

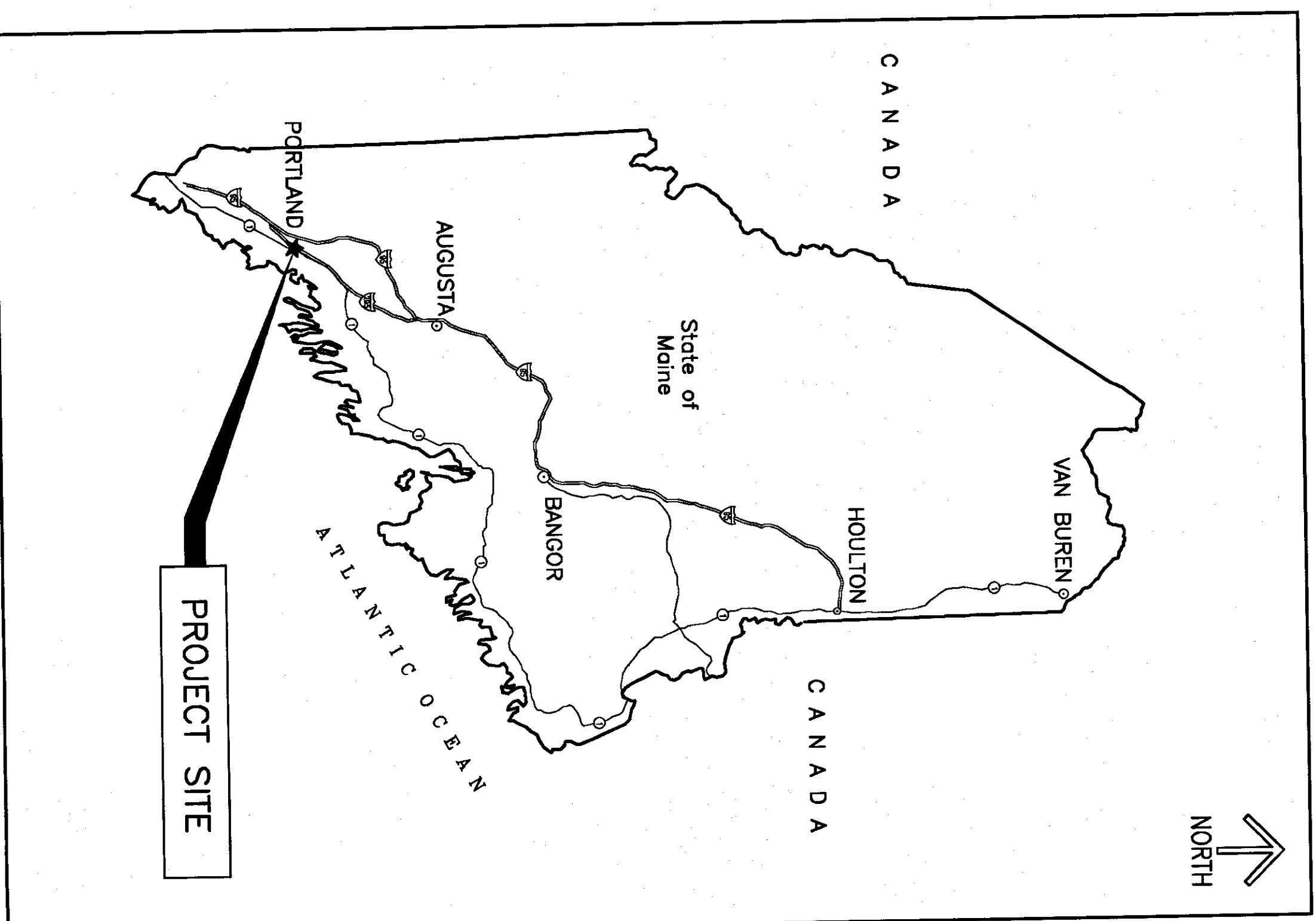
UNIVERSITY OF SOUTHERN MAINE

Portland, Maine

ISSUED FOR CONSTRUCTION

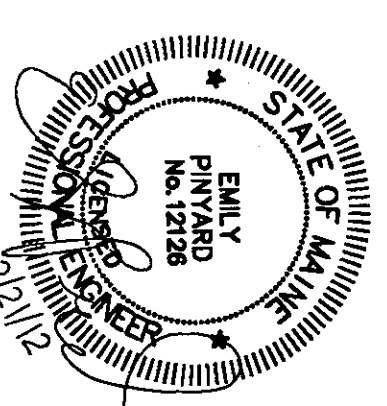
LUTHER BONNEY ENERGY UPGRADES

Project 2011-024



VICINITY MAP
SCALE: NTS

DRAWING	TITLE	SHEET NUMBER
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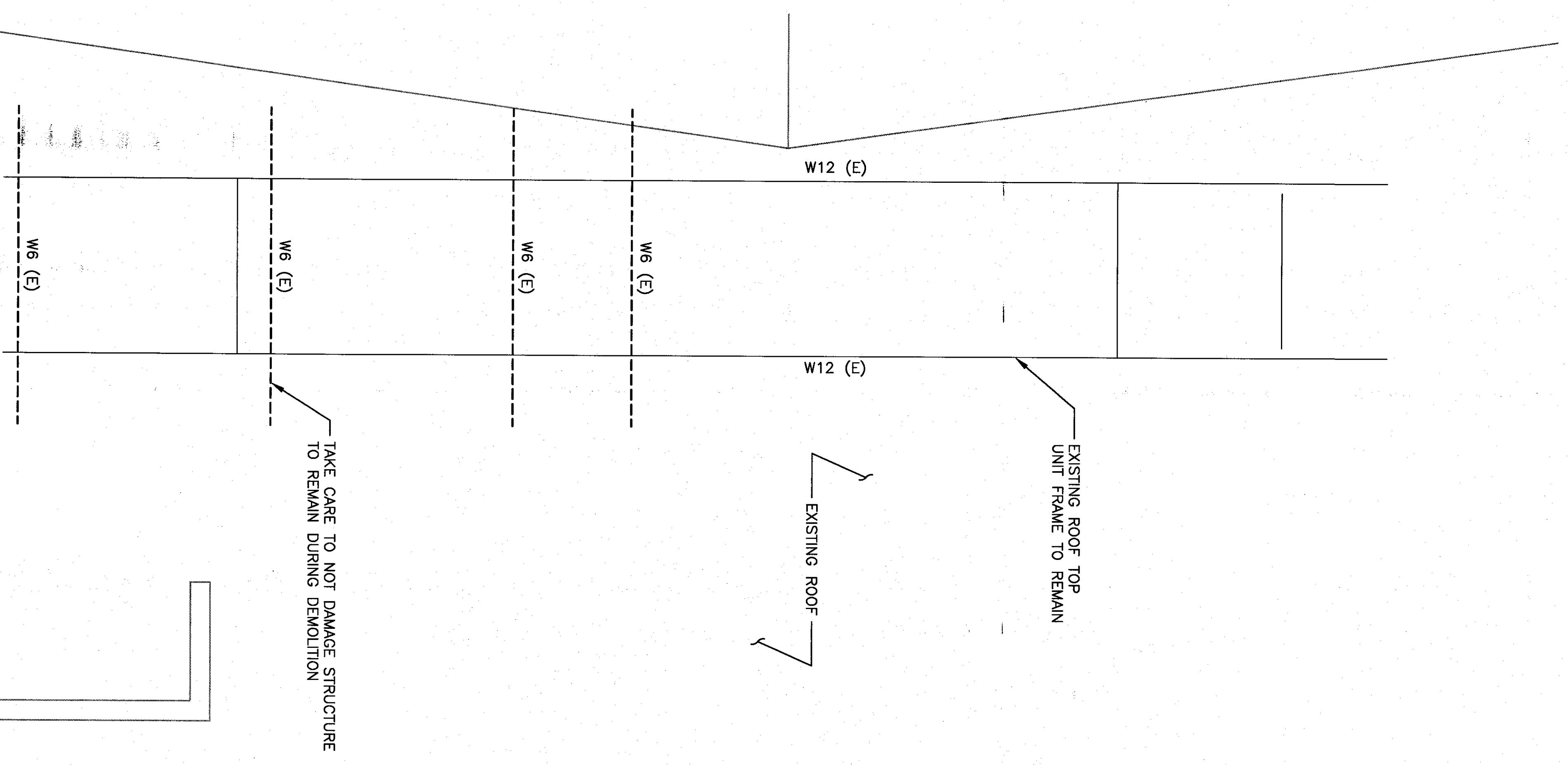
PAUL S. COLBY, MECHANICAL ENGINEER, LICENSE NO. 1928, STATE OF MAINE. THIS SEAL IS THE PROPERTY OF THE ENGINEER AND SHALL REMAIN IN HIS OR HER POSSESSION AT ALL TIMES. IT IS TO BE USED ONLY FOR THE PROJECT AND SHALL NOT BE REPRODUCED OR COPIED FOR ANY OTHER PROJECT OR PURPOSE.

UNIVERSITY OF SOUTHERN MAINE PORTLAND, ME		LUTHER BONNEY ENERGY UPGRADES	
PROJECT NO. 151.008.003		DRAWING NO. T-001	
DATE: 2-21-12		SHEET 1 OF 37	
DESIGNER: DES BY: EAF		CHECKER: CHK BY: ERP	
SCALE: AS NOTED		PROJECT NO. 151.008.003	
DATE: 2-21-12		DRAWING NO. T-001	
DESIGNER: DES BY: EAF		SHEET 1 OF 37	
CHECKER: CHK BY: ERP		DRAWING NO. T-001	

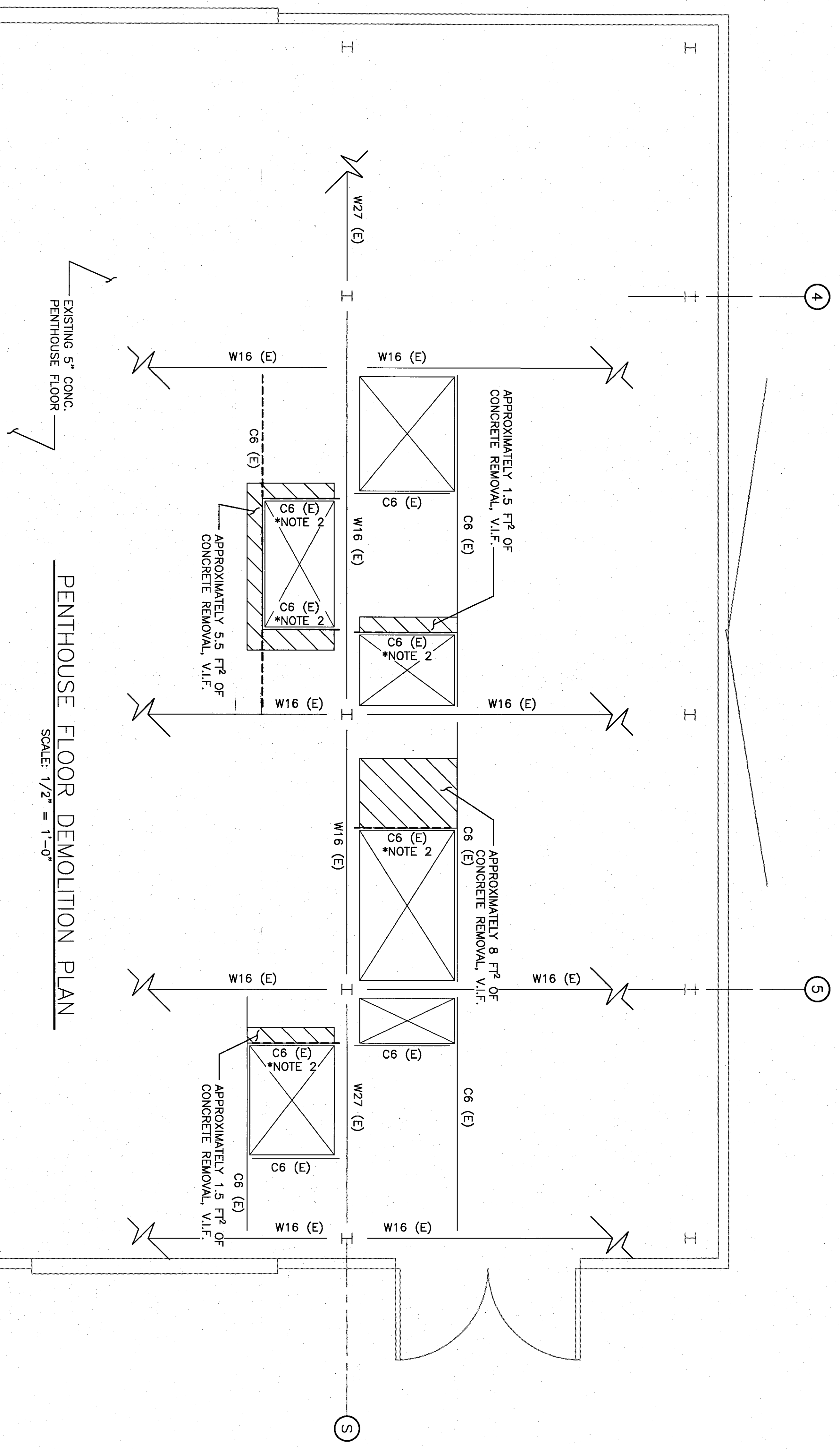
Colby Company
151.008.003
Mechanical Engineering
Civil Engineering

- DEMOLITION NOTES:**
1. ALL EXISTING CONDITIONS SHALL BE VERIFIED IN THE FIELD PRIOR TO BEGINNING ANY WORK. IF EXISTING FIELD CONDITIONS DO NOT PERMIT THE DEMOLITION OF THE WORK AS SHOWN, THE CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY AND PROVIDE A SKETCH OF THE CONDITION WITH PROPOSED MODIFICATION REVIEW BY OWNER.
 2. CONTRACTOR IS RESPONSIBLE FOR SAFETY SHORING, GUYING, BRACING AND POSTING THE STRUCTURE DURING DEMOLITION/REMOVAL. ALL SHORING, GUYING, BRACING AND POSTING SHALL BE FULLY INSTALLED PRIOR TO ANY WORK AND SUPPORT THE STRUCTURE WEIGHT AND A CONSTRUCTION LIVE LOAD. ALL SHORING, GUYING, BRACING AND POSTING SHALL BE REVIEWED BY AN ENGINEER LICENSED IN THE STATE OF MAINE.
 3. REFERENCE ORIGINAL WADSWORTH & BOSTON DRAWING S22, DATED MAY 20, 1964.

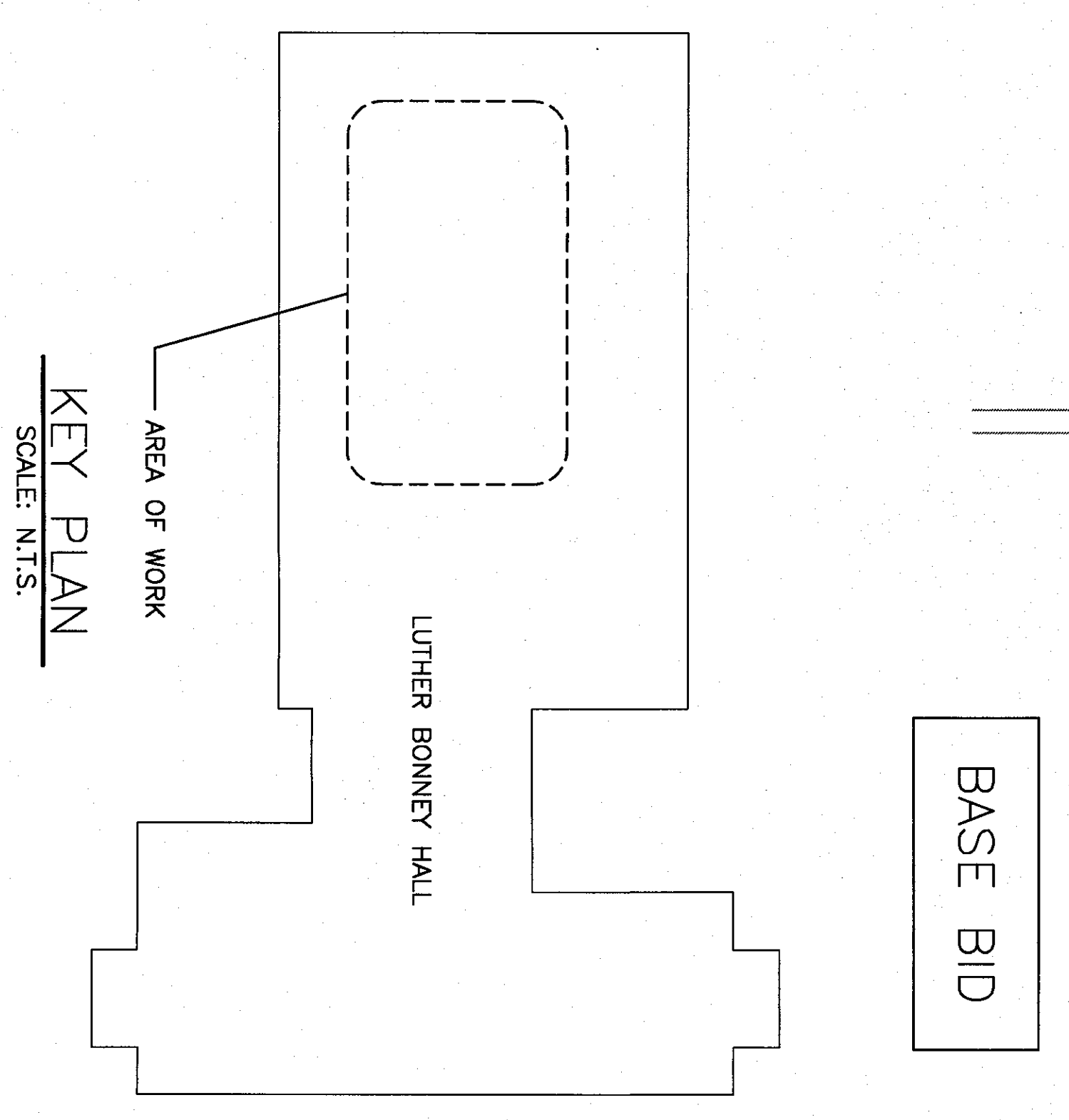
- LEGEND:**
- EXISTING STEEL TO REMAIN
 - EXISTING STEEL TO BE REMOVED
 - ZZZZZ EXISTING CONCRETE SLAB TO BE REMOVED
 - ▣ EXISTING CONCRETE
 - (E) INDICATES EXISTING STEEL MEMBER



RTU FRAME DEMOLITION PLAN
SCALE: 1/2" = 1'-0"

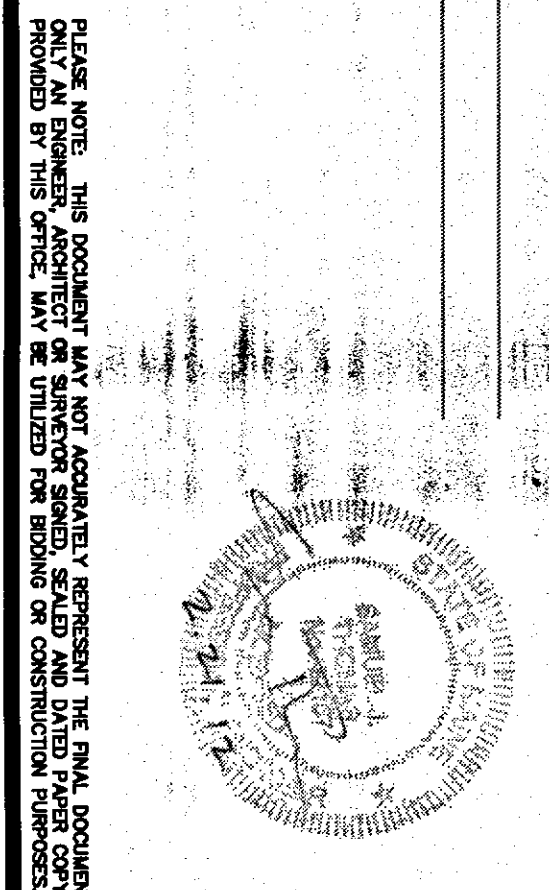


PENTHOUSE FLOOR DEMOLITION PLAN
SCALE: 1/2" = 1'-0"



KEY PLAN
SCALE: N.T.S.

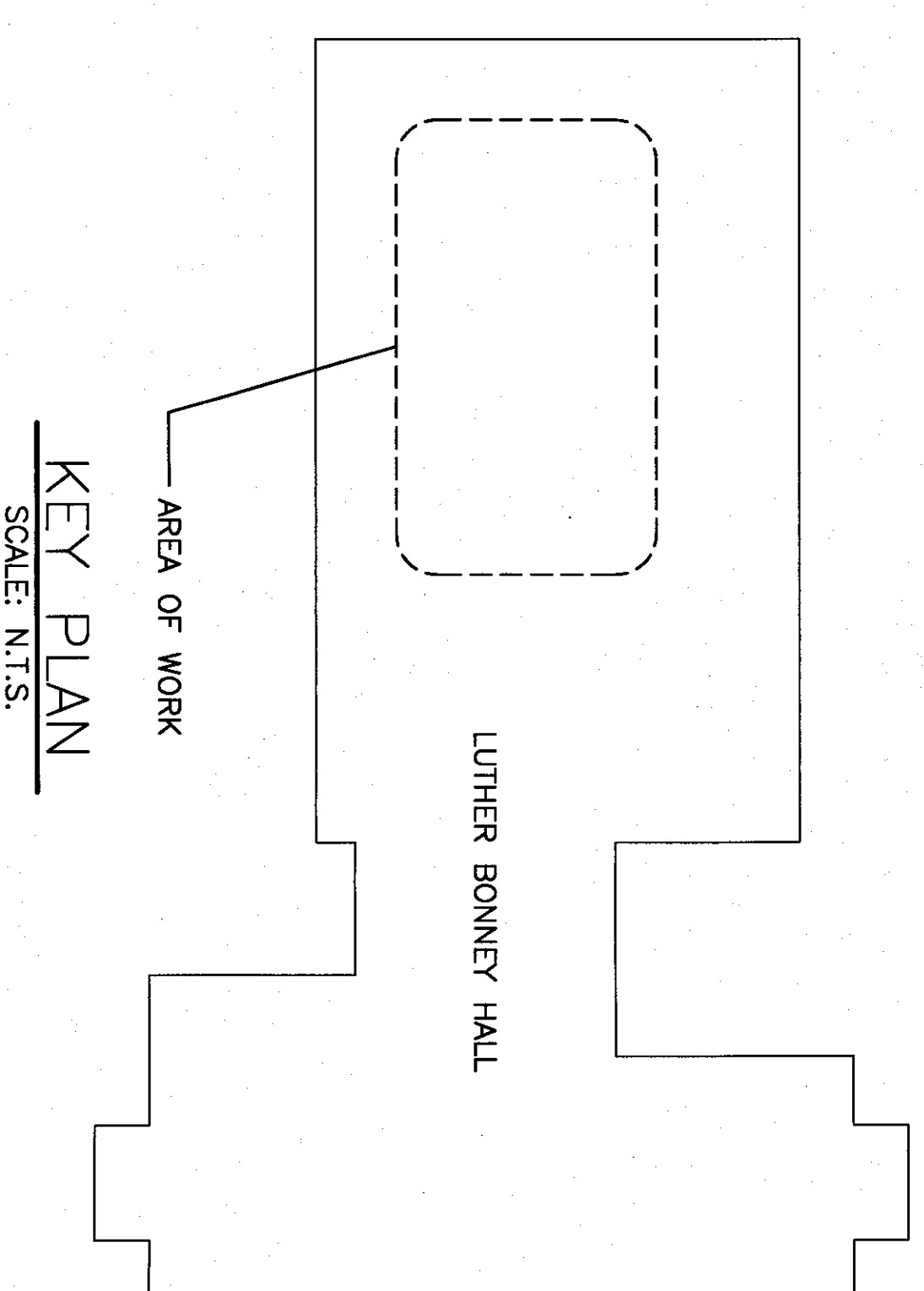
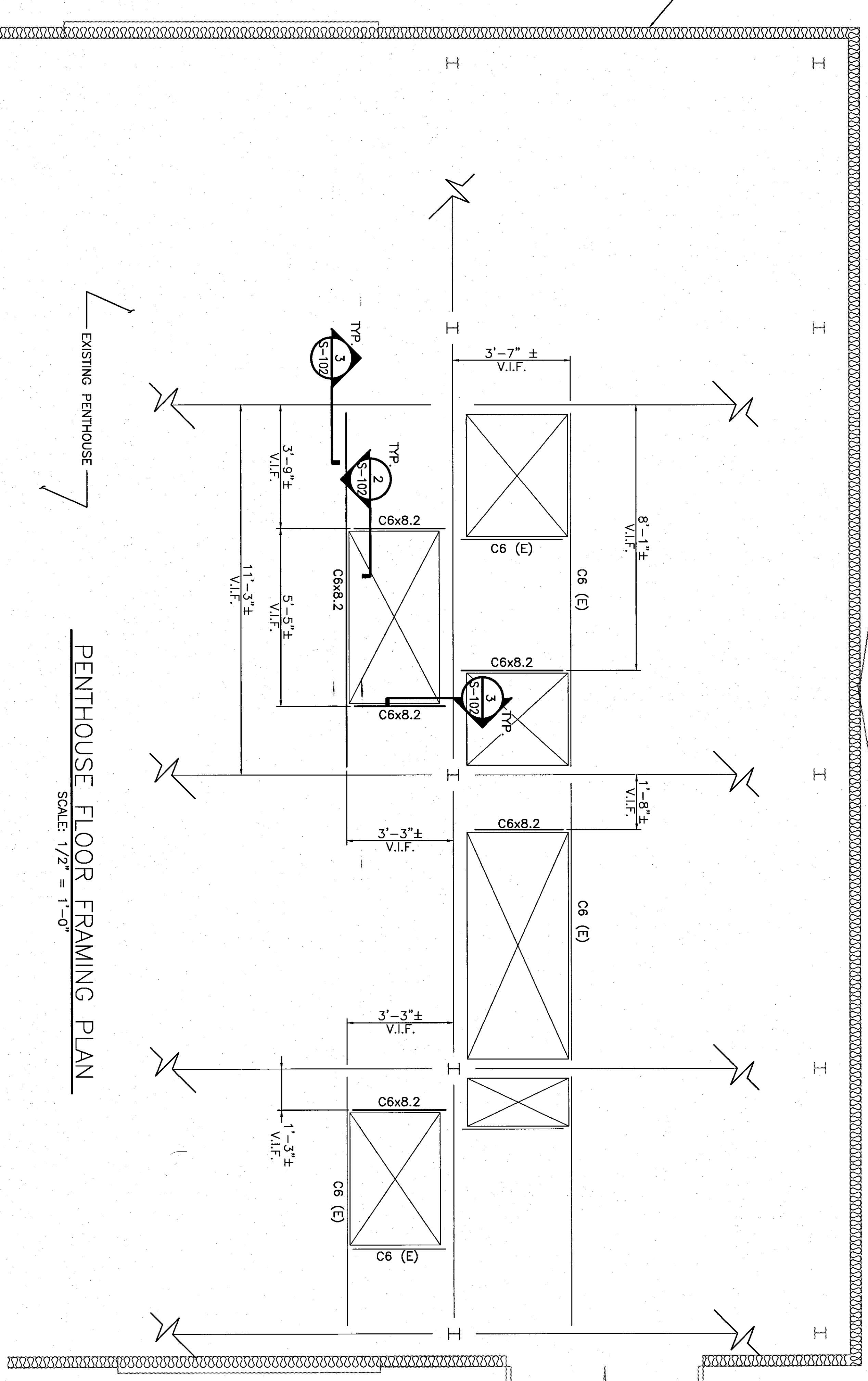
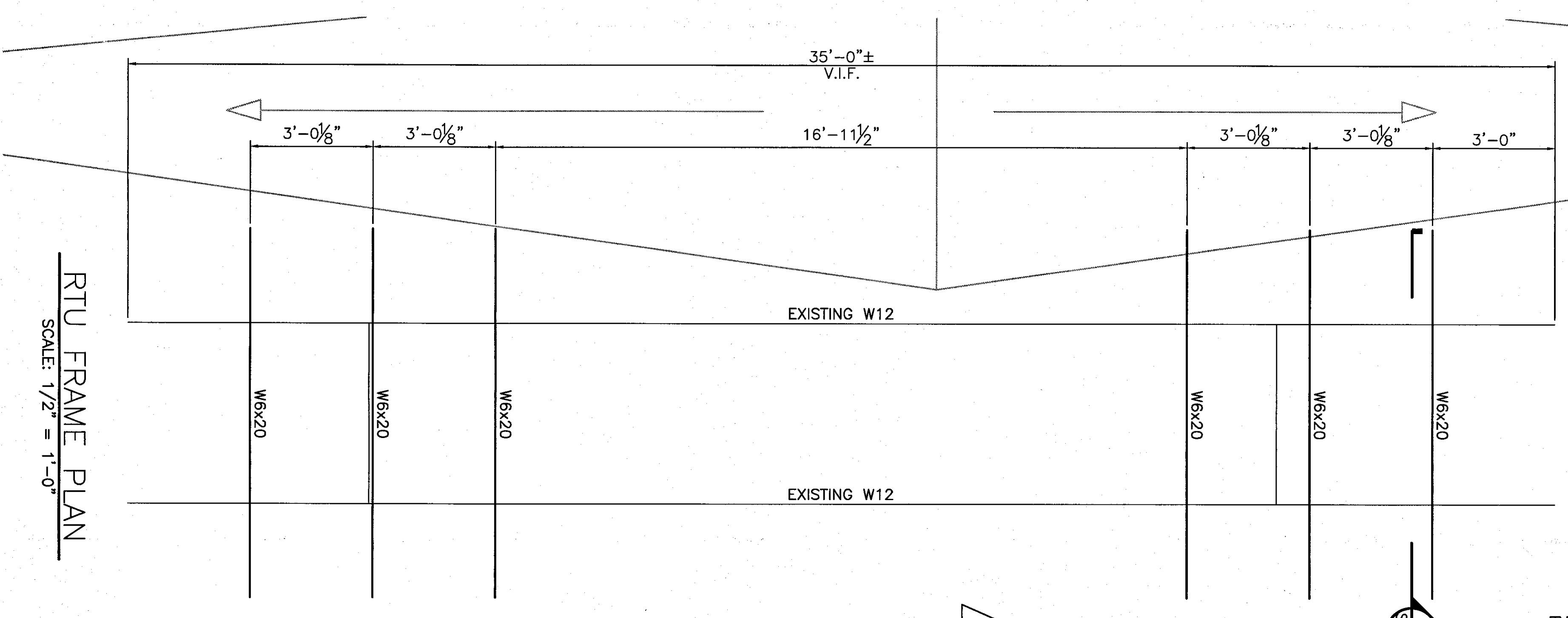
UNIVERSITY OF SOUTHERN MAINE PORTLAND, ME	
LUTHER BONNEY ENERGY UPGRADES	
STRUCTURAL DEMOLITION PLANS	
PROJECT NO. 131.008.003	DRAWING NO. SD-101
DATE: 2-2-12	SHEET 0F 37
DESIGNER: AKG	CHECKER: BRP
DR. (CD) / APP. DATE: 2-2-12	SCALE: AS NOTED
BY: BRP	ISSUED FOR CONSTRUCTION
CHK. BY: BRP	DESCRIPTION
Colby Company	Structural Engineering Electrical Engineering Civil Engineering
151.008.003	131.008.003
2	37



STRUCTURAL STEEL NOTES

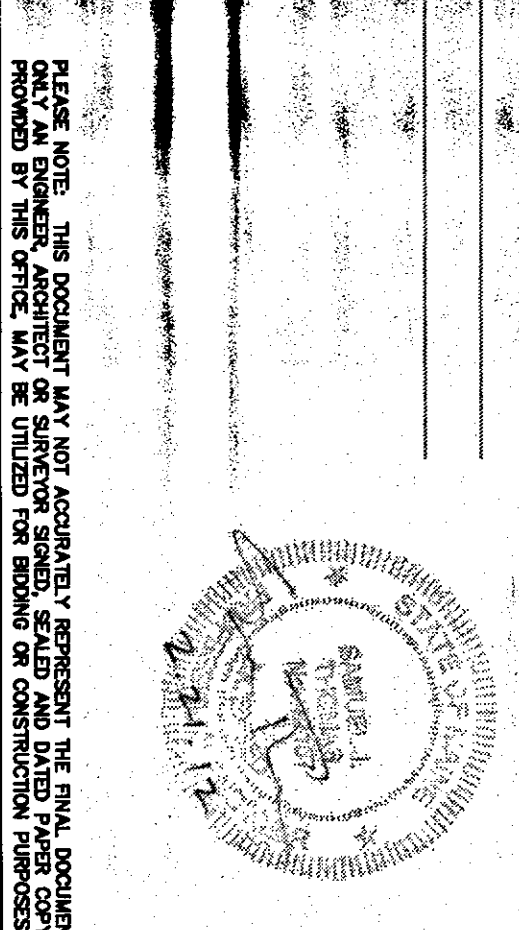
1. STRUCTURAL STEEL FABRICATION, ERECTION, AND CONNECTION DESIGN SHALL CONFORM TO AISC'S "SPECIFICATION FOR THE DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL" 13th EDITION.
2. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING:
 - a. WIDE FLANGE SHAPES ASTM A992
 - b. ANGLES, CHANNELS & PLATE ASTM A36
3. WELDING SHALL CONFORM TO AWS D1.1. WELDING ELECTRODES SHALL COMPLY WITH AWS REQUIREMENTS
4. STEEL MEMBERS SHALL BE CUT FROM FULL LENGTH STOCK. UNAUTHORIZED SPLICES WILL BE CAUSE FOR REJECTION.
5. FRAMING DIMENSIONS SHALL BE VERIFIED ONCE CONTRACTOR HAS SELECTED AND ENGINEER HAS APPROVED ACTUAL CONDENSING UNITS FOR INSTALLATION. CONTRACTOR TO VERIFY THAT CORRECT DIMENSIONS ARE KNOWN PRIOR TO FRAME FABRICATION.
6. WORK DONE ON ROOF SHALL BE IN ACCORDANCE WITH EXISTING ROOF WARRANTY.

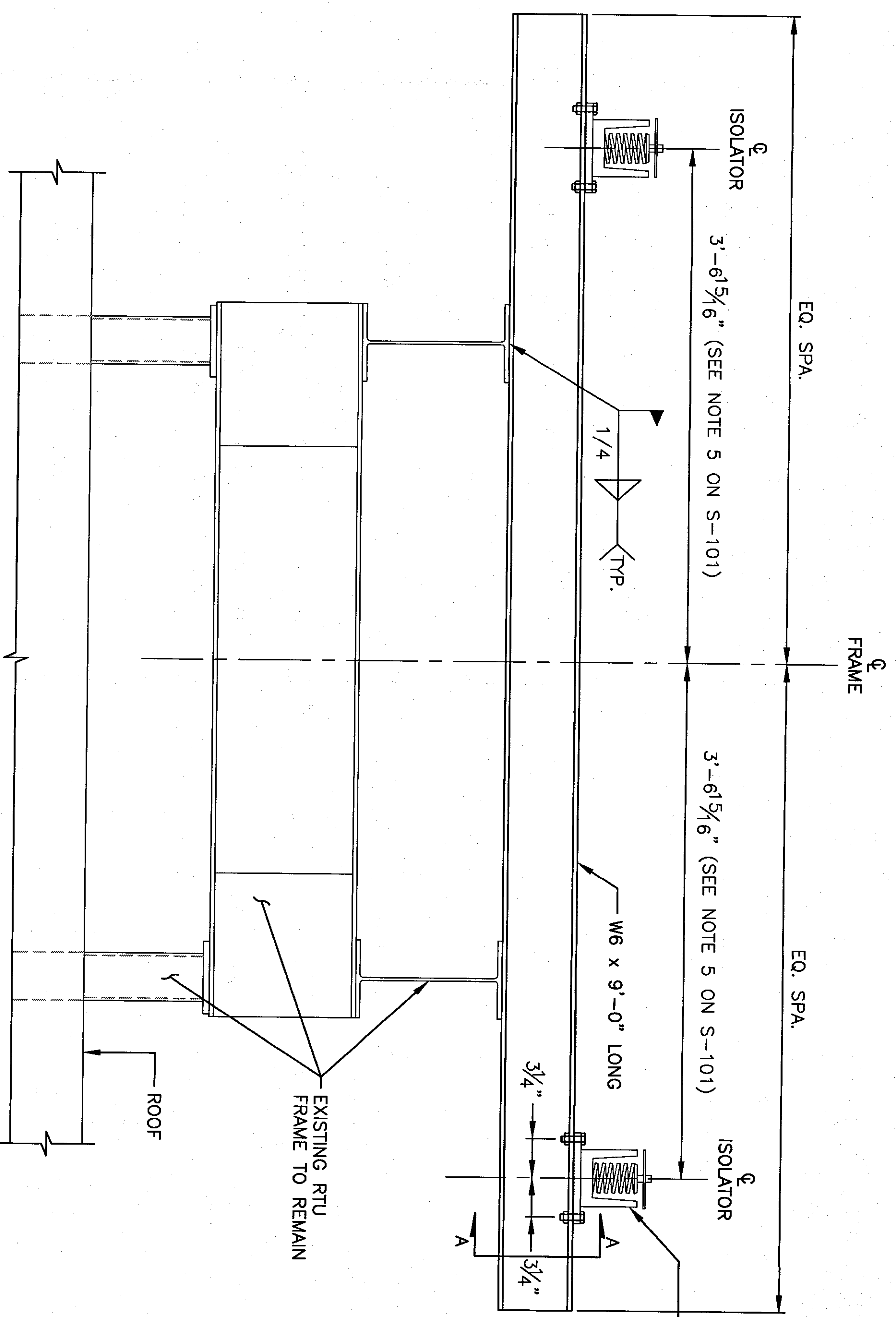
PROVIDE 4" THICK GLASS-REINFORCED POLYESTER INSULATION AT ALL EXTERIOR MECHANICAL PENTHOUSE WALLS. PRODUCT SHALL BE DOW THERMAX OR APPROVED EQUAL. PROVIDE AIR SEALING WITH EXPANDABLE FOAM INSULATION.



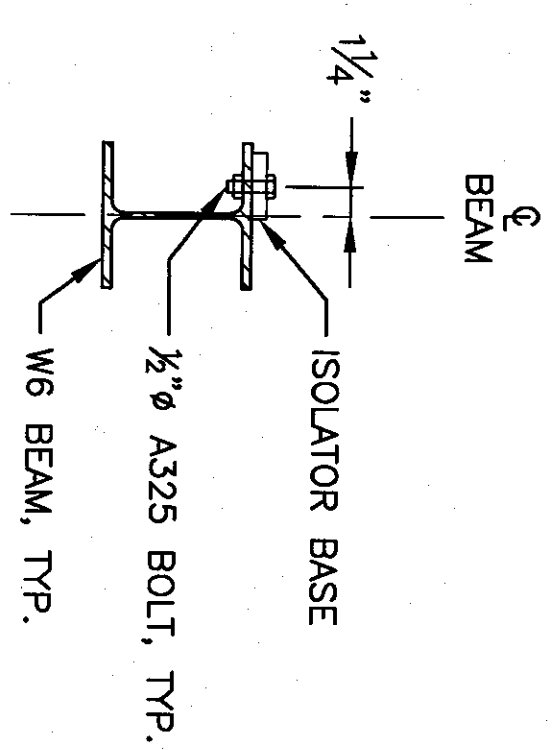
BASE BID

UNIVERSITY OF SOUTHERN MAINE PORTLAND, ME		PROJECT NO. 151.008.003		DRAWING NO. S-101	
LUTHER BONNEY ENERGY UPGRADES		STRUCTURAL PLANS & DETAILS		SHEET 37 OF 37	
REV.	DESCRIPTION	ANG	ERP	BAR	DATE
0	ISSUED FOR CONSTRUCTION				2-21-12
Calby Company Structural Engineering Mechanical Engineering Electrical Engineering Civil Engineering www.calbycompany.com		DATE: 2-21-12 DES. BY: ANG DWN. BY: ANG CHK. BY: ERP		PROJECT NO. 151.008.003 SHEET 37 OF 37 DRAWING NO. S-101	



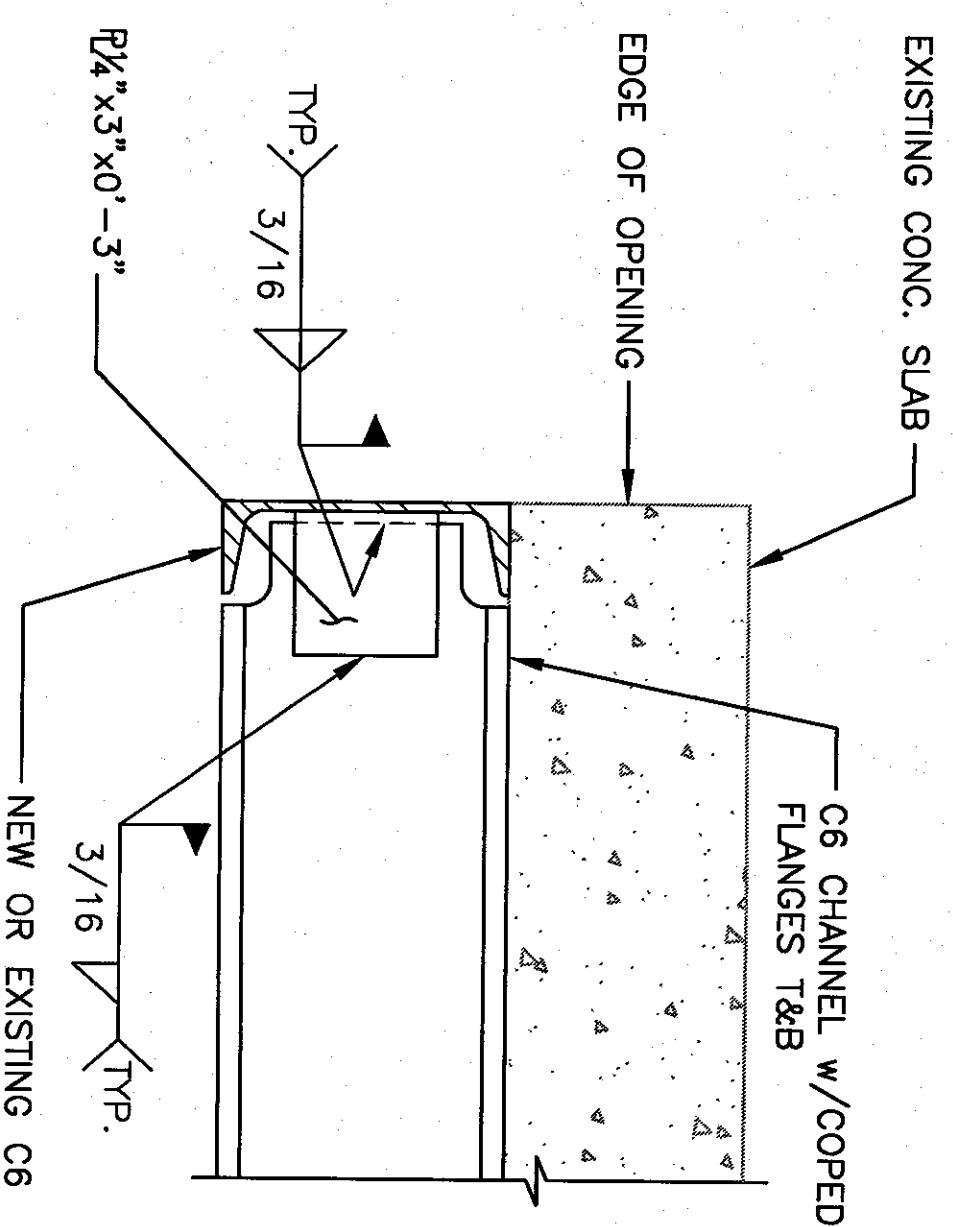


1 SECTION DETAIL
S-102 SCALE: 1 1/2" = 1'-0" REF. DWG.: S-101

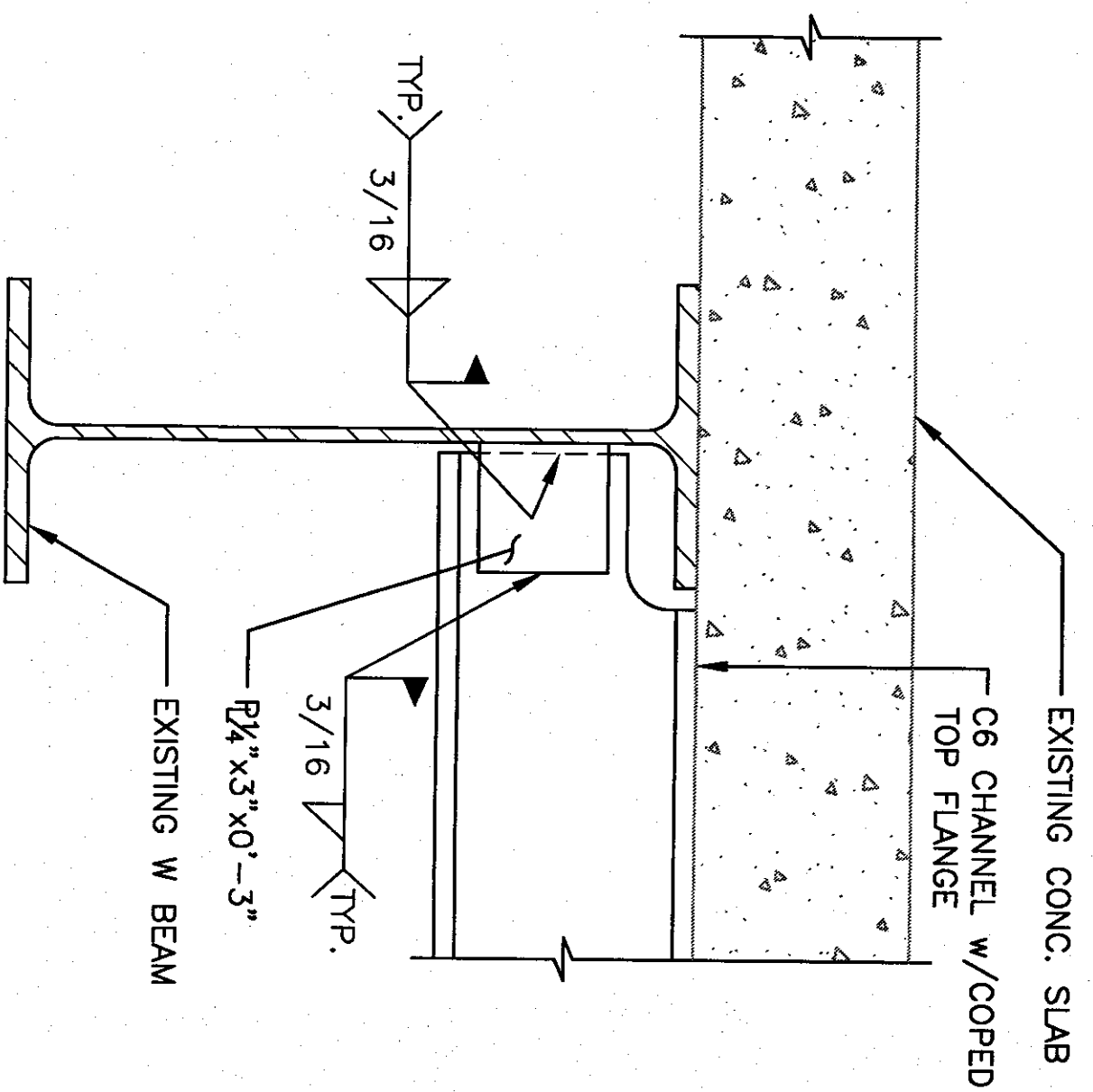


SECTION A-A

ISOLATOR PROVIDED BY MANUFACTURER. VERIFY DIMENSIONS PRIOR TO INSTALLATION.



2 CONNECTION DETAIL
S-102 SCALE: 3" = 1'-0" REF. DWG.: S-101

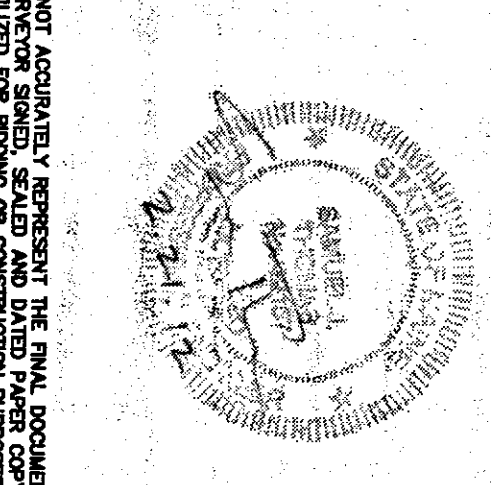


3 CONNECTION DETAIL
S-102 SCALE: 3" = 1'-0" REF. DWG.: S-101

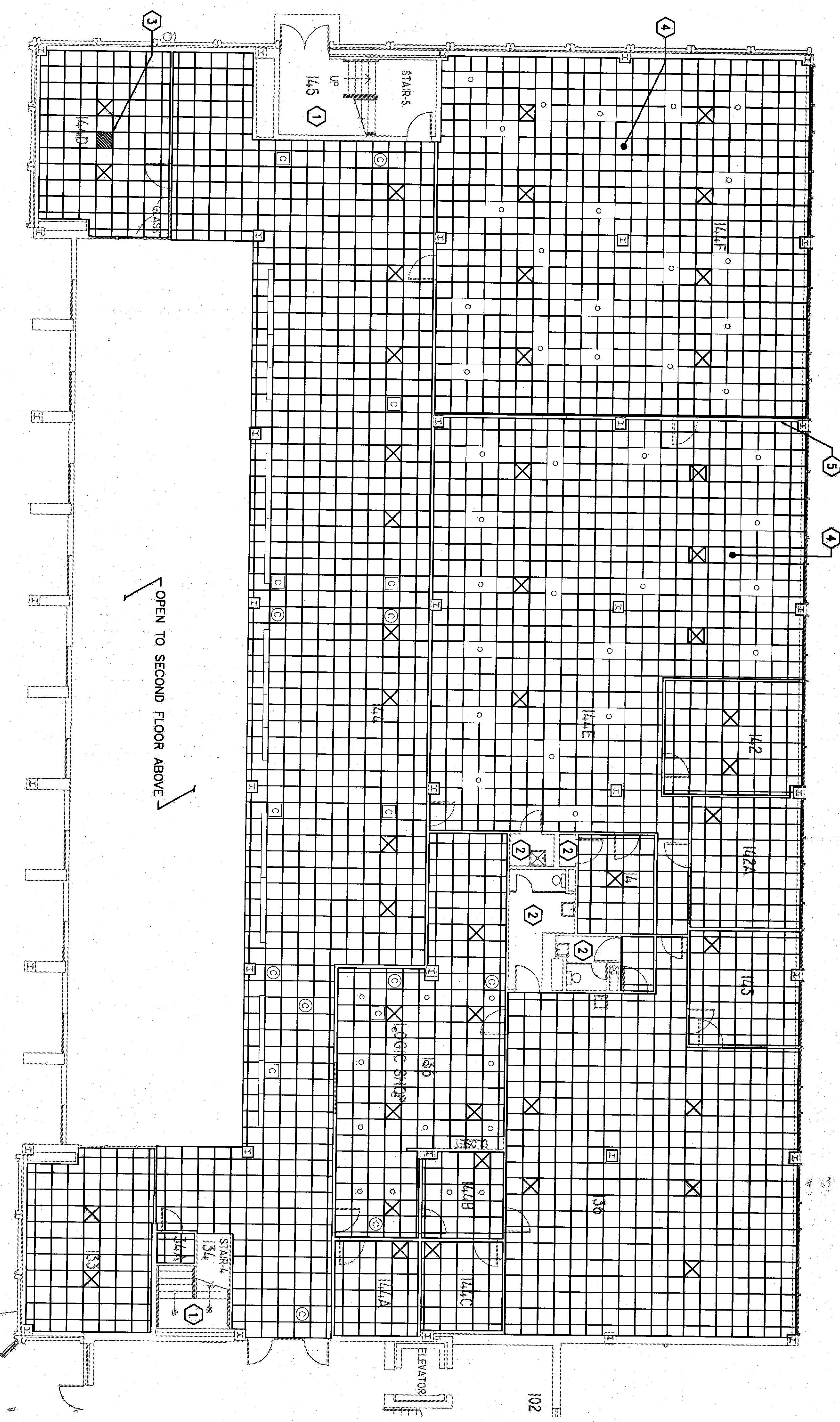
BASE BID

UNIVERSITY OF SOUTHERN MAINE PORTLAND, ME		PROJECT NO. 151.008.003		DRAWING NO. S-102	
LUTHER BONNEY ENERGY UPGRADES		STRUCTURAL PLANS & DETAILS		SHEET 4 OF 37	
REV	DESCRIPTION	ANG ERP	DATE	BY	DATE
0	ISSUED FOR CONSTRUCTION	ANG ERP	2-21-12	ANG	2-21-12

Colby Company
 Structural Engineering
 201 West Industrial Avenue
 Lewiston, ME 04203
 www.colbycompany.com
 DES. BY: ANG
 CHK. BY: ERP

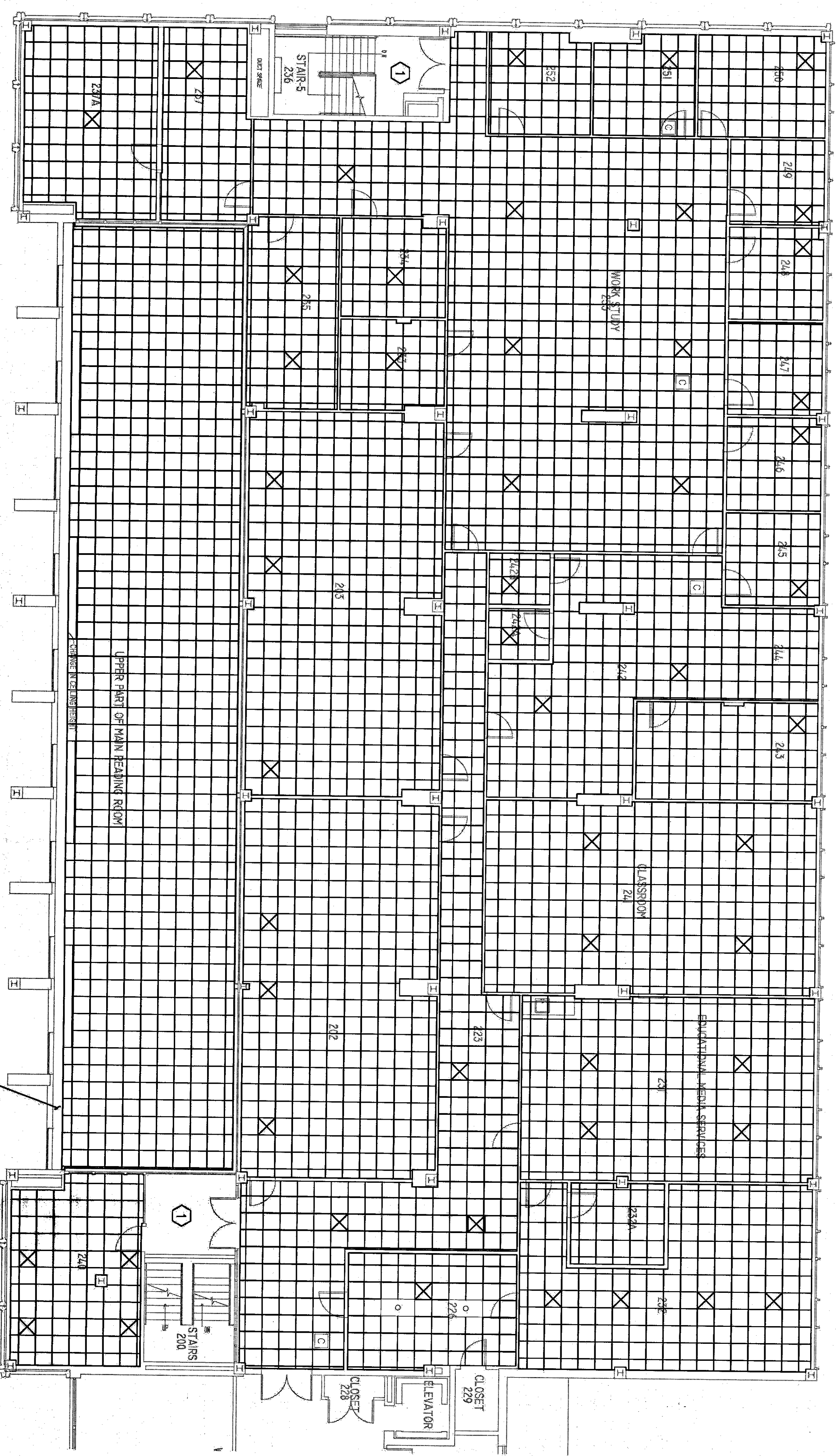


PLEASE NOTE: THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.



