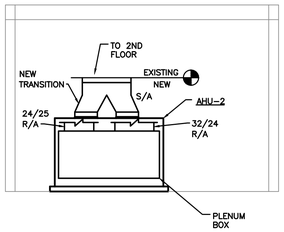
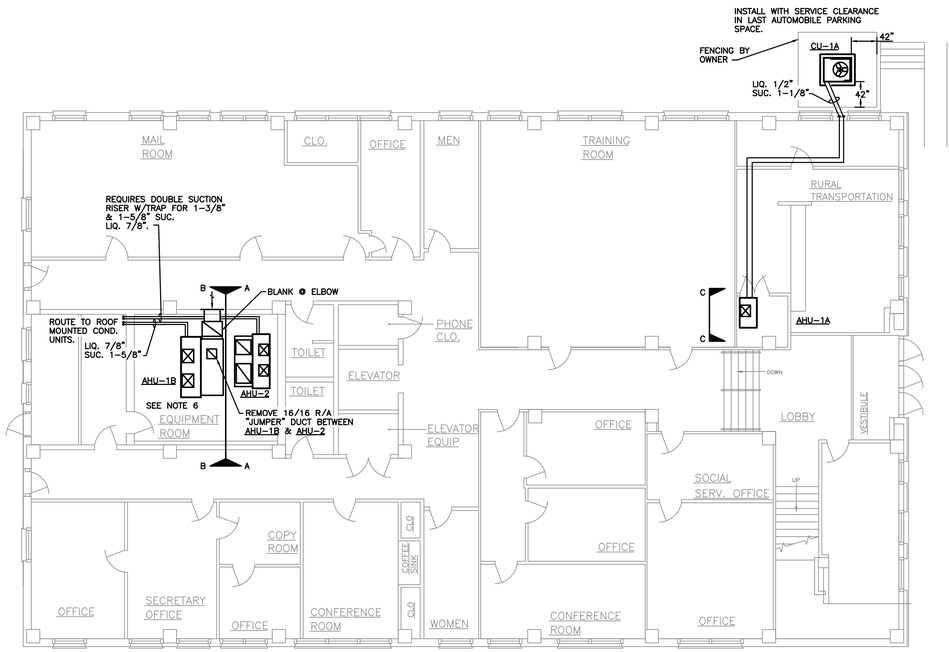
NOTES:

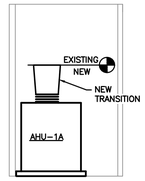
1. SEE DWG. M-5 FOR GENERAL NOTES.
2. INSTALL CONDENSING UNIT ON 6" CONCRETE PAD. SEE SPEC'S FOR REQUIREMENTS.
3. SLEEVE AND SEAL ALL MASONRY OPENINGS FOR REFRIGERANT LINE PENETRATIONS. INSULATE SUCTION LINE AND SUPPORT REFRIGERANT PIPING. SEE SPEC'S FOR REQUIREMENTS.
4. RECONNECT AIR HANDLER CONDENSATE DRAIN TO NEW AIR HANDLER.
5. INSTALL CONTROLS PER SECTION 15900 OF MECHANICAL SPEC'S.
6. CONTRACTOR TO EXTEND EXISTING AIR HANDLER EQUIPMENT PADS AS REQUIRED TO SUPPORT POSITION OF NEW AIR HANDLERS.
7. CONTRACTOR TO FIELD MEASURE, FABRICATE AND INSTALL ALL SUPPLY AND RETURN TRANSITION DUCTWORK FOR RECONNECTION TO NEW AIR HANDLERS.



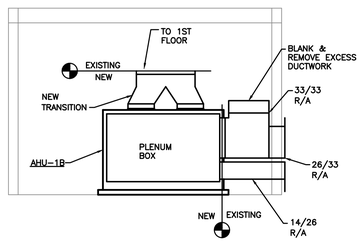
SECTION A-A
SCALE : NTS



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



SECTION CC
SCALE : NTS



SECTION B-B
SCALE : NTS

MRP
JLS

M-1

FIRST FLOOR
MECHANICAL PLAN

Xref T:\2001\01175_King Bldg HVAC\arch\TB.dwg

NOTES:

1. SEE DWG. M-5 FOR GENERAL NOTES.
2. CONDENSING UNITS TO BE MOUNTED TO EXISTING MODIFIED STRUCTURAL FRAME AFTER REMOVAL OF EXISTING CONDENSING UNIT.
3. REFRIGERANT LINES TO MECHANICAL ROOM ARE TO BE ROUTED THROUGH EXISTING REFRIGERANT PIPE OPENING AFTER REMOVAL OF EXISTING CONDENSING UNIT. SEAL OPENING WATERTIGHT.
4. INSTALL CONTROLS PER SECTION 15900 OF MECHANICAL SPEC'S.

