Wayne State University

Prentis Building Computer Lab Relocation Basement Hydronic Heating Piping Replacement

5454 Cass Ave, Detroit, MI 48202

Issued for Bids - March 31, 2020

Project Number: 180746

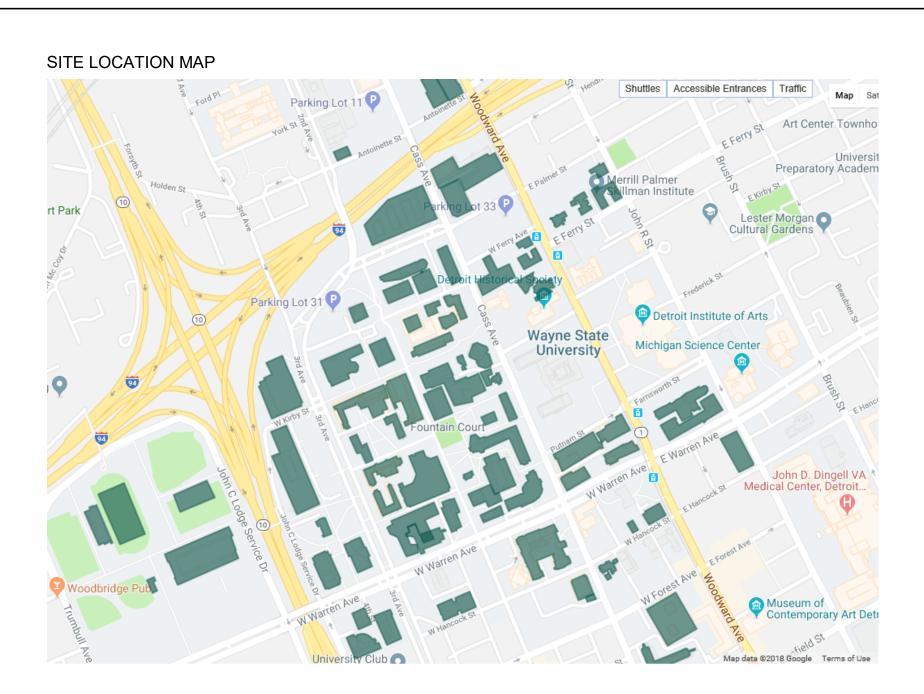
WSU Project Number: 022-313456

Fishbeck, Thompson, Carr & Huber, Inc.

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DRAWING INDEX T100 TITLE SHEET

BASEMENT HYDRONIC HEATING PIPING REPLACEMENT PLAN MECHANICAL DETAILS



GENERAL ABBREVIATIONS

ABOVE FINISHED FLOOR AHU AIR HANDLING UNIT ALTERNATE **BARRIER FREE CONTROL JOINT** CENTERLINE CURTAINWALI CLG CEILING CONCRETE MASONRY UNIT CO CLEANOUT CONC CONCRETE

CONST CONSTRUCTION

DIAMETER

DOWNSPOUT

CONT CONTINUOUS

DN

EXHAUST FAN ELEVATION EXPANSION JOINT ELECTRIC WATER COOLER FLOOR DRAIN FIRE RETARDANT TREATED FOOT/FEET GUAGE/GAGE GALV GALVANIZED GENERAL CONTRACTOR HORIZ HORIZONTAL HVAC HEATING VENTILATING AIR CONDITIONING INSIDE DIAMETER INVERT ELEVATION

INSULATED METAL PANEL

INSUL INSULATION LAV LAVATORY LIGHT EMITTING DIODE LLH LONG LEG HORIZONTAL LLV LONG LEG VERTICAL MFR MANUFACTURER MAX MAXIMUM MEZZ MEZZANINE MIN MASONRY OPENING MTD MOUNTED NOISE CRITERIA NOT IN CONTRACT

NO NUMBER

COEFFICIENT NOT TO SCALE ON CENTER OD **OUTSIDE DIAMETER** OVERHEAD OPPOSITE ORD OVERFLOW ROOF DRAIN OUTSIDE PERP PERPENDICULAR PLATE POUNDS PER SQUARE

RADIUS

ROOF DRAIN

SQUARE FOOT

SCHEDULE

REQD REQUIRED

POLYVINYL CHLORIDE WT WEIGHT

SGT STRUCTURAL GLAZED TILE SIMILAR SP SPACE/SPACING STAINLESS STEEL TANGENT TYPICAL UL UNDERWRITER'S LABORATORY UNO UNLESS NOTED OTHERWISE VERT VERTICAL VTR VENT THROUGH ROOF WC WATER CLOSET WH WATER HEATER W/O WITHOUT WP WEATHERPROOF

