

NOTICE TO PROPOSERS:

Request for Proposals RE: ENG.26.017 – Preventive Maintenance and Inspection of RCC Mechanical Systems (minus Condensing Boiler), Caddo-Bossier Parishes Port Commission

The Caddo-Bossier Parishes Port Commission is soliciting proposals for a one (1) year contract to perform general mechanical maintenance services for the 40,000 sf Port office building, the Regional Conference Center (“RCC”), located at 6000 Doug Attaway Blvd, Shreveport, LA 71115.

Interested parties can obtain the Request for Proposals on the Port’s website at www.PortCB.com/bids or contact Rick Nance, Director of Engineering and Planning, at 318-462-0877.

A mandatory pre-proposal meeting will be held at 10:00 am on October 2, 2026 at the RCC for a general walk-through of the facilities. Sealed and/or electronic proposals must be received by the Executive Port Director or his designee on October 16, 2026.

**CADDO-BOSSIER PARISHES PORT COMMISSION
REQUEST FOR PROPOSALS (RFP) – ENG.26.017**

1) PURPOSE

- a) The Caddo-Bossier Parishes Port Commission (the “Port”) is seeking Contractors interested in providing the materials and labor associated with the preventative maintenance and inspection of the mechanical systems, not including the new condensing boiler, of the Caddo-Bossier Port Commission Regional Commerce Center and ancillary facilities, more particularly described in Section 2 of this Request for Proposal (“RFP”).
- b) It is the Port’s intent to select a qualified contractor to perform the project defined in Section 2.

2) PROJECT NAME AND SCOPE OF WORK

ENG.26.017 – Preventative Maintenance and Inspection of RCC Mechanical Systems (minus Condensing Boiler), Caddo-Bossier Port

Instructions to Proposers:

- a) **OBLIGATION OF PROPOSER:** The submittal of a Proposal will be understood to indicate the Proposer has inspected the work site and has become thoroughly familiar with the plans, general provisions, and technical specifications. The failure or omission of any Proposer to examine any of the above shall in no way relieve the Proposer from any obligations set forth in the Proposal.
- b) **PROPOSAL AMOUNT:** The compensation to perform the work delineated in the Proposal shall be stated in a LUMP SUM, for one calendar year, based on the requirements enumerated under the SCOPE OF WORK below and **Attachment “A”**.
- c) **PROPOSAL FORMAT:** The Proposer shall use the Proposal Form of his or her choosing.
- d) **Forms to be completed and submitted with the Proposal are as follows:**
 - i) Proposal Bond
 - ii) Power of Attorney (for Proposal Bond)
 - iii) Corporate Resolution Authorizing the Execution of the Proposal
- f) **The following forms shall be completed simultaneously with the execution of the contract:**
 - i) Performance Bond
 - ii) Power of Attorney (for Performance Bond)
 - iii) Conditional Waiver – Contractor; and
 - iv) Conditional Waiver – Subcontractor(s).

SCOPE OF WORK

The scope of work for this project is as follows:

- A. Facilities: The Caddo-Bossier Port's Regional Commerce Center, also referred to as the "RCC," is located at 6000 Doug Attaway Blvd., Shreveport, LA 71115.
- B. The Port has recently replaced the 2,000 MBTU/hr boiler which will be under a separate warranty contract. Any maintenance associated with the 2,000 MBTU/hr boiler is excluded from the scope of work under this RFP.

- C. Perform the following specific tasks:

Perform a preventative maintenance inspection and preventative maintenance on the equipment listed on Attachment A on a quarterly basis (four (4) times per year) in accordance with the following requirements:

- I. **TEST and INSPECT** – On-site labor, required to visually INSPECT and TEST equipment to determine its operating condition and efficiency.
 - 1) **TESTING:** for excessive vibration; motor winding resistance; refrigerant charge; fan RPM; refrigerant oil (acid); water condition; flue gas analysis; safety controls, combustion and draft; crankcase heaters, control system(s), etc.
 - 2) **INSPECTING:** for worn, failed or doubtful parts; drive couplings; oil level; rotation; soot; flame composition and shape; pilot and igniter; steam, water, oil and/or refrigerant leaks, etc.
- II. **PREVENTATIVE MAINTENANCE** – On-site labor required to clean, align, calibrate, tighten, adjust and lubricate equipment. These activities are intended to extend equipment life and assure proper operating condition and efficiency.
 - 1) **CLEANING:** coil surfaces; fan impellers and blades; electrical contacts; burner orifices; passages and nozzles; pilot and igniter; cooling tower baffles, basin, sump and float; chiller, condenser and boiler tubes, etc.
 - 2) **ALIGNING:** belt drives; drive couplings; etc.
 - 3) **CALIBRATING:** safety controls; temperature and pressure controls, etc.
 - 4) **TIGHTENING:** electrical connections; mounting bolts; pipe

clamps; refrigerant piping fittings; damper sections, etc.

- 5) **ADJUSTING:** belt tension; refrigerant charge; super heat; fan RPM; water chemical feed and feed rate; burner fuel/air ratios; gas pressure; set point of controls and limits; compressor cylinder unloaders; damper close-off; sump floats, etc.
- 6) **LUBRICATING:** motors; fan and damper bearings; valve stems; damper linkages; fan vane linkages, etc.

III. INSPECTION REPORT – Provide an Inspection Report to the Port's Building Superintendent upon completion of the inspection with repair recommendations. Upon receipt of the Inspection Report, the Port will process the Invoice for the Quarterly maintenance and inspection within 30 days.

IV. Based on the maintenance and repair recommendations and concurrence by the Port's Building Superintendent, the Proposer shall provide a cost estimate for approval and a proposed timeline for correction. Upon completion of the maintenance and repair services, the Port will compensate the Proposer within 30 days. .

V. Provide on-site response for unforeseen emergencies within 24 hours.

D. Existing site condition:

- 1) Mechanical facilities are located on the fourth floor mechanical room and roof top; Select "As-Built" drawings are included in **Attachment "B"**;
- 2) Utilities include: water, gas, and electric (SWEPCO);
- 3) The property is owned by the Caddo-Bossier Parishes Port Comission; and
- 4) Access to the property is authorized.

The Proposer shall submit one (1) clearly identified original Proposal in response to this RFP to the Executive Port Director, Eric England, no later than **October 16 , 2026 at 2:00 p.m.**

3) INSURANCE REQUIREMENTS

The Consultant shall, at its own expense, provide a copy of the insurance certificate which meets the requirements in **Attachment "C"**.

4) PRE-PROPOSAL MEETING

A MANDATORY Pre-Proposal meeting shall be held on **October 2, 2026 at 10:00 a.m.** to physically observe the location and/or addresses referenced above and clarify

any information necessary to submit an acceptable Proposal. The Building Superintendent shall be available at this time to conduct a guided walk-through.

5) PROPOSALS MUST BE DELIVERED TO:

Caddo-Bossier Parishes Port Commission
ATTN: Executive Port Director
6000 Doug Attaway Blvd
Shreveport, LA 71115

6) DOCUMENTATION OF RESPONSES

- a) Responses to this RFP will be recorded in the presence of one or more witnesses.
- b) Responses to this RFP must be submitted by using a sealed envelope.
- c) The Proposer's name and address, license number, the RFP due date and time, and the RFP title shall be shown on the outside of the envelope.
- d) The Port assumes no responsibility for unmarked envelopes being excluded from consideration for an award.
- e) Proposals received after the time specified will be recorded and then returned unopened.
- f) Questions seeking clarification of any aspect of this RFP may be submitted to:
Rick Nance at rickn@portcb.com, phone: (318) 426-0877; or
Tyler Comeaux at tylerc@portcb.com, phone: (318) 524-2276.

7) SPECIAL PROVISIONS

Sales tax – This project is tax exempt – Maintenance material, when required and permanently installed, should be purchased in the name of the Caddo-Bossier Parishes Port Commission. See **Attachment "D"**.

8) PROCESS OF AWARD

- a) The Proposals will be evaluated by representative(s) of the Port prior to the issuance of a letter of award.
- b) The award process could take up to 10 days following receipt of the Proposals.

9) CONTRACT TIME

Contract time will be one (1) year from the issuance of a Notice to Proceed (NTP).

ATTACHMENT “A”

Inventory of Equipment

- York AHU #2- Filters: (6 ea.) 16x20x2; (6 ea.) 16x20x4
- York AHU #3 - Filters: (4 ea.) 16x20x2; (8 ea.) 20x20x2; (4 ea.) 16x20x4; (8 ea.) 20x20x4
- York Chiller – 1ea.
- Taco Pumps 90GM 75ft Head – 2 ea.
- Baldor Pump Motors – 9 ea.
- Mini Splits – 2 ea.
- Refrigeration System -1 ea.
- Blower Coil Unit – Steering Room (Large Meeting Area) – 4 ea.
- Blower Coil Unit -2nd floor -1 ea.
- Blower Coil Unit 3rd floor -1ea.
- Greenheck Exhaust Fan – 1 ea.
- Misc. Exhaust Fans – 4 ea.
- VAV Boxes with Hot Water Coils -48 ea.

Maintenance and Inspection Supplement

AHU's:

- Change air filters ea. site visit (2” filters replaced quarterly; 4” filters replaced semi-annually
- Check blower bearings
- Check coil condition
- Clean condensate drain line
- Check drain pan
- Check and tighten electrical connections
- Check blower wheel condition
- Replace belts yearly, if applicable

Package Units:

- Change air filters each visit (clean if washable)
- Check and record blower motor amp draw
- Check and record compressor amp draw

- Check and record condenser fan motor amp draw
- Check and record refrigerant pressures (spring visit)
- Check and record electric heat amps (fall visit)
- Check and tighten electrical connections
- Check condition of condenser and evaporator coil each visit
- Clean condenser coils (spring visit)
- Replace belts yearly (spring visit, if applicable)

Exhaust Fans:

- Replace belts (spring visit)
- Check and adjust belts as needed
- Check fan bearings and lubricate as required
- Check motor amps
- Check motor bearings
- Check motor and fan sheaves for wear

Chiller Inspection:

- Clean condenser coils during (spring visit)
- Check refrigerant pressures in each circuit and record
- Check oil levels and record
- Check compressor amps on each circuit and record
- Check compressor contactors and record condition
- Check electrical connections and tighten
- Check condenser fan motors and record amps on each
- Check condenser fan motors bearing condition
- Check temperature controls
- Check and record temperature control set points

- Check and record chilled water temperatures
- Check water sensors for proper calibration
- Check flow switches for proper operation
- Check all thermometers and gauges for proper operation

Chilled water pump:

- Check and record motor amps
- Check coupling condition
- Check and lubricate pump bearings
- Check and lubricate motor bearings
- Check and record discharge and suction pressures
- Clean pumps and motors
- Record and report any defects found

Hot water pump:

- Check and record motor amps
- Check coupling condition
- Check and lubricate pump bearings
- Check and lubricate motor bearings
- Check and record discharge and suction pressures
- Clean pumps and motors
- Record and report any defects found

Heat Pumps or Condensing units:

- Check and record refrigerant pressures
- Check and record compressor amp draw
- Check and record condenser fan motor amp draw

- Check condition of condenser coil each visit
- Clean condenser coils (spring and fall visit)
- Check and tighten electrical connections

Controls:

- Check temperature controls
- Calibrate any controls as needed

The technician will review all maintenance concerns with the customer prior to departing from the service site. Within ten (10) business days from the site visit, the customer will receive a written quote, for repair or replacement, for the issues noted by the technician during the maintenance visit.

MECHANICAL GENERAL NOTES

CONTRACTOR SHALL PROVIDE COMPLETE AND WORKABLE HVAC SYSTEMS IN ACCORDANCE WITH BUT NOT LIMITED TO THE PLANS AND SPECIFICATIONS. COMPLY WITH LATEST EDITIONS OF ALL APPLICABLE CODES INCLUDING NFPA 101:9.2, 90A AND 90B. OBTAIN ALL PERMITS AND PAY ALL REQUIRED FEES.

REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATION OF GRILLES AND DIFFUSERS IN CEILINGS AND WALLS.

FIRE DAMPERS WHERE REQUIRED SHALL BE DYNAMIC TYPE. PROVIDE ACCESS DOORS AS REQUIRED.

DUCT SIZES TO DIFFUSERS, GRILLES AND REGISTERS SHALL BE SAME SIZE AS INLET/NECK SIZE. BRANCH HIGH PERFORMANCE TAKEOFFS SHALL BE SAME SIZE AS DIFFUSER NECKS UNLESS OTHERWISE NOTED.

PROVIDE ACCESS DOORS AT GYPSUM BOARD CEILINGS AND INACCESSIBLE WALLS FOR DAMPER AND VALVE ACCESS. COORDINATE LOCATIONS & SUBMIT TO ARCHITECT FOR REVIEW BEFORE INSTALLATION. SECURE DIFFUSERS AND GRILLES TO T-BAR OR CEILINGS. SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO STARTING WORK.

INSULATED PIPING AND FITTINGS EXPOSED TO VIEW, THROUGHOUT THE FACILITY, SHALL BE COVERED & FINISHED WITH PVC JACKET EQUAL TO MANVILLE CEEL-CO PIPE JACKETING SYSTEM USING 30 MIL THICK JACKET. FITTINGS, FLANGES, VALVES & ACCESSORIES SHALL BE JACKETED. INSTALL PER MANUFACTURER'S INSTRUCTIONS WITH SEAM ON TOP OF PIPE SO AS NOT TO BE VISIBLE FROM OCCUPIED SPACE. FINISH PAINT, VERIFY COLOR WITH ARCHITECT.

DUCTWORK SHALL BE SUPPORTED IN ACCORDANCE WITH APPLICABLE STANDARDS SET FORTH IN THE INTERNATIONAL MECHANICAL CODE.

WHERE MECHANICAL EQUIPMENT IS LOCATED IN ELECTRICAL ROOMS, COORDINATE EXACT LOCATION WITH ELECTRICAL SHOP DRAWINGS PRIOR TO MOUNTING OR HANGING MECHANICAL EQUIPMENT OR ROUTING PIPING. NO EQUIPMENT OR PIPING SHALL BE LOCATED OR ROUTED ABOVE ELECTRICAL GEAR.

DUCT SYSTEMS FABRICATION AND INSTALLATION SHALL CONFORM IN ALL RESPECTS WITH THE INTERNATIONAL MECHANICAL CODE. DUCT INSULATION (WRAP & LINER, AS INDICATED) MATERIALS AND INSTALLATION SHALL COMPLY WITH THE INTERNATIONAL MECHANICAL CODE. PROVIDE FLEXIBLE CONNECTIONS AT ALL SUPPLY AND RETURN CONNECTIONS ON AHU UNITS, VAV BOXES AND AT ALL EXHAUST FANS.

DUCT FOR FIRST 10 FEET AT AIR HANDLER DISCHARGE AND ALL RETURN DUCTS SHALL INSULATED DOUBLE WALL CONSTRUCTION WITH INTERIOR LINING UNLESS OTHERWISE NOTED.

FLEXIBLE DUCT SHALL EXTEND FROM DIFFUSER NOT MORE THAN 5'-0" OR AS DIRECTED BY LOCAL BUILDING INSPECTOR, FREE OF KINKS AND SAME SIZE AS DIFFUSER NECK.

ALL DUCT DIMENSIONS SHOWN ARE INSIDE CLEAR.

PROVIDE SMOKE DETECTOR IN SUPPLY AND RETURN DUCT OF AIR HANDLING DEVICES OF 2000 CFM AND OVER OR SERVING A MEANS OF EGRESS. UPON ACTIVATION OF SMOKE DETECTOR, FAN MOTOR SHALL SHUT DOWN. AUDIO/VISUAL ALARM SHALL BE INITIATED IN A NORMALLY OCCUPIED SPACE. PROVIDE ALARM TEST STATION. INSTALLATION SHALL BE IN ACCORDANCE WITH NFPA 90A, INTERNATIONAL MECHANICAL CODE AND THE AUTHORITY HAVING JURISDICTION.

PROVIDE FIRE-STAT IN RETURN DUCT OF AIR HANDLING DEVICES UNDER 2000 CFM. UPON ACTIVATION OF FIRE-STAT, FAN MOTOR SHALL SHUT DOWN. INSTALLATION SHALL BE IN ACCORDANCE WITH INTERNATIONAL MECHANICAL CODE AND THE AUTHORITY HAVING JURISDICTION.

CONTRACTOR SHALL FIELD VERIFY LOCATION OF ROOF MOUNTED OR ATTIC MOUNTED EQUIPMENT TO AVOID CUTTING ANY STRUCTURAL MEMBERS. JOIST SHALL NOT BE CUT WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER.

TEMPERATURE CONTROLS SHALL BE AS SPECIFIED. VERIFY FINAL LOCATION OF THERMOSTAT OR OTHER TEMPERATURE CONTROL DEVICE WITH OWNER/ARCHITECT PRIOR TO INSTALLATION. LOCATIONS INDICATED ARE GENERAL IN NATURE AND MAY BE ADJUSTED AT THE DISCRETION OF THE TEMPERATURE CONTROLS AS NECESSARY FOR PROPER OPERATION OF THE MECHANICAL SYSTEMS. PROVIDE CLEAR LOCKING COVERS.

EQUIPMENT DIMENSIONS AND PERFORMANCE ARE BASED ON PRODUCTS AND SYSTEMS SCHEDULED. REFER TO SPECIFICATIONS FOR ACCEPTABLE MANUFACTURERS AND REQUIREMENTS. CONTRACTOR SHALL BE RESPONSIBLE FOR MATCHING SYSTEM COMPONENTS OF SUBSTITUTED EQUIPMENT.

PROVIDE FULL UNIT SIZE (1" MIN. UNO) COPPER CONDENSATE DRAIN LINE FROM COILS TO P-TRAP OR HUB DRAIN WITH TRAP PRIMER IN NEAREST VERTICAL PLUMBING STACK. TERMINATE OPEN SITE. ARCHITECT/ENGINEER OF INTERFERENCES.

COORDINATE INSTALLATION OF EQUIPMENT, DUCTS AND PIPING WITH OTHER TRADES. INFORM ARCHITECT/ENGINEER OF INTERFERENCES.

FRESH AIR INTAKES SHALL BE LOCATED A MINIMUM OF 10'-0" FROM ANY EXHAUST/VTR. DAMPERS TO REMAIN CLOSED UNTIL UNITS ARE STARTED PRIOR TO TEST AND BALANCE.

AIR HANDLING UNITS, FAN COIL UNITS AND VAV BOXES LOCATED ABOVE CEILINGS SHALL BE INSTALLED WITH VIBRATION ISOLATION HANGERS AT ALL SUPPORT LOCATIONS.

PROVIDE AUXILIARY DRAIN PAN UNDER AIR HANDLING UNITS LOCATED ABOVE CEILINGS. PROVIDE FLOAT UNIT CUT-OFF SWITCH; INTERLOCK FOR UNIT SHUTDOWN.

EQUIPMENT START-UP SHALL BE BY MANUFACTURER'S AUTHORIZED REPRESENTATIVES.

CONTRACTOR SHALL INSTALL NEW FILTERS IN ALL AIR HANDLERS AFTER COMPLETION OF ALL CONSTRUCTION AND FINAL TEST AND BALANCE AND PRIOR TO OWNER OCCUPANCY. PROVIDE A MINIMUM OF 2 SETS OF SPARES FOR EACH UNIT.

ROUND AND RECTANGULAR DUCTS EXPOSED AND/OR SHOWN WITH LINER SHALL BE DOUBLE WALL CONSTRUCTION, 1" THICK LINER WITH BARRIER FILM AND RIVER WALL. ALL DUCTS EXPOSED SHALL BE FINISH PAINTED, VERIFY COLOR WITH ARCHITECT.

EQUIPMENT, CONTROLS AND REFRIGERANT LINES SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

CONTRACTOR SHALL BE RESPONSIBLE FOR CONTROL WIRING AND THE COORDINATION OF ANY SUPPLY POWER NOT SHOWN ON ELECTRICAL PLANS.

MEDIUM PRESSURE DUCT SHALL BE FLAT-OVAL.

VARIABLE FREQUENCY DRIVES (VFD'S) SHALL BE PROVIDED FACTORY-MOUNTED WITH EQUIPMENT, UNLESS SPECIFIED OTHERWISE. PERFORMANCE SPECIFICATION FOR VFD IS PROVIDED IN SECTION 15900.

ALL DUCTWORK AS INDICATED AND NOTED SHALL BE UNED.

PROVIDE REINFORCED CONCRETE HOUSEKEEPING PAD BENEATH EACH PIECE OF FLOOR-MOUNTED EQUIPMENT. THICKNESS SHALL BE AS NOTED. CONCRETE WORK SHALL BE BY GENERAL CONTRACTOR. COORDINATE WITH CONSTRUCTION MANAGER AS REQUIRED. PAD SHALL OVERHANG EQUIPMENT THREE INCHES IN EACH DIRECTION. COORDINATE EXACT SIZE WITH MECHANICAL CONTRACTOR AND EQUIPMENT SUPPLIER ACCORDINGLY.

SUSPENDED AIR HANDLING UNITS AND FAN COIL UNITS SHALL BE PROVIDED WITH HANGING SPRING ISOLATORS FROM EACH CORNER.

GROOVE PIPE PIPING SYSTEMS, SIMILAR TO VICTAULIC, SHALL BE ACCEPTABLE FOR HYDRONIC PIPING SYSTEMS.

FOR EACH SUSPENDED AIR HANDLING UNIT, PROVIDE 1 1/4" (UNO) INSULATED COPPER CONDENSATE DRAIN PIPE IN NEAREST ADJACENT WASTE/VENT STACK. FOR EACH FAN COIL UNIT, PROVIDE 3/4" (UNO) INSULATED COPPER CONDENSATE DRAIN PIPE IN NEAREST ADJACENT WASTE/VENT STACK. EXTEND AND TERMINATE DRAIN PIPE AT 2" DEEP-SEAL P-TRAP ABOVE CEILING WITH FUNNEL AND TRAP PRIMER (RE: PLUMBING PLANS) AS REQUIRED.

WHERE INTERIOR OF RETURN AIR DUCTWORK IS VISIBLE THROUGH AIR DISTRIBUTION DEVICE, PAINT FLAT BLACK.

OUTSIDE AIR INTAKE DAMPER OF ALL HVAC UNITS SHALL REMAIN CLOSED UNTIL AIR BALANCE AND SEQUENCING OF TEMPERATURE CONTROLS.

AIR DISTRIBUTION DEVICE SCHEDULE						
MARK	DESCRIPTION	MOUNTING	MANUFACTURERS CATALOG NO.	MATERIAL	FINISH	ACCESSORIES / REMARKS
D1	CEILING SUPPLY DIFFUSER	T-BAR	PRICE ASCD	ALUM	WHITE BAKED ENAMEL	24x24 SQUARE CONE DIFFUSER, 4-WAY THROW, NECK SIZE AS INDICATED
D2	CEILING SUPPLY DIFFUSER	SURFACE	PRICE ASCD	ALUM	WHITE BAKED ENAMEL	12x12 SQUARE CONE DIFFUSER, 4-WAY THROW, NECK SIZE AS INDICATED
D3	CEILING SUPPLY DIFFUSER	SURFACE	PRICE ASCD	ALUM	WHITE BAKED ENAMEL	24x24 SQUARE CONE DIFFUSER, 4-WAY THROW, NECK SIZE AS INDICATED
D4	LINEAR SLOT SUPPLY DIFFUSER	SURFACE	PRICE SDS100/SDB1100	ALUM	WHITE BAKED ENAMEL	SLOT DIFFUSER W/4-1" WIDE SLOTS, 5 FT LONG W/INSULATED PLENUM BOX
D5	LINEAR SLOT SUPPLY DIFFUSER	SURFACE	PRICE SDS100/SDB1100	ALUM	WHITE BAKED ENAMEL	SLOT DIFFUSER W/2-1" WIDE SLOTS, 4 FT LONG W/INSULATED PLENUM BOX
D6	LINEAR SLOT SUPPLY DIFFUSER	SURFACE	PRICE SDS50/SDA150	ALUM	WHITE BAKED ENAMEL	32" SLOT DIFFUSER W/2-1/2" WIDE SLOTS, 5-4 FT LONG INSULATED PLENUM BOXES
D7	CEILING SUPPLY DIFFUSER	SURFACE	PRICE ARCD	ALUM	WHITE BAKED ENAMEL	ROUND CONE DIFFUSER, ADJUSTABLE, NECK SIZE AS INDICATED
D8	SIDEWALL SUPPLY DIFFUSER	SURFACE	PRICE 5100	STEEL	WHITE BAKED ENAMEL	LOUVERED FACE 0° DEFLECTION GRILLE, 14/4, LONG BLADES IN FRONT, OBD
G1 +	CEILING RETURN GRILLE	SURFACE	PRICE 800	ALUM	WHITE BAKED ENAMEL	1/2 x 1/2 x 1/2 GRID EGG CRATE CORE, 12/12 PANEL SIZE, OBD
G2 +	CEILING RETURN/EXHAUST GRILLE	T-BAR	PRICE 800	ALUM	WHITE BAKED ENAMEL	1/2 x 1/2 x 1/2 GRID EGG CRATE CORE, 24/24 PANEL SIZE, OBD
G3	CEILING RETURN/EXHAUST GRILLE	SURFACE	PRICE BOFF	ALUM	WHITE BAKED ENAMEL	1/2 x 1/2 x 1/2 GRID EGG CRATE CORE, 24/24 PANEL SIZE, OBD
G4	CEILING RETURN/EXHAUST GRILLE	SURFACE	PRICE BOFF	ALUM	WHITE BAKED ENAMEL	1/2 x 1/2 x 1/2 GRID EGG CRATE CORE, 24/12 PANEL SIZE, OBD

* VERIFY EXACT DEVICE TYPE/FINISH PRIOR TO ORDER AND INSTALLATION.
+ FOR NON-DUCTED PLENUM RETURN GRILLES ONLY, OPPOSED BLADE DAMPERS SHALL BE DELETED.

BLOWER COIL UNIT SCHEDULE														
BCU	CFM	O/A CFM	TYPE	V/%	MOTOR HP	ESP	COOLING				HEATING			
							TOTAL MBH	EAT DB/WB	LAT DB/WB	EWT/LWT	GPM/DP	TOTAL MBH	GPM/DP	JOHNSON CONTROLS MODEL NO.
G	1400	-	HORIZ.	460/3	3/4	0.5	58.5/37.4	80.0/67.0	55.4/53.8	44.0/56.0	9.4/3.6	36.6	1.9/1.7	AHI 18
4	1900	-	HORIZ.	460/3	1	0.5	73.9/49.6	80.0/67.0	55.9/54.4	44.0/56.0	12.3/2.5	51.7	2.6/4.2	AHI 20
K	3300	75	HORIZ.	460/3	2	0.5	130.6/88.5	90.0/67.0	55.2/54.1	44.0/56.0	21.8/1.7	86.4	4.4/1.2	AHI 40
2A,2B, 2C	1900	500	HORIZ.	460/3	1	0.5	77.9/52.1	80.0/67.0	54.7/53.6	44.0/56.0	13.0/2.7	51.0	2.6/0.6	AHI 20
2D	1600	500	HORIZ.	460/3	1	0.5	65.8/43.7	80.0/67.0	54.8/53.6	44.0/56.0	11.0/4.5	44.1	2.3/2.5	AHI 16
2E	1600	200	HORIZ.	460/3	1	0.5	65.8/43.7	80.0/67.0	54.8/53.6	44.0/56.0	11.0/4.5	44.1	2.3/2.5	AHI 16

HIGH EFFICIENCY MOTOR, MOTOR STARTER AND DISCONNECT, FACTORY MOUNTED HIGH EFFICIENCY FILTER RACK WITH 2" PLEATED PRE FILTER AND 4" MERV 13 FINAL FILTER. UNITS SHALL BE PROVIDED WITH ONE ADDITIONAL SET OF MERV 8 FILTERS FOR USE DURING CONSTRUCTION IN ACCORDANCE WITH LEED NC V2.2 EQ CREDIT 3.1 "CONSTRUCTION MANAGEMENT PLAN, DURING CONSTRUCTION." UNITS SHALL NOT EXCEED SPECIFIED SOUND LEVELS OR HEIGHTS OF SCHEDULED EQUIPMENT.

WATER BOILER SCHEDULE						
MARK	MBH INPUT	FUEL	GPM	EWT	LWT	EFFICIENCY
B-1	2000	GAS	100.0	140	180	87%
MANUFACTURER & MODEL						
AERCO BWK-2.0						

PUMP SCHEDULE						
MARK	SERVICE	GPM	HEAD	RPM	HP	VOLTAGE
CWP-1	CHILLED WATER	165	50'	1750	5	480/3
HWP-1	HEATING WATER	90	75'	1750	5	480/3
REMARKS						
FLEX-COUPLED END SUCTION BASE MOUNTED						
FLEX-COUPLED END SUCTION BASE MOUNTED						

NOTE: CONTRACTOR SHALL ALLOW FOR TRIMMING REBALANCING IMPELLERS. PROVIDE VARIABLE FREQUENCY DRIVES FOR CWP & HWP PUMPS.

AIR COOLED CHILLER SCHEDULE									
UNIT MARK	COMPRESSOR				EVAPORATOR				
	NET TONS	REFR	LRA	VOLTAGE (V/Ø)	GPM	EWT LWT	MAX T T	FOUL FAC	MIN. EFF. (NPLV)
CH-1	83.3	410A	187	480/3	166.3	56	44	5.5	0.00010
MANUFACTURER & MODEL									
YORK YLAA0090									

CHILLER SHALL HAVE ENHANCED REFRIGERANT FACTOR LESS THAN 100 FOR COMBINED CONTRIBUTIONS OF OZONE DEPLETION AND GLOBAL WARMING POTENTIAL PER LEED NC V2.2. MANUFACTURER SHALL PROVIDE SUPPORTING DOCUMENTATION WITH CHILLER SHOP DRAWING SUBMITTAL.

EXHAUST FAN SCHEDULE							
MARK	GREENHECK MODEL	VOLUME (CFM)	ESP (")	RPM	OPERATING POWER	V/%	SONES
EF-G1	SE1-12-432-DB	1040	0.25	1550	1/8 HP	115/1	8.4
EF-G2	CSP-B110	100	0.4	950	80 W	115/1	2.6
KEF-1	USGF-200-20	4000	1.25	1111	2 HP	208/3	19.3

NOTES:
A. PROVIDE WITH INTEGRAL WIRE GUARD AND SUPPORT STRUCTURE.
B. EXTEND AND CONNECT E/A DUCT TO UPPER ALUMINUM BRICK VENT AS NOTED WITH INTEGRAL FLASHING FLANGE AND INSECT SCREEN.
C. INTERLOCK WITH BUILDING AUTOMATION/CONTROL SYSTEM.
D. INTERLOCK WITH KITCHEN HOOD/SUPPRESSION SYSTEM.

