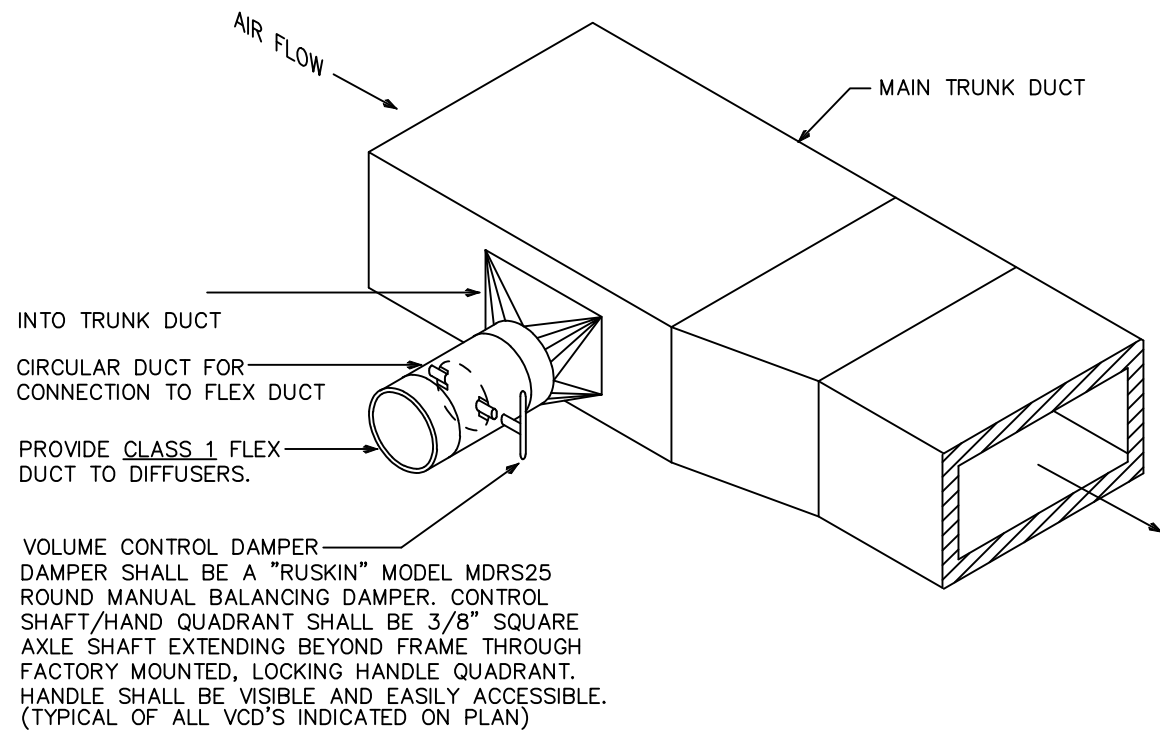
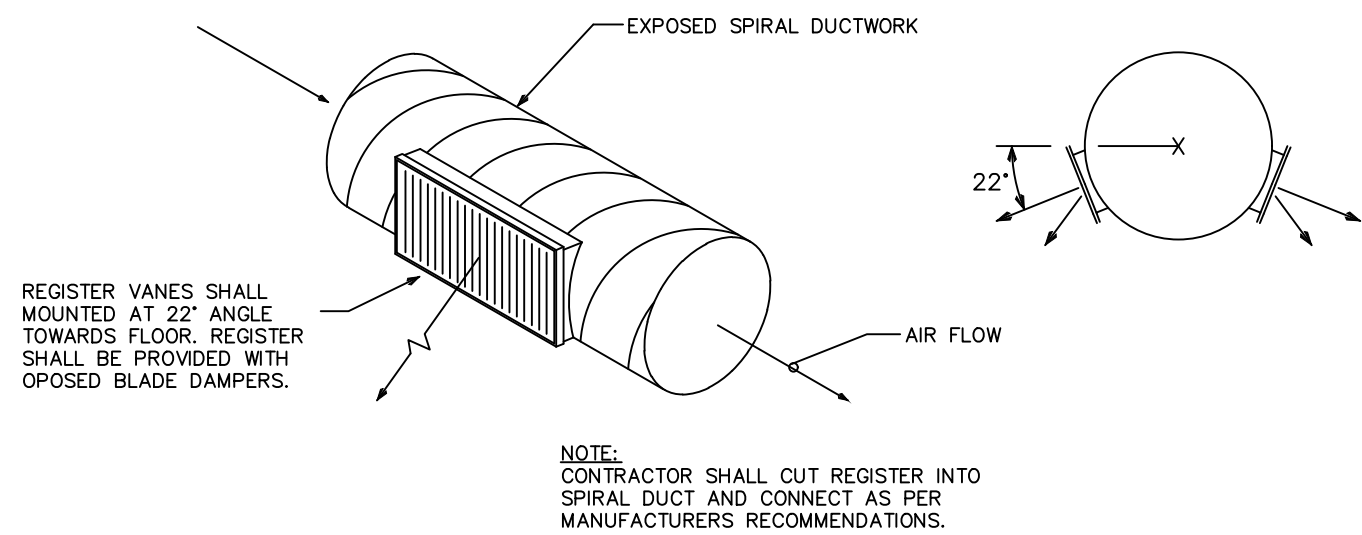




4 BRANCH DUCT DETAIL

NO SCALE



3 SPIRAL DUCT / REGISTER CONNECTION DETAIL

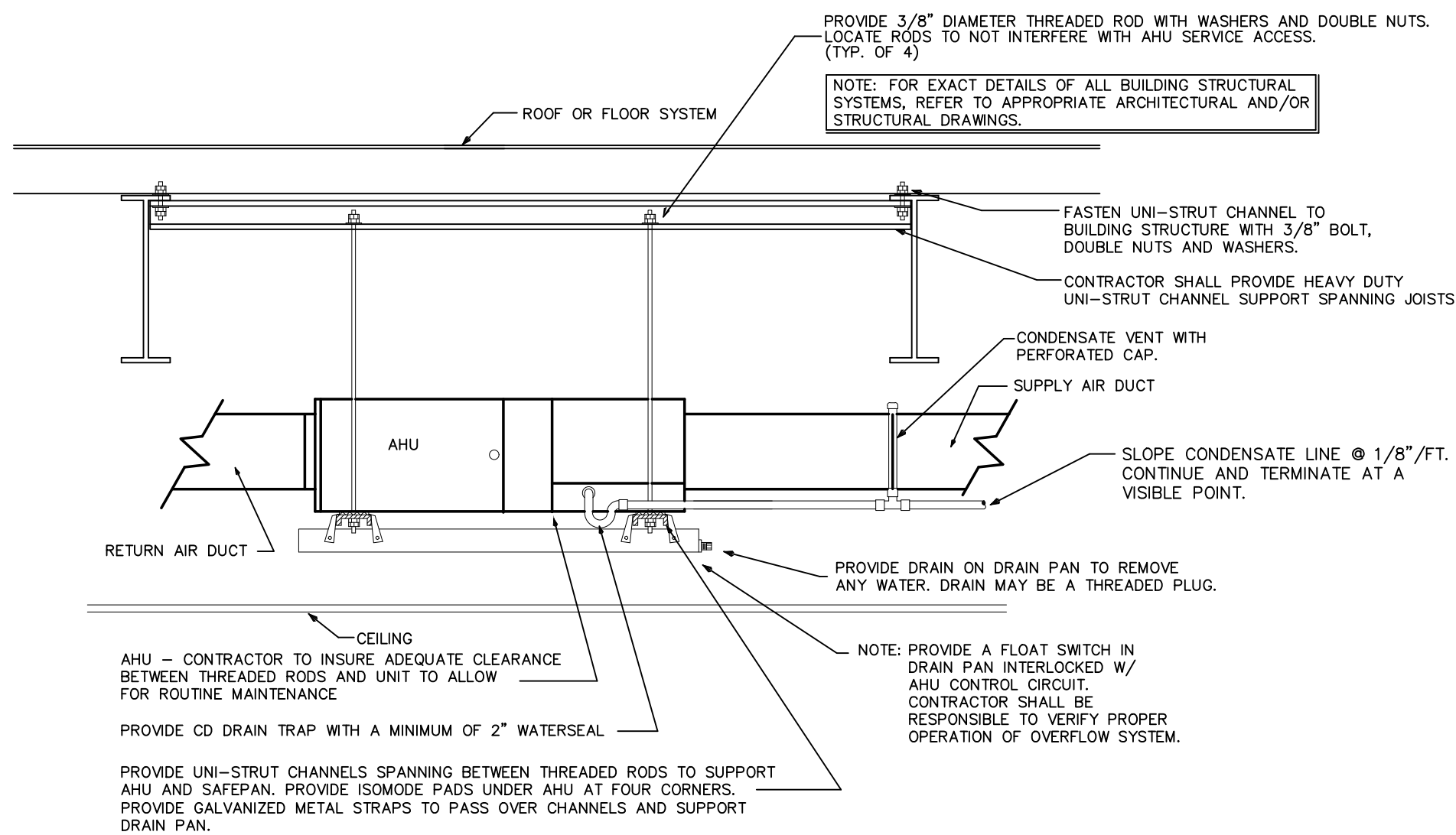
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H.V.A.C. ABBREVIATION LEGEND

A/C	AIR CONDITIONER	REV.	REVISION	A.H.U.	AIR HANDLING UNIT
D.N.	DOWN	N.T.S.	NOT TO SCALE	D.G.	DOOR GRILLE
EXH.	EXHAUST	MFG.	MANUFACTURER	F.I.D.	FIRE DAMPER
EXT.	EXTERIOR	R/A	RETURN AIR	DISP.	DISPOSABLE
E.F.	EXHAUST FAN	GR.	GRILLE	V.C.D.	VOLUME CONTROL DAMPER
A.F.F.	ABOVE FINISH FLOOR	C.D.	CEILING DIFFUSER	F/A	FRESH AIR
F.F.	FINISH FLOOR	REG.	REGISTER	S.P.	SAFE PAN
TYP.	TYPICAL	C.U.	CONDENSING UNIT	CD.	CONDENSATE DRAIN

SPECIFIC MECHANICAL NOTES

- RETURN AIR DUCT PLENUM SHALL BE FULL SIZE OF AHU RETURN AIR OPENING.
- REFRIGERANT GOOSENECK. REFER TO DETAIL ON SHEET M-2.



(AHU #2)

2 AIR HANDLING UNIT MOUNTING DETAIL

NO SCALE

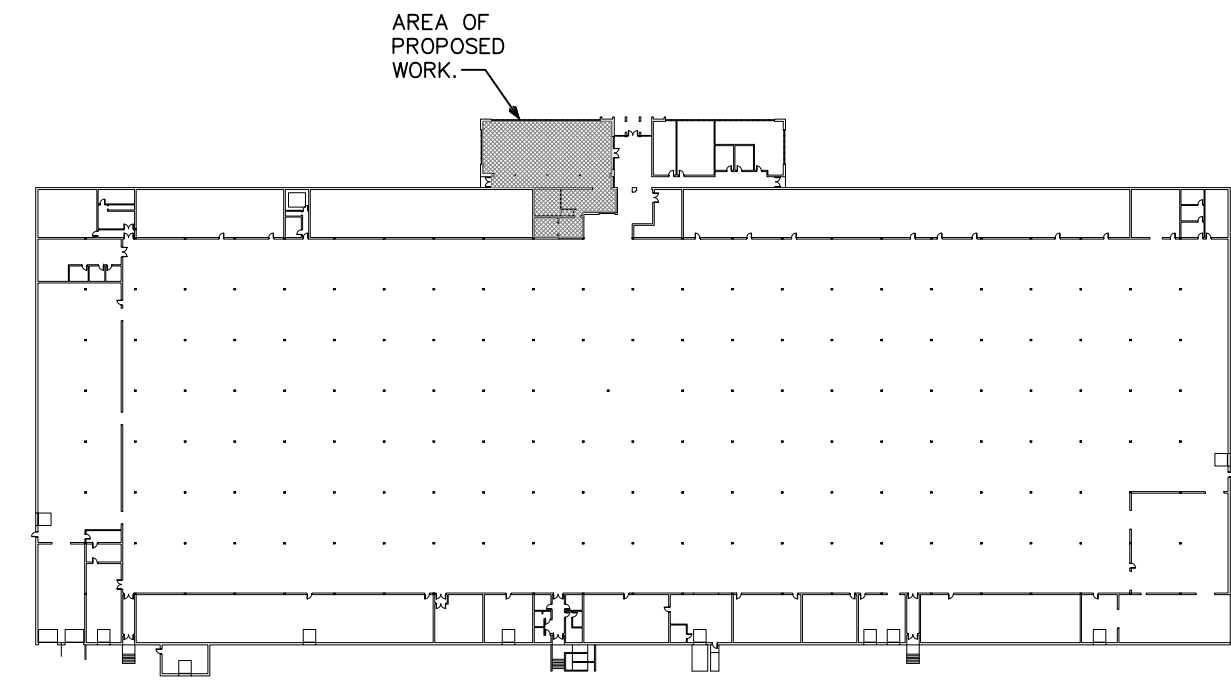
SUPPLY DIFFUSER SCHEDULE				
DESIGNATES LABEL FOR DIFFUSER TYPE		ALL DIFFUSERS ARE TO BE PROVIDED WITH OPPOSED BLADE DAMPERS UNLESS OTHERWISE SPECIFIED ON PLANS.		
DESIGNATES CFM QUANTITY FOR DIFFUSER				
LABEL	MANUFACTURER & MODEL NO.	NECK SIZE	CFM RANGE	REMARKS
A	TITUS TDC-AA	6"ø	0 - 125	12X12 LOUVERED FACE
B	TITUS TDC-AA	6"ø	0 - 125	24X24 LOUVERED FACE
C	TITUS TDC-AA	10"ø	205 - 325	24X24 LOUVERED FACE
D	TITUS TDC-AA	12"ø	330 - 500	24X24 LOUVERED FACE
E	TITUS PCS-AA	8"ø	130 - 200	24X24 PERFORATED FACE *
F	TITUS PCS-AA	12"x12"	330 - 750	24X24 PERFORATED FACE *
G	TITUS S300FS	18"x6"	250 - 400	DIRECT SPIRAL MOUNTED REGISTER

* PERFORATED SUPPLY DIFFUSERS SHALL BE PROVIDED WITH 4-WAY INTERNAL DEFLECTORS.

RETURN GRILLE SCHEDULE				
DESIGNATES LABEL FOR GRILLE TYPE		FILTER SHALL BE PROVIDED AT UNIT.		
DESIGNATES CFM QUANTITY FOR GRILLE				
LABEL	MANUFACTURER & MODEL NO.	NECK SIZE	CFM RANGE	REMARKS
1	TITUS 355FL	10X10	0 - 400	LOUVER FACE
2	TITUS 355FL	12X12	400 - 600	LOUVER FACE
3	TITUS 50FF	48x30	0 - 6000	SIDEWALL EGGRATE FACE

AIR BALANCE SCHEDULE					
OUTSIDE	OUTSIDE AIR	RETURN AIR	SUPPLY AIR	EXHAUST AIR	RESULTING PRESSURES
RTU #1	1490 (24%)	4510	6000		+1490
AHU #2	350 (26%)	950	1300		+350
EF-1 (TLT. RM.)				90	-90
EF-2 (TLT. RM.)				90	-90
EF-3 (OVEN)				500	-500
EF-4 (OVEN)				500	-500
EF-5 (OVEN)				500	-500
TOTAL	1840	5460	7300	1680	+160

NOTE: THIS IS AN EXISTING FACILITY WHICH HAS EXISTING DUCTWORK AND DISTRIBUTION SYSTEMS. ALTERATIONS TO EXISTING WORK BEING OF SUCH NATURE THAT ALL FACETS OF THE WORK ARE IMPOSSIBLE TO DETAIL AND SPECIFY. IT IS THEREFORE THE RESPONSIBILITY OF THE CONTRACTOR TO CAREFULLY EXAMINE THE EXISTING BUILDING AND FAMILIARIZE HIMSELF WITH THE CONDITIONS AND RELATE THESE CONDITIONS TO THE SCOPE OF THE PROPOSED NEW WORK. ALL BIDS ARE EXPECTED TO ENCOMPASS THE TOTAL WORK SCOPE NEEDED TO PLACE THE COMPLETED SYSTEM IN WORKING CONDITION.