FIRST FLOOR NEW REFLECTED CEILING PLAN

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



SECOND FLOOR NEW REFLECTED CEILING PLAN

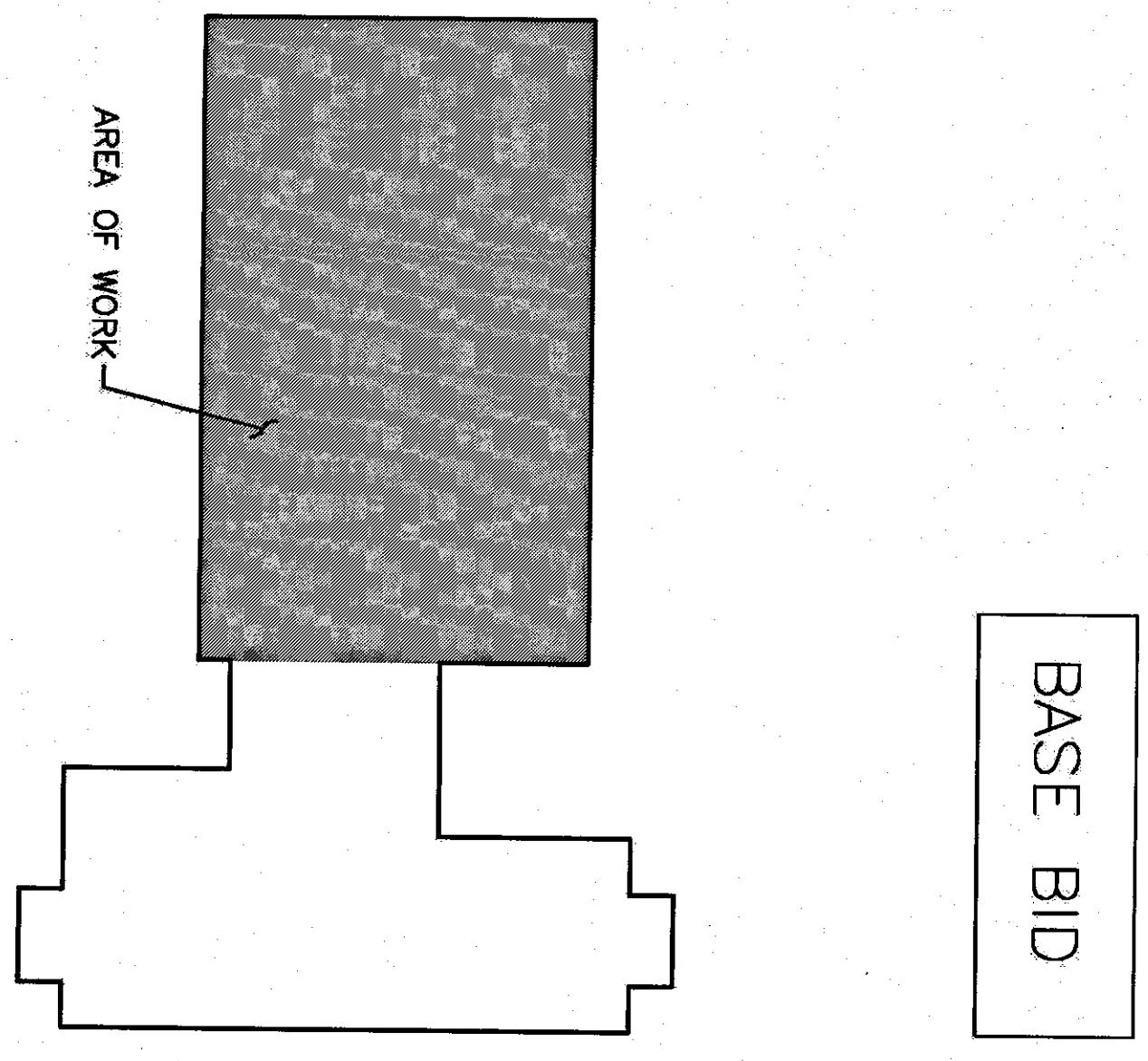
SCALE: 1/8" = 1'-0"

- NOTES:
1. CONTRACTOR TO MEASURE & DOCUMENT EXISTING CEILING HEIGHTS.
 2. REMOVE EXISTING CEILING, TILES AND GRID SYSTEM IN ALL AREAS.
 3. CONTRACTOR TO SALVAGE AND PROTECT ALL CEILING MOUNTED LIGHTS, ETC. CONTRACTOR TO VERIFY & DOCUMENT ALL QUANTITIES & LOCATIONS IN FIELD.
 4. NEW CEILING SHALL BE INSTALLED AT EXISTING CEILING HEIGHTS, UNLESS NOTED OTHERWISE ON PLANS.
 5. NEW CEILING SHALL BE 5/8" ARMSTRONG CORTEGE BEVELED REGULAR 12'x2' FIXTURES SHOWN. SEE ELECTRICAL PLANS.
 6. ONLY RECESSED LIGHT FIXTURES.
 7. RELOCATE WALL MOUNTED ELECTRICAL FIXTURES THAT MAY INTERFERE WITH LOWERED CEILING IN ROOMS 144E & 144F. SLOPE NEW CEILING TO TOP OF WINDOW FRAMES AS NEEDED. SIMILAR TO EXISTING CONDITIONS.
 8. REMOVE AND REINSTALL EXISTING WINDOW BLINDS HUNG FROM CEILING GRID.

- KEYED NOTES:
1. AREA NOT IN SCOPE.
 2. EXISTING HARD CEILING TO REMAIN.
 3. EXISTING PROJECTOR MOUNTED TO PLYWOOD AND HUNG IN CEILING GRID TO REMAIN.
 4. LOWER CEILING HEIGHT BY 4" IN INDICATED OPEN OFFICE AREAS.
 5. BRACE TOP TRACK OF PARTITION WALL BETWEEN ROOMS 144E & 144F DURING CONSTRUCTION.

LEGEND:

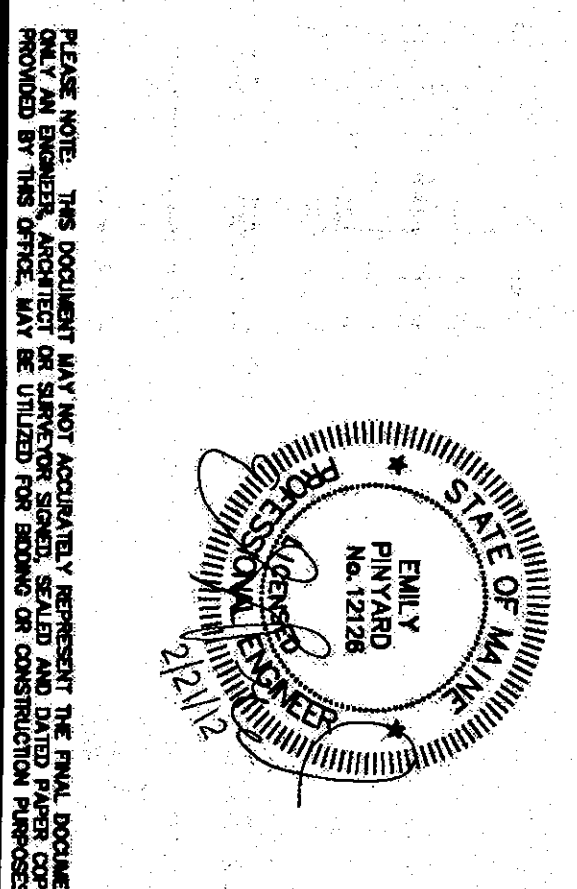
- NEW 2'x2' SUSPENDED CEILING SYSTEM
- EXISTING LINEAR DIFFUSERS TO REMAIN
- NEW 2'x2 SUPPLY DIFFUSER, SEE MECHANICAL PLANS
- NEW 12' LINEAR DIFFUSER, SEE MECHANICAL PLANS
- EXISTING 2'x2 RECESSED LIGHT TO REMAIN, SEE ELECTRICAL PLANS
- EXISTING 2'x4 RECESSED LIGHT TO REMAIN, SEE ELECTRICAL PLANS
- EXISTING SURFACE MOUNTED CAMERA TO REMAIN
- EXISTING SURFACE MOUNTED CALL LIGHT TO REMAIN



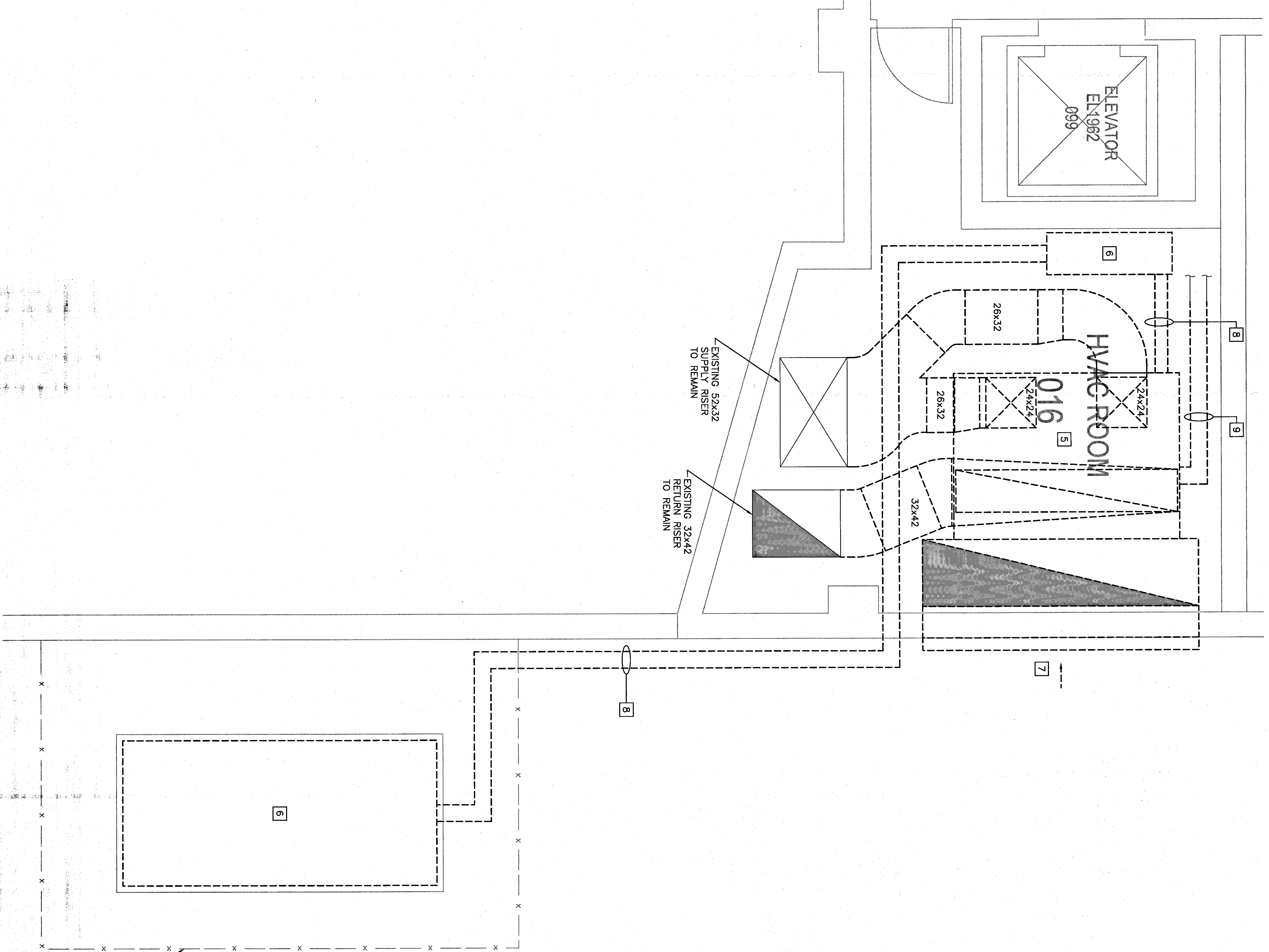
KEY PLAN

SCALE: N1S

UNIVERSITY OF SOUTHERN MAINE PORTLAND, ME		PROJECT NO. DRAWING NO.	
LUTHER BONNEY ENERGY UPGRADES		REFLECTED CEILING PLANS	
Calyby Company 200 Water Street, Portland, ME 04101 www.calyby.com		PROJECT NO. 151.008.003 DRAWING NO. G-101	
DESIGNED BY: CSS	DATE: 2-21-12	CHECKED BY: CSS	DATE: 2-21-12
DRAWN BY: CSS	DATE: 2-21-12	DESIGNED BY: CSS	DATE: 2-21-12
CHECKED BY: CSS	DATE: 2-21-12	DRAWN BY: CSS	DATE: 2-21-12
PROJECT NO. 151.008.003	DRAWING NO. G-101	SHEET 5	OF 37



STATE OF MAINE: THE REGISTERED PROFESSIONAL ENGINEER'S SEAL IS TO BE USED ON ALL DOCUMENTS PREPARED BY THE ENGINEER OR UNDER HIS CLOSE PERSONAL SUPERVISION AND IS TO BE USED FOR THE PURPOSES OF THE REGISTERED PROFESSIONAL ENGINEER ACT.

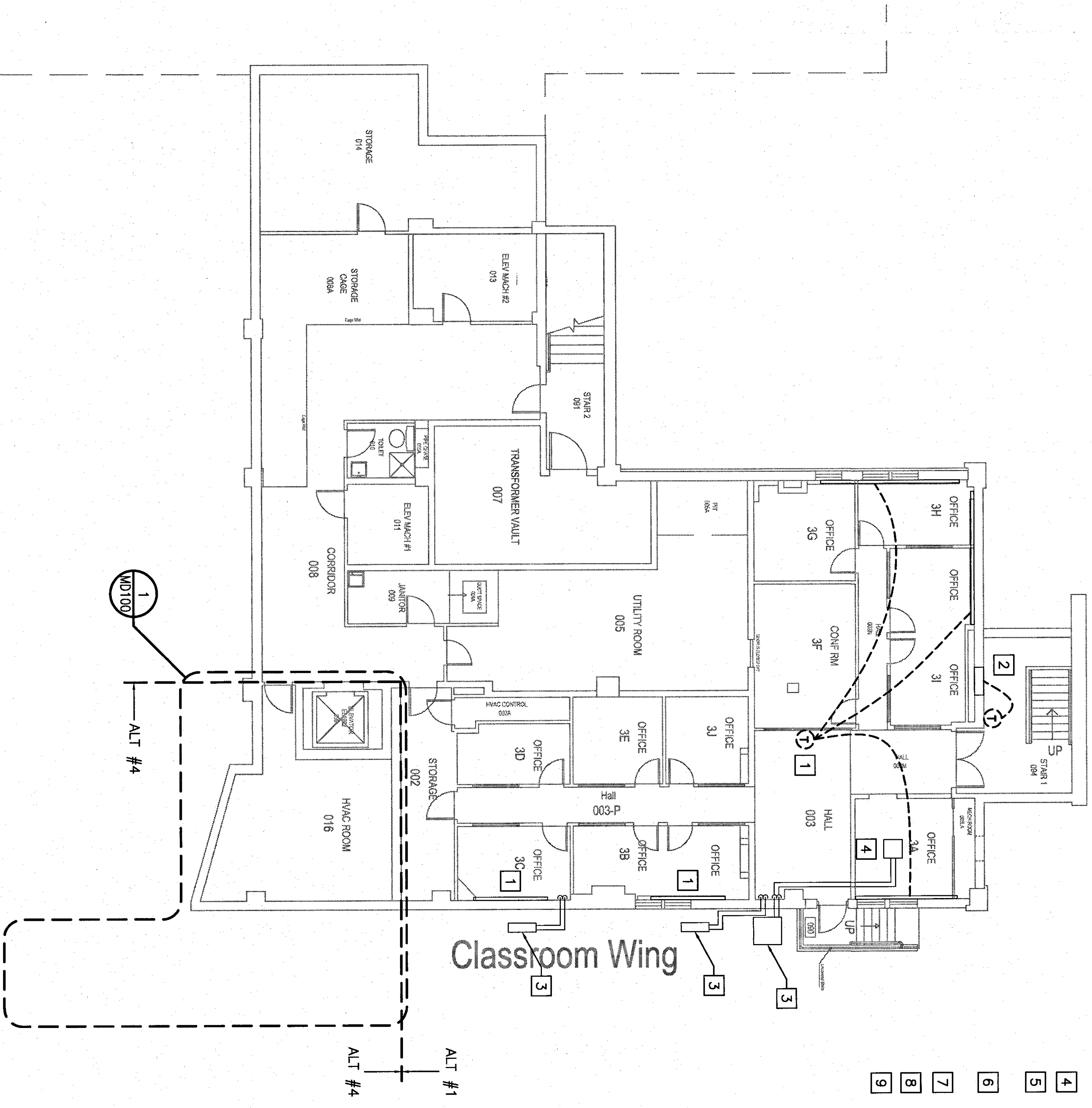


1
BASEMENT MER MECHANICAL DEMOLITION PART PLAN
SCALE: 1/2" = 1'-0"
REF. DWG: MD-100

REMOVE & REINSTALL EXISTING FENCE IF NEEDED TO FACILITATE CONDENSING UNIT REPLACEMENT.

BASEMENT MECHANICAL DEMOLITION PLAN

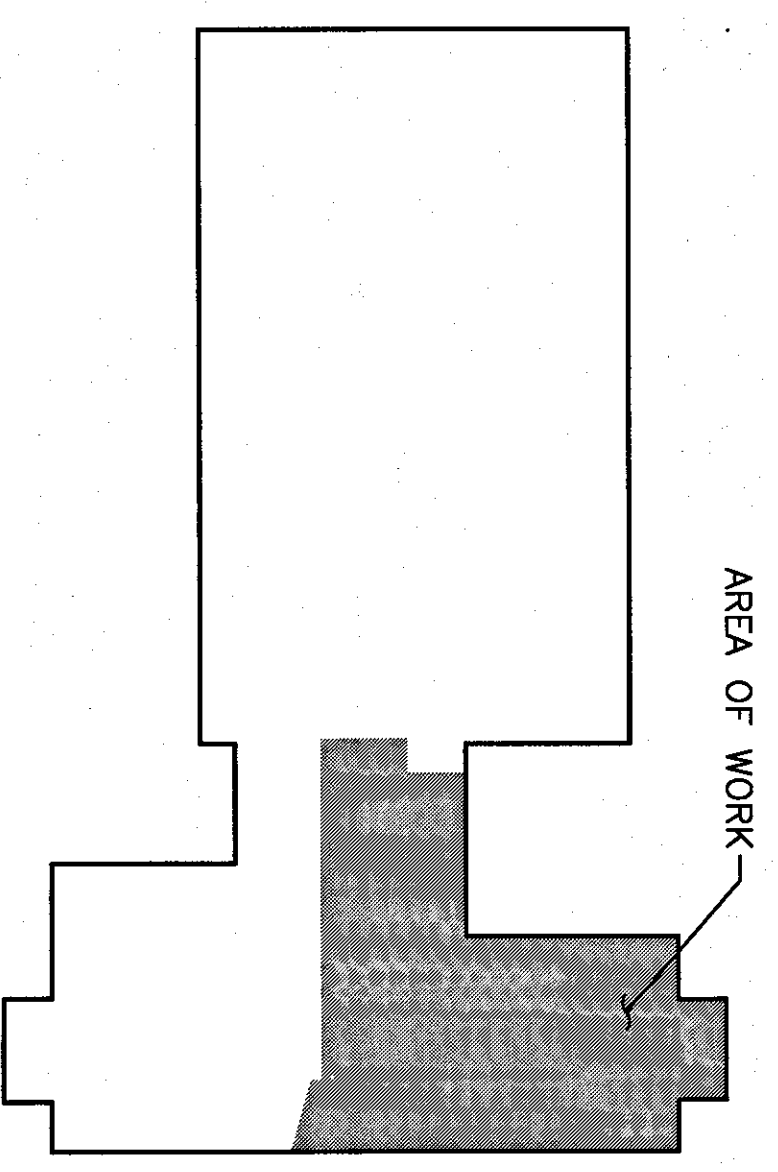
SCALE: 1/8" = 1'-0"



- NOTES:
- SEE SHEET M-001 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
 - WHEREVER PNEUMATIC PIPING IS DISCONNECTED OR REMOVED, REMAINING PIPE END MUST BE CAPPED & WELL SEALED.
 - REMOVE ALL EXISTING HEATING UNIT STEAM TRAPS AT COILS & DRIP LEGS.
- DEMOLITION KEYED NOTES:
- REMOVE PNEUMATIC THERMOSTAT, PNEUMATIC STEAM VALVE ACTUATOR, AND ASSOCIATED PNEUMATIC PIPING.
 - REMOVE PNEUMATIC THERMOSTAT, PNEUMATIC STEAM VALVE ACTUATOR, AND ASSOCIATED PNEUMATIC PIPING FOR RECESSED CABINET UNIT HEATER.
 - EXISTING CONDENSING UNIT & ASSOCIATED EVAPORATOR TO REMAIN.
 - EXISTING AHU TO REMAIN.
 - REMOVE HV-3 AND ASSOCIATED DUCTWORK INSIDE THE MECHANICAL ROOM, REMOVE CONTROLS.
 - REMOVE HV-3 CONDENSING UNIT (INDOOR COMPRESSOR AND OUTDOOR CONDENSER), CONCRETE PAD TO REMAIN.
 - REMOVE OUTDOOR AIR LOWER TO FACILITATE REPLACEMENT OF HV-3 WITH THE NEW AHU-3.
 - REMOVE REFRIGERANT PIPING & HANGERS/SUPPORTS.
 - REMOVE LPS & LPC BRANCHES & VALVES BACK TO 5" MAIN. REMOVE ALL COIL & DRIP LEG STEAM TRAPS.
 - REMOVE LPS & LPC BRANCHES & VALVES BACK TO 5" MAIN. REMOVE ALL COIL & DRIP LEG STEAM TRAPS.

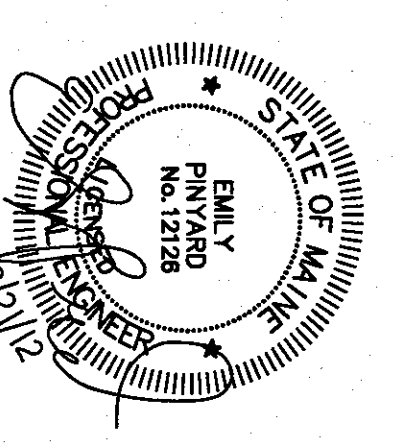
KEY PLAN

SCALE: NTS



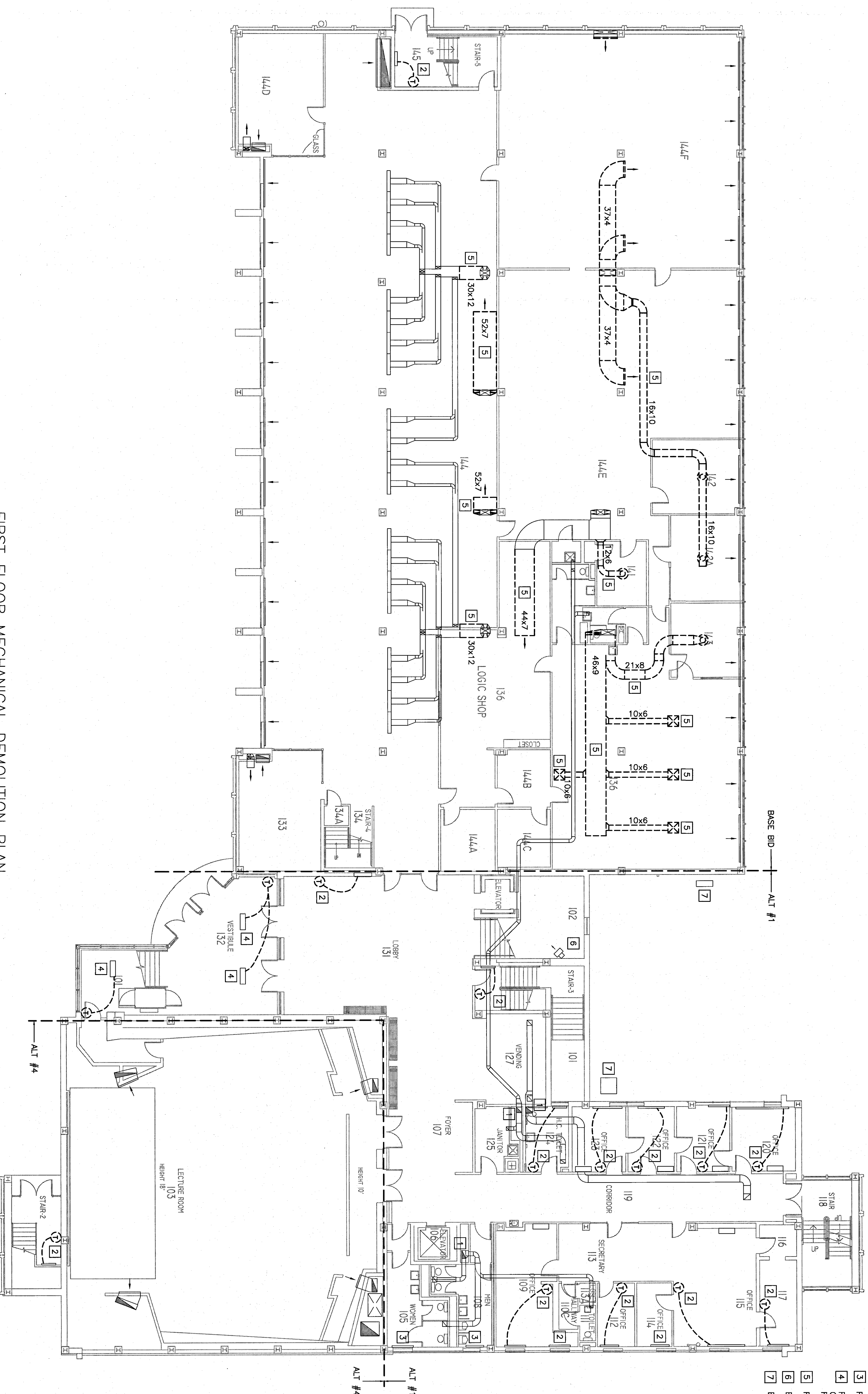
BID ALTERNATE #4

BID ALTERNATE #1



UNIVERSITY OF SOUTHERN MAINE PORTLAND, ME		LUTHER BONNEY ENERGY UPGRADES	
PROJECT NO. 191.008.003		DRAWING NO. MD-100	
DATE: 2-21-12		SHEET 06	
BY: CSS		SHEET 37	
CHK BY: EPR			
ISSUED FOR CONSTRUCTION	CSS EPR CBE 2-21-12	PROJECT NO.	DRAWING NO.
DR. EX/APP DATE	BY: EPR	191.008.003	MD-100
BY: EPR	DATE		
DESCRIPTION	SCALE: AS NOTED		
Colby Company	Structural Engineering		
200 North Main Street	Portland, ME 04101		
www.colbycompany.com	www.colbycompany.com		

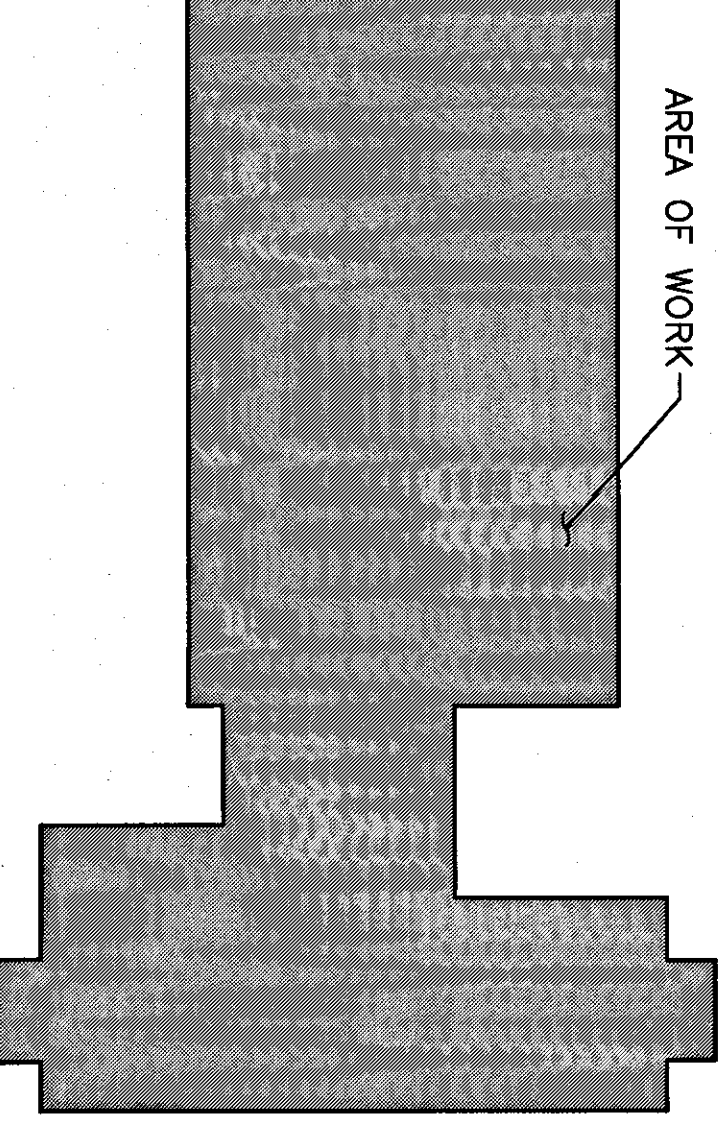
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- NOTES:**
- SEE SHEET M-001 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
 - WHENEVER PNEUMATIC PIPING IS DISCONNECTED OR REMOVED, REMAINING PIPE END MUST BE CAPPED & WELL SEALED.
 - REMOVE ALL EXISTING HEATING UNIT STEAM TRAPS AT COLLS & DRIP LEGS.
- DEMOLITION KEYED NOTES:**
- EXHAUST RISERS TO EF-4,5,6 ON ROOF TO REMAIN.
 - REMOVE PNEUMATIC THERMOSTAT, PNEUMATIC STEAM CONTROL VALVE, AND ASSOCIATED PNEUMATIC PIPING.
 - REMOVE EXISTING MANUAL STEAM CONTROL VALVE.
 - REMOVE PNEUMATIC THERMOSTAT, PNEUMATIC HOT WATER CONTROL VALVE, AND ASSOCIATED PNEUMATIC PIPING. EXISTING FAN COIL UNIT TO REMAIN.
 - REMOVE SECTION OF DUCT AND AIR OUTLETS WHERE INDICATED.
 - EXISTING STEAM UNIT HEATER TO REMAIN.
 - EXISTING CONDENSING UNIT TO REMAIN.

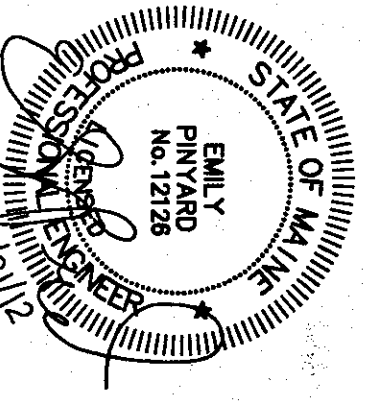
FIRST FLOOR MECHANICAL DEMOLITION PLAN
SCALE: 1/8" = 1'-0"

KEY PLAN
SCALE: NTS



BASE BID
BID ALTERNATE #1
BID ALTERNATE #4

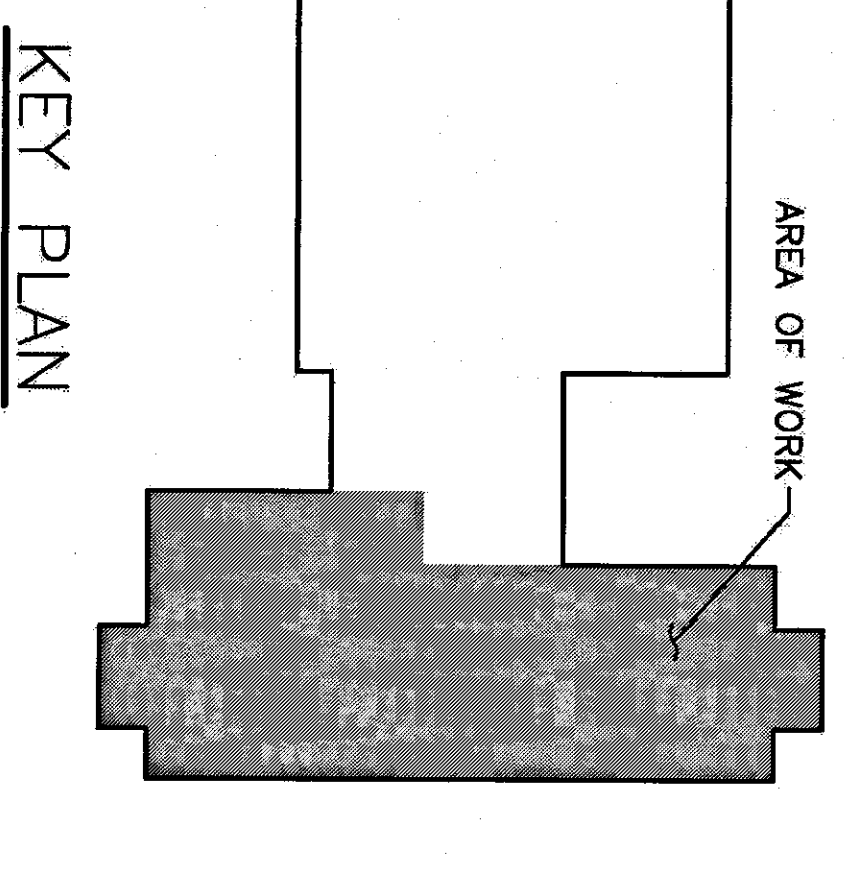
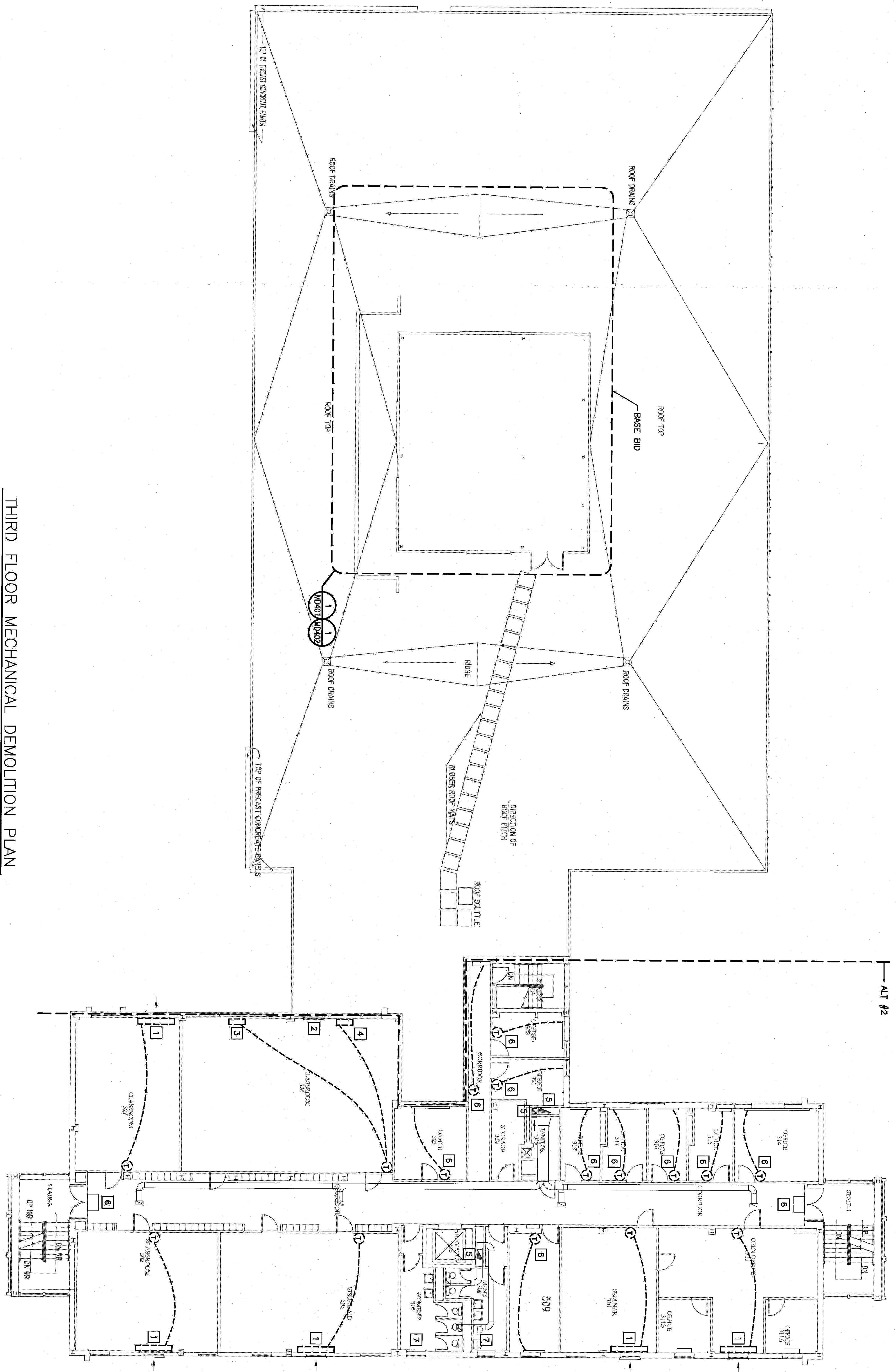
UNIVERSITY OF SOUTHERN MAINE PORTLAND, ME	
LUTHER BONNEY ENERGY UPGRADES	
FIRST FLOOR MECHANICAL DEMOLITION PLAN	
PROJECT NO. 151.008.003	DRAWING NO. MD-101
DATE: 2-21-12	SHEET 8 OF 37
DES BY: DMC	
DWN BY: CSS	
CHK BY: EPB	



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THIRD FLOOR MECHANICAL DEMOLITION PLAN

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



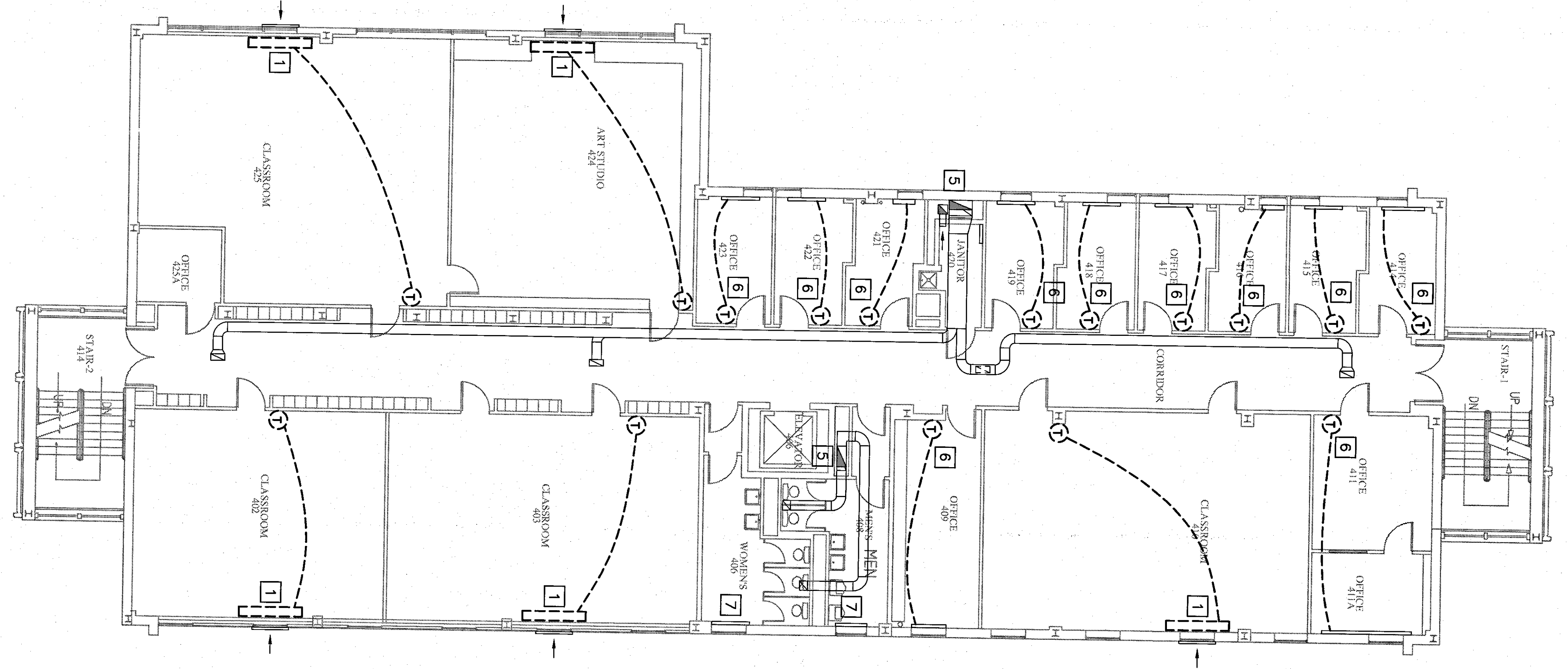
- NOTES:**
1. SEE SHEET M-001 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
 2. WHEREVER PNEUMATIC PIPING IS DISCONNECTED OR REMOVED, REMAINING PIPE END MUST BE CAPPED & WELL SEALED.
 3. REMOVE ALL EXISTING HEATING UNIT STEAM TRAPS AT COILS & DRIP LENS.
- DEMOLITION KEYED NOTES:**
- 1 REMOVE UNIT VENTILATOR AND CONTROLS. DISCONNECT STEAM AND CONDENSATE PIPES AND CAP FOR FUTURE USE.
 - 2 EXISTING OUTDOOR AIR RISER FROM SECOND FLOOR. TERMINATION LOCATION IS CONCEALED & LOCATION/CONFIGURATION IS TO BE FIELD VERIFIED BY CONTRACTOR. CONTRACTOR TO REMOVE AND REPLACE SECTION OF ROOM FINISH TO ACCESS EXISTING DUCT.
 - 3 REMOVE FAN COIL UNIT AND CONTROLS. SALVAGE FAN COIL UNIT AND RETURN TO OWNER. DISCONNECT STEAM AND CONDENSATE PIPES AND CAP BELOW FLOOR LEVEL & FILL HOLES WITH NON-SHRINK GROUT.
 - 4 REMOVE FAN COIL UNIT AND CONTROLS. SALVAGE FAN COIL UNIT AND RETURN TO OWNER. REMOVE STEAM AND CONDENSATE BRANCHES BACK TO RISERS INSIDE ROOM.
 - 5 EXHAUST RISERS TO EF-4.5.6 ON ROOF TO REMAIN.
 - 6 REMOVE PNEUMATIC THERMOSTAT, PNEUMATIC STEAM VALVE ACTUATOR, AND ASSOCIATED PNEUMATIC PIPING.
 - 7 REMOVE MANUAL STEAM CONTROL VALVE.

AREA OF WORK

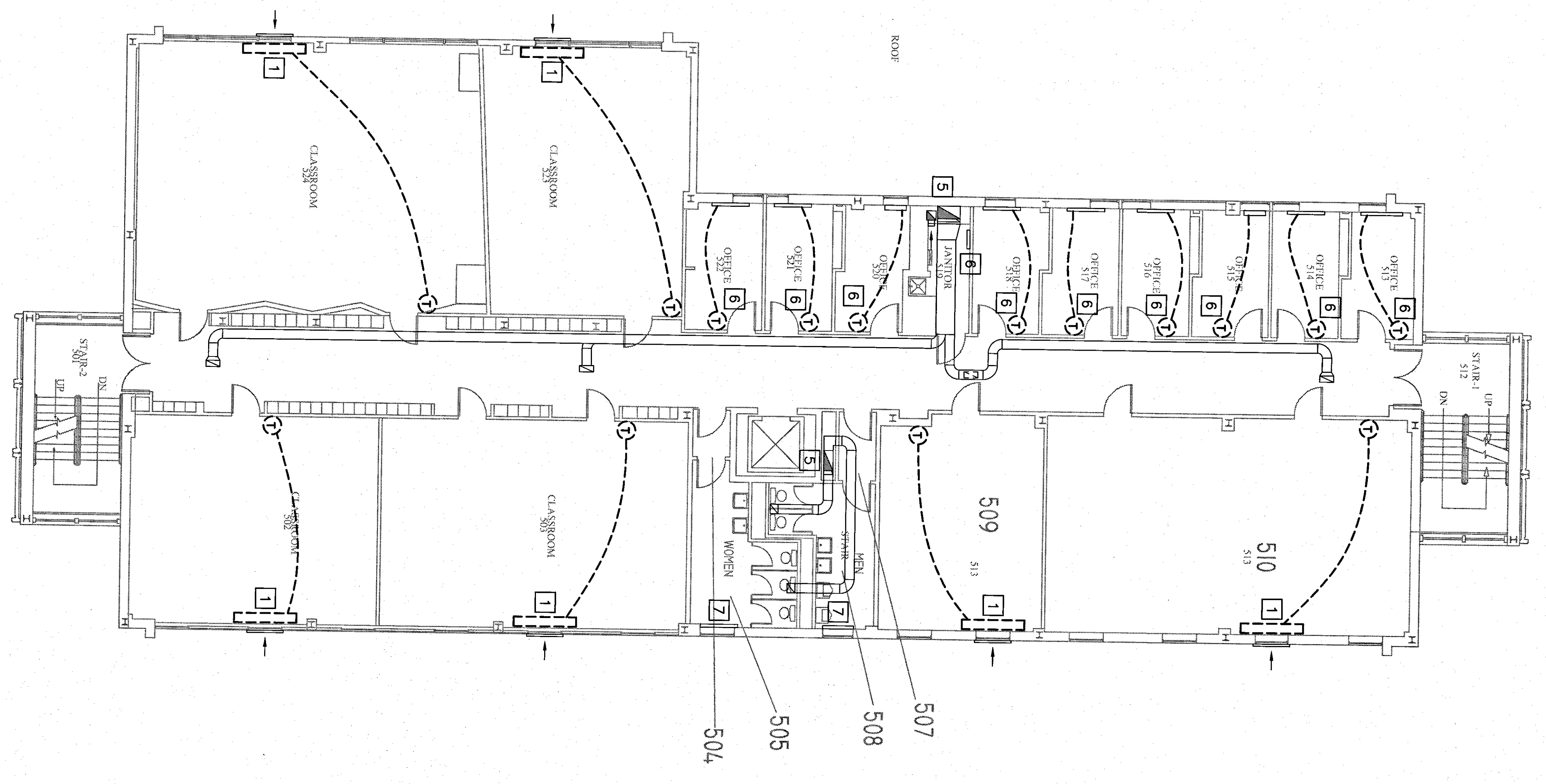
BASE BID

ALTERNATE #2

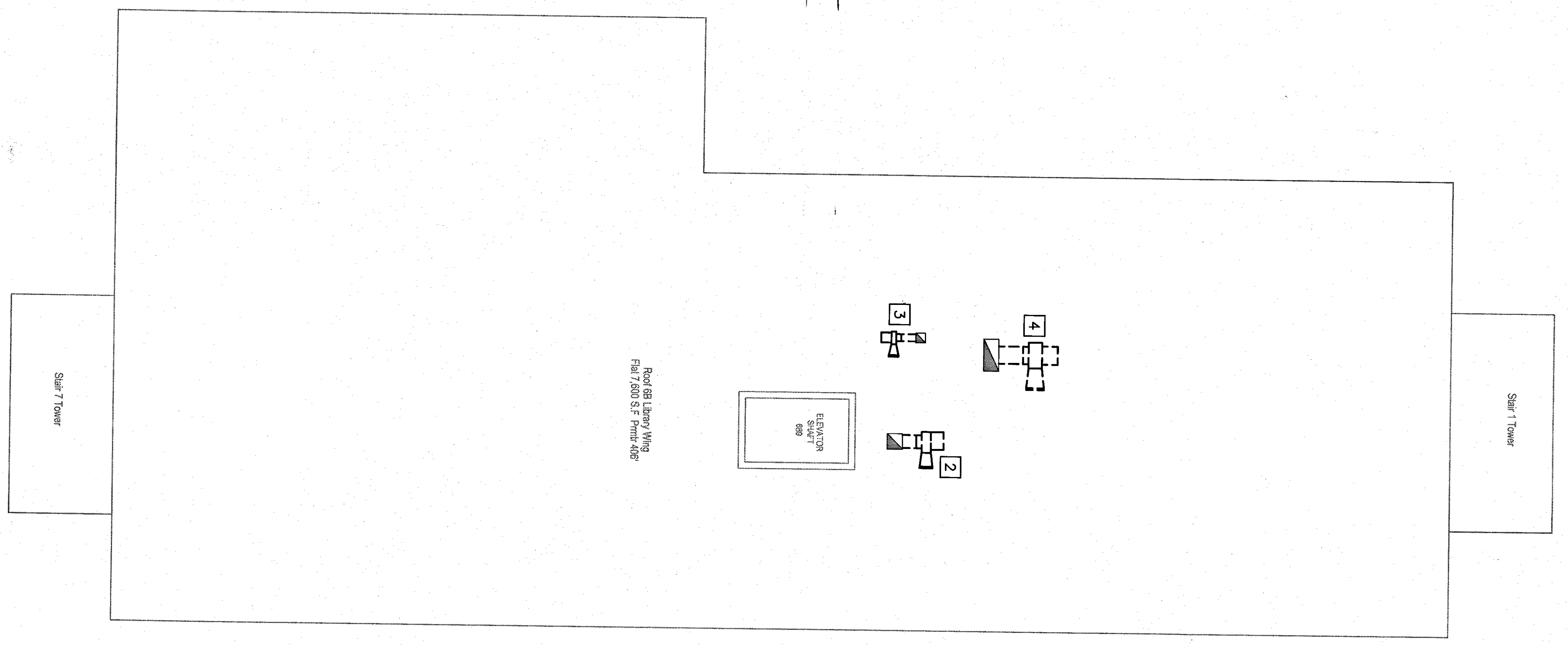
UNIVERSITY OF SOUTHERN MAINE FORSYTH, ME	
LUTHER BONNEY ENERGY UPGRADES	
PROJECT NO. 151.006.003 SHEET OF 37	DRAWING NO. DEMOLITION PLAN MD-103
0 ISSUED FOR CONSTRUCTION DESCRIPTION: CSSI ERP (CNC 1-4-12) DES BY: CSS DATE: 2-21-12 CHK BY: ERP	
THIS PLAN AND THE DOCUMENTS AND NOT A CONTRACT. CONTRACTORS SHALL BE RESPONSIBLE FOR THE FIELD VERIFICATION OF ALL CONDITIONS. NO PART OF THIS DOCUMENT IS TO BE USED FOR ANY OTHER PROJECT WITHOUT THE WRITTEN PERMISSION OF THE DESIGNER.	



