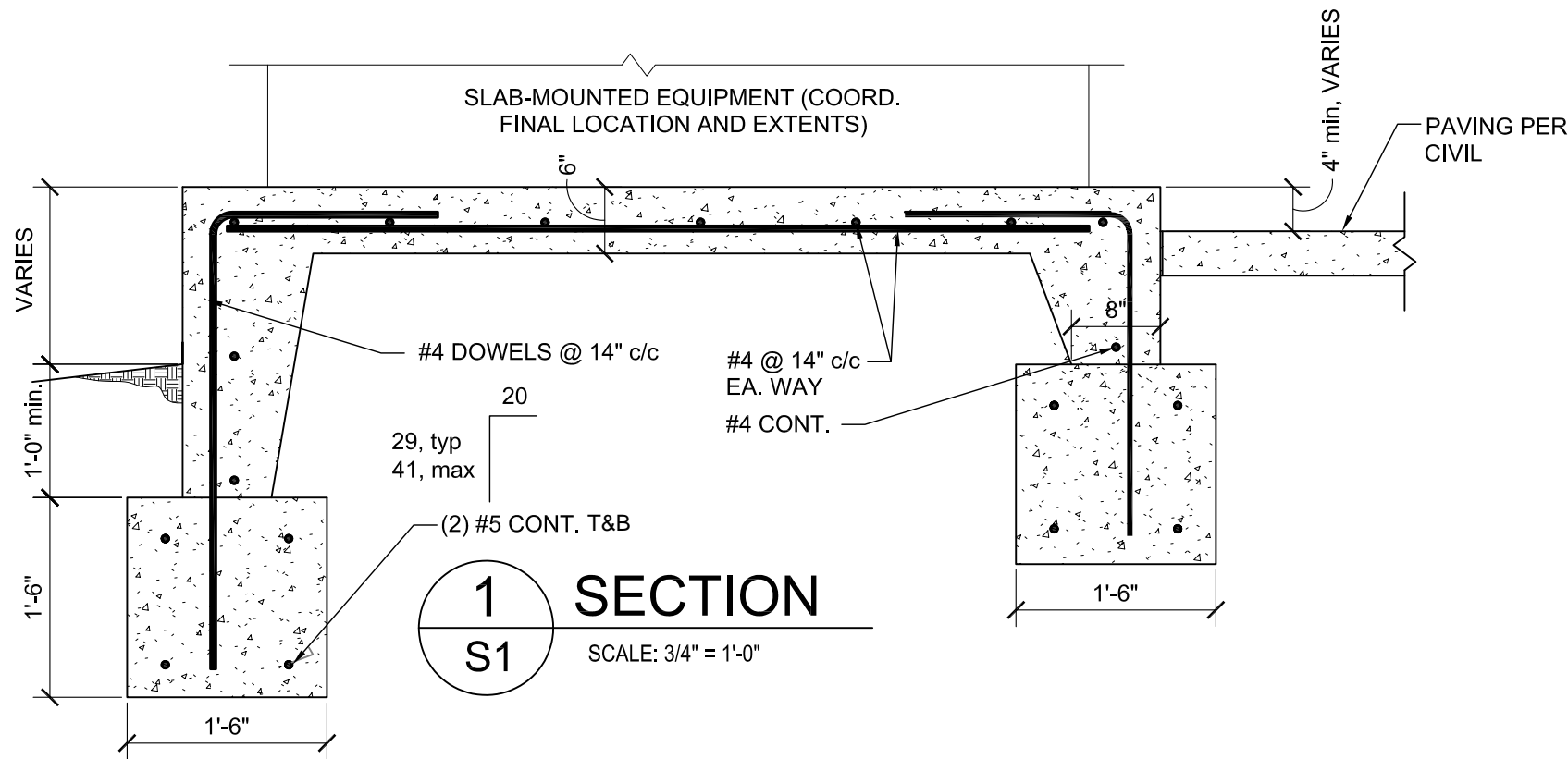
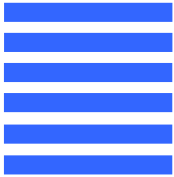


EQUIP. PAD PLAN

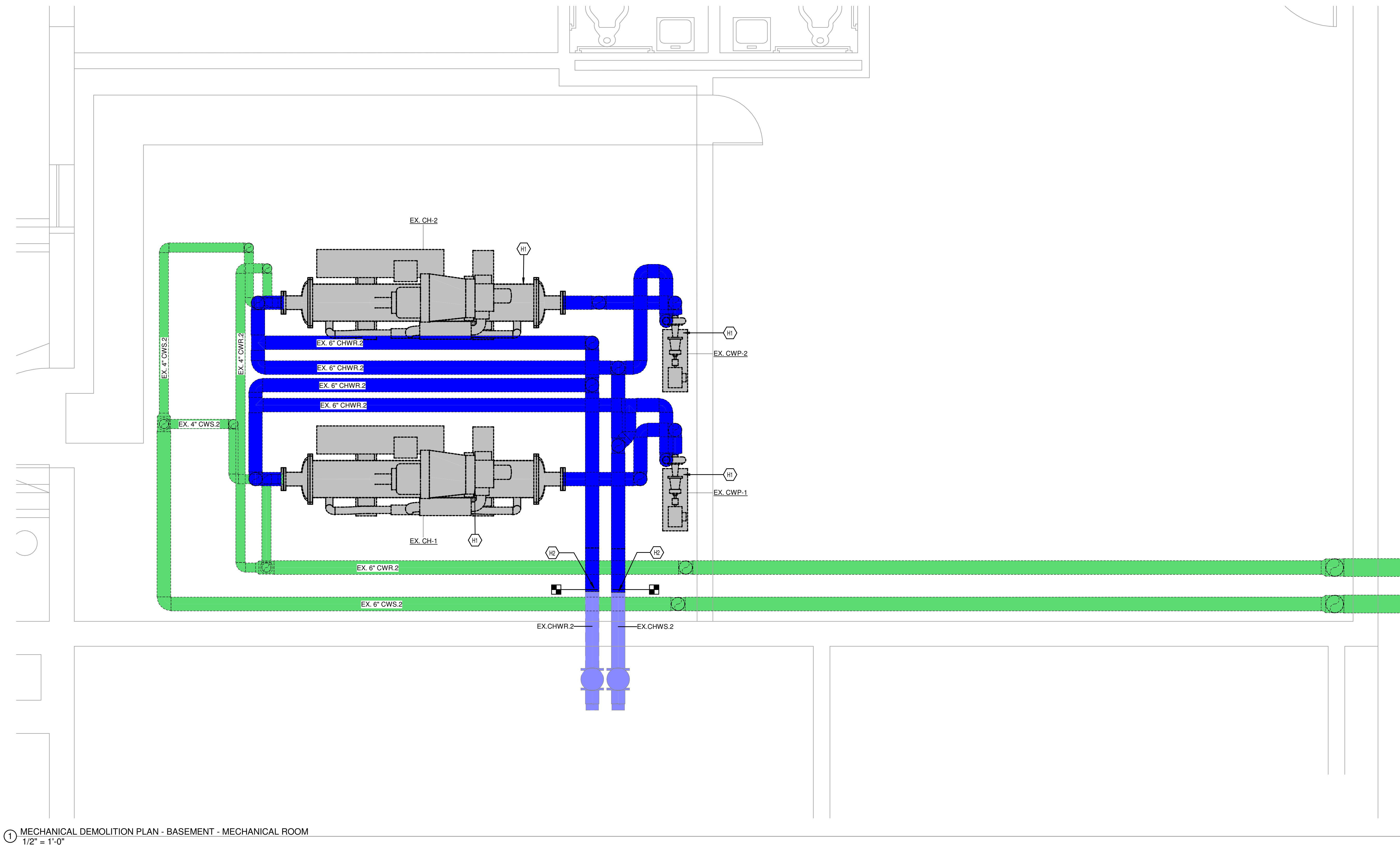
SCALE: 1/8" = 1'-0"



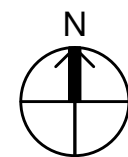
SHEET NUMBER	PROJECT NO: 23171	
	BY: CE	
	DATE: 08.10.2023	
	SCALE:	
 GOP Limited Structural Engineers 431 Ohio Pike, Suite 100N, Cincinnati, Ohio 45255 (513) 621-7073		
PROJECT TITLE Dayton Independent Schools Athletic Complex - Lincoln Elementary Cooling Tower Replacement		
DRAWING TITLE HVAC Exterior Equipment Pad		
S1		

MO-001

KEYED NOTES	
H1	EXISTING CHILLERS, PUMPS, GLYCOL FEEDER, CONTROLS, AND PIPING TO BE DEMOLISHED.
H2	EXISTING CHILLED WATER PIPING TO BE DEMOLISHED TO POINT INDICATED.



① MECHANICAL DEMOLITION PLAN - BASEMENT - MECHANICAL ROOM
1/2" = 1'-0"

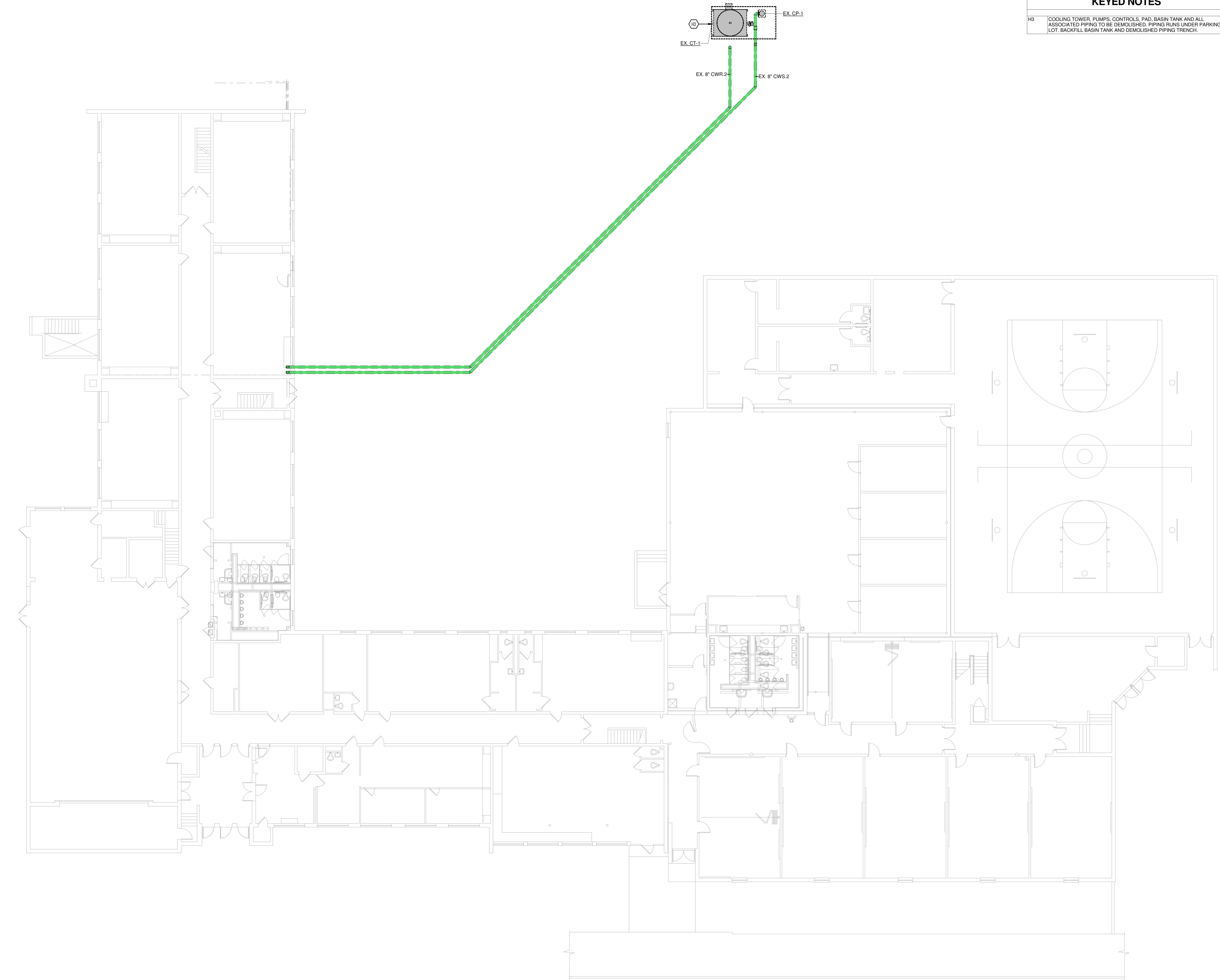


Dayton Independent Schools - Athletic Complex
Bid Package #1 - Lincoln Elementary Cooling Tower Replacement
200 Greendevil LaneDayton, Kentucky 41074
Dayton Independent Schools Board of Education- Mr. Jay Brewer, Superintendent

SHEET TITLE
MECHANICAL
DEMOLITION
BASEMENT PLAN
MECHANICAL
ROOM

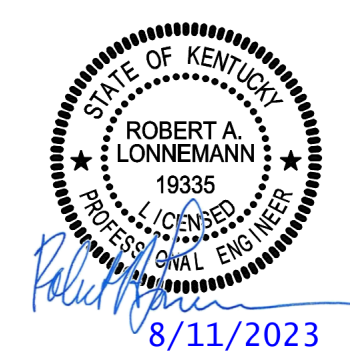
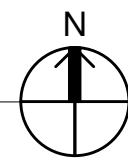
BG #
23-538
REH #
168-523
DATE
8-10-23

M1-101



KEYED NOTES	
H3	COOLING TOWER, PUMPS, CONTROLS, PAD, BASIN TANK AND ALL ASSOCIATED PIPING TO BE DEMOLISHED. PIPING RUNS UNDER PARKING LOT. BACKFILL BASIN TANK AND DEMOLISHED PIPING TRENCH.

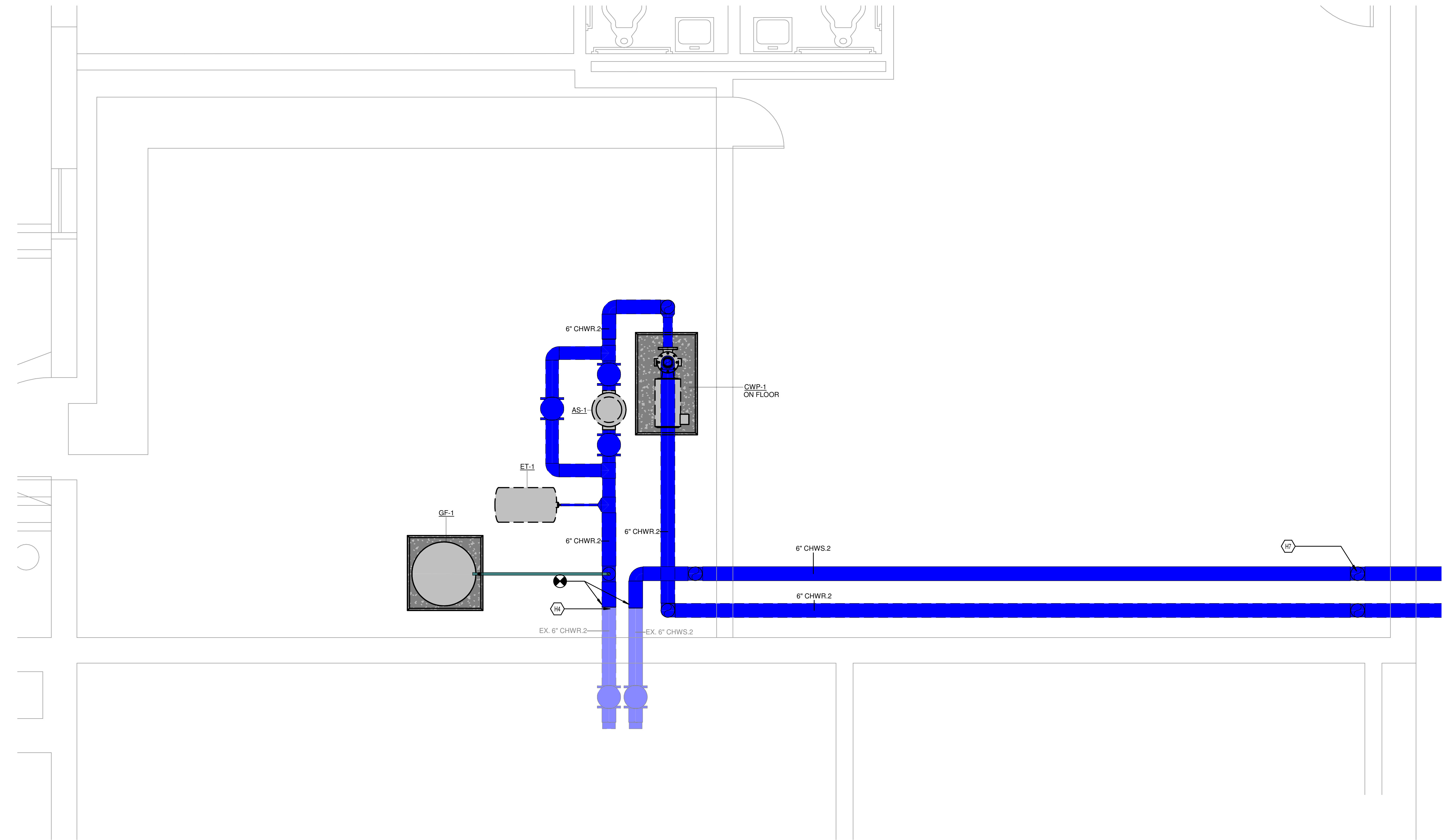
① MECHANICAL DEMOLITION PLAN - LEVEL 1 - OVERALL
1" = 10'-0"



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SHEET TITLE	
MECHANICAL DEMOLITION LEVEL 1 PLAN OVERALL	
BG #	23-538
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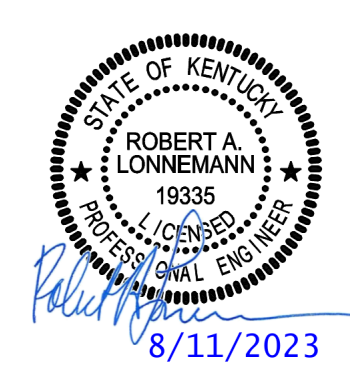
M1-102



① MECHANICAL PIPING PLAN - BASEMENT - MECHANICAL ROOM
1/2" = 1'-0"



KEYED NOTES	
H4	CONNECT NEW CHILLED WATER SUPPLY AND RETURN PIPING TO EXISTING CHILLED WATER PIPING.
H7	COORDINATE ROUTING OF NEW CHILLED WATER PIPING WITH EXISTING JOIST. FOLLOW PREVIOUS ROUTING OF DEMOLISHED CONDENSER WATER PIPING TO GET UNDERGROUND TO NEW CHILLER. SEAL ALL PENETRATIONS IN WALL. COORDINATE TRENCH ROUTING.

