REQUIREMENTS:**
- ☑ FIRE AND/OR SMOKE RATED WALL LOCATIONS (CHAPTER 7) - SEE NOTE 1
 - ☑ ASSUMED AND REAL PROPERTY LINE LOCATIONS - SEE NOTE 2
 - ☑ EXTERIOR WALL OPENING AREA WITH RESPECT TO DISTANCE TO ASSUMED PROPERTY LINES (705.8) - SEE NOTE 3
 - ☑ OCCUPANCY TYPES FOR EACH AREA AS IT RELATES TO OCCUPANT LOAD CALCULATION (TABLE 1004.1.2)
 - ☑ OCCUPANT LOADS FOR EACH AREA
 - ☑ EXIT ACCESS TRAVEL DISTANCES (1017)
 - ☑ COMMON PATH OF TRAVEL DISTANCES (1006.2.1 & 1006.3.2(1))
 - ☑ DEAD END LENGTHS (1020.4) - SEE NOTE 4
 - ☑ CLEAR EXIT WIDTHS FOR EACH EXIT DOOR
 - ☑ MAXIMUM CALCULATED OCCUPANT LOAD CAPACITY EACH EXIT DOOR CAN ACCOMMODATE BASED ON EGRESS WIDTH (1005.3)
 - ☑ ACTUAL OCCUPANT LOAD FOR EACH EXIT DOOR
 - ☑ A SEPARATE SCHEMATIC PLAN INDICATING WHERE FIRE RATED FLOOR/CEILING AND/OR ROOF STRUCTURE IS PROVIDED FOR PURPOSES OF OCCUPANCY SEPARATION. SEE NOTE 5
 - ☑ LOCATION OF DOORS WITH PANIC HARDWARE (1010.1.10) - SEE NOTE 6
 - ☑ LOCATION OF DOORS WITH DELAYED EGRESS LOCKS AND THE AMOUNT OF DELAY (1010.1.9.7) - SEE NOTE 7
 - ☑ LOCATION OF DOORS WITH ELECTROMAGNETIC EGRESS LOCKS (1010.1.9.9) - SEE NOTE 7
 - ☑ LOCATION OF DOORS EQUIPPED WITH HOLD-OPEN DEVICES - SEE NOTE 7
 - ☑ LOCATION OF EMERGENCY ESCAPE WINDOWS (1030) - SEE NOTE 7
 - ☑ THE SQUARE FOOTAGE OF EACH FIRE AREA (202) - SEE NOTE 8
 - ☑ THE SQUARE FOOTAGE OF EACH SMOKE COMPARTMENT (407.5) - SEE NOTE 9
 - ☐ NOTE ANY CODE EXCEPTIONS OR TABLE NOTES THAT MAY HAVE BEEN UTILIZED REGARDING THE ITEMS ABOVE

- LIFE SAFETY PLAN NOTES:**
- TENANT SEPARATION WALL TO REMAIN
 - DISTANCE TO ALL ASSUMED & REAL PROPERTY LINES > 19'. EXISTING STRUCTURE--NO CHANGE IN FOOTPRINT
 - DISTANCE TO ASSUMED PROPERTY LINES > 19'. EXISTING STRUCTURE--NO ADDITIONAL OPENINGS IN EXTERIOR WALLS.
 - NO DEAD ENDS > 20'; 20' ALLOWED
 - NO RATING REQUIRED IN THIS STRUCTURE.
 - PANIC HARDWARE NOT REQUIRED; BUT EXISTING
 - NO DELAYED EGRESS LOCKS, ELECTROMAGNETIC LOCKS, HOLD OPEN DEVICES, OR EMERGENCY ESCAPE WINDOWS.
 - FIRE AREAS DO NOT EXCEED CODE ALLOWANCE.
 - BUILDING MEETS CODE REQUIREMENTS WITHOUT SUBDIVISION INTO SMOKE COMPARTMENTS; NO SMOKE COMPARTMENTS

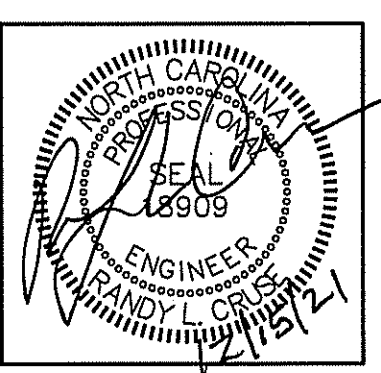
DO WE HAVE A SITEPLAN



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

NOTE:
AREA/ROOM/SPACE DESIGNATIONS USED ON LIFE SAFETY PLANS ARE EXCLUSIVE TO LIFE SAFETY PLAN ONLY, AND ARE NOT INDICATIVE OF ANY ACTUAL SPACE DESIGNATIONS USED ELSEWHERE.

- MAXIMUM CALCULATED OCCUPANT LOAD CAPACITY EACH EXIT DOOR CAN ACCOMMODATE BASED ON EGRESS WIDTH (1005.1)
- 35" CLEAR WIDTH DIVIDED BY .2" = 175 OCCUPANTS
CALCULATED OCCUPANCY PER EXIT = 7 PEOPLE
CALCULATED OCCUPANCY DOES NOT EXCEED MAXIMUM CAPACITY OF EXIT.
- 35" CLEAR WIDTH DIVIDED BY .2" = 175 OCCUPANTS
CALCULATED OCCUPANCY PER EXIT = 7 PEOPLE
CALCULATED OCCUPANCY DOES NOT EXCEED MAXIMUM CAPACITY OF EXIT.
- 70" CLEAR WIDTH DIVIDED BY .2" = 350 OCCUPANTS
CALCULATED OCCUPANCY PER EXIT = 8 PEOPLE
CALCULATED OCCUPANCY DOES NOT EXCEED MAXIMUM CAPACITY OF EXIT.
- 35" CLEAR WIDTH DIVIDED BY .2" = 175 OCCUPANTS
CALCULATED OCCUPANCY PER EXIT = 8 PEOPLE
CALCULATED OCCUPANCY DOES NOT EXCEED MAXIMUM CAPACITY OF EXIT.
- 35" CLEAR WIDTH DIVIDED BY .2" = 175 OCCUPANTS
CALCULATED OCCUPANCY PER EXIT = 8 PEOPLE
CALCULATED OCCUPANCY DOES NOT EXCEED MAXIMUM CAPACITY OF EXIT.



PLANS FOR:
J & L MANUFACTURING
252 JARCO DRIVE, FUGUAY VARINA, NORTH CAROLINA

REVISIONS	
NO.	

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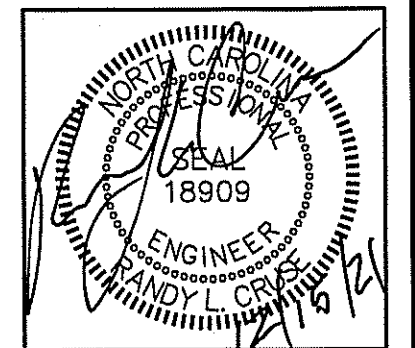
SHEET NO.
LS-1 OF 1

DOOR SCHEDULE				
DOOR NO.	DOOR SIZE			REMARKS
	WIDE	HIGH	THICK.	
01	3'-0"	7'-0"	1 3/4"	EXISTING EXTERIOR METAL DOOR WITH HM FRAME
02	3'-0"	7'-0"	1 3/4"	EXISTING EXTERIOR METAL DOOR WITH HM FRAME
03	6'-0"	7'-0"	1 3/4"	EXISTING EXTERIOR GLASS DOORS WITH HM FRAME
04	6'-0"	7'-0"	1 3/4"	EXISTING EXTERIOR GLASS DOORS WITH HM FRAME
05	3'-0"	7'-0"	1 3/4"	EXISTING EXTERIOR METAL DOOR WITH HM FRAME
06	12'-0"	12'-0"	-	EXISTING METAL ROLL UP DOOR
07	3'-0"	7'-0"	1 3/4"	EXISTING EXTERIOR METAL DOOR WITH HM FRAME
08	3'-0"	6'-8"	1 5/8"	INTERIOR WOOD DOOR WITH 6 PANEL H.C., PREHUNG
09	2'-6"	6'-8"	1 5/8"	INTERIOR WOOD DOOR WITH 6 PANEL H.C., PREHUNG
10	3'-0"	6'-8"	1 5/8"	INTERIOR WOOD DOOR WITH 6 PANEL H.C., PREHUNG
11	3'-0"	6'-8"	1 5/8"	INTERIOR WOOD DOOR WITH 6 PANEL H.C., PREHUNG
12	3'-0"	6'-8"	1 5/8"	INTERIOR WOOD DOOR WITH 6 PANEL H.C., PREHUNG
13	3'-0"	6'-8"	1 5/8"	INTERIOR WOOD DOOR WITH 6 PANEL H.C., PREHUNG
14	3'-0"	6'-8"	1 5/8"	INTERIOR WOOD DOOR WITH 6 PANEL H.C., PREHUNG

VERIFY TYPES AND SIZES WITH OWNER BEFORE ORDERING.
 PROVIDE ALL HARDWARE AS REQUIRED. ALL HARDWARE TO BE A.D.A. COMPLIANT.
 VERIFY HARDWARE FINISHES & STYLES WITH OWNER BEFORE ORDERING.
 PROVIDE CLOSERS ON ALL EXTERIOR DOORS & RESTROOM DOORS.

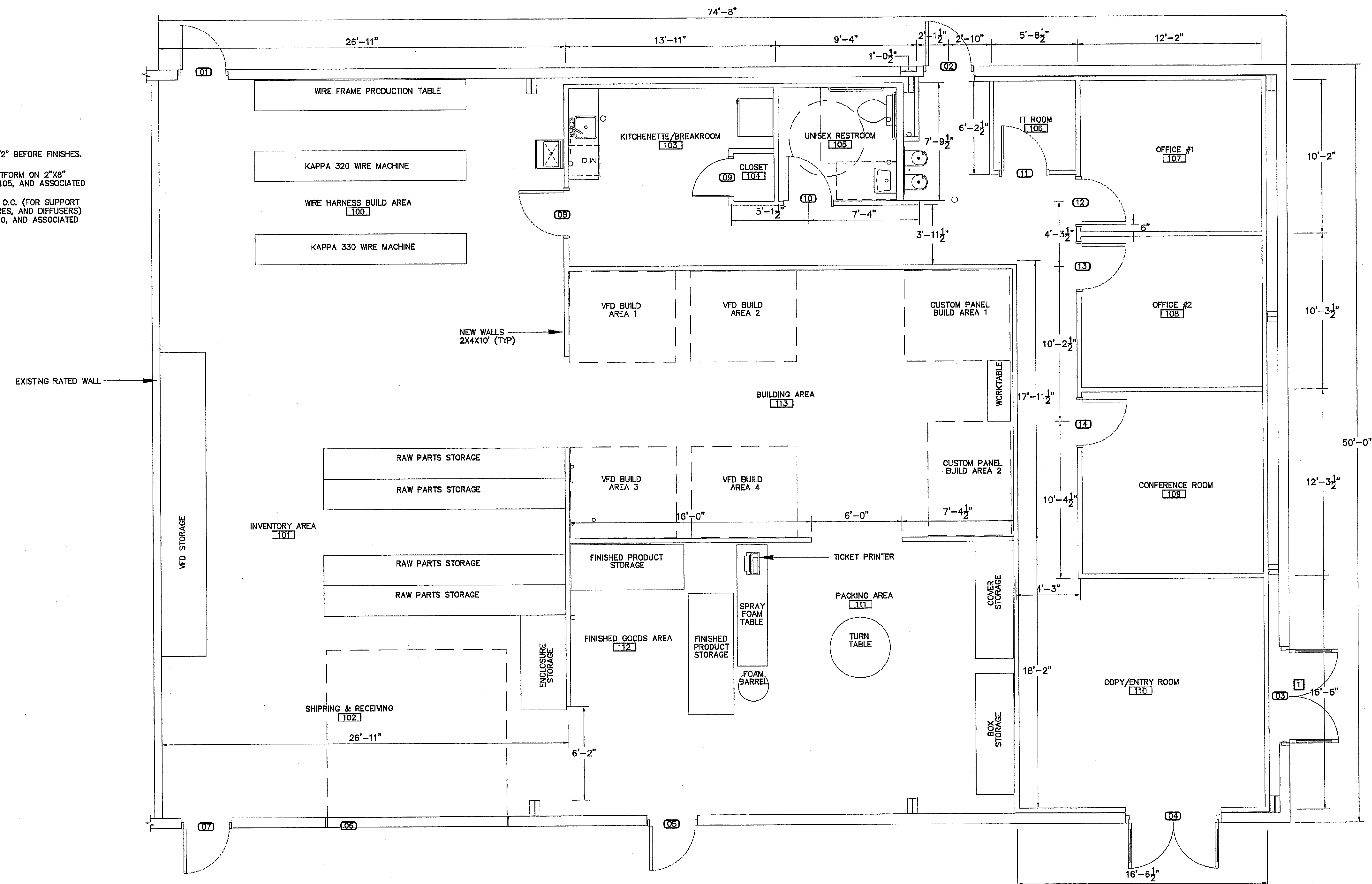
ROOM NO.	ROOM NAME	FLOOR										CELL. HT.	CLG.	REMARKS		
		CONCRETE	CARPET*	TILE	RUBBER	WOOD	WOOD TILE	WOOD GRASS	WOOD NONE	WOOD NONE	WOOD NONE				WOOD NONE	
100	WIRE HARNESS BUILDING AREA	X														
101	INVENTORY AREA	X														
102	SHIPPING & RECEIVING	X														
103	KITCHENETTE/BREAKROOM	X														
104	CLOSET	X														
105	UNISEX RESTROOM	X														
106	IT ROOM	X														
107	OFFICE #1	X														
108	OFFICE #2	X														
109	CONFERENCE ROOM	X														
110	COPY/ENTRY ROOM	X														
111	PACKING AREA	X														
112	FINISHED GOODS AREA	X														APPROX. 10' HIGH WALLS
113	BUILDING AREA	X														APPROX. 10' HIGH WALLS