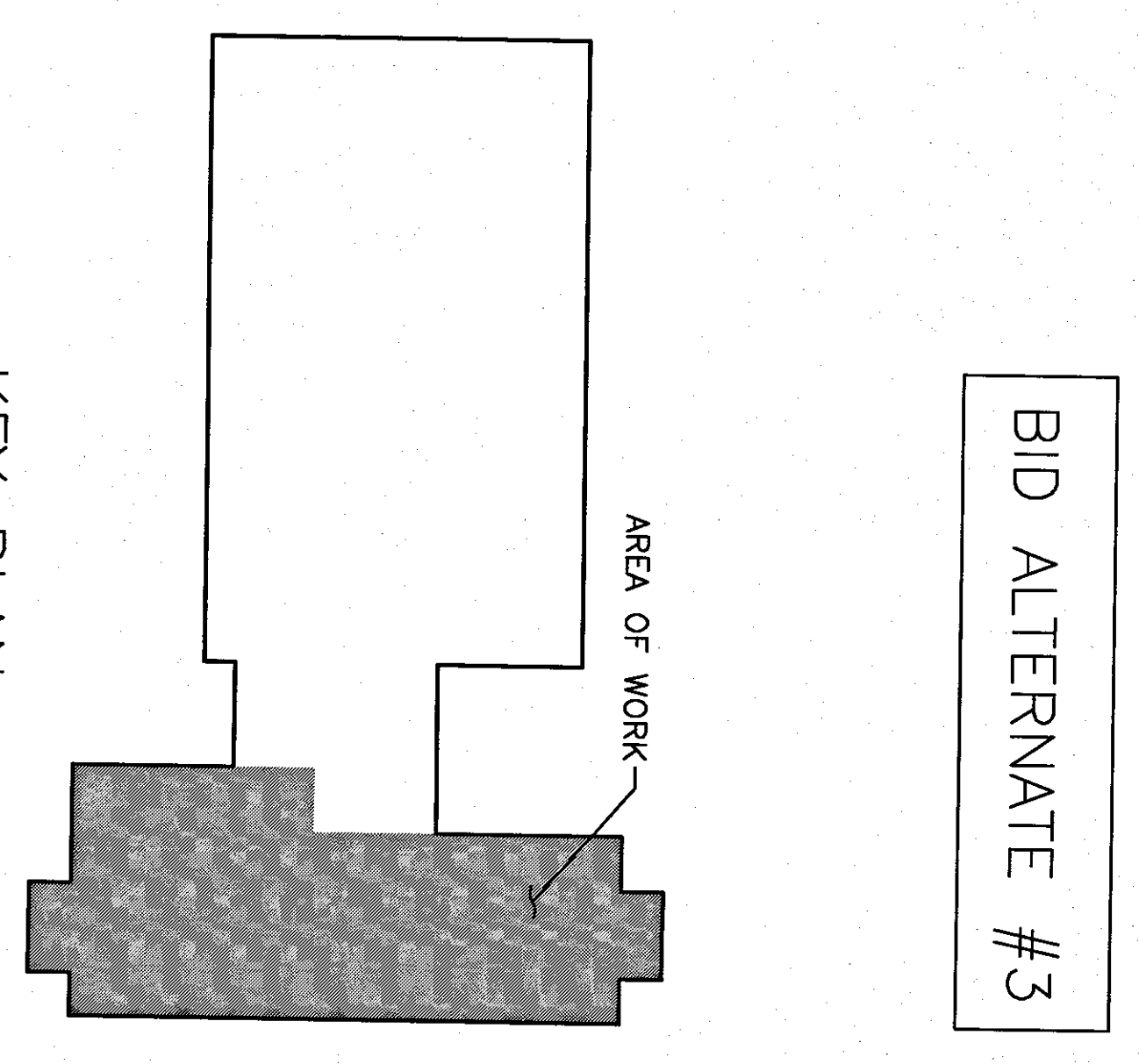
FOURTH FLOOR MECHANICAL DEMOLITION PLAN
SCALE: 1/8" = 1'-0"



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

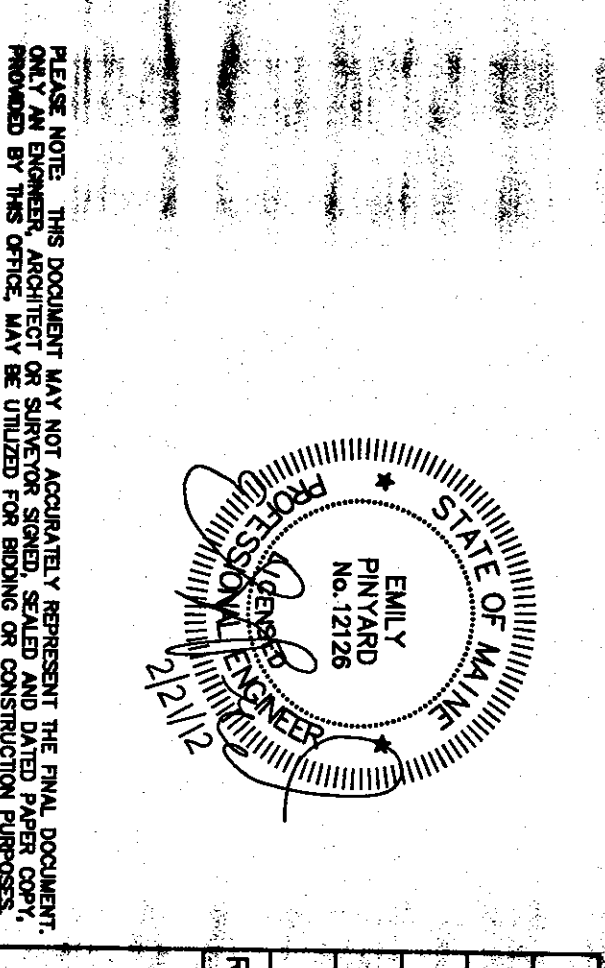


ROOF MECHANICAL DEMOLITION PLAN
SCALE: 1/8" = 1'-0"



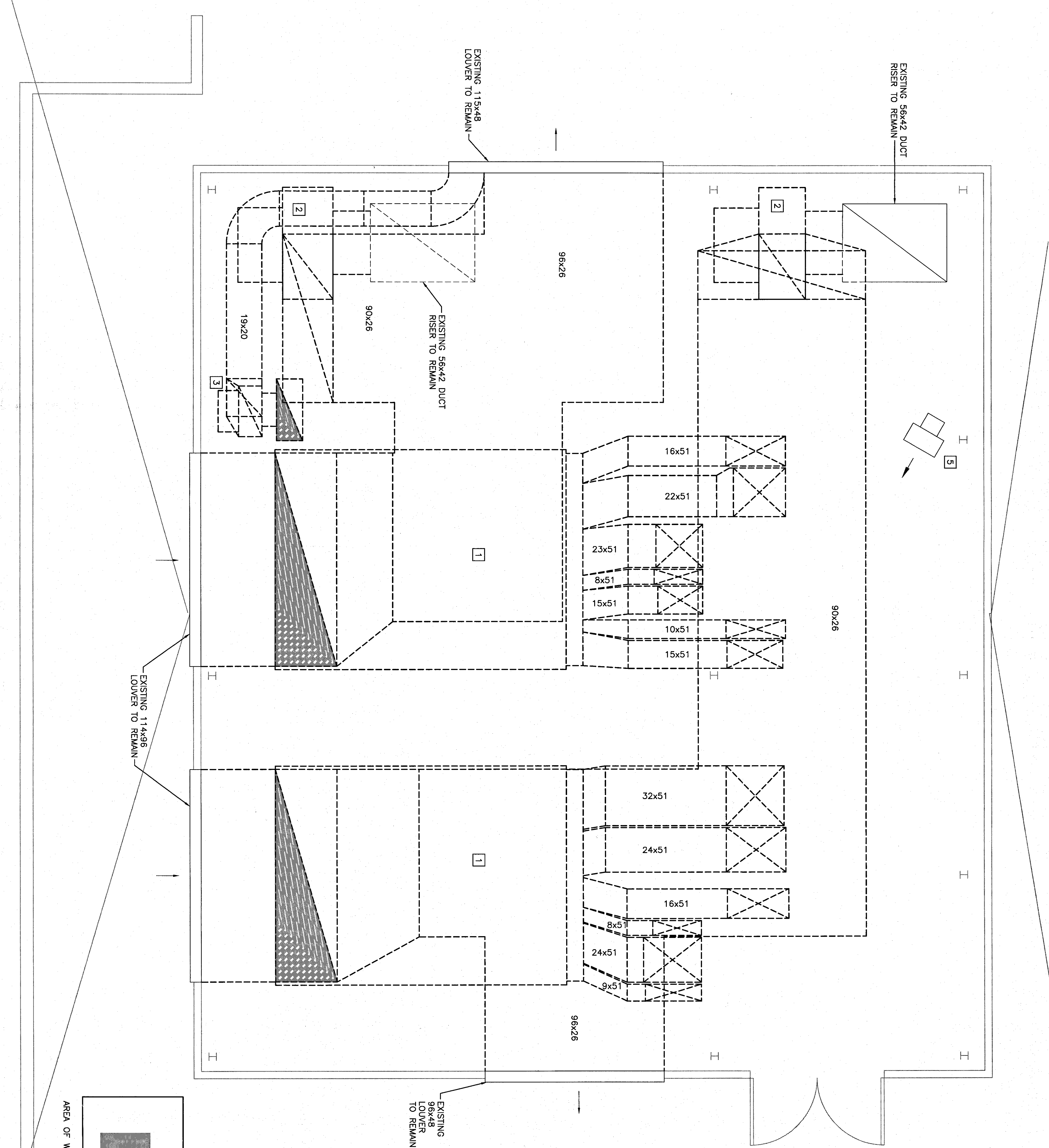
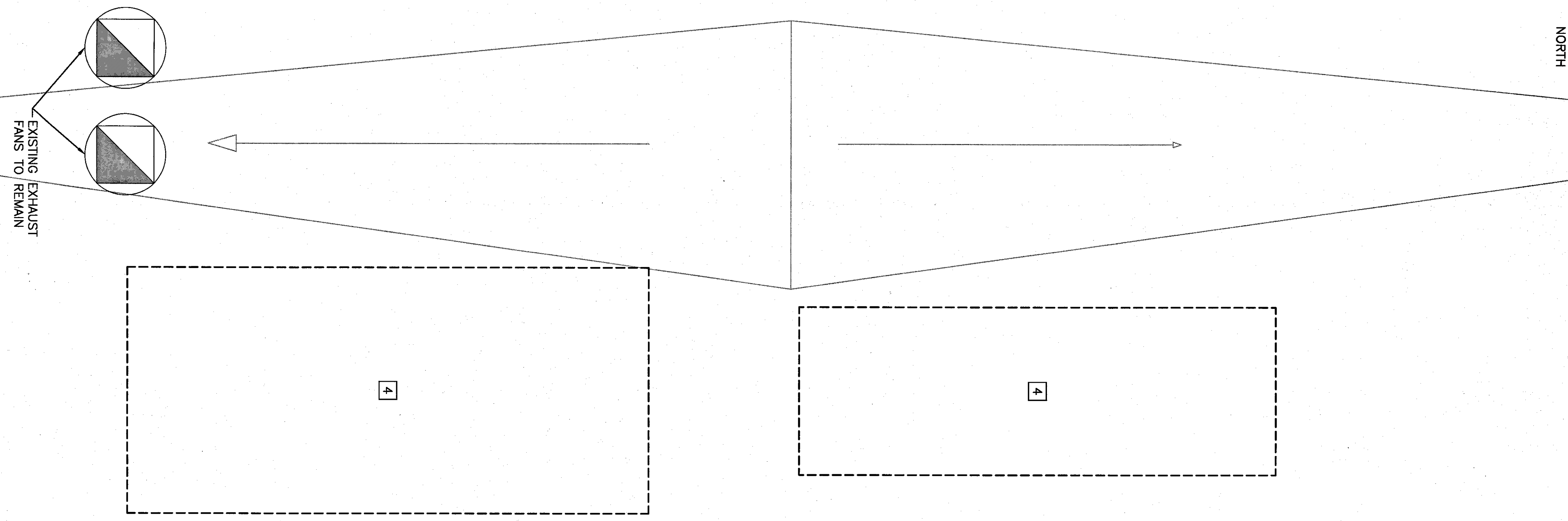
KEY PLAN
SCALE: NTS

- NOTES:
1. SEE SHEET M-001 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
 2. EXISTING PNEUMATIC PIPING IS DISCONNECTED OR REMOVED. REMAINING PIPE ENDS SHALL BE CAPPED & WELL SEALED. WORK PERFORMED ON ROOF MUST BE DONE IN ACCORDANCE WITH EXISTING ROOF WARRANTY.
 3. REMOVE ALL EXISTING HEATING UNIT STEAM TRAPS AT COILS & DRIP LEGS.
- DEMOLITION KEYED NOTES:
- 1 REMOVE UNIT VENTILATOR AND CONTROLS. DISCONNECT STEAM AND CONDENSATE PIPES AND CAP FOR FUTURE USE.
 - 2 REMOVE FAN #4 (3/4 HP) AND ROOF CURB.
 - 3 REMOVE FAN #5 (1/8 HP) AND ROOF CURB.
 - 4 REMOVE FAN #6 (1 HP) AND ROOF CURB.
 - 5 EXHAUST RISERS TO EF-4.5.6 ON ROOF TO REMAIN.
 - 6 REMOVE PNEUMATIC THERMOSTAT, PNEUMATIC STEAM VALVE ACTUATOR, AND ASSOCIATED PNEUMATIC PIPING.
 - 7 REMOVE MANUAL STEAM CONTROL VALVE. EXISTING CABINET UNIT HEATER TO REMAIN.



0	ISSUED FOR CONSTRUCTION	CSS EPR	08/24/12
REV	DESCRIPTION	BR	DATE
<p>Colby Company 151.008.003 11</p>			
<p>UNIVERSITY OF SOUTHERN MAINE PORTLAND, ME</p>			
<p>LUTHER BONNEY ENERGY UPGRADES</p>			
<p>FOURTH, FIFTH AND ROOF MECHANICAL DEMOLITION PLANS</p>			
PROJECT NO. 151.008.003		DRAWING NO.	
DATE: 2-21-12		SHEET 11 OF 37	
DESIGNER: DMS, BR, CSS		DRAWN BY: CSS	
CHECKER: BR, EPP		DATE: 2-21-12	
<p>MD-104</p>			

NOTES: THIS DOCUMENT IS NOT A CONTRACT. IT IS THE PROPERTY OF COLBY COMPANY AND IS TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED HEREIN. IT IS TO BE RETURNED TO COLBY COMPANY UPON COMPLETION OF THE PROJECT.



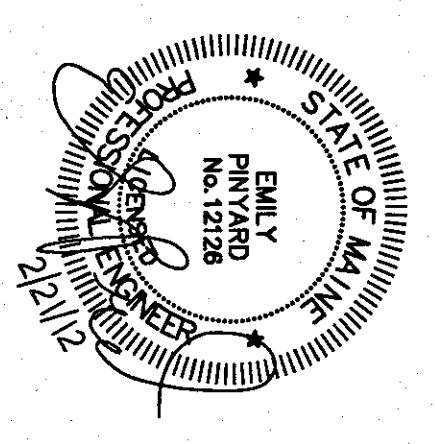
- NOTES:
- SEE SHEET M-001 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES. PIPING IS DISCONNECTED OR REMOVED. REMAINING PIPE END MUST BE CAPPED & WELL SEALED.

DEMOLITION KEYS NOTES:

- REMOVE HV-1 & HV-2 AND ASSOCIATED PENTHOUSE DUCTWORK, AND CONTROLS.
- REMOVE AHU RETURN FAN, ASSOCIATED PENTHOUSE DUCTWORK, AND CONTROLS DEVICES. REUSE CONTROL PANELS IF POSSIBLE, AS DETERMINED BY IS CONTROLS.
- REMOVE ABANDONED SMOKING LOUNGE EXHAUST FAN AND ASSOCIATED PENTHOUSE DUCTWORK AND CONTROLS. COVER DUCT RISER OPENING WITH STEEL PLATE AND SECURE PLATE TO ROOF DECK.
- REMOVE 50 TON CONDENSING UNIT AND CONTROLS.
- STEAM UNIT HEATER TO REMAIN.

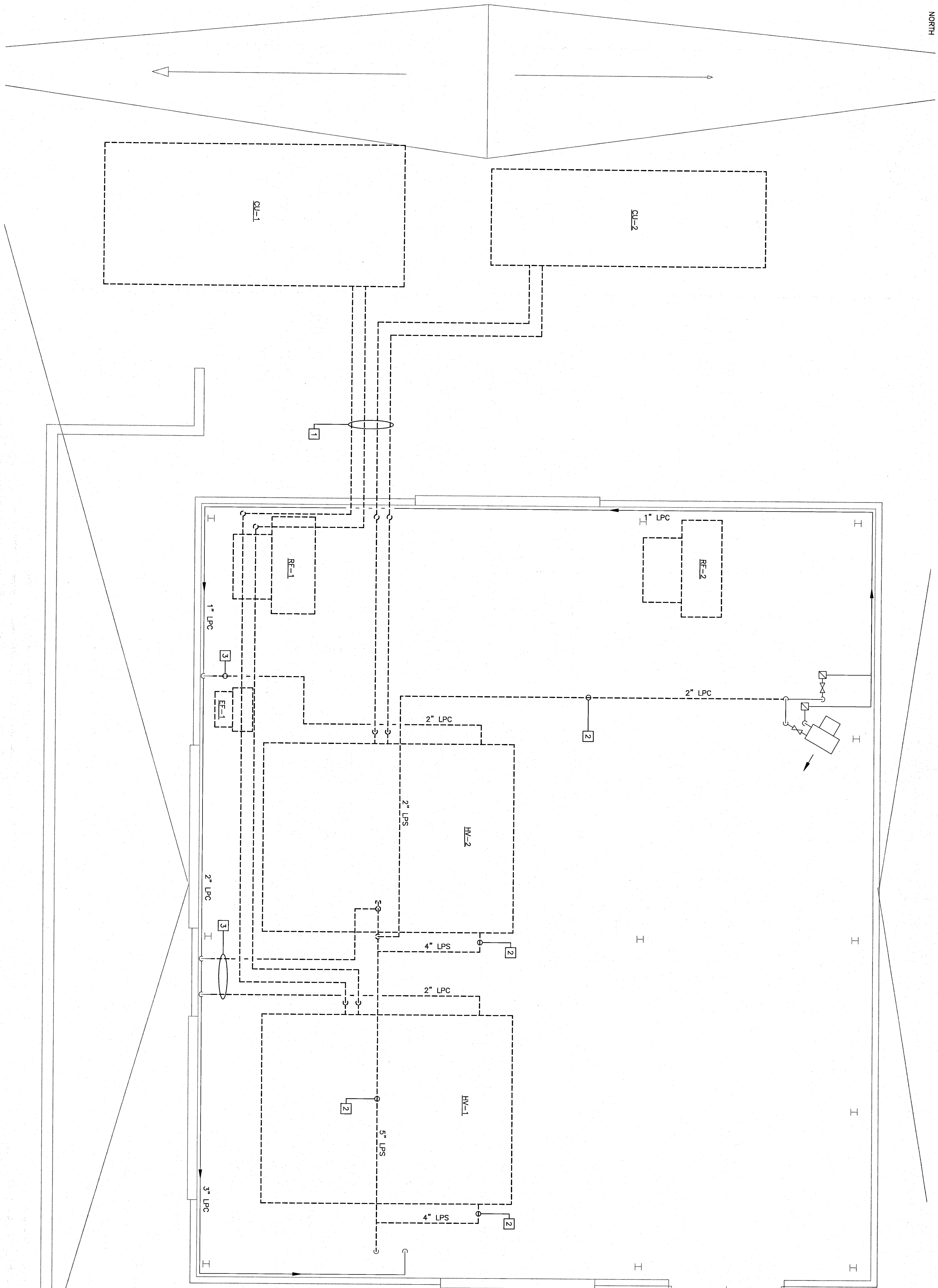
1 PENTHOUSE MECHANICAL DEMOLITION PART PLAN - DUCTWORK
SCALE: 1/2" = 1'-0"

REF. DWG: MD-103

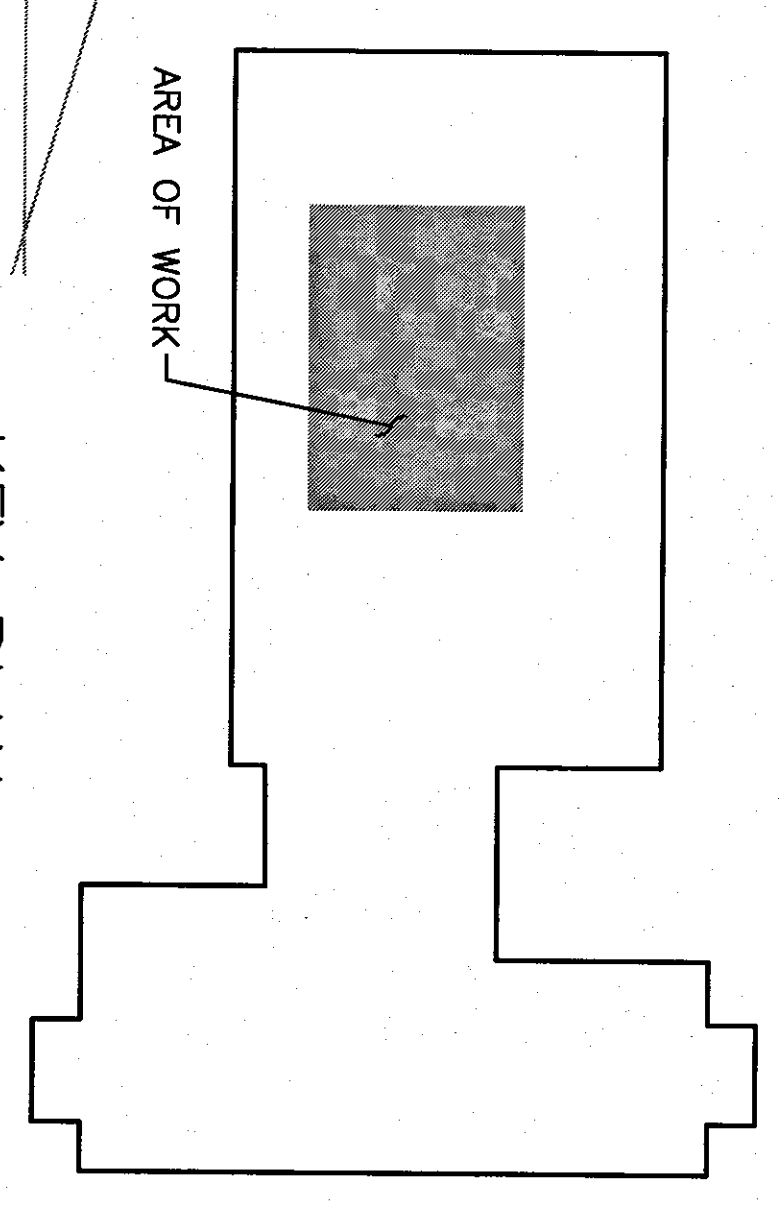


UNIVERSITY OF SOUTHERN MAINE PORTLAND, ME	
LUTHER BONNEY ENERGY UPGRADES	
PENTHOUSE MECHANICAL DEMOLITION PART PLAN - DUCTWORK	
PROJECT NO. 191.008.003	DRAWING NO. MD-401
DATE: 2-21-12	SHEET 12 OF 37
DES. BY: EAC	CHECK BY: EBP
Colby Company Mechanical Engineering Site Engineering	

PLEASE NOTE: THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE FINAL DOCUMENTS AND THE EXISTING CONDITIONS OF THE PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITIES.



- NOTES:
1. SEE SHEET M-001 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
 2. WHEREVER PNEUMATIC PIPING IS DISCONNECTED OR REMOVED, REMAINING PIPE END MUST BE CAPPED & WELL SEALED.
 3. REMOVE ALL EXISTING STEAM TRAPS IN MECHANICAL ROOM.
- DEMOLITION KEYED NOTES:
- 1 REMOVE REFRIGERANT PIPING. SLEEVES THRU EXTERIOR WALL TO REMAIN FOR NEW PIPING.
 - 2 REMOVE LPS PIPING BACK TO RISER.
 - 3 REMOVE LPC PIPE BRANCHES & STEAM DRIP LEG.

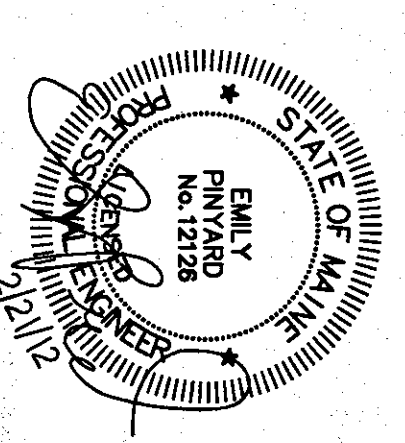


KEY PLAN
SCALE: NTS

BASE BID

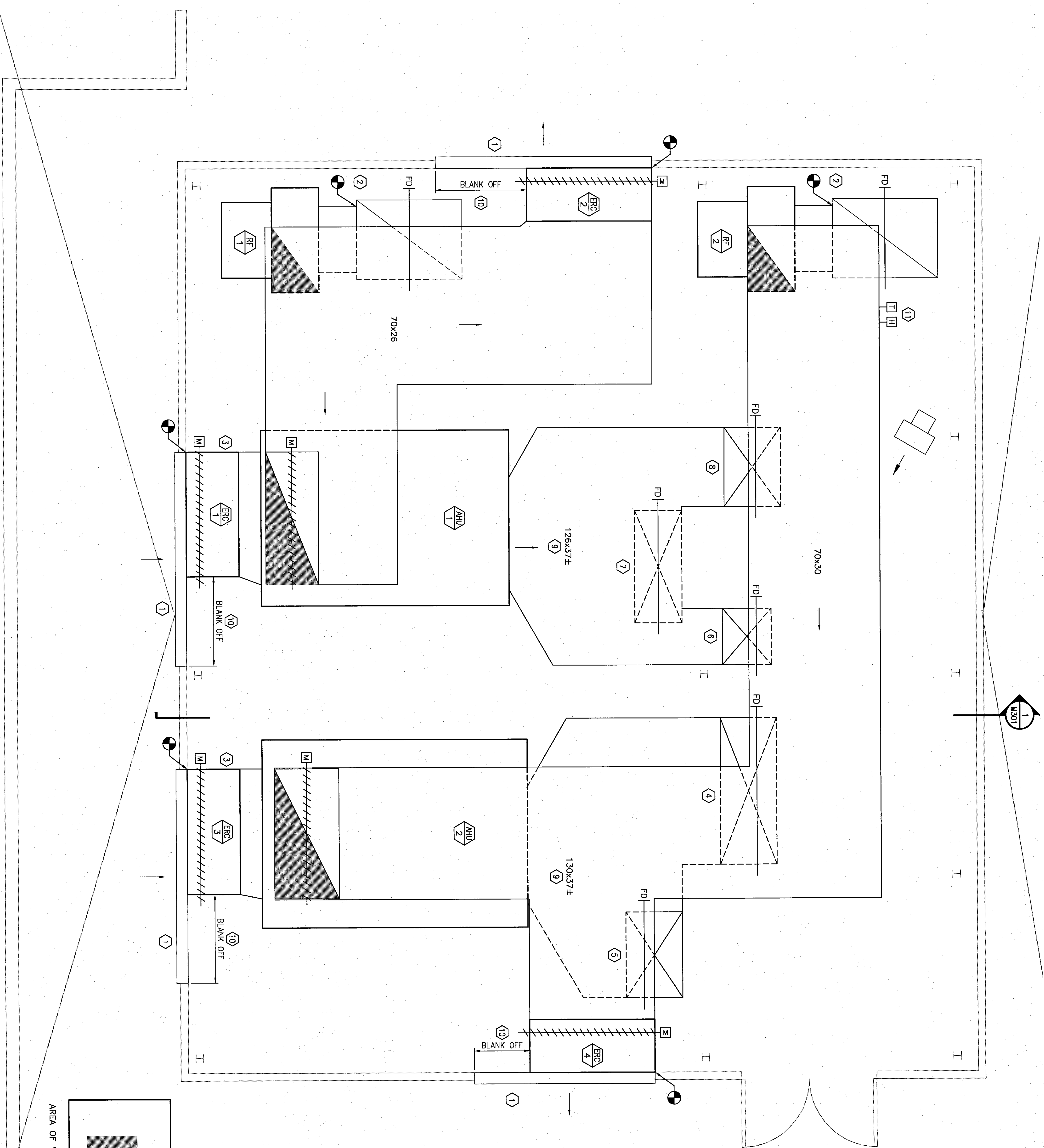
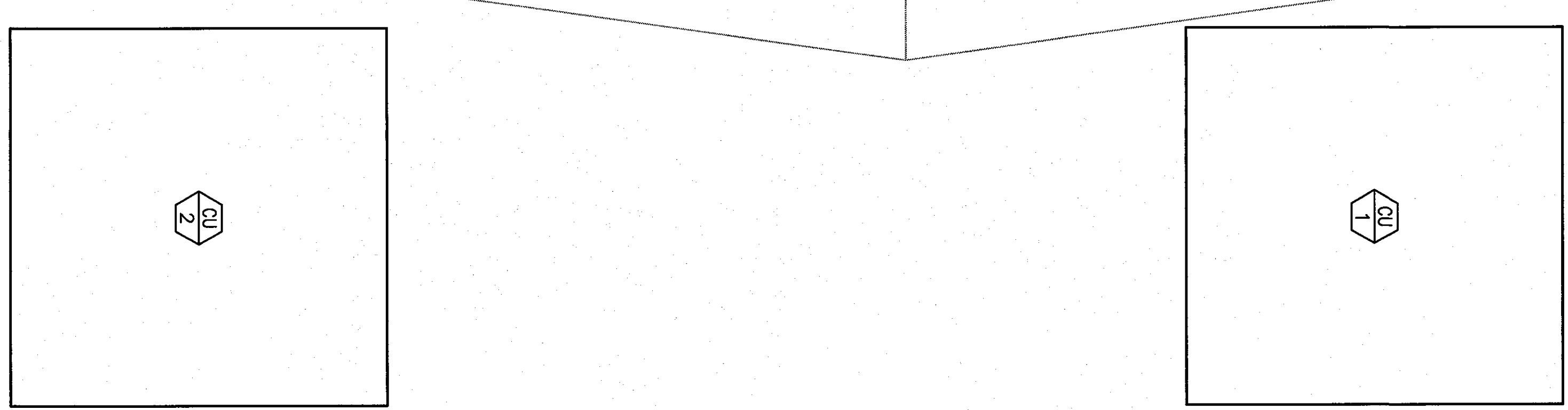
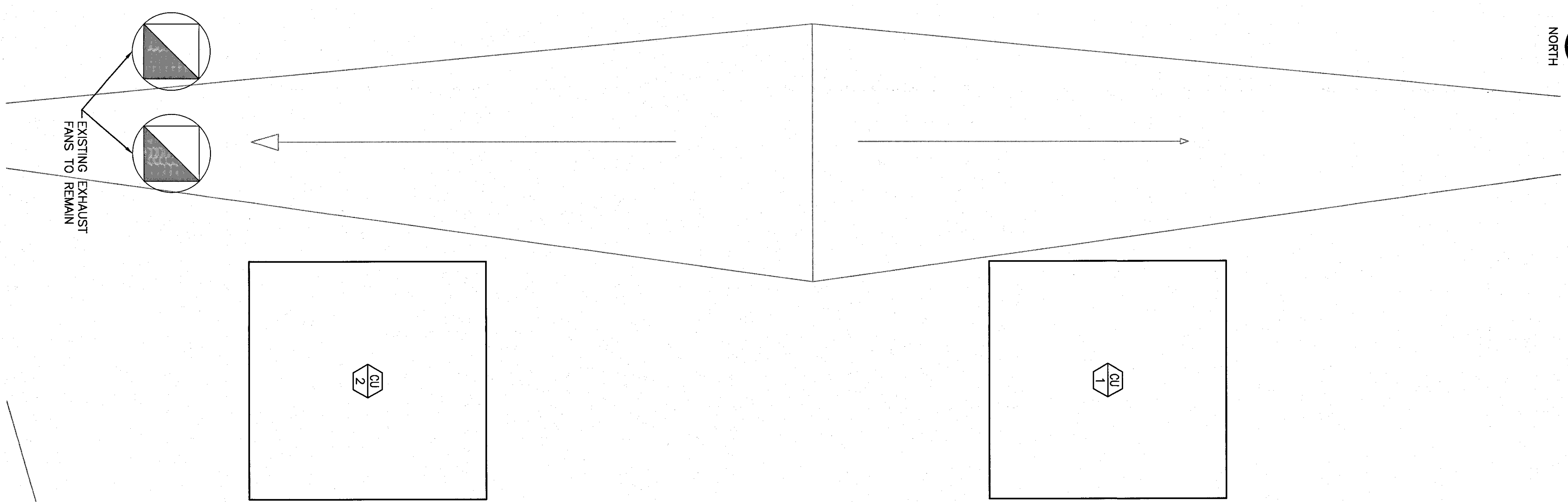
1 PENTHOUSE MECHANICAL DEMOLITION PART PLAN - PIPING
SCALE: 1/2" = 1'-0"

REF: DWG: MD-103



PLEASE NOTE: THIS DOCUMENT HAS NOT APPROXIMATELY REPRESENT THE FINAL DOCUMENT. PROVIDED BY THIS OFFICE MAY BE UTILIZED FOR BIDDING OR CONSTRUCTION PURPOSES.

UNIVERSITY OF SOUTHERN MAINE PORTLAND, ME		LUTHER BONNEY ENERGY UPGRADES	
PROJECT NO. 151.006.003		DRAWING NO. MD-402	
PENTHOUSE MECHANICAL DEMOLITION PART PLAN - PIPING		SHEET 37 OF 13	
REV	DESCRIPTION	DATE	BY
0	ISSUED FOR CONSTRUCTION	2-21-12	EMP
Colby Company Mechanical Engineering Civil Engineering		DES BY: ERF CHK BY: EMP	

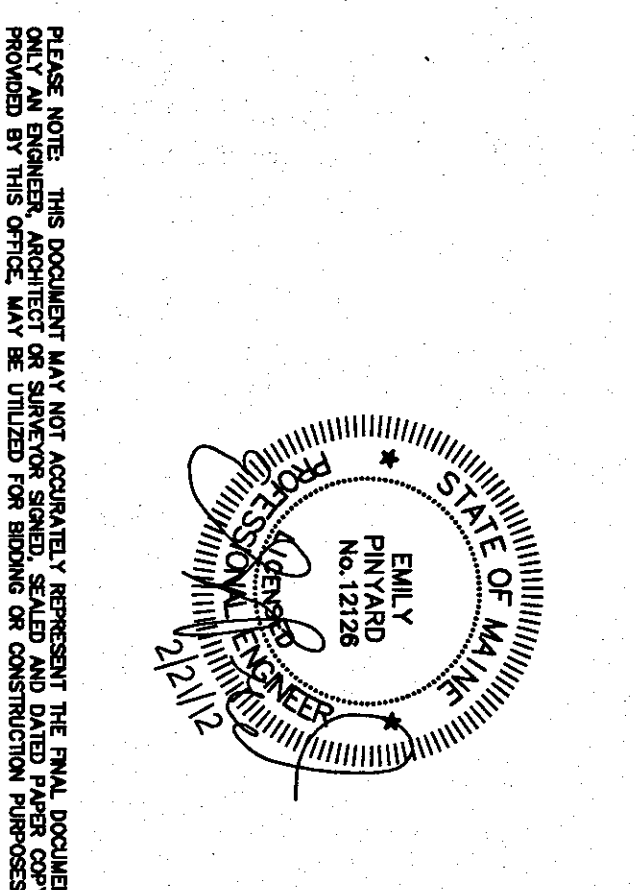


KEY PLAN
SCALE: NTS

BASE BID

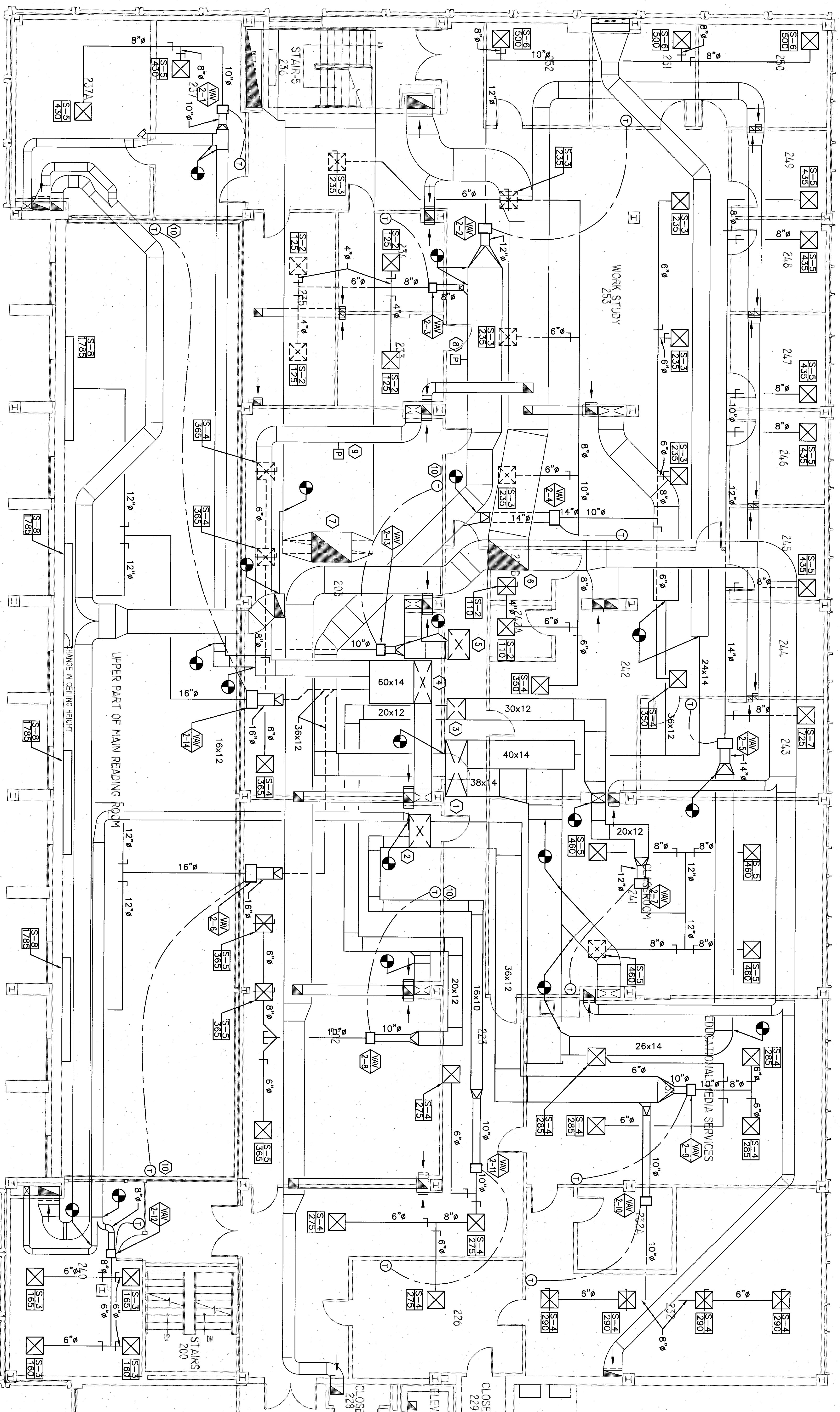
- NOTES:
1. SEE SHEET M-001 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
- KEYED NOTES:
- 1 EXISTING LOUVER TO REMAIN. CLEAN LOUVER & BIRD SCREEN.
 - 2 CONNECT RETURN FAN TO EXISTING 42x56 RETURN RISER. INSTALL RUSKIN DFD35 HORIZONTAL FIRE DAMPER.
 - 3 MOUNT ECONOMIZING DAMPER ABOVE ERC. BLANK OFF REMAINING LOUVER. INTERLOCK OA & EA DAMPERS FOR ECONOMIZING MODE.
 - 4 78x30 SUPPLY RISER DOWN TO SECOND FLOOR. INSTALL RUSKIN DFD35 HORIZONTAL FIRE DAMPER.
 - 5 48x30 SUPPLY RISER DOWN TO SECOND FLOOR. INSTALL RUSKIN DFD35 HORIZONTAL FIRE DAMPER.
 - 6 30x28 SUPPLY RISER DOWN TO SECOND FLOOR. INSTALL RUSKIN DFD35 HORIZONTAL FIRE DAMPER.
 - 7 60x28 SUPPLY RISER DOWN TO SECOND FLOOR. INSTALL RUSKIN DFD35 HORIZONTAL FIRE DAMPER.
 - 8 42x30 SUPPLY RISER DOWN TO SECOND FLOOR. INSTALL RUSKIN DFD35 HORIZONTAL FIRE DAMPER.
 - 9 SHEET METAL PLENUM, FIELD MEASURE AND COORDINATE OPENINGS IN FIELD.
 - 10 ALUMINUM BLANK OFF PANEL WITH 2" INSULATION. COORDINATE BLANK OFF WITH SIZE OF OA OPENING.
 - 11 HUMIDITY & TEMPERATURE SENSOR IN RA DUCT FOR SPACE ENTHALPY CALCULATION.

1 PENTHOUSE MECHANICAL PART PLAN - DUCTWORK
SCALE: 1/2" = 1'-0"
REF: DWG: M-103

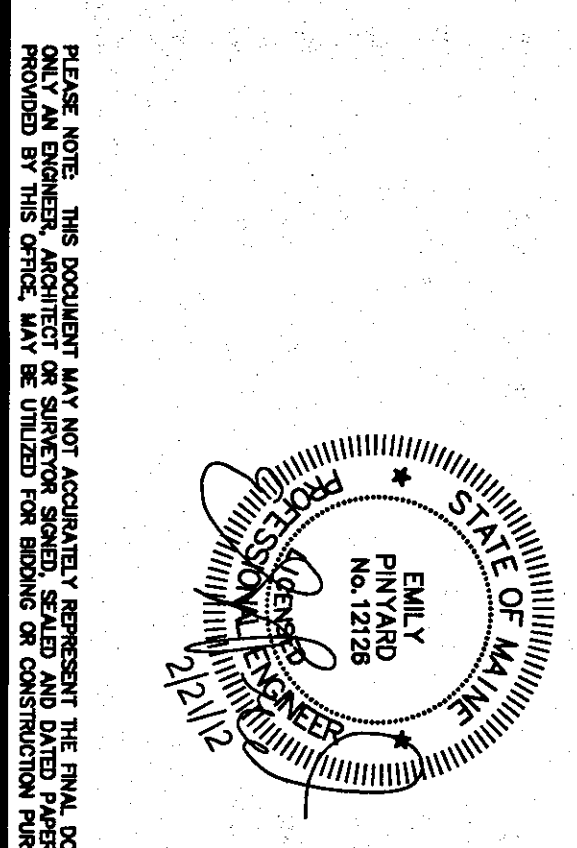


UNIVERSITY OF SOUTHERN MAINE PORTLAND, ME	
LUTHER BONNEY ENERGY UPGRADES	
PENTHOUSE MECHANICAL PART PLAN - DUCTWORK	
PROJECT NO. 151008.003	DRAWING NO. M-401
DATE: 2-21-12	SHEET 37 OF 37
DES BY: DVC	
DWN BY: CSS	
CHK BY: BRP	

Colby Company
Structural Engineering
200 State Street, Portland, ME 04101
www.colbycompany.com



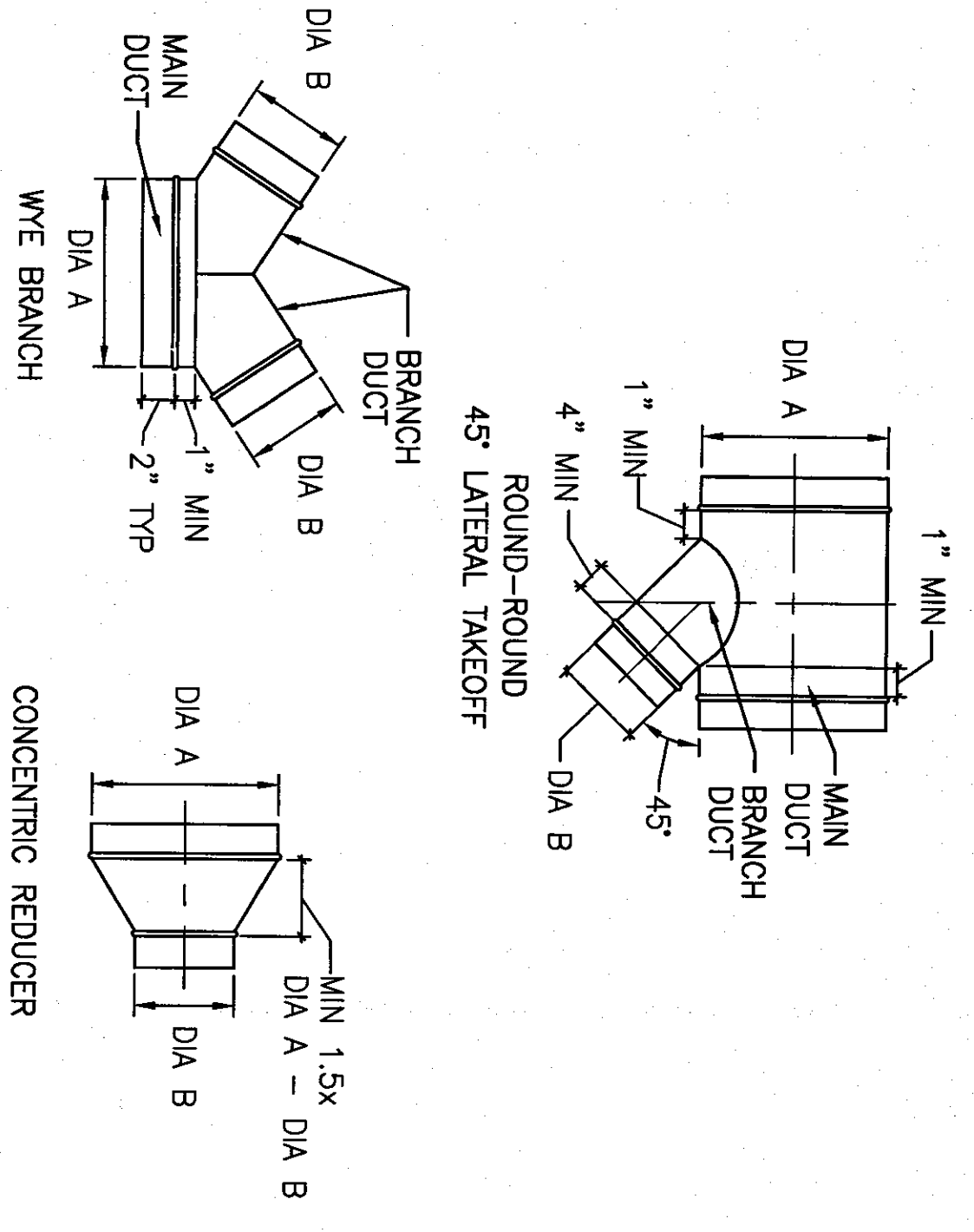
1 SECOND FLOOR MECHANICAL PART PLAN
SCALE: 3/16" = 1'-0"
REF. DWG: M-102



Colby Company 40 Water Street Lewiston, Maine 04240 www.colbycompany.com		UNIVERSITY OF SOUTHERN MAINE PORTLAND, ME	
Structural Engineering Mechanical Engineering Electrical Engineering Civil Engineering		LUTHER BONNEY ENERGY UPGRADES	
PROJECT NO. 191.008.003 SHEET OF 22	DRAWING NO. M-403	SECOND FLOOR MECHANICAL PART PLAN	
ISSUED FOR CONSTRUCTION DESCRIPTION SCALE: AS NOTED DATE: 2-21-12 DES BY: EWF DWN BY: CSS CHK BY: ERP	CSI ERP (CNC) 2-21-12 PREPARED BY: [blank] DATE: [blank]	AREA OF WORK 	

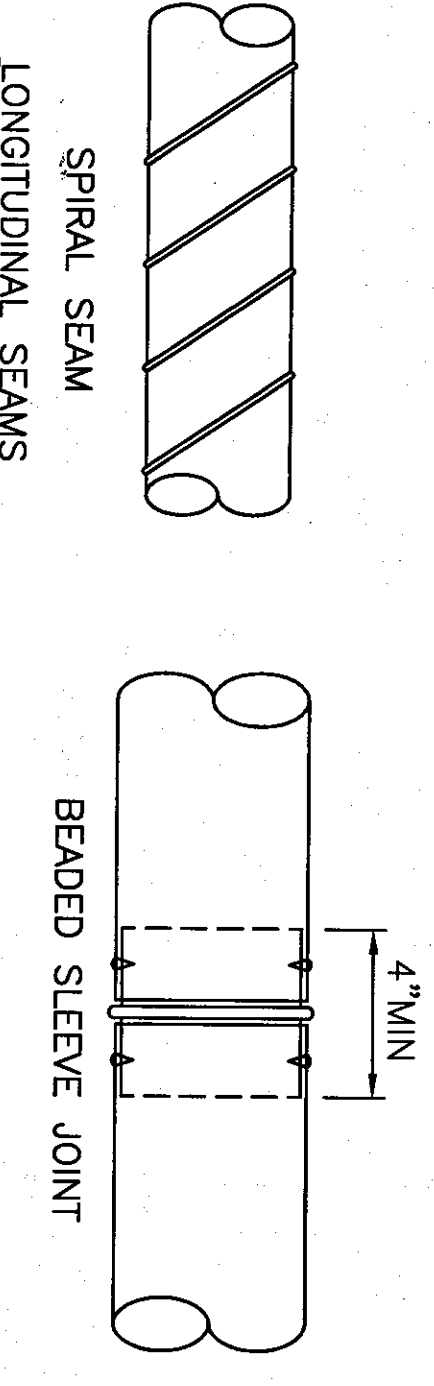
- NOTES:**
- SEE SHEET M-001 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
 - CLEAN ALL EXISTING SUPPLY AND RETURN DUCTWORK TO REMAIN.
 - REBALANCE EXISTING EXHAUST GRILLES TO CFM SHOWN IN PARENTSIS.

- KEYED NOTES:**
- 78x30 SUPPLY RISER FROM AHU-2 IN PENTHOUSE.
 - 46x30 SUPPLY RISER FROM AHU-2 IN PENTHOUSE.
 - 30x26 SUPPLY RISER FROM AHU-1 IN PENTHOUSE.
 - 60x25 SUPPLY RISER FROM AHU-1 IN PENTHOUSE.
 - 42x30 SUPPLY RISER FROM AHU-1 IN PENTHOUSE.
 - EXISTING RETURN RISER TO RF-1 IN PENTHOUSE.
 - EXISTING RETURN RISER TO RF-2 IN PENTHOUSE.
 - DUCT PRESSURE SENSOR FOR AHU-2 SUPPLY FAN VFD.
 - DUCT PRESSURE SENSOR FOR AHU-1 SUPPLY FAN VFD.
 - STAINLESS STEEL THERMISTOR.

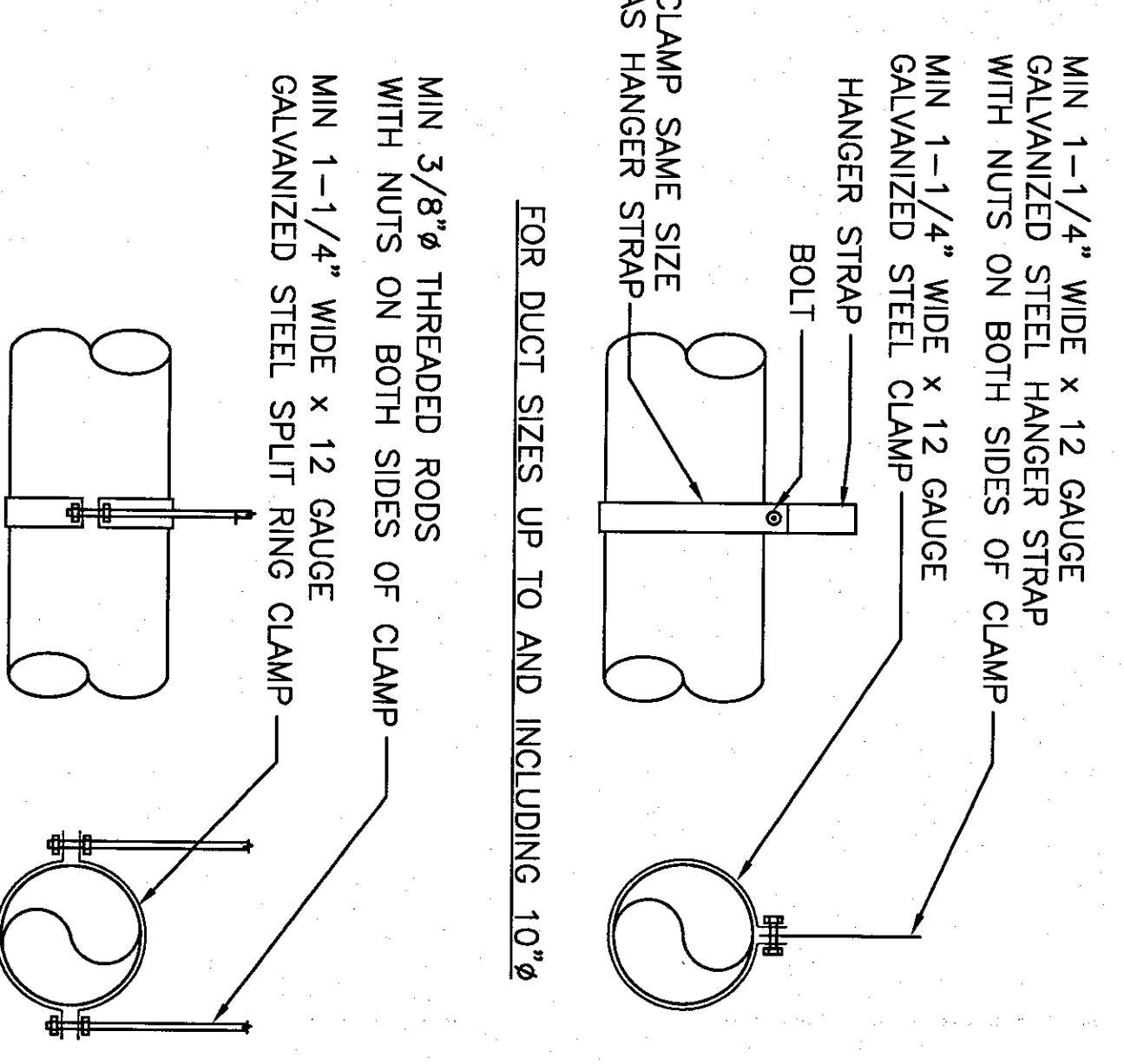


NOTE: DIAMETERS A AND B MAY VARY BASED UPON DRAWINGS.