HYDRONIC AIR HANDLING UNIT SCHEDULE		
AHU NO	2	3
TYPE	DRAW-THRU	DRAW-THRU
FAN DATA	CFM	7200
	O/A CFM	400
	EXT. S.P. (IN W.C.)	2.0"
	FAN RPM	1812
	MOTOR H.P.	15
CHILLED WATER COIL	VOLTAGE	460/3
	FACE VELOCITY (MAX)	507
	GPM	26.2
	AP WTR (FT.)	0.7
	ENT. WTR. TEMP.	44.0
	LVG. WTR. TEMP.	56.0
	E.A.T. (DB/WB)	75/63
	L.A.T. (DB/WB)	57.1/55.7
	TOTAL CAP. (MBH)	157.6
	SENS. CAP. (MBH)	142.8
HEATING WATER COIL	MAXIMUM FINS PER INCH	10
	FACE VELOCITY (MAX)	507
	GPM	17.0
	AP WTR (FT.)	0.30
	ENT. WTR. TEMP.	180.0
	LVG. WTR. TEMP.	139.9
	AIR TEMP. RISE	42.4
	TOTAL CAP. (MBH)	331.0
	MAXIMUM FINS PER INCH	10
	PRE FILTER (MERV 8)	2" PLEATED
	FINAL FILTER (MERV 13)	4" MINI PLEAT
MANUFACTURER & MODEL NUMBER		
	YORK XT	YORK XT

NOTE: AHU 2 & 3 HAVE FACTORY MOUNTED VFD. AHU 2 & 3 WITH PLENUM TYPE FANS (SOUND LEVELS AS SPECIFIED). PROVIDE MIXING BOX SECTION AND CONTROL INTERFACE FOR ALL UNITS. UNITS SHALL BE PROVIDED WITH ONE ADDITIONAL SET OF MERV 8 FILTERS FOR USE DURING CONSTRUCTION IN ACCORDANCE WITH LEED NC V2.2 EQ CREDIT 3.1 "CONSTRUCTION MANAGEMENT PLAN, DURING CONSTRUCTION."

HYDRONIC ASSESSORIES SCHEDULE		
MARK	DESCRIPTION	MAKE/MODEL
AS-C	CHILLED WATER AIR SEPARATOR	B&G-ROLAIRTROL
AS-H	HEATING WATER AIR SEPARATOR	B&G-ROLAIRTROL
ET-C	CHILLED WATER EXPANSION TANK	B&G-"D" SERIES
ET-H	HEATING WATER EXPANSION TANK	B&G-"D" SERIES
BT-C	CHILLED WATER BUFFER TANK	CEDLINE CWB SERIES

MAKE-UP AIR UNIT SCHEDULE						
MARK	GREENHECK MODEL	VOLUME (CFM)	ESP (IN WG)	FRPM	OPERATING POWER (HP)	DBA
MUA-1	MSCF-B5L-FC-20	3600	0.5	1062	2	64

TEFC MOTOR, CONTROL CENTERS WITH DISCONNECT STARTERS, GRAVITY-OPERATED DAMPER (WD-330-PB-24x20) WITH BROSGREEN (ANODIZED ALUMINUM FINISH TO MATCH EXTERIOR BUILDING FINISH; COORDINATE AS REQUIRED WITH ARCHITECTURAL PLANS), V-BANK FILTER SECTION WITH 2" ALUMINUM MESH FILTERS, 100X OSA, MAXITROL 14 ELEC MOO DISCH TEMP CONTROL, NEOPRENE VIBRATION ISOLATION, PERMATECTOR COATING, NEMA 1 DISCONNECT SWITCH.

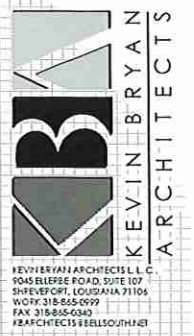
HYDRONIC UNIT HEATER SCHEDULE						
MARK	SERVICE	CFM	MOTOR (HP)	INPUT (MBH)	EWT/LWT	POWER V/%
UH-G.4	VECH, FIRE ROOM	400	0.055	23	180/140	115/1

* PROVIDE REMOTE SUMMER FAN SWITCH.

MECHANICAL LEGEND	
SYMBOL	DESCRIPTION
	SUPPLY AIR DIFFUSER OR DUCT
	RETURN AIR GRILLE, REGISTER OR DUCT
	EXHAUST AIR GRILLE, REGISTER OR DUCT
	DUCT TRANSITION - CONCENTRIC, ECCENTRIC
	FLEXIBLE DUCT
	DOUBLE WALL (PERF. INNER) INSULATED DUCT
	DUCT ELBOW W/TURNING VANES
	MANUAL VOLUME DAMPER
	MOTORIZED VOLUME DAMPER
	THERMOSTAT / TEMPERATURE SENSOR
CWS	CHILLED WATER SUPPLY
CWR	CHILLED WATER RETURN
AHU	AIR HANDLING UNIT
ERV	ENERGY RECOVERY VENTILATOR
MUA	MAKE-UP AIR UNIT
BCU	BLOWER COIL UNIT
EF	EXHAUST FAN
	FIRE DAMPER
S/A	SUPPLY AIR
R/A	RETURN AIR
O/A	OUTSIDE AIR
E/A	EXHAUST AIR
HWS	HEATING WATER SUPPLY
HWR	HEATING WATER RETURN
AFB	ABOVE FINISHED FLOOR
B	BOILER
CH	CHILLER
VAV	VARIABLE AIR VOLUME UNIT
	BALL VALVE
	UNION
	GATE VALVE
	BALANCING VALVE
FR	FLUE THRU ROOF W/ROOF CAP



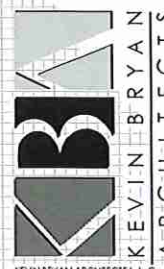
ALLET, FENNER, JOLLY & McLELLAND, INC.
Consulting Engineers
1595 LOUISIANA AVE
SHREVEPORT, LOUISIANA
PHONE: 318-425-7452
FAX: 318-425-4222
DESIGNER: CHARLES M. HAZEL, P.E.
LICENSE NO: 25689
THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY.



REVISIONS	
ARCHITECT	
ENGINEER	

REGIONAL COMMERCE CENTER
PORT OF SHREVEPORT BOSSIER
10397 LA HIGHWAY ONE, SHREVEPORT, LA 71115

PROJECT INFO	
Date	APRIL 2009
Scale	AS SHOWN
Drawn	GW
Job	
SHEET	
M1 of 12M	



KEVIN BRYAN ARCHITECTS, L.L.C.
9045 BLUEBEE ROAD, SUITE 107
SHREVEPORT, LOUISIANA 71105
WORK: 318.665.0099
FAX: 318.665.0340
E: ARCHITECTS@KEVINBRYANARCHITECTS.COM

REVISIONS

ARCHITECT

ENGINEER

PROJECT

REGIONAL COMMERCE CENTER
PORT OF SHREVEPORT BOSSIER
10397 LA HIGHWAY ONE, SHREVEPORT, LA 71115

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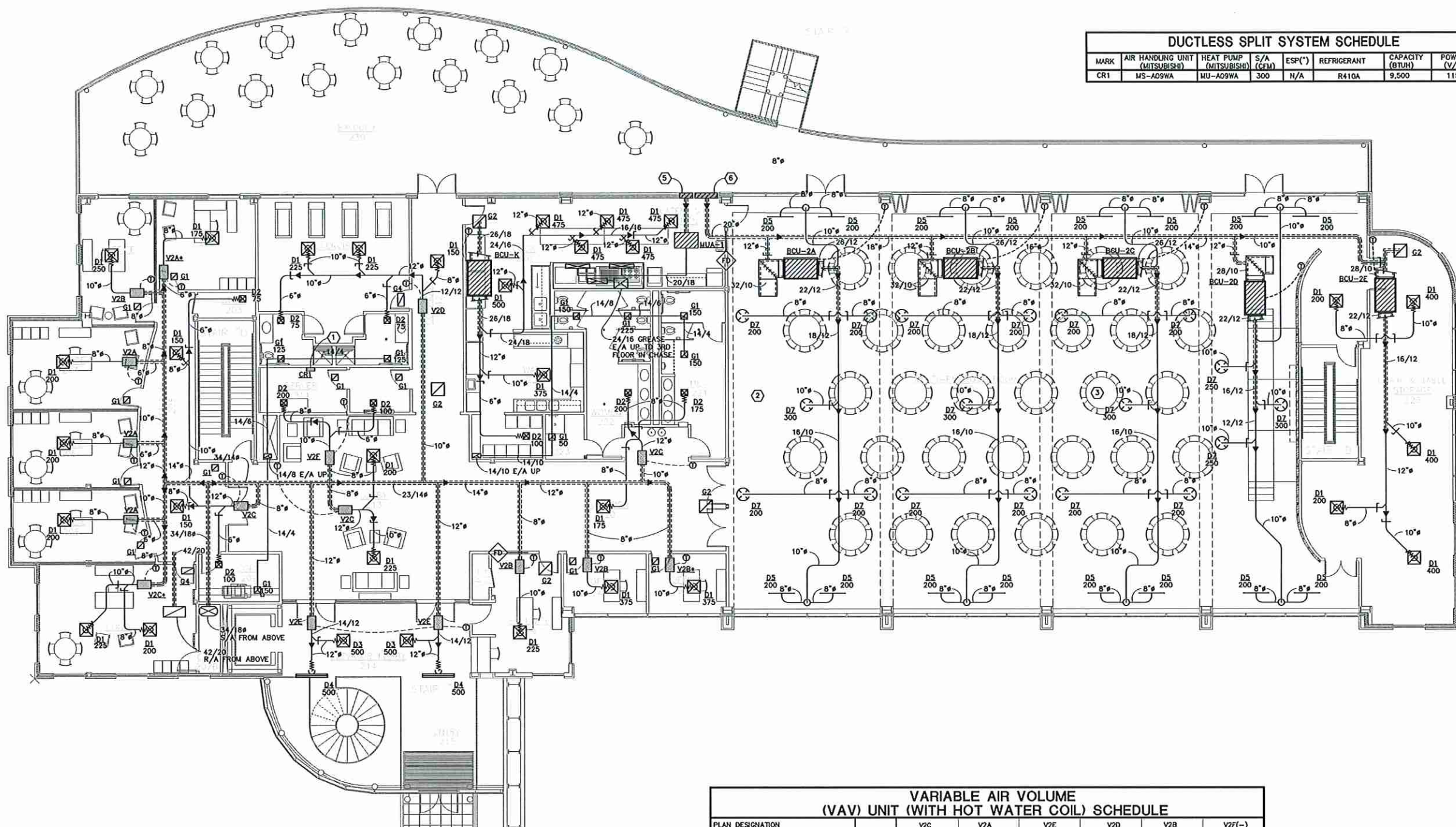
Drawn: GW

Job:

SHEET

M2 of 12M

DUCTLESS SPLIT SYSTEM SCHEDULE						
MARK	AIR HANDLING UNIT (MITSUBISHI)	HEAT PUMP (MITSUBISHI)	S/A (CFM)	ESP(*)	REFRIGERANT	CAPACITY (BTUH)
CR1	MS-A09WA	MU-A09WA	300	N/A	R410A	9,500
						115/1



MECHANICAL - SECOND FLOOR PLAN (HVAC)
SCALE: 1/8"=1'-0"

- HVAC NOTES:**
1. PROVIDE "DUCTLESS" SPLIT SYSTEM AS SCHEDULED. SET THERMOSTAT THREE DEGREES ABOVE ROOM VAV THERMOSTAT. ROUTE ASSOCIATED REFRIGERANT PIPING UP THROUGH CHASES PARALLEL TO DUCTWORK/HVAC PIPING SYSTEM TO ROOF MECHANICAL ROOM.
 2. PROVIDE CARBON DIOXIDE MONITORING IN ASSEMBLY AREA IN STRICT ACCORDANCE WITH LEED NC V2.2; INTERCONNECT WITH BUILDING AUTOMATION SYSTEM ALARM.
 3. ALL EXPOSED MECHANICAL SYSTEM COMPONENTS WITHIN ASSEMBLY AREA (I.E. DUCTWORK, PIPING, ETC.) SHALL BE PRIMED AND PAINTED IN ACCORDANCE AND AS DIRECTED BY ARCHITECT.
 4. COORDINATE ROUTING OF HORIZONTAL O/A DUCT THROUGH JOIST WEB AND ABOVE CEILING PANELS.
 5. MAKEUP AIR INTAKE LOUVER AS SCHEDULED (RE: SHEET M1).
 6. PROVIDE 42/24 O/A INTAKE LOUVER EQUAL TO GREENHECK EDK-602 WITH INTEGRAL BIRDSCREEN, FLANGED FRAME AND EXTENDED SIL. LOUVER TO BE ANODIZED ALUMINUM FINISH TO MATCH BUILDING EXTERIOR. COORDINATE EXACT HEIGHT WITH ARCHITECT. TRANSITION O/A DUCT FULL SIZE OF LOUVER.

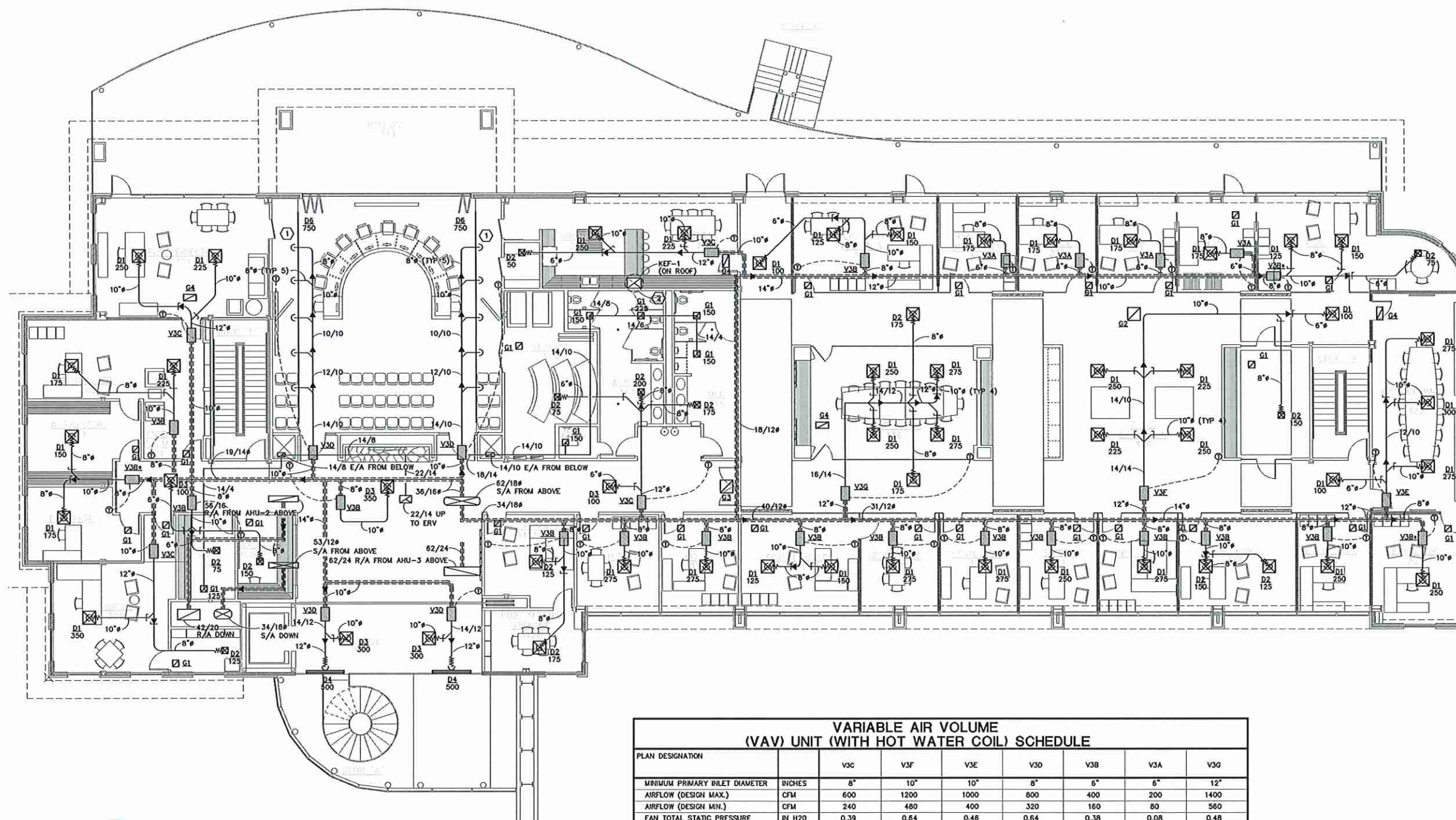
VARIABLE AIR VOLUME (VAV) UNIT (WITH HOT WATER COIL) SCHEDULE							
PLAN DESIGNATION		V2C	V2A	V2E	V2D	V2B	V2F(-)
MINIMUM PRIMARY INLET DIAMETER	INCHES	8"	6"	10"	8"	6"	6"
AIRFLOW (DESIGN MAX.)	CFM	600	200	1000	800	400	400
AIRFLOW (DESIGN MIN.)	CFM	240	80	400	320	160	160
FAN TOTAL STATIC PRESSURE	IN H2O	0.39	0.08	0.46	0.64	0.38	0.38
VOLTAGE/PHASE	V	277/1	277/1	277/1	277/1	277/1	277/1
HEATING AIRFLOW	CFM	240	80	400	320	160	-
PRIMARY AIR ENTERING TEMP.	°F	55.0	55.0	55.0	55.0	55.0	-
UNIT LEAVING AIR TEMP.	°F	104.7	104.7	104.7	104.7	104.7	-
COIL HEATING CAPACITY	MBTUH	13.31	4.42	22.20	17.73	8.89	-
HOT WATER FLOW RATE	GPM	1.38	2.32	2.89	3.19	0.91	-
ENTERING HOT WATER TEMP.	°F	180	180	180	180	180	-
MAXIMUM AIR PRESSURE DROP	IN H2O	0.33	0.04	0.41	0.54	0.27	0.27
MAXIMUM WATER PRESSURE DROP	FT H2O	0.32	2.42	0.77	1.60	0.10	-
MAX. VALVE RADIATED	NC	17	-	18	21	16	16
MAX. VALVE DISCHARGE	NC	27	19	26	28	26	26

(*) - DENOTES THREE WAY VALVE CONFIGURATION, ALL OTHERS SHALL BE TWO-WAY CONFIGURATION.
PROVIDE 1/2" MATT-FACED INSULATION ON ALL BOXES.
(-) - LESS HOT WATER COIL IN UNIT.



ALLET, FENNER, JOLLY & McCLELLAND, INC.
Consulting Engineers
1055 LOUISIANA AVE
SHREVEPORT, LOUISIANA
PHONE: 318-425-7453
FAX: 318-425-4522
DESIGNER: CHARLES M. HAZEL, P.E.
LICENSE NO. 29559
THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY.

**REGIONAL COMMERCE CENTER
 PORT OF SHREVEPORT BOSSIER**
 10397 LA HIGHWAY ONE, SHREVEPORT, LA 71115



MECHANICAL - THIRD FLOOR PLAN (HVAC)
 SCALE: 1/8"=1'-0"

MECHANICAL NOTES:

1. PROVIDE 32 FOOT LONG LINEAR SLOT DIFFUSER WITH 2-1/2" SLOTS MOUNTED IN SIDEWALL. PROVIDE 5-4 FOOT LONG PLENUM BOXES, SET 3 FOOT APART. EACH PLENUM BOX SHALL SUPPLY 150 CFM. 3 FOOT SECTIONS IN BETWEEN PLENUM BOXES SHALL BE COVERED WITH 3 FOOT METAL BLANK-OFFS EQUAL TO PRICE MB.
2. 24/16 GREASE E/A DUCT FROM CATERING KITCHEN HOOD BELOW IN CABINET CHASE. TRANSITION IN VERTICAL ABOVE CEILING TO 20/20; EXTEND AND CONNECT TO KEF-1 (ON ROOF).

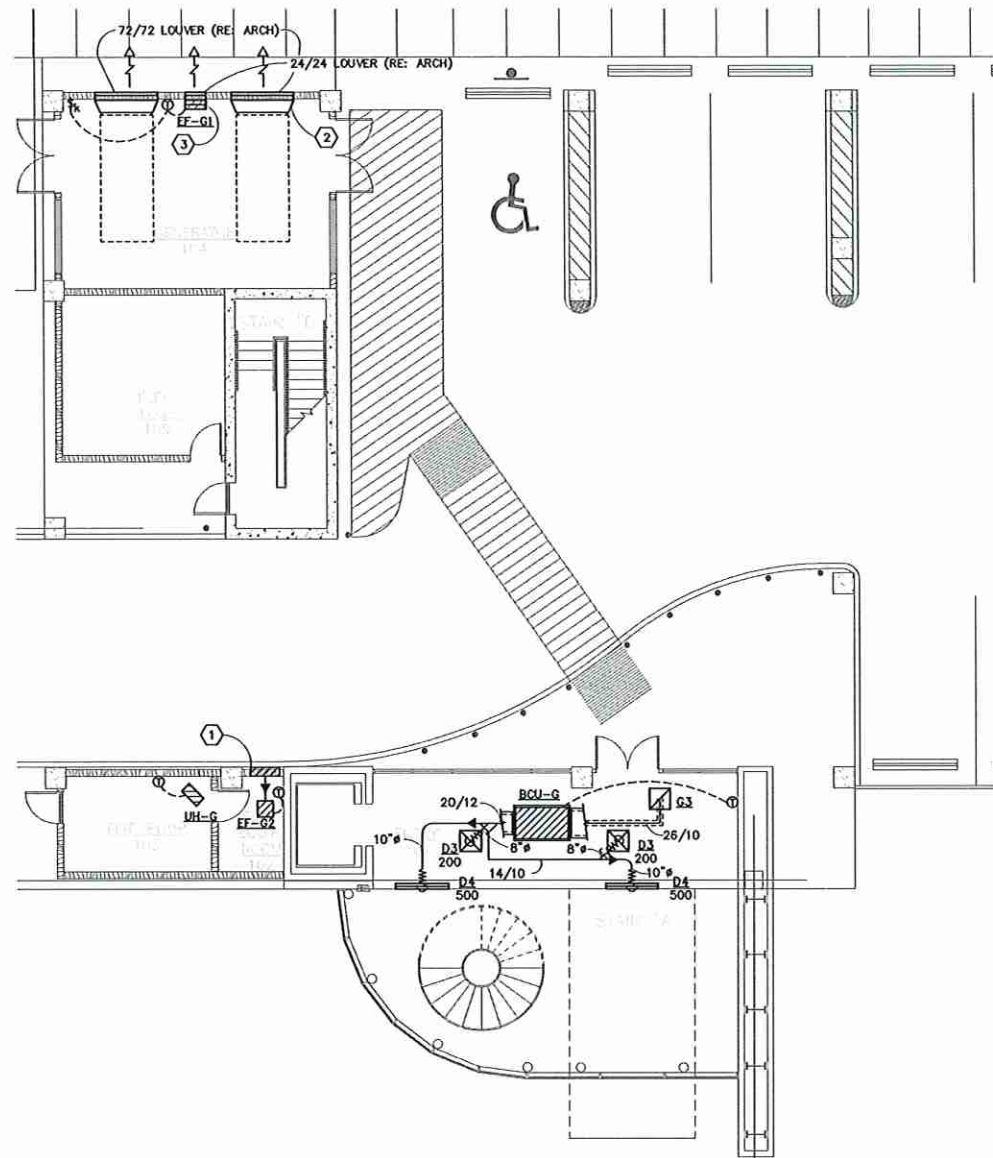
VARIABLE AIR VOLUME (VAV) UNIT (WITH HOT WATER COIL) SCHEDULE								
PLAN DESIGNATION		V3C	V3F	V3E	V3D	V3B	V3A	V3G
MINIMUM PRIMARY INLET DIAMETER	INCHES	8"	10"	10"	8"	6"	6"	12"
AIRFLOW (DESIGN MAX.)	CFM	600	1200	1000	800	400	200	1400
AIRFLOW (DESIGN MIN.)	CFM	240	480	400	320	160	80	560
FAN TOTAL STATIC PRESSURE	IN H2O	0.39	0.64	0.46	0.64	0.38	0.08	0.48
VOLTAGE/PHASE	V	277/1	277/1	277/1	277/1	277/1	277/1	277/1
HEATING AIRFLOW	CFM	240	480	400	320	160	80	560
PRIMARY AIR ENTERING TEMP.	°F	55.0	55.0	55.0	55.0	55.0	55.0	55.0
UNIT LEAVING AIR TEMP.	°F	104.7	104.7	104.7	104.7	104.7	104.7	104.7
COIL HEATING CAPACITY	MBTUH	13.31	26.62	22.20	17.73	8.89	4.42	31.04
HOT WATER FLOW RATE	GPM	1.38	5.27	2.89	3.19	0.91	2.32	4.13
ENTERING HOT WATER TEMP.	°F	180	180	180	180	180	180	180
MAXIMUM AIR PRESSURE DROP	IN H2O	0.33	0.56	0.41	0.54	0.27	0.04	0.43
MAXIMUM WATER PRESSURE DROP	FT H2O	0.32	2.48	0.77	1.60	0.10	2.42	1.02
MAX. VALVE RADIATED	NC	17	21	18	21	16	—	20
MAX. VALVE DISCHARGE	NC	27	29	26	28	26	19	29

(*) - DENOTES THREE WAY VALVE CONFIGURATION, ALL OTHERS SHALL BE TWO-WAY CONFIGURATION.
 PROVIDE 1/2" MATT-FACED INSULATION ON ALL BOXES.

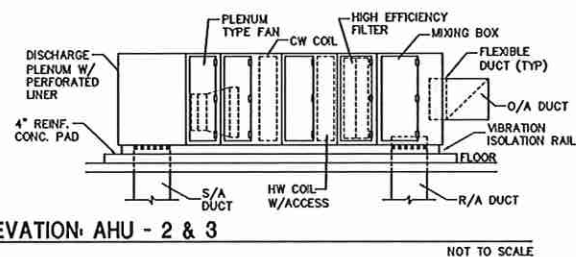
IF SHEET IS LESS THAN 24" x 36", IT IS A REDUCED PRINT AND IS NOT TO SCALE SHOWN.



ALLET, FENNER, JOLLY & McCLELLAND, INC.
 Consulting Engineers
 1055 LOUISIANA AVE
 SHREVEPORT, LOUISIANA
 PHONE: 318-425-7433
 FAX: 318-425-4522
 DESIGNER: **CHARLES M. HAZEL, P.E.**
 LICENSE NO. 29689
 THESE DRAWINGS DO NOT INCLUDE
 NECESSARY COMPONENTS FOR
 CONSTRUCTION SAFETY.



MECHANICAL - PARTIAL GROUND FLOOR PLAN (HVAC)
SCALE: 1/8"=1'-0"

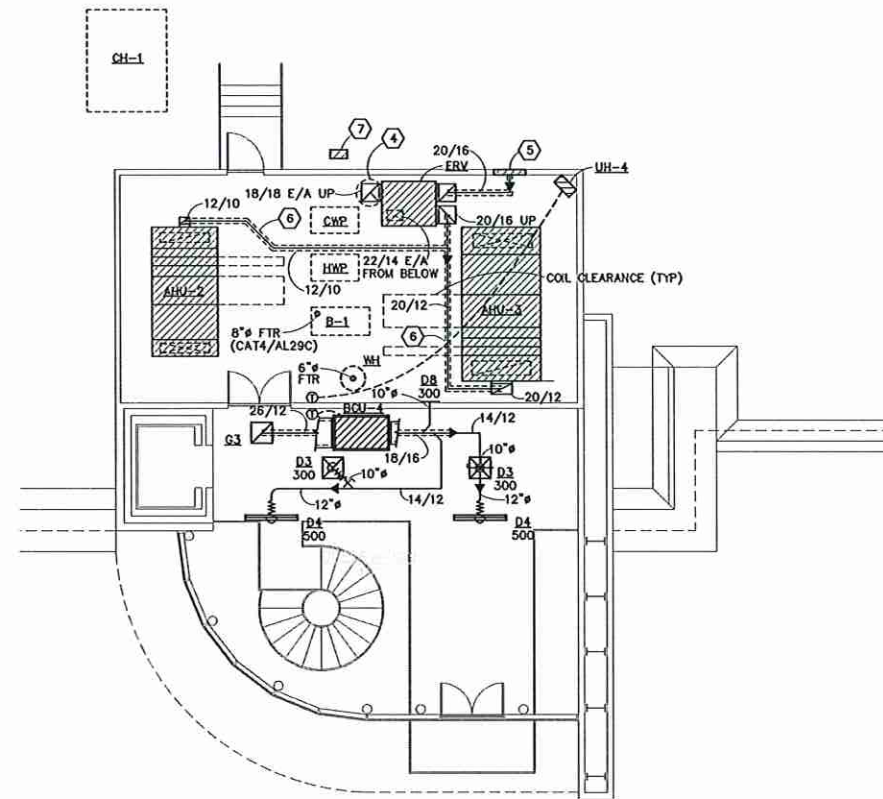


ELEVATION: AHU - 2 & 3

NOT TO SCALE

HVAC NOTES: ☐

1. PROVIDE TWO 16/8 (NOMINAL) EXTRUDED ALUMINUM BRICK VENTS EQUAL TO RUSKIN BV100 WITH FLANGE FRAME AND INTEGRAL MESH ALUMINUM INSET SCREEN. INSTALL ONE VENT AT SIX INCHES ABOVE FINISHED FLOOR AND THE OTHER AT SEVEN FEET ABOVE FINISHED FLOOR. AT TOP VENT, EXTEND, TRANSITION AND CONNECT EXHAUST AIR DUCT FROM SUSPENDED, THERMOSTATICALLY-CONTROLLED ROOM EXHAUST FAN; THERMOSTAT SET TO ENERGIZE FAN WHEN ROOM TEMPERATURE EXCEEDS 90 DEGREES (ADJUSTABLE).
2. PROVIDE 14 GAUGE SHEET METAL SHROUD FROM GENERATOR SET TO WALL LOUVER; COORDINATE WITH ARCHITECTURAL PRIME AND PAINT TO MATCH INTERIOR FINISH. PROVIDE FLEXIBLE CONNECTION AT LOUVER. TRANSITION FULL SIZE OF GENERATOR SET RADIATOR FLANGE AND LOUVER OPENING.
3. SIDEWALL EXHAUST FAN TO BE CONTROLLED BY THERMOSTAT AND KEYED WALL SWITCH. FAN CONNECTED AND TRANSITIONED TO WALL LOUVER.
4. PROVIDE EXHAUST AIR RELIEF HOOD EQUAL TO GREENHECK GRSR (18") WITH INTEGRAL ROOF FLASHING FLANGE AND BIRDSCREEN. FLASH AND SEAL WEATHERTIGHT. PRIME AND PAINT TO MATCH ROOF FINISH.
5. PROVIDE 36/24 OUTSIDE AIR INTAKE LOUVER EQUAL TO GREENHECK EDK-602 WITH INTEGRAL BIRDSCREEN, FLANGED FRAME AND EXTENDED SILL. LOUVER TO BE ANODIZED ALUMINUM FINISH TO MATCH EXTERIOR FINISH. TRANSITION O/A DUCT FULL SIZE OF LOUVER.
6. PROVIDE OUTSIDE AIR MONITORING AS SPECIFIED IN ACCORDANCE WITH CODE.
7. CONDENSING UNIT OF CR1 SHALL BE ROOF MOUNTED ON ROOF SUPPORTS EQUAL TO PHP (SIMILAR TO PIPING AS DETAIL). INSULATE AND JACKET EXTERIOR PIPING. COORDINATE EXACT ROUTING OF PIPING THROUGH WALL (SEAL AS NEEDED), MECHANICAL ROOM AND FLOOR.