SECOND FLOOR MECHANICAL PLAN

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

MRP
JLS

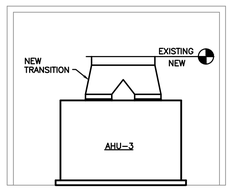
M-2

SECOND FLOOR MECHANICAL PLAN

Xref T:\2001\01175_King Bldg HVAC\arch\TB.dwg

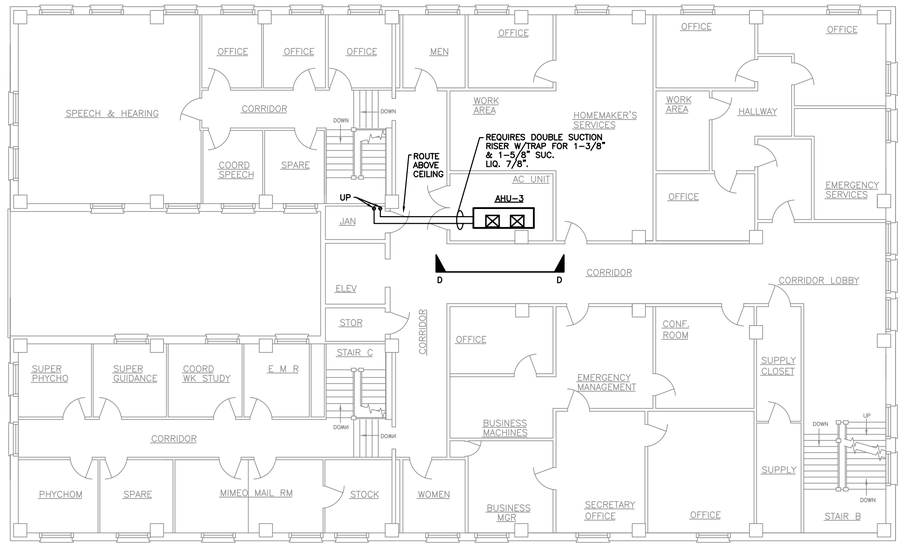
NOTES:

1. SEE DWG. M-1 FOR GENERAL NOTES.
2. SLEEVE AND SEAL ALL MASONRY OPENINGS FOR REFRIGERANT LINE PENETRATIONS. INSULATE SUCTION LINE AND SUPPORT REFRIGERANT PIPING. SEE SPEC'S FOR REQUIREMENTS.
3. RECONNECT AIR HANDLER CONDENSATE DRAINS TO NEW AIR HANDLERS.
4. INSTALL CONTROLS PER SECTION 15900 OF MECHANICAL SPEC'S.
5. CONTRACTOR TO FIELD MEASURE, FABRICATE AND INSTALL ALL AIR SUPPLY TRANSITION DUCTWORK FOR RECONNECTION TO NEW AIR HANDLER.



SECTION D-D

SCALE : NTS



THIRD FLOOR MECHANICAL PLAN

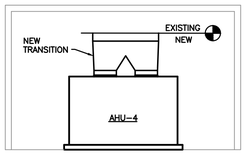
SCALE : 1/8" = 1'-0"