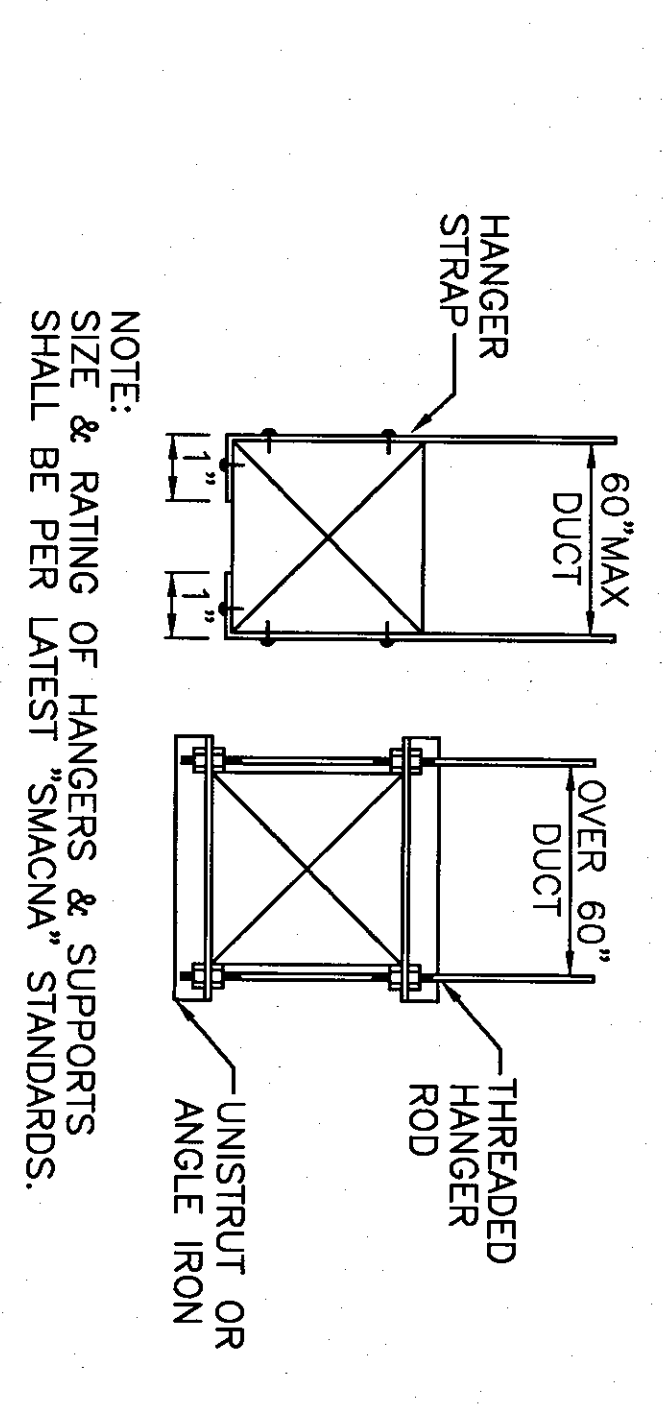
TYPICAL ROUND DUCT FITTING DETAIL
SCALE: NTS



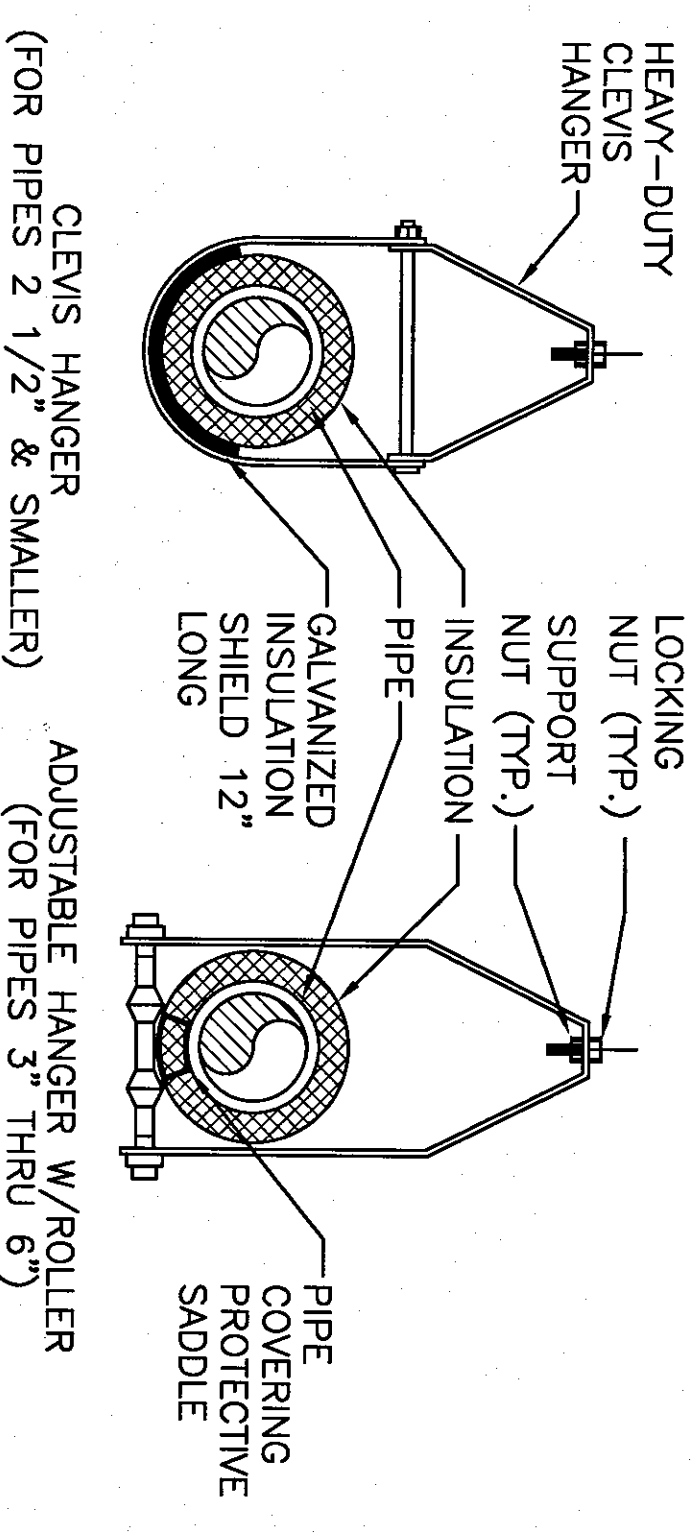
ROUND DUCT SEAMS & JOINTS DETAIL
SCALE: NTS



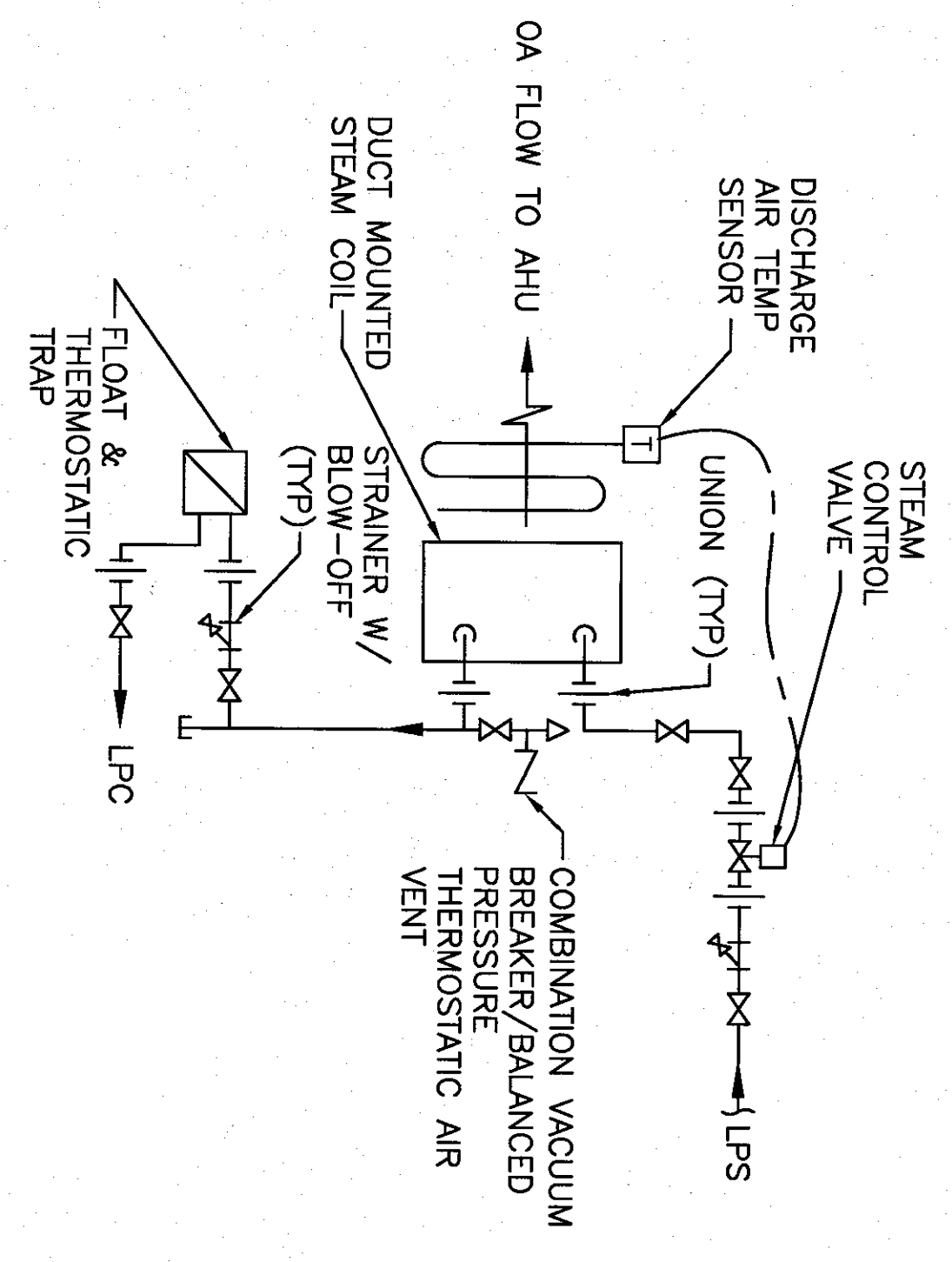
ROUND DUCT HANGER DETAIL
SCALE: NTS



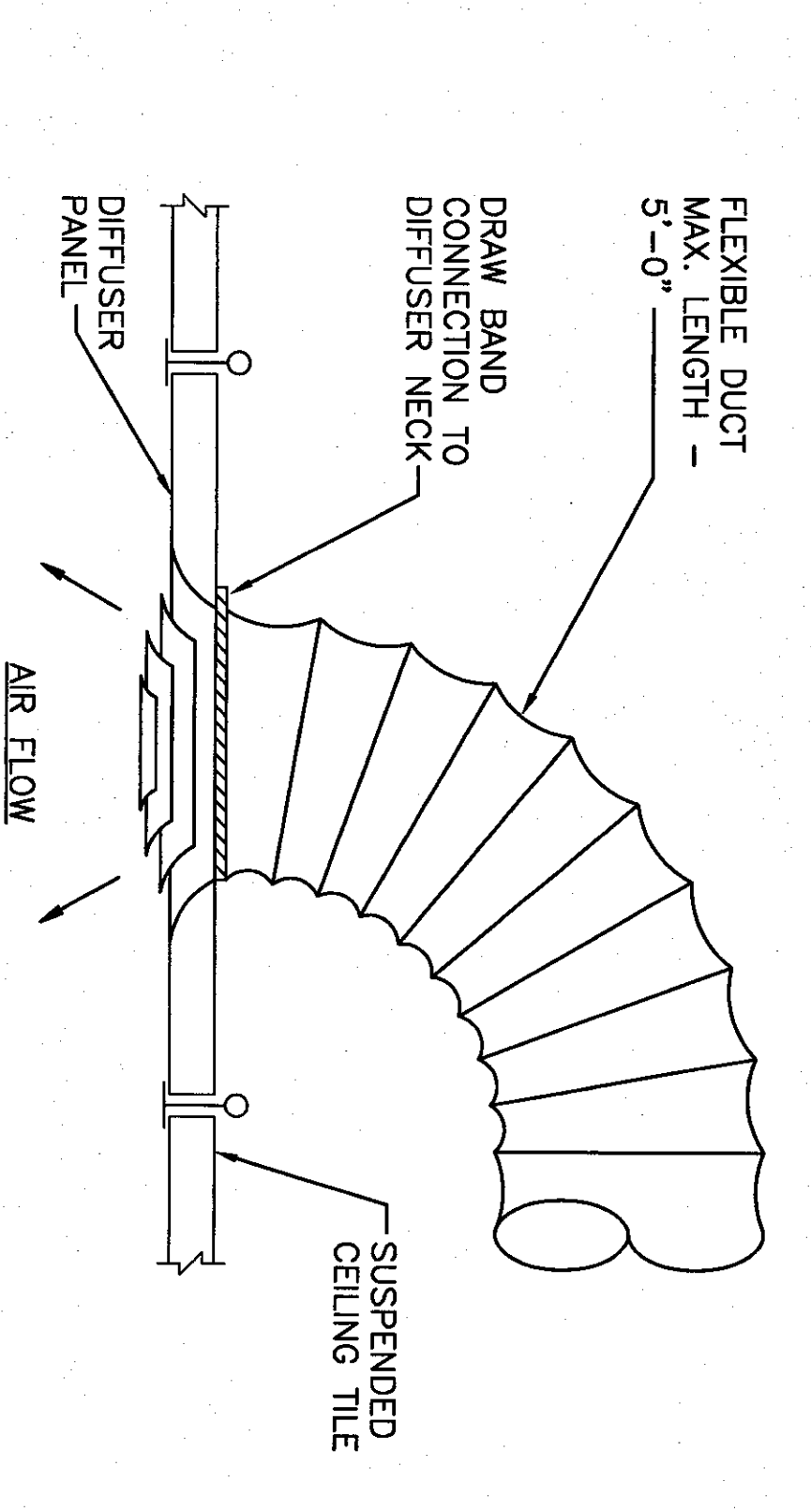
DUCT SUPPORT ATTACHMENTS DETAIL
SCALE: NTS



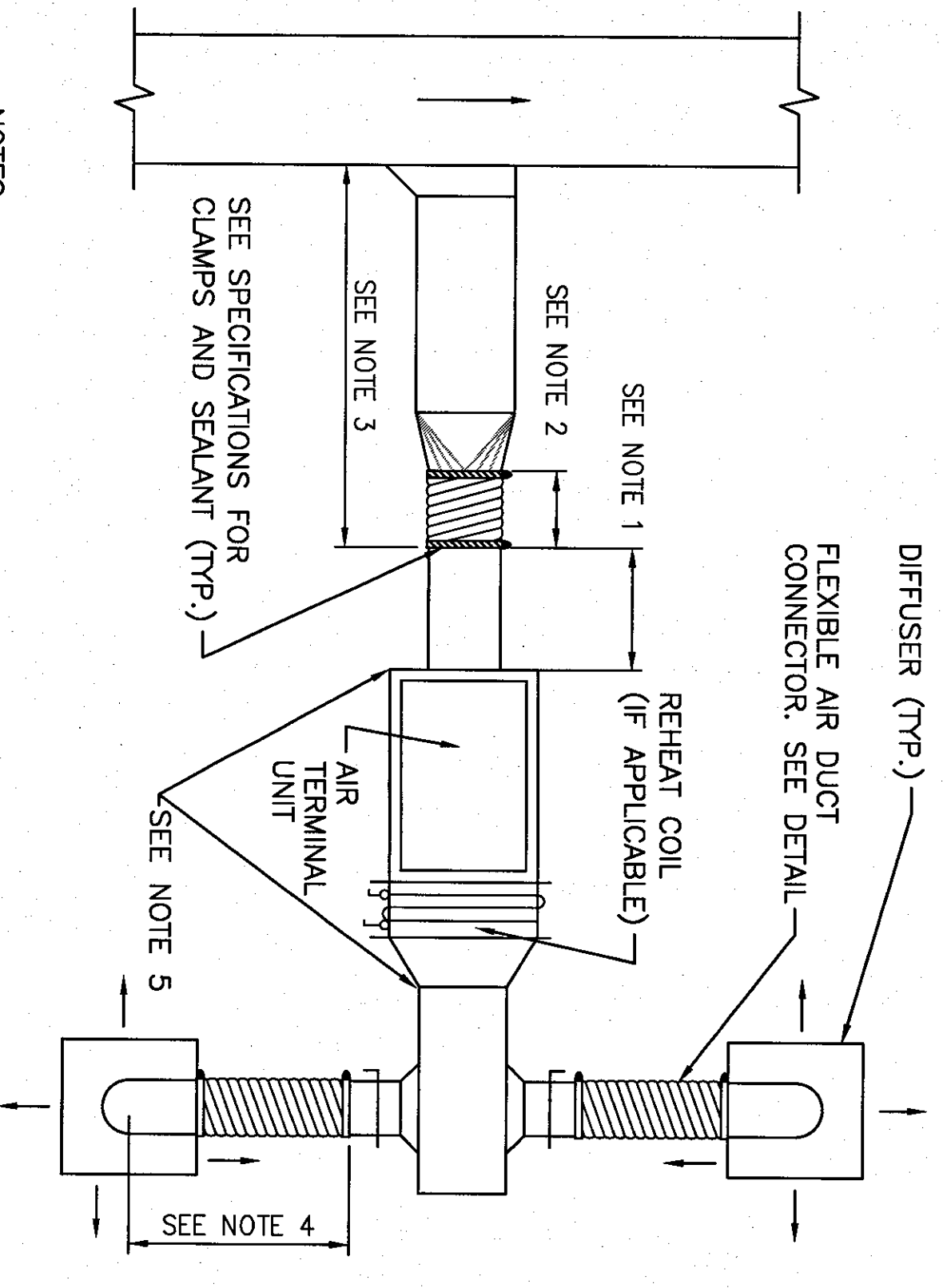
PIPE HANGER ATTACHMENTS DETAIL
SCALE: NTS



AHU STEAM COIL DETAIL
SCALE: NTS

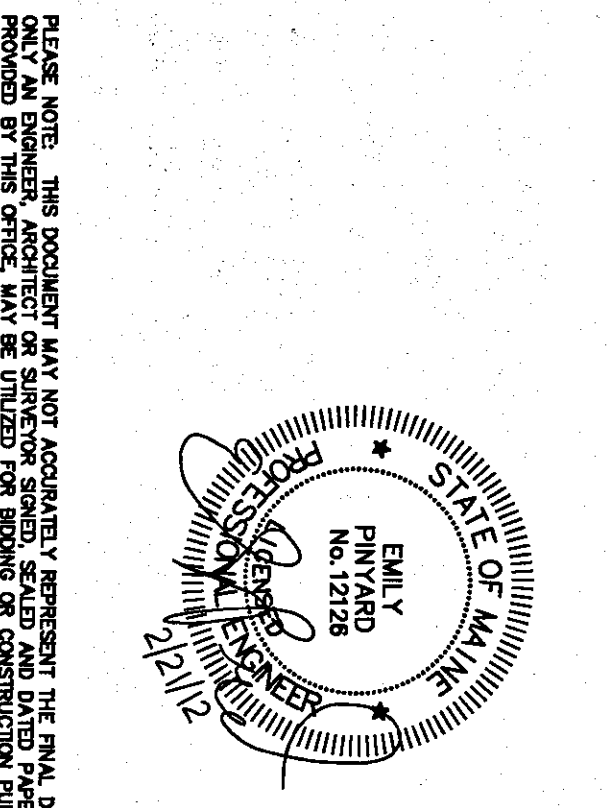


TYPICAL FLEXIBLE DUCT DETAIL
SCALE: NTS



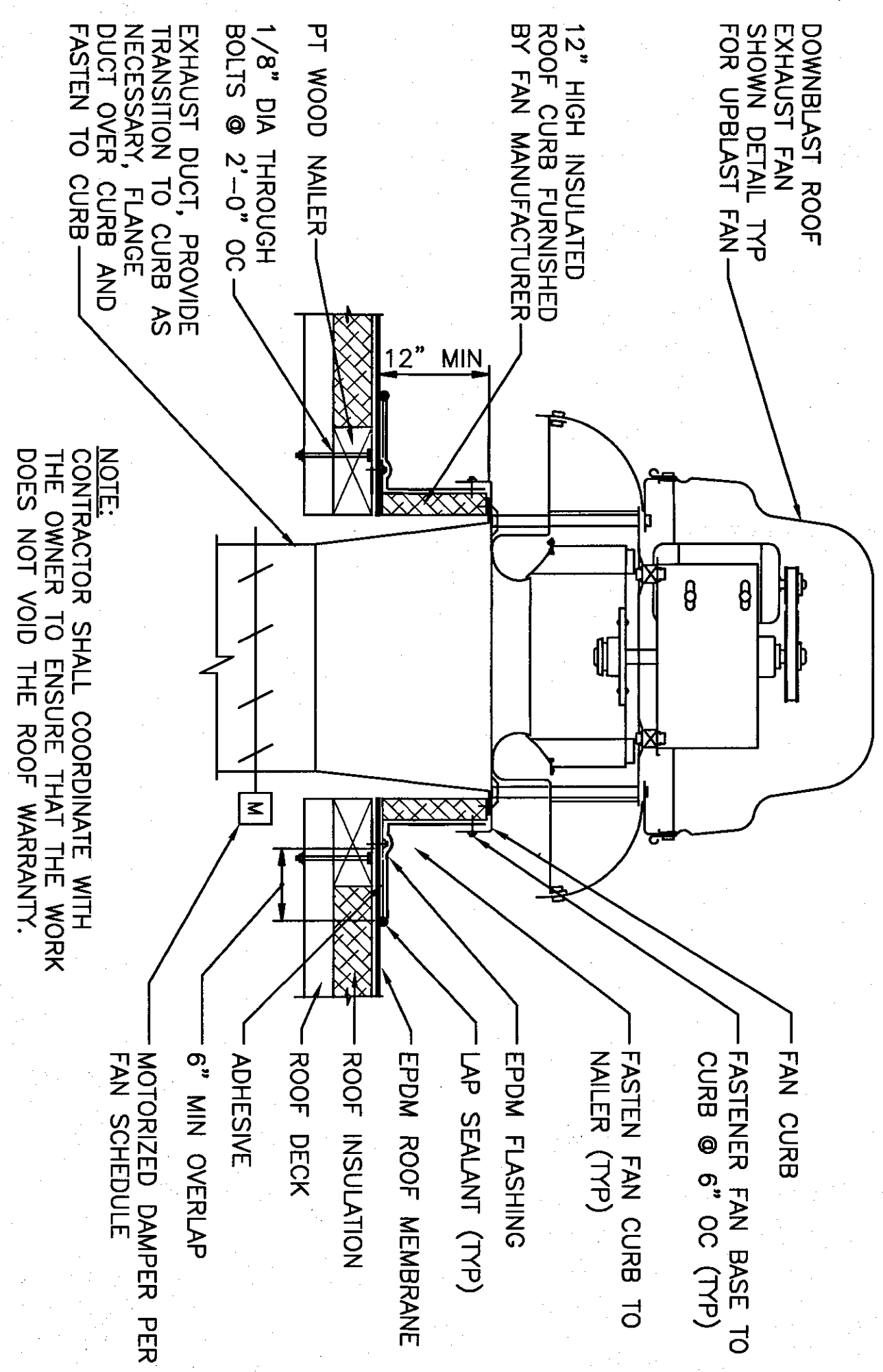
- NOTES:
- RIGID STRAIGHT TERMINAL UNIT INLET LENGTH SHALL BE A MINIMUM OF 3 TIMES THE DIAMETER OF INLET OR PER MANUFACTURER'S RECOMMENDATIONS.
 - A FLEXIBLE AIR DUCT CONNECTOR IS NOT MANDATORY FOR INLET TO THIS BOX, BUT ALLOWED TO ACCOMMODATE MINOR OFFSETS. MAXIMUM LENGTH 3'-0".
 - A BRANCH DUCT SERVING AN INDIVIDUAL BOX MAY BE THE SAME SIZE AS THE BOX INLET PROVIDED THE EQUIVALENT LENGTH OF THE BRANCH DUCT AS SHOWN DOES NOT EXCEED 10 FEET FOR LONGER LENGTHS. INCREASE THE DUCT SIZE AND PROVIDE A DUCT TRANSITION TO MAINTAIN THE DUCT STATIC PRESSURE DROP AT OR BELOW 0.1"/100'.
 - FLEXIBLE AIR DUCT CONNECTORS, WHEN USED FROM TERMINAL UNIT SUPPLY AIR DUCT TO DIFFUSER, SHALL NOT EXCEED 5'-0". USE RIGID ELBOWS FOR CHANGE OF DIRECTION GREATER THAN 45'.
 - COMPONENT ARRANGEMENT MAY VARY BY MANUFACTURER. PROVIDE INSULATION W/VAPOR BARRIER FOR CONNECTING DUCT SECTIONS.

AIR TERMINAL UNIT DUCTWORK CONNECTIONS
SCALE: NTS

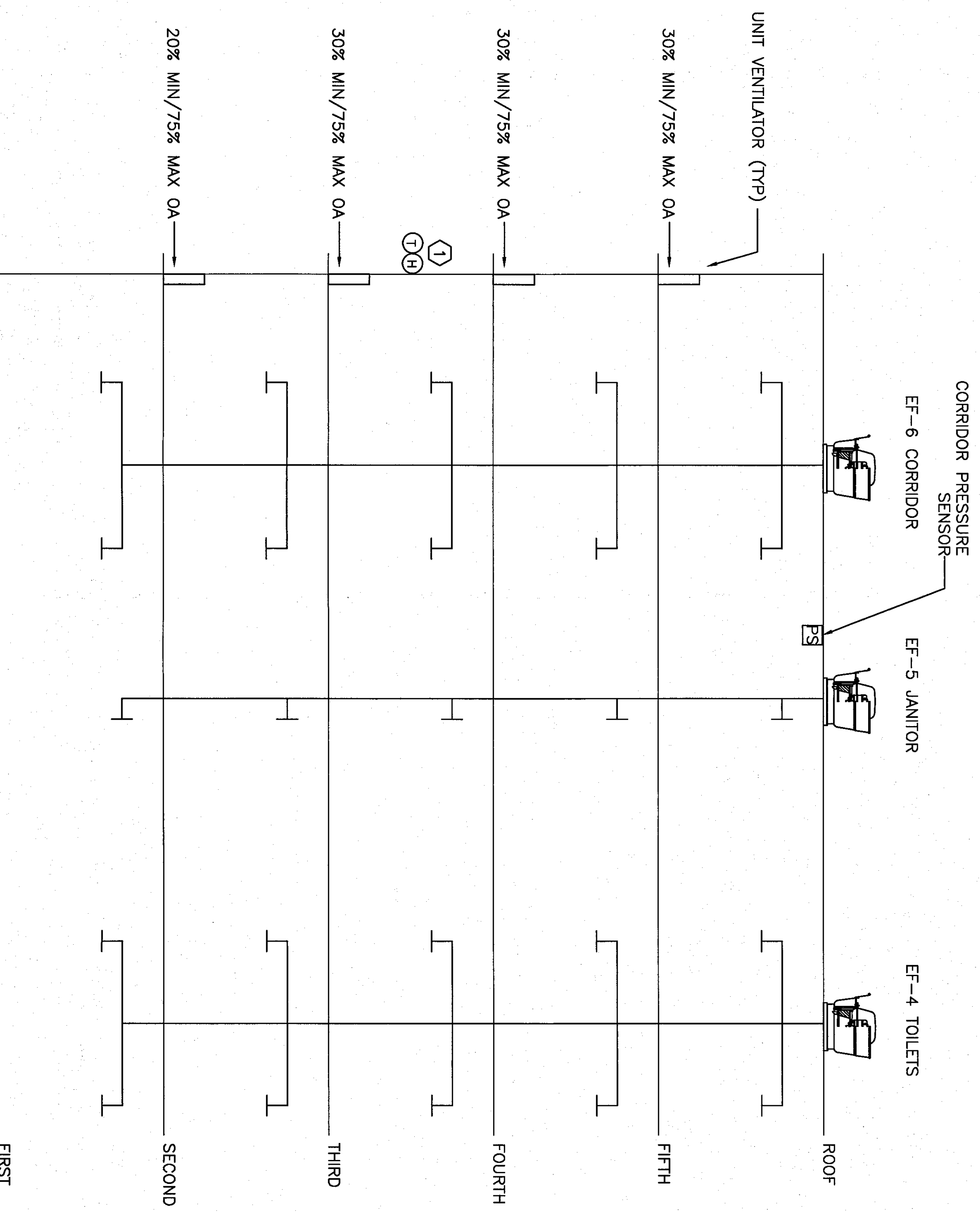


UNIVERSITY OF SOUTHERN MAINE PORTLAND, ME		PROJECT NO. 191.008.003 DRAWING NO. M-501	
LUTHER BONNEY ENERGY UPGRADES		MECHANICAL DETAILS	
REV. 0	ISSUED FOR CONSTRUCTION	CSS BRP GBC 2-8-12	DATE : 2-8-12
REV. 1	DESCRIPTION	DR (C) APP DATE	SCALE : AS NOTED
		DR BRG	DATE : 2-8-12
		CHK BRG	SHEET 23
		APP BRG	OF 37
Colby Company Mechanical Engineering Civil Engineering		PROJECT NO. 191.008.003 DRAWING NO. M-501	

PLEASE NOTE: THIS DOCUMENT HAS NOT APPROXIMATELY REPRODUCED THE ORIGINAL DRAWING AND SHOULD BE USED AS SUCH.



ROOF EXHAUST FAN/CURB DETAIL
SCALE: N15



CLASSROOM TOWER AIRFLOW DIAGRAM
SCALE: N15

CLASSROOM TOWER SEQUENCE OF OPERATION

UNIT VENTILATORS

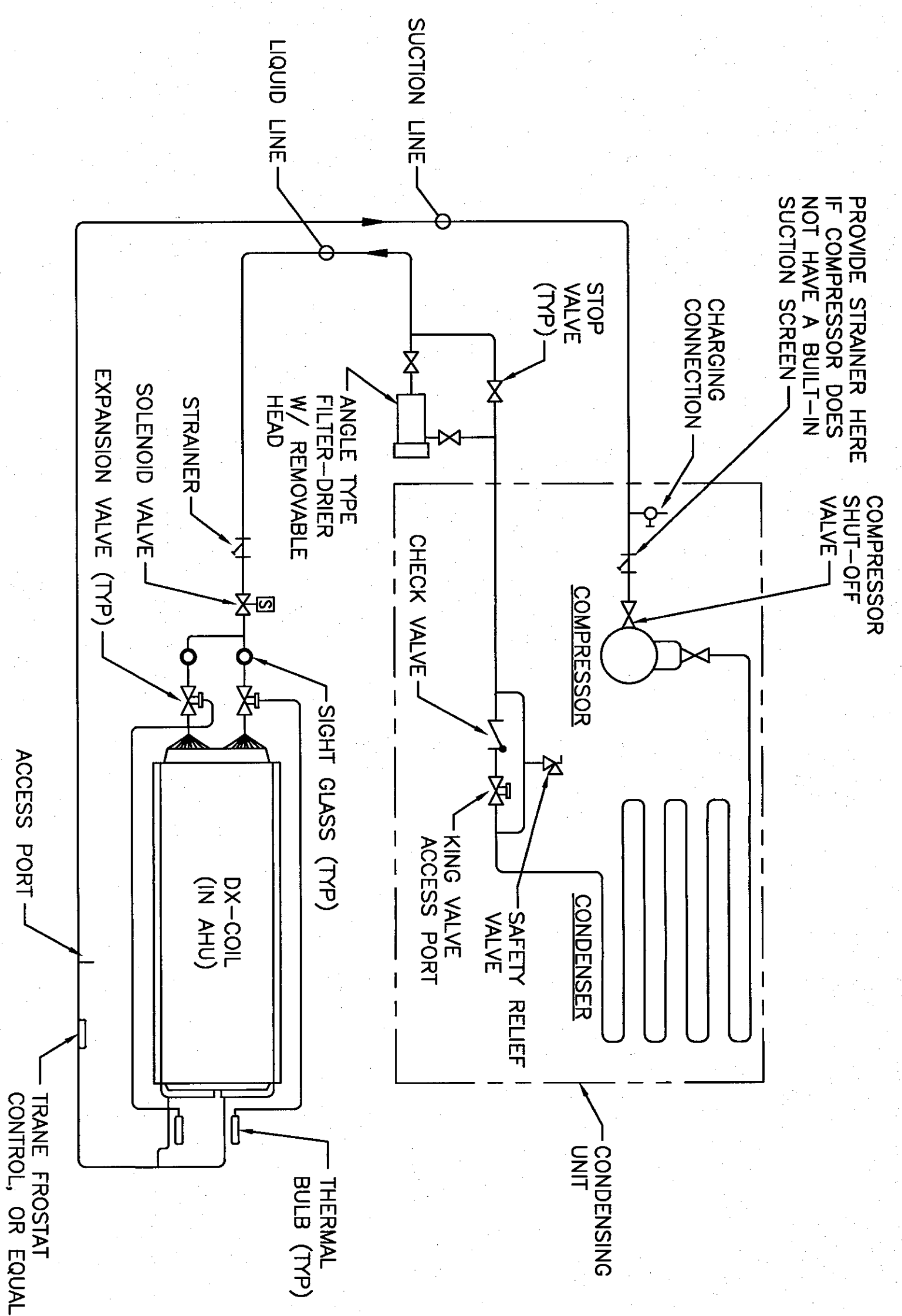
1. UNOCCUPIED MODE SHALL BE SCHEDULED IN THE DELTA BAS BY THE OWNER.
 - 1.1. UNIT VENTILATOR OUTDOOR AIR DAMPER SHALL BE FULLY CLOSED AND RETURN AIR DAMPER SHALL BE FULLY OPEN. UNIT VENTILATOR FAN AND STEAM COIL SHALL OPERATE TO MAINTAIN SETBACK TEMPERATURE OF 80 DEG F (MINIMUM STABLE).
 2. OCCUPIED MODE: ROOM OCCUPANCY SENSOR SHALL INITIATE FANS SHALL OPERATE CONTINUOUSLY.
 - 2.1. HEATING: OUTDOOR AIR DAMPER SHALL REMAIN CLOSED DURING WARM-UP SEQUENCE AND OPEN TO MINIMUM SET POINT WHEN SPACE TEMPERATURE REACHES THE ROOM SET POINT. STEAM CONTROL VALVE SHALL PROVE OPEN PRIOR TO OUTDOOR AIR DAMPER ACTUATING OPEN. STEAM CONTROL VALVE SHALL MODULATE TO CONTROL ROOM TEMPERATURE TO 70 DEG F (ADJUSTABLE). THE ROOM CO2 SENSOR SHALL MODULATE THE OA DAMPER BASED ON ROOM CO2 CONCENTRATION. RISES ABOVE 75 DEG F (MINIMUM STABLE) AND LOWER THAN THE SPACE ECONOMIZER. WHEN ROOM TEMPERATURE RISES ABOVE 75 DEG F (MINIMUM STABLE) AND LOWER THAN THE SPACE ECONOMIZER. THE OUTDOOR AIR DAMPER SHALL MODULATE OPEN TO INCREASE OUTDOOR AIRFLOW AND THE RETURN AIR DAMPER SHALL MODULATE CLOSED.
 - 2.2. HEATING: OUTDOOR AIR DAMPER SHALL REMAIN CLOSED DURING WARM-UP SEQUENCE AND OPEN TO MINIMUM SET POINT WHEN SPACE TEMPERATURE REACHES THE ROOM SET POINT. STEAM CONTROL VALVE SHALL PROVE OPEN PRIOR TO OUTDOOR AIR DAMPER ACTUATING OPEN. STEAM CONTROL VALVE SHALL MODULATE TO CONTROL ROOM TEMPERATURE TO 70 DEG F (ADJUSTABLE). THE ROOM CO2 SENSOR SHALL MODULATE THE OA DAMPER BASED ON ROOM CO2 CONCENTRATION. RISES ABOVE 75 DEG F (MINIMUM STABLE) AND LOWER THAN THE SPACE ECONOMIZER. WHEN ROOM TEMPERATURE RISES ABOVE 75 DEG F (MINIMUM STABLE) AND LOWER THAN THE SPACE ECONOMIZER. THE OUTDOOR AIR DAMPER SHALL MODULATE OPEN TO INCREASE OUTDOOR AIRFLOW AND THE RETURN AIR DAMPER SHALL MODULATE CLOSED.
 3. STANDBY MODE: ROOM OCCUPANCY SENSOR SHALL INITIATE SETBACK MODE AFTER A TIME DELAY (ADJUSTABLE).
 - 3.1. HEATING: OUTDOOR AIR DAMPER SHALL REMAIN CLOSED AND THE STEAM HEATING CONTROL VALVE SHALL MODULATE TO MAINTAIN A SPACE TEMPERATURE 2 DEG F LOWER THAN THE OCCUPIED SETPOINT (ADJUSTABLE).
 - 3.2. ECONOMIZER: WHEN ROOM TEMPERATURE RISES ABOVE 80 DEG F (ADJUSTABLE) WITH THE STEAM VALVE CLOSED AND THE OUTDOOR AIR ENTHALPY IS LOWER THAN THE SPACE ENTHALPY SETPOINT, THE OUTDOOR AIR DAMPER SHALL MODULATE OPEN TO INCREASE OUTDOOR AIRFLOW AND THE RETURN AIR DAMPER SHALL MODULATE CLOSED.

EXHAUST FANS

1. EF-4 & 5 SHALL BE ENERGIZED ONLY WHEN THE CLASSROOM TOWER IS IN OCCUPIED MODE AS SCHEDULED IN THE BUILDING AUTOMATION SYSTEM.
2. EF-6 SHALL BE ENERGIZED ONLY WHEN THE CLASSROOM TOWER IS IN OCCUPIED MODE. FAN VFD SHALL MODULATE TO EXHAUST APPROXIMATELY 10% LESS THAN THE SUM OF OUTDOOR AIR SUPPLIED BY THE UNIT VENTILATORS AS DETERMINED BY THE OUTDOOR AIR INAKE DAMPER POSITIONS IN 5TH FLOOR SPACE PRESSURE SENSOR EXCEEDS LOG IN W/0. THE VFD SHALL MODULATE TO MAXIMUM FAN SPEED.

KEYED NOTE

1. OUTDOOR AIR TEMPERATURE AND HUMIDITY SENSORS TO BE PROVIDED AND SHALL BE MONITORED BY THE DELTA BAS TO DETERMINE WHEN UNIT VENTILATORS CAN OPERATE IN ECONOMIZER MODE.

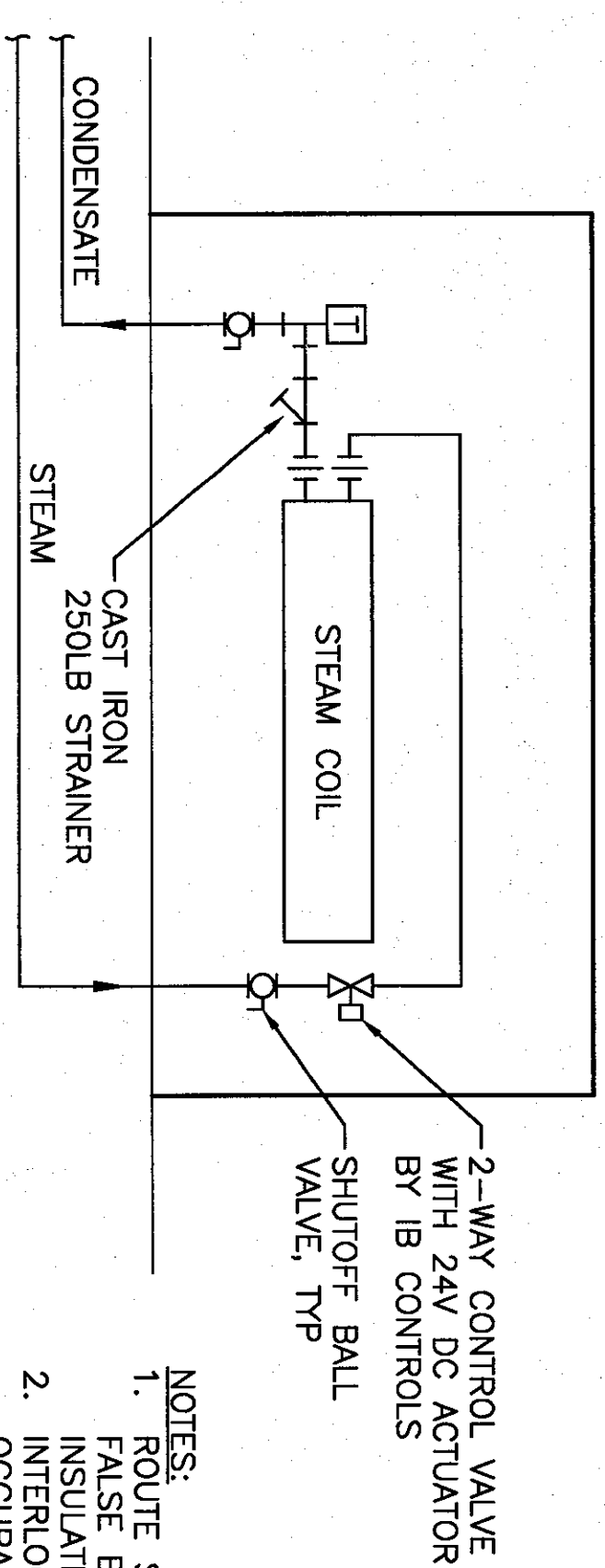


REFRIGERANT PIPING SCHEMATIC
SCALE: N15

- NOTES
1. PROVIDE & INSTALL REFRIGERANT PIPING & VALVES NOT PROVIDED BY EQUIPMENT MANUFACTURER. THE REFRIGERANT SYSTEM SHALL BE COMPLETED OPERATIONS WITH COMPONENTS INSTALLED AS PER MANUFACTURER'S PUBLISHED INSTRUCTIONS.
 2. INSULATE SUCTION LINE ABOVE ROOF AND ABOVE ROOMS AMONGST ANIMALS (OR APPROVED EQUAL) AND 2 COATS OF RESPONSIBLE FIBER GLASS INSULATION BETWEEN OUTDOOR UNIT INDOOR UNIT & THERMOSTAT WIRING. THE WIRING SHALL BE COMPLETE TO PROVIDE A FULLY OPERATIONAL SYSTEM. SEE ELECTRICAL DRAWINGS FOR POWER FEEDS TO EQUIPMENT & DISCONNECT SWITCHES.

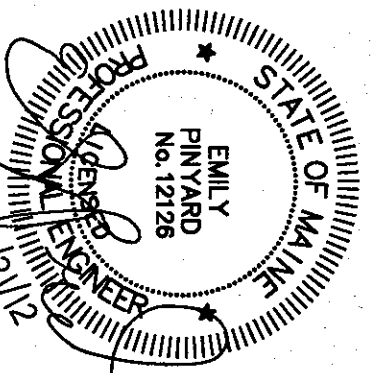
DDC POINTS LIST

- A) START/STOP STATUS
- B) PRESSURE SENSOR STATUS
- C) UNIT VENTILATORS
- D) OA/RA ACTUATOR
- E) HEATING VALVE POSITION
- F) FAN SPEED
- G) SPACE TEMPERATURE
- H) ALARMS
- I) CO2 SENSOR STATUS
- J) EXISTING FIN TUBE RADIATORS
- K) THERMISTOR POSITION
- L) SPACE TEMPERATURE
- M) EXISTING DUCTLESS SPLIT AC UNITS
- N) EVAPORATOR FAN STATUS
- O) CONDENSING UNIT STATUS
- P) SPACE TEMPERATURE
- Q) EXISTING SPLIT AIR HANDLING UNITS
- R) EVAPORATOR FAN STATUS
- S) CONDENSING UNIT STATUS
- T) HEATING VALVE POSITION
- U) (DUCT-MOUNTED COIL)
- V) EXISTING EXHAUST FAN (ROOM 115)
- W) STATUS



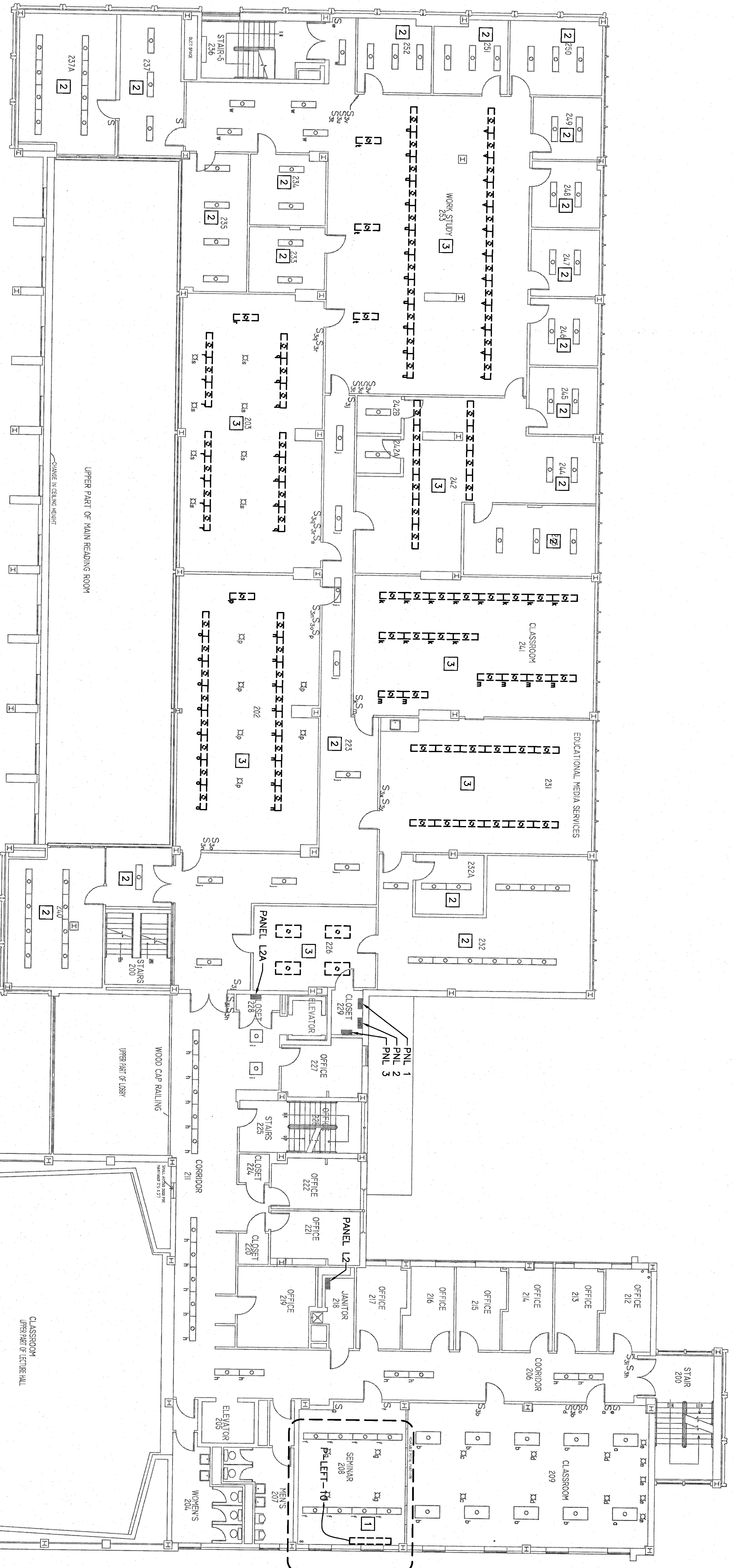
UNIT VENTILATOR DETAIL
SCALE: N15

- NOTES
1. ROUTE STEAM LINE THROUGH FALSE BACK ABOVE RAFTLE.
 2. INTERLOCK WITH ROOM OCCUPANCY SENSOR.



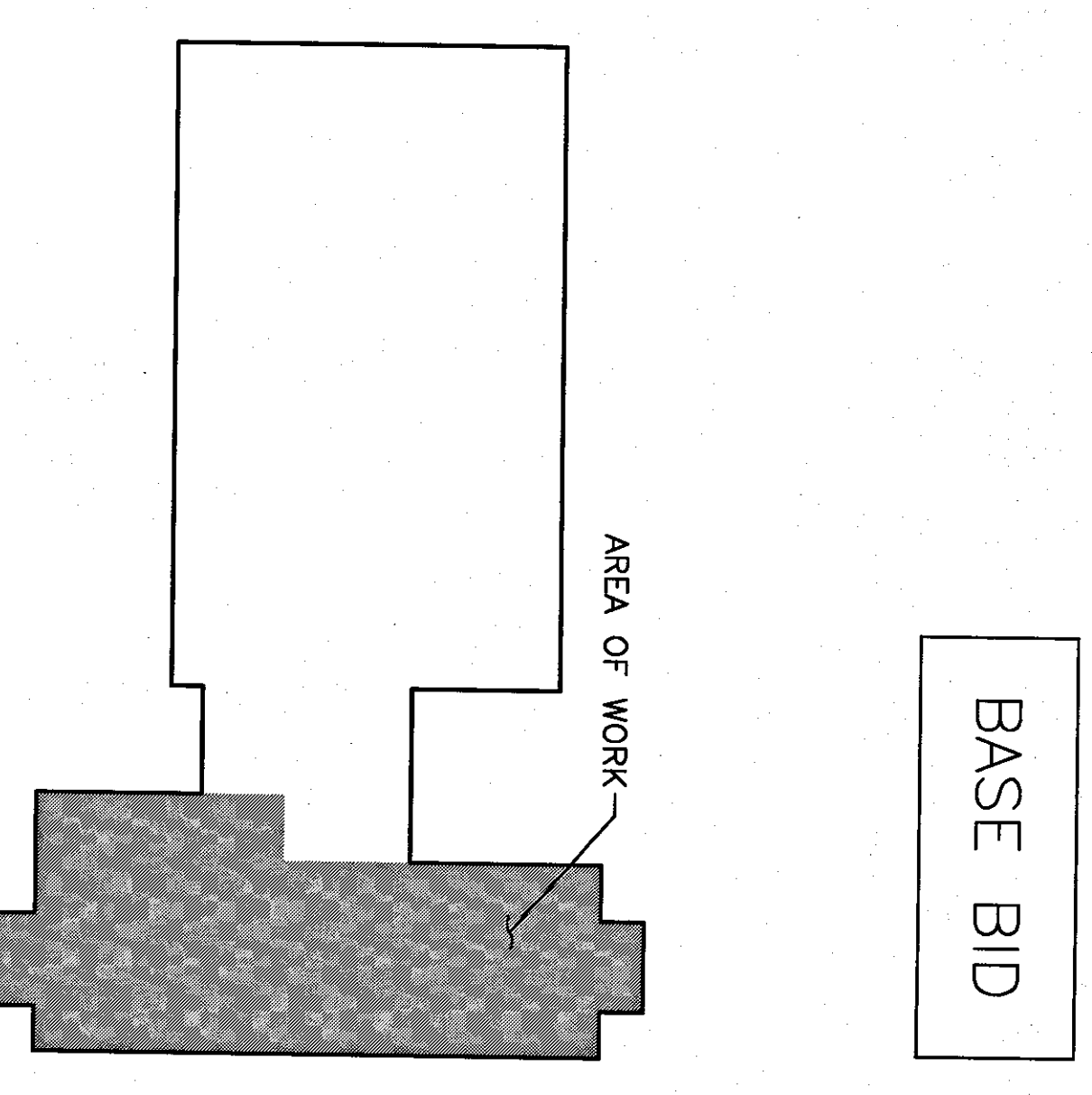
UNIVERSITY OF SOUTHERN MAINE PORTLAND, ME	
LUTHER BONNEY ENERGY UPGRADES	
PROJECT NO.	151.008.003
DRAWING NO.	M-502
SHEET	OF 37
DATE	2-21-12
DESIGNER	DES BY: EAC
CHECKER	CHK BY: EBP
ISSUED FOR CONSTRUCTION	CSJ EBP GBC (2-4-12)
REV.	DESCRIPTION
0	ISSUED FOR CONSTRUCTION

STATE OF MAINE: THE ENGINEER HAS NOT ASSIGNED TO THIS PROJECT THE FULL QUALITY CONTROL AND SUPERVISION OF CONSTRUCTION OF THIS PROJECT AND THEREFORE DOES NOT GUARANTEE THE ACCURACY OF THE INFORMATION CONTAINED HEREIN.

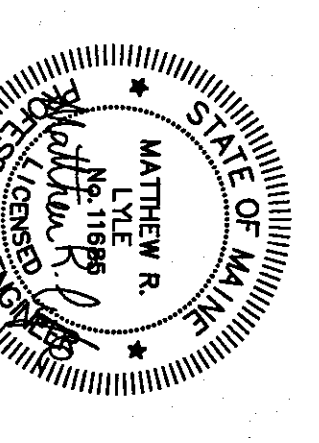


SECOND FLOOR ELECTRICAL DEMOLITION PLAN
SCALE: 1/8" = 1'-0"

- NOTES:**
- SEE SHEET E-001 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
 - CONTRACTOR TO VERIFY ALL EQUIPMENT POWER SOURCES PRIOR TO COMMENCING ANY DEMOLITION WORK.
- DEMOLITION KEYED NOTES:**
- DISCONNECT AND REMOVE ALL ASSOCIATED ELECTRICAL EQUIPMENT, CONDUIT, AND WIRING FOR UNIT VENTILATOR. SEE SHEET ED-100 FOR PANEL LOCATION.
 - TEMPORARILY REMOVE LIGHT FIXTURES SUPPORTED BY CEILING GRID DURING CEILING GRID REPLACEMENT. FIXTURES TO BE RE-INSTALLED AS EXISTING IN NEW CEILING GRID. SEE SHEET G-101 FOR MORE DETAILS.
 - FIGURES ARRANGEMENT TO BE MODIFIED AS SHOWN ON SHEET E-102. SEE SHEET G-101 FOR MORE DETAILS.

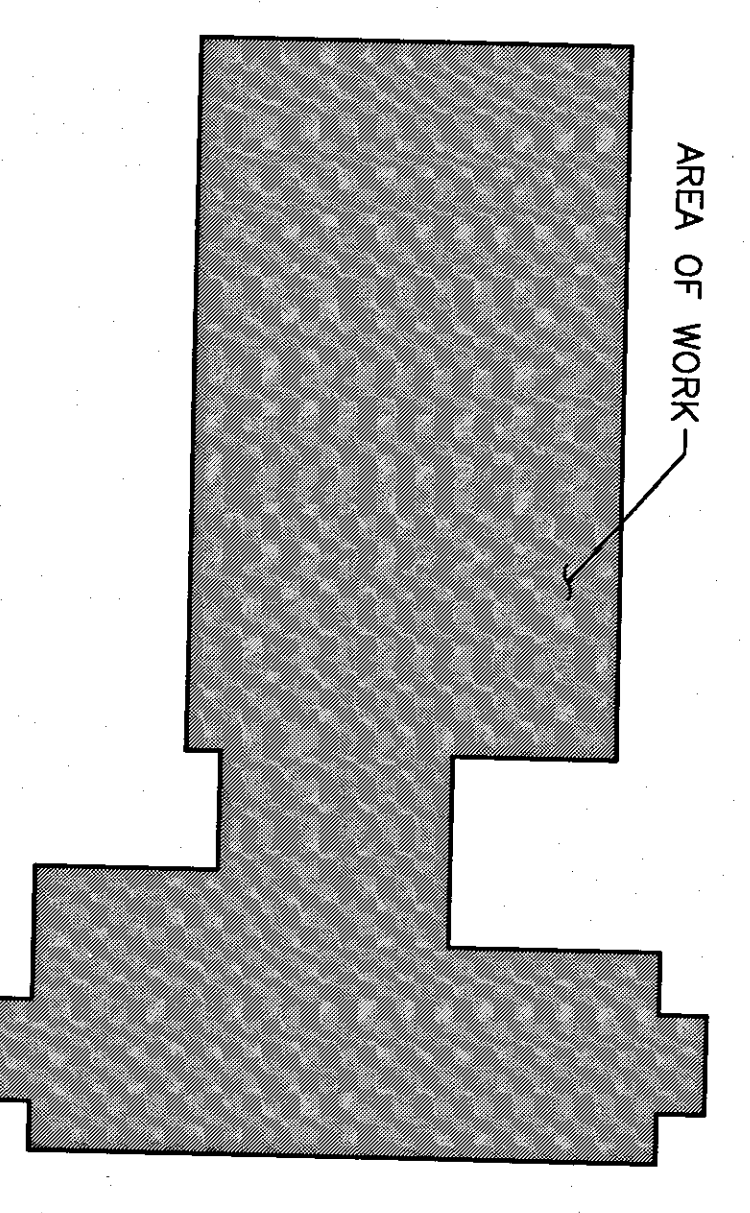
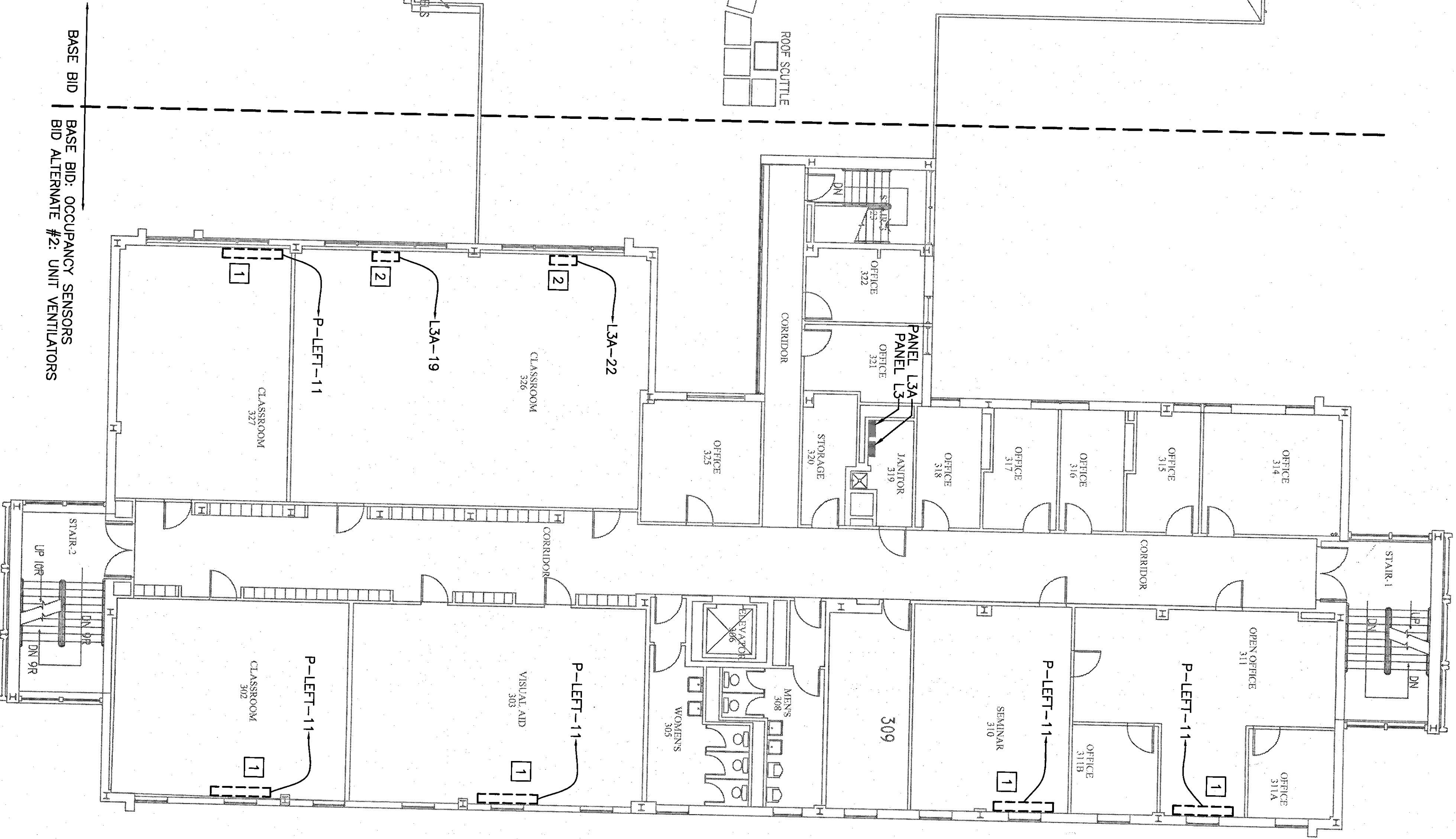
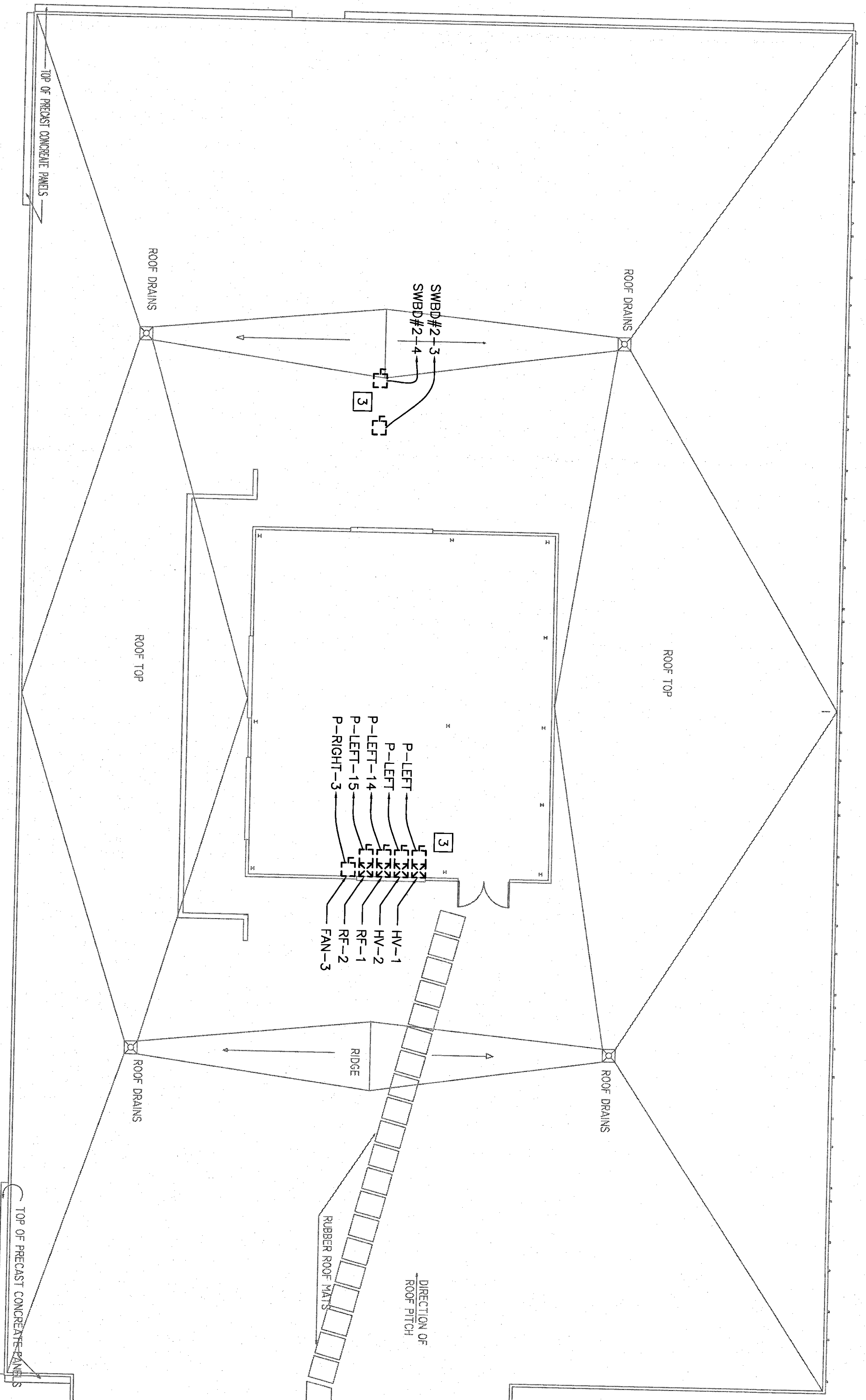


KEY PLAN
SCALE: NTS



UNIVERSITY OF SOUTHERN MAINE PORTLAND, ME	
LUTHER BONNEY ENERGY UPGRADES	
SECOND FLOOR ELECTRICAL DEMOLITION PLAN	
PROJECT NO. 151.008.003	DRAWING NO. ED-102
DATE: 2-21-12	SHEET 37
DESIGNER: JMB	CHECKED: MRL
DRAWN BY: JMB	DATE: 2-21-12
SCALE: AS NOTED	
BY: JMB	
DR: JMB	
ISSUED FOR CONSTRUCTION	
REV: 0	

ALL WORK SHALL BE IN ACCORDANCE WITH THE MAINE ELECTRICAL CODE AND THE NATIONAL ELECTRICAL CODE AS AMENDED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND INSURANCE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND INSURANCE.



