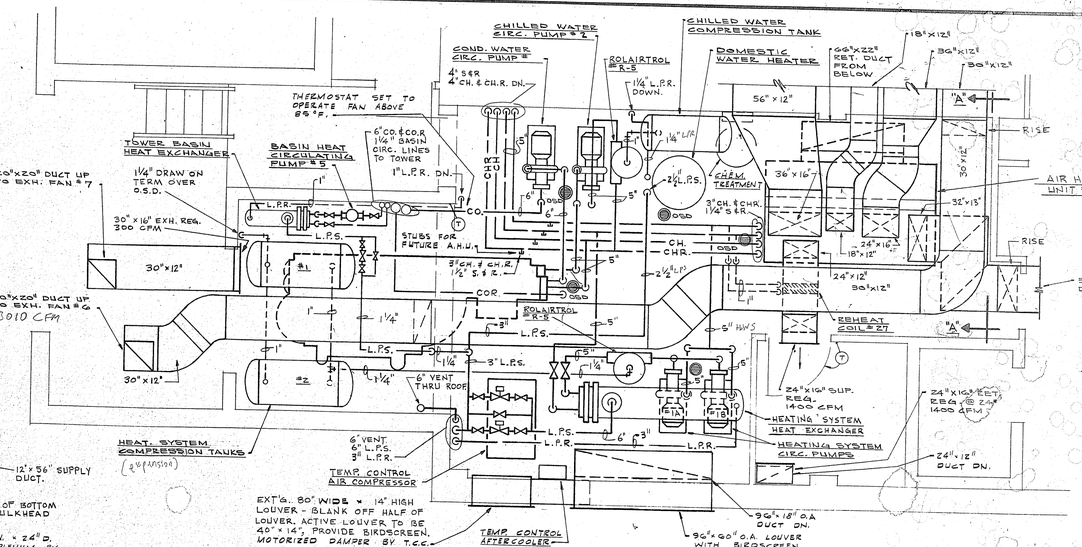
SEQUENCE OF OPERATION

1. CHILLED WATER PUMP #2 STARTS AUTOMATICALLY ABOVE 55°F AND BELOW 40°F OUTDOOR AIR TEMPERATURE THRU A P.E. SWITCH.
2. CONDENSER WATER PUMP #3 STARTS AUTOMATICALLY THRU AUXILIARY CONTACTS ON CHILLED WATER PUMP #2 PROVIDED FLOW IS ESTABLISHED IN CHILLED WATER LINE. (BELOW 40°F OUTDOOR AIR CONDENSER WATER PUMP #3 IS LOCKED OUT.)
3. CHILLER CONTROL CIRCUIT ACTIVATED THRU FLOW SWITCH IN CONDENSER WATER LINE WHEN ALL SAFETY CIRCUITS ARE PROVEN. CHILLER IS CONTROLLED BY THERMOSTAT IN CHILLED WATER DISCHARGE.
4. COOLING TOWER FAN IS OPERATIVE FROM AUXILIARY CONTACTS ON CONDENSER WATER PUMP #3. WHEN THERMOSTAT IN LEAVING TOWER WATER SENSES 75°, CONDENSER WATER BY-PASS VALVE CLOSES. WHEN CONDENSER WATER REACHES 80°F, COOLING TOWER FAN STARTS ON LOW SPEED. WHEN WATER REACHES 85°F, FAN GOES TO HIGH SPEED.
5. COOLING TOWER BASIN PUMP #5 STARTS FROM ELECTRIC THERMOSTAT IN SUMP SET AT 40°F THRU P.E. SWITCH. STEAM VALVE IS OPENED WIDE AND TOWER SPRAY HEADER BYPASS VALVE FULLY OPENS WHEN PUMP #5 RUNS.
6. ALL COOLING COILS 3-WAY VALVES FULLY OPEN TO COIL BELOW 40°F OUTDOOR AIR TEMPERATURE.
7. HEATING SYSTEM WATER PUMPS #1-A & #1-B TO BE STARTED MANUALLY. ONE PUMP TO RUN CONTINOUSLY. ONE PUMP TO BE STAND-BY. PUMPS TO BE ELECTRICALLY INTERLOCKED TO PREVENT BOTH PUMPS FROM RUNNING AT THE SAME TIME.

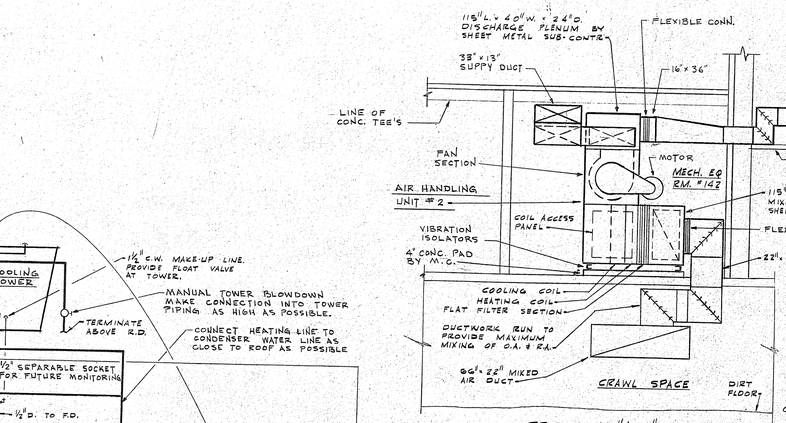
EQUIPMENT SCHEDULE

1. HEATING SYSTEM HEAT EXCHANGER
   BELL & GOSSETT SU209-4, OR AN APPROVED EQUAL, TO HEAT 325 GPM FROM 185°F. TO 210°F. USING 5 PSIG STEAM. MINIMUM HEATING SURFACE 542 SQ. FT. PROVIDE CRADLE SUPPORTS & ANGLE IRON FRAME TO SUPPORT UNIT.
2. COOLING TOWER HEAT EXCHANGER
   BELL & GOSSETT SU482-4, OR AN APPROVED EQUAL, TO HEAT 10 GPM FROM 40°F. TO 60°F. USING 5 PSIG STEAM. MINIMUM HEATING SURFACE 2.5 SQ. FT. PROVIDE CRADLE SUPPORTS & ANGLE IRON FRAME TO SUPPORT UNIT.
3. HEATING SYSTEM EXPANSION TANKS (2 REQ'D)
   30" DIA. x 6' LONG, 800 GAL. CAP., ASME CONSTRUCTION 30 LBS. W.P. PROVIDE REQ'D. SUPPORTS.
4. CHILLED WATER SYSTEM EXPANSION TANK
   24" DIA. x 5' LONG, 105 GAL. CAP., ASME CONSTRUCTION 30 LBS. W.P. PROVIDE REQ'D. SUPPORTS.
5. VACUUM PUMP
   DOMESTIC 25VCD4, OR AN APPROVED EQUAL. EACH PUMP SHALL BE CAPABLE OF DRAINING 20,000 SQ. FT. ERR MAINTAINING 10" OF VACUUM WITH 30 PSI DISCHARGE PRESSURE. CAPACITY: 20 GPM @ 9 GPM. WATER & AIR PUMP HORSEPOWER ARE 1 HP, 460 VOLT, 3 PHASE.



MECHANICAL EQUIPMENT ROOM # ~~142~~ 197

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



SECTION "A-A"

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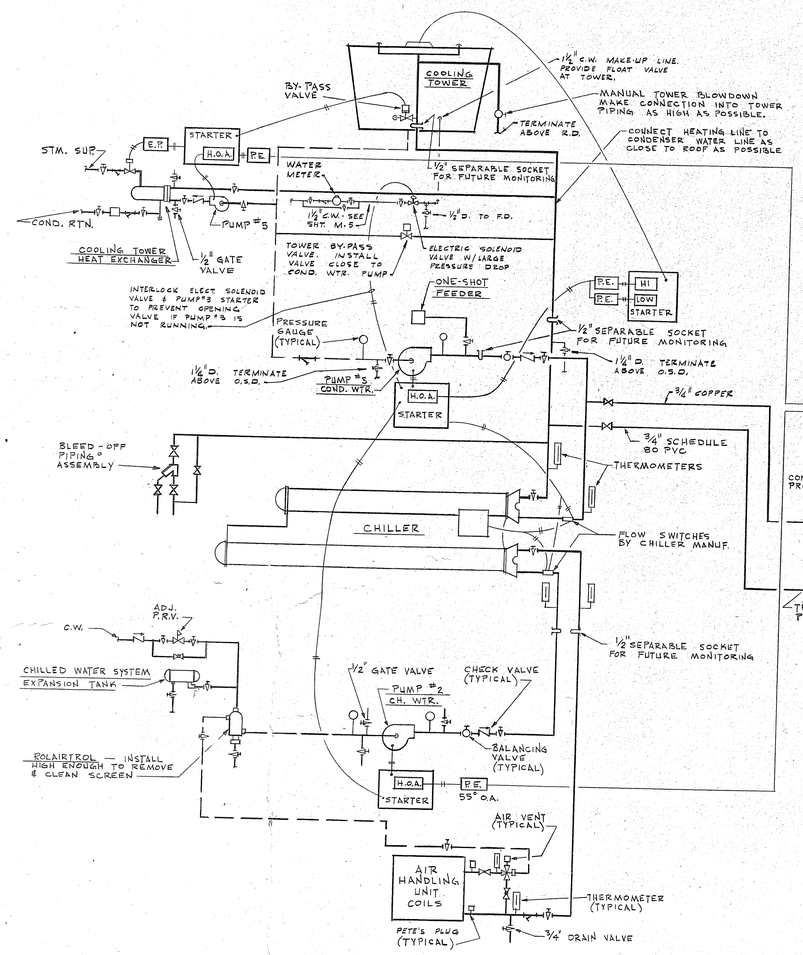
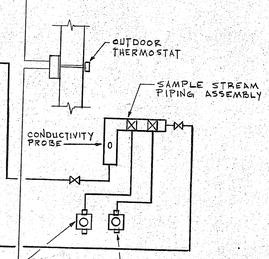
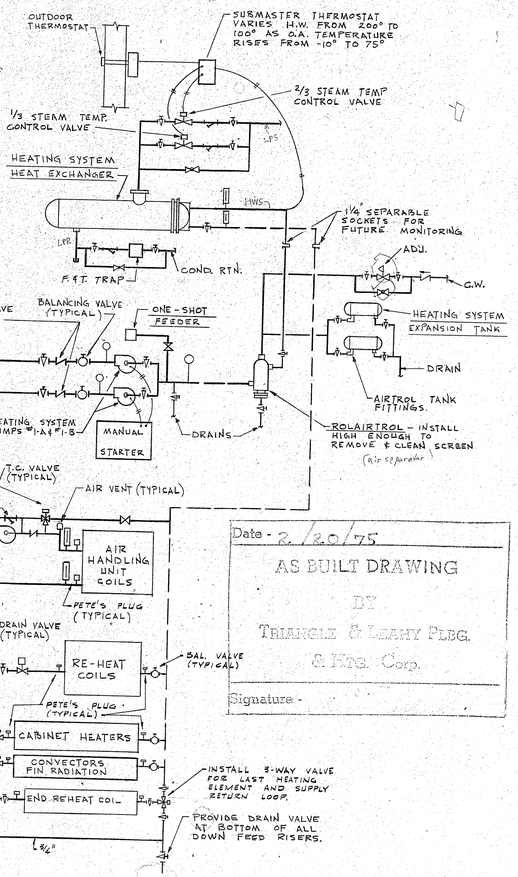


CONDENSER & CHILLED WATER PIPING DIAGRAM

NO SCALE





HEATING SYSTEM PIPING DIAGRAM

NO SCALE

Date - 2/20/75

AS BUILT DRAWING

BY

TRIANGLE & LEAHY PLBG. & HTG. CORP.