OWNER TO VERIFY ALL COLORS AND FINISHES BEFORE ORDERING MATERIALS



PLANS FOR:
J & L MANUFACTURING
 252 JARCO DRIVE, FUQUAY VARINA, NORTH CAROLINA

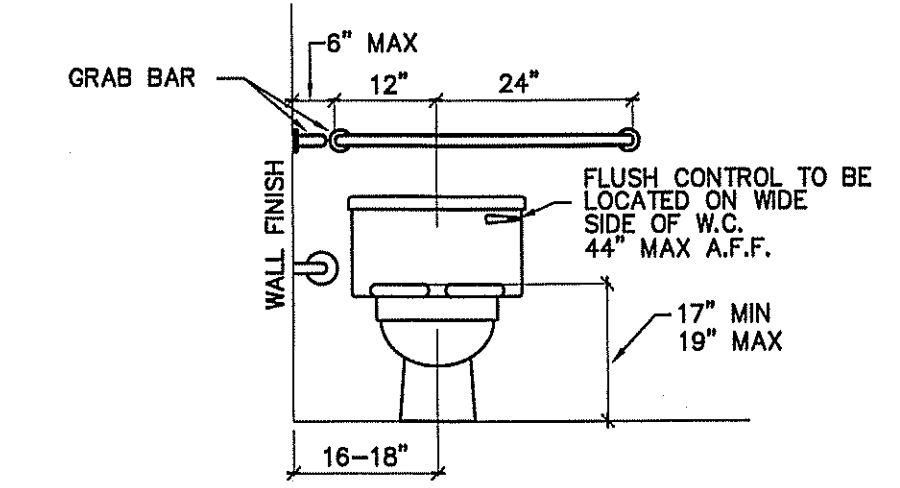
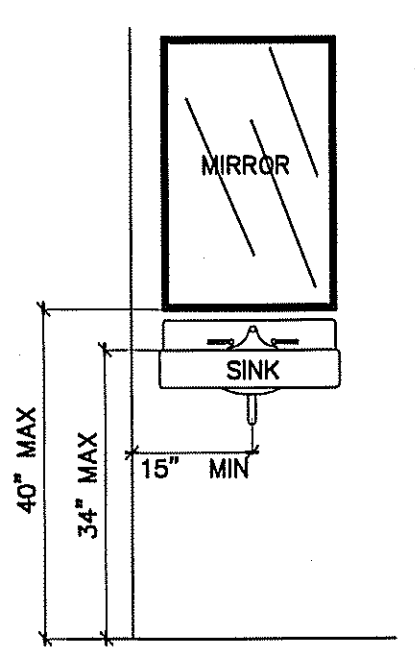
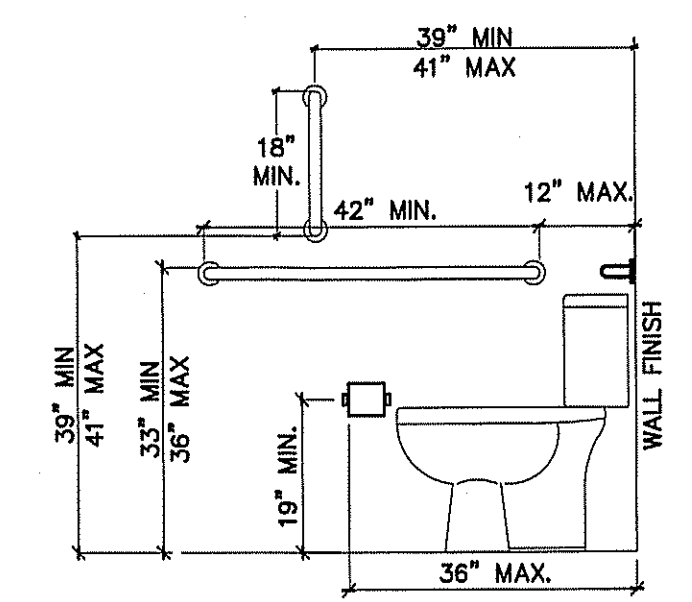
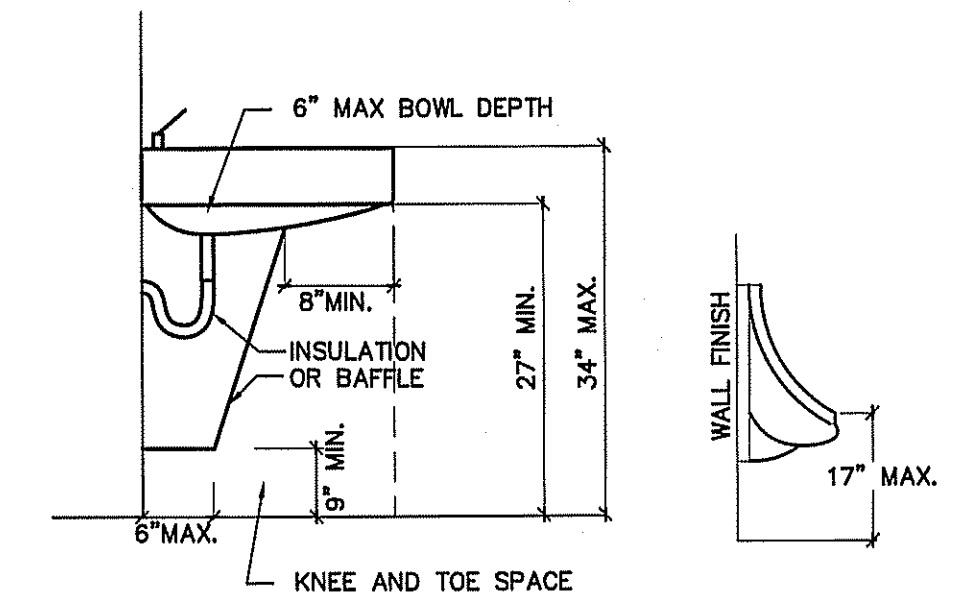
- NOTES:**
- ALL INTERIOR WALLS SHOWN AT 3-1/2" BEFORE FINISHES.
 - NO STORAGE ABOVE 12' A.F.F.
 - PROVIDE 3/4" PLYWOOD SERVICE PLATFORM ON 2"x8" @ 12" O.C. ABOVE ROOMS 103, 104, 105, AND ASSOCIATED CORRIDOR AREA. (APPROX. 22'x12')
 - PROVIDE 2"x6" CEILING JOISTS @ 16" O.C. (FOR SUPPORT OF ACoustICAL CEILING, LIGHT FIXTURES, AND DIFFUSERS) ABOVE ROOMS 106, 107, 108, 109, 110, AND ASSOCIATED CORRIDOR AREA. (APPROX. 50'x17')



KEYNOTES:

1 DOOR TO BE PERMANENTLY LOCKED AND LABELED ON THE EXTERIOR OF THE BUILDING "NOT AN ENTRANCE"

NOTE:
 OWNER TO SELECT ALL COLORS, TEXTURES & FINISHES



RESTROOM ACCESSIBILITY DETAILS
 SCALE: 1/2" = 1'-0"

REVISIONS

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DATE 12/15/21
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 JOB NO. 21-54

SHEET NO.
F-1 OF 1

PLUMBING FIXTURE SCHEDULE				
MARK	MAKE	MODEL	DESCRIPTION	NOTES
P-1	AMERICAN STANDARD	CADET 2377.100	EL 1.6/PA 16.5" HC ELONGATED WATER CLOSET HC ACCESSIBLE, TANK TYPE	WHITE 5311.012 SEAT
P-2	AMERICAN STANDARD	REGALYN 4869.008 LAVATORY	WALL HUNG ENAMELED CAST IRON LAVATORY RIM @ 31" A.F.F.	2385.004 FAUCET. PROVIDE W/BASKET DRAIN
P-3	JUST	SL-ADA-1613-A-GR	1 COMPARTMENT SINK	PROVIDE W/J1174-KS J-35 DRAIN; 6-1/2" DEEP
P-4	23" SINGLE BASIN FREE STANDING MOP SINK			
P-5	DISHWASHER SELECTED BY OWNER			
P-6	OASIS	PGBACSL	SPLIT LEVEL ELECTRIC WATER COOLER	BARRIER - FREE
P-7	REFRIGERATOR SELECTED BY OWNER			
P-8	STATE	PCE 30 20LSA	30 GAL 4.5 KW WATER HEATER	HEATER IS 32-1/4" TALL; ALLOW FOR MINIMUM CLEARANCES DURING INSTALLATION

* VERIFY ALL FIXTURES WITH OWNER BEFORE PURCHASE OR INSTALLATION

PLUMBING CALCULATIONS								
ITEM	# OF	FIXTURE UNITS (EACH)			FIXTURE UNITS (TOTAL)			FIXTURE UNITS (WASTE)
		COLD	HOT	TOTAL	COLD	HOT	TOTAL	
FLUSH TANK WATER CLOSET	1	5.0	-	5.0	5.0	-	5.0	4/4
LAVATORY	1	1.5	1.5	2.0	1.5	1.5	2.0	1/1
1 COMP. SINK	1	1.0	1.0	1.4	1.0	1.0	1.4	2/2
SERVICE SINK	1	2.25	2.25	3.0	2.25	2.25	3.0	2/2
DISHWASHER	1	-	1.4	1.4	-	1.4	1.4	2/2
DRINKING FOUNTAIN	1	.25	-	.25	.25	-	.25	0.5/0.5
TOTAL		-	-	-	16.75	9.0	13.05	11.5

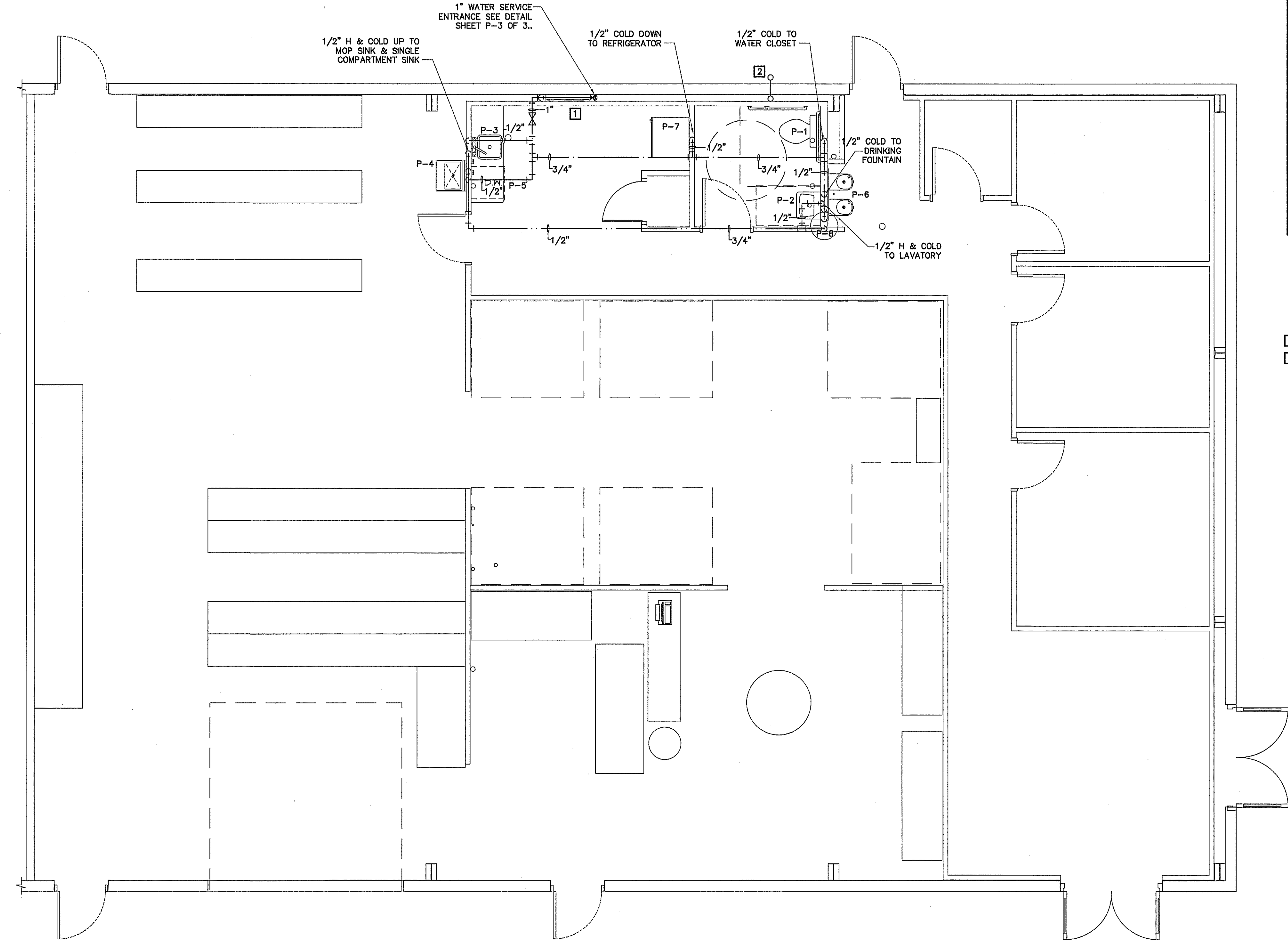
16.5 GPM
WATER SUPPLY PIPE SIZE: MINIMUM 1"

PLUMBING CONNECTION SCHEDULE				
FIXTURE	C.W.	H.W.	WASTE	VENT
FLUSH TANK WATER CLOSET	1/2"	-	3"	2"
LAVATORY	1/2"	1/2"	2"	1 1/2"
DISHWASHER	1/2"	1/2"	2"	2"
FLOOR DRAIN	-	-	3"	2"
KITCHEN SINKS	1/2"	1/2"	3"	2"

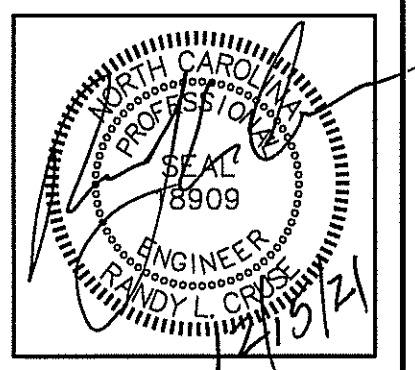
NOTE: P.C. TO VERIFY EXISTING WATER LINE LOCATION AND ROUTING BEFORE BEGINNING CONSTRUCTION.

PLUMBING LEGEND	
DESCRIPTION	SYMBOL
COLD WATER	— CW
HOT WATER	— HW
COLD WATER (FILTERED)	— L
RECIRCULATED WATER	— HWR
VENT PIPING	— V
WASTE PIPING	— NEW — — — — — EXISTING — W
CLEAN OUT IN GRADE	⊠ C.O.I.G.
FLOOR CLEAN OUT	○ F.C.O.
NON FREEZE HOSE BIBB	— NFHB
FLOOR DRAIN	○ F.D.
CHECK VALVE	⊘
BALL VALVE	⊠
GATE VALVE	⊠
SHUT-OFF VALVE	⊠
DOUBLE CHECK VALVE	⊠
FIXTURE DESIGNATION	P--
MOUNTING HEIGHT	MH
POINT OF CONNECTION NEW TO EXISTING	⊠
FLOOR SINK	⊠
SHOCK ABSORBER W/BALL VALVE SHUT-OFF	⊠ SA SIZE PER MANUF. RECOMMENDATIONS
CHANGE IN PIPE SIZE	↔

KEYNOTES:
 1 PROVIDE ACCESS DOORS IN WALL.
 2 WATER HEATER PAN DRAIN DOWN IN WALL CAVITY AND OUT OF WALL ABOVE GRADE.



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



PLANS FOR:
J & L MANUFACTURING
 252 JARCO DRIVE, FUQUAY VARINA, NORTH CAROLINA

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NO.	

