DRAWING INDEX

PROJECT DRAWING INDEX	
SHEET NUMBER	**SHEET TITLE**
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M302	HVAC ENLARGED PLANS - NORTH MER NEW WORK
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E001	ELECTRICAL GENERAL INFORMATION
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GENERAL NOTES

1. CONTRACTOR SHALL COORDINATE LAY DOWN AREAS WITH OWNER AND ENGINEER PRIOR TO MOBILIZATION.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF ANY AND ALL EQUIPMENT AND ETC. DEMOLISHED DURING CONSTRUCTION.
3. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING DELIVERY OF NEW CHILLERS PREPURCHASED BY FCCFA.

Greater Columbus Convention Center North Facility Chiller Replacement - 2023-5

400 North High Street Columbus, OH 43215

PROJECT DESCRIPTION

THIS PROJECT CONSISTS OF MECHANICAL, HVAC CONTROLS, PLUMBING, & ELECTRICAL WORK REQUIRED FOR THE INSTALLATION OF THREE REPLACEMENT CHILLERS SERVING THE GREATER COLUMBUS CONVENTION CENTER'S NORTH FACILITY AND CORRESPONDING PUMPS ASSOCATED WITH THE CHILLED WATER SYSTEM AS CALLED OUT IN THE DRAWINGS AND PROJECT MANUAL SPECIFCATIONS.

PROJECT LOCATION

VICINITY MAP: LOCAL / CAMPUS

GOVERNING REGULATIONS

OHIO BUILDING CODE 2017

OHIO MECHANICAL CODE.....2017

OHIO PLUMBING CODE.....2017

NATIONAL ELECTRICAL CODE NFPA 70.....2017

INTERNATIONAL ENERGY CONSERVATION CODE.....2012

ASHRAE 90.1.....2010

OHIO FIRE CODE.....2017

PROJECT TEAM

PROJECT MANAGER - COLE PARKINSON

MECHANICAL ENGINEER - PAUL COYNE

ELECTRICAL ENGINEER - JEFF EVERS

CMTA
A LEGENCE Company

BUILDING SCIENCE LEADERSHIP

FRANKLIN COUNTY CONVENTION FACILITIES AUTHORITY

400 North High Street, 4th Floor
Columbus, Ohio 43215

GREATER COLUMBUS CONVENTION CENTER

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REGISTRATION

ISSUE / REVISION

#	Date	Description
1	10/25/2023	BID SET

NOT FOR CONSTRUCTION

PROJECT NUMBER
OCCC23

SHEET TITLE
COVER SHEET

SHEET NUMBER
G001

MECHANICAL SYMBOLS LIST

NOTE: NOT ALL SYMBOLS MAY BE USED.

SYMBOL	DESCRIPTION
H	HUMIDISTAT WITH ADJUSTABLE CONTROL
T	THERMOSTAT WITH ADJUSTABLE CONTROL
H	HUMIDITY SENSOR
T	TEMPERATURE SENSOR
H2	HYDROGEN SENSOR
CO2	CARBON DIOXIDE SENSOR
CO	CARBON MONOXIDE SENSOR
NO2	NITROGEN DIOXIDE SENSOR
OS	OCCUPANCY SENSOR
1	KEYNOTE (SEE LEGEND ON SHEET)
1	REVISION TRIANGLE
	AIRFLOW ARROW
	FLOW ARROW
	CONNECT TO EXISTING
	END OF DEMOLITION
	PIPE CAPPED
	PIPE DROP
	PIPE RISE
	PIPE TEE DOWN
	PIPE TEE UP
	PIPE REDUCER
	PIPE UNION
	PIPE GUIDES OR SLEEVES
	PIPE ANCHOR
	FLEXIBLE PIPE CONNECTION
	GENERAL SERVICE VALVE (SEE SPECIFICATIONS FOR VALVE TYPE PER APPLICATION)
	CHECK VALVE (ARROW INDICATES DIRECTION OF FLOW)
M	MANUAL BALANCING VALVE
A	AUTOMATIC BALANCING VALVE
	TWO-WAY CONTROL VALVE
	THREE-WAY CONTROL VALVE
PICBV	TWO-WAY PRESSURE INDEPENDENT CONTROL AND BALANCE VALVE
	PRESSURE REDUCING VALVE
	STEAM PRESSURE REGULATING VALVE
	RELIEF VALVE
	DRAIN VALVE WITH THREADED HOSE CONNECTION
	REDUCED PRESSURE BACKFLOW PREVENTER
	PRESSURE GAUGE WITH STOPCOCK
	STRAINER WITH BLOW DOWN VALVE
AV	AUTOMATIC AIR VENT
MAV	MANUAL AIR VENT
	TEMPERATURE/PRESSURE TEST PLUG (PETE'S PLUG)
	SIGHT FLOW INDICATOR
	STEAM TRAP
CO CO	CLEAN OUT
	FLOW METER
	THERMOMETER
	PITCH DOWN IN DIRECTION OF ARROW

WALL RATING LEGEND

	FIRE RESISTIVE RATED WALLS, 1 HOUR
	FIRE RESISTIVE RATED WALLS, 2 HOUR
	FIRE RATED, SMOKE BARRIER WALLS, 1 HOUR
	FIRE RATED, SMOKE BARRIER WALLS, 2 HOUR

MECHANICAL SYMBOLS LIST CONT.

NOTE: NOT ALL SYMBOLS MAY BE USED.

SYMBOL	DESCRIPTION
	TERMINAL BOXES VAV TERMINAL BOX (WITH REHEAT) VAV TERMINAL BOX (NO REHEAT)
	TERMINAL BOX NOTES 1. IF MIN COOLING CFM IS NOT SHOWN ON PLANS, THEN MIN COOLING CFM IS EQUAL TO 65% OF MAX COOLING CFM. 2. HEATING CFM IS EQUAL TO MIN COOLING CFM.
	DUCTWORK PLANS TAG / MAX COOLING CFM / MIN COOLING CFM
	PIPING PLANS TAG
	TAG EXAMPLES: DUCTWORK PLANS: TB1 / 500/200; TB1 / 500. PIPING PLANS: TB1
	SUPPLY AND OUTDOOR AIR RECTANGULAR DUCT ELBOW UP OVAL DUCT ELBOW UP ROUND DUCT ELBOW UP
	RETURN, RELIEF, AND EXHAUST AIR RECTANGULAR DUCT ELBOW UP OVAL DUCT ELBOW UP ROUND DUCT ELBOW UP
	SUPPLY AND OUTDOOR AIR RECTANGULAR DUCT ELBOW DOWN OVAL DUCT ELBOW DOWN ROUND DUCT ELBOW DOWN
	RETURN, RELIEF, AND EXHAUST AIR RECTANGULAR DUCT ELBOW DOWN OVAL DUCT ELBOW DOWN ROUND DUCT ELBOW DOWN
	NEW WORK DUCTWORK
	EXISTING DUCTWORK
	DEMOLITION DUCTWORK
	NEW WORK PIPING
	EXISTING PIPING
	DEMOLISHED PIPING
	SUPPLY DIFFUSER WITH FLEXIBLE DUCT TAG - NECK SIZE / AIRFLOW (CFM) — TAG EXAMPLE: S1-6ø / 100
	SUPPLY DIFFUSER TAG - NECK SIZE / AIRFLOW (CFM) — TAG EXAMPLE: S1-6ø / 100
	RETURN/EXHAUST GRILLE TAG / AIRFLOW (CFM) — TAG EXAMPLE: R1 / 500, E1 / 500
	SIDEWALL SUPPLY DIFFUSER TAG - NECK SIZE / AIRFLOW (CFM) — TAG EXAMPLE: S2-12x8 / 100
	SIDEWALL RETURN/EXHAUST GRILLE TAG / AIRFLOW (CFM) — TAG EXAMPLE: R2 / 100, E2 / 100
BDD	DAMPERS/DUCT ACCESSORIES BDD: BACKDRAFT DAMPER FSD: FIRE/SMOKE DAMPER FD: FIRE DAMPER MD: MOTORIZED DAMPER SD: SMOKE DAMPER VD: VOLUME DAMPER SB: SECURITY BARS
	NEW WORK MECHANICAL EQUIPMENT (WITH CLEARANCE SHOWN)
	EXISTING MECHANICAL EQUIPMENT
	DEMOLISHED MECHANICAL EQUIPMENT
	GENERIC FAN
	GENERIC PUMP
	ACCESS DOOR

MECHANICAL ABBREVIATIONS

NOTE: NOT ALL ABBREVIATIONS MAY BE USED.

ABBREVIATION	DESCRIPTION
(D)	EXISTING TO BE DEMOLISHED
(E)	EXISTING TO REMAIN
(F)	FUTURE
AFF	ABOVE FINISHED FLOOR
AMB	AMBIENT
APD	AIR PRESSURE DROP
AVG	AVERAGE OR AVERAGING
BAS	BUILDING AUTOMATION SYSTEM
BFP	BACKFLOW PREVENTOR
BHP	BRAKE HORSEPOWER
BLDG	BUILDING
BOB	BOTTOM OF BEAM
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
BOS	BOTTOM OF STRUCTURE
BTUH	BRITISH THERMAL UNITS PER HOUR
CFM	CUBIC FEET PER MINUTE
CL	CENTER LINE
CO	CLEAN OUT
COMPR	COMPRESSOR
COP	COEFFICIENT OF PERFORMANCE
CV	CONSTANT VOLUME
DB	DRY BULB
DDC	DIRECT DIGITAL CONTROLS
DN	DOWN
EAT	ENTERING AIR TEMPERATURE
ECM	ELECTRONICALLY COMMUTATED MOTORS
EER	ENERGY EFFICIENCY RATIO
EFF	EFFICIENCY
EG	ETHYLENE GLYCOL
ESP	EXTERNAL STATIC PRESSURE
EWT	ENTERING WATER TEMPERATURE
FLA	FULL LOAD AMPS
FPI	FINS PER INCH
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FT	FEET
GAL	GALLONS
GPM	GALLONS PER MINUTE
HD	HEAD
HP	HORSEPOWER
ID	INNER DIAMETER
IPLV	INTEGRATED PART LOAD VALUE
KW	KILOWATTS
LAT	LEAVING AIR TEMPERATURE
LWT	LEAVING WATER TEMPERATURE
MBH	THOUSAND BTUH
MCA	MINIMUM CIRCUIT AMPACITY
MFR	MANUFACTURER
MOCP	MAXIMUM OVERCURRENT PROTECTION
N/A	NOT APPLICABLE
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
NPLV	NON-STANDARD PART LOAD VALUE
NPSH	NET POSITIVE SUCTION HEAD
NTS	NOT TO SCALE
OD	OUTSIDE DIAMETER
PD	PRESSURE DROP
PG	PROPYLENE GLYCOL
PPH	POUNDS PER HOUR
PPM	PARTS PER MILLION
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
REFRIG	REFRIGERANT
RH	RELATIVE HUMIDITY
RPM	REVOLUTIONS PER MINUTE
SEER	SEASONAL ENERGY EFFICIENCY RATIO
SP	STATIC PRESSURE
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VAV	VARIABLE AIR VOLUME
VFD	VARIABLE FREQUENCY DRIVE
VOC	VOLATILE ORGANIC COMPOUNDS
VRF	VARIABLE REFRIGERANT FLOW
W	WATTS
WB	WET BULB
WG	WATER GAUGE
WPD	WATER PRESSURE DROP

MECHANICAL SYSTEM TYPES AND ABBREVIATIONS

NOTE: NOT ALL ABBREVIATIONS MAY BE USED.

ABBREVIATION	DESCRIPTION
CHR	CHILLED WATER RETURN
CHS	CHILLED WATER SUPPLY
CWR	CONDENSER WATER RETURN
CWS	CONDENSER WATER SUPPLY
D	DRAIN
EA	EXHAUST AIR
GR	GEOTHERMAL RETURN
GS	GEOTHERMAL SUPPLY
HR	HEAT PUMP RETURN
HS	HEAT PUMP SUPPLY
HWR	HEATING HOT WATER RETURN
HWS	HEATING HOT WATER SUPPLY
MW	MAKEUP WATER - GENERIC
OA	OUTDOOR AIR
PC	PUMPED CONDENSATE
RA	RETURN AIR
REF	REFRIGERANT
REL	RELIEF AIR
SA	SUPPLY AIR
V	VENT

MECHANICAL STEAM SYSTEM TYPES AND ABBREVIATIONS

NOTE: NOT ALL ABBREVIATIONS MAY BE USED.

ABBREVIATION	DESCRIPTION
BBD	STEAM BOILER BOTTOM BLOWDOWN
BD	STEAM BOILER BLOWDOWN
BFW	STEAM BOILER FEEDWATER
CBD	STEAM BOILER CONTINUOUS BLOWDOWN
CF	CHEMICAL FEED
CLPS(PSI)	CLEAN LOW PRESSURE STEAM (PSI)
HPC	HIGH PRESSURE STEAM CONDENSATE
HPS(PSI)	HIGH PRESSURE STEAM (PSI) = 60 PSI AND ABOVE
LPC	LOW PRESSURE STEAM CONDENSATE
LPS(PSI)	LOW PRESSURE STEAM (PSI) = 15 PSI AND BELOW
MPC	MEDIUM PRESSURE STEAM CONDENSATE
MPS(PSI)	MEDIUM PRESSURE STEAM (PSI) = 16 PSI - 59 PSI
PSC	PUMPED STEAM CONDENSATE
SV	STEAM VENT
VSC	VACUUM STEAM CONDENSATE

MECHANICAL CONTROLS SYMBOLS LIST

NOTE: NOT ALL SYMBOLS MAY BE USED.

SYMBOL	DESCRIPTION
AF	AIR FLOW MEASURING DEVICE
AS	AIR SWITCH
CT	CONDUCTIVITY TRANSMITTER
CS	CURRENT SENSOR
DP	DIFFERENTIAL PRESSURE TRANSMITTER
EPT	ELECTRONIC PNEUMATIC TRANSDUCER
ES	END SWITCH
FM	FLOW METER
HOA	HAND-OFF-AUTO SWITCH
LT	LEVEL TRANSMITTER
M	METER
PHT	PH TRANSMITTER
PS	PRESSURE SWITCH
PT	PRESSURE TRANSMITTER
SD	SMOKE DETECTOR
	STARTER
TS	TEMPERATURE SWITCH
VFD	VARIABLE FREQUENCY DRIVE
VT	VIBRATION TRANSMITTER
FS	WATER FLOW SWITCH