Signature -

REHEAT COIL SCHEDULE

NO.	AREA SERVED	TOTAL LOAD B.T.U.	C.F.M. STANDARD AIR	WATER MAXIMUM G.P.M.	WATER MAXIMUM PRESSURE DROP (FT)	MINIMUM NUMBER OF ROWS	FIN SERIES	SIZE WIDTH	SIZE HEIGHT	SEE NOTE
1.	101 & 102	17,500	460	1.7	2.0	1	16	15"	6"	
2.	110 & 105	20,900	550	2.0	2.0	1	16	15"	9"	
3.	110, 106 & 107	28,500	750	2.8	2.0	1	16	18"	9"	
4.	165	6,100	160	.6	2.0	1	16	9"	6"	
5.	108	30,400	800	3.0	2.0	1	16	18"	9"	
6.	100	26,600	700	2.6	2.0	1	16	18"	9"	
7.	111	13,300	350	1.3	2.0	1	16	12"	6"	
8.	111	13,300	350	1.3	2.0	1	16	12"	6"	
9.	113	38,000	1000	3.8	2.0	1	16	18"	12"	
10.	112	76,000	2020	7.6	2.0	1	16	24"	12"	
11.	114	22,800	600	2.2	2.0	1	16	15	9"	
12.	118	76,000	2000	7.6	2.0	1	16	24"	12"	
13.	203	38,000	1000	3.8	2.0	1	16	18"	12"	
14.	126	20,500	540	2.0	2.0	1	16	15"	9"	
15.	125	83,500	2200	8.3	2.0	1	16	24"	12"	
16.	136	6,100	160	.6	2.0	1	16	9"	6"	
17.	135	18,200	480	1.8	2.0	1	16	15"	6"	
18.	134	9,100	240	.9	2.0	1	16	9"	6"	
19.	133	45,500	1200	4.5	2.0	1	16	21"	12"	
20.	131	22,800	600	2.2	2.0	1	16	15"	9"	
21.	121	15,200	400	1.5	2.0	1	16	12"	9"	
22.	130	7,600	200	.7	2.0	1	16	9"	6"	
23.	128 & 129	12,200	320	1.2	2.0	1	16	12"	6"	
24.	138	13,300	350	1.3	2.0	1	16	12"	6"	
25.	123 & 139	14,400	380	1.4	2.0	1	16	12"	9"	
26.	141	38,000	1000	3.8	2.0	1	16	18"	12"	
27.	ELEV.	53,200	1400	5.3	2.0	1	16	24"	12"	
28.	152	9,500	250	.9	2.0	1	16	9"	6"	
29.	155	7,600	200	.7	2.0	1	16	9"	6"	
30.	153	9,100	240	.9	2.0	1	16	9"	6"	
31.	156	7,600	200	.7	2.0	1	16	9"	6"	
32.	161	45,500	1200	4.5	2.0	1	16	21"	12"	
33.	158	11,400	300	1.1	2.0	1	16	12"	6"	
34.	159 & 160	12,200	320	1.2	2.0	1	16	12"	6"	
35.	121	11,400	300	1.1	2.0	1	16	12"	6"	

REHEAT COIL SCHEDULE NOTES:

1. CAPACITIES ARE BASED ON 200°F ENTERING WATER TEMP. 65°F ENTERING AIR TEMP.
2. MAXIUM COIL FACE VELOCITY SHALL BE 800 F.P.M.

#56
11-5-76
MECHANICAL SYSTEMS

REVISIONS

REMODELING OF ERNIE PYLE HALL
INDIANA UNIVERSITY
BLOOMINGTON INDIANA

ED. GIBSON & ASSOCIATES
ARCHITECTS
INDIANAPOLIS INDIANA

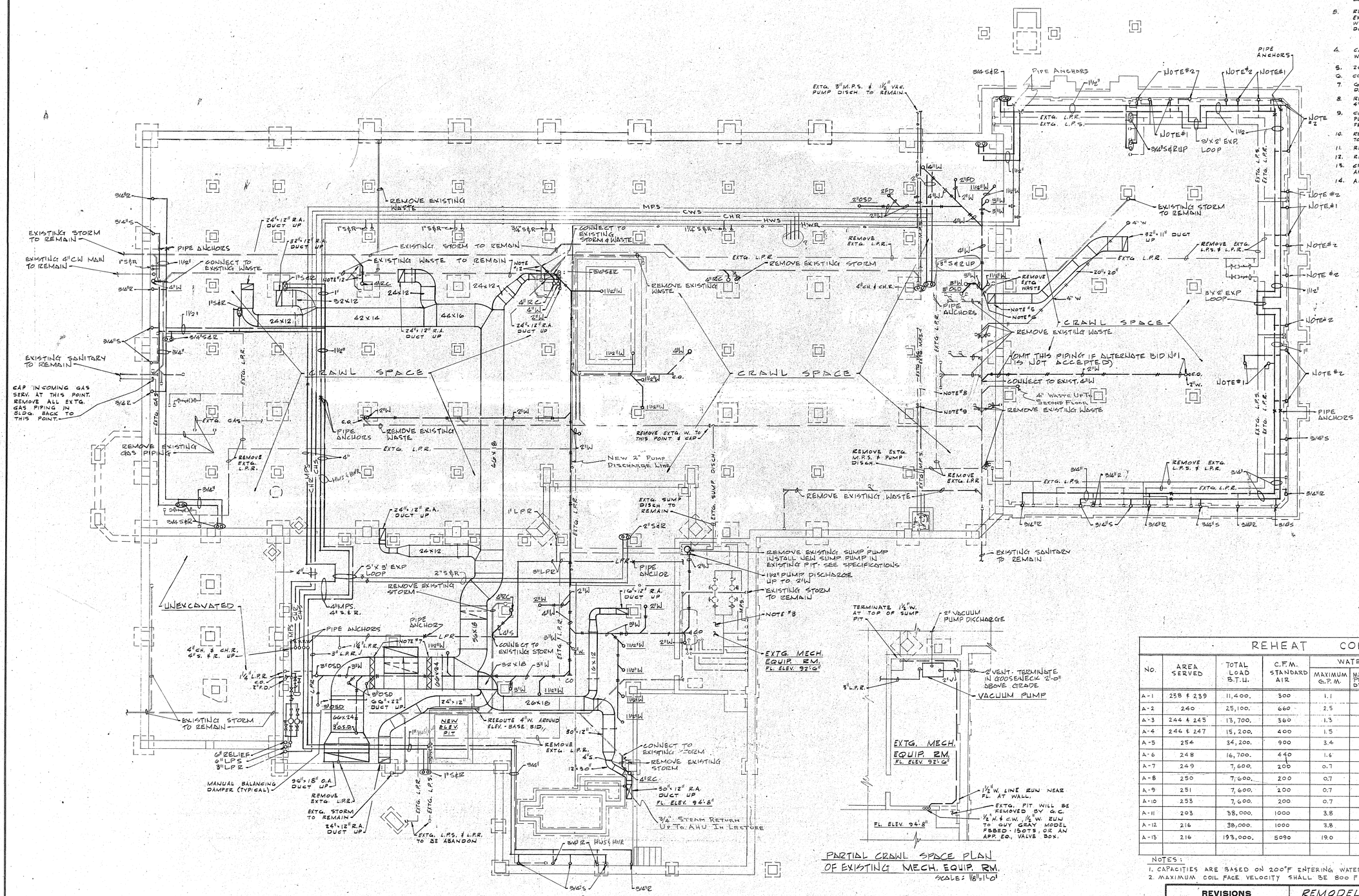
AMMERMAN, DAVIS & STOUT
INCORPORATED
ENGINEERS
INDIANAPOLIS, IND.

DR. RK
TR. RK
CK. WSE
SCALE AS NOTED
DATE

SHEET NO. 1 OF 8 SHEETS
DRAWING NO. M-1
PROJECT NO. 7214

PLAN NOTES

1. ~~3/4" S&R TO EXISTING RADIATION (BASE BID) DELETE IF ALTERNATE NO. 1 IS ACCEPTED.~~
2. 3/4" S&R TO NEW RADIATION. ~~IF ALTERNATE NO. 1 IS ACCEPTED.~~
3. REMOVE EXTG. P.R.V. STATION, L.P.S. & M.P.S. PIPING IN EXTG. MECH. EQUIP. RM. REMOVE EXTG. SUMP PUMP, STOR. WTR. HTR., VACUUM PUMP & AIR COMP. REMOVE ALL DOMESTIC H.W., C.W., & H.W.R. IN EXTG. MECH. EQUIP. RM.
4. CAP OFF AND REMOVE ALL EXISTING GAS, STORM, AND WASTE PIPING NOT REMAINING IN SERVICE.
5. 20"x 15" R.A. DUCT UP TO MECH. RM #115.
6. CONNECT NEW 4" W. TO EXTG. 4" W.
7. 66"x 24" R.A. & O.A. OPPOSED BLADE PROPORTIONING DAMPERS BY TEMP. CONT. CONTR.
8. REMOVE EXTG. 3" M.P.S. TO THIS POINT. CONNECT NEW 4" M.P.S. TO EXTG. 3" M.P.S.
9. CONNECT NEW 2" VAC. PUMP DISCH. TO EXTG. 1 1/2" VAC. PUMP DISCH. REMOVE EXTG. 1 1/2" VAC. PUMP DISCH. FROM EXTG. MECH. RM. TO THIS POINT.
10. REMOVE ALL EXTG. L.P.R. PIPING IN CRAWL SPACE BACK TO EXTG. MECH. EQUIP. RM.
11. REMOVE ALL EXTG. L.P.S. PIPING IN CRAWL SPACE.
12. REMOVE EXTG. R.C. TO THIS POINT. CONN. NEW 4" R.C.
13. CRAWL SPACE TRENCHING FOR NEW DUCTWORK AND PIPING BY M.C.
14. ALL DEMOLITION BY GEN. CONTR.