THIRD FLOOR ELECTRICAL DEMOLITION PLAN

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

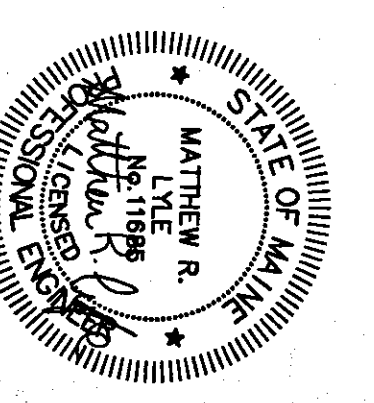
- NOTES:
- SEE SHEET E-001 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
 - CONTRACTOR TO VERIFY ALL EQUIPMENT POWER SOURCES PRIOR TO COMMENCING ANY DEMOLITION WORK.
- DEMOLITION KEVED NOTES:
- DISCONNECT AND REMOVE ALL ASSOCIATED ELECTRICAL EQUIPMENT, CONDUIT AND WIRING FOR UNIT VENTILATOR. SEE SHEET ED-100 FOR PANEL LOCATION.
 - DISCONNECT AND REMOVE ALL ASSOCIATED ELECTRICAL EQUIPMENT, CONDUIT AND WIRING FOR FAN COIL UNIT.
 - DISCONNECT AND REMOVE ALL ASSOCIATED ELECTRICAL EQUIPMENT CONDUIT AND WIRING FOR PENHOUSE AND ROOF MECHANICAL EQUIPMENT TO BE REMOVED. SEE SHEET MD-402 FOR MORE DETAILS.

BID ALTERNATE #2

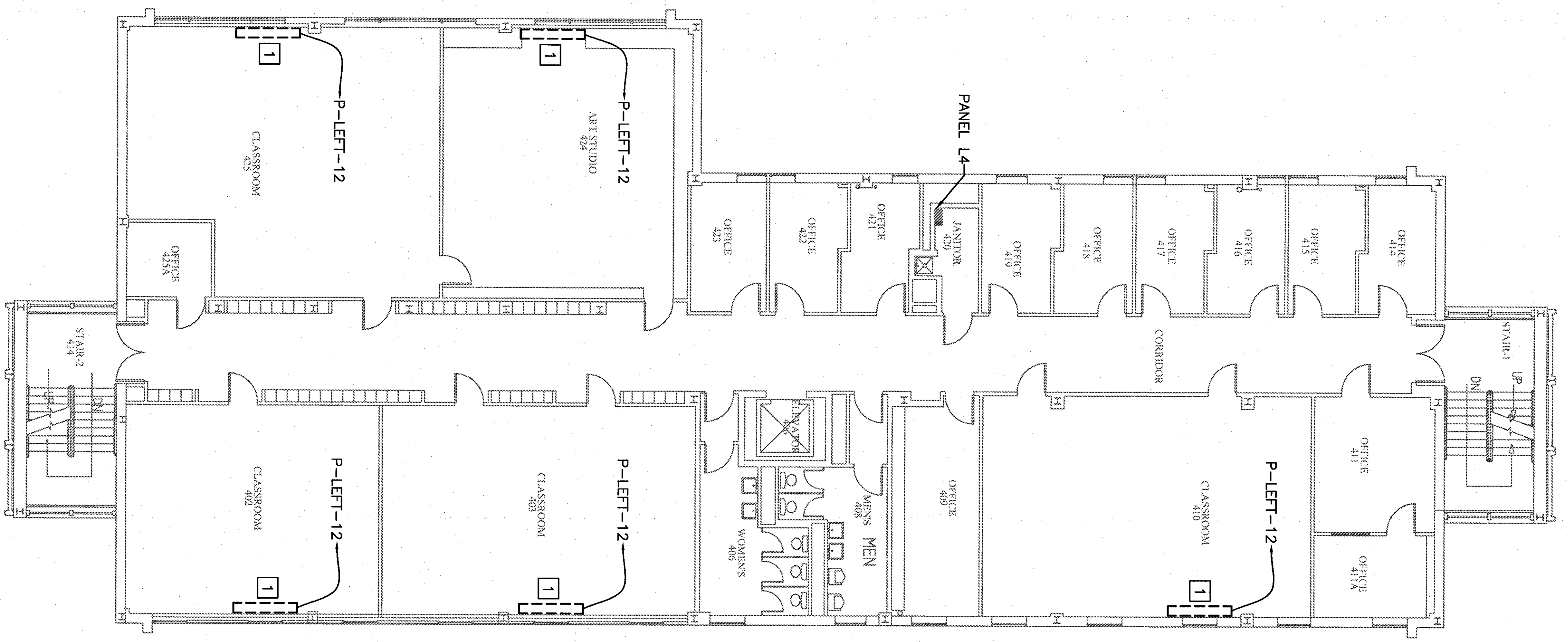
BASE BID

KEY PLAN

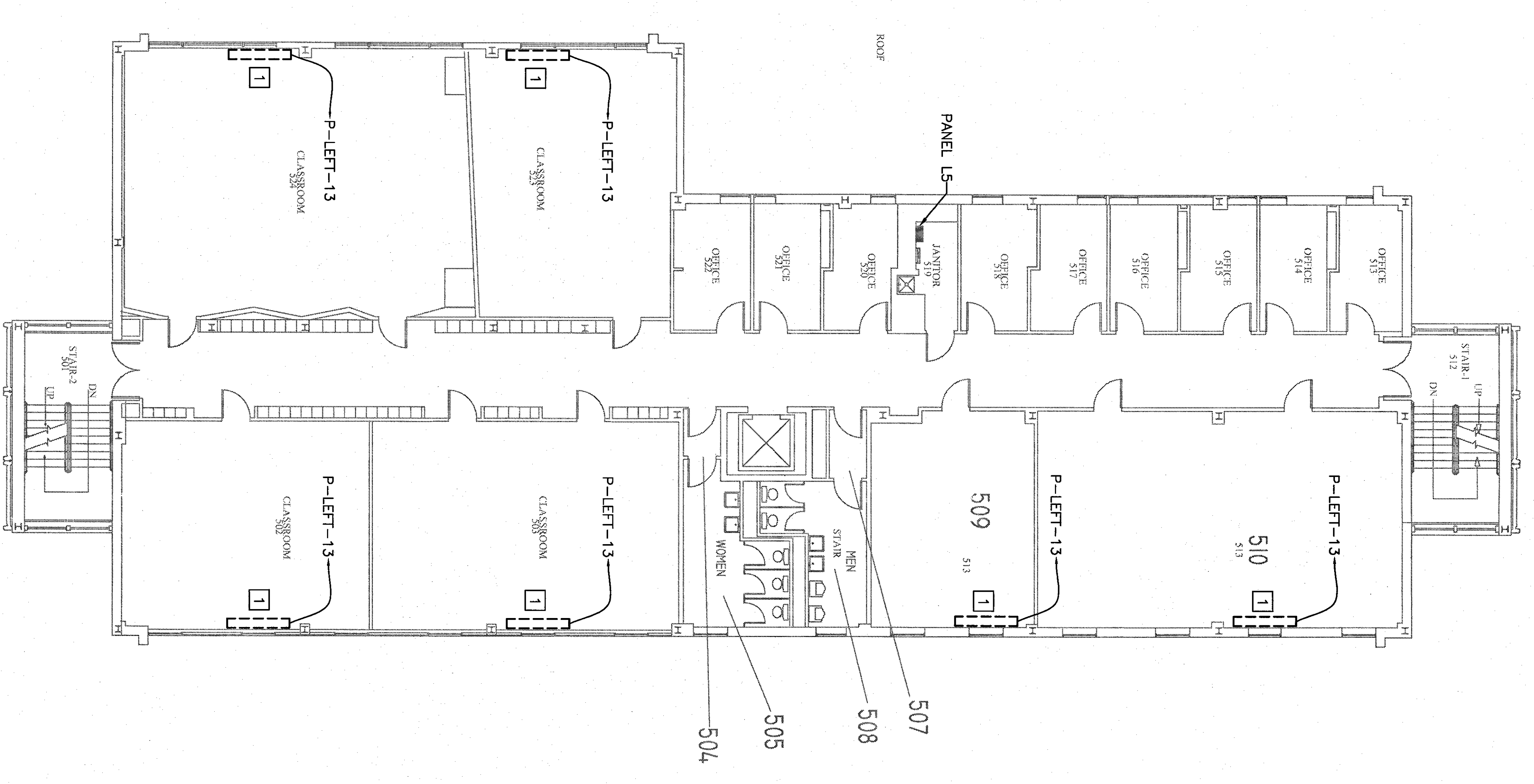
SCALE: NTS



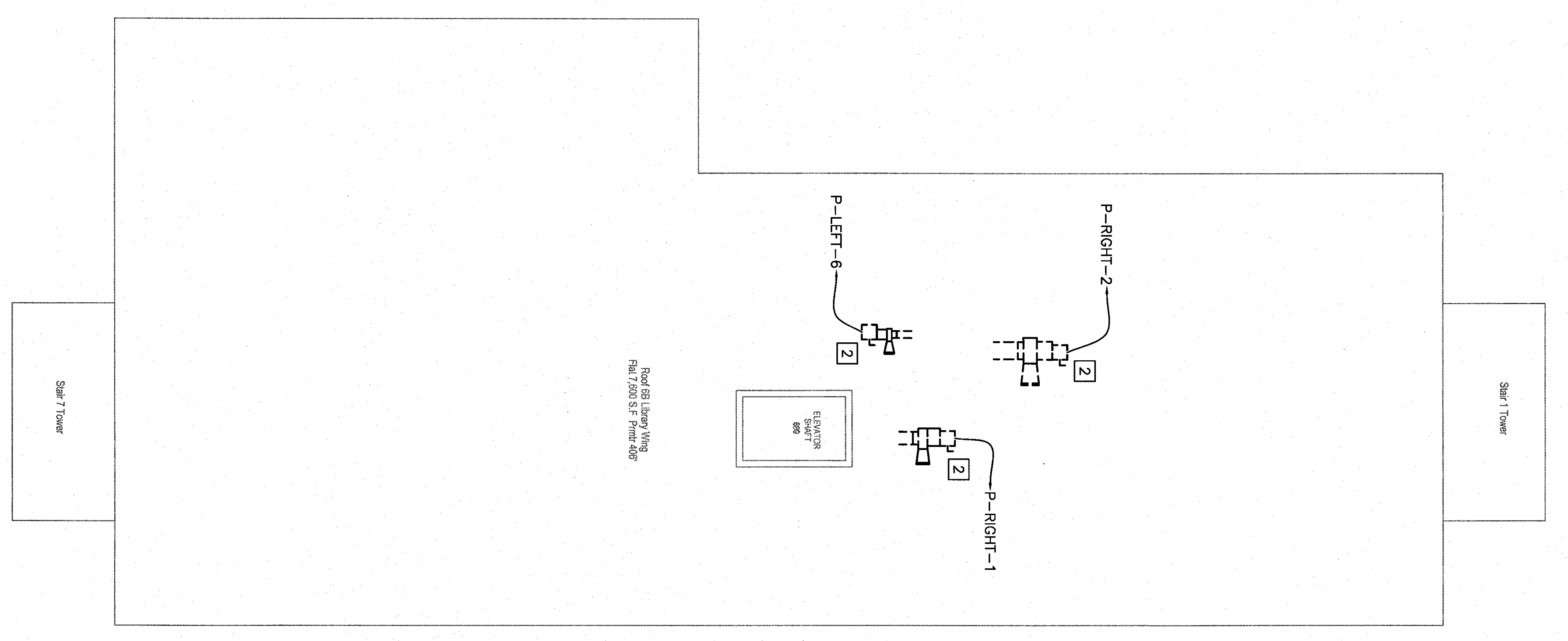
UNIVERSITY OF SOUTHERN MAINE PORTLAND, ME		PROJECT NO. 151.008.003	DRAWING NO.
LUTHER BONNEY ENERGY UPGRADES		DATE: 2-21-12	DESIGNER: JMB
THIRD FLOOR ELECTRICAL DEMOLITION PLAN		CHECKED BY: JMB	DATE: 2-21-12
REV. 0 ISSUED FOR CONSTRUCTION		DATE: 2-21-12	SCALE: AS NOTED
DESCRIPTION		DESIGNER: JMB	CHECKED BY: JMB
PROJECT NO. 151.008.003		DRAWING NO.	
SHEET 31 OF 37		ED-103	



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

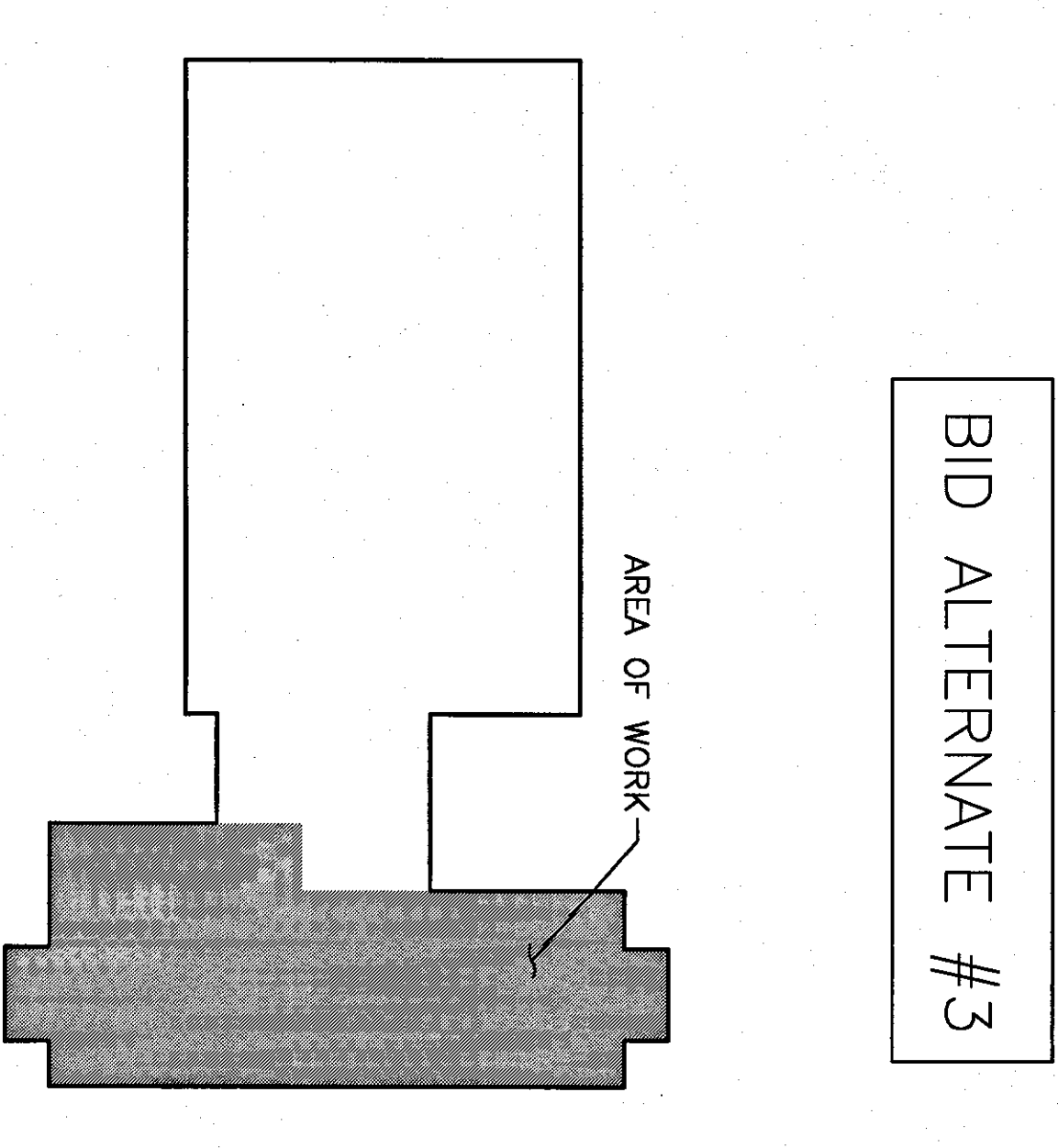


FIFTH FLOOR ELECTRICAL DEMOLITION PLAN
SCALE: 1/8" = 1'-0"

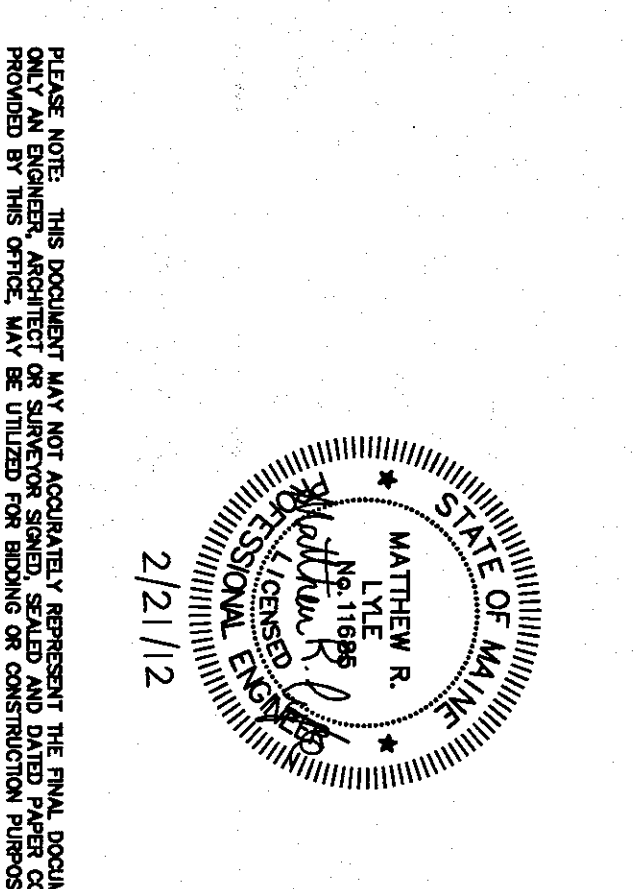


ROOF ELECTRICAL DEMOLITION PLAN
SCALE: 1/8" = 1'-0"

- NOTES:
- SEE SHEET E-001 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
 - CONTRACTOR TO VERIFY ALL EQUIPMENT POWER SOURCES PRIOR TO COMMENCING ANY DEMOLITION WORK.
- DEMOLITION KEYS:
- DISCONNECT AND REMOVE ALL ASSOCIATED ELECTRICAL EQUIPMENT, CONDUIT AND WIRING FOR UNIT VENTILATOR. SEE SHEET ED-100 FOR PANEL LOCATION.
 - DISCONNECT AND REMOVE SAFETY SWITCH AND ALL ASSOCIATED WIRING FOR ROOF FAN. LEAVE CONDUIT FOR REUSE IN REPLACEMENT ROOF FAN. SEE SHEET E-104 FOR MORE DETAILS. SEE SHEET ED-100 FOR PANEL LOCATION.



KEY PLAN
SCALE: NTS



<p>Colby Company General Engineering Mechanical Engineering Electrical Engineering Civil Engineering</p>		<p>PROJECT NO. 191.008.003 DRAWING NO. E-104</p>	
<p>UNIVERSITY OF SOUTHERN MAINE PORTLAND, ME</p>		<p>LUTHER BONNEY ENERGY UPGRADES FOURTH, FIFTH AND ROOF ELECTRICAL DEMOLITION PLANS</p>	
REV.	DESCRIPTION	DATE	SHEET
0	ISSUED FOR CONSTRUCTION	2-21-12	32
			37

ED-104

POWER

- NON-FUSED SAFETY SWITCH
NEMA ENCLOSURE
AMPERE RATING
(4) FUSED SAFETY SWITCH, TOP NUMBER INDICATES RATING, BOTTOM NUMBER INDICATES LOWER NUMBER INDICATES FUSE RATING
MAGNETIC MOTOR STARTER, FMR UNLESS INDICATED OTHERWISE
INDICATED OTHERWISE
NEMA SIZE (TYPE)
ELECTRIC MOTOR, NUMBER INDICATES HORSEPOWER
EXPLOSION PROOF
CONDUIT TURNING UP
CONDUIT TURNING DOWN
DUPLEX RECEPTACLE, NEMA 5-20R
E - INSTALLED ON EMERGENCY CIRCUIT
IS - ISOLATED GROUND
SWITCHED RECEPTACLE
GFCI DUPLEX RECEPTACLE, NEMA 5-20R
WEATHER PROOF
PANELBOARD, NORMAL POWER
JUNCTION BOX
MANUAL MOTOR STARTER, TOGGLE OPERATED, SINGLE PHASE: 1, 2 OR 3 POLE AS REQUIRED

LIGHTING

- 2x4 FLUORESCENT FIXTURE
ASSOCIATED CONTROL DEVICE
FIXTURE TYPE (SEE LIGHT FIXTURE SCHED.)
1x4 FLUORESCENT FIXTURE
2x2 FLUORESCENT FIXTURE
DOWN LIGHT
WALL MOUNTED FIXTURES
SHADING INDICATES SIGN FACE
SHADING INDICATES EGRESS DIRECTION
EXIT SIGN, WALL MOUNTED
DUAL HEAD EMERGENCY LIGHT BATTERY PACK
EXIT SIGN, WALL MOUNTED
OCCUPANCY SENSOR
INDICATES CONTROLLED FIXTURE
HOME RUN
SINGLE POLE TOGGLE SWITCH
INDICATES CONTROLLED FIXTURE
3-WAY TOGGLE SWITCH
4-WAY TOGGLE SWITCH
OCCUPANCY SENSOR SWITCH

ABBREVIATIONS

Table with columns for symbol, abbreviation, and full name. Includes terms like AMP, AMPE, ABOVE FINISHED FLOOR, etc.

GENERAL NOTES

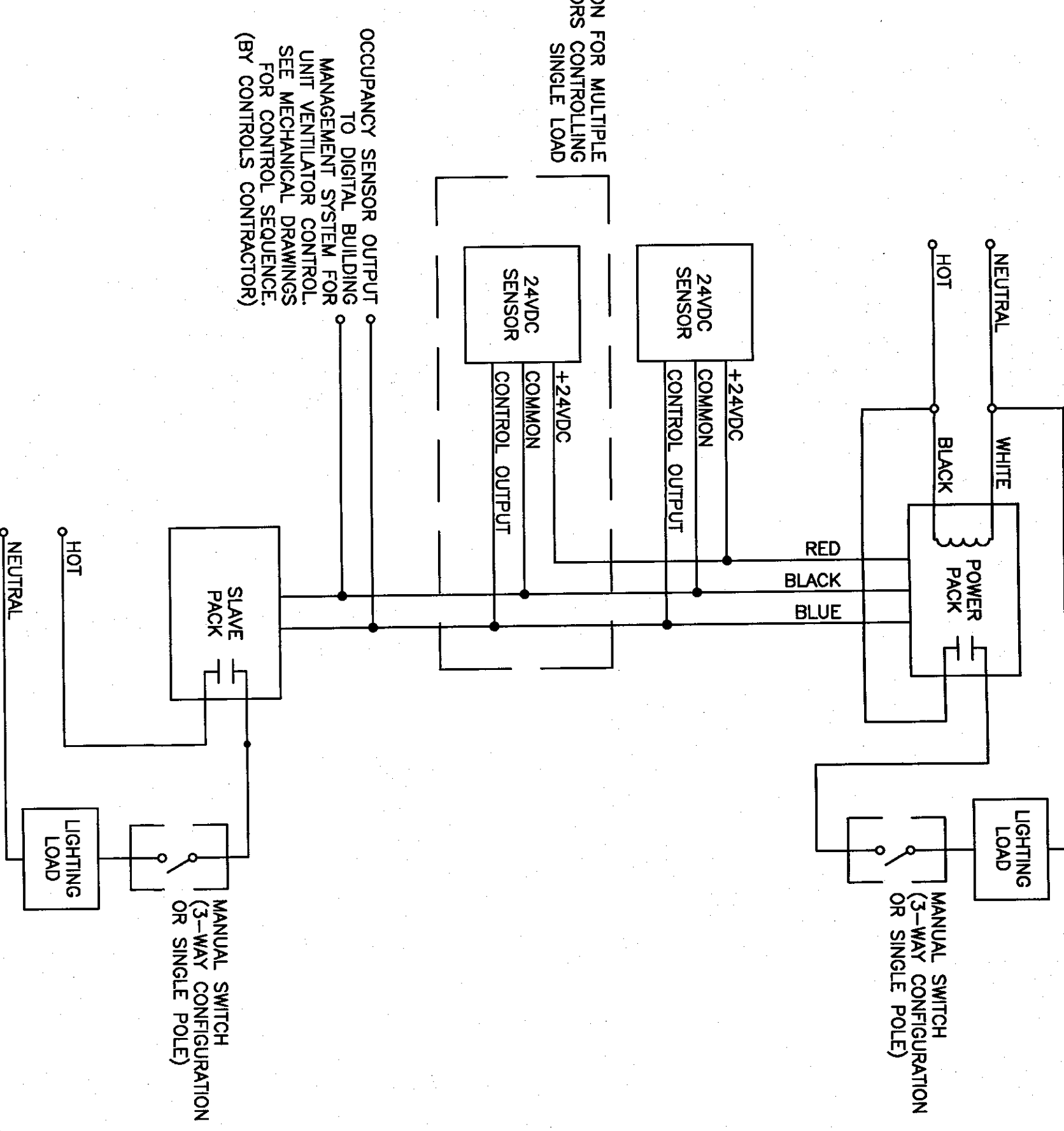
- ALL GENERAL NOTES, SYMBOL LISTS AND DETAILS ARE TO BE CONSIDERED AS APPLICABLE TO ALL ELECTRICAL DRAWINGS FOR THIS PROJECT.
REMOVE ALL ELECTRICAL EQUIPMENT COMPLETELY AS INDICATED. REMOVE ALL CIRCUIT CONDUCTORS, SWITCHES, LIGHTING FIXTURES AND MISCELLANEOUS APPLIANCES BACK TO ENERGIZING SOURCE OR JUNCTION BOX WHERE MULTIPLE EQUIPMENT IS POWERED.
UNLESS OTHERWISE NOTED, WIRING SHALL BE #12 AWG CONDUCTORS AND #12 GND. HOME RUNS FED FROM 20A-1P CIRCUITS IN EXCESS OF 100 FEET SHALL BE #10 AWG.
FLEXIBLE CONNECTIONS TO MOTORS SHALL BE LIQUID TIGHT PROVIDE WALL PLATES FOR ALL WIRING DEVICES. FINISHED PARTITIONED SPACES SHALL HAVE NYLON SMOOTH WALL PLATES. EXPOSED WORKING SPACES SHALL HAVE GALVANIZED STEEL WALL PLATES.
ALL INTERIOR DISTRIBUTION AND BRANCH WIRING SHALL BE 600V, COPPER WITH THHN/THWN INSULATION. ALL EXTERIOR DISTRIBUTION AND BRANCH WIRING SHALL BE 600V, COPPER WITH XHHW INSULATION.
MOUNT ALL DISCONNECTS AND MOTOR STARTERS IN AN ACCESSIBLE LOCATION WITHIN SIGHT OF THE LOAD SERVED.
ALL PENETRATIONS THROUGH FLOORS, RATED WALLS AND PARTITIONS SHALL BE SEALED WITH UL APPROVED FIRE SEALANT MATERIAL TO MAINTAIN THE RATING OF SEPARATION.
EQUIPMENT CONNECTIONS ARE SHOWN FOR BASIS-OF-DESIGN PRODUCTS. CONTRACTOR SHALL COORDINATE ALL EQUIPMENT CONNECTIONS, INCLUDING DISCONNECTING MEANS, OVERCURRENT PROTECTION, AND WIRE SIZING - WITH SELECTED MANUFACTURERS' RECOMMENDED INSTRUCTIONS.
CONTRACTOR SHALL PROVIDE ALL MOUNTING HARDWARE NECESSARY FOR A COMPLETE INSTALLATION. MOUNT EQUIPMENT AND ROUTE CONDUIT SO AS NOT TO INTERFERE WITH OPERATIONS SUCH AS DOOR SWINGS, PATHS OF EGRESS, ETC.
PROVIDE ALL NECESSARY POWER PACKS, RELAYS, AND CONTROL WIRING FOR A COMPLETE OCCUPANCY SENSOR SYSTEM IN EACH DESIGNATED SPACE.
OCCUPANCY SENSORS TO CONTROL ALL LIGHTING CIRCUITS OF ROOMS IN WHICH THEY RESIDE. FOR ROOMS WITH MULTIPLE OCCUPANCY SENSORS SHOWN, ALL SENSORS SHALL BE CONNECTED IN PARALLEL TO ALLOW FOR ANY SINGLE SENSOR ACTIVATION TO TURN ON ROOM LIGHTS. (SEE OCCUPANCY SENSOR WIRING DIAGRAM ON THIS SHEET FOR MORE DETAILS.)

MOTOR CIRCUIT SCHEDULE

Table with columns: EQUIPMENT, LOCATION, CIRCUIT/SOURCE PANEL, O.C.P. DEVICE, FEEDER, LOCAL DISC. SWITCH, HP, PH, VOLT, NOTES. Lists various rooms and their electrical specifications.

SCOPE OF WORK

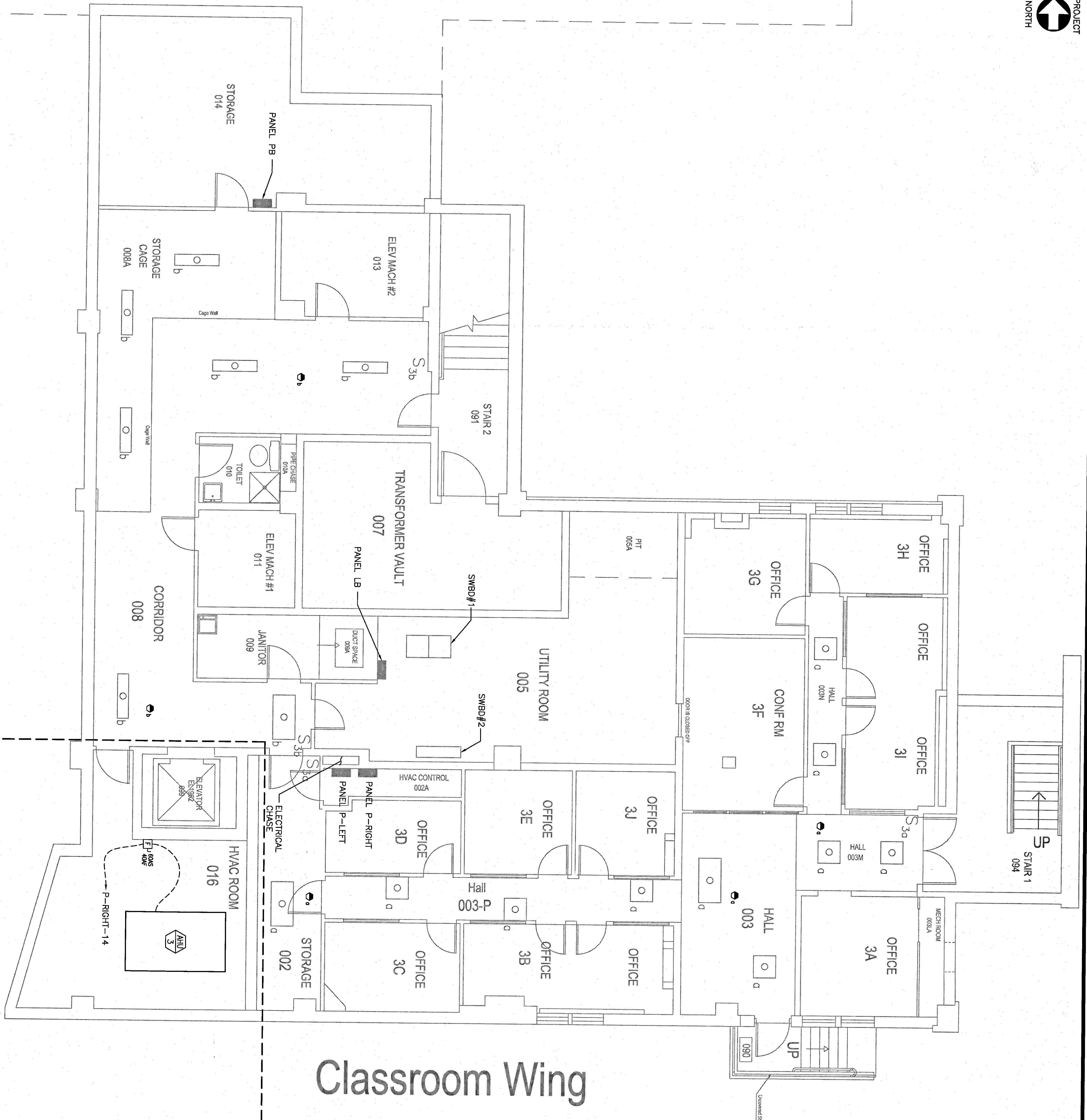
- THE GENERAL SCOPE OF WORK FOR THIS PROJECT INCLUDES THE FOLLOWING ITEMS:
BASE BID: INSTALL OCCUPANCY SENSORS AS SHOWN ON EXISTING LIGHTING CIRCUITS. ALL EXISTING FITTED SWITCHES TO REMAIN UNLESS OTHERWISE NOTED. CONTRACTOR SHALL VERIFY LIGHTING CIRCUITS AND SWITCHING CONFIGURATIONS.
BASE BID: REPLACE ELECTRICAL CONNECTIONS FOR AIR HANDLERS AHU-1 AND AHU-2, ASSOCIATED CONDENSING UNITS, AND FANS IN 3RD FLOOR PENTHOUSE AND ROOF AS SHOWN.
ADD ALTERNATE #1: NO WORK INCLUDED.
ADD ALTERNATE #2: REPLACE ELECTRICAL CONNECTIONS FOR UNIT VENTILATORS AND FAN COIL UNITS IN 2ND AND 3RD FLOOR CLASSROOMS AS SHOWN.
ADD ALTERNATE #3: REPLACE ELECTRICAL CONNECTIONS FOR UNIT VENTILATORS AND FAN COIL UNITS IN 4TH AND 5TH FLOOR CLASSROOMS AS SHOWN. REPLACE ELECTRICAL CONNECTIONS FOR EXHAUST FANS ON 5TH FLOOR ROOF AS SHOWN.
ADD ALTERNATE #4: REPLACE ELECTRICAL CONNECTIONS FOR AIR HANDLER AHU-3, AND CONDENSING UNIT IN THE BASEMENT AND ON THE GROUND FLOOR.



LIGHTING FIXTURE SCHEDULE

Table with columns: TYPE, DESCRIPTION, VOLTAGE, MANUFACTURER, LAMPS, MOUNTING, NOTES. Lists lighting fixtures like WATTSTOPPER DT-300 and WATTSTOPPER PH-100.

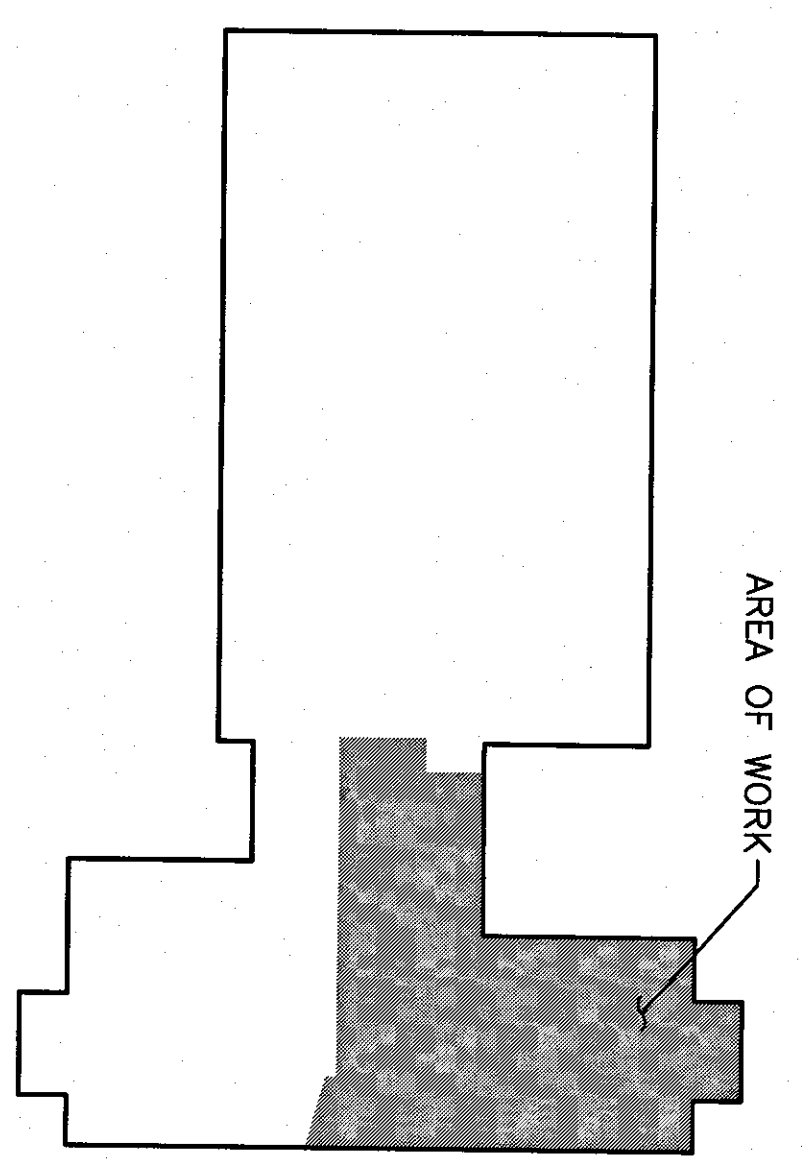
Project information block including: UNIVERSITY OF SOUTHERN MAINE, PORTLAND, ME; PROJECT NO. 151.006.003; SHEET 27 OF 37; DRAWING NO. E-001; and contact information for Colby Company.



BASEMENT ELECTRICAL PLAN
SCALE: 1/4" = 1'-0"

Classroom Wing

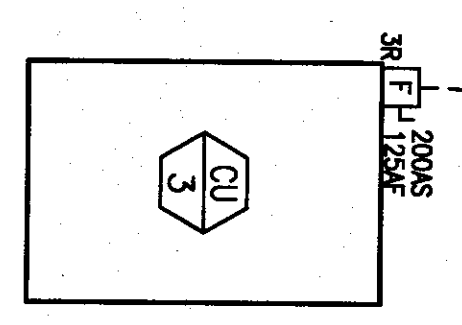
- NOTES:**
1. SEE SHEET E-001 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
 2. SEE SHEET E-001 FOR LIGHTING SCHEDULE AND OCCUPANCY SENSOR CONNECTION DETAILS.
 3. OWNER'S REPRESENTATIVE SHALL BE PRESENT FOR ALL SENSOR TESTING AND ADJUSTMENTS.
 4. SEE SHEET E-001 FOR MOTOR CIRCUIT SCHEDULE.



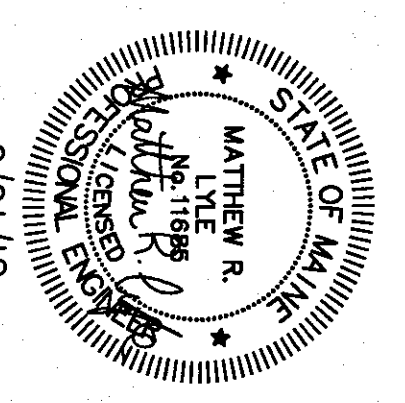
KEY PLAN
SCALE: NTS

BID ALTERNATE #4

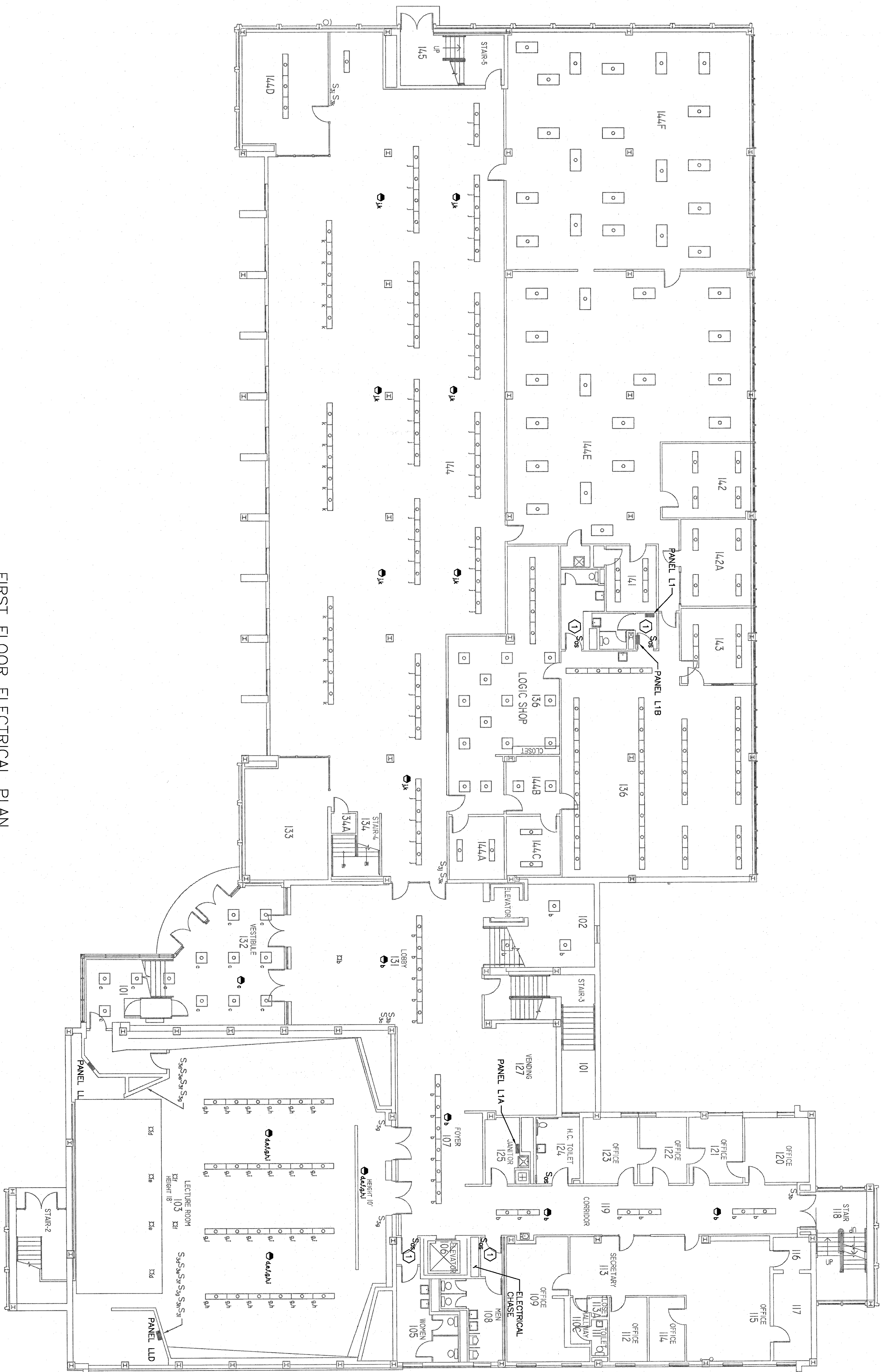
BASE BID



PLEASE NOTE: THIS DOCUMENT MAY NOT ACCURATELY REPRESENT THE FINAL DOCUMENT PROVIDED BY THE OWNER. ANY DISCREPANCIES SHALL BE THE RESPONSIBILITY OF THE USER.



<p>Colby Company Electrical Engineering Mechanical Engineering Civil Engineering</p>		<p>UNIVERSITY OF SOUTHERN MAINE PORTLAND, ME</p>	
<p>PROJECT NO. 191.008.003 DRAWING NO. E-100</p>		<p>PROJECT NO. 191.008.003 DRAWING NO. E-100</p>	
<p>DATE: 2-21-12 SCALE: AS NOTED</p>		<p>DATE: 2-21-12 SCALE: AS NOTED</p>	
<p>DESIGNER: JMB CHECKED: JMB DATE: 2/21/12</p>		<p>DESIGNER: JMB CHECKED: JMB DATE: 2/21/12</p>	
<p>PROJECT NO. 191.008.003 DRAWING NO. E-100</p>		<p>PROJECT NO. 191.008.003 DRAWING NO. E-100</p>	
<p>SHEET 33 OF 37</p>		<p>SHEET 33 OF 37</p>	

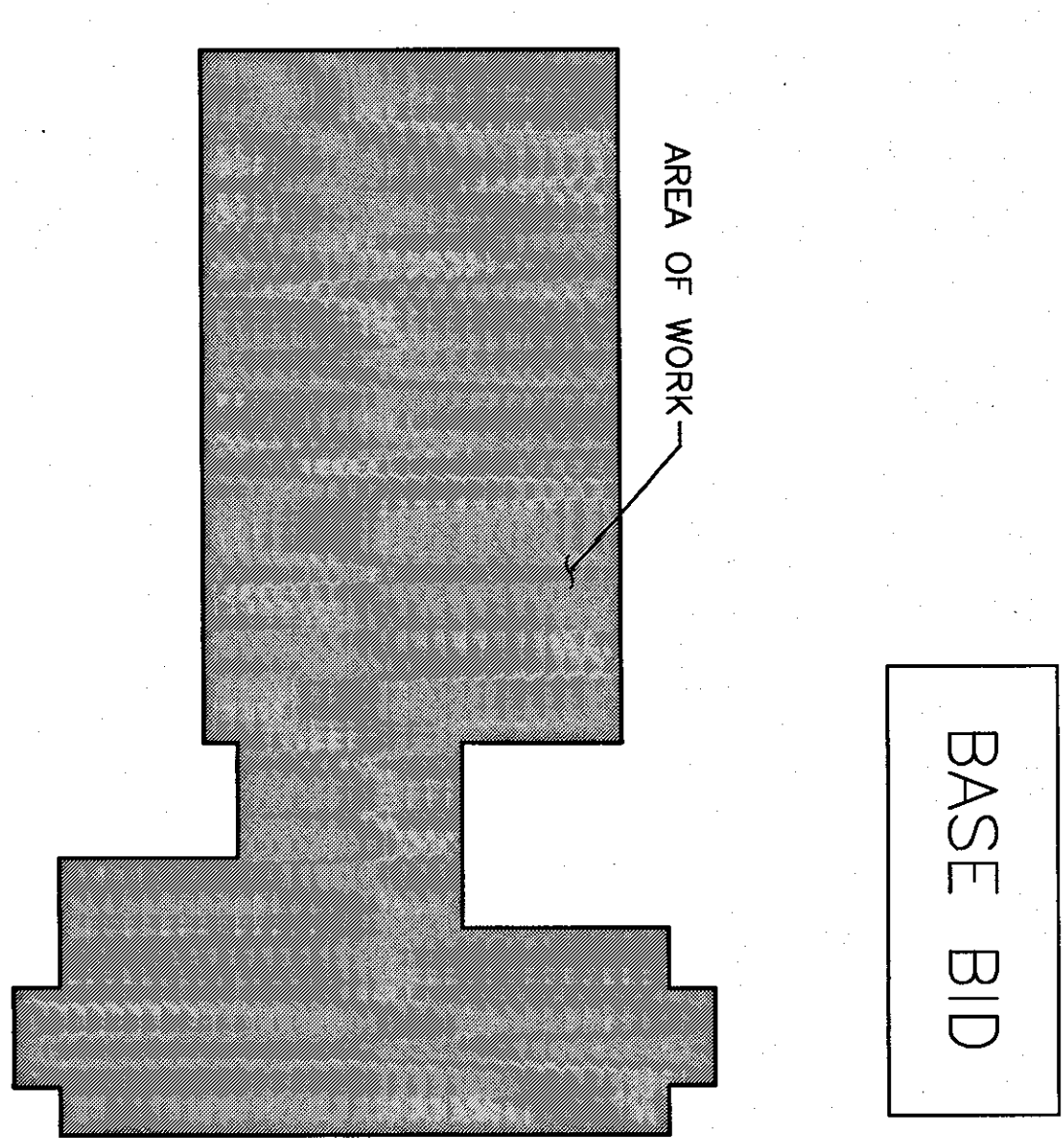


FIRST FLOOR ELECTRICAL PLAN
SCALE: 1/8" = 1'-0"

- KEYED NOTES:
1. REPLACE EXISTING TOGGLE SWITCH WITH OCCUPANCY SENSOR LIGHT SWITCH.

- NOTES:
1. SEE SHEET E-001 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
 2. SEE SHEET E-001 FOR LIGHTING SCHEDULE AND OCCUPANCY SENSOR CONNECTION DETAILS.
 3. OWNER'S REPRESENTATIVE SHALL BE PRESENT FOR ALL SENSOR TESTING AND ADJUSTMENTS.