MECHANICAL - PARTIAL FOURTH FLOOR PLAN (HVAC)
SCALE: 1/8"=1'-0"

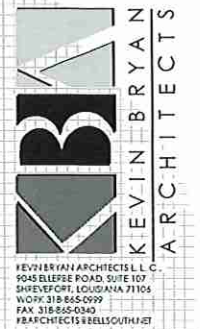
ENERGY RECOVERY VENTILATOR SCHEDULE

MARK	GREENHECK MODEL	OUTDOOR AIR PERFORMANCE				EXHAUST AIR PERFORMANCE				OA WHEEL EFFECTIVENESS	EA WHEEL EFFECTIVENESS	POWER (V/%)
		VOLUME (CFM)	ESP (IN WG)	FRPM	MOTOR SIZE (HP)	VOLUME (CFM)	ESP (IN WG)	FRPM	MOTOR SIZE (HP)			
ERV-1	ERV-361H-30-A	1750	0.38	1187	1	1975	0.75	1529	2	84.3	67.3	460/3

MOTORIZED LOW LEAKAGE OUTSIDE AIR DAMPER AND EXHAUST AIR INTAKE DAMPER. DUCT FLANGE, FACTORY MOUNTED DIRTY FILTER SENSOR FOR BOTH OUTDOOR AND EXHAUST FILTERS AND ROTATION SENSOR. DOUBLE WALL CONSTRUCTION WITH 20 GA. GALVANIZED INTERIOR LINER, HINGED ACCESS DOORS, 2" PLEATED OUTDOOR AND EXHAUST AIR FILTERS, ENTHALPY SENSOR WITH AUTOMATIC WINTER OVERRIDE AND STOP/LOG FUNCTION, PREMIUM EFFICIENCY COP MOTOR.



ALLET, FENNER, JOLLY & McCLELLAND, INC.
Consulting Engineers
1055 LOUISIANA AVE. SHREVEPORT, LOUISIANA 71105
PHONE: 318-425-7452 FAX: 318-425-4522
DESIGNER: CHARLES M. HAZEL, P.E.
LICENSE NO. 26559
THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY.

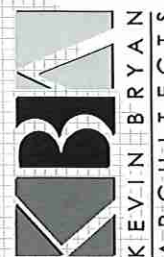


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REGIONAL COMMERCE CENTER
PORT OF SHREVEPORT BOSSIER
10397 LA HIGHWAY ONE, SHREVEPORT, LA 71115

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KEVIN BRYAN ARCHITECTS, L.L.C.
1045 ELLERIE ROAD, SUITE 107
SHREVEPORT, LOUISIANA 71104
WORK: 318-845-0999 FAX: 318-845-0340
KBARCHITECTS@BELLFLOW.NET

REVISIONS

ARCHITECT

ENGINEER

PROJECT

REGIONAL COMMERCE CENTER
PORT OF SHREVEPORT BOSSIER
10397 LA HIGHWAY ONE, SHREVEPORT, LA 71115

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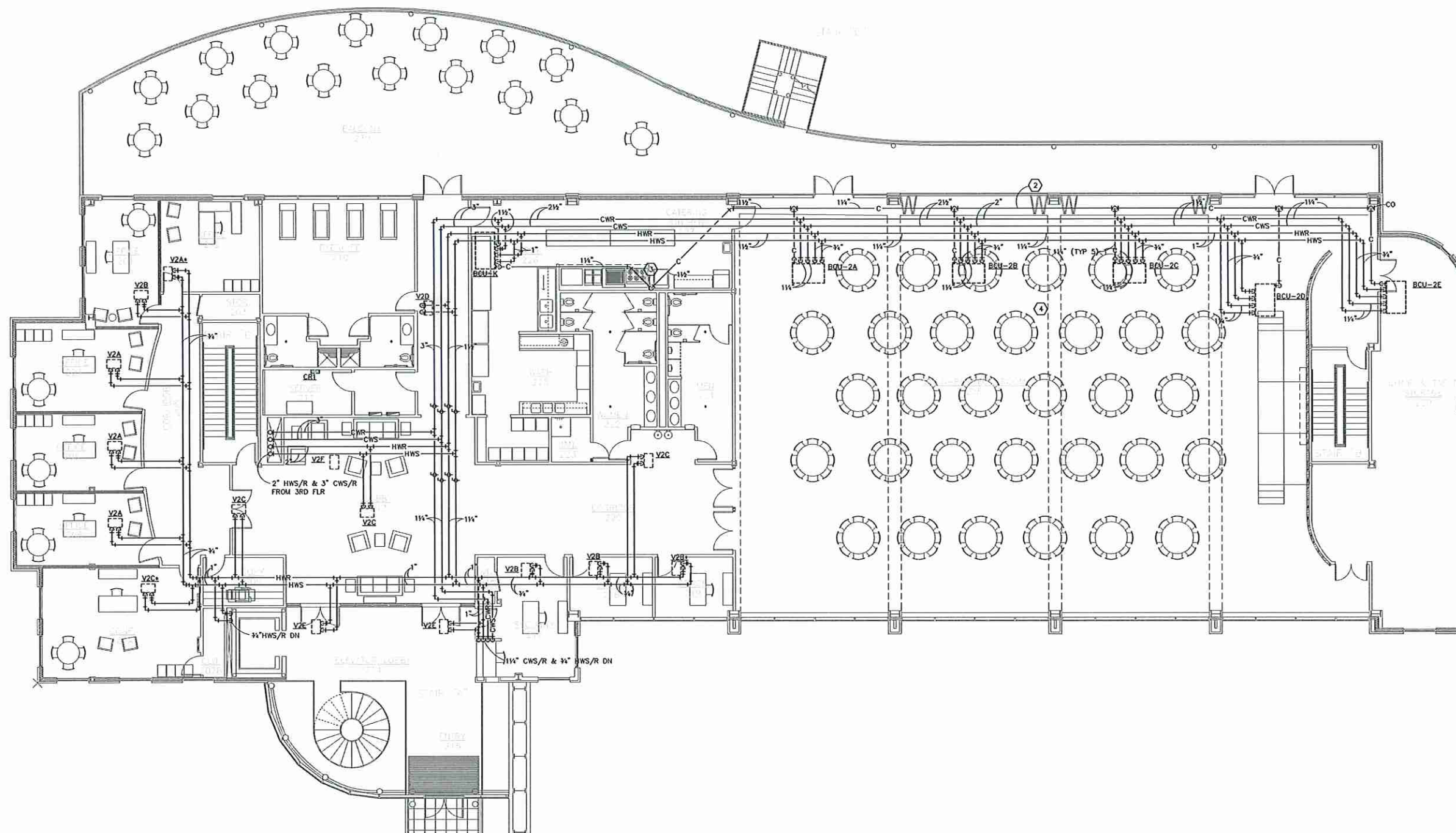
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M5 of 12M



MECHANICAL - SECOND FLOOR PLAN (HVAC PIPING)

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

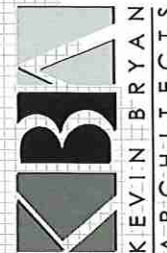
HVAC PIPING NOTES: ○

1. HEATING WATER SUPPLY AND RETURN BRANCHES TO EACH VAV SHALL BE 3/4" MINIMUM.
2. ROUTE INSULATED CONDENSATE HEADER THROUGH LOW CEILING CAVITY; MAINTAIN MINIMUM SLOPE FOR ADEQUATE DRAINING.
3. DROP VERTICAL INSULATED CONDENSATE DRAIN EXPOSED; HOLD TIGHT AND SECURE TO WALL. EXTEND AND TERMINATE OPEN-SITE AT FLOOR SINK. RE: PLUMBING.
4. ALL EXPOSED HVAC PIPING WITHIN ASSEMBLY AREA SHALL BE PRIMED AND PAINTED IN ACCORDANCE AND AS DIRECTED BY ARCHITECT.

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AILET, FENNER, JOLLY & McCLELLAND, INC.
Consulting Engineers
1055 LOUISIANA AVE.
SHREVEPORT, LOUISIANA
PHONE: 318-425-7432
FAX: 318-425-4222
DESIGNER: CHARLES M. HAZEL, P.E.
LICENSE NO. 28089
THESE DRAWINGS DO NOT INCLUDE
NECESSARY COMPONENTS FOR
CONSTRUCTION SAFETY.



KEVIN BRYAN ARCHITECTS, L.L.C.
1045 ELLERBE ROAD, SUITE 107
SHREVEPORT, LOUISIANA 71104
WORK: 318-845-0099
FAX: 318-845-0040
KBARCHITECTS@BELLSouth.NET

REVISIONS

ARCHITECT

ENGINEER

PROJECT

REGIONAL COMMERCE CENTER
PORT OF SHREVEPORT BOSSIER
10397 LA HIGHWAY ONE, SHREVEPORT, LA 71115

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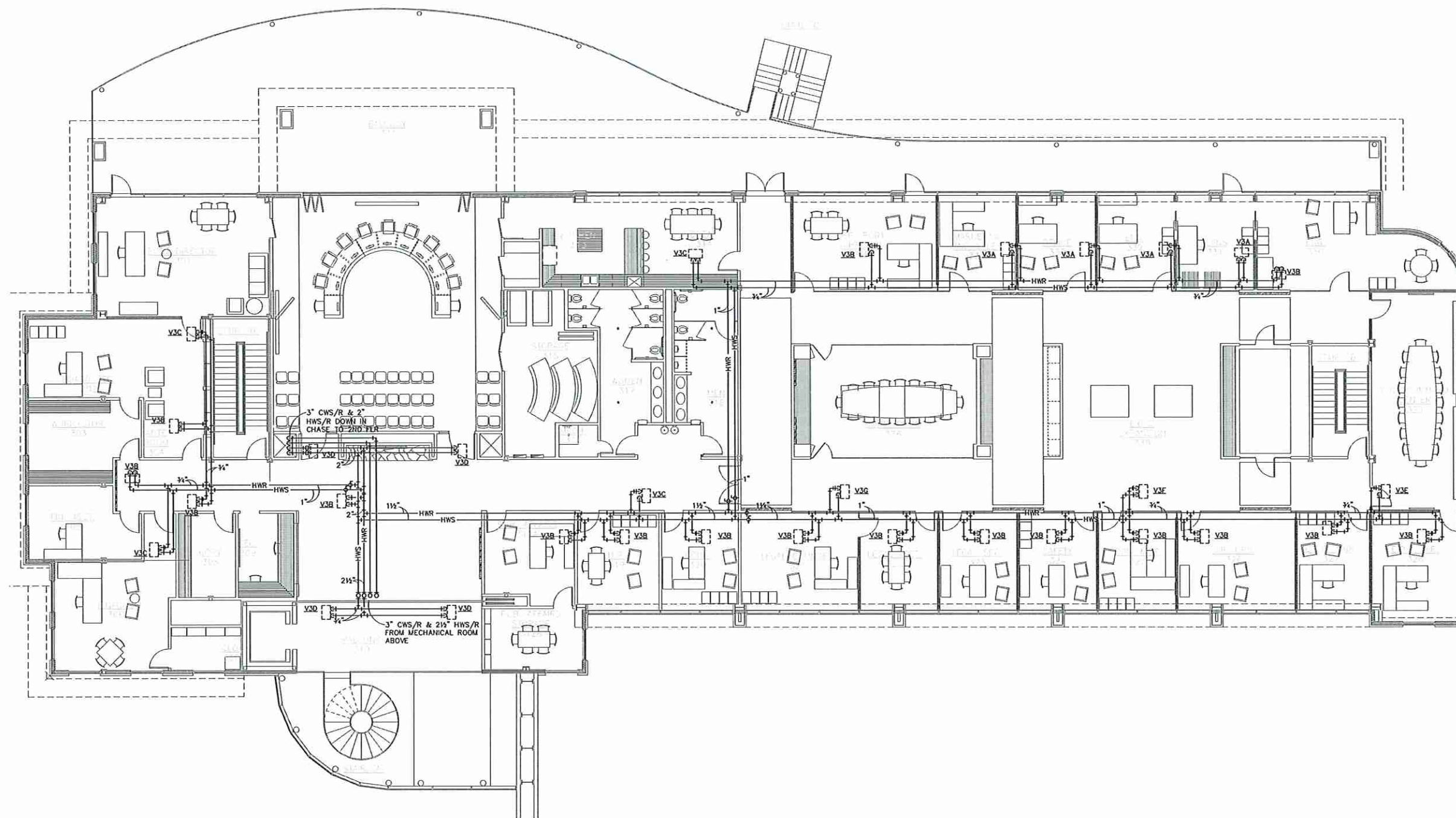
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Job

SHEET

M6 of 12M



MECHANICAL - THIRD FLOOR PLAN (HVAC PIPING)
SCALE: 1/8"=1'-0"

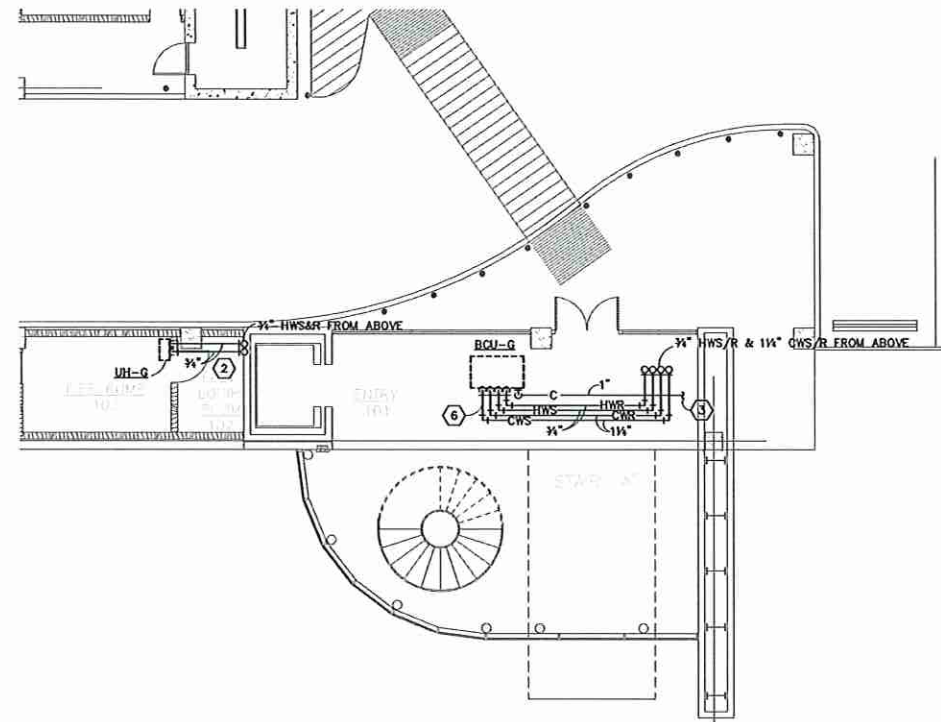
HVAC PIPING NOTES: ○

1. HEATING WATER SUPPLY AND RETURN BRANCHES TO EACH VAV SHALL BE 3/4" MINIMUM.

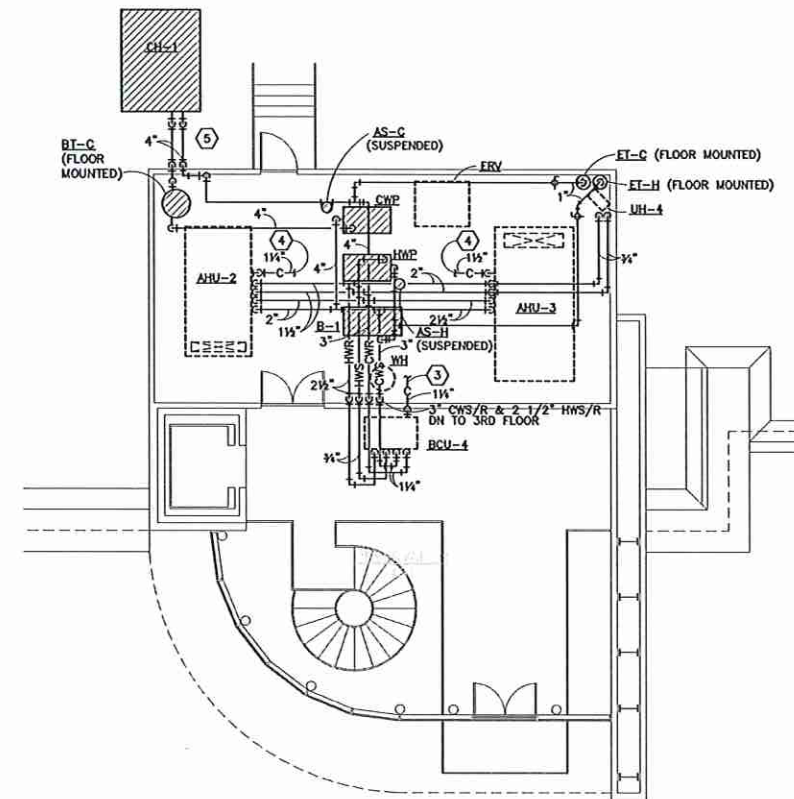


ALLET, FENNER, JOLLY & McCLELLAND, INC.
Consulting Engineers
1055 LOUISIANA AVE. PHONE: 318-425-7452
SHREVEPORT, LOUISIANA FAX: 318-425-4822
DESIGNER: CHARLES M. HAZEL, P.E.
LICENSE NO. 28889
THESE DRAWINGS DO NOT INCLUDE
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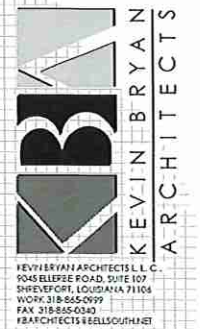
MECHANICAL - FIRST FLOOR PLAN (HVAC PIPING)
SCALE: 1/8"=1'-0"



MECHANICAL - FOURTH FLOOR PLAN (HVAC PIPING)
SCALE: 1/8"=1'-0"

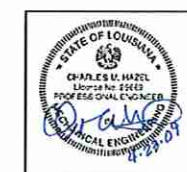
HVAC PIPING NOTES: ○

1. HEATING WATER SUPPLY AND RETURN BRANCHES SHALL BE 3/4" MINIMUM.
2. PIPING SYSTEMS THROUGH ELEVATOR EQUIPMENT ROOM SHALL BE ROUTED ABOVE RATED CEILING/ENCLOSURE AND FULLY SEPARATED FROM ELEVATOR EQUIPMENT ROOM IN ACCORDANCE WITH INTERNATIONAL BUILDING CODE.
3. EXTEND AND TERMINATE OPEN-SITE AT P-TRAP. PROVIDE ACCESS PANEL AND COORDINATE INSTALLATION AS REQUIRED.
4. EXTEND AND TERMINATE OPEN-SITE AT FLOOR DRAIN.
5. PROVIDE ELECTRIC HEAT TRACING (115 VOLT, AMBIENT SENSING) FOR ALL EXTERIOR HYDRONIC SYSTEM COMPONENTS INCLUDING, BUT NOT LIMITED TO, PIPING, CHILLER EVAPORATOR BUNDLES, ETC. (RE: ELEC). FOR PIPING, INSULATE AND PROVIDE ALUMINUM METAL JACKET; PRIME AND PAINT TO MATCH ROOF FINISH.
6. PROVIDE UNIT WITH THREE-WAY VALVING.



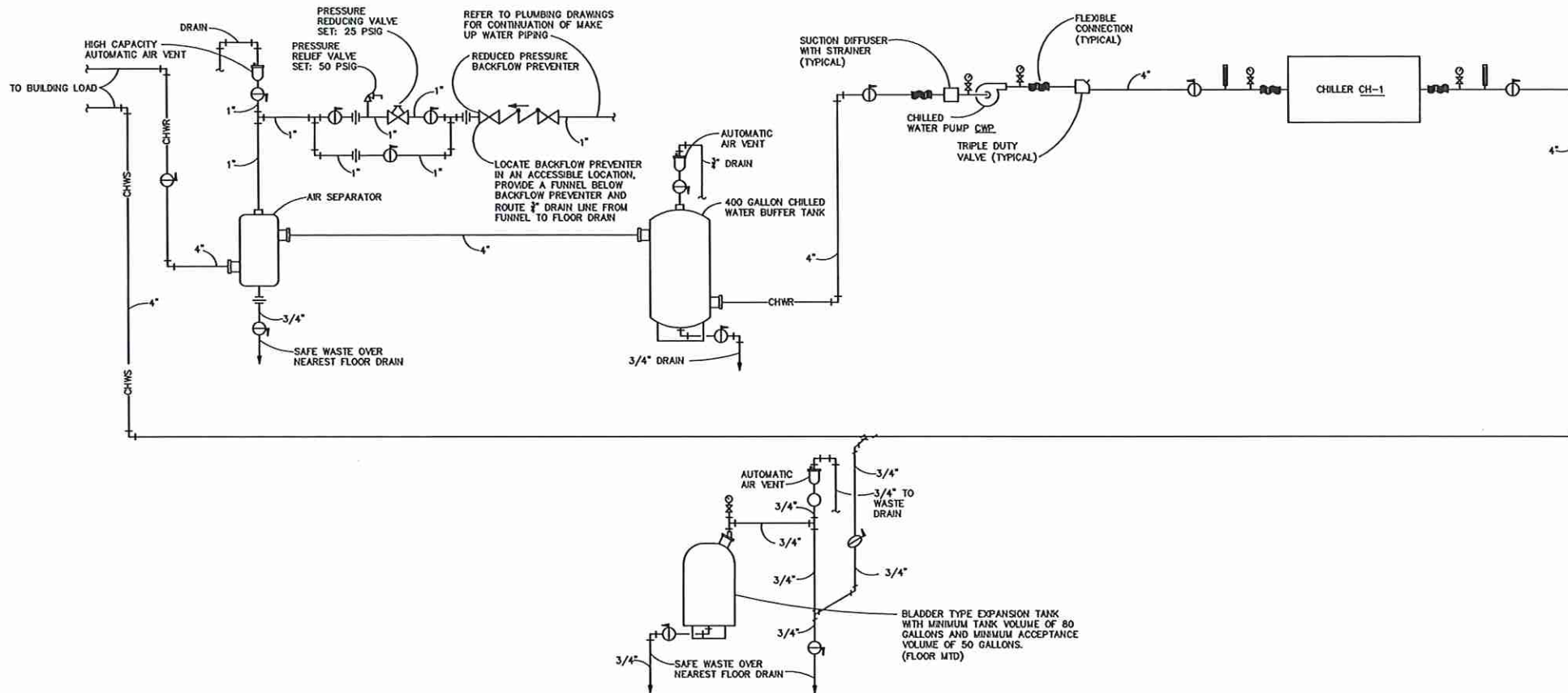
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10397 LA HIGHWAY ONE, SHREVEPORT, LA 71115



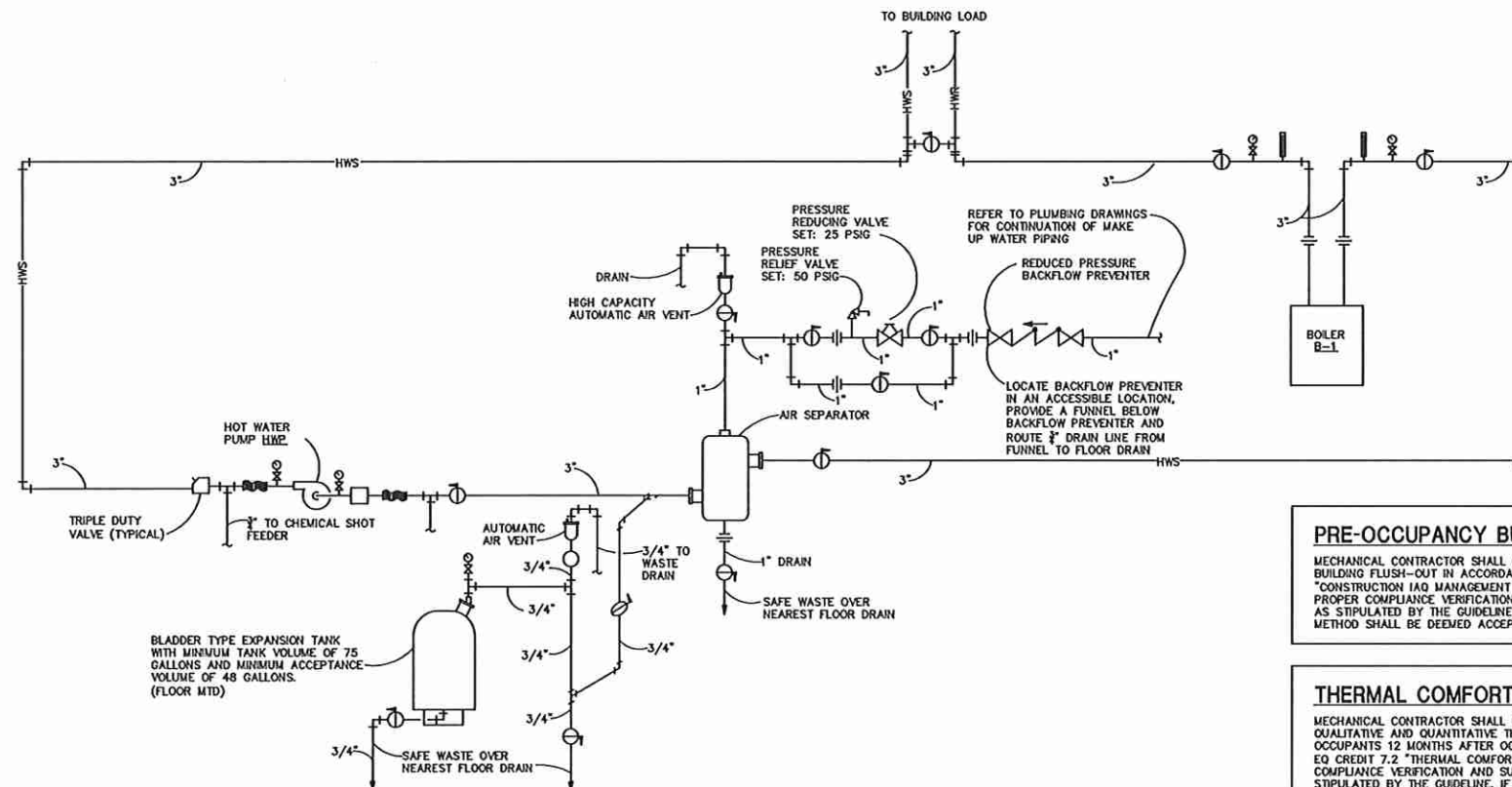
ALLET, FENNER, JOLLY & MCCLELLAND, INC.
Consulting Engineers
1055 LOUISIANA AVE. SHREVEPORT, LOUISIANA 71104
PHONE: 318-425-7453 FAX: 318-425-4522
DESIGNER: CHARLES M. HAZEL, P.E.
LICENSE NO. 29889
THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY.

PROJECT INFO	DATE	SCALE	DRAWN	JOB	SHEET
	APRIL 2009	AS SHOWN	GW		



CHILLED WATER SYSTEM FLOW DIAGRAM

NOT TO SCALE



HEATING WATER SYSTEM FLOW DIAGRAM

NOT TO SCALE

IF SHEET IS LESS THAN 24" x 36", IT IS A REDUCED PRINT AND IS NOT TO SCALE SHOWN.

PRE-OCCUPANCY BUILDING FLUSH-OUT

MECHANICAL CONTRACTOR SHALL COORDINATE AND PROVIDE PRE-OCCUPANCY BUILDING FLUSH-OUT IN ACCORDANCE WITH LEED NC V2.2 EQ CREDIT 3.2 "CONSTRUCTION IQ MANAGEMENT PLAN, BEFORE OCCUPANCY" AND PROVIDE PROPER COMPLIANCE VERIFICATION AND SUPPORTING DOCUMENTATION AS REQUIRED. AS STIPULATED BY THE GUIDELINE, EITHER FLUSH-OUT OR AIR QUALITY TESTING METHOD SHALL BE DEEMED ACCEPTABLE ALTERNATIVES.

THERMAL COMFORT - VERIFICATION

MECHANICAL CONTRACTOR SHALL COORDINATE AND PROVIDE A COMPLETE QUALITATIVE AND QUANTITATIVE THERMAL COMFORT SURVEY OF BUILDING OCCUPANTS 12 MONTHS AFTER OCCUPANCY IN ACCORDANCE WITH LEED NC V2.2 EQ CREDIT 7.2 "THERMAL COMFORT, VERIFICATION" AND PROVIDE PROPER COMPLIANCE VERIFICATION AND SUPPORTING DOCUMENTATION AS REQUIRED. AS STIPULATED BY THE GUIDELINE, IF SURVEY RESULTS INDICATE DISSATISFACTION OF MORE THAN 20% OF OCCUPANTS, THE MECHANICAL CONTRACTOR SHALL DEVELOP A PLAN OF CORRECTIVE ACTION.

SEQUENCE OF OPERATION

SCHEDULING OF HVAC EQUIPMENT: THE DDC CONTROL SYSTEM SHALL START AND STOP EACH ITEM OF EQUIPMENT ON A PRESET, USER DEFINED SCHEDULE. THE USER SHALL HAVE THE ABILITY TO SCHEDULE THE OPERATION OF EACH ITEM OF EQUIPMENT.

BUILDING CHILLED WATER SYSTEM: THE BUILDING HAS BEEN PROVIDED WITH ONE NOMINAL 85 TON AIR-COOLED CHILLER SIZED FOR THE PEAK COOLING LOAD. THE CHILLED WATER SYSTEM SHALL BE ENABLED AND DISABLED BY THE DDC CONTROL SYSTEM. ANYTIME THERE IS A NEED FOR COOLING, WHEN SIGNED BY THE DDC CONTROL SYSTEM, THE CHILLER SHALL BE ENABLED. SHOULD PUMP FAIL, THEN THE DDC CONTROL SYSTEM SHALL GENERATE AN ALARM. AFTER THE CHILLED WATER PUMP IS STARTED THROUGH THE CHILLER CONTROLS AND ONCE FLOW THROUGH ITS CHILLER IS PROVEN, THE CHILLER SHALL BE ALLOWED TO START. THE CHILLER SHALL RUN UNDER ITS OWN PACKAGED CONTROLS AND MAINTAIN A CHILLED WATER SUPPLY TEMPERATURE OF 45°F (ADJUSTABLE). THE ELECTRONIC FLOW METER ON THE CHILLED WATER RETURN LINE FROM THE BUILDING SHALL BE UTILIZED TO DETERMINE THE CHILLED WATER RETURN FLOW RATE. THE CHILLER SHALL BE ENERGIZED AS FOLLOWS: ANY FLOW RATE UP TO PRIMARY CHILLED WATER PUMP'S FLOW RATE, THE CHILLER SHALL OPERATE. CHILLED WATER PUMP SHALL BE ENERGIZED THROUGH THE CHILLER CONTROLS IN ORDER TO KEEP THE PUMP AND CHILLER FROM CYCLING TOO FREQUENTLY. A CHILLED WATER PUMP AND CHILLER COMBINATION SHALL RUN FOR AT LEAST FIFTEEN MINUTES (ADJUSTABLE). WHEN COOLING IS NOT REQUIRED, A SIGNAL FROM THE DDC CONTROL SYSTEM SHALL DE-ENERGIZE THE CHILLED WATER PUMP AND DISABLE THE AIR COOLED CHILLER AND ASSOCIATED CHILLED WATER PUMP.