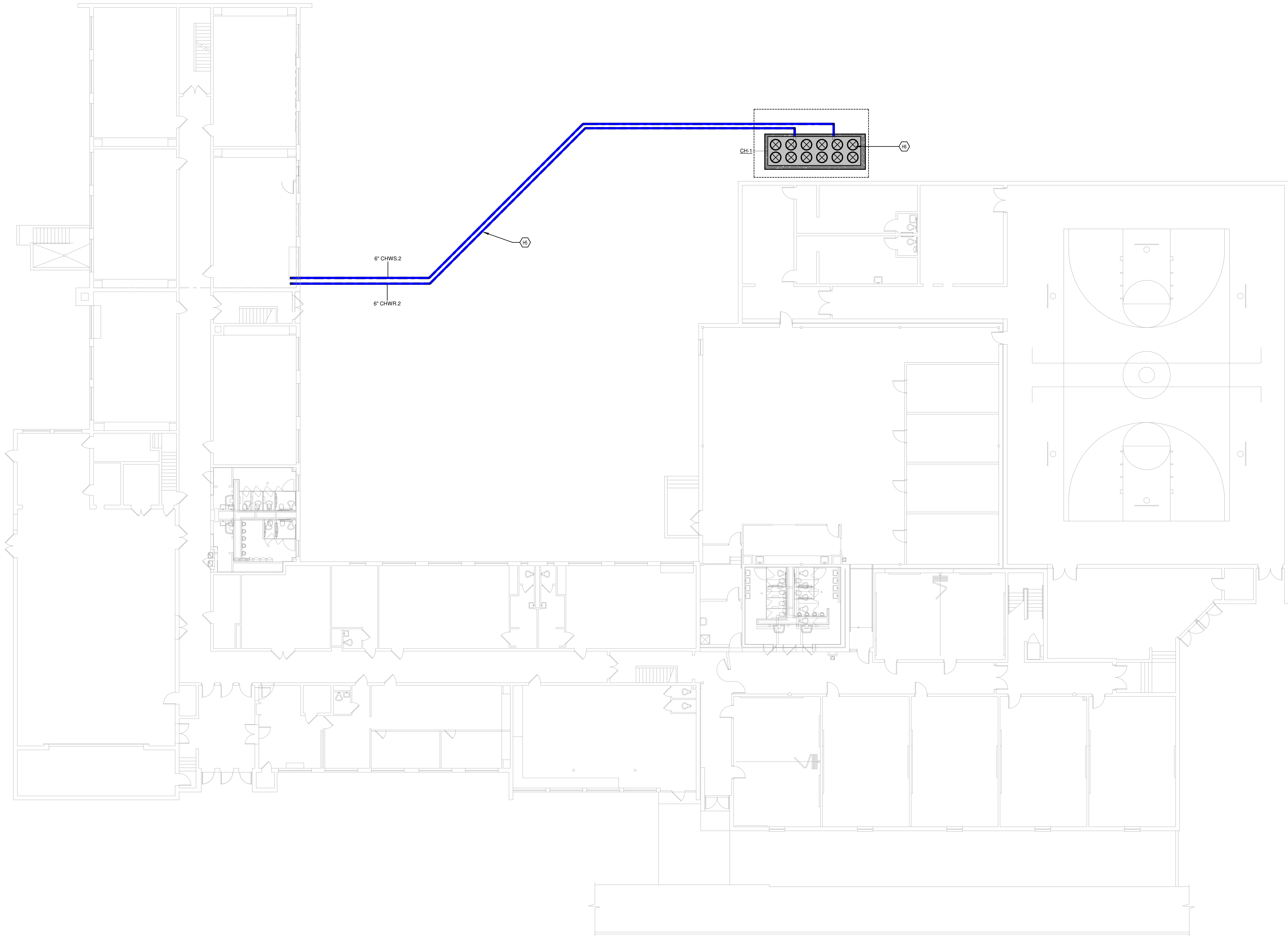


Dayton Independent Schools - Athletic Complex
Bid Package #1 - Lincoln Elementary Cooling Tower Replacement
200 Greendevil LaneDayton, Kentucky 41074
Dayton Independent Schools Board of Education- Mr. Jay Brewer, Superintendent

SHEET TITLE
MECHANICAL
PIPING
BASEMENT PLAN
MECHANICAL
ROOM

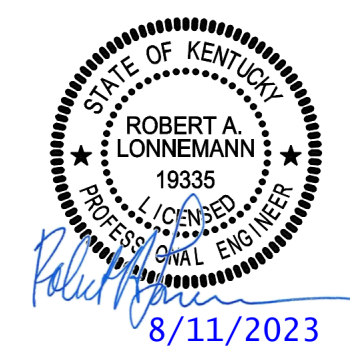
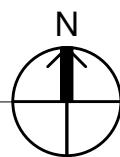
BG #
23-538
REH #
168-523
DATE
8-10-23

M4-101



KEYED NOTES	
H5	NEW CHILLED WATER SUPPLY AND RETURN TO BE ROUTED UNDER GROUND TO MECHANICAL ROOM IN BASEMENT. PIPING UNDER PARKING LOT. COORDINATE TRENCHING.
H6	CH-1 TO BE MOUNTED ON NEW PAD. MAINTAIN MINIMUM CLEARANCES.

① MECHANICAL PIPING PLAN - LEVEL 1 - OVERALL
1" = 10'-0"



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SHEET TITLE

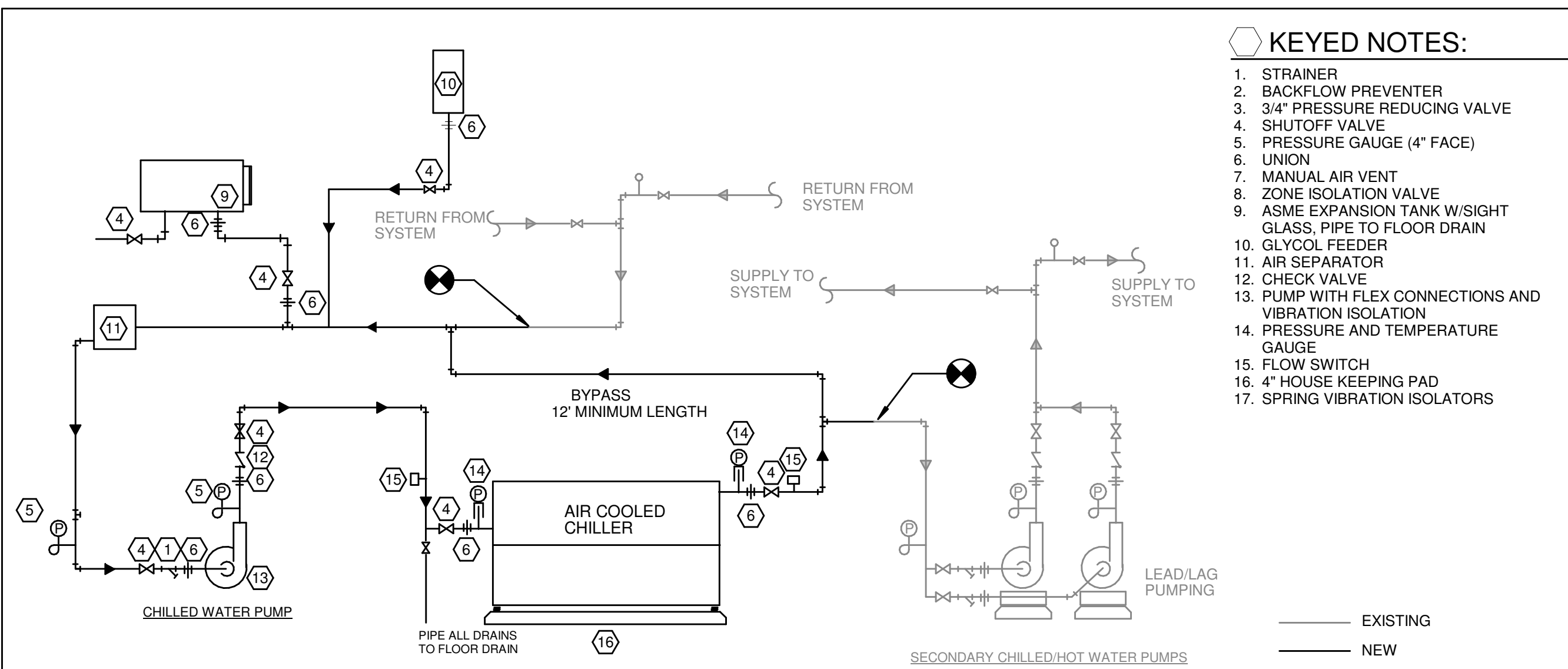
MECHANICAL
PIPING LEVEL 1
PLAN OVERALL

BG #
23-538

REH #
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DATE
8-10-23

M4-102



236400.00-02 - CHILLER PIPING

SCALE: NONE

KEYED NOTES:

1. STRAINER
2. BACKFLOW PREVENTER
3. 3/4" PRESSURE REDUCING VALVE
4. SHUTOFF VALVE
5. PRESSURE GAUGE (4" FACE)
6. UNION
7. MANUAL AIR VENT
8. ZONE ISOLATION VALVE
9. ASME EXPANSION TANK W/SIGHT GLASS, PIPE TO FLOOR DRAIN
10. GLYCOL FEEDER
11. AIR SEPARATOR
12. CHECK VALVE
13. PUMP WITH FLEX CONNECTIONS AND VIBRATION ISOLATION
14. PRESSURE AND TEMPERATURE GAUGE
15. FLOW SWITCH
16. 4" HOUSE KEEPING PAD
17. SPRING VIBRATION ISOLATORS

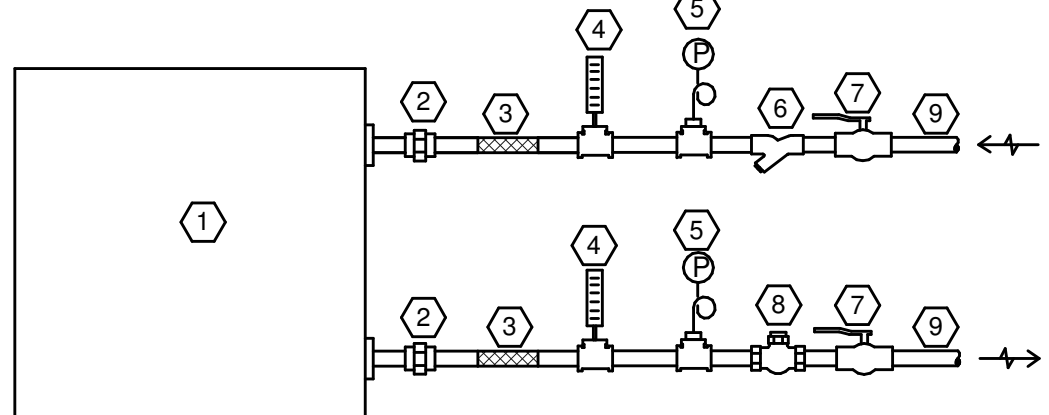
EXISTING
NEW

KEYED NOTES:

1. AIR-COOLED CHILLER
2. UNION
3. FLEXIBLE CONNECTION
4. THERMOMETER
5. PRESSURE GAUGE
6. STRAINER
7. SHUT-OFF VALVE
8. BALANCING VALVE
9. INSULATED CHILLED WATER PIPING

GENERAL NOTES:

- A. MECHANICAL CONTRACTOR SHALL REFER TO MANUFACTURER'S INSTALLATION AND OPERATIONS MANUAL FOR INSTALLATION REQUIREMENTS.

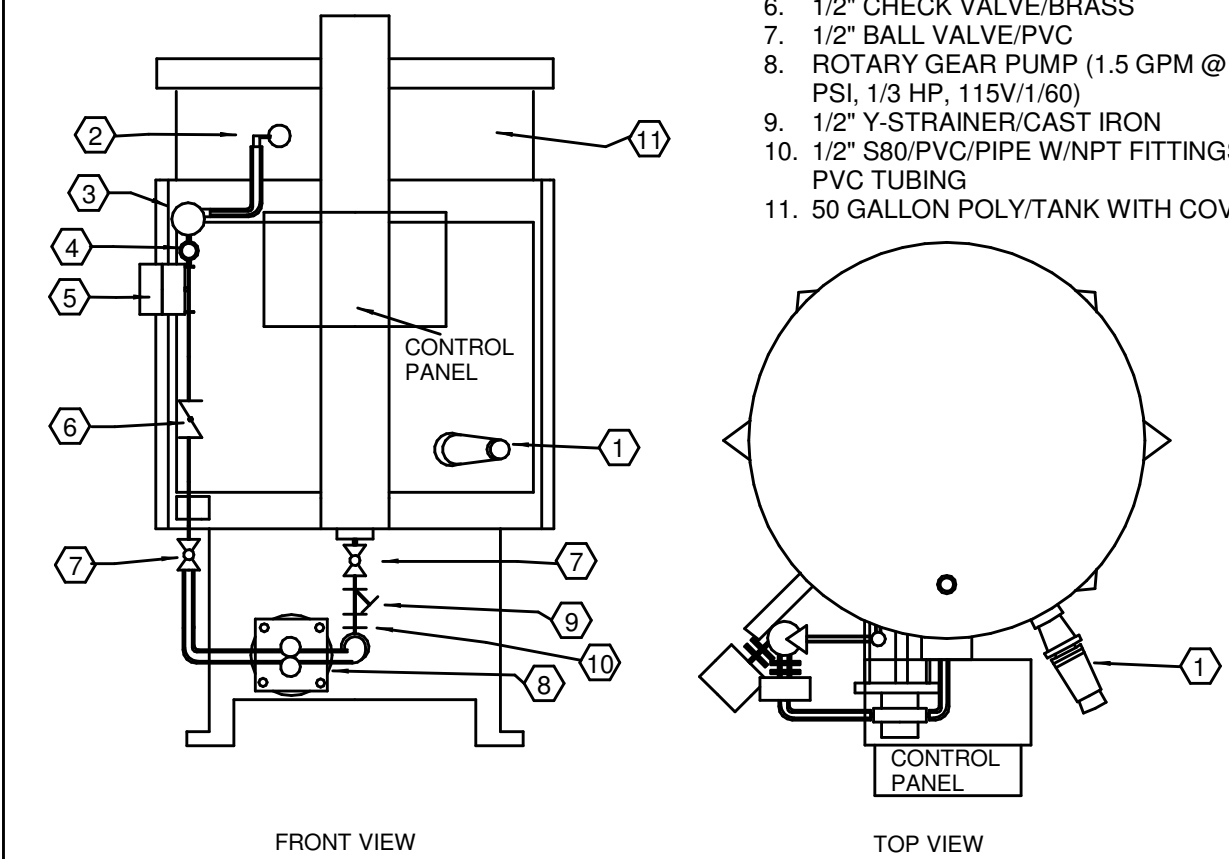


236423.00-01 - SCROLL WATER CHILLER CONNECTION

SCALE: NONE

KEYED NOTES:

1. LOW LEVEL PVC FLOAT SWITCH
2. 1/2" RELIEF VALVE/BRASS (SET @ 100 PSI) W/PVC RETURN LINE
3. PRESSURE GAUGE (0-100 PSI)
4. 1/2" NPTF DISCH/CONN
5. PRESSURE SWITCH
6. 1/2" CHECK VALVE/BRASS
7. 1/2" BALL VALVE/PVC
8. ROTARY GEAR PUMP (1.5 GPM @ 100 PSI, 1/3 HP, 115V/1/60)
9. 1/2" Y-STRAINER/CAST IRON
10. 1/2" S80/PVC PIPE W/NPT FITTINGS & PVC TUBING
11. 50 GALLON POLY/TANK WITH COVER



232116.00-02 - GLYCOL FEED SYSTEM SINGLE PUMP

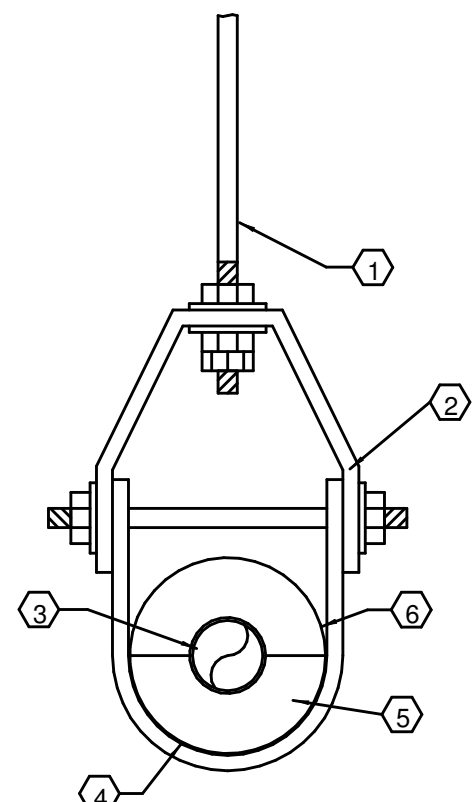
SCALE: NONE

KEYED NOTES:

1. HANGER ROD TO STRUCTURE.
2. INSULATION OD MUST BE LESS THAN U-STRAP ID.
3. PIPE CARRYING LOW TEMPERATURE FLUID.
4. INSULATION PROTECTIVE SADDLE AND CALCIUM SILICATE INSERT FOR GLASS FIBER PIPE INSULATION OR INSULATION PROTECTION SHIELD FOR CELLULAR GLASS PIPE INSULATION.
5. PIPER INSULATION: SEAL ALL JOINTS AND SEAMS WITH INSULATION MANUFACTURER RECOMMENDED ADHESIVE APPLIED AT 100% COVERAGE. FIRMLY BUTT PIPE SECTIONS TOGETHER AFTER APPLY ADHESIVE TO MATING SURFACES AND WRAP PIPE WITH TAPE OR STRAPS WITH OVERLAPPING ENDS TO FIRMLY HOLD INSULATION TOGETHER.
6. CONTINUOUS VAPOR BARRIER JACKET ON OUTER SURFACE OF INSULATION. SEAL ALL JOINTS AND SEAMS OF VAPOR BARRIER WITH MANUFACTURER RECOMMENDED TAPE OR MASTIC.

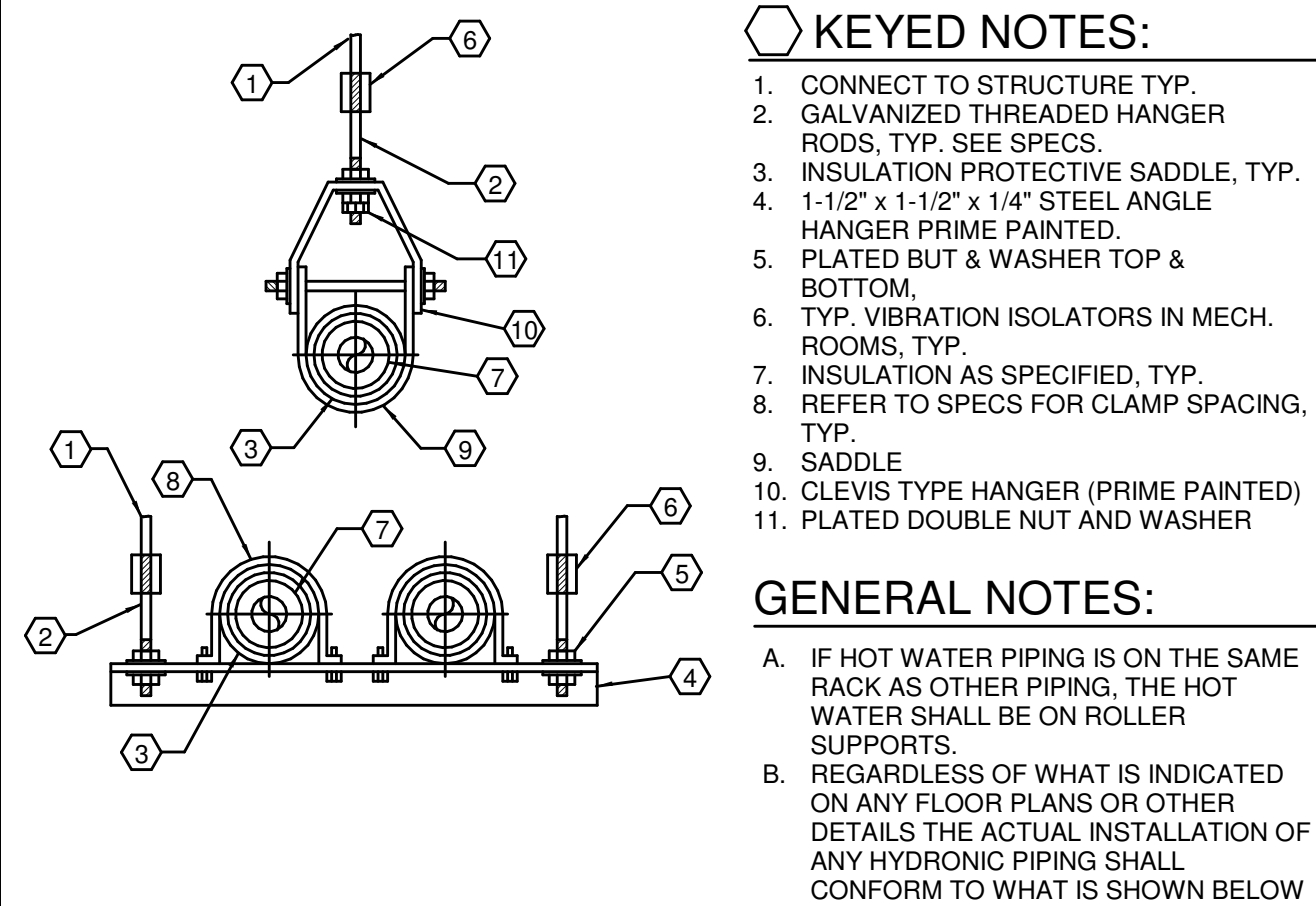
GENERAL NOTES:

- A. IMPERATIVE THAT INSULATION DOES NOT HAVE GAPS OR CRACKS THAT ALLOW AMBIENT AIR TO REACH PIPE SURFACE.
- B. IMPERATIVE THAT VAPOR BARRIER IS CONTINUOUS AND UNBROKEN. ALL DAMAGED VAPOR BARRIER



232113.23-13 - PIPE HANGER AND PIPE INSULATION

SCALE: NONE



232113.23-14 - PIPE HANGERS TYPICAL

SCALE: NONE

KEYED NOTES:

1. CONNECT TO STRUCTURE TYP.
2. GALVANIZED THREADED HANGER RODS, TYP. SEE SPECS.
3. INSULATION PROTECTIVE SADDLE, TYP.
4. 1-1/2" x 1-1/2" x 1/4" STEEL ANGLE HANGER PRIME PAINTED.
5. PLATED BUT & WASHER TOP & BOTTOM.
6. TYP. VIBRATION ISOLATORS IN MECH. ROOMS, TYP.
7. INSULATION AS SPECIFIED, TYP.
8. REFER TO SPECS FOR CLAMP SPACING, TYP.
9. SADDLE
10. CLEVIS TYPE HANGER (PRIME PAINTED)
11. PLATED DOUBLE NUT AND WASHER

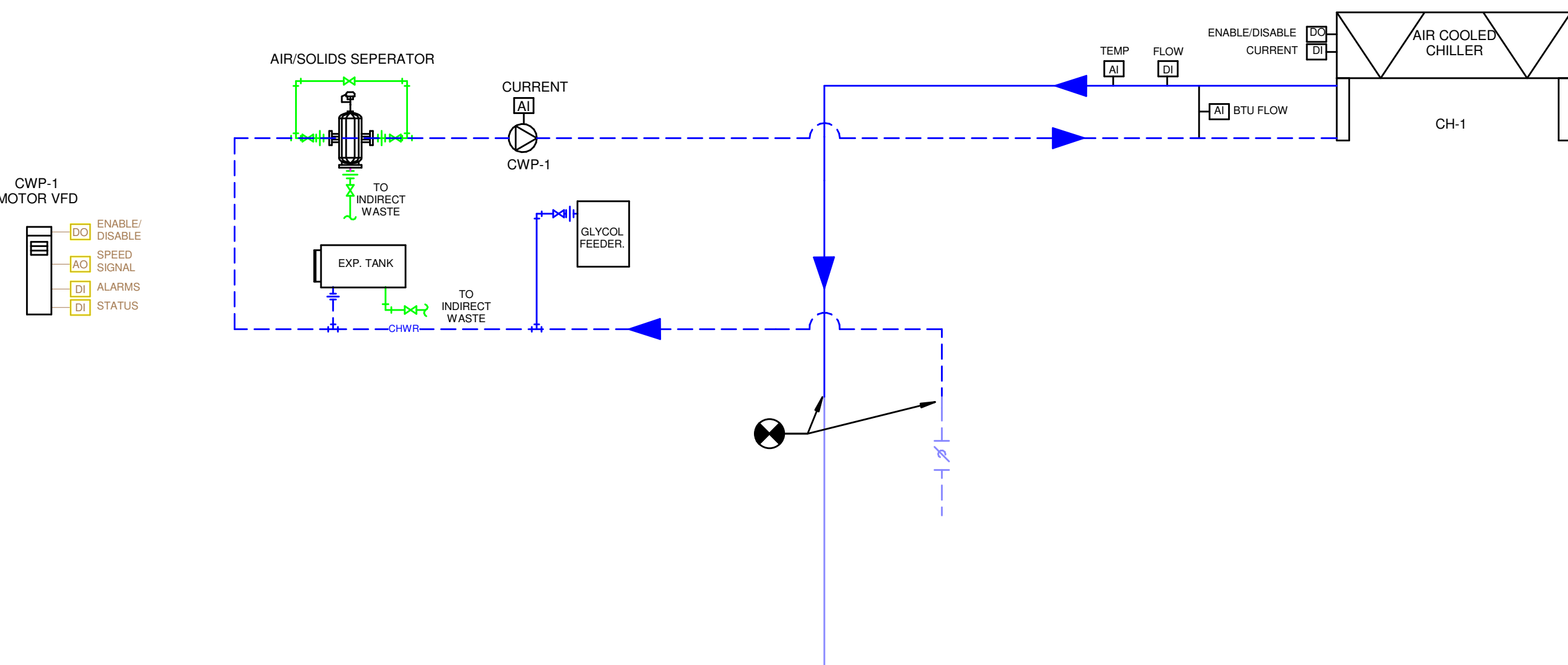
GENERAL NOTES:

- A. IF HOT WATER PIPING IS ON THE SAME RACK AS OTHER PIPING, THE HOT WATER SHALL BE ON ROLLER SUPPORTS.
- B. REGARDLESS OF WHAT IS INDICATED ON ANY FLOOR PLANS OR OTHER DETAILS THE ACTUAL INSTALLATION OF ANY HYDRONIC PIPING SHALL CONFORM TO WHAT IS SHOWN BELOW

- 1.1 Pumps
- A. Primary Chilled Water Pumps (CWP-1)
 - a. Match and integrate into existing BAS system.
 - b. The primary chilled water pump shall start based upon a signal from the chiller control panel.
 - c. The DDC controller shall alarm the system pump fails after a 30 second time delay. Control and monitoring points shall include but not be limited to the following:
 - A. CWP-1 VFD enable/disable (DO)
 - B. CWP-1 VFD enable/disable status (DI)
 - C. CWP-1 VFD signal speed (AO)
 - D. CWP-1 VFD general alarm (DI)
 - E. CWP-1 motor current (AI)
- 1.2 HVAC Plant
- A. Water Chiller - Air Cooled
 1. Match and integrate into existing BAS system.
 2. All safeties interlocks associated with the chilled water system shall be hard wired. Software interlocks are acceptable as secondary additional safeties.
 3. The chiller shall be controlled by controls furnished with the machine. Chiller shall be enabled based on outside air temperature setpoint of 55 deg. F (adjustable).
 4. When a flow switch in the chilled water supply piping proves flow, the chiller shall start. The auxiliary contacts of the pump shall be in series with its respective flow switch to prove flow.
 5. The chiller supplier shall furnish controllers that can communicate LON over FTT-10A or BacNet over Ethernet with the BAS. The setup and programming of the chiller controls will be by the chiller supplier. The temperature control contractor will integrate the SNV's or BBBs into the BAS and create the web-based graphics. The Owner may permit the chiller supplier to access the chiller control data via the internet, in which case the BAS Contractor will setup a username and password that only permits access to the chiller controllers.
 6. In addition to all points provided by the chiller, control and monitoring points shall include but not be limited to the following:
 - a. Chiller start/stop (DO)
 - b. Chiller current status (DI)
 - c. CHWS water flow (DI)
 - d. CHWS&R BTU/Flow (AI)
 - e. Outside air temperature (AI)
 - f. Chiller water return temperature (AI)
 - g. Chiller water supply temperature (AI)

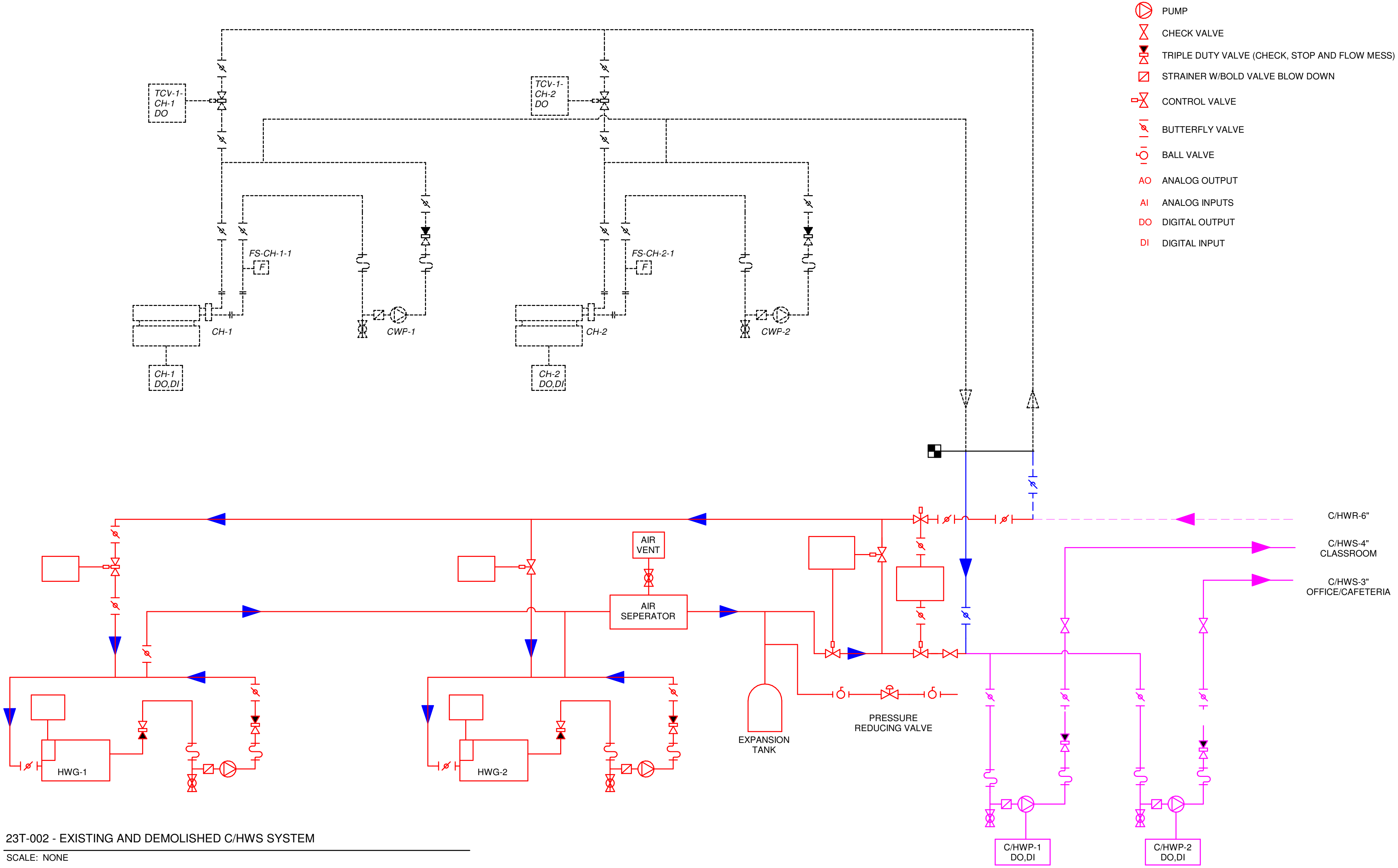
GENERAL NOTES:

1. ALL ANALOG INPUTS (AI) SHALL BE CONFIGURED BY USER FOR HIGH AND LOW LIMITS
2. ALL DIGITAL OUTPUTS (DO) FOR ELECTRIC MOTOR LOADS SHALL INCORPORATE RUN TIME TOTALIZATION.