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MECHANICAL GENERAL NOTES

1. VISIT THE SITE OF THE WORK TO GAIN AN ACCEPTABLE KNOWLEDGE OF CONDITIONS AFFECTING THE EXECUTION OF THE WORK. AFTER VISITING THE SITE, REQUEST SUCH INFORMATION AND/OR CLARIFICATIONS AS NECESSARY TO FULLY UNDERSTAND THE WORK REQUIRED AND TO PROPERLY ESTIMATE COSTS.
2. REVIEW ALL DRAWINGS TO VERIFY EXTENT AND SCHEDULING OF ALL DEMOLITION ACTIVITIES PRIOR TO COMMENCING DEMOLITION WORK. FIELD VERIFY ALL SIZES AND LOCATIONS OF EXISTING DUCTWORK AND PIPING TO REMAIN. NOTIFY ARCHITECT/ENGINEER OF DEVIATIONS WHICH AFFECT RENOVATION WORK PRIOR TO PROCEEDING WITH THE WORK. COORDINATE DISPOSAL/SALVAGE OF ALL FIXTURES, DEVICES, EQUIPMENT, ETC. (INDICATED FOR DEMOLITION) WITH THE OWNER.
3. ITEMS NOTED TO BE DEMOLISHED INCLUDES BUT IS NOT LIMITED TO ALL ASSOCIATED COMPONENTS, CONTROL WIRING, PIPING, DUCTWORK, ELECTRICAL CONNECTIONS, SUPPORTS, INSULATION, ETC. COORDINATE WITH OTHER TRADES AS REQUIRED.
4. ALL WORK IS TO BE PHASED AS INDICATED ON THE ARCHITECTURAL DRAWINGS. CONTRACTOR SHALL COORDINATE PHASING OF ALL DEMOLITION, RENOVATION, AND NEW WORK WITH OTHER TRADES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE AND PHASE ALL TIE-INS AND INTERRUPTIONS OF EXISTING SERVICES TO MINIMIZE OR ELIMINATE DOWNTIME. CLOSELY COORDINATE PHASING OF WORK WITHIN CORRIDORS WITH THE OWNER. CORRIDORS CANNOT BE COMPLETELY CLOSED OFF TO PEDESTRIAN TRAFFIC. TO ACCOMMODATE PHASING, CORRIDOR ACCESS WORK MAY NEED TO BE PERFORMED DURING OFF PEAK PERIODS. PRIOR TO MOVING ON TO THE NEXT PHASE, ALL WORK IN PREVIOUSLY PHASED AREAS MUST BE COMPLETE AND OPERATIONAL. THE CONTRACTOR SHALL INSTALL ALL NEW SERVICES AND EQUIPMENT AND HAVE THEM TESTED AND FULLY AND RELIABLY FUNCTIONAL PRIOR TO INTERRUPTING, RELOCATING OR REMOVING ANY EXISTING SERVICES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO BARE ANY AND ALL COSTS ASSOCIATED WITH THIS PHASING, INCLUDING TEMPORARY SERVICES, TEMPORARY RELOCATION, PREMIUM TIME WORK, ETC.
5. ENSURE THAT THE WORK WILL NOT INTERFERE OR INTERRUPT SERVICES TO AREAS OUTSIDE OF THE DESIGNATED CONTRACT AREAS. SCHEDULE ALL WORK AS TO CAUSE MINIMAL SERVICE INTERRUPTIONS FOR THE OWNER. UNAVOIDABLE INTERRUPTIONS ARE TO BE SCHEDULED WITH THE OWNER NO LESS THAN TWO WEEKS PRIOR TO THEIR EXPECTED COMMENCEMENT. WORK SHALL BE PERFORMED AT SUCH TIMES AS DIRECTED BY THE OWNER AND, IF POSSIBLE, ARE TO OCCUR DURING OFF PEAK PERIODS.
6. THE CONTRACTOR IS TO VERIFY THE EXACT SERVICE OF ANY EXISTING PIPING OR DUCTWORK PRIOR TO INSTALLING ANY NEW CONNECTIONS. ANY DISCREPANCIES BETWEEN THE CONSTRUCTION DOCUMENTS OR THE DESIGN INTENT AND ACTUAL CONDITIONS ARE TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY, PRIOR TO FABRICATION OR INSTALLATION.
7. CONTRACTOR SHALL REMOVE AND REPLACE EXISTING LAY-IN CEILING GRID AND TILES AS NECESSARY TO COMPLETE ABOVE CEILING WORK. RETURN CEILING TO ORIGINAL CONDITION FOLLOWING COMPLETION OF CONSTRUCTION.
8. EACH TRADE SHALL PAY THE GENERAL CONTRACTOR TO PATCH AND REPAIR FLOOR SLAB AND WALL PENETRATIONS TO MATCH EXISTING WHERE THEIR PIPING, DUCT OR EQUIPMENT IS BEING REMOVED OR INSTALLED.
9. ALL ROOFING MODIFICATIONS SHALL BE DONE BY OWNER'S ROOFING VENDOR TO MAINTAIN ANY AND ALL WARRANTIES. COST TO BE INCLUDED IN THIS CONTRACT UNLESS SPECIFICALLY INCLUDED IN GENERAL TRADES CONTRACTOR'S SCOPE OF WORK.
10. INSULATE DUCTWORK AND PIPING WHERE EXISTING INSULATION HAS BEEN DAMAGED AND/OR REMOVED IN THE PERFORMANCE OF WORK FOR THIS PROJECT.
11. FOR RENOVATION WORK, IT IS PROHIBITED TO SUSPEND NEW WORK FROM THE EXISTING FLOOR SLAB OR ROOF DECK.
12. THE CONTRACTOR IS HEREBY ADVISED THAT IT IS POSSIBLE THAT ASBESTOS, AND/OR OTHER HAZARDOUS MATERIALS ARE OR WERE PRESENT IN THIS BUILDING(S). ANY WORKER, OCCUPANT, VISITOR, ETC., WHO ENCOUNTERS ANY MATERIAL OF WHOSE CONTENT THEY ARE NOT CERTAIN SHALL PROMPTLY REPORT THE EXISTENCE AND LOCATION OF THAT MATERIAL TO THE OWNER. FURTHERMORE, THE CONTRACTOR SHALL ENSURE THAT NO ONE COMES NEAR TO OR IN CONTACT WITH ANY SUCH MATERIAL OR FUMES THEREFROM UNTIL ITS CONTENT CAN BE ASCERTAINED TO BE NON-HAZARDOUS. CMTA, INC HAS NO EXPERTISE IN THE DETERMINATION OF THE PRESENCE OF ANY HAZARDOUS MATERIAL. THEREFORE, NO ATTEMPT HAS BEEN MADE BY CMTA TO IDENTIFY THE EXISTENCE OR LOCATION OF ANY SUCH HAZARDOUS MATERIAL. FURTHERMORE, CMTA NOR ANY AFFILIATE HEREOF WILL NOT OFFER OR MAKE ANY RECOMMENDATIONS RELATIVE TO THE REMOVAL, HANDLING OR DISPOSAL OF SUCH MATERIAL. IF THE WORK WHICH IS TO BE PERFORMED INTERFACES, CONNECTS OR RELATES IN ANY PHYSICAL WAY WITH OR TO EXISTING COMPONENTS WHICH CONTAIN OR BEAR ANY HAZARDOUS MATERIAL, ASBESTOS BEING ONE, THEN IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO CONTACT THE OWNER AND SO ADVISE THE OWNER IMMEDIATELY. THE CONTRACTOR BY EXECUTION OF THE CONTRACT FOR ANY WORK AND/OR BY THE ACCOMPLISHMENT OF ANY WORK THEREBY AGREE TO BRING NO CLAIM, RELATIVE TO OTHER SUCH ITEM AGAINST CMTA, ITS PRINCIPALS, EMPLOYEES, AGENTS OR CONSULTANTS. ALSO, THE CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD CMTA, ITS PRINCIPALS, EMPLOYEES, AGENTS AND CONSULTANTS HARMLESS FROM ANY SUCH RELATED CLAIMS WHICH MAY BE BROUGHT BY ANY SUBCONTRACTORS, SUPPLIERS OR ANY OTHER THIRD PARTIES.
13. INSTALL ALL WORK TO COMPLY WITH ALL LAWS, REGULATIONS, CODES, AND STANDARDS (FEDERAL, STATE, AND LOCAL), AS ADOPTED BY THE AGENCIES HAVING JURISDICTION, INCLUDING REASONABLY ANTICIPATED REVISIONS BASED ON EMERGING TRENDS IN BUILDING REGULATIONS. WHERE ANY OF THESE DIFFER, THE MOST STRINGENT SHALL APPLY.
14. THE ENGINEER DOES NOT DEFINE THE SCOPE OF INDIVIDUAL TRADES, SUBCONTRACTORS, MATERIAL SUPPLIERS AND VENDORS. ANY SHEET NUMBERING OR SPECIFICATION NUMBERING SYSTEM USED WHICH IDENTIFIES DISCIPLINES IS SOLELY FOR THE ENGINEER'S CONVENIENCE AND IS NOT INTENDED TO DEFINE A SUBCONTRACTOR'S SCOPE OF WORK. INFORMATION REGARDING INDIVIDUAL TRADES, SUBCONTRACTORS, MATERIAL SUPPLIERS AND VENDORS MAY BE DETAILED, DESCRIBED AND INDICATED AT DIFFERENT LOCATIONS THROUGHOUT THE CONTRACT DOCUMENTS. NO CONSIDERATION WILL BE GIVEN TO REQUESTS FOR CHANGE ORDERS FOR FAILURE TO OBTAIN AND REVIEW THE COMPLETE OF CONTRACT DOCUMENTS WHEN PREPARING BIDS, PRICES AND QUOTATIONS. UNLESS STATED OTHERWISE, THE SUBDIVISION AND ASSIGNMENT OF WORK UNDER THE VARIOUS SECTIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR HOLDING THE PRIME CONTRACT.
15. CONTRACT DOCUMENTS FOR MECHANICAL WORK ARE SCHEMATIC IN NATURE AND ARE INTENDED TO CONVEY SCOPE AND GENERAL ARRANGEMENT ONLY. ALL OFFSETS, TURNS, FITTINGS, TRIM, DETAIL, ETC., MAY NOT BE INDICATED, BUT SHALL BE PROVIDED AS REQUIRED. WORK SHALL BE INSTALLED FROM FULLY COORDINATED CONTRACTOR GENERATED DIMENSIONED DRAWINGS.
16. PROVIDE ALL MATERIALS AND EQUIPMENT AND PERFORM ALL LABOR REQUIRED TO INSTALL COMPLETE AND OPERABLE SYSTEMS AS STATED, IMPLIED OR INTENDED IN THE DRAWINGS AND SPECIFICATIONS. INCLUDE IN THE BID AS PART OF THE CONTRACT, ALL NECESSARY AND APPLICABLE SUPPLIES, MATERIALS, AND APPURTENANCES, WHETHER INDICATED OR NOT. IN CASE OF CONFLICTS, THE CONTRACTOR SHALL CONTACT THE ENGINEER FOR CLARIFICATION AND FINAL DETERMINATION PRIOR TO THE BID.
17. ANY DEVIATIONS FROM THE BASIS OF DESIGN THAT REQUIRE ADDITIONAL PROVISIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
18. COORDINATE THE EXACT REQUIREMENTS AND LOCATION OF WORK WITH THE WORK OF OTHER TRADES PRIOR TO FABRICATION AND INSTALLATION. PROVIDE ADDITIONAL OFFSETS AND SECTIONS IN DUCTWORK AND/OR PIPING REQUIRED TO MEET THE APPLICABLE JOB CONDITION REQUIREMENTS. VERIFY JOB SITE ELEVATIONS, DIMENSIONS, AND CONDITIONS, PRIOR TO FABRICATION OR INSTALLATION OF THE WORK. COORDINATE EXACT ROUTING OF DUCTWORK AND PIPING WITH OTHER TRADES SO THAT NO CONFLICTS OCCUR WITH DUCTWORK, PIPING, LIGHTS, STRUCTURE, ETC. PROVIDE ALL PERTINENT DATA CONCERNING THE LOCATION, DIMENSIONS, ETC., OF THE MECHANICAL EQUIPMENT THAT REQUIRES BASES, CURBS AND SUPPORTS TO THE APPROPRIATE TRADES. WORK NOT APPROPRIATELY COORDINATED SHALL BE REMOVED AND PROPERLY INSTALLED AT THE EXPENSE OF THE RESPONSIBLE CONTRACTOR(S).
19. PRIOR TO ORDERING ANY MATERIALS OR ROUGH-IN OF ANY KIND, THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR FINAL COORDINATION OF ALL ELECTRICAL REQUIREMENTS (I.E. VOLTAGE, PHASE, CIRCUIT BREAKER, WIRE SIZING, ETC.) WITH THE ELECTRICAL CONTRACTOR. THERE WILL BE NO CHANGE IN THE CONTRACT AMOUNT FOR ANY DISCREPANCIES.
20. WHERE CEILINGS ARE INDICATED, ALL DUCTS AND PIPES SHALL BE RAN ABOVE CEILING. IN EXPOSED CONDITIONS, INSTALL DUCTWORK AND PIPING TIGHT TO THE BOTTOM OF STRUCTURE.
21. ALL RATED WALL AND FLOOR PENETRATIONS ARE TO BE SEALED WATER TIGHT AND PACKED WITH FIRE STOP MATERIAL.
22. ALL ITEMS THAT REQUIRE MAINTENANCE OR ADJUSTMENT MUST BE INSTALLED IN ACCESSIBLE LOCATIONS. PROVIDE AN APPROPRIATELY SIZED ACCESS DOOR AS REQUIRED AT NO ADDITIONAL COST TO OTHERS WHETHER SHOWN OR NOT ON THE PLANS.
23. ALL SEALS, BEARINGS, PACKINGS, AND ACCESSORIES FOR ALL EQUIPMENT AND PIPING SPECIALTIES SHALL BE SUITABLE FOR THE CONTINUOUS OPERATIONAL TEMPERATURES, PRESSURES AND CHARACTERISTICS OF THE SYSTEM THEY SERVE.
24. PERFORM A COMPLETE AIR AND WATER SYSTEM FLOW BALANCE FOR ALL EQUIPMENT THAT IS SHOWN, SCHEDULED OR OTHERWISE IDENTIFIED, AT THE END OF CONSTRUCTION.
25. INSTALL EQUIPMENT, MATERIALS, ETC. IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND DIRECTION. PROVIDE STRAIGHT INLET AND OUTLET DUCTS/PIPES BASED ON MANUFACTURER'S RECOMMENDATIONS. IF IN CONFLICT WITH THE DESIGN INDICATED HEREIN, ADVISE THE ENGINEERS PRIOR TO INSTALLATION FOR CLARIFICATION.
26. COORDINATE THE EXACT LOCATIONS OF DIFFUSERS, GRILLES AND REGISTERS WITH ARCHITECTURAL REFLECTED CEILING PLANS, AREA SMOKE DETECTORS, SPRINKLERS, LIGHTS AND ELECTRICAL DEVICES. AIR DEVICES SHALL NOT BE WITHIN 3 FEET OF AN AREA SMOKE DETECTOR.
27. UNLESS NOTED OTHERWISE, PROVIDE BRANCH DUCT TO DIFFUSERS SAME SIZE AS DIFFUSER NECK. FLEXIBLE DUCT CONNECTION TO THE DIFFUSER SHALL BE NO MORE THAN FIVE FEET IN LENGTH. ALL BRANCH DUCT TAKEOFFS TO AIR DEVICES SHALL HAVE A MANUAL BALANCING DAMPER INSTALLED IN AN ACCESSIBLE LOCATION.
28. AIR DEVICES PROVIDED WITH INTEGRAL BALANCE DAMPERS SHALL NOT HAVE AN ADDITIONAL BALANCING DAMPER AT AIR DEVICE BRANCH TAKEOFF.
29. PROVIDE ROOM TEMPERATURE THERMOSTATS FOR ALL EQUIPMENT THAT MAINTAINS SPACE TEMPERATURE. PREFERRED LOCATIONS ARE SHOWN ON THE PLANS. THERMOSTATS SHALL BE MOUNTED AT 48 INCHES ABOVE FINISHED FLOOR, UNLESS NOTED OTHERWISE. COORDINATE THE EXACT LOCATIONS OF THERMOSTATS WITH MARKERBOARDS, SWITCHES, AND ANY OTHER WALL MOUNTED FIXTURES PRIOR TO ROUGH IN.
30. UNLESS NOTED OTHERWISE, MINIMUM PIPE SIZE TO TERMINAL EQUIPMENT SHALL BE 3/4 INCH AND MINIMUM FLOW SHALL BE 0.5 GPM.
31. PROVIDE SHUT-OFF VALVES WITHIN ALL SUPPLY PIPING BRANCH TAKEOFFS FROM MAINS. PROVIDE A MANUAL BALANCE VALVE AND A SEPARATE SHUT-OFF VALVE WITHIN ALL RETURN PIPING BRANCH TAKE-OFFS FROM MAINS. LOCATE VALVES IN ACCESSIBLE LOCATIONS.
32. INSTALL ALL PIPING IN LOCATIONS AND ELEVATIONS SUCH THAT COILS, TUBES, AND FILTERS CAN BE REMOVED AND REPLACED WITHOUT MAJOR PIPING REMOVAL. LOCATE VALVES IN APPROPRIATE PLACES TO ACCOMMODATE MAINTENANCE. FOR GRAVITY FLOW PIPING, ADEQUATE SLOPE SHALL BE PROVIDED.
33. INSTALL TWO-WAY CONTROL VALVES ON ALL EQUIPMENT UNLESS NOTED OTHERWISE.
34. AT TIME OF ROUGH INSTALLATION, DURING STORAGE ON THE CONSTRUCTION SITE, AND UNTIL FINAL STARTUP OF THE HEATING AND COOLING EQUIPMENT, ALL DUCT AND OTHER RELATED AIR DISTRIBUTION COMPONENT OPENINGS SHALL BE COVERED WITH TAPE, PLASTIC, SHEET METAL OR OTHER METHODS ACCEPTABLE FOR PROTECTION TO THE ENFORCING AGENCY TO REDUCE THE AMOUNT OF DUST OR DEBRIS WHICH MAY COLLECT IN THE SYSTEM(S).
35. IN MECHANICALLY VENTILATED BUILDINGS, PROVIDE REGULARLY OCCUPIED AREAS OF THE BUILDING WITH AIR FILTRATION MEDIA FOR OUTSIDE AND RETURN AIR THAT PROVIDES AT LEAST A MINIMUM EFFICIENCY REPORTING VALUE (MERV) OF 8 PRIOR TO OCCUPANCY. FILTERS SHALL BE CHANGED PRIOR TO AIR BALANCE AND COMMISSIONING, AND AGAIN AT THE COMPLETION OF CONSTRUCTION JUST PRIOR TO OCCUPANCY OF THE BUILDING WITH FINAL FILTERS PER SPECIFICATIONS. MAINTENANCE RECOMMENDATIONS FOR FILTERS OF THE SAME VALUE SHALL BE INCLUDED IN THE OPERATION AND MAINTENANCE MANUAL.
36. INSTALLATION OF HVAC, REFRIGERATION, AND FIRE SUPPRESSION EQUIPMENT SHALL NOT CONTAIN ANY CFCS OR HALONS.
37. ALL SUPPORTS FOR EQUIPMENT, DUCTWORK AND PIPING SYSTEMS, AND DEVICES SHALL BE FROM THE BUILDING STRUCTURE. SUPPORT FROM STRUCTURAL BRIDGING IS UNACCEPTABLE.
38. DO NOT INSTALL PIPING, CONDUIT, DUCTWORK, ETC., IN A LOCATION OR IN A MANNER THAT WILL ALLOW FREEZING AND/OR THE COLLECTION OF CONDENSATION.
39. CONTRACTOR IS RESPONSIBLE FOR DRAINING, FLUSHING, PURGING, AND FILLING ALL PIPING SYSTEMS AS REQUIRED. THESE SYSTEMS INCLUDE (BUT MAY NOT BE LIMITED TO): HEATING HOT WATER SYSTEMS, CHILLED WATER SYSTEMS, BUILDING STEAM SYSTEMS, ALL REQUIRED CHEMICAL TREATMENT SYSTEMS, CONDENSER WATER SYSTEMS (AND COOLING TOWER SUMPS), WATER-SOURCE HEAT PUMP LOOP SYSTEMS, GROUND-SOURCE HEAT PUMP LOOP SYSTEMS, CONDENSATE SYSTEMS AND MAKE-UP WATER CONNECTIONS.

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PROJECT

Greater Columbus Convention Center North Facility Chiller Replacement - 2023-5

400 North High Street Columbus, OH 43215

CLIENT

FRANKLIN COUNTY CONVENTION FACILITIES AUTHORITY

400 North High Street, 4th Floor
Columbus, Ohio 43215

CONSULANTS

REGISTRATION

KEYPLAN

ISSUE / REVISION

#	Date	Description
1	10/25/2023	BID SET

PROJECT NUMBER

OCCC23

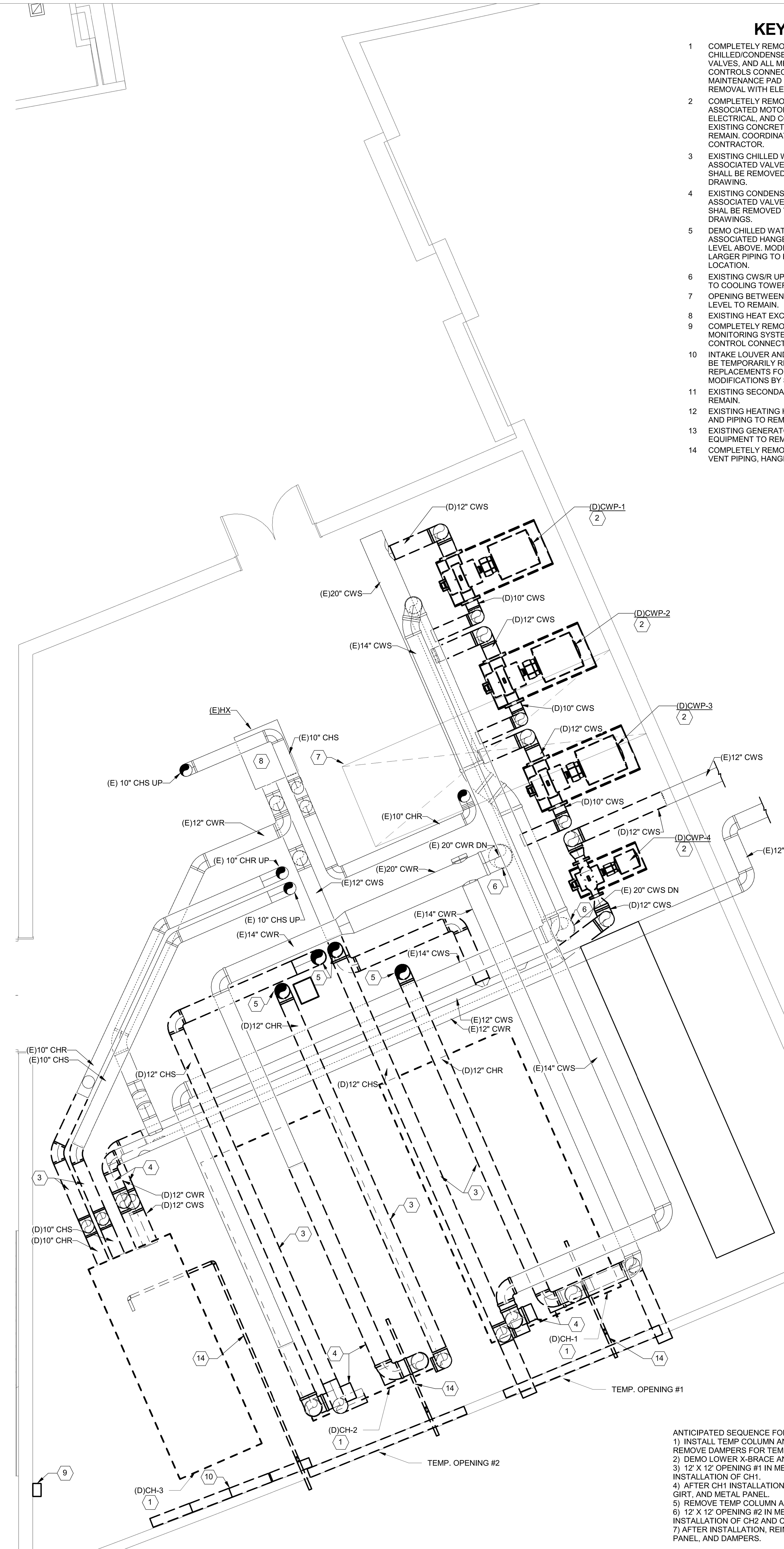
SHEET TITLE

GENERAL INFORMATION - HVAC

SHEET NUMBER

M001

2 NORTH BLDG N MEZZ - MECH RM DEMO
M301 Scale: 1/4" = 1'-0"



1 NORTH BLDG LEVEL 1 - MECH RM DEMO
M301 Scale: 1/4" = 1'-0"

KEYNOTES

1 COMPLETELY REMOVE EXISTING CHILLER, CHILLED/CONDENSER WATER PIPING, VENTS, VALVES, AND ALL MECHANICAL, ELECTRICAL, AND CONTROLS CONNECTIONS. EXISTING CONCRETE MAINTENANCE PAD SHALL REMAIN. COORDINATE REMOVAL WITH ELECTRICAL CONTRACTOR.

2 COMPLETELY REMOVE EXISTING PUMP AND ASSOCIATED MOTOR STARTER, MECHANICAL, ELECTRICAL, AND CONTROLS CONNECTIONS. EXISTING CONCRETE MAINTENANCE PAD SHALL REMAIN. COORDINATE REMOVAL WITH ELECTRICAL CONTRACTOR.

3 EXISTING CHILLED WATER PIPING AND ALL ASSOCIATED VALVES, HANGERS AND SUPPORTS SHALL BE REMOVED TO POINTS INDICATED ON THE DRAWING.

4 EXISTING CONDENSER WATER PIPING AND ALL ASSOCIATED VALVES, HANGERS AND SUPPORTS SHAL BE REMOVED TO POINTS INDICATED ON THE DRAWINGS.

5 DEMO CHILLED WATER PIPING AND ALL ASSOCIATED HANGERS/SUPPORTS TO MEZZANINE LEVEL ABOVE. MODIFY OPENING AS REQUIRED FOR LARGER PIPING TO BE REROUTED IN SAME LOCATION.

6 EXISTING CWS/R UP FROM BELOW GRADE PIPING TO COOLING TOWERS TO REMAIN.

7 OPENING BETWEEN LEVEL 1 AND MEZZANINE LEVEL TO REMAIN.

8 EXISTING HEAT EXCHANGER TO REMAIN.

9 COMPLETELY REMOVE EXISTING REFRIGERANT MONITORING SYSTEM AND ALL ASSOCIATED CONTROL CONNECTIONS.

10 INTAKE LOUVER AND DAMPERS ABOVE DOOR TO BE TEMPORARILY REMOVED DURING CHILLER REPLACEMENTS FOR TEMPORARY X-BRACE MODIFICATIONS BY STRUCTURAL.

