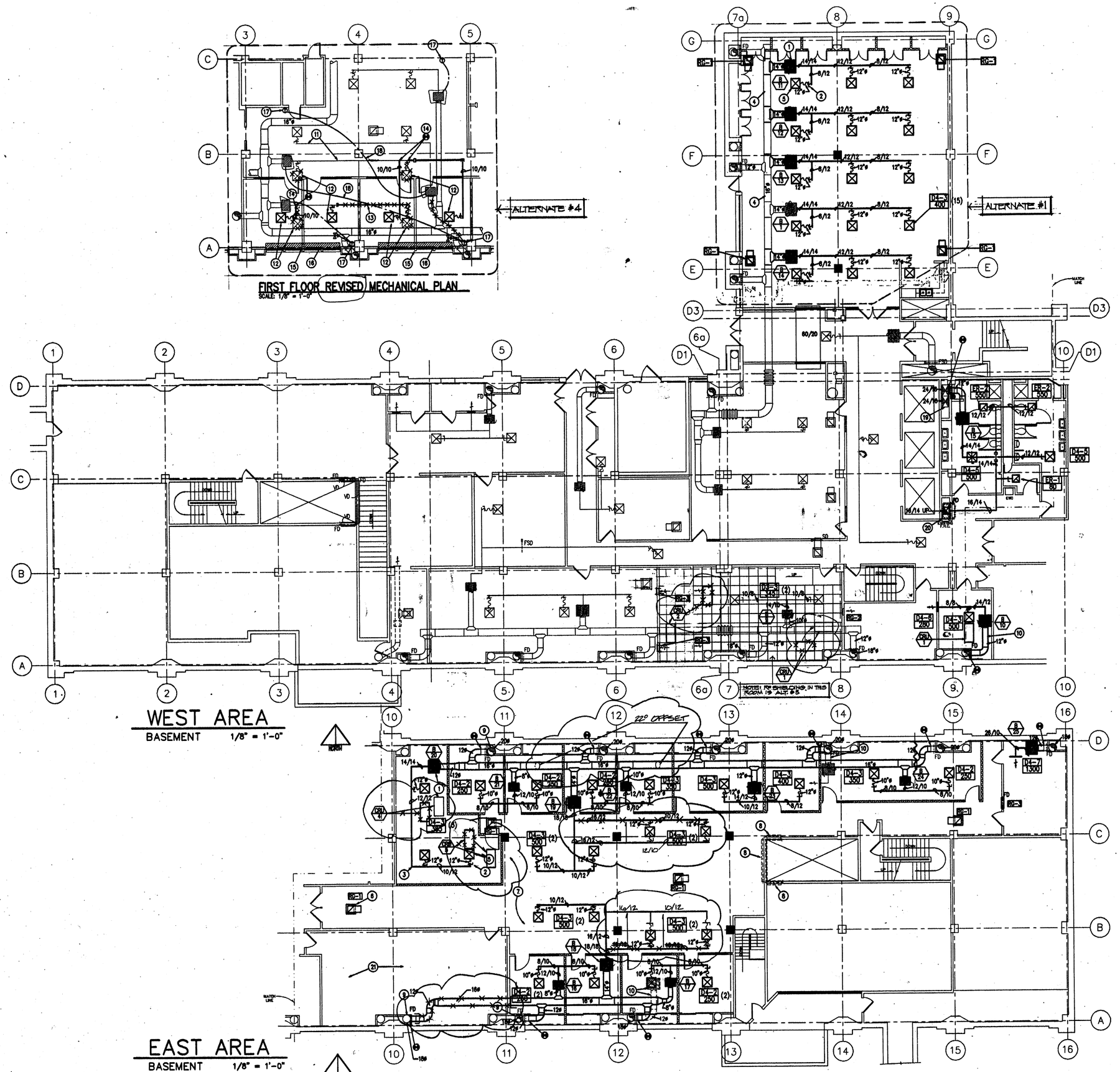
FIRST FLOOR REVISED MECHANICAL PLAN
SCALE: 1/8" = 1'-0"

ALTERNATE #4



WEST AREA
BASEMENT 1/8" = 1'-0"

EAST AREA
BASEMENT 1/8" = 1'-0"

ALTERNATE #1

KEYED NOTES

1. VAV REHEAT BOXES. SEE SCHEDULES FOR SIZE AND CAPACITIES. CONNECT TO HIGH PRESSURE DUCTWORK WITH NO MORE THAN 3' OF HIGH PRESSURE FLEX DUCT.
2. FLEXIBLE DUCT CONNECTION TO DIFFUSERS WITH NO MORE THAN 5'-0" OF FLEX DUCT. SEE DETAILS FOR PROPER CONNECTION OF FLEX DUCT TO RIGID DUCTWORK.
3. TURNING VANES LOCATED IN ALL ELBOWS OF RECTANGULAR DUCTWORK TYPICAL.
4. EXISTING DUCTWORK TO REMAIN. MODIFY AS REQUIRED.
5. SUPPLY DIFFUSER WITH SUPPLY SOUND BOOT, SEE DETAILS. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION. TYPICAL FOR ALL SUPPLY DIFFUSERS.
6. RETURN AIR GRILLE WITH SOUND BOOT. SEE DETAILS. TYPICAL FOR ALL RETURN AIR GRILLES.
7. DUE TO CEILING SPACE CONSTRAINTS, COORDINATE DUCTWORK CAREFULLY WITH EXISTING MECHANICAL & STRUCTURAL EQUIPMENT AND NEW PIPING. TYPICAL OF ALL THIS FLOOR FIELD VERIFY EXISTING CONDITIONS.
8. RE-ADJUST RETURN AIR DAMPERS IN RETURN AIR OPENINGS.
9. EXISTING HOT AIR & COLD AIR HIGH PRESSURE DUCT RISERS. CONNECT NEW DUCTWORK TO EXISTING RISERS. EXISTING DUCT MAY BE STUBBED AND CAPPED IN THE SPACE AND WILL NEED TO BE MODIFIED FOR INSTALLATION OF NEW DUCTWORK PROVIDED A NEW FIRE DAMPER AT ALL WALL PENETRATIONS WHERE NECESSARY. FIELD VERIFY EXISTING CONDITIONS. TYPICAL.
10. REMOVE EXISTING VAV BOX AND ASSOCIATED DUCTWORK TO ACCOMMODATE NEW VAV BOX AND DUCTWORK.
11. EXISTING DUCTWORK TO REMAIN UNCHANGED.
12. RELOCATE DIFFUSER, FLEX AND SPIN-IN TO NEW LOCATION SHOWN. SEAL OPENING IN EXISTING DUCTWORK. REBALANCE TO 400 CFM EACH. COORDINATE WITH ARCHITECTURAL REFLECTED CEILING PLAN.
13. EXISTING DUCTWORK TO BE REMOVED.
14. MAKE NEW CONNECTIONS TO EXISTING DUCT AS SHOWN.
15. PORTION OF WALL UNDER RADIANT PANEL TO EXTEND TO CEILING LEVEL ONLY.
16. EXISTING RADIANT CEILING PANEL TO REMAIN.
17. EXISTING THERMOSTAT TO REMAIN. REWIRE AS SHOWN. ©
18. REROUTE CONTROL WIRING AS SHOWN FOR CORRECT CONTROL OF BOXES.
19. REPAIR DUCTWORK & SEAL AIR TIGHT
20. REMOVE EXISTING ABANDONED EXHAUST DUCT BACK FAR ENOUGH TO INSTALL NEW EXHAUST DUCT UP SHAFT & MAKE NEW CONNECTION IN SHAFT TO EXHAUST DUCT SERVING FIRST FLOOR TOILET ROOMS. MAKE CONNECTION THROUGH INSIDE SHAFT, OTHERWISE PATCH, REPAIR & PAINT TO MATCH SHAFT WALL ON FIRST LEVEL.
21. THIS AREA SERVED BY A SELF CONTAINED COMPUTER ROOM UNIT. COORDINATE ALL WORK IN THIS AREA WITH DFCM.
22. [illegible]

26 VAV BOXES - BSMT

This record drawing has been prepared, in part, based upon information furnished by others. While this information is believed to be reliable, the DESIGN PROFESSIONS cannot assure its accuracy, and thus is not responsible for the accuracy of this record drawing or for any errors or omissions which may have been incorporated into it as a result. Those relying on this record document are advised to obtain independent verification of its accuracy before applying it for any purpose.

JOB NO.
FC: 93-169

REVISIONS
1 JULY 7, 94

BRIXEN & CHRISTOPHER ARCHITECTS
STRUCTURAL: E.W. ALLEN & ASSOC.
MECHANICAL: VAN BOXRUM & FRANK
ELECTRICAL: KEY ENGINEERING INC.

STATE OFFICE BUILDING
REMODEL - PHASE 5
BASEMENT FINISH
FLOOR PLAN

KEY PLAN

DATE
AUG 1993

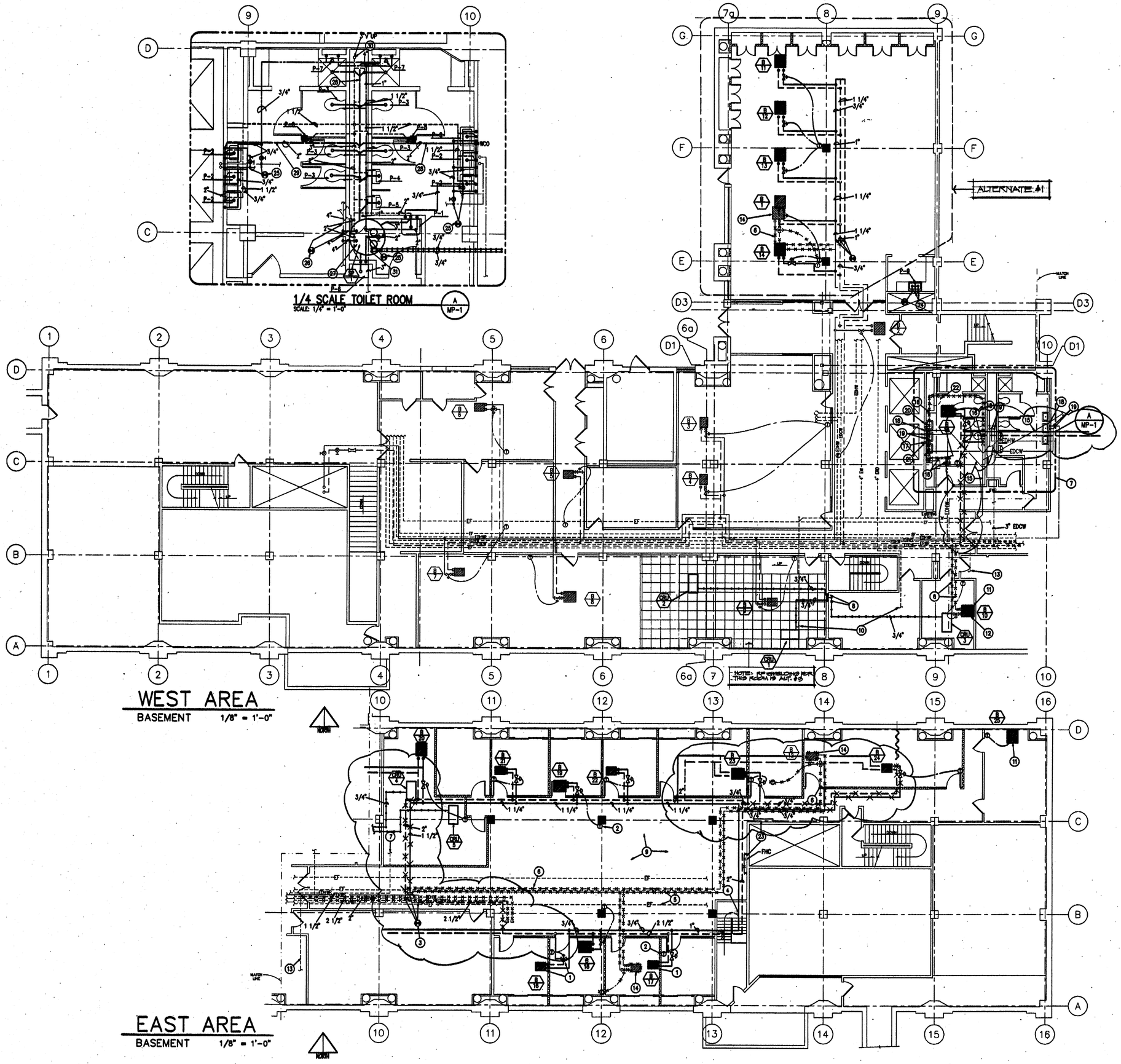
TITLE
BASEMENT
MECH. PLAN

SHEET NO.
M-1

State Office Building Phase Five, Basement Remodel and Partial First Floor - FC:93-169
Basement Mechanical Plan - 5-M
00005261

1740M1 7-29-1993

1/4 SCALE TOILET ROOM
SCALE: 1/4" = 1'-0"



WEST AREA
BASEMENT 1/8" = 1'-0"

EAST AREA
BASEMENT 1/8" = 1'-0"

1748MP1 7-29-1993

KEYED NOTES

1. VAV REHEAT BOX WITH 2 OR 3 WAY VALVE. SEE SCHEDULE FOR GPM AND CONNECTION SIZES, TYPICAL.
2. THERMOSTAT MOUNTED ON WALL, TYPICAL.
3. CONNECT NEW PIPING TO PIPING INSTALLED ON PREVIOUS PHASE OR EXISTING PIPING.
4. ROUTE PIPING ABOVE EXISTING CEILING TO AVOID NEW RAISED T-BAR CEILING.
5. REROUTE EXISTING FIRE LINES AS NECESSARY TO ACCOMMODATE NEW RAISED T-BAR CEILING IN THIS AREA. SEE ARCHITECTURAL PLANS.
6. EXISTING LINES TO BE REMOVED, TYPICAL.
7. SEE 1\4" SCALE DRAWINGS THIS SHEET.
8. DROP CONDENSATE LINES DOWN TO TUNNEL BELOW AND RUN INTO SUMP.
9. MODIFY EXISTING FIRE SPRINKLERS PER CODE FOR NEW FLOOR PLAN. REROUTE PIPING AS NECESSARY TO ACCOMMODATE RAISED PORTION OF CEILING.
10. EXISTING WASTE AND ROOF DRAIN LINES COORDINATE WORK WITH THESE LINES.
11. VAV BOX. COOLING ONLY.
12. REPLACE EXISTING VAV BOX WITH NEW BOX AS INDICATED.
13. EXISTING 3/8" DOMESTIC WATER LINE SERVING HUMIDIFIER IN COMPUTER ROOM UNIT SERVING TELEPHONE ROOM.
14. RELOCATE EXISTING VAV BOX, AS INDICATED.
15. EXISTING WASTE LINES IN CEILING TO REMAIN.
16. REMOVE EXISTING WASTE AND VENT LINES AS INDICATED.
17. EXISTING VENT RISER TO REMAIN AND TO BE REUSED. SEE 1/4" SCALE PLAN THIS SHEET.
18. EXISTING WASTE RISER TO REMAIN UNCHANGED.
19. EXISTING HOT AND COLD DOMESTIC WATER RISERS TO REMAIN UNCHANGED.
20. REMOVE EXISTING HOT AND COLD WATER SUPPLY BACK TO VAINS.
21. REMOVE EXISTING WASTE AND VENT FOR PREVIOUSLY DEMOLISHED FIXTURE. REMOVE WASTE BACK TO FLOOR LEVEL AND VENT BACK TO RISER.
22. REMOVE EXISTING 30" DIA X 36" TALL SUMP AND PUMP IN TUNNEL BELOW. REMOVE ASSOCIATED PIPING AND VALVING. REMOVE ALL PIPING IN TUNNELS RUNNING TO SUMP. THIS PIPING IS NO LONGER IN USE.
23. RELOCATE THE EXISTING FIRE HOSE VALVE AND HOSE TO LOCATION SHOWN.
24. NEW SINK CONNECTED TO EXISTING INDIRECT WASTE TO EXISTING HOT AND COLD WATER IN WALL.
25. CONNECT NEW HOT AND COLD DOMESTIC WATER TO EXISTING LINES IN CEILING PROVIDE SHUT OFF VALVE.
26. DISCHARGE NEW SUMP PUMPS LINE INTO EXISTING 4" WASTE LINE IN CEILING SPACE.
27. NEW 42" DIA X 6' DEEP PREFABRICATED FIBERGLASS DUPLEX SEWAGE EJECTOR SUMP. SEE DETAIL FOR PIPING. EXCAVATE FLOOR TO ACCOMMODATE SUMP TOP OF SUMP SHALL BE LEVEL WITH FLOOR.
28. SAW CUT FLOOR WHERE NECESSARY TO LAY WASTE LINES.
29. SAW CUT FLOOR EXCEPT WHERE WASTE PIPE PASSES THROUGH TUNNEL BELOW. FEED PIPE THROUGH TUNNEL. DO NOT SAW CUT ROOF OF TUNNEL.
30. RISE VENT UP. CORE DRILL TO PLUMBING CHASE ON FLOOR ABOVE. RISE VENT IN PLUMBING CHASE AND CONNECT TO EXISTING VENT RISER.
31. DROP CONDENSATE LINES INTO SUMP PUMP.