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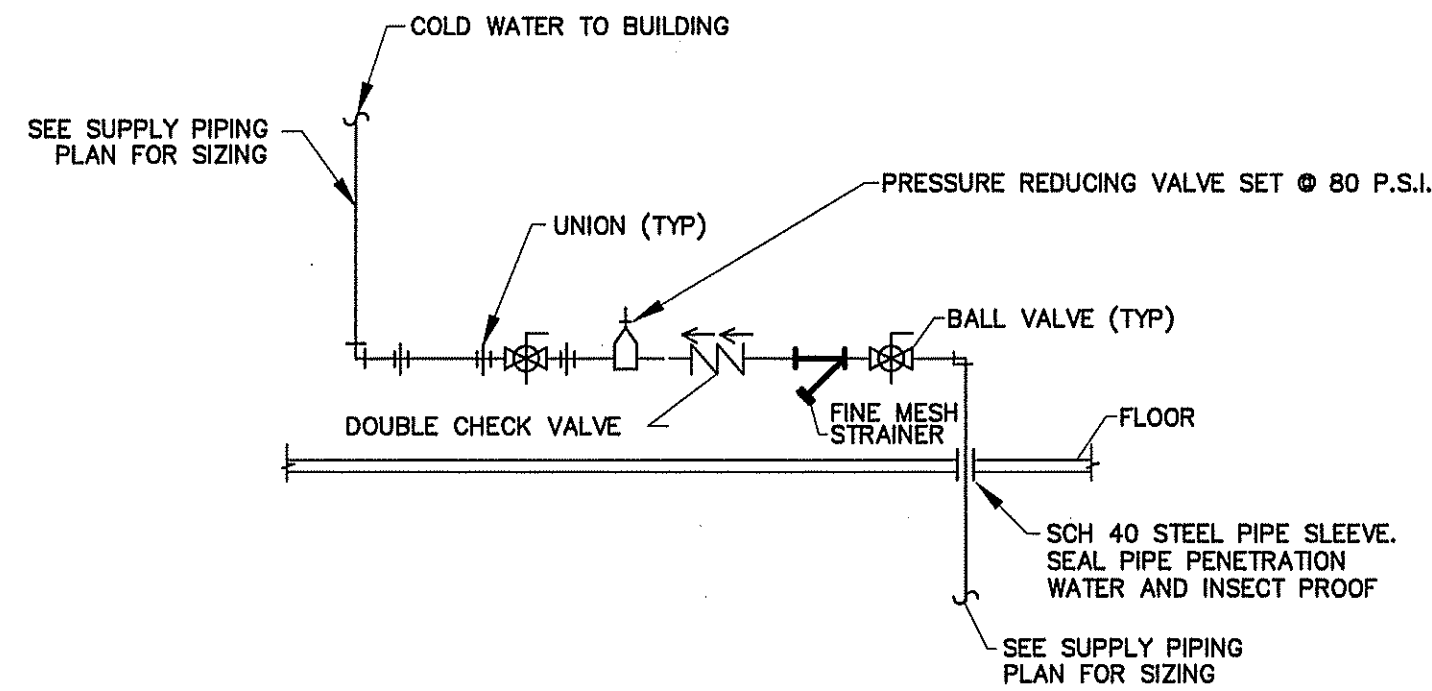
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JOB NO. 21-54

SHEET NO.
P-1 OF 2

PLUMBING FIXTURE SCHEDULE				
MARK	MAKE	MODEL	DESCRIPTION	NOTES
P-1	AMERICAN STANDARD	CADET 2377.100	EL 1.6/PA 16.5" HC ELONGATED WATER CLOSET HC ACCESSIBLE, TANK TYPE	WHITE 5311.012 SEAT
P-2	AMERICAN STANDARD	REGALYN 4869.008	WALL HUNG ENAMELED CAST IRON LAVATORY RIM @ 31" A.F.F.	2385.004 FAUCET. PROVIDE W/BASKET DRAIN
P-3	JUST	SL-ADA-1613-A-GR	1 COMPARTMENT SINK	PROVIDE W/J1174-KS J-35 DRAIN; 6-1/2" DEEP
P-4	23" SINGLE BASIN FREE STANDING MOP SINK			
P-5	DISHWASHER SELECTED BY OWNER			
P-6	OASIS	P68ACSL	SPLIT LEVEL ELECTRIC WATER COOLER	BARRIER - FREE
P-7	REFRIGERATOR SELECTED BY OWNER			
P-8	STATE	PCE 30 20LSA	30 GAL 4.5 KW WATER HEATER	HEATER IS 32-1/4" TALL; ALLOW FOR MINIMUM CLEARANCES DURING INSTALLATION

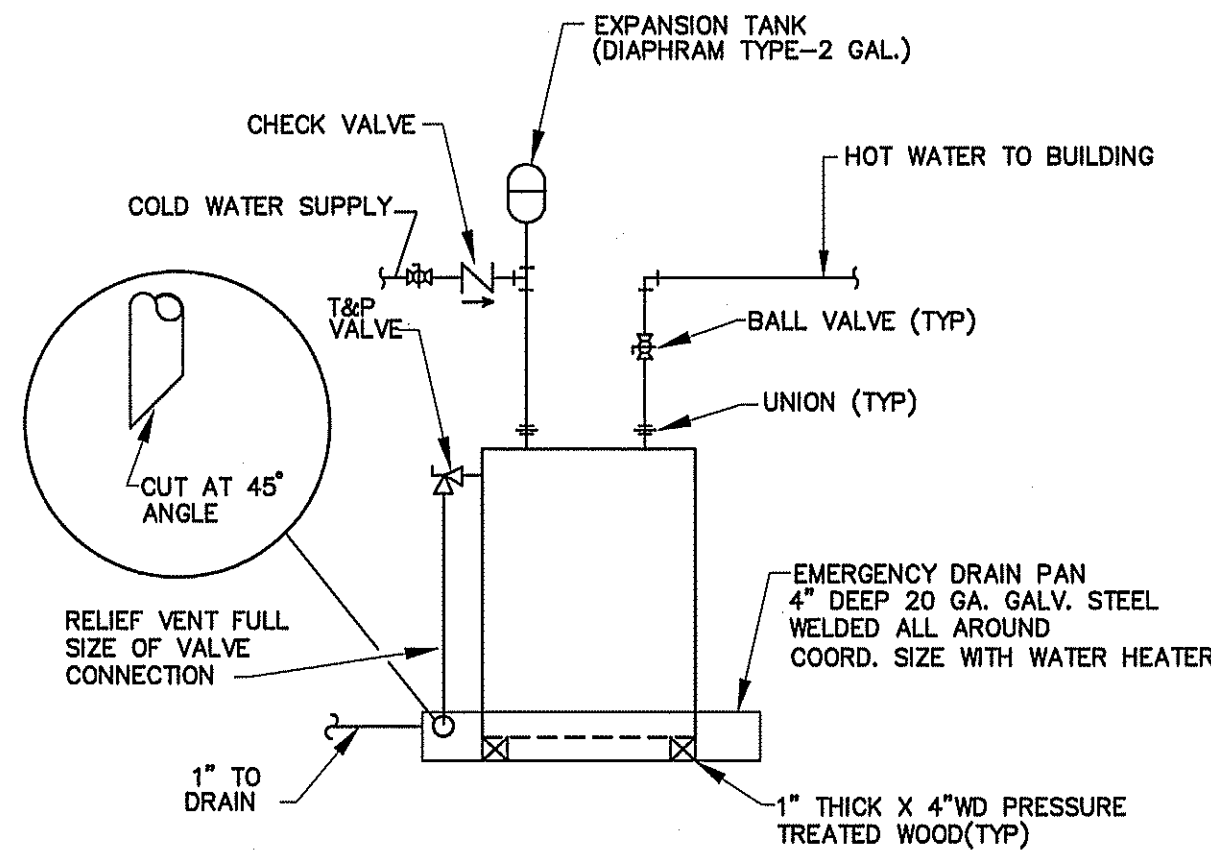
* VERIFY ALL FIXTURES WITH OWNER BEFORE PURCHASE OR INSTALLATION



DETAIL-WATER SERVICE ENTRANCE
NOT TO SCALE

GENERAL PLUMBING NOTES

- ALL WORK SHALL BE IN COMPLIANCE WITH APPLICABLE LOCAL, STATE, AND NATIONAL CODES.
- CONTRACTORS SHALL COORDINATE PIPING WITH ALL OTHER TRADES.
- CONTRACTOR SHALL REFER TO ARCHITECTURAL/STRUCTURAL DRAWINGS FOR DIMENSIONS.
- CONTRACTOR SHALL FURNISH AND INSTALL DIELECTRIC UNIONS AT ALL CONNECTIONS BETWEEN DISSIMILAR METALS.
- CONTRACTOR SHALL FURNISH AND INSTALL ESCUTCHEONS AND COVER PLATES AT ALL FINISHED WALLS, CEILINGS AND FLOOR OPENINGS.
- PIPING SHALL BE DISINFECTED IN ACCORDANCE WITH STATE AND LOCAL CODE. (REFER TO SPECIFICATIONS.)
- ALL PIPING SHALL BE TESTED FOR LEAKS. IF ANY LEAKS ARE DETECTED THE PIPING SHALL BE REPAIRED, RESOLDERED OR REPLACED AND RETESTED.
- ALL SOLDER SHALL BE OF THE LEAD FREE TYPE.
- WATER HEATER SHALL BE SUPPLIED WITH FACTORY INSTALLED T&P VALVES AND SHALL HAVE UNIONS AND ISOLATION VALVES.
- DOMESTIC WATER SUPPLY PIPING SHALL BE COPPER OR CPVC. PEX IS ALLOWED WHERE PERMITTED BY CODE.
- WASTE AND VENT PIPING SHALL BE SCH. 40 PVC OR HEAVY DUTY CAST IRON UNDER TRAFFIC AREAS.
- INSTALL THERMOSTATICALLY CONTROLLED MIXING VALVES AS NEEDED TO ENSURE HOT WATER TEMPERATURE TO ALL HAND WASHING LOCATIONS DOES NOT EXCEED 110°F.
- ALL FLOOR DRAINS & HUB DRAINS SHALL BE PROVIDED WITH TRAP PRIMER EXCEPT FLOOR DRAINS IN TOILETS WHERE HOSE BIBS ARE PROVIDED.
- HOT WATER PIPING SHALL BE INSULATED WITH 1" THICK FIBROUS GLASS INSULATION. COLD WATER PIPING SHALL BE INSULATED WITH 1/2" FIBROUS GLASS INSULATION. VAPOR BARRIER SHALL BE APPLIED TO EACH.



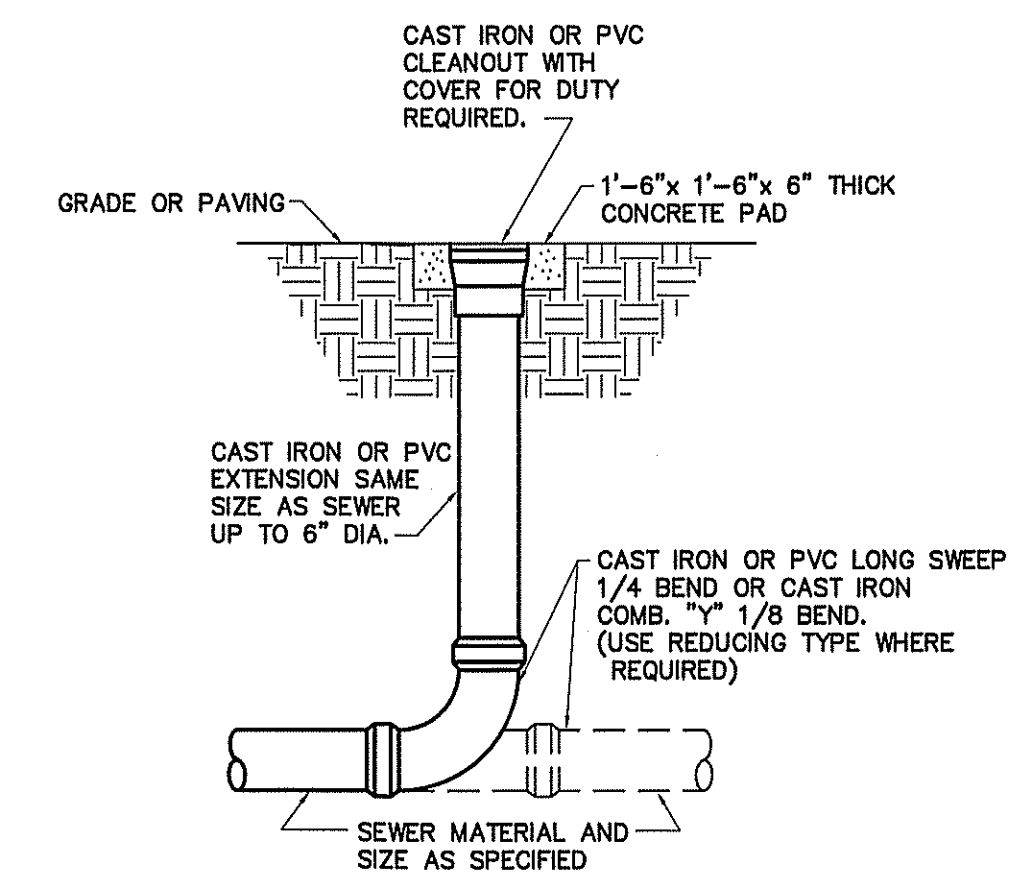
DETAIL-WATER HEATER
NOT TO SCALE

KEYNOTES:

1. TIE WATER CLOSET INTO EXISTING WASTE PIPING. CUT & PATCH CONCRETE AS REQUIRED.
2. CAP ALL UNUSED SUPPLY & WASTE PIPING BELOW FLOOR. PATCH CONCRETE AS REQUIRED.
3. APPROXIMATE LOCATION OF EXISTING 4" WASTE PIPING.

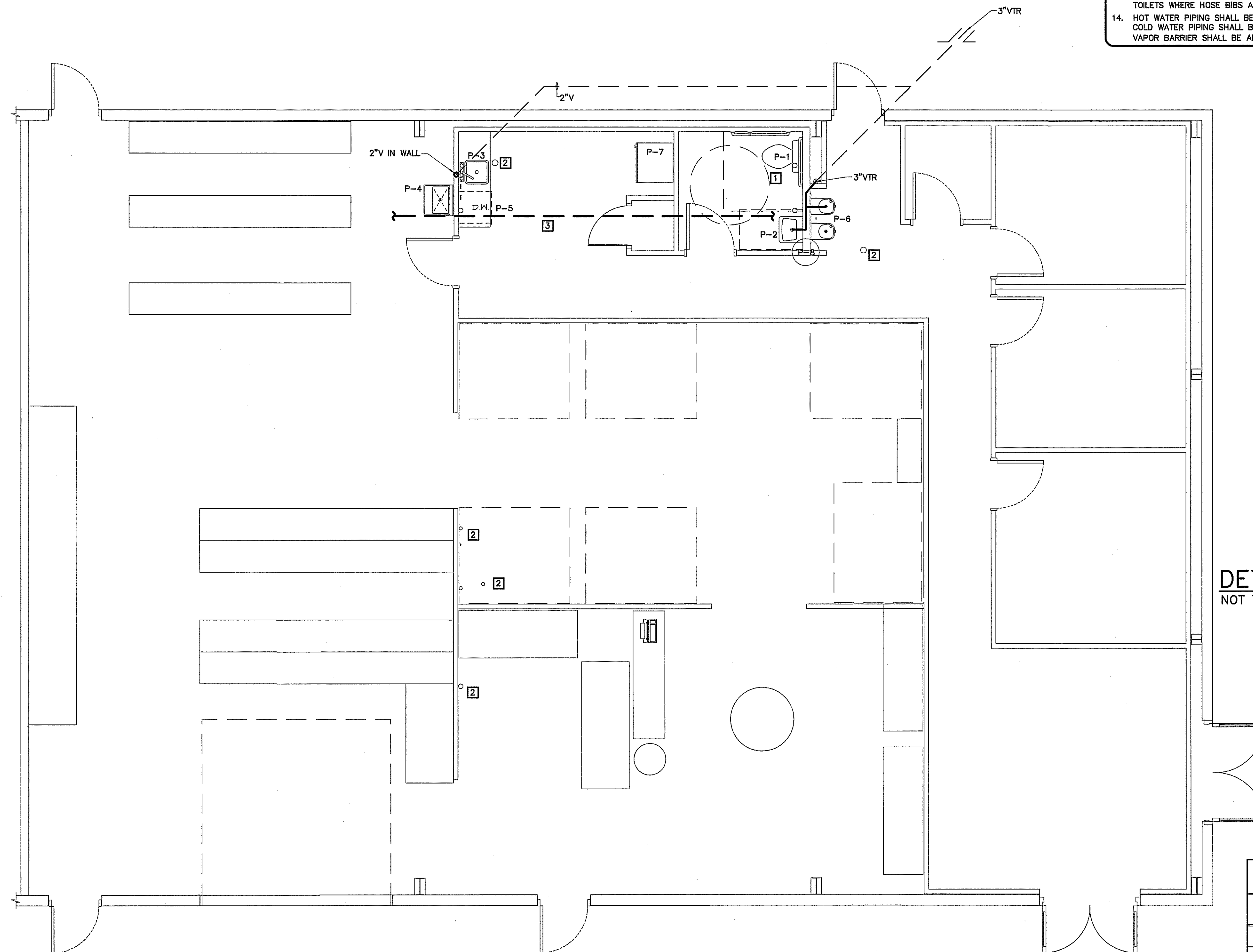
NOTES:

