

# UNIVERSITY OF LOUISIANA

AT LAFAYETTE

## MADISON HALL

## 500 TON CHILLER REPLACEMENT

06/03/2025

MADISON HALL  
131 REX STREET,  
LAFAYETTE, LA. 70503





KEYNOTES NOTES:

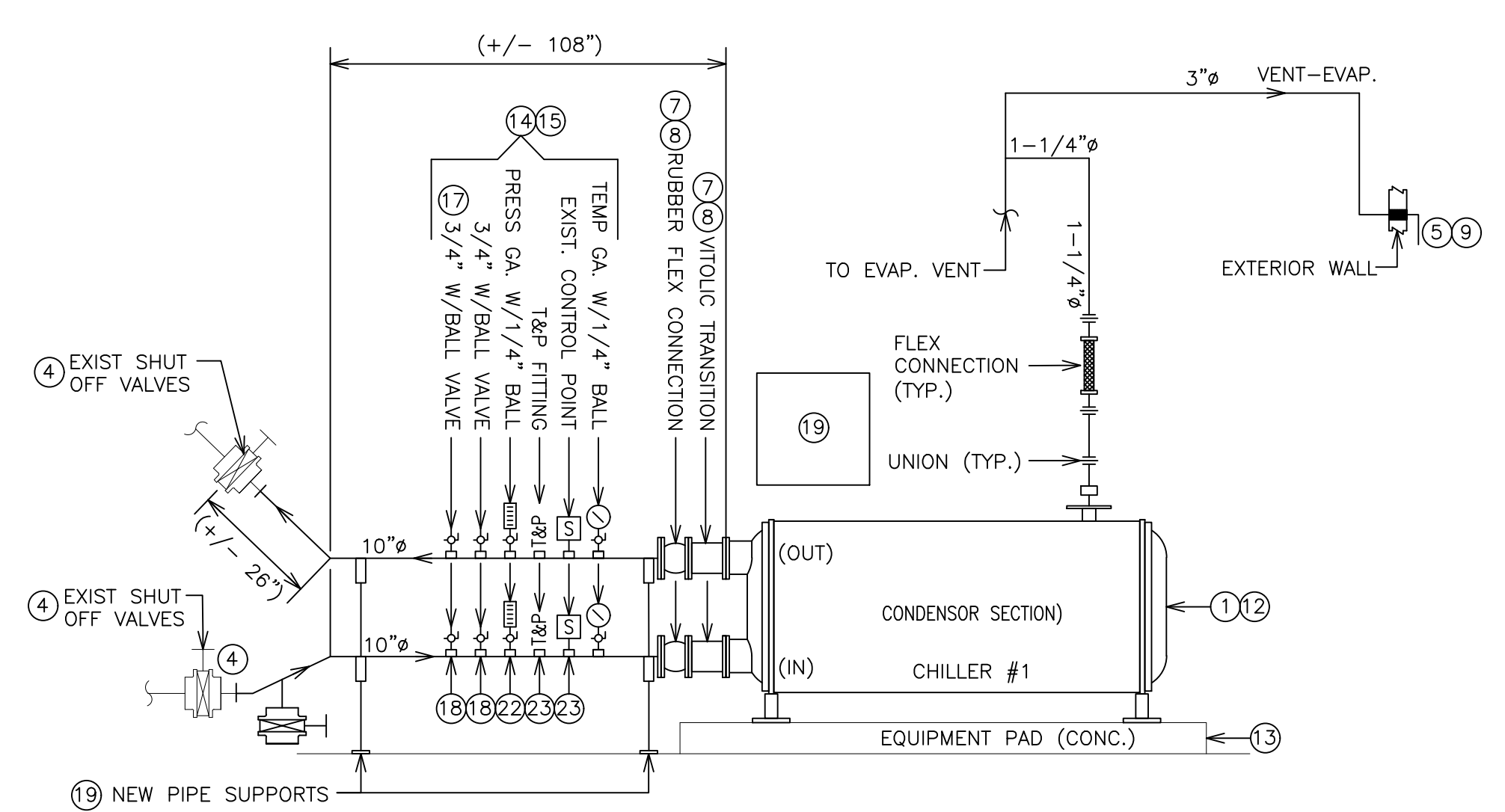
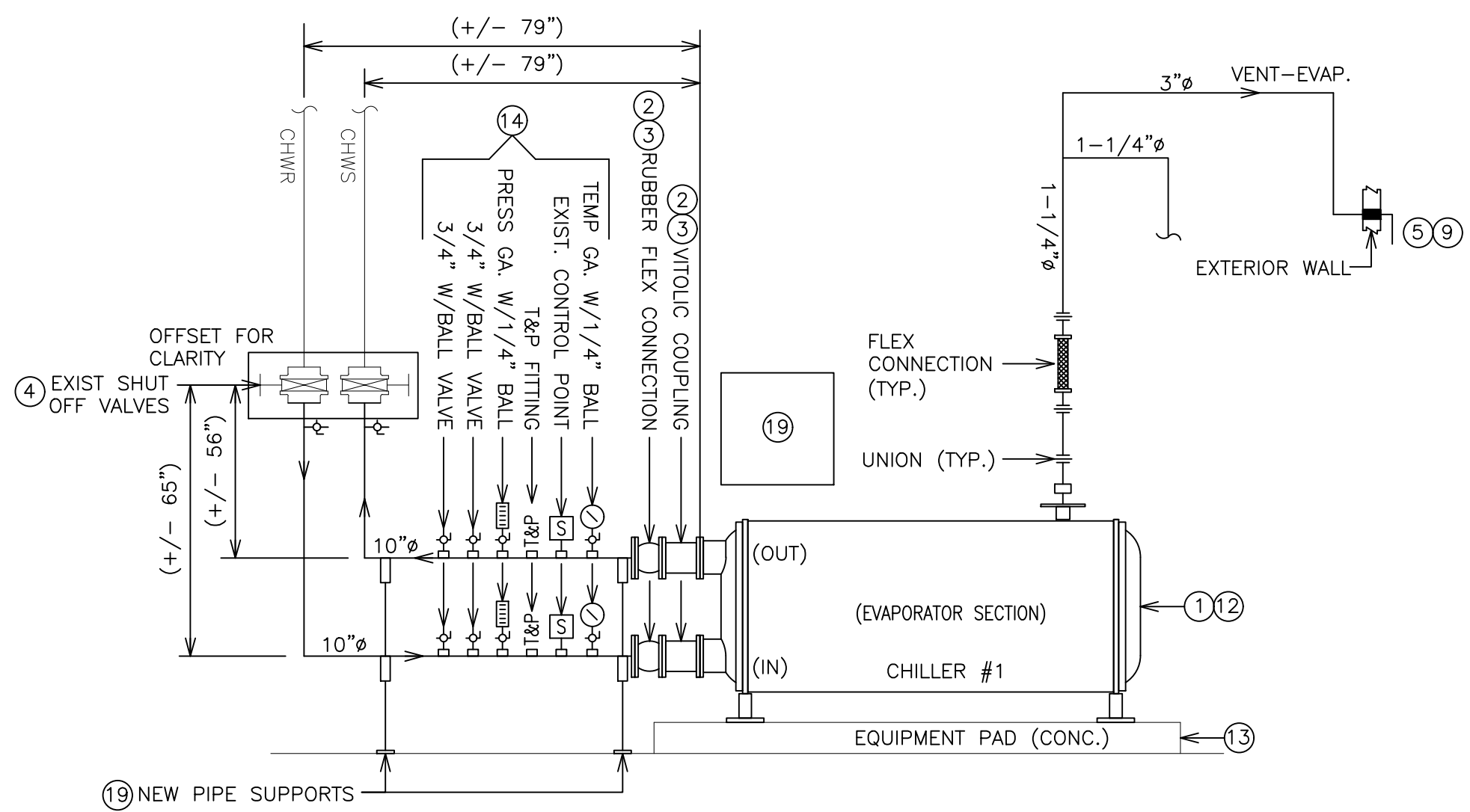
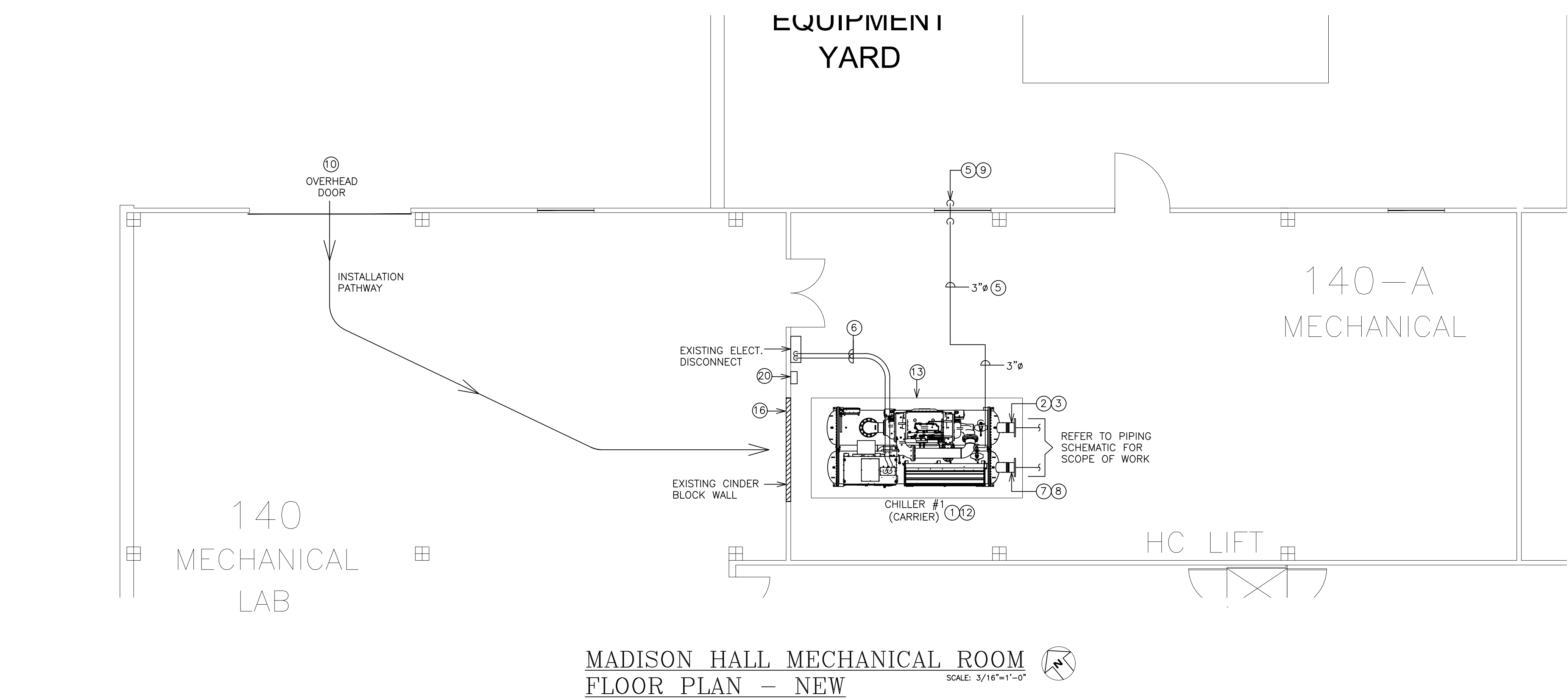
- 1 - REMOVE EXISTING CHILLER IN ITS ENTIRETY, INCLUDING ALL SUPPORTS AND VENT PIPING. EXISTING HOUSEKEEPING PAD TO REMAIN. INSTALL NEW 500 TON CENTRIFUGAL MAGNETIC BEARING CHILLER COMPLETE WITH NEOPRENE ISOLATORS. POSITION CHILLER AS REQUIRED TO ACCOMMODATE ALL REQUIRED CLEARANCES. COORDINATE FINAL POSITION WITH OWNER/ENGINEER. CHILLER SHALL BE FACTORY INSULATED AND SHALL BE INSTALLED COMPLETE WITH DISS-ASSEMBLY.
- 2 - REMOVE EXISTING CHILLED WATER RETURN (IN) PIPING, INCLUDING ALL SUPPORTS AND INSULATION FROM EXISTING CHILLER TO EXISTING SHUT OFF VALVE. EXISTING SHUTOFF VALVE TO REMAIN. INSTALL NEW 10 INCH CHILLED WATER RETURN (IN) PIPING. PROVIDE NEW VITOLIC FITTINGS. ROUTE PIPING AS REQUIRED TO ACCOMMODATE NEW CHILLER LOCATION. INSTALL NEW VALVES, FITTINGS, GAUGES, SENSORS, SUPPORTS AND RUBBER FLEX CONNECTION. RE-INSULATE PIPING WITH NEW FOAM GLASS INSULATION, PRE FORMED FITTINGS, AND PLASTIC COVERING (MATCH EXISTING). MODIFY EXISTING SUPPORTS OR PROVIDE NEW REQUIRED.