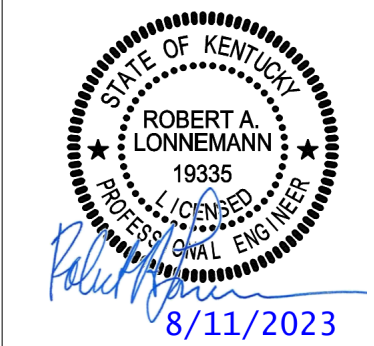
23T-003 - SEQUENCE OF OPERATIONS

SCALE: NONE



23T-002 - EXISTING AND DEMOLISHED C/HWS SYSTEM

SCALE: NONE



Dayton Independent Schools - Athletic Complex
Bid Package #1 - Lincoln Elementary Cooling Tower Replacement
 200 Greendevill Lane
 Dayton, Kentucky 45404
 Mr. Jay Brewer, Superintendent

SHEET TITLE

MECHANICAL
DETAILS

BG #
23-538
REH #
168-523
DATE
8-10-23

M6-501



Project Information

Energy Code: 2012 IECC
Project Title: Lincoln Elementary
Location: Dayton, Kentucky
Climate Zone: 4a
Project Type: Alteration

Construction Site: 701 5th Ave
Dayton, Kentucky 41074
Owner/Agent: Designer/Contractor:

Mechanical Systems List

QuantitySystem Type & Description

1 Plant:
Cooling: Water Chiller, Capacity 200 tons, Condenser Air-Cooled, Rotary Screw or Scroll Chiller
Proposed Efficiency: 9.69 EER, Required Efficiency: 9.56 EER
Proposed Part Load Efficiency: 17.00 IPLV, Required Part Load Efficiency: 12.75 IPLV

Mechanical Compliance Statement

Compliance Statement: The proposed mechanical alteration project represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 2012 IECC requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Robert Lonnemann - PE
Name - Title
Signature
Date: 08/02/2023

Project Title: Lincoln Elementary
Data filename: Report date: 08/02/23
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Section # & Req.ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C403.2.6 [ME57]	Exhaust air energy recovery on systems meeting Table C403.2.6	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C403.4.6 [ME31]	Condenser heat recovery system that can heat water to 85°F or provide 60% of peak heat rejection is installed for preheating of service hot water.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Total installed heat capacity of water cooled systems = 6 MMbtu/h of heat rejection.
C403.2.11 [ME71]	Unenclosed spaces that are heated use only radiant heat.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.

Additional Comments/Assumptions:

Project Title: Lincoln Elementary
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Requirements: 100.0% were addressed directly in the COMcheck software

Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
C103.2 [PR2]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the mechanical systems and equipment and document where exceptions to the standard are claimed. Load calculations per acceptable engineering standards and handbooks.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

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Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C403.2.4 [F138]	Thermostatic controls have a 5°F deadband.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.2.4 [F120]	Temperature controls have setpoint overlap restrictions.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.2.4 [F139]	Each zone equipped with setback controls using automatic time clock or programmable control system.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.2.4 [F140]	Automatic Controls: Setback to 55°F (heat) and 85°F (cool); 7-day clock, 2-hour occupant override, 10-hour backup	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C408.2.5 [F177]	Furnished HVAC as-built drawings submitted within 90 days of system acceptance.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C303.3 [F18]	Furnished O&M manuals for HVAC systems within 90 days of system acceptance.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C408.2.5 [F143]	An air and/or hydronic system balancing report is provided for HVAC systems.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C408.2.3 [F110]	HVAC control systems have been tested to ensure proper operation, calibration and adjustment of controls.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.2.2 [F127]	HVAC systems and equipment capacity does not exceed calculated loads.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C408.2.1 [F128]	Commissioning plan developed by registered design professional or approved agency.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C408.2.4 [F129]	Preliminary commissioning report completed and certified by registered design professional or approved agency.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C408.2.5 [F130]	Final commissioning report due to building owner within 90 days of receipt of certificate of occupancy.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C408.2.3 [F131]	HVAC equipment has been tested to ensure proper operation.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

Project Title: Lincoln Elementary
Data filename: Report date: 08/02/23
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Section # & Req.ID	Footing / Foundation Inspection	Complies?	Comments/Assumptions
C403.2.4 [F09]	Freeze protection and snow/ice melting system sensors for future connection to controls.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

Project Title: Lincoln Elementary
Data filename: Report date: 08/02/23
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Additional Comments/Assumptions:

Project Title: Lincoln Elementary
Data filename: Report date: 08/02/23
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Section # & Req.ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C403.2.3 [ME55]	HVAC equipment efficiency verified.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Mechanical Systems list for values.
C403.2.5 [ME59]	Demand control ventilation provided for spaces >500 sq ft. and >25 people/1000 sq ft. occupant density and served by systems with air side economizer, auto modulating outside air damper control, or design airflow >3.000 cfm.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C403.2.7 [ME60]	HVAC ducts and plenums insulated. Where ducts or plenums are installed in or under a slab, verification may need to occur during Foundation Inspection.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C403.2.8 [ME61]	HVAC piping insulation thickness. Where piping is installed in or under a slab, verification may need to occur during Foundation Inspection.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.2.8 [ME7]	Piping insulation exposed to weather is protected from damage (due to sun, moisture, wind, etc.).	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.2.8 [ME41]	Thermally ineffective panel surfaces of sensible heating panels have insulation >= R-3.5.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C403.2.7 [ME10]	Ducts and plenums sealed based on static pressure and location.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C408.2.2 [ME63]	Air outlets and zone terminal devices have means for air balancing.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C403.4.2 [ME66]	VAV fan motors >=7.5 hp to be driven by variable speed drive, have a vane axial fan with variable pitch blades, or have controls to limit fan motor demand.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.4.3 [ME68]	Hydronic systems greater than 300,000 Btu/h designed for variable fluid flow.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.4.3 [ME26]	Reduce flow in pumping systems >10 hp to multiple chillers or boilers when others are shut down.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.4.3 [ME69]	Temperature reset by representative building loads in pumping systems for chiller and boiler systems >300,000 Btu/h.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

Project Title: Lincoln Elementary
Data filename: Report date: 08/02/23
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Dayton Independent Schools - Athletic Complex
Bid Package #1 - Lincoln Elementary Cooling Tower Replacement
200 Greendevil LaneDayton, Kentucky 41074
Dayton Independent Schools Board of Education- Mr. Jay Brewer, Superintendent

SHEET TITLE

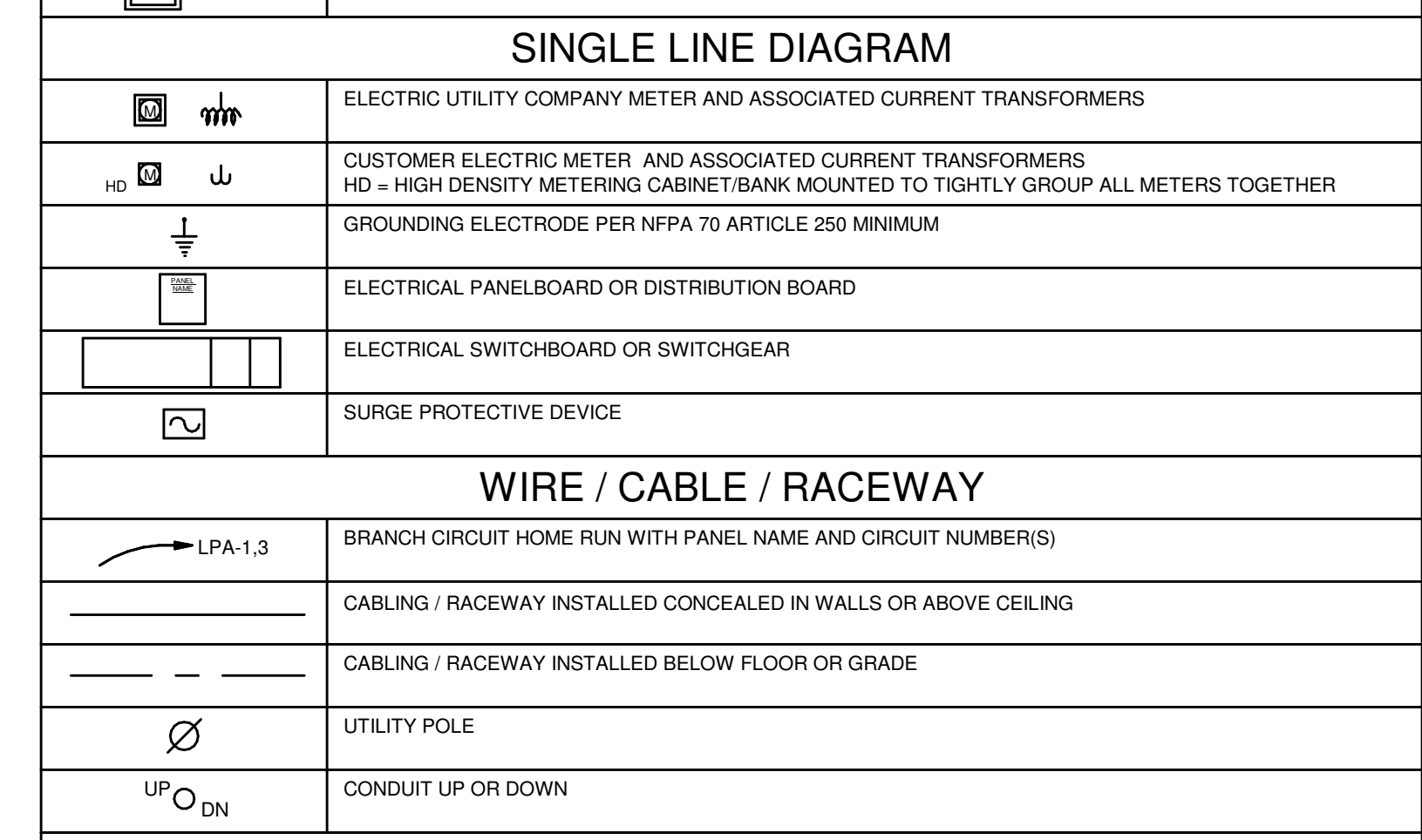
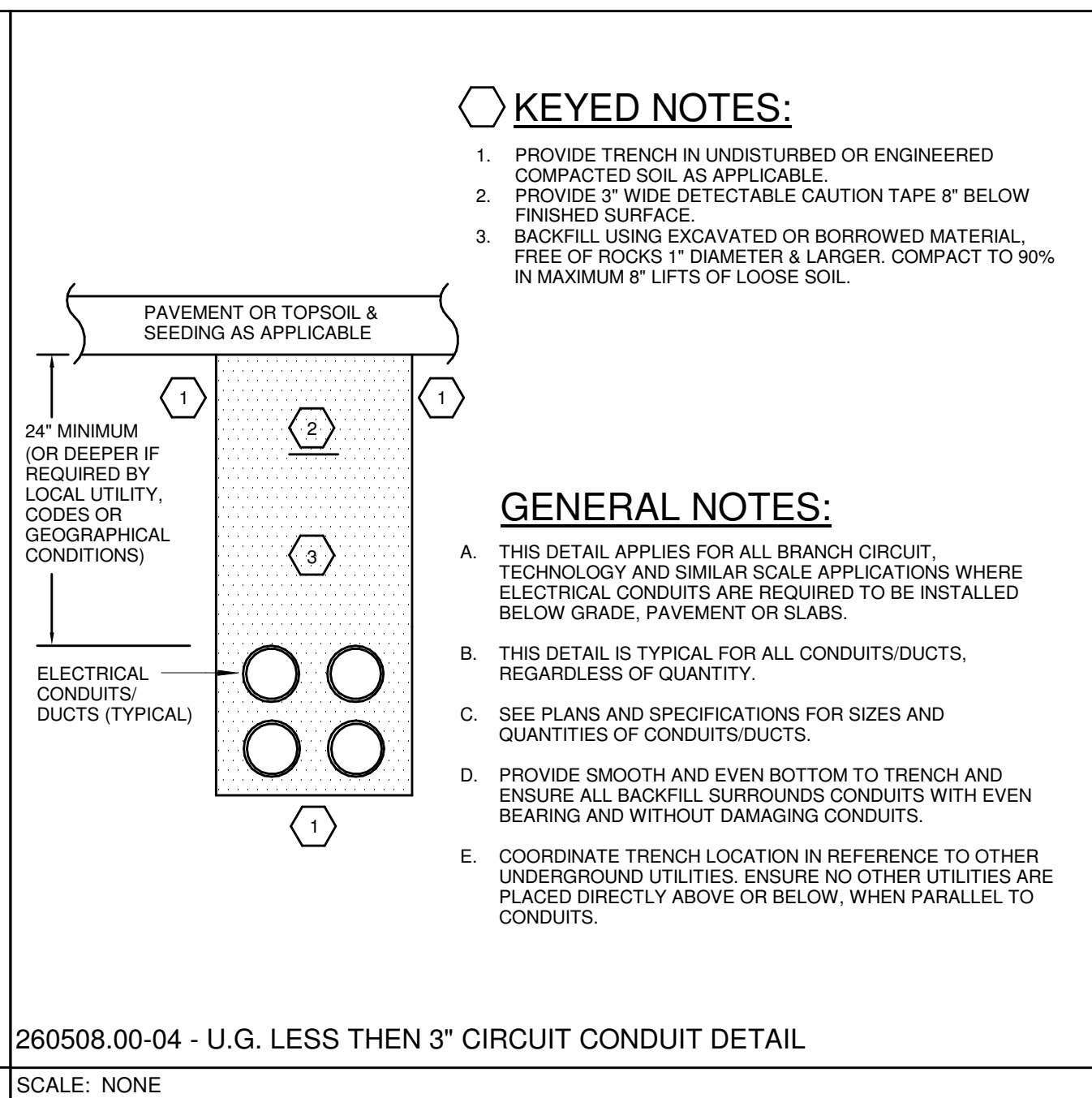
MECHANICAL -
ENERGY
COMPLIANCE

BG #
23-538

REH #
168-523

DATE
8-10-23

M9-901



PLAN-VIEW AND GRAPHIC LINE TYPES	
WORK SHOWN BOLD-CONTINUOUS INDICATES NEW WORK (UNLESS OTHERWISE INDICATED)	
WORK SHOWN FADED INDICATES EXISTING WORK TO REMAIN OR NEW WORK BY OTHERS AS APPLICABLE (UNLESS OTHERWISE INDICATED)	
WORK SHOWN BOLD-DASHED INDICATES SELECTIVE DEMOLITION WORK (UNLESS OTHERWISE INDICATED)	
DRAWING SET APPEARANCE	
TO BETTER COMMUNICATE SCOPE TO PERMIT AGENCIES AND CONTRACTORS, EACH DRAWING IN THIS DRAWING SET HAS BEEN CREATED IN BOTH "COLOR" AND "BLACK AND WHITE". THERE EXISTS A COLOR LAYER WITHIN EACH DRAWING WHERE VISIBILITY IS CONTROLLED THROUGH THE TOP LAYER MANAGER. THIS LAYER VISIBILITY CAN BE TOGGLED DISPLAYING EITHER "COLOR" OR "BLACK AND WHITE". TO MAINTAIN SCOPE BASED SHADING WHEN PRINTING TO PAPER, BLACK AND WHITE NEEDS TO BE VISIBLE. FOR FURTHER INSTRUCTIONS, REFER TO CONTRACTOR RESOURCES ON OUR WEBSITE AND DOWNLOAD "DRAWING COLOR INSTRUCTIONS". WWW.KLHENGERS.COM - CONTRACTOR RESOURCES (RIGHT HAND SIDE OF PAGE).	