1. UTILIZE EXISTING WASTE PIPING FOR UP-FIT REQUIREMENTS.



DETAIL-CLEAN OUT AT GRADE
NOT TO SCALE

PLUMBING LEGEND	
DESCRIPTION	SYMBOL
COLD WATER	CW
HOT WATER	HW
COLD WATER (FILTERED)	
RECIRCULATED WATER	HWR
VENT PIPING	V
WASTE PIPING	NEW EXISTING W
CLEAN OUT IN GRADE	C.O.I.G.
FLOOR CLEAN OUT	F.C.O.
NON FREEZE HOSE BIBB	NFHB
FLOOR DRAIN	F.D.
CHECK VALVE	
BALL VALVE	
GATE VALVE	
SHUT-OFF VALVE	
DOUBLE CHECK VALVE	
FIXTURE DESIGNATION	P---
MOUNTING HEIGHT	MH
POINT OF CONNECTION NEW TO EXISTING	
FLOOR SINK	
SHOCK ABSORBER W/BALL VALVE SHUT-OFF	SA SIZE PER MANUF. RECOMMENDATIONS
CHANGE IN PIPE SIZE	

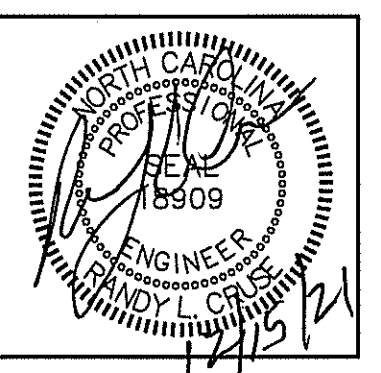


PLUMBING WASTE & VENT PIPING PLAN
SCALE: 1/4" = 1'-0"

PLUMBING CONNECTION SCHEDULE				
FIXTURE	C.W.	H.W.	WASTE	VENT
FLUSH TANK WATER CLOSET	1/2"	-	3"	2"
LAVATORY	1/2"	1/2"	2"	1 1/2"
DISHWASHER	1/2"	1/2"	2"	2"
FLOOR DRAIN	-	-	3"	2"
KITCHEN SINKS	1/2"	1/2"	3"	2"

PLUMBING CALCULATIONS								
ITEM	# OF	FIXTURE UNITS (EACH)			FIXTURE UNITS (TOTAL)			FIXTURE UNITS (WASTE)
		COLD	HOT	TOTAL	COLD	HOT	TOTAL	
FLUSH TANK WATER CLOSET	1	5.0	-	5.0	5.0	-	5.0	4/4
LAVATORY	1	1.5	1.5	2.0	1.5	1.5	2.0	1/1
1 COMP. SINK	1	1.0	1.0	1.4	1.0	1.0	1.4	2/2
SERVICE SINK	1	2.25	2.25	3.0	2.25	2.25	3.0	2/2
DISHWASHER	1	-	1.4	1.4	-	1.4	1.4	2/2
DRINKING FOUNTAIN	1	.25	-	.25	.25	-	.25	0.5/0.5
TOTAL					16.75	9.0	13.05	11.5

16.5 GPM
WATER SUPPLY PIPE SIZE: MINIMUM 1"



PLANS FOR:
J & L MANUFACTURING
252 JARCO DRIVE, FUGUAY VARINA, NORTH CAROLINA

REVISIONS	
NO.	

Cruse and Associates, P.A.
114 EAST BROADWAY STREET
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Cruse and Associates, P.A.
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DATE 12/15/21
DRAWN BY BAM
JOB NO. 21-54

SHEET NO.
P-2 OF 2

KEY NOTES:

- PROVIDE 10" X 10" DUCT FROM L1. TIE (2) 8" O.A. DUCTS W/MANUAL BALANCING DAMPER FROM AHU-1 & AHU-2 INTO 10" X 10" DUCT. COORDINATE HEIGHT OF L1 WITH HEIGHT OF RETURN DUCT TO AVOID CONFLICT.
- RUN RETURN DUCT DOWN TO FLOOR. INSTALL RETURN GRILLES AS LOW AS POSSIBLE.
- PROVIDE GUARD RAIL; 42" HIGH; WITH ACCESS DOOR AROUND SERVICE PLATFORM.

NOTE:

- FILTER RETURN AIR AT EACH AHU.

**MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT
THERMAL ZONE 4A - HARNETT COUNTY, NC**

WINTER DRY BULB 16 DEG. F.
SUMMER DRY BULB 93 DEG. F.

INTERIOR DESIGN CONDITIONS

WINTER DRY BULB 68 DEG. F.
SUMMER DRY BULB 78 DEG. F.
RELATIVE HUMIDITY 55%

BUILDING HEATING LOAD 57.5 MBH
BUILDING COOLING LOAD 10.0 TONS

MECHANICAL SPACE CONDITIONING SYSTEM

UNITARY

DESCRIPTION OF UNIT - HEAT PUMP
HEATING EFFICIENCY - 9.5 HSPF
COOLING EFFICIENCY - 15.0 SEER
SIZE CATEGORY OF UNIT - < 65,000 BTUH

DESCRIPTION OF UNIT - HEAT PUMP
HEATING EFFICIENCY - 3.3 COP
COOLING EFFICIENCY - 11.0 EER
SIZE CATEGORY OF UNIT - > 65,000 BTUH
AND < 135,000 BTUH

BOILER

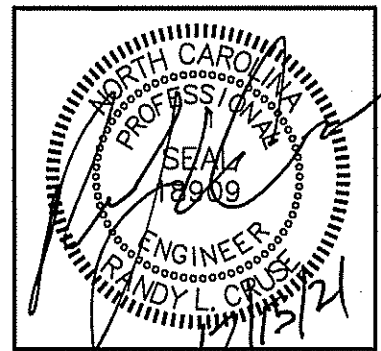
SIZE CATEGORY. IF OVERSIZED, STATE REASON: N/A

CHILLER

SIZE CATEGORY. IF OVERSIZED, STATE REASON: N/A

LIST EQUIPMENT EFFICIENCIES SEE SCHEDULE

SINGLE LINE		DOUBLE LINE		DESCRIPTION	SINGLE LINE		DOUBLE LINE		DESCRIPTION
				TAKE OFF TO SUPPLY AIR REGISTER WITH EXT. INSUL. DUCTWORK					ONE SIDED REDUCING TRANSITION
				END CAP					RETURN AIR OR EXHAUST GRILLE
				DUCT SMOKE DETECTOR					TWO SIDED TRANSITION
				ACCESS DOOR DOOR SIZE DUCT HEIGHT 8X8 10" 10X10 12" 12X12 14" & LARGER					TWO SIDED TRANSITION



PLANS FOR:
J & L MANUFACTURING
 252 JARCO DRIVE, FUYQUAY VARINA, NORTH CAROLINA

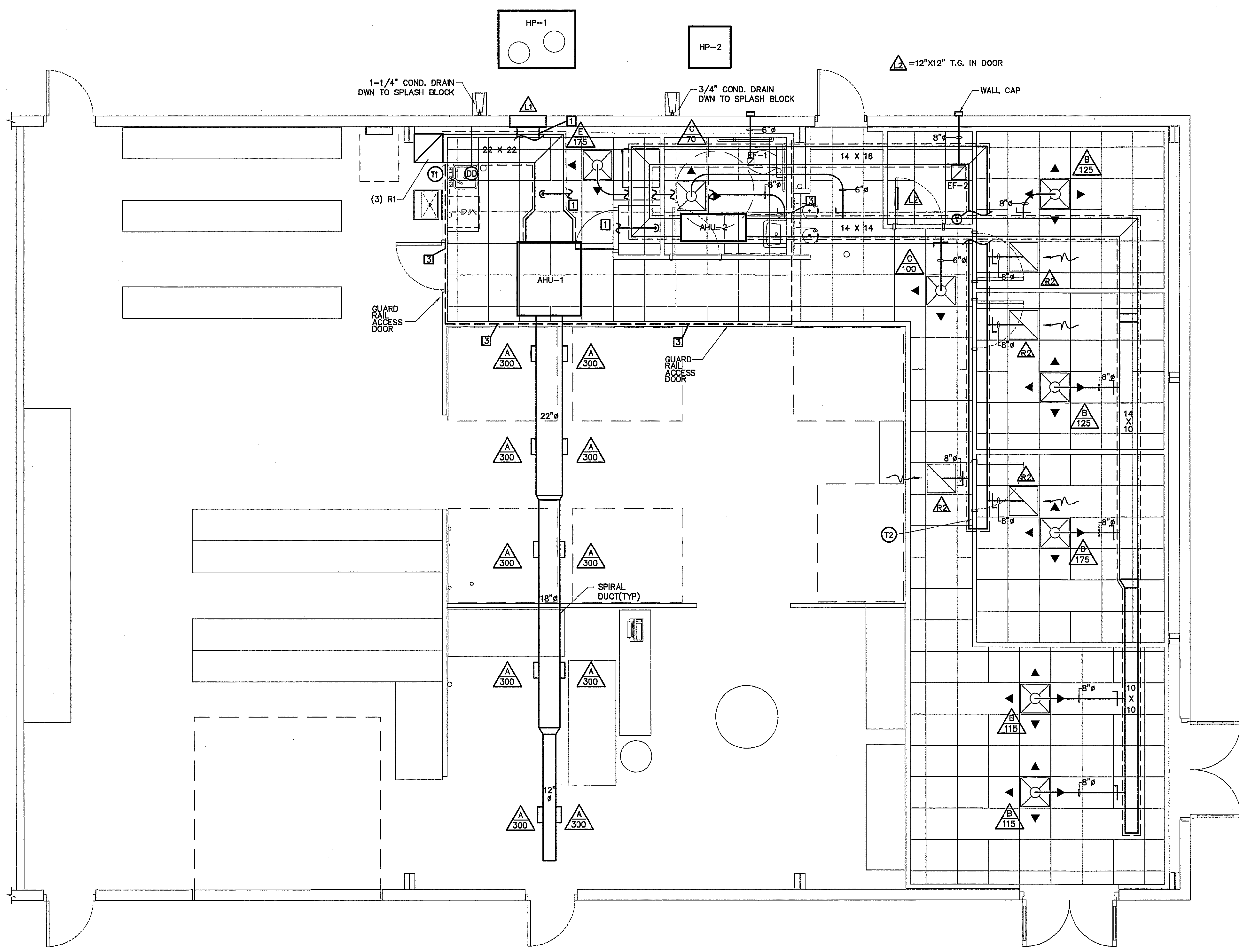
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 JOB NO. 21-54
 SHEET NO. M-1 OF 2

- MECHANICAL NOTES (GENERAL)**
- DUCTWORK LAYOUTS ARE SCHEMATIC. ALL RISES, DROPS, OFFSETS, AND TRANSITIONS REQUIRED BUT ARE NOT SHOWN SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.
 - DUCTWORK SHALL BE GALVANIZED STEEL AND SHALL BE CONSTRUCTED IN COMPLIANCE WITH SMACNA STANDARDS FOR LOW VELOCITY DUCTWORK. DUCT SIZES SHOWN ARE INSIDE CLEAR DIMENSIONS. FLEXIBLE RUNOUTS SHALL NOT EXCEED 14' AND SHALL NOT BE USED TO FORM ELBOWS. CONNECTIONS FROM RECTANGULAR TO ROUND DUCT SHALL BE MADE WITH MANUFACTURED 45 DEG. LATERAL TAPS.
 - ALL DUCTWORK SHALL BE SEALED AIR TIGHT WITH SEALING COMPOUND.
 - ALL ELBOWS IN DUCTWORK SHALL BE RADIUS ELBOWS, UNLESS NOTED OTHERWISE. WHERE SQUARE ELBOWS ARE SHOWN, INSTALL TURNING VANES.
 - THIS CONTRACTOR SHALL COORDINATE HIS WORK WITH THAT OF OTHER TRADES PRIOR TO INSTALLATION OF ANY OF HIS PIPING, DUCTWORK, OR EQUIPMENT.
 - THE MECHANICAL CONTRACTOR SHALL MAKE A COMPLETE REVIEW OF THE MECHANICAL PLANS, SCHEDULES, AND DETAILS PRIOR TO INSTALLATION OF THE MECHANICAL SYSTEMS AND REVIEW ANY CONFLICTS THAT ARE NOTED WITH THE ENGINEER.
 - IT WILL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO ENSURE THAT ITEMS TO BE FURNISHED UNDER HIS CONTRACT WILL FIT THE SPACE AVAILABLE. HE SHALL MAKE NECESSARY FIELD MEASUREMENTS TO ASCERTAIN SPACE REQUIREMENTS, INCLUDING THOSE FOR CONNECTIONS AND SHALL FURNISH AND INSTALL SUCH SIZES AND SHAPES OF EQUIPMENT THAT ARE THE TRUE AND INTENT MEANING OF THE PLANS AND SPECIFICATIONS. HE SHALL PROVIDE THE ENGINEER SCALED DRAWINGS OF ALL MECHANICAL DRAWINGS.
 - ALL EQUIPMENT SHALL BE LOCATED AND INSTALLED TO PROVIDE MAXIMUM SPACE FOR MAINTENANCE AND SERVICE.
 - ALL PENETRATIONS OF FIRE WALLS SHALL BE SEALED WITH APPROVED SEALING MATERIALS TO MAINTAIN THE FIRE RATING OF THE WALLS.
 - PROVIDE FACTORY OR FIELD INSTALLED DRAIN PANS UNDER ALL COOLING COIL UNITS. INSTALL DRAIN PAN FLOAT TO SHUT DOWN UNIT FAN IN EVENT THAT CONDENSATE BEGINS TO FILL EMERGENCY DRAIN PAN. RUN ALL CONDENSATE DRAIN LINES TO APPROPRIATE DRAIN AS ALLOWED BY CURRENT MECHANICAL CODE.
 - IN UNCONDITIONED AREAS: SUPPLY AND RETURN DUCTWORK SHALL BE INSULATED WITH FIBERGLASS INSULATION WITH A MINIMUM THERMAL RESISTANCE OF R-6.0 AND AN ATTACHED VAPOR BARRIER. DIFFUSERS SHALL BE INSULATED WITH FIBERGLASS INSULATION WITH VAPOR BARRIER. ALL JOINTS SHALL BE TAPED TO PROVIDE A CONTINUOUS VAPOR BARRIER.
 - MECHANICAL WORK INCLUDES DEMOLITION, RELOCATION, IN EXISTING & NEW WORK AS APPLICABLE. MECHANICAL CONTRACTOR TO SUPPLY A COMPLETE SYSTEM IN EACH AREA.
 - DUCT SIZES SHOWN ARE NET DIMENSIONS.
 - INSTALL METAL DUCT HANGERS/STRAPS FOR METAL DUCT IAW N.C. MECHANICAL CODE.



