

TARRANT COUNTY PLAZA BUILDING CHILLER REPLACEMENT

200 TAYLOR ST., FORT WORTH, TEXAS 76102

Tarrant County Plaza Building
Chiller Replacement
Tarrant County Plaza
200 Taylor St., Fort Worth, TX 76102



JOB NUMBER:
P21175
DATE ISSUED:
APRIL 15, 2022

ISSUES:

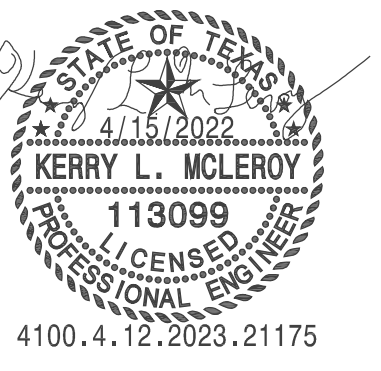
REVISIONS:

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COVER
SHEET & TOC

SHEET NUMBER:
G001

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SHEET CONTENTS:
**GENERAL NOTES
AND LEGENDS**

SHEET NUMBER:
M001

MECHANICAL SYMBOLS AND ABBREVIATIONS

NOTE: ALL SYMBOLS AND ABBREVIATIONS SHOWN ARE NOT NECESSARILY USED ON THE DRAWINGS

GENERAL NOTES

- PERFORM ALL WORK IN ACCORDANCE WITH ALL APPLICABLE CODES AND AUTHORITIES HAVING JURISDICTION. PROVIDE ALL PERMITS, INSPECTIONS, LICENSES AND FEES. FURNISH ALL LABOR, EQUIPMENT, SUPPLIES, AND MATERIALS NECESSARY TO PROVIDE COMPLETE AND OPERATIONAL SYSTEMS.
- THE DRAWINGS AND SPECIFICATIONS INDICATE THE GENERAL DESIGN AND ARRANGEMENT OF PIPES, FIXTURES, EQUIPMENT, SYSTEMS, ETC. INFORMATION SHOWN IS DIAGRAMMATIC IN CHARACTER AND DOES NOT NECESSARILY INDICATE EVERY REQUIRED OFFSET, FITTING, ETC. DO NOT SCALE THE DRAWINGS FOR DIMENSIONS. TAKE ALL DIMENSIONS, MEASUREMENTS, EQUIPMENT LOCATIONS, LEVELS, ETC. FROM THE ARCHITECTURAL DRAWINGS, FIELD MEASUREMENTS, AND FROM THE EQUIPMENT TO BE FURNISHED. PIPING MAY BE RELOCATED OR OFFSET FOR PROPER CLEARANCES OR TO AVOID CONFLICTS WITH OTHER TRADES. THE DESIGN INTENT (I.E. PITCHES, VELOCITIES, PRESSURE DROPS, VOLTAGE DROPS, ETC.) CANNOT BE GREATLY ALTERED WITHOUT THE APPROVAL OF THE ARCHITECT. THE COST OF THESE DEVIATIONS TO AVOID INTERFERENCES SHALL BE PART OF THE ORIGINAL CONTRACT BID.
- CONFER AND COOPERATE WITH ALL OTHER TRADES TO COORDINATE THEIR WORK. COORDINATION SHALL INCLUDE, BUT SHALL NOT BE LIMITED TO, MATERIALS AND EQUIPMENT ROUTED IN CEILING AND WALL CAVITIES, EQUIPMENT ARRANGEMENT IN MECHANICAL SPACES, INCLUDING EQUIPMENT CLEARANCE REQUIREMENTS, ELEVATIONS AND DIMENSIONS OF STRUCTURAL MEMBERS AND OPENINGS, ETC. NOTIFY THE ARCHITECT OF ANY CONFLICTS.
- BASE FINAL INSTALLATION OF MATERIALS AND EQUIPMENT ON ACTUAL DIMENSIONS AND CONDITIONS AT THE PROJECT SITE. FIELD MEASURE FOR MATERIALS AND EQUIPMENT REQUIRING EXACT FIT. NO EXTRAS WILL BE GIVEN FOR THE CONTRACTOR'S FAILURE TO FIELD COORDINATE.
- THE OWNER OR ENGINEER ARE NOT RESPONSIBLE FOR THE CONTRACTOR'S SAFETY PRECAUTIONS OR FOR MEANS, METHODS, TECHNIQUES, CONSTRUCTION SEQUENCES, OR PROCEDURES REQUIRED TO PERFORM THE WORK.
- LOCATE ALL EQUIPMENT THAT MUST BE SERVICED, OPERATED, OR MAINTAINED IN FULLY ACCESSIBLE POSITIONS. EQUIPMENT SHALL INCLUDE, BUT NOT BE LIMITED TO, VALVES, MOTORS, CONTROLLERS, SWITCHGEAR, AND DRAIN POINTS IF REQUIRED FOR BETTER ACCESSIBILITY. FURNISH ACCESS DOORS FOR THIS PURPOSE. MINOR DEVIATIONS FROM THE DRAWINGS MAY BE ALLOWED TO PROVIDE FOR BETTER ACCESSIBILITY. ANY CHANGES SHALL BE APPROVED BY THE ENGINEER AND CONSTRUCTION MANAGER/GENERAL CONTRACTOR PRIOR TO MAKING THE CHANGE.
- COORDINATE ELECTRICAL REQUIREMENTS OF APPROVED MECHANICAL EQUIPMENT WITH THE ELECTRICAL SUB-CONTRACTOR PRIOR TO THE PURCHASE AND INSTALLATION OF ANY ELECTRICAL EQUIPMENT, DEVICES, WIRING, OR CONDUIT.
- PROVIDE GENERAL CONTROL WIRING, THERMOSTATS, MOTORIZED DAMPERS AND CONDUIT ASSOCIATED WITH HVAC EQUIPMENT. COORDINATE THE LOCATION OF ALL THERMOSTATS, ROOM SENSORS, ETC. WITH THE ARCHITECT AND ALL OTHER TRADES PRIOR TO INSTALLATION. IF A CONFLICT WITH MILLWORK, LIGHT SWITCHES, WINDOWS, ETC. EXISTS, NOTIFY THE ARCHITECT OF THE POTENTIAL INTERFERENCE PRIOR TO INSTALLATION. INSTALL THERMOSTATS WITH PROTECTIVE LOCKING COVER, CENTERED AT 4'-0" ABOVE FINISHED FLOOR, UNLESS OTHERWISE INDICATED. COMPLY WITH THE PROVISIONS OF THE AMERICANS WITH DISABILITIES ACT (ADA) AND THE TEXAS ACCESSIBILITY'S STANDARD (TAS).
- INSTALL CHILLED WATER PIPING AS SPECIFIED, INCLUDING FILTER/DRYER, SIGHT GLASS, ISOLATION/CHARGING VALVES, AND ALL APPURTENANCES PER MANUFACTURER'S RECOMMENDATIONS. INSTALLATION SHALL BE ACCOMPLISHED IN A NEAT AND ORDERLY FASHION, AS APPROVED BY THE ENGINEER. COORDINATE FOR ROUTING OF CHILLED WATER PIPING, UP INSIDE OF WALLS, ETC. AS REQUIRED, TERMINATING AT AHU'S. PROVIDE BRACING/ISOLATION AS REQUIRED TO PREVENT VIBRATION OF CHILLED PIPING INSIDE WALLS, ETC. SIZE AND ROUTE CHILLED WATER PIPING PER MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATION REQUIREMENTS. INSULATE ALL NEW PIPING WITH PVC JACKET AND COLOR CODED TO MATCH EXISTING.
- PROVIDE VIBRATION ISOLATORS FOR MOTOR DRIVEN EQUIPMENT, UNLESS OTHERWISE NOTED. PROVIDE ISOLATION AS INDICATED OR AS RECOMMENDED BY THE EQUIPMENT MANUFACTURER.
- SEAL ALL PIPE PENETRATIONS THROUGH FIRE RATED BUILDING ELEMENTS WITH AN APPROVED FIRE PROOFING MATERIAL.
- ALL EQUIPMENT SHALL HAVE IDENTIFICATION TAGS. TAGS SHALL BE PLASTIC LAMINATE, WHITE FACE WITH 1/2" TALL BLACK LETTERS. THE TAG SHALL MATCH THE UNIT DESIGNATIONS SHOWN ON THE SCHEDULES.
- PROVIDE HIGH POINT AIR VENTS AS SHOWN ON PLANS. WHERE PIPING ROUTING CREATES AIR TRAPS AIR VENTS SHALL BE INSTALLED ON EITHER SIDE OF TRAP.
- ALL WORK WILL BE PERFORMED AFTER HOURS, MONDAY THROUGH FRIDAY 5:01 PM THROUGH 5:59 AM AND WEEKENDS.

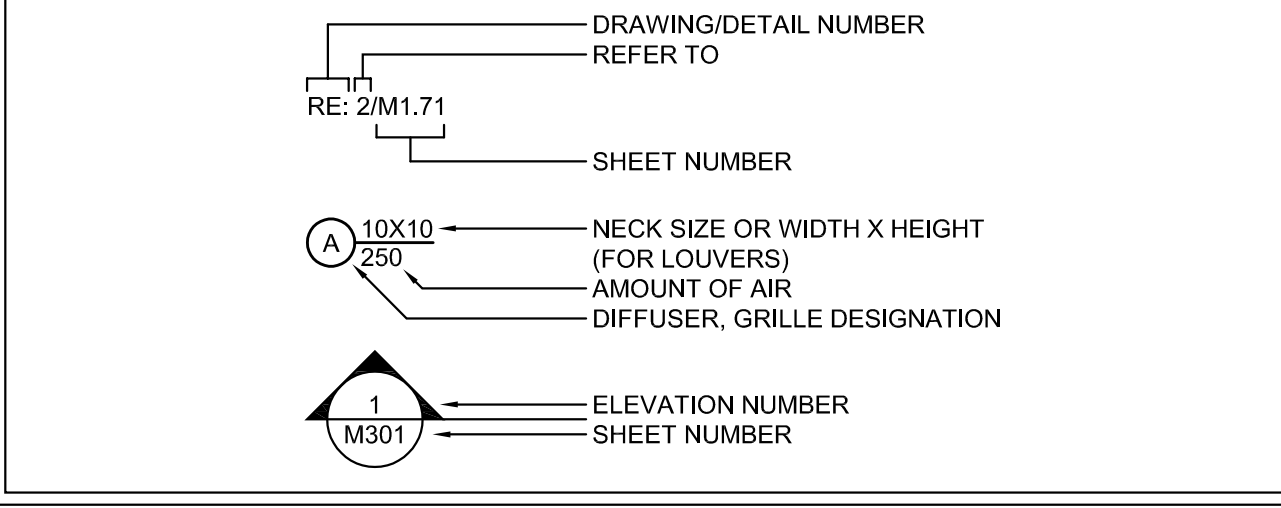
PROJECT COMMISSIONING REQUIREMENTS

- ALL BUILDING MECHANICAL AND ELECTRICAL SYSTEMS SHALL BE COMMISSIONED BY A COMMISSIONING AGENT IN ACCORDANCE WITH ALL REQUIREMENTS OF THE IECC 2018 SECTION C408. IT IS THE OWNER'S RESPONSIBILITY TO HIRE A COMMISSIONING AUTHORITY TO ENSURE ALL REQUIRED COMMISSIONING ACTIVITIES AND REQUIREMENTS ARE MET.
- THE COMMISSIONING AGENT SHALL PERFORM ALL TASKS ACCORDING TO THE REQUIREMENTS OF IECC 2018 SECTION C408 AND ANY OTHER REQUIREMENTS OF THE PROJECT.
- THE TAB, BAS, GENERAL CONTRACTOR, MECHANICAL, ELECTRICAL, AND PLUMBING CONTRACTORS SHALL PROVIDE FULL SUPPORT IN ALL COMMISSIONING ACTIVITIES AND PERFORM ALL NECESSARY COMMISSIONING TASKS ON THIS PROJECT AS REQUIRED BY IECC 2018 SECTION C408.

ABBREVIATIONS

A/C	AIR CONDITIONING UNIT	KW	KILOWATT
A/E	ARCHITECT/ENGINEER	L	LENGTH
AD	ACCESS DOOR	LAT	LEAVING AIR TEMPERATURE
AF	ABOVE FINISHED FLOOR	LB	POUNDS
AFS	AIR FLOW SWITCH	LPC	LOW PRESSURE CONDENSATE
AHU	AIR HANDLING UNIT	LPS	LOW PRESSURE STEAM
APPROX	APPROXIMATE	LRA	LOCKED ROTOR AMPS
BAS	BUILDING AUTOMATION SYSTEM	LWT	LEAVING WATER TEMPERATURE
BHP	BRAKE HORSE POWER	MAX	MAXIMUM
BTU	BRITISH THERMAL UNIT PER HOUR	MBH	1000 BRITISH THERMAL UNITS / HOUR
C/A	COMBUSTION AIR	MCA	MINIMUM CIRCUIT AMPACITY
CC	COOLING COIL	MFR	MANUFACTURER
CFH	CUBIC FEET PER HOUR	MIN	MINIMUM
CFM	CUBIC FEET PER MINUTE	N/A	NOT APPLICABLE
CLG	CEILING	N/C	NORMALLY CLOSED
CU	CONDENSING UNIT	N/O	NORMALLY OPEN
D	EQUIPMENT DRAIN	O/A	OUTSIDE AIR/FRESH AIR
DB	DRY BULB	O/C	ON CENTER
DEG	DEGREES	OB	OPPOSED BLADE DAMPER
DN	DOWN	PEF	PURGE EXHAUST FAN
(E)	EXISTING	PH	PHASE
E/A	EXHAUST AIR	PROVIDE	FURNISH AND INSTALL
EAT	ENTERING AIR TEMPERATURE	PRV	PRESSURE REDUCING VALVE
EDH	ELECTRIC DUCT HEATER	PSI	POUNDS PER SQUARE INCH
EF	EXHAUST FAN	R/A	RETURN AIR
ELL	ELBOW	RE:	REFERENCE, REFER
EQUIP	EQUIPMENT	RL	REFRIGERANT LIQUID
EWT	ENTERING WATER TEMPERATURE	RLA	RUNNING LOAD AMPS
'F	DEGREES FAHRENHEIT	RM	ROOM
FCU	FAN COIL UNIT	RPM	REVOLUTIONS PER MINUTE
FD	FIRE DAMPER	RS	REFRIGERANT SUCTION
FLA	FULL LOAD AMPS	S/A	SUPPLY AIR
FLR	FLOOR	SD	SMOKE DETECTOR
FPVAV	FAN POWERED VAV	SF	SQUARE FOOT, SUPPLY FAN SPECIFICATIONS
FSD	FIRE SMOKE DAMPER	T, TSTAT	THERMOSTAT OR ROOM SENSOR
FT, FEET	FOOT, FEET	T/A	TRANSFER AIR
FT, WG	FEET WATER GAUGE	THRU	THROUGH
GA	U.S. GAUGE	TSP	TOTAL STATIC PRESSURE
GPM	GALLONS PER MINUTE	TYP	TYPICAL
H	HEIGHT	UH	UNIT HEATER
HP	HORSEPOWER	UL	UNDERWRITERS LABORATORIES, INC.
HPC	HIGH PRESSURE CONDENSATE	V	VOLTS
HPS	HIGH PRESSURE STEAM	VAV	VARIABLE AIR VOLUME
HWR	HEATING WATER RETURN	VEL	VELOCITY
HWS	HEATING WATER SUPPLY	VFD	VARIABLE FREQUENCY DRIVE
HZ	HERTZ	W/	WITH
IN.	INCH, INCHES	W/O	WITHOUT
IN, WG	INCHES WATER GAUGE	WB	WET BULB
J-BOX	JUNCTION BOX		

DRAWING/DETAIL REFERENCE



BASIS OF MECHANICAL DESIGN

PRIMARY MECHANICAL CODES:
MECHANICAL: 2015 INTERNATIONAL MECHANICAL CODE (WITH CITY AMENDMENTS).
ENERGY: 2015 INTERNATIONAL ENERGY CODE (WITH CITY AMENDMENTS).

PROJECT DESIGN VALUES:
OUTDOOR DESIGN TEMPERATURE (SUMMER): 99°F (DRYBULB), 77°F (WETBULB)
AMBIENT TEMPERATURE AT CONDENSING UNITS: 105°F (DRYBULB, SUMMER)
OUTDOOR DESIGN TEMPERATURE (WINTER): 22°F (DRYBULB)
INDOOR DESIGN TEMPERATURE (SUMMER): 75°F (DRYBULB), 50% (RELATIVE HUMIDITY)
INDOOR DESIGN TEMPERATURE (WINTER): 72°F (DRYBULB)
OUTSIDE AIR REQUIREMENTS: PER IMC TABLE 403.3

MISCELLANEOUS

- ① DRAWING NOTE REFERENCE (I.E., NOTES BY SYMBOL)
- ⊕ CONNECTION INTO EXISTING

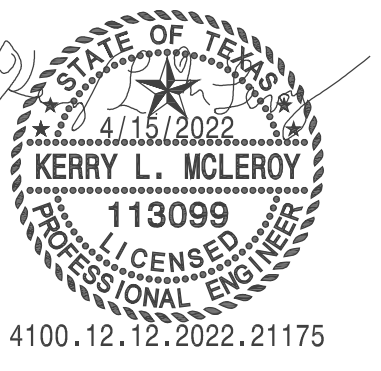
VALVES AND FITTINGS

SYMBOL	DESCRIPTION
	SHUT-OFF / ISOLATION VALVE
	BALL VALVE
	BUTTERFLY VALVE
	GLOBE VALVE
	PLUG VALVE / COCK VALVE
	CHECK VALVE
	2-WAY CONTROL VALVE
	3-WAY CONTROL VALVE
	SOLENOID VALVE
	STRAINER
	CALIBRATED BALANCING VALVE
	FLOW SWITCH
	UNION (DIELECTRIC)
	VALVE IN RISER
	END RISE (90° ELL)
	END DROP (90° ELL)
	RISE OR DROP
	TEE OUT OF TOP OF PIPE
	TEE OUT OF BOTTOM OF PIPE
	CAP ON END OF PIPE
	ALIGNMENT GUIDE
	PIPE ANCHOR, PIPE DEMOLITION

LINE TYPES

SYMBOL	DESCRIPTION
	CHILLED WATER SUPPLY
	CHILLED WATER RETURN
	CONDENSER WATER SUPPLY
	CONDENSER WATER RETURN
	HIGH PRESSURE CONDENSATE
	HIGH PRESSURE STEAM
	HEATING WATER SUPPLY
	HEATING WATER RETURN
	LOW PRESSURE CONDENSATE
	LOW PRESSURE STEAM
	MAKE-UP WATER
	PUMPED CONDENSATE
	REFRIGERANT DISCHARGE
	REFRIGERANT LIQUID
	REFRIGERANT SUCTION
	DIRECTION OF FLOW
	DIRECTION OF PIPE SLOPE DOWN

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MECHANICAL SCHEDULES

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M002

WATER COOLED CHILLER SCHEDULE																			
MARK CH-	COOLING TONS	TYPE	CHILLED WATER				FOULING FACTOR	CONDENSER WATER				UNIT ELECTRICAL			MIN. EFFICIENCY		MANUFACTURER/MODEL SERIES	REMARKS	
			GPM	ENT.	LVG.	MAX.WPD		GPM	ENT.	LVG.	MAX.WPD	FOULING FACTOR	VOLTS	PH.	KW	FULL LOAD			NPLV
1	600	CENTRIFUGAL	1025	56	42	22.0	0.0001	1700	85	95	17.0	0.00025	460	3	359.4	0.599 KW/TON	0.3635 KW/ TON	YORK/ YMC2-S2110AB	1,2,3,4,5,6
2	600	CENTRIFUGAL	1025	56	42	22.0	0.0001	1700	85	95	17.0	0.00025	460	3	359.4	0.599 KW/ TON	0.3635 KW/ TON	YORK/ YMC2-S2110AB	1,2,3,4,5,6

- REMARKS
- PROVIDE WITH FACTORY MOUNTED VFD/DISCONNECT
 - VFD SHALL BE COOLED BY CHILLED WATER SYSTEM AND NOT THE CONDENSER WATER SYSTEM.
 - WATER PRESSURE DROP (WPD) UNITS ARE IN FEET OF WATER
 - INCLUDE MARINE WATERBOXES ON THE CONDENSER AND EVAPORATOR
 - PROVIDE CHILLER WITH OPTVIEW PANEL
 - PROVIDE STRAINER ON INLET TO VFD COOLING HEAT EXCHANGER.

PLUMBING FIXTURE SCHEDULE							
MARK	DESCRIPTION	ROUGH IN (MINIMUM)				MANUFACTURER AND MODEL NUMBER	ADA /TAS
		W	V	CW	HW		
FS1	FLOOR SINK, 12"x12"x8", CI BODY, DBL DRAINAGE FLANGE, STAINLESS STEEL DOME STRAINER, 1/2 GRATE, NON-PUNCTURING FLASHING COLLAR, PORCELAIN ENAMEL OR EPOXY COATED INTERIOR					JOSAM SERIES 49040-3; MIFAB FS1730-150; ZURN Z-1901	

FAN SCHEDULE												
MARK EF-	TYPE	LOCATION	CFM	EXT. SP IN WG	MOTOR DATA			DRIVE	MAX SONES	WGHT	MANUFACTURER/ MODEL SERIES	REMARKS
					HP	VOLTS	PH					
CF-1	IN-LINE CENTRIFUGAL	CENTRAL PLANT	3,600	0.5	2	460	3	BELT	15.0	248.0	LOREN COOK/SQNB	1,2,3

- REMARKS
- CONNECTED TO THE EMERGENCY POWER SYSTEM
 - PROVIDE FACTORY MOUNTED HARDWARE FOR SUSPENSION FROM BUILDING STRUCTURE INCLUDING SPRING HANGER ISOLATORS.
 - PROVIDE WITH GRAVITY BACKDRAFT DAMPER.

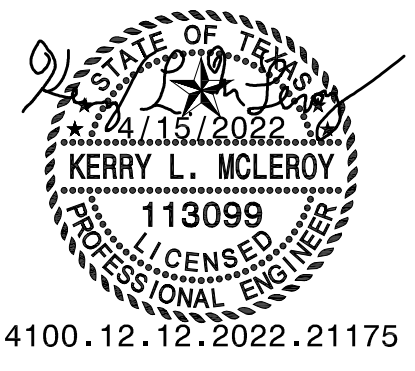
BASIN FILTRATION SYSTEM SCHEDULE																	
MARK	GPM	SYSTEM PUMP MOTOR DATA				BACKWASHING CONTROL VALVE ACTUATOR				ULTRAVIOLET DISINFECTION			NO-SALT CONDITIONER			MANUFACTURER AND MODEL NUMBER	
		No.	AMP	RPM	V	PH	V	PH	AMP	V	PH	AMP	V	PH	AMP		
ES-1	235	1	7.6	3500	460	3	220										EASYWATER CTF-235

PUMP SCHEDULE												
MARK	LOCATION	SERVES	TYPE	GPM	TOTAL HEAD		MOTOR DATA				MANUFACTURER AND MODEL SERIES	REMARKS
					FT.	WG	HP	RPM	V	PH		
CH-1	CENTRAL PLANT	CH-1	VERTICAL IN-LINE	1025	120	50	1760	460	3	60	ARMSTRONG4380	1,2
CH-2	CENTRAL PLANT	CH-2	VERTICAL IN-LINE	1025	120	50	1760	460	3	60	ARMSTRONG4380	1,2
CH-3	CENTRAL PLANT	NA	VERTICAL IN-LINE	1025	120	50	1760	460	3	60	ARMSTRONG4380	3
CWP-1	CENTRAL PLANT	CH-1	VERTICAL IN-LINE	1700	85	50	1816	460	3	60	ARMSTRONG4380	1,2
CWP-2	CENTRAL PLANT	CH-2	VERTICAL IN-LINE	1700	85	50	1816	460	3	60	ARMSTRONG4380	1,2
CWP-3	CENTRAL PLANT	NA	VERTICAL IN-LINE	1700	85	50	1816	460	3	60	ARMSTRONG4380	3

- REMARKS
- OR APPROVED EQUAL
 - PROVIDE WITH VARIABLE FREQUENCY DRIVE (ACH 550 OR APPROVED EQUAL). REFER TO PLAN FOR VFD LOCATION
 - PROVIDE PUMP FOR REDUNDANCY.

HOLDING TANK SCHEDULE					
MARK	SERVES	MIN. TANK VOLUME (GAL.)	WEIGHT (LBS)	MANUFACTURER / MODEL	REMARKS
HT-1	ES-1	400	1230	TACO MPT	1, 2

- REMARKS
- DRY WEIGHT LISTED
 - OR APPROVED EQUAL



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**LEVEL 1
CHILLER PLANT
- MECHANICAL
DEMOLITION
PLAN**

SHEET NUMBER:

M101

GENERAL NOTES

- REFER TO SHEET M001 FOR SYMBOLS LEGENDS, AND ADDITIONAL NOTES.
- CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO COMMENCING ANY WORK.
- CONTRACTOR WILL NEED TO PERFORM A SHUT DOWN ON THE WEEKEND IN ORDER TO DEMOLISH EXISTING ISOLATION VALVES SERVING THE PUMPS AND CHILLERS. NEW ISOLATION VALVES WILL NEED TO BE LOCATED IN A HIGHER POSITION AT THE MAIN FOR FULLY DEMOLISHED EQUIPMENT OR POTENTIALLY IN THE SAME POSITION FOR EQUIPMENT BEING REPLACED. THE CONTRACTOR SHALL COORDINATE WITH TARRANT COUNTY FOR THE SHUT DOWN TO OCCUR ON A WEEKEND WHEN THE OUTDOOR TEMPERATURE IS FORECASTED (A WEEK IN ADVANCE) TO BE BELOW 58°F DURING THE ENTIRE SHUTDOWN PERIOD. THE WEATHER FORECAST SHALL BE MONITORED AND IF THIS CONDITION CHANGES THE SHUTDOWN WILL HAVE TO BE RESCHEDULED. FOR REPLACING THE CHILLERS, THE DESIGN INTENT IS TO REPLACE ONE CHILLER AT A TIME SO THAT TARRANT COUNTY ALWAYS HAS AT LEAST ONE CHILLER FULLY FUNCTIONAL AND OPERATING (AND ASSOCIATED PUMPS, ETC.). ANY OTHER REQUIRED SHUT DOWN WILL HAVE TO MEET THE SAME REQUIREMENT AS ABOVE.