KEY PLAN

NO SCALE



Section 1: Project Information

Energy Code: 2006 BCC
Project Title: New Construction

Owner: [Redacted]
Architect: [Redacted]
Mechanical Engineer: [Redacted]
Electrical Engineer: [Redacted]

Section 2: General Information

Building Location (for weather data): Port Leno, South Coast

Section 3: Mechanical Systems List

Quantity: [Redacted]

System Name & Description

1. HVAC System 1 (Single Zone) - Single Package Heat Pump

Heating Nameplate Capacity: 100,000 Btu/h

Heating Nameplate Efficiency: 10.0 EER

Heating Nameplate Efficiency: 10.0 EER

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Heating Nameplate Efficiency: 10.0 EER

HVAC SYMBOLS LEGEND

- THERMOSTAT, MTD +47" AFF
- EXHAUST FAN
- SECTION "A"- "A"
- REMOTE BULB SENSOR
- DUCT SMOKE DETECTOR
- TRANSITION
- TURNING VANE
- 45° BRANCH DUCT TAKE-OFF
- FIRE DAMPER
- VOLUME CONTROL DAMPER
- RETURN REGISTER
- SUPPLY DIFFUSER
- RETURN AIR GRILLE
- SUPPLY REGISTER
- DUCTWORK TRANSITION
- ROOF MTD. EXH. FAN
- DUCT TURN DOWN
- DUCT TURN UP
- FLEXIBLE DUCT

1 FLOOR PLAN - MECHANICAL

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

M-1

GENERAL MECHANICAL NOTES	
1.	THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY FOR THE INSTALLATION OF A COMPLETE SYSTEM IN ACCORDANCE WITH THESE DRAWINGS, THE APPLICABLE BUILDING CODE AND ALL OTHER APPLICABLE STATE, COUNTY AND LOCAL ORDINANCES AND THE LATEST ADDITION OF THE FOLLOWING PUBLICATIONS: SMACNA, ASHRAE, NFPA 90A, 90B, 91 & ANSI B-9.1. ALL DUCTWORK SHALL BE FABRICATED, INSTALLED AND SUPPORTED AS PER SMACNA STANDARDS.
2.	THE CONTRACTOR SHALL PAY ALL COSTS OF PERMIT, INSPECTIONS AND ALL OTHER COSTS INCIDENTAL TO THE COMPLETION AND TESTING OF THIS WORK.
3.	THE CONTRACTOR SHALL VISIT THE SITE AND COORDINATE WORK WITH OTHER TRADES TO INSURE AN ORDERLY PROGRESS OF THIS WORK.
4.	THE CONTRACTOR SHALL SUPPLY THE OWNER WITH ONE SET OF "AS-BUILT" DRAWINGS UPON COMPLETION OF THIS PROJECT. CONTRACTOR SHALL ALSO LEAVE FOR ONE AT LEAST ONE SET OF THE MANUFACTURER'S INSTALLATION AND OPERATIONS MANUALS FOR ALL EQUIPMENT PROVIDED ON THE PROJECT.
5.	ALL PROVIDED MATERIALS SHALL BE NEW OF GOOD QUALITY. ALL WORK SHALL BE PERFORMED IN A WORKMANLIKE MANNER BY SKILLED WORKMAN.
6.	CONTRACTOR SHALL SUBMIT, FOR APPROVAL FIVE (5) COPIES OF MANUFACTURER'S DRAWINGS FOR EACH PIECE OF EQUIPMENT AND CONTROLS INCLUDED IN CONTRACT. IT IS STRONGLY PREFERRED THAT THE SUBMITTALS BE MADE IN THE FORM OF AN ELECTRONIC SUBMITTAL IN A PDF TYPE FORMAT.
7.	ALL NEW SUPPLY AND RETURN AIR DUCTWORK SHALL BE GALVANIZED SHEET STEEL EXTERNALLY WRAPPED WITH WITH A MIN. OF R5 INSULATION OR R8 IF DUCTWORK IS LOCATED EXTERIOR TO BLDG INSULATION ENVELOPE. ALL FLEX DUCT SHALL BE "THERMOFLEX" WITH A MINIMUM 4.2 R VALUE, APPROVED EQUAL, AND SHALL HAVE EQUIVALENT INSULATION. * ALL EXPOSED ROUND DUCTWORK SHALL BE "SPIROSAFE" NON-INSULATED SINGLE WALL SPIRAL DUCTS AS MANUFACTURED BY LINDAB, INC. http://www.lindabusa.com OR APPROVED EQUAL.
8.	ALL EXHAUST DUCTS AND OUTSIDE AIR DUCTS SHALL BE GALVANIZED SHEET METAL WITH SEALED SEAMS AND JOINTS.
9.	DUCT SIZES SHOWN ARE INSIDE DIMENSIONS.
10.	ALL AIR DEVICES (DIFFUSERS, REGISTERS AND GRILLES) SHALL BE ALL ALUMINUM CONSTRUCTION WITH EXPOSED SURFACE OFF WHITE BAKED ENAMEL FINISH OR AS SPECIFIED BY ARCHITECT. DEVICES SHALL BE TITUS, METALEIRE, AIRGUIDE, PROVIDE OPPOSED BLADE DAMPERS IN ALL DIFFUSERS AND REGISTERS.
11.	THERMOSTAT SHALL BE COMBINATION COOLING/HEATING, WITH SYSTEM "COOL-AUTO-HEAT-OFF" AND FAN "ON-AUTO" SELECTOR SWITCHES. PROVIDE PROGRAMMABLE TYPE THERMOSTAT. * CONTRACTOR SHALL FULLY INSTRUCT OWNER ON HOW TO PROPERLY PROGRAM INSTALLED THERMOSTATS. * PROGRAMMABLE THERMOSTAT SHALL BE BY MANUFACTURER OF INSTALLED AIR HANDLING UNIT. IT IS RECOMMENDED THAT DURING OCCUPIED HOURS, THE FANS BE SET TO "ON" IN LIEU OF "AUTO". * THERMOSTATS SHALL BE MOUNTED A MAX. OF 48" A.F.F.
12.	REFRIGERANT LINES SHALL BE COPPER, TYPE "L" HARD DRAWN WITH WROUGHT COPPER SOLDER-JOINT TYPE FITTINGS, USE 95/5 SOLDER. REFRIGERANT LINES SHALL SIZED AS PER MANUFACTURER RECOMMENDATIONS.
13.	SPLIT SYSTEMS (IF APPLICABLE) SHALL HAVE A MINIMUM OF 1-1/2" ARMAFLEX INSULATION (OR APPROVED EQUAL) USED FOR SUCTION LINES. INSTALLATION SHALL BE AS PER MANUFACTURERS INSTRUCTIONS. PRE-INSULATED LINES SETS ARE ACCEPTABLE.
14.	ALL BRANCH TAKE-OFFS TO BE PROVIDED W/MANUAL VOLUME DAMPERS AND TAPS AS PER PLANS REQUIREMENTS.
15.	PROVIDE NEW FILTERS FOR ALL AIR CONDITIONING EQUIPMENT BEFORE STARTING THEM. REPLACE THEM PRIOR TO FINAL ACCEPTANCE BY OWNER.
16.	PROVIDE SMOKE DETECTORS WITH ACCESS DOORS IN ALL SUPPLY AIR DUCTS FOR FANS AND AHU'S SERVING A COMMON DESIGN SUPPLY OR RETURN PLENUM OF ABOVE 2000 CFM. ALL SMOKE DETECTORS SHALL BE BY ONE MANUFACTURER, COORDINATE VOLTAGE ETC. WITH ELECTRICAL CONTRACTOR AND FIRE ALARM SYSTEM BEFORE ORDERING. UPON DETECTION, SMOKE DETECTORS SHUT DOWN ASSOCIATED AIR MOVING EQUIPMENT AND ALL AIR MOVING EQUIPMENT SERVING THAT COMMON PLENUM.
17.	HVAC CONTRACTOR SHALL PROVIDE A TEST AND BALANCE REPORT FOR ALL MECHANICAL EQUIPMENT, AIR DEVICES, DAMPERS, AHU'S AND FANS. THE T & B SHALL BE IN ACCORDANCE WITH THE AIR BALANCE COUNCIL STANDARDS, AND SHALL INCLUDE AIR QUANTITIES FOR ALL SUPPLY GRILLS, RETURN GRILLS, AND EXHAUST GRILLS, AND THE LEAVING AND ENTERING AIR TEMPERATURE (T) FROM SUPPLY GRILLS AND EVAPORATORS.
18.	THERMOSTAT LOCATION SHALL BE APPROVED BY OWNER BEFORE INSTALLATION.
19.	ALL INSULATION SHALL HAVE FIRE/SMOKE RATING LESS THAN 25/50.
20.	MECHANICAL PLANS IN GENERAL, ARE DIAGRAMMATIC IN NATURE, AND ARE TO BE READ IN CONJUNCTION WITH ARCH. PLUMBING, ELECTRICAL AND STRUCTURAL PLANS AND SHALL BE CONSIDERED AS ONE SET OF DOCUMENTS. DUCT AND PIPING OFFSETS, BENDS AND TRANSITIONS WILL BE REQUIRED TO PROVIDE AND INSTALL A COMPLETE FUNCTIONAL SYSTEM AND SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
21.	CONTRACTOR SHALL INSTALL ALL OUTDOOR EQUIPMENT TO WITHSTAND WIND LOADING FORCES AS REQUIRED BY LOCAL CODES. REFER TO STRUCTURAL PLANS BY OTHERS FOR STRUCTURAL DETAILS.
22.	PROVIDE ALL NECESSARY CONTACTORS, RELAYS, ETC., FOR A COMPLETE OPERATING SYSTEM.
23.	THROUGHOUT THE COURSE OF THE WORK, MINOR CHANGES AND ADJUSTMENTS TO THE PLANS AND SPECIFICATIONS MAY BE REQUESTED BY THE TENANT. THE CONTRACTOR SHALL MAKE SUCH ADJUSTMENTS WITHOUT ADDITIONAL COST TO THE TENANT, WHERE SUCH ADJUSTMENTS ARE NECESSARY FOR THE PROPER INSTALLATION AND OPERATION OF THE SYSTEMS, AND WITHIN THE INTENT OF THE CONTRACT DOCUMENTS.
24.	NOTWITHSTANDING ANY OTHER PROVISIONS OF THE CONTRACT DOCUMENTS, THE CONTRACTOR BEARS ULTIMATE RESPONSIBILITY FOR COMPLIANCE OF THE INSTALLATION WITH THE REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION.
25.	IF ANY ERRORS, DISCREPANCIES OR OMISSIONS APPEAR IN THE DRAWINGS, SPECIFICATIONS OR OTHER CONTRACT DOCUMENTS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING OF SUCH ERROR OR OMISSION. IN THE EVENT OF THE CONTRACTOR FAILING TO GIVE SUCH NOTICE BEFORE CONSTRUCTION AND/OR FABRICATION OF THE WORK, HE WILL BE HELD RESPONSIBLE FOR THE RESULTS OF ANY SUCH ERRORS, DISCREPANCIES OR OMISSIONS AND THE COST OF RECTIFYING SAME.

ACUNTO ANGOLARE

ACUNTO NAPOLI OVENS

TOLL-FREE: 844-683-6462 WWW.FIREUPKITCHENS.COM

ACUNTO ANGOLARE 130

THE ORIGINAL NEAPOLITAN OVEN

Endorsed by the Vera Pizza Napoletana Association and esteemed by the greatest pizzaalos in Naples, the Acunto is *the* definitive Neapolitan pizza oven.

The Acunto family has built ovens for over 125 years, passing their expertise down through the generations to achieve the highest quality and most authentic hand-made brick oven.

TRADITION & TECHNOLOGY

The Acunto ovens are built to last, with incredible attention to materials and craftsmanship. Each oven is hand built by the Acunto artisans in their Naples workshop using native materials. With their low-dome and incredible heat retention, these ovens easily bake authentic Neapolitan pizza in seconds.

CLEARANCES:

Minimum clearance of the oven to combustible materials:
Top: 18"
Back & Sides: 1"

Maintain required air space clearance between oven and combustible enclosure.

Do not fill required air space with insulation or other materials.

Non-combustible flooring must extend out at least 36" from oven opening and at least 30" to each side of the opening.

BASIC SPECIFICATIONS:

Baking Surface: 51" ø

Oven Opening 8.75" x 17"

12" Pizza Capacity: 6 – 7 pizzas

Daily Preheat Time: 2 hours

Weight: 6,175 lb

External Width: 71"

External Depth: 75"

WARRANTY INFORMATION:

1 year warranty on internal refractory materials, including floor and dome. See warranty document for details.

Conforms to: UL 2162, NSF-4 Commercial Wood-Fired Baking Ovens – Refractory Type

File #MH48941

MADE IN ITALY

UL LISTED

NSF

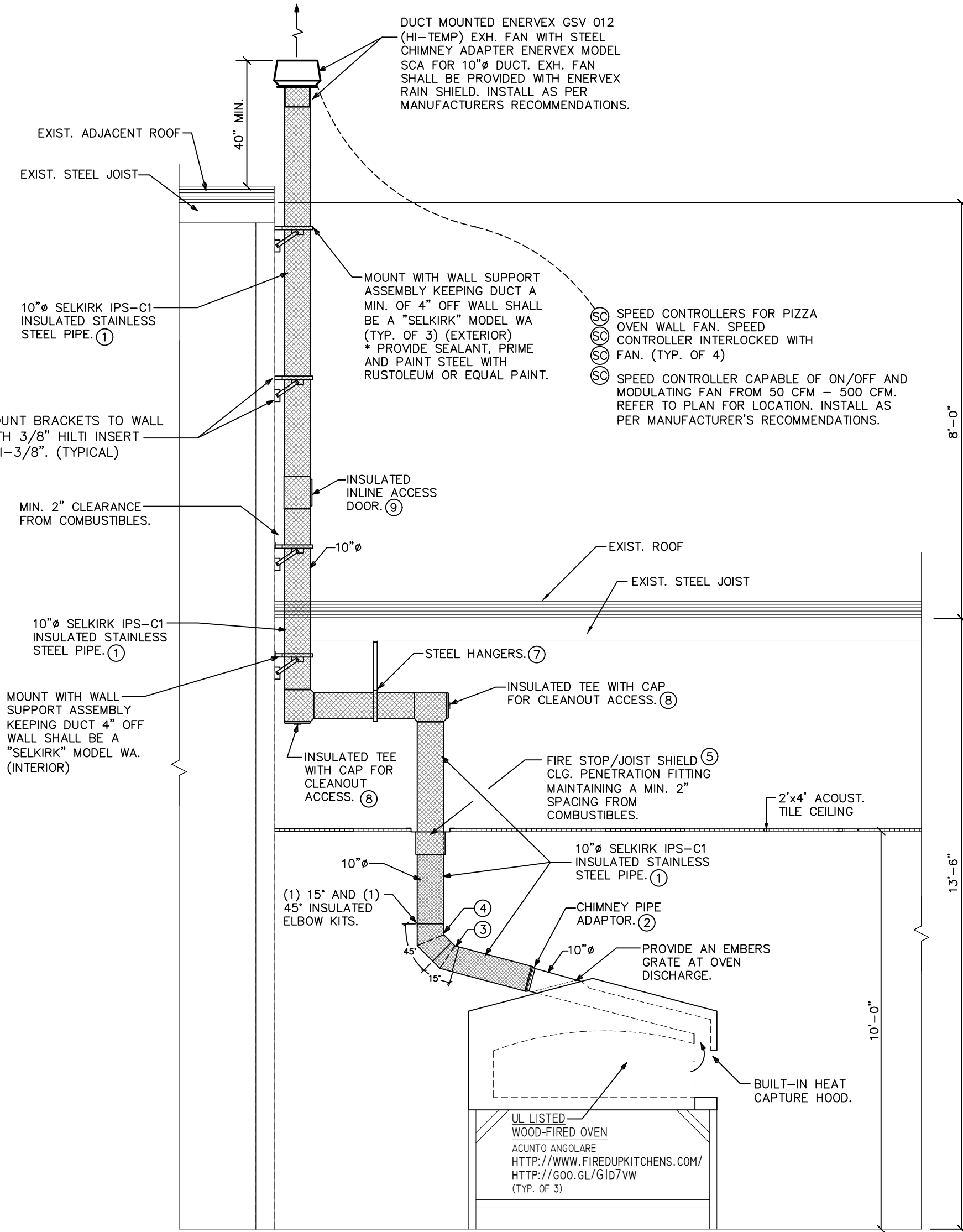
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OUTSIDE AIR CALCULATIONS									
THE FOLLOWING IS BASED ON ASHRAE STANDARD 62.1-2007 FOR OUTSIDE AIR REQUIREMENTS									
UNIT LABEL	OCCUPANCY CATEGORY	AREA	ESTIMATED MAX. OCCUPANCY	OUTSIDE AIR REQUIRED (CFM)	E _z	TOTAL	EXHAUST AIRFLOW RATE CFM/SQ. FT. 0.7 CFM/SQ. FT.		
RTU #1	DINING	1,950	112 PEOPLE AS PER ARCH. PLANS/7.5 CFM PER PERSON	(112 X 7.5) + (1,950 X .18) = 1,191 PEOPLE AREA TOTAL	0.8	1,191/0.8 = 1,488			
AHU #2	STORAGE	170	0.12 CFM PER SQ. FT.	(N/A) + (170 X .12) = 21 PEOPLE AREA TOTAL					
AHU #2	CORRIDOR	170	0.06 CFM PER SQ. FT.	(N/A) + (170 X .06) = 11 PEOPLE AREA TOTAL					
				AHU #2 SUB-TOTAL = 32	0.8	32/0.8 = 40			
AHU #2	KITCHEN	450	.75 CFM PER S.F.	(N/A) + (N/A)			450 X 0.7 = 315		
						AHU #2 TOTAL 40 + 315 = 347			