MRP
JLS

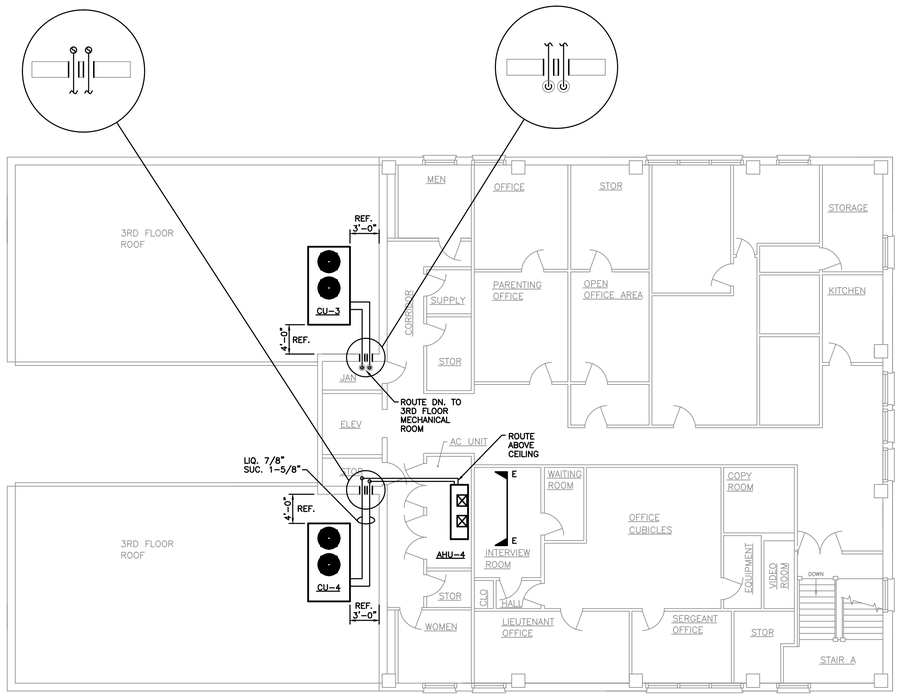
M-3

THIRD FLOOR MECHANICAL PLAN

Xref T:\2001\01175_King Bldg HVAC\arch\TB.dwg



SECTION EE
SCALE : NTS



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

NOTES:

1. SEE DWG. M-5 FOR GENERAL NOTES.
2. CONDENSING UNITS TO BE INSTALLED ON EQUIPMENT CURBS. SEE SPEC'S AND SUBMIT SHOP DWGS. FOR APPROVAL.
3. METHOD OF INSTALLATION FOR FLASHING AND SEALING ROOF CURBS TO MEMBRANE ROOF MUST BE APPROVED BY ROOFING INSTALLER/MANUFACTURER TO PROTECT WARRANTY.
4. PROTECT ROOFING WITH SHEETING DURING EQUIPMENT INSTALLATION.
5. SLEEVE AND SEAL ALL MASONRY OPENINGS FOR REFRIGERANT LINE PENETRATIONS. INSULATE SUCTION LINE AND SUPPORT REFRIGERANT PIPING. SEE SPEC'S FOR REQUIREMENTS.
6. RECONNECT AIR HANDLER CONDENSATE DRAIN TO NEW AIR HANDLER.
7. INSTALL CONTROLS PER SECTION 15900 OF MECHANICAL SPEC'S.
8. CONTRACTOR TO FIELD MEASURE, FABRICATE AND INSTALL ALL AIR SUPPLY TRANSITION DUCTWORK FOR RECONNECTION TO NEW AIR HANDLER.

ALL PENETRATIONS THROUGH MASONRY WALLS WILL BE CORE DRILLED AND SLEEVED.
(A) SLEEVES ARE REQUIRED WHERE A PIPE PASSES THROUGH A WALL OR FLOOR.
(B) SLEEVES SHALL FINISH FLUSH WITH THE WALL FINISH AND SHALL FINISH 1/4" ABOVE FINISH FLOOR.
(C) SLEEVES SHALL BE AS FOLLOWS:
1. THROUGH MASONRY WALLS – GALVANIZED STEEL PIPE.
2. THROUGH PARTITIONS AND FLOOR – 22 GAUGE GALVANIZED SHEET METAL.