GENERAL ELECTRICAL INSTALLATION NOTES

A. **CODE COMPLIANCE:** PROVIDE ALL ELECTRICAL WORK COMPLIANT WITH ALL PREVAILING CODES.

B. **LISTINGS:** PROVIDE MATERIALS, COMPONENTS AND ASSEMBLED COMPONENTS WITH LISTINGS AND LABELS FROM A LISTED OR APPROVED MANUFACTURER. PROVIDE ALL WIRING IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.

C. **SEPARATE BUILDING SUPPLIES:** SEPARATE DEVICE BOXES BY A MINIMUM OF 6 INCHES WHERE INSTALLED BACK-TO-BACK WITH DEMISING WALLS TO MAINTAIN REQUIRED FIRE AND SOUND RATING (TYPICAL OF ALL DEVICE BOXES INSTALLED ON DEMISING WALLS). PROVIDE LISTINGS AND LABELS FROM A LISTED OR APPROVED MANUFACTURER. PROVIDE ALL WIRING IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE. PROVIDE FIRE-SMOKE RATED WALLS, CEILINGS AND FLOORS TO MEET OR EXCEED THE RESPECTIVE FIRE/SMOKE RATINGS OF THE WALLS AND CEILING.

D. **RATED PENETRATIONS:** SEAL ALL PENETRATIONS THROUGH FIRE-RATED AND/OR SMOKE-RATED MEMBRANES (FLOORS, WALLS, CEILING, ETC.) WITH AN APPROVED FIRE-RATED AND/OR SMOKE-RATED PENETRATING DEVICE.

E. **GANGED DEVICES:** INSTALL WIRING DEVICES GANGED WHEREVER POSSIBLE FOR INSTANCES WHERE THEY ARE SHOWN TOGETHER. THIS INCLUDES LOCATIONS ABOVE COUNTERS AND WORK SURFACES WHERE APPLICABLE.

F. **CONCEAL DEVICES:** INSTALL WALL MOUNTED DEVICES IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE. PROVIDE 6 INCHES FROM WALL CORNERS.

G. **CONCEAL DEVICES:** CONCEAL ALL CONDUIT DROPS AND RISERS WITH WALLS, AND PROVIDE FLUSH-MOUNTED WALL OUTLETS 6 INCHES OR LESS UNLESS OTHERWISE INDICATED.

H. **DOCUMENTS OF OTHER TRADES:** REVIEW DOCUMENTS OF OTHER TRADES, INCLUDING ARCHITECTURAL, PRIOR TO SUBMITTING A BID. PROVIDE ELECTRICAL WORK FOR EQUIPMENT, DEVICES, ETC. OF OTHER TRADES AS REQUIRED TO RENDER THEM FULLY OPERATIONAL. REFER TO ARCHITECTURAL ELEVATIONS FOR INTENDED LOCATIONS AND MOUNTING HEIGHTS FOR EQUIPMENT AND OUTLETS, ETC. PRIOR TO COMMENCING WORK WITH RELATED OTHER TRADES.

I. **SCHEMATIC REPRESENTATIONS:** CIRCUITING WORK SHOWN ON DRAWINGS IS FOR SCHEMATIC GENERAL PURPOSE INFORMATION ONLY. PROVIDE ALL WIRING IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE. PROVIDE CON-OR-COLOR CODED WIRING FOR CONCENTRATION, ETC.). LOCATIONS AND ROUTING INDICATED ON PLANS ARE SCHEMATIC AND DIAGRAMMATIC IN NATURE. LAYOUT AND INSTALL ALL ELECTRICAL WORK IN STRICT COMPLIANCE WITH CHAPTER 1, PART I, ARTICLE 110.26 OF THE NATIONAL ELECTRICAL CODE.

J. **HOME-SUB DESIGNATIONS:** HOME-SUB DESIGNATIONS INDICATED ON PLANS ARE SCHEMATIC DESIGNATIONS ONLY. PROVIDE FIELD ELECTRICAL CONTRACTOR TO FIELD BIDDING CONTRACTOR TO PROVIDE CON-OR-COLOR CODED CONDUCTOR INSULATION ACCORDINGLY, CODED PROPERLY, DEPENDING ON SYSTEM, PHASE, NEUTRAL, ETC. PROVIDE EQUIPMENT AND PANELBOARD SCHEDULES THAT ACCURATELY INDICATE ALL CODED CONNECTIONS.

K. **LOCAL DISCONNECTS AND CONTROLS AT EQUIPMENT:** LOCAL DISCONNECTS AND LOCAL CONTROLS SHOWN AT OR ON EQUIPMENT IN PLAN VIEW ARE SHOWN FOR SCHEMATIC ASSOCIATIONS ONLY. AVOID INSTALLING DISCONNECTS OR CONTROLS ON EQUIPMENT AND/OR TRAYS. PROVIDE ALL TRAYS, TRAY CADDIES, ETC. WITH A MINIMUM OF 18 INCHES OF FREE, UNFABRICATED UNITS/ITR OR EQUIPMENT ASSEMBLIES AS NEEDED. PROVIDE FIELD COORDINATION WITH SITE CONDITIONS AND LOCAL ELECTRICAL CODES. PROVIDE ALL TRAYS, TRAY CADDIES, ETC. WITH A MINIMUM OF 18 INCHES OF FREE, UNFABRICATED UNITS/ITR OR EQUIPMENT ASSEMBLIES AS NEEDED. PROVIDE FIELD COORDINATION WITH SITE CONDITIONS AND LOCAL ELECTRICAL CODES. PROVIDE A PERMANENT LABEL ON LOCAL DISCONNECTS NOTING THE EQUIPMENT IT SERVES AND THE PANEL AND CIRCUIT IT FEEDS. THE LABELING SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.

L. **EQUIPMENT & LOAD COORDINATION:** REFER TO AND COORDINATE WITH POWER FLOOR PLANS, EQUIPMENT SCHEDULES (INCLUDING EQUIPMENT COORDINATION SCHEDULES), DRAWINGS OF ALL TRADES, ALL DIVISIONS AND SECTIONS OF SPECIFICATIONS AND ALL OTHER TRADES. PROVIDE ALL TRAYS, TRAY CADDIES, ETC. WITH A MINIMUM OF 18 INCHES OF FREE, UNFABRICATED UNITS/ITR OR EQUIPMENT ASSEMBLIES AS NEEDED. PROVIDE FIELD COORDINATION WITH SITE CONDITIONS AND LOCAL ELECTRICAL CODES. PROVIDE A PERMANENT LABEL ON LOCAL DISCONNECTS NOTING THE EQUIPMENT IT SERVES AND THE PANEL AND CIRCUIT IT FEEDS. THE LABELING SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.

M. **EXTERIOR ELECTRICAL WORK AND WORK SUBJECT TO MOISTURE:** EXTERIOR ELECTRICAL WORK SHALL BE WEATHERPROOF AND WATER TIGHT, AND SHALL BE THE BEST RESISTANT. PROVIDE 1/2 INCH CONDUCTORS FOR ALL APPLICATIONS THAT ARE SUBJECT TO WEATHER OR SUBJECT TO MOISTURE. PROVIDE NEW AND REUSE EXISTING EQUIPMENT AND LOCAL DISCONNECT AND LOCAL CONTROLS THAT IS SUBJECT TO MOISTURE. PROVIDE NEMA 1 ENCLOSURES FOR ALL OTHER OUTDOOR EQUIPMENT. PROVIDE ALL TRAYS, TRAY CADDIES, ETC. WITH A MINIMUM OF 18 INCHES OF FREE, UNFABRICATED UNITS/ITR OR EQUIPMENT ASSEMBLIES AS NEEDED. PROVIDE FIELD COORDINATION WITH SITE CONDITIONS AND LOCAL ELECTRICAL CODES. PROVIDE A PERMANENT LABEL ON LOCAL DISCONNECTS NOTING THE EQUIPMENT IT SERVES AND THE PANEL AND CIRCUIT IT FEEDS. THE LABELING SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.

N. **OVERHEAD WORK:** HOLD ALL NEW OVERHEAD ELECTRICAL WORK AS ACTIVELY AS POSSIBLE, BUT SHALL BE PROVIDED UNDER BASE BID NEVERTHELESS.

O. **OVERHEAD WORK:** HOLD ALL NEW OVERHEAD ELECTRICAL WORK AS ACTIVELY AS POSSIBLE, BUT SHALL BE PROVIDED UNDER BASE BID NEVERTHELESS.

P. **COORDINATION DRAWINGS:** LAYOUT ALL PROPOSED RACEWAY ROUTING, ELEVATIONS, INSTALLATION METHODS, ETC. ON COORDINATION DRAWINGS. PROVIDE ALL TRAYS, TRAY CADDIES, ETC. WITH A MINIMUM OF 18 INCHES OF FREE, UNFABRICATED UNITS/ITR OR EQUIPMENT ASSEMBLIES AS NEEDED. PROVIDE FIELD COORDINATION WITH SITE CONDITIONS AND LOCAL ELECTRICAL CODES. PROVIDE A PERMANENT LABEL ON LOCAL DISCONNECTS NOTING THE EQUIPMENT IT SERVES AND THE PANEL AND CIRCUIT IT FEEDS. THE LABELING SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.

Q. **CONDUIT TERMINATIONS:** IN CASES WHERE CONDUIT SIZES ARE TOO LARGE TO FIT INTO LUGS/TERMINALS, PROVIDE A MINIMUM OF 18 INCHES OF FREE, UNFABRICATED UNITS/ITR OR EQUIPMENT ASSEMBLIES AS NEEDED. PROVIDE FIELD COORDINATION WITH SITE CONDITIONS AND LOCAL ELECTRICAL CODES. PROVIDE A PERMANENT LABEL ON LOCAL DISCONNECTS NOTING THE EQUIPMENT IT SERVES AND THE PANEL AND CIRCUIT IT FEEDS. THE LABELING SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.

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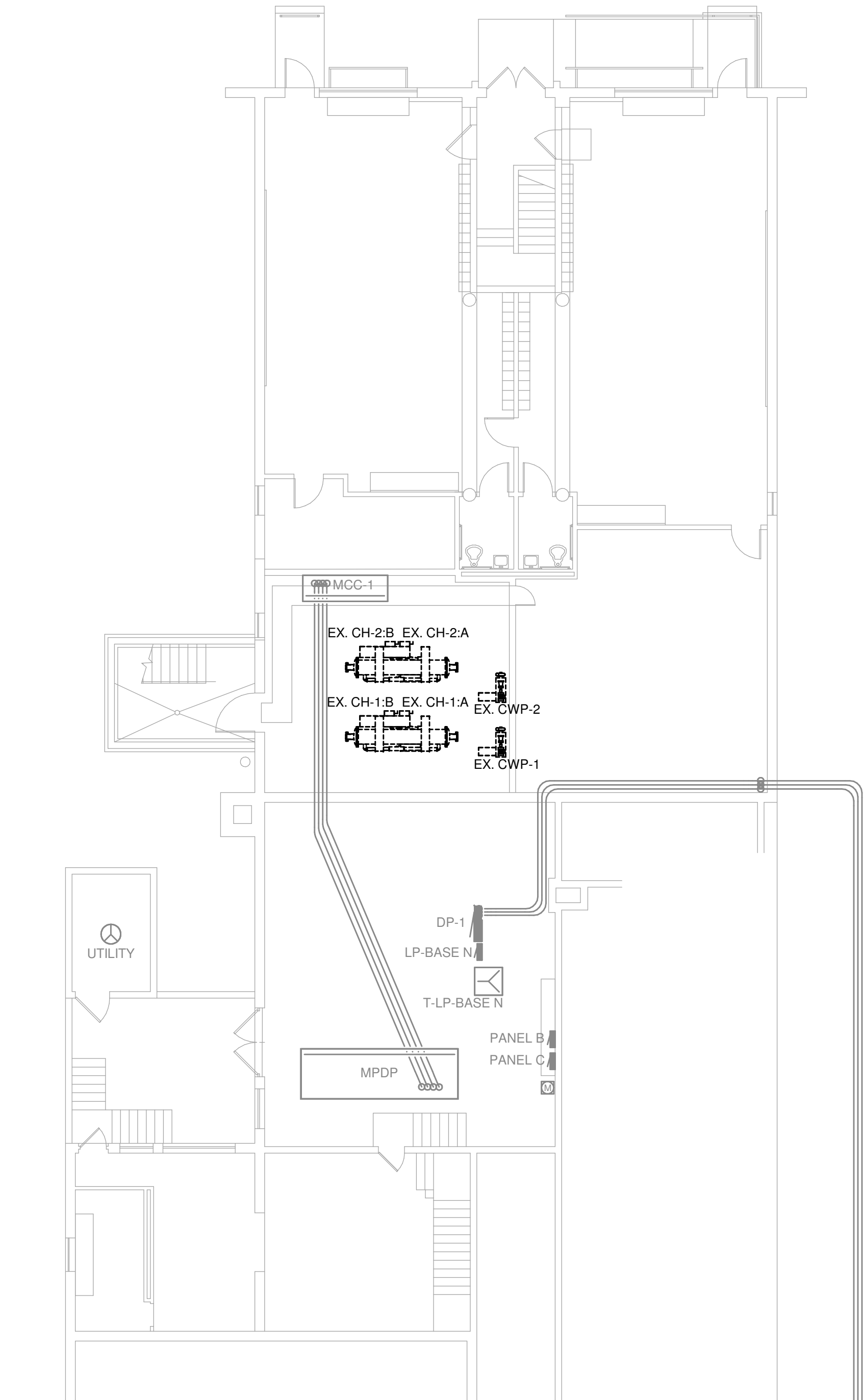
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ELECTRIC CONDUIT AND WIRE MATERIAL SCHEDULE				
<p>MC - METAL CLAD CABLE MI - MINERAL INSULATED CABLE HMC - HEALTHCARE METAL CABLE USE - UNDERGROUND SERVICE ENTRANCE CABLE SE - SERVICE ENTRANCE CABLE UF - UNDERGROUND FEEDER NM - NON-METALLIC SHEATHED CABLE RMC - RIGID METAL CONDUIT RIG - RIGID NON-METALLIC CONDUIT RTRC - REINFORCED THERMOSETTING RESIN CONDUIT LIM - LINE ISOLATION MONITOR</p>		<p>ARC - ALUMINUM RIGID CONDUIT EMT - ELECTRIC METALLIC TUBING ENT - ELECTRIC NON-METALLIC TUBING FMC - FLEXIBLE METALLIC CONDUIT GRC - GALVANIZED RIGID STEEL CONDUIT HDPE - HIGH DENSITY POLYETHYLENE CONDUIT IMC - INTERMEDIATE METALLIC CONDUIT LPDC - LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT LTFC - LIQUID-TIGHT FLEXIBLE NON-METALLIC CONDUIT SCH 40 PVC - SCHEDULE 40 POLYVINYL CHLORIDE CONDUIT SCH 80 PVC - SCHEDULE 80 POLYVINYL CHLORIDE CONDUIT</p>		
CONDUIT APPLICATION	CONDUCTOR TYPE	RACEWAY TYPE	RACEWAY AND CONDUCTOR NOTES	
-POWER - INDOOR--				
EXISTING HOLLOW PARTITIONS	THHN	EMT		
CONCEALED	THHN	EMT		
CONCEALED, DAMP LOCATIONS	XHHW-2	EMT		
EMBEDDED IN CONCRETE SLAB	THHN	RMC (SCH 40 PVC)		
EXPOSED	THHN	EMT		
-POWER - OUTDOOR--				
EXPOSED	XHHW-2	RMC (GRC)		
CONCEALED	XHHW-2	EMT		
CONCEALED, DAMP LOCATIONS	XHHW-2	RMC (SCH 40 PVC)		
UNDERGROUND	XHHW-2	RMC (GRC)		
EXPOSED TO DIRECT SUNLIGHT, ROOF	XHHW-2			