CHILLER: CHILLER SHALL BE PROVIDED WITH A DDC SYSTEM COMMUNICATION INTERFACE AND OTHER ASSOCIATED COMPONENTS TO ALLOW THE DDC SYSTEM TO MONITOR AND CONTROL ALL OF THE CHILLER'S OPERATING PARAMETERS, FUNCTIONS AND ALARMS.

BUILDING HEATING WATER SYSTEM: THE HEATING WATER SYSTEM CONSISTS OF ONE GAS FIRED BOILER SIZED FOR THE PEAK BUILDING HEATING LOAD. THE HEATING WATER SYSTEM SHALL BE ENABLED AND DISABLED BY THE DDC CONTROL SYSTEM. ANYTIME THERE IS A NEED FOR HEATING AS SIGNED BY THE DDC SYSTEM, THE HEATING WATER SYSTEM SHALL BE ENABLED. THE HOT WATER PUMP SHALL BE ENERGIZED VIA ITS INDIVIDUAL VARIABLE FREQUENCY DRIVE AND ONCE FLOW IS PROVEN, THE BOILER SHALL BE ALLOWED TO FIRE AND OPERATE UNDER ITS PACKAGED CONTROLS. THE HOT WATER PUMP SHALL MODULATE ITS SPEED AS NECESSARY TO MAINTAIN THE WATER DIFFERENTIAL PRESSURE SETPOINT AS SIGNED BY THE DDC CONTROL SYSTEM. THE BOILER SHALL MAINTAIN A LEAVING HOT WATER TEMPERATURE OF 160°F (ADJUSTABLE). THE DDC CONTROL SYSTEM SHALL INTERFACE WITH THE BOILER CONTROLS TO RESET HOT WATER SUPPLY TEMPERATURE BASED UPON OUTSIDE AIR. THE RESET SCHEDULE SHALL BE LINEAR WITH 160°F (ADJUSTABLE) HOT WATER SUPPLY TEMPERATURE AT 30°F (ADJUSTABLE) OUTSIDE AIR TEMPERATURE AND 140°F HOT WATER SUPPLY TEMPERATURE (ADJUSTABLE) AT 60°F (ADJUSTABLE) OUTSIDE AIR TEMPERATURE. THE ELECTRONIC FLOW METER ON THE HOT WATER RETURN LINE FROM THE BUILDING SHALL BE UTILIZED TO DETERMINE THE HOT WATER RETURN FLOW RATE. WHEN HEATING IS NOT REQUIRED, A SIGNAL FROM THE DDC CONTROL SYSTEM SHALL DE-ENERGIZE THE HOT WATER PUMP AND DISABLE THE BOILER.

VARIABLE AIR VOLUME AIR HANDLING UNITS: EXCEPT FOR SHUTDOWN BY THE FIRE ALARM SYSTEM, THE DDC CONTROL SYSTEM SHALL START AND STOP THE AIR HANDLING UNIT. DUCT SMOKE DETECTORS LOCATED IN THE RETURN AIR DUCT SHALL SHUTDOWN UNIT AND SIGNAL FIRE ALARM SYSTEM SHOULD SMOKE BE SENSED. THROUGH A FIRE ALARM SHUTDOWN RELAY, THE AIR HANDLING UNIT SHALL BE SHUTDOWN WHEN SMOKE IS SENSED. A SUPPLY AIR TEMPERATURE SENSOR SHALL MODULATE THE CHILLED WATER CONTROL VALVE TO MAINTAIN THE SUPPLY AIR TEMPERATURE SETPOINT OF 55°F (ADJUSTABLE). A DUCT STATIC PRESSURE SENSOR LOCATED IN THE SUPPLY DUCT SYSTEM SHALL VARY THE FREQUENCY OF THE VARIABLE FREQUENCY DRIVE TO MAINTAIN ITS SETPOINT. A COMBINATION AIRFLOW MEASURING DEVICE AND MOTORIZED CONTROL DAMPER THAT IS INTEGRAL TO THE MIXING BOX SHALL MODULATE AS REQUIRED TO MAINTAIN A CONSTANT VOLUME OF OUTSIDE AIR AS THE UNIT SUPPLY AIRFLOW RATE VARIES. WHEN AN AIR HANDLING UNIT IS OFF, THE OUTSIDE AIR CONTROL DAMPER SHALL BE CLOSED.

VARIABLE AIR VOLUME TERMINAL UNITS: A DDC VAV CONTROLLER PER UNIT SHALL INDIVIDUALLY CONTROL THE VARIABLE AIR VOLUME UNIT. THE DDC CONTROL SYSTEM SHALL PERFORM THE FOLLOWING VARIABLE AIR VOLUME UNIT CONTROL STRATEGIES AND PROVIDE THE POINTS AS LISTED ON THE SYSTEM POINTS LIST AND THE SPECIFIED MONITORING AND DIAGNOSTICS.

SETPOINT CONTROL: ZONE SPACE TEMPERATURE SETPOINT SHALL BE ADJUSTABLE FROM THE DDC WORKSTATION USING A VAV DYNAMIC GRAPHIC SCREEN. THE ZONE TEMPERATURE SETPOINT SHALL BE OPERATOR ADJUSTABLE. INDIVIDUAL ZONE SETPOINT AND CONTROL LOGIC SHALL RESIDE AT THE ZONE LEVEL, AND NOT BE DEPENDENT UPON THE DDC CONTROL SYSTEM FOR CONTROL. IN THE EVENT OF COMMUNICATION LOSS, THE UNIT WILL CONTINUE TO CONTROL TO THE CURRENT SETPOINTS. A DISCHARGE AIR TEMPERATURE SENSOR SHALL MONITOR DISCHARGE AIR TEMPERATURE TO PROVIDE DIAGNOSTIC ASSISTANCE.

COOLING DAMPER: THE DDC CONTROL SYSTEM SHALL CONTROL THE COOLING AIR DAMPER TO A FULLY OPEN, FULLY CLOSED, MAXIMUM CFM, HEATING CFM OR MINIMUM CFM POSITION BASED ON OPERATOR COMMANDS. THE OPERATOR SHALL ALSO HAVE THE CAPABILITY TO ADJUST THE MAXIMUM, HEATING AND MINIMUM AIRFLOW LIMITS OF THE AIR DAMPER THROUGH THE DDC CONTROL SYSTEM.

REMOTE SETPOINT ADJUSTMENTS: THE DDC CONTROL SYSTEM ZONE TEMPERATURE SETPOINT PROGRAMMED IN SOFTWARE SHALL BE CAPABLE OF BEING MANUALLY OVERRIDDEN BY A REMOTE ADJUSTMENT AT THE TEMPERATURE SENSOR. THIS MANUAL READJUSTMENT FEATURE MAY BE DISABLED THROUGH THE DDC CONTROL SYSTEM, IF DESIRED.

SEQUENCE OF OPERATION: THE TERMINAL UNIT CONTROLS SHALL BE ENABLED WHEN THE ASSOCIATED AIR HANDLING UNIT IS ENERGIZED. AS THE SPACE TEMPERATURE RISES ABOVE THE COOLING SETPOINT THE UNIT SHALL MODULATE TO ITS COOLING SETPOINT. THE UNIT SHALL MODULATE TO ITS MAXIMUM CFM AS THE SPACE TEMPERATURE FALLS BELOW COOLING SETPOINT. THE UNIT SHALL MODULATE TO ITS MINIMUM COOLING CFM. AS THE SPACE TEMPERATURE FALLS BELOW THE HEATING SETPOINT, THE UNIT SHALL MODULATE TO ITS HEATING CFM AND THE HEATING COIL CONTROL VALVE SHALL BE MODULATED TO MAINTAIN A HEATING SETPOINT OF 68°F (ADJUSTABLE).

BLOWER COIL UNITS: EXCEPT FOR SHUTDOWN BY THE FIRE ALARM SYSTEM, THE DDC CONTROL SYSTEM SHALL START AND STOP THE BLOWER COIL UNIT. DUCT SMOKE DETECTORS LOCATED IN THE RETURN AIR DUCT SHALL SHUTDOWN UNIT AND SIGNAL FIRE ALARM SYSTEM SHOULD SMOKE BE SENSED. THROUGH A FIRE ALARM SHUTDOWN RELAY, THE BLOWER COIL UNIT SHALL BE SHUTDOWN WHEN SMOKE IS SENSED. A SUPPLY AIR TEMPERATURE SENSOR SHALL MODULATE THE CHILLED WATER CONTROL VALVE TO MAINTAIN THE SUPPLY AIR TEMPERATURE SETPOINT OF 55°F (ADJUSTABLE).

HOT WATER UNIT HEATERS: THESE HEATERS SHALL BE CONTROLLED BY A UNIT MOUNTED THERMOSTAT AND WILL MODULATE ITS HOT WATER COIL CONTROL VALVE TO MAINTAIN A HEATING SETPOINT OF 40°F (ADJUSTABLE). THESE UNIT HEATERS ARE NOT REQUIRED TO BE MONITORED BY THE DDC SYSTEM.

DUCTLESS SPLIT SYSTEM AIR CONDITIONING UNITS: THIS AIR CONDITIONING UNIT SHALL BE CONTROLLED BY A WALL CONTROLLER PROVIDED WITH THE UNIT. THE UNIT SHALL BE CONTROLLED TO MAINTAIN A COOLING SETPOINT OF 75°F (ADJUSTABLE). THE CONTROLLER WILL HAVE AN "AUTO" POSITION AND FAN SPEED CONTROLLER. WHEN IN THE "AUTO" MODE, THE UNIT WILL CYCLE ON WHEN COOLING IS REQUIRED. THIS AIR CONDITIONING UNIT IS NOT REQUIRED TO BE MONITORED BY THE DDC SYSTEM, BUT THE SPACE TEMPERATURE SHALL BE MONITORED BY THE DDC SYSTEM.



REVISIONS	DATE	BY	APP'D

ARCHITECT

ENGINEER

PROJECT

REGIONAL COMMERCE CENTER
PORT OF SHREVEPORT BOSSIER
10397 LA HIGHWAY ONE, SHREVEPORT, LA 71115

PROJECT INFO

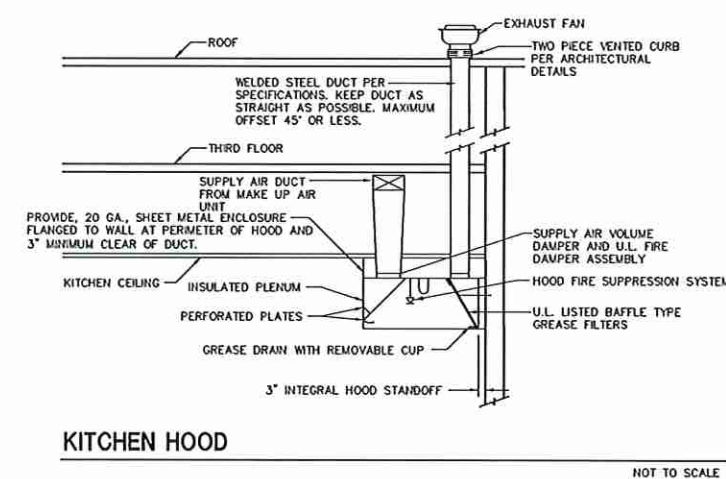
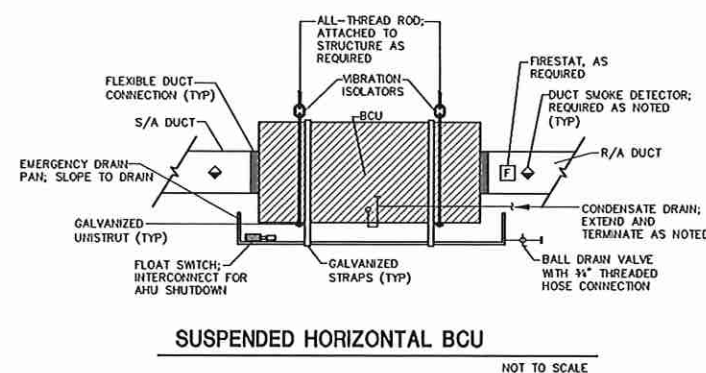
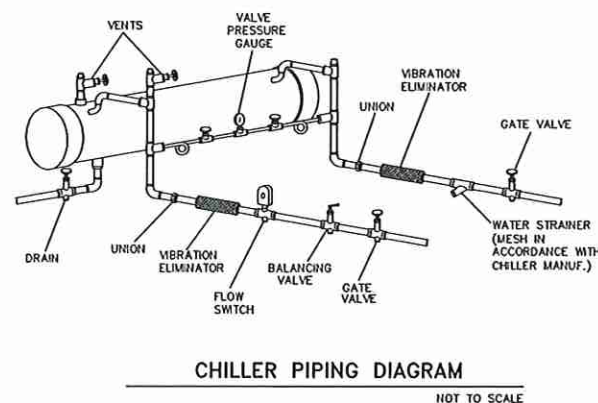
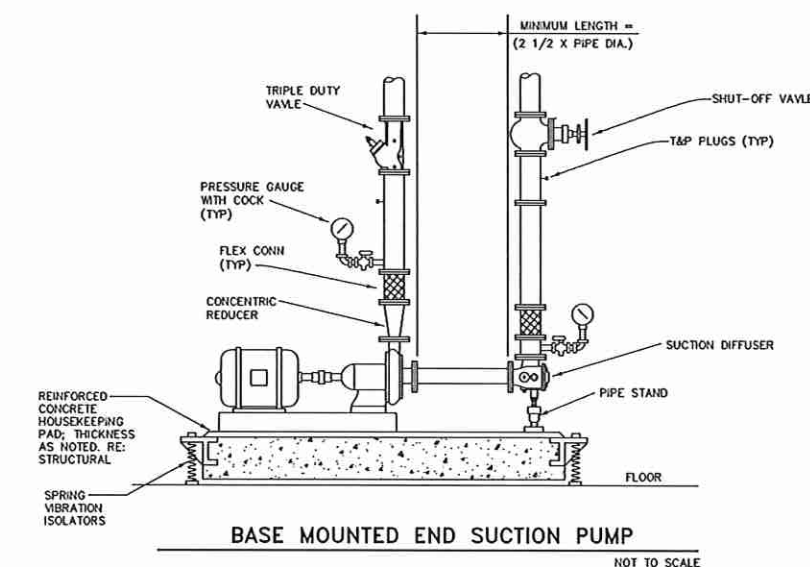
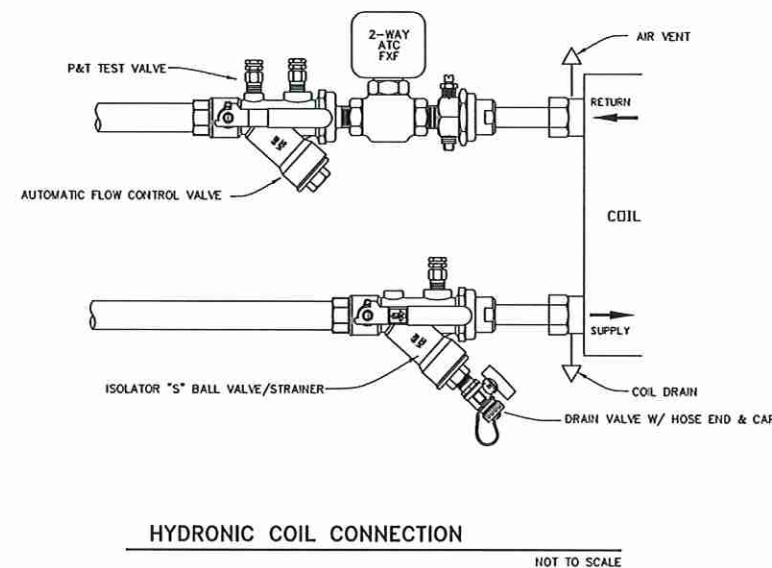
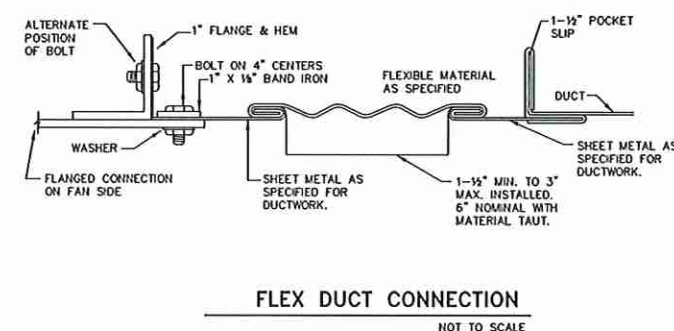
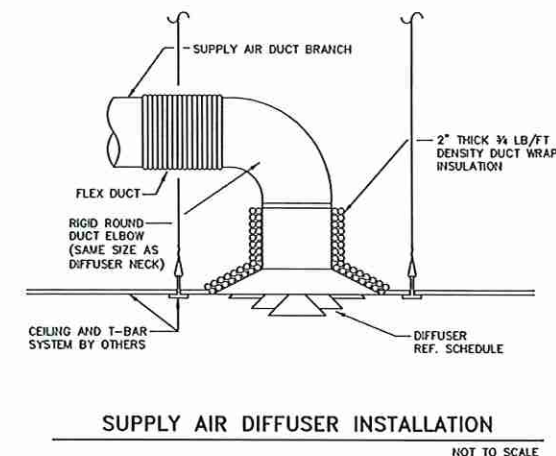
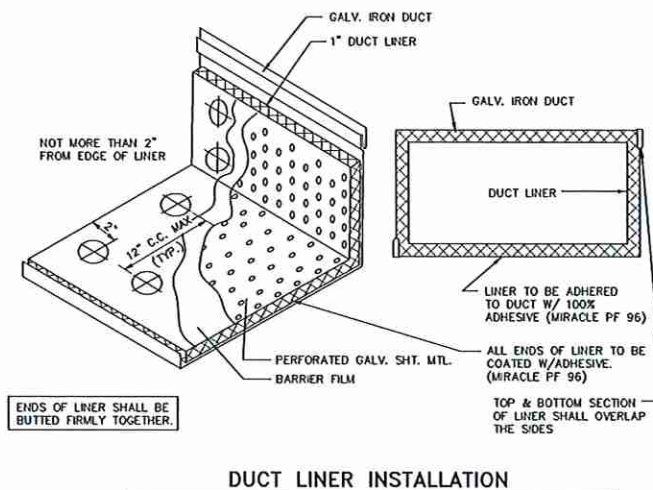
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ALLET, FENNER, JOLLY & McCLELLAND, INC. Consulting Engineers	
1055 LOUISIANA AVE. SHREVEPORT, LOUISIANA	PHONE 318-425-7453 FAX 318-425-4022
DESIGNER	CHARLES M. HAZEL, P.E.
LICENSE NO.	29889
THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY.	



KEVIN BRYAN
ARCHITECTS

KEVIN BRYAN ARCHITECTS, L.L.C.
9045 ELLERIE ROAD, SUITE 107
SHREVEPORT, LOUISIANA 71106
PHONE 318-845-0999
FAX 318-845-0540
KBARCHITECT@ELLISOKFHN.NET

REVISIONS

ARCHITECT

REGIONAL COMMERCE CENTER
PORT OF SHREVEPORT BOSSIER
10397 LA HIGHWAY ONE, SHREVEPORT, LA 71115

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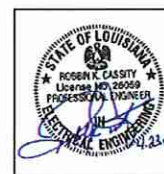
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ABBREVIATIONS			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
AT	AMPERES	KM/L	THOUSAND CIRCULAR MILLS
A	AMPS	KV	KILOVOLTS
AC	AIR CONDITIONER	KVA	KILOVOLT-AMPERES
AC	ALTERNATING CURRENT	KW	KILOWATTS
AF	AMPERE FRAME/FUSE	KWH	KILOWATT-HOURS
AF	ABOVE FINISHED FLOOR	LCP	LIGHTING CONTROL PANEL
AFG	ABOVE FINISHED GRADE	LPS	LOW PRESSURE SODIUM
AIC	AMPERE INTERRUPTING CAPACITY	LTG	LIGHTING
AL	ALUMINUM	MAX	MAXIMUM
APP.	APPROXIMATE	VCB	MAIN CIRCUIT BREAKER
AS	AMPERE SWITCH	VCC	MOTOR CONTROL CENTER
ARCH	ARCHITECT/ARCHITECTURAL	VCCB	MOLDED CASE CIRCUIT BREAKER
AT	AMPERES TRIP	MCP	MOTOR CIRCUIT PROTECTOR
ATS	AUTOMATIC TRANSFER SWITCH	VFG	MANUFACTURING
AWG	AMERICAN WIRE GAUGE	VFR	MANUFACTURER
BCG	BARE COPPER GROUND	VECH	MECHANICAL
BCP	BOILER CONTROL PANEL	VH	MANHOLE
BFP	BACK FLOW PREVENTER	VIC	MICROPHONE
BKD	BACKBOARD	VIN	MINIMUM
BKR	BREAKER	VISC	MISCELLANEOUS
BLDG	BUILDING	VLO	MAIN LUGS ONLY
BR	BRANCH	MTD	MOUNTED
C	CONDUIT	MTG. HT.	MOUNTING HEIGHT
CB	CIRCUIT BREAKER	MSB	MAIN SWITCHBOARD
CC	CENTER TO CENTER	MVG	MAIN SWITCHGEAR
CAB.	CABINET	MV	MERCURY VAPOR
CKT	CIRCUIT	<N>	NEW
CL	CENTER LINE	N	NEUTRAL
CLG	CEILING	NC	NORMALLY CLOSED
CLR	CLEAR	NF	NON-FUSIBLE
CO	CONDUIT ONLY	NG	NOT IN CONTACT
CONC	CONCRETE	NL	NIGHT LIGHT (NON-SWITCHED)
CSFD	COMBINATION SMOKE/FIRE DAMPER	NO	NORMALLY OPEN, NUMBER
CTR	CENTER	NTS	NOT TO SCALE
CU	COPPER	OC	ON CENTER
DC	DIRECT CURRENT	OH	OVERHEAD
DET.	DETAIL	P	POLE
DIA	DIAMETER	PA	PUBLIC ADDRESS
DIST	DISTRIBUTION	PB	PUSHBUTTON
DN	DOWN	PDU	POWER DISTRIBUTION UNIT
DP	DISTRIBUTION PANEL	PH	PHASE
DWG	DRAWING	PIV	POST INDICATOR VALVE
EMERG	EMERGENCY	PNL	PANEL
EMS	ENERGY MANAGEMENT SYSTEM	POC	POINT OF CONNECTION
EMT	ELECTRICAL METALLIC TUBING	PVC	POLYVINYL CHLORIDE
ENCL	ENCLOSURE/ENCLOSED	R	REMOVED
ELR	END-OF-LINE RESISTOR	<RE>	NEW LOCATION OF RELOCATED DEVICE
EPO	EMERGENCY POWER OFF	REC	RECEPTACLE
EPR	ETHYLENE PROPYLENE RUBBER	REQ'D	REQUIRED
EQ	EQUAL	<RL>	EXISTING TO BE RELOCATED
EQUIP	EQUIPMENT	RS	RAPID START
ER	EXISTING TO REMAIN	RSC	RIGID STEEL CONDUIT
EVC	ELECTRIC WATER COOLER	SEC	SECONDARY
E	EXISTING	SN	SOLID NEUTRAL
FA	FIRE ALARM	SPECS	SPECIFICATIONS
FAAP	FIRE ALARM ANNUNCIATOR PANEL	STD	STANDARD
FACP	FIRE ALARM CONTROL PANEL	SWBD	SWITCHBOARD
FAPS	FIRE ALARM POWER SUPPLY	SYM	SYMMETRICAL
FARP	FIRE ALARM REMOTE PANEL	TCM	TEMPERATURE CONTROL PANEL
FLA	FULL LOAD AMPERES	TD	TIME DELAY
FLEX	FLEXIBLE	TEL	TELEPHONE
FTV	FIELD TO VERIFY	TTB	TELEPHONE TERMINAL BOARD
FVNR	FULL VOLTAGE NON-REVERSING	TTC	TELEPHONE TERMINAL CABINET
FUT. <F>	FUTURE	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
G	GROUND	TYP	TYPICAL
GALV	GALVANIZED	UG	UNDERGROUND
RGS	RIGID GALVANIZED STEEL	UL	UNDERWRITERS LABORATORIES
GFI	GROUND FAULT INTERRUPTER	UON	UNLESS OTHERWISE NOTED
HD	HEAT DETECTOR	V	VOLTS
HH	HANDHOLE	VA	VOLT-AMPERES
HID	HIGH INTENSITY DISCHARGE	VFD	VARIABLE FREQUENCY DRIVE
HO	HIGH OUTPUT	VP	VAPORPROOF
HQA	HAND-OFF-AUTO	W	WATTS WIRE
HP	HORSEPOWER	WI	WITH
HPS	HIGH PRESSURE SODIUM	WH	WATER HEATER
HSP	HOUSE SERVICE PANEL	WP	WEATHERPROOF
HV	HIGH VOLTAGE	WT	WATERTIGHT
HZ	HERTZ	XFMR	TRANSFORMER
IC	INTERCOM	XLPE	CROSS LINKED POLYETHYLENE
ISC	INTERRUPTING SHORT CIRCUIT	XP	EXPLOSION PROOF
IG	ISOLATED GROUND	+4'-6"	TYPICAL MOUNTING HEIGHT 4'-6" ABOVE FLOOR OR GRADE TO CENTER OF BOX
INST	INSTANTANEOUS		
JB	JUNCTION BOX		

ELECTRICAL LEGEND			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
WALL OUTLET--DUPLEX RECEPTACLE, FLUSH MOUNTED, NEMA 5-20R.		KP	FIRE/SECURITY SYSTEM KEYPAD
WALL OUTLET--DUPLEX OUTLET, WITH GROUND FAULT INTERRUPTING FEATURE		MNS	MASS NOTIFICATION SYSTEM CONTROL PANEL
WALL OUTLET--DUPLEX OUTLET, WITH GROUND FAULT INTERRUPTING FEATURE. WP INDICATES WEATHERPROOF COVER PROVIDED		FACP	FIRE ALARM CONTROL PANEL
WALL OUTLET--DUPLEX RECEPTACLE, FLUSH MOUNTED ABOVE COUNTER, NEMA 5-20R		FA	POWER SUPPLY. "TA" INDICATES FIRE ALARM, "D" INDICATES DIMMER
WALL OUTLET--DUPLEX RECEPTACLE, FLUSH MOUNTED, NEMA 5-20R		FA	FIRE ALARM MANUAL PULL STATION
WALL OUTLET--DOUBLE DUPLEX RECEPTACLE, FLUSH MOUNTED, NEMA 5-15R		FA	FIRE ALARM HORN/STROBE NOTIFICATION DEVICE
3 POLE WALL OUTLET "X" INDICATES NEMA CONFIGURATION. COOR. W/ EQUIP. SUPPLIER FOR RECEPT. CONFIG. REQ'D.		FA	FIRE ALARM STROBE NOTIFICATION DEVICE
CEILING OUTLET, DUPLEX RECEPTACLE, FLUSH MOUNTED, NEMA 5-15R		FA	FIRE ALARM STROBE NOTIFICATION DEVICE
FLOOR OUTLET - DUPLEX RECEPT. NEMA 5-20R		F	SPRINKLER FLOW OR PRESSURE SWITCH
MULTI-OUTLET ASSEMBLY W/REC @ 12" OC		F	SPRINKLER TAMPER SWITCH
SWITCHBOARD OR DISTRIBUTION PANEL		I	INTERCOM CALL-IN STATION
PANELBOARD REFER TO SCHEDULE.		S	INTERCOM SPEAKER
GROUNDING ELECTRODE CONNECTION		H	DOOR HOLD OPEN DEVICE - (LOCK WITH FIRE ALARM TO RELEASE ON ALARM CONDITION)
COPPER WELD GROUND ROD AND INSPECTION WELL 3/4"x10'-0" UON		Y	INTERCOM/PAGING EXTERIOR, WEATHERPROOF, HORN/SPEAKER
WELDING RECEPTACLES, 400A, 60A, 30, 3W		2	PROGRAM CLOCK. SUBSCRIPT "2" INDICATES TWO FACES
DISCONNECT SWITCH, FUSIBLE		TS	TELEPHONE SYSTEM - TERMINAL BACKBOARD (TTB)
DISCONNECT SWITCH, NON FUSIBLE		B	PROGRAM BELL
METER BASE AND METER		ST	SHUNT TRIP COIL
ELECTRIC VENT FAN		DCP	DOOR CONTROLLER FOR ACCESS CONTROL SYSTEM
COMBINATION MAGNETIC MOTOR STARTER WITH FUSIBLE DISCONNECT SWITCH. INTEGER INDICATES NEMA SIZE		KA	KEY PAD FOR ACCESS CONTROL SYSTEM
MOTOR CONNECTIONS, SIZE AS SCHEDULED		A	DOOR ALARM CONTACT APPURTENANCE
CEILING FAN CONNECTION		SC	SECURITY CAMERA
CODE SIZE JUNCTION BOX-SIZE AS NOTED OR REQ'D		LR	LONG RANGE SECURITY SYSTEM MOTION SENSOR
TWO GANG RECESSED BOX WITH 1" INTO ACCESSIBLE CEILING SPACE FOR COMMUNICATION WIRING (WIRING BY OTHERS)		W	MASS NOTIFICATION SYSTEM HORN/STROBE
TWO GANG RECESSED BOX WITH 1" INTO ACCESSIBLE CEILING SPACE FOR TV SIGNAL (WIRING BY OTHERS)		C	POWER DISTRIBUTION HANDHOLE OR MANHOLE, SIZE AS INDICATED.
SINGLE GANG RECESSED BOX WITH 3/4" INTO ACCESSIBLE CEILING SPACE FOR SOUND SYSTEM (WIRING BY OTHERS)		T	TELECOMMUNICATIONS HANDHOLE OR MANHOLE, SIZE AS INDICATED.
RECESSED BOX WITH 2" INTO ACCESSIBLE CEILING SPACE FOR VIDEO (WIRING BY OTHERS)		P	POWER POLE
RECESSED FLOOR BOX WITH 2" INTO ACCESSIBLE CEILING SPACE FOR VIDEO (WIRING BY OTHERS)		OH	EXISTING OVERHEAD LINE
PULL BOX WITH HINGED COVER, SIZE AS INDICATED		T	TELECOMMUNICATIONS UNDERGROUND CONDUIT OR DUCT BANK
DISTRIBUTION OR PAD MOUNTED TRANSFORMER		UD	EXISTING UNDERGROUND CONDUIT OR DUCT BANK
CEILING OUTLET - FLUORESCENT LUMINAIRE REFER TO FUTURE SCHEDULE. "X" EQUAL FIXTURE MARK. "2" EQUAL BR. CKT DESIGNATION, "S" EQUAL CONTROLLING SWITCH LEG.		UD	NEW UNDERGROUND CONDUIT OR DUCT BANK
WALL BRACKET - FLUORESCENT LUMINAIRE REFER TO FUTURE SCHEDULE. "X" EQUAL FIXTURE MARK.		UD	CIRCUIT CONCEALED BELOW GRADE OR FLOOR (1/2" AND UNLESS NOTED OTHERWISE OR REQUIRED)
FLOOR STRIP FIXTURE. REFER TO FUTURE SCHEDULE. "X" EQUAL FIXTURE MARK.		UD	CONDUIT CONCEALED IN WALL OR OVERHEAD (1/2" AND UNLESS NOTED OTHERWISE OR REQUIRED)
LUMINAIRE WITH INTEGRAL EMERGENCY POWER PACK		UD	SHORT SLASHES = PHASE OR SWITCHED CONDUCTORS, LONG SLASHES=NEUTRAL CONDUCTORS, NO SLASHES=2/12,1/120-3/4", U.O.N.
CEILING MOUNTED DOUBLE-HEAD REMOTE EMERGENCY LIGHT.		UD	HOMERUN TO PANEL (CIRCUIT NUMBERS INDICATED)
WALL BRACKET - REFER TO FUTURE SCHEDULE. "X" EQUAL FIXTURE MARK.		UD	NUMBER OF CURRENT CARRYING, INTEGER INDICATES CONDUCTOR SIZE
EXIT SIGN FIXTURE - DIRECTIONAL ARROWS AS INDICATED		UD	CABLE TRAY, SIZES AS INDICATED
CEILING MOUNTED OCCUPANCY SENSOR W/POWER PACK		UD	SURFACE METAL RACEWAY, OR WIREWAY, SIZE AS INDICATED WITH RECEPTACLES AS SHOWN.
WALL SWITCH--20AMP, 120/277V, SPST		UD	FLEXIBLE CONDUIT CONNECTION.
WALL SWITCH--20AMP, 120/277V, DAMPING		UD	UP CIRCUIT RISER UP
WALL SWITCH--20AMP, 120/277V., 3-WAY		UD	DOWN CIRCUIT RISER DOWN
MOTOR RATED WALL SWITCH--20AMP, 120/277V., W/ INTEGRAL THERMAL OVERLOAD		UD	ELECTRICAL KEYED NOTE REFERENCE
WALL SWITCH--20AMP, 120/277V., KEY OPERATED		UD	DETAIL DESIGNATION SHEET NUMBER
WALL SWITCH--20AMP, SPST, "a.b.c." INDICATES CONTROLLING SWITCH, NUMBER OF LETTERS CORRESPONDS TO NUMBER OF SWITCHES REQUIRED.		UD	MECHANICAL EQUIPMENT DESIGNATION
WALL SWITCH--LOW VOLTAGE W/MOMENTARY CONTACT		UD	TIMECLOCK
COMM WALL OUTLET - VOICE/DATA		UD	PHOTOELECTRIC CELL
COMM WALL OUTLET - DATA ONLY		UD	LIGHTING RELAY CONTROL PANEL
COMM WALL OUTLET - VOICE ONLY		UD	LIGHTING CONTACTOR
COMM FLOOR OUTLET - VOICE/DATA		UD	OCCUPANCY SENSOR
SMOKE DETECTOR		UD	RESCUE ASSISTANCE CALL STATION
HEAT DETECTOR		UD	RESCUE ASSISTANCE ANNUNCIATOR PANEL
		UD	ACCESS CONTROL CARD READER
		UD	MAGNETIC LOCK