FAN SCHEDULE										
LABEL	TYPE OF UNIT – AREA SERVED	MANUFACTURER & MODEL NO.	CFM	SP	MOUNTING ARRANGEMENT	MOTOR H.P.	ENCLOSURE TYPE	RPM	VOLTAGE	NOTES
EF-1,2	CABINET FAN – REFER TO PLANS	PENN ZEPHYR Z6	90	.125"	CEILING MOUNTED	50 WATTS	OPEN DRIP PROOF	1055	115V/1ø	1,5
EF-3,4,5	AXIAL VANE FAN – REFER TO PLANS	ENERVEK GSV 012 (HI-TEMP)	500	.4"	ROOF MOUNTED	1/8	OPEN DRIP PROOF	1600	120V/1ø	1,2,3,4
NOTES: 1) REFER TO ELECTRICAL PLANS FOR CONTROL.										
2) PIZZA OVEN FAN. PRODUCT INFORMATION FOR THIS FAN: http://www.enervexfansource.com/pizzaovenfans.htm						EF- 3,4,5 FAN INFO: http://goo.gl/uS28o3				
EXHAUST FAN ETL listed to:						EF- 3,4,5 FAN CONTROL INFO: http://goo.gl/pM6b8v				
UL705 – Standard for Power Ventilators										
UL762 – Standard for Power Roof Ventilators for Restaurant Exhaust Appliances.										
ULC-S645-93 – Standard for Power Roof Ventilators and Commercial and Institutional Kitchen Exhaust Systems.										
* FOR INSTALLATION SUPPORT, CONTACT ENERVEK REP., VICK WITH VOLKO SUPPLY – 1-800-685-8263										
3) FAN TO BE PROVIDED WITH OPTIONAL 5 AMP SPEED CONTROLLER. ENERVEK MODEL FSC. SEE PLANS FOR LOCATION. INSTALL AS PER MANUFACTURER'S RECOMMENDATIONS.										
4) FAN TO BE PROVIDED WITH OPTIONAL ENERVEK RAIN SHIELD. INSTALL AS PER MANUFACTURERS RECOMMENDATIONS.										
5) PROVIDE A 277V TO 120V STEPDOWN TRANSFORMER EQUAL TO A ELCO MODEL ETR-277. 300VA RATED CAPACITY. HVAC CONTRACTOR TO PROVIDE, ELECTRICIAN TO INSTALL.										

ROOFTOP PACKAGE HEAT PUMP WITH BACK UP ELECTRICAL HEAT													INTEGRATED SUPPLEMENTAL ELECTRIC HEATING														
SYS. LABEL	MANUFACTURER	MODEL NO.	TOTAL CAPACITY COOLING	SENSIBLE CAPACITY COOLING	TOTAL CAPACITY HEATING	TOTAL CFM	O/A CFM	E.S.P.	FAN SPEED	COMP. RLA	OUTDOOR FAN FLA	INDOOR FAN HP	VOLTAGE	MOCP	EER	WEIGHT	HEATER KW	VOLTAGE	NOTES								
RTU #1	CARRIER	50TCQD17A2A6-0A0A0	179,600	130,500	169,000	6,000	SEE SCH.	.50"	809	(2)Ø12.2	(3)Ø9.9	2.0 HP	480V/3ø	100A	10.8	2,366 lbs.	45.9	480V/3ø	1 THRU 10								
GENERAL NOTES:						ABBREVIATION LEGEND:						SPECIFIC NOTES:						SEQUENCE OF OPERATION FOR HEATING									
* ALL RATINGS ARE AT ARI ENTERING CONDITIONS UNLESS OTHERWISE NOTED.						O/A – OUTSIDE AIR						MOCP – MAX. OVERCURRENT PROTECTION (DUAL ELEMENT TYPE FUSE)						1) FACTORY ROOF CURB WITH THRU THE CURB SERVICE CONNECTION.						FIRST STAGE			
* EXTERNAL STATIC PRESSURE DOES NOT INCLUDE COIL OR FILTER PRESSURE DROP.						HP – HORSE POWER						E.S.P. – EXTERNAL STATIC PRESSURE						2) OUTDOOR AIR MANUAL OR TO 30% DAMPER.						WHEN THE THERMOSTAT CALLS FOR HEATING, THE INDOOR FAN MOTOR, OUTDOOR FAN MOTORS AND THE COMPRESSOR (FULLY LOADED) ARE ENERGIZED. THE REVERSING VALVE SOLENOID IS ENERGIZED IN THE HEATING MODE.			
* APPROVED EQUALS SHALL BE TRANE, LENNOX AND YORK. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VERIFY THAT ANY CLEARANCE REQUIREMENTS ARE MET FOR ANY SUBSTITUTIONS.						RLA – RUNNING LOAD AMPS						EER – ENERGY EFFICIENCY RATIO						5) FILTER DOOR ACCESS PANEL KIT.						SECOND STAGE IF ADDITIONAL HEAT IS REQUIRED, THE ELECTRIC HEAT SHALL BE ENERGIZED.			
						FLA – FULL LOAD AMPS						SEER – SEASONAL ENERGY EFF. RATIO						6) PROVIDE (1) YEAR WARRANTY ON ALL PARTS AND LABOR AND (5) YEAR WARRANTY ON COMPRESSOR.									
																		7) PROVIDE 1" FARR 30/30 THROWAWAY FILTERS. (1) SET DURING CONSTRUCTION AND (1) SET AFTER FINAL INSPECTION.									
																		8) PROVIDE ALL NECESSARY CONTACTORS, RELAYS, MOTOR STARTERS, ETC. FOR A COMPLETE OPERATING UNIT.									
																		9) CONTRACTOR SHALL INSTALL ALL OUTDOOR EQUIPMENT TO WITHSTAND WIND LOADING FORCES AS REQUIRED BY LOCAL CODES. REFER TO STRUCTURAL PLANS BY OTHERS FOR STRUCTURAL DETAILS.									
																		10) UNIT SHALL BE PROVIDED WITH FACTORY INSTALLED ECONOMIZER. MOTORIZED OUTSIDE AIR DAMPER SHALL AUTOMATICALLY SHUT WHEN THE SYSTEMS OR SPACES SERVED ARE NOT IN USE. VENTILATION OUTSIDE AIR DAMPERS SHALL BE CAPABLE OF AUTOMATICALLY SHUTTING OFF DURING PREOCCUPANCY BUILDING WARMUP, COOLDOWN, AND SETBACK.									

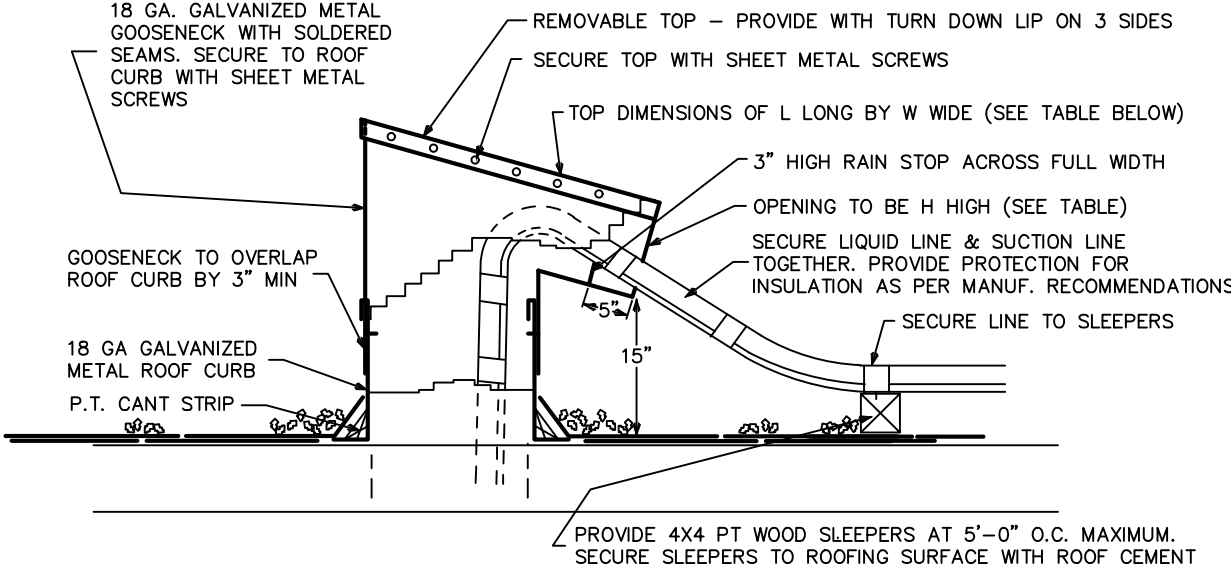
AIR COOLED HEAT PUMP SCHEDULE											AIR HANDLING UNIT						INTEGRATED ELECTRIC HEATING							
HEAT PUMP																								
CU LABEL(S)	MANUFACTURER & MODEL NO.	TOTAL CAPACITY COOLING	SENSIBLE CAPACITY COOLING	TOTAL CAPACITY HEATING	COMP. RLA	FAN FLA	VOLTAGE	MOCP	SEER	WEIGHT	AHU LABEL(S)	MANUFACTURER & MODEL NO.	TOTAL CFM	O/A CFM	E.S.P.	BLOWER SPEED	FAN HP	VOLTAGE	WEIGHT	HEATER KW	VOLTAGE	NOTES		
CU #2	CARRIER 25HCD348A006	47,090	33,750	44,400	6.2	0.70	480V/3ø	10A	13.5	208 lbs.	AHU #2	CARRIER FX4DNF049L00	1,400	SEE SCH	0.4"	HIGH	3/4 HP	208V/1ø	185 lbs.	8.0 K.W.	480/3ø	1 THRU 6		
GENERAL NOTES: * ALL RATINGS ARE AT ARI ENTERING CONDITIONS UNLESS OTHERWISE NOTED. * PROVIDE VIBRATION ISOLATION FOR UNITS. * EXTERNAL STATIC PRESSURE DOES NOT INCLUDE COIL OR FILTER PRESSURE DROP. * CONTRACTOR MAY SUBSTITUTE MANUFACTURER FOR APPROVED EQUAL. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VERIFY THAT ANY CLEARANCE REQUIREMENTS ARE MET FOR ANY SUBSTITUTIONS.					ABBREVIATION LEGEND: O/A – OUTSIDE AIR HP – HORSE POWER RLA – RUNNING LOAD AMPS FLA – FULL LOAD AMPS					MOCP – MAX. OVERCURRENT PROTECTION (DUAL ELEMENT TYPE FUSE) E.S.P. – EXTERNAL STATIC PRESSURE EER – ENERGY EFFICIENCY RATIO SEER – SEASONAL ENERGY EFF. RATIO					SPECIFIC NOTES: 1) SIZE AND RUN REFRIGERANT PIPING AS PER MANUFACTURERS PUBLISHED RECOMMENDATIONS. 2) INSULATE REFRIGERANT SUCTION LINE WITH 3/4" ARMAFLEX OR APPROVED EQUAL. 3) INSTALL FILTER DRYER AND STRAINER IN REFRIGERANT LIQUID LINE. 4) PROVIDE FIELD INSTALLED ACCESSORIES AND 5 MINUTE TIME DELAY SWITCH. 5) PROVIDE 5 YEAR WARRANTY ON COMPRESSOR AND 1 YEAR WARRANTY ON ALL PARTS AND LABOR. 6) PROVIDE SINGLE POINT POWER CONNECTION WITH INTEGRAL OVERCURRENT PROTECTION DEVICE.					SEQUENCE OF OPERATION FOR HEATING FIRST STAGE WHEN THE THERMOSTAT CALLS FOR HEATING, THE INDOOR FAN MOTOR, OUTDOOR FAN MOTORS AND THE COMPRESSOR (FULLY LOADED) ARE ENERGIZED. THE REVERSING VALVE SOLENOID IS ENERGIZED IN THE HEATING MODE. SECOND STAGE IF ADDITIONAL HEAT IS REQUIRED, THE ELECTRIC HEAT SHALL BE ENERGIZED.				



(TYPICAL FOR EACH OVEN)

WOOD-BURNING OVEN EXHAUST SYSTEM DETAIL

1 NO SCALE

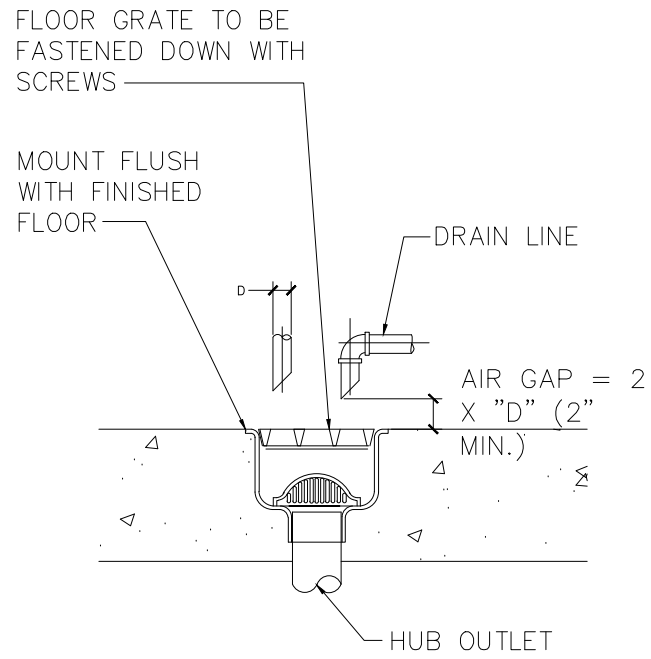


# OF R-22 LINES	L	W	H
1-4	18	12	8
5-10	18	14	10
11-15	22	18	12
16-22	24	24	14

REFRIGERANT GOOSENECK DETAIL

2 NO SCALE

PLUMBING SYMBOLS LEGEND	
	FLOOR DRAIN
	HOSE BIBB
	CLEANOUT
	RELIEF VALVE
	AIR CHAMBER
	UNION
	SOIL OR WASTE LINE
	SANITARY VENT LINE
	DOMESTIC COLD WATER
	DOMESTIC HOT WATER
	DOMESTIC WATER RECIRCULATION
	PRESSURE & TEMP. RELIEF LINE
	CONDENSATE DRAIN LINE
	RAIN WATER LEADER
	GAS LINE
	SAFEWASTE LINE
	FIRE PROTECTION
	SHUT OFF VALVE
	SAFEPAN LINE
	FIRE SPRINKLER HEAD
	PIPE TURN UP
	PIPE TURN DOWN
	P-TRAP