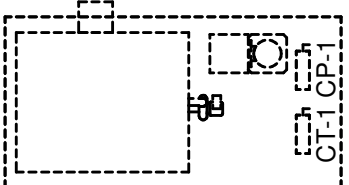


1 ELECTRIC DEMOLITION PLAN - BASEMENT - OVERALL
1" = 10'-0"

- EXISTING CONDITIONS - GENERAL NOTES**
- A. INTENT OF DOCUMENTS: EXISTING CONDITIONS SHOWN ON THE DRAWINGS ARE BASED ON VISUAL FIELD OBSERVATIONS AND THE REVIEW OF PREVIOUS DRAWINGS THAT MAY NOT HAVE BEEN CERTIFIED "AS-BUILT". IT IS NOT THE INTENT OF THESE ELECTRICAL DOCUMENTS THAT EXISTING CONDITIONS BE ACCURATELY SHOWN. EXISTING ELECTRICAL WORK IS SHOWN TO A VERY LIMITED EXTENT ON THE DRAWINGS AND IS SHOWN FOR GENERAL PLANNING REFERENCE ONLY.
- B. PRE-BID SURVEY: PERFORM A DETAILED PRE-BID WALK-THROUGH FIELD INSPECTION AND SURVEY TO REVIEW THE EXISTING STRUCTURES AND PREMISES, TO ACCURATELY DETERMINE EXISTING CONDITIONS, AND TO DETERMINE SCOPE OF REQUIRED ELECTRICALLY RELATED WORK. INCLUDE APPLICABLE ACCESSIBLE CEILING CAVITY AREAS IN THIS INSPECTION.
- C. REUSE OF REMOVED MATERIALS: DO NOT REUSE REMOVED ELECTRICAL MATERIALS UNLESS SPECIFICALLY INDICATED IN PROJECT DOCUMENTS. EXISTING WIRING SYSTEMS MAY BE UTILIZED ONLY TO THE EXTENT INDICATED IN PROJECT DOCUMENTS, OR AS DIRECTED BY OWNER'S REPRESENTATIVE IN FIELD.
- D. EXISTING DISTRIBUTION EQUIPMENT: WHERE MODIFICATIONS ARE MADE TO EXISTING POWER DISTRIBUTION EQUIPMENT, COMPLETELY RE-TYPE PANELBOARD DIRECTORIES USING ACCURATE "AS-BUILT" INFORMATION. WHEN ADDING COMPONENTS TO EXISTING POWER DISTRIBUTION EQUIPMENT, PROVIDE FULL SIZE, NO SPLIT OR TANDEM DEVICES) OVERCURRENT PROTECTION DEVICES (OCPDs) TO MATCH THOSE ALREADY IN PLACE, INCLUDING MANUFACTURER, MODEL/SERIES, SHORT CIRCUIT CURRENT (SCCR) RATING(S). PROVIDE COMMON TRIPS (NO FIELD-INSTALLED HANDLE TIES) IN THE SAME GUTTER FOR MULTI-POLE DEVICES. PROVIDE SWITCHING DUTY (SWD), HRCR AND HRC RATINGS WHERE APPLICABLE FOR LOADS. PROVIDE HANDLE LOCK-ON DEVICES FOR EMERGENCY AND CRITICAL LOADS.
- E. EXISTING BRANCH CIRCUITS: MAINTAIN, AND RECONNECT IF REQUIRED, BRANCH CIRCUITS THAT ARE EXISTING TO REMAIN, UNLESS NOTED OTHERWISE. ALL CIRCUIT DESIGNATIONS SHOWN ON THE DRAWINGS INDICATE NEW CIRCUIT ASSIGNMENTS, NOT EXISTING. WHERE COLOR CODING OF BRANCH CIRCUIT CONDUCTORS DOES NOT COMPLY WITH NFPA 70 OR IS NOT CONSISTENT WITH EXISTING CONDITIONS, MODIFY TO COMPLY.
- F. ADDED LOADS TO EXISTING CIRCUITS: IN CASES WHERE NEW LOADS ARE INDICATED TO BE CONNECTED TO EXISTING CIRCUITS WITH EXISTING LOADS, MEET THE EXISTING CIRCUIT IN ADVANCE AND ENSURE THE EXISTING PLUS ADDED LOAD DOES NOT EXCEED 80 PERCENT OF THE SOURCE CIRCUIT BREAKER AMPERE RATING. IF THAT LOAD IS EXCEEDED, NOTIFY DESIGN PROFESSIONAL.
- G. REASSESSMENT OF EXISTING CIRCUITS: IN CASES WHERE EXISTING CIRCUITS ARE REUSED BASED ON INFORMATION SHOWN ON DRAWINGS OR BASED ON FIELD CONDITIONS BUT MUST BE CONNECTED TO BREAKERS OTHER THAN THEIR ORIGINAL BREAKER, MODIFY COLOR CODING AS REQUIRED IF THE NEW BREAKER ASSIGNMENT IS CONNECTED TO A DIFFERENT LINE/PHASE THAN THE ORIGINAL ONE. USE MEANS AND METHODS COMPLIANT WITH NFPA 70 AND WITH AUTHORITIES HAVING JURISDICTION.
- H. ELECTRICAL WORK TO REMAIN OR BE RELOCATED: IF REQUIRED TO ACCOMMODATE CONSTRUCTION RELATED ACTIVITIES OR WHERE SPECIFICALLY SHOWN ON THE DRAWINGS, TEMPORARILY REMOVE, STORE IN PROTECTED LOCATION ON SITE, AND REINSTALL. CONFLICTING ELECTRICAL EQUIPMENT, LUMINAIRES, OR DEVICES THAT ARE TO REMAIN OR TO BE RELOCATED.
- I. PROTECTIVE BARRIERS: PROVIDE AND MAINTAIN TEMPORARY PARTITIONS AND DUST BARRIERS ADEQUATE TO PREVENT THE SPREAD OF DUST AND DIRT TO ADJACENT FINISHED AREAS AND OTHER SYSTEM COMPONENTS. PROTECT ADJACENT INSTALLATIONS DURING CUTTING AND PATCHING OPERATIONS. REMOVE PROTECTION AND BARRIERS AFTER DEMOLITION OPERATIONS ARE COMPLETE. PREVENT AIRBORNE DUST AND PARTICULATE MATTER RESULTING FROM ELECTRICAL WORK FROM ENTERING OCCUPIED SPACES, AND FROM ENTERING AIR INTAKES TO OPERATING HVAC SYSTEMS. MEET WITH OWNER AND HVAC INSTALLER TO DETERMINE SPECIAL INDOOR AIR QUALITY (IAQ) REQUIREMENTS RELATED TO ELECTRICAL THAT MAY APPLY TO THIS PROJECT. COOPERATE FULLY WITH HVAC AND REQUIREMENTS THAT AFFECT ELECTRICAL WORK AND ARE AFFECTED BY ELECTRICAL WORK.
- J. PENETRATIONS: MAKE REQUIRED ELECTRICAL OPENINGS THROUGH WALLS, FLOORS, ETC. IMMEDIATELY PRIOR TO INSTALLATION OF WORK. PROPERLY AND PERMANENTLY SEAL ELECTRICAL OPENINGS IMMEDIATELY AFTER INSTALLATION OF WORK. PROVIDE TEMPORARY SEALS FOR APPLICATIONS WHERE PENETRATIONS ARE MADE BUT CANNOT BE PERMANENTLY SEALED WITHIN FOUR HOURS.
- K. PRE-EXISTING CODE VIOLATIONS: INSPECT EXISTING ELECTRICAL WORK IN AREAS ACCESSED UNDER THIS PROJECT AND BRING INTO COMPLIANCE WITH NFPA 70. THIS APPLIES ONLY TO THE EXTENT THAT SUCH WORK IS UNCOVERED IN THE IMMEDIATE PROJECT AREAS AFFECTED BY CONSTRUCTION ACTIVITIES, AND ONLY TO THE LIMITED EXTENT THAT IT APPLIES TO PRE-EXISTING GENERAL INSTALLATION METHODS SUCH AS MISSING JUNCTION BOX PLATE, OPEN JUNCTION BOX KNOCKOUT, MINOR CONDUIT RE-ANCHORING AND MINOR EXPOSED WIRING/CONNECTIONS. IF MORE EXTENSIVE CODE OR SAFETY VIOLATIONS ARE DISCOVERED, IMMEDIATELY BRING THEM TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE (DETAILED IN WRITING) ALONG WITH PROPOSED COST FOR CORRECTIONS AND IMPACT (IF ANY) ON THE CONSTRUCTION SCHEDULE.
- L. TEMPORARY LIGHTING AND POWER: COMPLY WITH NFPA 70 (INCLUDING ARTICLE 590), NFPA 70E AND ALL OTHER PREVAILING CODES. PROVIDE SUFFICIENT LIGHTING AND POWER CENTERS THROUGHOUT INTERIOR OF NEW WORK OR RENOVATION SCOPE. PROVIDE GFCI PROTECTION FOR ALL WORK. COORDINATE WITH GENERAL CONTRACTOR AND OTHER TRADES, AND PROVIDE ANY ADDITIONAL TEMPORARY ELECTRICAL NEEDS THAT ARE REQUIRED. FULLY DEMOLISH TEMPORARY ELECTRIC BY END OF PROJECT. UPON RECEIVING WRITTEN PERMISSION FROM OWNER'S REPRESENTATIVE, TEMPORARY ELECTRICAL SERVICE(S) MAY BE DERIVED FROM EXISTING BUILDING ENERGIZED SERVICE. PROVIDE OVERCURRENT PROTECTION, DISCONNECTS, CABLES, CONDUIT(S), RACEWAY, ETC. ACCORDINGLY. PROVIDE TEMPORARY SERVICE FROM UTILITY IF PERMISSION TO USE EXISTING BUILDING POWER IS NOT GRANTED BY OWNER'S REPRESENTATIVE. ARRANGE WITH LOCAL UTILITY FOR TEMPORARY SERVICE AND PAY ASSOCIATED FEES FOR INSPECTIONS, CONNECTIONS, ETC., AND PAY FOR UTILITY ELECTRIC USAGE/CONSUMPTION COSTS. RESTORE ASSOCIATED SITE AND BUILDING MATERIALS TO THEIR PRE-CONSTRUCTION STATE AND CONDITION AFTER TEMPORARY LIGHTING AND POWER IS NO LONGER NEEDED.
- M. INTERIM LIFE-SAFETY PROVISIONS: PROVIDE INTERIM FIRE ALARM AND CODE MINIMUM LIGHTING IN DEMOLITION AND CONSTRUCTION AREAS. PROVIDE TEMPORARY PLASTIC COVERS, OBTAINED FROM SMOKE DETECTOR MANUFACTURER OR OBTAINED FROM A THIRD PARTY AND SPECIFICALLY APPROVED FOR SUCH USE BY SMOKE DETECTOR MANUFACTURER, OVER EXISTING SMOKE DETECTORS WITHIN PROJECT AREA AND IN ADJACENT AREAS THAT ARE EXPOSED TO CONSTRUCTION-RELATED DUST OR AIRBORNE PARTICULATES. REMOVE ALL TEMPORARY LIFE SAFETY WORK WHEN NO LONGER NEEDED.
- N. INTERIM EGRESS PATH PROVISIONS: PROVIDE TEMPORARY UL 924 COMPLIANT EXIT AND/OR EGRESS LIGHTING ALONG EGRESS ROUTES THAT MUST REMAIN ACCESSIBLE DURING CONSTRUCTION. PROVIDE TEMPORARY FIRE ALARM SYSTEM FULL STATION AND AUDIOVISUAL ALARM NOTIFICATION DEVICES ALONG ALL AFFECTED EGRESS ROUTES. REMOVE THIS SCOPE WHEN NO LONGER NEEDED.

- EXISTING CONDITIONS - POWER CONTINUITY NOTES**
- THE FOLLOWING NOTES BROADLY DEFINE SOME OF THE SPECIALTY BASE BID SCOPE OF WORK REQUIRED TO PROVIDE SPECIAL TEMPORARY POWER FOR NEW AND EXISTING FACILITIES TO ACCOMMODATE UTILITY POWER INTERRUPTIONS. FIELD VERIFY ALL SPECIFICATIONS AND PROVIDE MATERIALS, NORMAL TIME LABOR, PREMIUM TIME LABOR, SERVICES, ETC. FOR ALL WORK UNDER BASE BID, INCLUDING BUT NOT LIMITED TO THE FOLLOWING.
- A. INVESTIGATION OF EXISTING CONDITIONS: LOCATE, IDENTIFY, AND PROTECT ELECTRICAL SERVICES PASSING THROUGH DEMOLITION AREAS AND SERVING OTHER AREAS OUTSIDE THE DEMOLITION LIMITS. MAINTAIN SERVICES TO AREAS OUTSIDE DEMOLITION LIMITS, WHEN SERVICES MUST BE INTERRUPTED, PROVIDE TEMPORARY SERVICES FOR AFFECTED AREAS. IT IS RECOGNIZED THAT THERE MAY BE SOME CONDUIT SYSTEMS RENDEREED INACTIVE BY DEMOLITION, CAUSING DISCONNECTION OF "DOWNSTREAM" OUTLETS, ETC. INVESTIGATE THESE TYPES OF CONDITIONS (FOR ALL SYSTEMS) PRIOR TO DEMOLITION. PROVIDE NECESSARY CORRECTIVE ELECTRICAL WORK PRIOR TO DEMOLITION TO ENSURE THAT SUCH "DOWNSTREAM" DEVICES REMAIN PERMANENTLY ACTIVE THROUGHOUT DEMOLITION, DURING NEW CONSTRUCTION, AND AFTER PROJECT COMPLETION. PROTECT EXISTING ELECTRICAL WORK SERVING EXISTING SPACES AND EQUIPMENT THAT MUST REMAIN OPERATIONAL DURING PART OR ALL OF THE CONSTRUCTION PERIOD, AND ENSURE POWER CONTINUITY IS MAINTAINED FOR SAME THROUGHOUT DURATION OF CONSTRUCTION ACTIVITIES.
- B. COORDINATION WITH OWNER: CAREFULLY COORDINATE WORK AND SYSTEM SHUTDOWNS IN ADVANCE WITH OWNER'S REPRESENTATIVE, AND WITH AFFECTED TRADES SO THAT NORMAL BUILDING ACTIVITIES AND OTHER CONSTRUCTION TRADES ARE MINIMALLY AFFECTED. DO NOT INTERRUPT ELECTRICAL UTILITY SERVICE(S) TO THE FACILITY, OR ANY PART THEREOF, UNLESS PERMITTED UNDER THE FOLLOWING CONDITIONS, AND THEN ONLY AFTER PROVIDING TEMPORARY ELECTRICAL SERVICE(S)/FEEDS. NOTIFY OWNER NO FEWER THAN FOURTEEN DAYS IN ADVANCE OF EACH PROPOSED INTERRUPTION OF AN ELECTRICAL SERVICE. DO NOT PROCEED WITH INTERRUPTION OF AN ELECTRICAL SERVICE WITHOUT OWNER'S WRITTEN PERMISSION. DO NOT ENERGIZE ANY NEW WORK WITHOUT NOTIFICATION TO, AND SUBSEQUENT PERMISSION FROM, THE OWNER AND ALL AFFECTED PARTIES.
- C. TEMPORARY ARRANGEMENTS: COMPLY WITH NFPA 70 (INCLUDING ARTICLE 590), NFPA 70E AND ALL OTHER PREVAILING CODES DURING CONSTRUCTION RELATED ELECTRICAL OUTAGES. PROVIDE ALL TEMPORARY ELECTRICAL WORK REQUIRED TO MAINTAIN POWER TO OCCUPIED AREAS OF THE BUILDING. COORDINATE WITH, AND OBTAIN APPROVAL FROM, OWNER AND DESIGN PROFESSIONALS FOR ALL MEANS AND METHODS. COMPLY WITH NFPA 70E. SCHEDULE ALL OUTAGES IN ADVANCE WITH OWNER, AT DAYS OF WEEK AND TIMES OF DAY OR NIGHT AS DIRECTED BY OWNER.
- D. TEMPORARY GENERATOR: PROVIDE A TEMPORARY MOBILE ENCLOSED TRAILER MOUNTED DIESEL FUEL-POWERED PACKAGE GENERATOR SET (EPA TIER 4 FINAL RATED) FOR EACH INSTANCE FOR AS LONG AS IT TAKES TO MODIFY OR REPLACE UTILITY POWER TO ANY PART OF THE FACILITY. PROVIDE SECURED AND PROTECTED TEMPORARY FEEDERS AND TERMINATIONS FROM MOBILE GENERATOR TO EQUIPMENT. REMOVE MOBILE GENERATOR FROM SITE WHEN NO LONGER NEEDED AND REMOVE ALL RELATED TEMPORARY PROVISIONS. PROVIDE ALL REQUIRED DIESEL FUEL FOR TEMPORARY GENERATOR OPERATION. PARK THE TEMPORARY GENERATOR AT A LOCATION AS DIRECTED BY OWNER. RESTORE ALL SITE AND BUILDING CONDITIONS TO THEIR RESPECTIVE PRE-MODIFIED STATE AND CONDITION AFTER REMOVAL OF TEMPORARY PROVISIONS.