ELEVATION, SECTION AND DETAIL DESIGNATION **PLAN DESIGNATION**

GRAPHIC SYMBOLS

SECTION CUT LINE

EXTERIOR ELEVATION TAG NTERIOR ELEVATION TAG SECTION **NORTH ARROW DESIGNATION** FLOOR PLAN

ROOM NAME

AND NUMBER

VESTIBULE

ENLARGED DETAIL FRAME ELEVATION TARGET

SIGNAGE TAG FINISH TAG **BULLETIN IDENTIFICATION** ADDENDUM IDENTIFICATION **SKETCH IDENTIFICATION BARRIER FREE LOCATION KEY NOTE TAG ELEVATION TAG**

DEMOLITION NOTE TAG

P-1

B1

<u>A1</u>

<u>s1</u>

 $\langle 1 \rangle$

SEAL

trceh

scientists

architects

constructors

REVISIONS

3/31/2020 BIDS Drawn By SF

Reviewer PMO Manager MM5

Designer JLH

Hard copy is intended to be 24"x36" when plotted. Scale(s) indicated and graphic quality may not be accurate for any other size

> PROJECT NO. 180746

> > TITLE SHEET

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(HHWR) PIPING.

1. INSTALL ISOLATION VALVE ON HEATING HOT WATER RETURN (HHWR) PIPING. CONNECT 1" DRAIN INTO HHWR PIPING DOWNSTREAM OF ISOLATION VALVE. INSTALL ISOLATION VALVE ON DRAIN.

2. INSTALL ISOLATION VALVE ON HEATING HOT WATER SUPPLY (HHWS) PIPING. CONNECT 1" DRAIN INTO HHWS PIPING DOWNSTREAM OF ISOLATION VALVE. INSTALL ISOLATION VALVE ON DRAIN.

3. CONNECT 1" DRAIN INTO HHWR AND 1" DRAIN INTO HHWS PIPING. INSTALL ISOLATION VALVE ON EACH DRAIN. ROUTE OVERHEAD TO EXISTING SERVICE SINK.

4. INSTALL WYE STRAINER ON HEATING HOT WATER SUPPLY

5. INSTALL HYDRONIC BALANCING VALVE.

NOTES

1. ALL EXISTING CONDITIONS NOT SHOWN, CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS.

2. NEW PIPING SHOWN IS REPLACING EXISTING PIPING THAT IS TO BE DEMOLISHED AS PART OF PROJECT.

3. PIPING TO TERMINAL BOXES AND CONVECTORS SHALL BE REPLACED UP TO THE EXISTING ISOLATION VALVES AT THE TERMINAL BOXES.

4. EXISTING CONDITIONS SHOWN ARE BASED ON MINORU YAMASAKI AND ASSOCIATES DRAWINGS (PROJECT 6015), DATED 5-7-1962.

5. EXISTING TERMINAL BOX LOCATIONS, PIPE SIZES AND LOCATIONS, AND VALVE LOCATIONS ARE TAKEN DIRECTLY

6. NOT ALL HHWS & HHWR VALVES SHOWN ON PLAN. HHWS & HHWR ISOLATION VALVES ARE REQUIRED AT ALL MAIN AND BRANCH TAKEOFFS FOR ALL TERMINAL BOXES AND CONNECTORS. BRANCH TAKEOFF CAN BE THE MAIN, A MAIN BRANCH OR A BRANCH LINE OFF A BRANCH LINE. VALVES NOT SHOWN ON PLAN - SEE DETAIL 9 ON SHEET M501.

FROM EXISTING DRAWINGS.

7. EXISTING CEILING SHALL BE REMOVED AND REINSTALLED AS NEEDED FOR DEMOLITION AND INSTALLATION OF HYDRONIC PIPING. CEILING TILES DAMAGED DURING CONSTRUCTION SHALL BE REPLACED TO MATCH EXISTING.