NOTE: ALL SYMBOLS MAY NOT BE USED

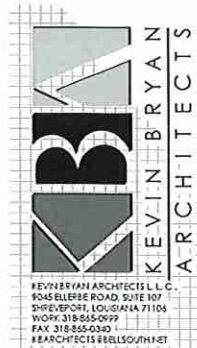
GENERAL NOTES	
(APPLICABLE TO ALL ELECTRICAL DRAWINGS)	
THE PLANS AND SPECIFICATIONS ARE ISSUED AS A COMPLETE SET. THE CONTRACTOR SHALL THOROUGHLY REVIEW THE COMPLETE SET OF DOCUMENTS IN ASCERTAINING THE SCOPE OF WORK AND IN COORDINATION OF HIS WORK WITH THAT OF OTHER TRADES. ANY CONFLICTS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ARCHITECT FOR RESOLUTION. PRIOR TO SUBMITTING A BID THE CONTRACTOR SHALL VISIT THE SITE, REVIEW THE EXISTING CONDITIONS AND ALLOW FOR LABOR, MATERIAL AND COORDINATION THAT IS NECESSARY TO PROVIDE A COMPLETE AND INTEGRATED INSTALLATION OF EACH SYSTEM. REFER TO THE CONTRACT DRAWINGS FOR LOCATIONS AND SPACE REQUIREMENTS OF ELECTRICAL EQUIPMENT. COORDINATE THE INSTALLATION OF ELECTRICAL EQUIPMENT WITH OTHER TRADES. POWER FEEDERS MAY NOT BE SHOWN ON THE DRAWINGS. REFER TO PANEL SCHEDULES OR THE SINGLE LINE DIAGRAM FOR CONDUIT AND FEEDER INFORMATION. FIXTURE QUANTITIES ARE SHOWN ON DRAWINGS BUT ARE FOR AREA FIXTURE TYPE REFERENCE ONLY. CONTRACTOR IS RESPONSIBLE FOR FIXTURE COUNT AND SHALL VERIFY ALL FIXTURE QUANTITIES PRIOR TO BIDDING. ELECTRICAL EQUIPMENT SHOWN ON THE DRAWING HAS BEEN SELECTED BASED ON DIMENSION TO FIT THE SPACE. THE CONTRACTOR SHALL VERIFY SUCH WITH PROPOSED EQUIPMENT DIMENSIONS PRIOR TO ORDERING OF THE EQUIPMENT. MANUFACTURER'S RECOMMENDATIONS FOR CONDUCTOR SIZING, CIRCUIT BREAKER OR FUSE PROTECTION OF ELECTRICAL OPERATED EQUIPMENT MAY DIFFER FROM THOSE INDICATED ON DRAWINGS. CONTRACTOR SHALL CONFIRM RATINGS, PRIOR TO ORDERING EQUIPMENT. PROVIDE ELECTRICAL PROTECTION TO EQUIPMENT PER MANUFACTURER'S SPECIFICATIONS. CONTRACTOR SHALL REVIEW THE COMPLETE SET OF DOCUMENTS AND PROVIDE CONNECTION TO ALL ELECTRICALLY OPERATED EQUIPMENT INDICATED, EVEN IF NOT SHOWN ON THE ELECTRICAL PLANS, UNLESS OTHERWISE NOTED. COORDINATE THE LOCATION AND ELECTRICAL CONNECTION REQUIREMENTS PRIOR TO ORDERING OR INSTALLATION OF ELECTRICAL EQUIPMENT. CONTRACTOR SHALL REVIEW THE SECTIONS OF EACH DIVISION OF THE SPECIFICATIONS AND PROVIDE CONNECTIONS TO ELECTRICALLY OPERATED EQUIPMENT. SUSPENDED, CEILING MOUNTED, ELECTRICAL EQUIPMENT SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE NOT FROM THE CEILING. COORDINATE EXACT LOCATIONS OF ALL DEVICES, SWITCHES, RECEPTACLES, BOXES, COMM. OUTLETS, ETC. WITH OWNER/ARCHITECT PRIOR TO ROUGH-IN. CONNECTION TO ALL ROOF MOUNTED EQUIPMENT SHALL BE MADE ONLY THRU THE EQUIPMENT BASE. NO ADDITIONAL ROOF PENETRATIONS SHALL BE MADE. JUNCTION AND OUTLET BOXES SHALL BE SIZED IN ACCORDANCE WITH NEC SECTION 314. MINIMUM SIZE FOR JUNCTION BOXES SHALL BE 4" SQ. X 2-1/8" D. BOXES LARGER THAN MINIMUM SIZE WILL BE REQUIRED AT SOME LOCATIONS. IN ORDER TO MAINTAIN THE DESIGNED LOAD BALANCING, DO NOT CHANGE CIRCUIT NUMBERS WITHOUT PRIOR APPROVAL FROM ENGINEER. WHERE HOMERUNS ARE SHOWN AS SINGLE HOMERUN FOR LIGHTS OR RECEPTACLE CIRCUITS, CONTRACTOR SHOULD GROUP A MAXIMUM OF THREE CIRCUITS OR 6-CURRENT CARRYING CONDUCTORS PER HOMERUN TO CONSERVE CONDUIT SPACE AT PANEL. THE CIRCUITING IS SHOWN WITH THE INTENT OF INSTALLING JUNCTION BOXES ABOVE THE GRID CEILING AT EACH LIGHT SWITCH AND RECEPTACLE, EXCEPT POSSIBLY AT THE END OF A CIRCUIT RUN. FOR CLARITY, THE JUNCTION BOXES ARE NOT NECESSARILY SHOWN ON THE PLANS BUT ARE REQUIRED. PROVIDE JUNCTION BOXES ABOVE LIGHT FIXTURES IN LAY-IN CEILINGS WITH MAXIMUM 6 FEET OF FLEXIBLE CONDUIT BETWEEN J-BOXES AND THE FIXTURES. FUSE SIZE FOR MECHANICAL EQUIPMENT DISCONNECT SWITCHES SHALL NOT BE GREATER THAN THE EQUIPMENT'S NAMEPLATE MOCP OR MAXIMUM FUSE SPECIFICATION. FUSED DISCONNECT SWITCHES SHALL BE INSTALLED WITH CLEARANCES PER NEC (30" WIDTH X 3" FRONT CLEARANCE FOR 208 VOLT AND 30" WIDTH X 3.5" FRONT CLEARANCE FOR 480 VOLT). WHERE THE MECHANICAL EQUIPMENT NAMEPLATE CIRCUIT REQUIREMENTS DIFFER FROM THE SPECIFIED EQUIPMENT, THE CIRCUIT BREAKERS, DISCONNECTS, AND WIRING SHALL BE REVISED ACCORDINGLY. DUE TO EQUIPMENT LOADING, VOLTAGE DROP, LOCKED ROTOR CURRENTS, AND OTHER CONSIDERATIONS, THESE REVISIONS SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION. LIGHT FIXTURES ARE SHOWN IN APPROXIMATE LOCATIONS. THE CONTRACTOR SHALL REFERENCE THE ARCHITECTURAL REFLECTED CEILING PLAN, BUILDING ELEVATIONS, AND DETAILS FOR EXACT HEIGHT AND LOCATIONS. CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANY, PRIOR TO BID, TO VERIFY LOCATION AND ALL CONTRACTOR REQUIREMENTS FOR ESTABLISHING THE NEW ELECTRICAL SERVICE. ALL WORK SHALL BE PER I.A.W. UTILITY CO. SPECIFICATIONS, STANDARDS AND GUIDELINES. CONTRACTOR SHALL INCLUDE IN HIS BID, ANY CHARGES BY THE UTILITY FOR THE NEW SERVICE. PROVIDE WARNING TAPE FOR UNDERGROUND CONDUITS AND BURIED GROUNDING CONDUCTORS AS SPECIFIED. ALL CONDUIT PENETRATIONS THROUGH FIRE-RATED WALLS AND FLOORS SHALL BE SEALED FOR MAINTAINING A 2-HOUR FIRE RATING. DO NOT INSTALL FLUSH MOUNTED BOXES BACK-TO-BACK IN WALLS, OFFSET BOXES IN ADJACENT STUD CAVITIES. MAINTAIN AT LEAST A 24 INCH SEPARATION IN FIRE-RATED WALLS. SEE ARCHITECTURAL DRAWINGS FOR LOCATION OF FIRE-RATED WALLS. ALL CIRCUIT BREAKERS IN PANEL MSB THAT HAS AN ADJUSTABLE MAGNETIC TRIP SETTINGS, SET TO HIGHEST SETTINGS. TERMINATION OF PHASE, NEUTRAL, AND GROUNDING CONDUCTORS SHALL BE MADE TO INDIVIDUAL TERMINALS/LUGS AT PANELS, DISCONNECTS, DEVICES, ETC., UNLESS MULTIPLE CONDUCTOR TERMINATIONS ARE SPECIFICALLY ALLOWED BY THE MANUFACTURER. WHERE MULTIPLE CONDUCTOR TERMINATIONS ARE ALLOWED, THE TERMINATIONS SHALL BE MADE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. GENERALLY, THE ONLY MULTIPLE CONDUCTOR TERMINATIONS THAT ARE ALLOWED ARE FOR GROUNDING CONDUCTORS AND THEY USUALLY MUST BE OF THE SAME SIZE. FOR EACH NEW ELECTRICAL PANEL, PROVIDE A TYPED WRITTEN CIRCUIT DIRECTORY INSTALLED ON INSIDE OF DOOR, INDICATING THE AREA AND LOADS SERVED BY EACH CIRCUIT. CIRCUIT DIRECTORY DESCRIPTIONS SHALL INCLUDE THE ACTUAL SPECIFIC NAMES AND/OR NUMBERS FOR SPACES, WORKSTATIONS, ETC. AS COORDINATED WITH THE OWNER. OUTLET BOXES FOR CATV OUTLETS SHALL BE MINIMUM 3.5" DEEP. CONDUIT SHALL ENTER NEAR BACK OF BOX. PROVIDE SINGLE GANG RECESSED BOX WITH 3/4" ELBOWED INTO ACCESSIBLE CEILING SPACE FOR ALL COMMUNICATION OUTLETS SHOWN, U.O.N. PROVIDE CONDUIT END BUSHING AND PULLSTRING. COMMUNICATION WIRING BY OTHERS. ANY FIRE ALARM SYSTEM WORK SHALL BE BY A FIRE ALARM CONTRACTOR LICENSED FOR WORK IN THE STATE OF LOUISIANA. REQUIREMENTS, UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS. ALL FIRE ALARM WIRING SHALL BE RUN IN CONDUIT. THE FIRE ALARM CONTRACTOR IS RESPONSIBLE FOR DESIGNING AND INSTALLING A COMPLETE SYSTEM COMPLIANT WITH ALL APPLICABLE AND GOVERNING CODES, PER SPECIFICATIONS. ADDITIONAL FIRE ALARM DEVICES SHALL BE LOCATED AND MOUNTED IN ACCORDANCE WITH NFPA-72 AND ADA REQUIREMENTS. INSTALL SMOKE DETECTORS IN ACCORDANCE WITH NFPA 72 AND THE MANUFACTURER'S INSTRUCTIONS. MAINTAIN A MINIMUM CLEAR DISTANCE OF 4 INCHES FROM WALLS, LIGHT FIXTURES, AND OTHER OBJECTS AND 12 INCHES FROM FLUORESCENT FIXTURES. DETECTORS SHALL NOT BE INSTALLED WITHIN 3 FEET OF HVAC SUPPLY DIFFUSERS OR IN THE DIRECT AIR FLOW OF HVAC SUPPLY DIFFUSERS.	



ALLET, FENNER, JOLLY & McLELLAND, INC.
Consulting Engineers
1065 LOUISIANA AVE. PHONE 318-425-7452
SHREVEPORT, LOUISIANA FAX 318-425-4922

DESIGNER ROBBIN K. CASSIDY, P.E.
LICENSE NO. 26059

THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY.



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PROJECT	
REGIONAL COMMERCE CENTER	
PORT OF SHREVEPORT BOSSIER	
10397 LA HIGHWAY ONE, SHREVEPORT, LA 71115	

PROJECT INFO	
Date	APRIL 2009
Scale	AS SHOWN
Drawn	MCG
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REVISIONS

ARCHITECT

ENGINEER

PROJECT

REGIONAL COMMERCE CENTER
PORT OF SHREVEPORT BOSSIER
10397 LA HIGHWAY ONE, SHREVEPORT, LA 71115

PROJECT INFO

Date APRIL 2009

Scale AS SHOWN

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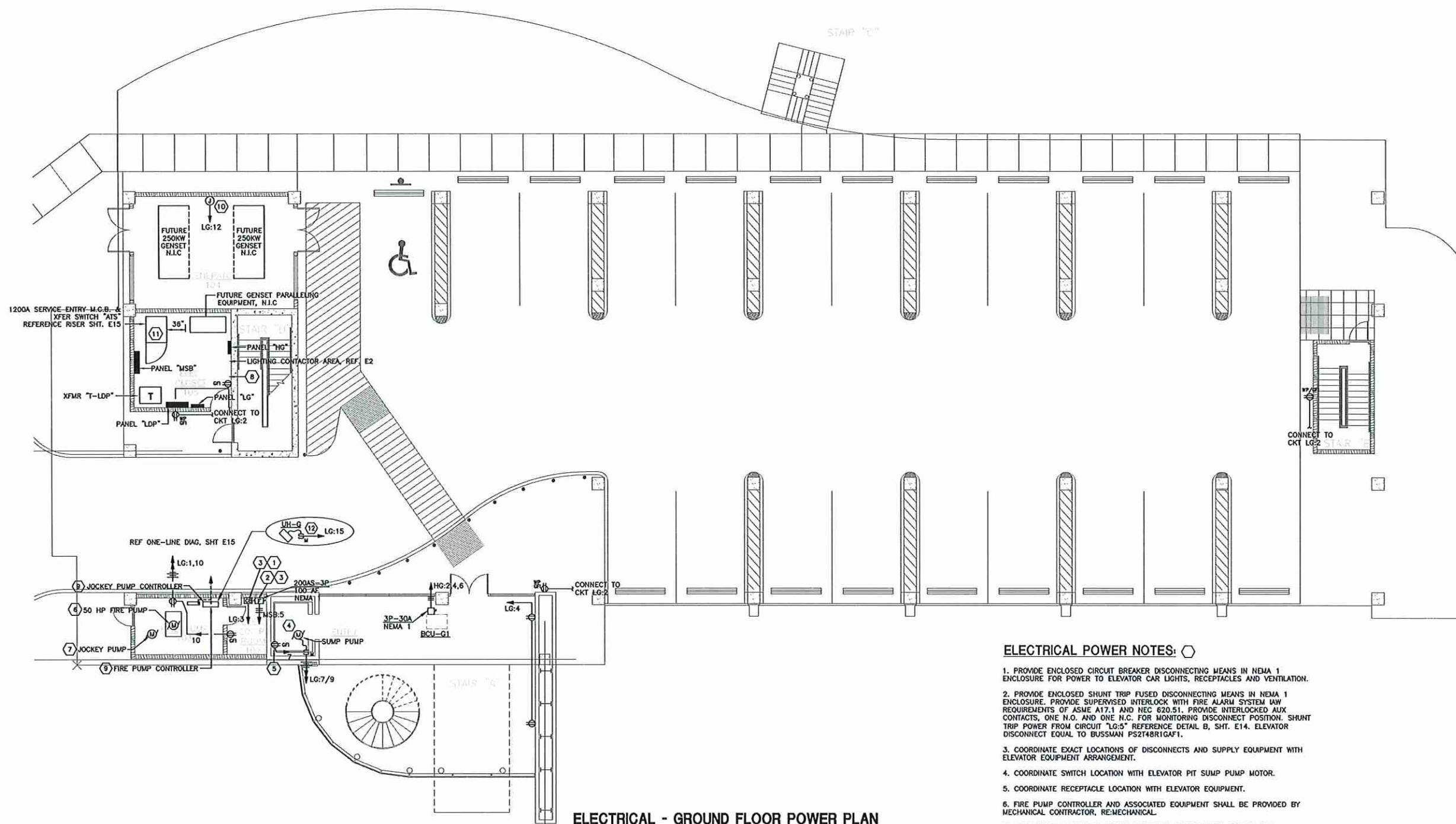
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ELECTRICAL - GROUND FLOOR POWER PLAN
SCALE: 1/8"=1'-0"

ELECTRICAL POWER NOTES:

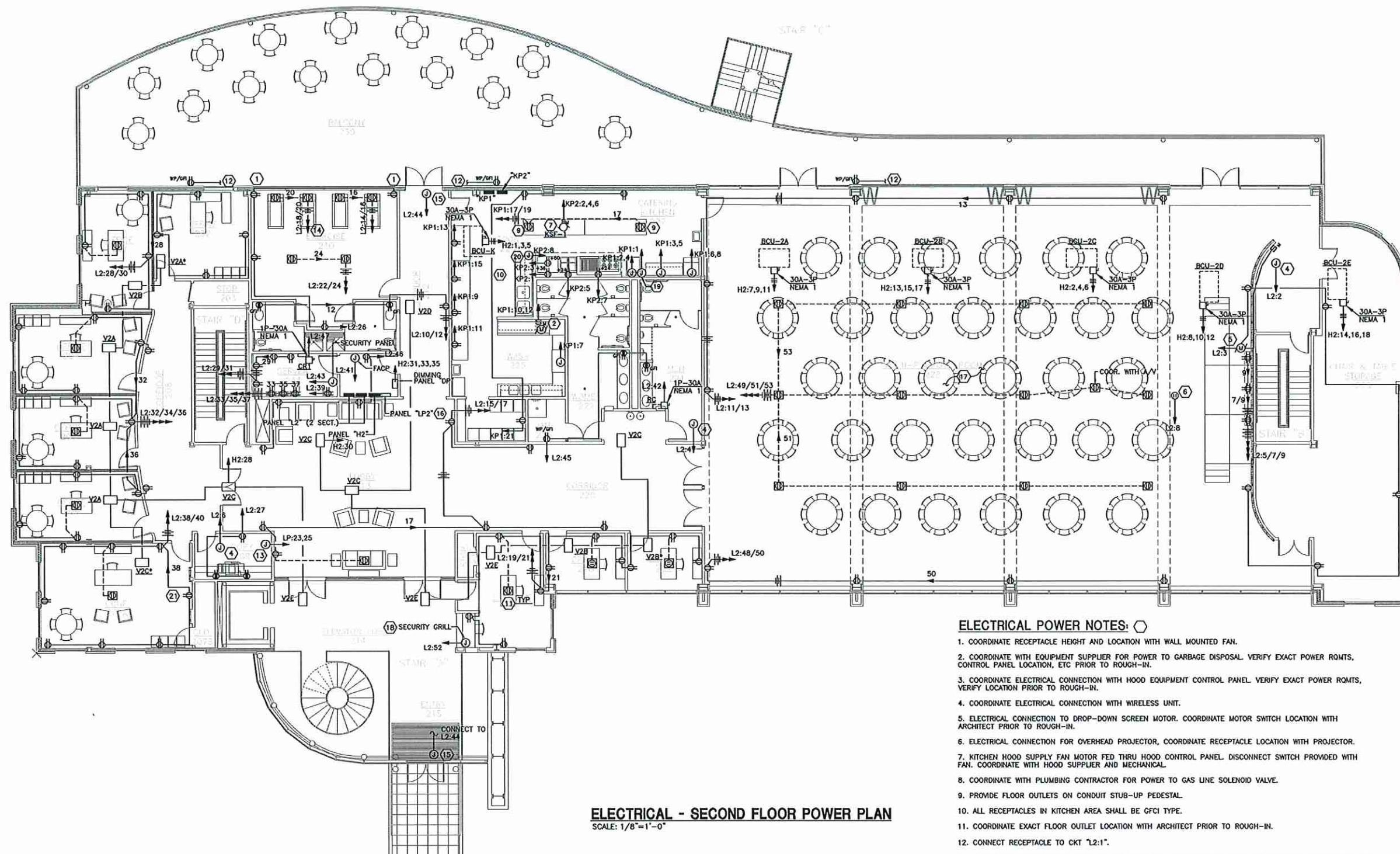
1. PROVIDE ENCLOSED CIRCUIT BREAKER DISCONNECTING MEANS IN NEMA 1 ENCLOSURE FOR POWER TO ELEVATOR CAR LIGHTS, RECEPTACLES AND VENTILATION.
2. PROVIDE ENCLOSED SHUNT TRIP FUSED DISCONNECTING MEANS IN NEMA 1 ENCLOSURE. PROVIDE SUPERVISED INTERLOCK WITH FIRE ALARM SYSTEM IN ACCORDANCE WITH ASME A17.1 AND NEC 620.51. PROVIDE INTERLOCKED AUX CONTACTS, ONE N.O. AND ONE N.C. FOR MONITORING DISCONNECT POSITION. SHUNT TRIP POWER FROM CIRCUIT "LG:5" REFERENCE DETAIL B, SHT. E14. ELEVATOR DISCONNECT EQUAL TO BUSSMAN PS2T48R1GAF1.
3. COORDINATE EXACT LOCATIONS OF DISCONNECTS AND SUPPLY EQUIPMENT WITH ELEVATOR EQUIPMENT ARRANGEMENT.
4. COORDINATE SWITCH LOCATION WITH ELEVATOR PIT SUMP PUMP MOTOR.
5. COORDINATE RECEPTACLE LOCATION WITH ELEVATOR EQUIPMENT.
6. FIRE PUMP CONTROLLER AND ASSOCIATED EQUIPMENT SHALL BE PROVIDED BY MECHANICAL CONTRACTOR, REMECHANICAL.
7. COORDINATE ELECTRICAL CONNECTION WITH JOCKEY PUMP CONTROLLER.
8. PROVIDE RECEPTACLE AT LANDSCAPE SPRINKLER CONTROLLER. CONNECT TO LG:6 WITH 2#12 & #12G. PROVIDE 2"O STUBBED BELOW GRADE OUTSIDE BLDG. LINE AS DIRECTED BY LANDSCAPE SPRINKLER CONTRACTOR FOR CONTROLLER WIRING TO ZONE VALVES. COORDINATE LOCATION WITH LANDSCAPE SPRINKLER EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN.
9. VERIFY CONTROLLER LOCATION PRIOR TO ROUGH-IN.
10. COORDINATE ELECTRICAL CONNECTION WITH EXHAUST FAN.
11. ORIENT TRANSFER SWITCH "ATS" DOOR SWING AS INDICATED.
12. COORDINATE SWITCH HEIGHT AND LOCATION WITH UNIT HEATER.



ALLET, FENNER, JOLLY & MCLELLAND, INC.
Consulting Engineers
1055 LOUISIANA AVE.
SHREVEPORT, LOUISIANA
PHONE: 318-425-7452
FAX: 318-425-4622

DESIGNER: ROBBIN K. CASSITY, P.E.
LICENSE NO.: 26059

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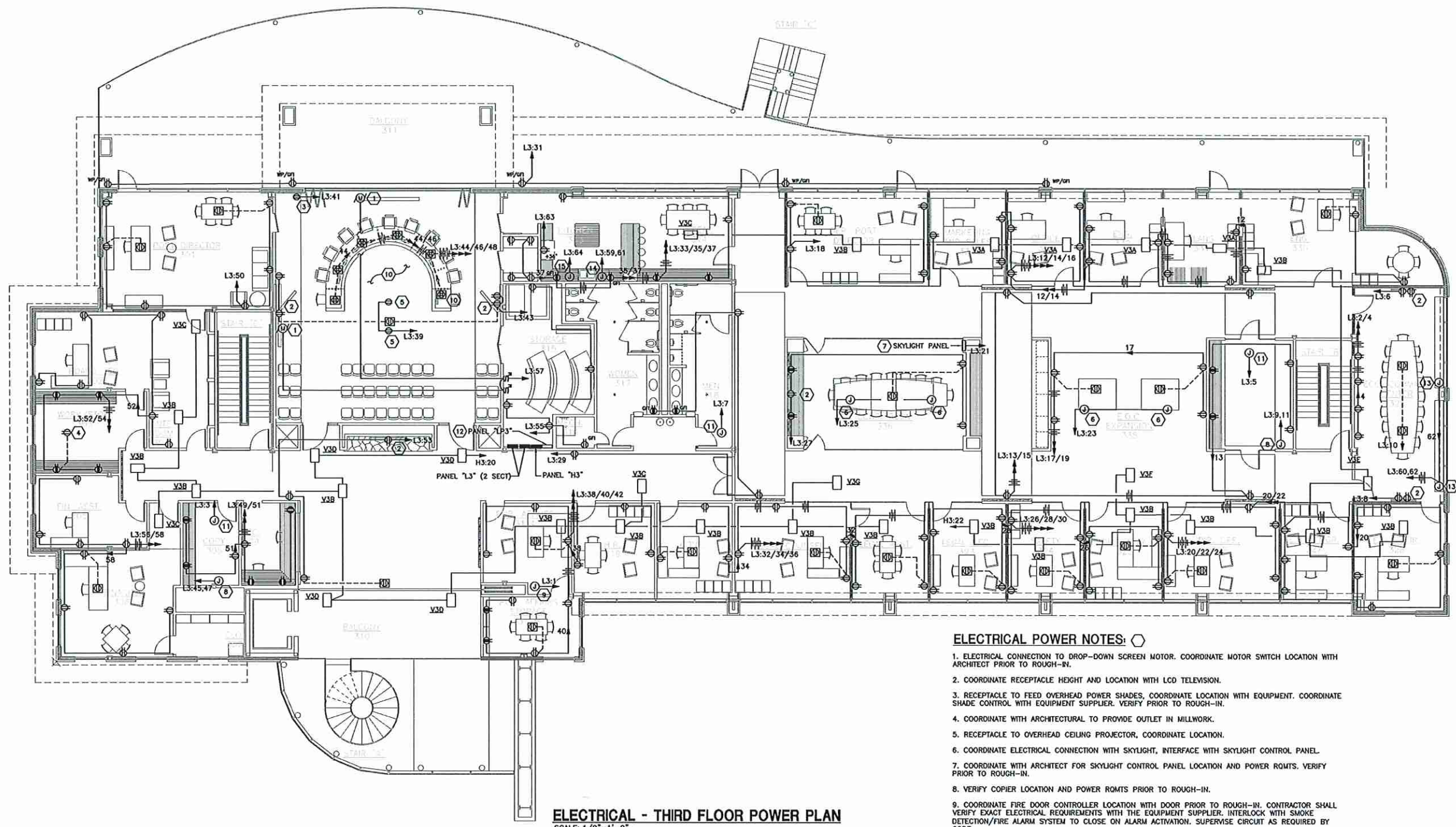
ELECTRICAL - SECOND FLOOR POWER PLAN
 SCALE: 1/8"=1'-0"

ELECTRICAL POWER NOTES:

1. COORDINATE RECEPTACLE HEIGHT AND LOCATION WITH WALL MOUNTED FAN.
2. COORDINATE WITH EQUIPMENT SUPPLIER FOR POWER TO GARBAGE DISPOSAL. VERIFY EXACT POWER RMTS, CONTROL PANEL LOCATION, ETC PRIOR TO ROUGH-IN.
3. COORDINATE ELECTRICAL CONNECTION WITH HOOD EQUIPMENT CONTROL PANEL. VERIFY EXACT POWER RMTS, VERIFY LOCATION PRIOR TO ROUGH-IN.
4. COORDINATE ELECTRICAL CONNECTION WITH WIRELESS UNIT.
5. ELECTRICAL CONNECTION TO DROP-DOWN SCREEN MOTOR. COORDINATE MOTOR SWITCH LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.
6. ELECTRICAL CONNECTION FOR OVERHEAD PROJECTOR, COORDINATE RECEPTACLE LOCATION WITH PROJECTOR.
7. KITCHEN HOOD SUPPLY FAN MOTOR FED THRU HOOD CONTROL PANEL. DISCONNECT SWITCH PROVIDED WITH FAN. COORDINATE WITH HOOD SUPPLIER AND MECHANICAL.
8. COORDINATE WITH PLUMBING CONTRACTOR FOR POWER TO GAS LINE SOLENOID VALVE.
9. PROVIDE FLOOR OUTLETS ON CONDUIT STUB-UP PEDESTAL.
10. ALL RECEPTACLES IN KITCHEN AREA SHALL BE GFCI TYPE.
11. COORDINATE EXACT FLOOR OUTLET LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.
12. CONNECT RECEPTACLE TO CKT "L2:1".
13. COORDINATE CONNECTION RMTS FOR COPY MACHINE WITH EQUIPMENT SUPPLIER. VERIFY PRIOR TO ROUGH-IN.
14. VERIFY FLOOR OUTLET LOCATIONS FOR EXERCISE EQUIPMENT WITH ARCHITECT PRIOR TO ROUGH-IN.
15. COORDINATE ELECTRICAL CONNECTION TO DOOR SECURITY CONTACTS WITH INSTALLER.
16. LIGHTING CONTROL RELAY PANEL SHALL BE EQUAL TO HUBBELL "LX SERIES" 32 RELAY ENCLOSURE, SURFACE MOUNTED, REFERENCE LIGHTING PLAN FOR CONTROLLED CIRCUITS. LINK SECOND AND THIRD FLOOR RELAY PANELS VIA COMMUNICATION CABLE.
17. FLOOR RECEPTACLE/DATA COVER PLATES IN ASSEMBLY AREA SHALL BE FLUSH WITH FLOOR. COVER PLATES SHALL BE APPROVED BY ARCHITECT PRIOR TO PURCHASE.
18. COORDINATE ELECTRICAL CONNECTION WITH SECURITY GRILL ROLL-UP GATE.
19. COORDINATE CONNECTION WITH MECHANICAL HOOD CONTROL PANEL.
20. COORDINATE LOCATION WITH GAS SOLENOID VALVE.
21. COORDINATE RECEPTACLE HEIGHT AND LOCATION WITH LCD TELEVISION.