This record drawing has been prepared, in part, based upon information furnished by others. While this information is believed to be reliable, the DENNIS PROPHER/BROWN, inc. cannot assure its accuracy, and thus is not responsible for the accuracy of this record drawing or for any errors or omissions which may have been incorporated into it as a result. Those relying on this record document are advised to obtain independent verification of its accuracy before applying it for any purpose.

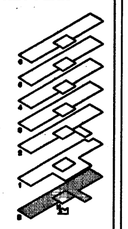
JOB NO.
FC: 93-169

REVISIONS
△ JULY 7, 94

BRIXEN & CHRISTOPHER ARCHITECTS
STRUCTURAL: E.W. ALLEN & ASSOC.
MECHANICAL: VAN BOERUM & FRANK
ELECTRICAL: KEY ENGINEERING INC.

STATE OFFICE BUILDING REMODEL – BASEMENT – PHASE 5 FLOOR PLAN

KEY PLAN

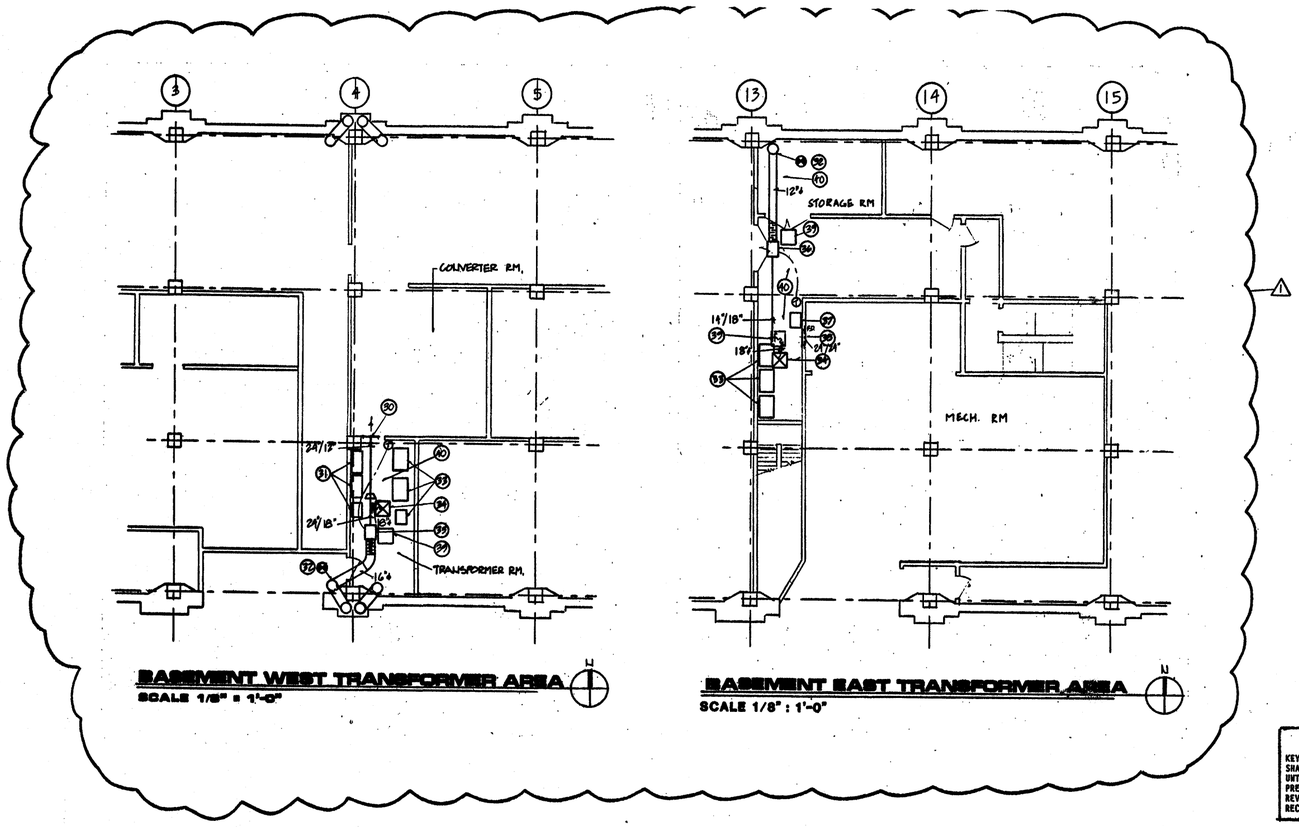


DATE
AUG 1993

TITLE
BASEMENT MECH. PIPING PLAN

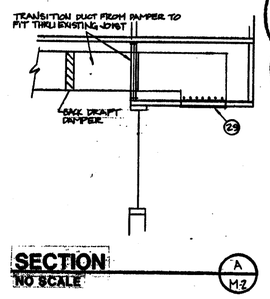
SHEET NO.
M-2

State Office Building, Tower Flr., Basement Remodel and Partial Floor Renovation (Phase 5) - 3457
0000529(2)



BASEMENT WEST TRANSFORMER AREA
SCALE 1/8" = 1'-0"

BASEMENT EAST TRANSFORMER AREA
SCALE 1/8" = 1'-0"



SECTION
NO SCALE

KEYED NOTES

30 NEW KRUEGER 880V OBD 24 X 12 SIDEWALL REGISTER.

31 EXISTING RELIEF FAN VFDS AND TRANSFORMERS.

32 CONNECT NEW DUCT TO EXISTING 18" DIA. RISER.

33 NEW TRANSFORMERS SERVING EXISTING VARIABLE FREQUENCY DRIVES.

34 NEW KRUEGER SH4 F21 24 X 24 DIFFUSER WITH 18" DIA. FLEX CONNECTION AND SPIN-IN DAMPER.

35 NEW KRUEGER LHHS OR EQUAL, SINGLE DUCT VAV BOX, 16" DIA., NO REHEAT COIL, 2800 CFM MAX, 0 CFM MIN., WITH CONTROLS AND T-STAT. POWER TO BOX BY ATC CONTRACTOR.

36 NEW KRUEGER LHHS OR EQUAL, SINGLE DUCT VAV BOX, 12" DIA., NO REHEAT COIL, 1500 CFM MAX, 0 CFM MIN, WITH CONTROLS AND T-STAT. POWER TO BOX BY ATC CONTRACTOR.

37 EXISTING TRANSFORMER.

38 NEW KRUEGER S80H 24 X 24 WITH A 24 X 24 TYPE A FIRE DAMPER IN NEW OPENING TO MECHANICAL SHAFT. COORDINATE LOCATION OF OPENING WITH EXISTING TRANSFORMER AND ELECTRICAL PANELS. PLACE RETURN LOW AS POSSIBLE.

39 NEW 24X24 CEILING ACCESS PANEL.

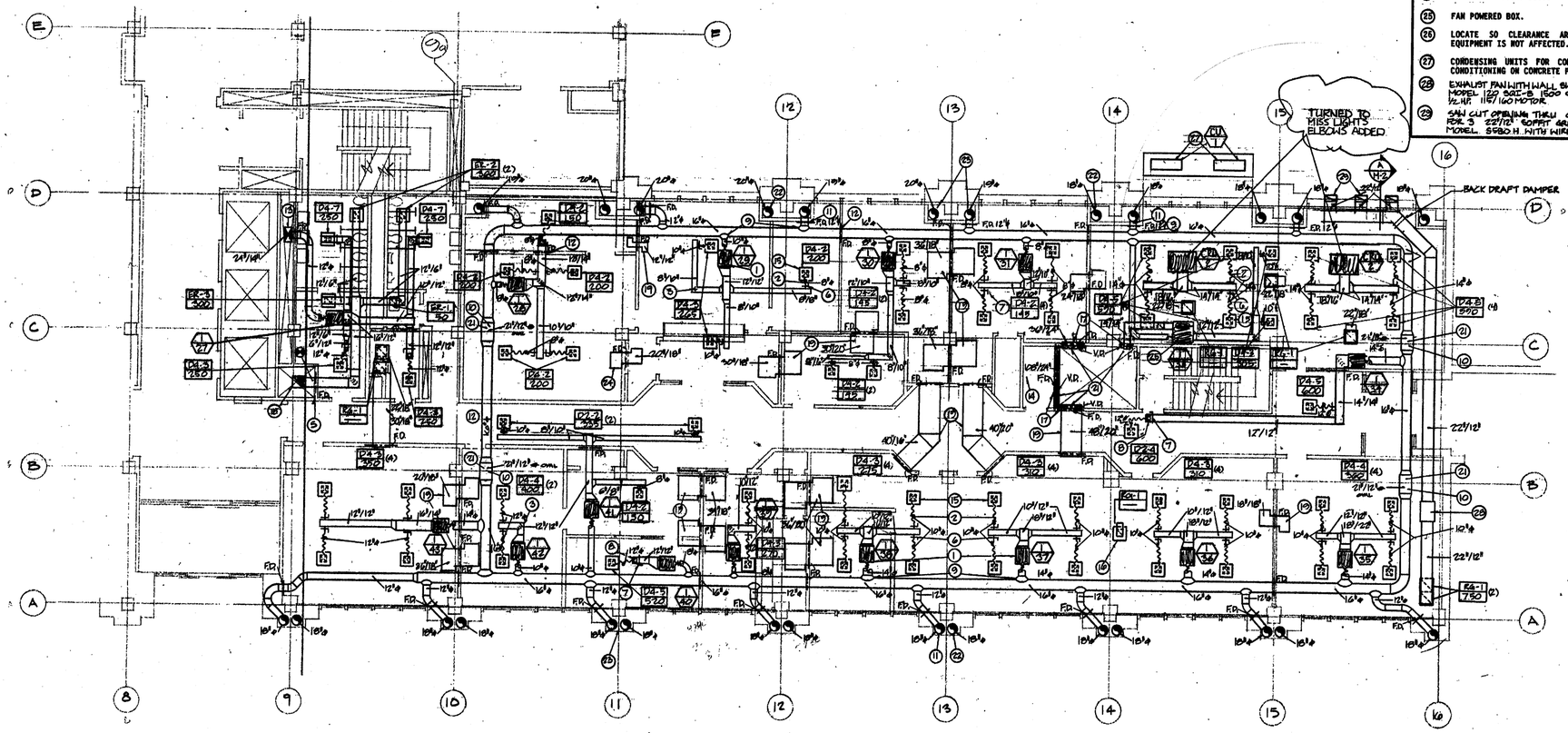
40 REMOVE GYP. BOARD CEILING AS NECESSARY FOR INSTALLATION OF NEW DUCTWORK. PATCH AND PAINT AFTER COMPLETED INSTALLATION. MOVE LIGHTS AS NECESSARY.

NOTE

KEYED NOTE 17 AND 20 REFER TO WORK ON DAMPERED OPENINGS TO THE RETURN/RELIEF SHAFT. THE EXISTING GWB BARRIERS FROM THE SPACE TO THE SHAFT WILL REMAIN INTACT UNTIL THE NEW VAV SUPPLY AIR DISTRIBUTION SYSTEM IS OPERATIONAL (I.E. POSITIVE PRESSURE OF SPACE IN RESPECT TO SHAFT). IT IS THE DESIGNER'S INTENT THAT NO REVERSE FLOW OCCUR FROM SHAFT TO SPACE. THIS IS TO PREVENT ASBESTOS RECONTAMINATION OF PREVIOUSLY ABATED FLOORS.