- 3 - REMOVE EXISTING CHILLED WATER SUPPLY (OUT) PIPING, INCLUDING ALL SUPPORTS AND INSULATION FROM EXISTING CHILLER TO EXISTING SHUTOFF VALVE. EXISTING SHUTOFF VALVE TO REMAIN. INSTALL NEW 10 INCH CHILLED WATER SUPPLY (OUT) PIPING. ROUTE PIPING AS REQUIRED TO ACCOMMODATE NEW CHILLER LOCATION. RE-INSULATE PIPING WITH NEW FOAM GLASS INSULATION, PRE FORMED FITTINGS, AND PLASTIC COVERING (MATCH EXISTING). MODIFY EXISTING SUPPORTS OR PROVIDE NEW AS REQUIRED.
- 4 - EXISTING SHUT OFF VALVES AND/OR PIPING TO REMAIN. CONTRACTOR SHALL VERIFY MECHANICAL OPERATION.
- 5 - INSTALL NEW 3 INCH COPPER, VENT PIPE FOR NEW CHILLER VENT SYSTEM COMPLETE. COORDINATE WITH CHILLER MANUFACTURER FOR CONNECTION REQUIREMENTS AT CHILLER. ROUTE AS REQUIRED TO EXTERIOR OF BUILDING, PENETRATE EXTERIOR WALL AND TURN DOWN. PROVIDE MESH SCREEN AT DISCHARGE OF VENT. PROVIDE HANGER SUPPORTS SECURED TO STRUCTURE AT ROOF LEVEL. PROVIDE GALVANIZED UNISTRUT CROSS BRACES AS REQUIRED. COORDINATE REQUIREMENTS WITH MANUFACTURER.
- 6 - MODIFY EXISTING ELECTRICAL CONDUIT AS REQUIRED TO ACCOMMODATE NEW ELECTRICAL FEED. PROVIDE NEW CONDUIT AND WIRING. FLEX CONNECTIONS ALLOWED UP TO 3'-0" FROM CHILLER. CONTRACTOR SHALL VERIFY WIRE AND BREAKER SIZES ARE ADEQUATE FOR NEW CHILLER ELECTRICAL SERVICE. EXISTING BREAKER IS 600 AMP.