8. VALVE SYMBOL IS GENERIC. SEE SPECIFICATIONS FOR SPECIFIC VALVE REQUIREMENTS.

9. SLOPE ALL DRAIN LINES TO FINAL DRAIN LOCATIONS.

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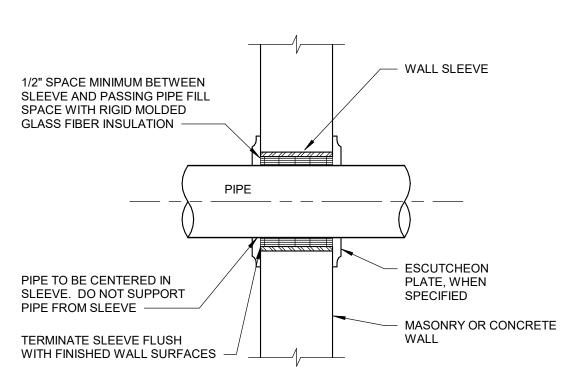
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180746 BASEMENT HYDRONIC HEATING PIPING REPLACEMENT PLAN

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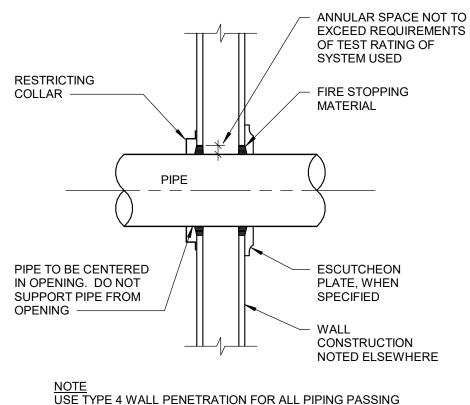
WALL SLEEVE DETAIL - TYPE 5
NO SCALE



USE TYPE 6 WALL SLEEVE FOR ALL PIPING PASSING THROUGH EXISTING INTERIOR NON-FIRE RATED MASONRY OR CONCRETE WALLS.

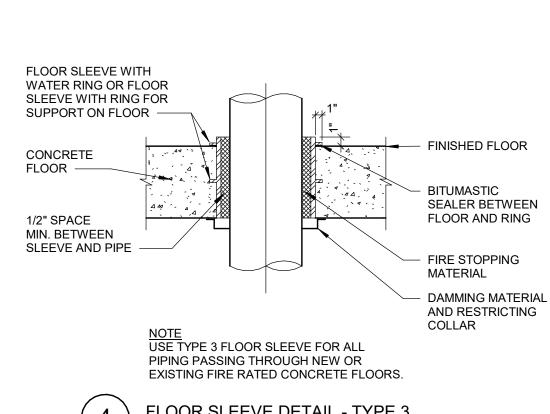
WALL SLEEVE DETAIL - TYPE 6

NO SCALE

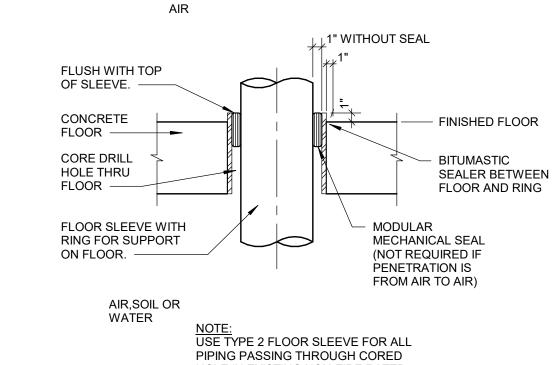


NOTE
USE TYPE 4 WALL PENETRATION FOR ALL PIPING PASSING THROUGH EXISTING FIRE RATED INTERIOR STUD WALLS.

WALL PENETRATION DETAIL - TYPE 4

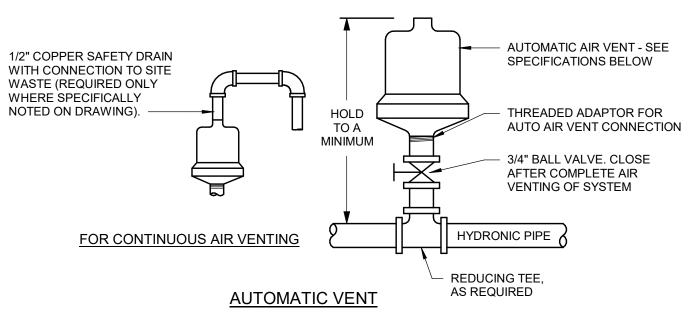


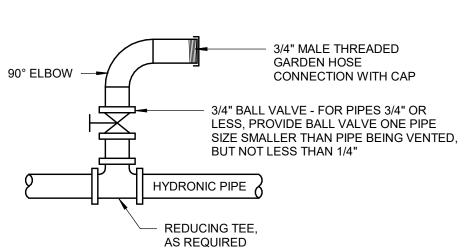
FLOOR SLEEVE DETAIL - TYPE 3



HOLE IN EXISTING NON-FIRE RATED CONCRETE FLOORS.