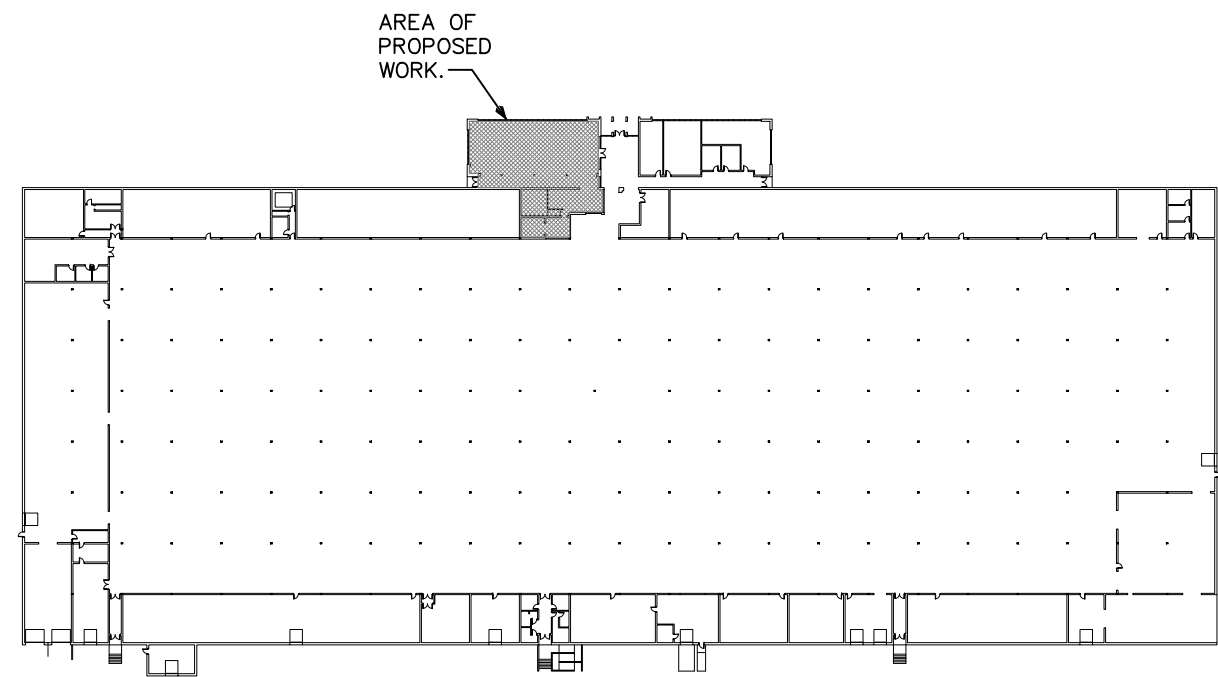


NOTE:
A. FLOOR SINK COVER FLUSH WITH TILE
OR FLUSH WITH CONCRETE FLOOR IN
AREA WITH NO TILE

3 FLOOR SINK CONN. DETAIL

NO SCALE

NOTE: THIS IS AN EXISTING FACILITY WHICH HAS EXISTING SANITARY AND WATER DISTRIBUTION SYSTEMS. ALTERATIONS TO EXISTING WORK BEING OF SUCH NATURE THAT ALL FACETS OF THE WORK ARE IMPOSSIBLE TO DETAIL AND SPECIFY. IT IS THEREFORE THE RESPONSIBILITY OF THE CONTRACTOR TO CAREFULLY EXAMINE THE EXISTING BUILDING AND FAMILIARIZE HIMSELF WITH THE CONDITIONS AND RELATE THESE CONDITIONS TO THE SCOPE OF THE PROPOSED NEW WORK. ALL BIDS ARE EXPECTED TO ENCOMPASS THE TOTAL WORK SCOPE NEEDED TO PLACE THE COMPLETED SYSTEM IN WORKING CONDITION.



KEY PLAN

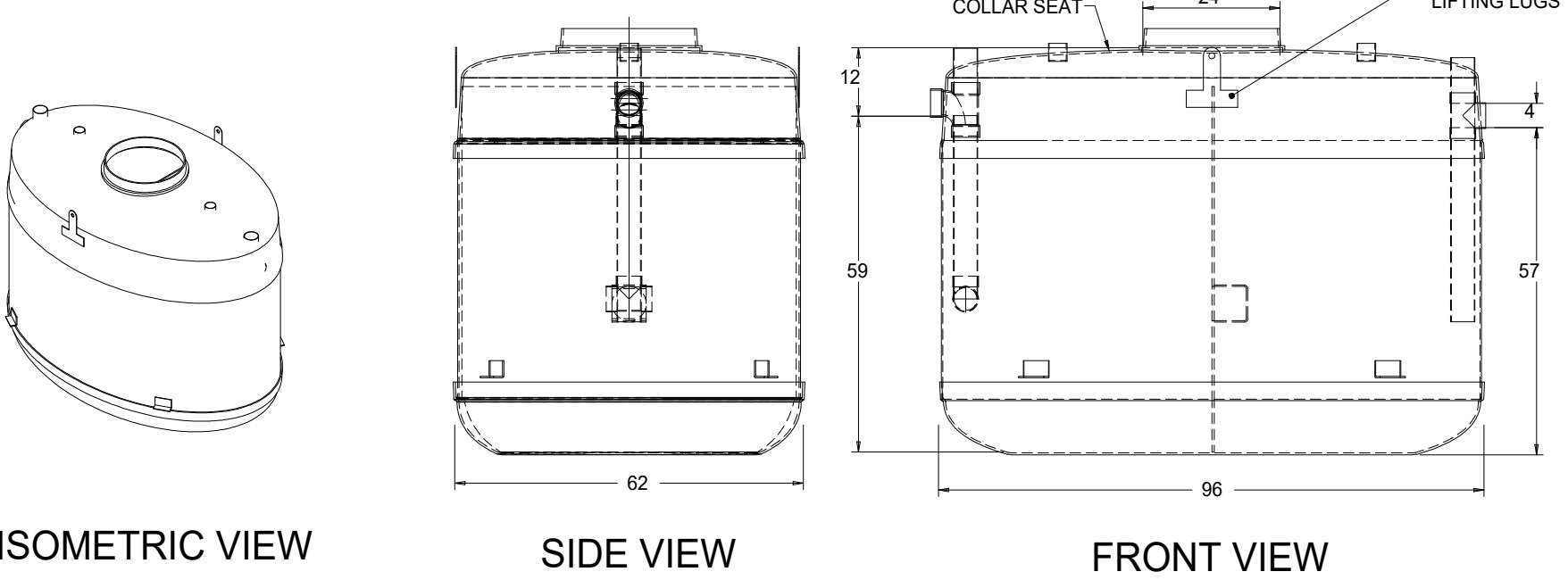
NO SCALE

PLUMBING ABBREVIATION LEGEND			
DN.	DOWN	C.C.	CENTER TO CENTER
EXT.	EXTERIOR	N.T.S.	NOT TO SCALE
F.D.	FLOOR DRAIN	MFG.	MANUFACTURER
F.F.	FINISH FLOOR	S.O.V.	SHUT OFF VALVE
A.F.F.	ABOVE FINISH FLOOR	W.C.	WATER CLOSET
V.T.R.	VENT THRU ROOF	LAV.	LABORATORY
TYP.	TYPICAL	SK.	SINK
R.D.	ROOF DRAIN	D.W.	DISH WASHER
REV.	REVISION	E.D.F.	ELECTRIC DRINKING FOUNTAIN
O.C.	ON CENTER	UR.	URINAL
F.U.	FIXTURE UNITS	H.B.	HOSE BIBBS
C.O.	CLEANOUT	E.W.H.	ELECTRIC WATER HEATER
JAN.SK.	JANITOR SINK	P & T	PRESSURE & TEMPERATURE
RWL.	RAIN WATER LEADER		

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US 877 428 8187 CAN 877 966 9444
www.greenturtletech.com

NOTES:

1. FOR GRAVITY APPLICATIONS ONLY.
2. ALL PROCEPTOR UNITS ARE MANUFACTURED WITH FIBERGLASS REINFORCED PLASTICS. PHYSICAL CHARACTERISTICS AND THICKNESS: POLYESTER RESIN AND E GLASS. MINIMUM THICKNESS: 1/4" WALL AND 3/8" TOP AND BOTTOM BOWLS.
3. ALL PROCEPTOR UNITS ARE TO BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS INSTALLATION INSTRUCTION.
4. STANDARD PIPING IS SCH. 40 PVC.
5. GND/CMC 500 - 3000 UNITS COME STANDARD WITH 4" INLET AND OUTLET (OTHER PIPE SIZE OPTIONS AVAILABLE ON REQUEST).
6. EXTENSION COLLAR TO BE ORDERED TO MEET FINISHED GRADE. CUT ON SITE FOR FINAL ADJUSTMENT AND CAULKED WITH SIKAFLEX BY CONTRACTOR FOR WATER TIGHT SEAL.
7. COVERS AVAILABLE FOR #20 TRAFFIC LOADING, PEDESTRIAN LOADING OR ABOVE GROUND INSTALLATION.
8. CONSULT GREEN TURTLE FOR OTHER SIZES.
9. 30 YEAR WARRANTY AGAINST LEAKS, AND STRUCTURAL FAILURE.
10. U.S. PATENT #6,746,912; CAN PATENT #2,195,822



ISOMETRIC VIEW

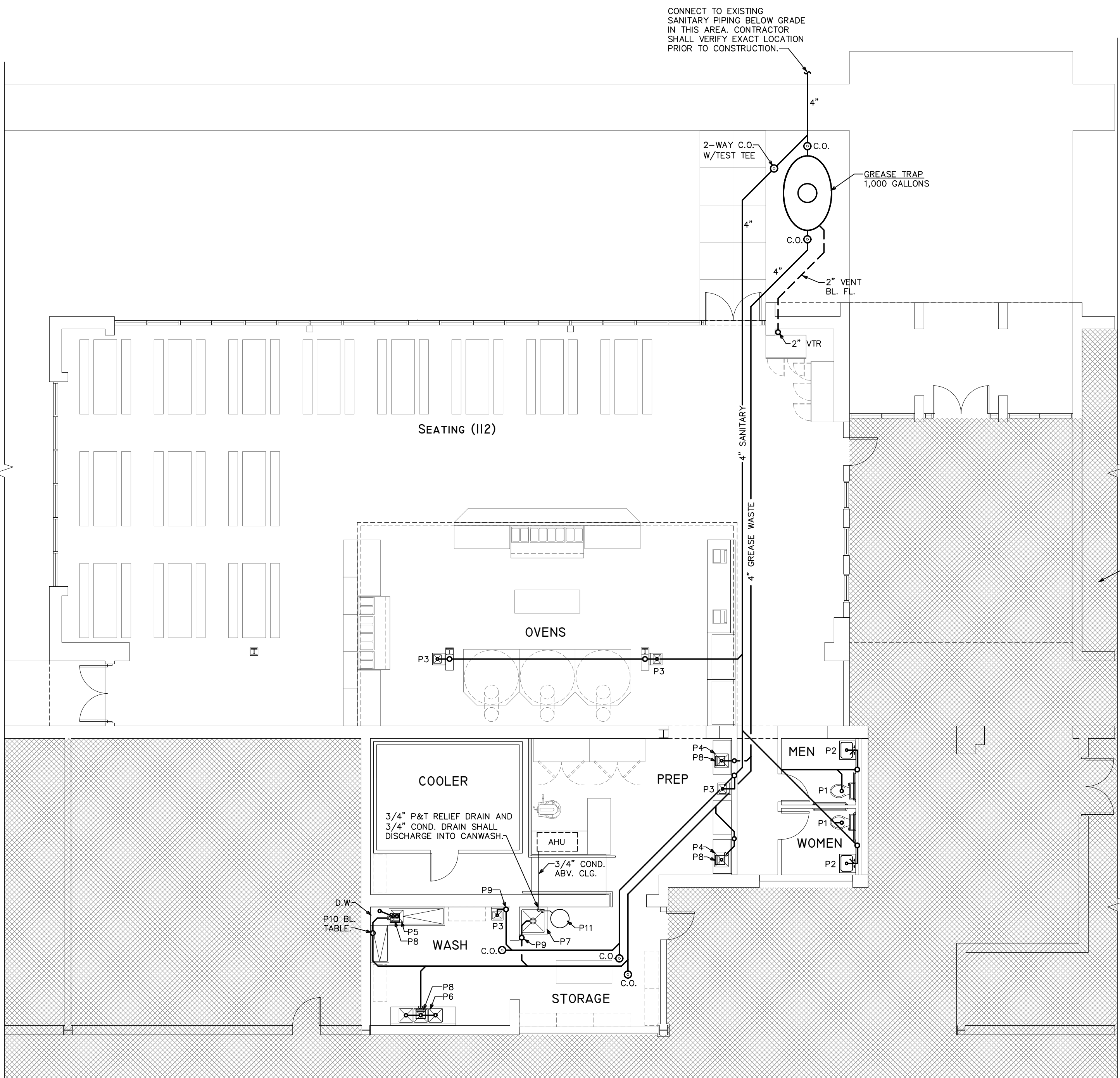
SIDE VIEW

FRONT VIEW

(1,000 GALLONS)

2 GREASE TRAP DETAIL

NO SCALE

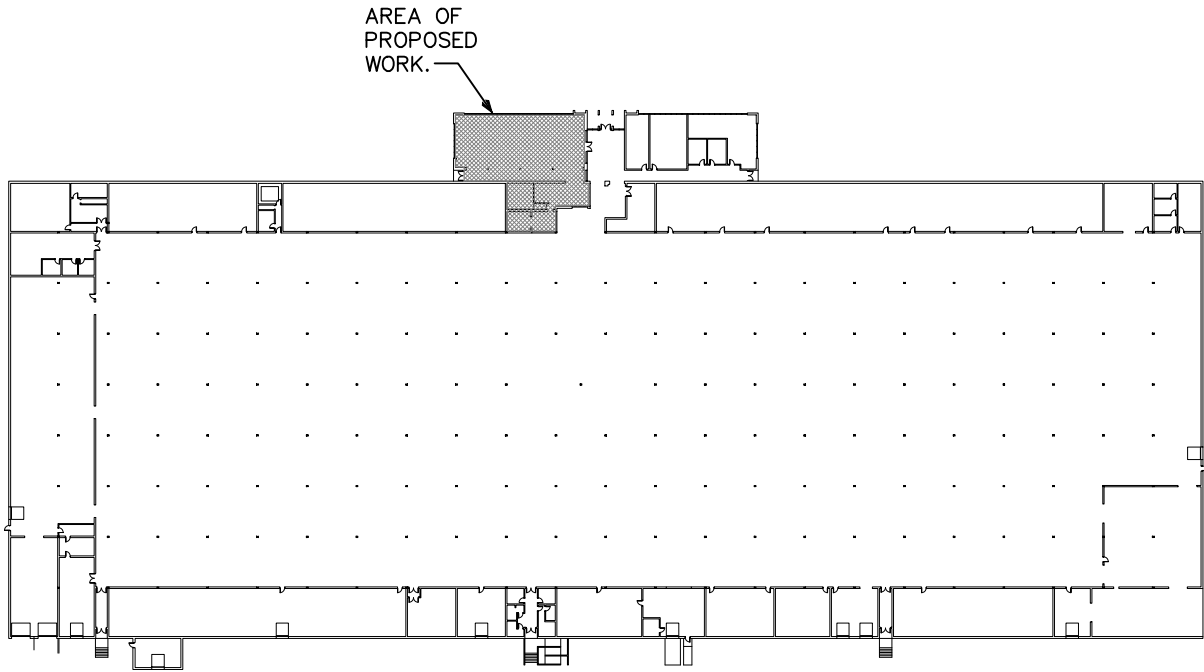


NOTE:
HATCHED AREA INDICATES
EXISTING WORK TO REMAIN
AS IS. (N.I.C.)