Date - 2/20/75
AS BUILT DRAWING
BY
Thompson & Assoc. Plbg. & Htg. Corp.
Signature -

REHEAT COIL SCHEDULE

NO.	AREA SERVED	TOTAL LOAD B.T.U.	C.F.M. STANDARD AIR	WATER MAXIMUM G.P.M.	WATER MAXIMUM PRESSURE DROP (FT.)	MINIMUM NUMBER OF ROWS	FIN SERIES	SIZE WIDTH	SIZE HEIGHT	SEE NOTE
A-1	238 & 239	11,400.	300	1.1	2.0	1	16	12"	6"	
A-2	240	25,100.	660	2.5	2.0	1	16	15"	9"	
A-3	244 & 245	13,700.	360	1.3	2.0	1	16	12"	6"	
A-4	246 & 247	15,200.	400	1.5	2.0	1	16	15"	6"	
A-5	254	34,200.	900	3.4	2.0	1	16	18"	12"	
A-6	248	16,700.	440	1.6	2.0	1	16	15"	6"	
A-7	249	7,600.	200	0.7	2.0	1	16	9"	6"	
A-8	250	7,600.	200	0.7	2.0	1	16	9"	6"	
A-9	251	7,600.	200	0.7	2.0	1	16	9"	6"	
A-10	253	7,600.	200	0.7	2.0	1	16	9"	6"	
A-11	203	38,000.	1000	3.8	2.0	1	16	18"	12"	
A-12	216	38,000.	1000	3.8	2.0	1	16	18"	12"	
A-13	216	193,000.	5090	19.0	2.0	1	16	36"	30"	

NOTES:
1. CAPACITIES ARE BASED ON 200°F ENTERING WATER TEMP. 65°F ENTERING AIR TEMP.
2. MAXIMUM COIL FACE VELOCITY SHALL BE 800 FPM.

MECHANICAL SYSTEMS

REVISIONS	

REMODELING OF ERNIE PYLE HALL
INDIANA UNIVERSITY
BLOOMINGTON INDIANA

E.O. GIBSON & ASSOCIATES
ARCHITECTS
INDIANAPOLIS INDIANA

AMMERMAN, DAVIS & STOUT
INCORPORATED
ENGINEERS
INDIANAPOLIS, IND.

DR.	RK
TR.	RK
CK.	WSE
SCALE	AS NOTED
DATE	9-24-73
CERTIFIED BY:	Wayne S. Ellerton P.E.
SHEET NO.	2 OF 8 SHEETS
DRAWING NO.	M-2
PROJECT NO.	7214
FILE	

UNIT HEATER SCHEDULE

NO.	ROOM SERVED	TRANE MODEL NUMBER	TYPE AND ARRANGEMENT	M.B.H.	FAN SPEED R.P.M.	WATER RATE G.P.M.	C.F.M. STANDARD AIR	SEE NOTE
1	142	605	PROPELLER	34.6	1550	3.5	815	1,2

NOTES:

1. HEATING CAPACITIES ARE BASED ON 70°F ENTERING AIR, AND 210°F ENTERING AT LOW SPEED OPERATION. FINAL AIR TEMPERATURE SHALL BE 110°F TO 140°F.
2. MOTORS SHALL BE MULTI-SPEED, 120 VOLT, 1 PHASE, 60 CYCLE.

FIN TUBE RADIATION SCHEDULE

TYPE	TRANE MODEL NUMBER	BTUH/FT	ROWS	FIN SIZE
"A"	16S WALL FIN	1420	1	2½"×5¼"
"B"	16S WALL FIN	1890	2	2½"×5¼"
"C"	20S WALL FIN	2320	2	2½"×5¼

NOTES:

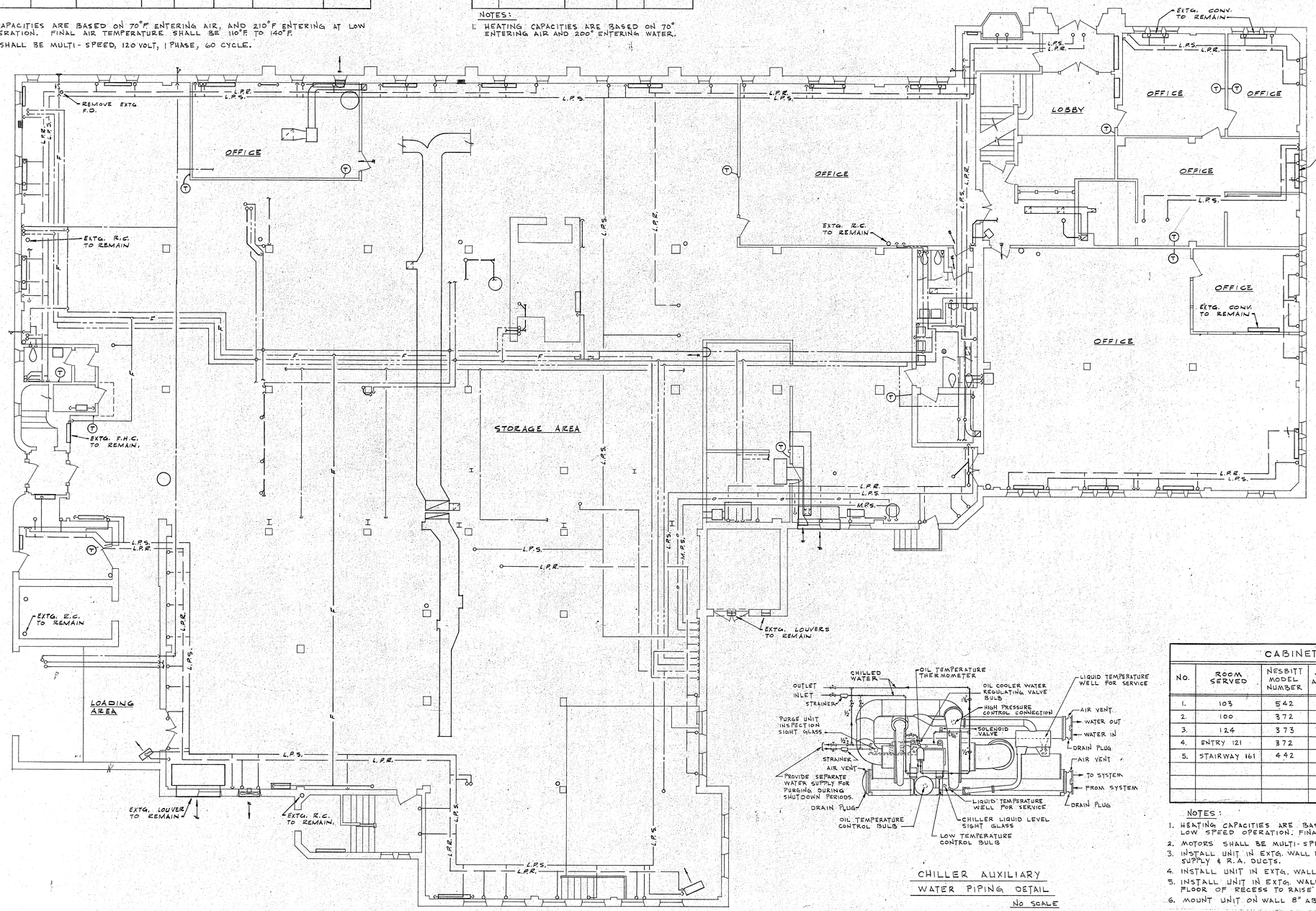
1. HEATING CAPACITIES ARE BASED ON 70° ENTERING AIR AND 200° ENTERING WATER.

DIFFUSER SCHEDULE

TYPE	KRUEGER MODEL NUMBER	NECK SIZE	PATTERN	SEE NOTE
"A"	SH4A	12"×12"	4-WAY	1
"B"	SH4A	9"×9"	4-WAY	1
"C"	SH4A	15"×15"	4-WAY	1
"D"	SH4A	18"×18"	4-WAY	1
"E"	SH4B	6"×12"	4-WAY	1
"F"	SH4A	6"×6"	4-WAY	1
"G"	SH3L	6"×9"	3-WAY	1
"H"	SH3L	6"×12"	3-WAY	1
"J"	SH4A	21"×21"	4-WAY	1
"K"	SH3L	9"×18"	3-WAY	1
"L"	SH2	9"×9"	2-WAY	1
"M"	SH1	6"×6"	1-WAY	1

NOTES:

1. PROVIDE FRAME STYLE 21 & STRAIGHTEN GRIDS.



EXISTING FIRST FLOOR PLAN

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

PLAN NOTES

1. ALL EXTG. EQUIP. & PIPING SHALL BE REMOVED, UNLESS OTHERWISE NOTED, BASE BID.
2. UNDER BASE BID, STEAM RISERS TO 2ND FL. CONVECTORS SHALL REMAIN, UNLESS OTHERWISE NOTED. HTG. SYSTEM MTR. WILL BE RUN TO EXTG. STM. CONV.
3. ALL DEMOLITION BY GEN. CONTR.

Date - 2/20/75

AS BUILT DRAWING

BY

TRIANGLE & LEAHY PLBG. & HTG. CORP.

Signature -

CHILLER AUXILIARY WATER PIPING DETAIL

NO SCALE

CABINET HEATER SCHEDULE

NO.	ROOM SERVED	NESBITT MODEL NUMBER	TYPE AND ARRANGEMENT	M.B.H.	FAN SPEED RPM	WATER RATE GPM	C.F.M. STANDARD AIR	WALL RECESS DEPTH	SEE NOTE
1.	103	542	F3	33.1	500	4.0	520	7"	1,2,3.
2.	100	372	W14	21.3	750	3.5	280	9"	1,2,4
3.	124	373	W4	25.4	750	2.0	265	7"	1,2,5
4.	ENTRY 121	372	W2	21.3	750	3.5	280	–	1,2,6.
5.	STAIRWAY 161	442	W2	36.0	600	5.0	460	–	1,2,6.