KEYED NOTES

1. VAV REHEAT BOXES. SEE SCHEDULES FOR SIZE AND CAPACITIES. CONNECT TO HIGH PRESSURE DUCTWORK WITH NO MORE THAN 3'-0" OF H.P. FLEX DUCTING.
2. FLEXIBLE DUCTING CONNECT TO DIFFUSERS WITH NO MORE THAN 5'-0" FROM LOW PRESSURE DUCTWORK.
3. TURNING VANES, TYPICAL. LOCATE IN ALL ELBOWS OF RECTANGULAR DUCTWORK.
4. RETURN AIR TRANSFER DUCT STUBBED INTO RETURN AIR PLENUM ABOVE CEILING.
5. PROVIDE NEW FIRE DAMPER IN EXISTING DUCT PENETRATION OF WALL. EXTEND NEW EXHAUST DUCTWORK TO EXHAUST GRILLES.
6. ELONGATED FITTING - TYPICAL. SEE DETAIL 7/M-10.
7. MANUAL DAMPER WITH LOCKING QUADRANT, TYPICAL.
8. SQUARE TO ROUND TRANSITION, TYPICAL.
9. CONICAL TEE HIGH PRESSURE FITTING.
10. PROVIDE FLAT OVAL DUCTING UNDER BEAMS OR GRIDS B & C TO ALLOW FOR LIMITED CEILING SPACE.
11. PROVIDE FIRE DAMPERS AT ALL HIGH PRESSURE DUCT PENETRATIONS TO EXTERIOR DUCT SHAFTS. SEE DETAIL 1/M-1 FOR INSTALLATION, TYPICAL.
12. FIRE DAMPER, TYPICAL. PROVIDE AT ALL FIRE RATED WALLS. SEE ARCHITECTURAL DRAWINGS FOR LOCATION OF FIRE RATED WALLS.
13. CONNECT ONTO EXISTING COLD SUPPLY AIR DUCT IN SHAFT FOR NEW DUCTWORK TO TOILET ROOM.
14. LOCATED ATC COMMUNICATION PANELS IN NEW ELECTRICAL ROOMS. TYPICAL COORDINATE LOCATION WITH ELECTRICAL CONTRACTOR.
15. SUPPLY DIFFUSERS - REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION.
16. RETURN AIR GRILLE WITH SOUND BOOT.
17. REMOVE THE EXISTING FIRE DAMPERS, AND PROVIDE NEW FIRE DAMPERS. MODIFY EXISTING OPENINGS AS REQUIRED FOR NEW DAMPER INSTALLATION.
18. EXISTING TOILET EXHAUST RISER.
19. FIRE DAMPERED RETURN AIR TRANSFER DUCT, TYPICAL.
20. INSTALL MANUAL VERTICAL BLADE VOLUME DAMPERS IN BACK OF FIRE DAMPERS IN SHAFT WALLS. PROVIDE LOCKING QUADRANT FOR VOLUME DAMPERS. TYPICAL. DAMPER DIMENSIONS TO BE SAME AS FIRE DAMPERS.
21. ROUND TO OVAL TRANSITIONS TO BE ECCENTRIC, FLAT ON THE BOTTOM, TYPICAL.
22. CAP UNUSED RISER TAKE-OFF BEHIND FIRE RATED WALL. TYPICAL.
23. EXISTING HOT DECK AND COLD DECK HIGH VELOCITY DUCT RISERS, TYPICAL, EXISTING SIZES SHOWN WERE TAKEN FROM RECORD DRAWING OF PREVIOUS CONSTRUCTION AND HAVE NOT BEEN FIELD VERIFIED.
24. RETURN AIR SOUND BOOT.
25. FAN POWERED BOX.
26. LOCATE SO CLEARANCE AROUND ELECTRICAL EQUIPMENT IS NOT AFFECTED.
27. CONDENSING UNITS FOR COMPUTER ROOM AIR CONDITIONING ON CONCRETE PAD.
28. EXHAUST FAN WITH WALL SWITCH, COOK MODEL 127 302-B 1500 CFM @ 3/8" S.P. ½ HP 115/1/60 MOTOR
29. SAW CUT OPENING THRU CONCRETE SOFFIT FOR 3 22"/12" SOFFIT GRILLES, KRUEGER MODEL S980-H WITH WIRE MESH SCREEN



VAV Boxes (EAST) + 26 VAV Boxes (west) = 44 total 1st Floor
18

JOB NO. BC:89-098

REVISIONS
12-25-90
RECORD DRAWINGS 12/91

REGISTERED PROFESSIONAL ENGINEER No. 4537 John D Frank STATE OF UTAH

BRIXEN & CHRISTOPHER ARCHITECTS
STRUCTURAL: E.W. ALLEN & ASSOC.
MECHANICAL: VAN BOERUM & FRANK
ELECTRICAL: KEY ENGINEERING INC.

STATE OFFICE BUILDING
REMODEL - PHASE 2

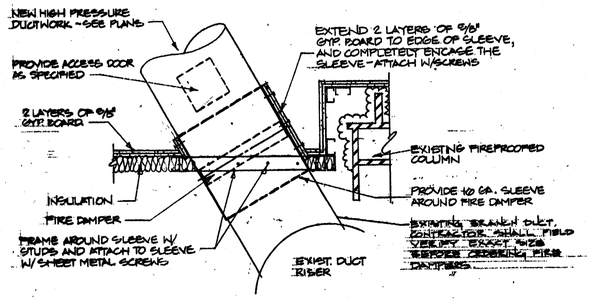
KEY PLAN

DATE JNE 1990

TITLE
FIRST FLOOR EAST MECH. PLAN

SHEET NO.
M-2

State Office Building; Phase Two, 2 Floor Remodel, Floors 1 & 2 - BC:89-098
First Floor East Mechanical Plan - 3686
00006LM2

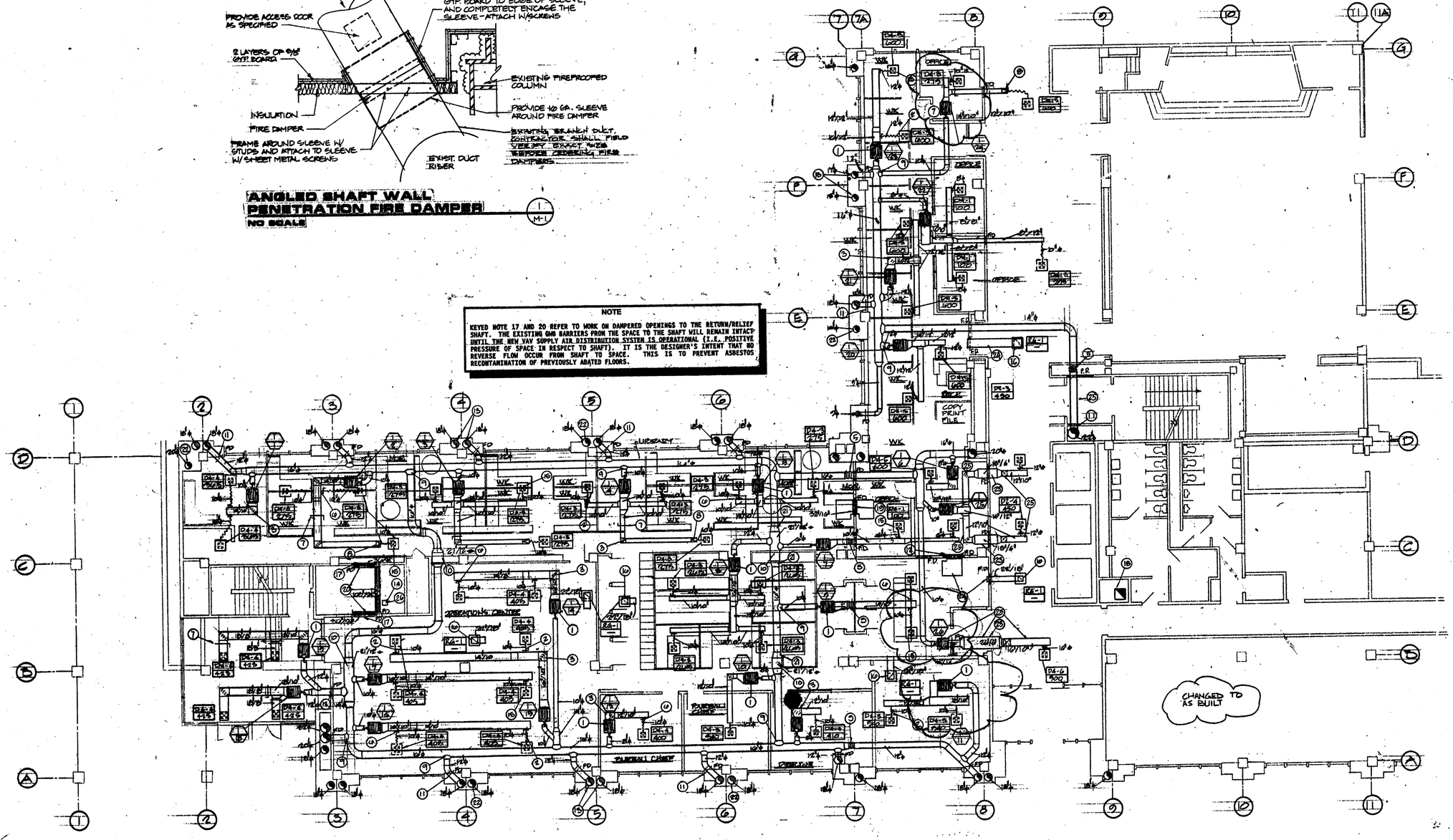


ANGLED SHAFT WALL PENETRATION FIRE DAMPER — 1/M-1

NO SCALE

NOTE

KEYED NOTE 17 AND 20 REFER TO WORK ON DAMPERED OPENINGS TO THE RETURN/RELIEF SHAFT. THE EXISTING GWB BARRIERS FROM THE SPACE TO THE SHAFT WILL REMAIN INTACT UNTIL THE NEW VAV SUPPLY AIR DISTRIBUTION SYSTEM IS OPERATIONAL (I.E. POSITIVE PRESSURE OF SPACE IN RESPECT TO SHAFT). IT IS THE DESIGNER'S INTENT THAT NO REVERSE FLOW OCCUR FROM SHAFT TO SPACE. THIS IS TO PREVENT ASBESTOS RECONTAMINATION OF PREVIOUSLY ABATED FLOORS.



26 VAV Boxes (west)
+
14 VAV Boxes (East)
40 total — 1st Floor

FIRST FLOOR WEST MECHANICAL PLAN — 1

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

KEYED NOTES

1. VAV REHEAT BOXES. SEE SCHEDULES FOR SIZE AND CAPACITIES. CONNECT TO HIGH PRESSURE DUCTWORK WITH NO MORE THAN 3'-0" OF H.P. FLEX DUCTING.
2. FLEXIBLE DUCTING CONNECT TO DIFFUSERS WITH NO MORE THAN 5'-0" FROM LOW PRESSURE DUCTWORK.
3. TURNING VANES, TYPICAL. LOCATE IN ALL ELBOWS OF RECTANGULAR DUCTWORK.
4. RETURN AIR TRANSFER DUCT STUBBED INTO RETURN AIR PLENUM ABOVE CEILING.
5. PROVIDE EXPANSION FITTINGS IN DUCTWORK AT ALL BUILDING EXPANSION JOINTS. SEE DETAIL 8/M-10.
6. ELONGATED FITTING - TYPICAL. SEE DETAIL 7/M-10.
7. MANUAL DAMPER WITH LOCKING QUADRANT, TYPICAL.
8. SQUARE TO ROUND TRANSITION, TYPICAL.
9. CONICAL TEE HIGH PRESSURE FITTING.
10. PROVIDE FLAT OVAL DUCTING UNDER BEAMS ON GRIDS B & C TO ALLOW FOR LIMITED CEILING SPACE.
11. PROVIDE FIRE DAMPERS AT ALL HIGH PRESSURE DUCT PENETRATIONS TO EXTERIOR DUCT SHAFTS. SEE DETAILS 1/M-1 FOR INSTALLATION, TYPICAL.
12. FIRE DAMPER, TYPICAL. PROVIDE AT ALL FIRE RATED WALLS. SEE ARCHITECTURAL DRAWINGS FOR LOCATION OF FIRE RATED WALLS.
13. EXISTING HOT DECK AND COLD DECK HIGH VELOCITY DUCT RISERS, TYPICAL, EXISTING SIZES SHOWN WERE TAKEN FROM RECORD DRAWING OF PREVIOUS CONSTRUCTION AND HAVE NOT BEEN FIELD VERIFIED.
14. LOCATED ATC COMMUNICATION PANELS IN NEW ELECTRICAL ROOMS. TYPICAL COORDINATE LOCATION WITH ELECTRICAL CONTRACTOR.
15. SUPPLY DIFFUSERS - REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION.
16. RETURN AIR GRILLE WITH SOUND BOOT.
17. REMOVE THE EXISTING FIRE DAMPERS, AND PROVIDE NEW FIRE DAMPERS. MODIFY EXISTING OPENINGS AS REQUIRED FOR NEW DAMPER INSTALLATION.
18. EXISTING TOILET EXHAUST RISER.
19. FIRE DAMPERED RETURN AIR TRANSFER DUCT, TYPICAL.
20. IRSTALL MANUAL VERTICAL BLADE VOLUME DAMPERS IN BACK OF FIRE DAMPERS IN SHAFT WALLS. PROVIDE LOCKING QUADRANT FOR VOLUME DAMPERS. TYPICAL. DAMPER DIMENSIONS TO BE SAME AS FIRE DAMPERS.
21. ROUND TO OVAL TRANSITIONS TO BE ECCENTRIC, FLAT ON THE BOTTON, TYPICAL.
22. CAP UNUSED RISER TAKE-OFF BEHIND FIRE RATED WALL. TYPICAL.
23. DELETE INTERNAL DUCT LINER WHERE DUCT IS TRANSITIONED TO PASS UNDER BEAM. WRAP THIS SECTION OF UNLINED DUCT WITH INSULATION SPECIFIED FOR DUCTWORK UPSTREAM OF TERMINAL BOXES. USE TYPE "A" FIRE DAMPER AT THIS POINT.
24. RETURN AIR SOUND BOOT WITH FIRE DAMPER ABOVE CEILING.
25. RUN DUCTWORK AS HIGH AND CLOSE TO STRUCTURE AS POSSIBLE TRANSITION AS NECESSARY.
26. LOCATE SO CLEARANCE AROUND ELECTRICAL EQUIPMENT IS NOT AFFECTED.

MP-VAV AX Controler

State Office Building; Phase Two, 2 Floor Remodel, Floors 1 & 2 - BC:89-098
First Floor West Mechanical Plan - 3884
00006LM1

JOB NO.
BC:89-098

REVISIONS
RECORD DRAWINGS
12/91

REGISTERED PROFESSIONAL ENGINEER
No. 4537
John D Lynch
STATE OF UTAH

BRIXEN & CHRISTOPHER ARCHITECTS
STRUCTURAL: E.W. ALLEN & ASSOC.
MECHANICAL: VAN BOERUM & FRANK
ELECTRICAL: KEY ENGINEERING INC.

STATE OFFICE BUILDING
REMODEL - PHASE 2

KEY PLAN

DATE
JUNE 1990

TITLE
FIRST FLOOR WEST MECH. PLAN

SHEET NO.
M-1

FIRST FLOOR EAST MECHANICAL PIPING PLAN

KEYED NOTES

1. VAV REHEAT BOX WITH 2 OR 3 WAY AUTOMATIC ATC CONTROL VALVE AS SHOWN. SEE DETAIL FOR REQUIRED VALVING OF COILS. SEE BOX SCHEDULE FOR GPM'S REQUIRED.
2. EXTRUDED ALUMINUM RADIANT HEATING PANELS. INSTALL AS PER REQUIRED BY MANUFACTURER AND AS SHOWN IN DETAILS, TYPICAL. SEE PANEL SCHEDULE FOR SIZE AND GPM REQUIRED.
3. NEW ELECTRIC WATER COOLER IN VENDING ROOM. MAKE CONNECTIONS TO EXISTING COLD WATER, WASTE AND VENT LINES AS SHOWN.
4. ROOM THERMOSTAT TO CONTROL VAV BOX AND RADIANT PANELS. REFER TO CONTROL DIAGRAMS. MOUNT THERMOSTAT ON WALL AT HEIGHT SPECIFIED BY ARCHITECT, TYPICAL.
5. 2-WAY ATC VALVE WITH OPERATOR MOUNTED IN VERTICAL POSITION, TYPICAL.
6. PROVIDE FOR PIPE EXPANSION.
7. MAKE CONNECTION TO EXISTING COLD WATER LINE. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION.
8. MAKE CONNECTION TO EXISTING WASTE AND VENT LINES. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATIONS.
9. EXISTING SERVICE SINK TO REMAIN.
10. EXISTING FIXTURES IN TOILET ROOMS HAVE BEEN REMOVED. PROVIDE ALL NEW FIXTURES. CONNECT TO EXISTING WASTE, VENT, COLD WATER, AND HOT WATER LINES LOCATED IN OR BEHIND WALLS.
11. REFER TO M-4 FOR CONTINUATION OF PIPING.
12. 3/4" BRANCH TAKE-OFF TO RADIANT PANELS OR VAV BOXES, TYPICAL.
13. WHERE DRINKING FOUNTAINS HAVE BEEN REMOVED, CAP ANY EXISTING PLUMBING LINES AS NECESSARY.
14. CONDENSING UNITS FOR COMPUTER ROOM AIR CONDITIONERS ON CONCRETE PAD.