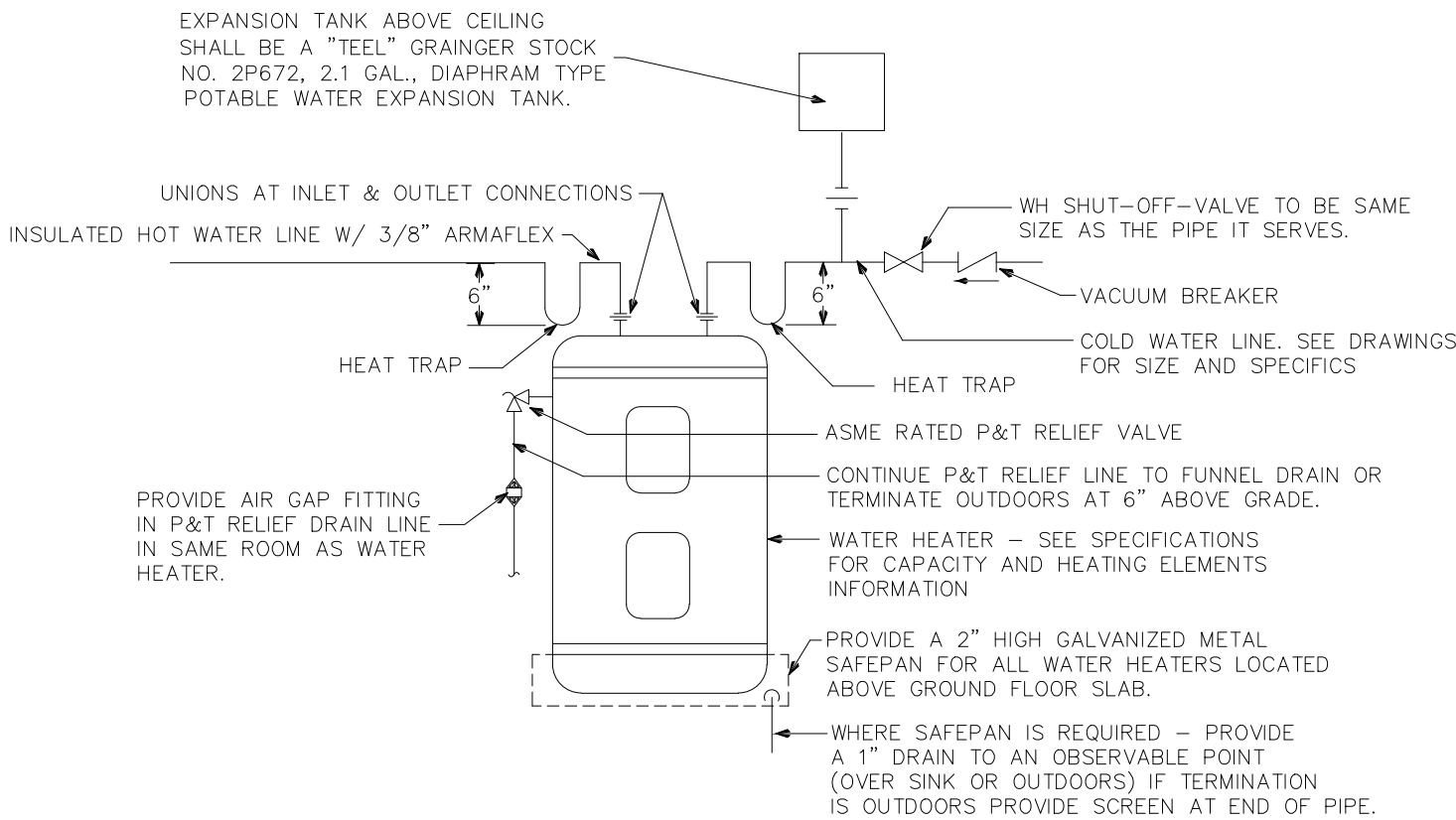
(SANITARY AND GREASE WASTE PIPING)

1 FLOOR PLAN - PLUMBING

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



KEY PLAN NO SCALE

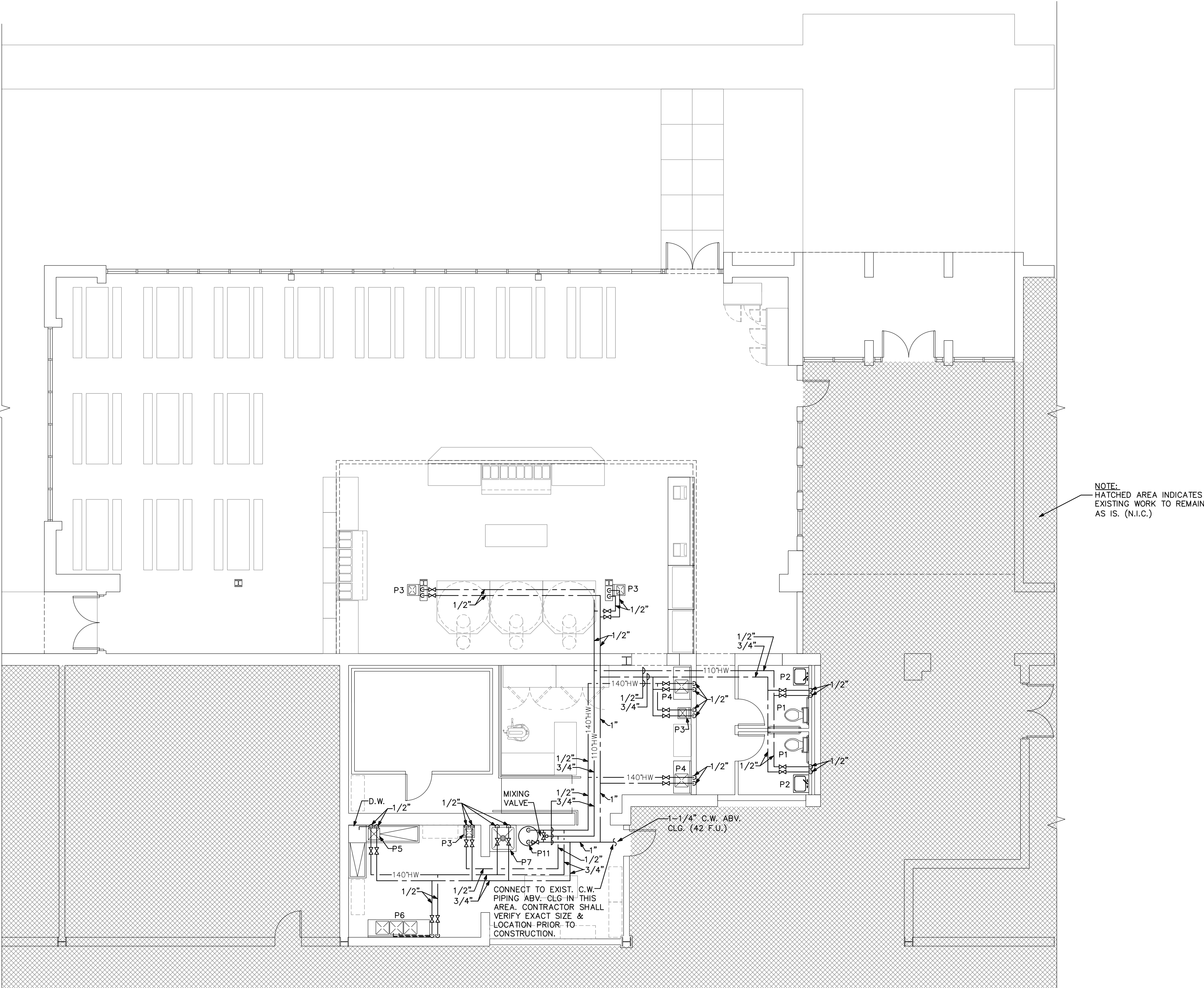


3 WATER HEATER DETAIL

NO SCALE

Storage Tank Water Heater Sizing Calculator						
Facility Name:		Alino's Pizzeria				
Address:		5840 LANCASTER HIGHWAY, FORT LAWN, SOUTH CAROLINA				
EQUIPMENT						GPH CALCULATED
Enter the description, and number and size of compartments for each sink below	Description	Number of compartments	(inches)			Gallons Per Hour (GPH)
			Length	Width	Depth	
	Largest Sink #1	3 Comp. Sink	24	18	16	68
	Sink #2					0
	Sink #3					0
Bar sink					0	
Sinks are calculated at 75% capacity					Total	68
Enter type of prep sink and number of sink compartments for each sink below	Type of prep sink (vegetable, meat, seafood)	Number of compartments				Gallons Per Hour (GPH)
	Prep sink #1	Vegi Prep Sink	1	5		
	Prep sink #2	Meat Prep Sink	1	5		
	Prep sink#3			0		
Prep sinks are calculated at 5 gallons per compartment					Total	10
Enter the quantity of equipment below	Quantity					Gallons Per Hour (GPH)
	Hand sinks	4	20			
	Can wash	1	10			
	Mop sink		0			
	Hose reel		0			
	Clothes washer		0			
Enter a description and estimated gallon per hour (GPH) usage for other equipment below	Description	Estimated gallons per hour (GPH) usage				
	Other Equipment	(2) Lavatory	4	4		
	Other Equipment			0		
	Other Equipment			0		
	Other Equipment			0		
	Hand sinks and mop sinks are calculated at 5 GPH each, can washes at 10 GPH each, hose reels are calculated at 5 GPH, clothes washers at 15 GPH, other equipment at the usage entered					Total 34
Enter the make, model and Final Rinse Usage in gallons per hour (GPH) for dishmachines	Make	Model	Final Rinse Usage (GPH) Found in "Dishmachine Specs" sheet below or on manufacturer's spec sheet		Gallons Per Hour (GPH)	
	Dishmachine #1	CMA	CMA-180-VL	35.6	24.92	
	Dishmachine #2				0	
Enter the quantity of pre-rinse units	Quantity					Gallons Per Hour (GPH)
	Pre-rinse	1	45			
Dishmachines are calculated at 70% of the final rinse usage specified by the manufacturer.					Total	69.92
Pre-rinse are calculated at 45 GPH						
Recovery Rate Needed (GPH):					181	
Water Heater Input (BTU or kW) Needed:						
Gas Water Heater			Electric Water Heater			
199,000 BTU at 80°F rise			35 kW at 80°F rise			
179,000 BTU at 90°F rise			40 kW at 90°F rise			
199,000 BTU at 100°F rise			44 kW at 100°F rise			

NOTE: THIS IS AN EXISTING FACILITY WHICH HAS EXISTING SANITARY AND WATER DISTRIBUTION SYSTEMS. ALTERATIONS TO EXISTING WORK BEING OF SUCH NATURE THAT ALL FACETS OF THE WORK ARE IMPOSSIBLE TO DETAIL AND SPECIFY. IT IS THEREFORE THE RESPONSIBILITY OF THE CONTRACTOR TO CAREFULLY EXAMINE THE EXISTING BUILDING AND FAMILIARIZE HIMSELF WITH THE CONDITIONS AND RELATE THESE CONDITIONS TO THE SCOPE OF THE PROPOSED NEW WORK. ALL BIDS ARE EXPECTED TO ENCOMPASS THE TOTAL WORK SCOPE NEEDED TO PLACE THE COMPLETED SYSTEM IN WORKING CONDITION.

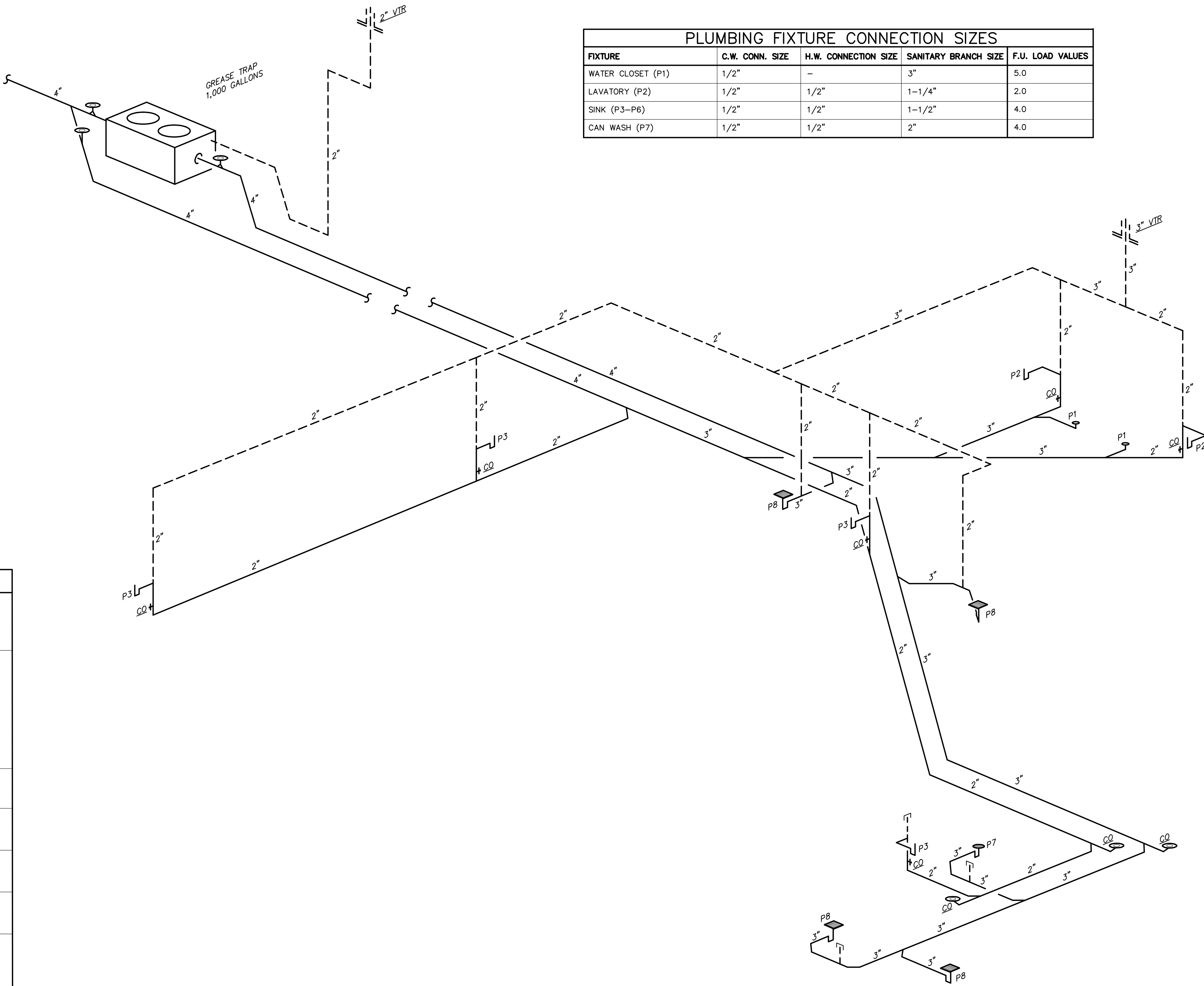


1 FLOOR PLAN - PLUMBING

(WATER PIPING)
SCALE: 1/8"=1'-0"