- 7 - REMOVE EXISTING CONDENSING WATER RETURN (OUT), INCLUDING ALL SUPPORTS FROM EXISTING CHILLER TO EXISTING SHUT OFF VALVE. EXISTING SHUTOFF VALVE TO REMAIN. INSTALL NEW 10 INCH, SCHEDULE 40, CONDENSING WATER RETURN (OUT) FROM NEW CHILLER. PROVIDE NEW VITOLIC ADAPTER FITTING. MODIFY EXISTING PIPING AS REQUIRED TO ACCOMMODATE NEW CHILLER. INSTALL NEW MANUAL SHUT OFF VALVE, FITTINGS, GAUGES, SENSORS, SUPPORTS, AND RUBBER FLEX CONNECTION. RE-INSULATE WITH FOAM GLASS. PROVIDE PRE-MOLDED FITTINGS WITH PVC COVERING (MATCH EXISTING). PROVIDE NEW PIPE SUPPORTS.
- 8 - REMOVE EXISTING CONDENSING WATER RETURN (IN) PIPING, INCLUDING ALL SUPPORTS FROM EXISTING CHILLER TO EXISTING SHUTOFF VALVE. EXISTING SHUTOFF VALVE TO REMAIN. INSTALL NEW 10 INCH, SCHEDULE 40, CONDENSING WATER SUPPLY (IN) TO NEW CHILLER. PROVIDE NEW VITOLIC ADAPTER FITTING. MODIFY EXISTING PIPING AS REQUIRED TO ACCOMMODATE NEW CHILLER. INSTALL NEW MANUAL SHUT OFF VALVE, FITTINGS, GAUGES, SENSORS, SUPPORTS, AND RUBBER FLEX CONNECTION. RE-INSULATE WITH FOAM GLASS. PROVIDE PRE-MOLDED FITTINGS WITH PVC COVERING (MATCH EXISTING). PROVIDE NEW PIPE SUPPORTS.
- 9 - SEAL AND CAULK EXISTING EXTERIOR PENETRATION.
- 10 - EXISTING OVERHEAD DOOR ACCESS TO MECHANICAL LAB ROOM 104 TO BE UTILIZED FOR ACCESS TO WALL OPENING. PROTECT FLOORING FOR POSSIBLE DAMAGE WHEN MOVING OLD AND NEW CHILLER INTO PLACE.
- 11 - PROVIDE NEW STEEL SUPPORTS TO MATCH EXISTING.
- 12 - CHILLER COMPLETE WITH NEOPRENE ISOLATORS.
- 13 - EXISTING EQUIPMENT CONCRETE HOUSEKEEPING PAD TO REMAIN.
- 14 - (TOP OF PIPE - TO MATCH EXISTING). PROVIDE 3/4" WELD-O-LET FITTINGS. REDUCE AS REQUIRED TO ACCOMMODATE VALVING AND GAUGES.