JOB NO.
BC:89-098

REVISIONS
RECORD DRAWINGS
12/91

REGISTERED PROFESSIONAL ENGINEER
No. 4937
John D Frank
STATE OF UTAH

BRIXEN & CHRISTOPHER ARCHITECTS
STRUCTURAL: E.W. ALLEN & ASSOC.
MECHANICAL: VAN BOERUM & FRANK
ELECTRICAL: KEY ENGINEERING INC.

STATE OFFICE BUILDING
REMODEL – PHASE 2

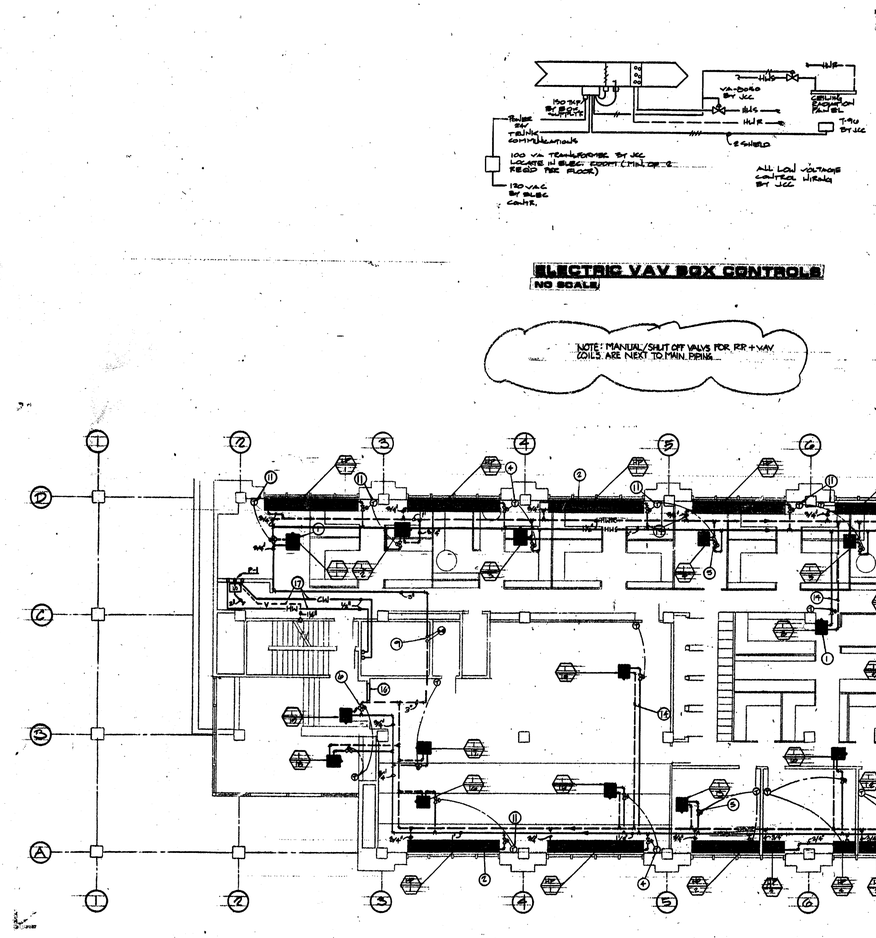
KEY PLAN

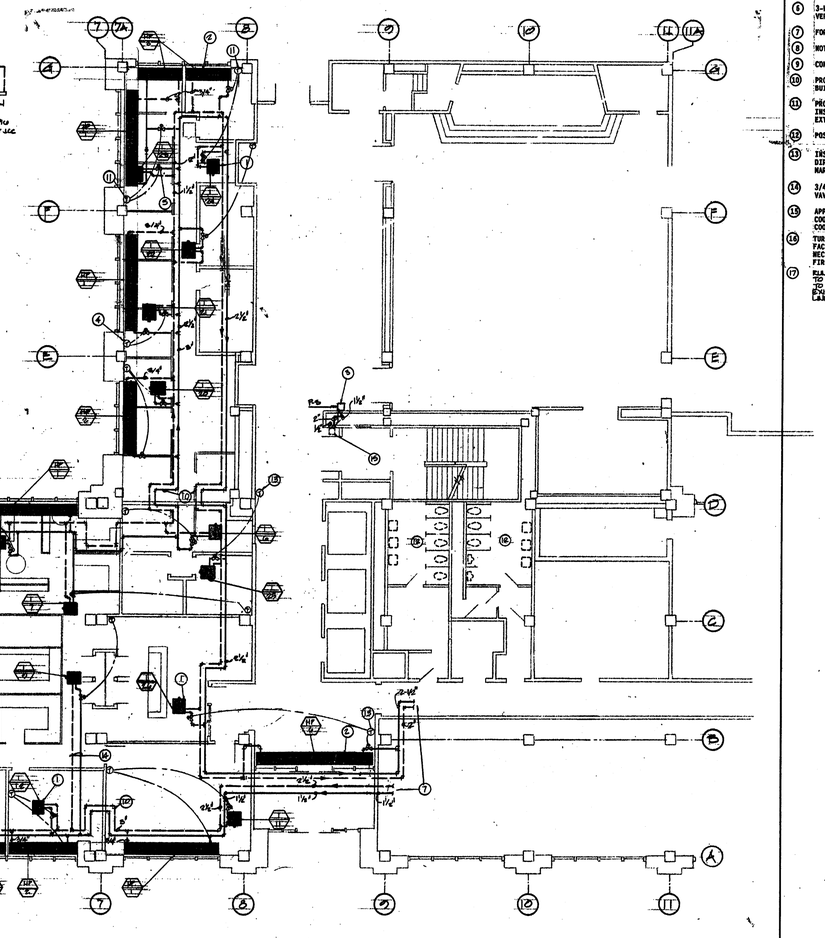
DATE
JUNE 1990

TITLE
FIRST FLOOR EAST MECH PIPING PLAN

SHEET NO.

State Office Building: Phase Two, 2 Floor Remodel, Phases 1 & 2 - BC89-098
First Floor East Mechanical Piping Plan - 3990
00000LHS





FIRST FLOOR WEST MECHANICAL PIPING PLAN
SCALE: 1/8" = 1'-0"

KEYED NOTES

1. VAV REHEAT BOX WITH 2 OR 3 WAY AUTOMATIC ATC CONTROL VALVE AS SHOWN. SEE DETAIL FOR REQUIRED VALVING OF COILS. SEE BOX SCHEDULE FOR GPM'S REQUIRED.
2. EXTRUDED ALUMINUM RADIANT HEATING PANELS. INSTALL AS PER REQUIRED BY MANUFACTURER AND AS SHOWN IN DETAILS, TYPICAL. SEE PANEL SCHEDULE FOR SIZE AND GPM REQUIRED.
3. NEW ELECTRIC WATER COOLER. EXTEND CW, VENT AND WASTE LINES FROM OPPOSITE SIDE OF WALL TO SERVICE COOLER.
4. ROOM THERMOSTAT TO CONTROL VAV BOX AND RADIANT PANELS. REFER TO CONTROL DIAGRAMS. MOUNT THERMOSTAT ON WALL AT HEIGHT SPECIFIED BY ARCHITECT, TYPICAL.
5. 2-WAY ATC VALVE WITH OPERATOR MOUNTED IN VERTICAL POSITION, TYPICAL.
6. 3-WAY ATC VALVE WITH OPERATOR MOUNTED IN VERTICAL POSITION, TYPICAL.
7. FOR CONTINUATION SEE SHEET M-5.
8. NOT USED.
9. CONNECT TO EXISTING PIPE RISER.
10. PROVIDE EXPANSION LOOPS WHERE PIPES CROSS BUILDING EXPANSION JOINTS.
11. PROVIDE 12" x 12" x 3" DEEP RIGID INSULATION BEHIND THERMOSTATS LOCATED ON EXTERIOR WALLS (TYPICAL).
12. POSITION OF PREVIOUSLY REMOVED FIXTURES.
13. INSTALL NEW T-STAT IN EXISTING LOCATION AS DIRECTED BY ARCHITECT. DO NOT DAMAGE MARBLE!
14. 3/4" BRANCH TAKE-OFF TO RADIANT PANELS OR VAV BOXES TYPICAL.
15. APPROXIMATE LOCATION OF EXISTING WATER COOLER TO BE REMOVED. EXTEND LINES TO NEW COOLER. TAKE CARE NOT TO DAMAGE MARBLE.
16. TURN EXISTING F.H. CABINET AROUND SO IT FACES EAST. MAKE PLUMBING CONNECTIONS AS NECESSARY FOR PROPER FUNCTION OF EXISTING FIRE HOSE.
17. RUN NEW HW, CW & VENT LINES TO CONNECT TO EXISTING RISERS. RUN WASTE IN BASEMENT TO EXISTING WASTE LINE. REMOVE ALL EXISTING ABANDONED HW, CW, VENT & WASTE LINES AND CAP AS NECESSARY.

State Office Building: Phase Two, 2 Floor Remodel, Floors 1 & 2 - BC:89-098
First Floor West Mechanical Piping Plan - 2037
00005LM4

JOB NO.
BC:89-098

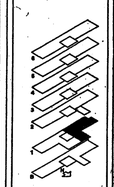
REVISIONS
RECORD DRAWINGS
12/91

REGISTERED PROFESSIONAL ENGINEER
No. 4637
John D Frank
STATE OF UTAH

BRIXEN & CHRISTOPHER ARCHITECTS
STRUCTURAL: E.W. ALLEN & ASSOC.
MECHANICAL: VAN BOERUM & FRANK
ELECTRICAL: KEY ENGINEERING INC.

STATE OFFICE BUILDING
REMODEL - PHASE 2

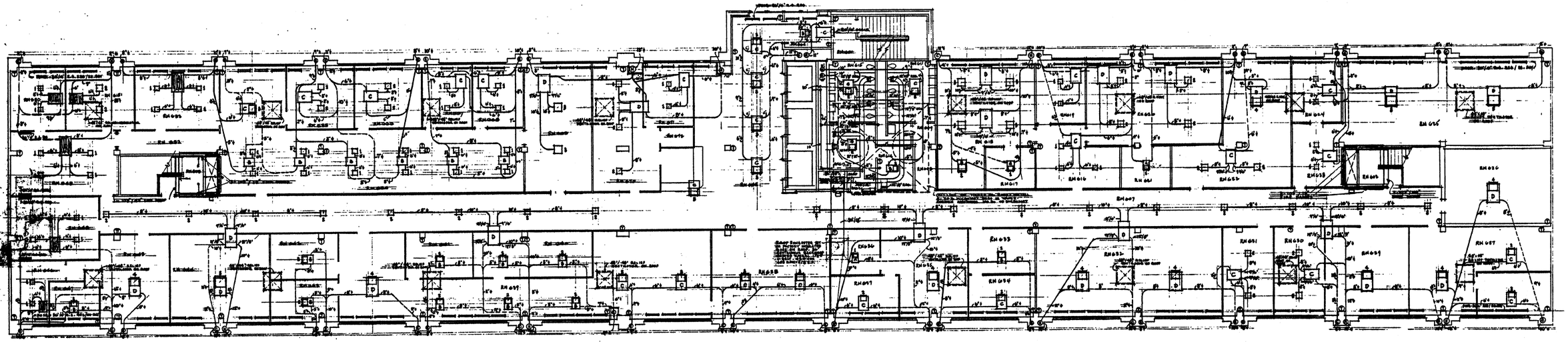
KEY PLAN

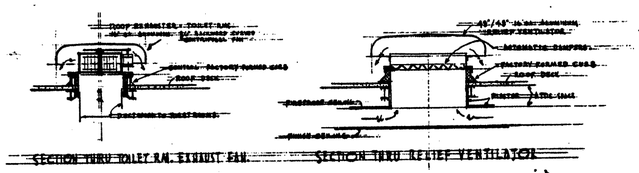


DATE
JUNE 1990

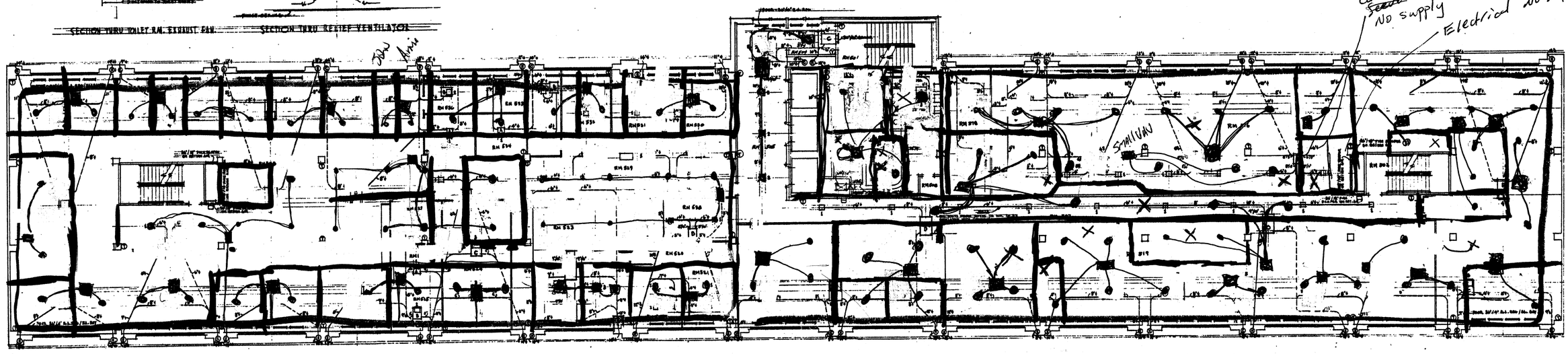
TITLE
FIRST FLOOR WEST MECH PIPING PLAN

SHEET NO.
[redacted]





SECTION THRU TOILET RM. EXHAUST FAN SECTION THRU RELIEF VENTILATOR



6th FLR - AIR CONDITIONING

5th FLR - AIR CONDITIONING

00012639
State Office Building; Capital Grounds; SLC, UT -
5th & 6th Floor Air-conditioning - 38100

STATE OFFICE BLDG
CAPITOL GROUNDS
SALT LAKE CITY, UTAH
STATE OF UTAH - DIVISION OF
STATE CAPITOL, SALT LAKE CITY
SHEET NO. 39
SCOTT and BEECHER
ARCHITECTS & ENGINEERS
SALT LAKE CITY, UTAH

(41) VAV Boxes – 5th Floor

— = wall

X = Return

• = Diffuser

JOB NO. BC:89-098

REVISIONS 12/91

REGISTERED PROFESSIONAL ENGINEER — No. 4537 — John D Frank

BRIXEN & CHRISTOPHER
ARCHITECTS
STRUCTURAL: E.W. ALLEN & ASSOC.
MECHANICAL: VAN BOERUM & FRANK
ELECTRICAL: KEY ENGINEERING INC.