GENERAL PLUMBING NOTES	
1.)	DRAWINGS ARE DIAGRAMMATIC AND SHALL NOT BE SCALED. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT LOCATION OF ALL PLUMBING FIXTURES, EQUIPMENT, ETC.. PLUMBING CONTRACTOR SHALL FURNISH AND INSTALL ALL ITEMS REQUIRED FOR A COMPLETE AND ACCEPTABLE WORKING INSTALLATION. CONTRACTOR IS RESPONSIBLE TO INSTALL ALL FIXTURES AND EQUIPMENT IN STRICT COMPLIANCE WITH THE MANUFACTURES INSTALLATION INSTRUCTIONS. THIS REQUIREMENT IS TO SUPERSEDE ANY DETAILS OR INFORMATION CONTAINED ON THESE DRAWINGS.
2.)	ALL WORK AND MATERIALS SHALL COMPLY WITH THE LATEST EDITION OF THE NATIONAL, STATE, AND ALL LOCAL CODES AND ORDINANCES HAVING JURISDICTION.
3.)	THE PLUMBING CONTRACTOR SHALL VISIT THE SITE AND THOROUGHLY FAMILIARIZE HIMSELF WITH ALL EXISTING CONDITIONS. ALL EXECUTION AND BACKFILL AS REQUIRED FOR THIS PHASE OF CONSTRUCTION SHALL BE A PART OF THIS CONTRACT.
4.)	ALL MATERIAL SHALL BE NEW.
5.)	ALL WORK SHALL BE PERFORMED BY A LICENSED PLUMBING CONTRACTOR IN A FIRST CLASS WORKMANLIKE MANNER. THE COMPLETED SYSTEM SHALL BE FULLY OPERATIVE AND ACCEPTED BY ENGINEER/ARCHITECT.
6.)	ALL REQUIRED INSURANCE SHALL BE PROVIDED FOR PROTECTION AGAINST PUBLIC LIABILITY OR PROPERTY DAMAGE FOR THE DURATION OF THE WORK.
7.)	THE PLUMBING CONTRACTOR SHALL SECURE AND PAY ALL PERMIT FEES, INSPECTIONS, AND TESTS.
8.)	ALL WORK SHALL BE COORDINATED WITH OTHER TRADES TO AVOID INTERFERENCE WITH THE PROGRESS OF CONSTRUCTION.
9.)	THE PLUMBING CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORKMANSHIP FREE FROM DEFECTS FOR A PERIOD OF NOT LESS THAN (1) ONE YEAR FROM DATE OF ACCEPTANCE. CORRECTION OF ANY DEFECTS SHALL BE COMPLETED WITHOUT ADDITIONAL CHARGE AND SHALL INCLUDE REPLACEMENT OR REPAIR OF ANY OTHER PHASE OF THE INSTALLATION WHICH MAY HAVE BEEN DAMAGED THEREBY.
10.)	VERIFY LOCATION, SIZE AND INVERTS OF ALL EXISTING UTILITIES PRIOR TO START OF CONSTRUCTION. ADVISE ARCHITECT/ENGINEER OF ANY DISCREPANCIES.
11.)	ALL FIXTURES SHALL BE PROVIDED WITH READILY ACCESSIBLE STOPS.
12.)	ALL BELOW FLOOR SLAB WATER PIPING SHALL BE FLEXIBLE "TEMPRITE PEX (CROSS-LINKED POLYETHYLENE)" INSTALLED AS PER MANUFACTURERS RECOMMENDATIONS FOUND HERE: WWW.LUBRIZOL.COM. ALL ABOVE SLAB WATER PIPING SHALL BE "FLOWGUARD GOLD CPVC" INSTALLED AS PER MANUFACTURERS RECOMMENDATIONS FOUND HERE: WWW.FLOWGUARDGOLD.COM. ALL WATER PIPING AS SPECIFIED OR APPROVED EQUAL. ALL 2" WATER PIPING SHALL BE TYPE "L" COPPER AND TYPE "K" COPPER FOR 2 1/2" AND LARGER. (OR APPROVED EQUAL)
13.)	SOIL, WASTES AND VENT PIPING SHALL BE PVC #40 DMV. WASTE AND VENT PIPING ABOVE SLAB SHALL BE PVC, IF APPROVED BY LOCAL AUTHORITIES HAVING JURISDICTION, OTHERWISE CAST IRON. PVC SHALL NOT BE INSTALLED IN A/C RETURN AIR PLENUM OR PENETRATE FIRE RATED WALLS OR FLOORS.
14.)	AIR CONDITIONING CONDENSATE DRAIN PIPING SHALL BE PVC #40 OR COPPER DRAIN WASTE AND BENT PIPE AND FITTINGS. INSULATE ALL CONDENSATE PIPING EXCEPT EXTERIOR PIPING. INSTALL ALL CONDENSATE PIPING FOR AIR CONDITIONING UNITS AS REQUIRED PER LOCAL CODES.
15.)	FURNISH AND INSTALL APPROVED WATER HAMMER ARRESTORS AT EACH GROUP OF FIXTURES. INSTALLATION OF WATER HAMMER ARRESTORS SHALL CONFORM TO THE MANUFACTURER'S RECOMMENDATIONS. PROVIDE AND INSTALL AN APPROVED WATER HAMMER ARRESTOR AT EACH FIXTURE OR DEVICE THAT HAS A SOLENOID WATER CONTROL VALVE.
16.)	PROVIDE CHROME PLATED COMBINATION COVERED PLATE AND CLEANOUT PLUG FOR ALL WALL CLEANOUTS, JOSAM 58890.
17.)	INSULATE LINES AS FOLLOWS: A.) 1-1/2" THICK ARMAFLEX PREFORMED INSULATION SHALL BE PROVIDED ON BOTH C.W. & H.W. WHEN PIPING IS LOCATED OUTSIDE OF THE INSULATED BUILDING ENVELOPE. B.) 1-1/2" THICK ARMAFLEX PREFORMED INSULATION SHALL BE PROVIDED ON HW PIPING & H.W. RECIRC. PIPING, ONLY WHEN THERE IS A H.W. RECIRCULATING PIPING SYSTEM.

PLUMBING FIXTURE SCHEDULE	
P-1 (HANDICAPPED FLOOR MOUNTED FLUSH TANK WATER CLOSET)	SHALL BE AN AMERICAN STANDARD MODEL 270AA.001 CADET 3 RIGHT HEIGHT ELONGATED 1.6 GPF TOILET, VITREOUS CHINA, CADET FLUSHING SYSTEM, TANK TYPE, FLOOR MOUNTED, FLOOR OUTLET, WITH AMERICAN STANDARD OPEN FRONT SEAT WITH COVER MODEL 5325.024. * http://www.americanstandard-us.com/assets/documents/amstd/spec/SpecSheet_6117.pdf
P-2 (HANDICAPPED WALL HUNG LAVATORY)	SHALL BE AN AMERICAN STANDARD REGALYN LAVATORY MODEL 4869.001 (CENTER HOLE ONLY), VITREOUS CHINA, WALL MOUNT WITH CONCEALED ARMS SUPPORT. FAUCET SHALL BE A "CHICAGO" MODEL 3300-ABCP METERING FAUCET WITH 4" CENTERS AND BUILT-IN THERMOSTATIC MIXING VALVE TO DELIVER TEMPERED WATER AT A TEMPERATURE NOT TO EXCEED 105 DEGREES. UNIT IS ADA COMPLIANT, 0.5 GPM WITH AN ADJUSTABLE 2-15 SECOND OPERATING CYCLE PRODUCING UNDER .25 GALLONS PER CYCLE. WATER PIPING AND P-TRAP SHALL BE COVERED WITH AN UNDER-SINK PROTECTIVE PIPE COVER KIT BY TRUEBRO (HTTP://WWW.TRUEBRO.COM) OR APPROVED EQUAL. * http://www.americanstandard-us.com/assets/documents/amstd/spec/SpecSheet_1476.pdf * http://www.chicagofaucets.com/catalog/catalog.php?part_number=3300-ABCP
P-3 (STAINLESS STEEL HAND SINK W/FAUCET)	BY OWNER. COORDINATE FINAL SPECIFICATIONS WITH KITCHEN EQUIPMENT PLANS AND SCHEDULES BY OTHERS PRIOR TO BID.
P-4 (1 COMPARTMENT STAINLESS STEEL PREP SINK W/FAUCET)	BY OWNER. COORDINATE FINAL SPECIFICATIONS WITH KITCHEN EQUIPMENT PLANS AND SCHEDULES BY OTHERS PRIOR TO BID.
P-5 (STAINLESS STEEL PRE-RINSE SINK W/FAUCET)	BY OWNER. COORDINATE FINAL SPECIFICATIONS WITH KITCHEN EQUIPMENT PLANS AND SCHEDULES BY OTHERS PRIOR TO BID.
P-6 (3 COMPARTMENT STAINLESS STEEL SINK W/FAUCET)	BY OWNER. COORDINATE FINAL SPECIFICATIONS WITH KITCHEN EQUIPMENT PLANS AND SCHEDULES BY OTHERS PRIOR TO BID.
P-7 (FLOOR MOUNTED INTERIOR CANWASH/WOP RECEPTOR)	SHALL BE A FLORESTONE #50 36X36X6" MOLDED MOP BASIN WITH 3" OUTLET. PROVIDE WITH MR-371 THREADED FAUCET WITH WALL BRACE, PAIL HOOK AND APPROVED VACUUM BREAKER, MR-370 HOSE & HOSE BRACKET, MR-372 MOP HANGER, MR-373 BUMPER GUARDS AND MR-377 STAINLESS TEEL WALL GUARD. * http://www.florestone.com/mop_sinks/model_50-70.html * http://www.florestone.com/mop_sinks/ms_accessories.html
P-8 (FLOOR SINK W/SEDIMENT BUCKET)	SHALL BE A JOSAM 49340A-3-31 SERIES SQUARE CAST IRON 8" DEEP SUPER-FLO-SEPTOR FLOOR SINK WITH PORC-COATED INTERIOR, DOUBLE DRAINAGE FLANGE WITH WEEPHOLES, BOTTOM OUTLET, ALUMINUM INTERNAL DOME STRAINER, AND CAST IRON, NON-TRAFFIC, PORC-COATED, ANTI-TILTING GRATE, WITH HALF GRATE AND ALUMINUM SEDIMENT BUCKET. * http://www.josam.com/catalog/JOS/pl=F5/49340A
P-9 (2" STUDOR VENT - AIR ADMITTANCE VALVE)	SHALL BE A IPS CORPORATION "STUDOR MINI-VENT". 2" VENT. * http://www.ipscorp.com/plumbing/studor/minivent
P-10 (3" STUDOR VENT - AIR ADMITTANCE VALVE)	SHALL BE A IPS CORPORATION "STUDOR MAXI-VENT". 3" VENT. * http://www.ipscorp.com/plumbing/studor/maxivent
P-11 (ELECTRIC WATER HEATER)	WATER HEATER SHALL BE A "STATE" COMMERCIAL ELECTRIC WATER HEATER MODEL SSE-80, 80 GALLON STORAGE TANK, RECOVERY 205 G.P.H. AT 90° RISE, ELECTRIC LOAD 480/3Ø, 45 KW, 3 ELECTRIC ELEMENTS. WATER HEATER SHALL MEET OR EXCEED ALL APPLICABLE SECTIONS OF ASHRAE STANDARD 90-80A AND NAECA REQUIREMENTS FOR ENERGY CONSERVATION. * http://gao.gl/5ThZ8K
NOTES: 1.) ALL PLUMBING FIXTURES SHALL BE AS SPECIFIED OR APPROVED EQUAL. 2.) PROVIDE ANGLE STOPS ON ALL WATER SERVICE LINES TO FIXTURES FOR INDIVIDUAL SHUT-OFF.	



PLUMBING FIXTURE CONNECTION SIZES				
FIXTURE	C.W. CONN. SIZE	H.W. CONNECTION SIZE	SANITARY BRANCH SIZE	F.U. LOAD VALUES
WATER CLOSET (P1)	1/2"	-	3"	5.0
LAVATORY (P2)	1/2"	1/2"	1-1/4"	2.0
SINK (P3-P6)	1/2"	1/2"	1-1/2"	4.0
CAN WASH (P7)	1/2"	1/2"	2"	4.0

ELECTRICAL NOTES:

1. GENERAL: ALL WORK SHALL CONFORM TO THE LATEST APPROVED EDITION OF THE NATIONAL ELECTRICAL CODE (NEC) AND ALL LOCAL JURISDICTIONAL CODES.

THE CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE DRAWINGS AND ANY APPLICABLE SPECIFICATIONS. IF A PROBLEM IS ENCOUNTERED IN COMPLYING WITH THIS REQUIREMENT, THE CONTRACTOR SHALL NOTIFY THE OWNER OR HIS REPRESENTATIVE AS SOON AS POSSIBLE AFTER DISCOVERY OF THE PROBLEM, AND SHALL NOT PROCEED WITH THAT PORTION OF THE WORK UNTIL THE OWNER HAS DIRECTED THE CORRECTIVE ACTION TO BE TAKEN.

THE CONTRACTOR SHALL COORDINATE THE PROPOSED LOCATIONS OF ALL ELECTRICAL MATERIALS AND EQUIPMENT WITH THE REPRESENTATIVES OF THE OTHER TRADES INVOLVED BEFORE STARTING INSTALLATION OF THOSE ITEMS.

COORDINATE THE INSTALLATION OF REQUIRED SUPPORTING DEVICES, CONDUIT, AND SLEEVES TO BE SET IN CAST-IN-PLACE CONCRETE AND OTHER STRUCTURAL COMPONENTS, AS THEY ARE CONSTRUCTED.

UNLESS OTHERWISE SPECIFIED ON THE PLANS, ALL SPECS ARE NOT INTENDED TO BE PROPRIETARY. SUBSTITUTIONS WILL BE ACCEPTABLE FOR EQUAL RATED AND LISTED UNITS.
2. SCOPE: EXCEPT WHERE OTHERWISE SPECIFICALLY INDICATED ON THE DRAWINGS BY "FUTURE", "BY OTHERS", OR BY A SIMILAR NOTATION, IT IS THE INTENT THAT THE CONTRACTOR FURNISH ALL LABOR, MATERIALS, EQUIPMENT AND TOOLS NECESSARY TO PROVIDE ALL SYSTEMS IN COMPLETE AND OPERATING CONDITION.

3. EXCAVATE AS NECESSARY FOR THE INSTALLATION OF ELECTRICAL MATERIALS AND EQUIPMENT. VERIFY THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES OR STRUCTURES BEFORE EXCAVATING AND EXERCISE CARE TO AVOID DAMAGE TO SUCH ITEMS DURING EXCAVATION. BACKFILL WITH EARTH FREE OF LARGE CLOUDS, LARGE STONES AND FOREIGN DEBRIS, DEPOSITED IN 6" LAYERS AND COMPACTED TO A DENSITY OF NOT LESS THAN THAT OF THE SURROUNDING UNDISTURBED MATERIAL.

4. MATERIALS: THE MATERIALS AND EQUIPMENT FURNISHED SHALL BE AS INDICATED ON THE DRAWINGS. SUBSTITUTIONS SHALL NOT BE MADE EXCEPT WHERE EXPRESSLY APPROVED BY THE OWNER OR HIS REPRESENTATIVE PRIOR TO STARTING INSTALLATION OF THE ITEMS. THE ELECTRICAL MATERIALS AND EQUIPMENT FURNISHED SHALL BE LISTED OR LABELED BY UNDERWRITERS LABORATORIES OR OTHER RECOGNIZED TESTING ORGANIZATION, AND SHALL BE ACCEPTABLE TO THE LOCAL BUILDING AUTHORITY.

5. GROUNDING: GROUNDING SHALL BE IN ACCORDANCE WITH ARTICLE 250, NEC.

6. SHARED NEUTRAL CONDUCTORS SHALL NOT BE ALLOWED UNLESS INSTALLED IN ACCORDANCE WITH NEC-210.4
7. CONDUITS: PROVIDE CONDUITS WHERE CALLED FOR ON PANEL SCHEDULES. ELECTRICAL METALLIC TUBING (EMT) SHALL BE INSTALLED ONLY IN DRY LOCATIONS, IN CONCRETE ABOVE GRADE, AND WHERE NOT SUBJECT TO PHYSICAL DAMAGE.

CONDUITS INSTALLED UNDERGROUND SHALL BE POLYVINYLCHLORIDE (PVC) AND SHALL NOT BE SMALLER THAN 3/4" TRADE SIZE. WHERE PVC CONDUIT IS INSTALLED UNDERGROUND, ELBOWS TURNING UP AND CONDUIT EMERGING ABOVE GRADE SHALL BE RSC. THE TOPS OF CONDUITS SHALL NOT BE LESS THAN 24" BELOW FINISHED GRADE. PVC CONDUIT INSTALLED ABOVE GRADE OR DIRECT-BURIED IN EARTH SHALL BE NEMA TC2 TYPE EPC-40-PVC (SCHEDULE 40) EXCEPT THAT WHERE UNDER AREAS SUBJECT TO HEAVY VEHICULAR TRAFFIC, IT SHALL BE NEMA TC2 TYPE EPC-80-PVC (SCHEDULE 80).

ALL ARMOR CLAD CABLE (AC CABLE) WIRING SHALL MEET OR EXCEED ALL NEC, OSHA AND HUD STANDARDS.
8. CONDUCTORS: CONDUCTORS SHALL BE AS SCHEDULED ON PANEL SCHEDULES. ALL POWER CONDUCTORS SHALL NOT BE SMALLER THAN #14 AWG (CU), OR #12 AWG (AL). CONTROL CIRCUIT CONDUCTORS SHALL NOT BE SMALLER THAN #18 AWG CU.

CONDUCTORS SHALL BE CONTINUOUS FROM OUTLET TO OUTLET WITHOUT SPLICES EXCEPT WITHIN WIREWAY OR JUNCTION BOXES. MARK CONDUCTORS IN PANELS, PULL BOXES OR WIREWAYS AND TERMINAL STRIP TERMINALS FOR IDENTIFICATION OF CIRCUITS.