- 15 - (SIDE OF PIPE - TO MATCH EXISTING). PROVIDE 3/4" WELD-O-LET FITTINGS. REDUCE AS REQUIRED TO ACCOMMODATE VALVING AND GAUGES.
- 16 - SAW CUT AND REMOVE 10'X10' CINDER BLOCK WALL FOR CHILLER ACCESS. OWNER SHALL ENCLOSE OPENING.
- 17 - (TOP OF PIPE - MATCH EXISTING): REMOVE AND RE-INSTALL NEW 3/4" PVC PIPING AND METER, EXISTING METER AND SUPPORTS TO BE REUSED.
- 18 - (SIDE OF PIPE - MATCH EXISTING): REMOVE AND RE-INSTALL EXISTING CHEMICAL FEED HOSES. MODIFY AS REQUIRED AND PROVIDE NEW FITTINGS TO ACCOMMODATE HOSE.
- 19 - PROVIDE NEW PIPE SUPPORTS WITH SADDLE. OPTION TO MODIFY AND REUSE EXISTING SUPPORTS.
- 20 - EXISTING CHEMICAL FEEDER CONTROLS TO REMAIN. MODIFY AS REQUIRED TO ACCOMMODATE NEW CHILLER LOCATION. PROVIDE NEW SUPPORTS AS REQUIRED.
- 21 - MANUFACTURER SHALL PROVIDE NEW REFRIGERANT MONITOR SYSTEM TO ACCOMMODATE NEW CHILLER. CONNECT TO EXISTING EXHAUST SYSTEM AS REQUIRED. COORDINATE POWER REQUIREMENTS WITH MANUFACTURER. PROVIDE NEW CIRCUIT AS REQUIRED FROM EXISTING PANEL IN MECHANICAL. VERIFY LOCATIONS.
- 22 - (SIDE OF PIPE - MATCH EXISTING): REMOVE AND RE-INSTALL EXISTING FAUCET. MODIFY AS REQUIRED AND PROVIDE NEW FITTINGS TO ACCOMMODATE FAUCET.
- 23 - (SIDE OF PIPE - MATCH EXISTING): REMOVE AND RE-INSTALL EXISTING PVC PIPING AND SENSOR. MODIFY AS REQUIRED AND PROVIDE NEW FITTINGS TO ACCOMMODATE HOSE.