MRP
JLS

M-4

FOURTH FLOOR MECHANICAL PLAN

Xref T:\2001\01175_King Bldg HVAC\arch\TB.dwg

AIR HANDLING UNIT SCHEDULE

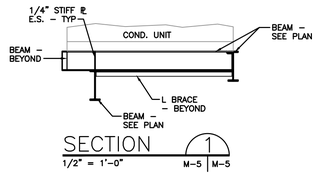
MARK	BRAND & MOD.#	FAN				COOLING				HEATING	FILTERS		ELECT.	TOTAL WEIGHT
		TOT. CFM	O.A. CFM	E.S.P.	MTR. H.P.	E.A.T. db	E.A.T. wb	CAPACITY TH	CAPACITY SH	KILOWATTS	TYPE	THK.	VOLT/PH	
AHU-1A	CARRIER 40RM008	3600	150	.6	3.0	78	63.8	82.8	78	–	TA	2	208/1	385
AHU-1B	CARRIER 40RM016	7300	480	.6	5.0	78.3	64.1	180	163.2	–	TA	2	208/3	713
AHU-2	CARRIER 40RM028	11400	690	.6	7.5	78.2	63.9	280.8	256.8	–	TA	2	208/3	1050
AHU-3	CARRIER 40RM028	11300	795	.6	7.5	78.3	64	284.4	256.8	–	TA	2	208/3	1050
AHU-4	CARRIER 40RM016	7100	255	.6	5.0	77.8	63.5	164.4	156	–	TA	2	208/3	713

1. FURNISH AIR HANDLERS WITH SPRING ISOLATORS.
2. ALL AIR HANDLERS TO BE FURNISHED WITH BELT GUARDS.
3. ANY PROPOSED AIR HANDLING UNIT SUBSTITUTION MUST BE TRANSPORTABLE INTO THE BUILDING AND FIT MECHANICAL ROOM SPACE.

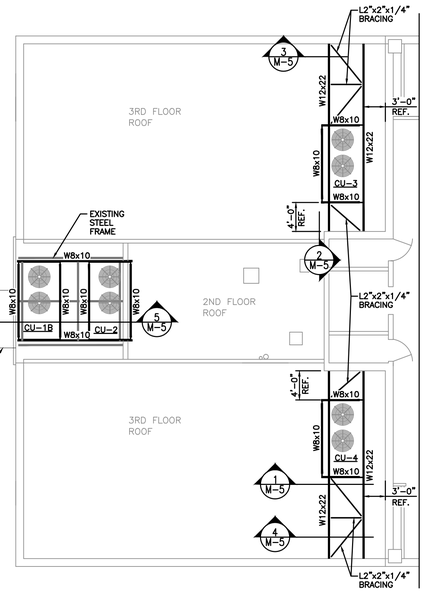
CONDENSING UNIT SCHEDULE

MARK	MANUFACTURER	MODEL #	OUT DOOR TEMP.	CONDENSER AREA	CONDENSER FAN HP	COMPRESSOR EER	COMPRESSOR kW	COMPRESSOR STEPS	ELECT. VOLTS/ø
CU-1A	CARRIER	38AK008	95	18	3/4	9.3	7.6	–	208/3
CU-1B	CARRIER	38AH024	95	39.2	1	9.3	17.2	2	208/3
CU-2	CARRIER	38AH034	95	39.2	1	9.0	26.4	3	208/3
CU-3	CARRIER	38AH034	95	39.2	1	9.0	26.4	3	208/3
CU-4	CARRIER	38AH024	95	39.2	1	9.3	17.2	2	208/3

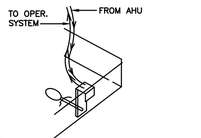
1. CONTRACTOR TO CONFIRM ANY PROPOSED CONDENSING UNIT SUBSTITUTION FOR CU-1B & CU-2 WILL FIT THE EXISTING ROOF SUPPORT FRAME AND MAINTAIN SERVICE CLEARANCE.
2. PROVIDE DOUBLE SUCTION RISER FOR CU-2 & CU-3.



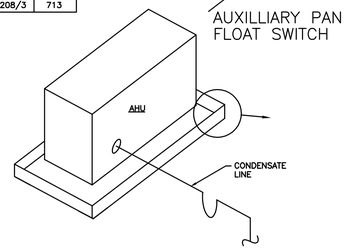
SECTION 1
1/2" = 1'-0" M-5 | M-5



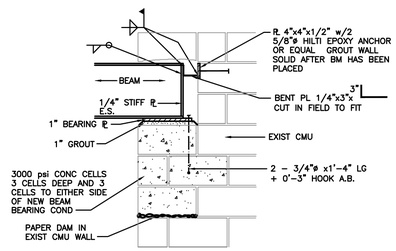
MECHANICAL FRAMING PLAN
SCALE : 1/8" = 1'-0"