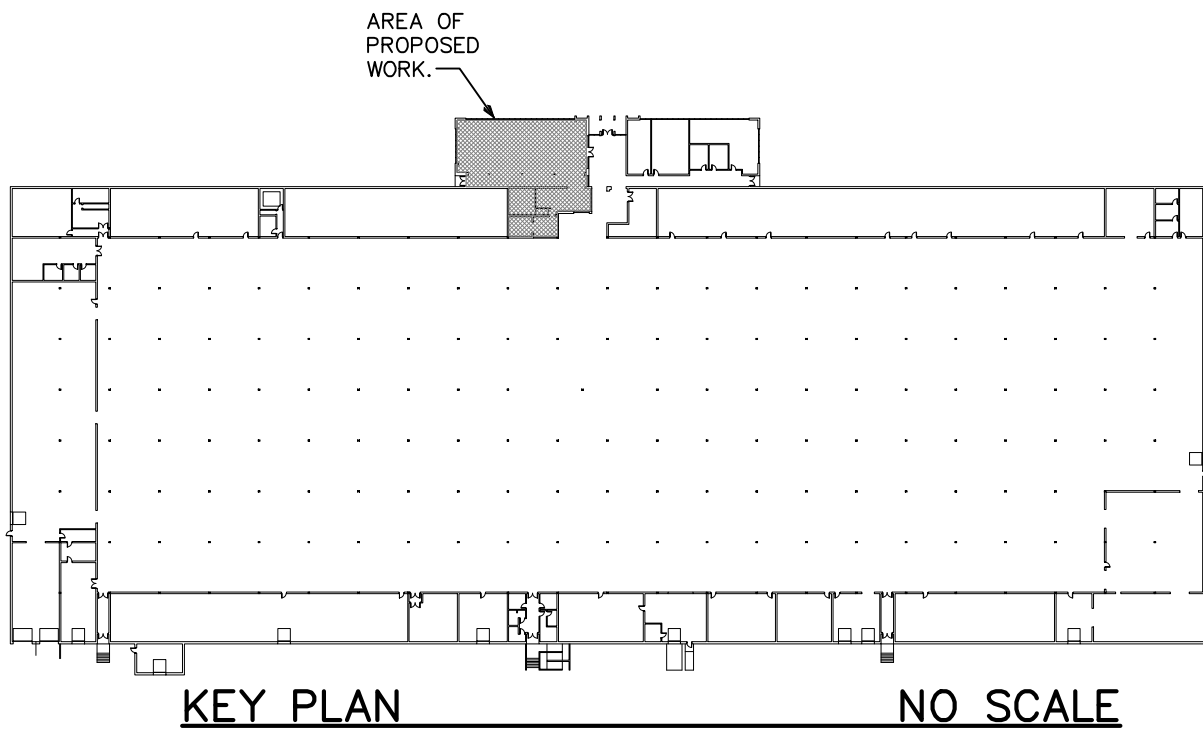
CONDUCTORS SHALL BE JOINED USING COMPRESSION SPLICES, EXCEPT THAT CONDUCTORS #10 AND SMALLER MAY BE JOINED USING WIRE NUT TYPE CONNECTORS. CONDUCTORS SHALL BE TERMINATED USING COMPRESSION OR PRESSURE TYPE TERMINAL LUGS, OR IN PRESSURE TERMINALS. COMPRESSION SPLICES USED ON CONDUCTORS #10 AWG. AND SMALLER, SHALL BE THE SELF-INSULATED TYPE; OTHER SPLICES SHALL BE INSULATED USING 3M #33+ OR #88 PLASTIC TAPE. SPLICES IN WET LOCATIONS SHALL BE INSULATED WITH ELECTRICAL TAPE AND ENCAPSULATED WITH SCOTCHCAST OR EQUAL POTTING COMPOUND.
9. PROVIDE AND INSTALL JUNCTION AND PULL BOXES WHERE INDICATED AND WHERE NECESSARY TO TERMINATE, TAP OFF, OR REDIRECT MULTIPLE CONDUIT RUNS, OF SIZE INDICATED OR AS REQUIRED BY NEC. WHERE FEEDER SPLICES ARE TO BE MADE, INSTALL BOXES LARGE ENOUGH TO PROVIDE AMPLE WORK SPACE.

10. LIGHTING FIXTURES: LIGHTING FIXTURES SHALL BE AS INDICATED ON THE DRAWINGS, AND SHALL BE INSTALLED COMPLETE WITH LAMPS. FIXTURES WITH ADJUSTMENTS AFFECTING LIGHT DISTRIBUTION SHALL BE SET TO PROVIDE THE REQUIRED LIGHT PATTERNS PRIOR TO THE FINAL DEMONSTRATION TEST.

11. TESTS: AFTER EACH SYSTEM HAS BEEN COMPLETED, A FUNCTIONAL TEST SHALL BE PERFORMED TO DEMONSTRATE THAT THE SYSTEM OPERATES IN ACCORDANCE WITH THE REQUIREMENTS OF THE DRAWINGS. THE TEST SHALL BE PERFORMED BY THE CONTRACTOR IN THE PRESENCE OF THE OWNER OR HIS REPRESENTATIVE.

12. TERMINALS: ALL ELECTRICAL EQUIPMENT FURNISHED ON THIS PROJECT IS TO HAVE TERMINALS RATED FOR 75° C. OPERATION.

ELECTRICAL SYMBOLS LEGEND			
SYMBOLS	DESCRIPTION	SYMBOLS	DESCRIPTION
	DUPLEX RECEPTACLE, MTD. +18" AFF		TRANSFORMER - SIZE AS NOTED
	240 VOLT RECEPTACLE (HT. AS REQ.)		PANEL - SIZE AS NOTED
	QUADRUPLX RECEPTACLE, MTD. +18"		MOMENTARY CONTACT PUSH BUTTON
	COUNTERTOP HT. RECEPTACLE +42"		F-FAN; M-MOTOR; P-PUMP
	SINGLE POLE SWITCH, MTD +47"		SPECIAL OUTLET - AS REQUIRED
	THREE-WAY SWITCH, MTD +47"		CKT. HOMERUN (B INDICATES PANEL)
	MANUAL STARTER SWITCH		EXIT SIGN; ONE SIDED, OR TWO SIDED
	DIMMER SWITCH, MTD +47"		EMERGENCY LIGHTING
	SWITCH W/ ILLUM WHEN ON MTD +47"		RECESSED MOUNTED LIGHTING FIXTURE
	THREE-WAY SWITCH W/ OCCU SENSOR MTD. +47"		OVERHEAD OCCUPANCY SENSOR
	SWITCH W/ OCCU SENSOR. MTD. +47"		HIGHBAY HID LIGHTING FIXTURE
	JUNCTION BOX, FLUSH IF POSSIBLE		B DESIGNATES FIXTURE TYPE
	TELEPHONE / DATA OUTLET +18"		FLUORESCENT LIGHTING FIXTURE
	DED. COMPUTER TERM. OUTLET +18"		FLUORESCENT LIGHTING NIGHT LIGHT
	DISCONNECT SWITCH W/ STARTER		B DESIGNATES FIXTURE TYPE
	FLR. MTD. FLUSH DUPLEX RECEPTACLE		B DESIGNATES FIXTURE TYPE
	FLR. MTD. FLUSH QUAD. RECEPTACLE		B DESIGNATES FIXTURE TYPE
	FLR. MTD. FLUSH PHONE/DATA OUTLET		B DESIGNATES FIXTURE TYPE
	FLR. MTD. FLUSH COMPUTER OUTLET		B DESIGNATES FIXTURE TYPE
	AREA SMOKE DETECTOR		B DESIGNATES FIXTURE TYPE
	HEAT DETECTOR		B DESIGNATES FIXTURE TYPE
	DUCT SMOKE DETECTOR		B DESIGNATES FIXTURE TYPE
	FIRE ALARM MAN. PULL STATION +47"		B DESIGNATES FIXTURE TYPE
	HORN WITH STROBE LIGHT, MTD. +80"		B DESIGNATES FIXTURE TYPE
	# BESIDE DEVICE IS CANDELLA RATING		B DESIGNATES FIXTURE TYPE
	STROBE LIGHT ONLY, MTD. +80"		B DESIGNATES FIXTURE TYPE
	# BESIDE DEVICE IS CANDELLA RATING		B DESIGNATES FIXTURE TYPE



LIGHTING FIXTURE SCHEDULE							
LABEL	TYPE OF FIXTURE	FINISH	LENS TYPE	VOLTAGE	LAMP	MANUFACTURER & MODEL NO.	REMARKS
A	RECESSED 2'X4' TROFFER	WHITE	PRISMATIC	120	(3) 32W T8	LITHONIA 2SP8G-432-FWA12-MVOLT	PROVIDE TWO BALLASTS
B	SUSPENDED 2'X4' TROFFER	WHITE	PARABOLIC	120	(4) 32W T8	LITHONIA TL232 MV	PROVIDE TWO BALLASTS
EM	EMERGENCY EGRESS	WHITE		120	INCLUDED	LITHONIA ELM2	W/ BATTERY BACKUP
EX1	EMERG EGRESS / EXIT SIGN	WHITE	RED	120	INCLUDED	LITHONIA LHQM-MVOLT-HO	W/ BATTERY BACKUP & OPTONAL TWIN EXTERIOR REMOTE HEAD
EX2	EXT. SIGN	WHITE	RED	120	INCLUDED	LITHONIA LHQM-MVOLT	W/ BATTERY BACKUP
EX	EXIT SIGN	WHITE	RED	120	INCLUDED	LITHONIA LE-SW2R-120/277-ELN	W/ BATTERY BACKUP

COMcheck Software Version 4.0.2.9
Interior Lighting Compliance
Certificate

Section 1: Project Information

Energy Code: 2009 IECC
Project Title: Alino's Pizzeria
Project Type: New Construction
Construction Site:
5840 Lancaster Highway
Fort Lawn, SC 29714
Owner/Agent: Designer/Contractor:

Section 2: Interior Lighting and Power Calculation

A Area Category	B Floor Area (ft2)	C Allowed Watts / ft2	D Allowed Watts (B x C)
dining/kitchen (Dining: Family)	5025	1.6	8040
Total Allowed Watts =			8040

Section 3: Interior Lighting Fixture Schedule

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamp/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
dining/kitchen (Dining: Family 5025 sq.ft.)				
Linear Fluorescent 1: A: 2x4 Fluorescent troffer: 48" T8 32W: Electronic:	3	28	96	2688
Linear Fluorescent 2: B: 2x4 Fluorescent troffer: 48" T8 32W: Electronic:	4	22	128	2616
Total Proposed Watts =				5504

Section 4: Requirements Checklist

Interior Lighting PASSES: Design 32% better than code.

Lighting Wattage:

- ☐ 1. Total proposed watts must be less than or equal to total allowed watts.

Allowed Watts	Proposed Watts	Complies
8040	5504	YES

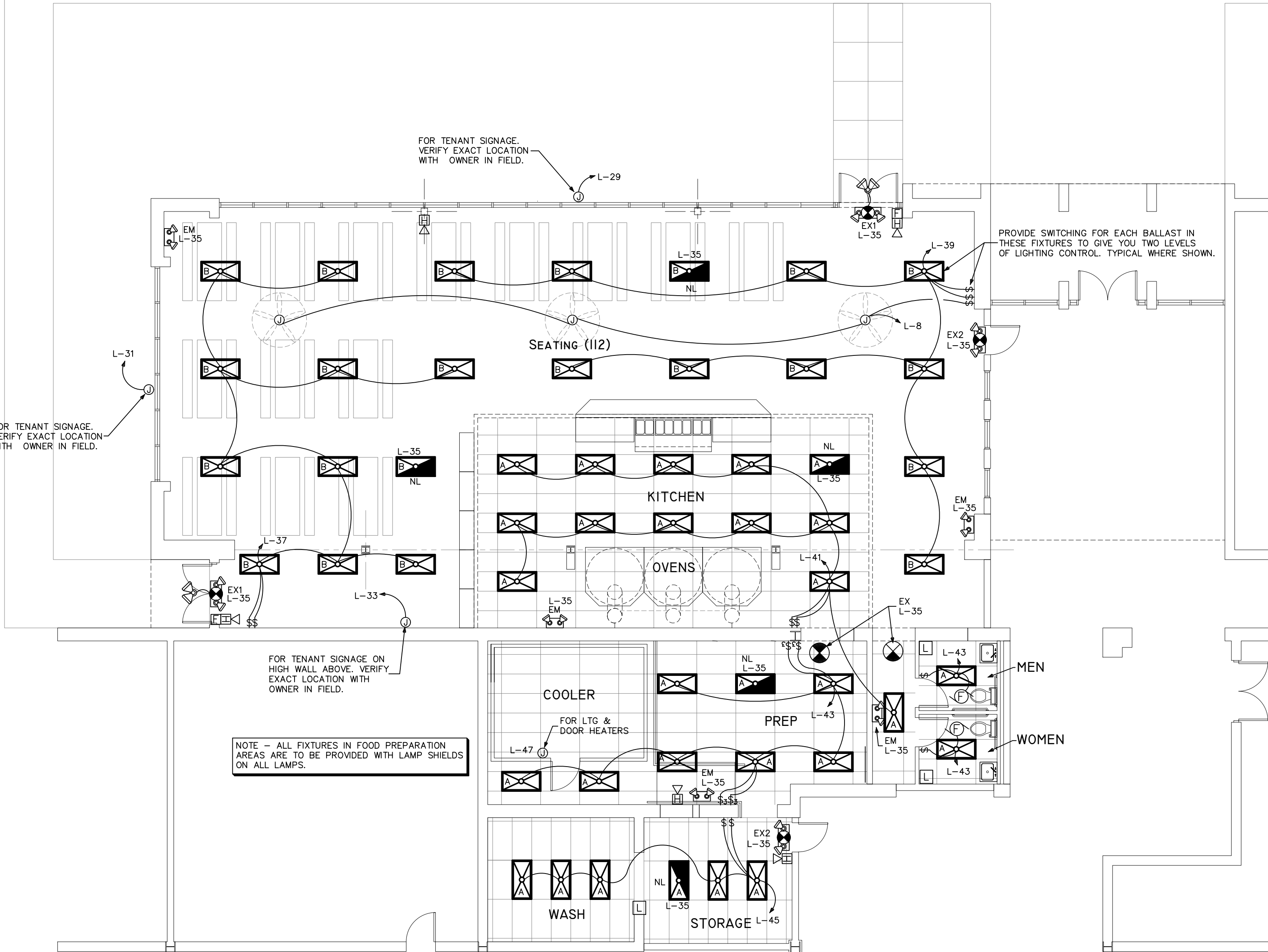
Controls, Switching, and Wiring:

- ☐ 2. Daylight zones under skylights more than 15 feet from the perimeter have lighting controls separate from daylight zones adjacent to vertical fenestration.
- ☐ 3. Daylight zones have individual lighting controls independent from that of the general area lighting.

- Exceptions:
- ☐ Contiguous daylight zones spanning no more than two orientations are allowed to be controlled by a single controlling device.
- ☐ Daylight spaces enclosed by walls or ceiling height partitions and containing two or fewer light fixtures are not required to have a separate switch for general area lighting.
- ☐ 4. Independent controls for each space (switch/occupancy sensor).

- Exceptions:
- ☐ Areas designated as security or emergency areas that must be continuously illuminated.
- ☐ Lighting in stairways or corridors that are elements of the means of egress.
- ☐ 5. Master switch at entry to hotel/motel guest room.