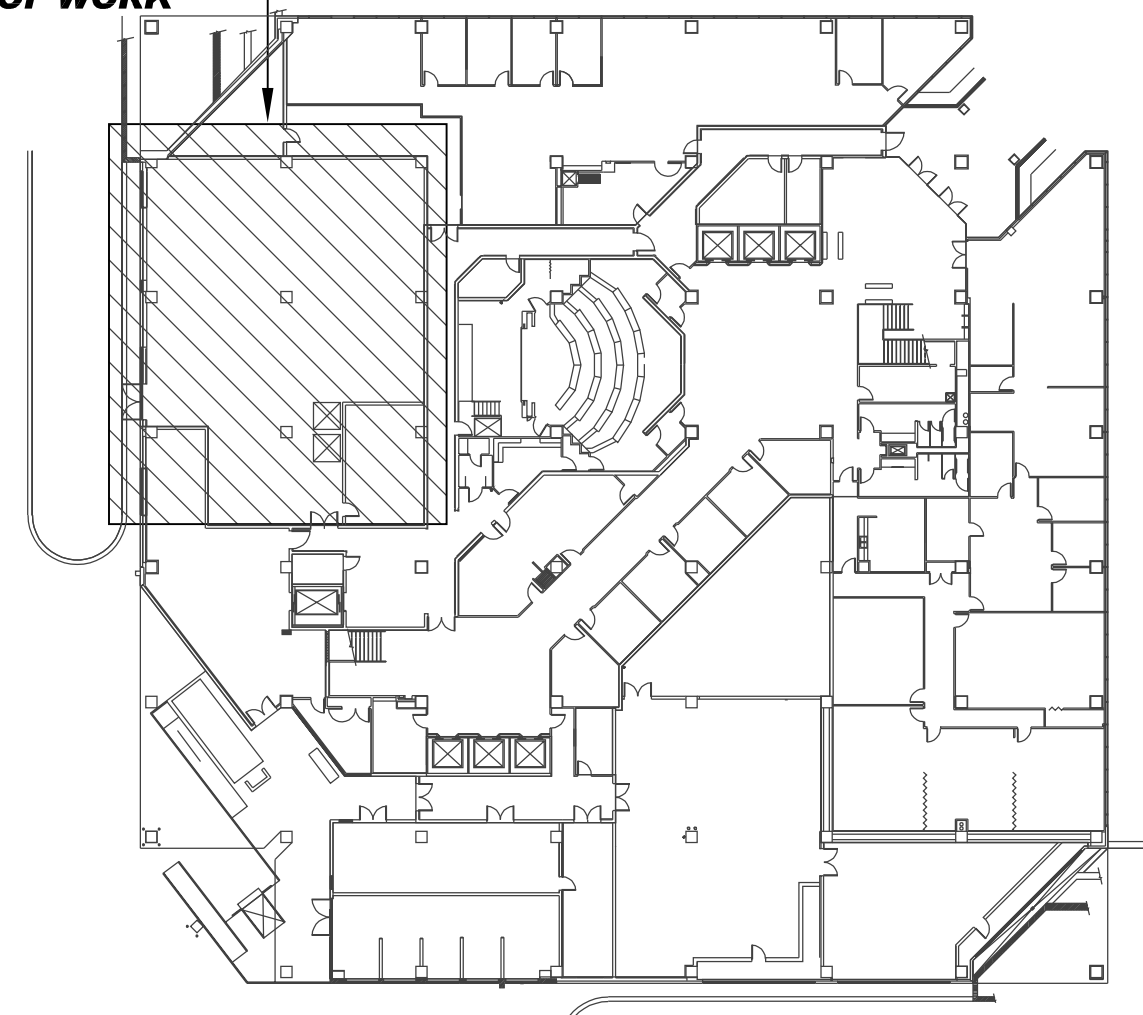
NOTES BY SYMBOL "#"

- DEMOLISH EXISTING CHILLER AND ASSOCIATED FITTINGS AND ACCESSORIES.
- DEMOLISH EXISTING CONDENSE WATER SUPPLY AND RETURN PIPING FROM CHILLER TO CONDENSER WATER MAIN. DEMOLISH ALL ASSOCIATED ACCESSORIES, FITTINGS, AND VALVES. CAP PIPING AT MAIN WITH NEW 10" BUTTERFLY VALVE. RE:1M2.01 FOR NEW PIPING.
- DEMOLISH EXISTING CHILLED WATER SUPPLY AND RETURN PIPING FROM CHILLER TO CHILLED WATER MAIN. DEMOLISH ALL ASSOCIATED ACCESSORIES, FITTINGS, AND VALVES. CAP PIPING AT MAIN WITH NEW 10" BUTTERFLY VALVE. RE:1M2.01 FOR NEW PIPING.
- DEMOLISH EXISTING PUMP AND ASSOCIATED PIPING, VALVES, AND ASSOCIATED FITTINGS AND ACCESSORIES. DEMOLISH ALL ASSOCIATED PIPING FROM PUMP TO MAIN UNLESS OTHERWISE NOTED. PROVIDE TEMPORARILY CAP PIPING AT MAIN.
- DEMOLISH PIPING UP TO THIS LOCATION. CAP PIPING AT THE OPEN END WITH BLIND FLANGE.
- DEMOLISH EXISTING CPF-1 AND ASSOCIATED CONTROLS, WIRING, FITTINGS AND ACCESSORIES. LOUVER WILL REMAIN IN PLACE, PROTECT FROM DAMAGE THROUGH ALL PHASES OF CONSTRUCTION.
- DEMOLISH MOTORIZED DAMPER, CONTROLLER AND ASSOCIATED WIRING, FITTINGS AND ACCESSORIES. LOUVER WILL REMAIN IN PLACE, PROTECT FROM DAMAGE THROUGH ALL PHASES OF CONSTRUCTION.
- EQUIPMENT IS EXISTING AND TO REMAIN. PROTECT FROM DAMAGE THROUGH ALL PHASES OF CONSTRUCTION.
- DEMOLISH EXISTING HEATING WATER PUMPS AND ALL ASSOCIATED FITTINGS AND SUPPORTS FOR REHEAT/TEMPERING OF COMPUTER ROOM CHILLED WATER SYSTEM.
- DEMOLISH EXISTING HEATING WATER SUPPLY AND RETURN PIPING FROM CH-3 TO HWP-1 AND HWP-2.
- DEMOLISH EXISTING HEATING WATER EXPANSION TANK AND ALL ASSOCIATED PIPING, VALVES, FITTINGS, SUPPORTS. DEMOLISH ALL ASSOCIATED PIPING FROM EXISTING HEATING WATER EXPANSION TANK TO HWP-1 AND HWP-2.
- DEMOLISH EXISTING CHEMICAL FEEDER AND ALL ASSOCIATED PIPING, VALVE, AND ASSOCIATED FITTINGS AND ACCESSORIES BACK TO MAIN.
- DEMOLISH EXISTING CHEMICAL FEEDER PIPING BACK TO ISOLATION VALVE.
- EXISTING TO REMAIN IN PLACE.
- EXISTING LEAK DETECTOR PANEL IS LOCATED APPROXIMATELY IN THIS LOCATION. CONTRACTOR SHALL DEMOLISH EXISTING LEAK DETECTOR PANEL AND ALL ASSOCIATED SENSORS, WIRING IN THE CHILLER PLANT.
- DEMOLISH EXISTING 5" PURGE VENT UP TO THIS LOCATION.
- DEMOLISH EXISTING CONCRETE PAD. FINISH CONCRETE FLOOR TO MATCH WITH SURROUNDING FLOOR.
- DEMOLISH EXISTING COMPUTER ROOM CHILLED WATER EXPANSION TANK AND ALL ASSOCIATED PIPING, VALVES, FITTINGS, AND SUPPORTS BACK TO MAIN.
- DEMOLISH EXISTING 8" BYPASS PIPING AND ALL ASSOCIATED VALVES, SUPPORTS, AND FITTINGS BACK TO CHILLED WATER SUPPLY AND RETURN ISOLATION VALVE.
- EXISTING MAIN MAKE UP WATER LINE TO REMAIN IN PLACE.
- DEMOLISH MAKE UP WATER LINE UP TO THIS LOCATION.

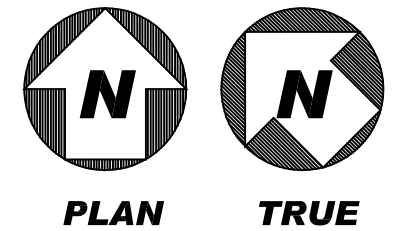
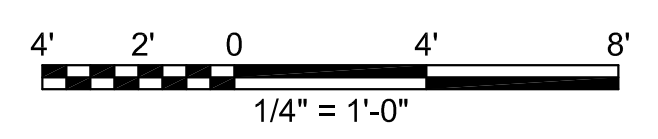
LINE TYPE LEGEND

EXISTING PIPING TO BE DEMOLISHED	
EXISTING PIPING TO REMAIN	

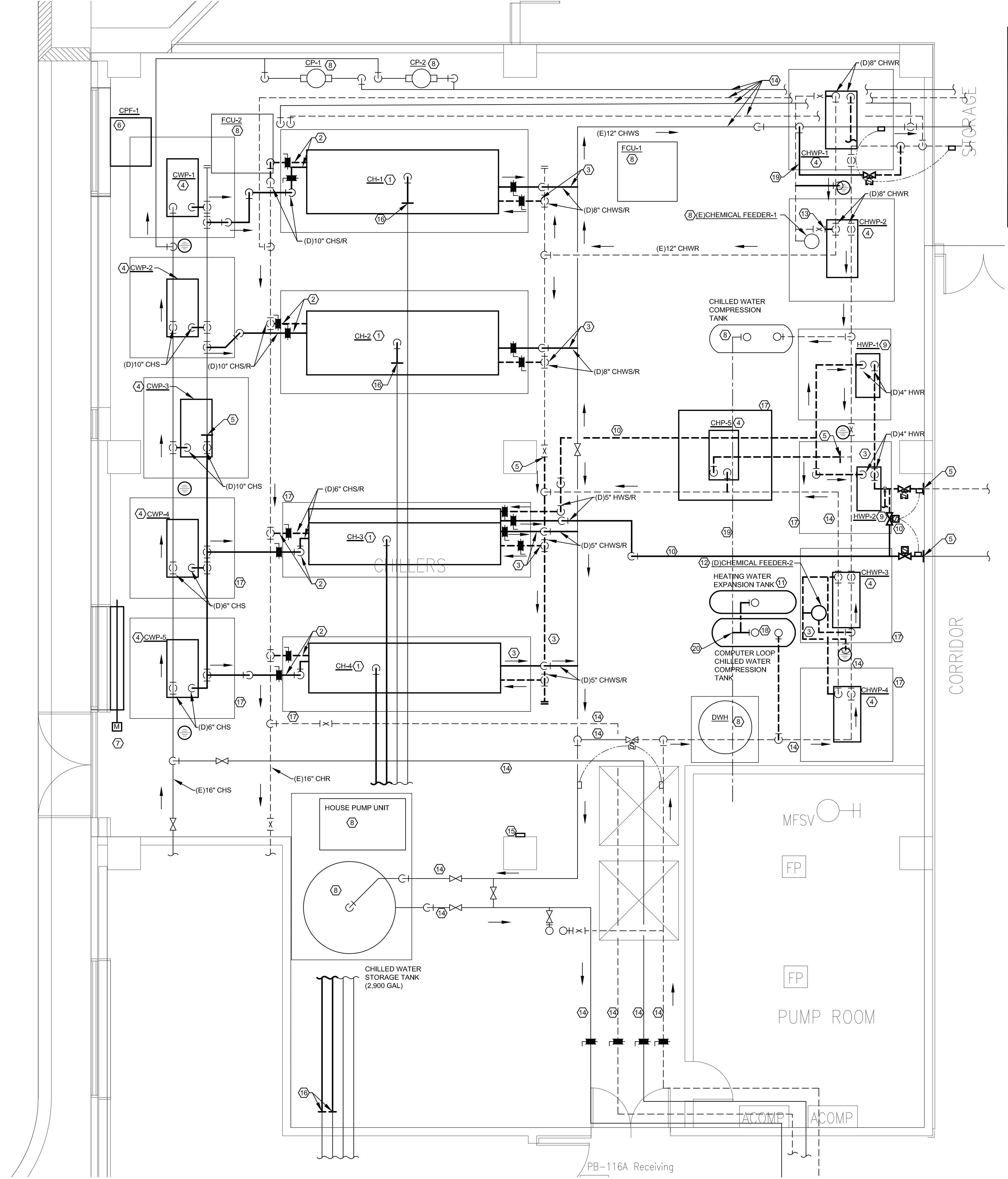
AREA OF WORK



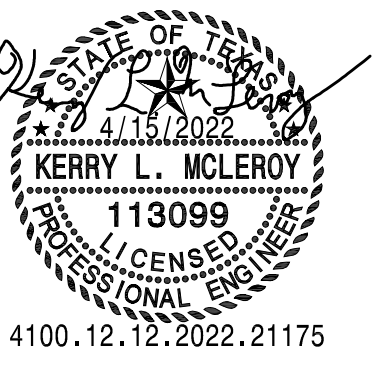
LEVEL 1 KEY PLAN



1 LEVEL 1 CHILLER PLANT - MECHANICAL DEMOLITION PLAN
SCALE: 1/4" = 1'-0"



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**LEVEL 8
MECH. ROOM
- MECHANICAL
DEMOLITION
PLAN**

SHEET NUMBER:

M102

GENERAL NOTES

- CONTRACTOR FILED VERIFY ALL EXISTING CONDITIONS PRIOR TO COMMENCING ANY WORK.
- SCHEDULE NECESSARY SHUTDOWNS OF CHILLED WATER SYSTEM TO BE DURING UNOCCUPIED HOURS. COORDINATE WITH FACILITIES TO ALLOW A MINIMUM OF ONE WEEK ADVANCE NOTICE OF THE SHUTDOWN.

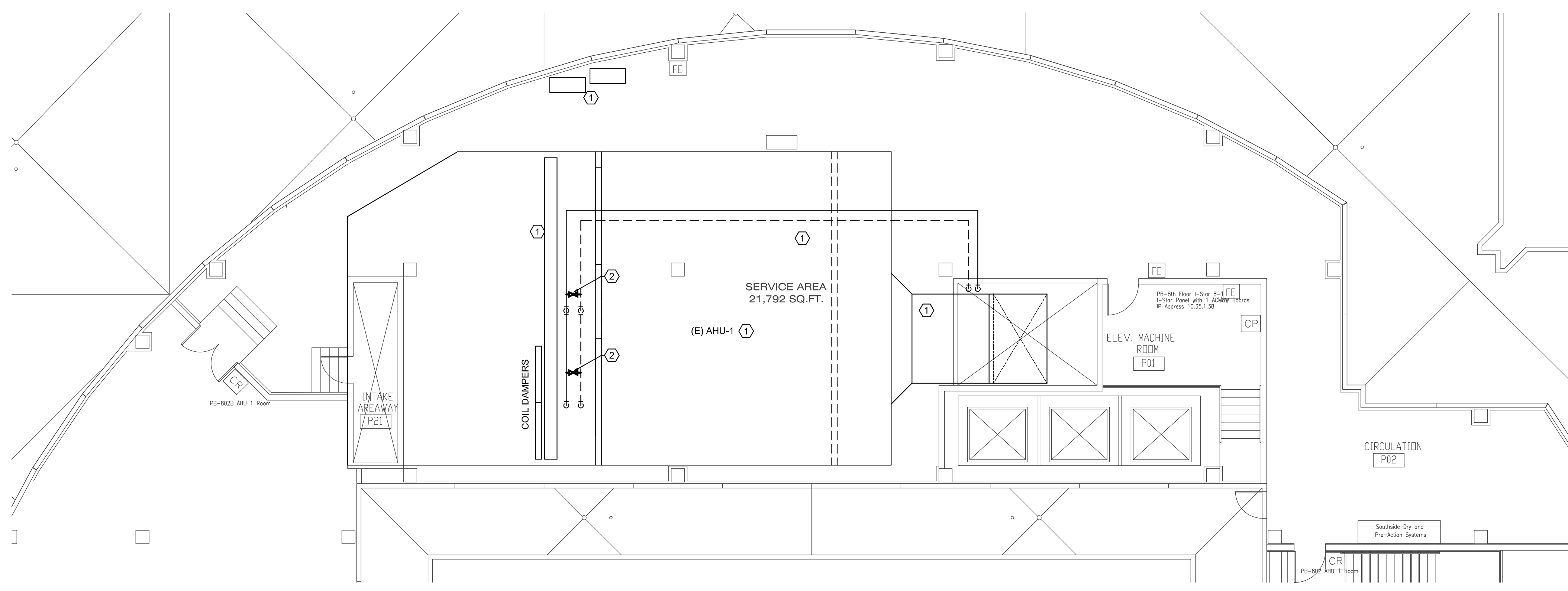
NOTES BY SYMBOL "R"

- EXISTING TO REMAIN IN PLACE.
- EXISTING THREE WAY VALVE TO REMAIN.

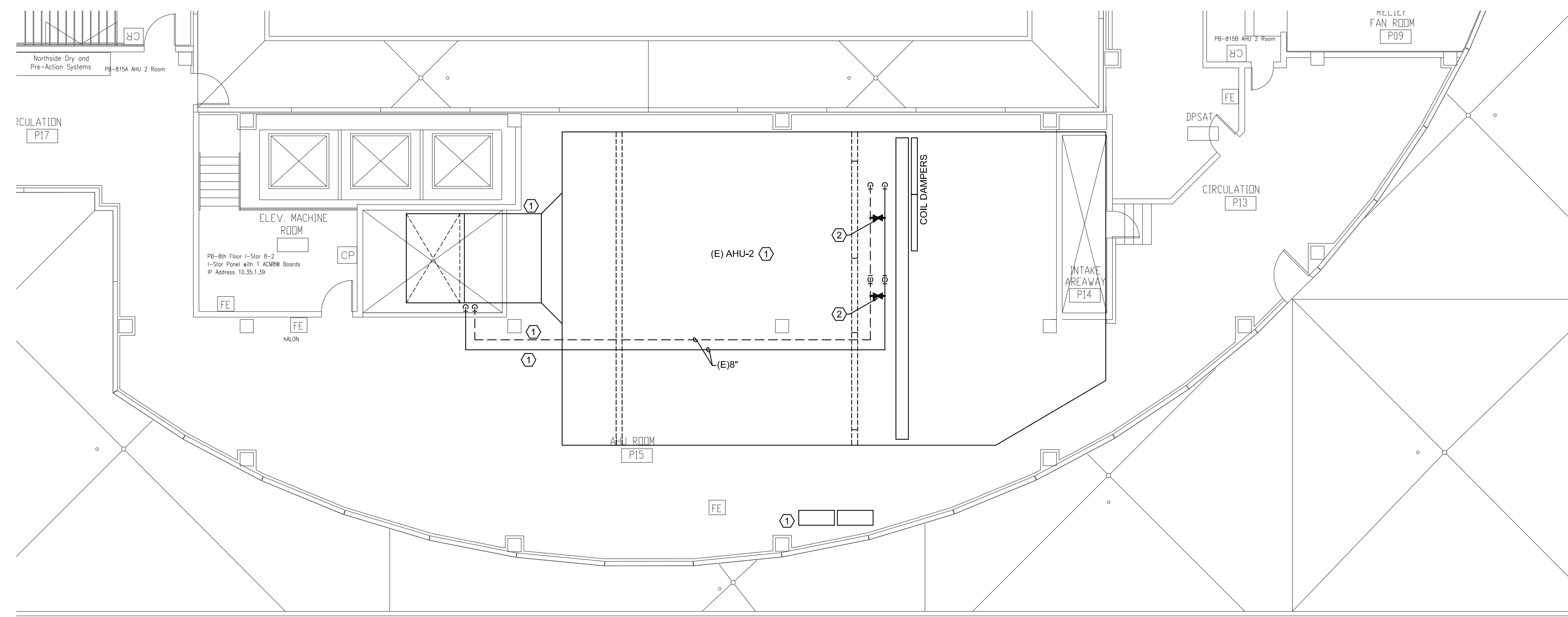
LINE TYPE LEGEND

EXISTING PIPING TO BE DEMOLISHED

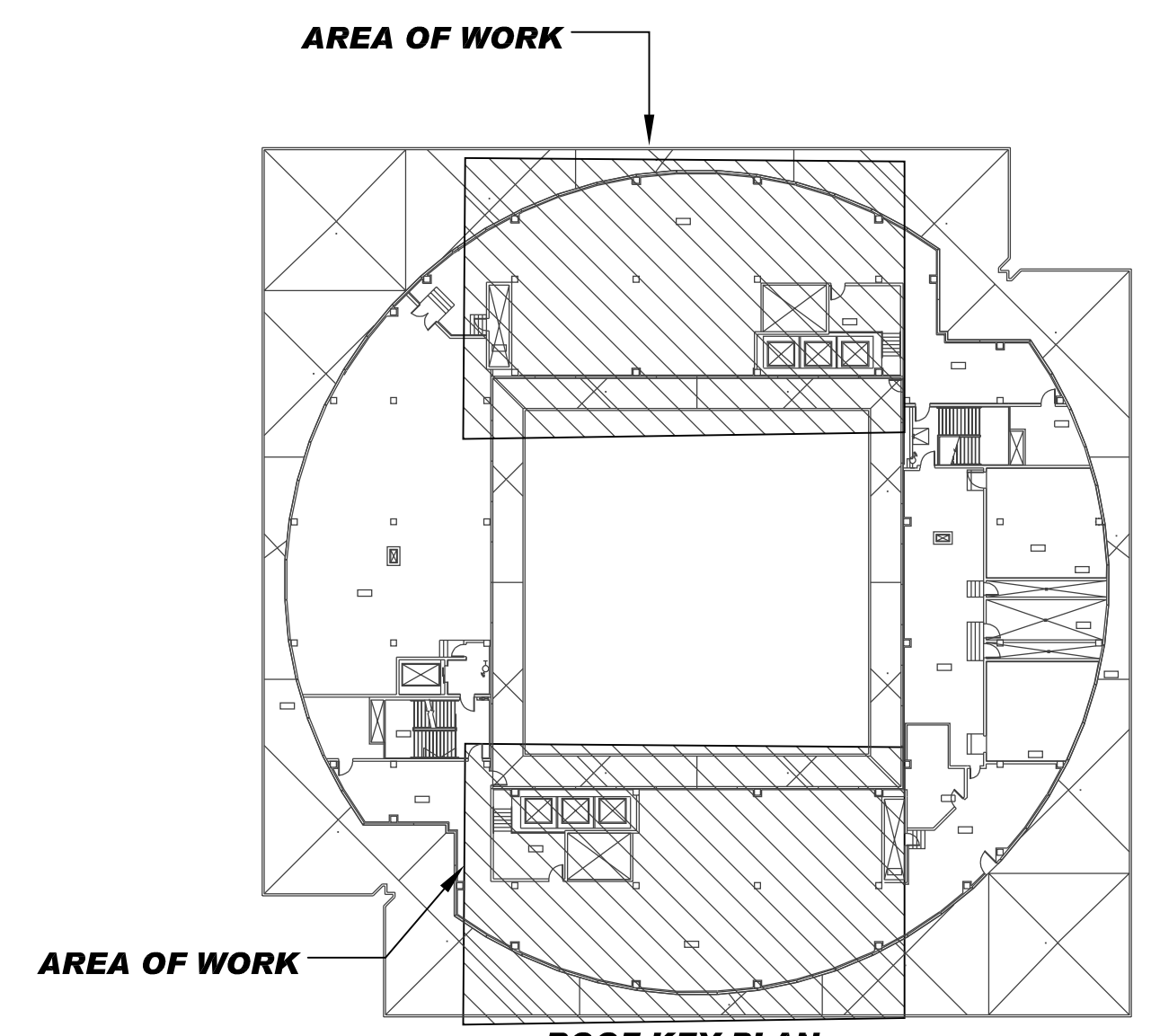
EXISTING PIPING TO REMAIN



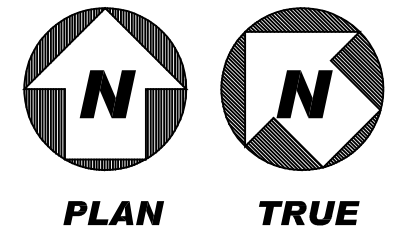
1 LEVEL 8 MECH. ROOM - MECHANICAL DEMOLITION PLAN
SCALE: 1/8" = 1'-0"