- EXISTING CONDITIONS - DEMOLITION NOTES**
- A. DEFINITION OF DEMOLITION: WHERE THE TERM "DEMOLITION" IS USED IN ELECTRICAL DOCUMENTS, INTERPRET IT TO MEAN "DEMOLITION" OR "SELECTIVE DEMOLITION" AS APPLICABLE FOR THE RESPECTIVE SCOPE OF WORK. WHERE THE TERM "DEMOLISH," REMOVE OR SIMILAR TERMS ARE USED IN ELECTRICAL DOCUMENTS, INTERPRET TO MEAN "DISCONNECT, REMOVE, DISPOSE OF, AND REMOVE ALL RELATED ELECTRICAL CONDUIT, RACEWAYS, WIRING, CABLES, BOXES, SUPPORTS, ETC."
- B. GENERAL ACCOMMODATIONS: PROVIDE ELECTRICAL DEMOLITION WORK AS REQUIRED TO ACCOMMODATE PROJECT DEMOLITION AND AS REQUIRED TO ACCOMMODATE NEW CONSTRUCTION, DISCONNECT AND REMOVE WORK TO BE ABANDONED, AND AS REQUIRED TO ACCOMMODATE WORK OF OTHER TRADES, IN AREAS AFFECTED BY THIS PROJECT UNLESS SPECIFICALLY NOTED OTHERWISE. COORDINATE PHASING OF WORK CAREFULLY WITH OWNER PRIOR TO BEGINNING ELECTRICAL DEMOLITION WORK.
- C. REMOVAL OF ABANDONED WORK: REMOVE ACCESSIBLE ABANDONED, INACTIVE AND OBSOLETE RACEWAY SYSTEMS, EQUIPMENT, LUMINAIRES, DEVICES, CONDUIT, WIRING, CABLES, BOXES, SUPPORTS, CONTROLS, ETC. ABANDONED RACEWAYS EMBEDDED IN FLOORS, WALLS, AND CEILINGS MAY REMAIN IF SUCH MATERIALS DO NOT INTERFERE WITH NEW INSTALLATIONS. THIS APPLIES FOR ALL ELECTRICAL WORK, AND ALL COMMUNICATIONS AND INFORMATION TECHNOLOGY TYPE WORK, INCLUDING ALL SUCH WORK ABOVE CEILINGS, ETC. REMOVE RELATED ABANDONED UNUSED RACEWAY BACK TO THE NEAREST RESPECTIVE "UPSTREAM" JUNCTION BOX THAT REMAINS ACTIVE EVEN IF OUTSIDE OF THE CONFINES OF THE PROJECT AREA. REMOVE ABANDONED UNUSED WIRING AND CABLES BACK TO RESPECTIVE SOURCES SOURCE EVEN IF SOURCES ARE OUTSIDE THE CONFINES OF THE PROJECT AREA.
- D. REUSE OF EXISTING CONDUIT: EXISTING BRANCH CIRCUIT AND SYSTEMS CONDUIT, NOT CONFLICTING WITH NEW CONSTRUCTION AND NOT CONFLICTING WITH OVERHEAD OR CEILING CAVITY REQUIREMENTS, MAY BE RE-USED AT THE DISCRETION OF THE ELECTRICAL INSTALLER IF IT COMPLIES WITH THESE CONTRACT DOCUMENTS AFTER ALL ABANDONED CONDUCTORS AND CABLES HAVE BEEN REMOVED FROM THEM. DO NOT EXCEED NFPA 70 REQUIRED CONDUIT FILL AND DO NOT INSTALL WIRING FED FROM DIFFERENT SOURCES IN COMMON CONDUIT.
- E. MODIFICATIONS TO ACCOMMODATE NEW WORK: REMOVE AND RELOCATE EQUIPMENT, LUMINAIRES, DEVICES, CONDUIT, RACEWAYS, WIRING, CABLES, BOXES, SUPPORTS, ETC. THAT CONFLICT WITH CONSTRUCTION RELATED WORK OF ALL TRADES AS NECESSARY TO ACCOMMODATE NEW WORK OF RESPECTIVE TRADES. REWORK AND EXTEND RACEWAY AND WIRING AS REQUIRED TO ACCOMMODATE NEW OR RELOCATED ELECTRICAL WORK. MAINTAIN (OR RECONNECT IF APPLICABLE) REMAINING WIRING. PROVIDE ELECTRICAL DISCONNECTIONS, AND RECONNECTIONS WHERE APPLICABLE, FOR EQUIPMENT TO BE REMOVED (OR RELOCATED) BY OTHER TRADES.
- F. CUTTING AND PATCHING: PERFORM CUTTING AND PATCHING REQUIRED FOR DEMOLITION, RESTORED TO MATCH SURROUNDING REMAINING SURFACES, INCLUDING FIRE/SMOKE RATINGS.
- G. LUMINAIRES: FOR ALL EXISTING LUMINAIRES WHICH ARE SCHEDULED FOR REUSE, REMOVE FROM EXISTING CEILINGS DURING DEMOLITION. PROTECT DURING CONSTRUCTION. CLEAN, SERVICE (IF REQUIRED), RE-LAMP (WITH LAMPS TO MATCH BUILDING STANDARD) AND REINSTALL AT LOCATIONS INDICATED. FOR ALL EXISTING LUMINAIRES WHICH ARE SCHEDULED TO BE REMOVED AND TURNED OVER TO OWNER, THE LUMINAIRES SHALL BE DISCONNECTED, CAREFULLY REMOVED AND TURNED OVER TO OWNER. TRANSFER SUCH LUMINAIRES TO STORAGE AREA AS DIRECTED IN FIELD.
- H. DISPOSAL OF MATERIALS: REFER TO OWNER'S REPRESENTATIVE FOR DISPOSAL INSTRUCTIONS FOR ABANDONED ELECTRICAL MATERIALS REMOVED DURING DEMOLITION AND THEREAFTER. NEATLY STORE ELECTRICAL MATERIALS THAT THE OWNER ELECTS TO RETAIN AT THE SITE AS DESIGNATED BY THE OWNER'S REPRESENTATIVE. LEGALLY DISPOSE OF MATERIALS THAT THE OWNER ELECTS NOT TO RETAIN. DISCONNECT AND REMOVE ELECTRICAL MATERIALS DESIGNATED FOR SALVAGE (REMOVAL AND REUSE, OR FOR TURNING OVER TO OWNER) UNDAMAGED. DISCONNECT AND REMOVE WIRING AND "WHIPS" FROM EQUIPMENT TERMINAL POINTS. CAREFULLY TRANSPORT SALVAGED ELECTRICAL MATERIALS TO A PROTECTED ON-SITE STORAGE LOCATION AS DIRECTED IN FIELD AND NEATLY STORE THEM GROUPED BY SYSTEM TYPE.
- I. CLEANING OF REUSED COMPONENTS: CLEAN COMPONENTS TO BE REUSED INSIDE AND OUT, AND REINSTALL WHERE INDICATED ON DRAWINGS. MODIFY AND EXTEND RELATED EXISTING WIRING IN CONDUIT ACCORDINGLY.



KEYED NOTES	
E2	COORDINATE WITH DUKE ENERGY AND DEMOLISH EXISTING UTILITY POLES FOR SECURITY LIGHTING. SEE NEW ELECTRIC PLANS FOR REPLACEMENT FLOOD LIGHTING.



Dayton Independent Schools - Athletic Complex
Bid Package #1 - Lincoln Elementary Cooling Tower Replacement
200 Greendevill LaneDayton, Kentucky 41074
Dayton Independent Schools Board of Education- Mr. Jay Brewer, Superintendent

SHEET TITLE

ELECTRIC
DEMOLITION
BASEMENT PLAN
OVERALL

BG #
23-538

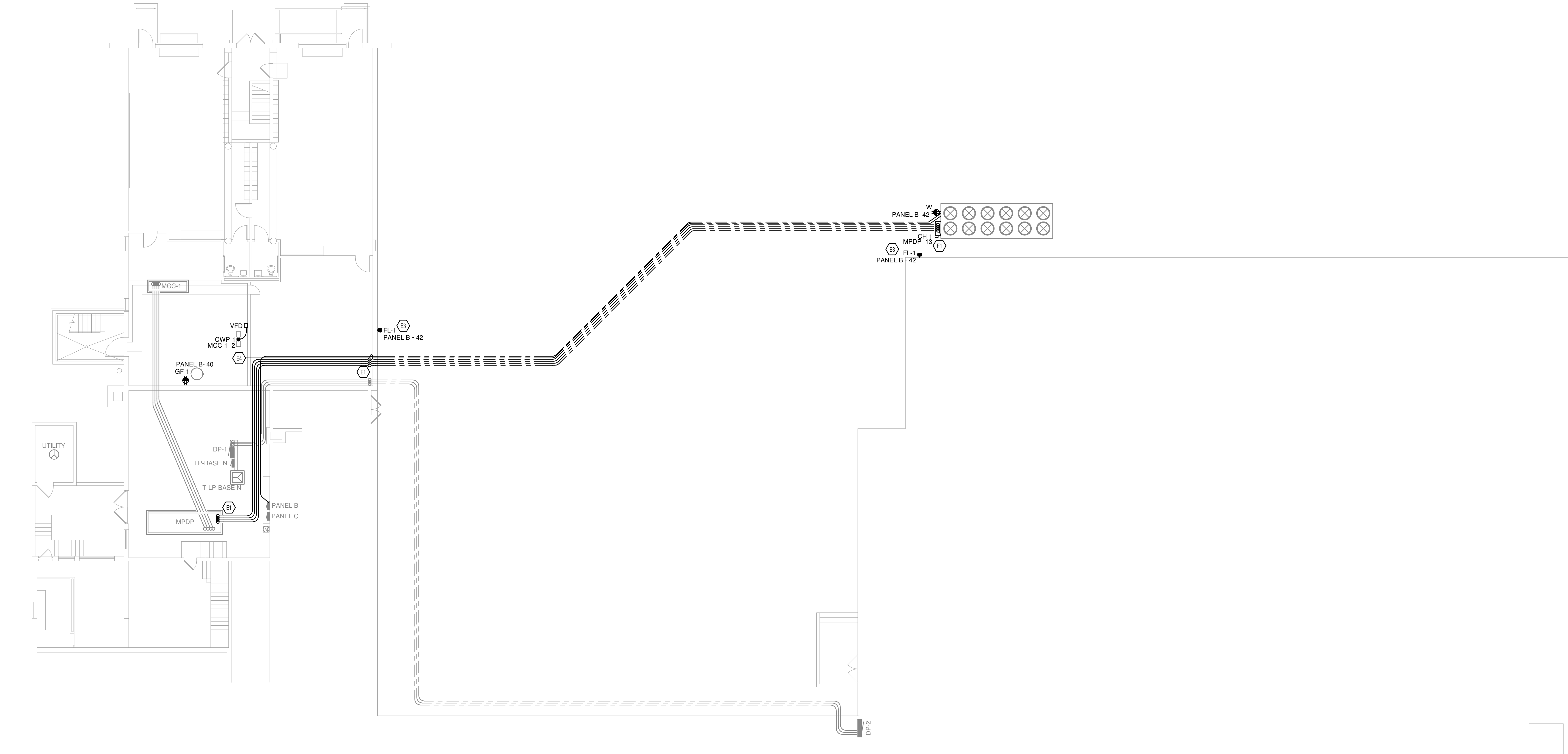
REH #
168-523

DATE
8-10-23

E1-101

ELECTRIC LUMINAIRE SCHEDULE																											
<p>GENERAL NOTES:</p> <p>A. REFER TO DRAWINGS FOR MOUNTING TYPE, NUMBER OF FACES AND ARROWS OF EXIT SIGNS. VERIFY IN FIELD PRIOR TO INSTALLATION.</p> <p>B. VERIFY COMPATIBILITY WITH VOLTAGE, CONTROLS, ETC. FOR ALL LUMINAIRE COMPONENTS.</p> <p>C. COORDINATE EACH LUMINAIRE LOCATION WITH THE ARCHITECTURAL REFLECTED CEILING PLANS, CEILING INSTALLERS, ETC. AND PROVIDE APPROPRIATE MOUNTING SYSTEM REQUIRED FOR EACH LUMINAIRE. ALSO, PROVIDE PLASTER FRAMES, WALL BRACKETS, SUPPORTS, OR OTHER APPURTENANCES AS REQUIRED FOR PROPER AND COMPLETE INSTALLATIONS.</p> <p>D. WEAR CLEAN WHITE COTTON GLOVES WHEN HANDLING EXPOSED REFLECTIVE LUMINAIRE SURFACES. REMOVE PLASTIC SHIPPING BAGS ONLY AFTER INTERIOR WORK IS COMPLETE, AND CLEAN ALL SURFACES WITH CLEAN DRY CHEESECLOTH.</p> <p>E. MOUNTING HEIGHTS INDICATED ARE TO THE BOTTOM OF THE LUMINAIRE, UNLESS OTHERWISE NOTED.</p> <p>F. PRODUCTS: PROVIDE PRODUCTS INDICATED ON DRAWINGS AND SCHEDULES. WHERE MULTIPLE MANUFACTURER SERIES/MODEL NUMBERS ARE LISTED FOR A SINGLE LUMINAIRE, PROVIDE ONE OF THOSE LISTED. WHERE A SPECIFIC MANUFACTURER SERIES/MODEL NUMBER IS LISTED AS BASIS-OF-DESIGN, AND WHERE IT IS STATED THAT EQUIVALENTS WILL BE CONSIDERED, ANY PROPOSED NON-LISTED LUMINAIRES ARE SUBJECT TO REVIEW BY DESIGN PROFESSIONAL(S). SUBMITTALS FOR WHICH SHALL BE FURNISHED AT LEAST (10) DAYS PRIOR TO BID DUE DATE OR THEY WILL NOT BE CONSIDERED. THESE PRE-BID SUBMITTALS SHALL CLEARLY STATE EXACTLY WHAT IS BEING PROPOSED AND SHALL DEMONSTRATE COMPLIANT EQUIVALENCY. SIMILAR REQUESTS FOR PROPOSED SUBSTITUTIONS MAY BE MADE ONLY AFTER BIDS ARE RECEIVED, AND ONLY IF OWNER CHOOSES TO CONSIDER SUBSTITUTION REQUESTS. DESIGN PROFESSIONAL(S) AND OWNER RESERVE THE RIGHT TO REJECT ALL PRODUCTS THAT ARE NOT DEEMED TO BE FULLY EQUIVALENT TO THE BASIS-OF-DESIGN LISTING(S). SUBMIT ALL REQUESTS AND QUESTIONS THROUGH THE FORMALLY-ESTABLISHED BIDDING PROCESS, NOT DIRECTLY TO ENGINEER.</p>																											
TYPE	DESCRIPTION	MANUFACTURER	MODEL	ACCEPTED EQUALS	SIZE	MOUNTING	FLANGE KIT	MATERIAL	OPTICS	LIGHT SOURCE	LAMP QTY	LAMP BASE	COLOR TEMPERATURE (K)	CRI	LUMEN OUTPUT (L)	DRIVER	DRIVER QTY	BATTERY	BATTERY TYPE	DIMMING PROTOCOL	FINISH	OPTIONS	LOAD (VA)	UNIVERSAL VOLTAGE (MVOLT)	VOLTAGE	PHASE	COMMENTS
FL-1	FLOOD LIGHT	LITHONIA	DSXF1	HUBBELL RFL3, LUMARK-NFLD-S	4" X 9" X 8"	KNUCKLE MOUNT, AIM IN FIELD		ALUMINUM	MEDIUM FLOOD	LED	1		4000	70	5406	ELECTRONIC	1	No	NONE	NONE	BLACK		42 VA	Yes	120 V	1	

KEYED NOTES	
E1	ROUTE NEW FEEDER UP HIGH THROUGH BASEMENT FROM MPDP, DOWN BASEMENT EXTERIOR WALL TO GET UNDERGROUND, THEN UNDERGROUND TO CHILLER. FOLLOW NEW CHILLER PIPE ROUTING AND COORDINATE TRENCHES BETWEEN TRADES. COORDINATE EXACT ROUTING WITHIN BASEMENT IN FIELD PRIOR TO ROUGH-IN.
E3	PROVIDE NEW FLOOD LIGHTING TO REPLACE DEMOLISHED DUKE-ENERGY SECURITY LIGHTING. MOUNT AS HIGH AS POSSIBLE ON EXTERIOR OF BUILDING, CONCEAL, AND ROUTE CONDUIT WITHIN BUILDING. PROVIDE PHOTOCELL CONTROL.
E4	PROVIDE CONDUIT(S) FOR CHILLER CONTROL WIRING. COORDINATE CONDUIT REQUIREMENTS WITH MECHANICAL. CONTROL(S) CONTRACTOR PRIOR TO TRENCHING / ROUGH-IN.