NOTE: MAINTAIN 10' HORIZONTAL MINIMUM SEPARATION BETWEEN INTAKE AND EXHAUST LOUVERS.

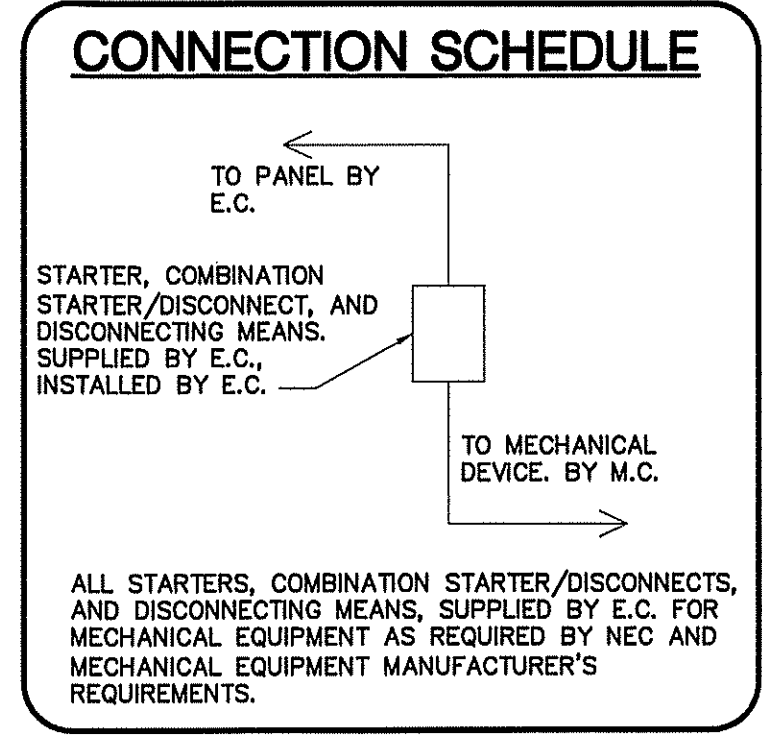
HVAC MECHANICAL PLAN
SCALE: 1/4" = 1'-0"

THIS FACILITY IS DESIGNED AS A WAREHOUSE FACILITY. IT IS NOT INTENDED TO BE USED AS VEHICLE PARKING, STORAGE OR REPAIR. THIS FACILITY WILL UTILIZE AN ELECTRIC FORK LIFT.

AIR HANDLER UNIT														SPLIT SYSTEM HEAT PUMP UNITS													
AHU NO.	MANUFACTURER	MODEL	VOLTAGE	E.S.P.	OUTSIDE AIR (CFM)	CFM	UNIT FLA	REF LINES		SEER/EER	HTR KW (208)	COOLING CAPACITY (MBH)		HEATING CAPACITY (MBH)		HSPF	MIN. CIRC. AMPACITY	M.O.C.P.	MARK	MANUF.	MODEL	VOLTAGE	# COMP.	MIN. CIRC. AMPACITY	M.O.C.P.	UNIT FLA	ACCESSORIES
								GAS	LIQ.			TOTAL	SENS.	HIGH	LOW												
AHU-1	TEMPSTAR	FHS091MAAA0A0	208/3/60	0.46	175	3000	39.6	1-3/4	1-1/8	11.0	11.3	88.84	68.78	87.0	42.0	3.3/2.4	46	50	HP-1	TEMPSTAR	CHS091HG0A0A04	208/3/60	SINGLE CIRCUIT 2 STAGE	35	50	28.25	EXCLUDE 8,18
AHU-2	TEMPSTAR	FXM4X3600AL	208/1/60	0.52	100	1070	29.3	3/4	3/8	15.0	6.1	27.3	21.5	27.6	16.7	9.5	45	45	HP-2	TEMPSTAR	N4H430GKP	208/1/60	1	19	30	14.7	EXCLUDE 8,18

* SEE OUTSIDE AIR CHART ON MECHANICAL SHEETS
 ** PROVIDE OUTDOOR THERMOSTAT TO LOCK OUT SUPPLEMENTAL ELECTRIC HEAT AT OUTDOOR TEMPERATURES ABOVE 40F.

- ACCESSORIES
- | | | |
|-------------------------------|---|--|
| 1 TIME-DELAY RELAY | 7 LIQUID SOLENOID VALVE | 13 DISCHARGE LINE MUFFLER |
| 2 CYCLE PROTECTOR | 8 LOW-AMBIENT CONTROLLER | 14 SUCTION AND LIQUID LINE SHUT OFF VALVES |
| 3 EVAPORATOR FREEZE PROTECTOR | 9 FILTER DRIER (LIQUID LINE) | 15 THERMOSTAT (SEE NOTE) |
| 4 ISOLATION RELAY | 10 OUTDOOR T-STAT TO LOCK OUT AUX. HT. (SET @ 40° F ADJ.) | 16 SUPPORT FEET |
| 5 TXV | 11 LOW PRESSURE CONTROL | 17 COIL GUARDS |
| 6 HIGH PRESSURE SWITCH | 12 CRANKCASE HEATER | 18 HUMIDISTAT |
- COOLING CAPACITY @ 80 DEG. F DB/67 DEG WB AIR ENTERING INDOOR UNIT & 95 DEG. F DB AIR ENTERING OUTDOOR UNIT
 HEATING CAPACITY: HIGH TEMP = 70 DEG F DB INDOOR EAT & 47 DEG F DB/43 DEG F WB AIR ENTERING OUTDOOR UNIT
 LOW TEMP = 70 DEG F DB INDOOR EAT & 17 DEG F DB/15 DEG F WB ENTERING OUTDOOR UNIT
- T-STAT: THE NUMBER OF STAGES OF HEATING/COOLING SHALL MATCH THE NUMBER OF STAGES OF HEAT AVAILABLE IN THE HPU OR THE NUMBER OF STAGES OF COOLING AVAILABLE IN THE HPOU. PROVIDE WITH T-STAT; 7 DAY PROGRAMMABLE, DIGITAL.

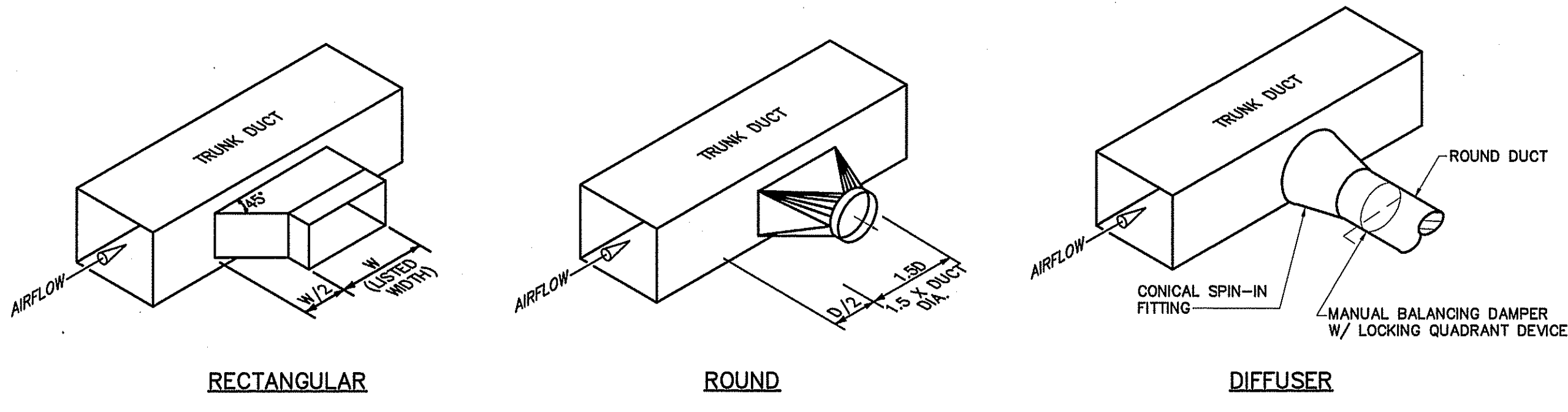


EXHAUST FAN SCHEDULE										
MARK	MAKE	MODEL	TYPE	CFM	EXTERNAL S.P. IN (W.G.)	WATTS	ELECTRICAL			NOTES
							VOLT	PH	HZ	
EF-1	GREENHECK	SP-B90	CEILING FAN	72	.25	21.1	115	1ø	60	PITCHED RR0F CAP. INSECT SCREEN W/BACK DRAFT DAMPER
EF-2	GREENHECK	SP-B150	CEILING FAN	154	.25	128	115	1ø	60	PITCHED RR0F CAP. INSECT SCREEN W/BACK DRAFT DAMPER

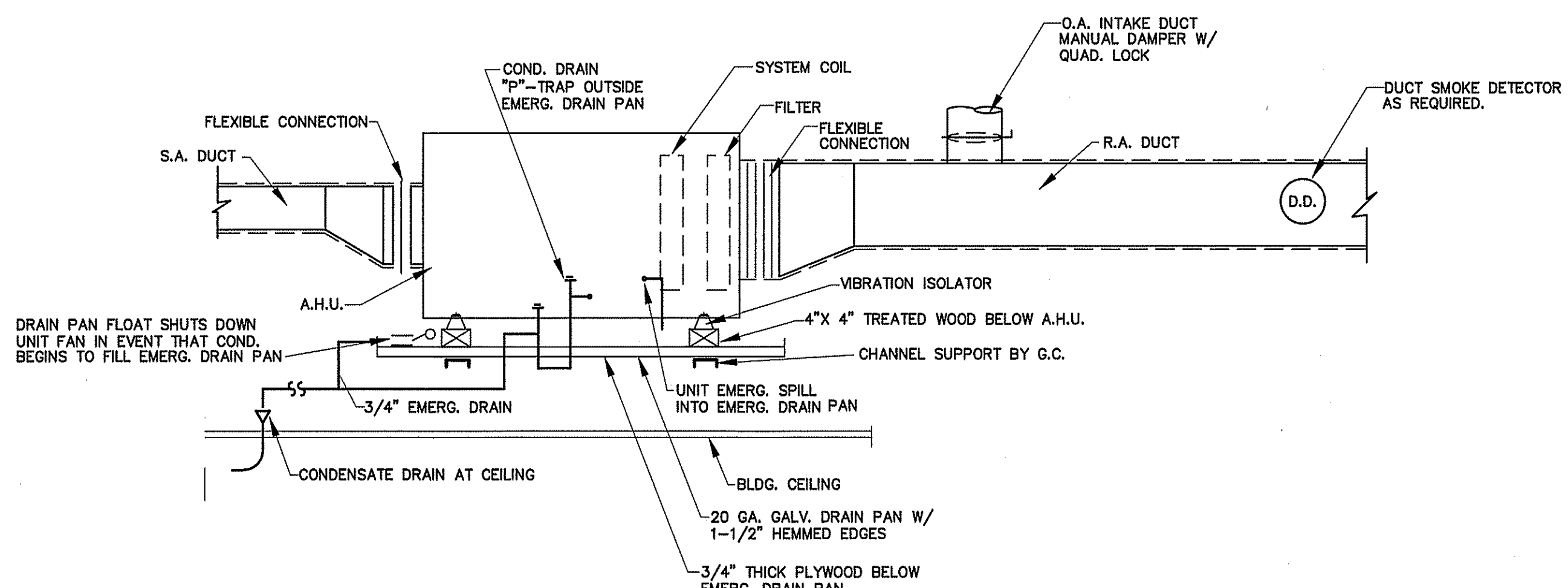
1. VERIFY ELECTRICAL REQUIREMENTS WITH MANUFACTURER AND ELECTRICAL CONTRACTOR BEFORE BEGINNING CONSTRUCTION.
 2. EF-2 THERMOSTATICALLY CONTROLLED.

LOUVER SCHEDULE					
MARK	DESCRIPTION	SERVES	CFM	APPROXIMATE OUTSIDE DIMENSIONS (W X H)	MODEL
L1	OUTSIDE AIR LOUVER	VARIES	*	18"X18"	HART & COOLEY 1530ZF 18X18 W/ INSECT SCREEN

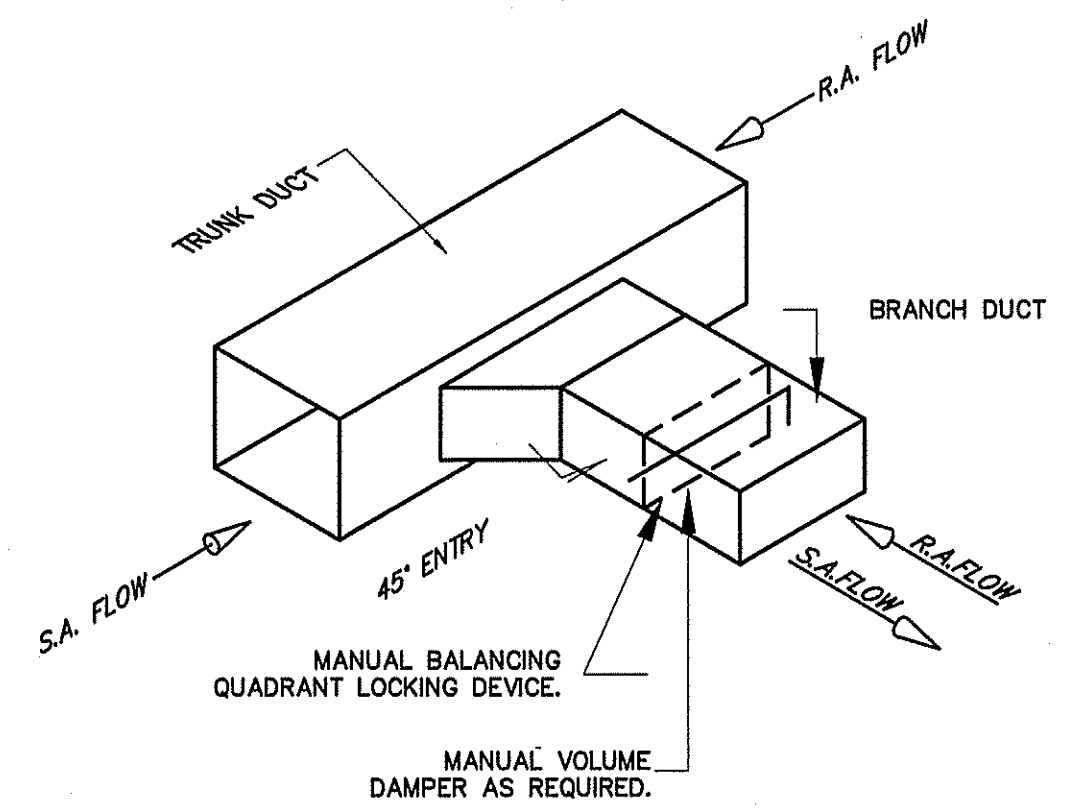
* SEE OUTSIDE AIR CHART ON MECHANICAL SHEETS