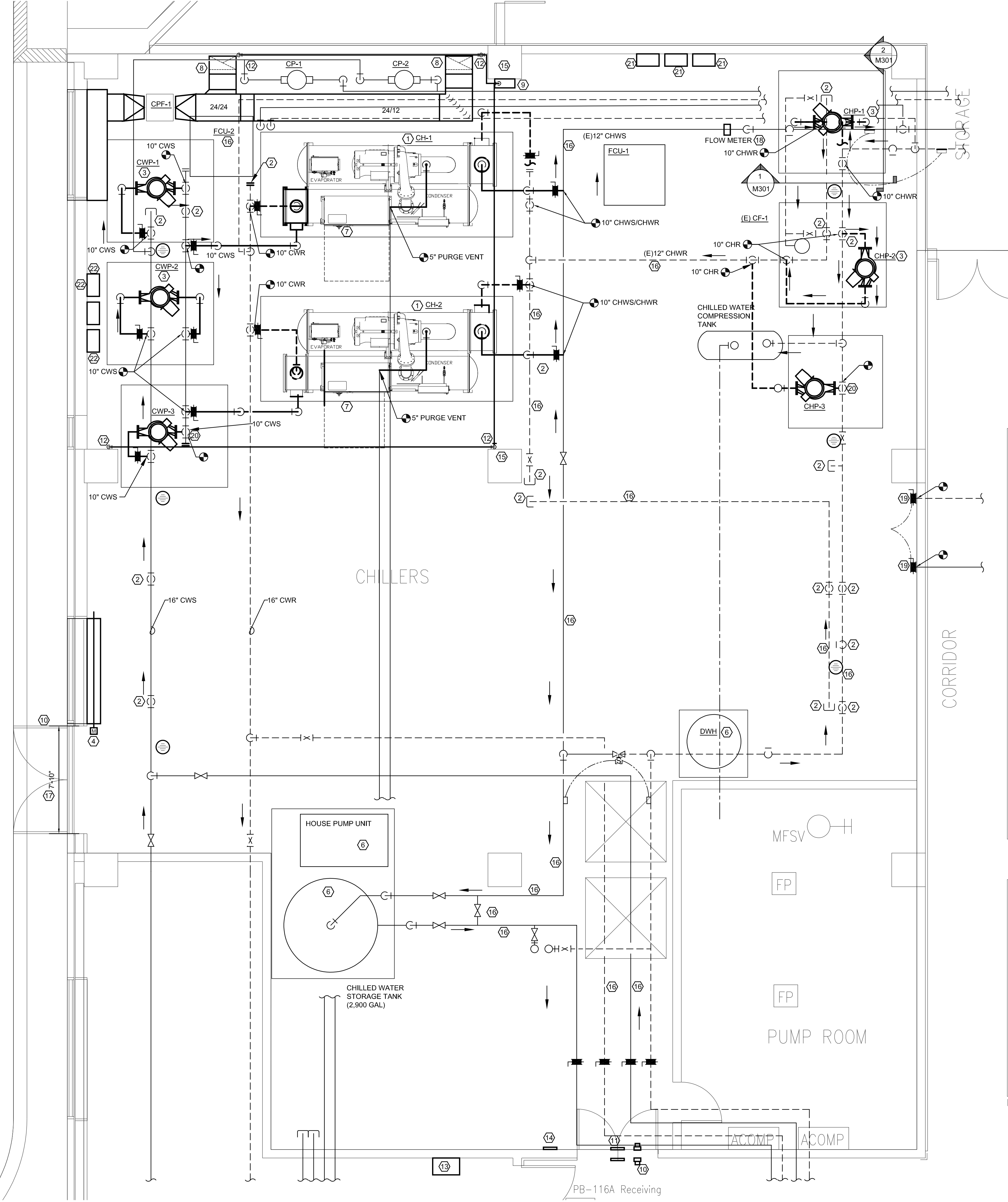
2 LEVEL 8 MECH. ROOM - MECHANICAL DEMOLITION PLAN
SCALE: 1/8" = 1'-0"



8' 0 8' 16'
1/8"=1'-0"



S:\P21_175_Plan_Bldg_Chillers\MechP21175-M102.dwg : Layout1 12/12/22 09:31:43 Kerry SHEET SIZE = ARCH D 24x36



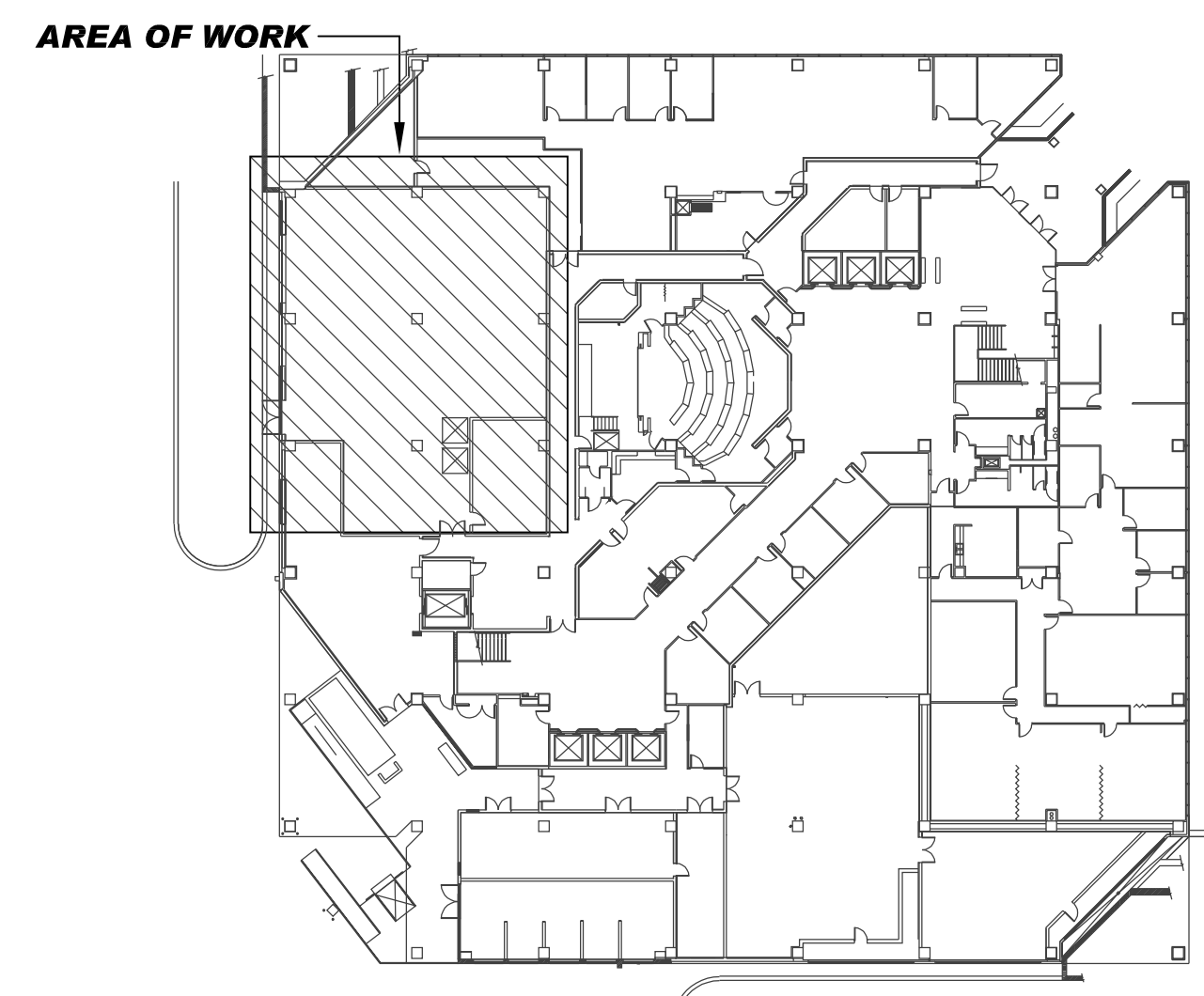
1 LEVEL 1 CHILLER PLANT - MECHANICAL PLAN
SCALE: 1/4" = 1'-0"

GENERAL NOTES

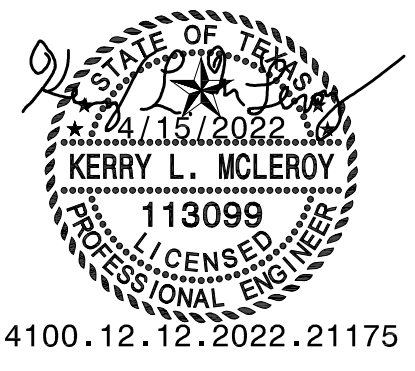
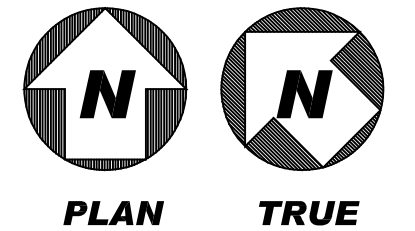
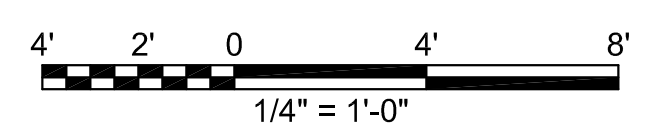
- REFER TO SHEET M001 FOR SYMBOLS LEGENDS, AND ADDITIONAL NOTES.
- CONTRACTOR FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO COMMENCING ANY WORK.
- EXISTING PRIMARY SECONDARY CHILLED WATER SYSTEM IS CONVERTED TO VARIABLE PRIMARY CHILLER SYSTEM. ALL PRICING SHALL REFLECT CONTROLS AND CONTROLLERS TO ACCOMPLISH VARIABLE PRIMARY FLOW AT THE CHILLER AND FOR THE CHILLED WATER SYSTEM.
- CONTRACTOR WILL NEED TO PERFORM A SHUT DOWN ON THE WEEKEND IN ORDER TO DEMOLISH EXISTING ISOLATION VALVES SERVING THE PUMPS AND CHILLERS. NEW ISOLATION VALVES WILL NEED TO BE LOCATED IN A HIGHER POSITION AT THE MAIN FOR FULLY DEMOLISHED EQUIPMENT OR POTENTIALLY IN THE SAME POSITION FOR EQUIPMENT BEING REPLACED. THE CONTRACTOR SHALL COORDINATE WITH TARRANT COUNTY FOR THE SHUT DOWN TO OCCUR ON A WEEKEND WHEN THE OUTDOOR TEMPERATURE IS FORECASTED (A WEEK IN ADVANCE) TO BE BELOW 58°F DURING THE ENTIRE SHUTDOWN PERIOD. THE WEATHER FORECAST SHALL BE MONITORED AND IF THIS CONDITION CHANGES THE SHUTDOWN WILL HAVE TO BE RESCHEDULED. FOR REPLACING THE CHILLERS, THE DESIGN INTENT IS TO REPLACE ONE CHILLER AT A TIME SO THAT TARRANT COUNTY ALWAYS HAS AT LEAST ONE CHILLER FULLY FUNCTIONAL AND OPERATING (AND ASSOCIATED PUMPS, ETC). ANY OTHER REQUIRED SHUT DOWN WILL HAVE TO MEET THE SAME REQUIREMENT AS ABOVE.

NOTES BY SYMBOL "6"

- CONNECT CHILLED AND CONDENSER WATER PIPING TO CH-1 AND CH-2 AS SHOWN.
- CAP PIPING WHERE EXISTING WAS REMOVED/DEMOLISHED. USE SAME MATERIAL AS EXISTING.
- CONNECT CHILLED AND CONDENSER WATER PIPING TO CHILLED AND CONDENSER WATER PUMPS AS SHOWN.
- 2-POSITION, NORMALLY OPEN, MOTORIZED DAMPER FULL-FACE SIZE OF LOUVER. PROVIDE NEW CONTROLLER. DAMPER SHALL BE CLOSED FOR NORMAL OPERATION AND OPEN FULLY WHEN REFRIGERANT PURGE CYCLE ENGAGES. REFER TO M5-SERIES CONTROL DIAGRAMS FOR ADDITIONAL INSTRUCTIONS.
- CONNECT CPF-1 TO EMERGENCY CIRCUITS MADE AVAILABLE THROUGH DEMOLITION OF EXISTING EQUIPMENT.
- EQUIPMENT IS EXISTING AND TO REMAIN. PROTECT FROM DAMAGE THROUGH ALL PHASES OF CONSTRUCTION.
- MAINTAIN 4-FEET CLEARANCE IN FRONT OF CHILLER POWER/CONTROL CABINET.
- REFRIGERANT PURGE SYSTEM DUCT; 24/12 BEGINNING AT 12-INCHES ABOVE FLOOR. COVER INLET WITH STAINLESS STEEL BIRD SCREEN. INSTALL DUCT TIGHT TO WALL AND SECURELY BRACE. DUCT BELOW 6-FEET ABOVE FINISHED FLOOR SHALL BE 18-GAUGE MINIMUM THICKNESS. CONNECT TO MAIN TRUNK DUCT AS SHOWN WITH MANUAL BALANCING DAMPER. BALANCE TO 1,800 CFM AT EACH BRANCH TAP.
- REFRIGERANT MONITORING SYSTEM CONTROL PANEL MOUNTED WITH BOTTOM OF PANEL AT 5'-0" ABOVE FINISHED FLOOR. REFER TO M5-SERIES CONTROL DIAGRAMS FOR ADDITIONAL INSTRUCTIONS.
- ALARM LIGHT MOUNTED WITH BOTTOM OF LIGHT CENTERED 2-INCHES ABOVE DOOR FRAME. MOUNT SIGN "S1" ABOVE ALARM LIGHT. REFER TO M5-SERIES CONTROL DIAGRAMS FOR ADDITIONAL INSTRUCTIONS.
- ALARM LIGHT MOUNTED WITH BOTTOM OF LIGHT CENTERED 2-INCHES ABOVE DOOR FRAME. MOUNT SIGN "S2" ABOVE ALARM LIGHT. REFER TO M5-SERIES CONTROL DIAGRAMS FOR ADDITIONAL INSTRUCTIONS.
- REFRIGERANT MONITORING SYSTEM SAMPLE TUBING - 0.25-INCH TYPE L COPPER. EXTEND TUBING FROM MONITORING SYSTEM PANEL TO REFRIGERANT PURGE DUCT AS SHOWN - (2) LOCATIONS. ROUTE TUBING ALONG AND DOWN WALL ADJACENT TO EXHAUST DUCT. TERMINATE 18-INCHES ABOVE FINISHED FLOOR. PROVIDE NEOPRENE SEPARATOR WHERE DIRECT CONTACT BETWEEN DUCT AND TUBING CANNOT BE AVOIDED.
- BREATHING APPARATUS AND CABINET MOUNTED ON WALL. LABEL CABINET WITH CONTENTS.
- WARNING SIGN INDICATING LOCATION OF BREATHING APPARATUS - SIMILAR TO "BREATHING APPARATUS IS LOCATED AT ENTRY DOOR BETWEEN LOADING DOCK AND SERVICE LOBBY". MOUNT SIGN WITH CENTER AT 5'-0" ABOVE FINISHED FLOOR.
- PROVIDE PULL BOX WHERE THE DEMOLISHED CHILLER STARTER WERE LOCATED.
- EXISTING TO REMAIN IN PLACE.
- EQUIPMENT SHALL GO THROUGH 7'-10" WIDE, 7'-0" TALL DOUBLE DOOR. CONTRACTOR SHALL BRING CHILLER IN SEPARATE PIECES AS NEEDED.
- PROVIDE FLOW METER ON CHILLED WATER RETURN PIPING. PROVIDE ONICON F-3500 SERIES OR APPROVED EQUAL.
- TERMINATE EXISTING HEATING WATER SUPPLY AND RETURN PIPING AT THE MECHANICAL WALL WITH ISOLATION VALVE AND BLIND FLANGE
- PROVIDE CHILLED WATER TAP WITH ISOLATION VALVE FOR CWP-3.
- PROVIDE VFD FOR C.H.P.-1 AND C.H.P.-2 ON THIS WALL. PROVIDE WITH NEMA 3 ENCLOSURE. PROVIDE ABB ACH 550 OR APPROVED EQUAL.
- PROVIDE VFD FOR C.W.P.-1 AND C.W.P.-2 ON THIS WALL. PROVIDE WITH NEMA 3 ENCLOSURE. PROVIDE ABB ACH 550 OR APPROVED EQUAL.



LEVEL 1 KEY PLAN



**Tarrant County Plaza Building
Chiller Replacement**

Tarrant County Plaza
200 Taylor St., Fort Worth, TX 76102



JOB NUMBER:
P21175
DATE ISSUED:
APRIL 15, 2022

ISSUES:

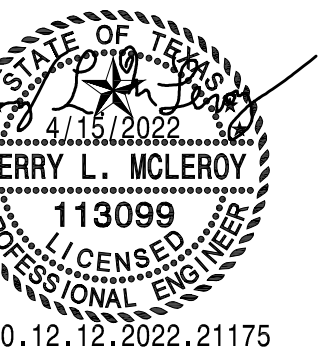
REVISIONS:

SHEET CONTENTS:
**LEVEL 1
CHILLER PLANT
- MECHANICAL
PLAN**

SHEET NUMBER:

M201

S:\P21175_Plaza Bldg_Chillers\Mech\P21175-M201.dwg: M101-2 12/19/22 05:35:48 Kerry SHEET SIZE = ARCH D 24X36



**Tarrant County Plaza Building
Chiller Replacement**



JOB NUMBER: P21175
DATE ISSUED: APRIL 15, 2022

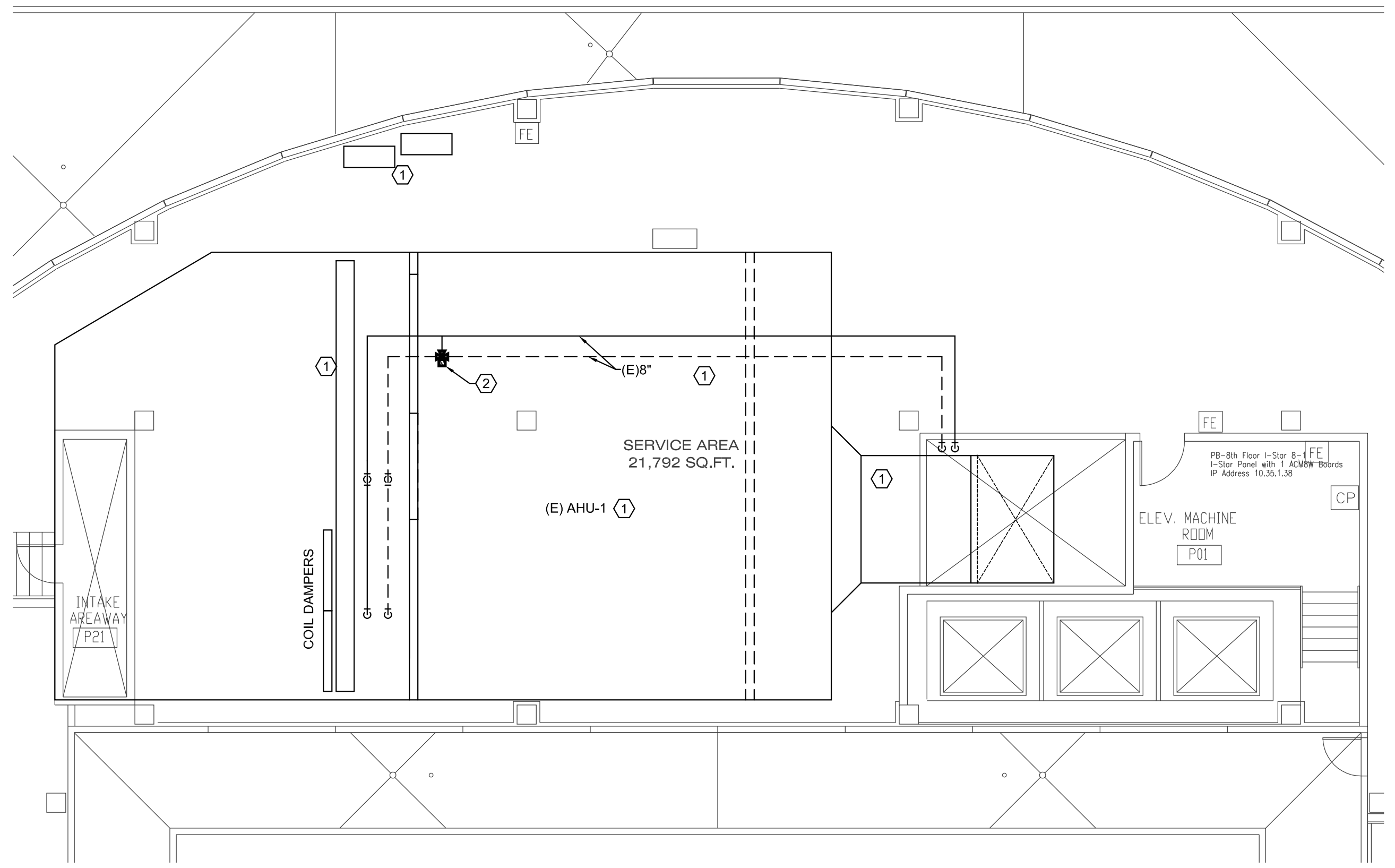
ISSUES:

REVISIONS:

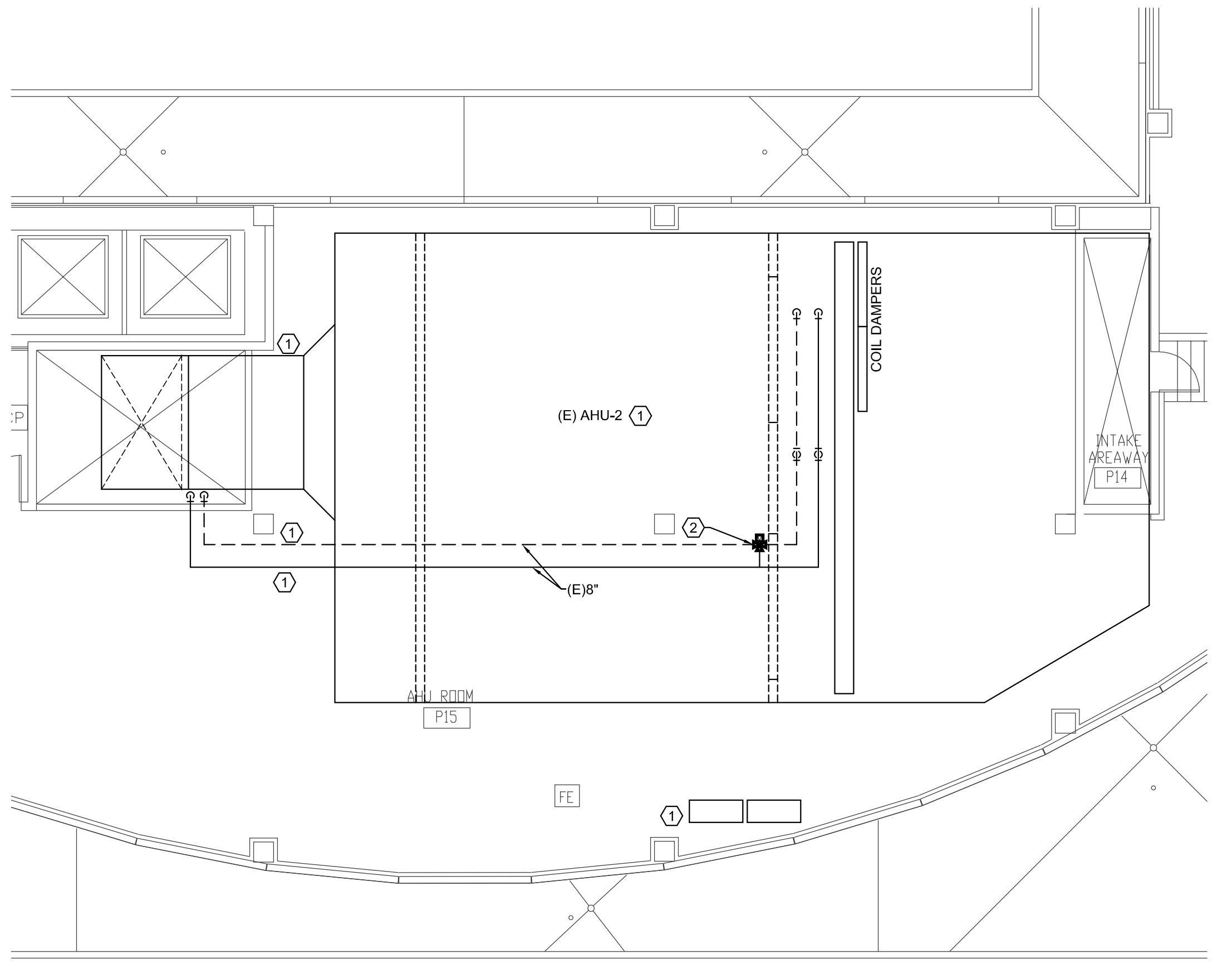
SHEET CONTENTS:
**LEVEL 8
MECH. ROOM &
ROOF
- MECHANICAL
PLAN**

SHEET NUMBER:

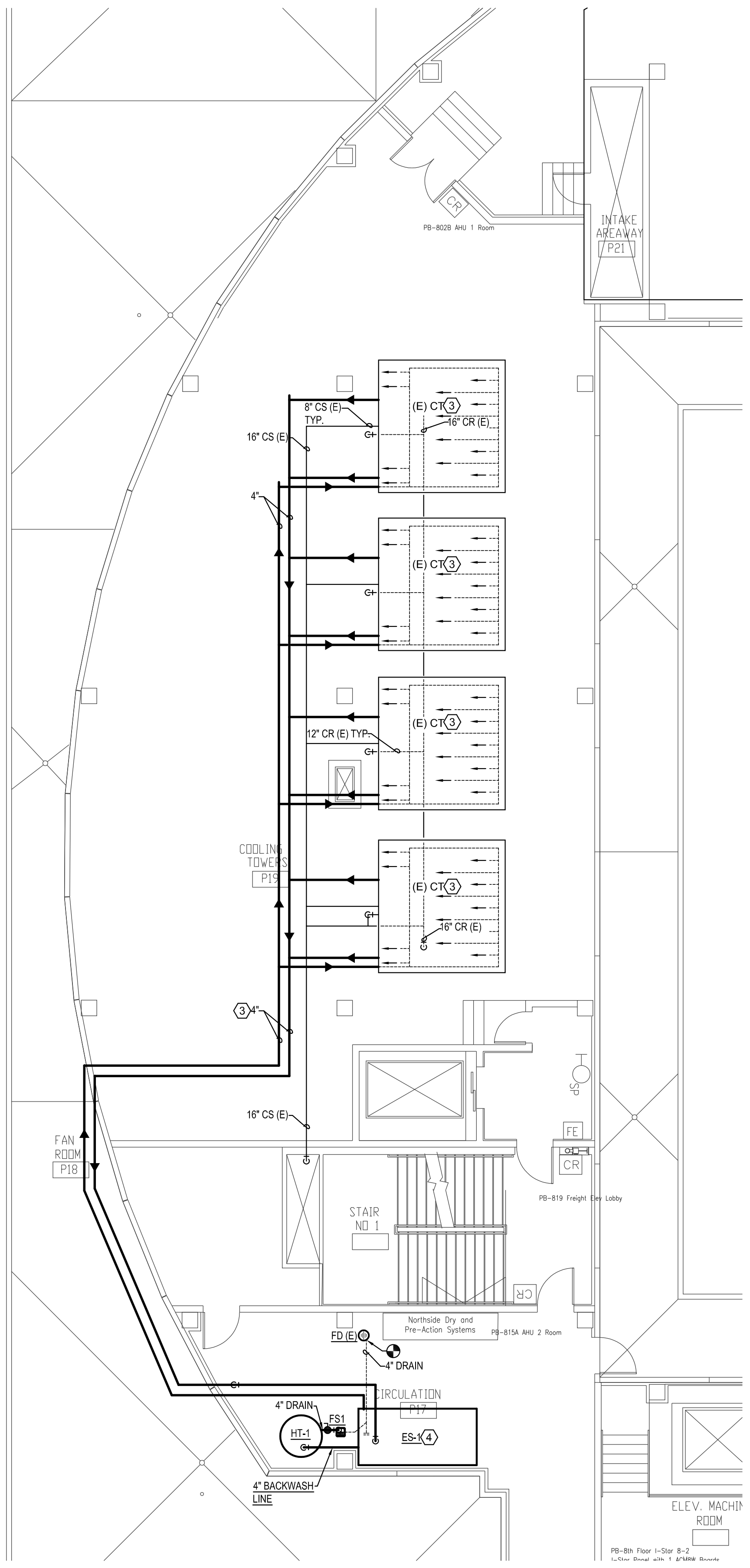
M202



1 LEVEL 8 MECH. ROOM - MECHANICAL PLAN
SCALE: 1/8" = 1'-0"



2 LEVEL 8 MECH. ROOM - MECHANICAL PLAN
SCALE: 1/8" = 1'-0"



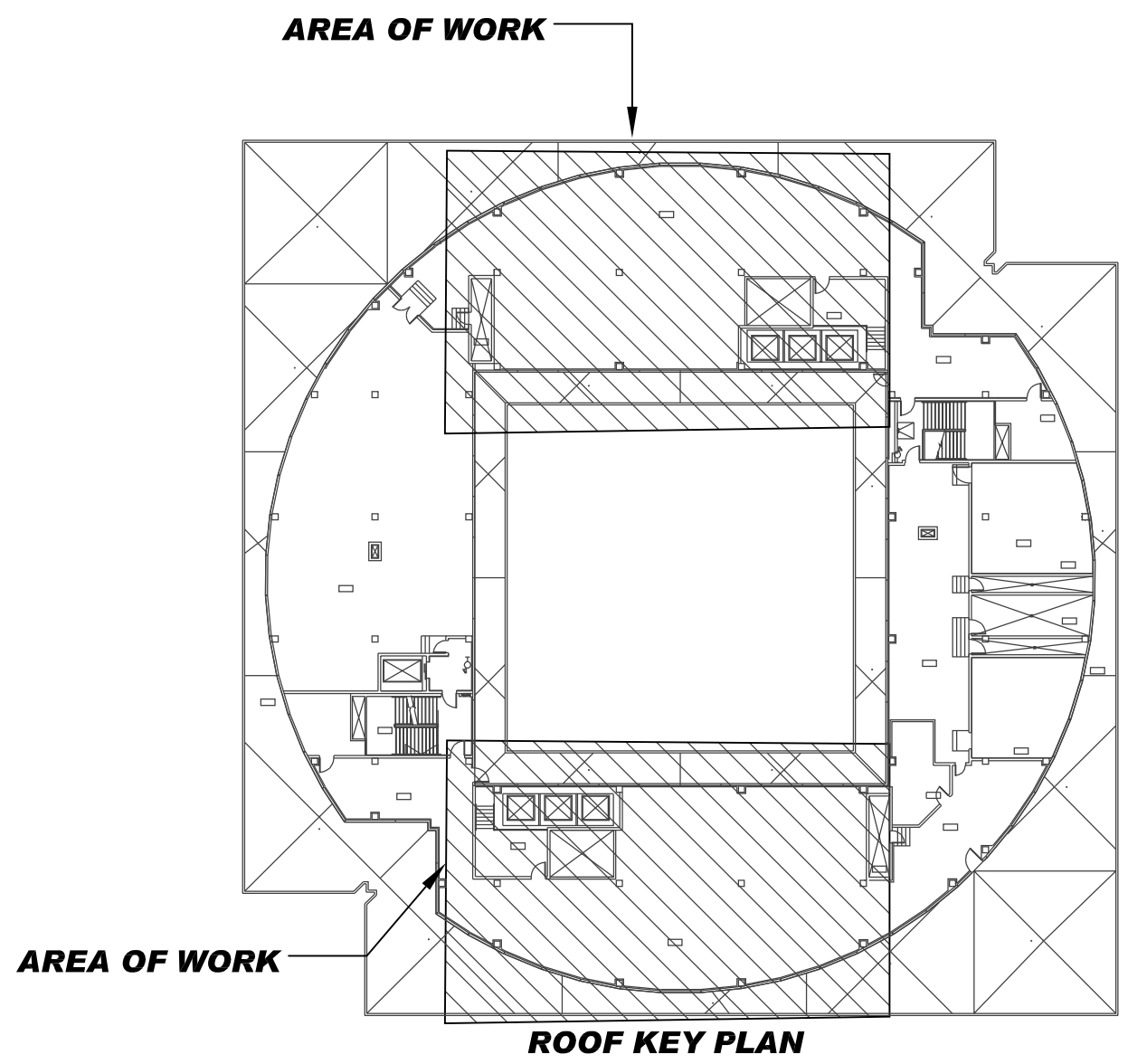
3 LEVEL 8 MECH. ROOM AND ROOF - MECHANICAL PLAN
SCALE: 1/8" = 1'-0"

GENERAL NOTES

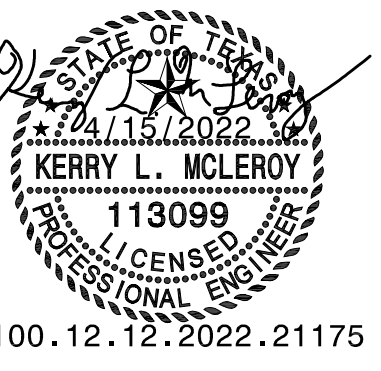
- CONTRACTOR FILED VERIFY ALL EXISTING CONDITIONS PRIOR TO COMMENCING ANY WORK.
- SCHEDULE NECESSARY SHUTDOWNS OF CHILLED WATER SYSTEM TO BE DURING UNOCCUPIED HOURS. COORDINATE WITH FACILITIES TO ALLOW A MINIMUM OF ONE WEEK ADVANCE NOTICE OF THE SHUTDOWN.

NOTES BY SYMBOL "a"

- EXISTING TO REMAIN IN PLACE.
- EXISTING THREE WAY VALVE TO REMAIN. REFER TO SEQUENCE OF OPERATIONS FOR NEW SEQUENCE GOING FORWARD FOR THE VARIABLE PRIMARY APPROACH.
- PROVIDE THE EASYWATER CTF-235 (ES-1), CONTRACTOR SHALL PROVIDE BASIN SWEEPER PIPING PF64-020; EVAPCO AT 12-512 BY THE PUROFLUX CORPORATION. CONTRACTOR SHALL PROVIDE ALL REQUIRED ACCESSORIES AND SUPPORTS AS REQUIRED. CONTRACTOR SHALL PROVIDE PIPE SUPPORTS BY PORTABLE PIPE HANGERS AND SEAL ALL WALL PENETRATIONS AIR/WATER TIGHT WITH A LINK SEAL SLEEVE. AN EXISTING FLOOR DRAIN (FD (E)) IS LOCATED IN THE MEZZANINE SPACE, CONTRACTOR SHALL PROVIDE A NEW FLOOR SINK (FS1) NEAR THE EASYWATER SYSTEM AND TIE INTO EXISTING SANITARY SEWER LINE SERVING THE EXISTING FLOOR DRAIN AS REQUIRED. ALL EXTERIOR PIPING FOR THE BASIN FILTRATION SYSTEM SHALL BE HEAT TRACED SW/FL USING 277 VOLT CIRCUITS. THE DRAWINGS PROVIDE FOR TWO, 277 VOLT CIRCUIT, IF THE CONTRACTOR REQUIRES MORE ELECTRICAL CIRCUIT, IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE THESE CIRCUITS, WIRING, CONDUITS, ETC., NEEDED POWER THE ADDITIONAL HEAT TRACE. PROVIDE THE DIGITRACE 910 SERIES CONTROLLER FOR CONTROLLING THE HEAT TRACE. PROVIDE HS-1 AND COPPER DRAINAGE PIPING TO SERVE THE BACKWASH CYCLE ON THE BASIN FILTRATION SYSTEM.



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**Tarrant County Plaza Building
Chiller Replacement**

Tarrant County Plaza
200 Taylor St., Fort Worth, TX 76102



JOB NUMBER:
P21175
DATE ISSUED:
APRIL 15, 2022

ISSUES:

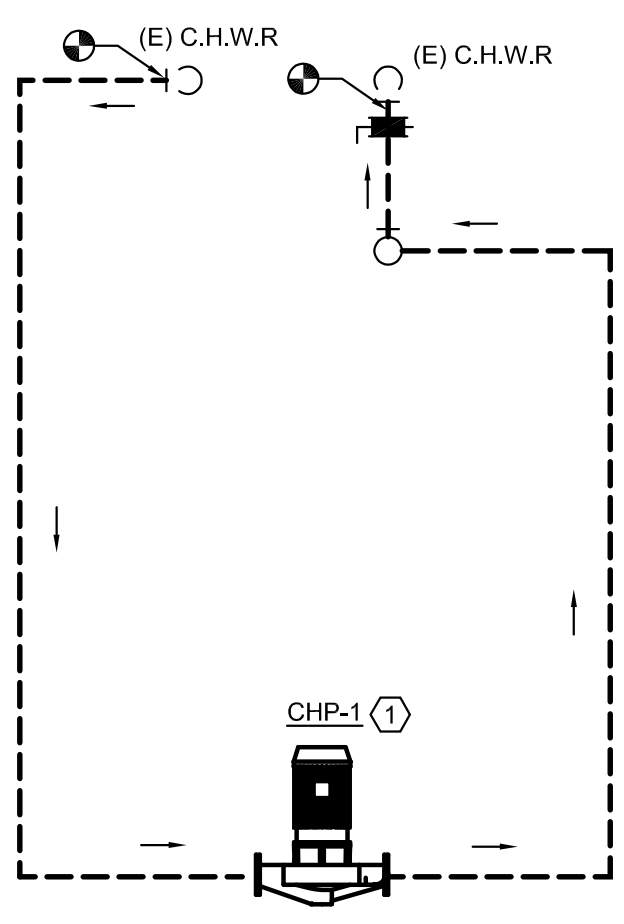
REVISIONS:

SHEET CONTENTS:
**MECHANICAL
PIPE RISER
DIAGRAM**

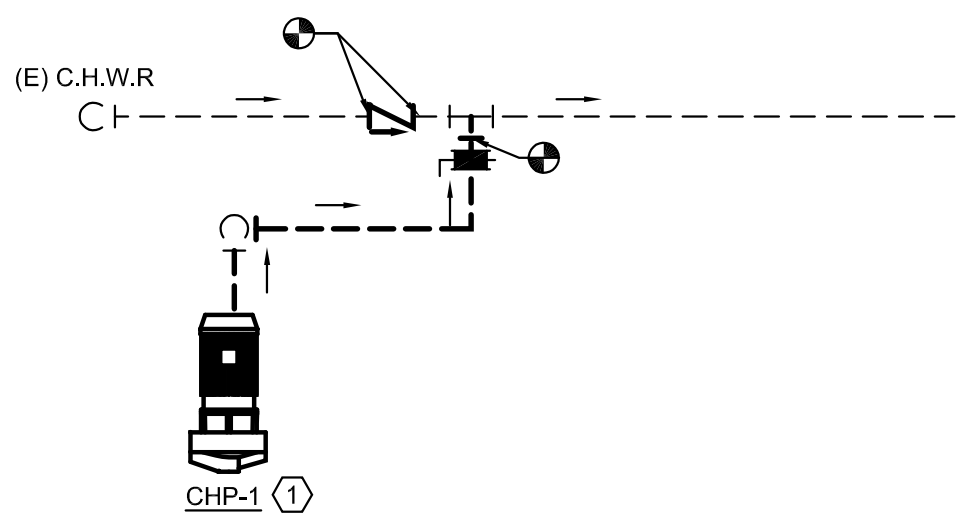
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M301

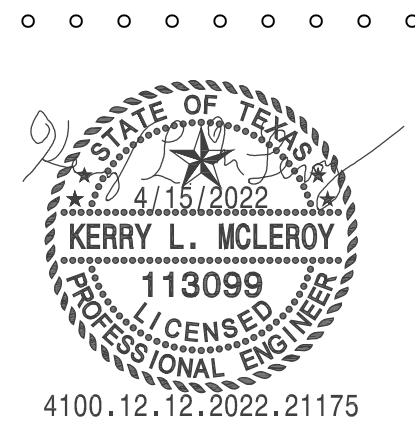
NOTES BY SYMBOL "P"	
①	RE:3/M601 FOR DETAIL.



① CHILLED WATER PIPING RISER 1
SCALE: N/A



② CHILLED WATER PIPING RISER 2
SCALE: N/A



**Tarrant County Plaza Building
Chiller Replacement**

Tarrant County Plaza
200 Taylor St., Fort Worth, TX 76102



JOB NUMBER:
P21175
DATE ISSUED:
APRIL 15, 2022

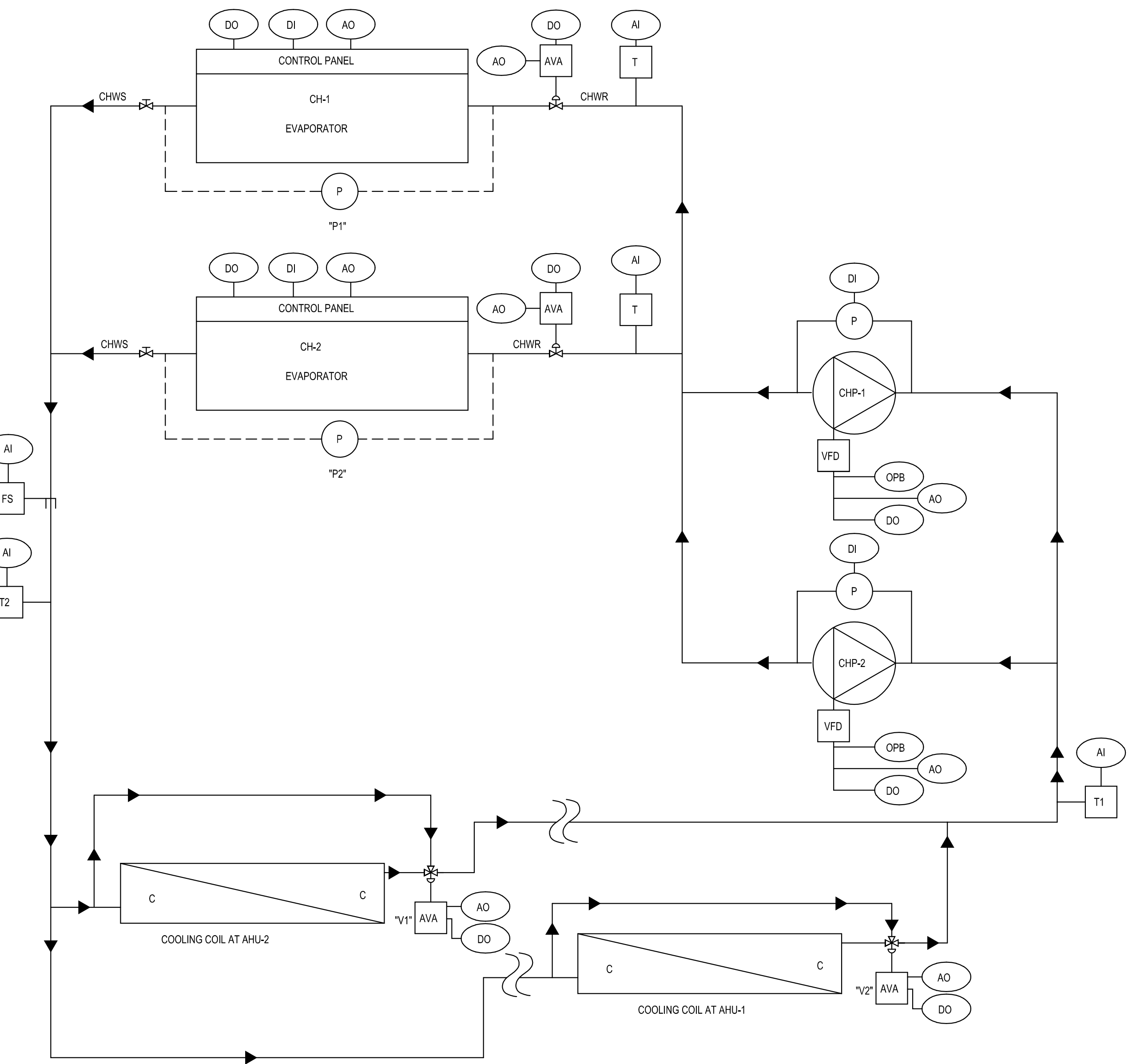
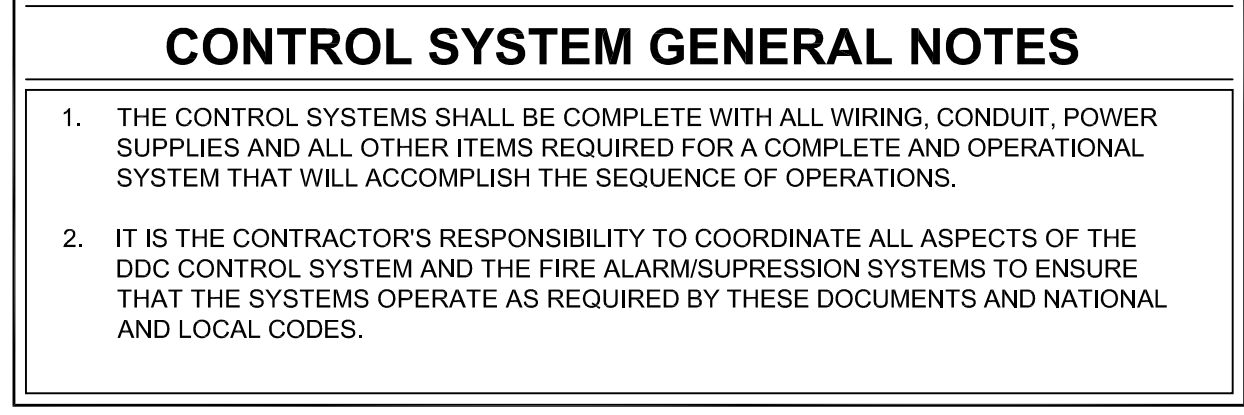
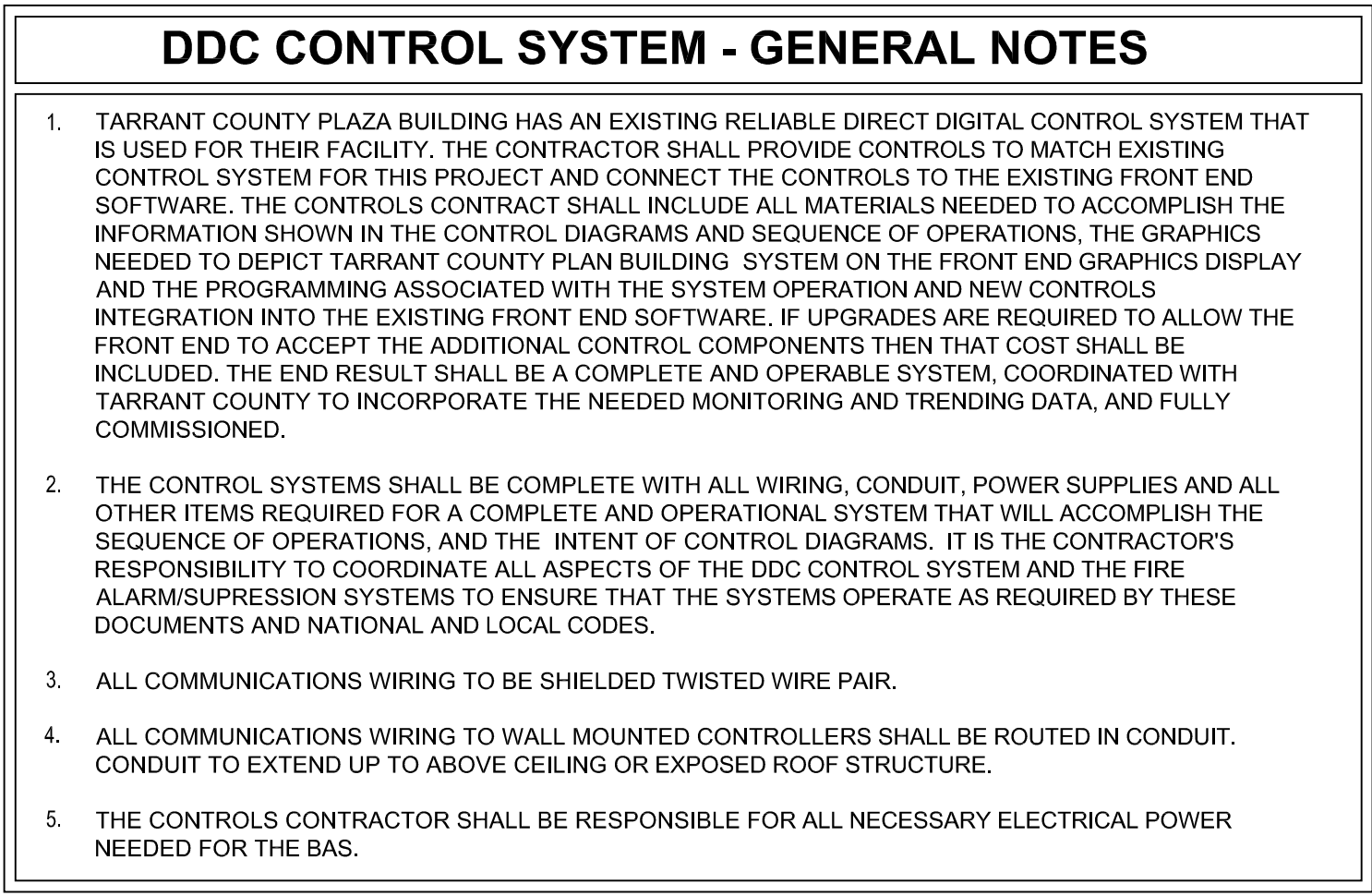
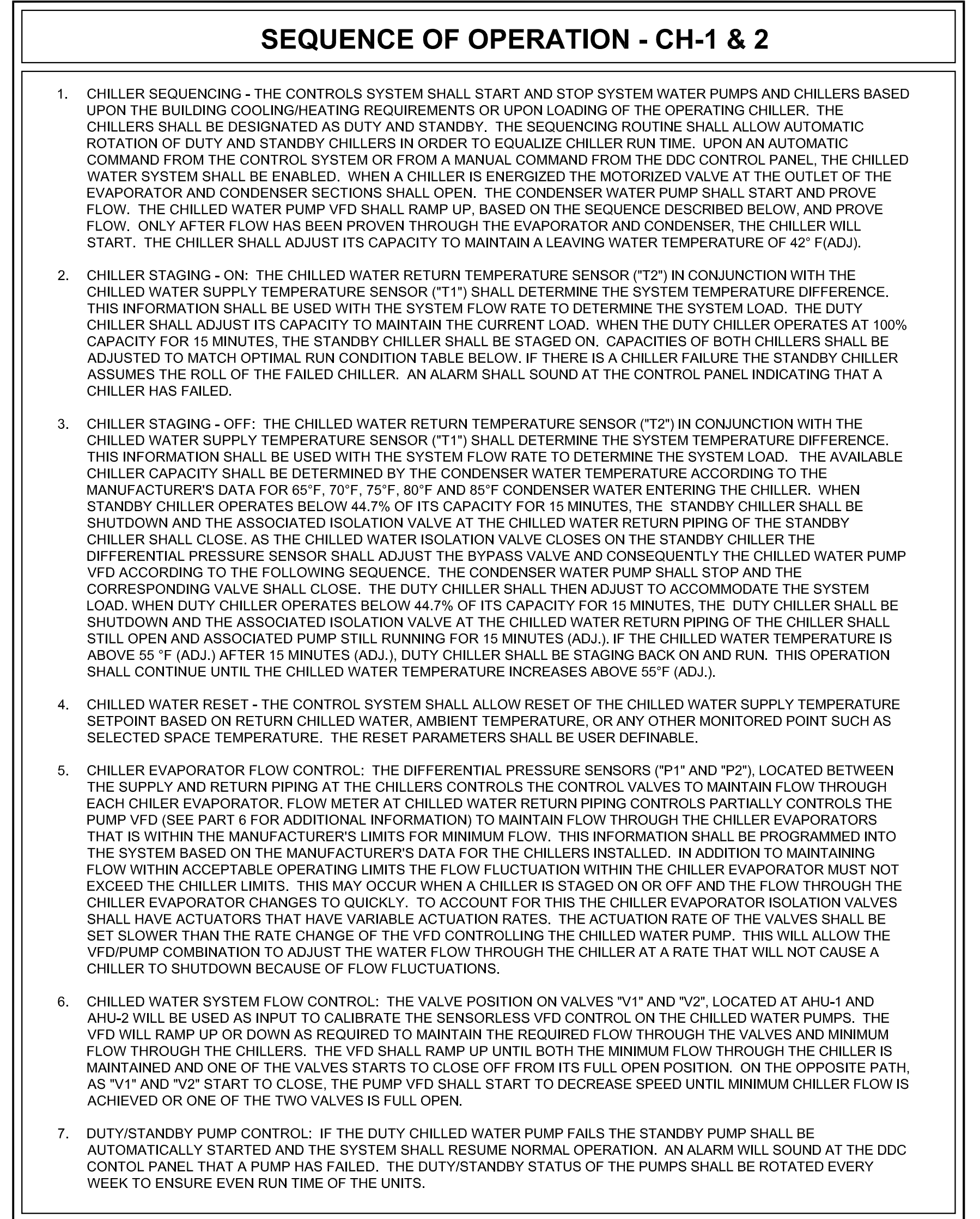
ISSUES:

REVISIONS:

SHEET CONTENTS:
**MECHANICAL
CONTROLS**

SHEET NUMBER:

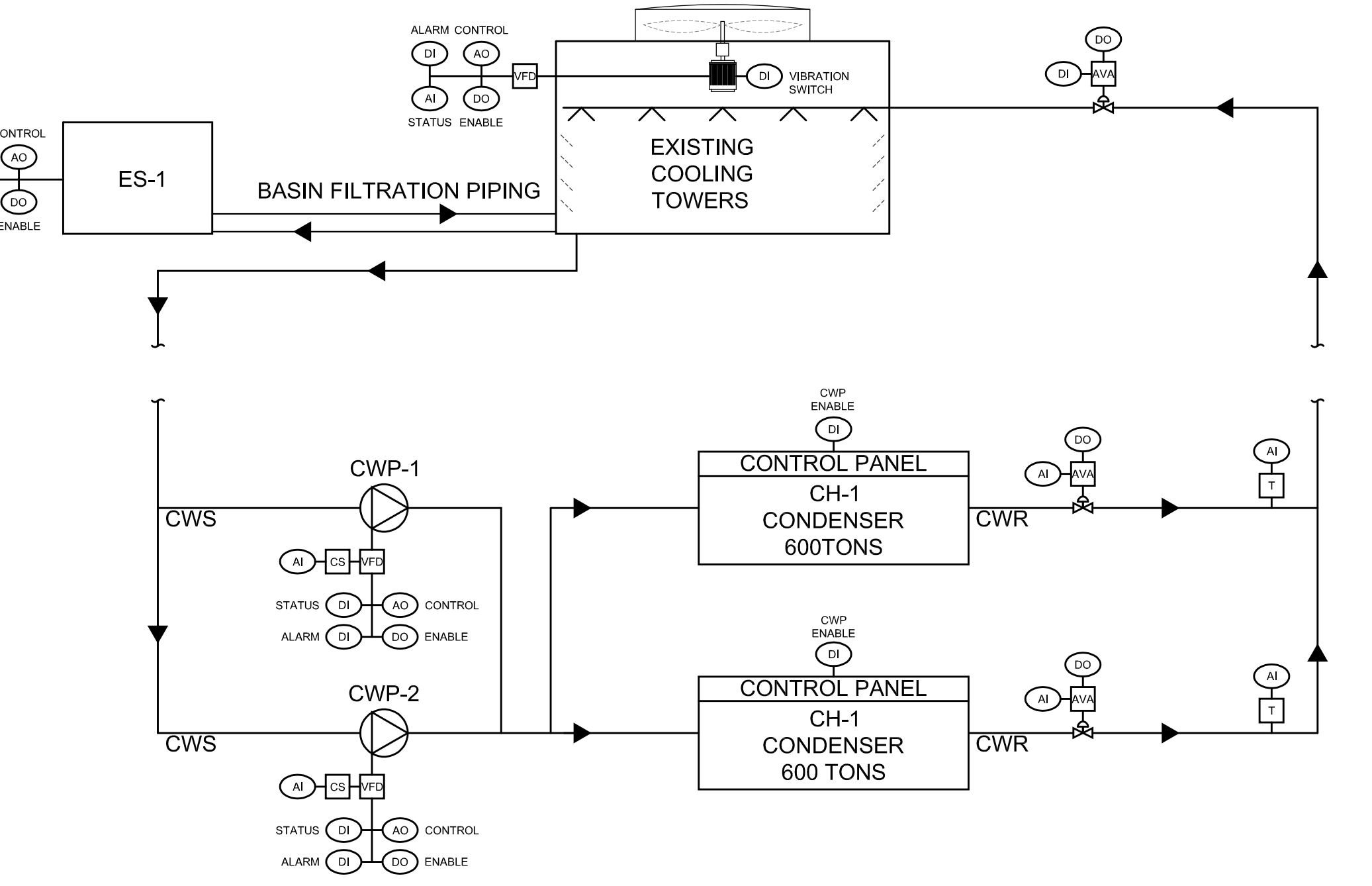
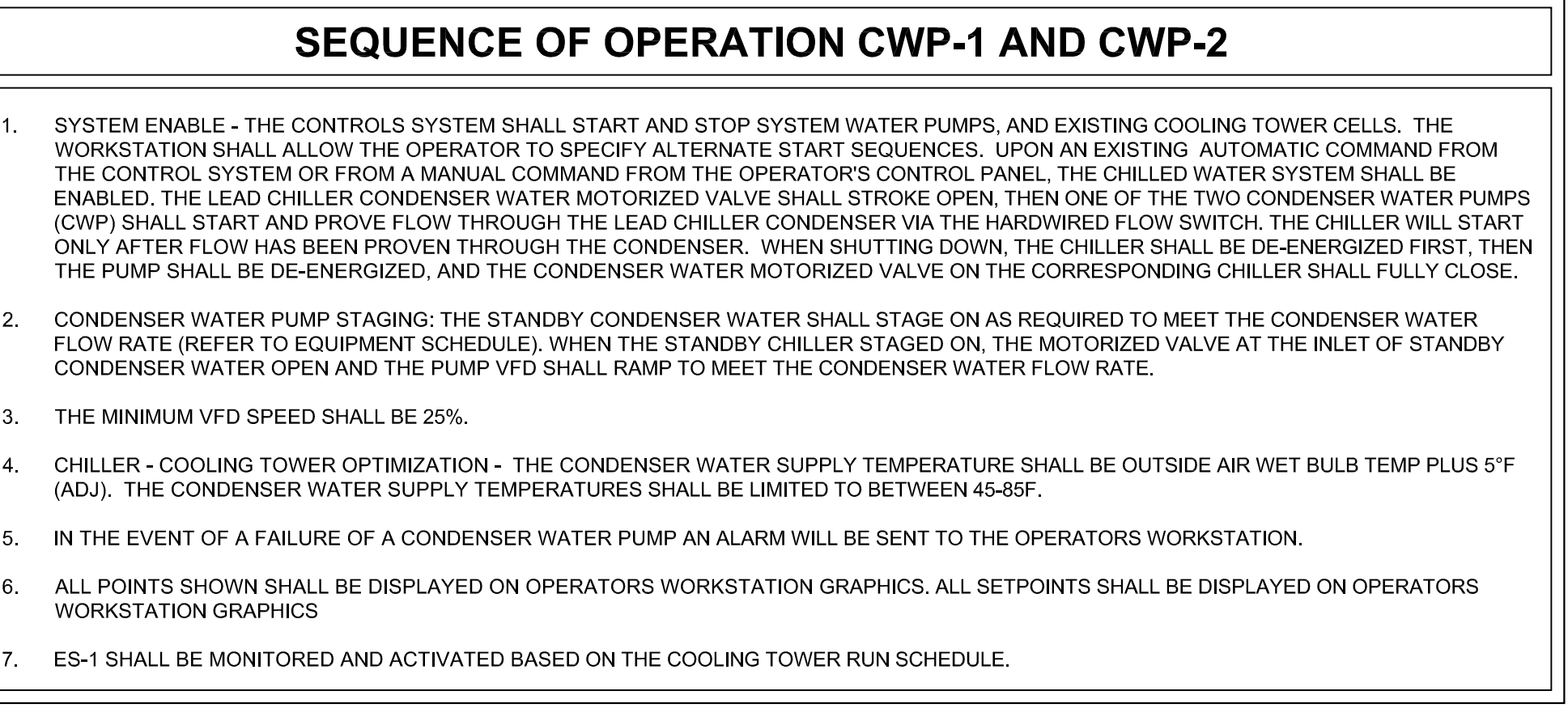
M501



1 CHILLED WATER CONTROL DIAGRAM
NO SCALE

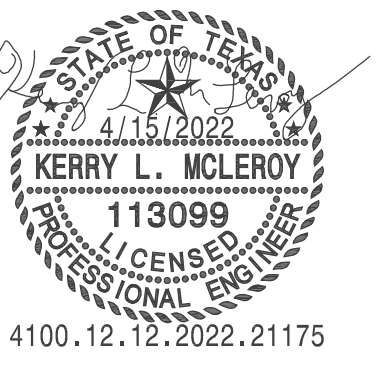
TARRANT COUNTY PLAZA BUILDING CHILLER OPTIMAL RUN CONDITIONS - 600 TONS

ENTERING CONDENSER WATER TEMPERATURE	MOST EFFICIENT CHILLER RUN POINT	OPTIMAL CHILLER % LOAD	STAGE SECOND CHILLER AT 15 MIN OF % LOAD	AFTER STAGING ON CHILLER 1 % LOAD / TONNAGE	STAGE OFF SECOND CHILLER AT 15 MIN OF % LOAD	AFTER STAGING OFF CHILLER 1 % LOAD / TONNAGE	STAGE OFF CHILLER 1 % LOAD / TONNAGE
85	80%	60-100%	100%	50% / 600	44.7%	89.3% / 536	44.7% / 268
80	60%	50-90%	100%	50% / 600	44.7%	89.3% / 536	44.7% / 268
75	60%	50-80%	100%	50% / 600	44.7%	89.3% / 536	44.7% / 268
70	50%	40-80%	100%	50% / 600	44.7%	89.3% / 536	44.7% / 268
65	50%	30-70%	100%	50% / 600	44.7%	89.3% / 536	44.7% / 268
60	50%	30-70%	100%	50% / 600	44.7%	89.3% / 536	44.7% / 268
55	40%	20-70%	100%	50% / 600	44.7%	89.3% / 536	44.7% / 268
50	40%	20-60%	100%	50% / 600	44.7%	89.3% / 536	44.7% / 268
45	40%	30-60%	100%	50% / 600	44.7%	89.3% / 536	44.7% / 268



2 CHILLED WATER CONTROL DIAGRAM
NO SCALE

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SHEET SIZE = ARCH D 24X36



**Tarrant County Plaza Building
Chiller Replacement**
 Tarrant County Plaza
200 Taylor St., Fort Worth, TX 76102



JOB NUMBER: P21175
DATE ISSUED: APRIL 15, 2022

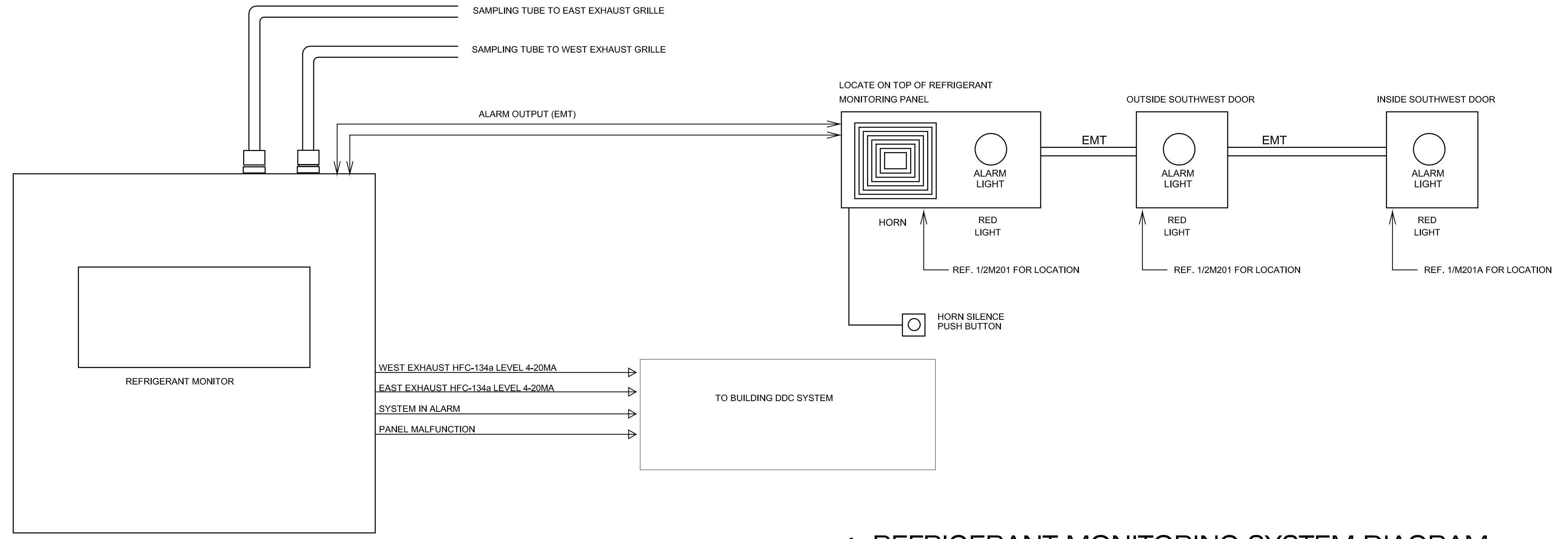
ISSUES:

REVISIONS:

SHEET CONTENTS:
**MECHANICAL
CONTROLS**

SHEET NUMBER:

M502



REFRIGERANT MONITORING SYSTEM

- REFRIGERANT MONITOR/ALARM; SHERLOCK INFRARED PHOTO-ACOUSTIC OR APPROVED EQUAL. UNIT SHALL MEET ASHRAE 15-1994, AND LOCAL CODE REQUIREMENTS. UNIT SHALL BE U.L. LISTED. SYSTEM SHALL BE CAPABLE OF MONITORING MULTIPLE SENSORS, AND MULTIPLE REFRIGERANTS. MONITOR SHALL, UPON ALARM SIGNAL; NOTIFY OWNER'S DDC BUILDING MANAGEMENT SYSTEM AND ACTIVATE AUDIO-VISUAL ALARMS. THE EXHAUST FAN SERVING THE CHILLER ROOM SHALL OPERATE IN CONCERT WITH ALARM MODE. UNTIL SENSOR LEVELS ARE AGAIN BELOW ALARM MODE LEVEL SETTING. COORDINATE WITH ELECTRICAL FOR UNIT POWER (70 WATTS @ 115/60/1) AND ALARM/STROBE AND SENSOR WIRING AND CONDUIT, ETC.
- INSTALL COPPER SENSOR PIPING AND FITTINGS, PER MANUFACTURER'S RECOMMENDATIONS AND CODE REQUIREMENTS.
- PROVIDE AUDIO-VISUAL ALARMS (SINGLE LEVEL, RED LIGHT TOWERS WITH AUDIBLE ALARM, CONDUIT MOUNTED); COORDINATE WITH ELECTRICAL. INCLUDE SIGNAGE (SEE DETAIL 2 AND 3, THIS SHEET). ALL ASPECTS OF THIS WORK SHALL MEET ANSII/ASHRAE 15, AND LOCAL CODE REQUIREMENTS.

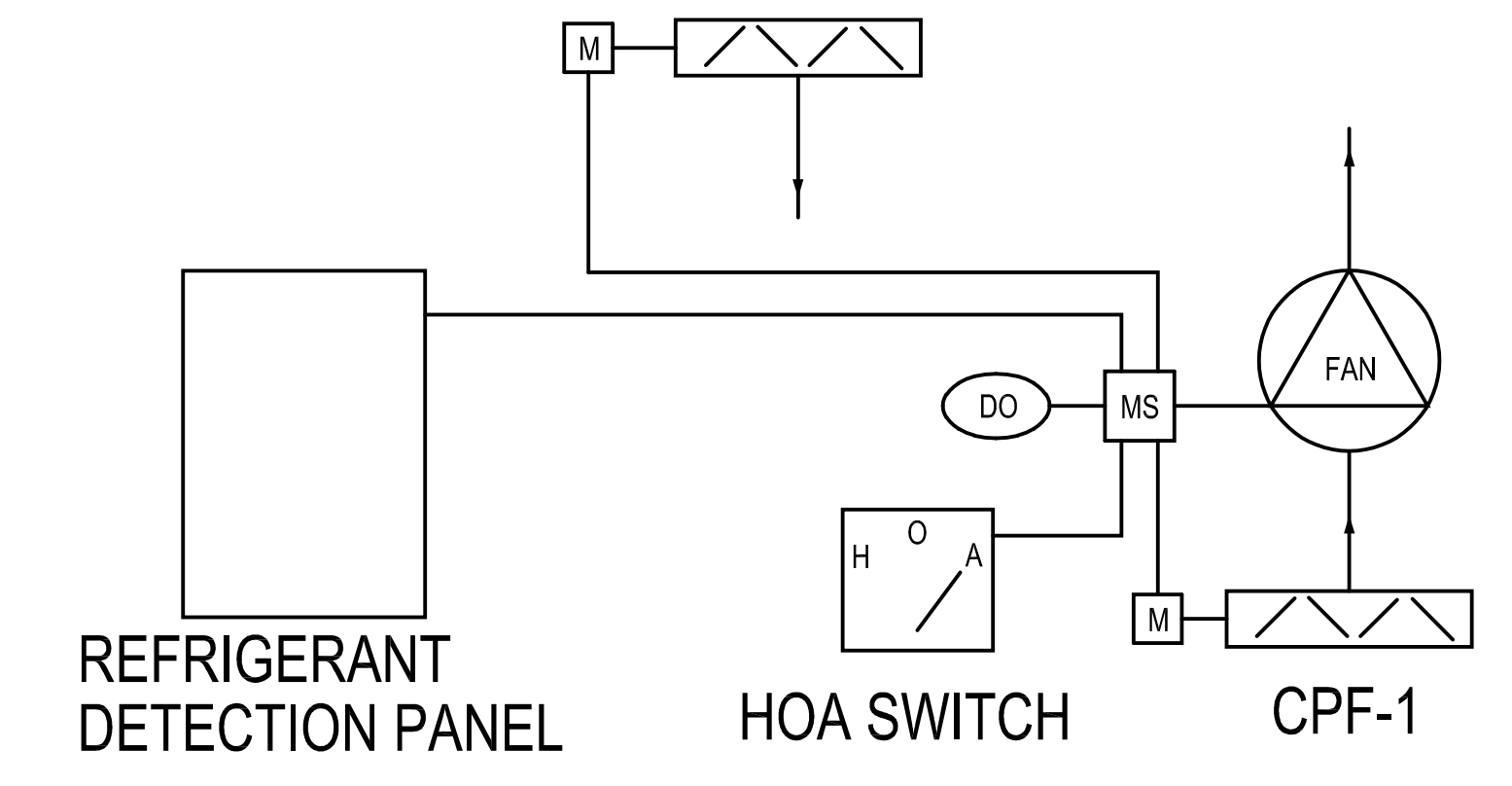
1 REFRIGERANT MONITORING SYSTEM DIAGRAM
NO SCALE



2 SIGN "S1"
NO SCALE



3 SIGN "S2"
NO SCALE

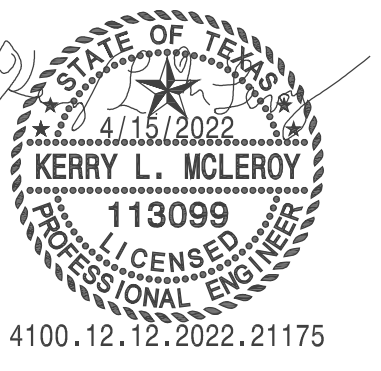


4 REFRIGERANT PURGE EXHAUST FAN CONTROL DIAGRAM
NO SCALE

SEQUENCE OF OPERATION - CPF-1

- WHEN CPF-1 IS OFF THE MOTORIZED AIR INTAKE AND EXHAUST DAMPER ARE CLOSED.
- THE FAN CAN BE STARTED BY TWO METHODS - 1) THE HAND POSITION IS SELECTED ON THE HOA SWITCH LOCATED IN THE CHILLER ROOM. 2) THE REFRIGERANT DETECTION SYSTEM DETECTS REFRIGERANT CONCENTRATIONS ABOVE THE SYSTEM SETPOINT. WHEN THE FAN IS STARTED BY EITHER OF THE TWO METHODS THE MOTORIZED INTAKE AND EXHAUST DAMPERS SHALL OPEN.
- HOA SWITCH SHUTDOWN - WHEN THE FAN IS SWITCHED TO THE OFF POSITION THE FAN SHALL STOP AND THE MOTORIZED INTAKE AND EXHAUST DAMPERS SHALL CLOSE. WHEN THE FAN IS SWITCHED TO THE AUTO POSITION FAN SHALL BE CONTROLLED BY REFRIGERANT DETECTION SYSTEM. REFRIGERANT DETECTION SYSTEM SHUTDOWN - WHEN THE REFRIGERANT DETECTION SYSTEM DETERMINES THAT THE REFRIGERANT CONCENTRATION LEVELS ARE BELOW THE SETPOINT THE FAN SHALL BE STOPPED AND THE MOTORIZED INTAKE AND EXHAUST DAMPER SHALL CLOSE.