STATE OFFICE BUILDING REMODEL – PHASE 2

KEY PLAN

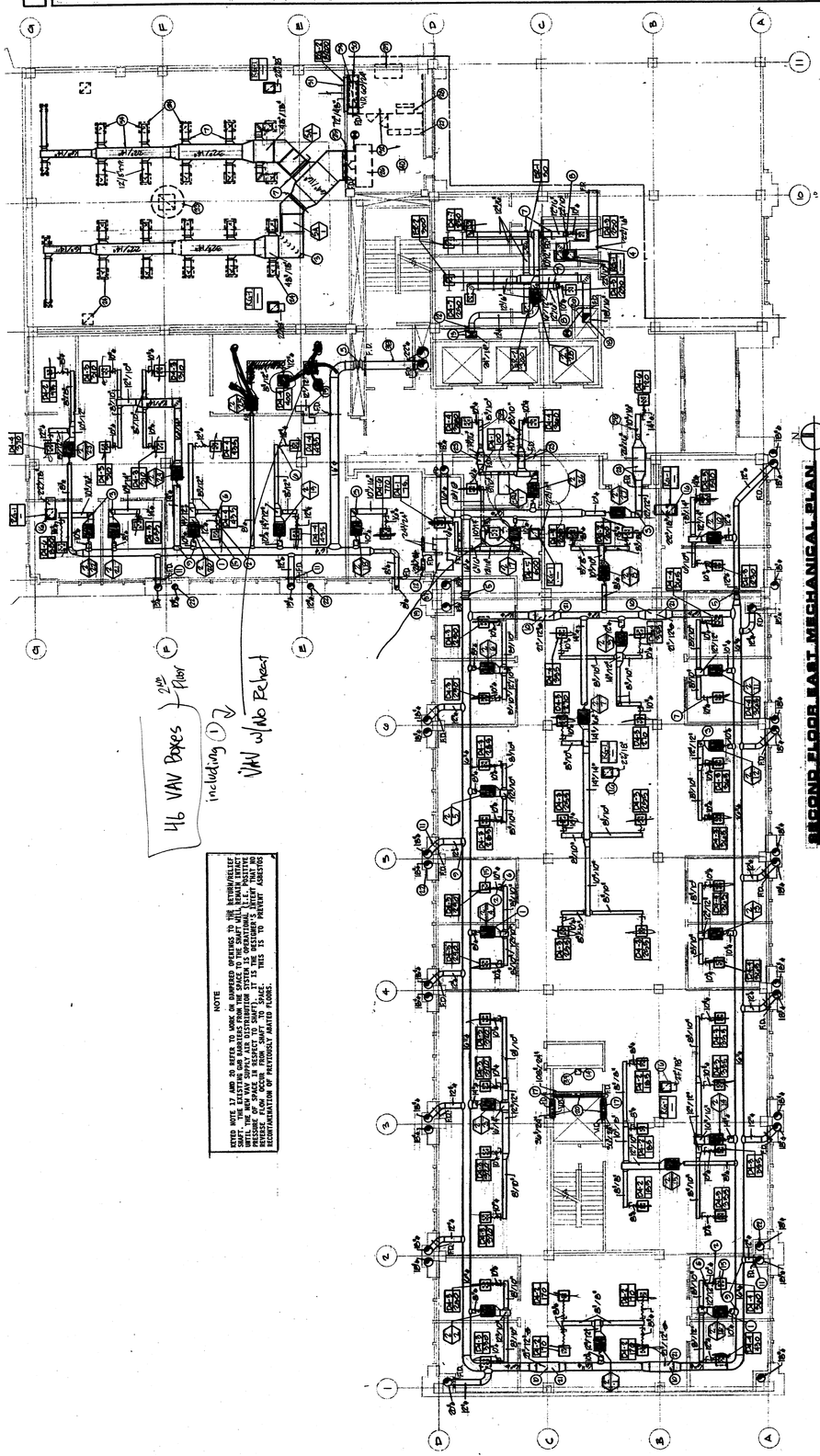
DATE 1990

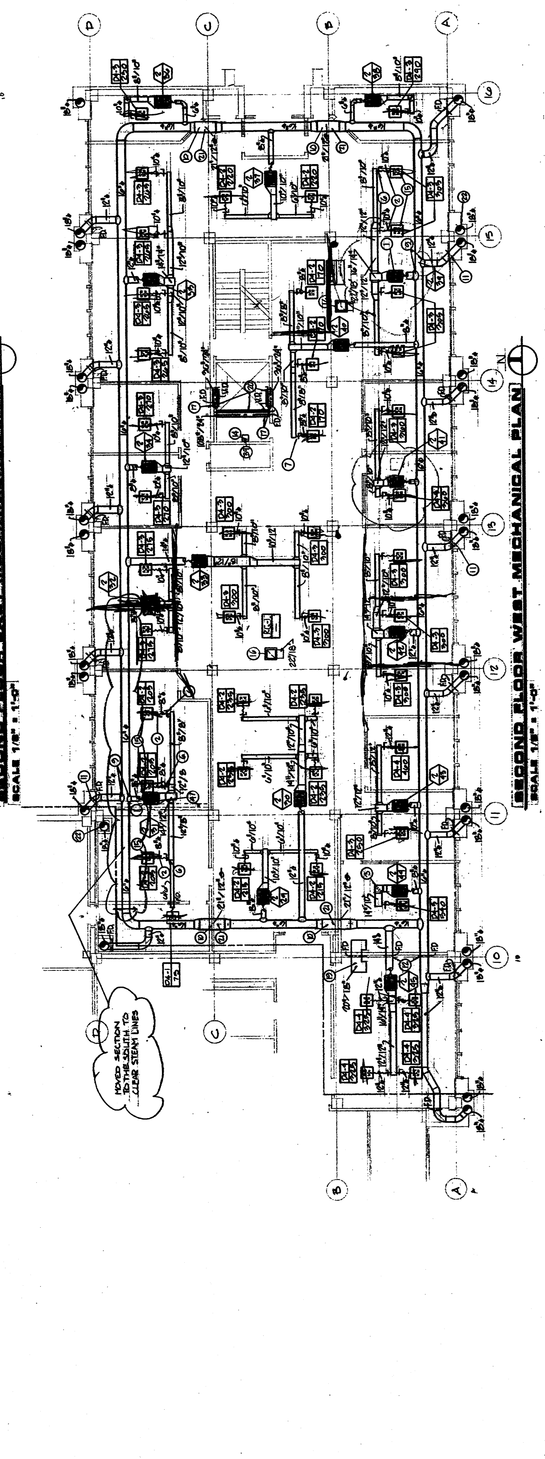
TITLE SECOND FLOOR MECHANICAL PLAN

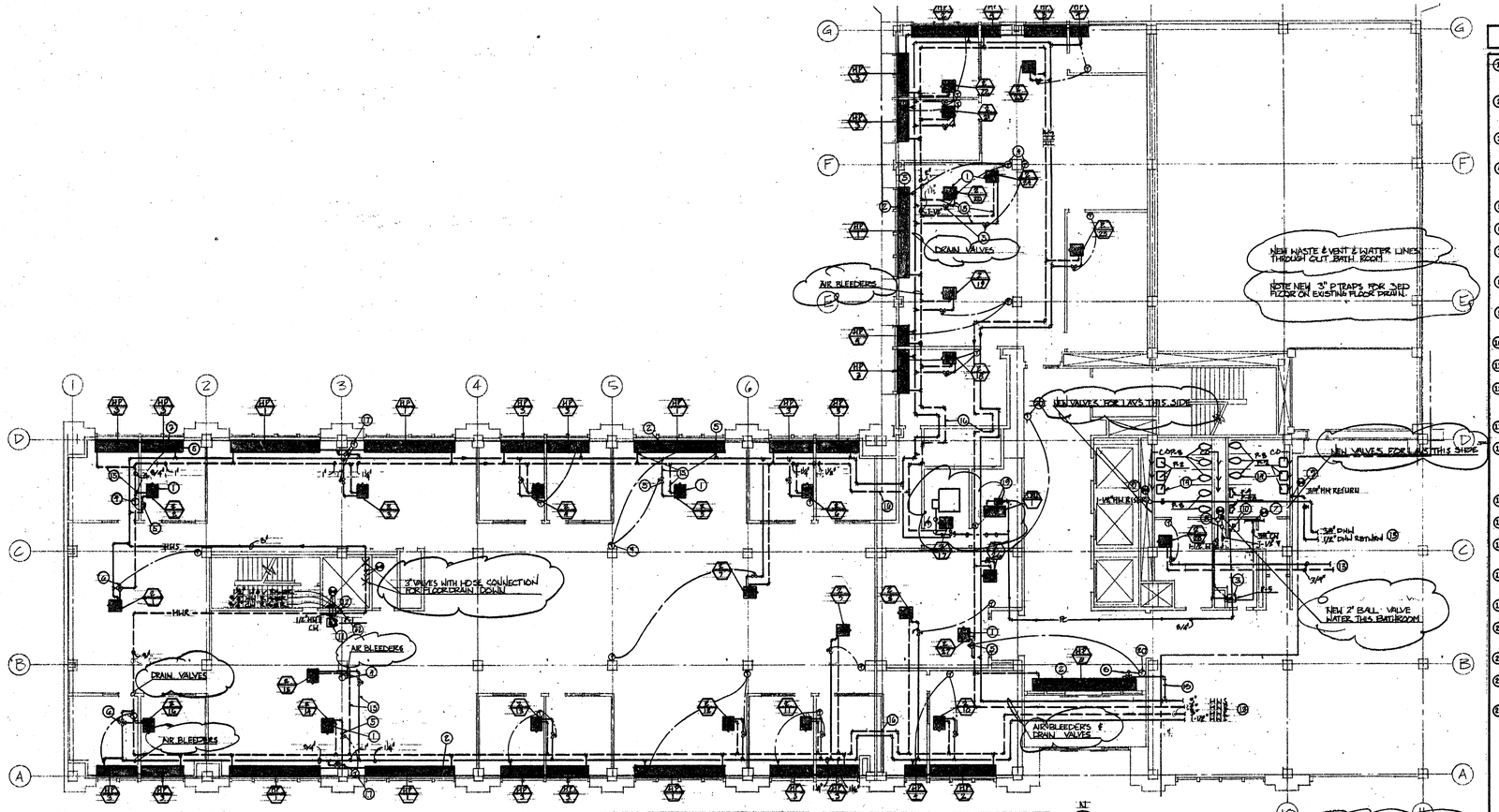
SHEET NO. M-2

KEYED NOTES

1. VAV REHEAT BOXES. SEE SCHEDULES FOR SIZE AND CAPACITIES. CONNECT TO SUPPLY PRESSURE DUCTWORK WITH NO MORE THAN 6'-0" OF 8.F. FLEX DUCTING.
2. FLEXIBLE DUCTING CONNECT TO DIFFUSERS WITH NO MORE THAN 5'-0" FROM LOW PRESSURE DUCTWORK.
3. TURNING VANES, TYPICAL. LOCATE IN ALL ELBOWS OF RECTANGULAR DUCTWORK.
4. RETURN AIR TRANSFER DUCT STUBBED INTO RETURN AIR PLENUM. SEE DETAIL 8/A-10.
5. DEVICE EXPANSION FITTINGS IN DUCTWORK AT ALL BUILDING EXPANSION JOINTS. SEE DETAIL 8/A-10.
6. ELONGATED FITTING - TYPICAL. SEE DETAIL 7/M-5.
7. MANUAL DAMPER WITH LOCKING QUADRANT, TYPICAL.
8. SQUARE TO ROUND TRANSITION, TYPICAL.
9. CONICAL TEE HIGH PRESSURE FITTING.
10. PROVIDE FLAT OVAL DUCTING WHERE RUNS ON DRAWINGS ARE SHOWN AS ROUND. SEE DETAIL 5/M-5.
11. PROVIDE FIRE DAMPERS AT ALL DUCT PENETRATIONS TO EXTERIOR DUCT SHAFTS. SEE DETAIL 1/M-1 FOR INSTALLATION, TYPICAL.
12. FIRE DAMPER, TYPICAL. PROVIDE AT ALL FIRE RATED WALLS. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF FIRE RATED WALLS.
13. SMOKE DETECTOR IN RETURN AIR DUCT IN SHAFT. PER NEW POSTINGS TO TOILET ROOM.
14. LOCATED ATC COMMUNICATION PANELS IN NEW ELECTRICAL CLOSET. TYPICAL COORDINATE WITH ELECTRICAL CONTRACTOR.
15. SUPPLY DIFFUSERS - REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION.
16. RETURN AIR GRILL WITH SOUND BOOT.
17. REMOVE THE EXISTING FIRE DAMPERS, AND PROVIDE NEW FIRE DAMPERS. MODIFY EXISTING OPENING AS REQUIRED TO ALLOW FOR NEW DAMPER INSTALLATION.
18. EXISTING TOILET EXHAUST DISH.
19. FIRE DAMPERED RETURN AIR TRANSFER DUCT, TYPICAL.
20. VERTICAL VERTICAL BLADE VOLUME DAMPERS IN BACK OF FIRE DAMPERS IN SHAFT WALLS. PROVIDE LOCKING QUADRANT FOR VOLUME DAMPERS. DAMPERS SHALL BE MOUNTED IN THE SAME AS FIRE DAMPERS.
21. ROUND TO OVAL TRANSITIONS TO BE ECCENTRIC, FLAT ON BOTTOM, TYPICAL.
22. FIRE DAMPERED RETURN FIRE RATED TAKE-OFF DESIGN FIRE RATED WALL. TYPICAL.
23. DELETE INTERNAL DUCT LINER WHERE DUCT IS TRANSITIONED TO PASS UNDER BEAM. WRAP DUCT EXTERNALLY WITH 1" DUCT LINER AS SPECIFIED FOR DUCTWORK SYSTEM OF TERMINAL UNIT SERVED. PROVIDE NEW TYPE 'A' FIRE DAMPER AT THIS POINT.
24. REUSE EXISTING SUPPLY DIFFUSERS AND RELIEF AIR GRILLES.
25. REUSE EXISTING VAV OPERATORS AS REQUIRED. RELOCATE EXISTING VAV TERMINAL UNITS WITH NEW DUCTWORK AS REQUIRED.
26. EXISTING AIR HANDLER UNIT WITH CHILLED WATER COIL DRAIN PAN TO REMAIN. PROVIDE NEW CONDENSATE DRAIN PIPING FROM DRAIN PAN TO NEAREST FLOOR DRAIN.
27. EXISTING FILTER BANK TO REMAIN UNDER BASE BID.
28. EXISTING ASBESTOS BOARD ROLL FILTER AND ACCESS DOOR TO REMAIN.
29. EXISTING OUTSIDE AIR LOUVER AND DAMPER TO REMAIN UNDER BASE BID. PROVIDE NEW DAMPER LINKAGE AND OPERATOR.
30. NEW TYPE 'A' FIRE DAMPER AT FLOOR LEVEL APPROXIMATELY 24" x 24". FIELD VERIFY. PROVIDE ACCESS DOOR AND CUT AND PATCH CARPET AS REQUIRED.
31. NEW RETURN AIR GRILL MOUNTED 6" FROM FLOOR LEVEL TO REPLACE EXISTING GRILLES.
32. PROVIDE NEW CONTROLS FOR MODIFICATION AS REQUIRED TO EXISTING SYSTEM. PROVIDE NEW VAV VALVE, NEW 2-WAY STEAM VALVE, NEW MIXED AIR CONTROLLER, NEW DUCT MOUNTED HUMIDISTAT, NEW DISCHARGE AIR TEMPERATURE CONTROLS, AND RELIEF AIR CONTROLS.
33. EXISTING RETURN AIR DAMPER TO REMAIN. PROVIDE NEW OPERATOR.
34. REMOVE ALL EXISTING DUCTWORK FROM AIR HANDLER TO EXISTING FIRE DAMPER. PROVIDE NEW INSTALL NEW LINED SUPPLY AIR DUCTWORK OF EQUAL SIZE FROM AIR HANDLER TO EXISTING FIRE DAMPER. FIELD VERIFY EXACT SIZE.
35. EXISTING RETURN AIR DUCTWORK FROM AIR HANDLER TO EXISTING FIRE DAMPER TO REMAIN. PROVIDE NEW DAMPER AND OPERATOR. FIELD VERIFY EXACT SIZE.
36. REMOVE ALL EXISTING DUCTWORK FROM AIR HANDLER TO EXISTING FIRE DAMPER. PROVIDE NEW INSTALL NEW LINED SUPPLY AIR DUCTWORK OF EQUAL SIZE FROM AIR HANDLER TO EXISTING FIRE DAMPER. FIELD VERIFY EXACT SIZE.
37. EXISTING RETURN AIR DUCTWORK FROM AIR HANDLER TO EXISTING FIRE DAMPER TO REMAIN. PROVIDE NEW DAMPER AND OPERATOR. FIELD VERIFY EXACT SIZE.
38. REMOVE ALL EXISTING DUCTWORK FROM AIR HANDLER TO EXISTING FIRE DAMPER. PROVIDE NEW INSTALL NEW LINED SUPPLY AIR DUCTWORK OF EQUAL SIZE FROM AIR HANDLER TO EXISTING FIRE DAMPER. FIELD VERIFY EXACT SIZE.
39. EXISTING RETURN AIR DAMPER TO REMAIN. PROVIDE NEW OPERATOR.
40. PROVIDE NEW FIRE DAMPER IN EXISTING DUCT OPENING. PROVIDE NEW ACCESS DOOR IN NEW DUCTWORK TO EXHAUST GRILLES.
41. PROVIDE 6" x 6" OPENING IN SIDE OF DUCT TO RETURN AIR FROM LIGHTS ABOVE. FOR DETAIL SEE 4/M-5.
42. RUN DUCT AS CLOSE TO STRUCTURE AS POSSIBLE.
43. LOCATE ALL APPLIANCES, SOUND ELECTRICAL
44. LOCATE IN ELEVATOR.
45. SEE M-7 FOR ADDITIVE ALTERNATE.
46. LOCATE UNIT TO BYPASS FOLDING WALL TRACK.