FLOOR SLEEVE DETAIL - TYPE 2





MANUAL VENT

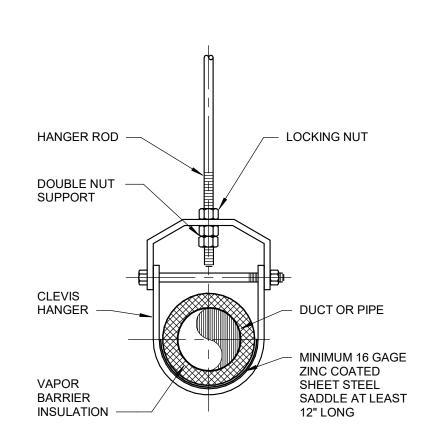
1. AUTOMATIC AIR VENTS ARE REQUIRED AT EACH HIGH POINT IN HYDRONIC PIPING LOCATED TO COMPLETELY VENT AIR FROM

2. FOR PIPE SIZES 2-1/2" AND LARGER, PROVIDE BELL & GOSSETT MODEL 78 AIR VENT, OR ARMSTRONG NO.75, RATED FOR 150 PSI.

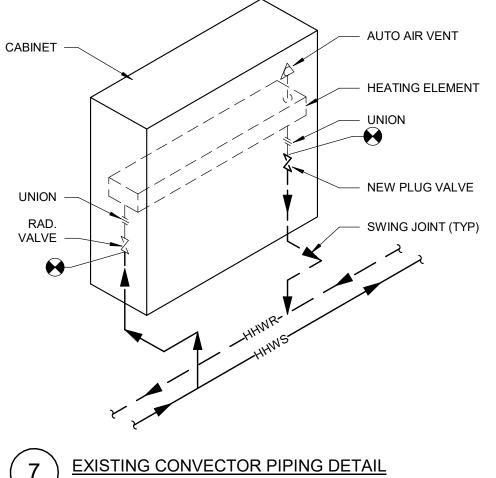
3. FOR PIPE SIZES 2" AND LESS, PROVIDE BELL & GOSSETT MODEL 87 AIR VENT, OR ARMSTRONG NO.75, RATED FOR 150 PSI.

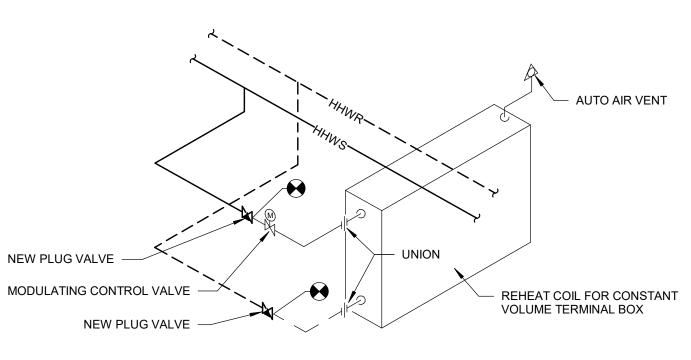
4. WHEN AUTOMATIC AIR VENT INSTALLATION IS NOT POSSIBLE, OR WHEN MANUAL VENTS ARE INDICATED, PROVIDE A BALL VALVE