NOTES:

1. HEATING CAPACITIES ARE BASED ON 70°F ENTERING AIR, AND 210°F ENTERING WATER AT LOW SPEED OPERATION. FINAL AIR TEMPERATURE SHALL BE 110°F TO 140°F
2. MOTORS SHALL BE MULTI-SPEED, 120 VOLT, 1 PHASE, 60 CYCLE.
3. INSTALL UNIT IN EXTG. WALL RECESS. ATTACH DUCT COLLERS TO EXTG. 28"×6" SHEET METAL SUPPLY & R.A. DUCTS.
4. INSTALL UNIT IN EXTG. WALL RECESS.
5. INSTALL UNIT IN EXTG. WALL RECESS. PROVIDE 12" CONC. BLOCKING AT FLOOR OF RECESS TO RAISE NEW CABINET HEATER ABOVE FLOOR.
6. MOUNT UNIT ON WALL 8" ABOVE FINISHED FLOOR.

MECHANICAL SYSTEMS

WAYNE S. ELLERTON REGISTERED No. 13780 INDIANA PROFESSIONAL ENGINEER

REVISIONS	

REMODELING OF ERNIE PYLE HALL
INDIANA UNIVERSITY
BLOOMINGTON INDIANA

ED. GIBSON & ASSOCIATES
ARCHITECTS
INDIANAPOLIS INDIANA

DR.	RK
TR.	RK
CK.	WSE
SCALE	AS NOTED
DATE	9-24-73

AMMERMAN, DAVIS & STOUT
INCORPORATED
ENGINEERS
INDIANAPOLIS, IND.

CERTIFIED BY: Wayne S. Ellerton P.E.

SHEET NO. 3 OF 8 SHEETS
DRAWING NO. M-3
PROJECT NO. 7214
FILE

AIR HANDLING UNIT SCHEDULE

NO.	AREA SERVED	TYPE	TRANE MODEL NUMBER	CFM STANDARD AIR	MAXIMUM FAN OUTLET VELOCITY F.P.M.	MINIMUM TOTAL STATIC PRESSURE WATER COLUMN	MINIMUM FAN MOTOR H.P.	MINIMUM PERCENT OF OUTDOOR AIR	SEE NOTE
1.	1ST FL. EAST	CENTRAL STATION	25 MP	11,260	1800	3.00	15	25	1,2,3
2.	1ST FL. WEST	CENTRAL STATION	25 MP	11,940	1800	3.00	15	25	1,2,3
3.	2ND FL.	CENTRAL STATION	25 MP	10,950	1800	3.00	15	25	1,2,3

NOTES:

1. ALL EQUIPMENT SHALL BE SELECTED IN STRICT ACCORDANCE WITH THE MAXIMUM AND MINIMUM QUANTITIES SHOWN.
2. PROVIDE OUTLET VOLUME CONTROL.
3. MOTOR DATA: 460 V, 3 Φ.

AIR HANDLING UNIT COOLING COIL SCHEDULE

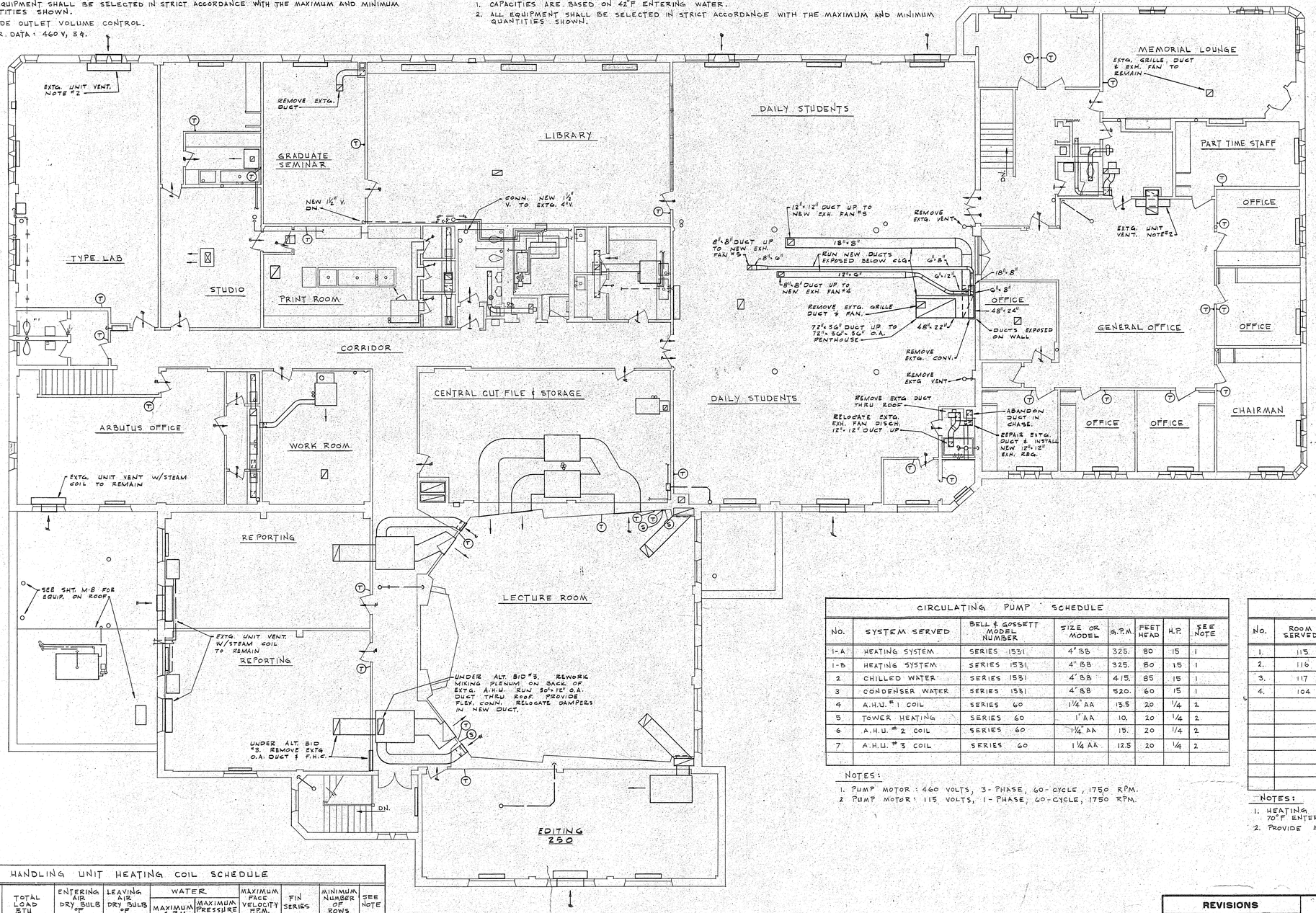
NO.	C.F.M. STANDARD AIR	TOTAL LOAD BTU	ENTERING AIR DRY BULB °F	ENTERING AIR WET BULB °F	LEAVING AIR DRY BULB °F	LEAVING AIR WET BULB °F	WATER MAXIMUM G.P.M.	WATER MAXIMUM PRESSURE DROP IN FEET	MAXIMUM FACE VELOCITY FPM	MINIMUM NUMBER OF ROWS	FIN SERIES	SEE NOTE
1.	11,260	475,000	80	66	54	52	95	12.0	550	6	16	1,2
2.	11,940	510,000	80	66	54	52	100	12.0	550	6	16	1,2
3.	10,950	460,000	80	66	54	52	90	12.0	550	6	16	1,2

NOTES:

1. CAPACITIES ARE BASED ON 42°F ENTERING WATER.
2. ALL EQUIPMENT SHALL BE SELECTED IN STRICT ACCORDANCE WITH THE MAXIMUM AND MINIMUM QUANTITIES SHOWN.

PLAN NOTES

1. UNDER BASE BID, ALL EXTG. EQUIP. SHALL REMAIN, UNLESS OTHERWISE NOTED. EXTG. STEAM CONVECTORS TO REMAIN. HEATING SYSTEM HOT WATER WILL BE RUN THRU EXTG. STM. RISERS.
2. UNDER ALT. BASE BID, REMOVE EXTG. STEAM COIL & INSTALL NEW HOT WATER HEATING COIL IN EXTG. UNIT VENT.
3. ALL DEMOLITION BY GEN. CONTR.



EXISTING SECOND FLOOR PLAN - BASE BID

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

Date - 2/20/75

AS BUILT DRAWING BY TRIANGLE & SEARNY PLBG. & HTG. Corp.

Signature -

CIRCULATING PUMP SCHEDULE

NO.	SYSTEM SERVED	BELL & GOSSETT MODEL NUMBER	SIZE OR MODEL	G.P.M.	FEET HEAD	H.P.	SEE NOTE
1-A	HEATING SYSTEM	SERIES 1531	4" BB	325.	80	15	1
1-B	HEATING SYSTEM	SERIES 1531	4" BB	325.	80	15	1
2	CHILLED WATER	SERIES 1531	4" BB	415.	85	15	1
3	CONDENSER WATER	SERIES 1531	4" BB	520.	60	15	1
4	A.H.U. #1 COIL	SERIES 60	1¼" AA	13.5	20	¼	2
5	TOWER HEATING	SERIES 60	1" AA	10.	20	¼	2
6	A.H.U. #2 COIL	SERIES 60	1¼" AA	15.	20	¼	2
7	A.H.U. #3 COIL	SERIES 60	1¼ AA	12.5	20	¼	2

NOTES:

1. PUMP MOTOR: 460 VOLTS, 3-PHASE, 60-CYCLE, 1750 RPM.
2. PUMP MOTOR: 115 VOLTS, 1-PHASE, 60-CYCLE, 1750 RPM.

CONVECTOR SCHEDULE

NO.	ROOM SERVED	TRANE MODEL NUMBER	DEPTH	LENGTH	HEIGHT	M.B.H.	WALL RECESS DEPTH	SEE NOTE
1.	113	SW	6"	32"	26"	7.5	–	1
2.	116	SW	6"	32"	26"	7.5	–	1
3.	117	SW	6"	32"	26"	7.5	–	1
4.	104	SW	8"	26"	20"	5.0	–	1

NOTES:

1. HEATING CAPACITIES ARE BASED ON 20°F WATER TEMPERATURE DROP, 70°F ENTERING AIR & 210°F ENTERING WATER TEMPERATURE.
2. PROVIDE ACCESSIBLE HOSE BIBB IN CABINET FOR SYSTEM DRAIN.