ARLET, FENNER, JOLLY & McCLELLAND, INC.
 Consulting Engineers
 1055 LOUISIANA AVE. PHONE: 318-425-7452
 SHREVEPORT, LOUISIANA FAX: 318-425-4832
 DESIGNER: **ROBBIN K. CASSITY, P.E.**
 LICENSE NO. **26099**
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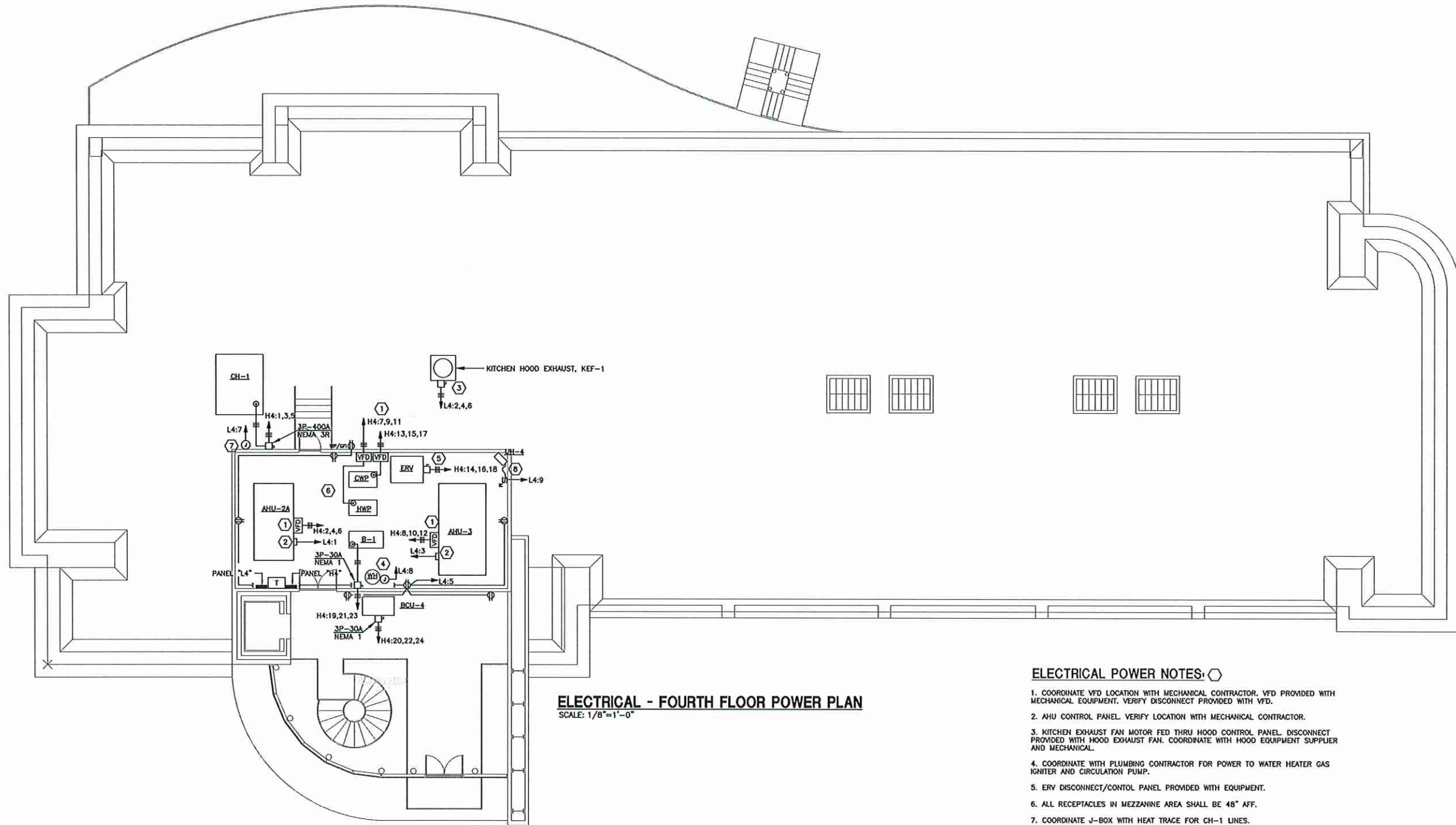
ELECTRICAL - THIRD FLOOR POWER PLAN
 SCALE: 1/8"=1'-0"

ELECTRICAL POWER NOTES:

1. ELECTRICAL CONNECTION TO DROP-DOWN SCREEN MOTOR. COORDINATE MOTOR SWITCH LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.
2. COORDINATE RECEPTACLE HEIGHT AND LOCATION WITH LCD TELEVISION.
3. RECEPTACLE TO FEED OVERHEAD POWER SHADES, COORDINATE LOCATION WITH EQUIPMENT. COORDINATE SHADE CONTROL WITH EQUIPMENT SUPPLIER. VERIFY PRIOR TO ROUGH-IN.
4. COORDINATE WITH ARCHITECTURAL TO PROVIDE OUTLET IN MILLWORK.
5. RECEPTACLE TO OVERHEAD CEILING PROJECTOR, COORDINATE LOCATION.
6. COORDINATE ELECTRICAL CONNECTION WITH SKYLIGHT, INTERFACE WITH SKYLIGHT CONTROL PANEL.
7. COORDINATE WITH ARCHITECT FOR SKYLIGHT CONTROL PANEL LOCATION AND POWER RQMTS. VERIFY PRIOR TO ROUGH-IN.
8. VERIFY COPIER LOCATION AND POWER RQMTS PRIOR TO ROUGH-IN.
9. COORDINATE FIRE DOOR CONTROLLER LOCATION WITH DOOR PRIOR TO ROUGH-IN. CONTRACTOR SHALL VERIFY EXACT ELECTRICAL REQUIREMENTS WITH THE EQUIPMENT SUPPLIER. INTERLOCK WITH SMOKE DETECTION/FIRE ALARM SYSTEM TO CLOSE ON ALARM ACTIVATION. SUPERVISE CIRCUIT AS REQUIRED BY CODE.
10. VERIFY ALL FLOOR RECEPTACLE LOCATIONS WITH ARCHITECT PRIOR TO ROUGH-IN.
11. COORDINATE ELECTRICAL CONNECTION WITH WIRELESS UNIT.
12. LIGHTING CONTROL RELAY PANEL SHALL BE EQUAL TO HUBBELL "X" SERIES" 32 RELAY ENCLOSURE, SURFACE MOUNTED. REFERENCE LIGHTING PLAN FOR CONTROLLED CIRCUITS. LINK SECOND AND THIRD FLOOR RELAY PANELS VIA COMMUNICATION CABLE.
13. COORDINATE ELECTRICAL CONNECTION WITH ELECTRIC SHUTTERS.
14. COORDINATE HEIGHT OF J-BOX WITH UNDER COUNTER ICE MACHINE.
15. COORDINATE HEIGHT OF J-BOX WITH DISHWASHER.



AILET, FENNER, JOLLY & McCLELLAND, INC.
 Consulting Engineers
 1055 LOUISIANA AVE. PHONE: 318-425-7432
 SHREVEPORT, LOUISIANA FAX: 318-425-8222
 DESIGNER: **ROBBIN K. CASSITY, P.E.**
 LICENSE NO. **26059**
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ELECTRICAL - FOURTH FLOOR POWER PLAN
SCALE: 1/8"=1'-0"

ELECTRICAL POWER NOTES:

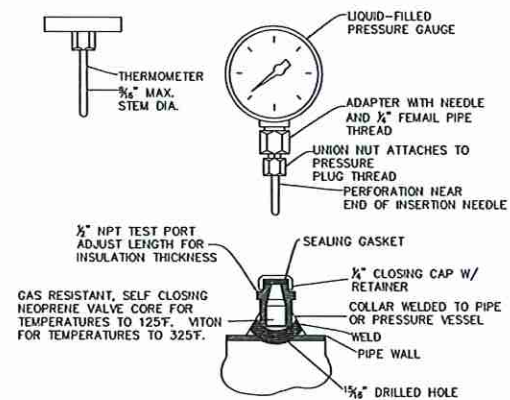
1. COORDINATE VFD LOCATION WITH MECHANICAL CONTRACTOR. VFD PROVIDED WITH MECHANICAL EQUIPMENT. VERIFY DISCONNECT PROVIDED WITH VFD.
2. AHU CONTROL PANEL. VERIFY LOCATION WITH MECHANICAL CONTRACTOR.
3. KITCHEN EXHAUST FAN MOTOR FED THRU HOOD CONTROL PANEL. DISCONNECT PROVIDED WITH HOOD EXHAUST FAN. COORDINATE WITH HOOD EQUIPMENT SUPPLIER AND MECHANICAL.
4. COORDINATE WITH PLUMBING CONTRACTOR FOR POWER TO WATER HEATER GAS IGNITER AND CIRCULATION PUMP.
5. ERY DISCONNECT/CONTROL PANEL PROVIDED WITH EQUIPMENT.
6. ALL RECEPTACLES IN MEZZANINE AREA SHALL BE 48" AFF.
7. COORDINATE J-BOX WITH HEAT TRACE FOR CH-1 LINES.
8. COORDINATE SWITCH HEIGHT WITH UNIT HEATER.



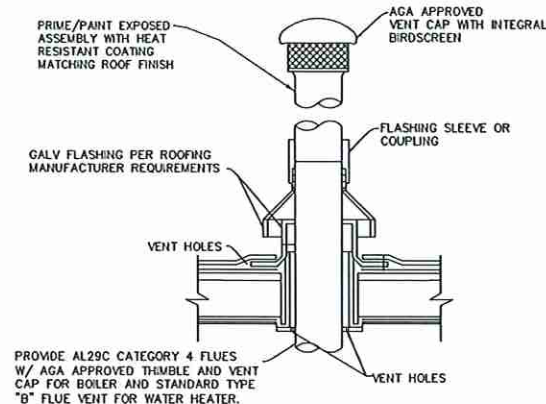
AILLET, FENNER, JOLLY & McCLELLAND, INC.
Consulting Engineers
1055 LOUISIANA AVE. PHONE: 318-425-7432
SHREVEPORT, LOUISIANA FAX: 318-425-4832

DESIGNER: ROBBIN K. CASSITY, P.E.
LICENSE NO: 26059

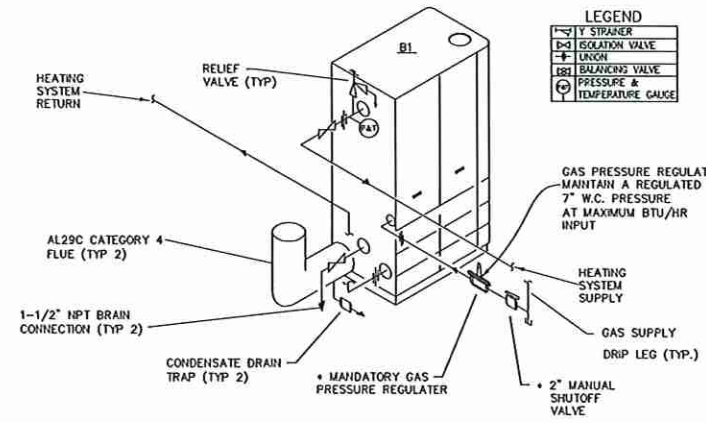
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**TEMPERATURE AND PRESSURE
(T/P) TEST PORT**
NOT TO SCALE

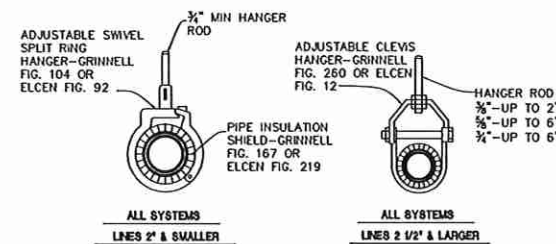


FLUE W/ FLASHING & CAP
NOT TO SCALE

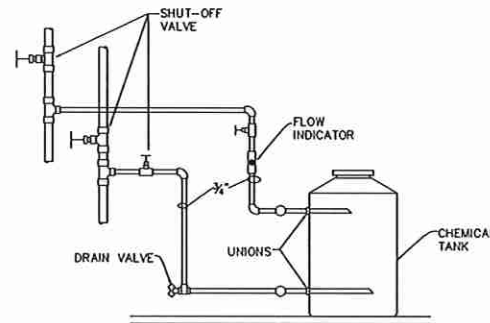


HEATING WATER BOILER
NOT TO SCALE

NOTES:
1) FOR ACTUAL SIZES AND LOCATIONS OF PIPING AND OTHER CONNECTIONS TO THE BOILER, SEE MANUFACTURER'S EXACT DIMENSIONAL DRAWINGS.
2) SHUT OFF VALVE AND CONDENSATE DRAIN TRAP SHOULD BE ARRANGED TO PERMIT THE FLUIDS TO DRAIN FREELY, BY GRAVITY, TO A CONVENIENT FLOOR DRAIN. RELIEF VALVE SHOULD BE PIPED VERTICALLY TO A HEIGHT 18" ABOVE FLOOR.
3) ALL (4) ITEMS ARE INCLUDED SEPARATELY IN SHIPMENT FROM FACTORY.
4) LOCATE WATER INLET AND OUTLET FITTINGS (i.e. UNIONS, ELBOWS, ETC.) A MINIMUM OF 6" FROM BOILER FITTINGS TO PREVENT INTERFERENCE WITH REMOVAL OF BOILER PANELS AND COVERS. ALL PIPING AND ELECTRIC CONNECTIONS (SERVICE SWITCHES, CONDUIT BOXES) SHOULD LIKEWISE BE 6" AWAY FROM SIDE PANELS.

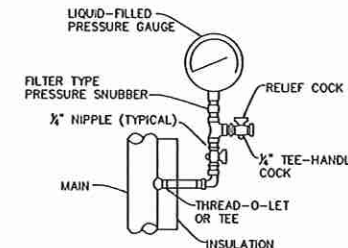


PIPE SUPPORTS
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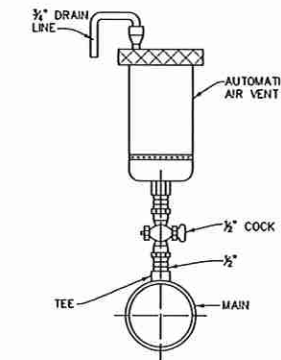
CHEMICAL FEEDER
NOT TO SCALE

NOTE: SUPPORT TANK FROM WALLS WITH BRACKETS OR FLOOR-MOUNT OF 4" HIGH CONCRETE PATH WITH CHAMFERED EDGES.

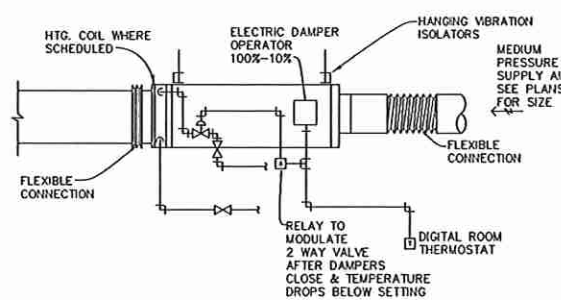


PRESSURE GAUGE
NOT TO SCALE

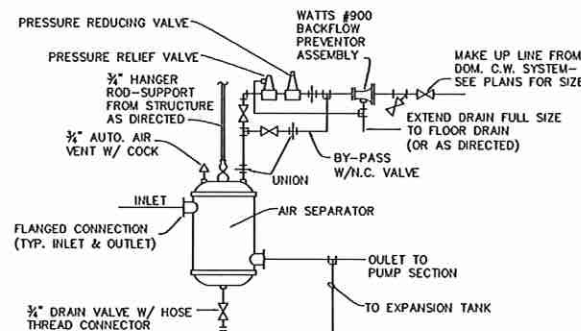
NOTE: NEEDLE VALVE MAY BE SUBSTITUTED FOR TEE-HANDLE COCKS.



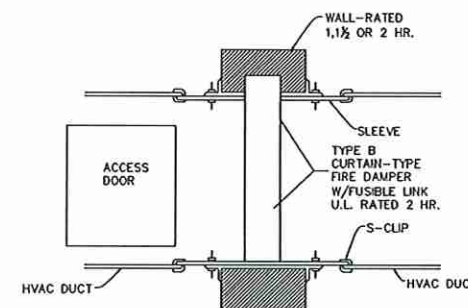
AUTOMATIC AIR VENT
NOT TO SCALE



VAV TERMINALS W/HEATING WATER COILS
NOT TO SCALE

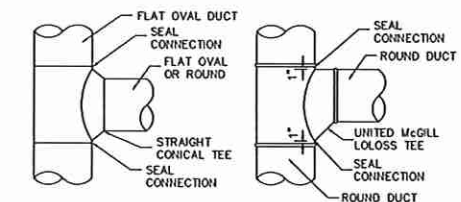


AIR SEPARATOR
NOT TO SCALE



FIRE DAMPER
NOT TO SCALE

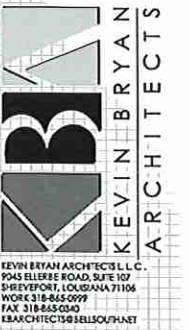
NOTE: FIRE WALLS RATED 1, 1 1/2 OR 2 HOURS.



DUCT TAKE-OFFS (MEDIUM PRESSURE)
NOT TO SCALE



ALLET, FENNER, JOLLY & McCLELLAND, INC.
Consulting Engineers
1055 LOUISIANA AVE.
SHREVEPORT, LOUISIANA
PHONE: 318-425-7452
FAX: 318-425-4622
DESIGNER: CHARLES M. HAZEL, P.E.
LICENSE NO. 25889
THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY.



REVISIONS	DATE	BY	APP

ARCHITECT

ENGINEER

PROJECT

**REGIONAL COMMERCE CENTER
PORT OF SHREVEPORT BOSSIER**
10397 LA HIGHWAY ONE, SHREVEPORT, LA 71115

PROJECT INFO

Date	APRIL 2009
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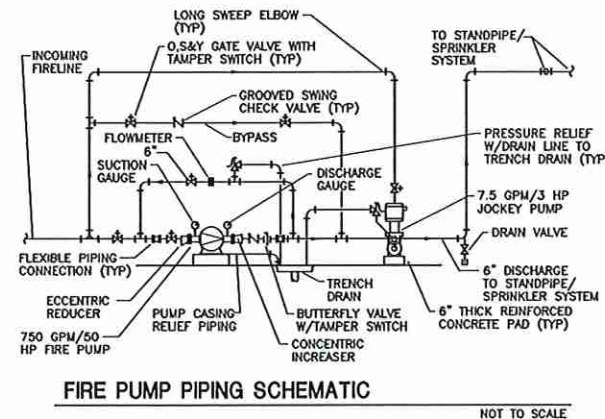
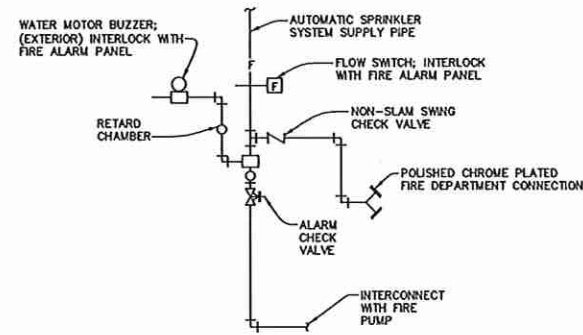
PLUMBING FIXTURE AND ROUGH-IN SCHEDULE												
MARK	MANUF.	MODEL	DESCRIPTION	ACCESSORIES	TRAP VALVE	DRAIN	TRAP	SUPPLIES	HW	CW	WASTE	VENT
SKH	ELKAY	LRAD312255	31"X22"X5.5"D SS DBL BOWL SINK/0.5 GPM AERATOR	PROVIDE RIS SUPPLIES, DRAIN WITH PVC COVER CONCEALED ARM CARRIER	LKE4100/ LK733	UKAD35	McGURE 8912	McGURE 2165LK	1/2	1/2	1 1/2	1 1/4
WF	WOODFORD	65	AUTOMATIC DRAINING, FREEZELESS WALL FAUCET	-	-	-	-	-	1/2	-	-	-
TP	PPP, INC.	PRIVE RITE	TRAP PRIMER VALVE	DISTRIBUTION UNIT AS APPLICABLE FOR MULTIPLE FLOOR DRAINS	-	-	-	-	1/2	-	-	-
FD	WADE	1100STD	CAST IRON BODY FLOOR DRAIN, 5" SATIN NICKEL BRONZE STRAINER TOP, TRAP PRIMER TAPPING	-	-	-	CAST IRON DEEP SEAL	-	1/2	3	2	-
LH	KOHLER	K-2196-4 PENNINGTON	SELF RIMMING VITREOUS CHINA LAVATORY (ADA HEIGHT)	TRUEBRO 102/105-W PIPE GUARDS;	SLOAN EBF-615-8, BOT U/C MIXING VALVE (0.5 GPM)	K-13885	K-9000	K-7605-P	1/2	1/2	1 1/2	1 1/4
WH	BRADFORD -WHITE	D-100T-199-3N	98 GALLON, 199UBH, 194GPH 100' TEMP RISE	-	-	-	-	-	1/2	1/2	-	-
IOB	OATEY	38687	METAL ICE MAKER WATER SUPPLY BOX	-	-	-	-	-	1/2	-	-	-
HST	ZURN	AQUA SPEC Z7301-SS-MT- DV2P-HW-1.50-59	1.5 GPM HAND/WALL SHOWER UNIT WITH METAL HOSE AND HANDSET	-	-	-	-	-	1/2	1/2	3	2
WC	ZURN	Z5655	FLOOR MOUNTED WATER CLOSET, FLOOR OUTLET, FLUSH VALVE, ELONGATED VITREOUS CHINA BOWL, AND BOLT CAPS	CHURCH 9500-C WHITE PLASTIC OPEN FRONT SEAT	ZURN ZTS6200EV EXPOSED BATTERY OPERATED SENSOR FLUSH VALVE	-	INTEGRAL	-	1/2	4	2	-
WCH	ZURN	Z5665	FLOOR MOUNTED WATER CLOSET, FLOOR OUTLET, FLUSH VALVE, ELONGATED VITREOUS CHINA BOWL, AND BOLT CAPS (ADA)	CHURCH 9500-C WHITE PLASTIC OPEN FRONT SEAT	ZURN ZTS6200EV EXPOSED BATTERY OPERATED SENSOR FLUSH VALVE	-	INTEGRAL	-	1/2	4	2	-
URH	ZURN	Z5798 ECOVANTAGE	WALL HUNG URINAL, ADA COMPLIANT, BACK OUTLET, 1/4" TOP SPUD ELONGATED RIM, VITREOUS CHINA WASHOUT ACTION	-	ZURN ZEG6003AV, 1/8 GPF FLUSH VALVE, BATTERY POWERED, SENSOR OPERATED	-	INTEGRAL	-	1/2	3	2	-
UR												
HWC	GRUNDFOSS	UP26-99BF	1/6 HP DOMESTIC HOT WATER RECIRCULATING PUMP, BRONZE FLANGED BODY	-	-	-	-	-	1/2	-	-	-
RD	WADE	3000AE-42	CAST IRON BODY ROOF DRAIN, ADJUSTABLE, C.I. DOME	-	-	-	-	-	-	-	-	-
SRD	WADE	3000AE-42D	CAST IRON BODY ROOF DRAIN, ADJUSTABLE, C.I. DOME, 2" DAM	-	-	-	-	-	-	-	-	-
HB	WOOD FORD	24	ANTI-SIPHON VACUUM BREAKER PROTECTED HOSE BIBB (24" AFF)	-	-	-	-	-	1/2	-	-	-
FS	WADE	9110	CAST IRON 8" SQ FLOOR SINK, 6" DEEP SUMP, A.R.E. INTERIOR, ALUM. DOME STRAINER, NICKLE BRONZE TOP, SEEPAGE FLANGE	-	-	-	CAST IRON DEEP SEAL	-	1/2	3	2	-
SS	FIAT	MSB-3624	36x24x10 PRECAST MOLDED STONE BASIN	832-AA HOSE; 889-CO HOLDER; PROVIDE FRP PANEL WALL GUARD	830-AA FAUCET	INTEGRAL	CAST IRON DEEP SEAL	-	1/2	1/2	3	2
DFH	ELKAY	EDFPM117C	BI-LEVEL DRINKING FOUNTAIN	WALL PLATE	-	-	-	-	1/2	1 1/2	1 1/4	-
RC	ELKAY	ER30	REMOTE WATER CHILLER, 115/1, 29.5 GPH, 1840W	-	-	-	-	-	1/2	-	-	-
DSN	SMITH	1770-HB-BS	NICKEL BRONZE DOWNSPOUT NOZZLE W/ SS BIRDSCREEN	-	-	-	-	-	-	-	-	-
HWS	ELKAY	CHS1716C	WALL HUNG SS SINGLE COUP HAND WASH SINK	-	INTEGRAL	INTEGRAL	INTEGRAL	K-7605-P	1/2	1/2	2	1 1/4
YH	WOOD- FORD	Y95	FREEZEPROOF, AUTOMATIC DRAINING, TWO FEET BURY (MINIMUM)	CAST BRASS BOX WITH COVER, LOOSE TEE KEY	-	-	-	-	1/2	-	-	-
MV	BRADLEY	S59-3080 -H-P	THERMOSTATIC MIXING VALVE (HL80)	PRE-PIPED ASSEMBLY, HIGH LIMIT DIAL THERMOMETER	-	-	-	-	1	1	-	-
TD	WADE	9144-TY-6-15-26	12x12-8" DEEP DRAIN	-	-	-	-	-	1/2	4	2	-
DD	WADE	3203P	DECK DRAIN	FLASHING FLANGE, GRATE, DECK CLAMP	-	-	-	-	-	3	-	-

* VERIFY EXACT FIXTURE TYPE, FINISH, MOUNTING HEIGHT, ETC. WITH ARCHITECT PRIOR TO ORDER AND INSTALLATION.
* MANUFACTURERS/MODELS LISTED ARE FOR REFERENCE ONLY. EQUAL SUBSTITUTIONS SHALL BE ACCEPTABLE.

