



USC SOM COLUMBIA MED PARK #15 BUILDING CHILLER REPLACEMENT PROJECT# 50003412-2

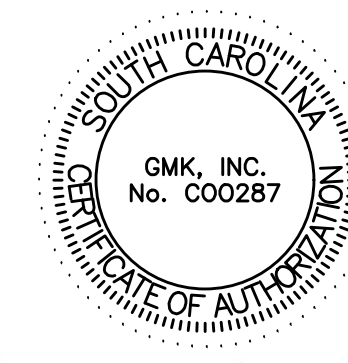
COLUMBIA, SC

A/E Project #20055.01
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ISSUED FOR CONSTRUCTION

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DRAWING INDEX

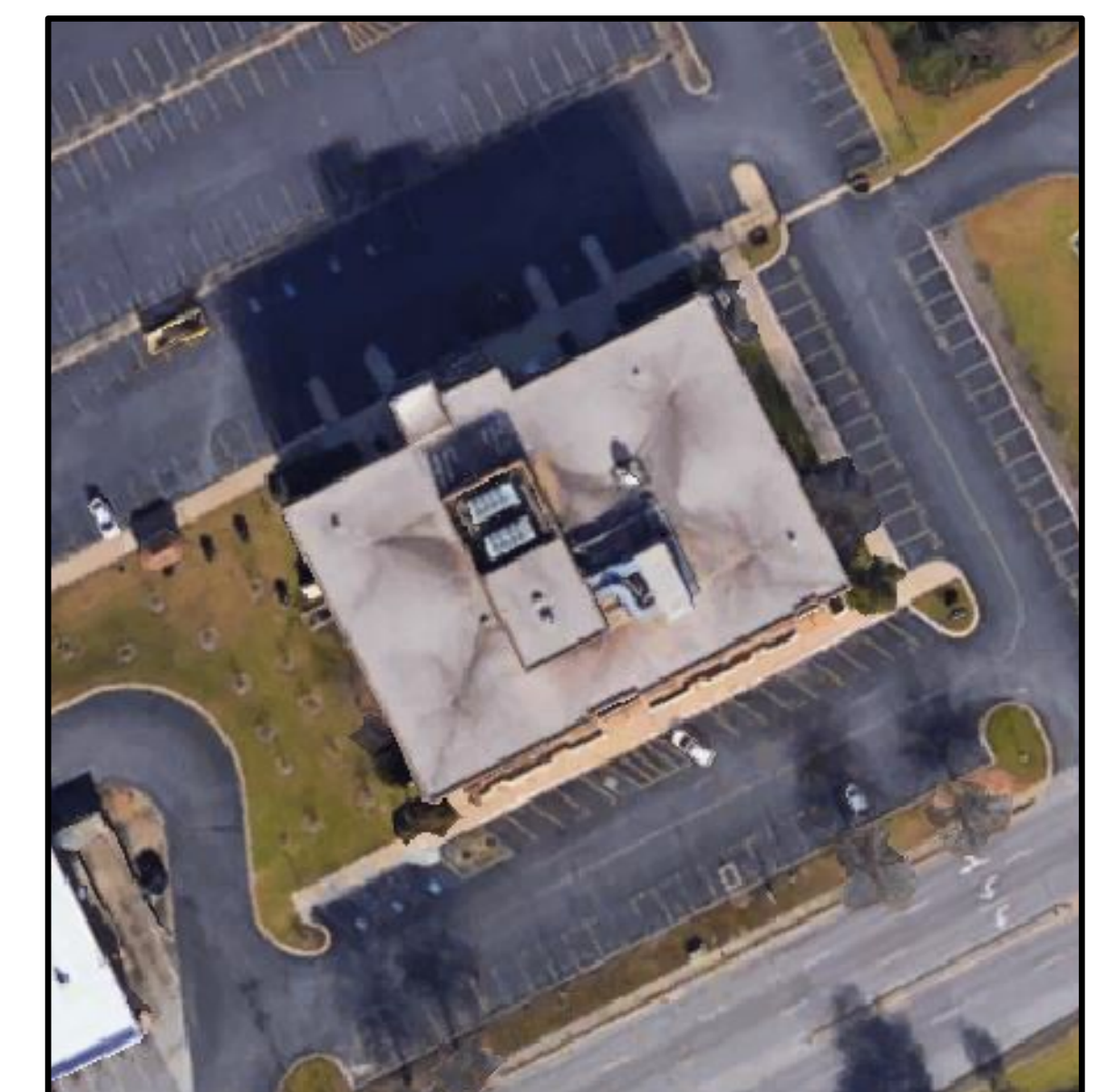
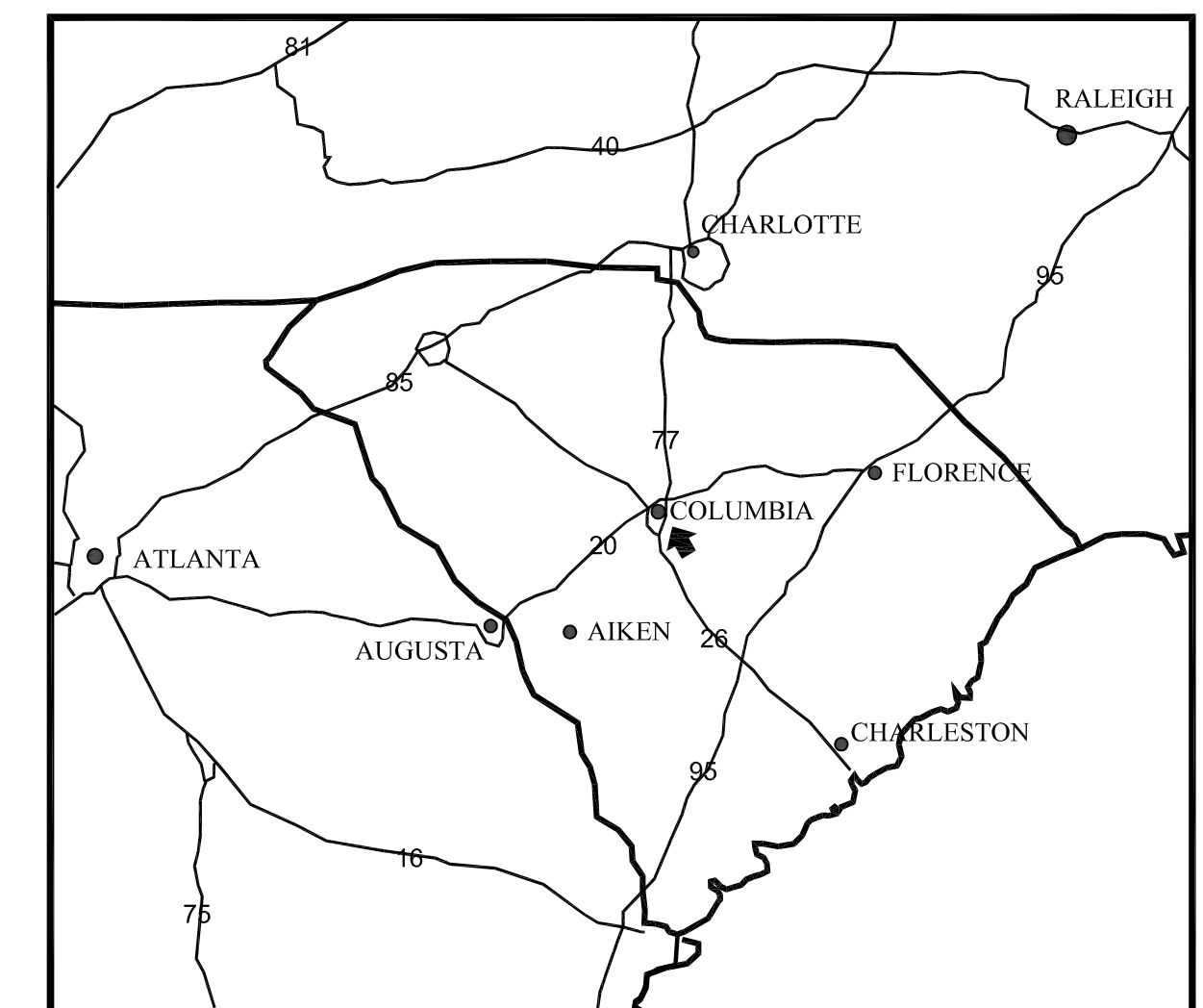
MECHANICAL