AUXILLIARY PAN FLOAT SWITCH

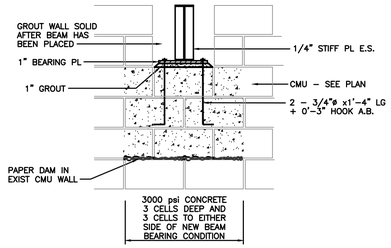


AUXILLIARY DRAIN PAN DETAIL
NO SCALE



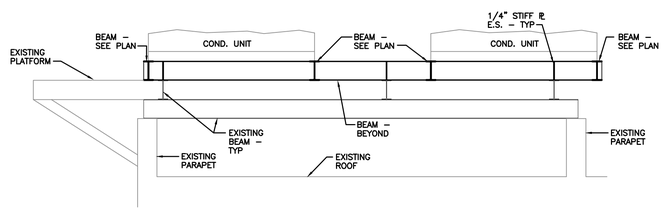
SECTION 2
3/4" = 1'-0" M-5 | M-5

NEW BEAM BEARING ON EXISTING MASONRY



SECTION 3
3/4" = 1'-0" M-5 | M-5

TYPICAL BEAM BEARING PERPENDICULAR TO EXISTING WALL



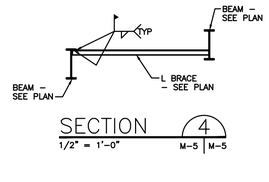
SECTION 5
1/2" = 1'-0" M-5 | M-5

GENERAL NOTES:

1. THE CONTRACTOR SHALL FURNISH ALL LABOR, INSTALL ALL MATERIALS AND EQUIPMENT AND INCLUDE SERVICES AND INCIDENTALS TO THE INSTALLATION OF WORK INVOLVED FOR A COMPLETE AND OPERATING FACILITY.
2. ALL EQUIPMENT SHALL BE PROVIDED COMPLETE WITH ELECTRICAL STARTER, PROTECTIVE DEVICES AND INTERLOCKS, ETC. REQUIRED FOR COMPLETE OPERABLE SYSTEM.
3. AHU LOCATIONS SHALL BE COORDINATED TO INSURE CLEAR ACCESS TO ALL AREAS. AHU'S SHALL BE ORIENTED IN SUCH A MANNER AS TO ALLOW FOR FULL SERVICE/MAINTENANCE.
4. ALL SUPPLY & RETURN DUCT SHALL BE CONNECTED TO HVAC UNIT WITH FLEXIBLE CANVAS CONNECTION.
5. CONTRACTOR SHALL CONFIRM ALL DUCT CLEARANCE/SPACE PRIOR TO FABRICATING ANY DUCTWORK.
6. ALL DUCTWORK DIMENSIONS SHOWN ARE NET CLEAR INSIDE DIMENSIONS.
7. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN ALL REQUIRED PERMITS, INSPECTIONS, AND PAY ALL APPLICABLE FEES.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR ASSEMBLING ANY EQUIPMENT SHIPPED IN SECTIONS, IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. ACCESS INTO BUILDING MECHANICAL ROOMS MUST BE CONFIRMED BEFORE PURCHASING EQUIPMENT COMPONENT SECTIONS.
9. ALL MECHANICAL WORK SHALL BE IN ACCORDANCE WITH STATE AND LOCAL CODES AND THE AUTHORITY HAVING JURISDICTION.
10. ADJUST AIR FLOW WITHIN 5% OF SCHEDULED VALUES. CONTRACTOR TO RECORD AIRFLOW CFM, STATIC PRESSURE AND FAN MOTOR AMPS FOLLOWING ANY REQUIRED FOR SPEED ADJUSTMENTS. SUBMIT RESULTS TO OWNERS ENGINEER.
11. PROVIDE AUXILIARY DRAIN PAN WITH LEVEL FLOAT SWITCH TO SHUTDOWN AIR HANDLERS AHU-1A, AHU-3 AND AHU-4.

HVAC LEGEND

SYMBOL	ABBR	DESCRIPTION	DOUBLE LINE DUCTWORK
T		WALL MOUNTED THERMOSTAT	00/00 RECTANGULAR SUPPLY AIR DUCT UP
H		HUMIDSTAT	00/00 RECTANGULAR SUPPLY AIR DUCT DOWN
SD		DUCT MOUNTED SMOKE DETECTOR	00/00 RECT RETURN/EXH AIR DUCT UP
M		MOTORIZED DAMPER	00/00 RECT RETURN/EXH AIR DUCT DOWN
FD		FIRE DAMPER	00ø ROUND DUCT UP
FSD		COMBINATION FIRE AND SMOKE DAMPER	00ø ROUND DUCT DOWN
		CONICAL SPIN-IN FITTING WITH DAMPER	00/00 TYPICAL BRANCH DUCT 45° TAKEOFF
		MANUAL VOLUME DAMPER W/LOCKING QUADRANT	TYPICAL RECTANGULAR DUCT ELBOW WITH TURNING VANES
		ZONE DAMPER TYPICAL	SUPPLY DIFFUSER.
		SERVICE CLEARANCE AROUND UNITS	RETURN GRILLE.
			EXHAUST GRILLE.