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 SHEET SIZE = ARCH D 24x36



**Tarrant County Plaza Building
Chiller Replacement**

Tarrant County Plaza
200 Taylor St., Fort Worth, TX 76102



JOB NUMBER:
P21175
DATE ISSUED:
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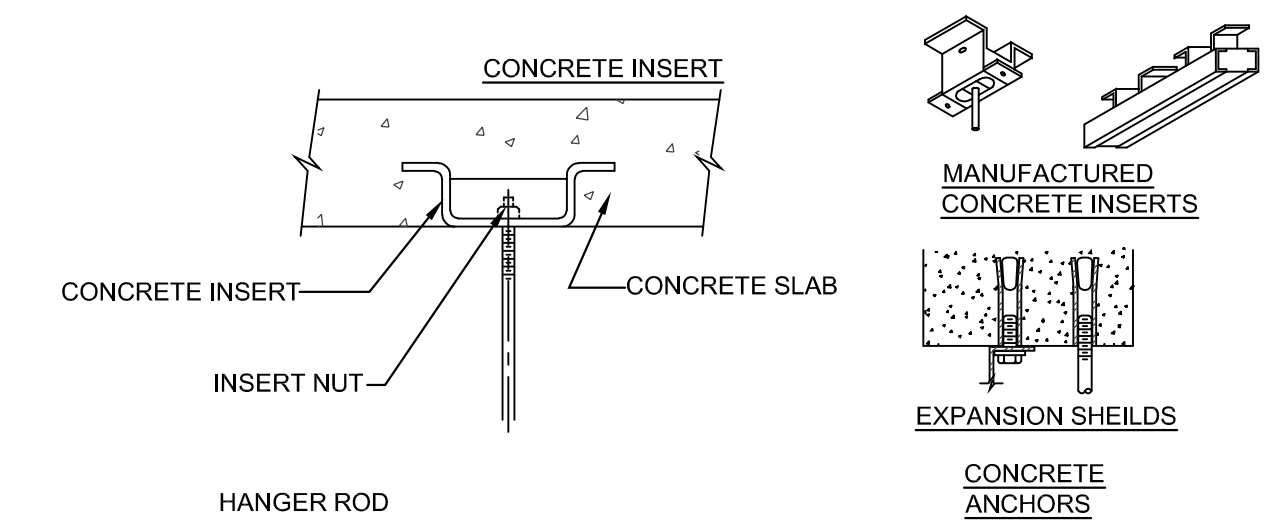
ISSUES:

REVISIONS:

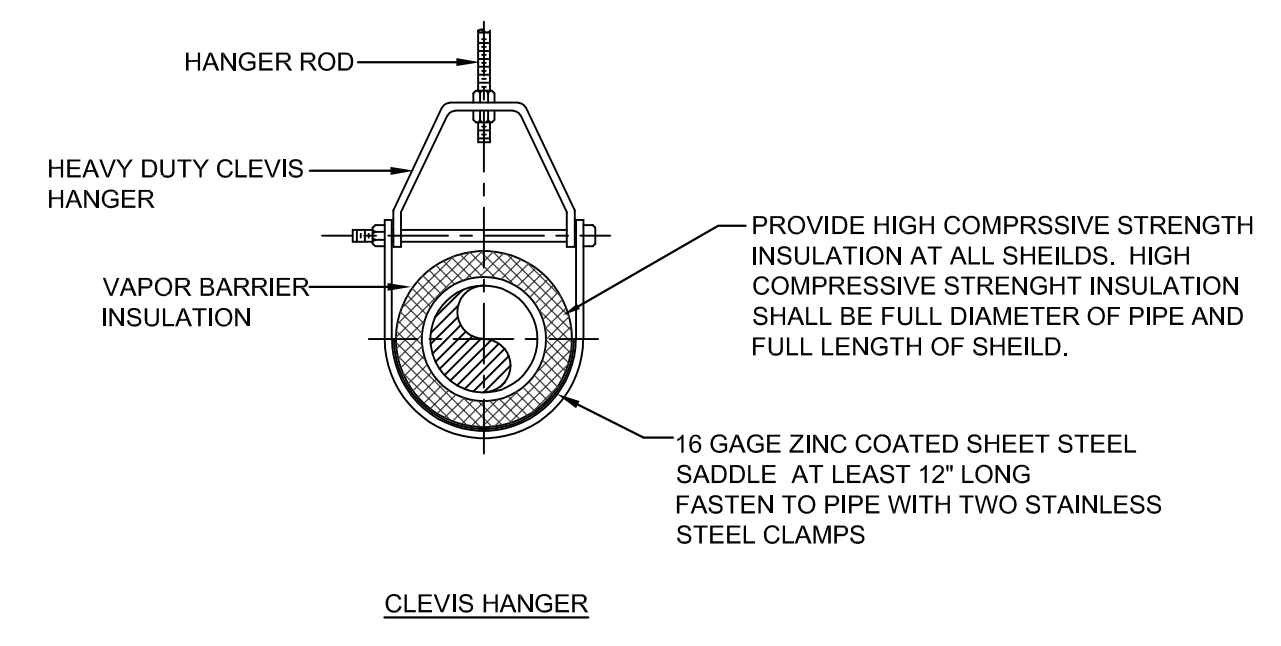
SHEET CONTENTS:
**MECHANICAL
DETAILS**

SHEET NUMBER:

M601

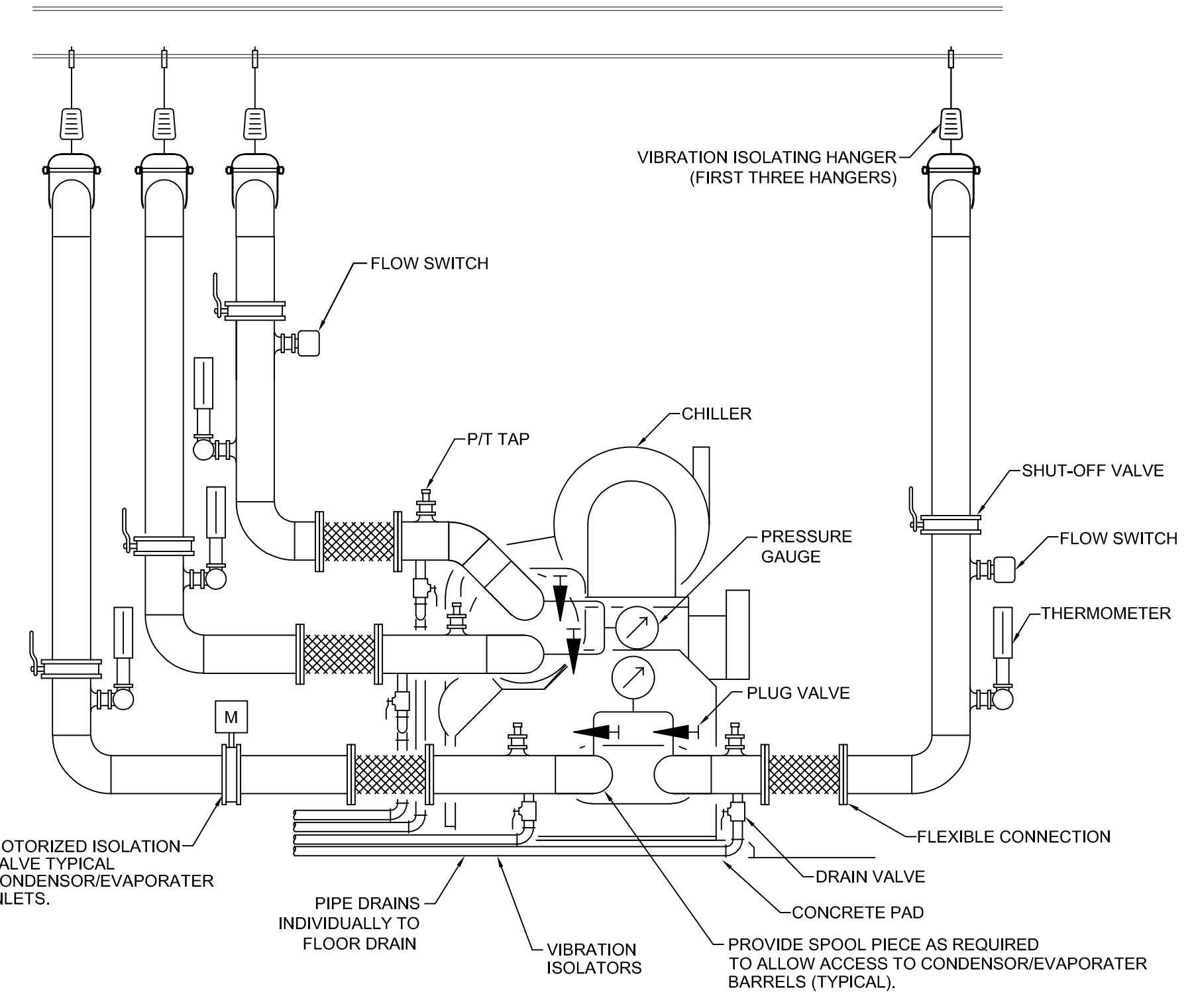


METHODS OF ATTACHMENT TO VARIOUS TYPES OF STRUCTURES - USE APPLICABLE TYPE

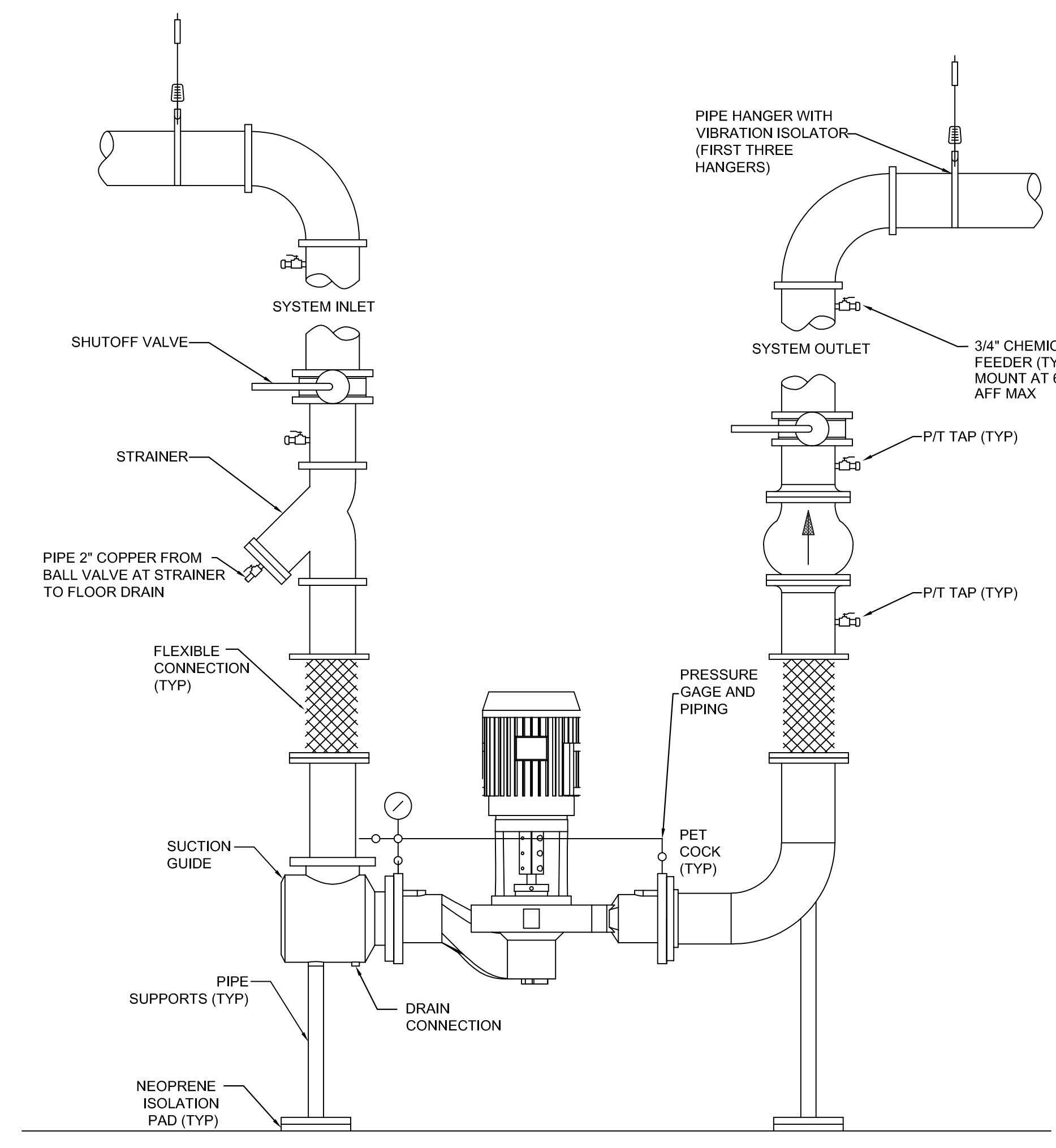


- NOTE:**
- HANGER SPACING PER MSS-SP-69
 - SIZE ALL THREAD ROD AND TRAPEZE UNISTRUT CHANNEL FOR LOADS.
 - CONCRETE ANCHORS SHALL BE RATED FOR USE IN CRACKED CONCRETE PER IBC.

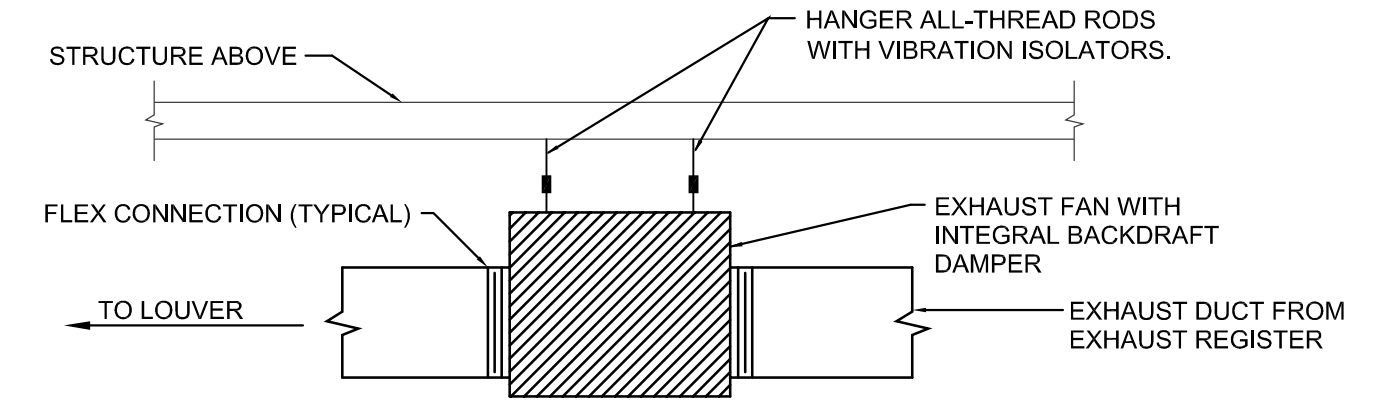
1 TYPICAL PIPE HANGER DETAILS
SCALE: NO SCALE



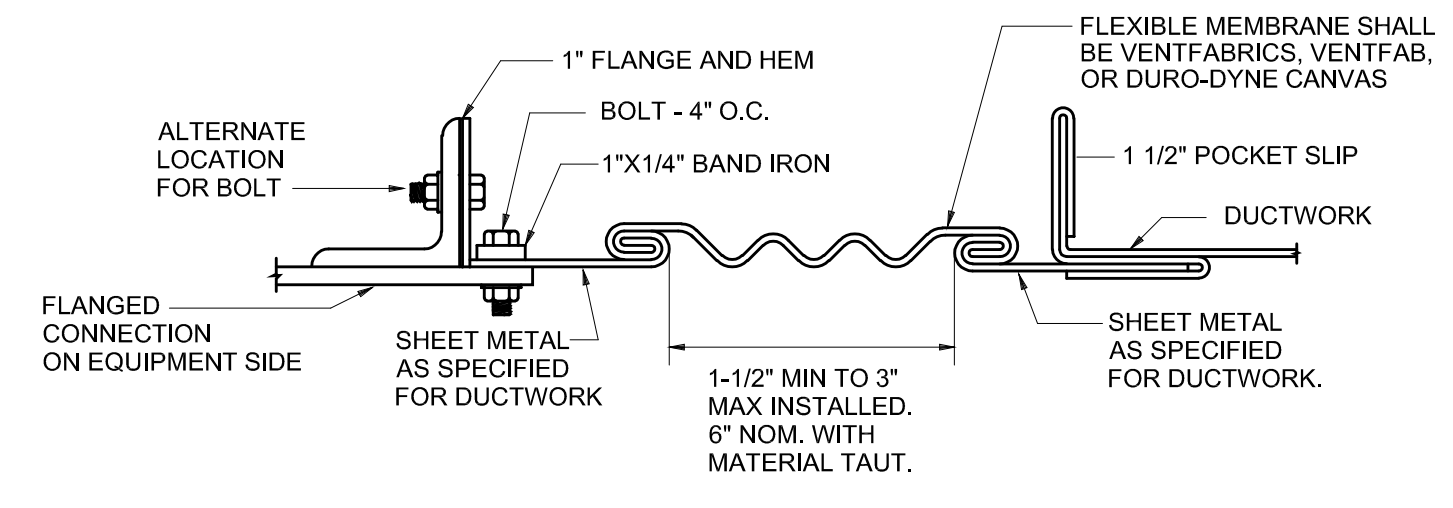
2 TYPICAL WATER COOLED CHILLER DETAIL
SCALE: NO SCALE



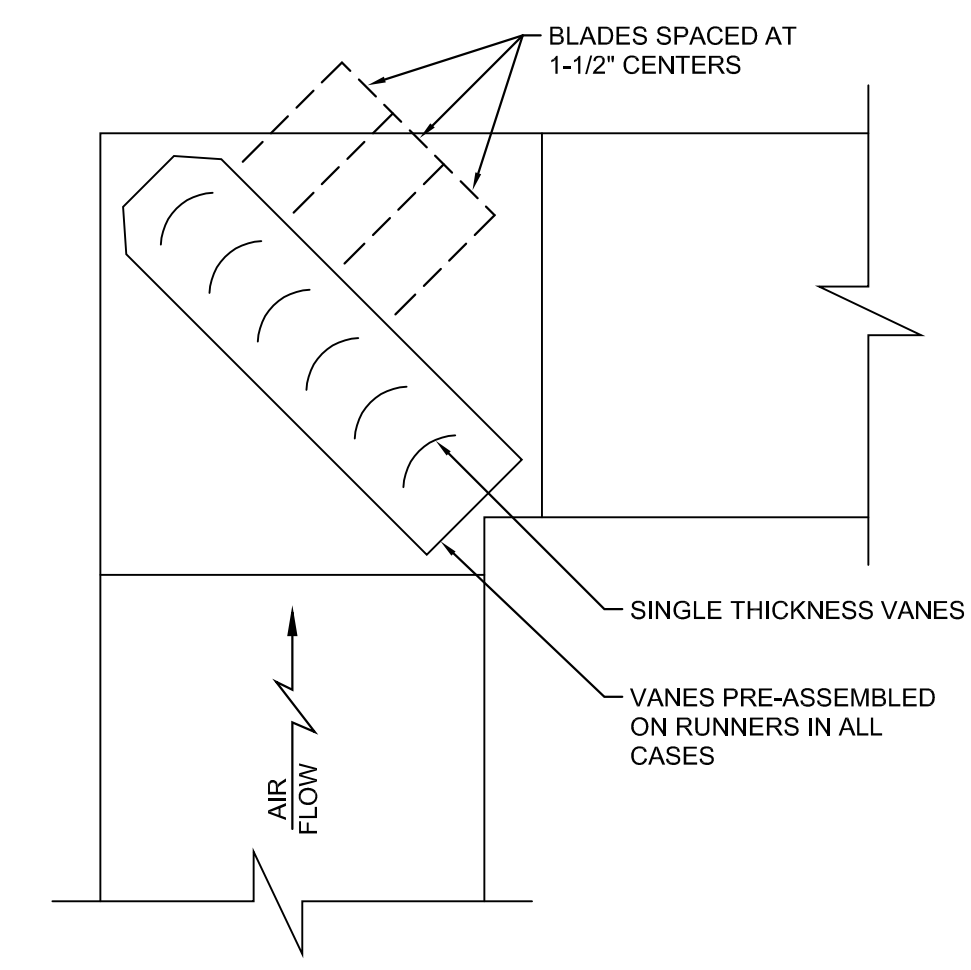
3 VERTICAL INLINE AND DUAL ARM PUMP
SCALE: NO SCALE



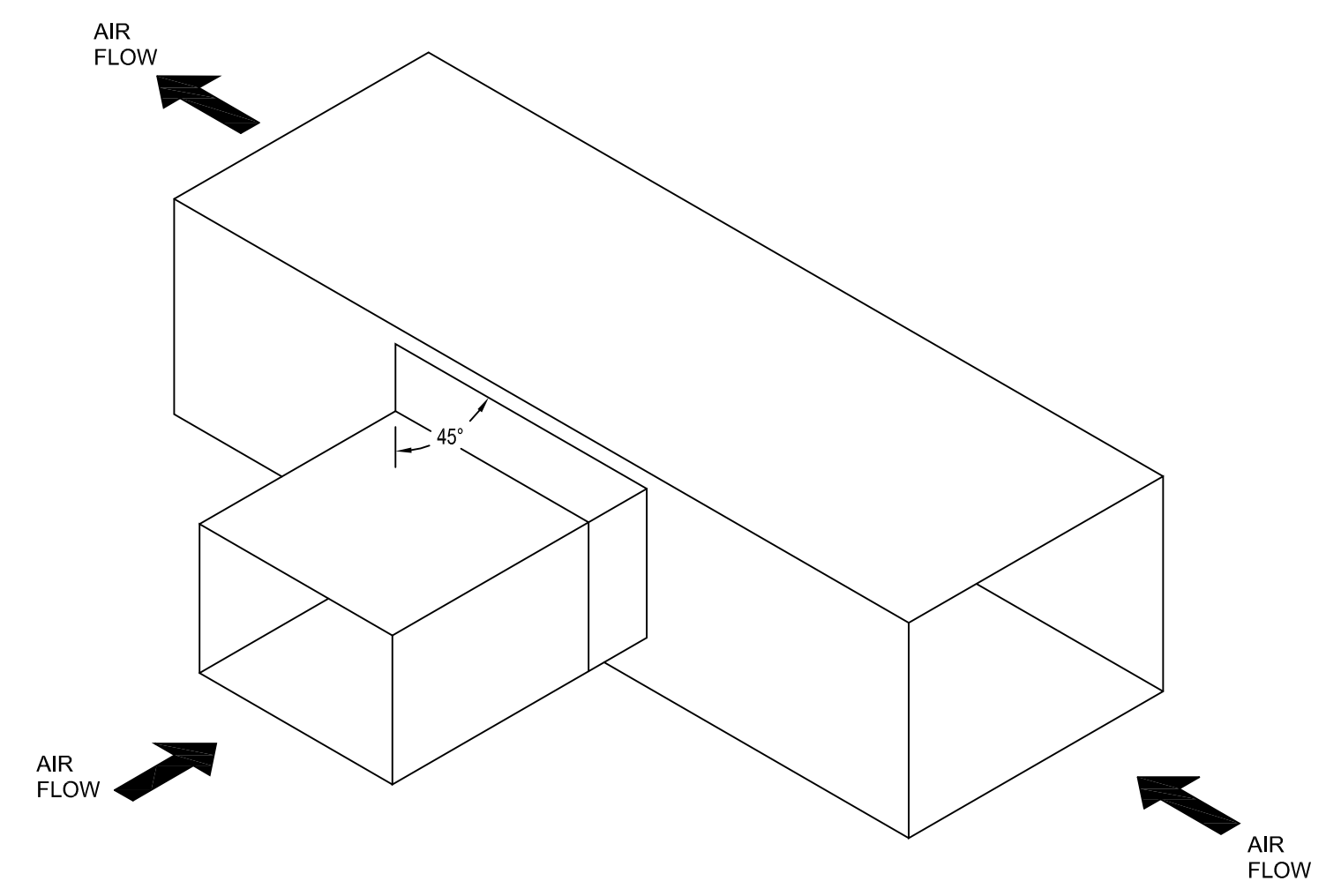
4 TYPICAL SUSPENDED INLINE EXHAUST FAN
SCALE: NO SCALE



4 FLEXIBLE EQUIPMENT CONNECTION DETAIL
SCALE: NO SCALE

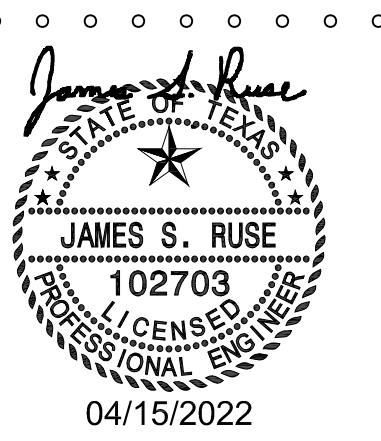


5 TYPICAL SQUARE ELBOW
SCALE: NO SCALE



6 CONVERGING TEE, 45° ENTRY
SCALE: NO SCALE

S:\P21175_Planet Bldg Chiller\Mech\21175-M601.dwg : Layout1 12/12/22 05:35:59 Kerry
SHEET SIZE = ARCH D 24x36



Tarrant County Plaza Building Chiller Replacement



JOB NUMBER:
P21175
DATE ISSUED:
APRIL 15, 2022

ISSUES:

REVISIONS:

SHEET CONTENTS:
ELECTRICAL LEGEND

SHEET NUMBER:
E001

ELECTRICAL SYMBOLS AND ABBREVIATIONS NOTE: ALL SYMBOLS AND ABBREVIATIONS SHOWN ARE NOT NECESSARILY USED ON THE DRAWINGS

ABBREVIATIONS			
A	AMPS	L	LENGTH
ACT	ABOVE COUNTERTOP	LB	POUNDS
AFF	ABOVE FINISHED FLOOR	LRA	LOCKED ROTOR AMPS
AFG	ABOVE FINISHED GRADE	LTG	LIGHTING
AIC	AMPERE INTERRUPTING CURRENT	MAX	MAXIMUM
ATS	AUTOMATIC TRANSFER SWITCH	MCA	MINIMUM CIRCUIT AMPACITY
AWG	AMERICAN WIRE GAUGE	MCB	MAIN CIRCUIT BREAKER
BKR	BREAKER	MH	METAL HALIDE
BLDG	BUILDING	MIN	MINIMUM
C	CONDUIT	MLO	MAIN LUGS ONLY
CKT	CIRCUIT	N/A	NOT APPLICABLE
CLG	CEILING	NEC	NATIONAL ELECTRICAL CODE
D	DEPTH	NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION
DEG	DEGREES	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
DIS	DISCONNECT	NO.	NUMBER
DPDT	DOUBLE-POLE, DOUBLE-THROW	N/O,N/C	NORMALLY OPEN, NORMALLY CLOSED
DPST	DOUBLE-POLE, SINGLE-THROW	OC	ON CENTER
EA	EACH	OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
EPO	EMERGENCY POWER OFF	PDJ	POWER DISTRIBUTION UNIT
EWC	ELECTRIC WATER COOLER	PF	POWER FACTOR
FA	FIRE ALARM	PH	PHASE
FACP	FIRE ALARM CONTROL PANEL	PROVIDE	FURNISH AND INSTALL
FLA	FULL LOAD AMPS	PVC	POLYVINYL CHLORIDE
FT.	FOOT, FEET	RE:	REFERENCE, REFER
FVNR	FULL-VOLTAGE, NON-REVERSING	RLA	RUNNING LOAD AMPS
G	GROUND	SPDT	SINGLE POLE DOUBLE THROW
GA.	GAUGE	SPST	SINGLE POLE SINGLE THROW
GFI	GROUND FAULT CIRCUIT INTERRUPTER	THRU	THROUGH
GFR	GROUND FAULT RELAY	TYP	TYPICAL
GND	GROUND	U/F	UNDERFLOOR
GRS	GALVANIZED RIGID STEEL	U/G	UNDERGROUND
H	HEIGHT	UIS	UNDERSLAB
HID	HIGH INTENSITY DISCHARGE	UL	UNDERWRITERS LABORATORIES, INC.
HOA	HAND-OFF-AUTOMATIC	U.O.N.	UNLESS OTHERWISE NOTED
HP	HORSEPOWER	UPS	UNINTERRUPTIBLE POWER SUPPLY
HPS	HIGH PRESSURE SODIUM	VA	VOLT
HVAC	HEATING, VENTILATING AND AIR CONDITIONING	VAC	VOLTS-AMPERE
HZ	HERTZ	VOLTS ALTERNATING CURRENT	
IER	INTEGRATED EQUIPMENT RATING	WATT, WIDTH	
IG	ISOLATED GROUND	W/	WITH
IN.	INCH, INCHES	W/O	WITHOUT
J-BOX	JUNCTION BOX	WP	WEATHERPROOF DEVICE. RECEPTACLES SHALL BE WEATHER-RESISTANT TYPE GFI RECEPTACLES IN WEATHERPROOF WHILE IN-USE BOX.
kcmil	1000 CIRCULAR MILS	XFMR	TRANSFORMER
kV	KILOVOLT		
kVA	KILOVOLT-AMPS		
kVAR	KILOVOLT-AMPS REACTIVE		
kW	KILOWATT		
kWH	KILOWATT-HOUR		