AIR HANDLING UNIT HEATING COIL SCHEDULE

NO.	C.F.M. STANDARD AIR	TOTAL LOAD BTU	ENTERING AIR DRY BULB °F	LEAVING AIR DRY BULB °F	WATER MAXIMUM G.P.M.	WATER MAXIMUM PRESSURE DROP (FT)	MAXIMUM FACE VELOCITY F.P.M.	FIN SERIES	MINIMUM NUMBER OF ROWS	SEE NOTE
1.	11,260	244,000	50	70	13.5	3.0	550	16	1	1,2.
2.	11,940	259,000	50	70	14.0	3.0	550	16	1	1,2
3.	10,950	238,000	50	70	12.5	3.0	550	16	1	1,2

NOTES:

1. CAPACITIES ARE BASED ON -10°F OUTDOOR AIR, 70°F ROOM AIR & 210°F ENTERING WATER.
2. ALL EQUIPMENT SHALL BE SELECTED IN STRICT ACCORDANCE WITH THE MAXIMUM AND MINIMUM QUANTITIES SHOWN.

MECHANICAL SYSTEMS

REVISIONS	

REMODELING OF ERNIE PYLE HALL
INDIANA UNIVERSITY
BLOOMINGTON INDIANA

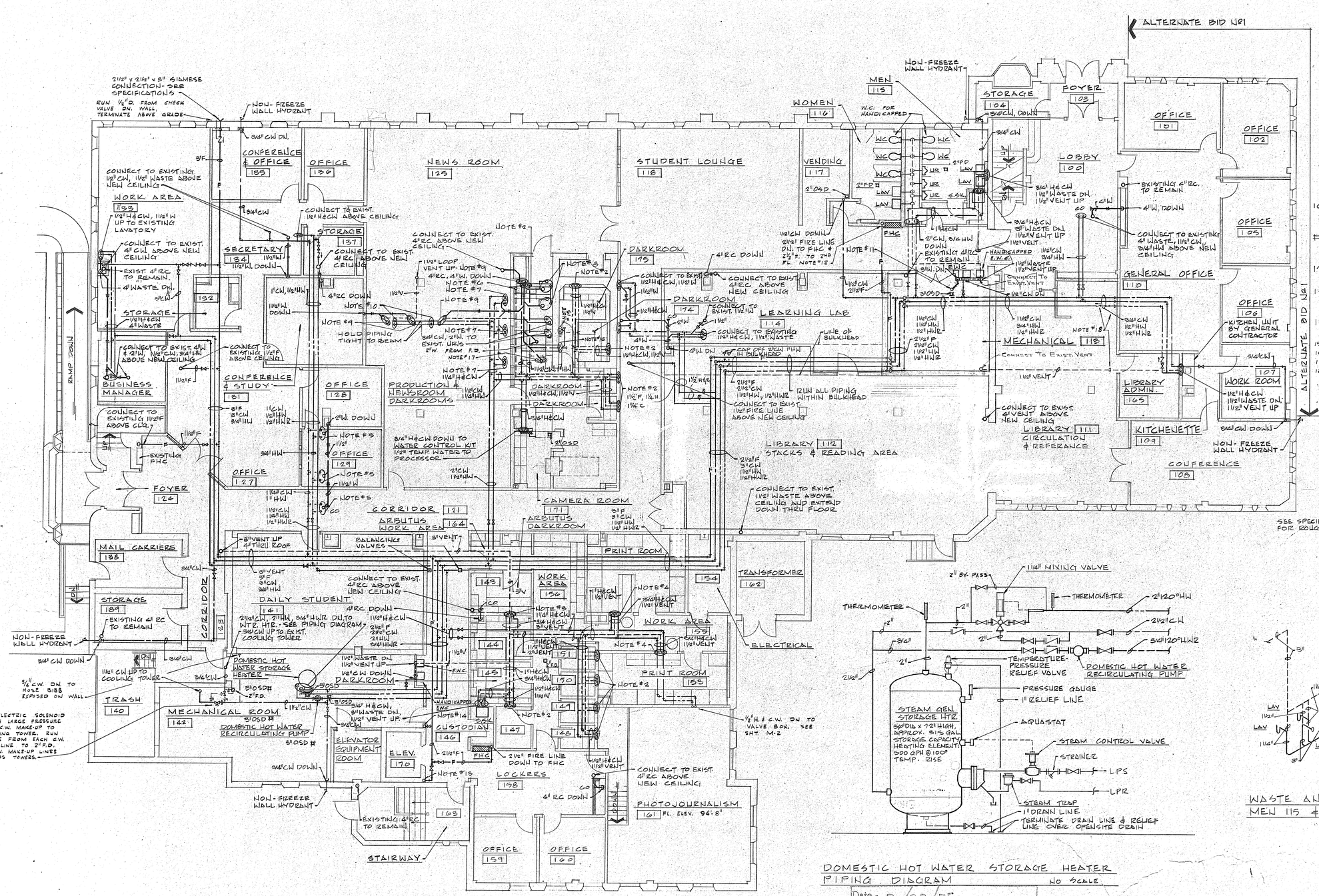
ED. GIBSON & ASSOCIATES
ARCHITECTS
INDIANAPOLIS INDIANA

DR.	RK
TR.	RK
CK.	WSE
SCALE	AS NOTED
DATE	9-24-73

AMMERMAN, DAVIS & STOUT
INCORPORATED
ENGINEERS
INDIANAPOLIS, IND.

CERTIFIED BY: Wayne L. Ellerton P.E.

SHEET NO. 4 OF 8 SHEETS
DRAWING NO. M-4
PROJECT NO. 7214
FILE



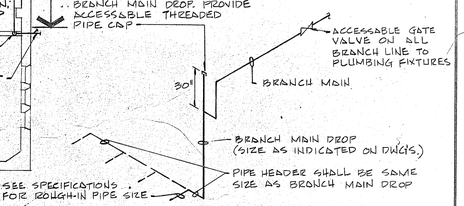
PLUMBING FIRST FLOOR PLAN

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

PLAN NOTES

1. ALL WORK SHOWN ON THIS SHEET IS BY THE MECHANICAL CONTRACTOR UNLESS OTHERWISE NOTED.
2. 1½" H&CW, 1½" WASTE DOWN, 1½" VENT UP FROM DARKROOM SINK.
3. 1½" H&CW, 2" WASTE DOWN, 1½" VENT UP FROM DARKROOM SINKS.
4. 3/4" CW, 1½" HW, 2" WASTE DOWN, 1½" VENT UP; 1½" H&CW, 1½" WASTE FROM PRINT ROOM SINK, 1½" CW, 1½" WASTE FROM PRINT WASHER.
5. CONNECT TO EXISTING 1½" H&CW, 1½" WASTE ABOVE NEW CEILING.
6. CONNECT TO EXISTING 4" VENT ABOVE NEW CEILING.
7. CONNECT TO EXISTING 1½" H&CW, 1½ WASTE ABOVE NEW CEILING. (OMIT THIS PIPING UNDER ALTERNATE BID No 2)
8. CONNECT TO EXISTING 1" CW, 4" WASTE, 2" VENT ABOVE NEW CEILING.
9. CONNECT TO EXISTING 1½" WASTE AND PROVIDE NEW 1½" LOOP VENT ABOVE NEW CEILING AS SHOWN. ~~(OMIT THIS PIPING UNDER ALTERNATE BID No 2)~~
10. CONNECT TO EXISTING 1½" H&CW ABOVE NEW CEILING. ~~(OMIT THIS PIPING UNDER ALTERNATE BID No 2)~~
11. ~~3" WASTE DOWN FROM 3" OSD. ABOVE, PROVIDE 1½" VENT. (OMIT THIS PIPING IF ALTERNATE BID No 3 IS NOT ACCEPTED)~~
12. 2½" FIRE LINE UP TO FHC. ~~(OMIT THIS PIPING IF ALTERNATE BID No 2 IS NOT ACCEPTED.)~~
13. CONNECT TO EXISTING 1½" FIRE LINE ABOVE NEW CEILING. ~~(OMIT THIS PIPING IF ALTERNATE BID No 3A IS ACCEPTED).~~
14. 2½" FIRE LINE UP TO FHC. ~~(OMIT THIS PIPING IF ALTERNATE No 3A IS NOT ACCEPTED).~~
15. 3/4" C.W. & 1½" W. TO REFRIG. UNITS ABOVE 2ND FL. STAIR.
16. 3/4" H. & C.W., 3" W. TO EXTG. S.S. ON 2ND FL.
17. ½" H. & C.W., 1½" W. TO EXTG. LAV. & E.W.C. ON 2ND FL.
18. CAP DOMESTIC PIPING ABOVE CLG. & RELOCATE CHECK & GATE VALVE UNDER BASE BID.

AIR CHAMBER SHALL BE ONE PIPE SIZE LARGER THAN BRANCH MAIN DROP. PROVIDE ACCESSIBLE THREADED PIPE CAP

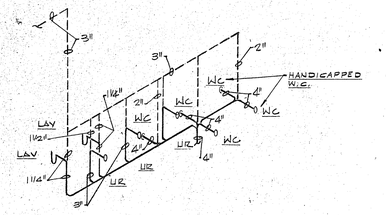


TYPICAL ROUGH-IN DIAGRAM FOR PLUMBING FIXTURES

NO SCALE

DOMESTIC HOT WATER STORAGE HEATER PIPING DIAGRAM

NO SCALE



WASTE AND VENT ISOMETRIC FOR MEN 115 & WOMEN 116

NO SCALE

Date - 2/20/75

AS BUILT DRAWING BY TRIANGLE & HEALY PLBG. & HTG. Corp.