SCOPE OF WORK NOTES:
BASE BID: OCCUPANCY SENSORS



KEY PLAN
SCALE: NTS

STATE OF MAINE
MATTHEW R. COLBY
REGISTERED PROFESSIONAL ENGINEER
NO. 10000
2/21/12

REV.	ISSUED FOR CONSTRUCTION	DATE	BY	CHK
0	ISSUED FOR CONSTRUCTION	2-21-12	DES BY: JMB	CHK BY: MRL

PROJECT NO. 151.008.003
SHEET 34 OF 37

UNIVERSITY OF SOUTHERN MAINE
PORTLAND, ME
LUTHER BONNEY ENERGY UPGRADES
FIRST FLOOR ELECTRICAL PLAN

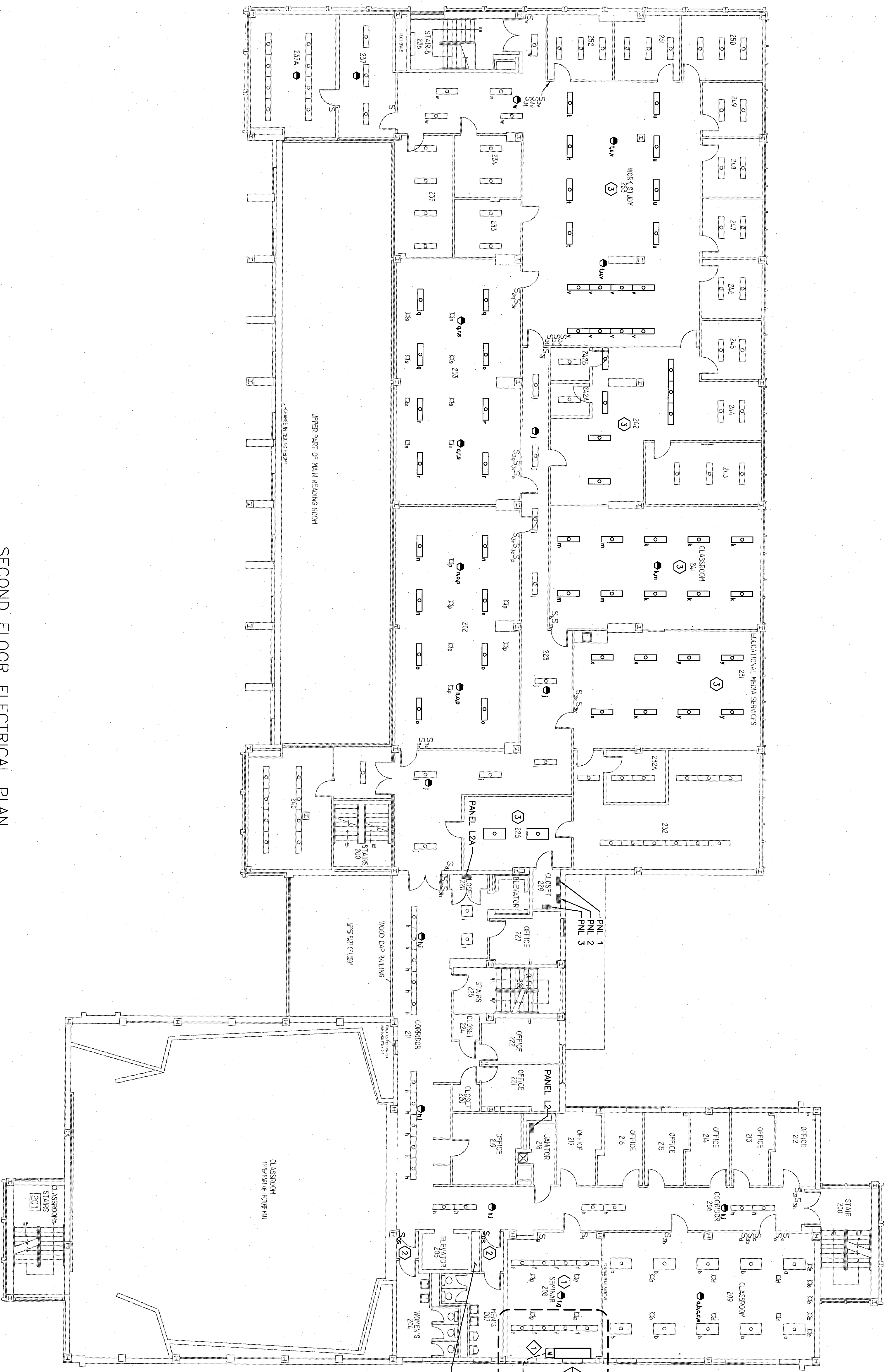
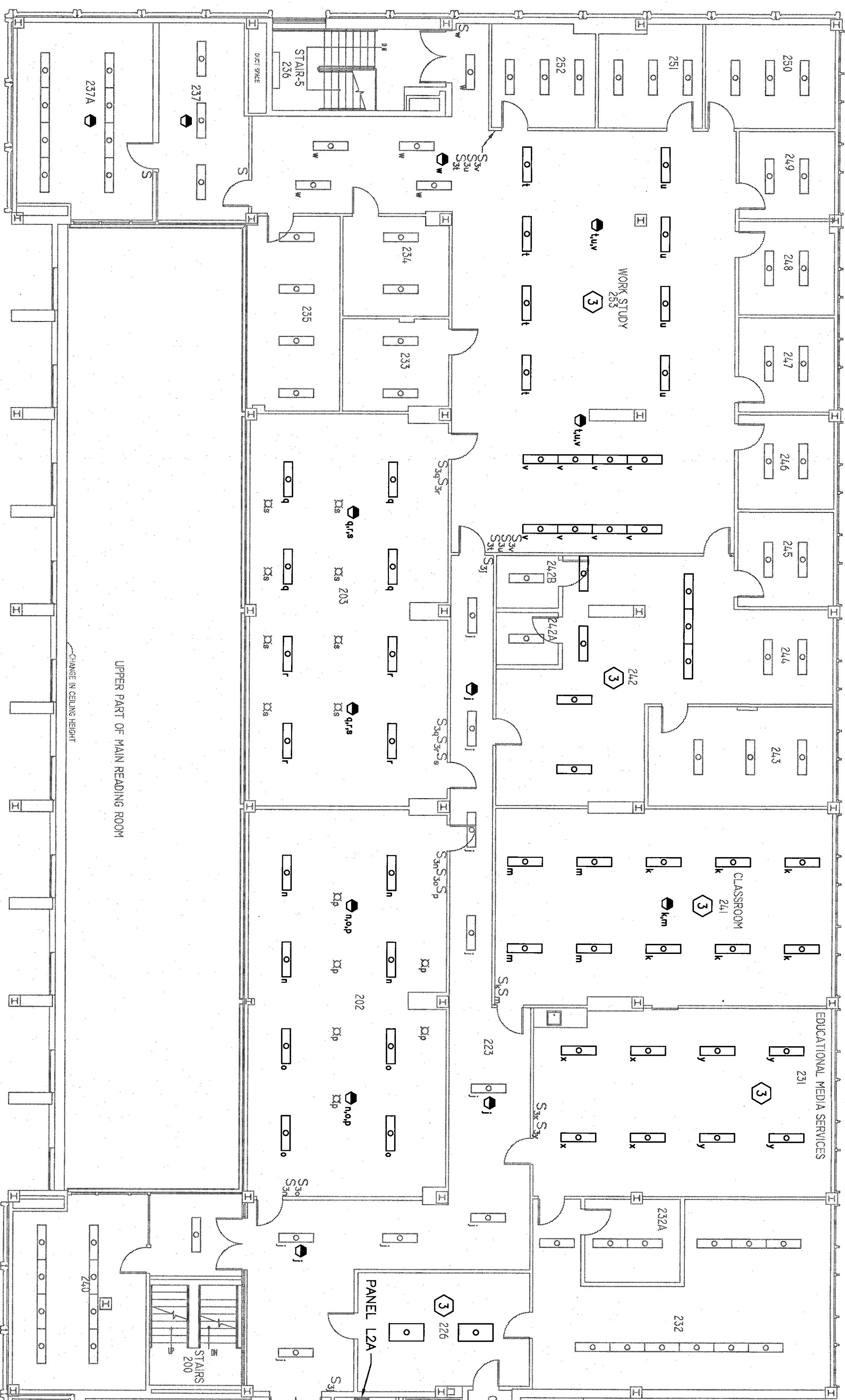
Colby Company
2000 University Avenue
Portland, ME 04102
www.colbycompany.com

DESIGNED BY: JMB
CHECKED BY: MRL

DATE: 2-21-12
SCALE: AS NOTED

PROJECT NO. 151.008.003
SHEET 34 OF 37

ISSUING NO. E-101



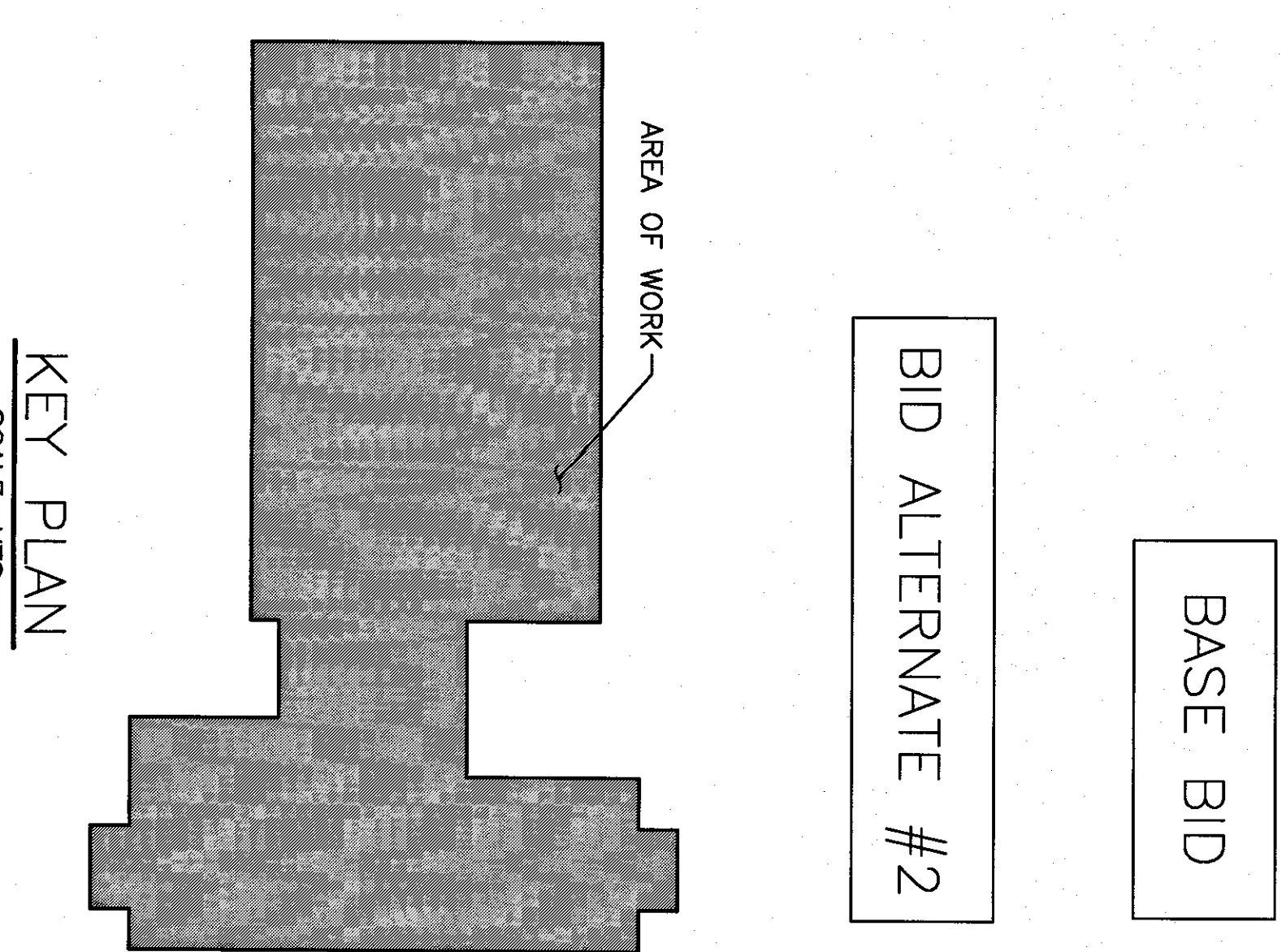
CABLE SCHEDULE
 2#12, 1#12 GND, 3/4" CONDUIT.

- KEYED NOTES:**
- 1 OCCUPANCY SENSOR TO CONTROL LIGHTS AND UNIT VENTILATOR OF ROOM. SEE SHEET M-601 FOR WIRING DETAILS, COORDINATE CONNECTION TO BMS WITH MANUFACTURER'S INSTRUCTIONS.
 - 2 REPLACE EXISTING LIGHTING TOGGLE SWITCH WITH OCCUPANCY SENSOR LIGHT SWITCH.
 - 3 REINSTALL EXISTING LIGHT FIXTURES IN NEW ARRANGEMENT AS SHOWN. SEE SHEET ED-102 FOR MORE DETAILS.
- NOTES:**
- 1 SEE SHEET E-001 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
 - 2 SEE SHEET E-100 FOR PANEL LOCATIONS.
 - 3 SEE SHEET E-001 FOR LIGHTING SCHEDULE AND OCCUPANCY SENSOR CONNECTION DETAILS.
 - 4 SEE SHEET E-001 FOR MOTOR CIRCUIT SCHEDULE.
 - 5 OWNER'S REPRESENTATIVE SHALL BE PRESENT FOR ALL SENSOR TESTING AND ADJUSTMENTS.

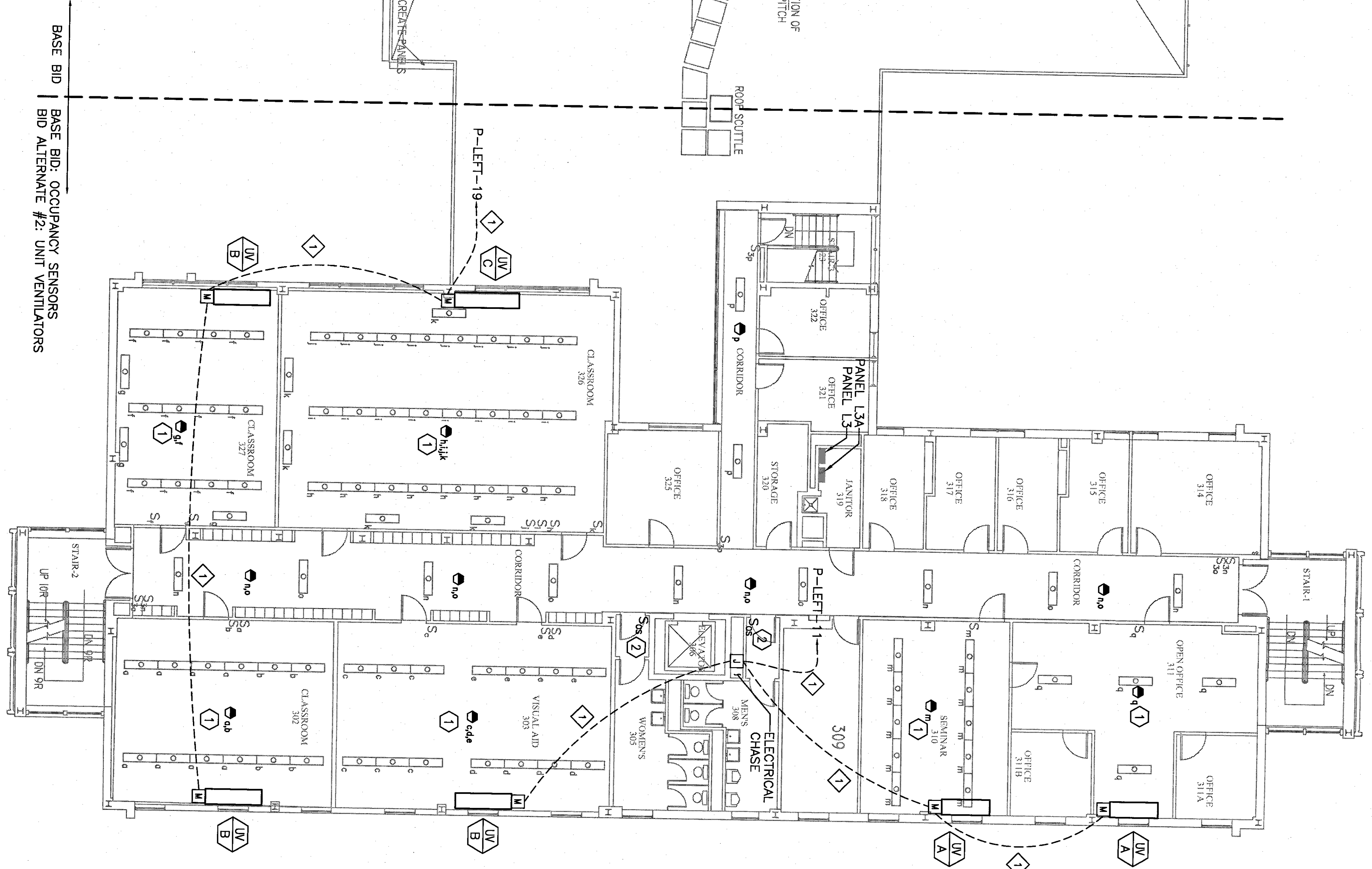
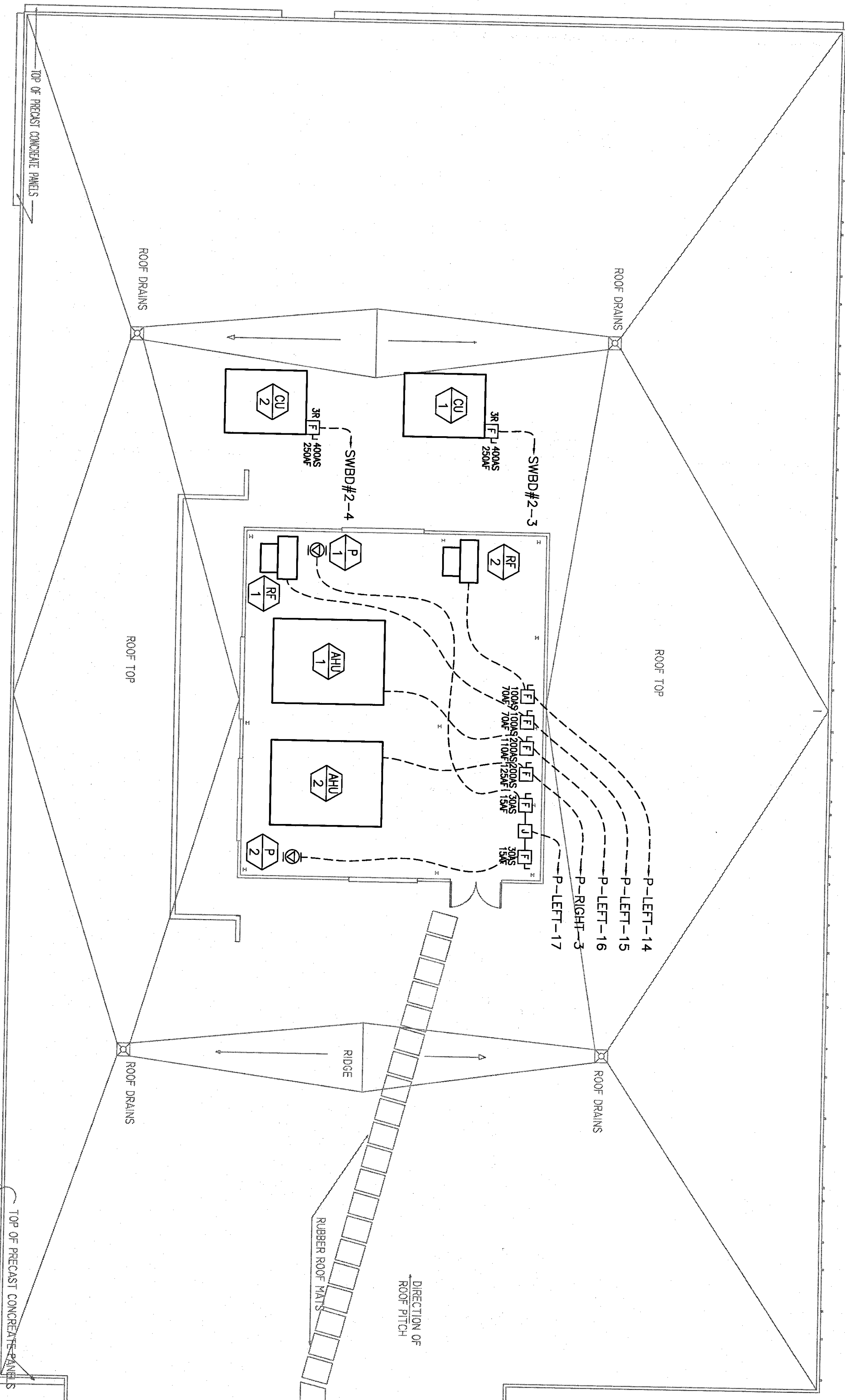
SECOND FLOOR ELECTRICAL PLAN
 SCALE: 1/8" = 1'-0"

PLANNED NOTE: THIS DOCUMENT HAS NOT BEEN REVIEWED BY THE STATE OF MAINE. THE STATE OF MAINE DOES NOT GUARANTEE THE ACCURACY OF THIS DOCUMENT. THE USER OF THIS DOCUMENT SHALL BE RESPONSIBLE FOR VERIFYING THE ACCURACY OF THIS DOCUMENT.

UNIVERSITY OF SOUTHERN MAINE PORTLAND, ME		PROJECT NO. 151.008.003	
LUTHER BONNEY ENERGY UPGRADES		DRAWING NO. E-102	
SECOND FLOOR ELECTRICAL PLAN		SHEET 37 OF 35	
ISSUED FOR CONSTRUCTION	JMB HML DCS 2-21-12	PROJECT NO.	151.008.003
DESCRIPTION	BR: JMB REV: DCS DATE: 2-21-12	DRAWING NO.	E-102
SCALE: AS NOTED	DATE: 2-21-12	SHEET	37
DESIGNED BY: JMB	CHECKED BY: HML		



BASE BID
 BID ALTERNATE #2



CABLE SCHEDULE
 ① 2#10, 1#10 SMD, 3/4" CONDUIT.

KEYED NOTES:
 ① OCCUPANCY SENSOR TO CONTROL LIGHTS AND UNIT VENTILATOR CONNECTION. SEE SHEET E-001 FOR WIRING DETAILS. COORDINATE CONNECTION TO BMS WITH MANUFACTURER'S INSTRUCTIONS.
 ② REPLACE EXISTING LIGHTING TOGGLE SWITCH WITH

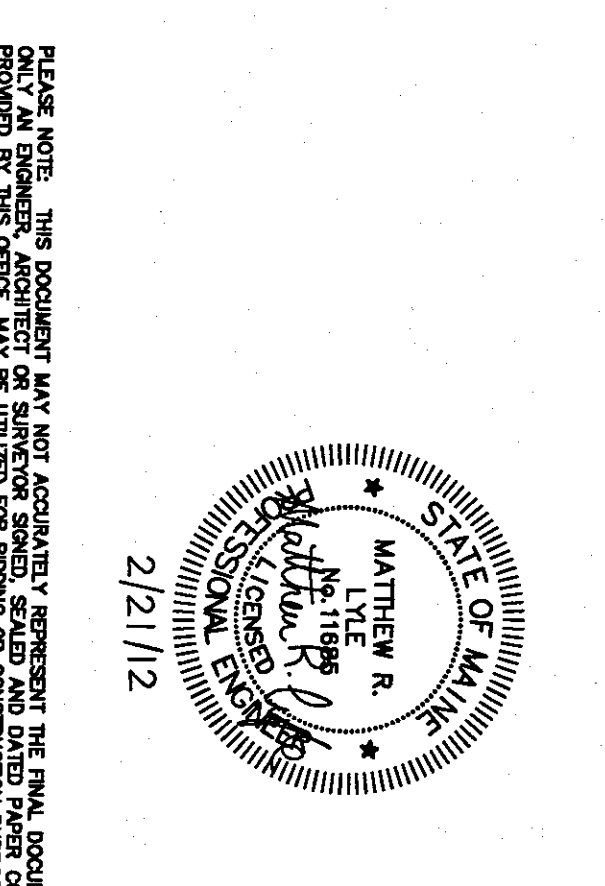
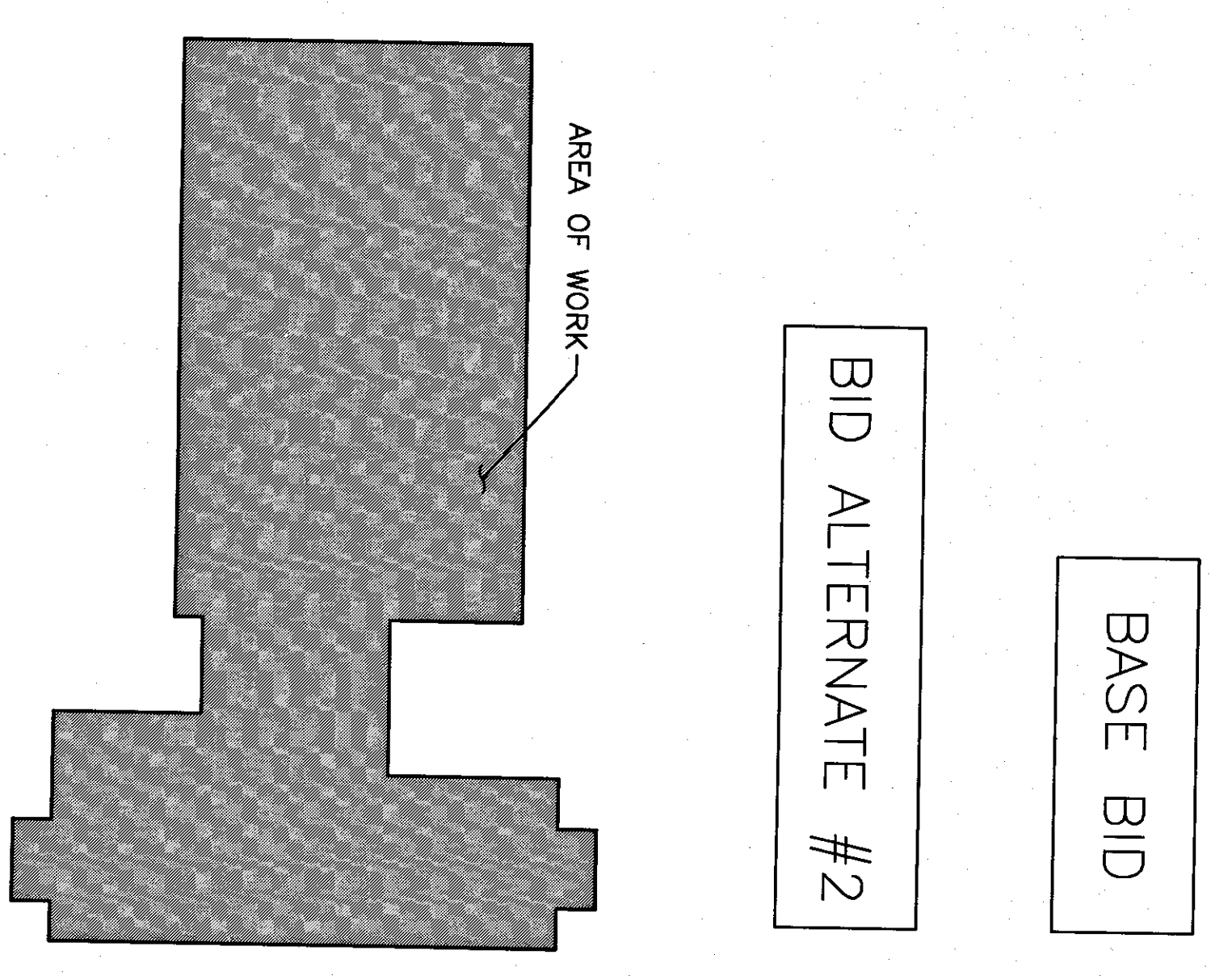
NOTES:
 1. SEE SHEET E-001 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
 2. SEE SHEET E-100 FOR PANEL LOCATIONS.
 3. SEE SHEET E-001 FOR LIGHTING SCHEDULE AND OCCUPANCY SENSOR CONNECTION DETAILS.
 4. SEE SHEET E-001 FOR MOTOR CIRCUIT SCHEDULE.
 5. OWNER'S REPRESENTATIVE SHALL BE PRESENT FOR ALL SENSOR TESTING AND ADJUSTMENTS.

THIRD FLOOR ELECTRICAL PLAN

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

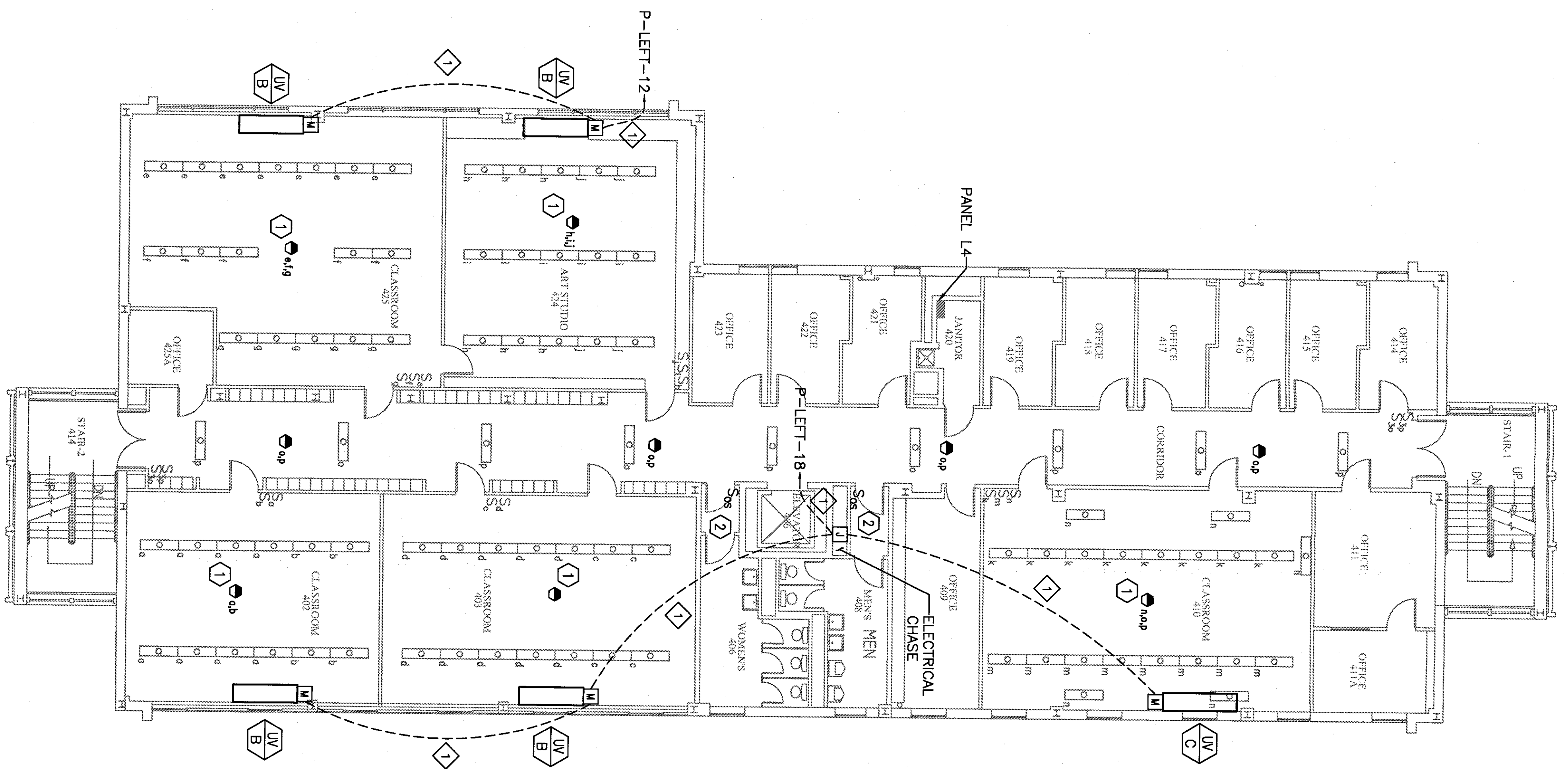
KEY PLAN

SCALE: NTS

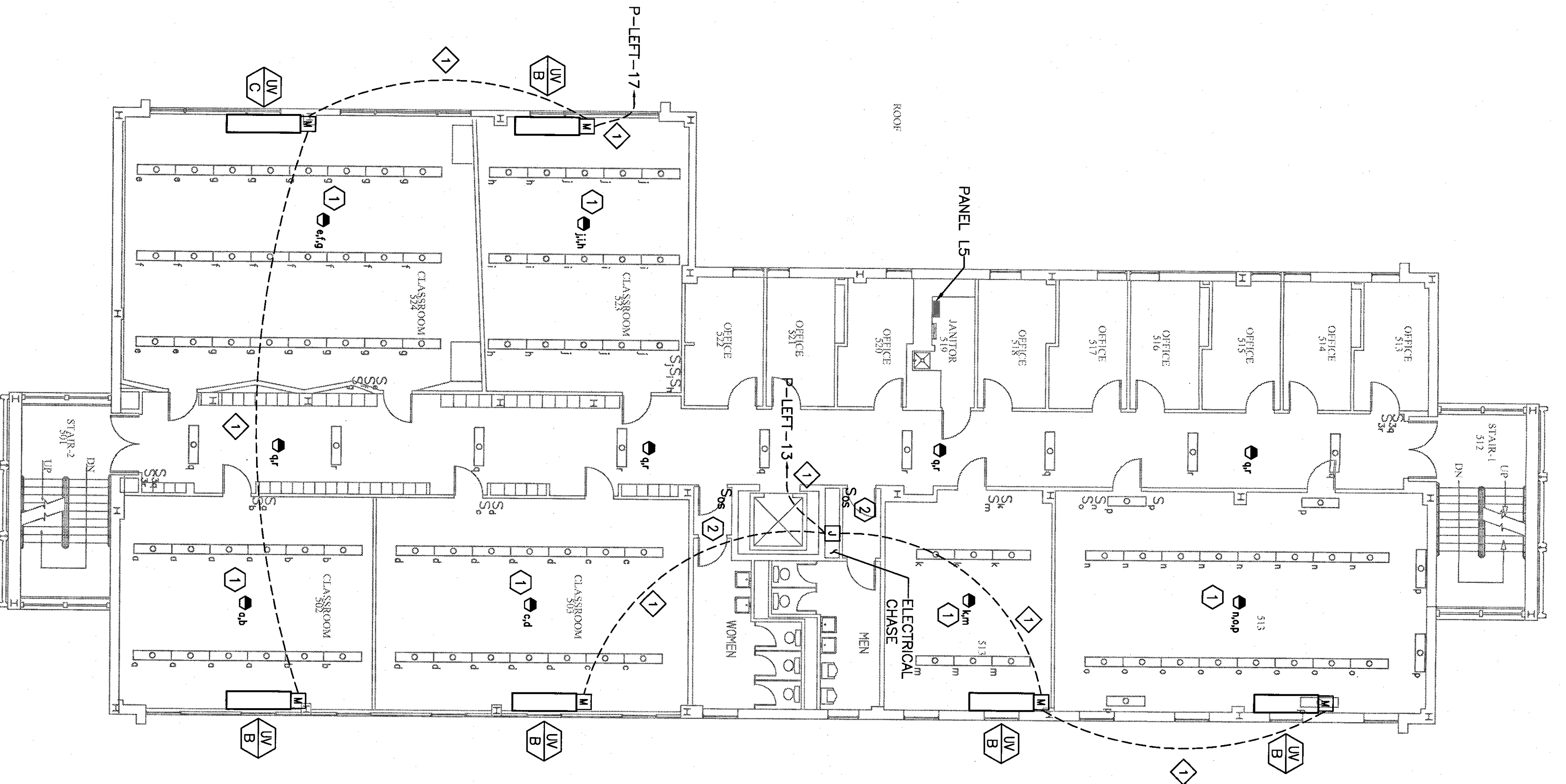


UNIVERSITY OF SOUTHERN MAINE PORTLAND, ME	
LUTHER BONNEY ENERGY UPGRADES	
THIRD FLOOR ELECTRICAL PLAN	
PROJECT NO. 151.008.003	DRAWING NO. E-103
SHEET 36 OF 37	
Colby Company 2020 Main Street Lewiston, ME 04201 (207) 852-1234 www.colbycompany.com	
Issued for Construction DR: JMB DATE: 2-21-12 BY: JMB Scale: AS NOTED	Bidder/Engineer Mechanical/Electrical/Civil Engineering DWS: JMB Date: 2-21-12 Scale: AS NOTED

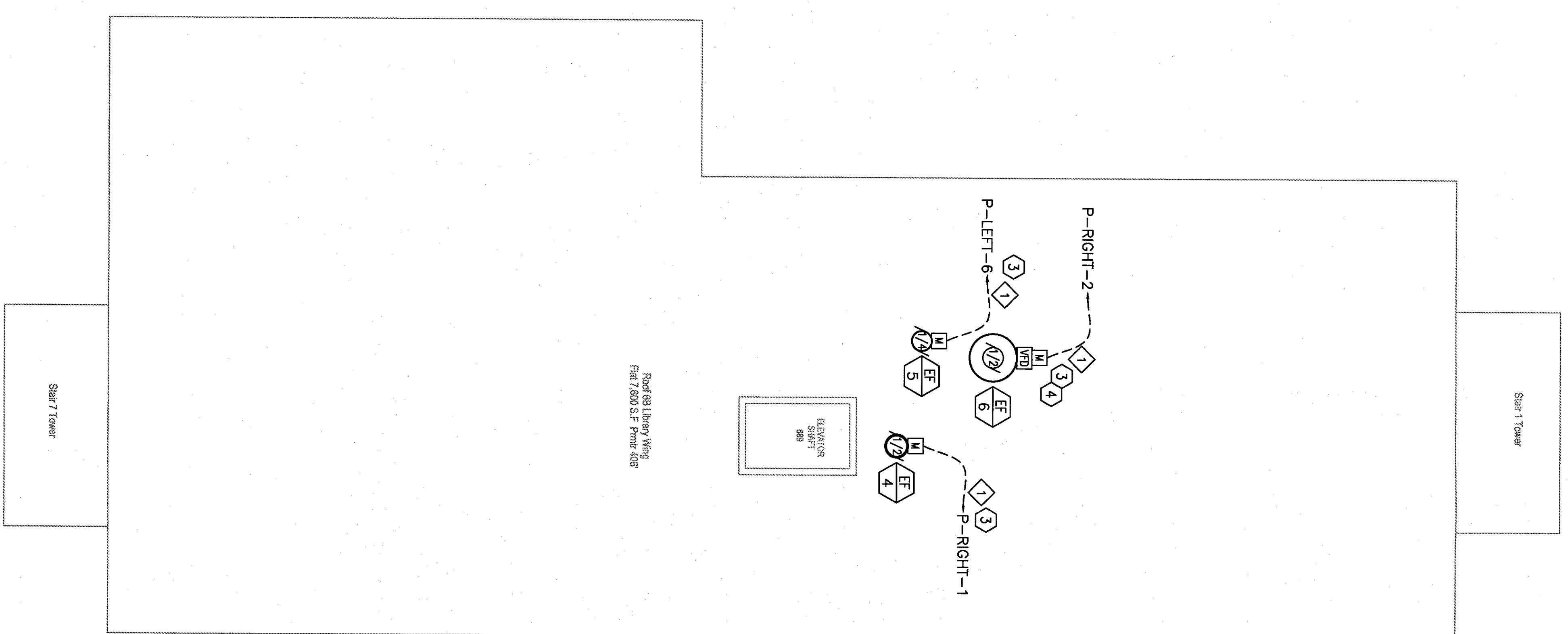
PLEASE NOTE: THIS DOCUMENT MAY NOT ACCURATELY REPRESENT THE FINAL DOCUMENT. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS ON THE JOB. ANY DISCREPANCIES SHALL BE REPORTED IMMEDIATELY TO THE ARCHITECT.



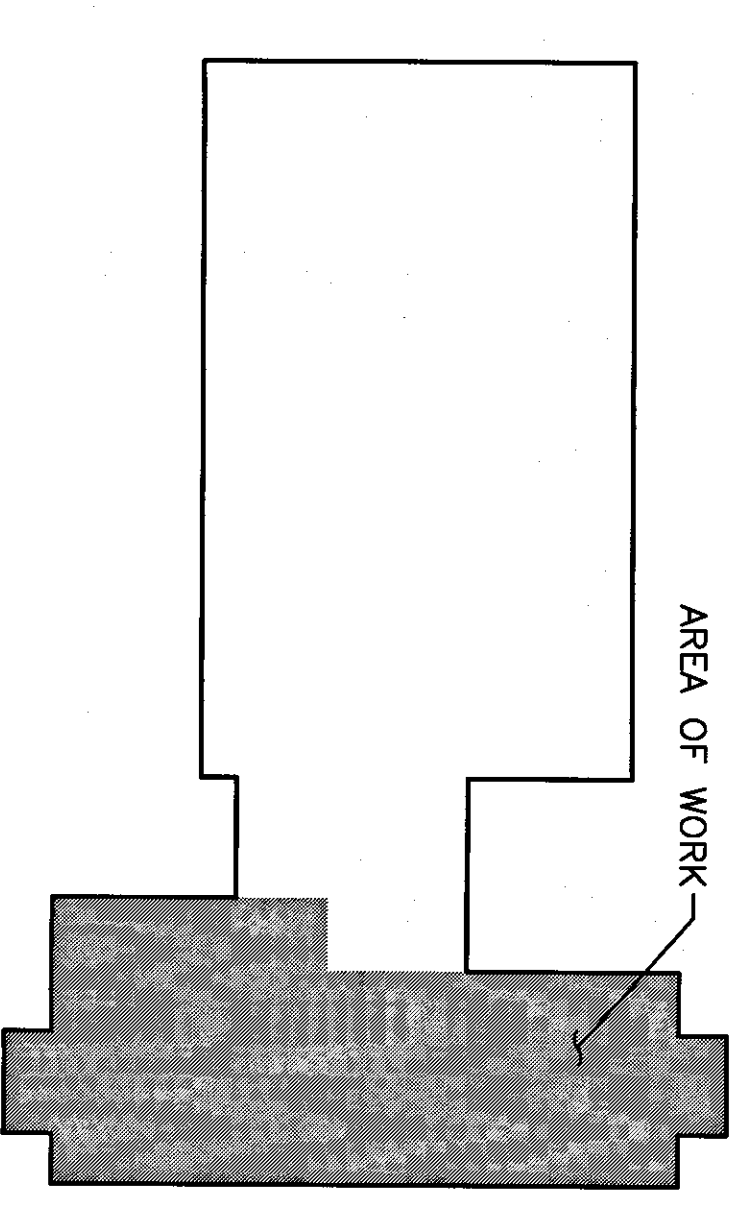
FOURTH FLOOR ELECTRICAL PLAN
SCALE: 1/8" = 1'-0"



FIFTH FLOOR ELECTRICAL PLAN
SCALE: 1/8" = 1'-0"



ROOF ELECTRICAL PLAN
SCALE: 1/8" = 1'-0"



KEY PLAN
SCALE: NTS

BID ALTERNATE #3
BASE BID

- NOTES:**
- SEE SHEET E-001 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
 - SEE SHEET E-100 FOR PANEL LOCATIONS.
 - SEE SHEET E-001 FOR LIGHTING SCHEDULE AND OCCUPANCY SENSOR CONNECTION DETAILS.
 - SEE SHEET E-001 FOR MOTOR CIRCUIT SCHEDULE.
 - SCOPE OF WORK IS TO INSTALL OCCUPANCY SENSORS AS SHOWN ON EXISTING LIGHTING CIRCUITS. CONTRACTOR SHALL VERIFY LIGHTING CIRCUITS.
 - OWNER'S REPRESENTATIVE SHALL BE PRESENT FOR ALL SENSOR TESTING AND ADJUSTMENTS.
- KEYED NOTES:**
- OCCUPANCY SENSOR TO CONTROL LIGHTS AND UNIT VENTILATOR ON ROOM. SEE SHEET M-60 FOR WIRING DETAILS. COORDINATE CONNECTION TO BMS WITH MANUFACTURER'S INSTRUCTIONS.
 - REPLACE EXISTING LIGHTING TOGGLE SWITCH WITH OCCUPANCY SENSOR LIGHT SWITCH.
 - INSTALL NEW CONDUCTORS FOR FANS IN EXISTING CONDUIT. SEE SHEET ED-104 FOR MORE DETAILS.
 - VFD PROVIDED BY MECHANICAL CONTRACTOR, COORDINATE INSTALLATION.
- CABLE SCHEDULE**
- 2#10, 1#10 GND, 3/4" CONDUIT.
- SCOPE OF WORK NOTES:**
- BASE BID: OCCUPANCY SENSORS
 - BID ALTERNATE #3: UNIT VENTILATIONS AND ROOFTOP EXHAUST FANS.

STATE OF MAINE
MATTHEW R. LITTLE
LICENSED PROFESSIONAL ENGINEER
2/21/12

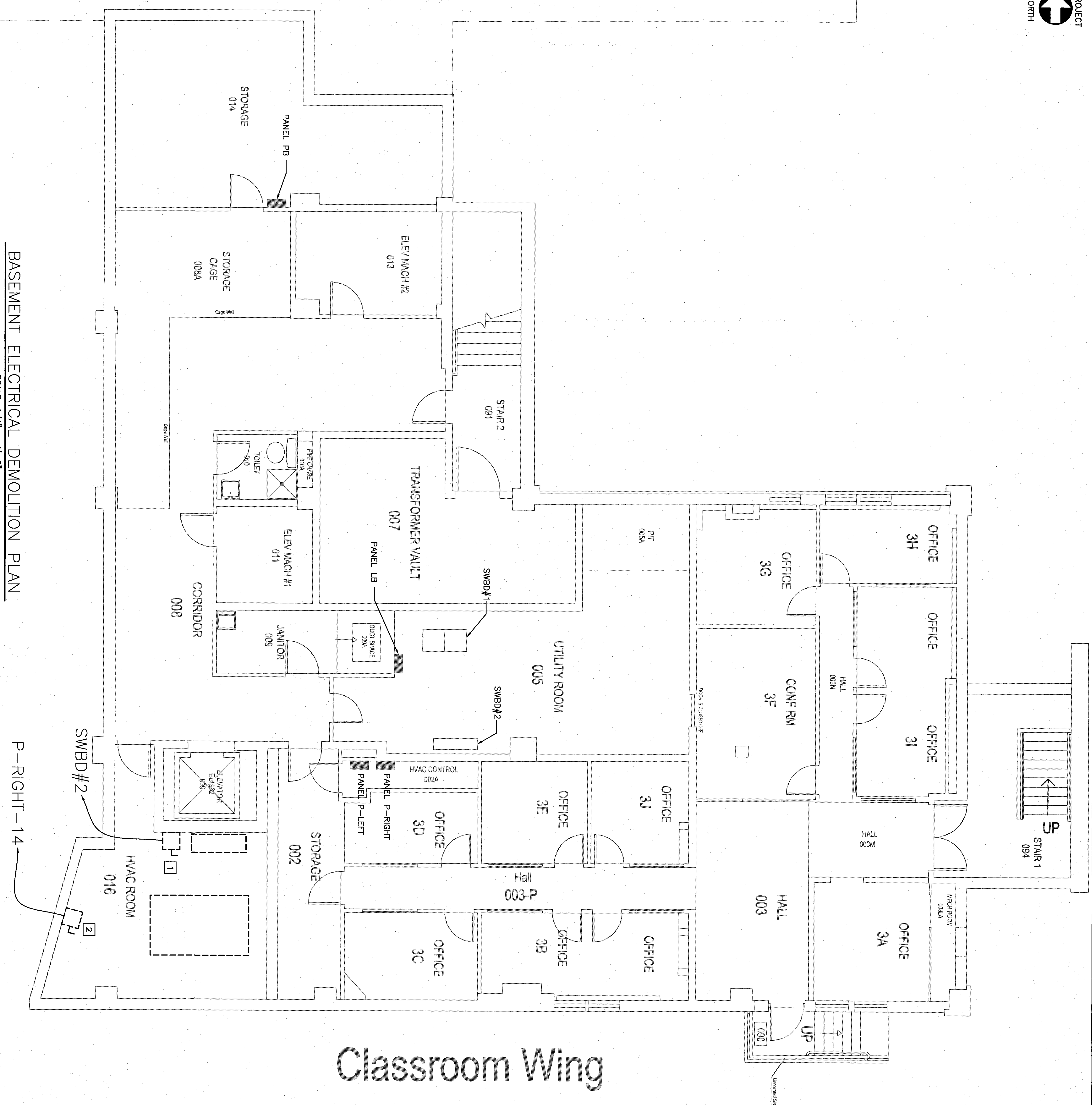
0	ISSUED FOR CONSTRUCTION	JMB	MRL	CBC	2-21-12
REV	DESCRIPTION	BY	CHKD	DATE	

Colby Company
Structural Engineering
Mechanical Engineering
Electrical Engineering
Civil Engineering
200 Colby Hall
Waterville, ME 05671
207.875.2200
www.colbycompany.com

PROJECT NO. 151.008.003
DATE: 2-21-12
DES BY: JMB
DWN BY: JMB
CHK BY: MRL

LUTHER BONNEY ENERGY UPGRADES
FOURTH, FIFTH AND ROOF ELECTRICAL PLANS
DRAWING NO. E-104
SHEET 37 OF 37

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Classroom Wing

BASEMENT ELECTRICAL DEMOLITION PLAN

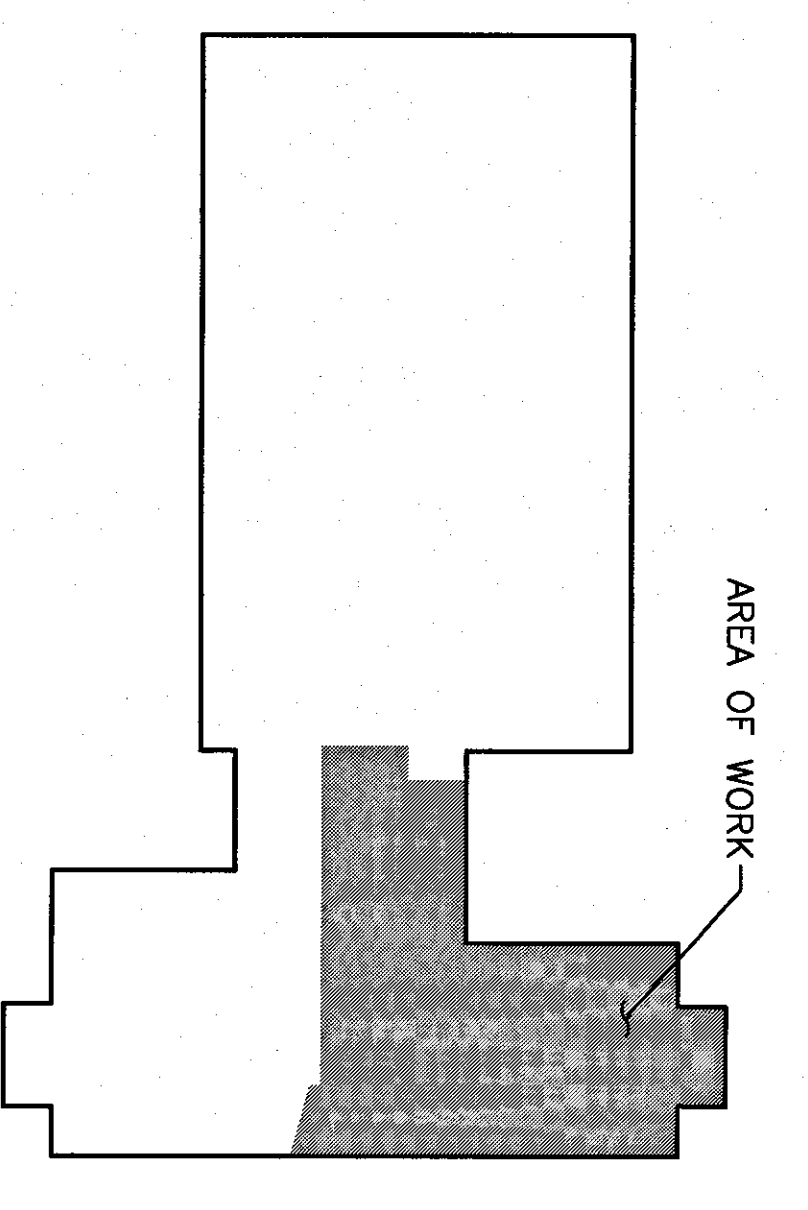
SCALE: 1/4" = 1'-0"

P-RIGHT-14
P-RIGHT-11

- NOTES:**
- SEE SHEET E-001 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
 - CONTRACTOR TO VERIFY ALL EQUIPMENT POWER SOURCES PRIOR TO COMMENCING ANY DEMOLITION WORK.
- DEMOLITION KEYED NOTES:**
- REMOVE COMPRESSOR SAFETY SWITCH, REMOVE ALL ASSOCIATED WIRE AND CONDUIT BACK TO ENERGIZING SOURCE.
 - REMOVE HV-3 SAFETY SWITCH, REMOVE ALL ASSOCIATED WIRE AND CONDUIT BACK TO ENERGIZING SOURCE.
 - REMOVE CU-3 SAFETY SWITCH, REMOVE ALL ASSOCIATED WIRE AND CONDUIT BACK TO ENERGIZING SOURCE.