11 EXISTING SECONDARY PUMPS AND PIPING TO REMAIN.

12 EXISTING HEATING HOT WATER BOILERS, PUMPS, AND PIPING TO REMAIN IN THIS AREA.

13 EXISTING GENERATOR AND ELECTRICAL EQUIPMENT TO REMAIN IN THIS AREA.

14 COMPLETELY REMOVE CHILLER REFRIGERANT VENT PIPING, HANGERS, AND SUPPORTS.

ANTICIPATED SEQUENCE FOR DEMOLITION/INSTALLATION IS:
1) INSTALL TEMP COLUMN AND X-BRACE ALONG CH2&3 WALL. REMOVE DAMPERS FOR TEMP X-BRACE.
2) DEMO LOWER X-BRACE AND VERTICAL GIRT ALONG CH1 WALL.
3) 12' X 12' OPENING #1 IN METAL PANEL FOR REMOVAL AND INSTALLATION OF CH1.
4) AFTER CH1 INSTALLATION, REINSTALL X-BRACE, VERTICAL GIRT, AND METAL PANEL.
5) REMOVE TEMP COLUMN AND XBRACE ALONG CH2&3 WALL.
6) 12' X 12' OPENING #2 IN METAL PANEL FOR REMOVAL AND INSTALLATION OF CH2 AND CH3.
7) AFTER INSTALLATION, REINSTALL VERTICAL GIRT, METAL PANEL, AND DAMPERS.

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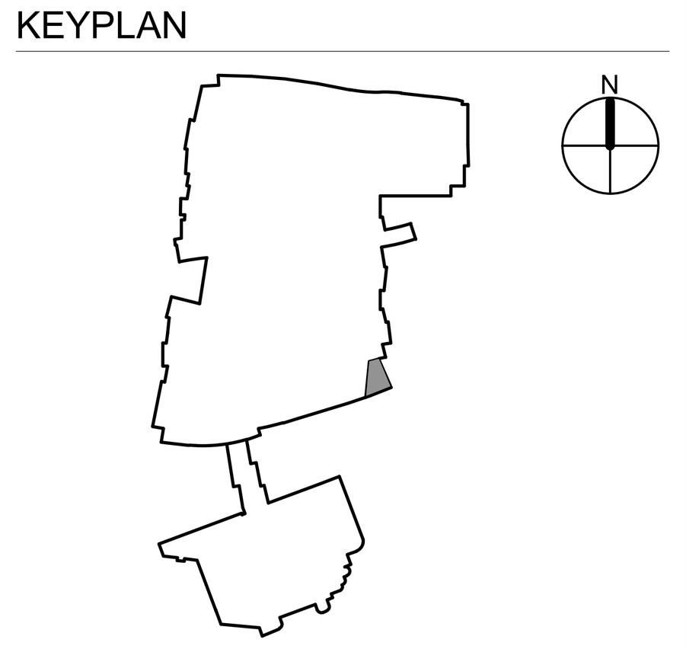


ISSUE / REVISION

#	Date	Description
1	10/25/2023	BID SET

PROJECT NUMBER

OCCC23

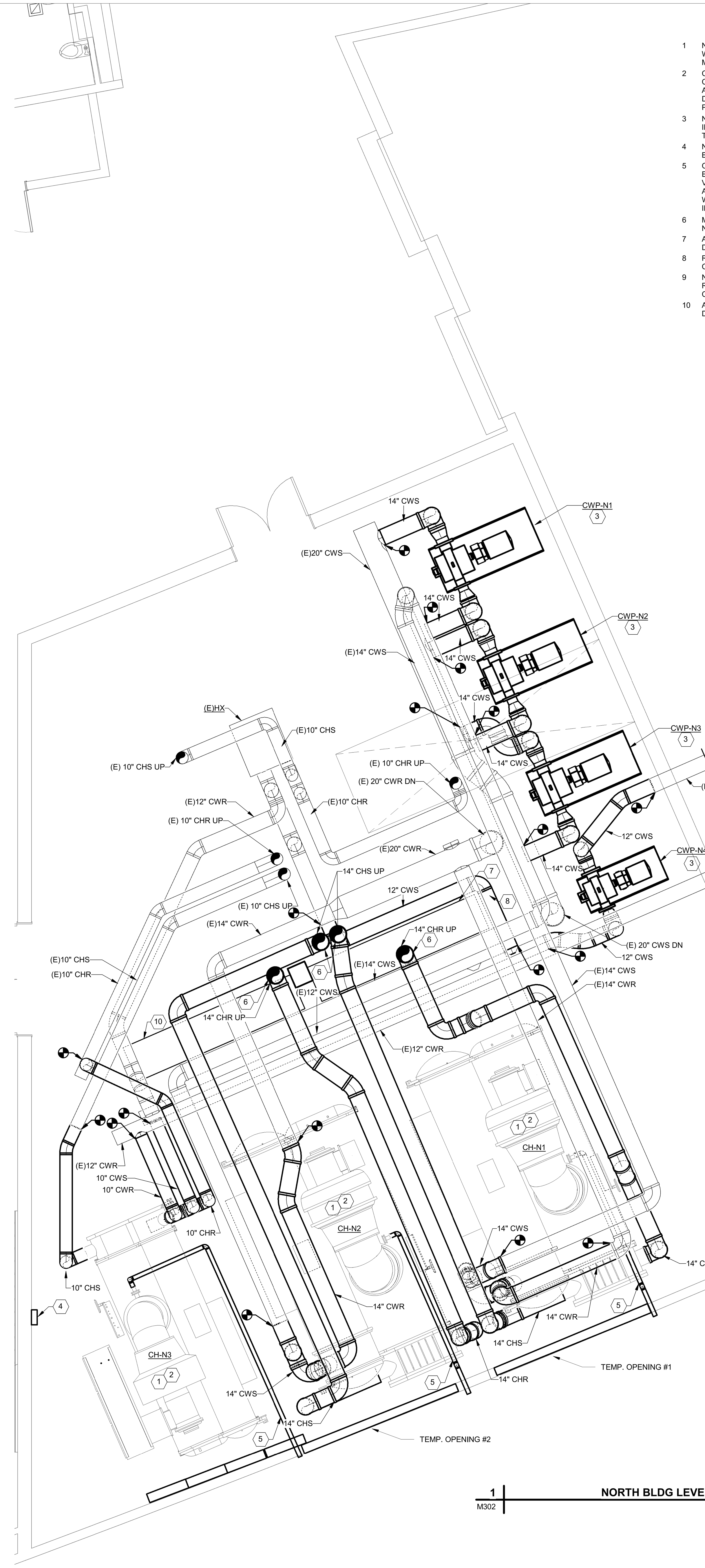
SHEET TITLE

HVAC ENLARGED PLAN - NORTH MER DEMO

SHEET NUMBER

M301

2 NORTH BLDG N MEZZ - MECH RM
M302 Scale: 1/4" = 1'-0"



1 NORTH BLDG LEVEL 1 - MECH RM
M302 Scale: 1/4" = 1'-0"

KEYNOTES

1 NEW CHILLER TO BE INSTALLED ON EXISTING PAD WITH NEW ISOLATION PROVIDED BY MANUFACTURER.
2 CHILLER PROVIDED WITH SEPARABLE SHELLS WITH COMPRESSOR DOWELING UNIT DISASSEMBLY KIT AND MANUFACTURER LABOR FOR SUPPORT OF DISASSEMBLY/REASSEMBLY. REFER TO DEMO PLAN FOR TEMPORARY OPENING INFO.
3 NEW PUMP TO BE INSTALLED ON EXISTING PAD. INSTALL NEW PIPING AND VALVES TO RECONNECT TO EXISTING PIPING. REFER TO DETAIL SHEET.
4 NEW REFRIGERANT DETECTION SYSTEM PROVIDED BY MANUFACTURER.
5 CHILLER RELIEF DEVICE PROVIDED WITH EQUIPMENT. INSTALL CHILLER REFRIGERANT VENTS PER MANUFACTURER'S RECOMMENDATION AND PAINT EXTERIOR PIPING WITH BLACK WEATHER RESISTANT PAINT. TERMINATE WITH INSECT SCREEN.
6 MODIFY EXISTING OPENING FROM MEZZANINE FOR NEW 14" PIPING, INSULATION, AND SUPPORTS.
7 AFD FOR CHILLER 1. REFER TO ELECTRICAL DRAWINGS.
8 RELOCATE PIPING TO HEAT EXCHANGER FOR CLEARANCE ABOVE AFD.
9 NEW PUMP TO BE INSTALLED ON EXISTING PAD. REFER TO DETAIL SHEET. NEW PIPING TO/FROM CHILLERS TO FLOOR BELOW.
10 AFD FOR CHILLER 2. REFER TO ELECTRICAL DRAWINGS.

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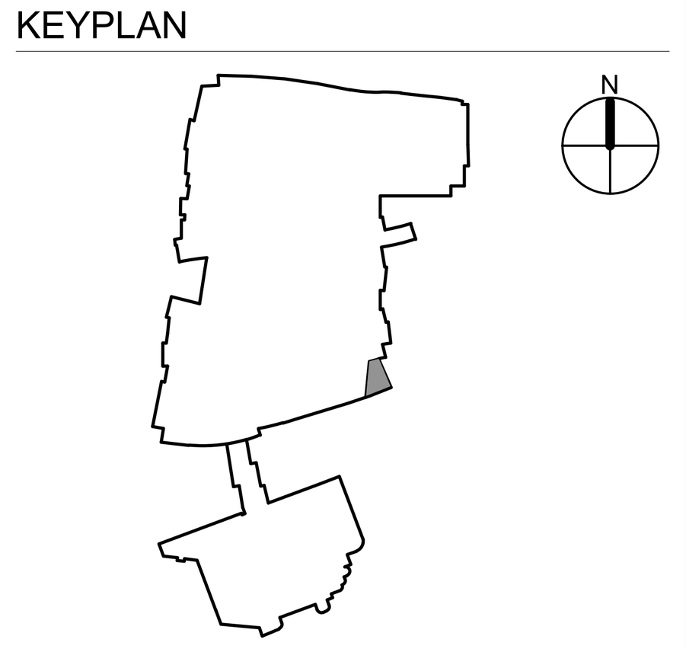

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#	Date	Description
1	10/25/2023	BID SET

PROJECT NUMBER

OCCC23

SHEET TITLE

HVAC ENLARGED PLANS - NORTH MER NEW WORK

SHEET NUMBER

M302

PRE-PURCHASED CHILLER SCHEDULE (WATER COOLED) - FOR REFERENCE ONLY

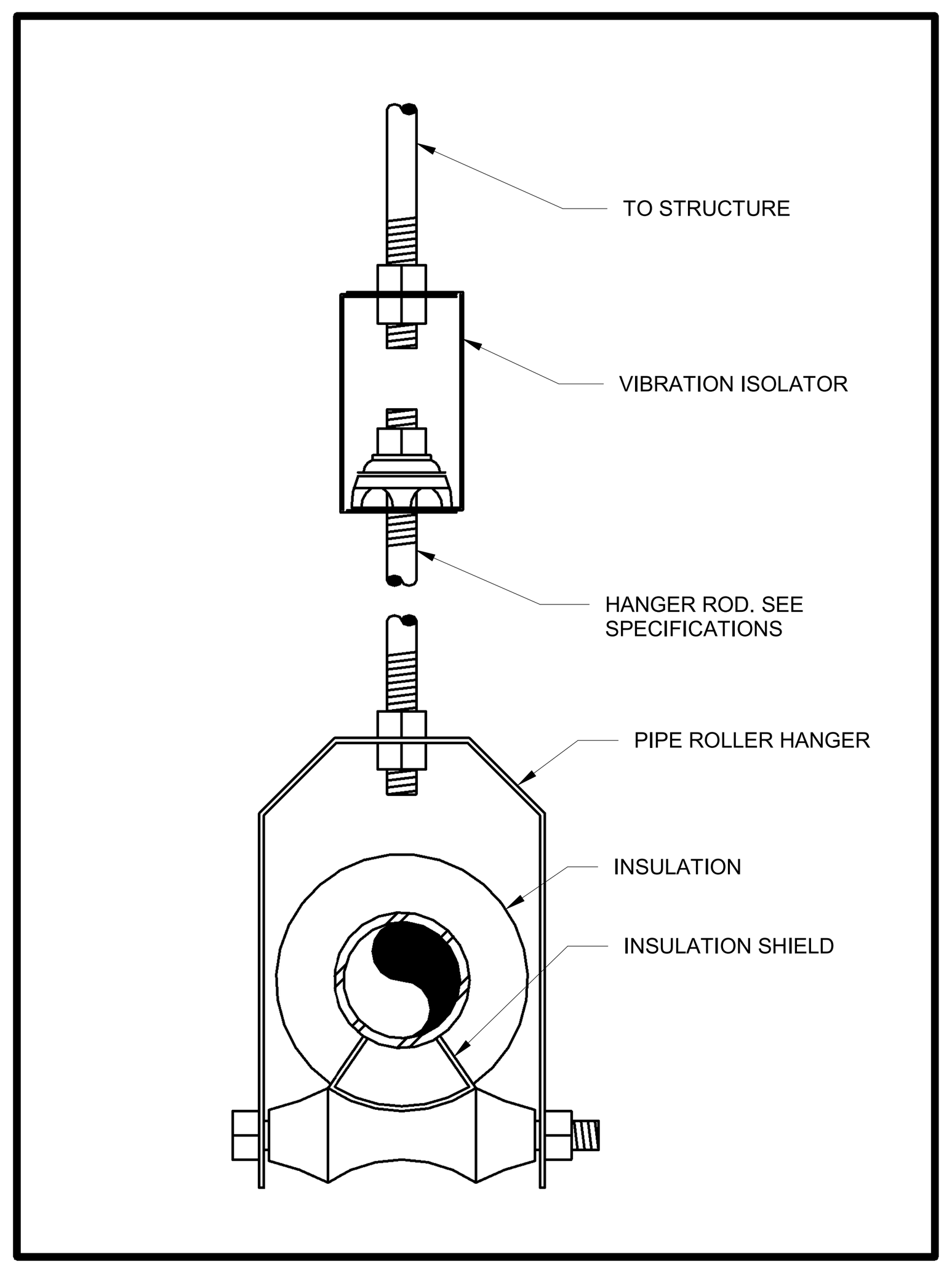
UNIT DATA			BASIS OF DESIGN		PERFORMANCE DATA			COMPRESSOR DATA				EVAPORATOR DATA					CONDENSER DATA				ELECTRICAL DATA						GENERAL DATA		
TAG	LOCATION	FUNCTION	MANUFACTURER	MODEL	CAPACITY (TONS)	FULL LOAD EFF (KW/TONS)	NPLV (KW/TON)	REFRIG TYPE	TYPE	# OF COMPR	# OF CIRCUITS	FLOW (GPM)	MIN FLOW (GPM)	EWT (°F)	LWT (°F)	WPD (FT HD)	FLOW (GPM)	EWT (°F)	LWT (°F)	WPD (FT HD)	FLA	MCA	MOCP	VOLTS	PHASE	EMERGENCY POWER	REDUNDANT	WEIGHT (LBS)	REMARKS
CH-N1	N.BLDG MER	CHILLED WATER	TRANE	CVHF147	1600.0	0.5699	0.3408	R-514A	CENTR.	1	1	3822.0	917.3	54.0	44.0	23.24	3200.0	85.0	99.1	13.65	1314	1610.0	2500.0	480	3	No	Yes	63792.00	ALL
CH-N2	N.BLDG MER	CHILLED WATER	TRANE	CVHF147	1600.0	0.5699	0.3408	R-514A	CENTR.	1	1	3822.0	917.3	54.0	44.0	23.24	3200.0	85.0	99.1	13.65	1314	1610.0	2500.0	480	3	No	Yes	63792.00	ALL
CH-N3	N.BLDG MER	CHILLED WATER	TRANE	CVHF076	800.0	0.5959	0.3617	R-514A	CENTR.	1	1	1911.0	424.1	54.0	44.0	22.24	1600.0	85.0	99.2	13.01	684	793.0	1200.0	480	3	No	No	32927.00	ALL

REMARKS:
1. CHILLERS HAVE BEEN PRE-PURCHASED BY OWNER AND ARE SCHEDULED FOR REFERENCE ONLY.
2. NEW CHILLERS TO FOLLOW EXISTING SEQUENCE OF OPERATION.

PUMP SCHEDULE

UNIT DATA			BASIS OF DESIGN		PERFORMANCE DATA						MOTOR DATA						
TAG	LOCATION	FUNCTION	MANUFACTURER	MODEL	PUMP TYPE	FLUID TYPE	FLOW (GPM)	EXT WPD (FT HD)	EFF (%)	IMPELLER DIA (IN)	HP	BHP	RPM	VOLTS	PHASE	VFD	REMARKS
CHP-N1	N.BLDG MER MEZZ	CH1/CH2 PRIMARY	GRUNDFOS	KP1012-1/2	BASE MTD HORI SPLIT-CASE	WATER	3840.0	75.00	81.04	9.98	100.00	89.71	1780	460	3	Yes	ALL
CHP-N2	N.BLDG MER MEZZ	CH1/CH2 PRIMARY	GRUNDFOS	KP1012-1/2	BASE MTD HORI SPLIT-CASE	WATER	3840.0	75.00	81.04	9.98	100.00	89.71	1780	460	3	Yes	ALL
CHP-N3	N.BLDG MER MEZZ	CH1/CH2 PRIMARY	GRUNDFOS	KP1012-1/2	BASE MTD HORI SPLIT-CASE	WATER	3840.0	75.00	81.04	9.98	100.00	89.71	1780	460	3	Yes	ALL
CHP-N4	N.BLDG MER MEZZ	CH3 PRIMARY	GRUNDFOS	KP6012-3/4	BASE MTD HORI SPLIT-CASE	WATER	1920.0	70.00	82.16	9.44	50.00	41.29	1780	460	3	Yes	ALL
CHP-N5	N.BLDG MER MEZZ	CH3 PRIMARY	GRUNDFOS	KP6012-3/4	BASE MTD HORI SPLIT-CASE	WATER	1920.0	70.00	82.16	9.44	50.00	41.29	1780	460	3	Yes	ALL
CWP-N1	N.BLDG MER LEVEL 1	CH1/CH2 CONDENSER	GRUNDFOS	KP8015-3/4	BASE MTD HORI SPLIT-CASE	WATER	3200.0	110.00	84.05	11.32	125.00	105.70	1780	460	3	Yes	ALL
CWP-N2	N.BLDG MER LEVEL 1	CH1/CH2 CONDENSER	GRUNDFOS	KP8015-3/4	BASE MTD HORI SPLIT-CASE	WATER	3200.0	110.00	84.05	11.32	125.00	105.70	1780	460	3	Yes	ALL
CWP-N3	N.BLDG MER LEVEL 1	CH1/CH2 CONDENSER	GRUNDFOS	KP8015-3/4	BASE MTD HORI SPLIT-CASE	WATER	3200.0	110.00	84.05	11.32	125.00	105.70	1780	460	3	Yes	ALL
CWP-N4	N.BLDG MER LEVEL 1	CH3 CONDENSER	GRUNDFOS	KP8012-5/6	BASE MTD HORI SPLIT-CASE	WATER	2400.0	100.00	84.29	10.53	100.00	71.88	1780	460	3	Yes	ALL

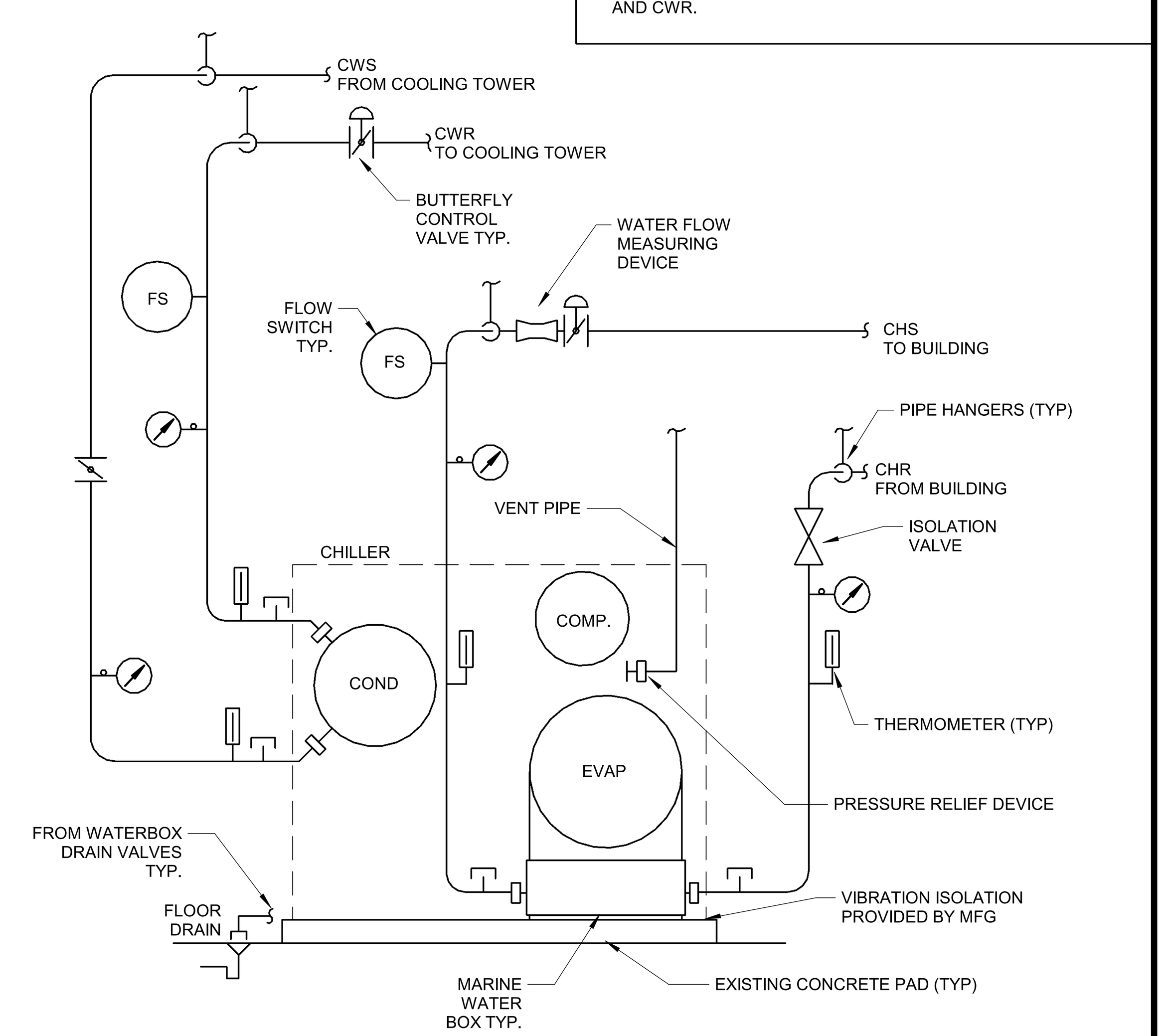
REMARKS:
1. PUMPS TO BE PROVIDED WITH NEW VFDS INSTALLED IN SIMILAR LOCATION AS VFDS BEING REMOVED.
2. NEW PUMPS TO FOLLOW EXISTING SEQUENCE OF OPERATION.