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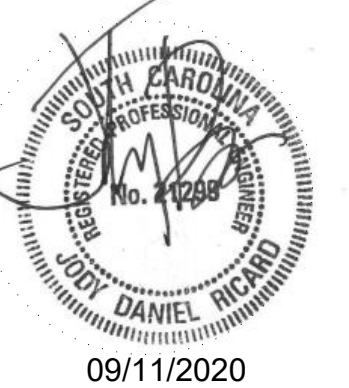
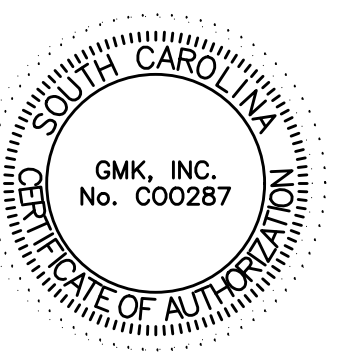
ELECTRICAL

E0.0 ELECTRICAL SYMBOLS, NOTES, AND SCHEDULES
E1.1 ELECTRICAL DEMOLITION PLAN
E3.1 ELECTRICAL RENOVATION PLAN

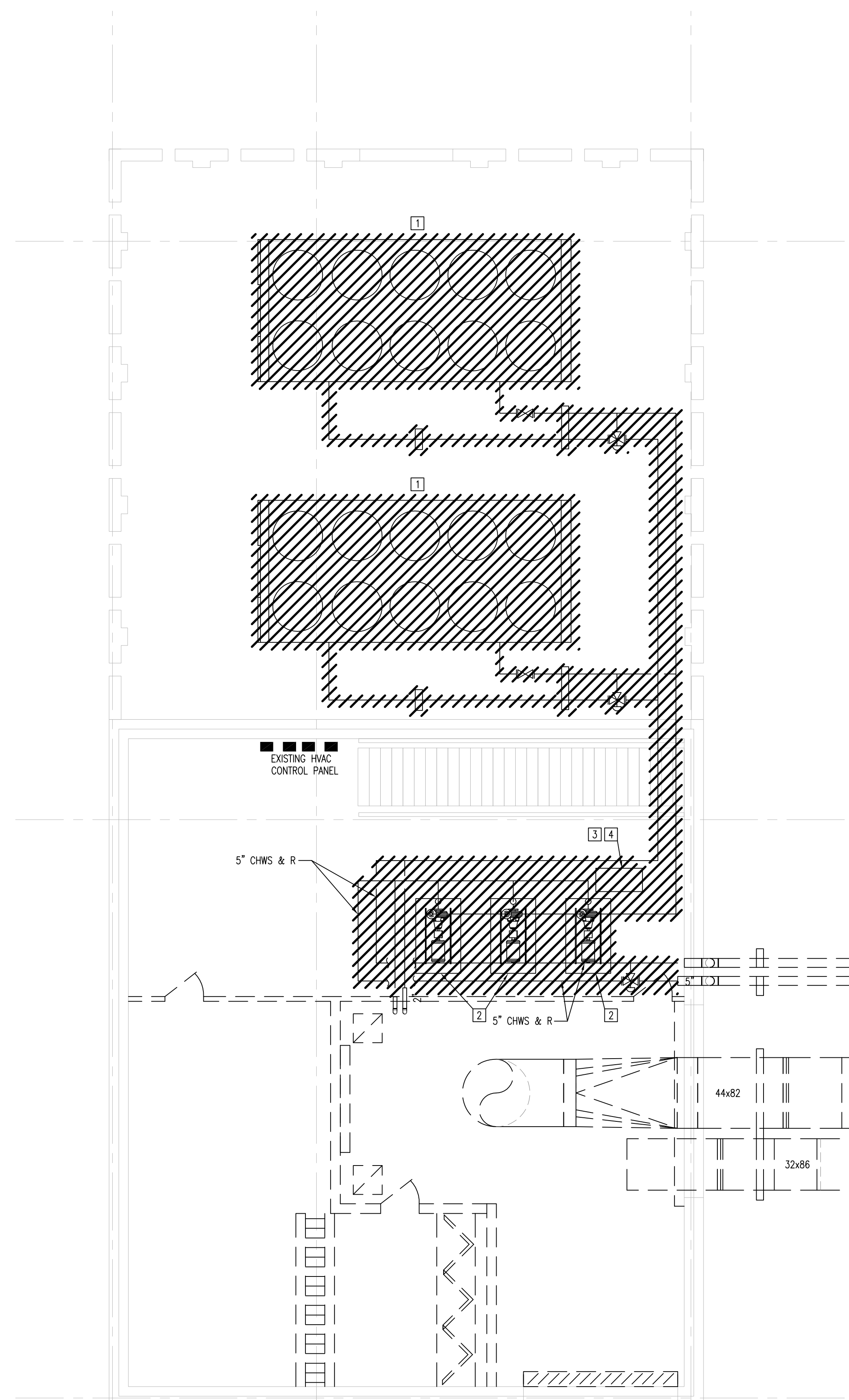
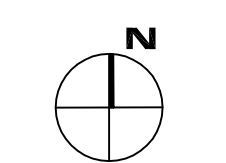
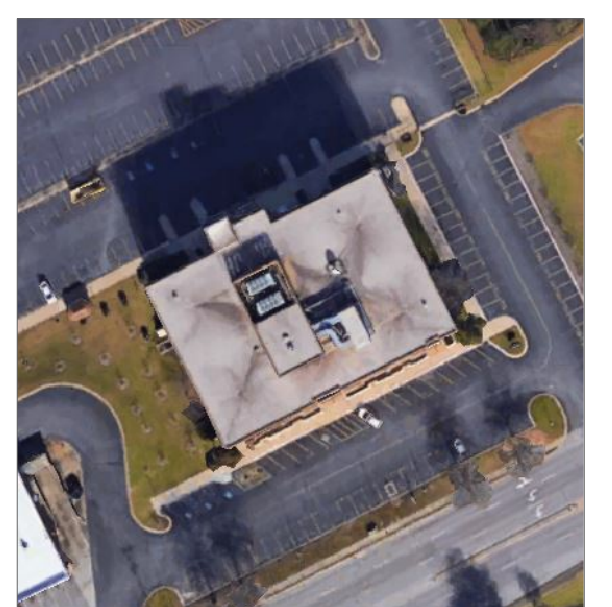
KEY PLAN