KEY PLAN

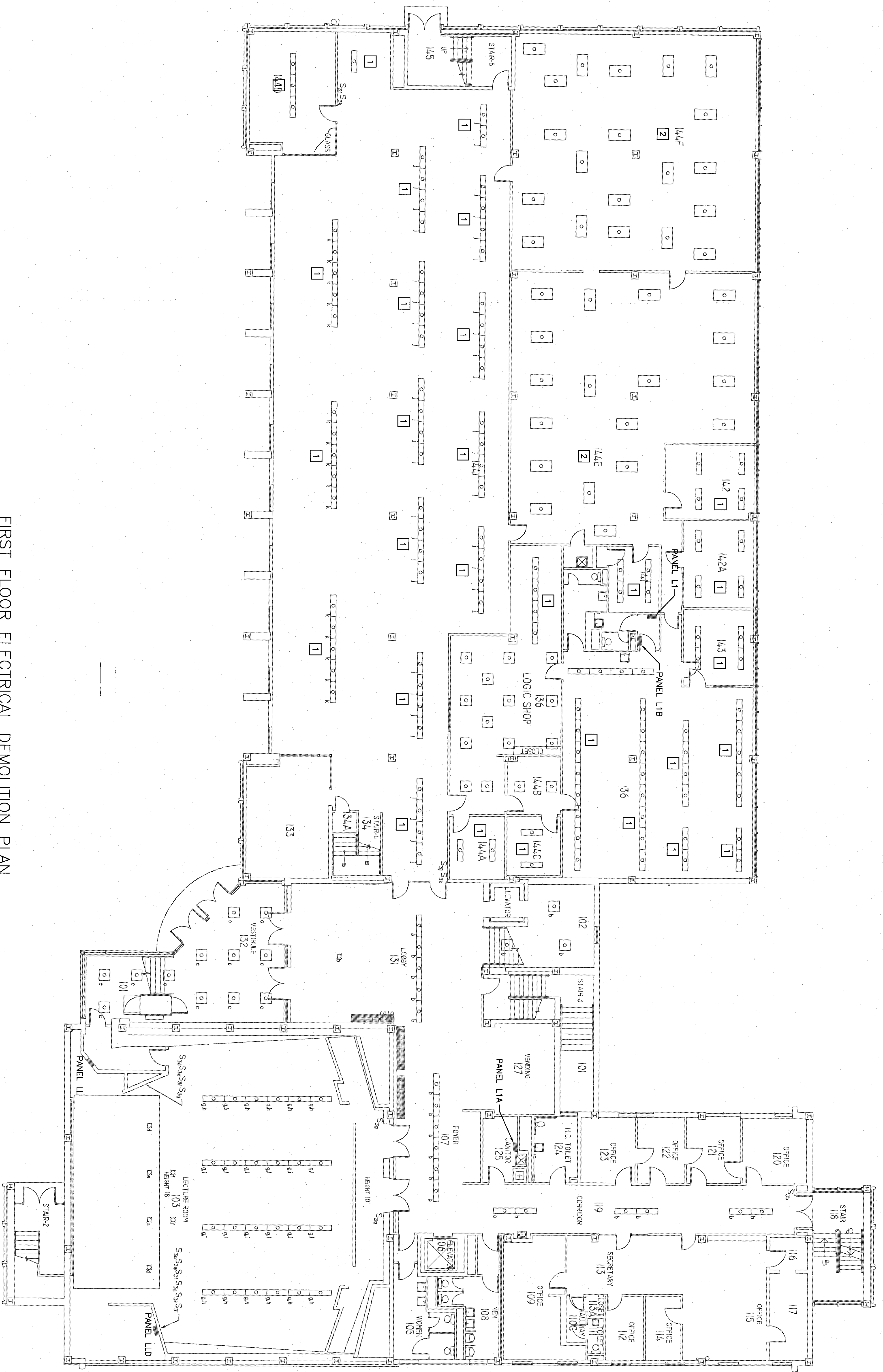
SCALE: NTS



BID ALTERNATE #4

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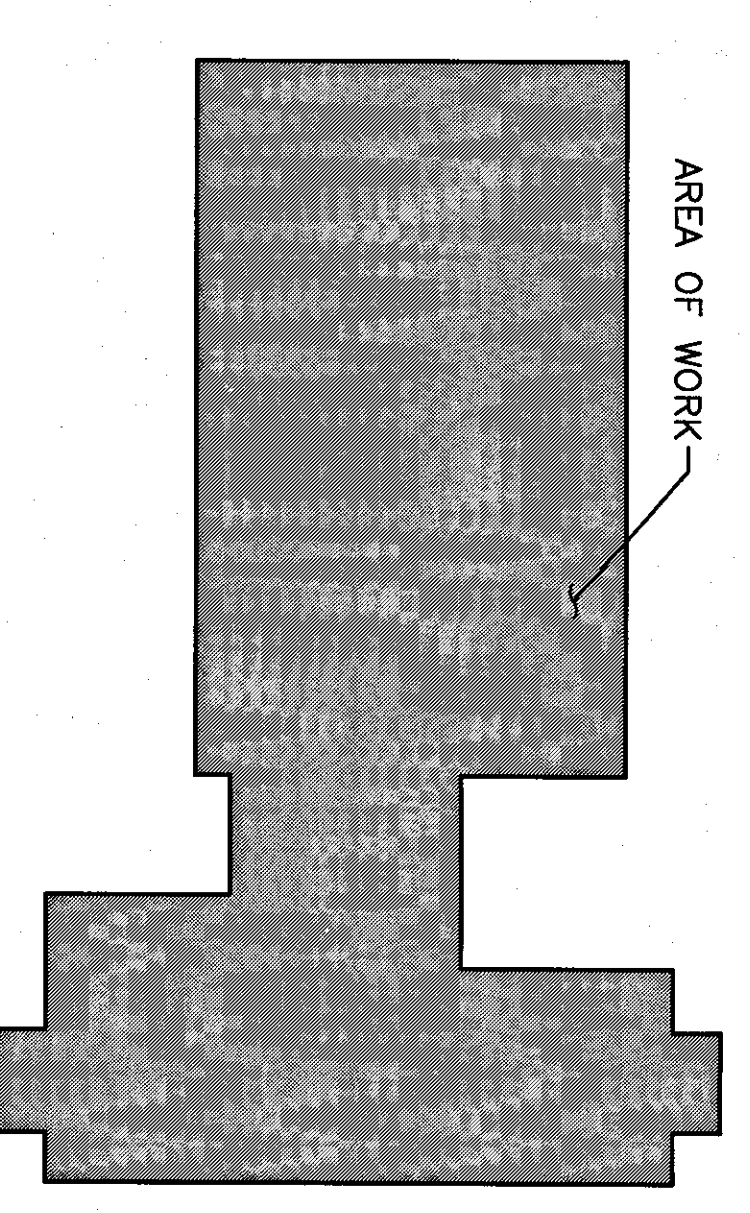
<p>STATE OF MAINE MATTHEW R. COLBY REGISTERED ELECTRICAL ENGINEER NO. 1189 2/21/12</p>		<p>UNIVERSITY OF SOUTHERN MAINE PORTLAND, ME LUTHER BONNEY ENERGY UPGRADES BASEMENT ELECTRICAL DEMOLITION PLAN</p>	
<p>0 ISSUED FOR CONSTRUCTION</p>	<p>JMB JMB cec 2-21-12</p>	<p>PROJECT NO. 151.008.003</p>	<p>DRAWING NO. 0F</p>
<p>REVISIONS</p>	<p>DATE</p>	<p>DATE</p>	<p>SHEET 28 OF 37</p>
<p>Colby Company 200 State Street Portland, ME 04101 www.colbycompany.com</p>		<p>ED-100</p>	



FIRST FLOOR ELECTRICAL DEMOLITION PLAN

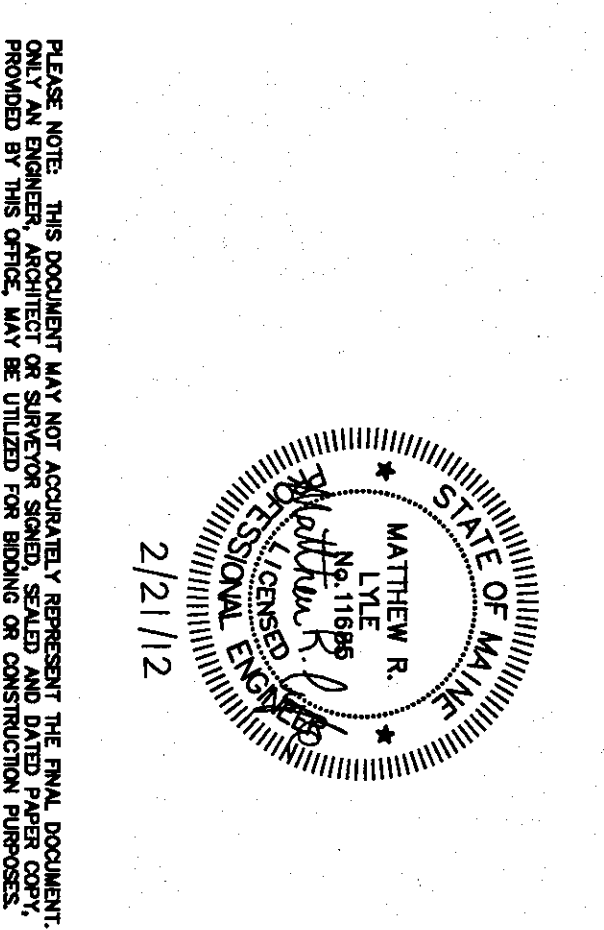
SCALE: 1/8" = 1'-0"

- NOTES:
- SEE SHEET E-001 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
- DEMOLITION KEYED NOTES:
- TEMPORARILY REMOVE LIGHT FIXTURES SUPPORTED BY CEILING GRID DURING CEILING GRID REPLACEMENT. FIXTURE TO BE RE-INSTALLED AS EXISTING IN NEW CEILING GRID. SEE SHEET G-101 FOR MORE DETAILS.
 - FINISHED HEIGHT OF NEW CEILING GRID TO BE LOWERED. EXTEND LIGHT FIXTURE POWER CONDUCTORS AS NEEDED. SEE SHEET G-101 FOR MORE DETAILS.



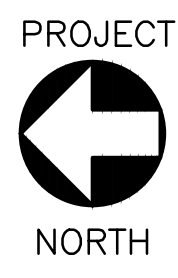
KEY PLAN

SCALE: NTS



UNIVERSITY OF SOUTHERN MAINE PORTLAND, ME		LUTHER BONNEY ENERGY UPGRADES	
PROJECT NO. 151.008.003		DRAWING NO. EDD-101	
SHEET 29 OF 37		DATE: 2-21-12	
DESIGNER: JMB		CHECKER: JMB	
DRAWN BY: JMB		DATE: 2-21-12	
SCALE: AS NOTED		BY: JMB	
REVISED FOR CONSTRUCTION		DATE: 2-21-12	
DESCRIPTION: FIRST FLOOR ELECTRICAL DEMOLITION PLAN		DRAWN BY: JMB	
ISSUED FOR CONSTRUCTION		DATE: 2-21-12	
REV: 0		DRAWN BY: JMB	

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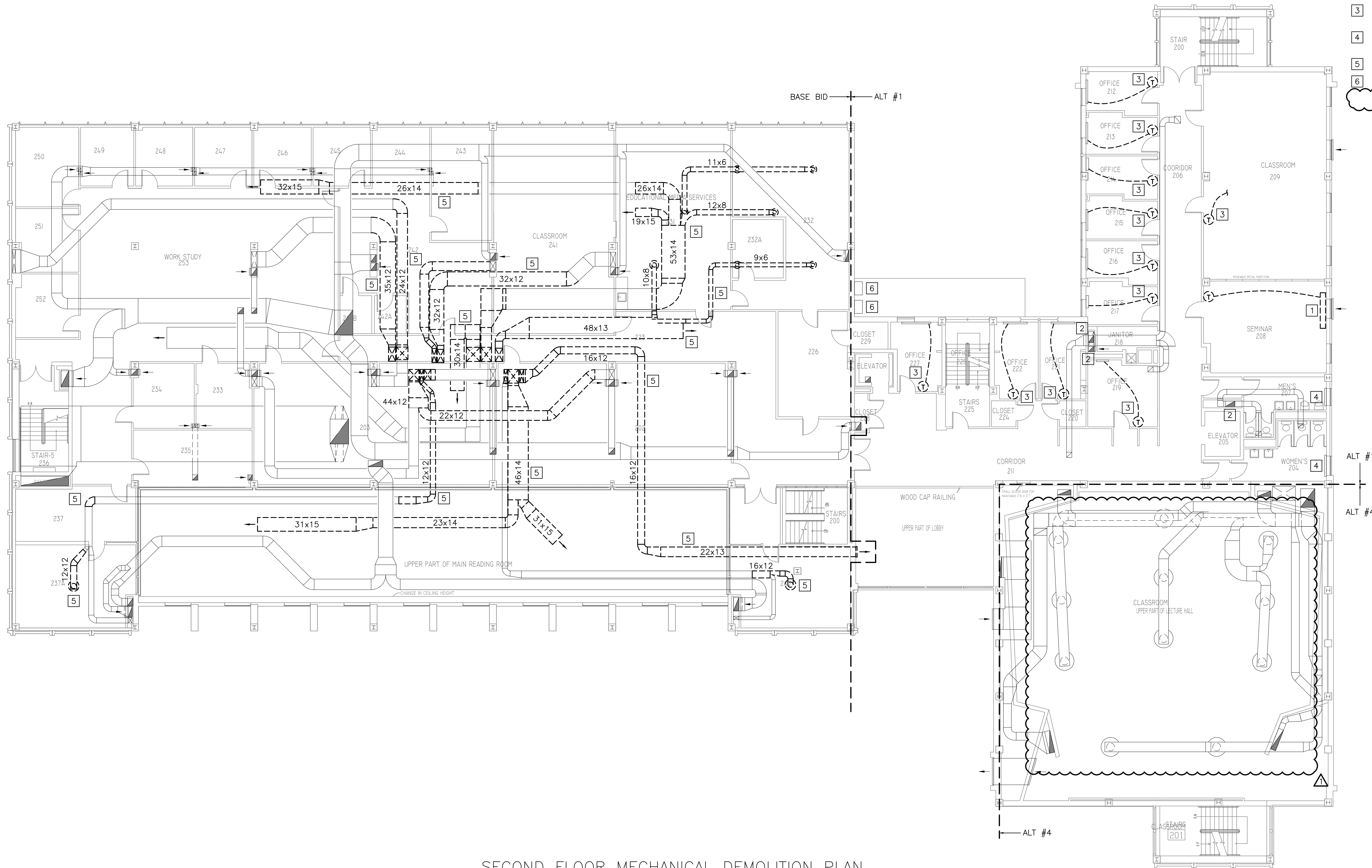


NOTES:

1. SEE SHEET M-001 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
2. WHEREVER PNEUMATIC PIPING IS DISCONNECTED OR REMOVED, REMAINING PIPE END MUST BE CAPPED & WELL SEALED.
3. REMOVE ALL EXISTING HEATING UNIT STEAM TRAPS AT COILS & DRIP LEGS.

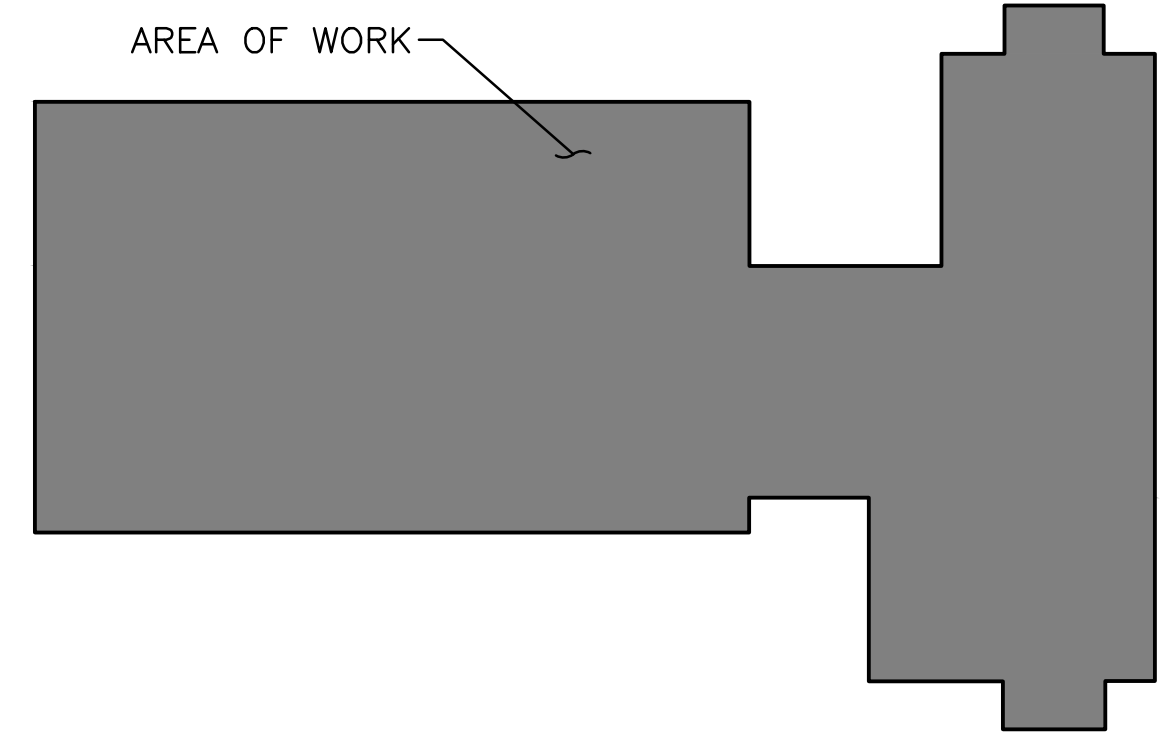
DEMOLITION KEYED NOTES:

- 1 REMOVE UNIT VENTILATOR AND CONTROLS. DISCONNECT STEAM AND CONDENSATE PIPES.
- 2 EXHAUST RISERS TO EF-4,5,6 ON ROOF TO REMAIN.
- 3 REMOVE PNEUMATIC THERMOSTAT, PNEUMATIC STEAM CONTROL VALVE, AND ASSOCIATED PNEUMATIC PIPING.
- 4 REMOVE MANUAL STEAM CONTROL VALVE. EXISTING CABINET UNIT HEATER TO REMAIN.
- 5 REMOVE SECTION OF DUCT AND AIR OUTLETS WHERE INDICATED.
- 6 EXISTING CONDENSING UNIT TO REMAIN.

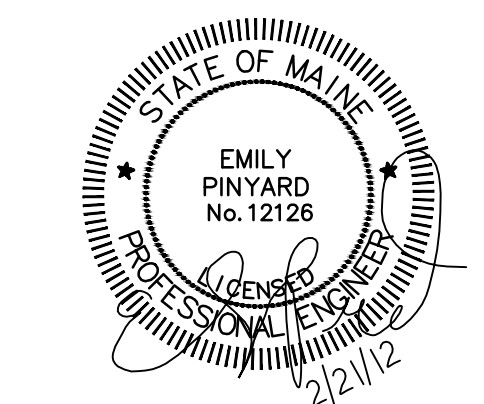


SECOND FLOOR MECHANICAL DEMOLITION PLAN
SCALE: 1/8" = 1'-0"

BASE BID
BID ALTERNATE #1
BID ALTERNATE #4

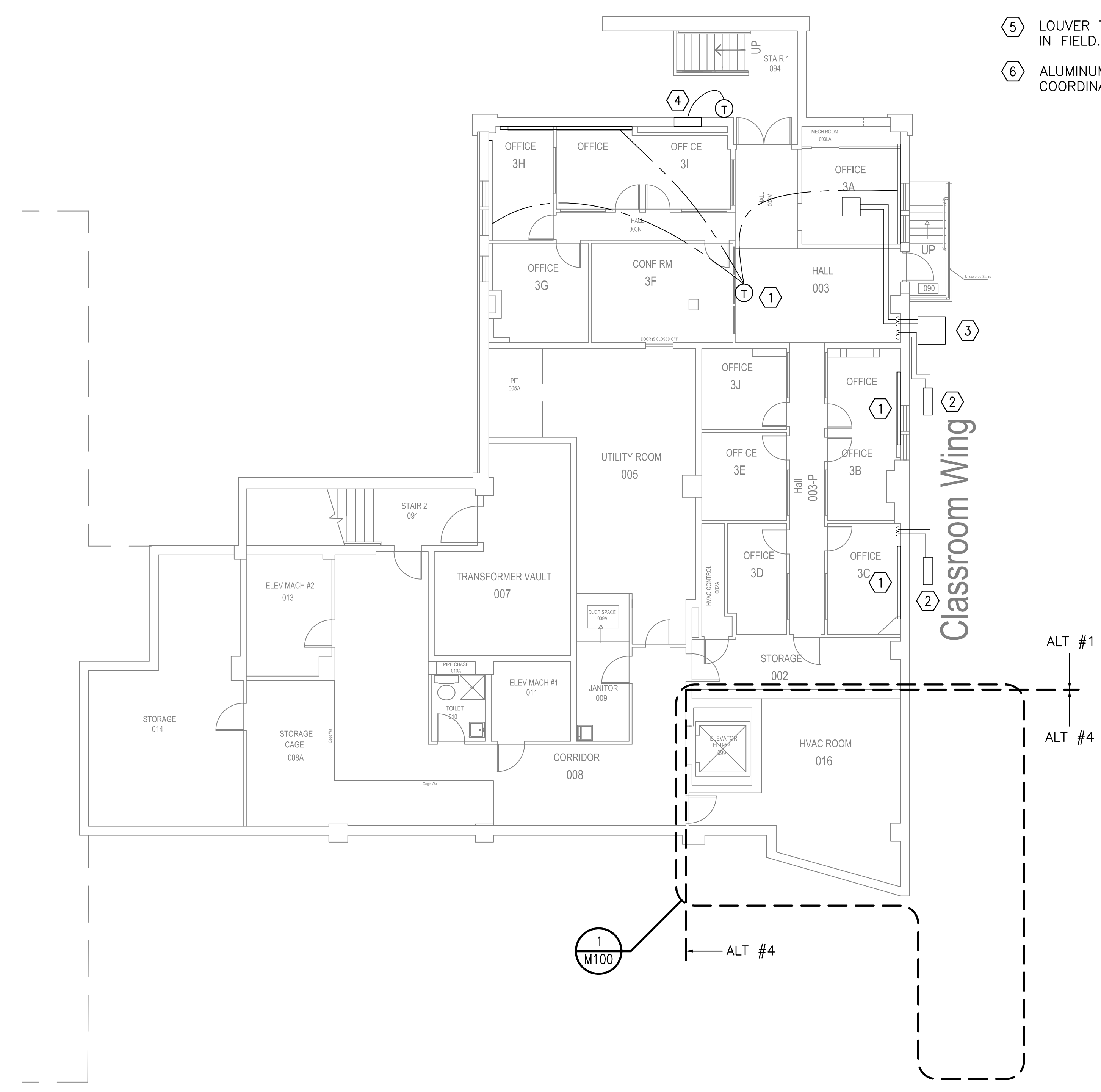
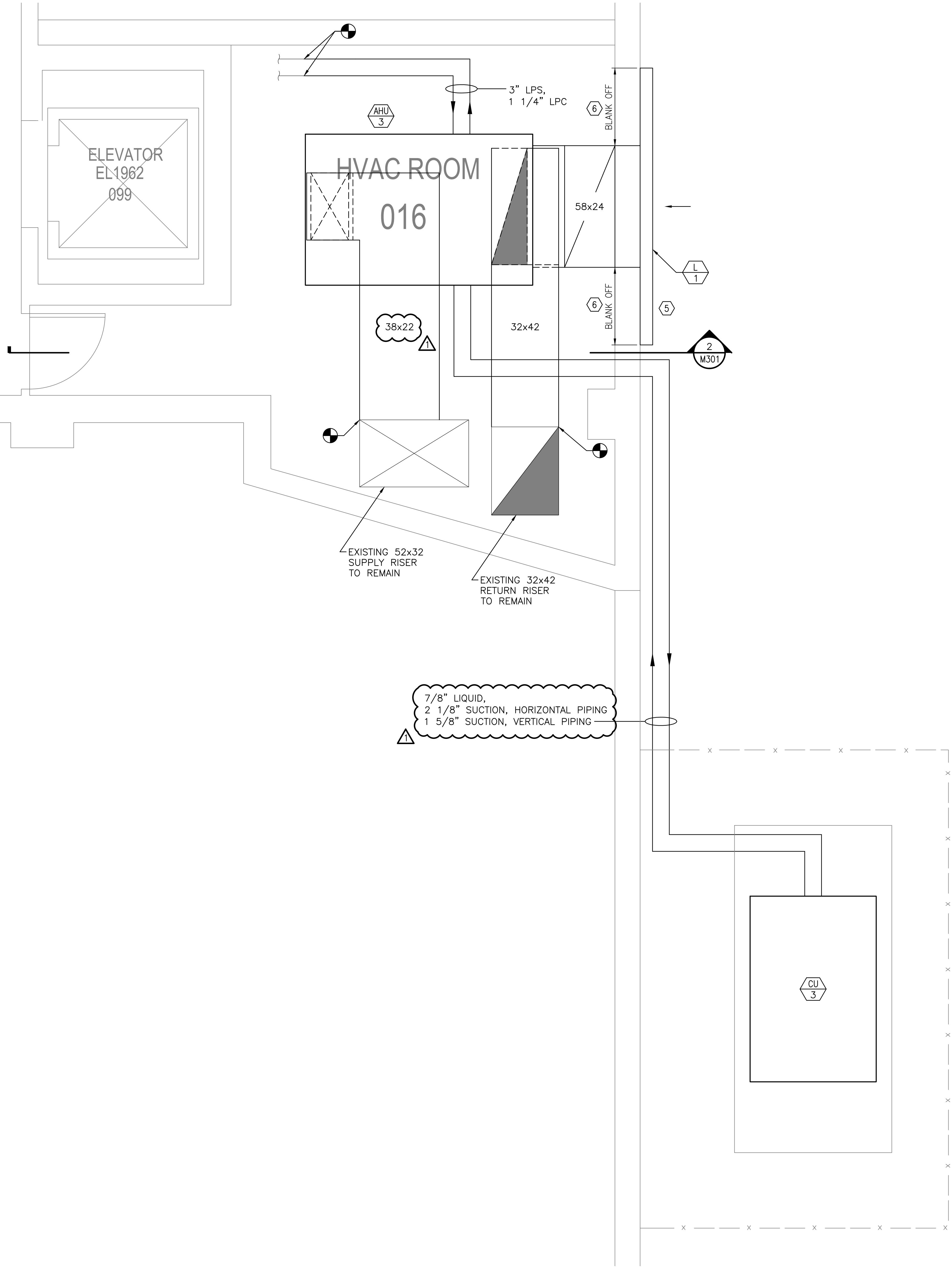


KEY PLAN
SCALE: NTS



UNIVERSITY OF SOUTHERN MAINE PORTLAND, ME			
LUTHER BONNEY ENERGY UPGRADES			
SECOND FLOOR MECHANICAL DEMOLITION PLAN			
1	ADDENDUM #1	CSS	ERP
0	ISSUED FOR CONSTRUCTION	CSS	ERP
REV.	DESCRIPTION	DR. CKD. BY	APP. BY
		DATE	DATE
SCALE: AS NOTED		PROJECT NO.	DRAWING NO.
DATE: 2-21-12		151.008.003	
DES BY: EAF		SHEET	OF
DWN BY: CSS		9	37
CHK BY: ERP		MD-102	

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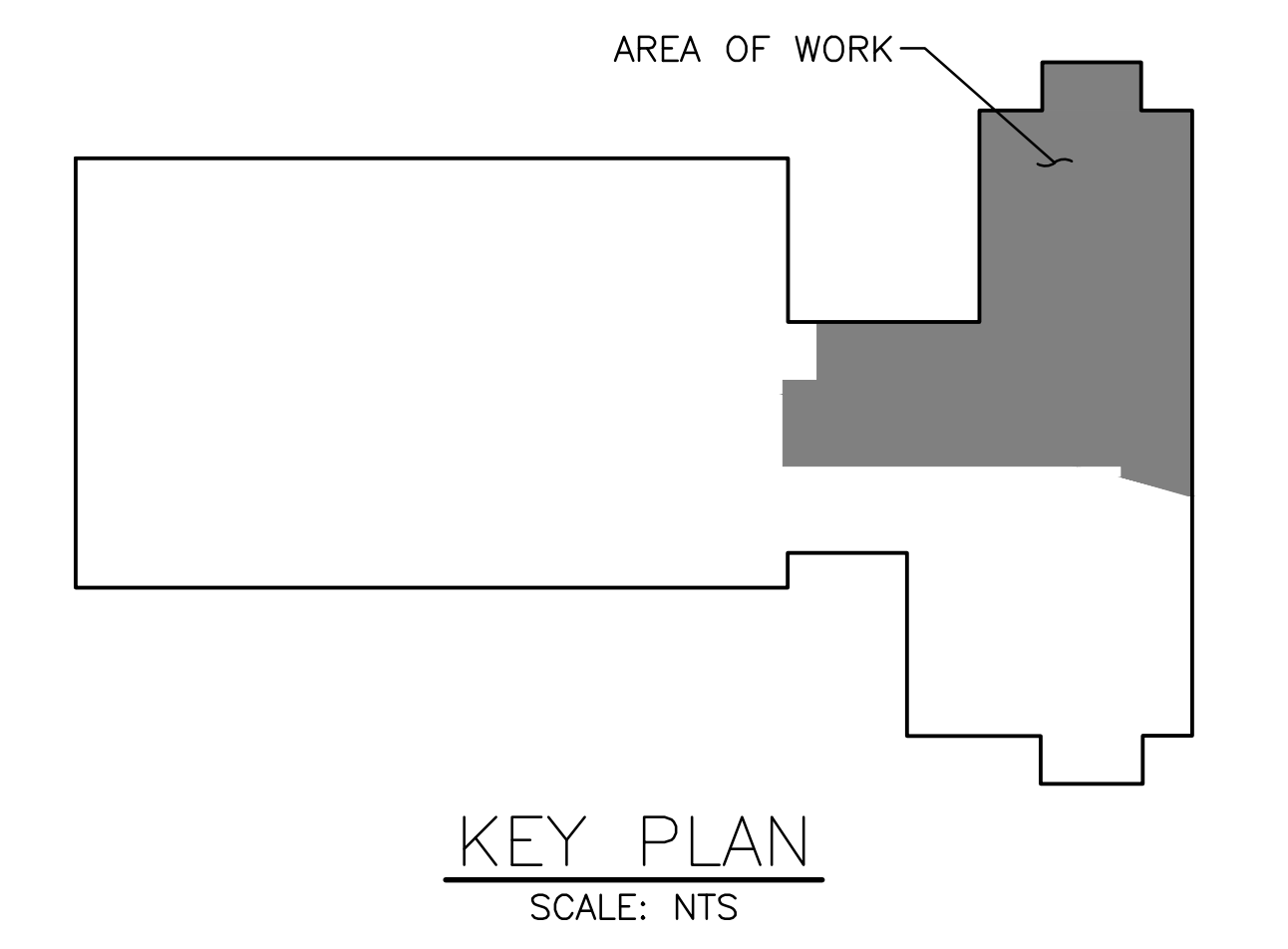


BASEMENT MECHANICAL PLAN
SCALE: 1/8" = 1'-0"

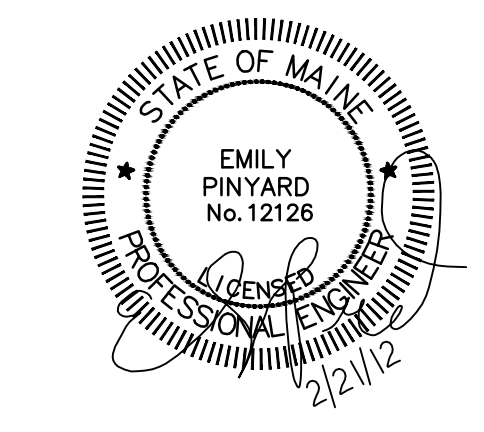
- NOTES:**
- SEE SHEET M-001 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
 - REPLACE STEAM TRAPS ON ALL UNIT HEATERS, UNIT VENTILATORS, CABINET UNIT HEATERS AND FAN COIL UNITS.
- KEYED NOTES:**
- NEW DDC THERMOSTAT & STEAM VALVE ACTUATOR.
 - MONITOR SPACE TEMPERATURE AND STATUS ON BMS OF EXISTING MR. SLIM SPLIT SYSTEM AIR HANDLING UNITS.
 - MONITOR STATUS ON BMS OF EXISTING CLASSROOM 209 CONDENSING UNIT.
 - NEW DDC THERMOSTAT & STEAM VALVE ACTUATOR FOR RECESSED CABINET UNIT HEATER. MONITOR STATUS AND SPACE TEMPERATURE ON BMS.
 - LOUVER TO FIT EXISTING OPENING, VERIFY OPENING SIZE IN FIELD.
 - ALUMINUM BLANK OFF PANEL WITH 2" INSULATION. COORDINATE BLANK OFF WITH SIZE OF OA OPENING.

BID ALTERNATE #1

BID ALTERNATE #4



BASEMENT MER MECHANICAL PART PLAN
SCALE: 1/2" = 1'-0" REF. DWG: M-100



UNIVERSITY OF SOUTHERN MAINE PORTLAND, ME			
LUTHER BONNEY ENERGY UPGRADES			
BASEMENT MECHANICAL PLAN			
1	ADDENDUM #1	CSS	ERP
0	ISSUED FOR CONSTRUCTION	CSS	ERP
REV.	DESCRIPTION	DR. BY	APP. BY
		DATE	DATE
SCALE: AS NOTED		PROJECT NO.	DRAWING NO.
DATE: 2-21-12		151.008.003	M-100
DES BY: EAF		SHEET	OF
DWN BY: CSS		14	37
CHK BY: ERP			

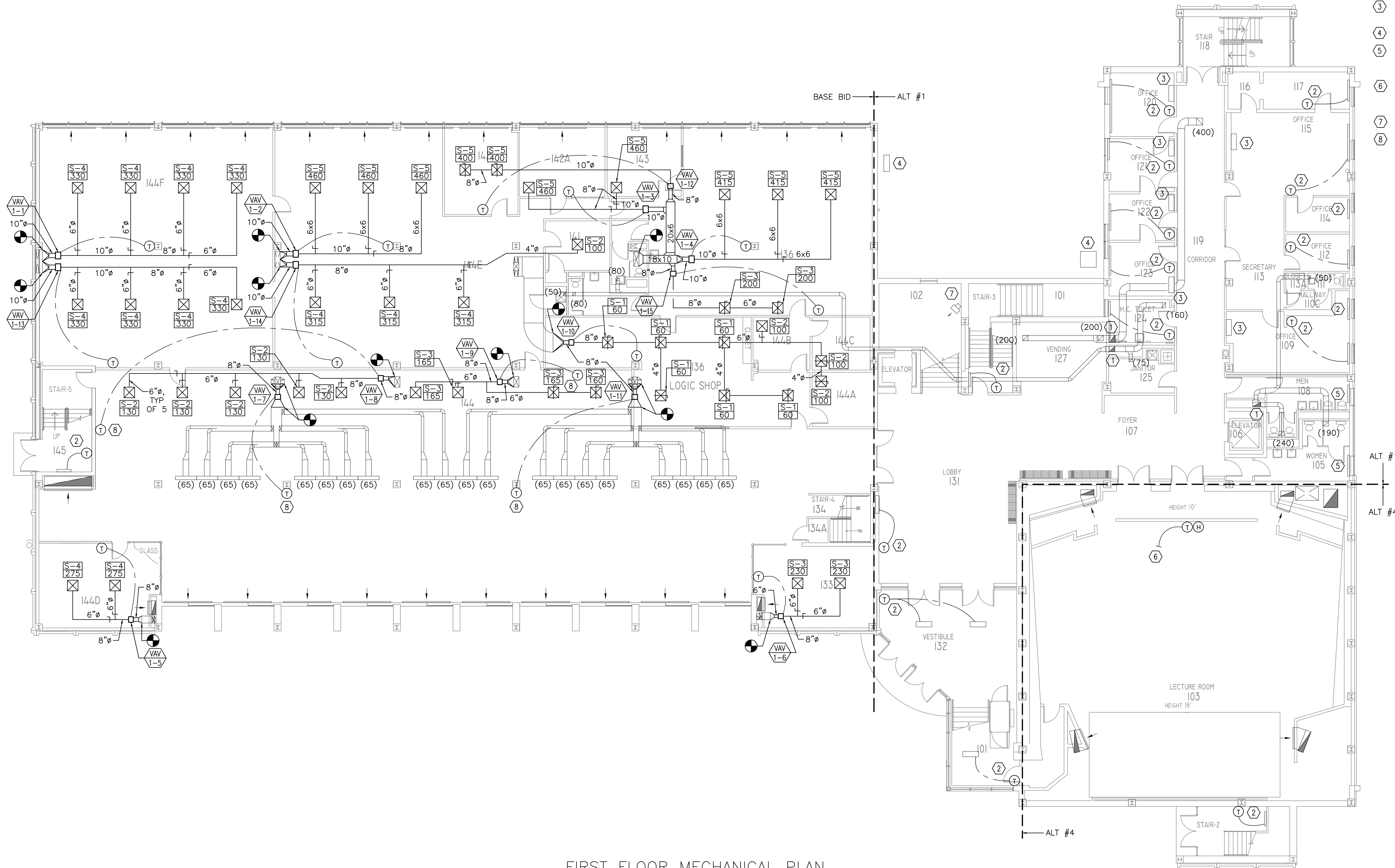
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NOTES:

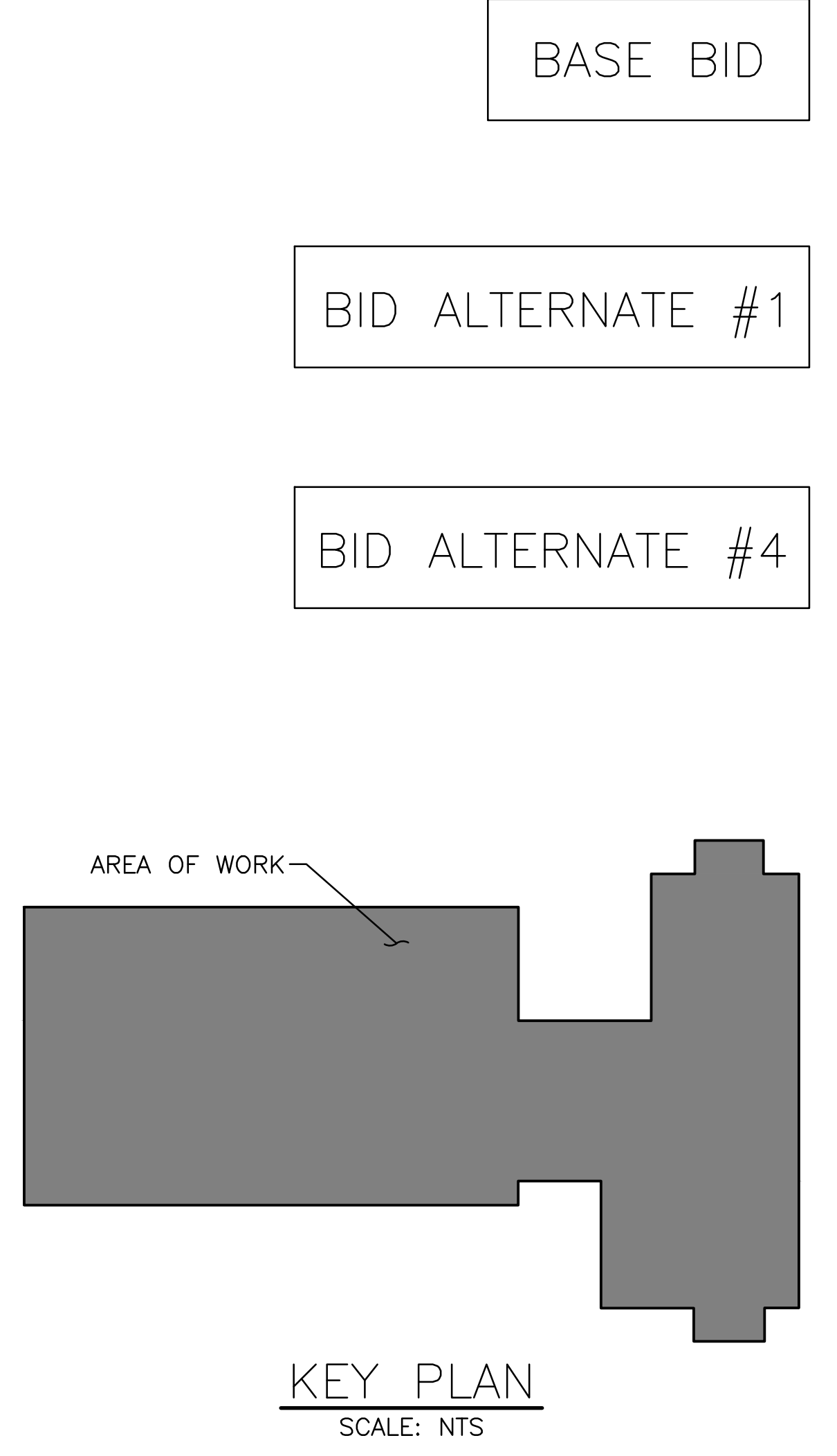
1. SEE SHEET M-001 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
2. CLEAN ALL EXISTING SUPPLY AND RETURN DUCTWORK TO REMAIN.
3. REBALANCE EXISTING DIFFUSERS OR EXHAUST GRILLES TO CFM SHOWN IN PARENTHESES.
4. REPLACE STEAM TRAPS ON ALL UNIT HEATERS, UNIT VENTILATORS, CABINET UNIT HEATERS AND FAN COIL UNITS.

KEYED NOTES:

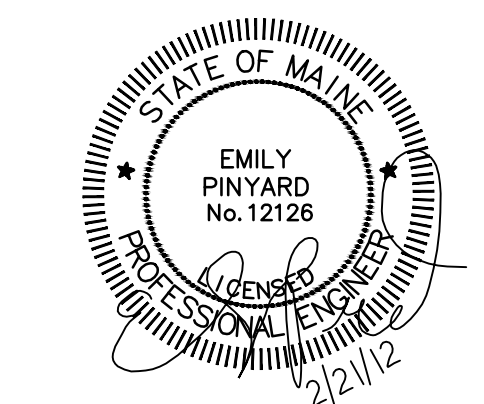
- ① EXHAUST RISERS TO EF-4,5,6 ON ROOF.
- ② NEW DDC THERMOSTAT & ELECTRIC STEAM CONTROL VALVE.
- ③ MONITOR STATUS AND SPACE TEMPERATURE ON BMS OF EXISTING SPLIT AC UNITS, TYP OF 6.
- ④ MONITOR STATUS ON BMS OF EXISTING CONDENSING UNIT.
- ⑤ INSTALL MANUAL DIRECT MOUNT THERMOSTAT STEAM CONTROL VALVE INSIDE THE HEATING ENCLOSURE, MACON MTW THERMOSTATIC OPERATOR OR EQUAL.
- ⑥ THERMOSTAT FOR AHU-3. SPACE HUMIDITY SENSOR TO BE USED FOR AHU-3 ECONOMIZER COMPARATIVE ENTHALPY MEASUREMENTS.
- ⑦ STEAM UNIT HEATER TO REMAIN.
- ⑧ STAINLESS STEEL THERMISTOR.



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



KEY PLAN
SCALE: NTS



UNIVERSITY OF SOUTHERN MAINE PORTLAND, ME			
LUTHER BONNEY ENERGY UPGRADES			
1	ADDENDUM #1	CSS	ERP
0	ISSUED FOR CONSTRUCTION	CSS	ERP
REV.	DESCRIPTION	DR. CKD. BY	APP. BY
		DATE	DATE
SCALE: AS NOTED		PROJECT NO.	DRAWING NO.
DATE: 2-21-12		151.008.003	
DES BY: EAF		SHEET	OF
DWN BY: CSS		15	37
CHK BY: ERP		M-101	

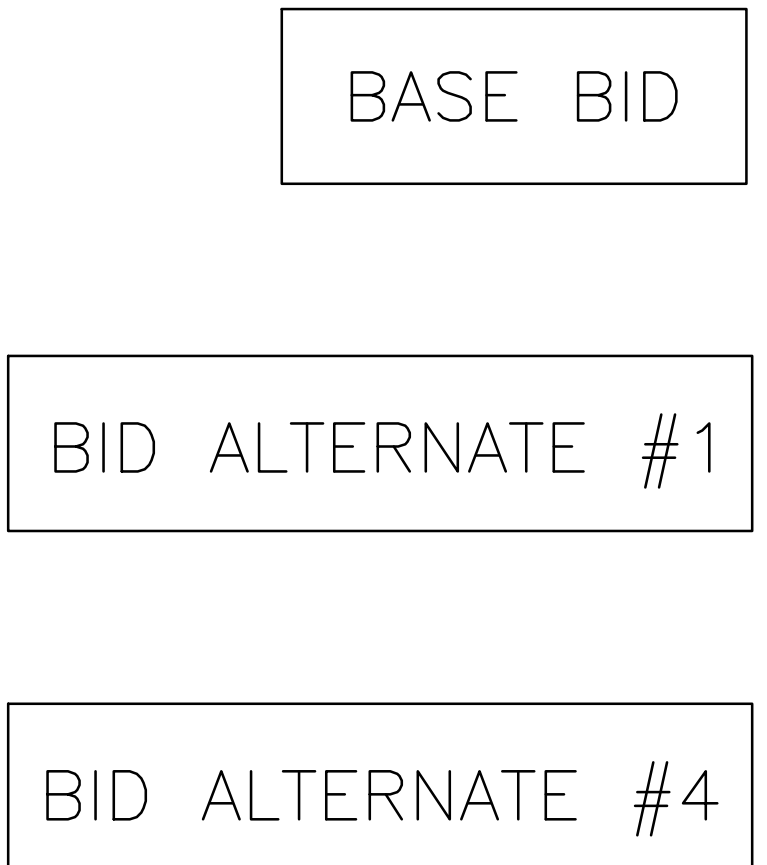
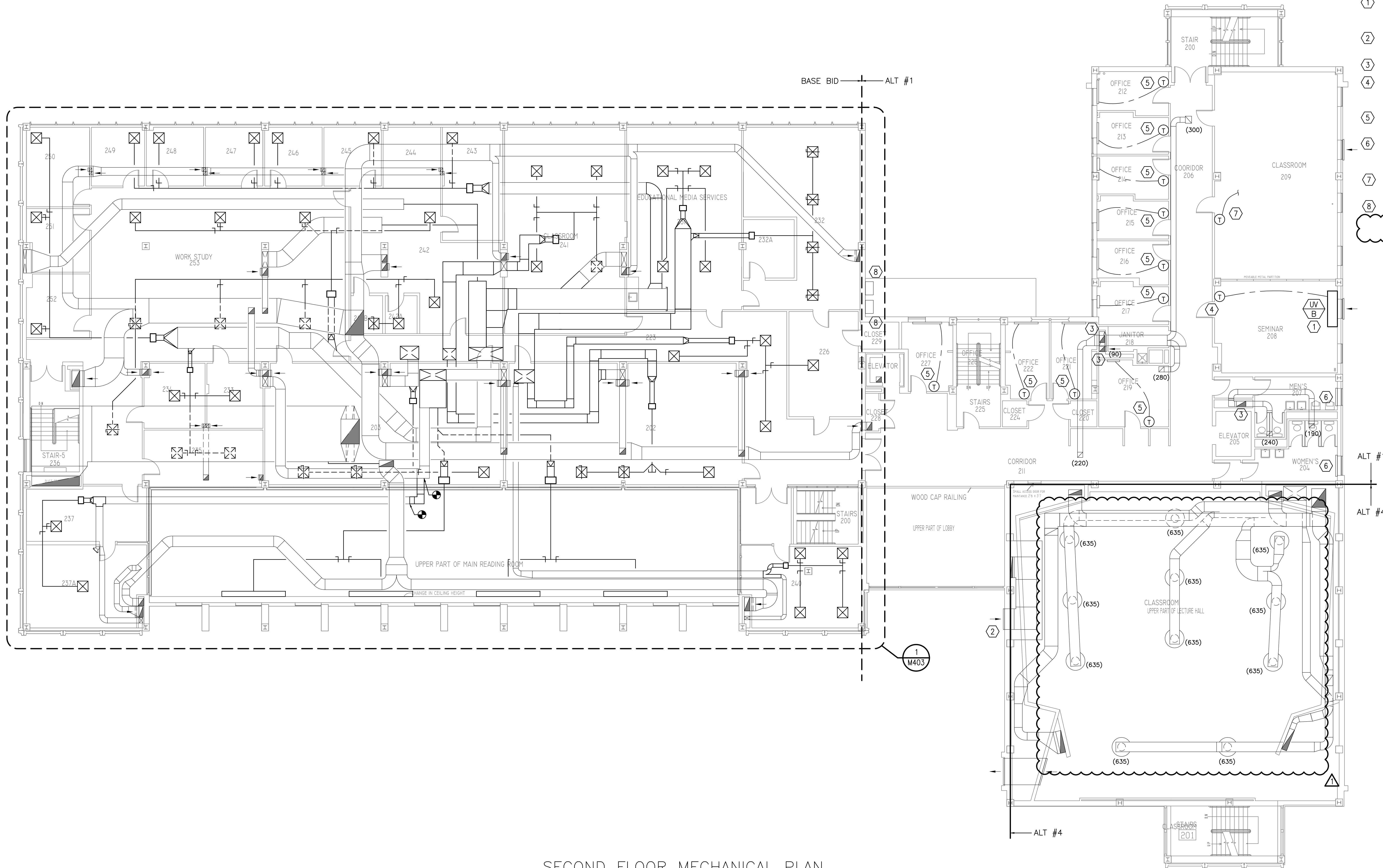
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NOTES:

1. SEE SHEET M-001 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
2. CLEAN ALL EXISTING SUPPLY AND RETURN DUCTWORK TO REMAIN.
3. REBALANCE EXISTING DIFFUSERS OR EXHAUST GRILLES TO CFM SHOWN IN PARENTHESIS.
4. IN LOCATIONS WHERE NEW UNIT VENTILATORS EXPOSE NON-MATCHING PAINT COLORS, PATCH, PRIME, AND PAINT TO MATCH CURRENT WALL COLOR.
5. REPLACE STEAM TRAPS ON ALL UNIT HEATERS, UNIT VENTILATORS, CABINET UNIT HEATERS AND FAN COIL UNITS.

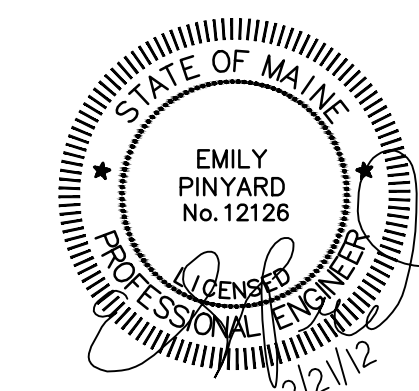
KEYED NOTES:

- ① INSTALL NEW UNIT VENTILATOR AND CONTROLS. CONNECT TO EXISTING STEAM AND CONDENSATE PIPES. CONNECT NEW DUCTWORK TO EXISTING OUTSIDE AIR INTAKE LOUVER.
- ② EXISTING TO REMAIN OUTDOOR INTAKE LOUVER FOR ROOM 326 UNIT VENTILATOR.
- ③ EXHAUST RISERS TO EF-4,5,6 ON ROOF.
- ④ INSTALL 24"x20" TRANSFER GRILLE IN EXISTING DOOR. MATCH TO EXISTING DOOR GRILLES AND SUBMIT FOR APPROVAL.
- ⑤ NEW DDC THERMOSTAT & ELECTRIC STEAM CONTROL VALVE.
- ⑥ INSTALL MANUAL DIRECT MOUNT THERMOSTATIC STEAM CONTROL VALVE INSIDE THE HEATING ENCLOSURE, MACON MTW THERMOSTATIC OPERATOR OR EQUAL.
- ⑦ MONITOR SPACE TEMPERATURE AND STATUS OF AIR HANDLING UNIT LOCATED IN UTILITY CLOSET 116.
- ⑧ MONITOR STATUS ON BMS OF EXISTING CONDENSING UNIT.



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

KEY PLAN
SCALE: NTS



UNIVERSITY OF SOUTHERN MAINE PORTLAND, ME					
LUTHER BONNEY ENERGY UPGRADES					
SECOND FLOOR MECHANICAL PLAN					
1	ADDENDUM #1	CSS	ERP	CBC	3-15-12
0	ISSUED FOR CONSTRUCTION	CSS	ERP	CBC	2-21-12
REV.	DESCRIPTION	DR. BY	APP. BY	DATE	
SCALE: AS NOTED		PROJECT NO.		DRAWING NO.	
DATE: 2-21-12		151.008.003		M-102	
DESIGN BY: EAF		SHEET OF		16 37	
DRAWN BY: CSS					
CHECKED BY: ERP					

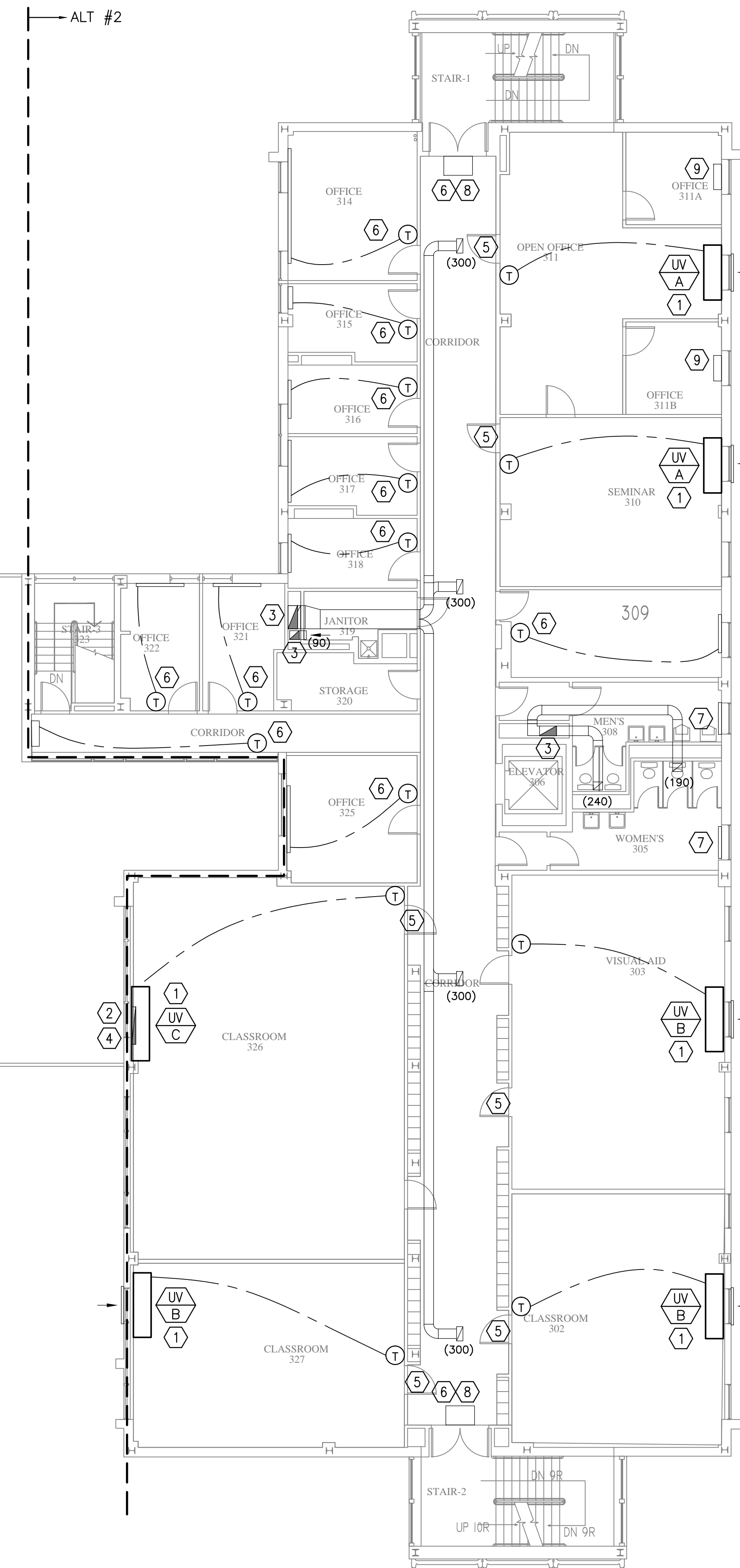
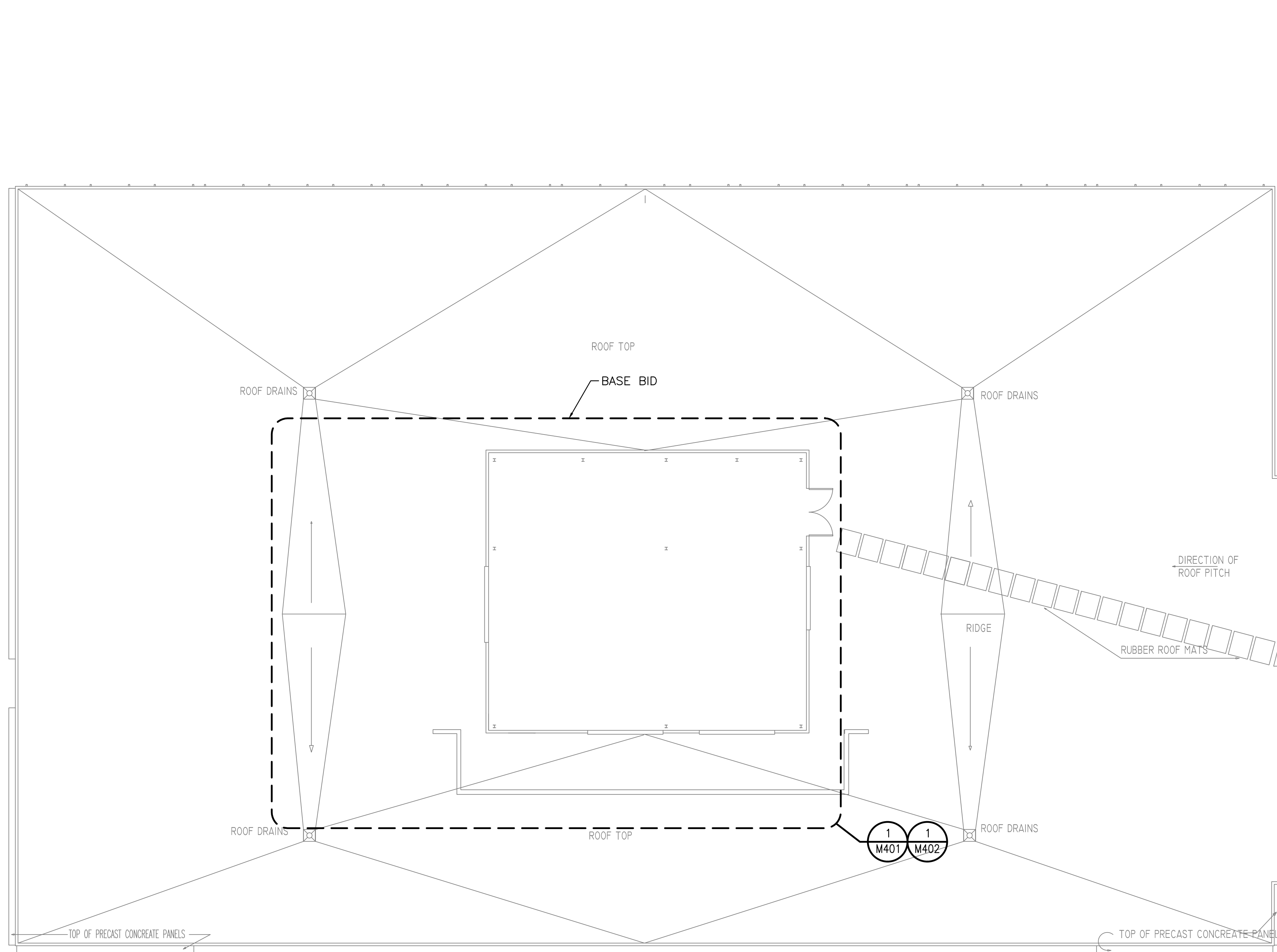
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NOTES:

- SEE SHEET M-001 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
- REBALANCE EXISTING EXHAUST GRILLES TO CFM SHOWN IN PARENTHESIS.
- IN LOCATIONS WHERE NEW UNIT VENTILATORS EXPOSE NON-MATCHING PAINT COLORS, PATCH, PRIME, AND PAINT TO MATCH CURRENT WALL COLOR.
- REPLACE STEAM TRAPS ON ALL UNIT HEATERS, UNIT VENTILATORS, CABINET UNIT HEATERS AND FAN COIL UNITS.