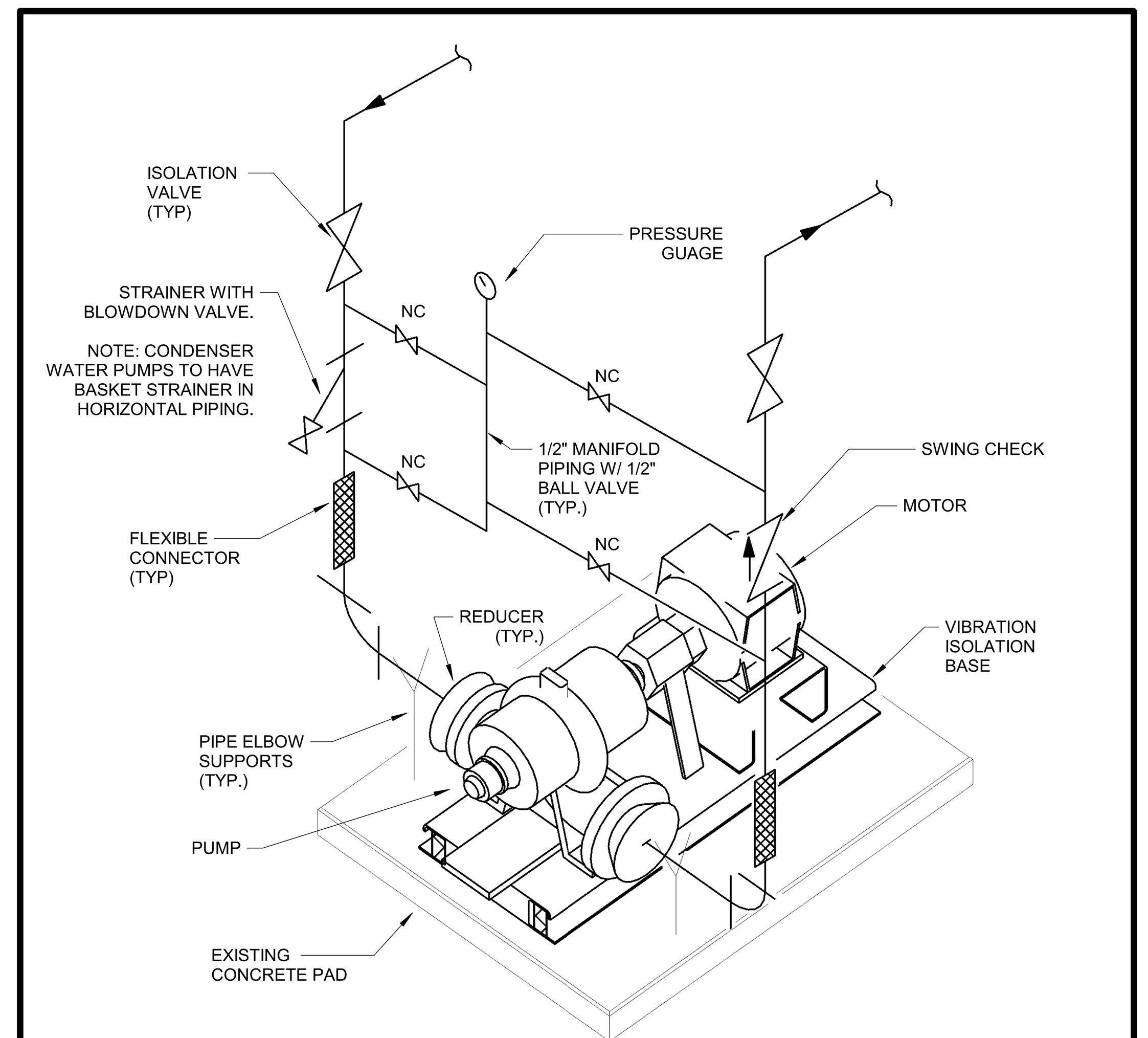
3 TYPICAL PIPE HANGER DETAIL
SCALE: NONE

NOTES:

1. DRAIN ALL LOW POINTS OF SYSTEMS TO NEAREST FLOOR DRAIN.
2. PROVIDE MARINE WATER BOXES FOR BOTH CONDENSER AND EVAPORATOR. SEE SPECS.
3. CONNECT VENT PIPING TO RELIEF DEVICE AND EXTEND TO EXTERIOR OF BUILDING IN ACCORDANCE WITH ASHRAE 15.
4. PROVIDE MODULATING BUTTERFLY VALVES ON BOTH CHR AND CWR.



2 CHILLER INSTALLATION DETAIL
SCALE: NONE



NOTE:
SUPPORT PIPING SO THAT THERE IS NO WEIGHT ON PUMP FLANGES / FLEXIBLE CONNECTORS.

1 HORIZONTAL SPLIT CASE PUMP DETAIL
SCALE: NONE

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#	Date	Description
1	10/25/2023	BID SET

PROJECT NUMBER

OCCC23

SHEET TITLE

HVAC SCHEDULES & DETAILS

SHEET NUMBER

M701

ELECTRICAL GENERAL NOTES:

A. EACH CONTRACTOR, PROPOSER, SUPPLIER AND/OR MANUFACTURER SHALL REFER TO ALL DOCUMENTS PERTAINING TO THIS PROJECT AND COORDINATE ACCORDINGLY SO AS TO ENSURE ADEQUACY OF FIT, COMPLIANCE WITH SPECIFICATIONS, PROPER VOLTAGE AND CURRENT CHARACTERISTICS TO AVOID CONFLICT WITH ANY OTHER BUILDINGS SYSTEMS. VERIFY SAME WITH SHOP DRAWINGS.
B. ADDITIONAL ELECTRICAL REQUIREMENTS MAY BE SHOWN ON PLANS FROM OTHER DISCIPLINES IN THIS SET. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW ALL PLANS AND SPECIFICATIONS FOR A COMPLETE UNDERSTANDING OF THE PROJECT REQUIREMENTS.
C. WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF ALL LOCAL, STATE, AND NATIONAL CODES. INCLUDING BUT NOT LIMITED TO NFPA 70 (NEC), NFPA 72, INTERNATIONAL BUILDING CODES, ETC.
D. CONTRACTOR SHALL FOLLOW SEISMIC RESTRAINT AND DESIGN REQUIREMENTS CONTAINED IN LATEST ADOPTED STATE AND INTERNATIONAL BUILDING CODES, WITH ALL AMENDMENTS AS ADOPTED BY THE CURRENT LEGISLATION. REFER TO ELECTRICAL AND STRUCTURAL SPECIFICATIONS FOR ADDITIONAL INFORMATION.
E. ALL OFFSETS, TURNS, FITTINGS, TRIM, DETAIL, ETC. MAY NOT BE INDICATED, BUT SHALL BE PROVIDED AS REQUIRED. ADDITIONAL ALLOWANCES SHALL BE INCLUDED FOR SAME AT EACH PROPOSER'S DISCRETION.
F. INSTALL NO PIPING, CONDUIT, DUCTWORK, ETC. IN A LOCATION OR IN A MANNER WHICH WILL ALLOW FREEZING OR THE COLLECTION OF CONDENSATION THEREON. IF IN DOUBT, CONTACT THE ENGINEER.
G. ADVISE THE ENGINEER OF ANY CONFLICTS, ERRORS, OMISSIONS, ETC. AT LEAST TEN DAYS PRIOR TO BID DATE, TO ALLOW CLARIFICATION BY WRITTEN ADDENDUM.
H. WHERE CONFLICTS ARE FOUND BETWEEN DRAWINGS, DETAILS, OR SPECIFICATIONS, THE MORE STRINGENT REQUIREMENT SHALL APPLY. NOTIFY ARCHITECT OF DISCREPANCY IN WRITING.
I. DEVIATION FROM SPECIFICATIONS OR PLANS REQUIRES PRIOR WRITTEN APPROVAL FROM THE ENGINEERS AND MUST BE SUBMITTED IN WRITING NO LATER THAN TEN DAYS PRIOR TO THE BID DATE.
J. OBSERVE ALL APPLICABLE CODES, RULES AND REGULATIONS THAT MAY APPLY TO THE WORK UNDER THIS CONTRACT. (CITY, COUNTY, LOCAL, STATE, FEDERAL, MUNICIPALITY, UTILITY COMPANY, OSHA, ETC.).
K. MOUNTING HEIGHTS FOR WALL MOUNTED DEVICES INDICATED ABOVE FINISHED FLOOR ARE TO CENTER OF DEVICE UNO. MOUNTING HEIGHTS TO CEILING SUSPENDED DEVICES ARE TO BOTTOM OF DEVICE UNO.
L. INSTALL EQUIPMENT, MATERIALS, ETC. IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND DIRECTIONS. IF IN CONFLICT WITH THE DESIGN INDICATED IN CONTRACT DOCUMENTS, ADVISE THE ENGINEER PRIOR TO INSTALLATION FOR CLARIFICATION.
M. DO NOT RECESS PANELBOARD TUBS OR OTHER FLUSH-MOUNTED EQUIPMENT IN WALLS THAT HAVE A FIRE RATING. NO INSTALLATION SHALL DIMINISH OR VOID FIRE RESISTIVE RATINGS IN ANYWAY.
N. THE PURPOSE AND INTENT OF ALL OF THE DOCUMENTS PERTAINING TO THIS PROJECT IS TO PROVIDE A COMPLETE, FUNCTIONAL, SAFE, LIKE-NEW FACILITY. ANYTHING LESS SHALL BE UNACCEPTABLE.
O. ALL SYSTEMS, EQUIPMENT AND MATERIALS ARE TO BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER. WORK NOT MEETING THIS CRITERION SHALL BE REMOVED AND REINSTALLED SATISFACTORILY. FINAL DETERMINATION OF THE ACCEPTABILITY OF THE QUALITY OF WORK RESIDES WITH THE ENGINEER
P. ALL WORK, MATERIALS, EQUIPMENT, ETC. SHALL BE FULLY GUARANTEED FOR ONE FULL CALENDAR YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION AS DOCUMENTED BY THE ENGINEER, UNLESS LONGER WARRANTY PERIODS FOR EQUIPMENT ARE SPECIFIED.
Q. THE CONTRACTOR IS RESPONSIBLE FOR ALL UTILITY COMPANY FEES, CASH CONTRIBUTIONS OR OTHER COSTS THAT THE UTILITY COMPANY MAY REQUIRE TO COMPLETE THEIR WORK. (ELECTRIC, TELEPHONE, TELEVISION, DATA, ETC.).
R. ANY VIBRATING, OSCILLATING OR OTHER NOISE OR MOTION PRODUCING EQUIPMENT SHALL BE ISOLATED FROM SURROUNDING SYSTEMS IN AN APPROVED MANNER. NOISY OR STRUCTURALLY DAMAGING INSTALLATIONS SHALL BE SATISFACTORILY REPLACED OR REPAIRED AT THE INSTALLING CONTRACTORS' EXPENSE. THE FINAL DECISION ON THE SUITABILITY OF A PARTICULAR INSTALLATION'S ACCEPTABILITY SHALL BE THAT OF THE ENGINEER.
S. CHECK ALL THREE PHASE MOTORS WITH A PHASE ROTATION METER, PRIOR TO PLACING IN SERVICE.
T. PROVIDE DETAILED SHOP DRAWINGS TO ENGINEER PRIOR TO PURCHASING OR INSTALLING ANY EQUIPMENT
U. DEVIATIONS IN SIZES, CAPACITIES, FIT, FINISH, ETC. FOR EQUIPMENT FROM THAT PRIME SPECIFIED SHALL BE THE RESPONSIBILITY OF THE PURCHASER OF THAT EQUIPMENT. ANY PROVISIONS REQUIRED TO ACCOMMODATE A DEVIATION, WHETHER APPROVED BY THE ENGINEER OR NOT, SHALL BE THE RESPONSIBILITY OF THE PURCHASER.
V. THE CONSTRUCTION MANAGER, GENERAL CONTRACTOR, OR WHOMEVER HOLDS THE PRIME CONTRACT(S) FOR THIS CONSTRUCTION IS RESPONSIBLE FOR THE COORDINATION, APPEARANCE, SCHEDULING AND TIMELINESS OF THE WORK OF ALL TRADES, CONTRACTORS, SUPPLIERS, INSTALLERS, ETC. POOR OR UNTIMELY WORK ON THE PART OF ANY SUBCONTRACTOR SHALL BE RESOLVED BY THE PARTY WHO ENGAGED THEM ON THIS PROJECT.
W. WHERE MOUNTING HEIGHTS ARE NOT INDICATED OR ARE IN CONFLICT WITH ANY OTHER BUILDING SYSTEM, CONTACT THE ENGINEER BEFORE AFFECTING INSTALLATION. REFER ALSO TO ARCHITECTURAL INTERIOR AND EXTERIOR ELEVATIONS, CEILING HEIGHTS AND OTHER DETAILS OF THESE DOCUMENTS, AS APPLICABLE.
X. WHERE FIRE-RATED CEILING ASSEMBLIES ARE NOTED, PROVIDE UL-LISTED FIRE-RATED GYPSUM BOARD OR PRE-MANUFACTURED ENCLOSURES ABOVE LUMINAIRES, CEILING DEVICES, ETC. IN OR ON CEILING, AS REQUIRED TO MAINTAIN CEILING RATINGS.
Y. COORDINATE THE LOCATION OF DRAINS, ELECTRICAL OUTLETS, GAS OUTLETS, ETC. WITH ALL CASEWORK, KITCHEN EQUIPMENT, MECHANICAL ROOM EQUIPMENT, ETC. PRIOR TO COMMENCING INSTALLATION. WORK NOT SO COORDINATED SHALL BE REMOVED AND PROPERLY INSTALLED AT THE EXPENSE OF THE RESPONSIBLE CONTRACTOR(S).
Z. ALL ELECTRICAL COMPONENTS OR EQUIPMENT SHALL BE LISTED AND LABELED BY UNDERWRITER'S LABORATORIES OR OTHER APPROVED LISTING AGENCY. APPROVAL AND LABELING OF INDIVIDUAL COMPONENTS ON AN ASSEMBLY IS NOT ACCEPTABLE AS MEETING THIS REQUIREMENT, UNLESS WAIVED BY THE ENGINEER IN WRITING.
AA. ALL WIRING SYSTEMS SHALL BE INSTALLED WITH A MINIMUM OF SPLICES. CONDUCTORS, WHETHER SINGLE OR MULTI-PAIR, SHALL BE INSTALLED CONTINUOUS INSOFAR AS POSSIBLE FROM TERMINAL POINT TO TERMINAL POINT.
BB. NO CONDUIT, SUPPORTS, ETC. SHALL BE RUN THROUGH ACCESS CLEARANCES OF EQUIPMENT BY OTHER TRADES (I.E. VAV BOXES). COORDINATE WITH ALL TRADES PRIOR TO CONSTRUCTION.
CC. ALL CONTRACTORS SHALL EXERCISE EXTREME CARE IN THE COURSE OF THEIR WORK SO AS TO ENSURE THAT THEY DO NOT INTERRUPT ANY EXISTING SERVICE OR SUB-SERVICE FOR SAFETY PURPOSES. PAY PARTICULAR ATTENTION TO THIS PRECAUTION RELATIVE TO NATURAL GAS AND ELECTRICAL LINES. VERIFY THE LOCATION, SIZE, TYPE, ETC. OF EACH UNDERGROUND OR OVERHEAD UTILITY. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL FEDERAL, STATE AND/OR LOCAL RULES, REGULATIONS, STANDARD AND SAFETY REQUIREMENTS. UTILITIES SHALL BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE MUNICIPALITY OR UTILITY COMPANY STANDARDS. IN ALL CASES, THE MOST STRINGENT REQUIREMENT SHALL APPLY.
DD. ALL SUPPORTS FOR EQUIPMENT, DEVICES OR FIXTURES SHALL BE UNIQUE, DIRECTLY FROM THE BUILDING STRUCTURE. DO NOT SUPPORT WORK FROM OTHER TRADES EQUIPMENT OR SUPPORTS WITHOUT WRITTEN PERMISSION FROM THE ENGINEER AND CONSENT OF THE OTHER TRADE, IN WRITING.
EE. WHERE INTERRUPTING AN EXISTING UTILITY OR SERVICE DELIBERATELY OR ACCIDENTALLY, THE RESPONSIBLE CONTRACTOR SHALL WORK CONTINUOUSLY AS NEEDED TO RESTORE SAME, PROVIDING PREMIUM TIME AS NEEDED.
FF. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING REQUIRED FOR HIS WORK. ALL CUTTING AND PATCHING SHALL BE IN ACCORDANCE WITH THE ARCHITECT'S STANDARDS FOR SUCH WORK.
GG. ALL WORK SHALL BE CONCEALED UNLESS SPECIFICALLY INDICATED TO BE EXPOSED, OR REQUIRED TO BE EXPOSED. IF IN DOUBT, CONTACT THE ENGINEER FOR CLARIFICATIONS PRIOR TO INSTALLING ANY SUCH WORK.
HH. INTERRUPTION OF ANY EXISTING SERVICES SHALL BE COORDINATED WITH THE OWNER, GENERAL CONTRACTOR, UTILITY COMPANY AS NECESSARY, AND THE ARCHITECT, AT LEAST TWO WEEKS IN ADVANCE OF ANTICIPATED INTERRUPTION. A SCHEDULE FOR THESE OUTAGES SHALL BE DEVELOPED AND AGREED UPON BETWEEN THE PARTIES MENTIONED TO AVOID UNNECESSARY INCONVENIENCE TO THE OWNER OR ANY AFFECTED PARTY. NOTIFY THE UTILITY COMPANY OF ANY ANTICIPATED SERVICES REQUIRED TWO WEEKS IN ADVANCE, IN WRITING. IF UTILITY COMPANY REQUIRES A LONGER NOTIFICATION PERIOD, SO PROVIDE.
II. WHERE BACKBOXES ARE LOCATED IN THE SAME VERTICAL CHANNEL/STUD SPACE ON OPPOSITE SIDES OF THE SAME WALL, PROVIDE SOUND-INSULATING PUTTY AROUND BOXES AS REQUIRED TO ELIMINATE SOUND TRANSMISSION FROM ROOM TO ROOM.
JJ. JUNCTION BOXES LOCATED ABOVE ACCESSIBLE CEILINGS SHALL BE LOCATED NO MORE THAN 36" ABOVE CEILING LEVEL. LABEL EACH BOX IN AREA OF WORK WITH A PERMANENT MARKER OR IN ACCORDANCE WITH SPECIFICATIONS, WHICHEVER IS MORE STRINGENT.
KK. ALL MATERIALS FURNISHED AND ALL WORK INSTALLED SHALL COMPLY WITH THE CURRENT EDITION OF THE NATIONAL ELECTRICAL CODES, NATIONAL FIRE CODES OF THE NATIONAL FIRE PROTECTION ASSOCIATION, THE REQUIREMENTS OF LOCAL UTILITY COMPANIES, AND WITH THE REQUIREMENTS OF ALL GOVERNMENTAL AGENCIES OR DEPARTMENTS HAVING JURISDICTION. IF ANY CONFLICTS OR DISCREPANCIES OCCUR THE MOST STRINGENT SHALL APPLY.
LL. DO NOT SCALE FROM DRAWINGS, AS PRINTING DISTORTS SCALE. WORK SHALL BE LAID OUT FROM DIMENSIONED DRAWINGS, OR DIMENSIONS SUPPLIED TO THE CONTRACTOR.
MM. NOISY WORK, WORK OUTSIDE CONSTRUCTION BARRIERS, WORK IN OCCUPIED AREAS, ETC. SHALL BE PERFORMED AFTER HOURS OR ON WEEKENDS. COORDINATE EXACT SCHEDULING WITH FACILITY PRIOR TO CONSTRUCTION.
NN. ALL ITEMS HAVING KEYED LOCKS/OPERATORS SHALL HAVE CORED LOCKS/OPERATORS. ALL KEYING SHALL MATCH THE OWNER'S EXISTING KEY-WAYS. COORDINATE EXACT REQUIREMENTS WITH OWNER PRIOR TO CONSTRUCTION.