Project Title: Alino's Pizzeria
Data filename: Untitled.cck
Report date: 05/22/16
Page 1 of 2

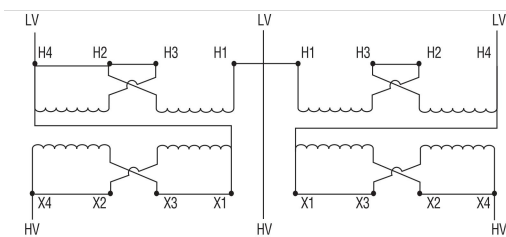


1 FLOOR PLAN - LIGHTING
SCALE: 1/8"=1'-0"

PANEL SCHEDULE L																								
225 AMP, 120/208 VOLT, THREE PHASE, FOUR WIRE, 225A. M.C.B., 10000 AMPS MINIMUM A.I.C. BRACING, FLUSH MOUNTED, TYPE NEMA 1 ENCLOSURE																								
#	BKR.	WIRE AND CONDUIT					LOAD DESCRIPTION	WIRE AND CONDUIT					BKR.	#										
		COND.	NEUTRAL	GND	C.	KEYS		KEYS	C.	GND	NEUTRAL	COND.												
1	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLES	864	864	-----	-----	-----	20/1	2										
3	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLE	864	864	-----	-----	-----	20/1	4										
5	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLE-FOOD PERP	336	336	-----	-----	-----	20/1	6										
7	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLE-FOOD PERP	360	360	-----	-----	-----	20/1	8										
9	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLE-REFRIGERATOR	336	336	-----	-----	-----	20/1	10										
11	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLE-FREEZER	360	360	-----	-----	-----	20/1	12										
13	25/1	#10	#10	#10	1/2	CHAL	DISPLAY RECEPTACLE	2160	2160	-----	-----	-----	20/1	14										
15	25/1	#10	#10	#10	1/2	CHAL	DISPLAY RECEPTACLE	696	696	-----	-----	-----	20/1	16										
17	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLE-CASHIER	2640	2640	-----	-----	-----	20/1	18										
19	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLE-FOOD PERP	0	1750	-----	-----	-----	20/3	20										
21	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLE-FOOD PERP	3792	3792	-----	-----	-----	20/3	22										
23	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLE-DRINK COOLER	3792	2004	-----	-----	-----	20/3	24										
25	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLE-DRINK COOLER	648	648	-----	-----	-----	20/3	26										
27	20/1	#12	#12	#12	1/2	CHAL	SERVICE RECEPTACLE	0	2004	-----	-----	-----	20/3	28										
29	20/1	#12	#12	#12	1/2	CHAL	TENANT SIGNAGE *	1560	1560	-----	-----	-----	20/3	30										
31	20/1	#12	#12	#12	1/2	CHAL	TENANT SIGNAGE *	1560	1560	-----	-----	-----	20/3	32										
33	20/1	#12	#12	#12	1/2	CHAL	TENANT SIGNAGE *	1200	1200	-----	-----	-----	20/3	34										
35	20/1	#12	#12	#12	1/2	CHAL	EMERGENCY/NITE LIGHTING	0	5880	-----	-----	-----	20/3	36										
37	20/1	#12	#12	#12	1/2	CHAL	DINING LIGHTING	1200	1200	-----	-----	-----	20/3	38										
39	20/1	#12	#12	#12	1/2	CHAL	DINING LIGHTING	1200	1200	-----	-----	-----	20/3	40										
41	20/1	#12	#12	#12	1/2	CHAL	KITCHEN LIGHTING	0	5880	-----	-----	-----	20/3	42										
43	20/1	#12	#12	#12	1/2	CHAL	KITCHEN LIGHTING	0	5880	-----	-----	-----	20/3	44										
45	20/1	#12	#12	#12	1/2	CHAL	KITCHEN LIGHTING	1200	1200	-----	-----	-----	20/3	46										
47	20/1	#12	#12	#12	1/2	CHAL	COOLER LTG / DOOR HTS	0	5880	-----	-----	-----	20/3	48										
49							SPACE	0	0	-----	-----	-----	20/3	50										
51							SPACE	0	0	-----	-----	-----	20/3	52										
53							SPACE	0	0	-----	-----	-----	20/3	54										
WIRE/CONDUIT KEY								23898	19368	19431	PEAK PHASE (A) UNBALANCED NEUTRAL LOAD AMPS = 118.9 AMPS													
1234								62,697								NON DIVERSIFIED LOAD AT 208 VOLT, THREE PHASE = 174.2 AMPS								
TEMP RATING								PRINTED ON PANELS PROGRAM SERIAL NUMBER 2001.4001																
L-78-96 Deg. F.								REGISTERED TO - TODD W. CAREY AND ASSOCIATES																

PANEL L DIVERSIFICATION CALCULATIONS	
RECEPTACLES (32) -	5676 VA TOTAL
FIRST 10 KVA AT 100% -	5676
LIGHTING -	6685 X 125% - 8356
MOTOR LOADS AT 100% -	360
PLUS 25% OF THE LARGEST MOTOR -	90
MISC CONTINUOUS LOADS AT 125% -	4500
KITCHEN EQUIPMENT (95) -	46376 X 0.65 - 30144
TOTAL DIVERSIFIED PANEL LOAD -	49126
LOAD AT 120/208V/3-PHASE/4-WIRE -	136.5A

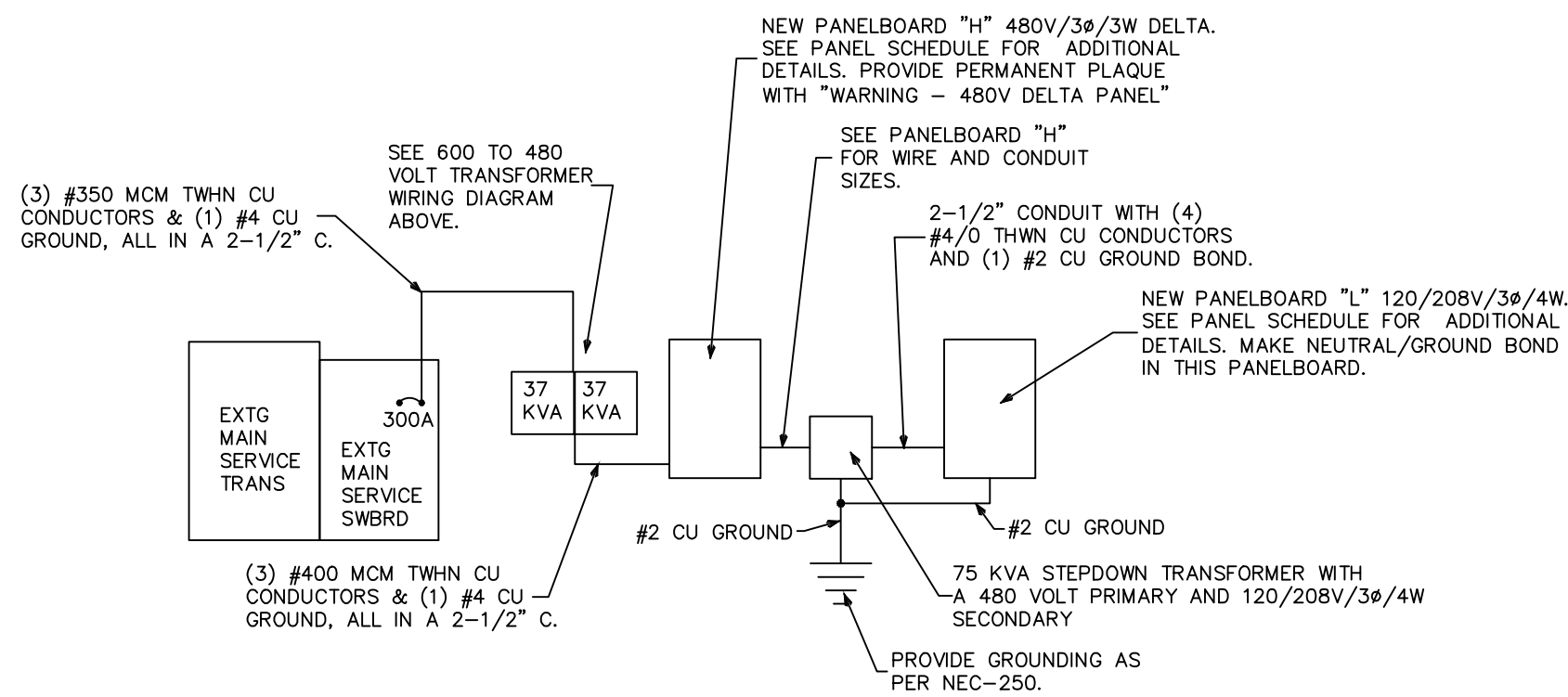
480V/3ø/DELTA OUTPUT



600V/3ø/DELTA INPUT
(2) 37 KW AUTOTRANSFORMERS EQUAL TO
A SQUARE D MODEL EE37S3H.

3 600V SERVICE TRANSFORMER WIRING

NO SCALE

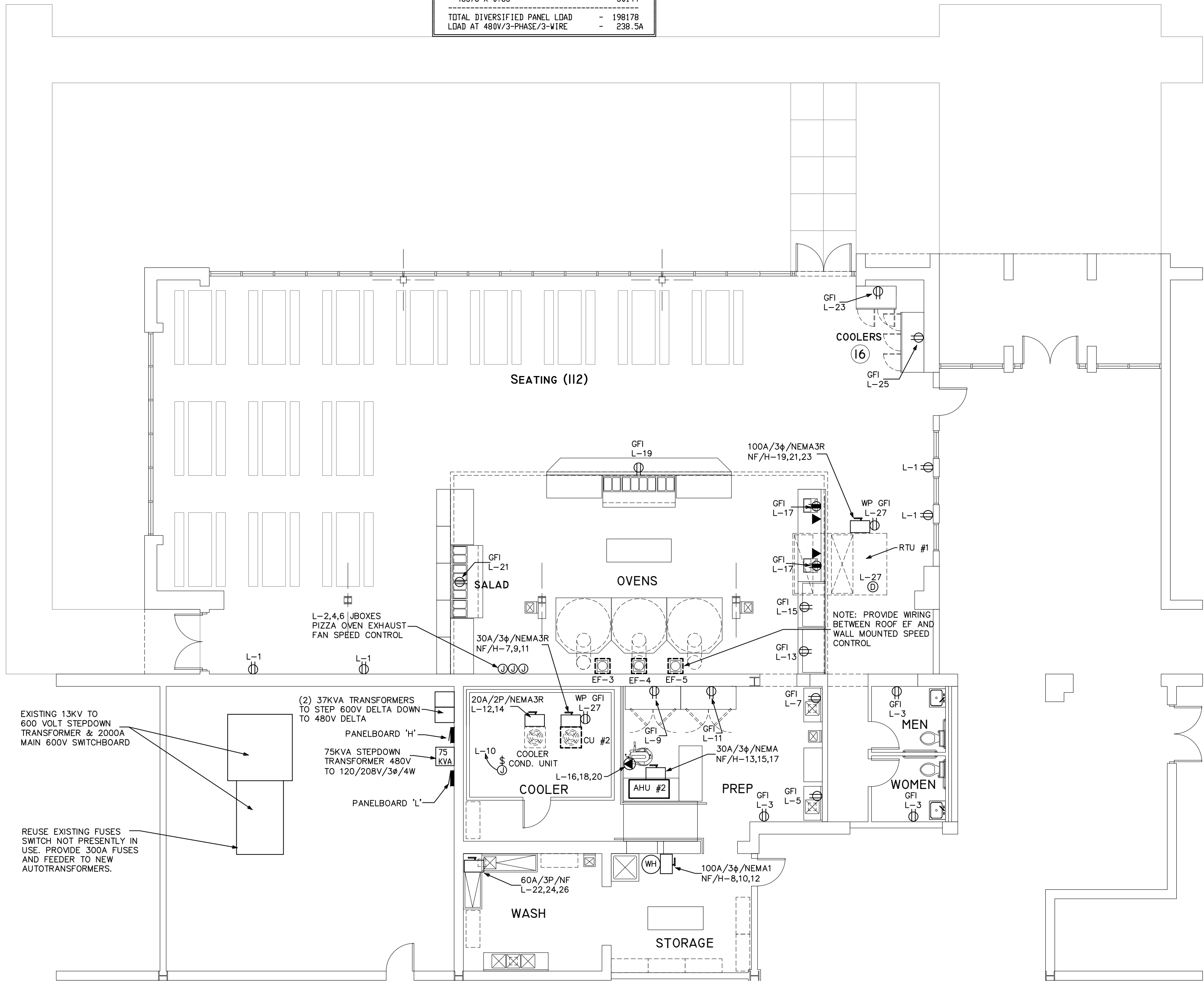


2 ELECTRICAL SERVICE RISER

NO SCALE

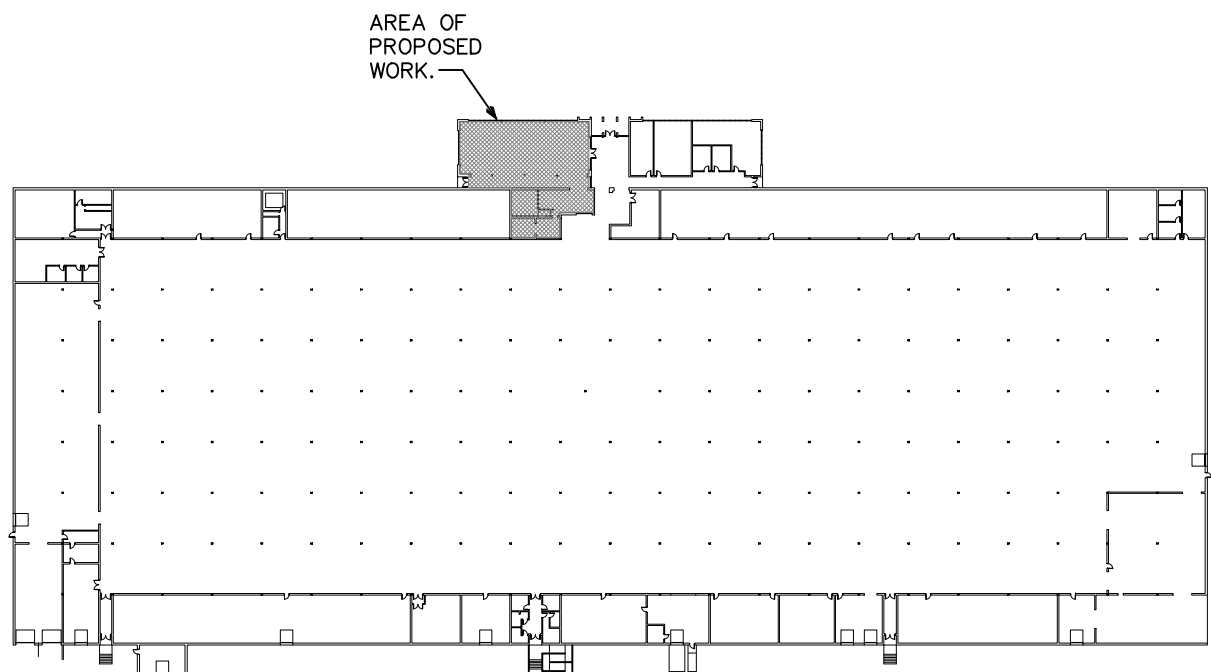
PANEL SCHEDULE H														
400 AMP, 480 VOLT, THREE PHASE, THREE WIRE, 350A. M.C.B., 22000 AMPS MINIMUM A.I.C. BRACING, SURFACE MOUNTED, TYPE NEMA 1 ENCLOSURE														
#	BKR.	WIRE AND CONDUIT					LOAD DESCRIPTION	WIRE AND CONDUIT					BKR.	#
		COND.	NEUTRAL	GND	C.	KEYS		KEYS	C.	GND	NEUTRAL	COND.		
1							0 19168 -----							
							0 2389# -----							
							0 19168 -----							
3	100/3	#3	---	#8	1	CHAL	0 1936# -----	TRANSFORMER/PANELBOARD	CHAL	1-1/2	#6	---	#1/0	125/3
5							0 19168 -----							
							0 19431 -----							
7							0 1911 -----							
							0 15000 -----							
9	20/3	#12	---	#12	1/2	CHAL	0 1911 -----							
							0 15000 -----	ELECTRIC WATER HEATER	CHAL	1	#8	---	#4	70/3
11							0 1911 -----							
							0 15000 -----							
13							0 5283 -----							
							0 0 -----	SPACE						
15	25/3	#12	---	#12	1/2	CHAL	0 5283 -----							
							0 0 -----	SPACE						
17							0 5283 -----							
							0 0 -----	SPACE						
19							0 0 -----							
							0 0 -----	SPACE						
21							0 0 -----							
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PANEL H DIVERSIFICATION CALCULATIONS	
RECEPTACLES (32) -	5676 VA TOTAL
FIRST 10 KVA AT 100% -	5676
LIGHTING -	6685 X 125% - 8356
HVAC LOAD AT 100% -	101607
MOTOR LOADS AT 100% -	360
PLUS 25% OF THE LARGEST MOTOR -	2535
MISC NON-CONTINUOUS LOADS AT 100% -	45000
MISC CONTINUOUS LOADS AT 125% -	4500
KITCHEN EQUIPMENT (95) -	46376 X 0.65 - 30144
TOTAL DIVERSIFIED PANEL LOAD -	198178
LOAD AT 480V/3-PHASE/3-WIRE -	238.5A



2 FLOOR PLAN - POWER

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



KEY PLAN NO SCALE