SECTION 4
1/2" = 1'-0" M-5 | M-5

I. STRUCTURAL GENERAL NOTES

A. THESE NOTES SHALL APPLY EXCEPT WHERE OTHERWISE INDICATED BY THE DRAWINGS OR SPECIFICATIONS.

B. WHERE A DETAIL IS SHOWN FOR ONE CONDITION, IT SHALL APPLY FOR ALL LIKE OR SIMILAR CONDITIONS EVEN THOUGH NOT SPECIFICALLY MARKED ON THE DRAWINGS.

C. IF APPLICABLE, CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND CONDITIONS OF EXISTING BUILDINGS AFFECTING NEW CONSTRUCTION, AND DISCREPANCIES ARE TO BE REPORTED IMMEDIATELY TO THE ARCHITECT/ENGINEER IN WRITING.

D. GENERAL CONTRACTOR SHALL ENSURE THAT ALL MATERIALS ARE IN COMPLIANCE WITH THE PLANS AND SPECIFICATIONS.

E. DIMENSIONS AT FRAMED OPENINGS TO BE VERIFIED WITH APPLICABLE SUB-CONTRACTOR BEFORE FABRICATION OF STEEL. IF ANY DISCREPANCIES ARE FOUND, THE ARCHITECT/ENGINEER IS TO BE IMMEDIATELY NOTIFIED IN WRITING.

F. THE CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO ORDERING MATERIAL. DISCREPANCIES BETWEEN FIELD MEASURMENTS OF THE EXISTING CONDITIONS AND THE DIMENSIONS INDICATED ON THE CONTRACT DOCUMENTS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER.

G. SUBMIT SHOP DRAWINGS OF ALL FABRICATED MATERIALS FOR REVIEW. CONTRACT DOCUMENTS REPRODUCED FOR USE AS SHOP DRAWINGS WILL BE RETURNED UNREVIEWED AND UNSTAMPED. SHOP DRAWINGS WILL NOT BE REVIEWED UNLESS THEY ARE STAMPED "APPROVED" OR "APPROVED AS NOTED" BY THE GENERAL CONTRACTOR.

II. STRUCTRURAL STEEL & BAR JOIST:

A. STRUCTURAL STEEL SHALL CONFORM TO A.S.T.M. A-36 AND ALL TUBE STEEL SHALL CONFORM TO ASTM A-500 GRADE B, UNLESS NOTED. CONTRACTOR SHALL CONFIRM FINISH GRADES, DEPTHS OF FOOTINGS AND COLUMN LENGTHS PRIOR TO STRUCTURAL STEEL FABRICATION.

B. WIRE BRUSH EXISTING STEEL FRAME CLEAN OF RUST AND PAINT.

C. PAINT NEW STEEL FRAME ON 2nd FLOOR ROOF. GALVANIZE STEEL NEW STEEL FRAMES ON 3rd FLOOR ROOF.

III. STRUCTURAL FASTENERS:

A. ALL POWDER ACTUATED FASTENERS (P.A.F.) TO BE .145" SHANK DIAMETER x 1 1/4" LONG HILTI X-DNI 32 PB.

B. ALL EXPANSION ANCHORS TO BE HILTI KWIK BOLT II
- 5/8"ø – MIN. EMBED = 4"
- 3/4"ø – MIN. EMBED = 4 3/4"
- 1"ø – MIN. EMBED = 6"

C. ALL SLEEVE ANCHORS TO BE HILTI CARBON STEEL SLEEVE ANCHORS.
- 1/2"ø – MIN. EMBED = 1 1/2"

D. ALL EPOXY ANCHORS TO BE HILTI HIT HY150 ADHESIVE ANCHORS.
- 5/8"ø – MIN. EMBED = 5"
- 3/4"ø – MIN. EMBED = 6 5/8"
- 7/8"ø – MIN. EMBED = 7 1/2"
- 1"ø – MIN. EMBED = 8 1/4"