DESCRIPTION	MOUNTING HEIGHT (TO CENTER OF BOX)	DRAWING SYMBOL
SWITCHES		
LIGHT SWITCH:GENERAL PURPOSE	46"	$
DIMMER SWITCH	46"	$D
THREE-WAY SWITCH	46"	$3
KEYED SWITCH	46"	$K
OCCUPANCY OR VACANCY SENSOR SWITCH	46"	$OS, $VS
LOW VOLTAGE SWITCH	46"	$LV, $LV#
NON-REVERSING MOTOR STARTER SNAP SWITCH	AS NOTED	$M
TIMER SWITCH	46"	$T
OCCUPANCY OR VACANCY SENSOR, CEILING MOUNT	CLG	(OS), (VS)
PHOTO-CELL AS NOTED	AS NOTED	(PC)
EXAM LIGHT SWITCH	46"	$X
NIGHT LIGHT SWITCH WITH CONSTANTLY ILLUMINATED HANDLE	46"	$N
SURGICAL LIGHT INTENSITY CONTROL	46"	$SL
FOUR-WAY SWITCH	46"	$4
LIGHT SWITCH FOR UNDER-CABINET LIGHTS	46"	$U
ILLUMINATED HANDLE LIGHT SWITCH (ILLUMINATED WHEN LOAD IS OFF)	46"	$IL
PILOT LIGHT SWITCH (ILLUMINATED WHEN LOAD IS ON)	46"	$PL
MOMENTARY CONTACT SWITCH	46"	$MC
HAND-OFF-AUTO 3-POSTION SWITCH	46"	$HOA
EMERGENCY AUTOMATIC TRANSFER SWITCH FOR LIGHTING CONTROLS (REFER TO DETAIL)		ER
POWER OUTLETS		
SIMPLEX RECEPTACLE	1'-6"	
DUPLEX RECEPTACLE-SAFETY TYPE, TAMPER-RESISTANT	1'-6"	S
DUPLEX RECEPTACLE	1'-6"	
SLASH THROUGH ANY DEVICE INDICATES MOUNTING ABOVE COUNTERTOP 2" ABOVE BACKSPLASH, OR AT 48" WHERE NO COUNTER IS PRESENT		
FILLED CENTER BAR INDICATES INTEGRAL GROUND FAULT PROTECTION (GFCI)	1'-6"	
FILLED OUTER BARS INDICATES INTEGRAL INTEGRAL USB OUTLETS IN ADDITION TO POWER RECEPTACLES	1'-6"	
DUPLEX RECEPTACLE, CEILING MOUNTED	CLG	
QUADRUPLEX RECEPTACLE	1'-6"	
JUNCTION BOX, CEILING OR WALL		(J), (J)
VOLTAGE/1PH RECEPTACLE, AS NOTED	AS NOTED	
VOLTAGE/3PH RECEPTACLE, AS NOTED	1'-6"	
GROUND FAULT PROTECTED DUPLEX WITH WEATHER-PROOF "WHILE IN USE" TYPE DIE-CAST METAL COVERPLATE WITH LOCKABLE ENCLOSURE AT OUTLET - SEE SPECIFICATIONS	2'-2"	WP
DUPLEX FOR ELECTRIC WATER COOLER: PROVIDE REMOTE, READILY ACCESSIBLE GFI DEVICE AT 48" ADJACENT TO WATER COOLER, COORDINATE EXACT LOCATION WITH PLUMBING CONTRACTOR TO CONCEAL OUTLET BEHIND COOLER		EWC
DEAD FRONT GFCI DEVICE, LABEL AND INSTALL IN READILY ACCESSIBLE LOCATION		
GANG RECEPTACLE IN COMBINATION WITH SWITCH (PROVIDE DIVIDER IF LIGHTING CIRCUIT IS 277V)	46"	C/S
"DOG-HOUSE" TYPE TWIN DUPLEX RECEPTACLE WITH ONE DUPLEX RECEPTACLE ON BOTH SIDES	ON CNTR.	DP
SS INDICATES SURGE SUPPRESION TYPE OUTLET(S)		SS
FIRE ALARM		
MAIN CONTROL PANEL CENTRAL PROCESSING UNIT (CPU)	6'-6" TO TOP	FACP
PULL STATION : DOUBLE ACTION	46" TO LEVER	F
AUDIO/VISUAL NOTIFICATION APPLIANCE	WALL, CLG	F, (F)
AUDIO-ONLY NOTIFICATION APPLIANCE	WALL, CLG	A, (A)
VISUAL-ONLY NOTIFICATION APPLIANCE	WALL, CLG	V, (V)
PHOTO-ELECTRIC SMOKE DETECTOR	CLG	SD
PROJECTED BEAM SMOKE DETECTOR; EMITTER (BE) AND RECEIVER (BR)		BE, BR
HEAT DETECTOR	CLG	HD
CARBON MONOXIDE DUCT DETECTOR	ABV CLG	CD
DOOR HOLDER : WALL TYPE	WALL	DH
DOOR HOLDER : CLOSURE TYPE	ABV DOOR	DH C
DUCT SMOKE DETECTOR	ABV CLG	DD
CONNECTION TO SPRINKLER TAMPER SWITCH WITH ADDRESSABLE MODULE		FS
REMOTE L.C.D. FIRE ALARM ANNUNCIATOR	54"	FAA
POWER SUPPLY/CONTROL FOR AUDIO/VISUAL DEVICES	46"	NAC
TRANSPONDER CABINET	46"	TRAN
FIRE ALARM CONTROL EXTENDER		EXT
ISOLATION MODULE	WALL	I
ZONE ADDRESSABLE MODULE		Z
H.V.A.C. SMOKE DAMPER CONNECTION		SM
ADDRESSABLE RELAY MODULE		R
INDICATES VANDAL-PROOF POLYCARBONATE COVER, VANDAL PROOF COVERS SHALL BE UL LISTED FOR USE WITH THE SPECIFIC DEVICE THEY ARE PROTECTING		PC
INDICATES CHIME AUDIBLE NOTIFACTION		CH
DEVICE USED FOR ELEVATOR CONTROL		EL
KEYED, LOCKED PULL STATION : DOUBLE ACTION. STATION SHALL ONLY BE OPERABLE VIA KEY IN POSSESSION OF STAFF.	46" TO LEVER	F K
BELL / LIGHT	80"	BL
BELL ONLY	80"	B
PHOTO-ELECTRIC SMOKE DETECTOR FOR PATIENT ROOM MONITORING (SEE RISER)	CLG	SD P
CARBON MONOXIDE ALARM: SINGLE STATION W/SOUNDER BASE	CLG	CM
CARBON MONOXIDE AUDIO/VISUAL NOTIFICATION APPLIANCE	WALL	F CM
POST INDICATOR VALVE		PIV
GRAPHICS DISPLAY TERMINAL		GDT
FLUSH MOUNTED REMOTE ALARM INDICATING STATION/TEST SWITCH	7'-6"	RI
FIREMAN'S PHONE JACK	4'-6"	FP
FIREMAN'S KNOX BOX CONNECTION		KB

DESCRIPTION	MOUNTING HEIGHT (TO CENTER OF BOX)	DRAWING SYMBOL
LIGHTING		
REFER TO LUMINAIRE SCHEDULE FOR EXACT FIXTURE SPECIFICATIONS, MOUNTING HEIGHTS, ETC.		
SURFACE OR SUSPENDED CEILING FIXTURE (SLASH INDICATES RECESSED)		
POLE MOUNTED AREA LIGHT		
WALL MOUNT FIXTURE		
FLOODLIGHT		
EXIT LIGHT (CEILING, END, WALL MOUNT)		
STRIP FIXTURE		
CROSS-HATCHING INDICATES LIGHT IS POWERED FROM THE EMERGENCY-CRITICAL BRANCH		
PARALLEL-HATCHING INDICATES LIGHT IS POWERED FROM THE EMERGENCY-LIFE SAFETY BRANCH		
EMERGENCY BATTERY WALL-PACK		
SURGICAL/EXAM LIGHT		SL, XL
MISCELLANEOUS		
CONDUIT CONCEALED IN WALLS OR IN CEILING SPACE: ARROW(S) INDICATE(S) HOME RUN & # OF CIRCUITS: HASHMARKS INDICATE # OF CONDUCTORS. DASHED LINE INDICATES CONDUIT BELOW FLOOR.		GROUND, NEUTRAL, PHASE
DISCONNECT SWITCH	5'-0"	
MAGNETIC STARTER	5'-0"	
MAGNETIC COMBINATION STARTER	5'-0"	
VARIABLE FREQUENCY DRIVE	5'-0"	
ENCLOSED FLUSH MTD. CIRCUIT BREAKER	5'-0"	
PUSHBUTTON STATION	46"	
FLEXIBLE CONDUIT	6'-6" TO TOP	
PANELBOARD, SURFACE OR FLUSH MOUNTED, HATCHING INDICATES EMERGENCY		
TRANSFORMER	AS NOTED	
EQUIPMENT TAG, REFER TO EQUIPMENT SCHEDULE		EQUIP-1
TAGGED NOTE		
REVISION TAG		
MECHANICAL EQUIPMENT DESIGNATOR (SEE MECH. SCHEDULES)		
WIRE BASKET CABLE TRAY, SIZE AS NOTED	AS SHOWN	
LADDER CABLE TRAY, SIZE AS NOTED	AS SHOWN	
SOLID BOTTOM CABLE TRAY, SIZE AS NOTED	AS SHOWN	
LOW VOLTAGE CABLE PATH		
EQUIPMENT HARDWIRE CONNECTION (SEE DETAIL)		
MOTOR CONNECTION, REFER TO EQUIPMENT CONNECTION SCHEDULE		
WIREGUARD - PROVIDE MANUFACTURER'S SPECIFIC GUARD FOR DEVICE NOTED		WG
WEATHERPROOF - NEMA-3R, WET LOCATION LISTED. PROVIDE COVERS, RATINGS, ETC, AS SUITABLE FOR OUTDOORS.		WP
INDICATES EMERGENCY POWER		E,EM
GENERATOR ANNUNCIATOR PANEL - SEE SPECIFICATIONS	46"	GEN-A
THERMOSTAT PROVIDED BY MECHANICAL CONTRACTOR, ELECTRICAL CONTRACTOR SHALL PROVIDE BACK-BOX CONDUIT STUB-UP, REFER TO MECHANICAL DRAWINGS FOR LOCATIONS		(T)
CONDUIT UP		
CONDUIT DOWN		
GROUND BUS BAR ON INSULATED STANDOFFS	2'-0"	
BOX ON ANY DEVICE INDICATES SURFACE MOUNTED BACKBOX/WIREMOLD		
CIRCLE ON ANY DEVICE INDICATES DEVICE FED FROM STUB UP CONDUIT		
WIREWAY WITH REMOVABLE COVER (SIZE AS NOTED)	AS SHOWN	
TRENCH DUCT (SIZE AS NOTED)	AS SHOWN	
DOORBELL PUSHBUTTON STATION, PROVIDE COMPLETE WITH TRANSFORMER (MOUNT ABOVE CEILING IN CORRIDOR NEAR PUSH-BUTTON) AND ALL ACCESSORIES, POWER FROM NEAREST AVAILABLE 120V NORMAL POWER GENERAL RECEPTACLE CIRCUIT, NUTONE OR EQUAL	46"	DB
DOORBELL AUDIO/VISUAL STATION, PROVIDE PROVIDE CONNECTION TO PUSHBUTTON STATION IN AREA. COORDINATE EXACT AUDIO SOUND (CHIME, BUZZER, ETC.) DESIRED WITH OWNER/ARCHITECT, NUTONE OR EQUAL	7'-6"	DB
KITCHEN EQUIPMENT OUTLET COUPLING CONNECTION (SEE DETAIL)		K
INDICATES MOUNTING ABOVE COUNTER-TOP, 2" ABOVE BACKSPLASH, NO HIGHER THAN 48"		C
EXPLOSION PROOF - PROVIDE WIRING METHODS, ENCLOSURES, RATINGS, ETC. AS SUITABLE FOR HAZARDOUS LOCATION.		XP
PLUMBING FIXTURE SOLENOID VALVE/ELECTRIC EYE SENSOR CONNECTION. COORDINATE EXACT CONNECTION REQUIREMENTS WITH MANUFACTURER.		
PLUMBING FIXTURE ELECTRIC EYE TRANSFORMER CONNECTION. TRANSFORMER SHALL BE 120V-24V. MOUNT ABOVE SUSPENDED ACCESSIBLE CEILING IN J-BOX. PROVIDE ADDITIONAL TRANSFORMERS OF SAME TYPE AS/IF NEEDED		
PROVIDE CONNECTION TO HAND DRYER (SEE ARCHITECTURAL SPECIFICATIONS)	VERIFY WITH ARCHITECT	
SURGE PROTECTION DEVICE		SPD
BUS DUCT, AMPERAGES AS NOTED	AS SHOWN	
SPECIAL OUTLETS		
FLOORBOX, POWER ONLY, AS SCHEDULED	FLOOR	
FLOORBOX, COMBINATION POWER AND LOW VOLTAGE, REFER TO FLOORBOX SCHEDULE	FLOOR	
FIRE RATED POKE THOUGH FLOOR BOX, COORDINATE EXACT COVER REQUIREMENTS WITH ARCHITECTURAL FINISHES, DEVICES AS SCHEDULED	FLOOR	
AUDIO/VISUAL SYSTEM OUTLET WITH DUPLEX RECEPTACLE, REFER TO ASSOCIATED DETAIL FOR ADDITIONAL INFORMATION	1'-6"	AV
COMBINATION POWER AND DATA OUTLET LOCATION, REFER TO ASSOCIATED DETAIL FOR ADDITIONAL INFORMATION	1'-6"	
COMBINATION POWER AND DATA OUTLET LOCATION, GFCI DUPLEX RECEPTACLE, REFER TO ASSOCIATED DETAIL FOR ADDITIONAL INFORMATION	1'-6"	
OVERHEAD PROJECTOR: PROVIDE DUPLEX RECEPTACLE, ONE DATA, HDMI, 3.5mm AUDIO, AND VGA OUTLET ON (3) PLATES	CLG	
SPECIAL VIDEO SYSTEM SIGNAL INPUT		
SURFACE PLUG-MOLD		
SURFACE WIRE-MOLD		
POWER POLE AS NOTED		PP

DESCRIPTION	MOUNTING HEIGHT (TO CENTER OF BOX)	DRAWING SYMBOL
ABBREVIATIONS		
UNLESS OTHERWISE NOTED		UON
OWNER FURNISHED CONTRACTOR INSTALLED		OFCI
OWNER FURNISHED OWNER INSTALLED		OFOI
CONTRACTOR FURNISHED CONTRACTOR INSTALLED		CFCI
CONTRACTOR FURNISHED OWNER INSTALLED		CFOI
INDICATES EMERGENCY POWER		EM
DATA / VOICE		
DATA OUTLET : NUMBER BESIDE OUTLET INDICATES NUMBER OF DATA JACKS	1'-6"	#D
VOICE OUTLET : NUMBER BESIDE OUTLET INDICATES NUMBER OF VOICE JACKS	1'-6"	#V
COMBINATION OUTLET : NUMBER BESIDE OUTLET INDICATES NUMBER OF DATA/VOICE JACKS	1'-6"	#D/#V
MAIN DISTRIBUTION FRAME - REFERENCE DATA SYSTEM SCHEMATICS AND DETAILS FOR ADDITIONAL REQUIREMENTS		MDF
INTERMEDIATE DISTRIBUTION FRAME - REFERENCE DATA SYSTEM SCHEMATICS AND DETAILS FOR ADDITIONAL REQUIREMENTS		IDF
WIRELESS ACCESS POINT WITH PROVISIONS FOR (1 DATA OUTLET FOR ANTENNA. PROVIDE A COMPLETE DATA OUTLET WITH FACEPLATE ABOVE CEILING, MOUNTED AT AN ACCESSIBLE HEIGHT NO MORE THAN 24" ABOVE CEILING. AT EACH OUTLET, PROVIDE A 20' COIL OF CABLE AHEAD OF THE OUTLET FOR ADJUSTMENT OF FINAL OUTLET LOCATION. THE CONTRACTOR SHALL COORDINATE EXACT LOCATIONS WITH THE OWNER AND ADJUST OUTLET LOCATIONS AT SUBSTANTIAL COMPLETION TO ACCOMMODATE OWNER'S WAP LOCATIONS. WAP'S ARE OWNER-FURNISHED, OWNER-INSTALLED		WAP
RF TRACKER ANTENNA	CLG	
TELEMETRY ANTENNA	CLG	
OUTLET (VOICE ONLY) : PAYPHONE TYPE	AS REQ'D.	PAY
TELECOMMUNICATIONS SYSTEM BACKBOARD. PROVIDE 96"H x 3/4"D FIRE-RETARDENT PLYWOOD BACKBOARD WITH TWO (2) COATS OF NON-C0NDUCTIVE, FIRE-RETARDANT LIGHT GRAY PAINT, # 3/0 TO GROUND BAR AT MAIN SERVICE SWITCHBOARD, 30-PT GROUND BAR AND A 6'-0", #3 AWG PIGTAIL AT BACKBOARD. INSTALL BOARD AT 2' AFF. (LENGTH OF BOARD AS INDICATED ON FLOOR PLAN)		TEL

Sheet List - Electrical

SHEET #	SHEET NAME
E001	ELECTRICAL GENERAL INFORMATION
E002	ELECTRICAL DETAILS
E301	ELECTRICAL ENLARGED PLANS - DEMO
E302	ELECTRICAL ENLARGED PLANS - NEW WORK
E501	ELECTRICAL SINGLE LINE

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PROJECT

Greater Columbus Convention Center North Facility Chiller Replacement - 2023-5

400 North High Street Columbus, Ohio 43215

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CONSULTANTS

REGISTRATION

KEYPLAN

ISSUE / REVISION

#	Date	Description
1	10/25/2023	BID SET

PROJECT NUMBER

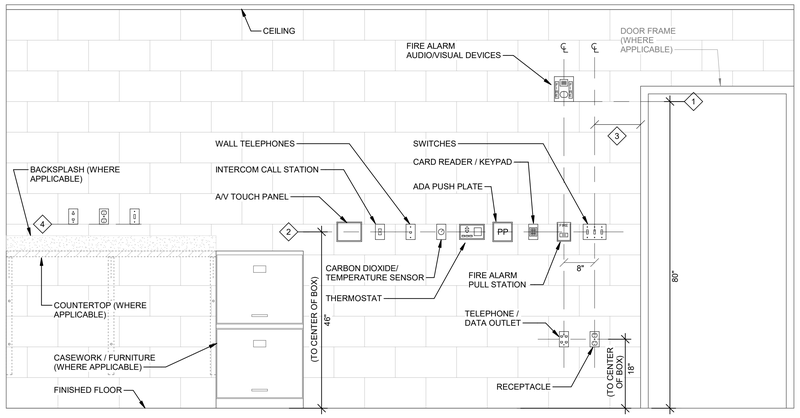
OCCC23

SHEET TITLE

ELECTRICAL GENERAL INFORMATION

SHEET NUMBER

E001



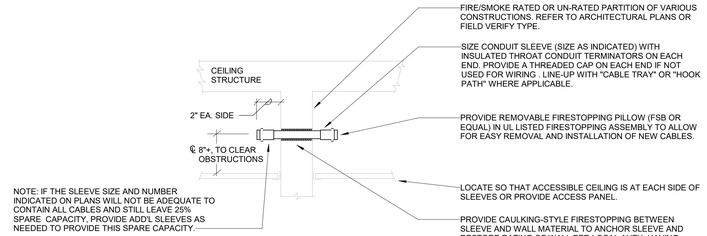
DEVICE MOUNTING DETAIL - GENERAL NOTES:

A. WHERE DEVICES OF ANY DISCIPLINE ARE LOCATED IN THE SAME GENERAL AREA ON THE PLANS AND ARE SHOWN TO BE MOUNTED AT A SIMILAR HEIGHT, ALIGN HORIZONTALLY ALONG TOP OF DEVICE BACKBOX (AS SHOWN IN DETAIL AND DESCRIBED IN KEY NOTE #2).
B. WHERE DEVICES OF ANY DISCIPLINE ARE LOCATED IN THE SAME GENERAL AREA ON THE PLANS AND ARE SHOWN MOUNTED AT DIFFERENT HEIGHTS, ALIGN VERTICALLY ALONG THE CENTERLINE OF THE DEVICE BACKBOX (AS SHOWN IN DETAIL).
C. FOR ANY WALL OTHER THAN PAINTED GYPSUM BOARD OR CMU, DEVICE LOCATIONS MUST BE FIELD APPROVED BY ENGINEER OR ARCHITECT PRIOR TO INSTALLATION OF FINISHES.
D. ADA REQUIRES 48" ABOVE FINISH FLOOR FOR FRONT ACCESS. SIDE REACH ACCESS ALLOWS A MAXIMUM OF 54" AND A LOW SIDE REACH OF NO LESS THAN 9" ABOVE FINISH FLOOR. ADA FRONT AND SIDE REACH ACCESS MUST BE MAINTAINED FOR NEW AND EXISTING CONSTRUCTION. NOTIFY ARCHITECT AND ENGINEER OF ANY DISCREPANCIES.