AND HOSE THREAD CONNECTION. WATER SYSTEM AIR VENT DETAILS NO SCALE

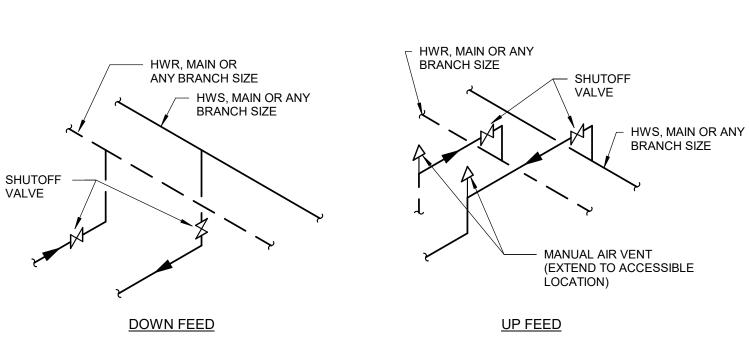


SINGLE HORIZONTAL RUNS WITH VAPOR BARRIER INSULATION



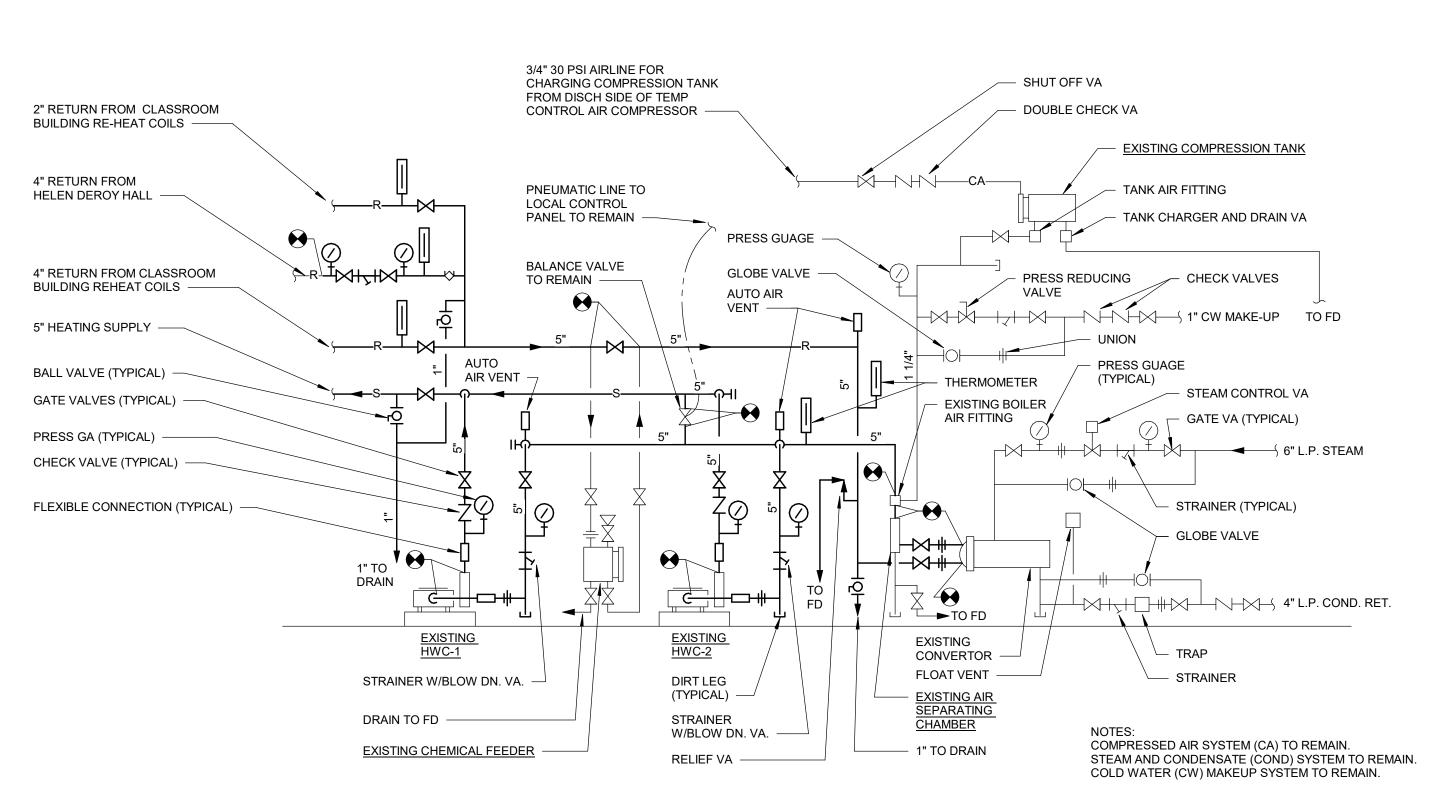


EXISTING RE-HEAT COIL FOR TERMINAL BOXES PIPING DETAIL NO SCALE



1. MAKE ALL TAKE OFFS WITH SWING JOINTS. 2. DOWN FEED TO BE USED UNLESS INDICATED OTHERWISE.

PIPING TAKE OFF DETAILS NO SCALE



PIPING DIAGRAM CONVERTOR AND H.W. HEATING PUMPS NO SCALE

Versity ayn

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MECHANICAL DETAILS

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