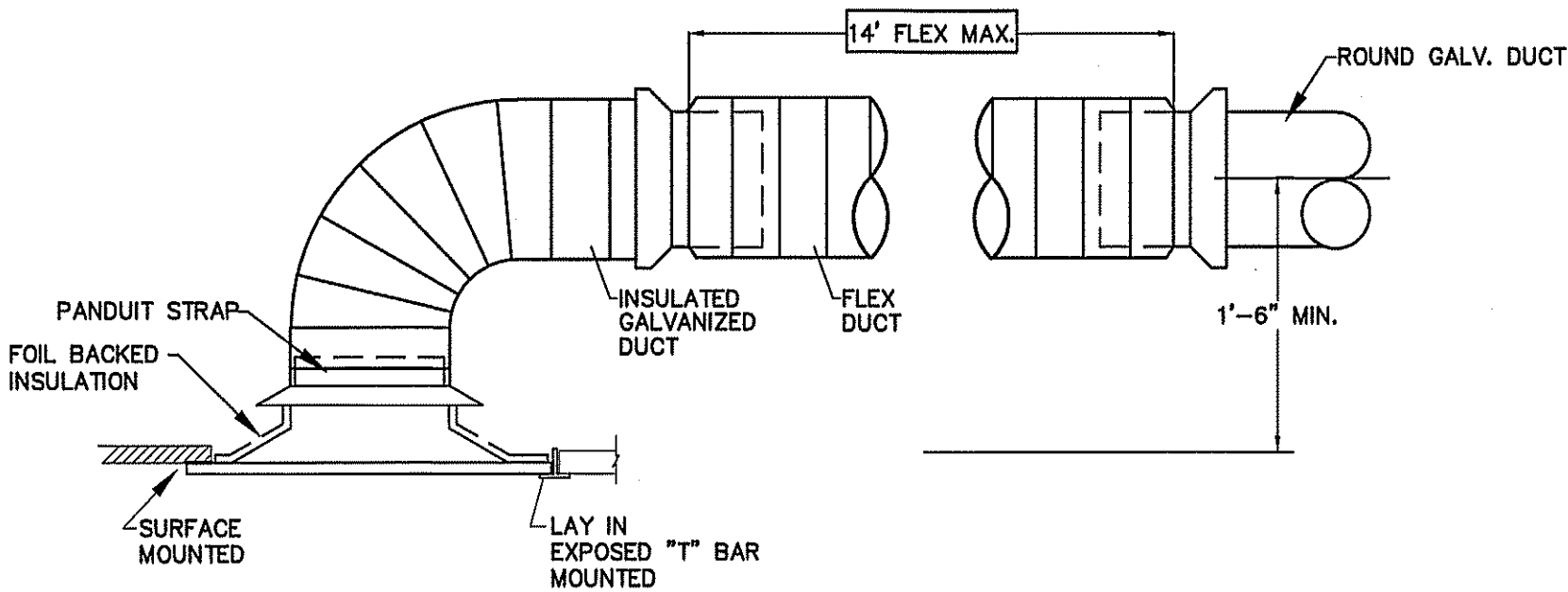
TYPICAL LATERAL TO REGISTER OR BRANCH DUCT
 NOT TO SCALE



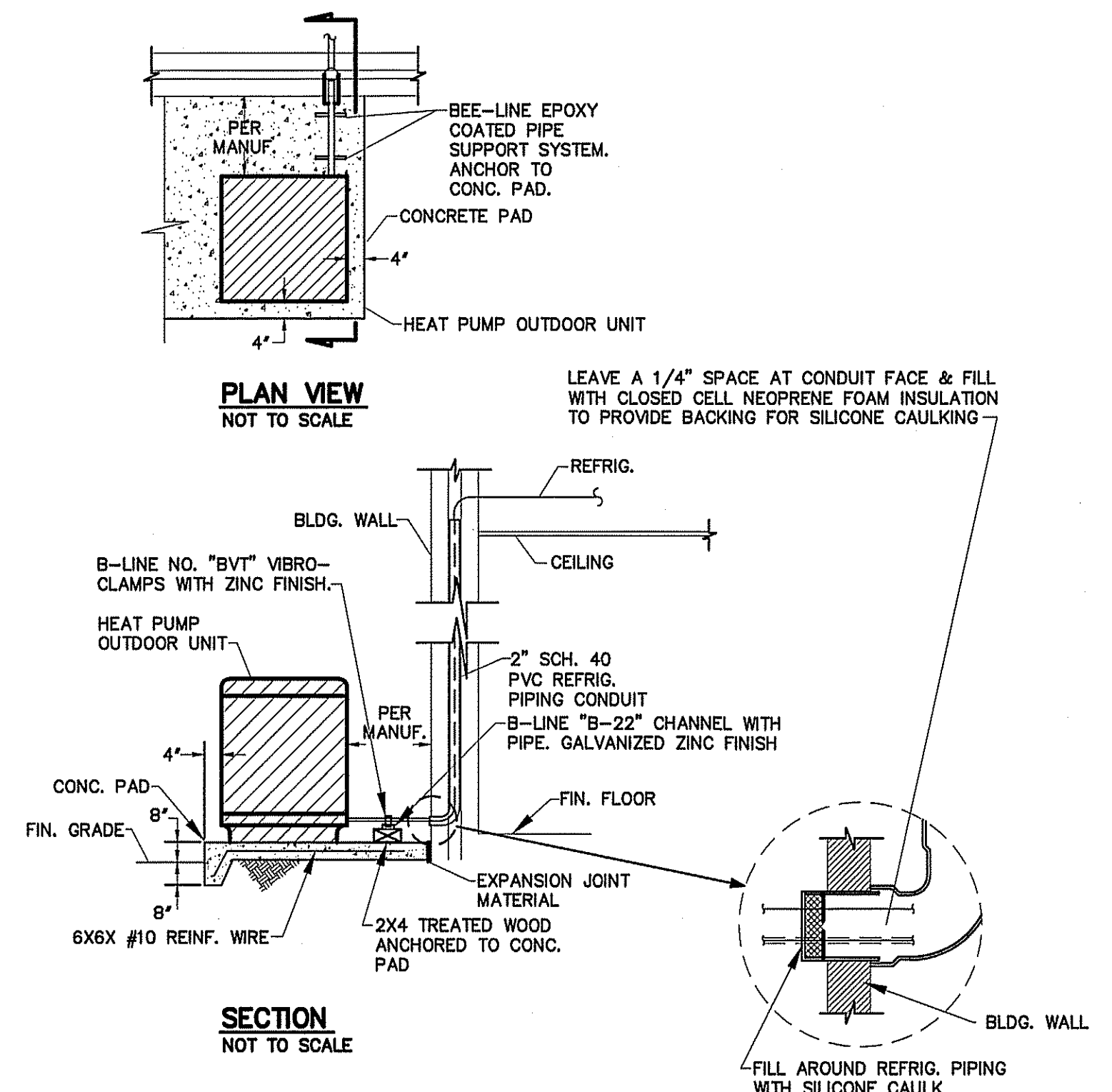
TYPICAL DETAIL AT AIR HANDLING UNITS
 NOT TO SCALE



BRANCH DUCT TAKE-OFF DETAIL
 NOT TO SCALE



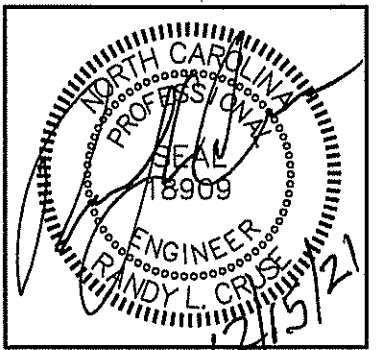
DETAIL-CEILING DIFFUSER CONNECTION
 NOT TO SCALE



DETAIL-TYPICAL HEAT PUMP OUTDOOR UNIT
 NOT TO SCALE

REGISTER, GRILLE, & DIFFUSER SCHEDULE										
MARK	DESCRIPTION	MAX. NC	NECK	BORDER TYPE	MODULE SIZE	MATERIAL	FINISH	MANUFACTURER	MODEL NUMBER	ACCESSORIES / NOTES
A	SPIRAL DUCT DIFFUSER	30	-	-	14" X 6"	ALUMINUM	MATCH DUCT	TITUS	US301FS	WITH EXTRACTOR
B	DIFFUSER 4 WAY	30	6" X 6"	LAY-IN	24" X 24"	STEEL	WHITE	TITUS	TDC 6X6 3 26 4	SQUARE TO ROUND
C	DIFFUSER 2 WAY	30	6" X 6"	LAY-IN	24" X 24"	STEEL	WHITE	TITUS	TDC 6X6 1 26 2	SQUARE TO ROUND
D	DIFFUSER 4 WAY	30	9" X 9"	LAY-IN	24" X 24"	STEEL	WHITE	TITUS	TDC 9X9 3 26 4	SQUARE TO ROUND
E	DIFFUSER 2 WAY	30	9" X 9"	LAY-IN	24" X 24"	STEEL	WHITE	TITUS	TDC 9X9 3 26 2	SQUARE TO ROUND
R1	RETURN GRILLE	30	14"X14"	SURFACE		STEEL	WHITE	TITUS	23RL 14X14 1 26	SQUARE TO ROUND
R2	RETURN GRILLE	30	10"X10"	LAY-IN	24" X 24"	STEEL	WHITE	TITUS	23RL 10X10 24X24 3 26	SQUARE TO ROUND

1. VERIFY CEILING TYPE BEFORE ORDERING, NARROW TEE REQUIREMENTS, PLASTER FRAMES ETC. TO BE INCLUDED WITH DIFFUSERS AT NO ADDITIONAL COST TO OWNER
 2. PROVIDE WITH FIRE DAMPER AT EACH RATED PENETRATION (RUSKIN MOD. CFD7T OR CFD87T)



PLANS FOR:
J & L MANUFACTURING
 252 JARCO DRIVE, FUGUAY VARINA, NORTH CAROLINA

REVISIONS	
NO.	

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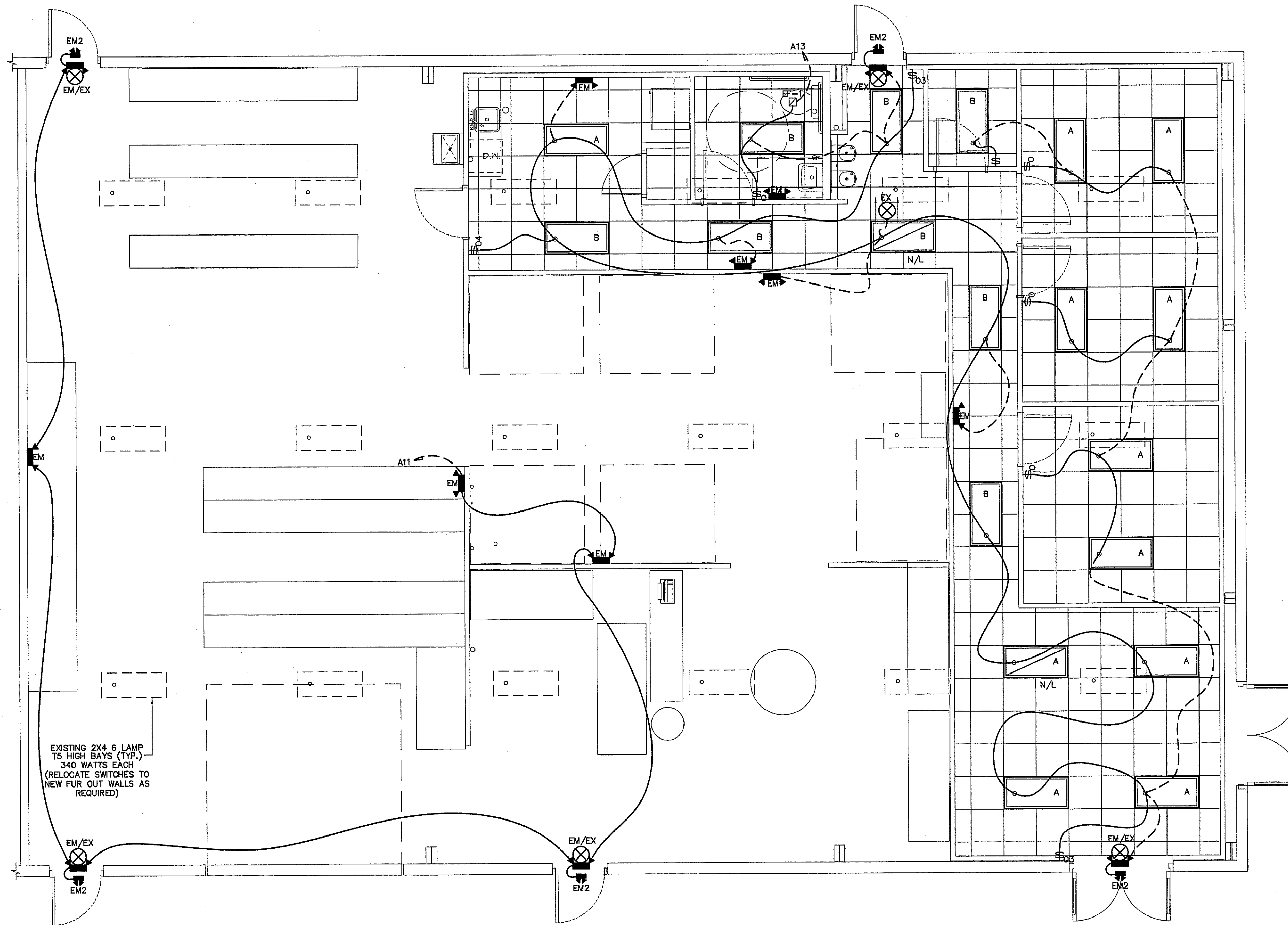
SHEET NO.
M-2 OF 2

LIGHT FIXTURE SCHEDULE							
MARK	DESCRIPTION	MANUFACTURER	CATALOG NUMBER	LAMPS	BALLASTS	WATTAGE	REMARKS
A	2X4 LED FLAT PANEL LAY-IN	LITHONIA	CPANL 2X4 40/50/60LM 35K-40LM	LED		42.0	INCLUDE WSX D DIMMING OCCUPANCY WALL SWITCH
B	2X4 LED FLAT PANEL LAY-IN	LITHONIA	CPANL 2X4 40/50/60LM 35K-40LM	LED		32.0	INCLUDE WSX D DIMMING OCCUPANCY WALL SWITCH
EM	EMERGENCY LIGHT WITH BATTERY BACKUP	MCPHILBEN	CAXR6L24WB				
EX	LED TYPE EXIT LIGHT WITH BATTERY BACKUP	MCPHILBEN	CXXL3RW				
EM2	EMERGENCY LIGHT REMOTE WEATHERHEAD(S)	MCPHILBEN	CR2CSWA				

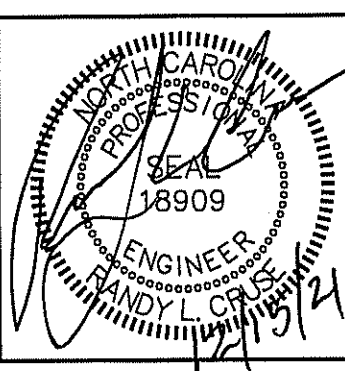
* ALL FIXTURE SELECTIONS TO BE VERIFIED BY OWNER BEFORE PURCHASE. *
 ** SIGN LETTERING TO BE ON TIMECLOCK OR PHOTOCCELL

LIGHTING DATA FOR N.C. ENERGY CODE					
AREA USE	AREA FT ²	WATTS PER FT ² ALLOWED	TOTAL WATTS ALLOWED	TOTAL WATTS USED	TOTAL WATTS LEFT OVER
STORAGE	3,750	2.2	8,250	6,816	1,434
TOTAL	8,000		8,250	6,816	1,434