Signature -

MARK S. HUNTER REGISTERED No. 10780 STATE OF INDIANA

REVISIONS	

REMODELING OF ERNIE PYLE HALL
INDIANA UNIVERSITY
BLOOMINGTON INDIANA

ED. GIBSON & ASSOCIATES
ARCHITECTS
INDIANAPOLIS INDIANA

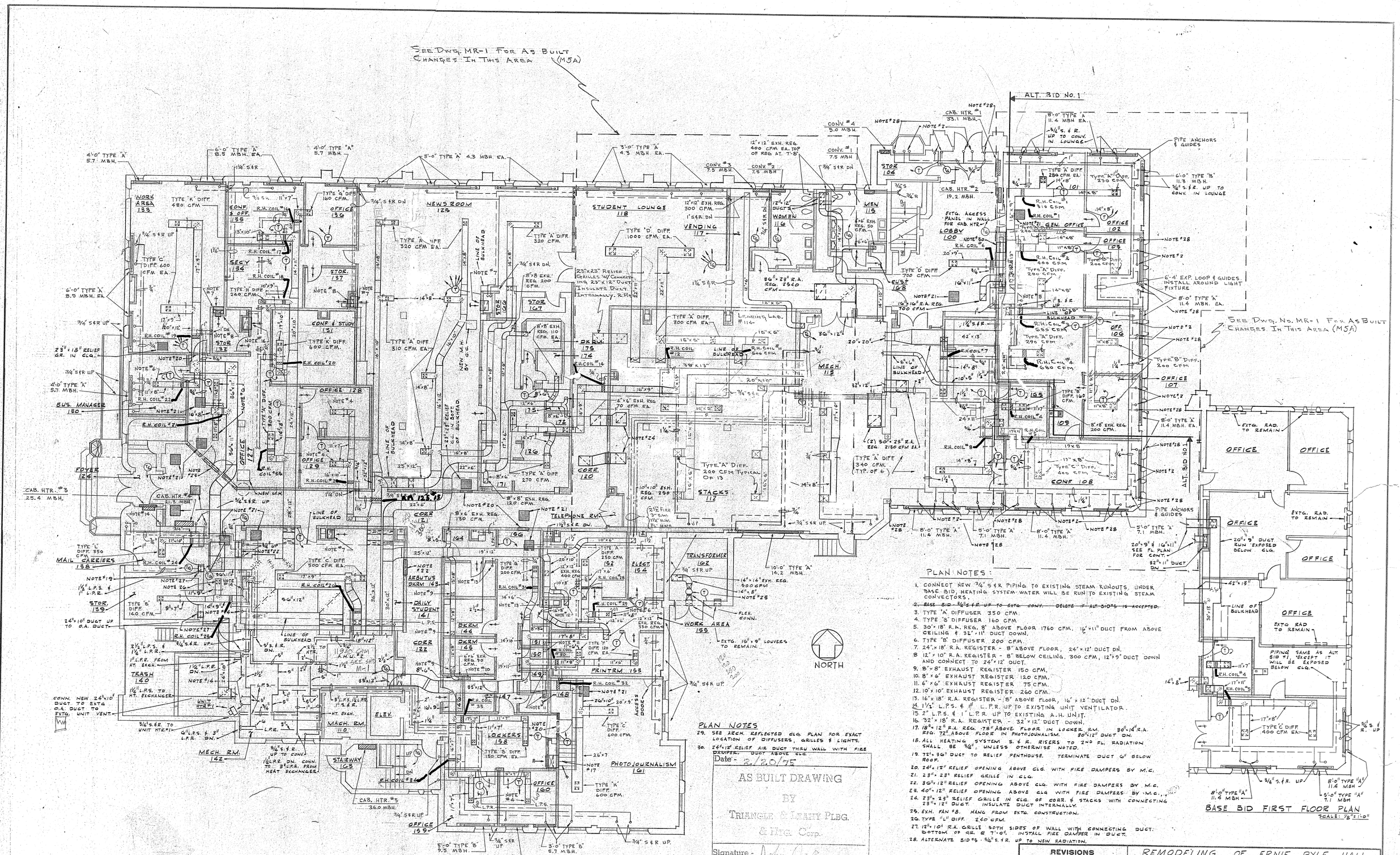
AMMERMAN, DAVIS & STOUT
INCORPORATED
ENGINEERS
INDIANAPOLIS, IND.

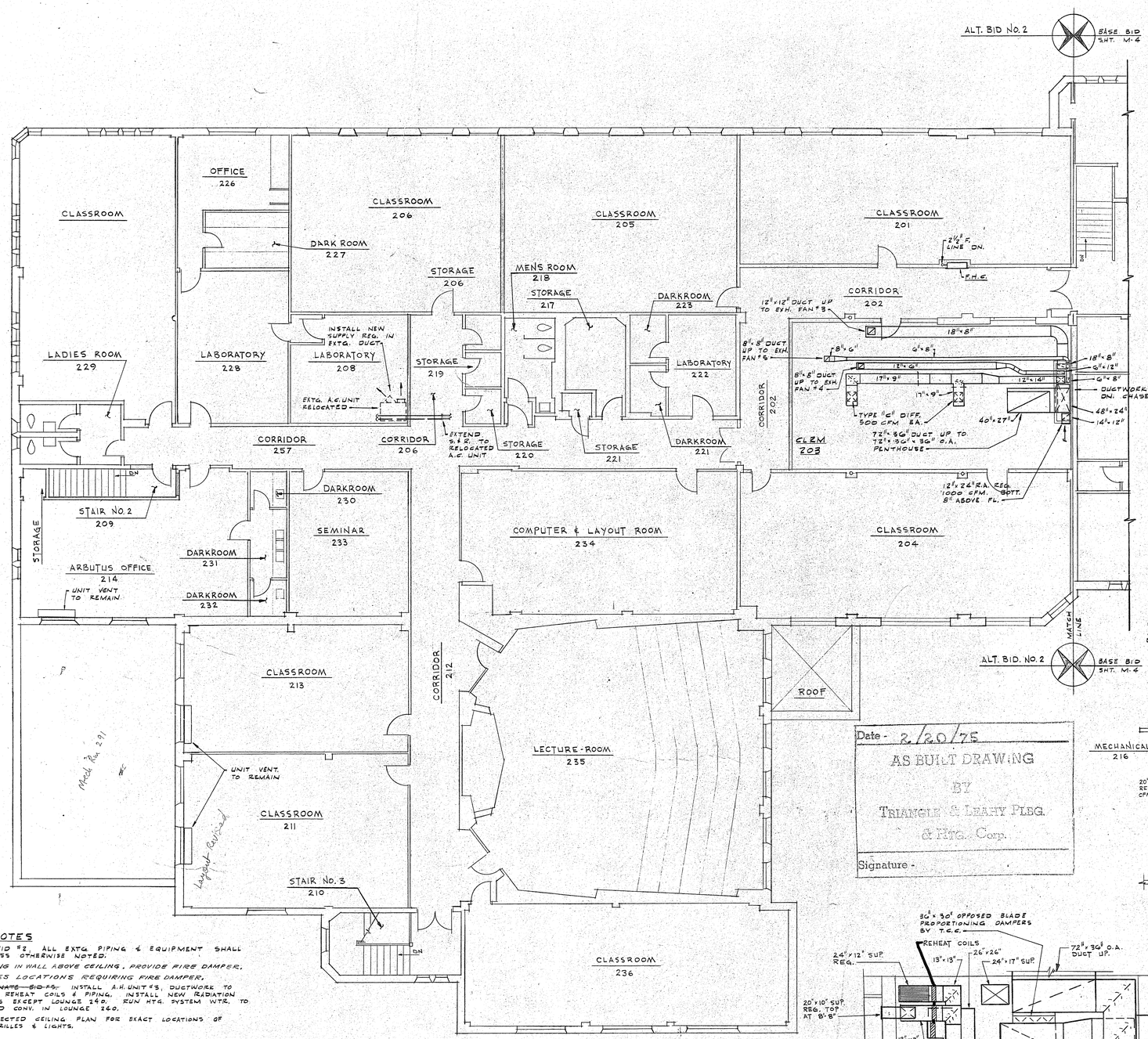
DR.	MMT
TR.	MMT
CK.	WSE
SCALE	AS NOTED
DATE	9-24-73

CERTIFIED BY: Wayne S. Wharton P.E.

