LEON JOHNSON HALL
REDUNDANT HEAT PUMP MODULE INSTALLATION

OCTOBER 15, 2021

MECHANICAL
CUSHING TERRELL
P.O. Box 5365
411 E. Main St.
Bozeman, MT 59715
(406) 556-7100

ELECTRICAL
CUSHING TERRELL
P.O. Box 5365
411 E. Main St.
Bozeman, MT 59715
(406) 556-7100

HEATING HOT WATER AND COOLING CHILLED WATER MUST BE
HEATED TO A TEMPERATURE OF 140 deg. F. WHEN THE
PARAGRAPH G. ON DRAWING M001.

AHU-1 AND AHU-4 ARE TO PROVIDE FREE COOLING FOR THE BUILDINGS.
RD
ARE TO BE CLOSED, THE COOLING FUNCTION FOR THE HEAT PUMP
PLANT CONTROL SEQUENCE, PARAGRAPHS E. AND F. ON DRAWING M001.
PROVIDE HEAT FOR THE BUILDINGS. REFER TO THE EXISTING HEAT PUMP
ARE TO BE CLOSED, THE HEAT FUNCTION OF THE HEAT PUMP MODULES
NEW HEAT PUMP MODULE.

AIR TEMPERATURE NEEDS TO BE LESS THAN 50 deg. F (adj.) WHEN THE
### HEAT PUMP SCHEDULE

<table>
<thead>
<tr>
<th>PLAN CODE</th>
<th>LOCATION CODE</th>
<th>MEGR</th>
<th>MODEL</th>
<th>COOLING</th>
<th>HEATING</th>
<th>ELECTRICAL</th>
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#### NOTES

1. Valves shall be placed in the water lines as indicated on the drawing.
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### PUMP SCHEDULE

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>SERVICE</th>
<th>MODEL NO.</th>
<th>TYPE</th>
<th>BHP</th>
<th>HP</th>
<th>VF</th>
<th>NSP</th>
<th>NOTES</th>
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### HVAC ABBREVIATIONS

- AT: ABOVE EMERGENCY TEMPERATURE
- AC: ABOVE COMFORT TEMPERATURE
- D: DIFFERENTIAL
- F: FAN
- H: HEAD
- HS: HEATING SOURCE
- HS: HEATING SOURCE
- R: ROOM
- S: SUPPLY
- T: TAKEOFF
- TR: TENSION RATIO
- V: VANE
- W: WALL
- X: EXIT
- Y: YIELD

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### CONTROL VALVE SCHEDULE

<table>
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<tr>
<th>LOCATION</th>
<th>SERVICE</th>
<th>VALUE TYPE</th>
<th>SIZE</th>
<th>C</th>
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### MECHANICAL LEGEND

- A/C: AIR CONDITIONER
- AIR: AIR TERMINAL
- C/F: COLD/HEAT SOURCE
- D/E: DRY/ELECTRIC
- D/W: DRAIN/WATER
- L: LINE
- M: MANIFOLD
- P: PIPE
- R: RISER
- S: SCAFFOLD
- S/W: SUMP/WATER
- T: TANK
- W: WALL
- Z: ZONE

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See Architectural and Electrical Drawings for Additional Removal Items. The Job Site and Building in Every Detail as Pertains to this Project and Make Certain Items and Sizes Cannot Be Fully Illustrated Nor Explained Without Field Observation. Therefore, this Contractor is Advised to Visit and Examine Existing Heat Pump to Remain, See 1/M100. See 1/M100 for New Location. Relocate Existent Heat Pump.
PROVIDE SPOOL PIECES TO ALLOW FUTURE UNITS TO BE 10" CWR.

EXISTING 3" WASTE RISER TO REMAIN.

AS-SM
CWP-2
CV-1

PROVIDE 6" HIGH PRESSURE 1/3 - 2/3 DP BYPASS AT THE M100.

PLAN
CONDENSATE PIPE.

PROVIDE FLOOR PIPE SUPPORTS FOR EXISTING 2".

HP-5
RELOCATED PIPE. MAINTAIN CLEARANCE FROM EXISTING COLUMN TO MECHANICAL ROOM.

VERIFY HEAT PUMP SPOOL PIECE LENGTHS AND ADDED WITHOUT MOVEMENT OF EXISTING UNITS. FIELD AND ADDITION OF TO REMAIN IN PLACE.

HP-1,2

1/4"=1'-0" UP RD

BASEMENT MECHANICAL PLAN

DRAWN BY SB 411 E. MAIN ST. SUITE 101
BOZEMAN, MT 59715

CUSHING TERRILL
7M 7P 7L 7H 7I 7K 7F
6" CWR 6" CWS 8" HWR 6" HPSS 6" HPSR

Leon Johnson Hall
Redundant Heat Pump Module Installation

M100
10-19-2021
EXISTING 3" CWS AND CWR RISERS DOWN TO REMAIN, REMOVE EXISTING 2" CWS AND RETURN RISERS UP TO THE EIGHTH FLOOR ABOVE. REPLACE WITH 3" CWS AND CWR RISERS UP TO EIGHTH FLOOR AND RECONNECT.

RECONNECTING 2" CWS AND CWR BRANCH MAINS THE CWS AND CWR RISERS.

PROVIDE LOW PRESSURE DP BYPASS.

RELOCATE EXISTING VALVING AND RECONNECT 2" CWS AND CWR BRANCH MAINS.