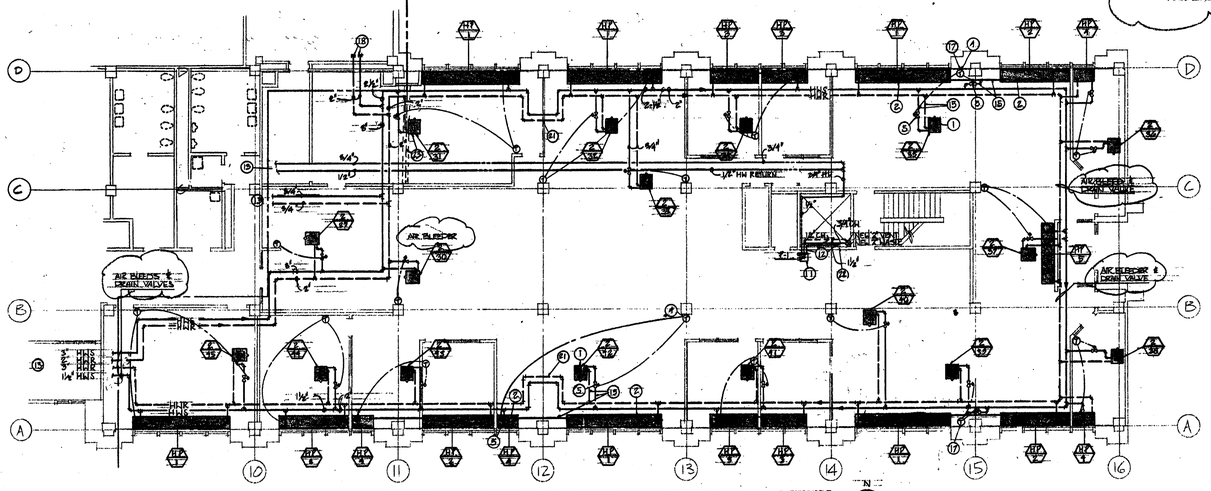






SECOND FLOOR WEST MECHANICAL PIPING PLAN
SCALE 1/8" = 1'-0"

NOTE: MANUAL VALVES FOR VAV COILS & RADIENT PANELS ARE NEXT TO MAIN LINES.



SECOND FLOOR EAST MECHANICAL PIPING PLAN
SCALE 1/8" = 1'-0"

KEYED NOTES

1. VAV REHEAT BOX WITH 2 OR 3 WAY AUTOMATIC ATC CONTROL VALVE AS SHOWN. SEE DETAIL FOR REQUIRED VALVING OF COILS. SEE BOX SCHEDULE FOR GPM'S REQUIRED.
2. EXTRUDED ALUMINUM RADIANT HEATING PANELS. INSTALL AS PER REQUIRED BY MANUFACTURER AND AS SHOWN IN DETAILS, TYPICAL. SEE PANEL SCHEDULE FOR SIZE AND GPM REQUIRED.
3. NEW ELECTRIC WATER COOLER IN VENDING ROOM. MAKE CONNECTIONS TO EXISTING COLD WATER, WASTE AND VENT LINES AS SHOWN.
4. ROOM THERMOSTAT TO CONTROL VAV BOX AND RADIANT PANELS. REFER TO CONTROL DIAGRAMS. MOUNT THERMOSTAT ON WALL AT HEIGHT SPECIFIED BY ARCHITECT, TYPICAL.
5. 2-WAY ATC VALVE WITH OPERATOR MOUNTED IN VERTICAL POSITION, TYPICAL.
6. 3-WAY ATC VALVE WITH OPERATOR MOUNTED IN VERTICAL POSITION, TYPICAL.
7. MAKE CONNECTION TO EXISTING COLD WATER LINE. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION.
8. MAKE CONNECTIONS TO EXISTING WASTE AND VENT LINES. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION.
9. MAKE CONNECTIONS TO EXISTING DOMESTIC HOT WATER SUPPLY AND RETURN LINES. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION.
10. EXISTING SERVICE SINK TO REMAIN. EXTEND CONDENSATE DRAIN LINE FROM CRU-1 TO SINK.
11. INSTALL NEW STAINLESS STEEL SINK IN COUNTER. VERIFY FIT WITH CABINET WORK.
12. RUN WASTE, VENT HW AND CW LINES FROM EXISTING LINES IN SHAFT, UNDER COUNTER TO SINK. REFER TO PLUMBING FIXTURE SCHEDULE FOR LINE SIZES REQUIRED.
13. REFER TO OTHER PLAN ON THIS SHEET FOR CONTINUATION OF PIPING.
14. EXISTING FIXTURES IN TOILET ROOMS HAVE BEEN REMOVED. PROVIDE ALL NEW FIXTURES. CONNECT TO EXISTING WASTE, VENT, COLD WATER, AND HOT WATER LINES LOCATED IN OR BEHIND WALLS. PROVIDE ALL NECESSARY PARTS AS REQUIRED TO RECONNECT PLUMBING FIXTURES.
15. 3/4" BRANCH TAKE-OFF TO RADIANT PANEL OR VAV BOXES. TYPICAL.
16. PROVIDE EXPANSION LOOPS WHERE PIPES CROSS BUILDING EXPANSION JOINTS.
17. PROVIDE 12" X 12" X 3" DEEP RIGID INSULATION BEHIND THERMOSTATS LOCATED ON EXTERIOR WALLS (TYPICAL).
18. VALVE AND CAP LINES FOR FUTURE CONNECTION. SEE SHEET M-7 FOR ADDITIONAL WORK REQUIRED UNDER ADDITIVE NO.1.
19. CONDENSATE PUMP. FURNISHED WITH COMPUTER ROOM UNIT.
20. INSTALL NEW THERMOSTAT IN EXISTING LOCATION AS DIRECTED BY ARCHITECT. DO NOT DAMAGE MARBLE.
21. PROVIDE EXPANSION LOOP FOR THERMAL EXPANSION OF PIPING.
22. WHERE DRINKING FOUNTAINS HAVE BEEN REMOVED, CAP ANY EXISTING PLUMBING LINES AS NECESSARY.
23. LOCATE UNIT TO MISS FOLDING WALL TRACK.

AS BUILT CONTRACTERS NOTES.

JOB NO.
BC:89-098

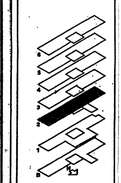
REVISIONS
RECORD DRAWINGS
12/91

REGISTERED PROFESSIONAL ENGINEER
No. 4537
John D Frank
STATE OF UTAH

BRIXEN & CHRISTOPHER ARCHITECTS
STRUCTURAL: E.W. ALLEN & ASSOC.
MECHANICAL: VAN BOERUM & FRANK
ELECTRICAL: KEY ENGINEERING INC.

STATE OFFICE BUILDING
REMODEL - PHASE 2

KEY PLAN



DATE
JUNE 1990

TITLE
SECOND FLOOR MECHANICAL PIPING PLAN

SHEET NO.
M-8

State Office Building: Phase Two, 2 Floor Remodel, Phase 1 & 2 - BC89-098
Second Floor Mechanical Piping Plan - 1990
0000GLN5

44 VAV Boxes — 3rd Floor

NOTE

KEYED NOTE 17 AND 22 REFER TO WORK ON DAMPERED OPENINGS TO THE RETURN/RELIEF SHAFT. THE EXISTING GWB BARRIERS FROM THE SPACE TO THE SHAFT WILL REMAIN INTACT UNTIL THE NEW VAV SUPPLY AIR DISTRIBUTION SYSTEM IS OPERATIONAL (I.E. POSITIVE PRESSURE OF SPACE IN RESPECT TO SHAFT). IT IS THE DESIGNER'S INTENT THAT NO REVERSE FLOW OCCUR FROM SHAFT TO SPACE. THIS IS TO PREVENT ASBESTOS RECONTAMINATION OF PREVIOUSLY ABATED FLOORS.

THIRD FLOOR MECHANICAL PLAN

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

40 VAV Boxes — 4TH Floor

NOTE: FLOOR PLAN HAS BEEN REVISED SEE SHEET M-4R FOR NEW DUCT LAYOUT.

WEST

NOTE

KEYED NOTE 17 AND 23 REFER TO WORK ON DAMPERED OPENINGS TO THE RETURN/RELIEF SHAFT. THE EXISTING GWB BARRIERS FROM THE SPACE TO THE SHAFT WILL REMAIN INTACT UNTIL THE NEW VAV SUPPLY AIR DISTRIBUTION SYSTEM IS OPERATIONAL (I.E. POSITIVE PRESSURE OF SPACE IN RESPECT TO SHAFT). IT IS THE DESIGNER'S INTENT THAT NO REVERSE FLOW OCCUR FROM SHAFT TO SPACE. THIS IS TO PREVENT ASBESTOS RECONTAMINATION OF PREVIOUSLY ABATED FLOORS.

EAST

FOURTH FLOOR MECHANICAL PLAN

SCALE: 1/8" = 1'

KEYED NOTES

1. VAV REHEAT BOXES. SEE SCHEDULES FOR SIZE AND CAPACITIES. CONNECT TO HIGH PRESSURE DUCTWORK WITH NO MORE THAN 3'-0" OF M.P. FLEX DUCTING. TYPICAL BOXES LOCATED ABOVE GYP-BOARD CEILINGS TO HAVE ACCESS DOORS AS SPECIFIED.
2. FLEXIBLE DUCTING CONNECT TO DIFFUSERS WITH NO MORE THAN 5'-0" FROM LOW PRESSURE DUCTWORK.
3. TURNING VANES, TYPICAL. LOCATE IN ALL ELBOWS OF RECTANGULAR DUCTWORK.
4. FLEXIBLE DUCTING IN CORRIDORS TO BE "METAL FLEX" TYPE, TYPICAL. (5-0" MAX. LENGTH)
5. PROVIDE EXPANSION FITTINGS IN DUCTWORK AT ALL BUILDING EXPANSION JOINTS. SEE DETAIL FOR INSTALLATION.
6. ELBOW/RED FITTING - TYPICAL. SEE DETAIL FOR PROPER INSTALLATION.
7. MANUAL DAMPER WITH LOCKING QUADRANT, TYPICAL.
8. SQUARE TO ROUND TRANSITION, TYPICAL.
9. CONICAL TEE HIGH PRESSURE FITTING, SEE DETAIL FOR INSTALLATION.
10. PROVIDE FLAT OVAL DUCTING UNDER TRUSSES ON GRIDS B & C TO ALLOW FOR LIMITED CEILING SPACE.
11. PROVIDE FIRE DAMPERS AT ALL HIGH PRESSURE DUCT PENETRATIONS TO EXTERIOR DUCT SHAFTS. SEE DETAILS FOR INSTALLATION, TYPICAL.
12. FIRE DAMPER, TYPICAL. PROVIDE AT ALL FIRE RATED WALLS AS SHOWN ON DRAWINGS.
13. CONNECT ONTO EXISTING COLD SUPPLY AIR DUCT IN SHAFT FOR NEW DUCTWORK TO TOILET ROOM.
14. LOCATED ATC COMMUNICATION PANELS IN NEW ELECTRICAL ROOMS. TYPICAL COORDINATE LOCATION WITH ELECTRICAL CONTRACTOR.
15. SUPPLY DIFFUSERS - DEFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION.
16. 24" X 24" RETURN AIR GRILLE - KRUEGER EGS-S, WITH RETURN AIR BOOT. SEE DETAIL SHEETS FOR PROPER INSTALLATION.
17. REMOVE THE EXISTING FIRE DAMPERS, AND PROVIDE NEW FIRE DAMPERS IN THE EXISTING OPENINGS. ENLARGE OPENINGS AS NECESSARY TO ACCOMMODATE NEW DAMPERS. FIRE DAMPERS TO BE INSTALLED SIMILAR TO FIRE DAMPER INSTALLATION FOR EXISTING EXHAUST DUCTWORK. SEE DETAIL SHEETS.
18. EXISTING EXHAUST RISER TO BE SEALED ACCORDING TO MECHANICAL SPECIFICATIONS.
19. CONTRACTOR TO USE OPENINGS IN TOILET ROOM CEILINGS TO PROVIDE NEW DUCTING AND REMOVE OLD DUCTING AS REQUIRED SEE ARCHITECTURAL DRAWINGS FOR EXTENT OF CEILING REMOVAL.
20. RELOCATE EXISTING COMPUTER MH. 2-17 FROM 3RD FLOOR. ROUTE PIPING UP SHAFT TO REMOTE CONDENSER ON ROOF. RE-LOCATE CONDENSER TO ABOVE SHAFT ON ROOF.
21. LINED RETURN AIR TRANSFER DUCT, WITH TURNING VANES IN ELBOWS TO TRANSFER AIR THROUGH FIRE RATED WALL.
22. LINED RETURN AIR TRANSFER DUCT, TYPICAL.
23. INSTALL MANUAL VERTICAL BLADE VOLUME DAMPER IN FRONT OF NEW FIRE DAMPER IN SHAFT WALLS (TYPICAL). DAMPER DIMENSIONS TO BE SAME AS FIRE DAMPER.
24. ROUND TO OVAL TRANSITION TO BE ECCENTRIC, FLAT ON THE BOTTOM, TYPICAL.