SHEET NO. 5 OF 8 SHEETS
DRAWING NO. M-5
PROJECT NO. 7214
FILE

MECHANICAL SYSTEMS


SEE DWG. MR-1 FOR AS BUILT CHANGES IN THIS AREA (M5A)
ALT. BID No. 1
WORK AREA 133
NEWS ROOM 125
STUDENT LOUNGE 118
VENDING 117
WOMEN 116
MEN 115
LOBBY 100
STOR 104
CUST 168
MECH. 113
STACKS 112
CONF. 108
OFFICE 102
OFFICE 103
OFFICE 106
OFFICE 107
OFFICE 128
OFFICE 129
OFFICE 127
BUS. MANAGER 130
FOYER 124
CONF. & STUDY 131
STOR. 137
SECY 134
STOR 132
STOR 139
MAIL CARRIERS 138
TRASH 140
MECH. RM. 142
MACH. RM. 110
ELEV.
STAIRWAY 163
OFFICE 159
LOCKERS 158
PHOTOJOURNALISM 161
OFFICE 160
PRINTRM 153
DKRM 144
DKRM 145
DKRM 146
DAILY STUDENT 141
ARBUTUS DKRM 143
CORR 121
CORR 122
CORR 120
ELECT 154
TRANSFORMER 162
WORK AREA 155
TELEPHONE RM.
NORTH
PLAN NOTES:
1. CONNECT NEW 3/4" S&R PIPING TO EXISTING STEAM RUNOUTS. UNDER BASE BID, HEATING SYSTEM WATER WILL BE RUN TO EXISTING STEAM CONVECTORS.
2. ~~BASE BID 3/4" S&R UP TO EXTG. CONV. DELETE IF ALT BID #3 IS ACCEPTED.~~
3. TYPE "A" DIFFUSER 350 CFM.
4. TYPE "B" DIFFUSER 160 CFM.
5. 30"x18" R.A. REG. 8' ABOVE FLOOR 1760 CFM. 16"x11" DUCT FROM ABOVE CEILING & 32"x11" DUCT DOWN.
6. TYPE "B" DIFFUSER 200 CFM.
7. 24"x18" R.A. REGISTER - 8" ABOVE FLOOR, 24"x12" DUCT DN.
8. 12"x10" R.A. REGISTER - 8" BELOW CEILING, 300 CFM, 12"x9" DUCT DOWN AND CONNECT TO 24"x12" DUCT.
9. 8"x8" EXHAUST REGISTER 150 CFM.
10. 8"x6" EXHAUST REGISTER 120 CFM.
11. 6"x6" EXHAUST REGISTER 75 CFM.
12. 10"x10" EXHAUST REGISTER 260 CFM.
13. 16"x18" R.A. REGISTER - 8" ABOVE FLOOR, 16"x12" DUCT DN.
14. 1 1/2" L.P.S. & 1" L.P.R. UP TO EXISTING UNIT VENTILATOR.
15. 2" L.P.S. & 1" L.P.R. UP TO EXISTING A.H. UNIT.
16. 32"x18" R.A. REGISTER - 32"x12" DUCT DOWN.
17. 18"x12" R.A. REG. 78" ABOVE FLOOR IN LOCKER RM. 30"x14" R.A. REG. 72" ABOVE FLOOR IN PHOTOJOURNALISM. 30"x12" DUCT DN.
18. ALL HEATING SYSTEM S. & R. RISERS TO 2ND FL. RADIATION SHALL BE 3/4", UNLESS OTHERWISE NOTED.
19. 72"x36" DUCT TO RELIEF PENTHOUSE. TERMINATE DUCT 6" BELOW ROOF.
20. 24"x12" RELIEF OPENING ABOVE CLG. WITH FIRE DAMPERS BY M.C.
21. 23"x23" RELIEF GRILLE IN CLG.
22. 30"x12" RELIEF OPENING ABOVE CLG. WITH FIRE DAMPERS BY M.C.
23. 40"x12" RELIEF OPENING ABOVE CLG WITH FIRE DAMPERS BY M.C.
24. 23"x23" RELIEF GRILLE IN CLG. OF CORR. & STACKS WITH CONNECTING 23"x12" DUCT. INSULATE DUCT INTERNALLY.
25. EXH. FAN #8. HANG FROM EXTG. CONSTRUCTION.
26. TYPE "L" DIFF. 240 CFM.
27. 12"x10" R.A. GRILLE BOTH SIDES OF WALL WITH CONNECTING DUCT. BOTTOM OF GRL. @ 7'-0". INSTALL FIRE DAMPER IN DUCT.
28. ALTERNATE BID #5 - 3/4" S.&R. UP TO NEW RADIATION.
PLAN NOTES
29. SEE MECH. REFLECTED CLG. PLAN FOR EXACT LOCATION OF DIFFUSERS, GRILLES & LIGHTS.
30. 24"x12" RELIEF AIR DUCT THRU WALL WITH FIRE DAMPER. DUCT ABOVE CLG.
Date - 2.20.75
AS BUILT DRAWING
BY
TRIANGLE & LEAHY PLBG. & HTG. CORP.
Signature - John Case
H.V.A.C. FIRST FLOOR PLAN
SCALE: 1/8" = 1'-0"
BASE BID FIRST FLOOR PLAN
SCALE: 1/8" = 1'-0"
REVISIONS
REMODELING OF ERNIE PYLE HALL
INDIANA UNIVERSITY
BLOOMINGTON INDIANA
ED. GIBSON & ASSOCIATES
ARCHITECTS
INDIANAPOLIS INDIANA
DR. RK
TR. DKB
CK. WSE
SCALE AS NOTED
DATE 9-24-73
AMMERMAN, DAVIS & STOUT
INCORPORATED
ENGINEERS
INDIANAPOLIS, IND.
CERTIFIED BY: Wayne S. Ellerton P.E.
SHEET NO. 6 OF 8 SHEETS
DRAWING NO. M-6
PROJECT NO. 7214
FILE

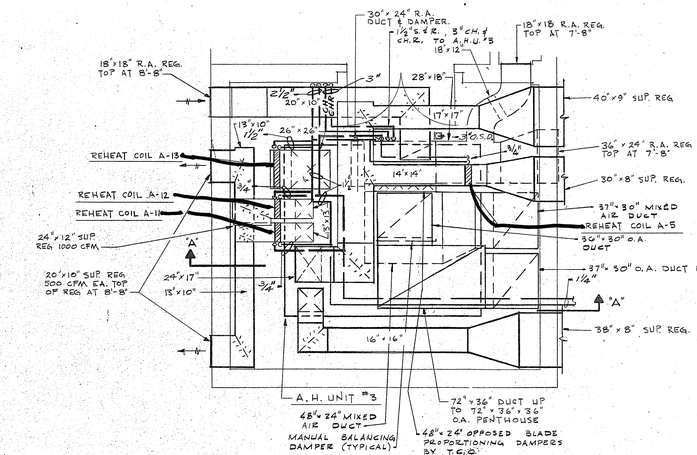


SECOND FLOOR PLAN - ALTERNATE No. 2

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

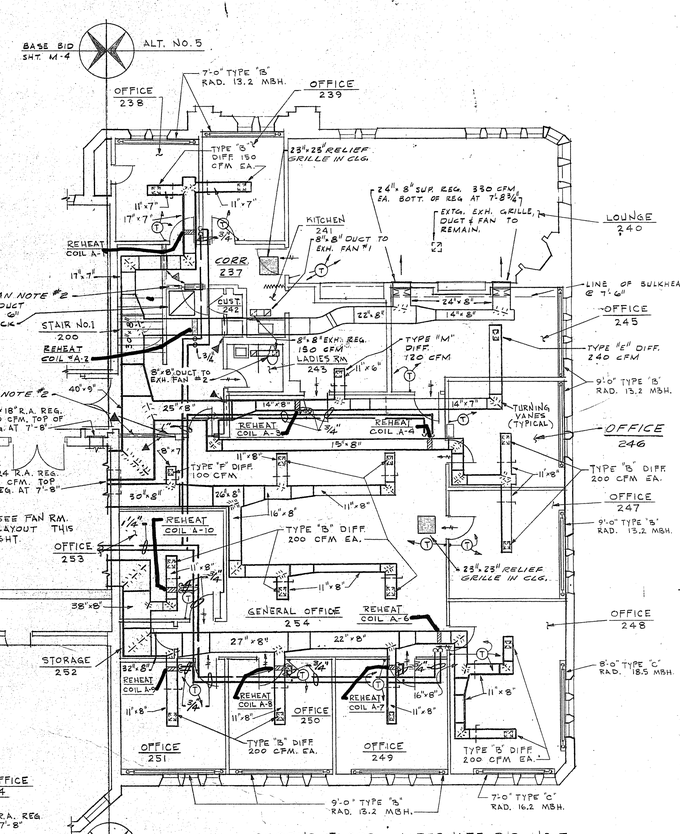
PLAN NOTES

1. ALTERNATE BID #2, ALL EXTG. PIPING & EQUIPMENT SHALL REMAIN, UNLESS OTHERWISE NOTED.
2. 24"x 12" OPENING IN WALL ABOVE CEILING, PROVIDE FIRE DAMPER.
3. ▲ INDICATES LOCATIONS REQUIRING FIRE DAMPER.
4. ~~UNDER ALTERNATE BID #5~~ INSTALL A.H. UNITS, DUCTWORK TO OFFICE AREA, REHEAT COILS & PIPING. INSTALL NEW RADIATION IN ALL OFFICES EXCEPT LOUNGE 240. RUN HTG. SYSTEM WTR. TO EXTG. RECESSED CONV. IN LOUNGE 240.
5. SEE ARCH. REFLECTED CEILING PLAN FOR EXACT LOCATIONS OF DIFFUSERS, GRILLES & LIGHTS.



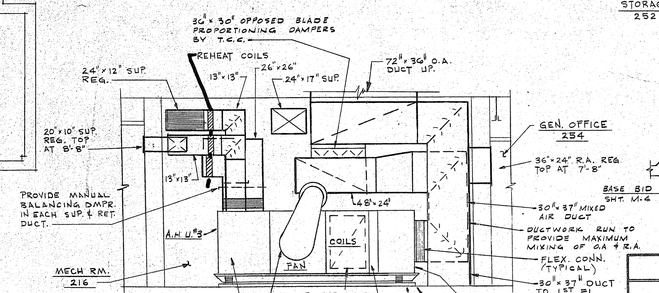
MECHANICAL ROOM #216 LAYOUT

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



SECOND FLOOR - ALTERNATE BID NO. 5

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



SECTION "A-A"

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

MECHANICAL SYSTEMS

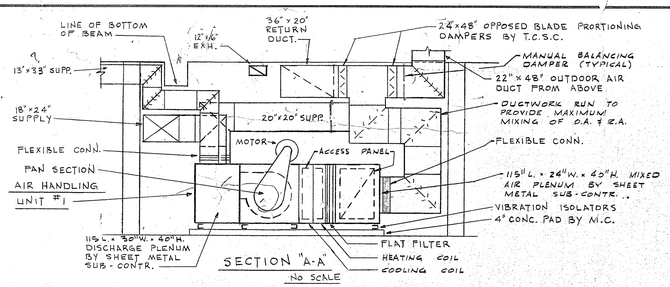
REVISIONS	

REMODELING OF ERNIE PYLE HALL
INDIANA UNIVERSITY
BLOOMINGTON INDIANA

ED. GIBSON & ASSOCIATES
ARCHITECTS
INDIANAPOLIS INDIANA

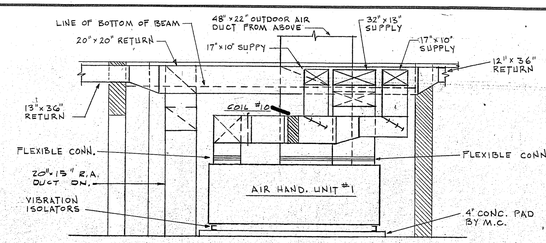
AMMERMAN, DAVIS & STOUT
INCORPORATED
ENGINEERS
INDIANAPOLIS, IND.