1 ELECTRIC POWER PLAN - BASEMENT - OVERALL
1" = 10'-0"



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COLUMBUS, OHIO



8/11/2023

Dayton Independent Schools - Athletic Complex

Bid Package #1 - Lincoln Elementary Cooling Tower Replacement

200 Greendevil LaneDayton, Kentucky 41074

Dayton Independent Schools Board of Education- Mr. Jay Brewer, Superintendent

SHEET TITLE
ELECTRIC POWER BASEMENT PLAN OVERALL
BG # 23-538
REH # 168-523
DATE 8-10-23

E4-101

ELECTRIC FEEDER SCHEDULE											
NOTES: ALL CONDUIT SIZES INDICATED ARE MINIMUM SIZES. INCREASE SIZES AS REQUIRED TO ACCOMMODATE CONDUCTOR PULLING EASE, FIELD CONDITIONS, ETC. "CU" = COPPER CONDUCTOR "AL" = ALUMINUM CONDUCTOR ** WHERE THESE FIELDS ARE BLANK, PROVIDE INSULATION & CONDUIT MATERIAL PER THE CONDUIT & WIRE MATERIAL SCHEDULE.			FEEDER ID NOMENCLATURE: 1- INDICATES FEEDER SIZED TO COMPENSATE FOR VOLTAGE DROP 1- GROUND TYPE (MAY BE BLANK) U = EQUIPMENT GROUND CONDUCTOR REMOVED FOR SERVICE ENTRANCE FROM UTILITY P = PARITY-SIZED EQUIPMENT GROUND CONDUCTOR X = EXISTING FEEDER TO REMAIN UNLESS OTHERWISE NOTED 2- UPSTREAM GROUND CONDUCTORS FOR TRANSFORMER SECONDARY 2- CONDUCTOR AMPACITY 3- TOTAL NUMBER OF PHASE AND GROUND(ED) (NEUTRAL) CONDUCTORS 4- CONDUCTOR MATERIAL: C = COPPER, A = ALUMINUM 5- SPECIAL (MAY BE BLANK) 1 = ISOLATED GROUND (PROVIDE CONTINUOUS INSULATED ISOLATED EQUIPMENT GROUNDING CONDUCTOR(S) FROM INSULATED ISOLATED GROUND BAR(S) TO RESPECTIVE UPSTREAM SERVICE ENTRANCE OR DERIVED SYSTEM GROUNDING ELECTRODE CONDUCTOR AS APPLICABLE)								
SUPPLY TO	SUPPLY FROM	FEEDER ID	FEEDER				INSULATION	CONDUIT	DEMAND (A)	VD %	NOTES
UTILITY	UTILITY	X3000	EXISTING FEEDER, AT RATING INDICATED, TO REMAIN UNLESS NOTED OTHERWISE						1172 A	0.218	EXISTING CUTLER-HAMMER POW-R-LINE C
---	CH-1	MPDP	1000-4A	(4) SETS OF (4) #50 KCMIL AL, (1) #40 AWG AL GND, IN 3" CONDUIT EACH 75C RATED					780 A	2.657	
---	MCC-1	MPDP	XC-1240-4C	EXISTING FEEDER, (4) SETS OF (4) #50 KCMIL CU, (1) #50 AWG CU GND, IN 3" CONDUIT EACH 75C RATED					115 A	0.289	EXISTING CUTLER-HAMMER FREEDOM SERIES 2100
---	PANEL B	MPDP	XC-200-4C	EXISTING FEEDER, (4) #50 AWG CU, (1) #6 AWG CU GND, IN 2" CONDUIT 75C RATED					112 A	0.446	EXISTING CUTLER HAMMER PRL1a
---	PANEL C	MPDP	XC-200-4C	EXISTING FEEDER, (4) #50 AWG CU, (1) #6 AWG CU GND, IN 2" CONDUIT 75C RATED					0 A	0.218	EXISTING CUTLER HAMMER PRL1a

ELECTRIC ENCLOSED SWITCH AND CIRCUIT BREAKER SCHEDULE																					
NOTE: THIS SCHEDULE IS FOR SINGLE-LINE DIAGRAM ENCLOSED SWITCHES AND CIRCUITS BREAKERS ONLY AND MAY NOT INCLUDE ALL ENCLOSED SWITCHES AND CIRCUIT BREAKERS REQUIRED IN THESE CONSTRUCTION DOCUMENTS.																					
TYPICAL EQUIPMENT NAME NOMENCLATURE: 1- POWER DISTRIBUTION SYSTEM (BLANK, NORMAL, E - EMERGENCY, S - STANDBY, L - LIFE SAFETY) 2- DESCRIPTION (H - 480Y/277V, L - 208Y/120V) 3- FLOOR / LEVEL 4- SEQUENCE																					
EQUIPMENT	PHASE	SPACE NUMBER	SPACE NAME	SUPPLY FROM	POWER BRANCH	TYPE	VOLTAGE	PHASE	WIRES	DEMAND (kVA)	DEMAND (A)	TRIP RATING (A)	FRAME RATING (A)	OCF TYPE	FEEDER	ULSE	GEC	ENCLOSURE TYPE	FAULT CURRENT (A)	SHORT CIRCUIT RATING (A)	NOTES
CH-1	New Construction			MPDP		Fused Switch	208	3	4	2846/4 VA	780 A	1000	1000	FUSED	(4) SETS OF (4) #50 KCMIL AL, (1) #40 AWG AL GND, IN 3" CONDUIT EACH 75C RATED			NEMA 3R	20413	25000	

ELECTRIC PANELBOARD AND SWITCHBOARD SCHEDULE																										
TYPICAL EQUIPMENT NAME NOMENCLATURE: 1- POWER DISTRIBUTION SYSTEM (BLANK, NORMAL, E - EMERGENCY, S - STANDBY, L - LIFE SAFETY) 2- DESCRIPTION (H - 480Y/277V, L - 208Y/120V) 3- FLOOR /LEVEL 4- SEQUENCE																										
EQUIPMENT	PHASE	SPACE NUMBER	SPACE NAME	SUPPLY FROM	POWER BRANCH	TYPE	VOLTAGE	PHASE	WIRES	DEMAND (KVA)	DEMAND (A)	MAINS RATING (A)	MAINS FRAME RATING (A)	MAINS TYPE	BUSSING	MOUNTING	FEEDER	LUGS TYPE	SPD	ULISE	GEC	ENCLOSURE TYPE	FAULT CURRENT (A)	SHORT CIRCUIT RATING (A)	NOTES	
MCC-1	Existing			MPDP	NORMAL	Switchboard	208	3	4	41550 VA	115 A	1200	1200	MAIN LUGS ONLY	COPPER	PAD	EXISTING FEEDER, (4) SETS OF (4) #50 KCMIL CU, (1) #30 AWG CU GND, IN 3" CONDUIT EACH 75C-RATED					NEMA 1	34743	65000	EXISTING CUTLER-HAMMER FREEDOM SERIES 3100	
MPDP	Existing			UTILITY	NORMAL	Switchboard	208	3	4	422410 VA	1172 A	3000	3000	FUSED - BOLTED PRESSURE	COPPER	PAD	EXISTING FEEDER, AT RATING INDICATED, TO REMAIN UNLESS NOTED OTHERWISE		Yes		Yes	NEMA 1	42116	65000	EXISTING CUTLER-HAMMER POW-R-LINE C	
PANEL B	Existing			MPDP	NORMAL	Branch Panelboard	208	3	4	40205 VA	112 A	200	200	MAIN LUGS ONLY	COPPER	SURFACE	EXISTING FEEDER, (4) #30 AWG CU, (1) #6 AWG CU GND, IN 2" CONDUIT 75C RATED					NEMA 1	24713	EXISTING	EXISTING CUTLER HAMMER PRL1a	
PANEL C	Existing			MPDP	NORMAL	Branch Panelboard	208	3	4	0 VA	0 A	200	200	MAIN LUGS ONLY	COPPER	SURFACE	EXISTING FEEDER, (4) #30 AWG CU, (1) #6 AWG CU GND, IN 2" CONDUIT 75C RATED					NEMA 1	25682	EXISTING	EXISTING CUTLER HAMMER PRL1a	

ELECTRIC EQUIPMENT SUPPLY SCHEDULE

EQUIPMENT MARK	SUPPLY FROM	CKT	EMERG.	LOAD (kVA)	AVAILABLE FAULT CURRENT	VOLTS	POLE	HTG KW	WATT	FLA (A)	MCA (A)	RDD OCP (A)	BREAKER RATING (A)
CH-1	MPDP	13		284.67	20413	208 V	3			15	878	1000	1000
CWP-1	MPDP	2		17.40	15667	208 V	3						80
GF-1	PANEL B	40		0.90	1478	120 V	1			0.333			20

HVAC ELECTRICAL COORDINATION SCHEDULE

ABBREVIATIONS										CONTRACTOR TYPE										MOTOR CONTROL TYPE										CONTROL TYPE									
DC	LOCAL DISCONNECT	EC	ELECTRICAL CONTRACTOR	CS	COMBINATION STARTER	TC	TIMECLOCK	MC	MOTOR CONTROL, (POWER)	MC	MOTOR CONTROL STARTER	MC	MOTOR CONTROL STARTER	TC	TIMECLOCK	MC	MOTOR CONTROL STARTER	TC	TIMECLOCK	MC	MOTOR CONTROL STARTER	TC	TIMECLOCK	MC	MOTOR CONTROL STARTER	TC	TIMECLOCK	MC	MOTOR CONTROL STARTER										
DN	DUCT SMOKE DETECTOR	FC	FIRE PROTECTION CONTRACTOR	MG	MAGNETIC STARTER OR CONTACT	MS	MANUAL STARTER	MS	MANUAL STARTER	MS	MANUAL STARTER	MS	MANUAL STARTER	MS	MANUAL STARTER	MS	MANUAL STARTER	MS	MANUAL STARTER	MS	MANUAL STARTER	MS	MANUAL STARTER	MS	MANUAL STARTER	MS	MANUAL STARTER	MS	MANUAL STARTER										
TS	TOGGLE SWITCH	HC	HVAC CONTRACTOR	MF	MANUFACTURER	MF	MANUFACTURER	MF	MANUFACTURER	MF	MANUFACTURER	MF	MANUFACTURER	MF	MANUFACTURER	MF	MANUFACTURER	MF	MANUFACTURER	MF	MANUFACTURER	MF	MANUFACTURER	MF	MANUFACTURER	MF	MANUFACTURER	MF	MANUFACTURER										
C/B	FUSE AT LOCAL DISCONNECT (VERIFY FIELD RATING)	PC	PLUMBING CONTRACTOR	OV	OVERCURRENT PROTECTION	OV	OVERCURRENT PROTECTION	OV	OVERCURRENT PROTECTION	OV	OVERCURRENT PROTECTION	OV	OVERCURRENT PROTECTION	OV	OVERCURRENT PROTECTION	OV	OVERCURRENT PROTECTION	OV	OVERCURRENT PROTECTION	OV	OVERCURRENT PROTECTION	OV	OVERCURRENT PROTECTION	OV	OVERCURRENT PROTECTION	OV	OVERCURRENT PROTECTION	OV	OVERCURRENT PROTECTION										
FLA	OPERATING FULL LOAD AMPS	OR	OWNER OR OTHERS																																				
MCA	MINIMUM CIRCUIT AMPLACITY																																						
CP	CORD AND PLUG CONNECTION																																						

EQUIPMENT MARK	DESCRIPTION	VOLTAGE	PHASE	EMERGENCY	HP	WATTS	HTG KW	FLA	MCA	OCF	FED FROM	DC FURN	DC INST	DC WIRE	MC TYPE	MC FURN	MC INST	MC WIRE	CN TYPE	CN FURN	CN INST	CN WIRE	FA SHUTDOWN	AVAILABLE FAULT CURRENT	
CH-1	AIR COOLED SCROLL WATER CHILLER	208 V	3							878	1000	EC	EC	EC	--	--	--	--	BAS	HC	HC	HC	HC	NA	20413
CWP-1	HYDRONIC PUMP	208 V	3		15							EC	EC	EC	YFD	HC	EC	EC	BAS	HC	HC	HC	HC	NA	15887
GF-1	GLYCOL FEEDER	120 V	1		0.333							EC	EC	EC	MG	MFR	MFR	MFR	BAS	HC	HC	HC	HC	NA	1478

PANEL NAME: PANEL B														PHASE: Existing												
SUPPLY FROM: MPDP				MAINS RATING (A): 200				FAULT CURRENT (A): 24713				SURGE SUPPRESSION:														
LOCATION:				MAINS TYPE: MAIN LUGS ONLY				SHORT CIRCUIT RATING (A): EXISTING				ULSE:														
DISTRIBUTION SYSTEM: 208/120V 3PH 4W				FEEDER ID: XC-200-4C				ENCLOSURE TYPE: NEMA 1				200% NEUTRAL:														
FEEDER: EXISTING FEEDER, (4) #30 AWG CU, (1) #6 AWG CU GND, IN 2" CONDUIT 75C RATED												ISOLATED GROUND:														
CKT	CIRCUIT DESCRIPTION				VD%	AWG	GND	TRIP	FRAME	POLE	A	B	C	POLE/FRAME	TRIP	GND	AWG	VD%	CIRCUIT DESCRIPTION				CKT			
1	(EX) UNIT VENT				--	--	--	20 A	20 A	2	1.30	1.30			2	20 A	20 A	--	--	(EX) UNIT VENT				2		
3	(EX) UNIT VENT				--	--	--	20 A	20 A	2		1.30	1.30			2	20 A	20 A	--	--	(EX) FCU				4	
5	(EX) UNIT VENT				--	--	--	20 A	20 A	2	1.30	1.30		1.30	1.40	1	20 A	20 A	--	--	(EX) UNIT VENT				6	
7	(EX) UNIT VENT				--	--	--	20 A	20 A	2		1.30	1.30			2	20 A	20 A	--	--	(EX) UNIT VENT				8	
9	(EX) UNIT VENT				--	--	--	20 A	20 A	2		1.30	1.30		1.30	1.00	1	20 A	20 A	--	--	(EX) EF				10
11	(EX) UNIT VENT				--	--	--	20 A	20 A	2		1.30	1.30			1	20 A	20 A	--	--	(EX) EF				12	
13	(EX) FCU				--	--	--	20 A	20 A	1		1.30	1.30			2	20 A	20 A	--	--	(EX) UNIT VENT				14	
15	(EX) FCU				--	--	--	20 A	20 A	1		1.30	1.30		1.40	1.30					(EX) UNIT VENT				16	
17	(EX) UNIT VENT				--	--	--	20 A	20 A	2	1.30	1.30				2	20 A	20 A	--	--	(EX) UNIT VENT				18	
19	(EX) FCU				--	--	--	20 A	20 A	1		1.30	1.30			2	20 A	20 A	--	--	(EX) FCU				20	
21	(EX) LIGHTING				--	--	--	20 A	20 A	1	1.00	0.50				1	20 A	20 A	--	--	(EX) RCPT				22	
23	(EX) LIGHTING				--	--	--	20 A	20 A	1	1.00	0.00				1	20 A	20 A	--	--	(EX) SPARE				26	
25	(EX) LIGHTING				--	--	--	20 A	20 A	1				1.00	0.00	1	20 A	20 A	--	--	(EX) SPARE				28	
27	(EX) LIGHTING				--	--	--	20 A	20 A	1	1.00	0.00				2	30 A	30 A	--	--	(EX) DRYER				30	
29	(EX) UNIT VENT				--	--	--	20 A	20 A	2		1.30	0.00								(EX) RANGE				32	
31	(EX) EMERG LIGHTING				--	--	--	20 A	20 A	1	1.00	0.00				2	50 A	50 A	--	--	(EX) RANGE				34	
33	(EX) SPACE				--	--	--	--	--	--	--	0.90				1	20 A	20 A	#12	#12	1.158	GF-1 MOTOR	36			
35	(EX) SPACE				--	--	--	--	--	--	--	0.26	1			1	20 A	20 A	#12	#12	0.063	RCPT, LTG	40			
41	(EX) SPACE				--	--	--	--	--	--	--	--	--												42	
TOTAL CONNECTED LOAD:										13.3 kVA		13.6 kVA		13.1 kVA												
LOAD CLASSIFICATION				CONNECTED LOAD				DEMAND FACTOR				ESTIMATED DEMAND				PANEL TOTALS										
Continuous				0 VA				0.00%				0 VA				EXISTING CONNECTED LOAD: 3880.0 VA										
Cooling				0 VA				0.00%				0 VA				EXISTING LOAD DEMAND FACTOR: 100.00%										
Elevator				0 VA				0.00%				0 VA				ADDED CONNECTED LOAD: 1160 VA										
Heating				0 VA				0.00%				0 VA				DEMAND CALCULATION NOTES: 100% EXISTING										
Kitchen Equipment				0 VA				0.00%				0 VA														
Lighting				84 VA				125.00%				105 VA														
Motor				895 VA				125.00%				1120 VA														
Non-Continuous				0 VA				0.00%				0 VA				TOTAL DEMAND: 40205.0 VA										
Receptacle				180 VA				100.00%				180 VA				TOTAL DEMAND AMPS: 112 A										
NOTES:														BREAKER QUANTITIES (NEW ONLY)												
EXISTING CUTLER HAMMER PRL 1a														(2) 20 / 1P												