JOB NO.
BC:87-136

REVISIONS
⚠ 16 NOTED 5/22/89

REGISTERED PROFESSIONAL ENGINEER — No. 4037 — John B [illegible] — STATE OF UTAH

BRIXEN & CHRISTOPHER
ARCHITECTS
STRUCTURAL: E.W. ALLEN & ASSOC.
MECHANICAL: VAN BOESRUM & FRANK
ELECTRICAL: KEY ENGINEERING INC.

STATE OFFICE BUILDING
REMODEL - PHASE 1

KEY PLAN

DATE
JANUARY 1989

TITLE
FOUTH FLOOR MECHANICAL PLAN

SHEET NO.
M-4

FOURTH FLOOR MECHANICAL PLAN (REVISED)

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

NOTE

KEYED NOTE '17 AND 23 REFER TO WORK ON RAMPCHED OPENINGS TO THE RETURN/RELIEF SHAFT. THE EXISTING SMOKE BARRIERS FROM THE SPACE TO THE SHAFT WILL REMAIN INTACT. WHILE THE NEW VAV SUPPLY AIR DISTRIBUTION SYSTEM IS OPERATIONAL (I.E. POSITIVE PRESSURE OF SPACE IN RESPECT TO SHAFT). IT IS THE DESIGNER'S INTENT THAT NO REVERSE FLOW OCCUR FROM SHAFT TO SPACE. THIS IS TO PREVENT ASBESTOS RECONTAMINATION OF PREVIOUSLY SEALED PLANES.

The existing ductwork to be reused.

KEYED NOTES

(1) NEW DUCTWORK SHAFT - SEE SPECIFICATIONS FOR SHAFT CONSTRUCTION REQUIREMENTS. SEE ARCHITECTURAL DRAWINGS FOR LOCATION OF SHAFT. SEE MECHANICAL DRAWINGS FOR SIZE OF SHAFT. SEE SPECIFICATIONS FOR DUCTWORK AND INSULATION REQUIREMENTS.

(2) MECHANICAL EQUIPMENT SUPPORT TO REFERENCED ITEM ON M-300. SEE ITEM 2.7.2 FROM THE SPECIFICATIONS.

(3) TERMINAL VAV BOX - TYPICAL. LOCATE TO ALLOW ACCESS TO CONTROLLER AND ACTUATOR.

(4) FLEXIBLE DUCTWORK AS REFERENCED TO BE WITH ASHRAE TYPE, TYPICAL.

(5) MOTORIZED DAMPER/DIFFUSER ASSEMBLY TO BE PROVIDED BY ALL MECHANICAL CONTRACTOR AGENCY. SEE DETAILS FOR INSTALLATION.

(6) SPRINKLER PATTERN - TYPICAL. SEE DETAILS FOR PROPER INSTALLATION.

(7) DIFFUSER, GRILLE AND REGISTER SCHEDULE - TYPICAL.

(8) GRILLE TO MATCH ADJACENT CEILING, TYPICAL.

(9) [illegible] TYPICAL, SEE DETAILS FOR INSTALLATION.

(10) PROVIDE TYPE 'X' GYPSUM BOARD FIRE BARRIER WHERE 1 HR F/R IS REQUIRED THROUGH CEILING SPACE.

(11) PROVIDE FIRE DAMPER AT ALL DUCT PENETRATIONS OF FIRE RATED WALLS AND FLOORS. SEE DETAILS FOR INSTALLATION, TYPICAL.

(12) FIRE DAMPER, TYPICAL. SEE SCHEDULE ON M-300. FIRE RATED WALLS AT SHAFT OR PARTITION.

(13) CONNECT NEW DUCTWORK TO EXISTING. DUCTWORK SHALL BE SEALED TO NEW AND EXISTING TO PREVENT LEAKAGE.

(14) LOCATION AND DIMENSIONS OF WALLS OR AREAS FOR ELECTRICAL POWER, LIGHTING AND TELEPHONE OUTLETS ARE LOCATED ON ELECTRICAL DRAWINGS. COORDINATE LOCATIONS WITH ELECTRICAL CONTRACTOR.

(15) SUPPLY DIFFUSER - REFER TO SCHEDULE ON M-300.

(16) EXPOSED CEILING AREA FOR EXACT LOCATION.

(17) 24" X 24" RETURN AIR GRILLE - SHADING LEFT BLANK, WITH DAMPER AND DUCT, SEE DETAILS FOR PROPER INSTALLATION.

(18) REMOVE THE EXISTING VAV, TERMINAL AND PIPING AND FAN FOR REUSE. PLUG ALL OPENINGS. BALANCE SYSTEM AS REQUIRED TO ACCOMMODATE NEW EQUIPMENT. FIRE DAMPERS TO BE INSTALLED WHERE A FIRE & SMOKE INSTALLATION FOR EXISTING CONDUIT OCCURRED. SEE DETAIL SHEETS.

(19) EXISTING EXHAUST AIRFLOWS TO BE BALANCED ACCORDING TO MECHANICAL SPECIFICATIONS.

(20) CONTRACTOR TO ADD GRILLES AT TOILET ROOM CEILINGS TO PROVIDE NEW RETURN AIR AMOUNT. OLD GRILLES AS REQUIRED. SEE ARCHITECTURAL DRAWINGS FOR EXTENT OF CEILING REMOVAL.

(21) RELOCATE EXISTING COMPUTER ROOM UNIT FROM 5TH FLOOR. ROUTE PIPING AS SHOWN TO REMOTE CONDENSER ON ROOF. BALANCE CONDENSER TO ABOVE SHAFT OF ROOF.

(22) LINED RETURN AIR TRANSFER DUCT, WITH TURNING VANES IN ELBOWS TO TRANSFER AIR THROUGH FIRE RATED WALL.

(23) LINED RETURN AIR TRANSFER DUCT, TYPICAL.

(24) INSTALL RAMPED VERTICAL BLADE VOLUME DAMPER IN FRONT OF RELIEVING OPENINGS AT SHAFT WALLS (TYPICAL). DAMPER DIRECTIONS TO BE SAME AS FIRE DAMPERS.

(25) ROUND TO OVAL TRANSITION TO BE ECCENTRIC, FLAT ON THE BOTTOM, TYPICAL.

JOB NO. 8C-81

STATE OFFICE BUILDING REMODEL - PHASE I

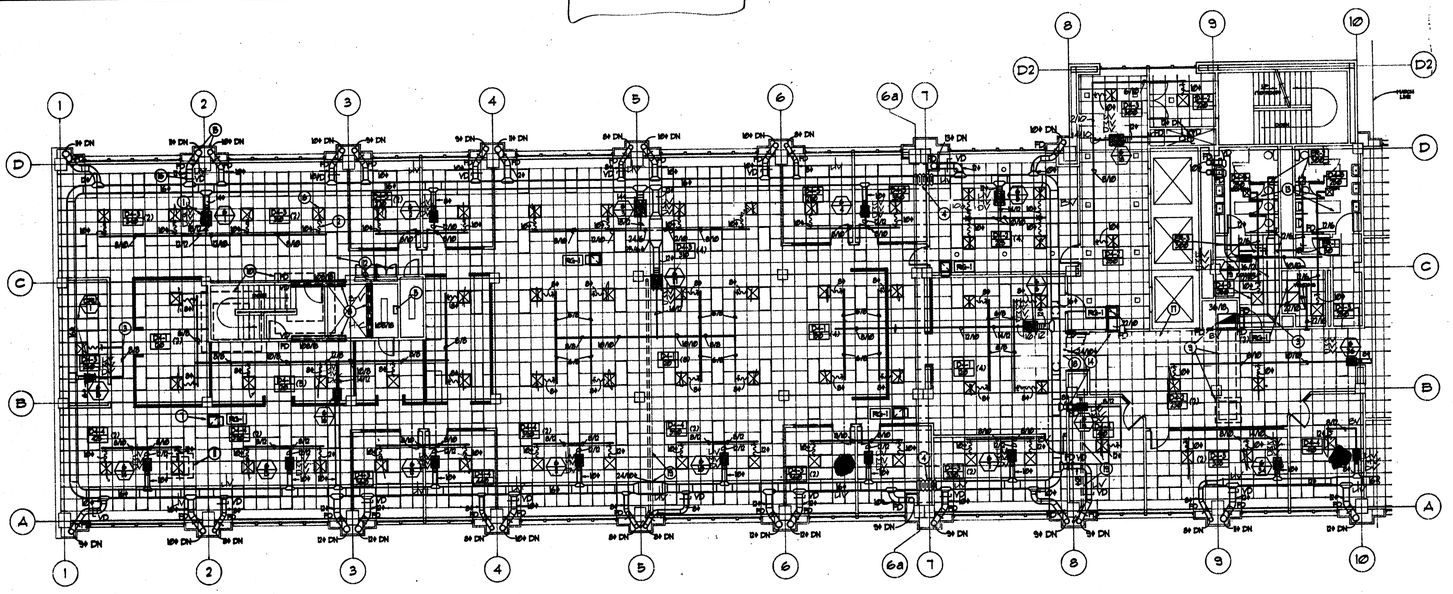
DRAWN BY: KEN ARCHITECTS

DATE

DATE

DATE

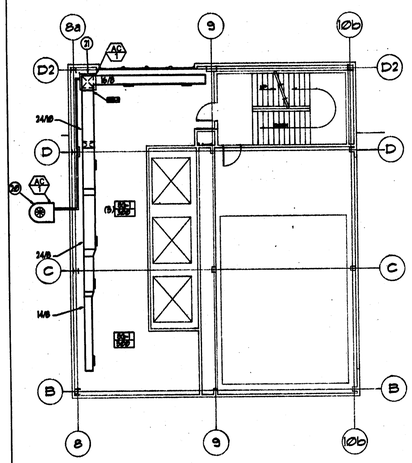
37 VAV Boxes — 6th Floor



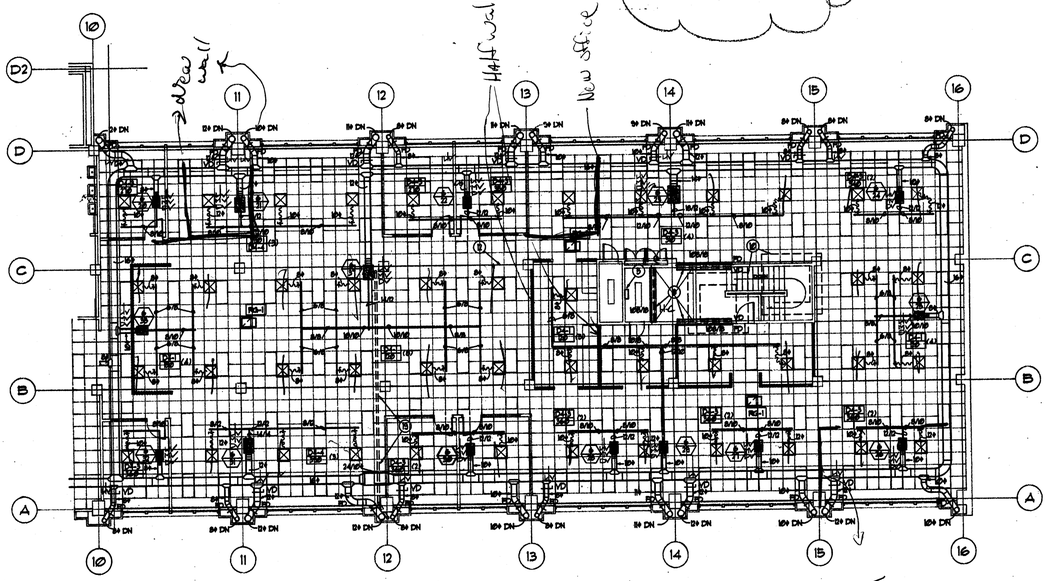
WEST AREA SIXTH FLOOR MECHANICAL PLAN
SCALE 1/8"=1'-0"

SV = SERVICE VALVES
LV = UNIT VALVES
HV = HANDLE VENT
DV = DRAIN VALVE
BV = BLEEDER VALVE
H-C = HOT/COLD

MR-VAV-AX Controler



SEVEVNTH FLOOR MECHANICAL PLAN
SCALE 1/8"=1'-0"



EAST AREA SIXTH FLOOR MECHANICAL PLAN
SCALE 1/8"=1'-0"