SET NO. _____

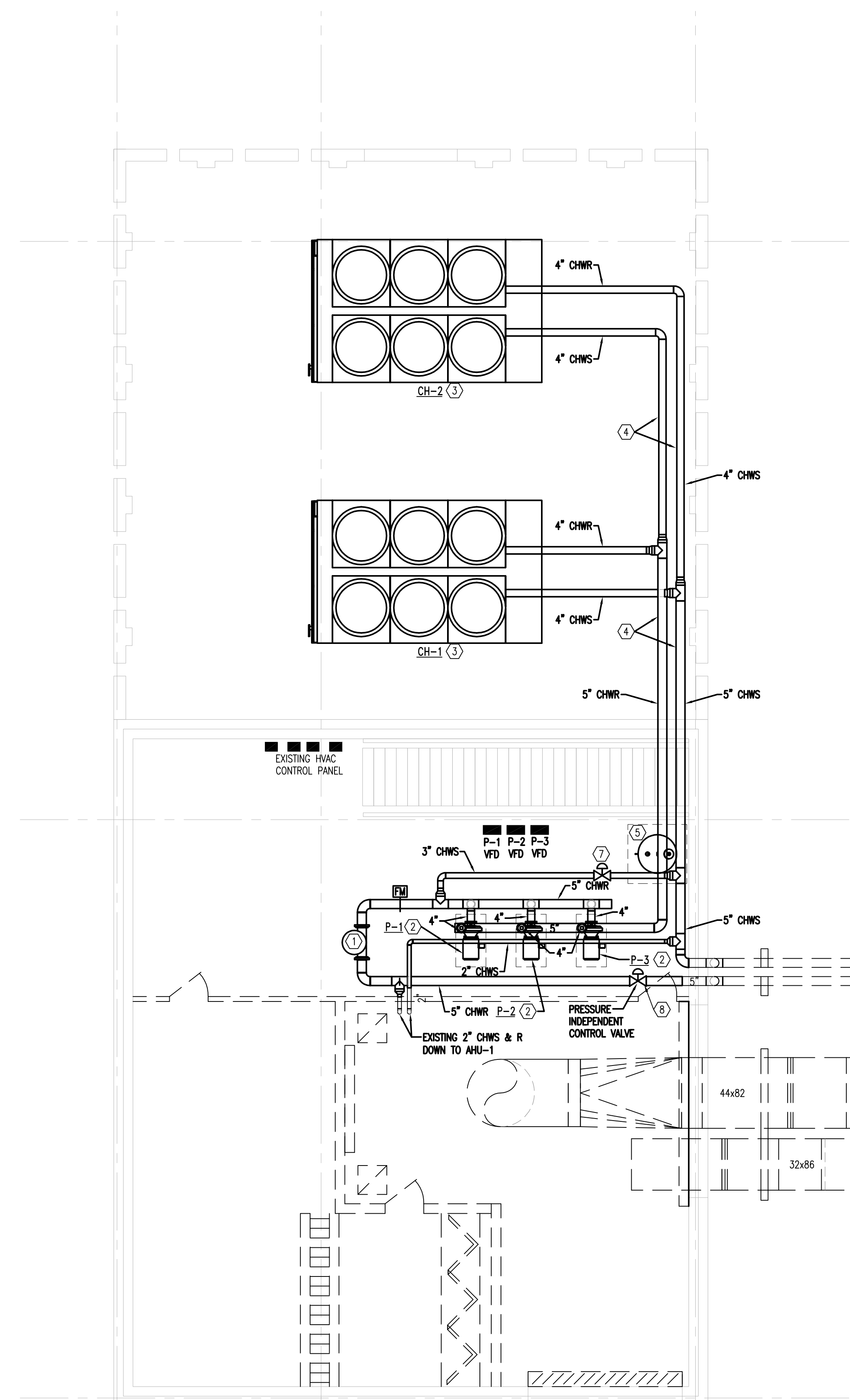


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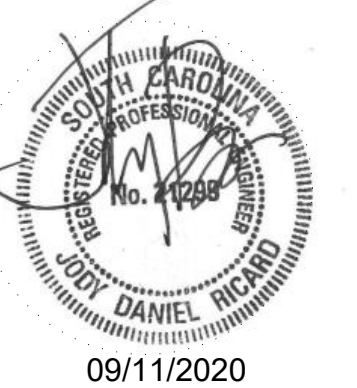
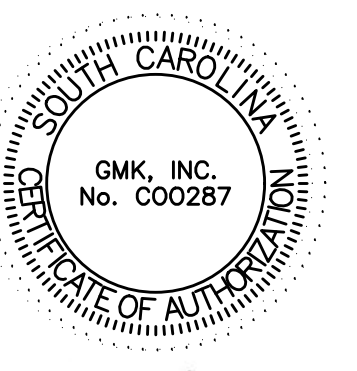
- DEMOLITION NOTES:**
- 1 REMOVE EXISTING AIR COOLED CHILLERS AND ALL ASSOCIATED CONTROLS AND CHILLED WATER PIPING.
 - 2 REMOVE PUMPS, DISCONNECTS, CONTROLS, AND PIPING AS INDICATED.
 - 3 REMOVE EXPANSION TANK AS INDICATED.
 - 4 REMOVE EXISTING MAKE-UP WATER ASSEMBLY.