CONTROLS SCOPE:

ALL EXISTING CONTROLS SHALL REMAIN. MECHANICAL CONTRACTOR SHALL COORDINATE WITH OWNER FOR REMOVAL AND INSTALLATION OF ALL SENSORS AND WIRING AND MODIFY AS REQUIRED TO PLACE NEW CHILLER INTO OPERATION. OWNER TO COORDINATE WITH CONTROLS CONTRACTOR FOR ALL BACNET POINTS AS NEEDED AND PROGRAM INTO EXISTING GRAPHICS.

GENERAL NOTES:

- A. CONTRACTOR SHALL VISIT SITE AND BECOME FAMILIAR WITH SCOPE OF PROJECT.
- B. CONTRACTOR SHALL BE RESPONSIBLE FOR DELIVERY, UNLOADING, INSTALLATION, AND WARRANTY AFTER CONSTRUCTION OF ONE (1) YEAR WORKMANSHIP INCLUDING OPERATION OF CHILLER. CONTRACTOR SHALL COORDINATE WITH MANUFACTURER DURING WARRANTY PERIOD.
- C. CONTRACTOR SHALL COORDINATE ALL SHUTDOWNS WITH OWNER PRIOR TO START OF TASK.
- D. CONTRACTOR SHALL BE RESPONSIBLE FOR DISPOSAL OF ALL EXISTING CHILLER COMPONENTS DEMOLISHED AS PART OF THIS PROJECT INCLUDING VALVES, FITTINGS, ETC.
- E. CONTRACTOR SHALL PROVIDE A SUBMITTAL PACKAGE FOR ALL GAUGES, SENSORS, SHUT OFF VALVES, TRIPLE DUTY VALVES, CIRCUIT SETTERS PRIOR TO ORDERING.
- F. CONTRACTOR SHALL PROVIDE TRASH DUMPSTER AS REQUIRED FOR ALL DISPOSALS.