DEVICE MOUNTING DETAIL - KEY NOTES:

1. MOUNT VISUAL NOTIFICATION APPLIANCES SO THAT ENTIRE LENS IS BETWEEN 80" AND 96" AFF. IF CEILING IS TOO LOW FOR DEVICE TO BE MOUNTED ABOVE 80", MOUNT SO THAT THE LENS IS WITHIN 6" OF FINISHED CEILING.
2. ALIGN BACKBOXES OF DEVICES AT THE MOUNTING HEIGHT INDICATED. MEASURE TO THE CENTER OF THE BACKBOX FOR STANDARD OUTLET BOXES. NON-STANDARD BACKBOXES ARE TO BE INSTALLED SUCH THAT THE FINISHED DEVICES ARE ALIGNED ALONG THEIR RESPECTIVE CENTERLINES.
3. MOUNTING HEIGHTS SHOWN ILLUSTRATE DESIGN INTENT AND ARE TO BE FOLLOWED UNLESS CONTRADICTED BY APPLICABLE CODE. WHERE DEVICES ARE SHOWN ADJACENT TO DOOR FRAMES ON PLANS INSTALL 12" FROM FRAME TO AVOID SLUSHED SECTIONS OR BRACING. SPECIFIC DEVICES ARE SHOWN IN RELATIVE ORDER FROM DOOR FRAME; WHERE THESE DEVICES ARE NOT PRESENT AT A PARTICULAR LOCATION, ADJUST LOCATIONS CLOSER TO DOOR ACCORDINGLY.
4. THE CONTRACTOR IS TO COORDINATE ALL ROUGH-INS WITH ANY COUNTERTOPS/BACKSPLASHES/WALL PROTECTION TO AVOID CONFLICT. ALIGN DEVICE BACKBOXES IN THE BOTTOM OF THE NEXT FULL BLOCK ABOVE THE BACKSPLASH AS SHOWN. FOR NON-BLOCK WALLS ALIGN BOTTOM OF DEVICE BACKBOXES 2" ABOVE BACKSPLASH. COORDINATE WORK WITH CASEWORK AND KITCHEN SHOP DRAWINGS ACCORDINGLY. IF CONFLICT STILL ARISES CONTACT THE ENGINEER FOR DIRECTION ON HOW TO PROCEED.

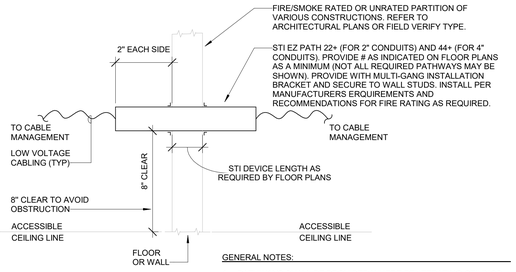
1 TYPICAL WALL DEVICE MOUNTING DETAIL
SCALE: NONE



GENERAL NOTES:

A. PROVIDE ONE 2" SPARE CONDUIT SLEEVE THROUGH ALL FULL HEIGHT PARTITIONS FOR FUTURE USE. LABEL AS SPARE FOR OWNER'S USE ONLY. REFER TO ARCHITECTURAL PLANS FOR FULL HEIGHT PARTITION LOCATIONS.
B. USE AT ALL "OPEN" TYPE CABLING PENETRATIONS THROUGH WALLS, FLOORS, ETC.

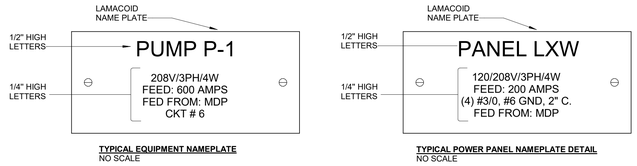
2 CONDUIT WALL SLEEVE INSTALLATION
SCALE: NONE



GENERAL NOTES:

A. PATHWAYS SHALL BE PROVIDED WHERE PENETRATING CEILINGS (RATED OR NOT) FOR EXPOSED CABLE ROUTING TO LADDER TRAY IN MDF/IDF ROOMS. PROVIDE GRID SYSTEMS MOUNT AS REQUIRED.

3 CONDUIT WALL SLEEVE INSTALLATION (EZ PATH)
SCALE: NONE



TYPICAL EQUIPMENT NAMEPLATE
NO SCALE

TYPICAL POWER PANEL NAMEPLATE DETAIL
NO SCALE

GENERAL NOTES:

A. NORMAL POWER LABELS SHALL BE BLACK WITH WHITE LETTERS.
B. EMERGENCY POWER LABELS SHALL BE RED WITH WHITE LETTERS. LABEL SHOULD ALSO INCLUDE THE WORD "EMERGENCY" IN 1/4" LETTERS.
C. EMERGENCY POWER LABELS IN HEALTHCARE APPLICATIONS SHOULD INCLUDE SYSTEM SEVERED "LIFE SAFETY", "CRITICAL" OR "EQUIPMENT".
D. UTILIZE SCREW-ON TYPE LAMACOID PLATES.
E. THIS DETAILS APPLIES TO ALL ELECTRICAL EQUIPMENT INCLUDING PANELS, SWITCHGEAR, DISCONNECTS, TRANSFORMERS, MOTOR STARTERS, VARIABLE FREQUENCY DRIVES (VDF'S), SPECIAL DEVICE PLATES, INVERTER, AND SIMILAR MATERIALS SHALL BE CLEARLY MARKED AS TO THEIR FUNCTION AND USE.

4 ELECTRICAL EQUIPMENT NAMEPLATE
SCALE: NONE

ELEC - EQUIPMENT CONNECTION SCHEDULE

EQUIP ID	DESCRIPTION	DISCONNECT MEANS	VOLTAGE	POLES	HP	POWER (kVA)	MCA
CH-N1	CHILLER 1	UNIT PROVIDED WITH A REMOTE DRIVE. REFER TO NEW WORK PLANS FOR DRIVE LOCATION. E.C. SHALL WIRE AND INSTALL REMOTE DRIVE.	480	3	N/A	911.80	1610
CH-N2	CHILLER 2	UNIT PROVIDED WITH A REMOTE DRIVE. REFER TO NEW WORK PLANS FOR DRIVE LOCATION. E.C. SHALL WIRE AND INSTALL REMOTE DRIVE.	480	3	N/A	911.80	1610
CH-N3	CHILLER 3	UNIT PROVIDED WITH A EQUIPMENT MOUNTED DRIVE. REFER TO NEW WORK PLANS FOR DRIVE LOCATION. E.C. SHALL WIRE AND INSTALL FREQUENCY DRIVE.	480	3	N/A	476.70	793
CHP-N1	PRIMARY PUMP 1	UNIT PROVIDED WITH A VARIABLE FREQUENCY DRIVE [VFD]. E.C. SHALL WIRE AND INSTALL VFD.	480	3	100	103.09	124
CHP-N2	PRIMARY PUMP 2	UNIT PROVIDED WITH A VARIABLE FREQUENCY DRIVE [VFD]. E.C. SHALL WIRE AND INSTALL VFD.	480	3	100	103.09	124
CHP-N3	PRIMARY PUMP 3	UNIT PROVIDED WITH A VARIABLE FREQUENCY DRIVE [VFD]. E.C. SHALL WIRE AND INSTALL VFD.	480	3	100	103.09	124
CHP-N4	PRIMARY PUMP 4	UNIT PROVIDED WITH A VARIABLE FREQUENCY DRIVE [VFD]. E.C. SHALL WIRE AND INSTALL VFD.	480	3	50	54.04	65
CHP-N5	PRIMARY PUMP 5	UNIT PROVIDED WITH A VARIABLE FREQUENCY DRIVE [VFD]. E.C. SHALL WIRE AND INSTALL VFD.	480	3	50	54.04	65
CWP-N1	CONDENSER PUMP 1	UNIT PROVIDED WITH A VARIABLE FREQUENCY DRIVE [VFD]. E.C. SHALL WIRE AND INSTALL VFD.	480	3	125	129.70	156
CWP-N2	CONDENSER PUMP 2	UNIT PROVIDED WITH A VARIABLE FREQUENCY DRIVE [VFD]. E.C. SHALL WIRE AND INSTALL VFD.	480	3	125	129.70	156
CWP-N3	CONDENSER PUMP 3	UNIT PROVIDED WITH A VARIABLE FREQUENCY DRIVE [VFD]. E.C. SHALL WIRE AND INSTALL VFD.	480	3	125	129.70	156
CWP-N4	CONDENSER PUMP 4	UNIT PROVIDED WITH A VARIABLE FREQUENCY DRIVE [VFD]. E.C. SHALL WIRE AND INSTALL VFD.	480	3	100	103.09	124

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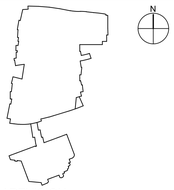


ISSUE / REVISION

#	Date	Description
1	10/25/2023	BID SET

PROJECT NUMBER

OCCC23

SHEET TITLE

ELECTRICAL DETAILS

SHEET NUMBER

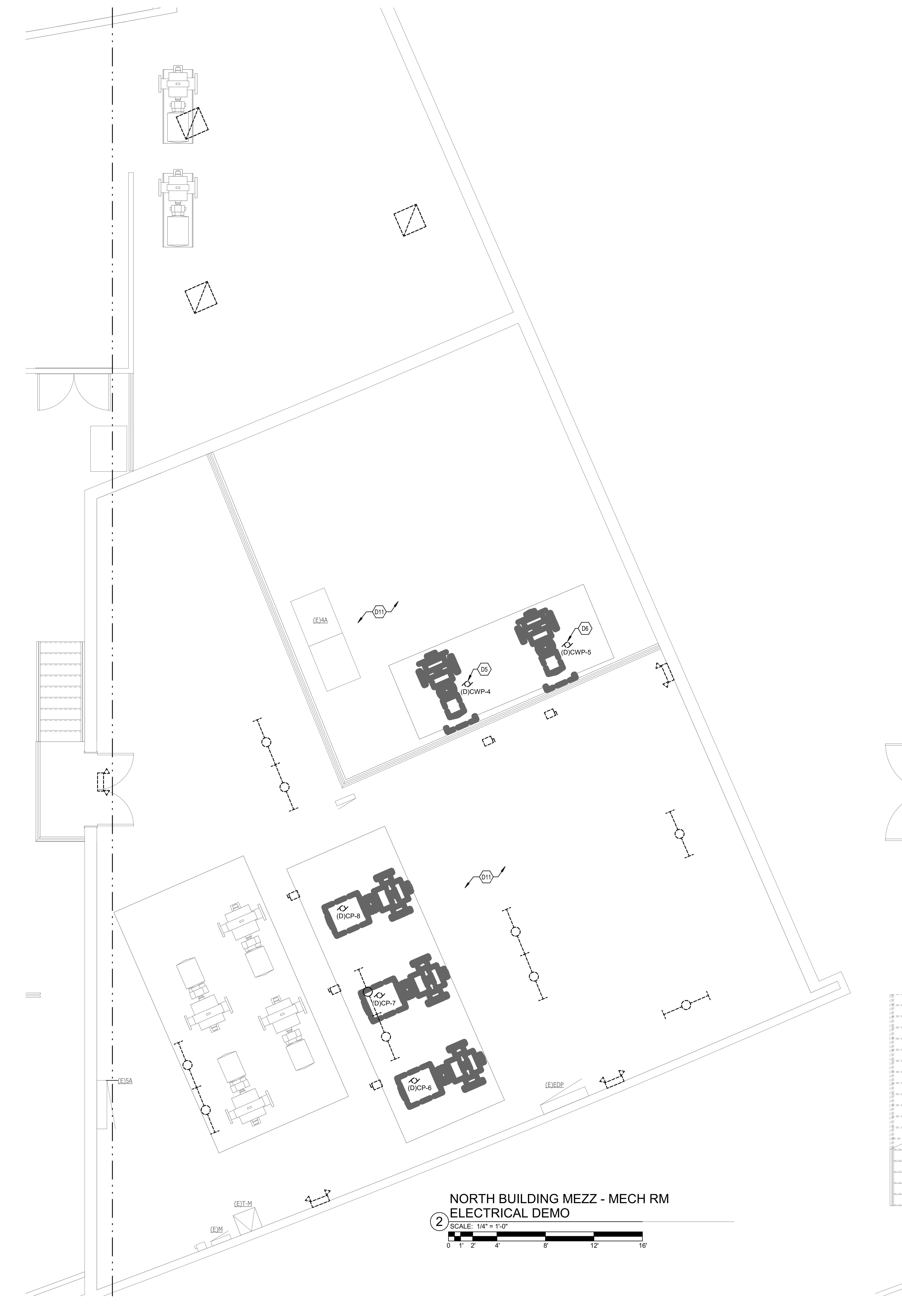
E002

KEYNOTES

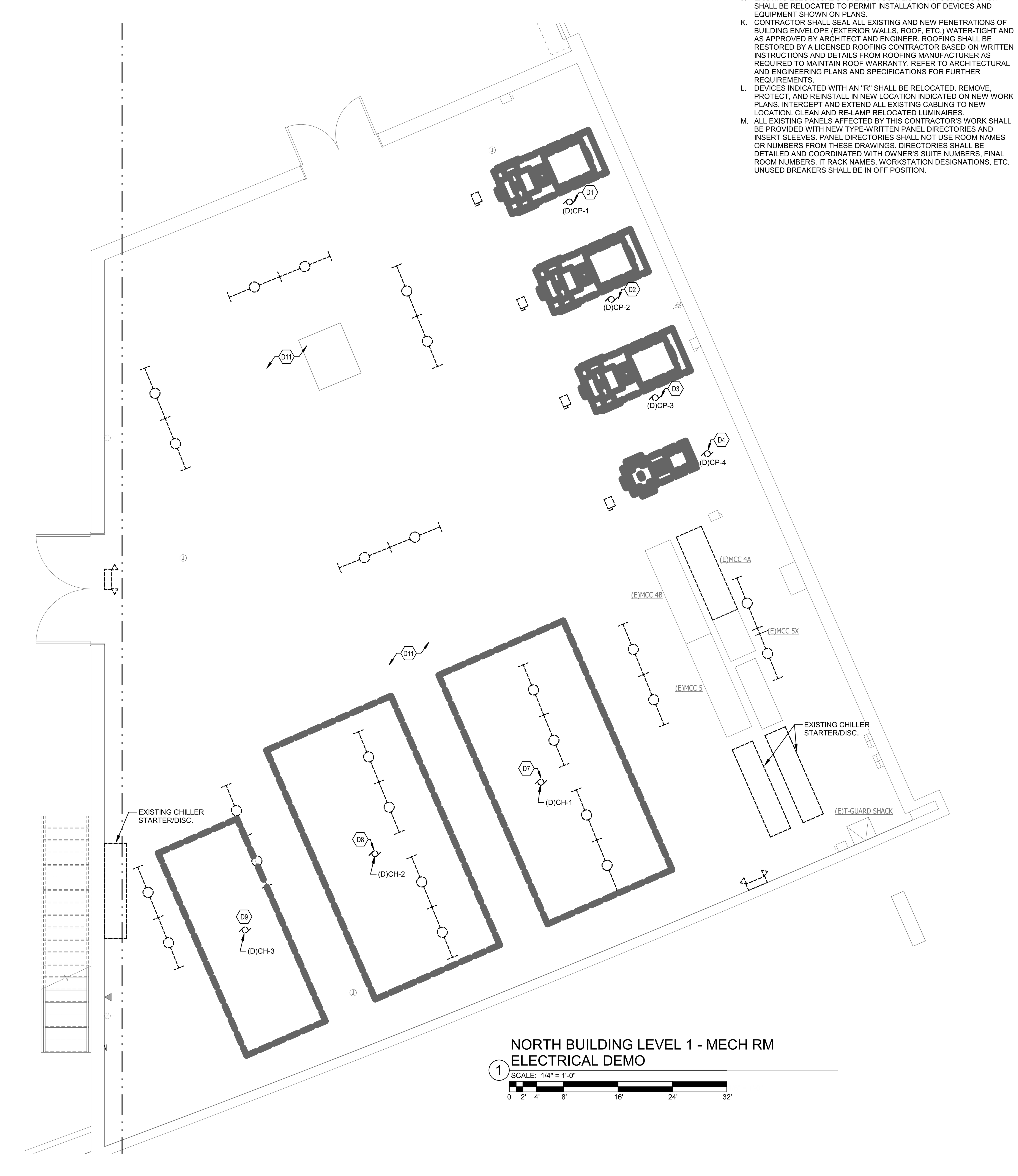
D1	DISCONNECT/REMOVE EXISTING "CP-1" AND RECONNECT TO NEW "CWP-N1". UTILIZE EXISTING ELECTRICAL FEEDER, CONDUIT, AND CIRCUITING. EXTEND EXISTING FEEDER AS NEEDED. CONDUIT AND CONDUCTORS SHALL MATCH EXISTING SIZE AND QUANTITY.
D2	DISCONNECT/REMOVE EXISTING "CP-2" AND RECONNECT TO NEW "CWP-N2". UTILIZE EXISTING ELECTRICAL FEEDER, CONDUIT, AND CIRCUITING. EXTEND EXISTING FEEDER AS NEEDED. CONDUIT AND CONDUCTORS SHALL MATCH EXISTING SIZE AND QUANTITY.
D3	DISCONNECT/REMOVE EXISTING "CP-3" AND RECONNECT TO NEW "CWP-N3". UTILIZE EXISTING ELECTRICAL FEEDER, CONDUIT, AND CIRCUITING. EXTEND EXISTING FEEDER AS NEEDED. CONDUIT AND CONDUCTORS SHALL MATCH EXISTING SIZE AND QUANTITY.
D4	DISCONNECT/REMOVE EXISTING "CP-4" AND RECONNECT TO NEW "CWP-N4". UTILIZE EXISTING ELECTRICAL FEEDER, CONDUIT, AND CIRCUITING. EXTEND EXISTING FEEDER AS NEEDED. CONDUIT AND CONDUCTORS SHALL MATCH EXISTING SIZE AND QUANTITY.
D5	DISCONNECT/REMOVE EXISTING "CWP-4" AND RECONNECT TO NEW "CHP-N4". UTILIZE EXISTING ELECTRICAL FEEDER, CONDUIT, AND CIRCUITING. EXTEND EXISTING FEEDER TO ACCOMMODATE NEW UNIT AS NEEDED. CONDUIT AND CONDUCTORS SHALL MATCH EXISTING SIZE AND QUANTITY.
D6	DISCONNECT/REMOVE EXISTING "CWP-5" AND RECONNECT TO NEW "CHP-N5". UTILIZE EXISTING ELECTRICAL FEEDER, CONDUIT, AND CIRCUITING. EXTEND EXISTING FEEDER TO ACCOMMODATE NEW UNIT AS NEEDED. CONDUIT AND CONDUCTORS SHALL MATCH EXISTING SIZE AND QUANTITY.
D7	DISCONNECT/REMOVE EXISTING "CH-1" AND RECONNECT TO NEW "CH-1". REMOVE EXISTING CONDUIT AND FEEDER FROM EXISTING UNIT BACK TO SOURCE. ALL UNDERGROUND CONDUIT SHALL BE ABANDONED IN PLACE AND CAPPED. RE-ROUTE ALL (6) CONDUITS OVER ELECTRICAL GEAR AND CORE INTO 2ND FLOOR MEZZANINE AND ROUTE THROUGH OPENING DOWN TO THE FIRST LEVEL. EXTEND TO NEW DRIVE LOCATION SHOWN ON THE NEW WORK PLANS.
D8	DISCONNECT/REMOVE EXISTING "CH-2" AND RECONNECT TO NEW "CH-2". REMOVE EXISTING CONDUIT AND FEEDER FROM EXISTING UNIT BACK TO SOURCE. ALL UNDERGROUND CONDUIT SHALL BE ABANDONED IN PLACE AND CAPPED. RE-ROUTE ALL (6) CONDUITS OVER ELECTRICAL GEAR AND CORE INTO 2ND FLOOR MEZZANINE AND ROUTE THROUGH OPENING DOWN TO THE FIRST LEVEL. EXTEND TO NEW DRIVE LOCATION SHOWN ON THE NEW WORK PLANS.
D9	DISCONNECT/REMOVE EXISTING "CH-3" AND RECONNECT TO NEW "CH-3". INTERCEPT EXISTING PATHWAY LOCATED ON THE FIRST LEVEL AND UTILIZE BACK TO SOURCE.
D11	ADD ALTERNATE 2: REMOVE ALL EXISTING LIGHTING IN THIS SPACE AND REPLACE WITH NEW. REFER TO NEW WORK PLANS FOR FIXTURE TYPES.