PLUMBING GENERAL NOTES

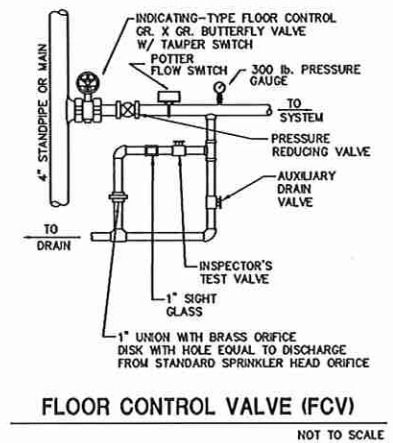
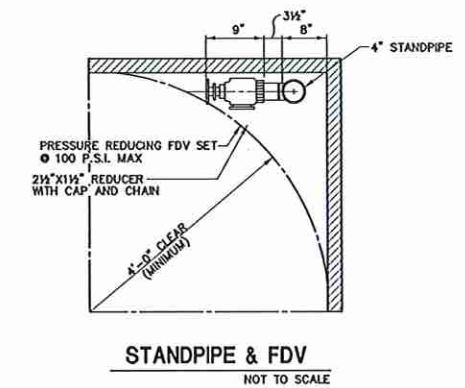
- CONTRACTOR TO PROVIDE A COMPLETE AND WORKABLE PLUMBING SYSTEM IN ACCORDANCE WITH BUT NOT LIMITED TO THE PLANS AND SPECIFICATIONS. COMPLY WITH LATEST EDITIONS OF ALL APPLICABLE CODES. OBTAIN ALL PERMITS AND PAY ALL REQUIRED FEES.
- CONTRACTOR SHALL COORDINATE LOCATION OF UTILITY MAINS WITH SITE PLAN FOR EXACT ROUTING OF BUILDING SERVICE LINES PRIOR TO BIDDING. UTILITY SERVICE REVISIONS REQUIRED DURING CONSTRUCTION SHALL BE COMPLETED AT NO EXTRA COST TO OWNER.
- V.T.R.'S SHALL BE MIN 10'-0" FROM O.A. INTAKES. OFFSET VENT AS REQUIRED. COMBINE VENTS WHERE POSSIBLE TO MINIMIZE ROOF PENETRATIONS. VERIFY LOCATIONS OF ROOF PENETRATIONS W/ ARCHITECT PRIOR TO ROUGH-IN.
- PROVIDE CHROME PLATED ESCUTCHEONS AT PIPE SLEEVES FOR EXPOSED BARE PIPE.
- PROVIDE ACCESS OPENINGS IN GYPSUM BOARD CEILINGS FOR VALVES AND DAMPERS.
- INSULATE TAILPIECE, TRAP AND WATER SUPPLIES AT HANDICAPPED FIXTURES. USE TRUEBRO LAY-GUARD2 FACTORY FABRICATED INSULATING BOOTS FOR DRAINS AND SUPPLIES.
- PLUMBING FIXTURES AND INSTALLATION SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE AND LOCAL CONSERVATION STANDARDS AND ADA REQUIREMENTS.
- PLUMBING RISER ISOLATION & DRAIN VALVES SHALL BE LOCATED WITHIN EASY REACH OF CEILING, WHERE CEILINGS OCCUR BELOW OR DROPPED TO WITHIN A MAX. 10'-0" OF FIN. FLOOR WHERE NO CEILING OCCURS.
- INSULATED PIPING AND FITTINGS EXPOSED TO VIEW THROUGHOUT THE FACILITY SHALL BE COVERED AND FINISHED W/ PVC JACKET EQUAL TO MANVILLE CEEL-CO PIPE JACKETING SYSTEM USING 30 MIL THICK JACKET. INSTALL PER MANUFACTURER'S INSTRUCTIONS WITH SEAL ON TOP OF PIPE SO AS NOT TO BE VISIBLE FROM OCCUPIED SPACE.
- PROVIDE WALL CLEANOUTS AT FIXTURES IN ACCORDANCE WITH APPLICABLE SECTIONS OF INTERNATIONAL PLUMBING CODE.
- PROVIDE 1/2" SHUT-OFF VALVE AHEAD OF EACH TRAP PRIMER. TRAP PRIMERS SHALL BE LOCATED ABOVE ACCESSIBLE CEILINGS AND NOT IN WALL. PROVIDE ACCESS OPENING & DISTRIBUTION DEVICE WHERE NEEDED.
- PROVIDE 3/4" SHUT-OFF VALVE AHEAD OF EACH WALL FAUCET AND HOSE BIBB INSTALLATIONS. PROVIDE ACCESS OPENINGS WHERE NEEDED.
- COORDINATE EXACT PLUMBING FIXTURE TYPE AND MOUNTING HEIGHT WITH ARCHITECT PRIOR TO ORDER, ROUGH-IN AND INSTALLATION.
- COORDINATE EXACT PIPE AND RISER ROUTING WITH STRUCTURAL AND ELECTRICAL TRADES. NOTIFY ENGINEER OF ANY DISCREPANCIES.
- WATER, SPRINKLER, GAS AND VENT PIPING SHALL BE RUN AS HIGH AS POSSIBLE (THROUGH JOISTS AS NECESSARY) TO PROVIDE CLEARANCE FOR OTHER EQUIPMENT AND TRADES. ALL PIPING TO BE CONCEALED ABOVE CEILING UNLESS OTHERWISE NOTED.
- PROVIDE BLOCKING IN WALLS TO SECURE ALL WATER SUPPLY PIPING.
- PIPING SHALL NOT BE INSTALLED ABOVE OR WITHIN 3'-0" IN FRONT OF ELECTRICAL SERVICE PANELS. COORDINATE ROUTING WITH ELECTRICAL CONTRACTOR.
- INSTALL WATER CLOSET FLUSH VALVES WITH OPERATING HANDLE ON THE WIDE SIDE OF THE TOILET STALL PER ADA REQUIREMENTS.
- PROVIDE CONCEALED FIXTURE CARRIERS FOR ALL WALL MOUNTED PLUMBING FIXTURES.
- SLOPE FLOORS TO FLOOR DRAINS. REFER TO ARCHITECTURAL AND FOUNDATION PLANS.
- PIPE PENETRATIONS THROUGH FIRE/SMOKE WALLS AND PARTITIONS SHALL BE FIRE-CAULKED.
- TEST ENTIRE SYSTEM FOR LEAKS AS REQUIRED BY THE LOCAL AUTHORITY HAVING JURISDICTION.
- STERILIZE WATER SYSTEM WITH CHLORINE SOLUTION AS REQUIRED BY THE LOCAL AUTHORITY HAVING JURISDICTION.
- PROVIDE AUTOMATIC FIRE SPRINKLER/STANDPIPE/PUMP SYSTEM PROTECTION THROUGHOUT FACILITY IN STRICT ACCORDANCE WITH NFPA 13, 14, 20, 24 & 101, SHREVEPORT FIRE PREVENTION, AND ALL APPLICABLE CODES AND REGULATIONS AS SPECIFIED. REFERENCE PLANS FOR NOTING OF SPECIAL CONDITIONS (I.E. PIPE ROUTING, SPRINKLER HEAD TYPE AND PLACEMENT, ETC.) TO BE INCORPORATED INTO THE SPRINKLER SHOP DRAWING SUBMITTAL. SUBMITTAL SHALL BE APPROVED BY ARCHITECT AND ENGINEER PRIOR TO SYSTEM ROUGH-IN AND INSTALLATION.

PLUMBING LEGEND	
SYMBOL	DESCRIPTION
---	DOMESTIC COLD WATER (CW)
---	DOMESTIC HOT WATER (HW)
---	SANITARY SEWER OR WASTE (SS OR W)
---	SANITARY VENT (V)
G	NATURAL GAS PIPING (LESS THAN 1 PSI)
C	CONDENSATE DRAIN PIPING
CO	CLEAN OUT (CO)
CO	CLEAN OUT - WALL (WCO)
CO	DOUBLE CLEAN OUT (DCO)
GV	GATE VALVE
VTR	VENT THROUGH ROOF
FD (/TP)	FLOOR DRAIN (/ TRAP PRIMER)
BF	BALL VALVE
FFCO	FINISH FLOOR CLEANOUT
U/F	UNDER FLOOR
U/S	UNDER SLAB
U/G	UNDER GROUND
U/C	UNDER COUNTER
AF	ABOVE FINISHED FLOOR
---	DOMESTIC HOT WATER RETURN (HWR)
MPG	MEDIUM PRESSURE GAS (1 PSI OR ABOVE)
F	FIREMAIN
FDC	FIRE DEPARTMENT CONNECTION
GR	GAS PRESSURE REGULATOR
RV	VALVE IN VERTICAL
RPZ	REDUCED PRESSURE ZONE
BFP	BACKFLOW PREVENTER
WF	WALL FAUCET (WF) / HOSE BIBB (HB)
GW	GREASE WASTE
140	140° F HOT WATER
180	180° F HOT WATER
T	TEMPERED HOT WATER
BV	BALANCING VALVE

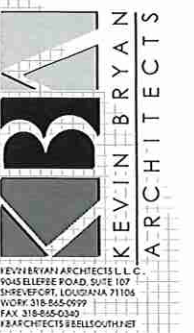


PIPE SCHEDULE	
WASTE/VENT, STORM	CAST IRON SERVICE CLASS ASTM A74
GAS, HYDRONIC > 1"	SCHEDULE 40 STEEL PIPE
WATER, HYDRONIC < 1 1/4"	HARD COPPER TYPE "L"

REFERENCE SPECIFICATIONS FOR FITTINGS, HANGERS, JOINING METHODS AND INSULATION/PAINTING REQUIREMENTS.



ALLET, FENNER, JOLLY & McLELLAND, INC.
Consulting Engineers
 1055 LOUISIANA AVE
 SHREVEPORT, LOUISIANA 71105
 PHONE: 318-425-7453
 FAX: 318-425-4222
 DESIGNER: **CHARLES M. HAZEL, P.E.**
 LICENSE NO: 29689
 THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY.



REVISIONS	

ENGINEER

PROJECT

REGIONAL COMMERCE CENTER
 PORT OF SHREVEPORT BOSSIER
 10397 LA HIGHWAY ONE, SHREVEPORT, LA 71115

PROJECT INFO	
Date	APRIL 2009
Scale	AS SHOWN
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Job	

SHEET

P1 of 10P



— ENGINEER —

REGIONAL COMMERCE CENTER
PORT OF SHREVEPORT BOSSIER

Date | APRIL 2

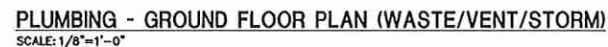
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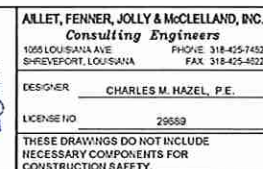
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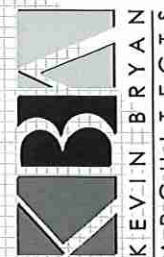
P2 OF **10**



1. PROVIDE ELEVATOR SUMP PUMP EQUAL TO GRUNDFOSS SJ25 (1/4 HP, 115V, 10 GPM AT 13 FEET TDH). PROVIDE PIGGYBACK FLOAT SWITCH WITH PUMP. COORDINATE EXACT LOCATION WITH ELEVATOR SUMP. PROVIDE KEYSWITCH IN ELEVATOR EQUIPMENT ROOM. INTERCONNECT SUCH THAT PUMP SHALL BE MANUALLY SWITCHED TO OPERATE. PROVIDE CAPPED HOSE ADAPTER CONNECTION AT 4 FT ABOVE GRADE.
2. REFERENCE CIVIL SITE PLAN FOR CONTINUATION OF UTILITY PIPING.
3. PRIME AND PAINT HOSE BIBB ASSOCIATED WITH ELEVATOR SUMP PUMP; PROVIDE ENGRAVED WALL PLATE AFFIXED TO WALL FACE, 1" HIGH MINIMUM, 1/2" LETTERING, STATING "ELEVATOR SUMP DISCHARGE - NOT POTABLE WATER".
4. PRIMARY ROOF DRAIN PIPING SYSTEMS SHALL BE INSTALLED AT 1/4" SLOPE PER FOOT.
5. PIPE DROPS ADJACENT TO STRUCTURAL CONCRETE COLUMNS. HOLD TIGHT TO AND SECURE AS REQUIRED IN VERTICAL. COORDINATE WITH EXACT STRUCTURAL FRAMING PRIOR TO ROUGH-IN AND INSTALLATION.
6. PIPING SYSTEMS THROUGH ELEVATOR EQUIPMENT ROOM SHALL BE ROUTED ABOVE RATED CEILING/ENCLOSURE AND FULLY SEPARATED FROM ELEVATOR EQUIPMENT ROOM IN ACCORDANCE WITH INTERNATIONAL BUILDING CODE.
7. PROVIDE 2" DEEP-SEAL P-TRAP WITH TRAP PRIMER IN CAVITY FOR OPEN-SITE TERMINATION OF CONDENSATE. RE:HVAC.
8. FOR GROUND FLOOR ONLY, PROVIDE TRAP GUARD EQUAL TO PROSET IN LIEU OF SCHEDULED TRAP PRIMER.

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KEVIN BRYAN ARCHITECTS L.L.C.
1045 ELLERBE ROAD, SUITE 107
SHREVEPORT, LOUISIANA 71104
WORK 318-865-0999
FAX 318-865-0340
KBARCHITECT@BELLNET

REVISIONS

ARCHITECT

ENGINEER

PROJECT

REGIONAL COMMERCE CENTER
PORT OF SHREVEPORT BOSSIER
10397 LA HIGHWAY ONE, SHREVEPORT, LA 71115

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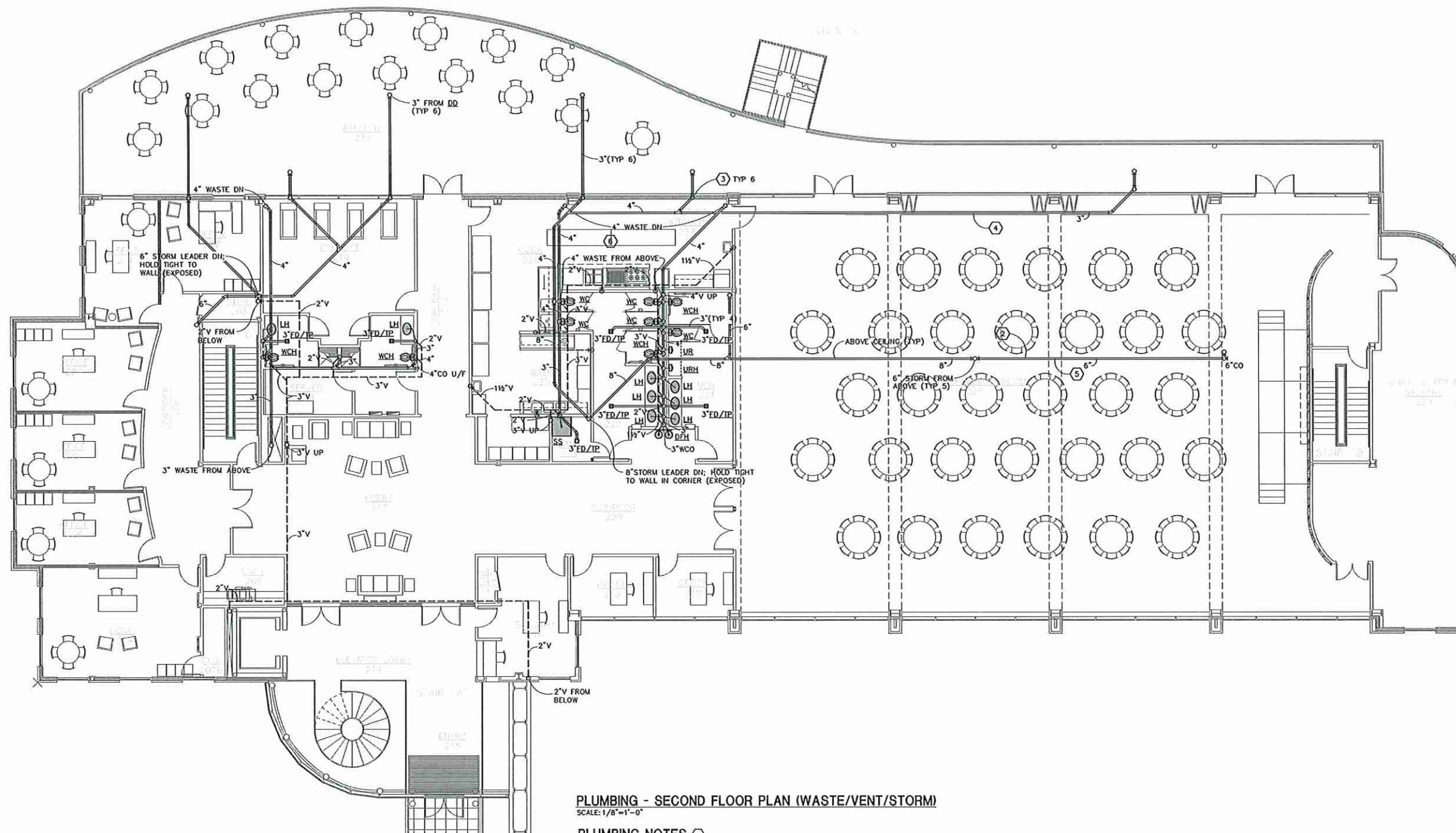
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PLUMBING - SECOND FLOOR PLAN (WASTE/VENT/STORM)
SCALE: 1/8"=1'-0"

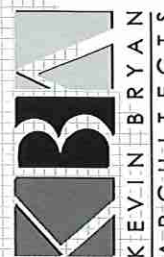
PLUMBING NOTES:

1. PRIMARY DRAIN PIPING SYSTEMS SHALL BE INSTALLED AT 1/8" SLOPED PER FOOT.
2. COORDINATE INSTALLATION THROUGH STRUCTURAL MEMBERS AS REQUIRED BY HORIZONTAL PIPE ROUTING.
3. OFFSET AND ROUTE VERTICAL STORM DRAIN PIPING BETWEEN WALL AND BELOW STRUCTURAL MEMBER TO ABOVE CEILING OF INTERIOR. RE: ARCHITECTURAL WALL SECTION.
4. ROUTE HORIZONTAL STORM PIPING CONCEALED WITHIN CEILING CAVITY. COORDINATE WITH OTHER TRADES AND STRUCTURAL MEMBERS AS REQUIRED.
5. ALL EXPOSED STORM PIPING WITHIN ASSEMBLY AREA SHALL BE PRIMED AND PAINTED IN ACCORDANCE AND AS DIRECTED BY ARCHITECT.
6. REFERENCE ENLARGED KITCHEN PLAN (SHT. P9) FOR GREASE WASTE PIPING.

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ALLET, FENNER, JOLLY & McCLELLAND, INC.
Consulting Engineers
1055 LOUISIANA AVE.
SHREVEPORT, LOUISIANA
PHONE: 318-425-7432
FAX: 318-425-4522
DESIGNER: CHARLES M. HAZEL, P.E.
LICENSE NO. 20689
THESE DRAWINGS DO NOT INCLUDE
NECESSARY COMPONENTS FOR
CONSTRUCTION SAFETY.



KEVIN BRYAN ARCHITECTS, L.L.C.
9045 ELDER ROAD, SUITE 107
SHREVEPORT, LOUISIANA 71106
WORK: 318-845-0099
FAX: 318-845-0340
KBARCHITECTS@BELLSONET

REVISIONS

ARCHITECT

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REGIONAL COMMERCE CENTER
PORT OF SHREVEPORT BOSSIER
10397 LA HIGHWAY ONE, SHREVEPORT, LA 71115

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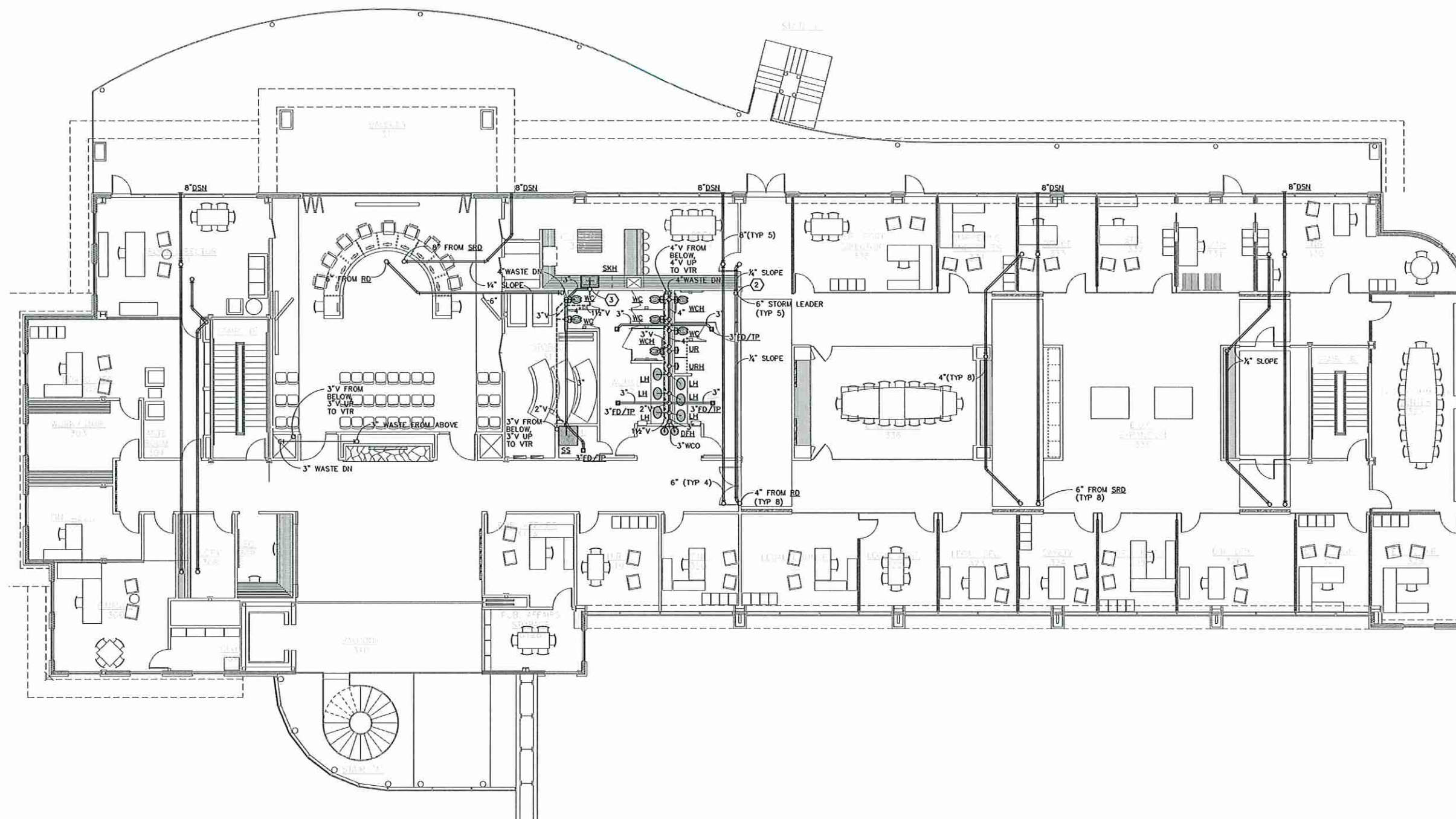
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P4 of 10P



PLUMBING - THIRD FLOOR PLAN (WASTE/VENT/STORM)
SCALE: 1/8"=1'-0"

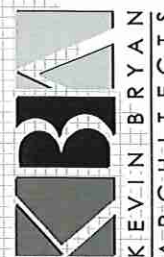
PLUMBING NOTES:

1. ROOF DRAIN PIPING SYSTEMS (BOTH PRIMARY AND SECONDARY) SHALL BE INSTALLED AT 1/8" SLOPE PER FOOT, UNLESS NOTED OTHERWISE.
2. COORDINATE CONCEALMENT OF VERTICAL PIPING IN ROOM CORNER WITH ARCHITECT AS REQUIRED.
3. PROVIDE SIDE-INLET FITTING IN TAILPIECE OF P-TRAP OF ADJACENT SINK. CONNECT DISHWASHER DISCHARGE TUBING AS REQUIRED.

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ALLET, FENNER, JOLLY & McCLELLAND, INC.
Consulting Engineers
1055 LOUISIANA AVE.
SHREVEPORT, LOUISIANA
PHONE: 318-425-7432
FAX: 318-425-4522
DESIGNER: CHARLES M. HAZEL, P.E.
LICENSE NO. 20009
THESE DRAWINGS DO NOT INCLUDE
NECESSARY COMPONENTS FOR
CONSTRUCTION SAFETY.



KEVIN BRYAN ARCHITECTS, L.L.C.
1045 ELLERBE ROAD, SUITE 107
SHREVEPORT, LOUISIANA 71104
WORK: 318-845-0099
FAX: 318-845-0140
KBARCHITECTS@BELLNET.COM

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ARCHITECT

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REGIONAL COMMERCE CENTER
PORT OF SHREVEPORT BOSSIER
10397 LA HIGHWAY ONE, SHREVEPORT, LA 71115

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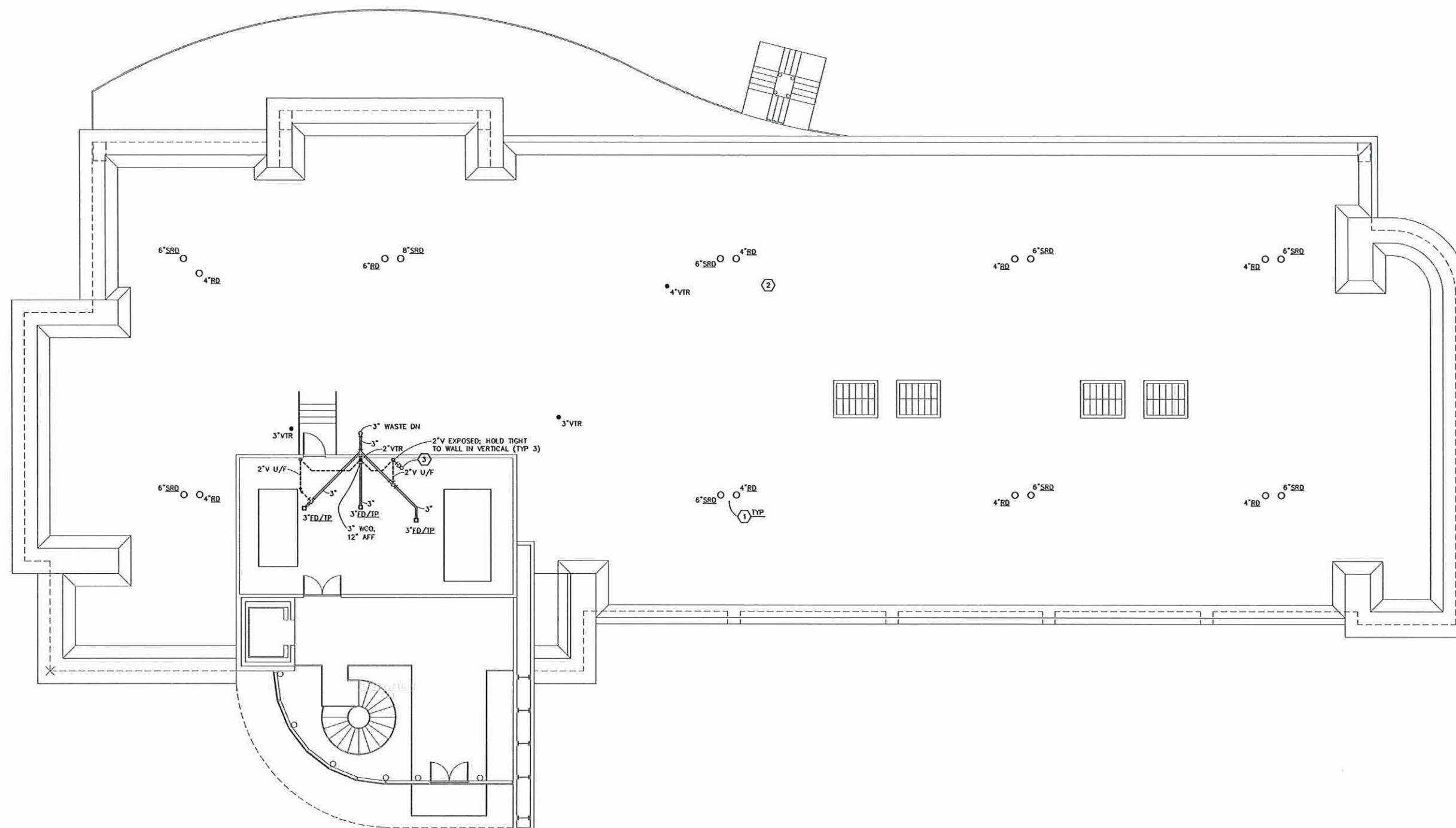
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P5 of 10P

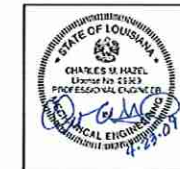


PLUMBING - FOURTH FLOOR/ROOF PLAN (WASTE/VENT/STORM)
SCALE: 1/8"=1'-0"

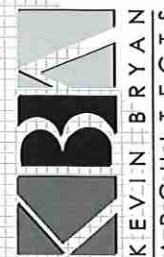
PLUMBING NOTES:

1. COORDINATE EXACT LOCATION OF ROOF DRAINS WITH ARCHITECTURAL ROOF PLAN AND ROOF INSULATION SHOP DRAWINGS PRIOR TO ROUGH-IN AND INSTALLATION.
2. COORDINATE EXACT LOCATION OF ALL ROOF-MOUNTED EQUIPMENT AND PENETRATIONS WITH STRUCTURAL ROOF PLAN PRIOR TO ROUGH-IN AND INSTALLATION.
3. PROVIDE 2" DEEP-SEAL P-TRAP WITH TRAP PRIMER AND FUNNEL IN VERTICAL VENT STACK FOR OPEN-SITE DRAIN TERMINATION. RE:HVAC.

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ALLET, FENNER, JOLLY & McCLELLAND, INC.
Consulting Engineers
1055 LOUISIANA AVE. SHREVEPORT, LOUISIANA 71104
PHONE: 318-425-7452 FAX: 318-425-4522
DESIGNER: CHARLES M. HAZEL, P.E.
LICENSE NO. 25009
THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY.