CHILLED WATER SCHEMATIC LAYOUT														CONDENSOR WATER SCHEMATIC LAYOUT													
CHILLER SCHEDULE																											
CHILLER NO.	MIN. OUTPUT (TONS)	CHILLED WATER						CONDENSING WATER						ELECTRICAL				REFRIGERANT	REFRIGERANT WEIGHT (lbs)	TYPE	FULL LOAD EFFICIENCY (KW/TON)	RATED NPLV (KW/TON)	BASIS OF DESIGN	NOTES			
		DESIGN GPM	MIN GPM	IN	OUT	DP (ft H2O)	PASSES	DESIGN GPM	MIN GPM	IN	OUT	DP (ft H2O)	PASSES	SERVICE	RLA (AMPS)	MCA (AMPS)	MCOP (AMPS)										
1	500	1196	626	55	45	17.0	2	1500	6750.2	85	94.26	19.3	2	460-3-60	352.50	—	800	R-513A	1378	CENT.	0.5342	0.3207	CARRIER 19MV-41M41MCMX=1725M00013	ALL			

NOTES:

1. DELIVERY OF CHILLER SHALL BE MINIMUM TWO (2) WEEKS FOR ISSUANCE OF PURCHASE AND APPROVED SHOP DRAWINGS.
2. CHILLER SHALL FIT ON EXISTING HOUSEKEEPING PAD. MAX DIMENSIONS OF CHILLER SHALL BE 160"x72"x76".
3. DURING A POWER EVENT, CHILLER SHALL RECOVER FULL CAPACITY WITHIN 150 SECONDS.
4. CHILLER SHALL BE CAPABLE OF STARTING AS OFTEN AS EVERY 15 MINUTES.
5. CHILLER SHALL BE CAPABLE OF STARTING INVERTED (LCWT < LCHWT).
6. PROVIDE UNIT-MOUNTED AIR-COOLED VFD. GLYCOL-COOLED VFDS SHALL NOT BE ACCEPTED.
7. HOT GAS BYPASS SHALL NO BE ACCEPTED.
8. FACTORY PERFORMANCE AND SOUND SHALL BE TESTED CONCURRENTLY.
9. COMPRESSOR WARRANTY SHALL INCLUDE SUCTION FLANGE TO DISCHARGE FLANGE COVERAGE.
10. CHILLER SHALL MEED THE FULL LOAD REQUIREMENT OF 500 TONS AND UNLOAD TO 10% WITH AN ENTERING CONDENSER WATER TEMP OF 90F TO 45F WITH ALL POINTS FROM 100% - 10% AT ALL CONDENSING WATER TEMPS.
11. MAXIMUM CHILLER COMPONENT DIMENSIONS SHALL FIT THROUGH A STANDARD 72"x80" MECHANICAL DOOR.
12. AS REQUIRED, CHILLER MANUFACTURER SHALL PROVIDE ALL LABOR AND MATERIAL TO BREAKDOWN AND RE-ASSEMBLY CHILLER TO MEET THESE MAXIMUM DIMENSIONS.
13. MAXIMUM SOUND LEVEL AT FULL LOAD IS 70DBA (MANUFACTURER TO PROVIDE FULL SOUND PACKAGE TO MEET THESE LEVELS).
14. PROVIDE FACTORY MOUNTED NATIVE BACNET IP 10.4 INCH TOUCHSCREEN HML REMOTE MOUNTED TRANSLATOR OR PANEL WILL NOT BE ACCEPTED.
15. ELECTRICAL CONTRACTOR SHALL COORDINATE ALL ELECTRICAL REQUIREMENTS WITH MANUFACTURER FOR BREAKER AND WIRE SIZING.

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MADISON HALL 500 TON CHILLER REPLACEMENT

UL FACILITY MANAGEMENT  
THE UNIVERSITY OF LOUISIANA AT LAFAYETTE  
P.O. BOX 43210  
LAFAYETTE, LOUISIANA 70504



PROJECT NO:

SHEET:

DATE: 06/03/2025

M1

SCALE: 1" = 0"