ELECTRICAL DEMOLITION NOTES:

A. DOTTED LINES INDICATE ITEMS FOR REMOVAL (UON) AND THIN SOLID LINES INDICATE EXISTING ITEMS TO REMAIN.
B. THE CONTRACTOR SHALL MAINTAIN THE CONTINUITY OF EXISTING CIRCUITS THAT CONTAIN DEVICES OR EQUIPMENT THAT ARE TO REMAIN. WHEN DEMOLITION OF AN ELECTRICAL DEVICE (OR CIRCUIT) IS INDICATED ON THE DRAWINGS: THE CONTRACTOR SHALL ENSURE THAT OTHER DEVICES OR EQUIPMENT "UPSTREAM" OR "DOWNSTREAM" ON THE CIRCUITS SHALL REMAIN IN "PRE- DEMOLITION" WORKING ORDER. "LEFT-OVER" CIRCUIT BREAKERS SHALL REMAIN, BE SWITCHED TO OFF POSITION, AND BE LABELED AS SPARES IN THEIR PANELS. PROVIDE NEW TYPEWRITTEN DIRECTORIES FOR ALL PANELS AFFECTED.
C. LOCATIONS OF DEVICES, CONNECTIONS, ETC., INDICATED ON THIS DRAWING WERE TAKEN FROM VARIOUS SOURCES. THEY ARE DIAGRAMMATIC ONLY AND ARE SUBJECT TO VARIATION FROM EXISTING CONDITIONS. CERTAIN EXISTING ELEMENTS MAY NOT BE INDICATED AT ALL. THE CONTRACTOR PROPOSING TO DO ANY PART OF THE WORK INDICATED HEREON SHALL VISIT THIS SITE AND DETERMINE TO HIS SATISFACTION THAT THEY MAY COMPLETE ALL WORK REQUIRED FOR THE BID WHICH HE PROPOSES.
D. REMOVE ALL ASSOCIATED BACKBOXES, CONDUIT AND CONDUCTORS FOR DEVICES / FIXTURES / ETC. BEING REMOVED (BACK TO SOURCE), WHETHER INDICATED OR NOT (UON). CONTRACTOR SHALL PATCH AND REPAIR ANY EXISTING WALLS, FLOORS OR CEILINGS WHERE DEVICES ARE SHOWN TO BE REMOVED (PATCH AND REPAIR TO RECEIVE NEW FINISHES - SEE ARCHITECTURAL PLANS).
E. COORDINATE DISPOSAL OF ALL FIXTURES, DEVICES, ETC. (INDICATED FOR DEMOLITION) WITH OWNER. TURN OVER ITEMS REMOVED TO OWNER AT THEIR OPTION.
F. COORDINATE WITH OTHER TRADES FOR THE REMOVAL AND/OR RELOCATION OF ELECTRICAL DEVICES AND CONNECTIONS ASSOCIATED WITH THEIR EQUIPMENT.
G. PROVIDE TEMPORARY EMERGENCY EXIT LIGHTS AT CONSTRUCTION BARRIERS AS REQUIRED.
H. CONTRACTOR SHALL PATCH AND REPAIR ALL EXISTING WALLS / CEILINGS AS REQUIRED WHERE DEVICES ARE BEING REMOVED OR INSTALLED.
I. UNUSED/ABANDONED CONDUCTORS DISCOVERED ABOVE ACCESSIBLE CEILINGS SHALL BE REMOVED IN ACCORDANCE WITH NEC REQUIREMENTS.
J. EXISTING ELECTRICAL SYSTEMS IN CONFLICT WITH CONSTRUCTION SHALL BE RELOCATED TO PERMIT INSTALLATION OF DEVICES AND EQUIPMENT SHOWN ON PLANS.
K. CONTRACTOR SHALL SEAL ALL EXISTING AND NEW PENETRATIONS OF BUILDING ENVELOPE (EXTERIOR WALLS, ROOF, ETC.) WATER-TIGHT AND AS APPROVED BY ARCHITECT AND ENGINEER. ROOFING SHALL BE RESTORED BY A LICENSED ROOFING CONTRACTOR BASED ON WRITTEN INSTRUCTIONS AND DETAILS FROM ROOFING MANUFACTURER AS REQUIRED TO MAINTAIN ROOF WARRANTY. REFER TO ARCHITECTURAL AND ENGINEERING PLANS AND SPECIFICATIONS FOR FURTHER REQUIREMENTS.
L. DEVICES INDICATED WITH AN "R" SHALL BE RELOCATED. REMOVE, PROTECT, AND REINSTALL IN NEW LOCATION INDICATED ON NEW WORK PLANS. INTERCEPT AND EXTEND ALL EXISTING CABLING TO NEW LOCATION. CLEAN AND RE-LAMP RELOCATED LUMINAIRES.
M. ALL EXISTING PANELS AFFECTED BY THIS CONTRACTOR'S WORK SHALL BE PROVIDED WITH NEW TYPE-WRITTEN PANEL DIRECTORIES AND INSERT SLEEVES. PANEL DIRECTORIES SHALL NOT USE ROOM NAMES OR NUMBERS FROM THESE DRAWINGS. DIRECTORIES SHALL BE DETAILED AND COORDINATED WITH OWNER'S SUITE NUMBERS, FINAL ROOM NUMBERS, IT RACK NAMES, WORKSTATION DESIGNATIONS, ETC. UNUSED BREAKERS SHALL BE IN OFF POSITION.



2 NORTH BUILDING MEZZ - MECH RM
ELECTRICAL DEMO
SCALE: 1/4" = 1'-0"



1 NORTH BUILDING LEVEL 1 - MECH RM
ELECTRICAL DEMO
SCALE: 1/4" = 1'-0"

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PROJECT

Greater Columbus Convention Center North Facility Chiller Replacement - 2023-5

400 North High Street Columbus, Ohio 43215

CLIENT

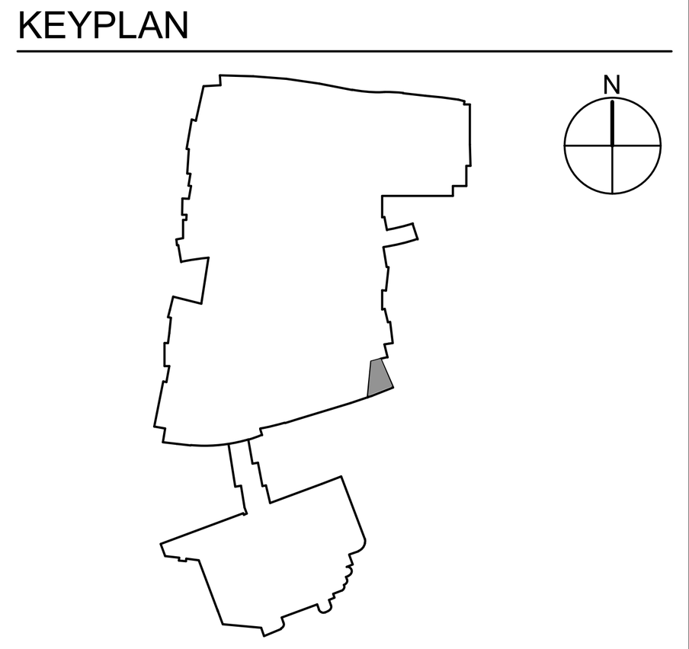
FRANKLIN COUNTY CONVENTION FACILITIES AUTHORITY

400 North High Street, 4th Floor
Columbus, Ohio 43215

CONSULANTS

REGISTRATION

KEYPLAN



ISSUE / REVISION

#	Date	Description
1	10/25/2023	BID SET

PROJECT NUMBER

OCCC23

SHEET TITLE

ELECTRICAL ENLARGED PLANS - DEMO

SHEET NUMBER

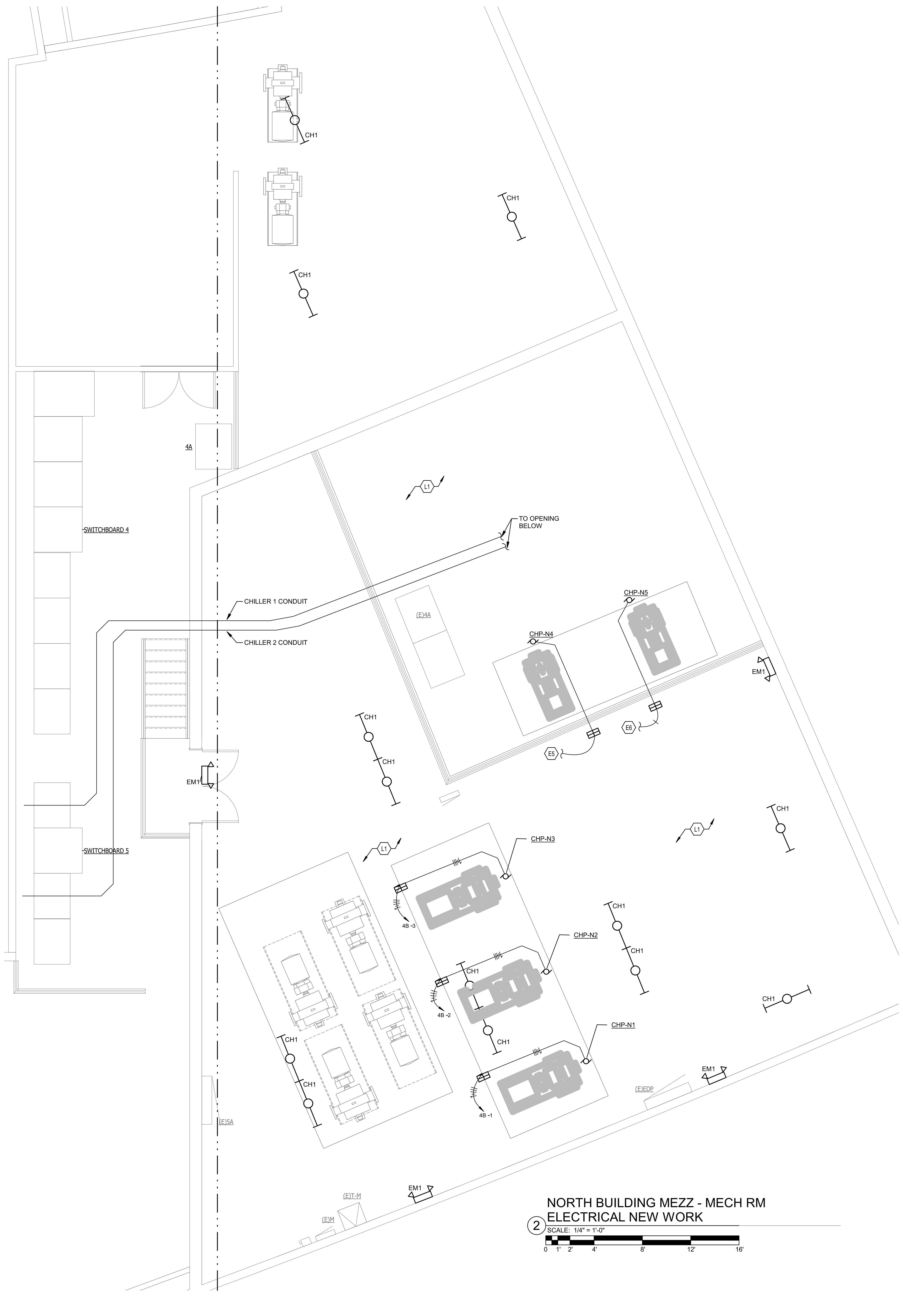
E301

GENERAL NOTES (POWER):

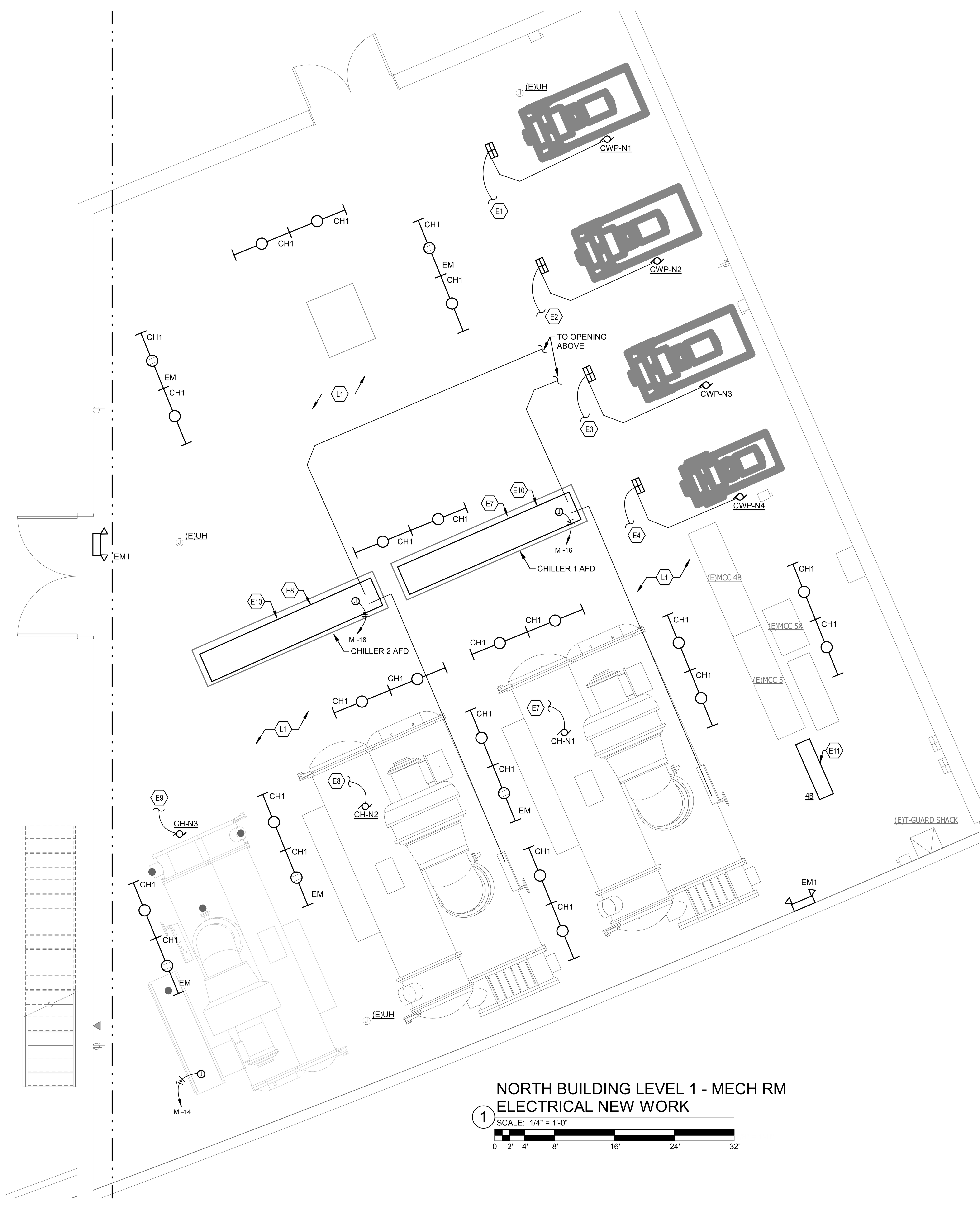
A. REFER TO THE ARCHITECT'S REFLECTED CEILING PLANS, ELEVATIONS, AND CASEWORK DETAILS FOR EXACT LOCATIONS OF ALL WALL AND CEILING MOUNTED ELECTRICAL DEVICES.
B. CONTRACTOR SHALL FOLLOW BRANCH CIRCUITING LAY-OUT, AS INDICATED ON THE FLOOR PLANS, WITH A MAXIMUM OF THREE (3) BRANCH CIRCUITS PER HOMERUN. EACH BRANCH CIRCUIT SHALL BE PROVIDED WITH A DEDICATED NEUTRAL CONDUCTOR. DEDICATED NEUTRAL CONDUCTORS SHALL BE CONSIDERED CURRENT CARRYING. IF ADDITIONAL CONDUCTORS ARE RAN IN THE SAME CONDUIT WITH THOSE INDICATED, CONTRACTOR SHALL DERATE ALL CURRENT CARRYING CONDUCTORS PER NEC 310.15(B)(3), AND UPSIZE CONDUIT AS REQUIRED PER NEC 300.17 AND ANNEX C. MULTIWIRE BRANCH CIRCUITS AS DEFINED IN NEC 100 / 210.4 (CIRCUITS SHARING A COMMON NEUTRAL CONDUCTOR) SHALL NOT BE PERMITTED.
C. IDENTIFY THE PANEL AND CIRCUIT NUMBER FOR ALL RECEPTACLES, SWITCHES, ETC. IN AREA OF CONSTRUCTION. PROVIDE CLEAR ADHESIVE LABELS WITH BLACK LETTERING. MARK INSIDES OF ALL DEVICE BOXES WITH PANEL AND CIRCUIT NUMBER.
D. LOCATIONS OF ELECTRICAL CONNECTIONS AND LOCAL DISCONNECTS SHALL BE COORDINATED WITH MECHANICAL AND PLUMBING CONTRACTORS TO ENSURE ACCESS AND WORKING CLEARANCE IS MAINTAINED PER NEC. NOTIFY OTHER TRADES OF REQUIRED CLEARANCE AREAS TO AVOID ROUTING OF OTHER SYSTEMS IN THESE AREAS. DO NOT INSTALL ELECTRICAL EQUIPMENT OVER EQUIPMENT NAMEPLATES OR ACCESS PANELS OR THROUGH ACCESS/MAINTENANCE CLEARANCES OF EQUIPMENT BY OTHER TRADES.

KEYNOTES (##)