E. ALL FASTENERS ARE SIZED PER HILTI SPECIFICATIONS. ALL FASTENERS MAY BE SUBSTITUTED BY AN EQUIVALENT THAT MUST BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

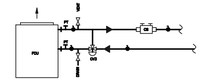
MRP/LHP
CNA/JBH

M-5

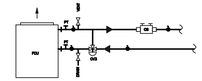
SCHEDULES AND DETAILS PLAN

Xref T:\2001\01175_King Bldg HVAC\arch\TB.dwg

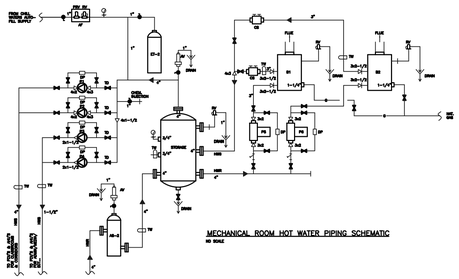
NOTES:
1. PROVIDE VENTS AT HIGH POINTS AND DRAINS AT LOW POINTS.
2. PROVIDE ISOLATION VALVES AT EQUIPMENT AND AT RISERS FOR MAINTENANCE.
3. PROVIDE UNIONS AT EQUIPMENT FOR EASY REMOVAL.
4. PIPING SHOWN IS DIAGRAMMATIC AND NOT FULL SIZE.



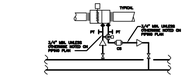
TYPICAL FCU HOOK-UP DETAIL HOT WATER SIDE
NO SCALE



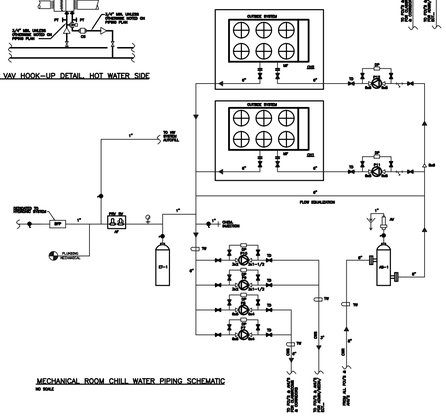
TYPICAL FCU HOOK-UP DETAIL CHILL WATER SIDE
NO SCALE



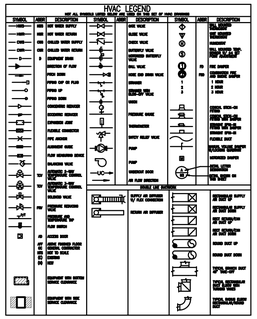
MECHANICAL ROOM HOT WATER PIPING SCHEMATIC
NO SCALE



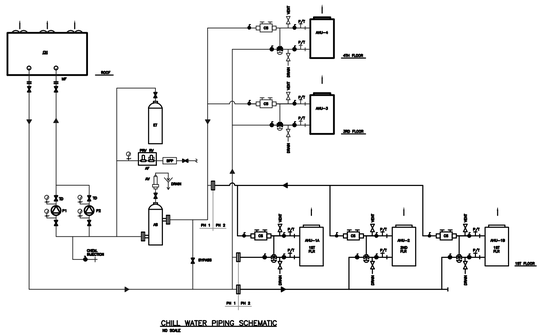
TYPICAL VAV HOOK-UP DETAIL HOT WATER SIDE
NO SCALE



MECHANICAL ROOM CHILL WATER PIPING SCHEMATIC
NO SCALE

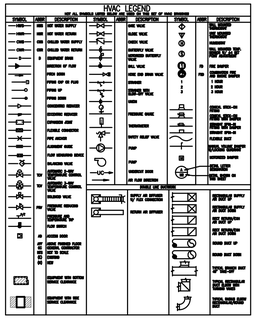


HVAC LEGEND



CHILL WATER PIPING SCHEMATIC
NO SCALE

NOTES:
1. PROVIDE VENTS AT HIGH POINTS AND DRAINS AT LOW POINTS.
2. PIPING SHOWN NOT DRAWN TO ANY SCALE, ABOVE GRADE CHILLED PIPING.



HVAC LEGEND

M-4

M6