ELECTRICAL EQUIPMENT	
	SWITCHBOARD OR DISTRIBUTION PANEL
	PANELBOARD - FLUSH OR SURFACE MOUNT AS INDICATED ON PLAN SCHEDULE
	DRY-TYPE TRANSFORMER
	PLYWOOD TERMINAL BOARD, FOR TELEPHONE SYSTEM UNLESS NOTED, 4' X 8' X 3/4" UNLESS OTHERWISE NOTED

MISCELLANEOUS	
	DRAWING NOTE REFERENCE (I.E., NOTES BY SYMBOL)
	THERMOSTAT OUTLET BOX
	CARD READER, INSTALL JUNCTION BOX AT 48" AFF WITH 3/4" CONDUIT TO ACCESSIBLE AREA ABOVE CEILING.
	MAGNETIC CONTACTOR, SIZE, COIL VOLTAGE AND NUMBER OF POLES AS INDICATED
	CLOSED CIRCUIT TELEVISION CAMERA

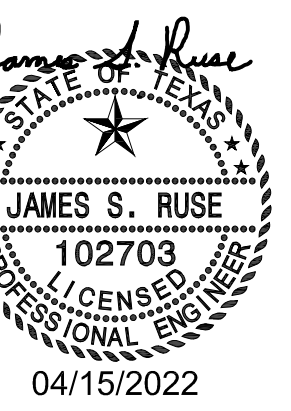
SPECIFIC EQUIPMENT CONNECTIONS	
	SUPPORT ELECTRICAL CONNECTION
	CIRCUIT DESIGNATION (PUMP-1)(5HP,16.7FLA)(208/3) INFORMATION PROVIDED (NAME)(LOAD)(VOLTAGE) (60/3/35)(3#10,1#10G,3/4"C)(30AMPS) CONNECTION (DISCONNECT)(WIRE)(FEEDER AMPS) PROVIDE 1/2"C TO FIRE ALARM PANEL. SPECIAL INSTRUCTIONS AND NOTES
	ALTERNATE NOTE BY SYMBOL FORMAT (PUMP-1)(5HP,16.7FLA)(208/3)(60/3/35)(3#10,1#10G,3/4"C)(30AMPS) PROVIDE 1/2"C TO FIRE ALARM PANEL. SPECIAL INSTRUCTIONS AND NOTES
	DISCONNECT ABBREVIATIONS: 30/3/NF = AMPS/POLES/FUSE W/JUNIT = PROVIDED WITH UNIT L/BKR = PROVIDE LOCKABLE CIRCUIT BREAKER REC = RECEPTACLE MRS = MOTOR RATED SWITCH LTS = TOGGLE SWITCH WITH LOCKING CLASP

DESIGN IS BASED ON INFORMATION PROVIDED BY OTHER DIVISIONS. CONTRACTOR SHALL CONFIRM EQUIPMENT PURCHASED MEETS BASIS OF DESIGN SHOWN. COST ASSOCIATED WITH CHANGES TO PROVIDED INFORMATION SHALL BE THE RESPONSIBILITY OF THE DIVISION PROVIDING THE EQUIPMENT. CONTRACTOR SHALL COORDINATE EXACT LOCATION AND DATA PRIOR TO ROUGH.

CODE SUMMARY	
GOVERNING CODES:	
BUILDING:	2015 INTERNATIONAL BUILDING CODE WITH CITY AMENDMENTS
ELECTRICAL:	2021 NATIONAL ELECTRICAL CODE WITH CITY AMENDMENT
FIRE:	2015 INTERNATIONAL FIRE CODE WITH CITY AMENDMENTS
ACCESSIBILITY:	2012 TEXAS ACCESSIBILITY STANDARDS
ENERGY:	2015 INTERNATIONAL ENERGY CONSERVATION CODE WITH CITY AMENDMENTS

- | GENERAL NOTES | |
|---------------|--|
| 1. | REFER TO SPECIFICATIONS FOR MATERIALS AND METHODS OF ELECTRICAL CONSTRUCTION. |
| 2. | COORDINATE THE EXACT LOCATION OF ALL THERMOSTATS, STARTERS, DISCONNECTS, ETC. AND COORDINATE ALL REQUIREMENTS FOR CONTROL AND POWER WIRING WITH THE MECHANICAL CONTRACTOR OR THE TRADE PROVIDING THE EQUIPMENT. |
| 3. | CONTRACTOR SHALL NOT UTILIZE SHARED NEUTRALS FOR ANY CIRCUIT WITH AFCI PROTECTION, AS SHARED NEUTRALS CAN CAUSE NUISANCE TRIPPING WITH AFCI PROTECTION. |
| 4. | ALL CONDUIT PENETRATIONS THROUGH THE ROOF TO SERVE MECHANICAL EQUIPMENT SHALL BE WITHIN THE ASSOCIATED EQUIPMENT ROOF CURB. COORDINATE LOCATIONS OF PENETRATIONS WITH THE MECHANICAL CONTRACTOR. |
| 5. | PROVIDE ACCESS DOORS IN WALLS AND CEILINGS WHERE ACCESS TO CONCEALED ELECTRICAL BOXES AND DEVICES IS REQUIRED. ALL ACCESS LOCATIONS ARE TO BE APPROVED BY ARCHITECT PRIOR TO INSTALL. |
| 6. | EACH BRANCH AND FEEDER CIRCUIT SHALL BE PROVIDED WITH A GROUND CONDUCTOR SIZED PER ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE (NFPA 70), WHERE A CONDUIT CONTAINS MULTIPLE BRANCH CIRCUITS, PROVIDE A SINGLE GROUND CONDUCTOR UNLESS OTHERWISE NOTED. |
| 7. | INTEGRATED EQUIPMENT RATINGS (AIC) SHOWN ARE MINIMUMS. CONTRACTOR SHALL PROVIDE MANUFACTURER'S EQUAL OR NEXT HIGHER STANDARD RATINGS. |
| 8. | ALL PULL CORD/WIRE PROVIDED FOR EMPTY RACEWAY/CONDUIT SYSTEMS SHALL HAVE A MINIMUM STRENGTH OF 200 LBS TENSILE STRENGTH. ALL EMPTY CONDUITS SHALL HAVE A PULL CORD. |
| 9. | PROVIDE LUGS AS REQUIRED FOR ALL ELECTRICAL EQUIPMENT TO ACCEPT THE SIZE AND NUMBER OF CONDUCTORS SHOWN IN THESE DOCUMENTS. |
| 10. | ALL CONDUCTORS SHALL BE THW/THHN UNLESS OTHERWISE INDICATED. CONDUCTORS SHALL BE RATED FOR 75 DEGREES C. TERMINATIONS SHALL BE RATED FOR 75 DEGREES C. DEVIATIONS SHALL COMPLY WITH NEC ARTICLE 110 FOR EXACT EQUIPMENT BEING PROVIDED. |
| 11. | THERE SHALL BE NO SPLICES OF WIRING INSIDE PANELBOARDS OR DISCONNECT SWITCHES. ONLY ONE WIRE SHALL BE TERMINATED TO ANY SINGLE LUG ON A CIRCUIT BREAKER. |
| 12. | UNLESS OTHERWISE NOTED, FOR HOMERUNS HAVING A TOTAL LENGTH OF 100' TO 200', USE #10 CONDUCTORS; FOR HOMERUNS HAVING A TOTAL LENGTH OF 200' OR GREATER, USE #8 CONDUCTORS. |
| 13. | COORDINATE THE REQUIREMENTS FOR OVERCURRENT PROTECTIVE DEVICE SIZE, DISCONNECT SWITCH SIZE, AND CONDUCTOR AND CONDUIT SIZES WITH THE REQUIREMENTS OF THE MECHANICAL EQUIPMENT THAT IS ACTUALLY TO BE INSTALLED, AND PROVIDE AND INSTALL ALL ELECTRICAL COMPONENTS AS REQUIRED. THE ELECTRICAL COMPONENT SIZING SHOWN ON THESE DRAWINGS IS BASED UPON THE REQUIREMENTS FOR THE SPECIFIED MECHANICAL EQUIPMENT AVAILABLE AT THE TIME OF DESIGN. VARIATIONS IN REQUIREMENTS MAY OCCUR AS A RESULT OF THE PROVISION OF OTHER MANUFACTURER'S EQUIPMENT OR IN CHANGES TO THE SPECIFIED EQUIPMENT. SUCH REVISED REQUIREMENTS ARE A PART OF THIS CONTRACT AND SHALL BE ACCOMMODATED WITHOUT ADDITIONAL CHARGE. |
| 14. | FOR COORDINATION PURPOSES, DEVICES MAY BE MOVED A MAXIMUM DISTANCE OF FIVE FEET, PRIOR TO INSTALLATION, AT NO COST TO THE OWNER, UPON INSTRUCTION BY THE ENGINEER. |
| 15. | REFER TO SPECIFICATIONS FOR FIRE CAULKING REQUIREMENTS. ALL PENETRATIONS THROUGH FIRE WALLS AND SMOKE BARRIERS SHALL BE SEALED IN ACCORDANCE WITH CODE REQUIREMENTS. |

POWER DEVICE SCHEDULE	
SYMBOL	DEVICE TYPE
	20A DUPLEX RECEPTACLE 18" AFF UNLESS NOTED OTHERWISE
	20A SIMPLEX RECEPTACLE 18" AFF UNLESS NOTED OTHERWISE
	20A QUADRAPLEX RECEPTACLE 18" AFF UNLESS NOTED OTHERWISE
	20A DUPLEX RECEPTACLE ABOVE COUNTER BACK SPLASH
	SPECIAL PURPOSE RECEPTACLE AS NOTED IN PLAN VIEWS
	FLOOR RECEPTACLE
	JUNCTION BOX FOR DIRECT CONNECTION AS NOTED IN PLAN VIEWS
	JUNCTION BOX FOR TELEPHONE OR DATA, PROVIDE 1"C WITH PULL STRING UP TO 6" ABOVE ACCESSIBLE CEILING LOCATION FOR WIRING BY OTHERS
	MOTOR LOCATION AS NOTED IN PLAN VIEWS
	DISCONNECT SWITCH - (200/3/150) DENOTES (AMPS/POLE/FUSE); "NF" DENOTES NON-FUSED, NEMA 1 ENCLOSURE UNLESS NOTED OTHERWISE
	COMBINATION STARTER DISCONNECT SWITCH - (200/3/150) DENOTES (AMPS/POLE/FUSE); "NF" DENOTES NON-FUSED, NEMA 1 ENCLOSURE UNLESS NOTED OTHERWISE, NEMA STARTER AS INDICATED IN PLAN VIEW
	MOTOR RATED SWITCH, MANUAL MOTOR STARTER WITH THERMAL OVERLOAD
	PUSH BUTTON CONTROL AS NOTED IN PLAN VIEW
GENERAL NOTES APPLY TO ALL DEVICES:	
1.	ALL DEVICES USED TO SUPPORT SPECIFIC EQUIPMENT PROVIDED BY OTHERS ARE TO BE COORDINATED WITH PROVIDER OF EQUIPMENT FOR NEMA PLUG CONFIGURATION AND WIRING.



**Tarrant County Plaza Building
Chiller Replacement**

Tarrant County Plaza
200 Taylor St., Fort Worth, TX 76102



JOB NUMBER:
P21175
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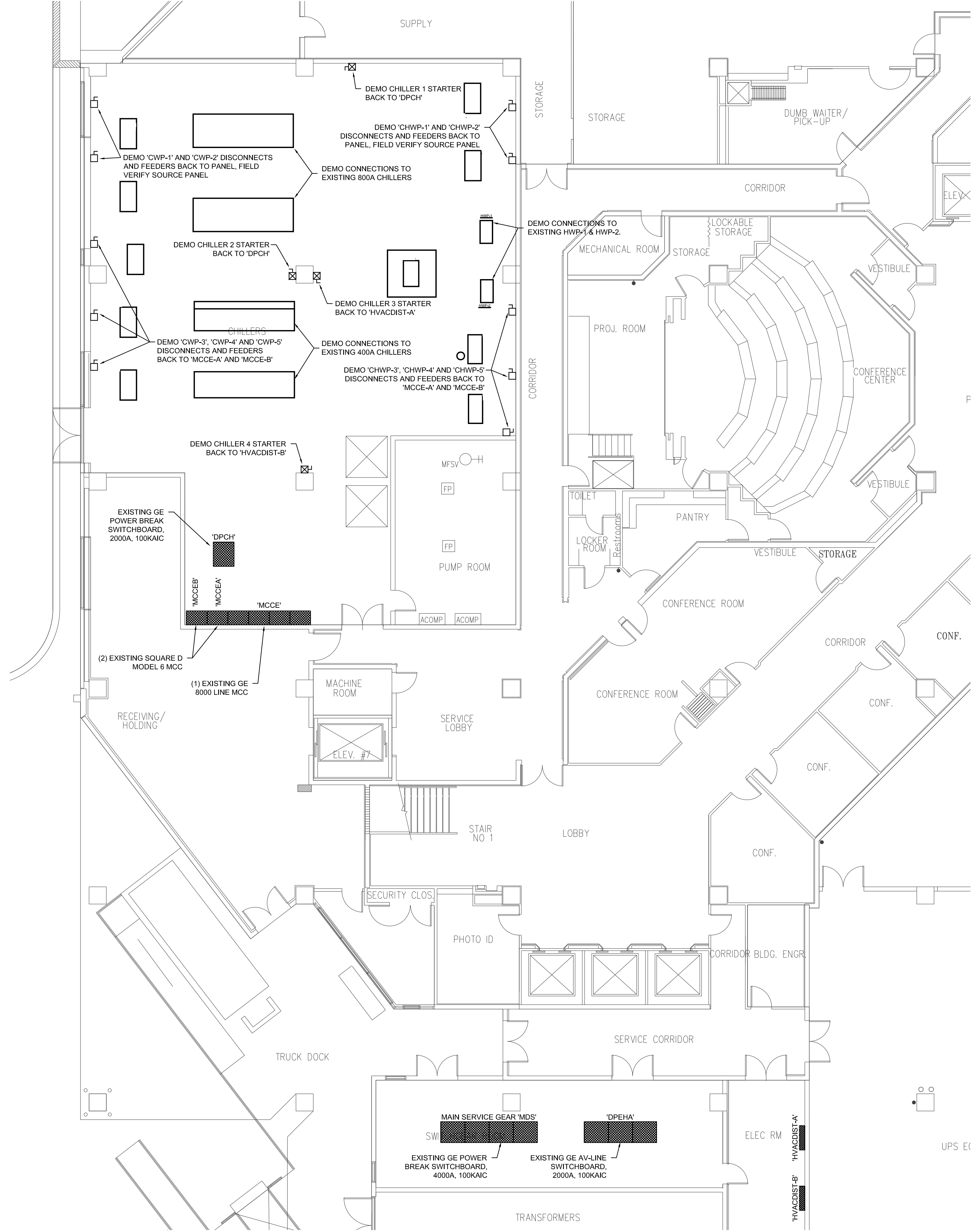
ISSUES:

REVISIONS:

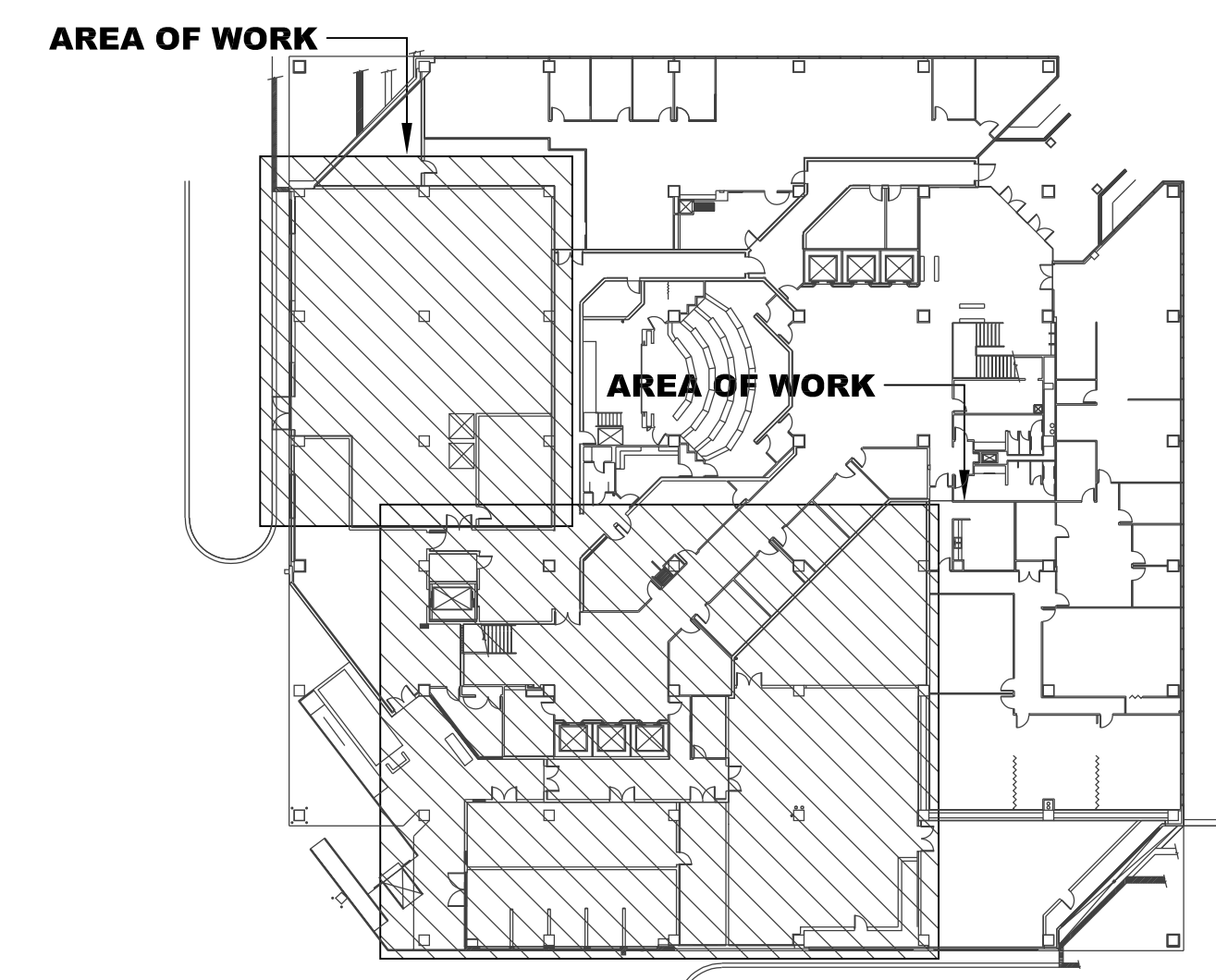
SHEET CONTENTS:
**LEVEL 1
CHILLER PLANT
POWER
DEMOLITION**

SHEET NUMBER:

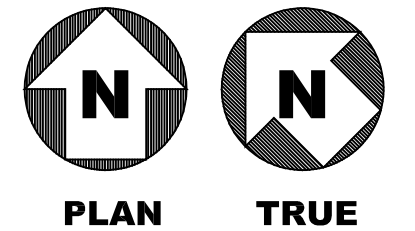
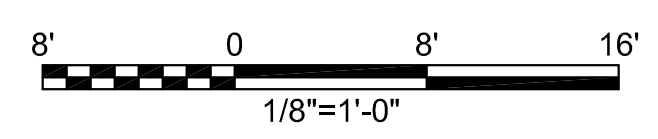
E101



1 PARTIAL LEVEL 1 CHILLER PLANT - DEMOLITION
SCALE: 1/8" = 1'-0"

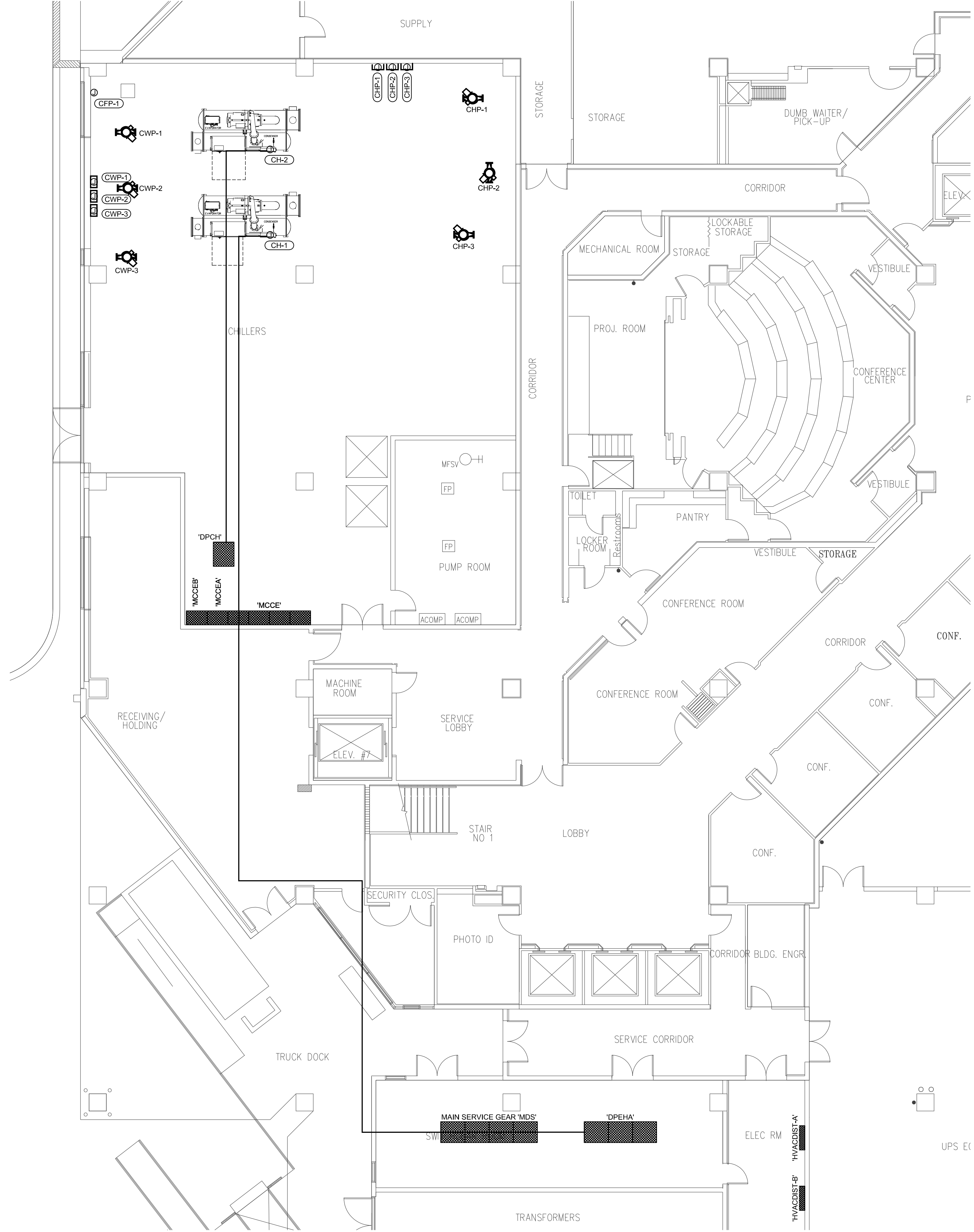


LEVEL 1 KEY PLAN



S:\P21175 - Plaza Bldg Chiller\Elec\P21175-2E101.dwg - 2E101 04/19/22 08:56:22 Annette.Schonbaum
SHEET SIZE = ARCH D 24x36

S:\P2175 - Plaza Bldg Chiller\Elec\P21175-2E201.dwg, 2E201 04/19/22 07:58:14 Annette.Schonbaum