1 PARTIAL ROOF AND PENTHOUSE PLAN - HVAC DEMOLITION
1/4"=1'-0"

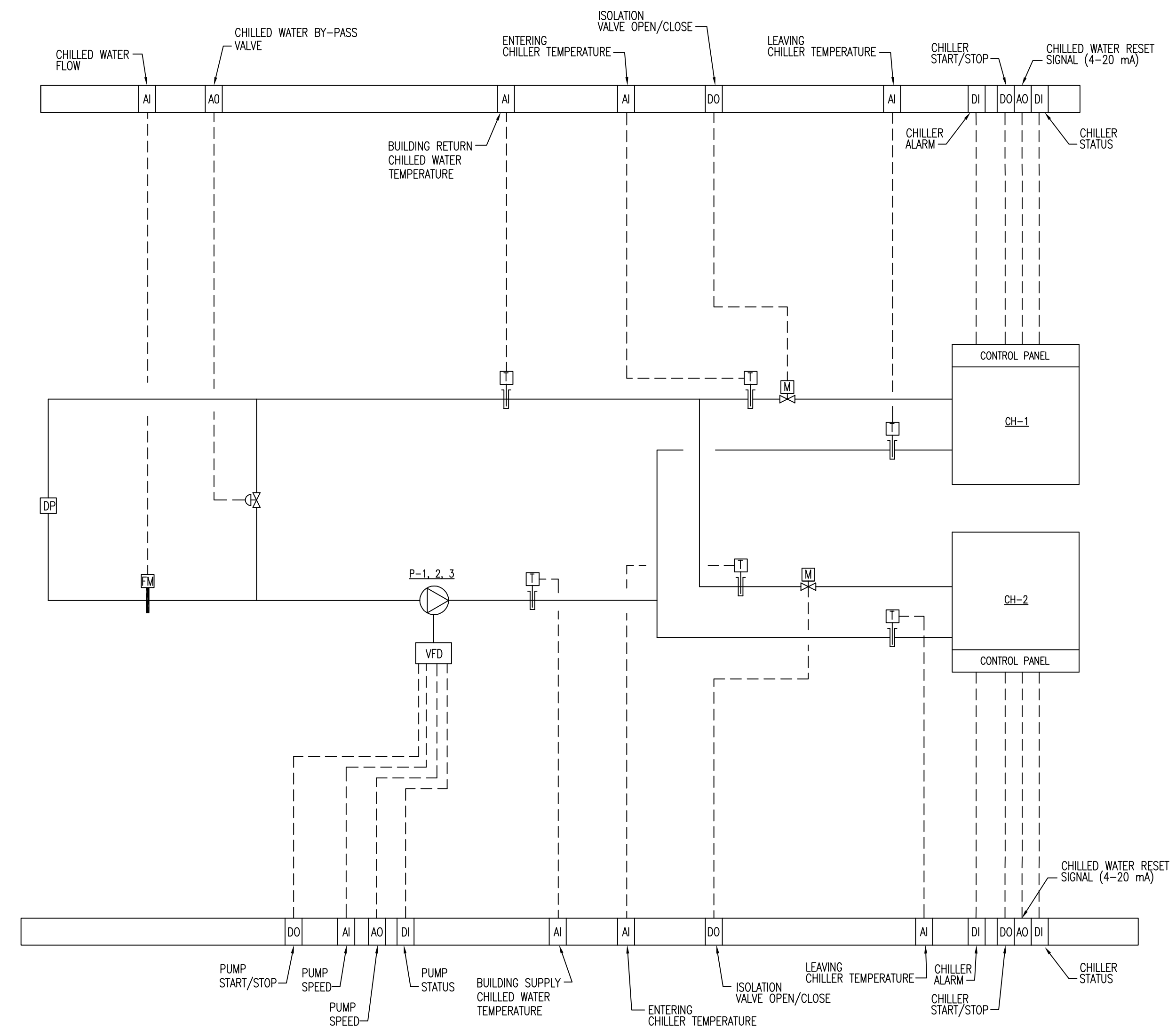
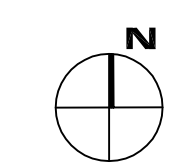
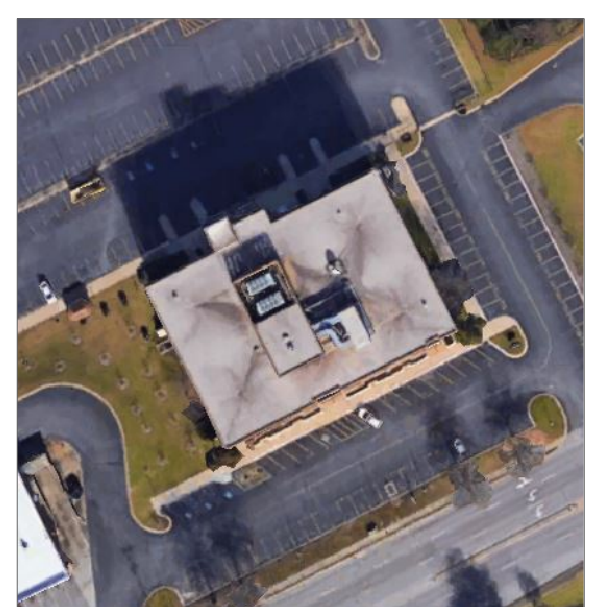