KEVIN BRYAN ARCHITECTS L.L.C.
1045 ELLERRE ROAD, SUITE 107
SHREVEPORT, LOUISIANA 71106
WORK 318-865-0999
FAX 318-865-0340
KARCHITECTS@GMAIL.COM

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ARCHITECT

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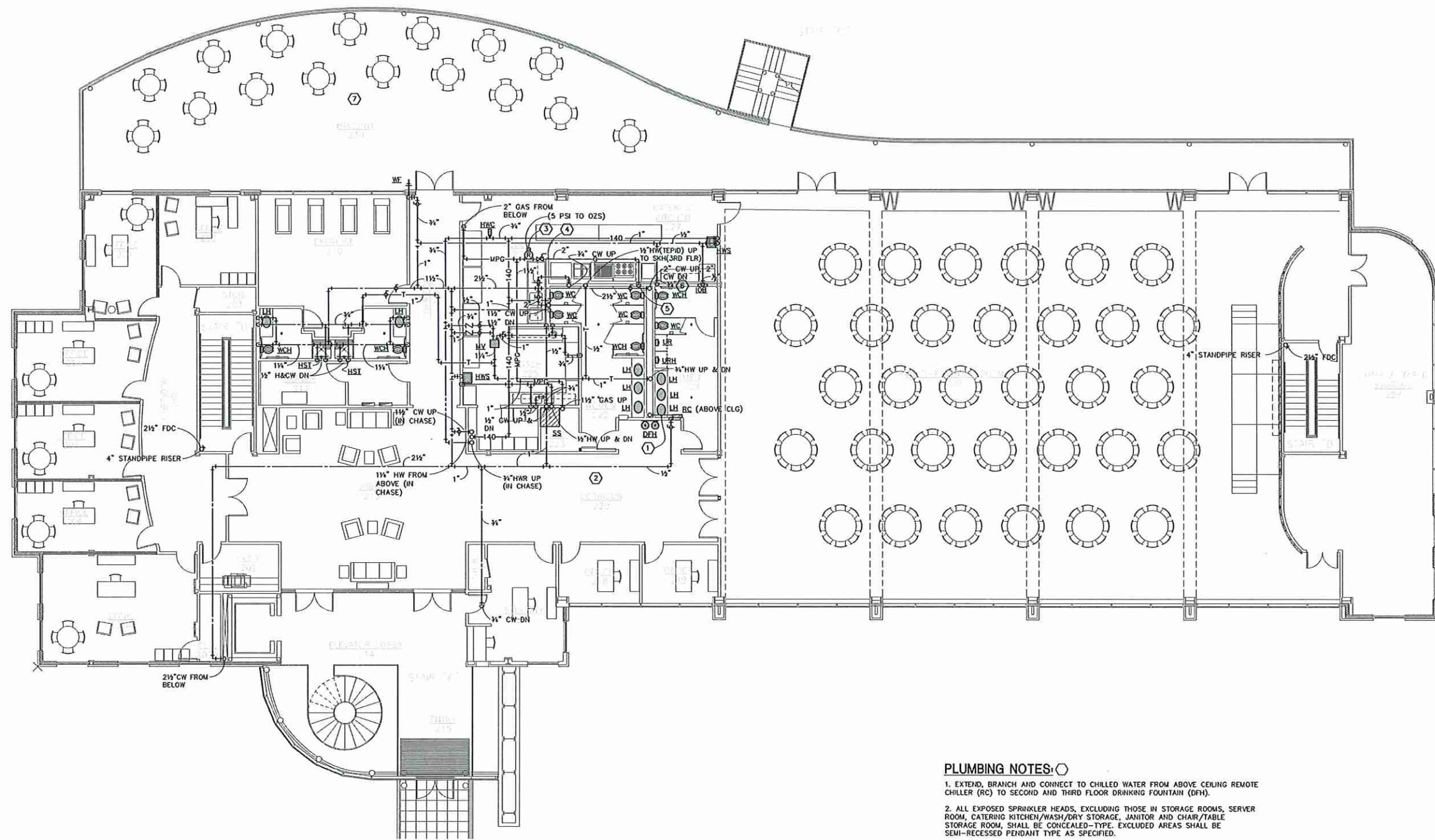
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10397 LA HIGHWAY ONE, SHREVEPORT, LA 71115

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P7 of 10P

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P7 of 10P



PLUMBING - SECOND FLOOR PLAN (WATER/GAS/FIRE)
SCALE: 1/8"=1'-0"

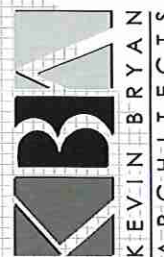
PLUMBING NOTES: (1)

1. EXTEND, BRANCH AND CONNECT TO CHILLED WATER FROM ABOVE CEILING REMOTE CHILLER (RC) TO SECOND AND THIRD FLOOR DRINKING FOUNTAIN (DFH).
2. ALL EXPOSED SPRINKLER HEADS, EXCLUDING THOSE IN STORAGE ROOMS, SERVER ROOM, CATERING KITCHEN/WASH/DRY STORAGE, JANITOR AND CHAIR/TABLE STORAGE ROOM, SHALL BE CONCEALED-TYPE. EXCLUDED AREAS SHALL BE SEMI-RECESSED PENDANT TYPE AS SPECIFIED.
3. ROUTE REGULATOR VENT TUBING PARALLEL TO GAS PIPING UP TO UPPER MECHANICAL ROOM AND TERMINATE THROUGH EXTERIOR IN ACCORDANCE WITH NFPA 54 AND PLUMBING CODE.
4. PROVIDE 2" GAS SOLENOID VALVE IN GAS SUPPLY MAIN SERVING KITCHEN COOKING EQUIPMENT. RE-ELEC. INTERLOCK WITH EXHAUST HOOD FIRE SUPPRESSION SYSTEM.
5. PROVIDE 2" GAS HEADER BEHIND KITCHEN EQUIPMENT UNDER HOOD, FROM HEADER, PROVIDE VALVED BRANCH WITH FLEX LINE AND QUICK-CONNECT FITTING, FULL SIZE OF EQUIPMENT CONNECTION; EXTEND AND CONNECT AS REQUIRED.
6. 3/4" CW BRANCH, EXTEND AND CONNECT TO STEAMER.
7. PROVIDE AUTOMATIC FIRE SPRINKLER PROTECTION FOR BALCONY IN STRICT ACCORDANCE WITH NFPA 13.



AILET, FEINER, JOLLY & McCLELLAND, INC.
Consulting Engineers
1065 LOUISIANA AVE. SHREVEPORT, LOUISIANA 71106
PHONE: 318-435-7432 FAX: 318-435-4522
DESIGNER: CHARLES M. HAZEL, P.E.
LICENSE NO. 29089
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KEVIN BRYAN ARCHITECTS, L.L.C.
1045 ELLERBE ROAD, SUITE 107
SHREVEPORT, LOUISIANA 71106
WORK 318-845-0099
FAX 318-845-0040
KBARCHITECTS@BELL.SOUTHWEST

REVISIONS

ARCHITECT

ENGINEER

PROJECT

REGIONAL COMMERCE CENTER
PORT OF SHREVEPORT BOSSIER
10397 LA HIGHWAY ONE, SHREVEPORT, LA 71115

PROJECT INFO

Date APRIL 2009

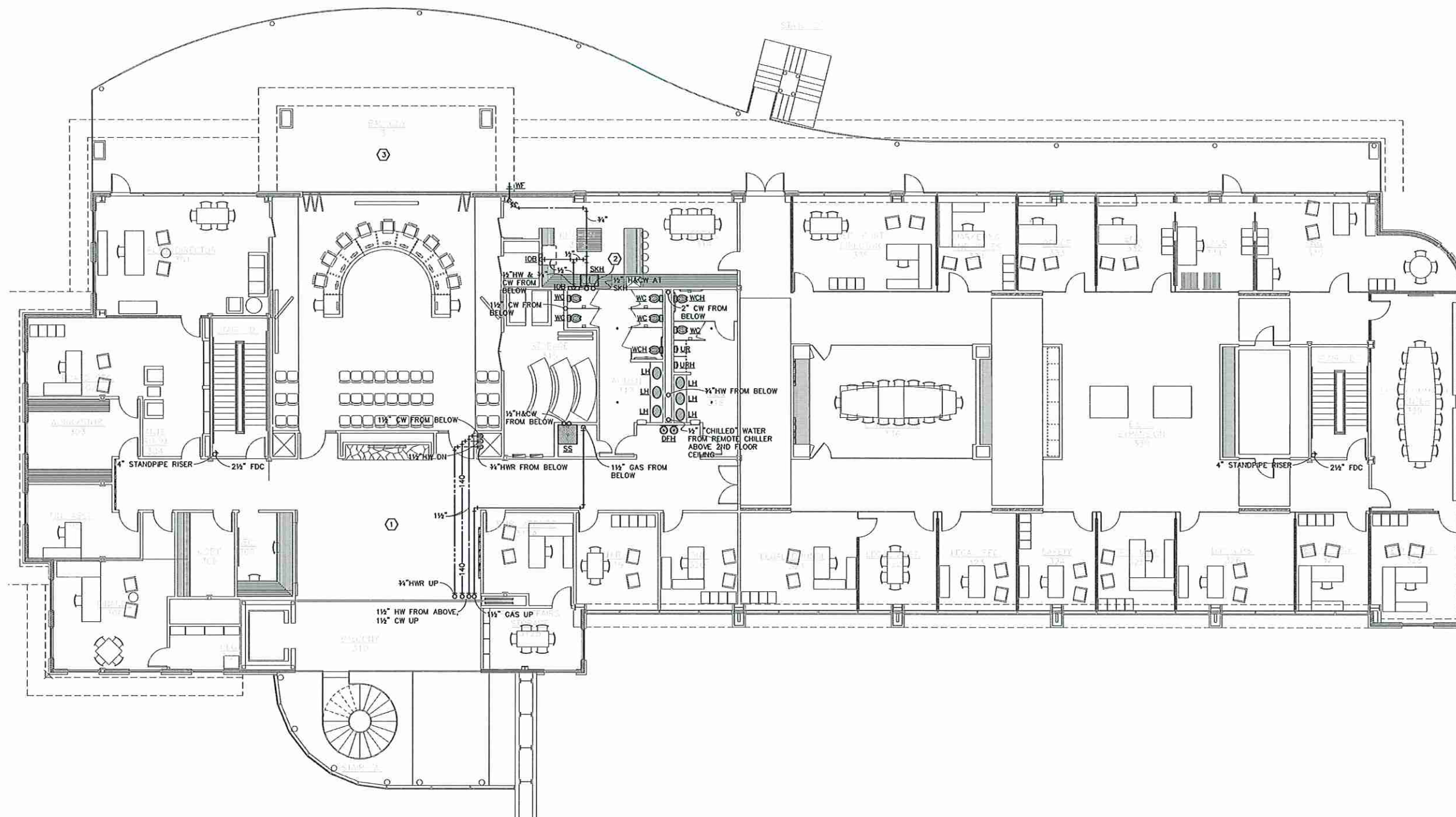
Scale AS SHOWN

Drawn GW

Job

SHEET

P8 of 10P



PLUMBING - THIRD FLOOR PLAN (WATER/GAS/FIRE)
SCALE: 1/8"=1'-0"

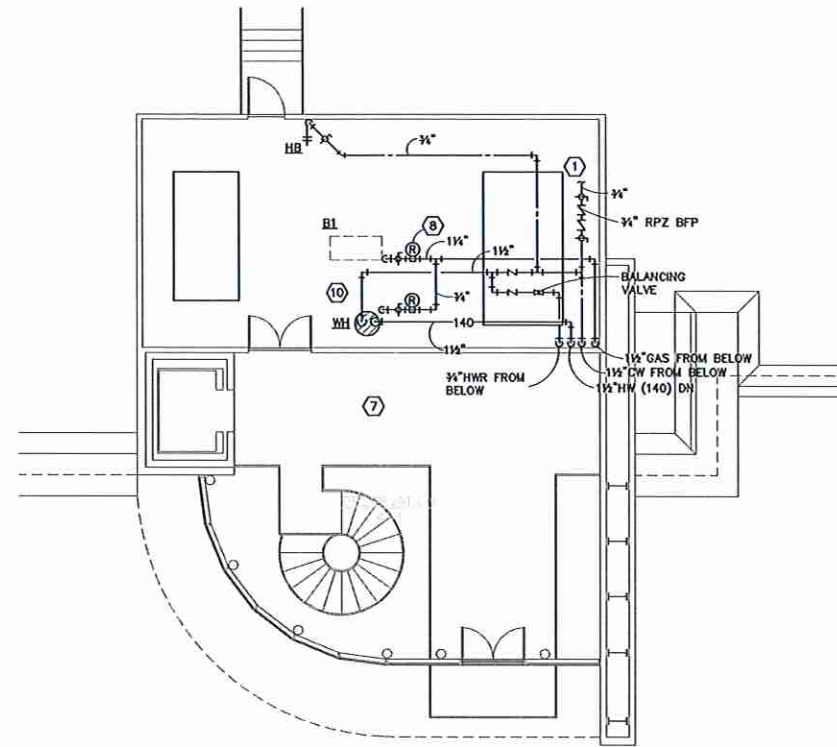
PLUMBING NOTES:

1. ALL EXPOSED SPRINKLER HEADS, EXCLUDING THOSE IN CLOSETS, STORAGE AND JANITOR ROOMS, SHALL BE CONCEALED-TYPE. EXCLUDED AREAS SHALL BE SEMI-RECESSED PENDANT TYPE AS SPECIFIED.
2. BRANCH, EXTEND AND CONNECT 1/2" HW TO UNDERCOUNTER DISHWASHER.
3. PROVIDE AUTOMATIC FIRE SPRINKLER PROTECTION FOR BALCONY IN STRICT ACCORDANCE WITH NFPA 13.



ALLET, FENNER, JOLLY & McCLELLAND, INC.
Consulting Engineers
1065 LOUISIANA AVE. SHREVEPORT, LOUISIANA 71106
PHONE: 318-426-7452 FAX: 318-426-4522
DESIGNER: CHARLES M. HAZEL, P.E.
LICENSE NO. 20089
THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY.

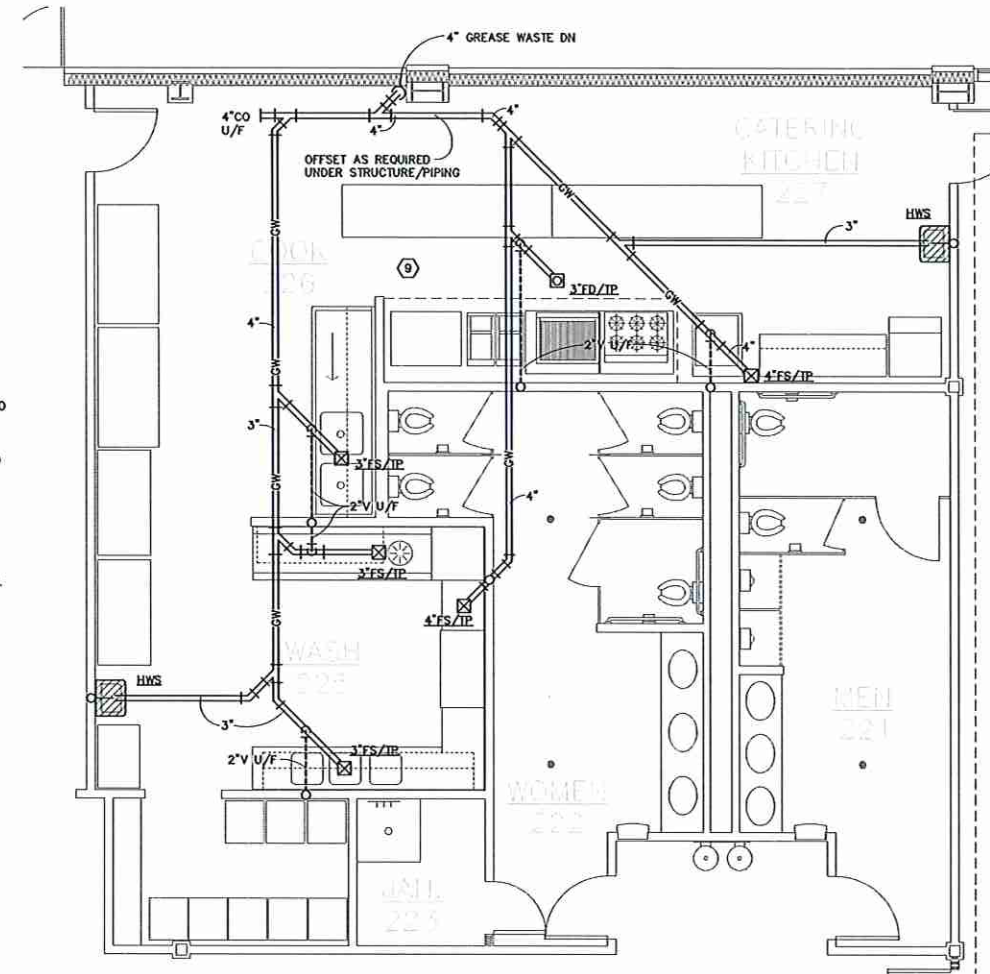
IF SHEET IS LESS THAN 24" x 36", IT IS A REDUCED PRINT AND IS NOT TO SCALE SHOWN.



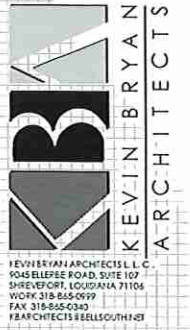
PLUMBING - FOURTH FLOOR PLAN (WATER/GAS/FIRE)
SCALE: 1/8"=1'-0"

PLUMBING NOTES: (C)

1. EXTEND, BRANCH AND CONNECT TO CW MAKE-UP OF CHILLED AND HEATING HYDRONIC SYSTEMS AS REQUIRED.
2. COORDINATE EXACT DRAIN (FLOOR DRAIN, FLOOR SINK, HUB DRAIN, ETC.) TYPE AND LOCATION WITH EXACT KITCHEN EQUIPMENT. PROVIDE EACH WITH DEEP SEAL P-TRAP AND 1/2" CW FROM TRAP PRIMER; PROVIDE MULTIPLE BRANCHES FROM DISTRIBUTION MANFOLD AND LOCATE MAIN ASSEMBLY ABOVE ACCESSIBLE CEILING.
3. SLOPE ALL UNDERSLAB VENT PIPING BACK TO THE HORIZONTAL DRAIN PIPING TO WHICH IT CONNECTS.
4. VERIFY ALL EQUIPMENT LOCATIONS, ROUGH-IN REQUIREMENTS AND FINAL CONNECTIONS WITH OWNER AND KITCHEN EQUIPMENT SUPPLIER/PROVIDER PRIOR TO CONSTRUCTION. CONTRACTOR SHALL USE PLAN AS GENERAL REFERENCE. EXACT EQUIPMENT TO BE ACQUIRED BY OWNER AT LATER DATE AND FIELD ADJUSTMENTS TO ROUGH-IN SHALL BE PROVIDED TO ACCOMMODATE EXACT KITCHEN EQUIPMENT.
5. CONTRACTOR SHALL PROVIDE IN-LINE VACUUM BREAKERS IN ALL WATER PIPING DROPS FEEDING EQUIPMENT WITH HOSE ATTACHMENTS.
6. SLOPE ALL FLOORS TO FLOOR DRAINS/SINKS UNLESS INDICATED OTHERWISE ON ARCHITECTURAL AND FOUNDATION PLANS. RE: ARCHITECTURAL/STRUCTURAL PLANS.
7. PROVIDE CONCEALED-TYPE AUTOMATIC SPRINKLER HEADS IN THIS AREA.
8. CONNECT, EXTEND AND TERMINATE REGULATOR VENT TUBING TO EXTERIOR IN ACCORDANCE WITH NFPA 54 AND PLUMBING CODE.
9. REFERENCE 1/8" SCALE PLUMBING PLANS FOR REMAINDER OF KITCHEN PIPING/PLUMBING SYSTEMS.
10. PROVIDE HEAT TRAPS IN PIPING AT WATER HEATER PER ASHRAE 90.1 FOR SERVICE WATER EQUIPMENT.



PLUMBING - PARTIAL SECOND FLOOR ENLARGED KITCHEN PLAN
SCALE: 1/4"=1'-0"



REVISIONS	
ARCHITECT	
ENGINEER	
PROJECT	

REGIONAL COMMERCE CENTER
PORT OF SHREVEPORT BOSSIER
10397 LA HIGHWAY ONE, SHREVEPORT, LA 71115

PROJECT INFO	
Date	APRIL 2009
Scale	AS SHOWN
Drawn	GW
Job	
SHEET	

	ALLET, FENNER, JOLLY & McCLELLAND, INC. Consulting Engineers	
	1255 LOUISIANA AVE SHREVEPORT, LOUISIANA	PHONE: 318-425-7452 FAX: 318-425-4522
	DESIGNER: CHARLES M. HAZEL, P.E.	
	LICENSE NO. 29659	

THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY.

SPECIAL PROVISIONS

ENG.26.017

Preventative Maintenance and Inspection of RCC Mechanical Systems (minus Condensing Boiler), Caddo-Bossier Port

SALES/USE TAX EXEMPTION: Contractor is not required to pay any state or local sales or state or local use taxes on materials and equipment which are affixed and made a part of the real estate of the project or work which is permanently incorporated into the project or work (hereinafter referred to as “applicable materials and/or equipment”). All purchases of applicable materials or equipment shall be made by the Contractor on behalf of and as the agent of the Caddo-Bossier Port Commission (OWNER), a political subdivision of the State of Louisiana. No state and local sales and use taxes are owed on applicable materials and equipment under the provisions of ACT 1029 of the 1991 Regular Session – Louisiana Revised Statute 47:301 (8) (C). OWNER will furnish Contractor a certificate on a form supplied by the Louisiana Department of Revenue and Taxation and/or local taxing authorities which certifies the OWNER is not required to pay such state or local sales and use taxes. Refer to “Certificate of Sale/Use Tax Exemption” of this Project Manual. Contractor shall furnish a copy of such certificate to all vendors or suppliers of the applicable materials and equipment. The OWNER agrees to indemnify Contractor against the payment of any state or local taxes which Contractor may be forced to pay on the purchase of applicable materials and equipment. The Contractor shall pay all other taxes which are required to be paid regarding the work or the project or materials or equipment supplied or purchased by the Contractor for the work under this contract.

Any provisions of this contract which are or may appear to be contrary to the provisions hereof are to be interpreted within the context of this section.

Payment Requests for Tax Exempt Items: Payment requests for applicable materials and equipment which are tax exempt in accordance with paragraph above entitled “Sales/Use Tax Exemption” shall be submitted separately (but at the same time) from progress payment requests. The “tax exempt” payment requests shall include a description of each item purchased, name of the supplier, invoice number and date, and the cost of each item excluding taxes. The “tax exempt” payment requests shall not include any amount for Contractor’s or subcontractor’s labor. Copies of invoices shall be attached to the request.

Contractor shall not include sales tax on any material at time of bid. If sales tax is included, it will not be reimbursed as a payment request during construction or at any other time.

INVOICE NO. _____		VENDOR'S ADDRESS: _____ _____ _____	
SOLD TO: Caddo-Bossier Port Commission Prime Contractor, Agent		SHIP TO: (Contractor/Subcontractor)	
SALESPERSON	DATE	ORDERED BY: DATE ORDERED: ORDER NO:	SHIP VIA
F.O.B.	TERMS		REFERENCE
QUALITY	DESCRIPTION	UNIT PRICE	AMOUNT
Subtotal			
Tax Rate			
Sales Tax			
Shipping & Handling			
Total Due			



_____, an agency of the United States government, or an agency, board, commission, or instrumentality of the State of Louisiana or its political subdivisions, including parishes, municipalities and school boards, does hereby designate the following contractor as its agent for the purpose of making sales tax exempt purchases on behalf of the governmental body:

Name of Contractor		
Address		
City	State	ZIP

This designation of agency shall be effective for purchases of component construction materials, taxable services and leases and rentals of tangible personal property for the following named construction project:

Construction Project	Contract Number
----------------------	-----------------

This designation and acceptance of agency is effective for the period

Beginning Date (mm/dd/yyyy)	End Date (mm/dd/yyyy)
-----------------------------	-----------------------

Purchases for the named project during this period by the designated contractor shall be considered as the legal equivalent of purchases directly by the governmental body. Any materials purchased by this agent shall immediately, upon the vendor’s delivery to the agent, become the property of this government entity. This government entity, as principal, assumes direct liability to the vendor for the payment of any property, services, leases, or rentals made by this designated agent. This agreement does not void or supersede the obligations of any party created under any construction contract related to this project, including specifically any contractual obligation of the construction contractor to submit payment to the vendors of materials or services for the project.

This contractor-agent is not authorized to delegate this purchasing agency to others; separate designations of agency by this governmental entity are required for each contractor or sub-contractor who is to purchase on behalf of this governmental entity. The undersigned hereby certify that this designation is the entirety of the agency designation agreement between them. In order for a purchase for an eligible governmental entity through a designated agent to be eligible for sales tax exemption, the designation of agency must be made, accepted, and disclosed to the vendor before or at the time of the purchase transaction.

Designation of Agency			Acceptance of Agency		
Signature of Authorized Designator		Date (mm/dd/yyyy)	Signature of Contractor or Subcontractor Authorized Acceptor		Date (mm/dd/yyyy)
Name of Authorized Designator			Name of Contractor’s or Subcontractor’s Acceptor		
Name of Governmental Entity			Name of Contractor		
Address			Address		
City	State	ZIP	City	State	ZIP

This designation of agency form, when properly executed by both the contractor and the governmental entity, shall serve as evidence of the sales tax exempt status that has been conferred onto the contractor. No other exemption certificate form is necessary to claim exemption from sales taxes. The agency agreement evidenced by this sales tax exemption certificate must be implemented at the time of contract execution with the governmental entity. The contract between the governmental entity and his agent must contain provisions to authenticate the conferment of agency.

PROPOSAL BOND
FOR

**ENG.26.017 – Preventative Maintenance and Inspection of RCC Mechanical Systems (minus
Condensing Boiler), Caddo-Bossier Port**

CBPPC Project No. ENG.26.017
Caddo & Bossier Parish

Date: _____

KNOW ALL MEN BY THESE PRESENTS:

That _____ of _____, as Principal,
and _____, as Surety, are held and firmly bound
unto the _____ (Obligee), in the full and just sum of five
(5%) percent of the total amount of this bid, including all alternates, lawful money of the United States, for payment
of which sum, well and truly be made, we bind ourselves, our heirs, executors, administrators, successors and assigns,
jointly and severally firmly by these presents.

Surety represents that it is listed on the current U. S. Department of the Treasury Financial Management Service
list of approved bonding companies as approved for an amount equal to or greater that the amount for which it obligates
itself in this instrument or that it is a Louisiana domiciled insurance company with at least an A - rating in the latest
printing of the A. M. Best's Key Rating Guide. If surety qualifies by virtue of its Best's listing, the Bond amount may
not exceed ten percent of policyholders' surplus as shown in the latest A. M. Best's Key Rating Guide.

Surety further represents that it is licensed to do business in the State of Louisiana and that this Bond is signed
by surety's agent or attorney-in-fact. This Bid Bond is accompanied by appropriate power of attorney.

THE CONDITION OF THIS OBLIGATION IS SUCH that, whereas said Principal is herewith submitting its
proposal to the Obligee on a Contract for:

NOW, THEREFORE, if the said Contract be awarded to the Principal and the Principal shall, within such time
as may be specified, enter into the Contract in writing and give a good and sufficient bond to secure the performance of
the terms and conditions of the Contract with surety acceptable to the Obligee, then this obligation shall be void;
otherwise this obligation shall become due and payable.

PRINCIPAL (BIDDER)

SURETY

BY: _____
AUTHORIZED OFFICER-OWNER-PARTNER

BY: _____
AGENT OR ATTORNEY-IN-FACT(SEAL)

PERFORMANCE BOND

as Principal, and _____,
a surety company or companies authorized to do business in Louisiana, as Surety, are bound, in solido, unto

in the sum of

_____ DOLLARS (\$ _____),
payable in lawful money of the United States, in order to secure the full and faithful performance and timely
completion of the project described below according to its plans and specifications, including, but not limited to the
payment of stipulated damages as specified in the contract, and to this bond do obligate their heirs, successors and
assigns. In the case of cosureties, the cosureties assume an obligation in the sum of

_____ DOLLARS (\$ _____),
for _____ and

_____ DOLLARS (\$ _____),
for _____

The consideration of this bond is such, that if the Principal shall perform this contract, made and entered into on the
_____ day of _____, 20____,

to replace various lighting fixtures and lamps/lights included in CBPPC Project No. : CBPPC-**ENG.26.017** entitled
**Caddo-Bossier Parishes Port Commission, Project No. ENG.26.017 entitled Preventative
Maintenance and Inspection of RCC Mechanical Systems (minus Condensing Boiler), Caddo-
Bossier Port** located in Parish CADDO, consisting of **providing routine inspection and testing on a
quarterly basis all of the mechanical systems of the Port's Regional Commerce Center and repairing
such equipment as required located at 6000 Doug Attaway Blvd Blvd, Shreveport, LA 71115**

according to the stipulations in said contract attached hereto and made a part hereof, at the time and in the manner and
form specified; perform all labor and work; and shall furnish all materials as specified in said contract, and the plans a
specifications thereto attached and made a part thereof; this obligation shall be void; otherwise to remain in effect.
It is agreed by the parties that this bond is given in accordance with Louisiana Revised Statutes of 1950, Title 38,
Chapter 10.

In faith whereof, we have subscribed this obligation at _____, Louisiana

Witness our hands and seals, this _____ day of _____, 20____,

Witness

Principal

By _____ (Seal)

Type or Printed Name

First Surety

By _____ (Seal)

Attorney-in-Fact

Type or Printed Name

Second Surety

By _____ (Seal)

Attorney-in-Fact

Type or Printed Name



6000 Doug Attaway Blvd. | Shreveport, LA 71115 | P (318)524-2272 | F (318)524-2273 | port@portsb.com | www.portsb.com

CONDITIONAL WAIVER AND RELEASE
UPON PROGRESS PAYMENT TO CONTRACTOR

Upon receipt of a check from the Caddo-Bossier Parishes Port Commission:

In the sum of:

Payable to:

(Name of Contractor)

and, upon the proper endorsement of the check and payment by the bank upon which it is drawn, this document shall become effective to release any claims defined under the provisions of La. R.S. 38:2242, et seq., liens, work stoppages, or bond rights the undersigned has on the **Caddo-Bossier Parishes Port Commission, Project No. ENG.26.017 entitled Preventative Maintenance and Inspection of RCC Mechanical Systems (minus Condensing Boiler), Caddo-Bossier Port,**

of the Caddo-Bossier Parishes Port Commission.

This release covers a progress payment for any claims defined under the provisions of La. R.S. 38:2242, et seq. including, but not limited to, liens, labor, services, equipment or materials furnished by:

_____ through _____
(Name of Contractor) (Pay Period Date)

only and does not cover any retentions retained before or after the release date and work or materials furnished before the release date for which payment has not been received. Rights based upon work performed or items furnished under a written change order which have been fully executed by the parties prior to the release date are covered by this release.

Upon the execution of this conditional waiver and release, the Contractor hereby certifies and confirms it has submitted progress payments to its subcontractors and/or suppliers for work performed and equipment or materials furnished for the pay period set forth hereinabove.

SIGNATURES CONTINUED ON NEXT PAGE

NOTICE: THIS DOCUMENT CONDITIONALLY WAIVES RIGHTS AND STIPULATES YOU HAVE BEEN PAID FOR WORK PERFORMED OR SUPPLIES FURNISHED. THIS DOCUMENT, IF EXECUTED, IS ENFORCEABLE. PRIOR TO THE EXECUTION OF THIS DOCUMENTS, PLEASE VERIFY EVIDENCE OF PAYMENT.

Date

Printed Name of Contractor

Signature of Authorized Representative

Date

Caddo-Bossier Parishes Port Commission

By: Eric England, Executive Port Director



6000 Doug Attaway Blvd. | Shreveport, LA 71115 | P (318)524-2272 | F (318)524-2273 | port@portsb.com | www.portsb.com

CONDITIONAL WAIVER AND RELEASE
UPON PROGRESS PAYMENT TO SUBCONTRACTOR AND/OR SUPPLIER

Upon receipt of a check from the undersigned:

(Name of Contractor)

In the sum of:

Payable to:

(Name of Subcontractor and/or Supplier)

and, upon the proper endorsement of the check and payment by the bank upon which it is drawn, this document shall become effective to release any claims defined under the provisions of La. R.S. 38:2242, et seq., liens, work stoppages, or bond rights the undersigned has on **the Caddo-Bossier Parishes Port Commission, Project No. ENG.26.017 entitled Preventative Maintenance and Inspection of RCC Mechanical Systems (minus Condensing Boiler), Caddo-Bossier Port**, of the Caddo-Bossier Parishes Port Commission.

This release covers a progress payment for any claims defined under the provisions of La. R.S. 38:2242, et seq. including, but not limited to, liens, labor, services, equipment or materials furnished by:

_____ through _____
(Name of Subcontractor and/or Supplier) (Pay Period Date)

only and does not cover any retentions retained before or after the release date and work or materials furnished before the release date for which payment has not been received. Rights based upon work performed or items furnished under a written change order which have been fully executed by the parties prior to the release date are covered by this release.

NOTICE: THIS DOCUMENT CONDITIONALLY WAIVES RIGHTS AND STIPULATES YOU HAVE BEEN PAID FOR WORK PERFORMED OR SUPPLIES FURNISHED. THIS DOCUMENT, IF EXECUTED, IS ENFORCEABLE. PRIOR TO THE EXECUTION OF THIS DOCUMENTS, PLEASE VERIFY EVIDENCE OF PAYMENT.

SIGNATURES CONTINUED ON NEXT PAGE

Date

Printed Name of Contractor

Signature of Authorized Representative

Date

Printed Name of Subcontractor/Supplier

Signature of Authorized Representative