1 PARTIAL LEVEL 1 CHILLER PLANT - RENOVATION
SCALE: 1/8" = 1'-0"

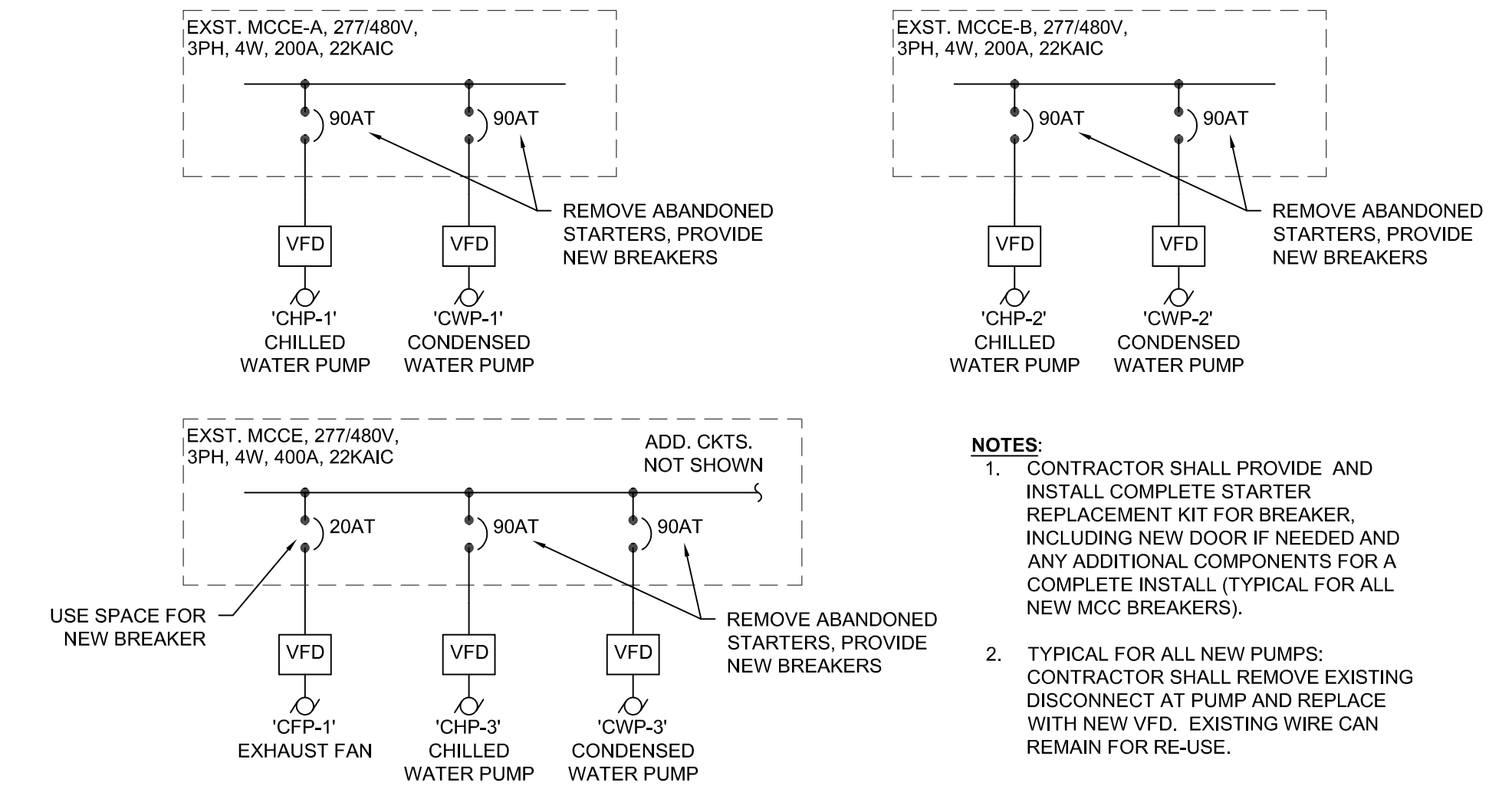
EQUIPMENT SCHEDULE BY SYMBOL					
SYMBOL	INFORMATION PROVIDED (NAME)(LOAD)(VOLTAGE)	CONNECTION (DISCONNECT)(WIRE)(FEEDER AMPS)	SOURCE	NOTES	
CH-1	(CH-1)(553MCA,800MCCP,442FLA)(480/3)	(2-SETS OF(3#350,1#10G,3"C))	DPCH	VFD BY OTHERS.	
CH-2	(CH-2)(553MCA,800MCCP,442FLA)(480/3)	(2-SETS OF(3#350,1#10G,3"C))	DPEHA	VFD BY OTHERS.	
CHP-1	(CHP-1)(50HP,65FLA)(480/3)	(W/UNIT)(3#3,1#6G,1-1/4"C)	MCCE-A	VFD BY OTHERS.	
CHP-2	(CHP-2)(50HP,65FLA)(480/3)	(W/UNIT)(3#3,1#6G,1-1/4"C)	MCCE-B	VFD BY OTHERS.	
CHP-3	(CHP-3)(50HP,65FLA)(480/3)	(W/UNIT)(3#3,1#6G,1-1/4"C)	MCCE	VFD BY OTHERS.	
CWP-1	(CWP-1)(50HP,65FLA)(480/3)	(W/UNIT)(3#3,1#6G,1-1/4"C)	MCCE-A	VFD BY OTHERS.	
CWP-2	(CWP-2)(50HP,65FLA)(480/3)	(W/UNIT)(3#3,1#6G,1-1/4"C)	MCCE-B	VFD BY OTHERS.	
CWP-3	(CWP-3)(50HP,65FLA)(480/3)	(W/UNIT)(3#3,1#6G,1-1/4"C)	MCCE	VFD BY OTHERS.	
CFP-1	(CFP-1)(2HP,3.4FLA)(480/3)	(30/3NF)(3#12,1#12G,3/4"C)	MCCE		

GENERAL NOTES APPLY TO ALL:

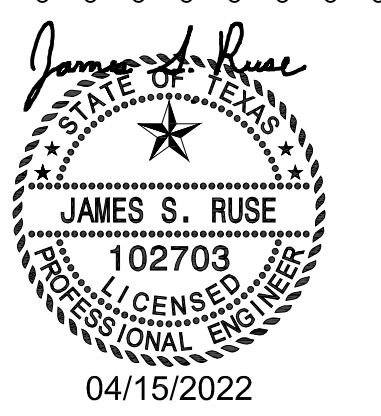
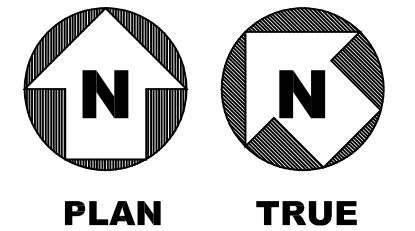
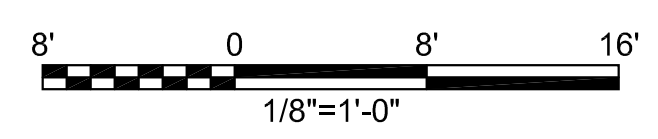
- UNLESS OTHERWISE NOTED, ALL SWITCHBOARDS, PANELBOARDS AND MOTOR CONTROL CENTERS ARE EXISTING TO REMAIN.
- BREAKER SIZES ARE SHOWN ON SWITCHBOARD SCHEDULES AND SINGLE LINE DIAGRAM. VERIFY ACTUAL EQUIPMENT LOADS AND CONNECTION REQUIREMENTS WITH EQUIPMENT BEING PROVIDED.
- RE-LABEL ALL BREAKERS WITH NAME OF NEW EQUIPMENT SERVED BY BREAKER. LABEL ABANDONED BREAKERS AS SPARES.
- ROUTE FEEDERS OVERHEAD TO POWER SOURCE.

EXISTING SWITCHBOARD 'DPEHA'											
CIRCUIT INFORMATION		CONNECTED LOAD (KVA)								TOTAL CONNECTED LOAD	
NO.	DESCRIPTION	LIGHTING	RECEP.	MOTORS	SPACE HEAT	COOK. EQUIP.	COOLG. EQUIP.	OTHER	SPARE & SPACE	KVA	AMPS
1	SPARE									0	0
2	SPARE									0	0
3	SPARE									0	0
4	1EAH							41.55		42	51
5	EGF-1							41.55		42	51
6	4EHB							41.55		42	51
7	TR-1EA							20.775		21	25
8	1EHB							41.55		42	51
9	EXISTING							166.2		166	200
10	DPEHA							166.2		166	200
11	REHA							41.55		42	51
12	4EMA							41.55		42	51
13	2EH							93.4875		93	112
14	SPARE									0	0
15	SPARE									0	0
16	ELEV 7							41.55		42	51
17	PREACTION							6.2325		6	7
18	MCC							166.2		166	200
19	SPARE									0	0
20	ATS-FP							332.4		332	399
21	CH-1 (EXST BKR)									367	441
22	SPARE									0	0
TOTALS		0	0	367	6885	0	0	1242	0	1611	1941
FACTOR		1.25	1.00	0.60		1.00	1.00	1.00	0.50	SUMMARY	
TOT. DES. LOAD		0	0	220		0	0	1242	0	VOLTAGE: 480	
WATTS PER SF		0.00	0.00	0.00		0.00	0.00	0.00	0.00	MAINS: MCB	
DATE: 04/19/22		JOB #:		JOB NAME:		BY:		FAULT CURRENT RATING:		SIZE: 2000	
		P21175		TARRANT CTY PLAZA CHILLER REP		TAC		100,000 AIC			

EXISTING SWITCHBOARD 'DPCH'											
CIRCUIT INFORMATION		CONNECTED LOAD (KVA)								TOTAL CONNECTED LOAD	
NO.	DESCRIPTION	LIGHTING	RECEP.	MOTORS	SPACE HEAT	COOK. EQUIP.	COOLG. EQUIP.	OTHER	SPARE & SPACE	KVA	AMPS
1	SPARE									0	0
2	CH-2 (EXST BKR)									367	441
3	MCCE							166.2		166	200
TOTALS		0	0	367	2000	0	0	166	0	533	641
FACTOR		1.25	1.00	0.60		1.00	1.00	1.00	0.50	SUMMARY	
TOT. DES. LOAD		0	0	220		0	0	166	0	VOLTAGE: 480	
WATTS PER SF		0.00	0.00	0.00		0.00	0.00	0.00	0.00	MAINS: MCB	
DATE: 04/19/22		JOB #:		JOB NAME:		BY:		FAULT CURRENT RATING:		SIZE: 2000	
		P21175		TARRANT CTY PLAZA CHILLER REP		TAC		100,000 AIC			



2 EXISTING MOTOR CONTROL CENTERS SINGLE LINE DIAGRAMS
SCALE: NTS



**Tarrant County Plaza Building
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200 Taylor St., Fort Worth, TX 76102



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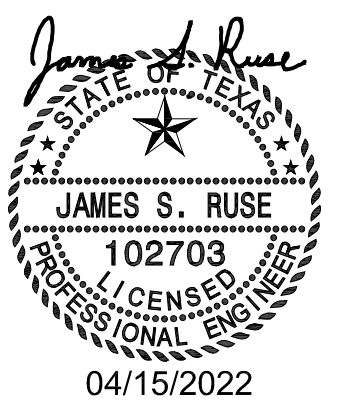
ISSUES:

REVISIONS:

SHEET CONTENTS:
**LEVEL 1
CHILLER PLANT
POWER
RENOVATION**

SHEET NUMBER:

E201



**Tarrant County Plaza Building
Chiller Replacement**



JOB NUMBER: P21175
DATE ISSUED: APRIL 15, 2022

ISSUES:

REVISIONS:

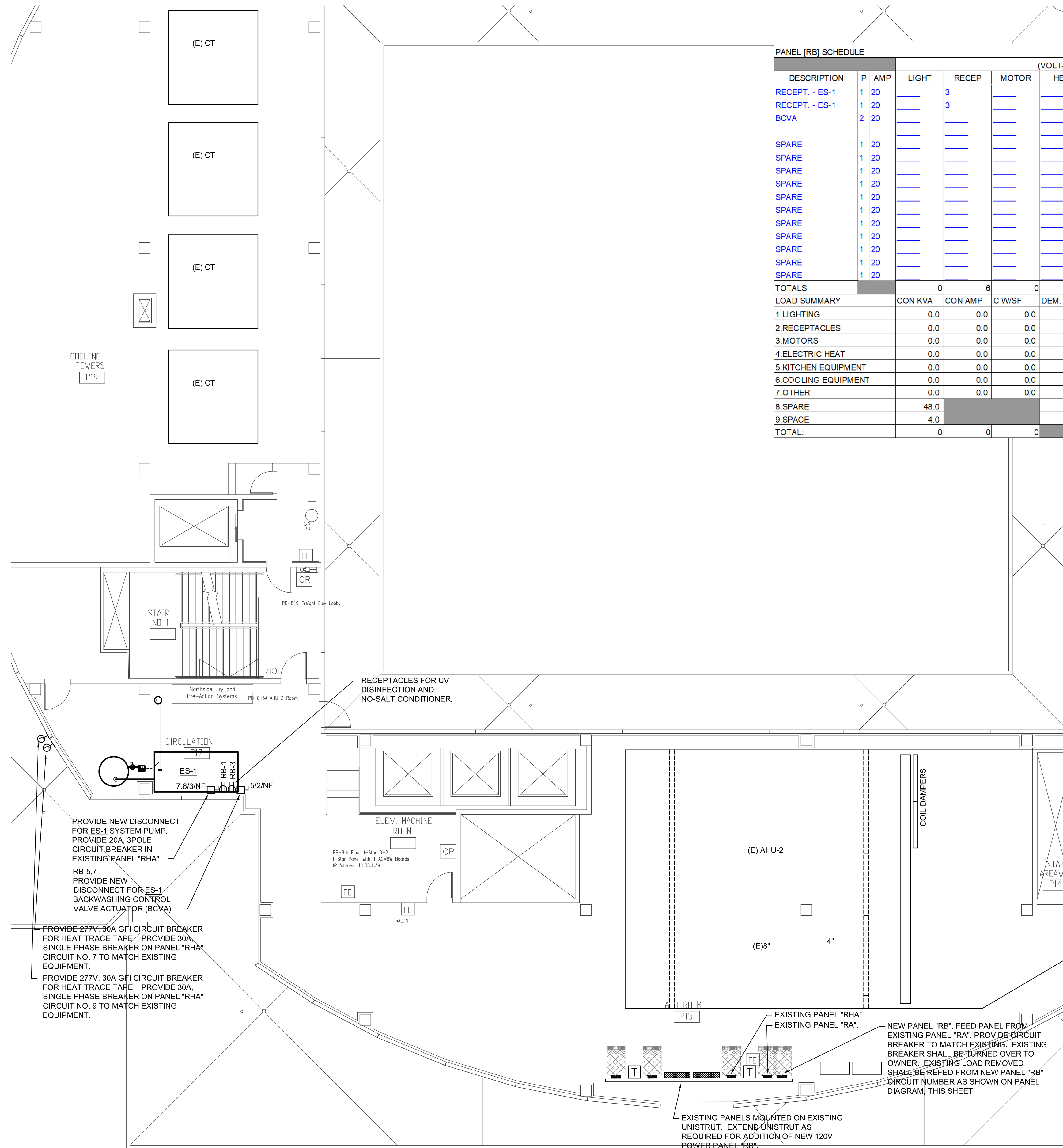
SHEET CONTENTS:
**LEVEL 8
CHILLER PLANT
POWER
RENOVATION**

SHEET NUMBER:

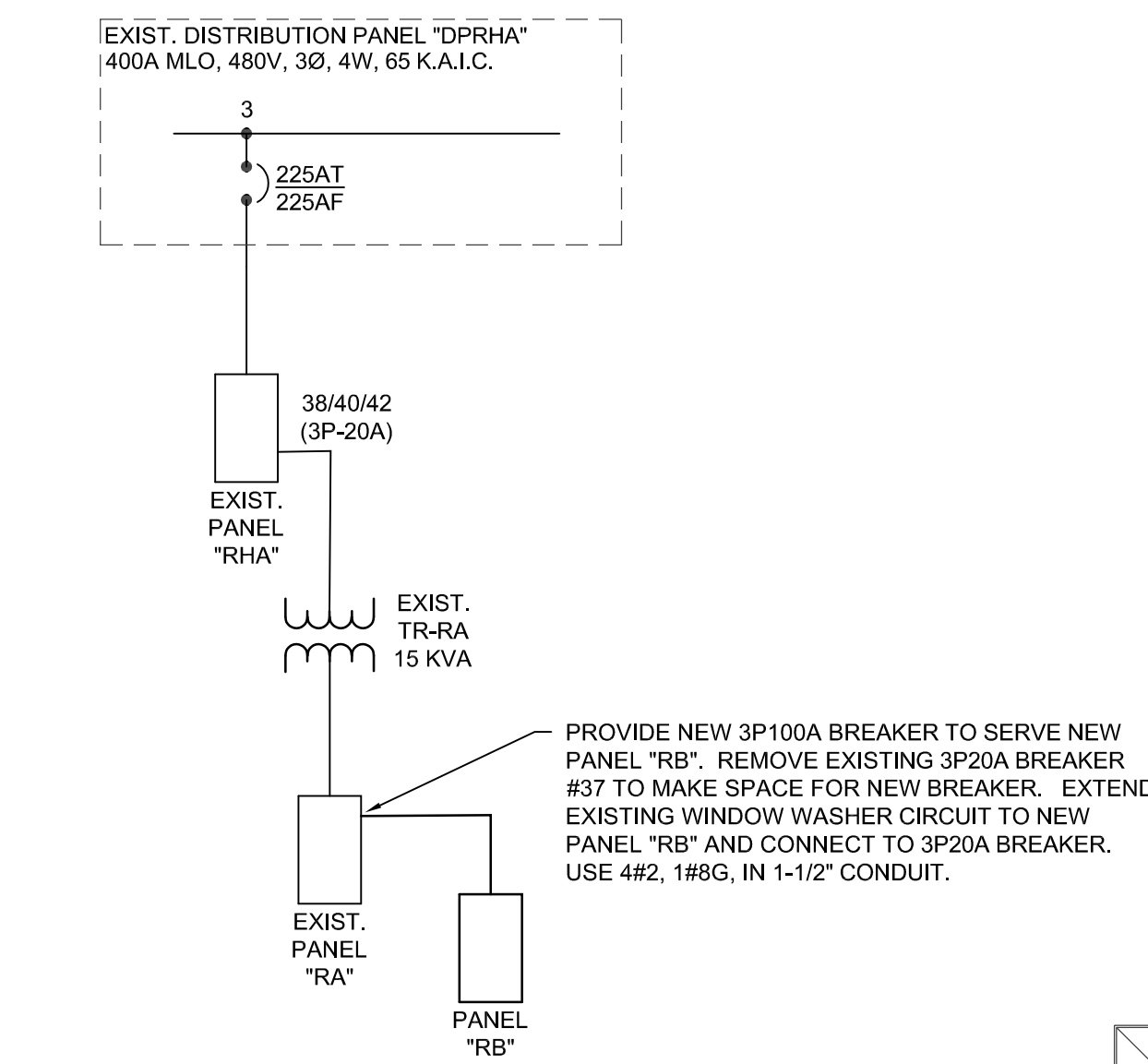
E202

MARK	GPM	SYSTEM PUMP MOTOR DATA					BACKWASHING CONTROL VALVE ACTUATOR			ULTRAVIOLET DISINFECTION			NO-SALT CONDITIONER			MANUFACTURER AND MODEL NUMBER
		No.	AMP	RPM	V	PH	V	PH	AMP	V	PH	AMP	V	PH	AMP	
ES-1	235	1	7.6	3500	460	3	220	1	<5	120	1	2.6	120	1	3	EASYWATER CTF-235

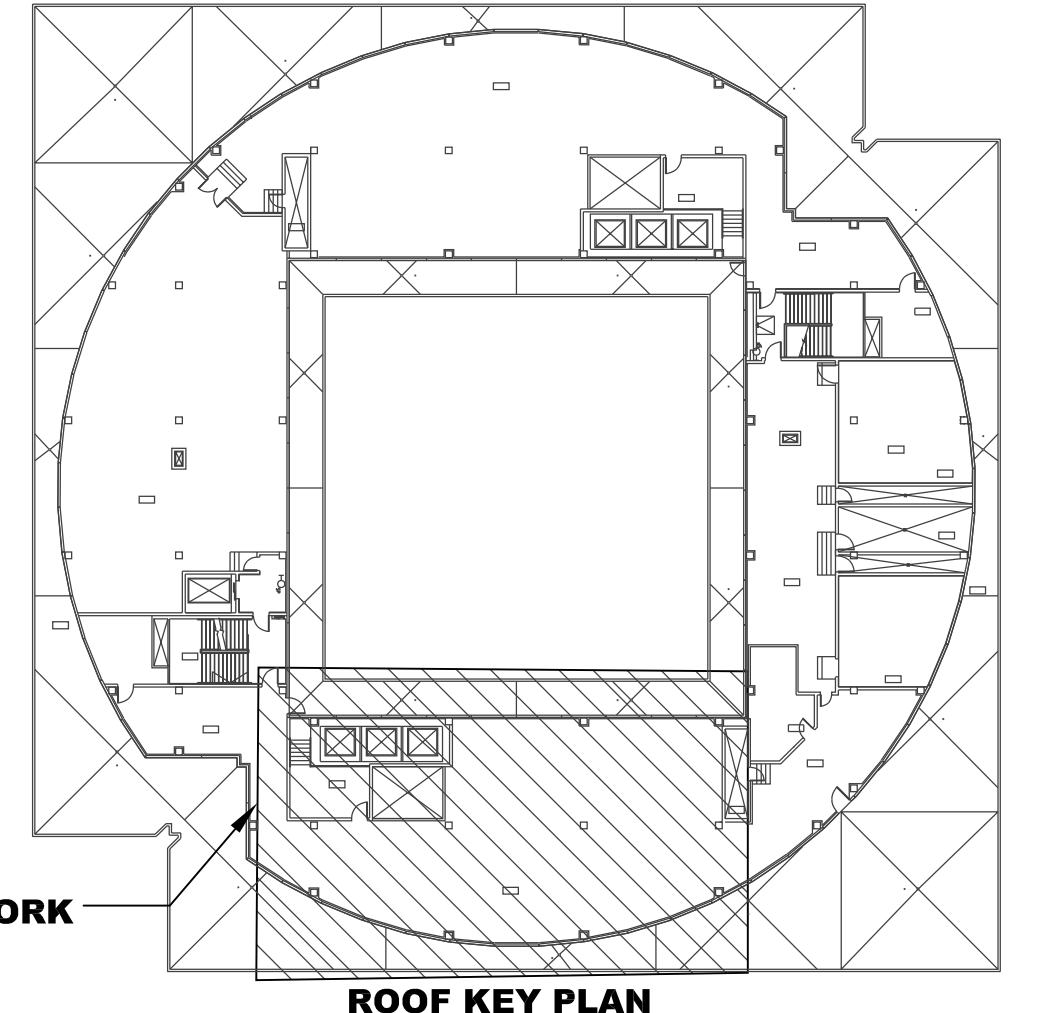
PANEL [RB] SCHEDULE														AREA (SF)	DESCRIPTION																																			
DESCRIPTION	P	AMP	LIGHT	RECEP	MOTOR	HEAT	KITCH	COOLING	OTHER	PHASE	CIRCUIT	OTHER	COOLING	KITCH		HEAT	MOTOR	RECEP	LIGHT	P	AMP																													
RECEPT. - ES-1	1	20		3						1	A 2								3	20	EXIST. WINDOW WASHER - NW																													
RECEPT. - ES-1	1	20		3						3	B 4																																							
BCVA	2	20								3	C 6																																							
SPARE	1	20								3	A 8								1	20	SPARE																													
SPARE	1	20									B 10								1	20	SPARE																													
SPARE	1	20									C 12								1	20	SPARE																													
SPARE	1	20									A 14								1	20	SPARE																													
SPARE	1	20									B 16								1	20	SPARE																													
SPARE	1	20									C 18								1	20	SPARE																													
SPARE	1	20									A 20								1	20	SPARE																													
SPARE	1	20									B 22								1	20	SPARE																													
SPARE	1	20									C 24								1	20	SPARE																													
SPARE	1	20									A 26								1	20	SPARE																													
SPARE	1	20									B 28								1	20	SPARE																													
SPARE	1	20									C 30								1	20	SPARE																													
TOTALS				0	6	0	0	0	0	6									0	0	TOTALS																													
LOAD SUMMARY											CON KVA				CON AMP				C W/SF				DEM. FAC				DEM KVA				DEM AMP				D W/SF				NOTES:				JOB NM:				SUMMARY			
1. LIGHTING											0.0				0.0				0.0				1.25				0.0				0.0				0.0				1. MINIMUM INTEGRATED EQUIPMENT RATING											
2. RECEPTACLES											0.0				0.0				0.0				1.00				0.0				0.0				10KAIC (208V) & 14KAIC (480V)															
3. MOTORS											0.0				0.0				1.00				0.0				0.0				2. PROVIDE FULL SIZE NEUTRAL AND GROUND																			
4. ELECTRIC HEAT											0.0				0.0				1.00				0.0				0.0				BUS																			
5. KITCHEN EQUIPMENT											0.0				0.0				0.0				1.00				0.0				0.0																			
6. COOLING EQUIPMENT											0.0				0.0				0.0				1.00				0.0				0.0																			
7. OTHER											0.0				0.0				0.0				1.00				0.0				0.0																			
8. SPARE											48.0								0.50				24.0				66.6				0.0																			
9. SPARE											4.0								0.50				2.0				5.6				0.0																			
TOTAL:											0				0				0				28				72				0																			



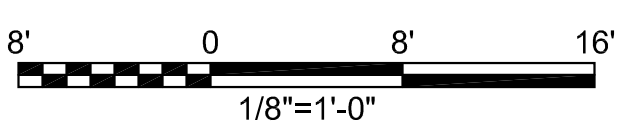
1 PARTIAL LEVEL 8 CHILLER PLANT - RENOVATION
SCALE: 1/8" = 1'-0"



2 EXISTING SINGLE LINE DIAGRAM
SCALE: NTS



AREA OF WORK
ROOF KEY PLAN
PLAN TRUE



S:\P21\75 - Plaza Bldg Chiller\EPlan\P21175-2E202.dwg - 2E202 04/19/22 08:06:49 Annette.Schonbaum SHEET SIZE = ARCHD 24x36