ELECTRICAL LEGEND	
MARK	DESCRIPTION
⊕	QUAD RECEPTACLE
⊕	DUPLEX RECEPTACLE
T	TIMER WITH NO HOLD MECHANISM
⊕	CEILING MOUNTED DUPLEX RECEPTACLE
▭	FLUORESCENT FIXTURE
↪	SWITCHED BRANCH CIRCUIT
↪	UNSWITCHED BRANCH CIRCUIT
↪	120/208 VOLT CIRCUIT
\$M	MOTION DETECTING SINGLE-POLE SWITCH ON TIMER
⊗	'EXIT' LIGHT FIXTURE, TYPE 'EX'
⊕	BATTERY OPERATED EMERG. LT. (2-HEAD, WALL MTD.)
\$3(4)	MOTION DETECTING 3-WAY SWITCH (4-WAY SWITCH) WITH TIMER
⊕	FUSED DISCONNECT SWITCH
⊕	CEILING MOUNTED FUSED DISCONNECT SWITCH
△	TELEPHONE
⊕	JUNCTION BOX
\$	SINGLE POLE SWITCH OR TIMER AS APPLICABLE
▭	UNSWITCHED FIXTURE
\$O	OCCUPANCY SENSING SINGLE-POLE SWITCH NOT ON TIMER
⊕	DUPLEX RECEPTACLE
⊕	EMERGENCY LIGHT REMOTE WEATHERHEAD(S)



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



PLANS FOR:
J & L MANUFACTURING
 252 JARCO DRIVE, FUQUAY VARINA, NORTH CAROLINA

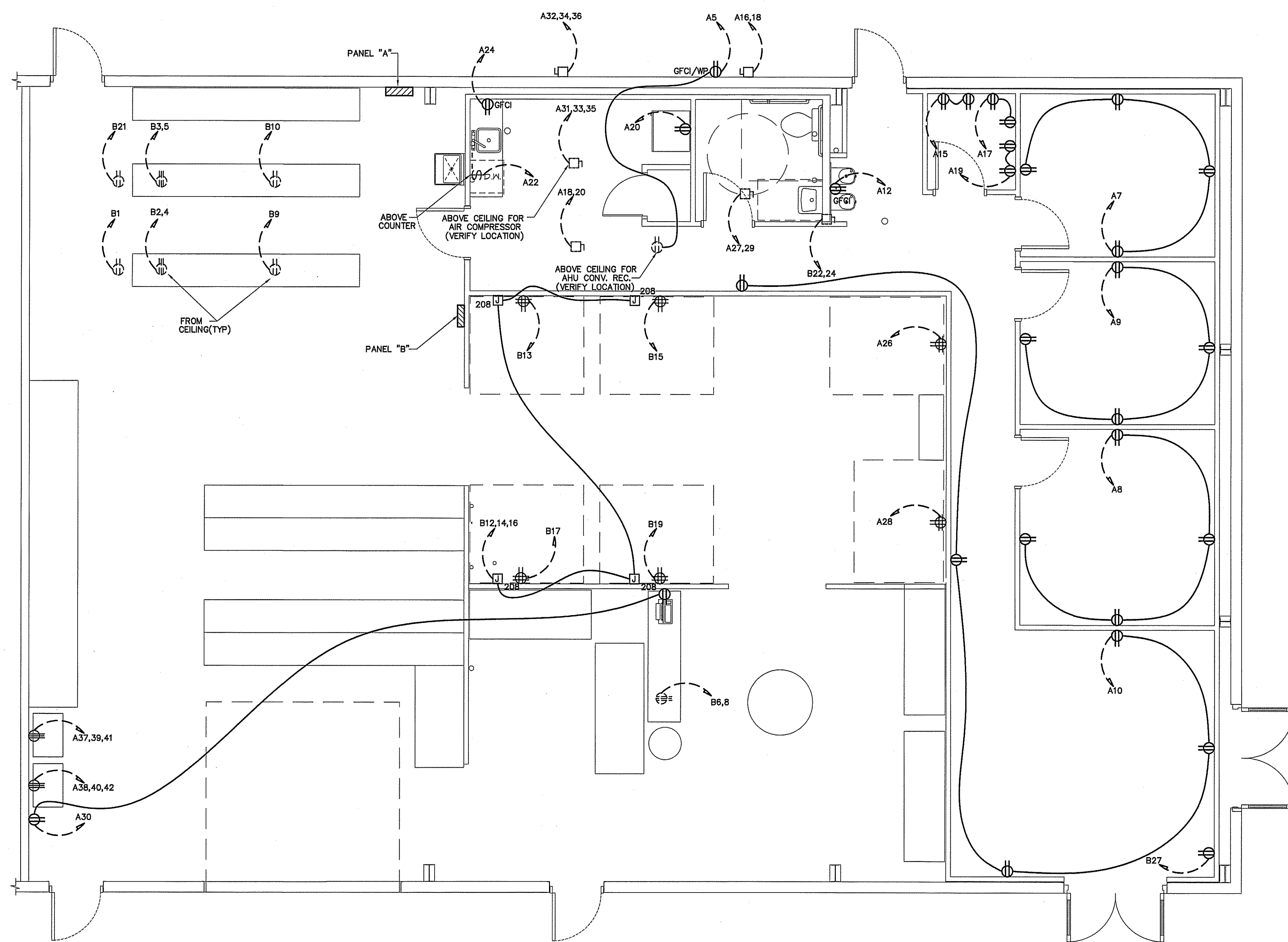
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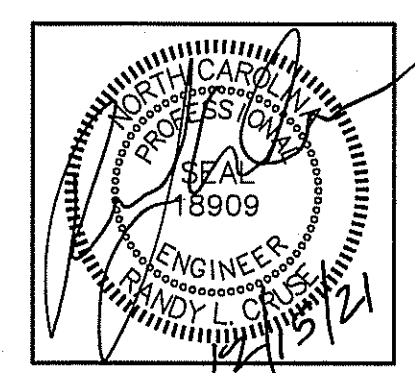
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 JOB NO. 21-54

SHEET NO.
E-1 OF 3



ELECTRICAL LEGEND	
MARK	DESCRIPTION
⊕	QUAD RECEPTACLE
⊕	DUPLEX RECEPTACLE
⊕	TIMER WITH NO HOLD MECHANISM
⊕	POWER TO EXTEND FROM CEILING FIELD VERIFY LOCATION
⊕	FLUORESCENT FIXTURE
↗	SWITCHED BRANCH CIRCUIT
↘	UNSWITCHED BRANCH CIRCUIT
↗	120/208 VOLT CIRCUIT
⊕	MOTION DETECTING SINGLE-POLE SWITCH ON TIMER
⊕	'EXIT' LIGHT FIXTURE, TYPE 'EX'
⊕	BATTERY OPERATED EMERG. LT. (2-HEAD, WALL MTD.)
⊕	MOTION DETECTING 3-WAY SWITCH (4-WAY SWITCH) WITH TIMER
⊕	FUSED DISCONNECT SWITCH
⊕	DISCONNECT SWITCH OVER BREAKROOM/KITCHENETTE
⊕	TELEPHONE
⊕	JUNCTION BOX
⊕	SINGLE POLE SWITCH OR TIMER AS APPLICABLE
⊕	UNSWITCHED FIXTURE
⊕	OCCUPANCY SENSING SINGLE-POLE SWITCH NOT ON TIMER
⊕	208V RECEPTACLE
⊕	EMERGENCY LIGHT REMOTE WEATHERHEAD(S)
⊕	3⌀ JUNCTION BOX WITH VOLTAGE

NOTES:
 1. COORDINATE DATA SYSTEM REQUIREMENTS AND OUTLET LOCATIONS WITH OWNER BEFORE BEGINNING CONSTRUCTION.
 2. VERIFY ALL EQUIPMENT LOCATIONS AND SPACE REQUIREMENTS BEFORE BEGINNING CONSTRUCTION.



PLANS FOR:
J & L MANUFACTURING
 252 JARCO DRIVE, FUQUAY VARINA, NORTH CAROLINA

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SHEET NO.
E-2 OF 3

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

EXISTING PANEL

PANEL: A SCHEDULE: _____ MANUFACTURER: SQ. D. NO. OF SPACES 42
 VOLTS: 120/208 AMPS: 400 TYPE: "NQOD" MOUNTING: SURFACE
 ENCLOSURE: NEMA 1 Ø: 3 SHORT CIRCUIT RATING: 22K
 MAIN: M.L.O.: TOP FEED: BOTTOM FEED: COPPER BUS: GROUND BAR KIT: NEUTRAL BAR KIT:

L1	L2	L3	CIRCUIT	POLES	TRIP	ASSIGNMENT	PHASE	ASSIGNMENT	TRIP	POLES	CIRCUIT	L1	L2	L3
12.8	*	*	1	1	20	LIGHTS	o	LIGHTS	20	1	2	12.8	*	*
*	12.8	*	3	1	20	LIGHTS	o	OUTSIDE LIGHTS	20	1	4	*	5.0	*
*	*	3.0	5	1	20	HVAC CONV. RECEPTACLES	o	LIGHTS	20	1	8	*	*	12.8
6.0	*	*	7	1	20	OFFICE #1 RECEPTACLES	o	CONFERENCE RM. RECEPTACLES	20	1	8	6.0	*	*
*	6.0	*	9	1	20	OFFICE #2 RECEPTACLES	o	ENTRY/CORRIDOR RECS.	20	1	10	*	7.5	*
*	*	2.0	11	1	20	EXT LIGHTS	o	DRINKING FOUNTAIN	20	1	12	*	*	5.6
7.0	*	*	13	1	20	LAY-IN CEILING LIGHTS	o	DOOR OPERATOR	20	1	14	10.0	*	*
*	3.0	*	15	1	20	IT SERVER ROOM RECEPTS.	o	HEAT PUMP UNIT #2	30	2	16	*	14.7	*
*	*	3.0	17	1	20	IT SERVER ROOM RECEPTS.	o		18	*	*	14.7	*	*
3.0	*	*	19	1	20	IT SERVER ROOM RECEPTS.	o	REFRIGERATOR	20	1	20	6.0	*	*
*	66.4	*	21	3	100	PANEL "B"	o	DISHWASHER	20	1	22	*	10.0	*
*	*	72.6	23				o	COUNTER RECEPTACLE	20	1	24	*	1.5	*
64.0	*	*	25				o	CUS. PANEL BUILD AREA RECS.	20	1	26	3.0	*	*
*	29.3	*	27	2	45	AIR HANDLING UNIT #2	o	CUS. PANEL BUILD AREA RECS.	20	1	28	*	3.0	*
*	*	29.3	29				o	TICKET PRINTER/RECEPTACLE	20	1	30	*	3.0	*
39.6	*	*	31	3	50	AIR HANDLING UNIT #1	o	HEAT PUMP UNIT #1	50	3	32	28.3	*	*
*	39.6	*	33				o		34	*	28.3	*	*	*
*	*	39.6	35				o		36	*	28.3	*	*	*
28.0	*	*	37	3	45	BATTERY CHARGER #1	o	BATTERY CHARGER #2	45	3	38	28.0	*	*
*	28.0	*	39				o		40	*	28.0	*	*	*
*	*	28.0	41				o		42	*	28.0	*	*	*

L1 = 256.5 A
 L2 = 281.6 A
 L3 = 271.4 A

NEW PANEL

PANEL: B SCHEDULE: _____ MANUFACTURER: SQ. D. NO. OF SPACES 42
 VOLTS: 120/208 AMPS: 200 TYPE: "NQOD" MOUNTING: SURFACE
 ENCLOSURE: NEMA 1 Ø: 3 SHORT CIRCUIT RATING: 22K
 MAIN: M.L.O.: TOP FEED: BOTTOM FEED: COPPER BUS: GROUND BAR KIT: NEUTRAL BAR KIT:

L1	L2	L3	CIRCUIT	POLES	TRIP	ASSIGNMENT	PHASE	ASSIGNMENT	TRIP	POLES	CIRCUIT	L1	L2	L3
10.0	*	*	1	1	20	WIRE PRE FED STATION	o	WRAPTOR LABELER	20	2	2	2.0	*	*
*	2.0	*	3	2	20	WRAPTOR LABELER	o		4	*	2.0	*	*	*
*	*	2.0	5				o	FOAM GUN	30	2	6	*	*	18.0
X	*	*	7	1	20	SPARE	o		8	18.0	*	*	*	*
*	2.5	*	9	1	20	CUTTER KAPPA 320	o	CUTTER KAPPA 330	20	1	10	*	4.3	*
*	*	X	11	1	20	SPARE	o	208V 3Ø TESTING CIRCUIT	20	3	12	*	*	11.0
3.0	*	*	13	1	20	VFD BUILD AREA 1 QUAD REC.	o		14	11.0	*	*	*	*
*	3.0	*	15	1	20	VFD BUILD AREA 2 QUAD REC.	o		16	*	11.0	*	*	*
*	*	3.0	17	1	20	VFD BUILD AREA 3 QUAD REC.	o	AIR COMPRESSOR	35	2	18	*	*	17.0
3.0	*	*	19	1	20	VFD BUILD AREA 3 QUAD REC.	o		20	17.0	*	*	*	*
*	10.0	*	21	1	20	WIRE PRE FED STATION	o	WATER HEATER	30	2	22	*	21.6	*
*	*	X	23	2	45	SPARE	o	SPARE	24	*	X	*	*	X
X	*	*	25	1	20	SPARE	o	SPARE	26	X	*	*	*	*
*	10.0	*	27	1	20	COPIER	o	SPARE	28	*	X	*	*	*
*	*	X	29	1	20	SPARE	o	SPARE	30	*	*	*	*	X
X	*	*	31	1	20	SPARE	o	SPARE	32	X	*	*	*	*
*	X	*	33	1	20	SPARE	o	SPARE	34	X	*	*	*	*
*	*	X	35	1	20	SPARE	o	SPARE	36	*	*	*	*	X
X	*	*	37	1	20	SPARE	o	SPARE	38	X	*	*	*	*
*	X	*	39	1	20	SPARE	o	SPARE	40	*	X	*	*	*
*	*	X	41	1	20	SPARE	o	SPARE	42	*	*	*	*	X

L1 = 64.0 A
 L2 = 66.4 A
 L3 = 72.6 A

ELECTRICAL SYSTEM AND EQUIPMENT METHOD OF COMPLIANCE:

ENERGY CODE: PRESCRIPTIVE PERFORMANCE
 ASHRAE 90.1: PRESCRIPTIVE PERFORMANCE

REFER TO DRAWINGS FOR RISER DIAGRAM AND PANEL SCHEDULES

LIGHTING SCHEDULE

LAMP TYPE REQUIRED IN FIXTURE: SEE SCHEDULE

NUMBER OF LAMPS IN FIXTURE:

BALLASTS TYPE USED IN FIXTURE:

NUMBER OF BALLASTS IN FIXTURE:

TOTAL WATTAGE PER FIXTURE:

TOTAL INTERIOR WATTAGE SPECIFIED VS. ALLOWED:

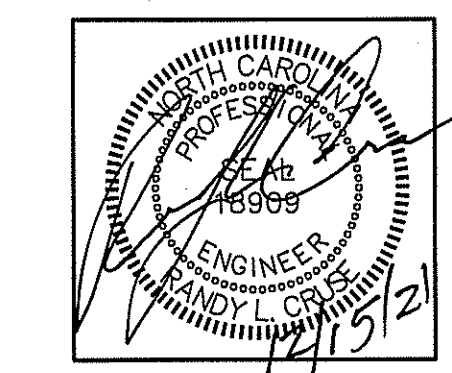
TOTAL EXTERIOR WATTAGE SPECIFIED VS. ALLOWED:

ADDITIONAL PRESCRIPTIVE COMPLIANCE

- 506.2.1 MORE EFFICIENT MECHANICAL 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

ELECTRICAL LOAD CALCULATIONS

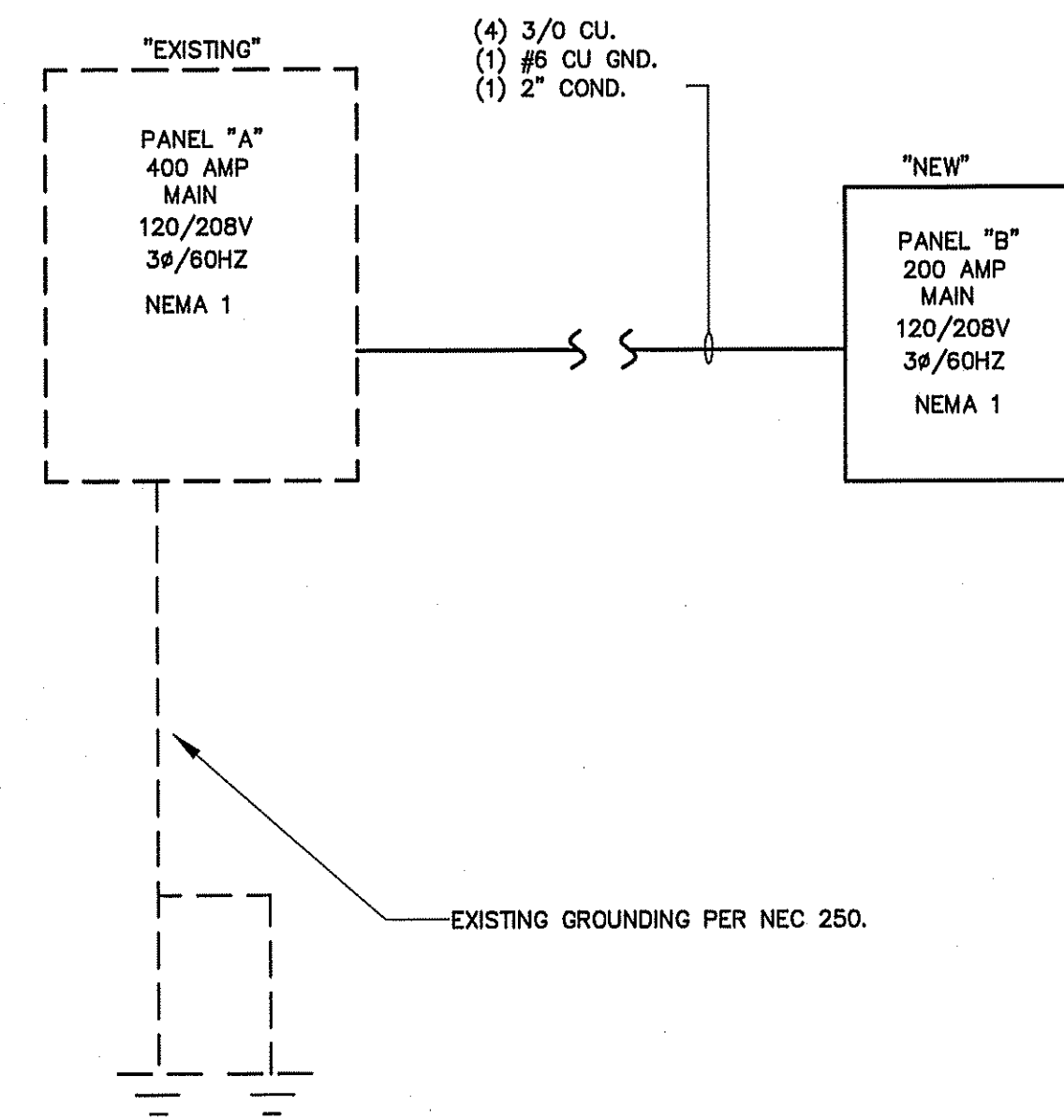
3,620 SQUARE FEET	VA
NONCONTINUOUS LOADS:	
33 RECEPTACLES @ 180 VA EA.	5,940
1ST 10000	5,940
REMAINDER @ 50%	0
TOTAL	5,940
CONTINUOUS LOADS:	
GENERAL LIGHTING LOAD VA/SQ. FT.	
3,620 SQ. FT. 1.9	6,878
6,878 x 1.25	8,598
AIR HANDLER UNIT	20,344
HEAT PUMPS	13,601
EQUIPMENT:	33,235
25% OF LARGEST MOTOR	2,635
GRAND TOTAL	64,353
235 AMPS @ 120/208V, 3Ø, 60HZ	



PLANS FOR:
J & L MANUFACTURING
 252 JARCO DRIVE, FUQUAY VARINA, NORTH CAROLINA

FEEDER SCHEDULE

UNIT	FEEDERS	FUSED DISCONNECT	CONDUIT
AHU-1	(3)#8CU,(1)#10CU GND	60	3/4"
AHU-2	(2)#8CU,(1)#10CU GND	60	3/4"
HP-1	(3)#8CU,(1)#10CU GND	60	3/4"
HP-2	(2)#10CU,(1)#12CU GND	60	3/4"
WATER HEATER	(2)#10CU,1#12CU GND	30	3/4"
AIR COMPRESSOR	(2)#10CU,1#12CU GND	60	3/4"
208V MOTOR TESTER	(3)#12CU,1#12CU GND	30	3/4"
BATTERY CHARGER	(3)#8CU,1#10CU GND	60	3/4"



ELECTRICAL RISER DIAGRAM
 NOT TO SCALE

NOTE:
 VERIFY AIC RATING & LUG SPACE WITH UTILITY COMPANY BEFORE ORDERING PANELS.

NOTE:
 MATCH NUMBER OF LUGS IN PANEL WITH NUMBER OF CONDUCTORS SHOWN.

ELECTRICAL NOTES (GENERAL)

1. THE ELECTRICAL INSTALLATION, EQUIPMENT, MATERIALS, AND WORKMANSHIP SHALL, AS A MINIMUM, BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC), OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA), ALL APPLICABLE FEDERAL, STATE, COUNTY, AND LOCAL CODES, LAWS, AND ORDINANCES, AND RULINGS OF THE INSPECTION AUTHORITIES HAVING JURISDICTION. ALL FEES, PERMITS, ETC., ASSOCIATED WITH THE ELECTRICAL WORK SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
2. THE DRAWINGS GENERALLY INDICATE THE WORK TO BE INSTALLED, BUT DO NOT SHOW ALL BENDS, BOXES, FITTINGS, AND SPECIALTIES WHICH MAY BE REQUIRED FOR A COMPLETE INSTALLATION. ALL SUCH ITEMS REQUIRED TO COMPLETE THE INSTALLATION ACCORDING TO INDUSTRY ACCEPTED PRACTICES SHALL BE INCLUDED IN THE BID.
3. ALL EQUIPMENT AND MATERIALS SHALL BE NEW AND LISTED AND LABELED BY UNDERWRITERS LABORATORIES, INC.
4. ALL PENETRATIONS OF FIRE WALLS SHALL BE SEALED WITH APPROVED SEALING MATERIALS TO MAINTAIN THE FIRE RATING OF THE WALLS.
5. THE CONTRACTOR SHALL VERIFY WIRE AND FUSE/CIRCUIT BREAKER SIZING FOR ALL MECHANICAL EQUIPMENT PRIOR TO PURCHASING MATERIALS AND INSTALLING BRANCH CIRCUITS.
6. THE ELECTRICAL CONTRACTOR SHALL COORDINATE ALL WORK WITH OTHER TRADES TO AVOID INTERFERENCES AND CONFLICTS. APPARENT INTERFERENCES OR CONFLICTS SHALL BE REPORTED TO THE PRIME CONTRACTOR AND RESOLVED PRIOR TO PROCEEDING WITH THE WORK IN QUESTION.
7. THE ELECTRICAL CONTRACTOR SHALL CONNECT BRANCH CIRCUITS TO THE MAIN LINE TERMINALS OF EQUIPMENT FURNISHED BY OTHER CONTRACTORS. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ANY NECESSARY SWITCHES, DISCONNECTS, OR OVERCURRENT PROTECTION AHEAD OF SUCH EQUIPMENT.
8. RACEWAYS ARE SHOWN SCHEMATICALLY AND MAY BE REROUTED IN THE FIELD. THEY SHALL BE INSTALLED AT RIGHT ANGLES TO OR PARALLEL WITH BUILDING LINES. THEY SHALL BE RUN CONCEALED WITHIN WALLS OR BUILDING STRUCTURES WHEREVER POSSIBLE.
9. ALL RACEWAYS, EQUIPMENT, ETC., ABOVE A SUSPENDED CEILING SHALL BE MOUNTED A MINIMUM OF 18" ABOVE THE CEILING SO AS NOT TO BLOCK ANY TILE OR FIXTURE ACCESS.
10. THE MINIMUM ALLOWABLE SIZE FOR ANY CONDUIT, IMC, OR EMT SHALL BE 1/2" AND MAY BE USED FOR 2#12 WIRE SWITCHLEGS ONLY. A SWITCHLEG SHALL BE DEFINED AS THE RUN OF CONDUIT FROM THE SWITCH OUTLET BOX TO THE FIRST OUTLET BEING SWITCHED.
11. FULL WEIGHT GALVANIZED RIGID STEEL CONDUIT SHALL BE USED IN THE FOLLOWING AREAS:
 - A. ON THE EXTERIOR OF THE BUILDING OR ROOF,
 - B. VERTICAL DROPS WHERE THE CONDUIT CANNOT BE ANCHORED TO WALLS OR OTHER SUPPORT STRUCTURES,
 - C. WHERE SUBJECT TO MECHANICAL DAMAGE.
12. ALL WIRE AND CABLE SHALL BE COPPER AND HAVE 600 VOLT THIN-THIN INSULATION. ALUMINUM WIRING SHALL NOT BE PERMITTED.
13. THE MINIMUM WIRE SIZE SHALL BE #12 AWG EXCEPT FOR CONTROL WIRING, WHICH MAY BE #14 AWG. CONTROL WIRING SHALL USE STRANDED CONDUCTORS UNLESS OTHERWISE NOTED.
14. ALL METAL RACEWAY SYSTEMS SHALL BE MADE ELECTRICALLY CONTINUOUS. THE RACEWAY SYSTEM SHALL NOT BE THE SOLE GROUNDING METHOD. AN INSULATED COPPER GROUNDING CONDUCTOR SHALL BE INSTALLED FOR ALL FEEDERS AND BRANCH CIRCUITS. AT RECEPTACLES, A GREEN GROUND CONDUCTOR SHALL BE CONNECTED TO THE GROUND TERMINAL OF THE RECEPTACLE.
15. THE ELECTRICAL CONTRACTOR SHALL COORDINATE FUSE AND DISCONNECT SWITCH SIZES WITH THE MECHANICAL EQUIPMENT SUPPLIER PRIOR TO PURCHASE AND INSTALLATION OF BRANCH CIRCUIT EQUIPMENT. IF EQUIPMENT SIZING CHANGES FROM DESIGN SIZES, CIRCUITS SHALL BE RESIZED ACCORDINGLY.
16. LIGHT FIXTURES FOR INSTALLATION IN A SUSPENDED CEILING SHALL BE SECURELY FASTENED TO THE CEILING SUSPENSION SYSTEM IN A MANNER TO PREVENT FIXTURES FROM FALLING. IN ADDITION, 16 GAGE WIRE HANGERS SHALL BE FASTENED TO THE FOUR CORNERS OF THE FIXTURES.
17. CONNECTIONS TO FIXTURES INSTALLED IN SUSPENDED CEILINGS SHALL BE MADE WITH FLEXIBLE METAL CONDUIT TO ALLOW THE FIXTURE TO BE LIFTED OUT OF THE GRID AND MOVED TO AN ADJACENT GRID LOCATION.
18. BREAKERS SUPPLYING HVAC OR REFRIGERATION EQUIPMENT SHALL BE HACR TYPE.
19. 3/4" CONDUIT IS MINIMUM ALLOWABLE SIZE EXCEPT AS INDICATED IN #10. CONDUIT FILL NOT TO EXCEED 40% AS PERMITTED BY THE NATIONAL ELECTRICAL CODE.
20. ALL CONDUCTORS TO BE INSTALLED IN CONDUIT (EXCEPT WHERE ROMEX IS INSTALLED). EMT FITTINGS TO BE COMPRESSION TYPE, INSULATED THROUGHOUT.
21. NOT USED
22. DATA, SECURITY, THEATRICAL, AND VIDEO SYSTEMS TO BE PROVIDED BY OWNER. ROUGH-IN OF OUTLETS AND CONDUIT WILL BE BY CONTRACTOR AS SHOWN ON DRAWINGS.
23. NOT USED
24. NO. 10 AWG CONDUCTORS SHALL BE USED FOR 20 AMP BRANCH CIRCUIT HOME RUNS EXCEEDING 50 FT. TO THE JUNCTION POINT. 20 AMP BRANCH CIRCUIT WIRING SHALL BE NO. 10 AWG THROUGHOUT IF THE CIRCUIT IS LONGER THAN 100 FEET TOTAL LENGTH.
25. CONDUCTORS SHALL BE CONTINUOUS FROM OUTLET TO OUTLET. SPLICES WILL NOT BE MADE EXCEPT WITHIN ACCESSIBLE OUTLET OR JUNCTION BOXES, TROUGHS, OR GUTTERS.
26. MAKE CONDUCTOR LENGTHS FOR PARALLEL CIRCUITS EQUAL.
27. INSTALL TELEPHONE OUTLETS WITH 3/4" EMPTY CONDUIT AND PULL CORD. STUB OUT ABOVE CEILING. PHONE SYSTEM INSTALLED BY OWNER.
28. ALL CONDUIT WITHOUT CONDUCTORS SHALL HAVE NYLON PULLCORDS INSTALLED.
29. THE CONTRACTOR SHALL MAKE A COMPLETE REVIEW OF THE PLANS, SCHEDULES, AND DETAILS PRIOR TO INSTALLATION, AND REVIEW ANY CONFLICTS THAT ARE NOTED WITH THE ENGINEER.
30. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FEES FOR PERMITS AND INSPECTIONS. THE CONTRACTOR WILL ALSO BE RESPONSIBLE FOR ELECTRICAL UTILITY CONNECTION FEES AND LINE EXTENSION FEES.
31. ELECTRICAL CONNECTIONS TO EQUIPMENT SUBJECT TO VIBRATION WHICH DEVELOPS OBJECTIONABLE NOISES SHALL BE MADE FROM THE CONDUIT SYSTEM WITH SHORT LENGTHS OF FLEXIBLE "LIQUID-TITE" CONDUIT.
32. ALL WIRE TERMINATIONS AND EQUIPMENT TO BE RATED FOR 75° C MINIMUM.
33. ELECTRICAL CONTRACTOR TO MAINTAIN 2" OF SEPARATION ON RECEPTACLES ON OPPOSITE SIDES OF ANY FIRE RATED WALL PER 2021 N.E.C. 300.21.
34. WIRING TO DISCONNECT SWITCH AND DISCONNECT SWITCH SHALL BE FURNISHED BY THE ELECTRICAL CONTRACTOR. WIRING FROM THE DISCONNECT TO THE EQUIPMENT SHALL BE BY THE MECHANICAL CONTRACTOR.

REVISIONS	
NO.	

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DATE 12/15/21
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 JOB NO. 21-54

SHEET NO.
E-3 OF 3