DR.	RK
TR.	RK
CK.	WSE
SCALE	AS NOTED
DATE	9-24-73
CERTIFIED BY:	Maynard L. Ellerton P.E.
SHEET NO.	7 OF 8 SHEETS
DRAWING NO.	M-7
PROJECT NO.	7214
FILE	



SECTION "A-A"

No SCALE

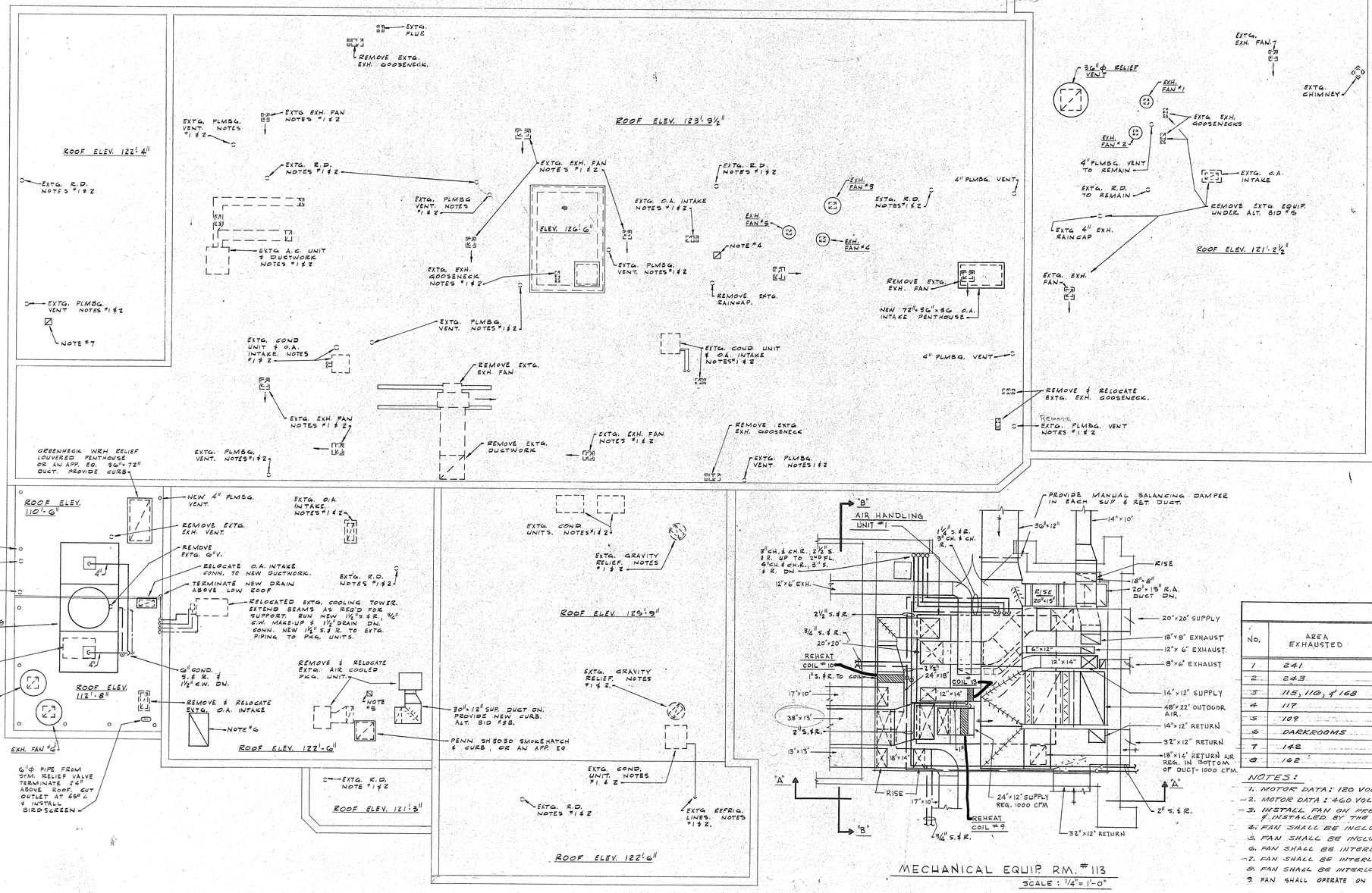


SECTION "B-B"

No SCALE

PLAN NOTES

1. UNDER BASE BID, EXTG. EQUIP. SHALL REMAIN.
2. ~~UNDER ALT. BID #2, EXTG. EQUIP. SHALL REMAIN.~~
3. UNDER BASE BID, INSTALL PRE-FAB. CURB FOR FAN.
4. UNDER BASE BID, INSTALL PRE-FAB. CURB FOR FUTURE JENN-AIR 148BCR EXH. FAN. FAN NOT IN BID. CAP CURB.
5. UNDER BASE BID, INSTALL PRE-FAB. CURB FOR FUTURE JENN-AIR 71CR EXH. FAN. FAN NOT IN BID. CAP CURB.
6. UNDER BASE BID, INSTALL PRE-FAB. CURB FOR FUTURE 36"-60" x 36" O.A. PENTHOUSE. PTHSE NOT IN BID. CAP CURB.
7. UNDER BASE BID, INSTALL PRE-FAB. CURB FOR FUTURE JENN-AIR 98CR EXH. FAN. FAN NOT IN BID. CAP CURB.
8. ALL DEMOLITION BY GEN. CONTR.



EXISTING ROOF PLAN

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

MECHANICAL EQUIP. RM. #113

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

Date - 2/20/75

AS BUILT DRAWING

BY

TRIANGLE & LEAHY PLBG. & HTG. Corp.

Signature -

EXHAUST FAN SCHEDULE

No.	AREA EXHAUSTED	JENN AIR MODEL NUMBER	BACK DRAFT DAMPER	C.F.M.	S.P.	R.P.M.	H.P.	ELECTRICAL CONTROL	SEE NOTE
1	241	71CR	8"x8"	130	¼"	1600	1/25	AUTOMATIC	1,3,4,8
2	243	71CR	8"x8"	130	¼"	1600	1/25	"	1,3,4,8
3	115, 116, & 168	148BCR	12"x12"	850	3/8"	960	¼	"	1,3,6
4	117	80CR	8"x8"	330	3/8"	1550	1/15	"	1,3,6
5	109	108CR	12"x12"	190	3/8"	860	1/12	"	1,3,5,6
6	DARKROOMS	244BCR	20"x20"	3010	3/8"	635	¾	"	2,3,7
7	142	244BCR	20"x20"	3000	3/8"	635	¾	THERMOSTAT	2,3,9
8	162	80ILD	10"x10"	500	¼"	1550	1/15	"	1,9

NOTES:

1. MOTOR DATA: 120 VOLT-1 PHASE-60 CYCLE.
2. MOTOR DATA: 460 VOLT-3 PHASE-60 CYCLE.
3. INSTALL FAN ON PREFABRICATED CURB FURNISHED BY THE FAN MANUFACTURER & INSTALLED BY THE MECHANICAL CONTRACTOR.
4. FAN SHALL BE INCLUDED IN ALTERNATE No. 5.
5. FAN SHALL BE INCLUDED IN ALTERNATE No. 1.
6. FAN SHALL BE INTERLOCKED WITH A.H.U. #1, SEE TEMP CONTROL SPEC.
7. FAN SHALL BE INTERLOCKED WITH A.H.U. #2, SEE TEMP CONTROL SPEC.
8. FAN SHALL BE INTERLOCKED WITH A.H.U. #3, SEE TEMP CONTROL SPEC.
9. FAN SHALL OPERATE ON SWITCH OR THERMOSTAT. SET THERMOSTAT AT 85°

MECHANICAL SYSTEMS

REVISIONS	

REMODELING OF ERNIE PYLE HALL
INDIANA UNIVERSITY
BLOOMINGTON INDIANA

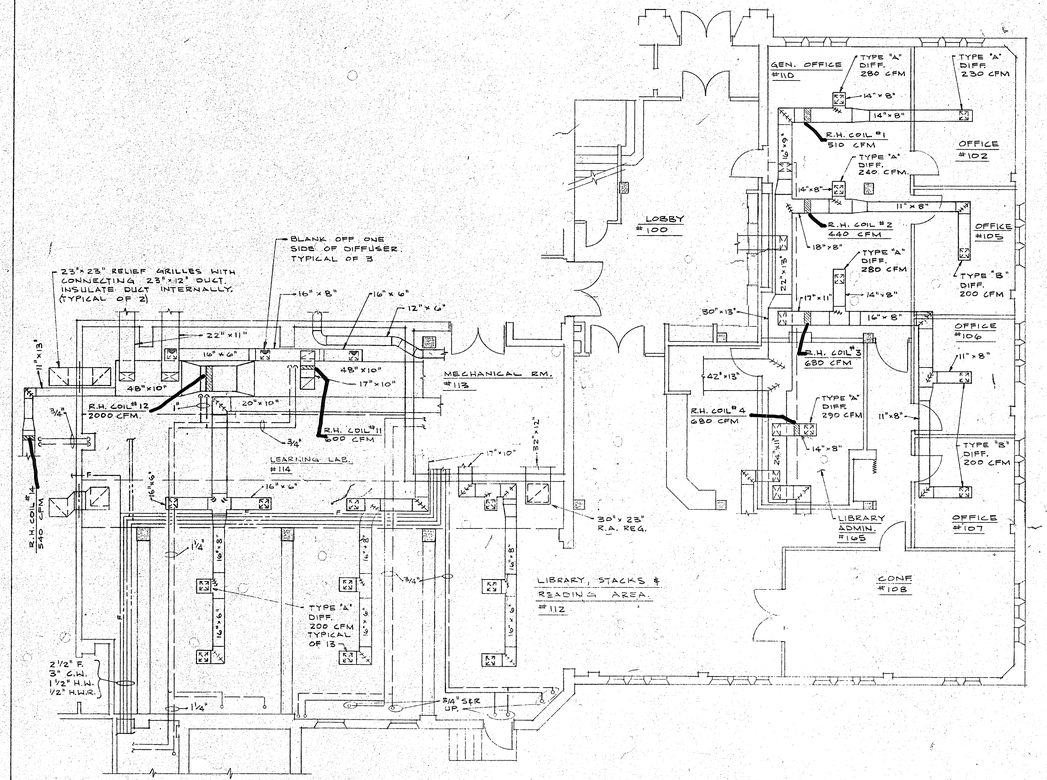
ED. GIBSON & ASSOCIATES
ARCHITECTS
INDIANAPOLIS INDIANA

DR. RK
TR. RK
CK. WSE
SCALE AS NOTED
DATE 9-24-73

AMMERMAN, DAVIS & STOUT
INCORPORATED
ENGINEERS
INDIANAPOLIS, IND.

CERTIFIED BY: Wayne L. Elliott P.E.

SHEET NO. 8 OF 8 SHEETS
DRAWING NO. M-8
PROJECT NO. 7214
FILE



REVISIONS TO FIRST FLOOR LEARNING CENTER AREA

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

Date - 2/20/75

AS BUILT DRAWING

BY

TRIANGLE & LEAHY PLBG. & HTG. CORP.

Signature -

REMODELING OF ERNIE PYLE HALL
INDIANA UNIVERSITY
BLOOMINGTON INDIANA

ED GIBSON & ASSOCIATES
ARCHITECTS
INDIANAPOLIS INDIANA

REVISED 5-24-74	DR. DKB	AMMERMAN, DAVIS & STOUT INCORPORATED ENGINEERS INDIANAPOLIS, IND.	SHEET NO. 1 OF 1 SHEETS
	TR. DKB		DRAWING NO. MR-1.
	CH. WSE		
	SCALE AS SHOWN		PROJECT NO. 7214
	DATE 4-8-74	CERTIFIED BY:	FILE