KEYED NOTES

1. VAV REHEAT BOXES. SEE SCHEDULES FOR SIZE AND CAPACITIES. CONNECT TO HIGH PRESSURE DUCTWORK WITH NO MORE THAN 3' OF HIGH PRESSURE FLEX DUCT.
2. FLEXIBLE DUCT CONNECTION TO DIFFUSERS WITH SPIN-IN AND NO MORE THAN 5'-6" OF FLEX DUCT.
3. TURNING VANES LOCATED IN ALL ELBOWS OF RECTANGULAR DUCTWORK. TYPICAL.
4. PROVIDE EXPANSION FITTINGS IN DUCTWORK AT ALL BUILDING EXPANSION JOINTS. SEE DETAILS.
5. NEW ATC COMMUNICATION PANEL. LOCATE SO CLEARANCE AROUND ELECTRICAL EQUIPMENT IS NOT AFFECTED. COORDINATE WITH ELECTRICAL CONTRACTOR.
6. SUPPLY DIFFUSER WITH SUPPLY SOUND BOOT. SEE DETAILS. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION. TYPICAL FOR ALL SUPPLY DIFFUSERS.
7. RETURN AIR GRILLE WITH SOUND BOOT. SEE DETAILS. TYPICAL FOR ALL RETURN AIR GRILLES.
8. REMOVE THE EXISTING FIRE DAMPERS AND PROVIDE NEW FIRE DAMPERS. MODIFY EXISTING OPENINGS ON NORTH & SOUTH AS REQUIRED FOR NEW DAMPER INSTALLATION. INSTALL THIRD NEW DAMPER ON NEW WALL AS SHOWN. INSTALL MANUAL VERTICAL BLADE VOLUME DAMPERS IN BACK OF FIRE DAMPERS ON SHAFT WALLS. PROVIDE LOCKING QUADRANT FOR DAMPERS.
9. EXISTING TOILET EXHAUST RISER, DUCTWORK, AND EXHAUST FAN TO REMAIN. TIE IN NEW EXHAUST DUCTWORK INTO RISER WITH FIRE DAMPER AT THE SHAFT PENETRATION. RE-BALANCE EXHAUST FAN. EXISTING RELIEF FANS FROM PREVIOUS PROJECT TO REMAIN.
10. EXISTING RELIEF HOOD SEALED SHUT FROM PREVIOUS PROJECT TO REMAIN. CHECK FOR PROPER SEAL. REPAIR SEAL AS NECESSARY. PROVIDE A MINIMUM R-5 FIBERGLASS INSULATION ON BOTTOM SIDE OF DAMPER. SECURE IN PLACE WITH A SHEET METAL PANEL. TYPICAL OF 18.
11. DUE TO CEILING SPACE CONSTRAINTS, COORDINATE DUCTWORK CAREFULLY WITH EXISTING MECHANICAL & STRUCTURAL EQUIPMENT AND NEW PIPING. TYPICAL OF ALL THIS FLOOR.
12. COORDINATE CAREFULLY WITH EXISTING COOLING TOWER PIPING IN THIS AREA.
13. FIRE DAMPER. TYPICAL. PROVIDE AT ALL FIRE RATED WALLS. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF FIRE RATED WALLS.
14. EXISTING HOT AIR & COLD AIR HIGH PRESSURE DUCT RISERS. CONNECT NEW DUCTWORK TO EXISTING RISERS. MAJORITY OF EXISTING DUCT HAS BEEN REMOVED BACK TO FLOOR LEVEL. SOME EXISTING DUCT MAY BE STUBBED AND CAPPED IN THE SPACE AND WILL NEED TO BE MODIFIED FOR INSTALLATION OF NEW DUCTWORK. PROVIDE A NEW FIRE DAMPER AT ALL WALL PENETRATIONS. SEE DETAILS FOR INSTALLATION. FIELD VERIFY EXISTING CONDITIONS. TYPICAL.
15. AIR CONTROL DAMPER SIMILAR TO AIR BALANCE MODEL AC 836 IN HOT AIR HIGH PRESSURE DUCTS. SHUT TIGHT FOR FUTURE OPENING. PRESENTLY THE HOT AIR DUCTS STILL SERVE A DUAL DUCT SYSTEM ON THE FIFTH FLOOR AND BASEMENT. THESE DUCTS WILL BE CHANGED OVER TO COLD AIR DUCTS IN PHASE IV, AT WHICH TIME THE DAMPERS WILL BE OPENED TO FULL OPEN POSITION. TYPICAL OF ALL CONNECTIONS TO HOT HIGH PRESSURE SUPPLY RISERS.
16. EXISTING 39" X 16" EXHAUST DUCT SERVING BASEMENT PRINT ROOM, TO REMAIN RECONNECT OR DISCONNECT POWER SOURCE TO EXHAUST FAN AS DIRECTED BY FACILITIES MANAGER. ADD FIRE DAMPERS AS SHOWN.
17. RAISE DUCTWORK OVER EXHAUST DUCT INTO BEAM SPACE. TRANSITION TO OVAL.
18. EXISTING ROOF DRAIN LINE. TRANSITION DUCTWORK AS SHOWN AND RUN ABOVE DRAIN LINE. RELOCATE DRAIN LINE IF NECESSARY. REINSULATE ALL ROOF DRAIN LINES. TYPICAL.
20. NEW OUTDOOR CONDENSING UNIT ON ROOF TO BE MOUNTED ON REDWOOD RAILS.
21. NEW 5 TON AIR HANDLING UNIT MOUNTED IN A VERTICAL POSITION.

BRIXEN & CHRISTOPHER ARCHITECTS
STRUCTURAL: E.W. ALLEN & ASSOC.
MECHANICAL: VAN BOERUM & FRANK
ELECTRICAL: KEY ENGINEERING INC.

JOB NO. FS:91-009

REVISIONS
RECORD DRAWING DECEMBER 1992

STATE OFFICE BUILDING REMODEL - PHASE 3 SIXTH FLOOR

KEY PLAN

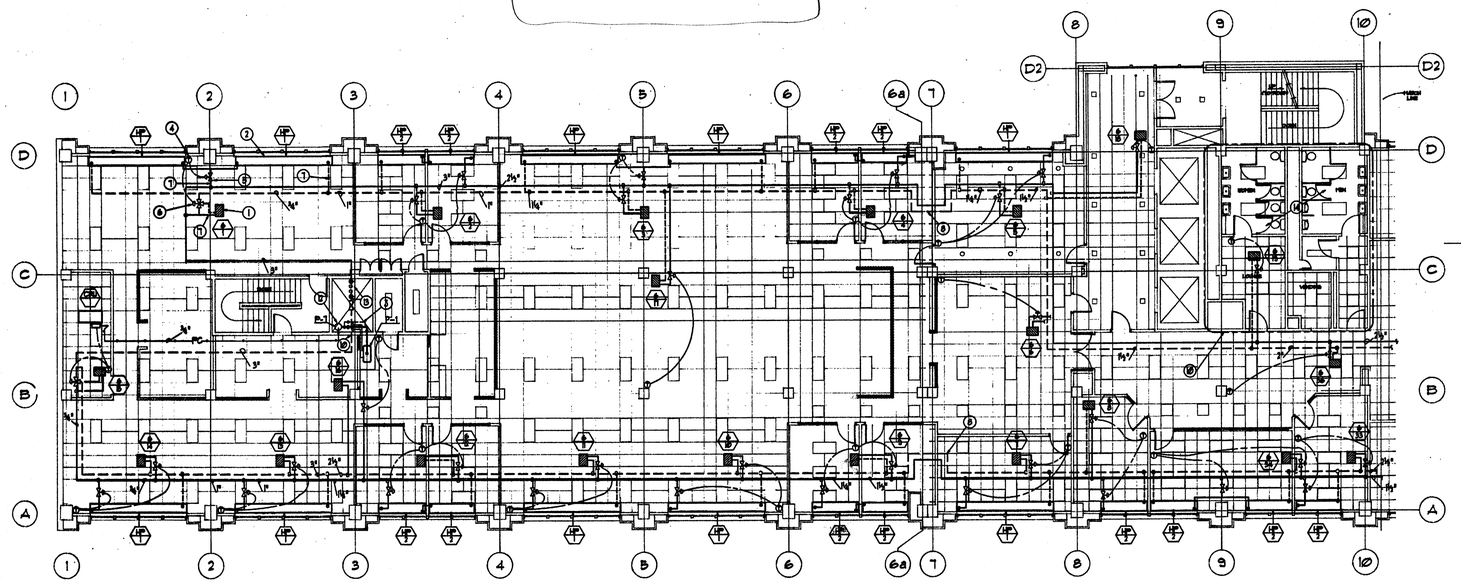
DATE
NOV. 1991

TITLE
MECHANICAL FLOOR PLAN

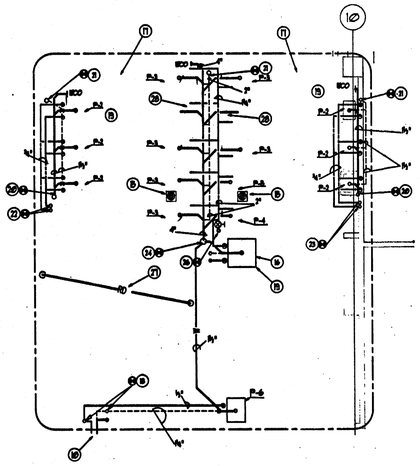
SHEET NO.
M-1

State Office Building; Phase Three, 6th Floor Remodel - FS:91-009
Sixth Floor Mechanical Floor Plan - 3025
0000059961

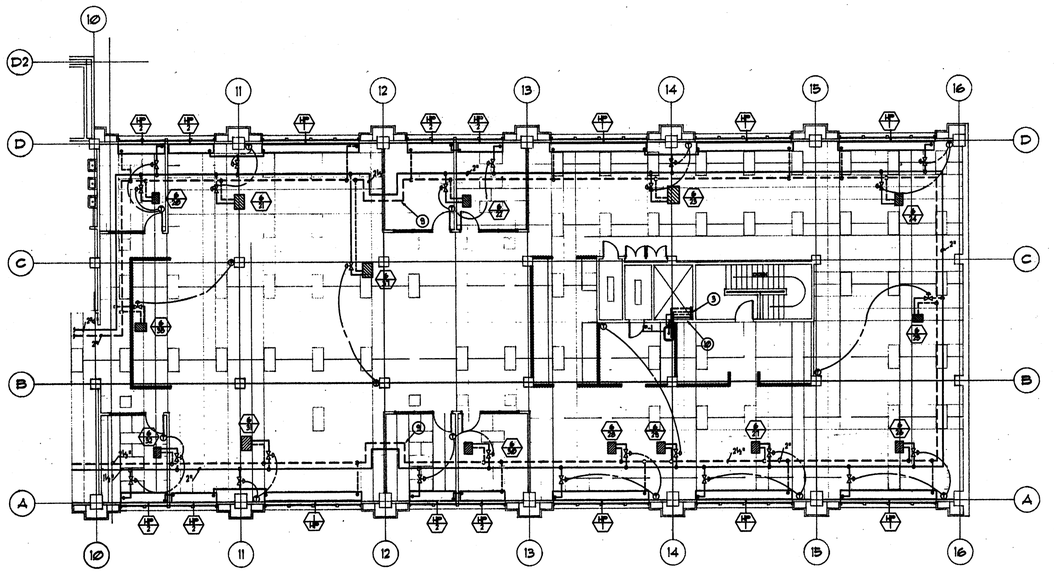
37 VAV Boxes – 6th Floor



WEST AREA SIXTH FLOOR MECHANICAL PIPING PLAN
SCALE 1/8"=1'-0"



SIXTH FLOOR TOILET ROOMS PLUMBING PLAN
SCALE 1/4"=1'-0"



EAST AREA SIXTH FLOOR MECHANICAL PIPING PLAN
SCALE 1/8"=1'-0"

KEYED NOTES

1. VAV REHEAT BOX WITH 2 OR 3 WAY AUTOMATIC ATC CONTROL VALVE AS SHOWN. SEE DETAIL FOR REQUIRED VALVING OF COILS. SEE BOX SCHEDULE FOR GPM'S REQUIRED. TYPICAL.
2. EXTRUDED ALUMINUM RADIANT HEATING PANELS. INSTALL AS PER REQUIRED BY MANUFACTURER AND AS SHOWN IN DETAILS. SEE PANEL SCHEDULE FOR SIZE AND GPM REQUIRED. TYPICAL.
3. RUN WASTE, VENT W&I AND CW LINES FROM EXISTING LINES IN SHAFT, UNDER COUNTER TO SINK. REFER TO PLUMBING FIXTURE SCHEDULE FOR LINE SIZES REQUIRED.
4. ROOM THERMOSTAT TO CONTROL VAV BOX AND RADIANT PANELS. MOUNT THERMOSTAT ON WALL AT HEIGHT SPECIFIED BY ARCHITECT. PROVIDE 12" X 12" X 3" DEEP RIGID INSULATION BEHIND THERMOSTATS LOCATED ON EXTERIOR WALLS. TYPICAL.
5. 2-WAY ATC VALVE WITH OPERATOR MOUNTED IN VERTICAL POSITION, TYPICAL.
6. 3-WAY ATC VALVE WITH OPERATOR MOUNTED IN VERTICAL POSITION, TYPICAL.
7. 3/4" BRANCH TAKE-OFF TO RADIANT PANEL OR VAV BOXES. TYPICAL.
8. PROVIDE EXPANSION LOOPS WHERE PIPES CROSS BUILDING EXPANSION JOINTS.
9. PROVIDE EXPANSION LOOP FOR THERMAL EXPANSION OF PIPING.
10. WHERE DRINKING FOUNTAINS HAVE BEEN REMOVED, CAP ALL EXISTING PLUMBING LINES AT WALL.
11. CONDENSATE PUMP FURNISHED WITH COMPUTER ROOM UNIT. RUN PUMPED CONDENSATE TO INDIRECT WASTE RECEPTOR.
12. NEW INDIRECT WASTE RECEPTOR TIED INTO EXISTING WASTE AND VENT STACKS.
13. TIE NEW HW & HWR LINES INTO EXISTING RISERS. INCLUDE A VENTURI TYPE FLOW METER IN THE RETURN LINE.
14. SEE 1/4 SCALE PLUMBING PLAN THIS SHEET.
15. EXISTING FLOOR DRAIN TO BE RE-USED. REFURBISH, CLEAN, & ROUTE CUT AND PROVIDE NEW COVER.
16. SERVICE SINK SHALL REMAIN IN SERVICE DURING CONSTRUCTION. REFINISH AS NECESSARY FOR FINAL INSPECTION.
17. NOTE: CEILING IN FLOOR BELOW MAY CONTAIN ASBESTOS. AVOID WORKING IN AREA. IF REQUIRED, MUST USE TRAINED & CERTIFIED PERSONNEL AND NOTIFY ENGINEER AND ARCHITECT BEFORE PROCEEDING.
18. CONNECT NEW CW, VENT AND WASTE SERVICING DRINKING FOUNTAIN TO EXISTING RISERS IN SHAFT.
19. ALL PIPING AND FIXTURES ARE TO BE REMOVED EXCEPT FOR THE MAIN RISERS, THE SERVICE SINK AND ITS ASSOCIATED PIPING. PROVIDE A DEDUCT TO BID PRICE FOR RE-USE OF EXISTING PIPING.
20. CONNECT NEW WASTE LINE TO EXISTING 1 1/2" WASTE STACK.
21. CONNECT NEW VENT LINE TO EXISTING 1 1/2" VENT STACK.
22. CONNECT NEW HOT AND COLD WATER LINE TO EXISTING WATER SUPPLY RISERS. PROVIDE NEW ACCESSIBLE SHUT-OFF VALVES.
23. CONNECT NEW HOT AND COLD WATER LINE TO EXISTING RISERS. PROVIDE NEW ACCESSIBLE SHUT-OFF VALVES.
24. CONNECT NEW WASTE LINE TO EXISTING 4" WASTE STACK.
25. CONNECT NEW VENT LINE TO EXISTING 4" VENT STACK.
26. COLD WATER RISER. PROVIDE A SHUT-OFF VALVE FOR NEW LINE. REFURBISH EXISTING WATER METER SERVING COOLING TOWER.
27. EXISTING PVC ROOF DRAIN LINE TO BE REPLACED WITH NEW 4" GALVANIZED STEEL LINE.
28. CAPP EXISTING LINES BEHIND WALL AND REMOVE CARRIER BOLTS TO ALLOW FOR FINISHED WALL.
29. GENERAL NOTE: WORK NOT ON SIXTH FLOOR SHALL INCLUDE THE REMOVAL OF FOUR WATER CLOSETS ON THE FIRST, SECOND, AND FOURTH FLOORS AND CAPPING THEIR LINES BEHIND THE WALL. REUSE FIXTURES IF POSSIBLE ON THE SIXTH FLOOR. SEE ARCHITECTURAL PLANS SHEET A2.0 FOR EXACT LOCATION OF WATER CLOSETS TO BE REMOVED.

State Office Building: Phase Three, 6th Floor Remodel - FS:91-009
Sixth Floor Mechanical Piping Plan - M2.0
0000004962

JOB NO.
FS:91-009

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DECEMBER 1992

BRIXEN & CHRISTOPHER ARCHITECTS
STRUCTURAL: E.W. ALLEN & ASSOC.
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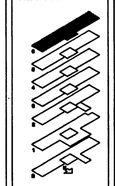
STATE OFFICE BUILDING REMODEL - PHASE 3 SIXTH FLOOR

KEY PLAN



DATE
NOV. 1991

TITLE
MECHANICAL PIPING PLAN

SHEET NO.
M-2

SEPTEMBER 9-9-91