- NOTES:**
- 1 PROVIDE NEW AIR/SEDIMENT SEPARATOR AND SUSPEND FROM STRUCTURE. SEE DETAIL AND SCHEDULE FOR ADDITIONAL INFORMATION.
 - 2 INSTALL PUMP ON NEW 6\"/>

2 PARTIAL ROOF AND PENTHOUSE PLAN - HVAC RENOVATION
1/4"=1'-0"



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1 CHILLED WATER CONTROL SCHEMATIC
NTS

CHILLED WATER SYSTEM

SYSTEM ENABLE:

1. THE COOLING SYSTEM WILL AUTOMATICALLY START WHEN THE SYSTEM ENABLE IS "ON". WHEN THE SYSTEM ENABLE IS "OFF", THE COOLING SYSTEM WILL BE DISABLED.

CHILLER CONTROL:

1. THIS SYSTEM CONSISTS OF TWO CHILLERS. THE CHILLERS SHALL BE CONTROLLED VIA THEIR OWN INTERNAL CONTROLS TO MAINTAIN A CHILLED WATER SUPPLY TEMPERATURE. EACH CHILLER WILL BE STAGED ON AND OFF IN ORDER TO MAINTAIN THE DIFFERENTIAL SETPOINT BETWEEN THE SUPPLY AND RETURN TEMPERATURES. WHEN A CHILLER IS REQUIRED, THE CHILLER WITH THE LOWEST RUNTIME TOTAL SHALL BE ENABLED TO RUN. THE CHILLER ISOLATION VALVE WILL BE COMMANDED OPEN PRIOR TO STARTING THE PUMP AND KEPT OPEN LONG ENOUGH FOR THE PUMP TO COAST DOWN. IF THE STATUS OF THE CHILLER ISOLATION VALVE FAILS TO MATCH THE COMMAND, AN ALARM WILL BE GENERATED AND THE NEXT CHILLER IN SEQUENCE WILL BE ENABLED.

CHILLED WATER PUMP CONTROL:

1. WHEN ENABLED, A PUMP FOR EACH CHILLER WILL BE STARTED. AFTER THE CHILLER IS COMMANDED OFF, THE PUMP WILL CONTINUE TO RUN FOR A SHORT TIME TO ALLOW THE EQUIPMENT TO COAST DOWN. IF THE PUMP STATUS DOES NOT MATCH THE COMMAND, AN ALARM WILL BE GENERATED AND THE PUMP WILL BE STOPPED. UPON LOSS OF STATUS, THE PUMP WILL RESTART AFTER THE SYSTEM RESET IS ACTIVATED.

PRIMARY LOOP PRESSURE CONTROL:

1. A BYPASS VALVE WILL BE MODULATED BY THE PRIMARY FLOW SENSOR TO MAINTAIN THE MINIMUM GPM REQUIRED TO KEEP THE CHILLER ONLINE AS THE TWO-WAY PI CONTROL VALVE ON AHU IS CLOSED.

ADDITIONAL POINTS MONITORED BY THE BMS:

- CHILLER STATUS
- PRIMARY FLOW SENSOR