E1	DISCONNECT/REMOVE EXISTING "CDP-1" AND RECONNECT TO NEW "CWP-N1". UTILIZE EXISTING ELECTRICAL FEEDER, CONDUIT, AND CIRCUITING. EXTEND EXISTING FEEDER TO ACCOMMODATE NEW UNIT AS NEEDED. CONDUIT AND CONDUCTORS SHALL MATCH EXISTING SIZE AND QUANTITY. IF ALTERNATE 1 IS ACCEPTED: REMOVE EXISTING FEEDERS BACK TO SOURCE AND CONNECT NEW "CWP-1" TO NEW "SWITCHBOARD 4B". PROVIDE A 225A, 3-POLE CIRCUIT BREAKER IN AVAILABLE SPACE. PROVIDE (3)-#4/0 CU AND (1)-#4 CU GROUND IN 2.5" CONDUIT FOR ELECTRICAL CONNECTION.
E2	DISCONNECT/REMOVE EXISTING "CDP-2" AND RECONNECT TO NEW "CWP-N2". UTILIZE EXISTING ELECTRICAL FEEDER, CONDUIT, AND CIRCUITING. EXTEND EXISTING FEEDER TO ACCOMMODATE NEW UNIT AS NEEDED. CONDUIT AND CONDUCTORS SHALL MATCH EXISTING SIZE AND QUANTITY. IF ALTERNATE 1 IS ACCEPTED: REMOVE EXISTING FEEDERS BACK TO SOURCE AND CONNECT NEW "CWP-2" TO NEW "SWITCHBOARD 4B". PROVIDE A 225A, 3-POLE CIRCUIT BREAKER IN AVAILABLE SPACE. PROVIDE (3)-#4/0 CU AND (1)-#4 CU GROUND IN 2.5" CONDUIT FOR ELECTRICAL CONNECTION.
E3	DISCONNECT/REMOVE EXISTING "CDP-3" AND RECONNECT TO NEW "CWP-N3". UTILIZE EXISTING ELECTRICAL FEEDER, CONDUIT, AND CIRCUITING. EXTEND EXISTING FEEDER TO ACCOMMODATE NEW UNIT AS NEEDED. CONDUIT AND CONDUCTORS SHALL MATCH EXISTING SIZE AND QUANTITY. IF ALTERNATE 1 IS ACCEPTED: REMOVE EXISTING FEEDERS BACK TO SOURCE AND CONNECT NEW "CWP-3" TO NEW "SWITCHBOARD 4B". PROVIDE A 225A, 3-POLE CIRCUIT BREAKER IN AVAILABLE SPACE. PROVIDE (3)-#4/0 CU AND (1)-#4 CU GROUND IN 2.5" CONDUIT FOR ELECTRICAL CONNECTION.
E4	DISCONNECT/REMOVE EXISTING "CDP-4" AND RECONNECT TO NEW "CWP-N4". UTILIZE EXISTING ELECTRICAL FEEDER, CONDUIT, AND CIRCUITING. EXTEND EXISTING FEEDER TO ACCOMMODATE NEW UNIT AS NEEDED. CONDUIT AND CONDUCTORS SHALL MATCH EXISTING SIZE AND QUANTITY. IF ALTERNATE 1 IS ACCEPTED: REMOVE EXISTING FEEDERS BACK TO SOURCE AND CONNECT NEW "CWP-4" TO NEW "SWITCHBOARD 4B". PROVIDE A 200A, 3-POLE CIRCUIT BREAKER IN AVAILABLE SPACE. PROVIDE (3)-#3/0 CU AND (1)-#6 CU GROUND IN 2" CONDUIT FOR ELECTRICAL CONNECTION.
E5	DISCONNECT/REMOVE EXISTING "CWP-4" AND RECONNECT TO NEW "CHP-N4". UTILIZE EXISTING ELECTRICAL FEEDER, CONDUIT, AND CIRCUITING. EXTEND EXISITNG FEEDER TO ACCOMMODATE NEW UNIT AS NEEDED. CONDUIT AND CONDUCTORS SHALL MATCH EXISTING SIZE AND QUANTITY.
E6	DISCONNECT/REMOVE EXISTING "CWP-5" AND RECONNECT TO NEW "CHP-N5". UTILIZE EXISTING ELECTRICAL FEEDER, CONDUIT, AND CIRCUITING. EXTEND EXISITNG FEEDER TO ACCOMMODATE NEW UNIT AS NEEDED. CONDUIT AND CONDUCTORS SHALL MATCH EXISTING SIZE AND QUANTITY.
E7	DISCONNECT/REMOVE EXISTING "CH-1" AND RECONNECT TO NEW "CH-1". REMOVE EXISTING CONDUIT AND FEEDER FROM EXISTING UNIT BACK TO SOURCE. ALL UNDERGROUND CONDUIT SHALL BE ABANDONED IN PLACE AND CAPPED. RE-ROUTE ALL (6) CONDUITS OVER ELECTRICAL GEAR AND CORE INTO 2ND FLOOR MEZZANINE AND ROUTE THROUGH OPENING DOWN TO THE FIRST LEVEL. EXTEND TO NEW DRIVE LOCATION SHOWN ON THE NEW WORK PLANS. PROVIDE (6)-500 CU AND (1)-#250 CU GROUND IN 3" CONDUIT FOR ELECTRICAL CONNECTION. E.C. SHALL LAYOUT DRIVE LOCATION FOR ENGINEER APPROVAL PRIOR TO ROUHG-IN AND INSTALLATION.
E8	DISCONNECT/REMOVE EXISTING "CH-2" AND RECONNECT TO NEW "CH-2". REMOVE EXISTING CONDUIT AND FEEDER FROM EXISTING UNIT BACK TO SOURCE. ALL UNDERGROUND CONDUIT SHALL BE ABANDONED IN PLACE AND CAPPED. RE-ROUTE ALL (6) CONDUITS OVER ELECTRICAL GEAR AND CORE INTO 2ND FLOOR MEZZANINE AND ROUTE THROUGH OPENING DOWN TO THE FIRST LEVEL. EXTEND TO NEW DRIVE LOCATION SHOWN ON THE NEW WORK PLANS. PROVIDE (6)-500 CU AND (1)-#250 CU GROUND IN 3" CONDUIT FOR ELECTRICAL CONNECTION. E.C. SHALL LAYOUT DRIVE LOCATION FOR ENGINEER APPROVAL PRIOR TO ROUHG-IN AND INSTALLATION.
E9	DISCONNECT/REMOVE EXISTING "CH-3" AND RECONNECT TO NEW "CH-3". INTERCEPT EXISTING PATHWAY LOCATED ON THE FIRST LEVEL AND UTILIZE BACK TO SOURCE. REPLACE EXISTING FUSES IN HEAD END FUSED SWITCH IN SWITCHBOARD 4A WITH 800A FUSES. PROVIDE (3)-#600 CU AND (1)-#1/0 GROUND IN 3.5" CONDUIT FOR ELECTRICAL CONNECTION.
E10	PROVIDE 6" HOUSEKEEPING PAD FOR FLOOR MOUNTED AFD.
E11	PROVIDE UNISTRUT STRUCTURE FOR MOUNTING OF PANELBOARD. PROVIDE 45 DEGREE KICKERS AND ALL OTHER REQUIRED COMPONENTS FOR LATERAL SUPPORT AND COMPLETE SYSTEM.
L1	ADD ALTERNATE 2: REMOVE ALL EXISTING LIGHTING IN THIS SPACE AND REPLACE WITH NEW. MAINTAIN ALL EXISTING CONDUIT, CONDUCTORS, AND CONTROLS. EXTEND FEEDER IF NECESSARY, MAINTAIN EXISTING CONDUIT/CONDUCTOR SIZE AND QUANTITIES. EM1: PROVIDE LITHONIA ELM4L DUAL HEAD EMERGENCY LIGHTING FIXTURE WITH EQUALS HUBBELL, COLUMBIA, DAY-BRITE AND COOPER. CH1: PROVIDE LITHONIA ZL1D L48-SMR-7000LM-FST-MVOLT40K-80CRI-WH-ZACVH M100 WITH EQUALS HUBBELL, COLUMBIA, DAY-BRITE AND COOPER. PROVIDE 10W EMERGENCY BATTERY PACK OPTION FOR ALL FIXTURES WITH "EM" DESIGNATION.



2 NORTH BUILDING MEZZ - MECH RM ELECTRICAL NEW WORK
SCALE: 1/4" = 1'-0"
0 1' 2' 4' 8' 12' 16'



1 NORTH BUILDING LEVEL 1 - MECH RM ELECTRICAL NEW WORK
SCALE: 1/4" = 1'-0"
0 2' 4' 8' 16' 24' 32'

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PROJECT

Greater Columbus Convention Center North Facility Chiller Replacement - 2023-5

400 North High Street Columbus, Ohio 43215

CLIENT

FRANKLIN COUNTY CONVENTION FACILITIES AUTHORITY

400 North High Street, 4th Floor
Columbus, Ohio 43215

CONSULANTS

REGISTRATION

KEYPLAN

ISSUE / REVISION

#	Date	Description
1	10/25/2023	BID SET

PROJECT NUMBER

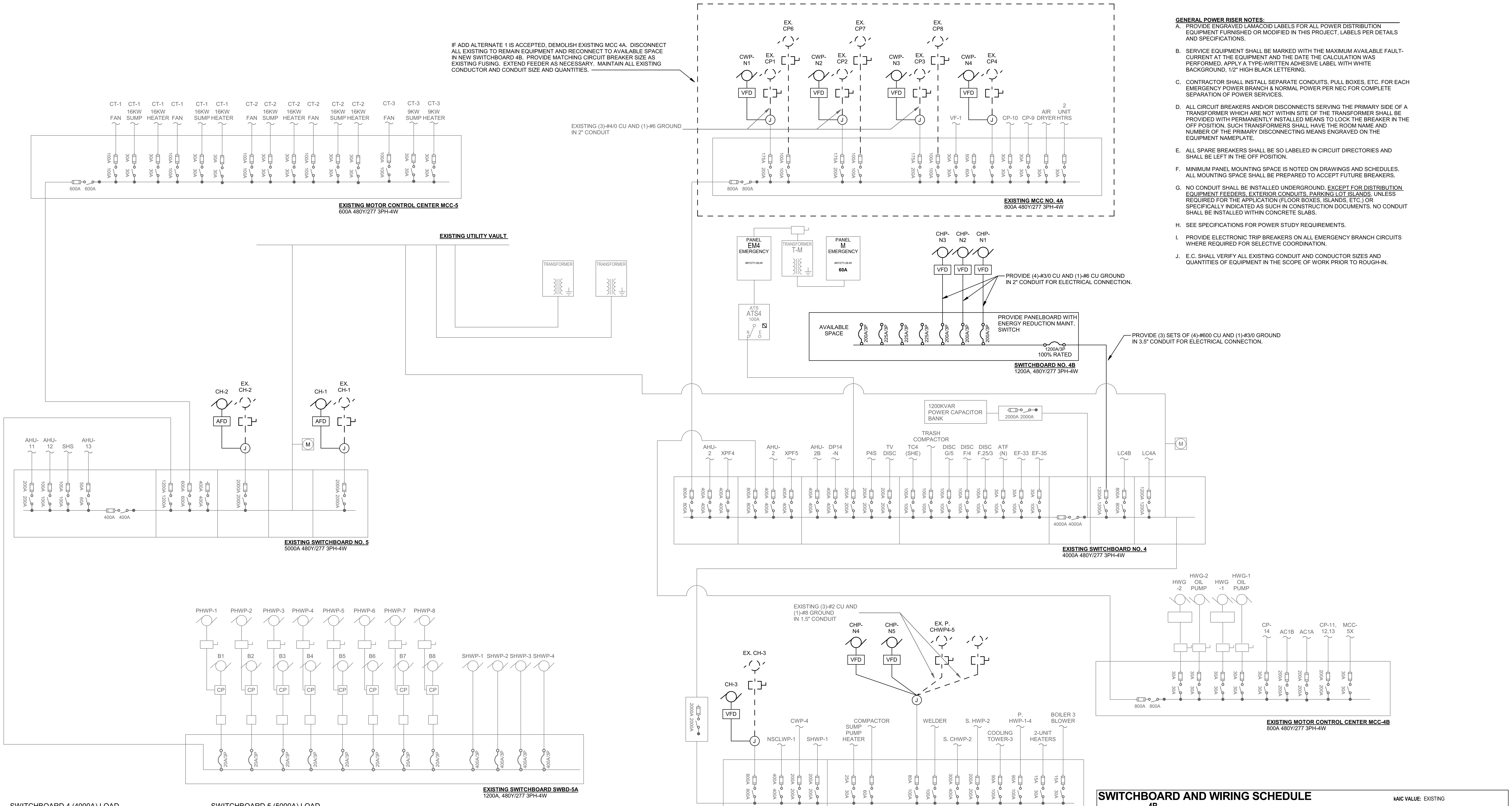
OCCC23

SHEET TITLE

ELECTRICAL ENLARGED PLANS - NEW WORK

SHEET NUMBER

E302



GENERAL POWER RISER NOTES:

A. PROVIDE ENGRAVED LAMACOID LABELS FOR ALL POWER DISTRIBUTION EQUIPMENT FURNISHED OR MODIFIED IN THIS PROJECT, LABELS PER DETAILS AND SPECIFICATIONS.

B. SERVICE EQUIPMENT SHALL BE MARKED WITH THE MAXIMUM AVAILABLE FAULT-CURRENT AT THE EQUIPMENT AND THE DATE THE CALCULATION WAS PERFORMED. APPLY A TYPE-WRITTEN ADHESIVE LABEL WITH WHITE BACKGROUND, 1/2" HIGH BLACK LETTERING.

C. CONTRACTOR SHALL INSTALL SEPARATE CONDUITS, PULL BOXES, ETC. FOR EACH EMERGENCY POWER BRANCH & NORMAL POWER PER NEC FOR COMPLETE SEPARATION OF POWER SERVICES.

D. ALL CIRCUIT BREAKERS AND/OR DISCONNECTS SERVING THE PRIMARY SIDE OF A TRANSFORMER WHICH ARE NOT WITHIN SITE OF THE TRANSFORMER SHALL BE PROVIDED WITH PERMANENTLY INSTALLED MEANS TO LOCK THE BREAKER IN THE OFF POSITION. SUCH TRANSFORMERS SHALL HAVE THE ROOM NAME AND NUMBER OF THE PRIMARY DISCONNECTING MEANS ENGRAVED ON THE EQUIPMENT NAMEPLATE.

E. ALL SPARE BREAKERS SHALL BE SO LABELED IN CIRCUIT DIRECTORIES AND SHALL BE LEFT IN THE OFF POSITION.

F. MINIMUM PANEL MOUNTING SPACE IS NOTED ON DRAWINGS AND SCHEDULES. ALL MOUNTING SPACE SHALL BE PREPARED TO ACCEPT FUTURE BREAKERS.

G. NO CONDUIT SHALL BE INSTALLED UNDERGROUND, EXCEPT FOR DISTRIBUTION EQUIPMENT FEEDERS, EXTERIOR CONDUITS, PARKING LOT ISLANDS, UNLESS REQUIRED FOR THE APPLICATION (FLOOR BOXES, ISLANDS, ETC,) OR SPECIFICALLY INDICATED AS SUCH IN CONSTRUCTION DOCUMENTS. NO CONDUIT SHALL BE INSTALLED WITHIN CONCRETE SLABS.

H. SEE SPECIFICATIONS FOR POWER STUDY REQUIREMENTS.

I. PROVIDE ELECTRONIC TRIP BREAKERS ON ALL EMERGENCY BRANCH CIRCUITS WHERE REQUIRED FOR SELECTIVE COORDINATION.

J. E.C. SHALL VERIFY ALL EXISTING CONDUIT AND CONDUCTOR SIZES AND QUANTITIES OF EQUIPMENT IN THE SCOPE OF WORK PRIOR TO ROUGH-IN.

SWITCHBOARD 4 (4000A) LOAD JUSTIFICATION:

REMOVAL

CP1 (150 HP) - 149.6KW (180A)
CP2 (150 HP) - 149.6KW (180A)
CP3 (150 HP) - 149.6KW (180A)
CP4 (100 HP) - 103.1KW (124A)

CP6 (50 HP) - 54.0KW (64A)
CP7 (50 HP) - 54.0KW (64A)
CP8 (50 HP) - 54.0KW (64A)

CWP4 (50HP) - 54.0KW (64A)
CWP5 (50HP) - 54.0KW (64A)

CH-3 - 436KW (524.4A)

TOTAL: 1257.9KW

INSTALLED

CWP-N1 (125HP) - 129.7KW (156A)
CWP-N2 (125HP) - 129.7KW (156A)
CWP-N3 (125HP) - 129.7KW (156A)
CWP-N4 (100HP) - 103.1KW (124A)

CHP-N1 (100HP) - 103.1KW (124A)
CHP-N2 (100HP) - 103.1KW (124A)
CHP-N3 (100HP) - 103.1KW (124A)

CHP-N4 (50HP) - 54.0KW (64A)
CHP-N5 (50HP) - 54.0KW (64A)

CH-3 - 476.7KW (573.4A)

TOTAL: 1386.2KW
NET: +128.3KW (154.3A)

FEEDER NOTES:

A. REFER TO SPECIFICATIONS FOR CONDUCTOR REQUIREMENTS. ALL FEEDERS SHALL BE COPPER.

B. CURRENT CARRYING CONDUCTORS ARE SIZED FROM NEC-2017 TABLE 310.15(B) (16) (75DEG C - FOR THHW/THW/THWN INSULATION). REFER TO PROJECT SPECIFICATIONS FOR ALLOWABLE CONDUIT AND WIRING METHODS.

C. GROUND WIRES ARE SIZED FROM NEC TABLE 250.122.

D. HVAC EQUIPMENT FEEDERS AND BRANCH CIRCUITS SHALL BE IN COPPER (UNLESS OTHERWISE NOTED).

E. CONDUIT FILL RATES ARE BASED UPON TABLE C.10 (PVC-80 CONDUIT WITH THHN/THWN/THWN-2 WIRE). REFER TO PROJECT SPECIFICATIONS FOR ALLOWABLE CONDUIT AND WIRING METHODS.

SWITCHBOARD 5 (5000A) LOAD JUSTIFICATION:

REMOVAL

CH-1 - 1108.2KW (1333A)
CH-2 - 1108.2KW (1333A)

TOTAL: 2216.4KW

INSTALLED

CH-1 - 911.8KW (1096.7A)
CH-2 - 911.8KW (1096.7A)

TOTAL: 1823.6KW
NET: -392.8KW (-472.5A)

PANELBOARD AND WIRING SCHEDULE

AVAILABLE FAULT CURRENT: EXISTING

PANEL: M — **MAINS TYPE:** 60A MCB — **PANEL INTERRUPTING RATING:** EXISTING
VOLTAGE: 208Y/120V,3P,4W — **SPD:** — **LOCATION:**
AMPERES: 125 A — **MOUNTING:** SURFACE — **SUPPLY FROM:**

CIRCUIT DESCRIPTION	WIRE	GND	C	OCP	P	CKT	A		B		C		CKT	P	OCP	C	GND	WIRE	CIRCUIT DESCRIPTION
EXISTING GAS MONITOR SYSTE...				15	1	1	0.5	1.0					2	2	20				EXISTING AIR COMPRESSOR
EXISTING SP				20	3	3			1.2	1.0			4						
						5					1.2	0.5	6	1	15				EXISTING TEMP CTRL PNL 1ST...
						7	1.2	0.5					8	1	15				EXISTING TEMP CTRL PNL 2ND...
EXISTING HEAT TRACE 2ND...				50	1	9			3.0	0.5			10	1	15				EXISTING TEMP CTRL PNL...
EXISTING HEAT TRACE 2ND...				50	1	11					3.0	0.5	12	1	15				EXISTING BOILER ROOM INSTAL...
EXISTING LOADING DOCK HEAT...				20	1	13	0.8	0.5					14	1	20				CHILLER 3 CONTROLS
SPACE	--	--	--	--	1	15			--	0.5			16	1	20				CHILLER 1 CONTROLS
SPACE	--	--	--	--	1	17					--	0.5	18	1	20				CHILLER 2 CONTROLS
						TOTAL LOAD (kVA):	4.5 kVA		6.2 kVA		5.7 kVA								
						TOTAL CURRENT (A):	38 A		53 A		49 A								

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
EQUIP	16480 VA	100.00%	16480 VA	TOTAL CONNECTED LOAD:	16480 VA
				TOTAL ESTIMATED DEMAND:	16480 VA
				TOTAL CONNECTED CURRENT:	46 A
				TOTAL ESTIMATED DEMAND CURRENT:	46 A

NOTES: WHERE NOT LISTED, WIRE AND CONDUIT SHALL BE BE MINIMUM PER SPECIFICATIONS. SPARE BREAKERS TO BE 20A/1P.

SWITCHBOARD AND WIRING SCHEDULE

kAIC VALUE: EXISTING

SWITCHBOARD: 4B — **MAINS TYPE:** 1200A MCB — **kAIC RATING:** 65KAIC
VOLTAGE: 480Y/277V,3P,4W — **SPD:** No — **LOCATION:**
AMPERES: 1200 A — **MOUNTING:** SURFACE — **SUPPLY FROM:**

CKT	CIRCUIT DESCRIPTION	SETS	WIRE	GND	COND	POLES	FRAME	TRIP	LOAD (kVA)	REMARKS
1	CHP-N1					3	200 A	200 A	103.1	
2	CHP-N2					3	200 A	200 A	103.1	
3	CHP-N3					3	200 A	200 A	103.1	
4	SPARE	--	--	--	--	1	400 A	225 A	0.0	
5	SPARE	--	--	--	--	1	400 A	225 A	0.0	
6	SPARE	--	--	--	--	1	400 A	225 A	0.0	
7	SPARE	--	--	--	--	1	400 A	225 A	0.0	
8	SPACE	--	--	--	--	1	--	--	--	
9	SPACE	--	--	--	--	1	--	--	--	
10	SPACE	--	--	--	--	1	--	--	--	
11	SPACE	--	--	--	--	1	--	--	--	
12	SPACE	--	--	--	--	1	--	--	--	
13	SPACE	--	--	--	--	1	--	--	--	
14	SPACE	--	--	--	--	1	--	--	--	
15	SPACE	--	--	--	--	1	--	--	--	
16	SPACE	--	--	--	--	1	--	--	--	
17	SPACE	--	--	--	--	1	--	--	--	
18	SPACE	--	--	--	--	1	--	--	--	
19	SPACE	--	--	--	--	1	--	--	--	
20	SPACE	--	--	--	--	1	--	--	--	

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
EQUIP	309273 VA	100.00%	309273 VA	TOTAL CONN. LOAD:	309 kVA
				TOTAL EST. DEMAND:	309 kVA
				TOTAL CONN. CURRENT:	372 A
				TOTAL EST. DEMAND CURRENT:	372 A

NOTES:

CMTA
A LEGENCE Company
5455 Rings Road, Suite 450
Dublin, OH 43204
T: 614.992.1500

PROJECT

Greater Columbus Convention Center North Facility Chiller Replacement - 2023-5

400 North High Street Columbus, Ohio 43215

CLIENT

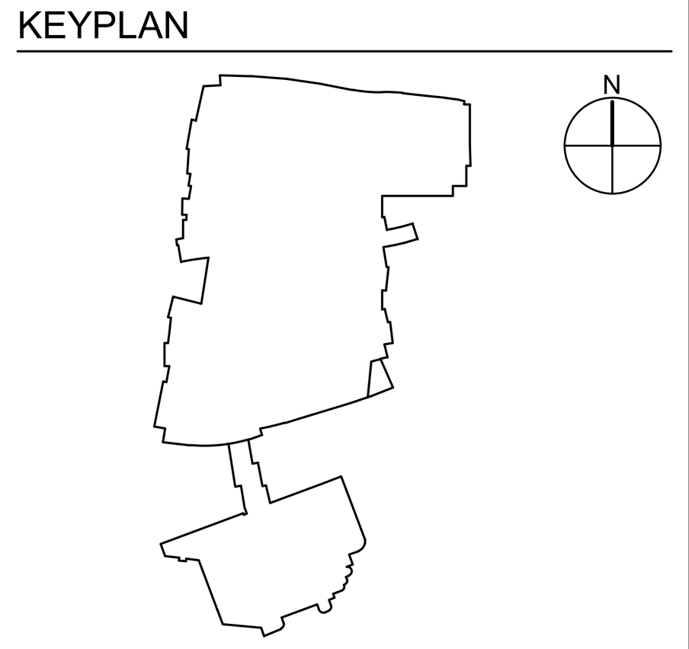
FRANKLIN COUNTY CONVENTION FACILITIES AUTHORITY

400 North High Street, 4th Floor Columbus, Ohio 43215

CONSULTANTS

REGISTRATION

KEYPLAN



ISSUE / REVISION

#	Date	Description
1	10/25/2023	BID SET

PROJECT NUMBER

OCCC23

SHEET TITLE

ELECTRICAL SINGLE LINE

SHEET NUMBER

E501