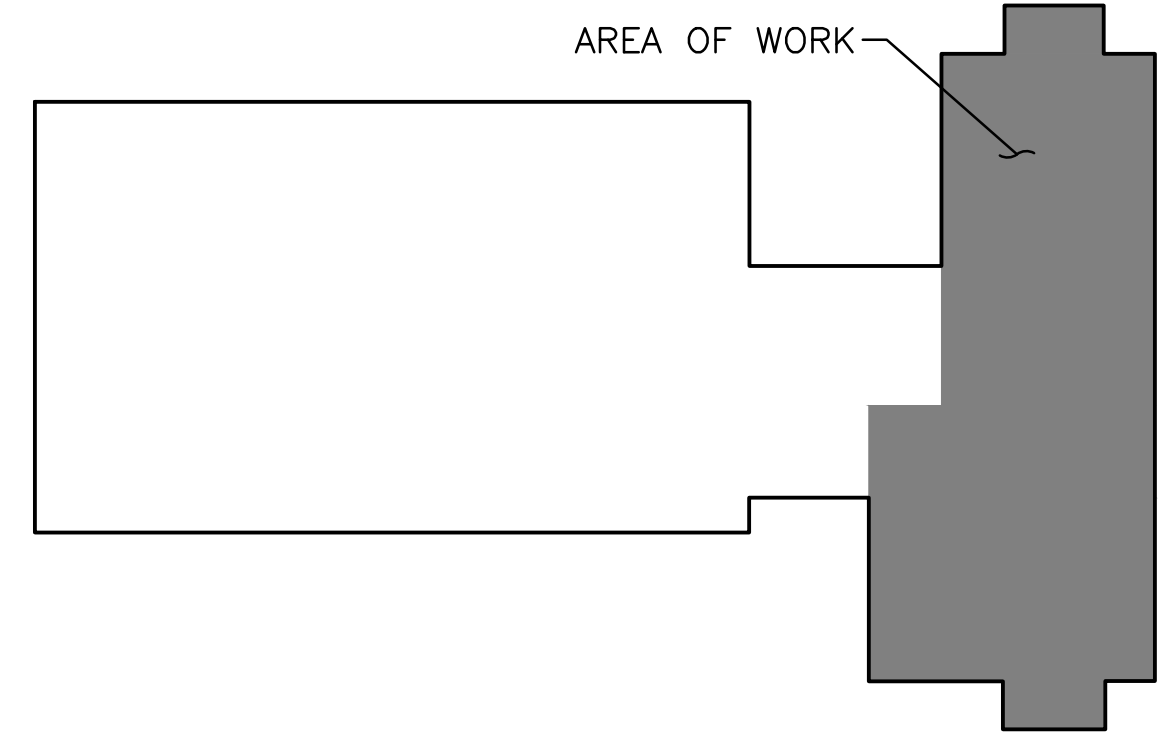
KEYED NOTES:

- INSTALL NEW UNIT VENTILATOR AND CONTROLS. CONNECT TO EXISTING STEAM AND CONDENSATE PIPES. CONNECT NEW DUCTWORK TO EXISTING OUTSIDE AIR INTAKE LOUVER.
- EXISTING OUTDOOR AIR RISER FROM 2ND FLOOR TO CONNECT TO NEW UNIT VENTILATOR.
- EXHAUST RISERS TO EF-4,5,6 ON ROOF.
- PROVIDE FIRE DAMPER AT FLOOR.
- INSTALL 24"x20" TRANSFER GRILLE IN EXISTING DOOR. MATCH TO EXISTING DOOR GRILLES AND SUBMIT FOR APPROVAL.
- NEW DDC THERMOSTAT & ELECTRIC STEAM CONTROL VALVE.
- INSTALL MANUAL DIRECT MOUNT THERMOSTATIC STEAM CONTROL VALVE INSIDE THE HEATING ENCLOSURE, MACON MTW THERMOSTATIC OPERATOR OR EQUAL.
- MONITOR STATUS OF EXISTING CABINET UNIT HEATER ON BMS.
- MONITOR STATUS AND SPACE TEMPERATURE OF EXISTING ELECTRIC UNIT HEATER ON BMS.



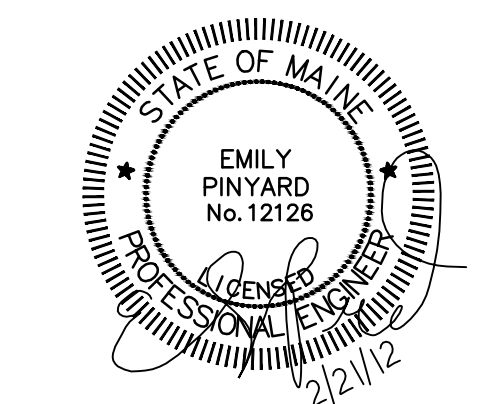
BASE BID

BID ALTERNATE #2



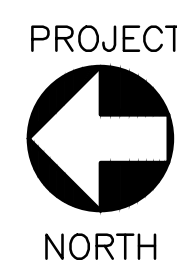
KEY PLAN
SCALE: NTS

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



UNIVERSITY OF SOUTHERN MAINE PORTLAND, ME			
LUTHER BONNEY ENERGY UPGRADES			
THIRD FLOOR MECHANICAL PLAN			
1	ADDENDUM #1	CSS ERP CBC	3-15-12
0	ISSUED FOR CONSTRUCTION	CSS ERP CBC	2-21-12
REV.	DESCRIPTION	DR. CKD. APP. BY	DATE
SCALE: AS NOTED		PROJECT NO.	DRAWING NO.
DATE: 2-21-12		151.008.003	
DES BY: EAF		SHEET	OF
DWN BY: CSS		17	37
CHK BY: ERP		M-103	
Colby Company Structural Engineering Mechanical Engineering Electrical Engineering Civil Engineering 474 York Street, Portland, Maine 04103 207.553.7733 www.colbycorpengineering.com			

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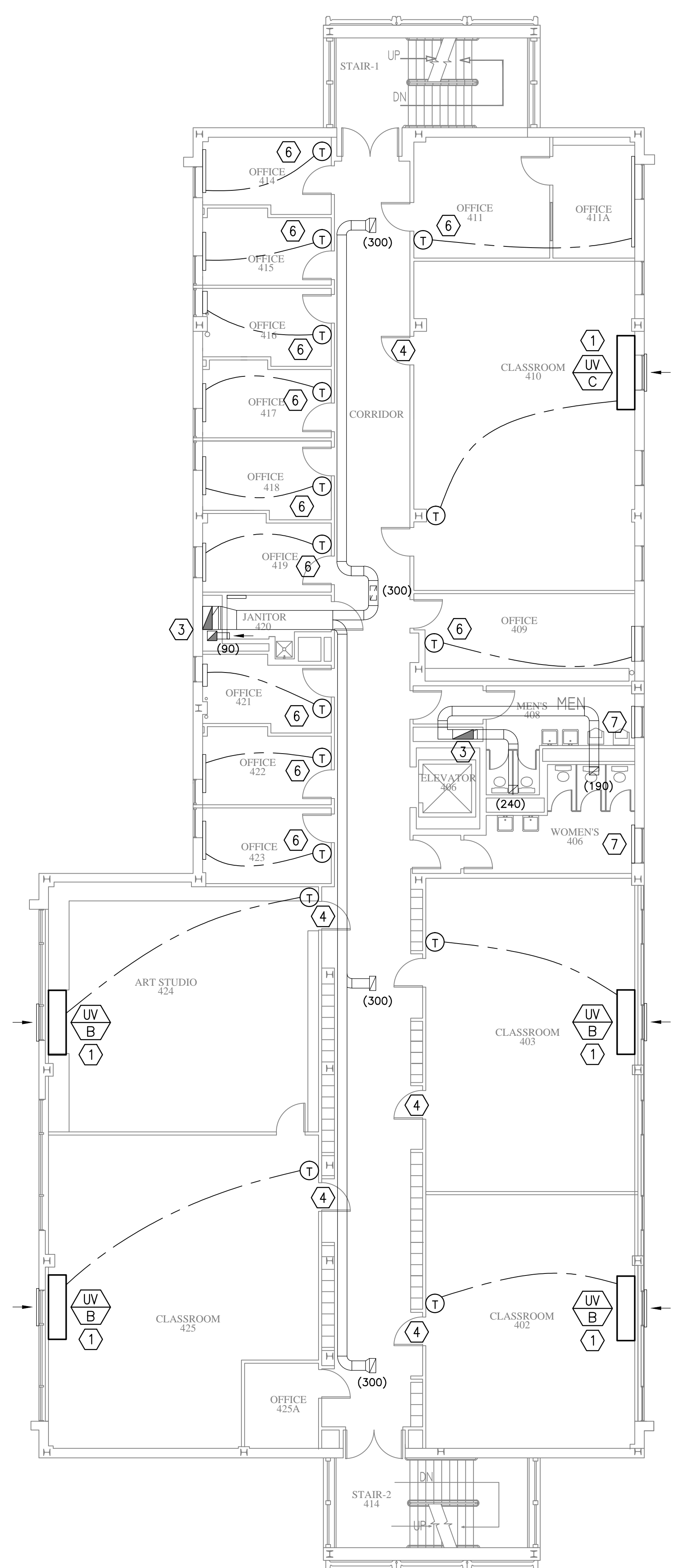


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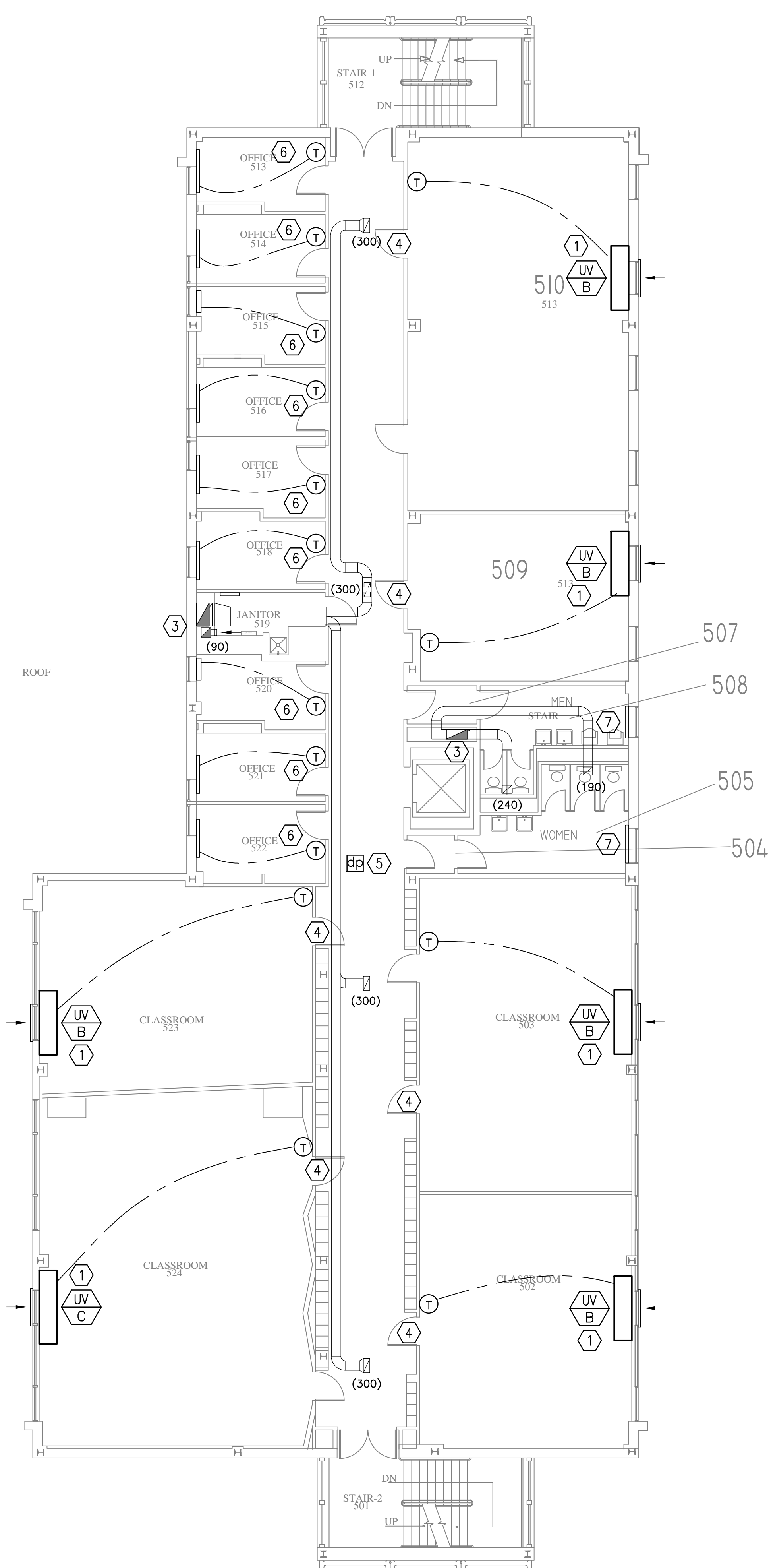
1. SEE SHEET M-001 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
2. REBALANCE EXISTING EXHAUST GRILLES TO CFM SHOWN IN PARENTHESIS.
3. IN LOCATIONS WHERE NEW UNIT VENTILATORS EXPOSE NON-MATCHING PAINT COLORS, PATCH, PRIME, AND PAINT TO MATCH CURRENT WALL COLOR.
4. WORK PERFORMED ON ROOF SHALL BE DONE IN ACCORDANCE WITH EXISTING ROOF WARRANTY.
5. REPLACE STEAM TRAPS ON ALL UNIT HEATERS, UNIT VENTILATORS, CABINET UNIT HEATERS AND FAN COIL UNITS.

KEYED NOTES:

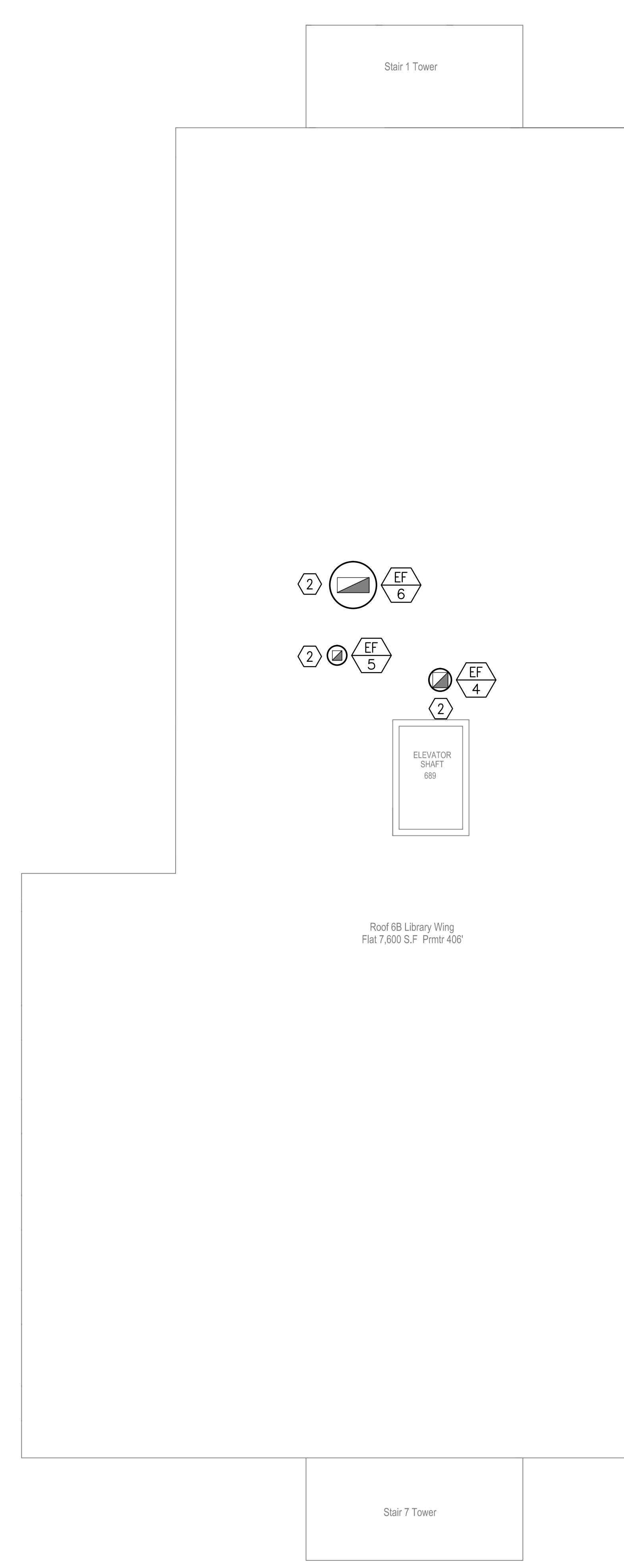
- ① INSTALL NEW UNIT VENTILATOR AND CONTROLS. CONNECT TO EXISTING STEAM AND CONDENSATE PIPES. CONNECT NEW DUCTWORK TO EXISTING OUTSIDE AIR INTAKE LOUVER.
- ② CONNECT NEW EXHAUST FANS TO EXISTING EXHAUST RISERS. REBALANCE EXISTING EXHAUST DUCTWORK.
- ③ EXHAUST RISERS TO EF-4,5,6 ON ROOF.
- ④ INSTALL 24"x20" TRANSFER GRILLE IN EXISTING DOOR. MATCH TO EXISTING DOOR GRILLES AND SUBMIT FOR APPROVAL.
- ⑤ MOUNT ADJUSTABLE SPACE DIFFERENTIAL PRESSURE SENSOR ON CEILING SET FOR 0.02" WC WITH RESPECT TO ATMOSPHERE. INTERLOCK WITH EF-6.
- ⑥ NEW DDC THERMOSTAT & ELECTRIC STEAM CONTROL VALVE.
- ⑦ INSTALL MANUAL DIRECT MOUNT THERMOSTATIC STEAM CONTROL VALVE INSIDE THE HEATING ENCLOSURE, MACON MTW THERMOSTATIC OPERATOR OR EQUAL.



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

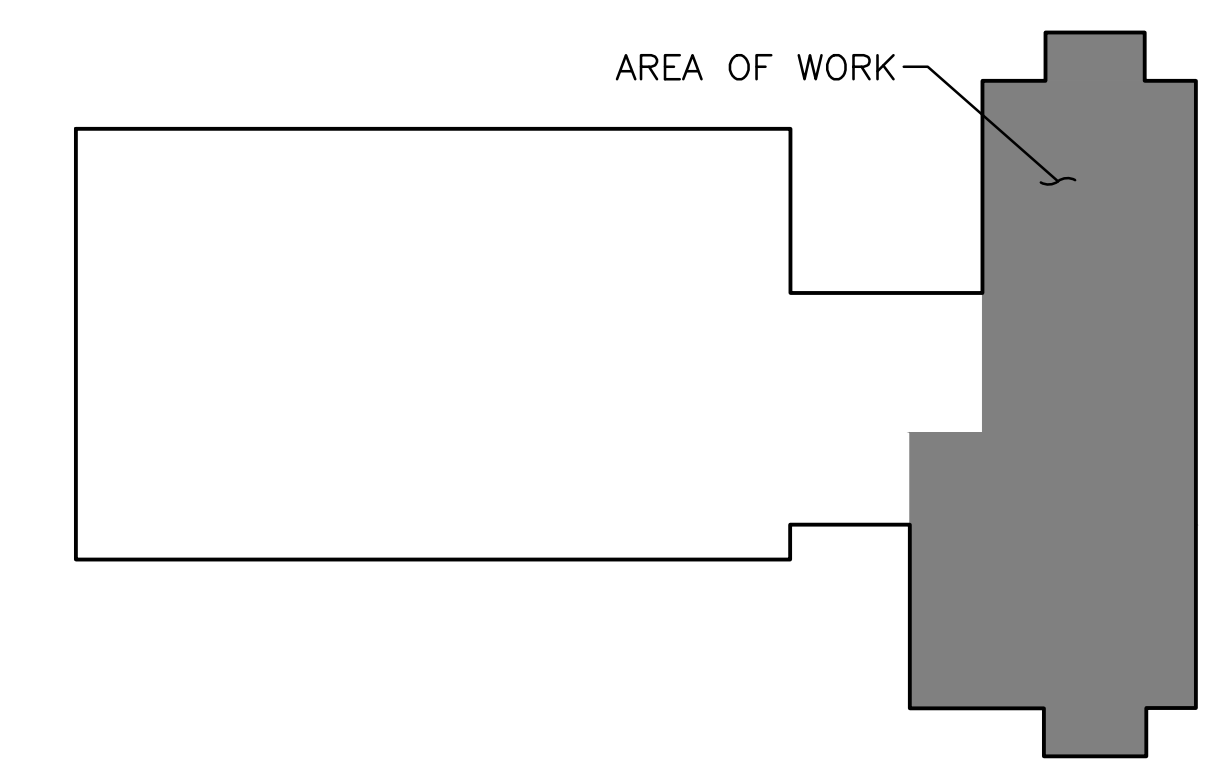


FIFTH FLOOR MECHANICAL PLAN
SCALE: 1/8" = 1'-0"

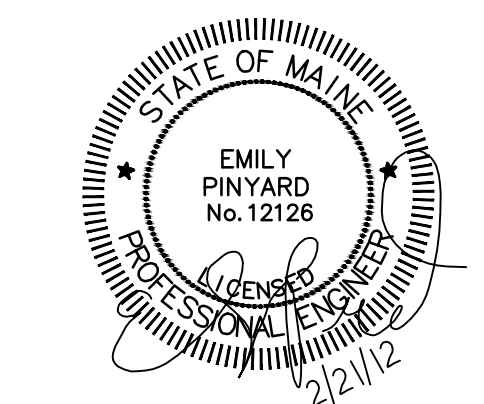


ROOF MECHANICAL PLAN
SCALE: 1/8" = 1'-0"

BID ALTERNATE #3

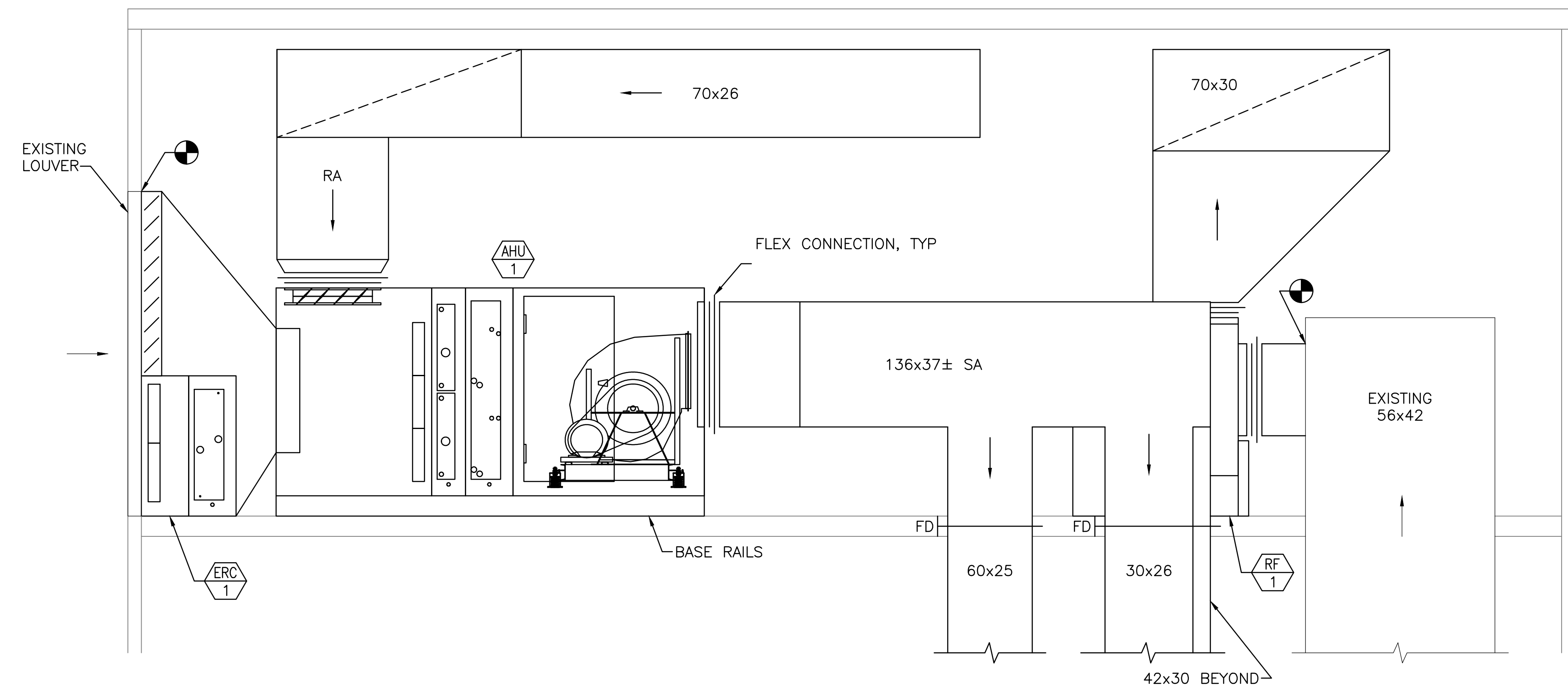


KEY PLAN
SCALE: NTS

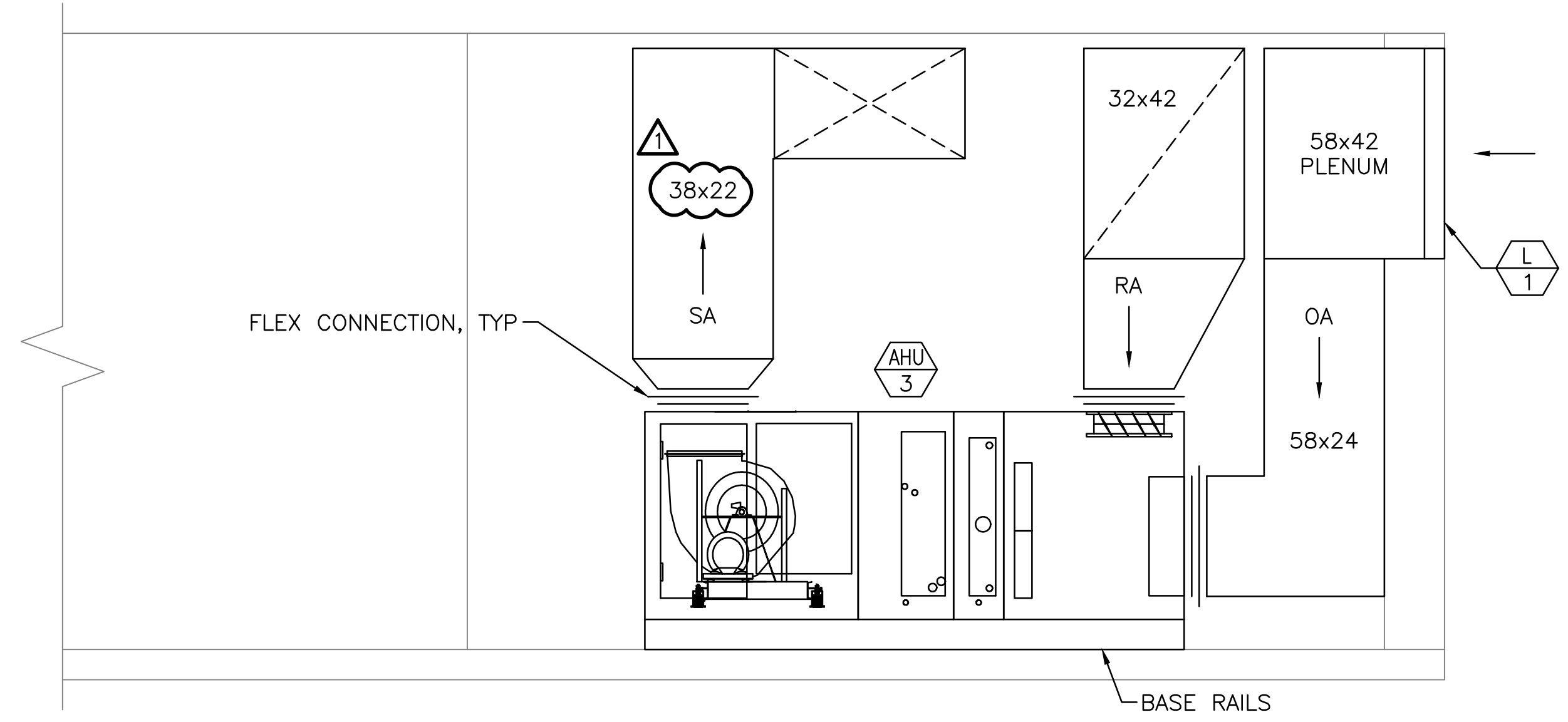


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UNIVERSITY OF SOUTHERN MAINE PORTLAND, ME			
LUTHER BONNEY ENERGY UPGRADES			
FOURTH, FIFTH AND ROOF MECHANICAL PLANS			
1	ADDENDUM #1	CSS ERP	CBC 3-15-12
0	ISSUED FOR CONSTRUCTION	CSS ERP	CBC 2-21-12
REV.	DESCRIPTION	DR. CKD. APP. BY	DATE
Colby Company		Structural Engineering	PROJECT NO. 151.008.003
474 York Street, Portland, Maine 04103		Mechanical Engineering	DATE: 2-21-12
207.553.7733		Electrical Engineering	DES BY: EAF
www.colbycoengineering.com		Civil Engineering	DWN BY: CSS
			CHK BY: ERP
		SCALE: AS NOTED	PROJECT NO. 151.008.003
		DATE: 2-21-12	DRAWING NO. M-104
		DES BY: EAF	SHEET 18 OF 37
		DWN BY: CSS	
		CHK BY: ERP	

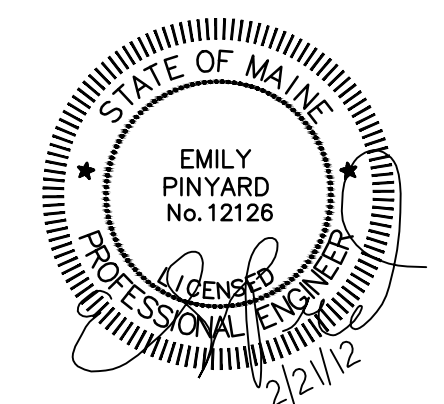


1 PENTHOUSE MECHANICAL SECTION
 M301 SCALE: 1/2" = 1'-0" REF. DWG: M-401



2 BASEMENT MECHANICAL SECTION
 M301 SCALE: 1/2" = 1'-0" REF. DWG: M-100

BASE BID



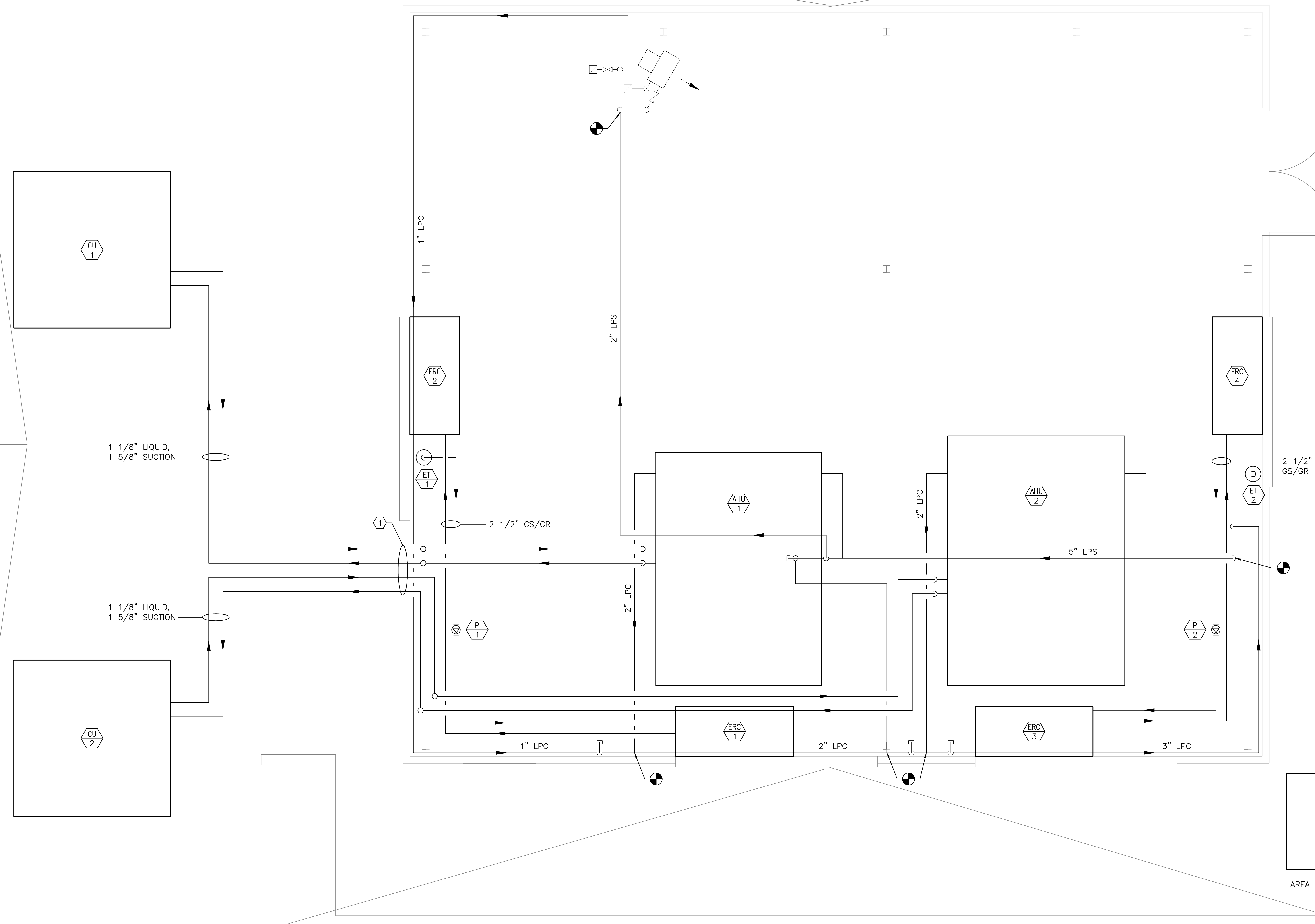
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				UNIVERSITY OF SOUTHERN MAINE PORTLAND, ME	
				LUTHER BONNEY ENERGY UPGRADES	
1	ADDENDUM #1	CSS	ERP	CBC	3-15-12
0	ISSUED FOR CONSTRUCTION	CSS	ERP	CBC	2-21-12
REV.	DESCRIPTION	DR. BY	CKD. BY	APP. BY	DATE
				MECHANICAL SECTIONS	
SCALE: AS NOTED				PROJECT NO.	DRAWING NO.
DATE: 2-21-12				151.008.003	M-301
DES BY: EAF				SHEET	OF
DWN BY: CSS				19	37
CHK BY: ERP					

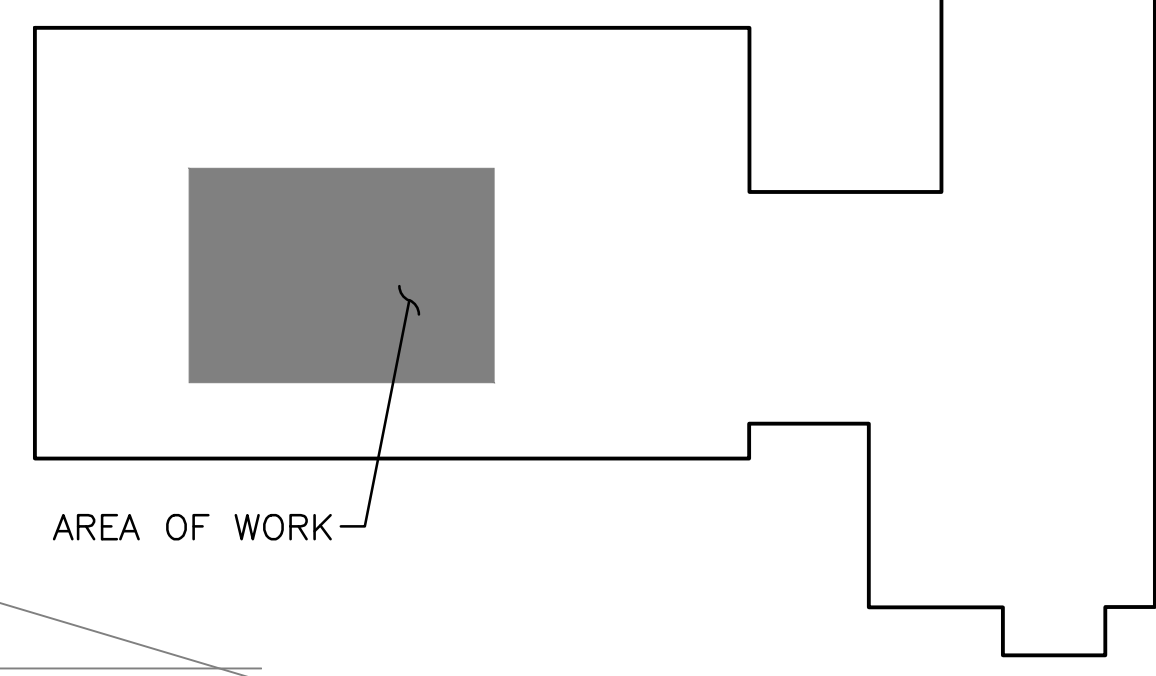
Colby Company
 474 Oak Street, Portland, Maine 04101
 207.553.7733
 www.colbycompany.com

Structural Engineering
 Mechanical Engineering
 Electrical Engineering
 Civil Engineering

- NOTES:
- SEE SHEET M-001 FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES.
 - REPLACE STEAM TRAPS ON ALL UNIT HEATERS, UNIT VENTILATORS, CABINET UNIT HEATERS AND FAN COIL UNITS.
- KEYED NOTES:
- ROUTE REFRIGERANT PIPES THRU EXISTING PIPE SLEEVES IN EXTERIOR WALL. SEAL OPENING TIGHT WITH EXPANDABLE FOAM INSULATION & CAULK.

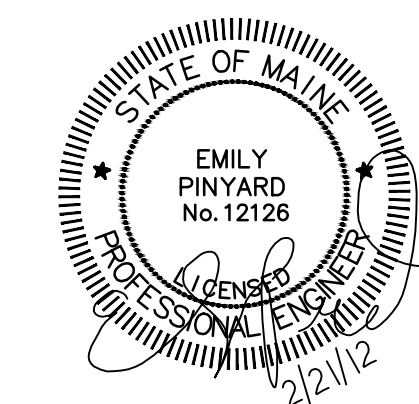


BASE BID



KEY PLAN
SCALE: NTS

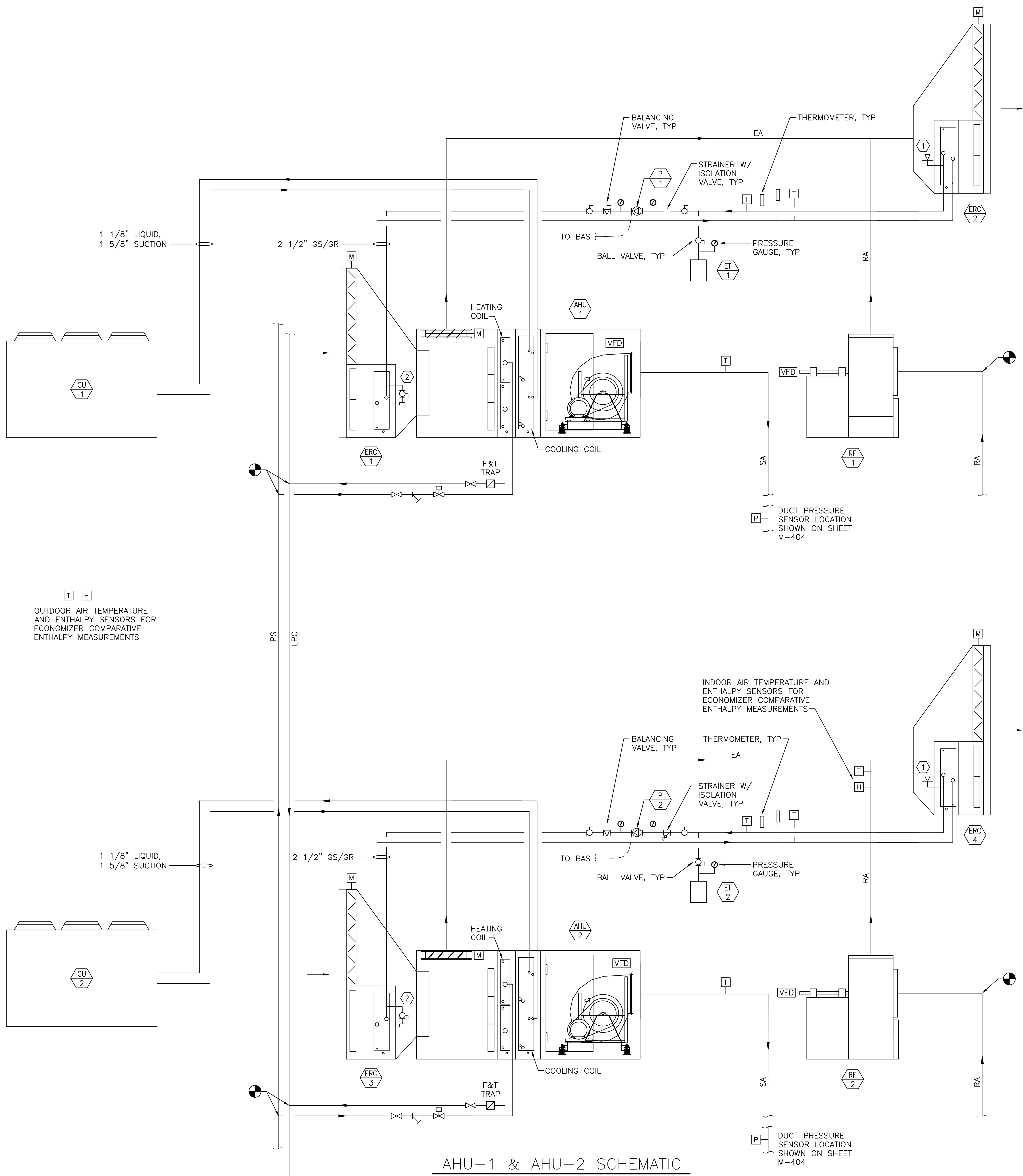
1 M402 PENTHOUSE MECHANICAL PART PLAN — PIPING
SCALE: 1/2" = 1'-0" REF. DWG: M-103



UNIVERSITY OF SOUTHERN MAINE PORTLAND, ME					
LUTHER BONNEY ENERGY UPGRADES					
PENTHOUSE MECHANICAL PART PLAN — PIPING					
1	ADDENDUM #1	CSS	ERP	CBC	3-15-12
0	ISSUED FOR CONSTRUCTION	CSS	ERP	CBC	2-21-12
REV.	DESCRIPTION	DR. CKD. BY	APP. BY	DATE	
SCALE: AS NOTED		PROJECT NO.		DRAWING NO.	
DATE: 2-21-12		151.008.003		151.008.003	
DES BY: EAF		SHEET		OF	
DWN BY: CSS		21		37	
CHK BY: ERP					
Colby Company		Structural Engineering		Mechanical Engineering	
474 York Street, Portland, Maine 04103		Electrical Engineering		Civil Engineering	
207.553.7733		www.colbyco.com			

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M-402



AHU-1 & AHU-2 SCHEMATIC
SCALE: NTS

LIBRARY WING AND AUDITORIUM SEQUENCE OF OPERATION:

GENERAL

1. ALL CONTROLS SHALL BE DDC AND TIE INTO THE EXISTING DELTA BAS.
2. ALL SETPOINTS SHALL BE ADJUSTABLE.
3. THE BAS SHALL MONITOR THE SEPARATE PERIMETER RADIATION AND AIR HANDLING THERMOSTATS IN EACH ZONE, DETERMINE WHEN A ZONE IS IN HEATING OR COOLING MODE BASED ON OUTDOOR AIR AND SPACE AIR CONDITIONS, AND SHALL NOT PERMIT SIMULTANEOUS OPERATION OF HEATING AND COOLING EQUIPMENT INSIDE EACH ZONE.

RUNAROUND LOOP

1. P-1 AND P-2 SHALL BE ON/OFF TO MATCH THE CORRESPONDING AIR HANDLER SUPPLY FAN OPERATION. IN ECONOMIZER MODE THE PUMPS SHALL BE OFF.

AHU-1,2

1. OCCUPIED MODE SPACE TEMPERATURE SETPOINT:
 - 1.1. COOLING: 75 DEG F, HEATING: 70 DEG F
2. UNOCCUPIED MODE SPACE TEMPERATURE SETPOINT:
 - 2.1. COOLING: 82 DEG F, HEATING: 60 DEG F
3. SUPPLY FAN SHALL OPERATE CONTINUOUSLY WHEN THE BUILDING IS IN OCCUPIED MODE.
4. SUPPLY FAN SHALL OPERATE AS NEEDED TO MAINTAIN SETBACK TEMPERATURES WHEN THE BUILDING IS UNOCCUPIED MODE.
5. THE SUPPLY FAN VFD SHALL BE CONTROLLED BY A DUCT-MOUNTED PRESSURE SENSOR.
6. RETURN FAN VFD SETPOINT SHALL BE INTERLOCKED WITH THE ASSOCIATED SUPPLY FAN SETPOINT.
7. ON A CALL FOR HEATING, THE STEAM CONTROL VALVE SHALL MODULATE TO MEET THE HEATING SUPPLY AIR TEMPERATURE SETPOINT.
8. ON A CALL FOR COOLING, THE CONDENSING UNIT SHALL BE ENERGIZED TO MEET THE COOLING SUPPLY AIR TEMPERATURE SETPOINT.
9. THE UNITS SHALL OPERATE IN ECONOMIZER MODE WHEN THE CALCULATED OUTDOOR AIR ENTHALPY IS LOWER THAN THE CALCULATED INDOOR AIR ENTHALPY.
10. IF AN AHU FREEZESTAT TRIPS, ASSOCIATED SUPPLY FAN SHALL BE DISABLED, THE OUTDOOR AIR DAMPER SHALL FULLY CLOSE, AND THE STEAM CONTROL VALVE SHALL MODULATE FULLY OPEN. ONCE THE FREEZESTAT IS RESET, NORMAL OPERATION SHALL RESUME.
11. IF AN AHU SMOKE DETECTOR ENTERS ALARM MODE, THE ASSOCIATED SUPPLY FAN SHALL BE DISABLED. ONCE THE SMOKE DETECTOR IS RESET, NORMAL OPERATION SHALL RESUME.

AHU-3

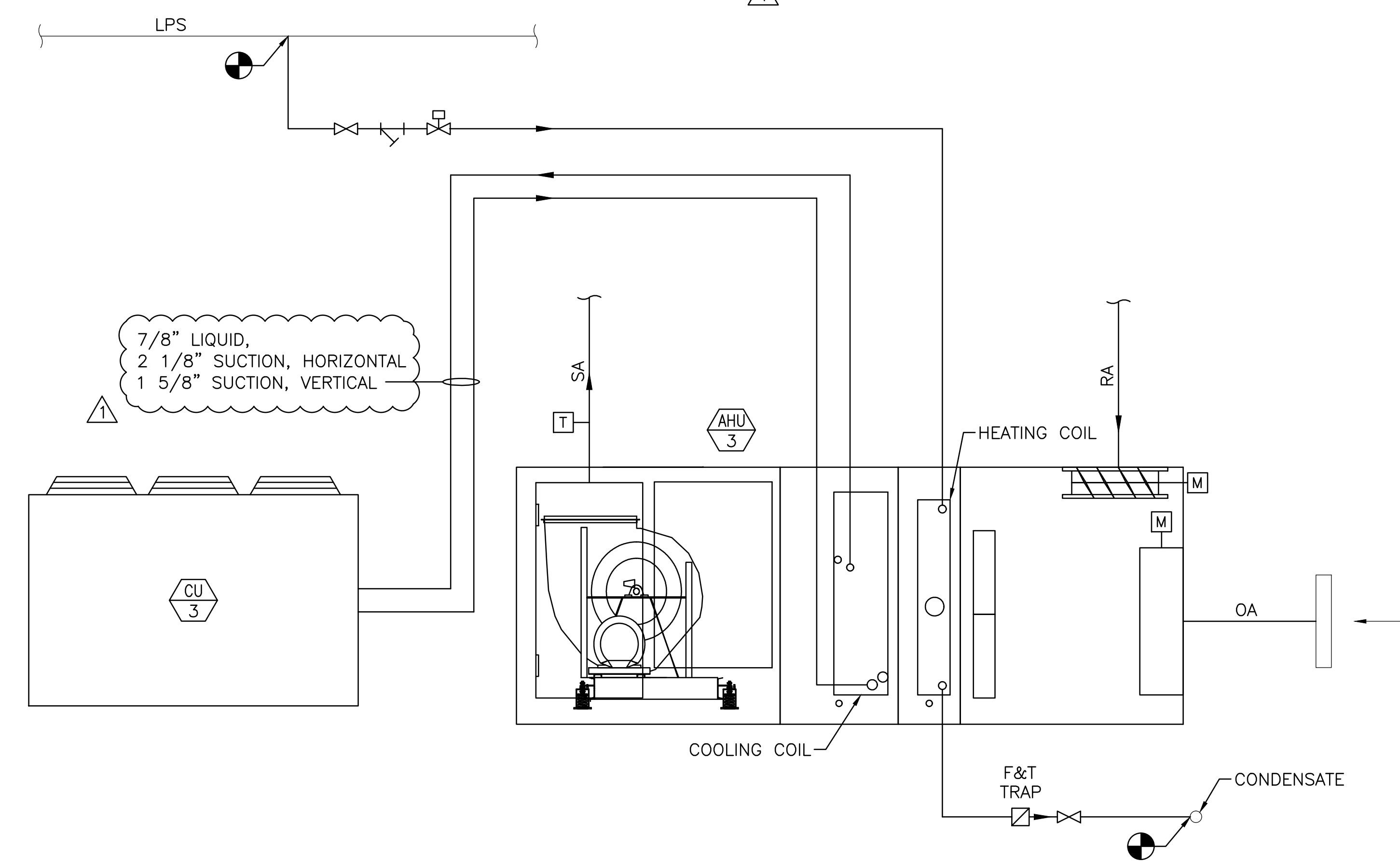
1. OCCUPIED MODE SPACE TEMPERATURE SETPOINT:
 - 1.1. COOLING: 75 DEG F, HEATING: 70 DEG F
2. UNOCCUPIED MODE SPACE TEMPERATURE SETPOINT:
 - 2.1. COOLING: 82 DEG F, HEATING: 60 DEG F
3. SUPPLY FAN SHALL OPERATE CONTINUOUSLY WHEN THE BUILDING IS IN OCCUPIED MODE.
4. SUPPLY FAN SHALL OPERATE AS NEEDED TO MAINTAIN SETBACK TEMPERATURES WHEN THE BUILDING IS UNOCCUPIED MODE.
5. ON A CALL FOR HEATING, THE STEAM CONTROL VALVE SHALL MODULATE TO MEET THE HEATING SUPPLY AIR TEMPERATURE SETPOINT.
6. ON A CALL FOR COOLING, THE CONDENSING UNIT SHALL BE ENERGIZED TO MEET THE COOLING SUPPLY AIR TEMPERATURE SETPOINT.
7. THE UNITS SHALL OPERATE IN ECONOMIZER MODE WHEN THE CALCULATED OUTDOOR AIR ENTHALPY IS LOWER THAN THE CALCULATED INDOOR AIR ENTHALPY.
10. IF AN AHU FREEZESTAT TRIPS, ASSOCIATED SUPPLY FAN SHALL BE DISABLED, THE OUTDOOR AIR DAMPER SHALL FULLY CLOSE, AND THE STEAM CONTROL VALVE SHALL MODULATE FULLY OPEN. ONCE THE FREEZESTAT IS RESET, NORMAL OPERATION SHALL RESUME.
11. IF AN AHU SMOKE DETECTOR ENTERS ALARM MODE, THE ASSOCIATED SUPPLY FAN SHALL BE DISABLED. ONCE THE SMOKE DETECTOR IS RESET, NORMAL OPERATION SHALL RESUME.

VAV BOXES (FOR AHU-1 AND AHU-2)

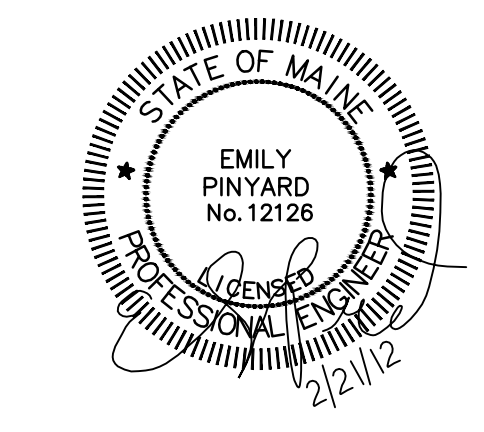
1. VAV BOX AIRFLOW DAMPERS SHALL MODULATE TO MAINTAIN ZONE THERMOSTAT HEATING AND COOLING SETPOINTS.
2. LIBRARY WING VAV BOXES SHALL HAVE A MINIMUM 30% SETPOINT DURING OCCUPIED HOURS UNDER NORMAL CONDITIONS.
3. VAV BOXES ASSOCIATED WITH AHU-1 WHICH DO NOT SERVE THE 2-STORY COMPUTER LAB SPACE (VAV-1-5, VAV-1-10, VAV-2-1, VAV-2-7, VAV-2-8, & VAV-2-13) SHALL BE CAPABLE OF POSITIVE SHUT-OFF IF ASSOCIATED SPACE TEMPERATURES FALL BELOW THE COOLING SETPOINT DEADBAND TO PREVENT SPACE OVER-COOLING. VAV BOXES SHALL RE-OPEN TO AT LEAST MINIMUM 30% SETPOINT ONCE THE SPACE THERMOSTAT CALLS FOR COOLING.

KEYED NOTES:

1. INSTALL AUTOMATIC AIR VENT WITH ISOLATION VALVE AT HIGH POINT IN PIPING.
2. INSTALL DRAIN VALVE WITH CAPPED HOSE CONNECTION AT LOW POINT IN PIPING. (INSTALL 1/2" WATTS 009 BACKFLOW PREVENTER WITH 3/4" HOSE CONNECTION IN AN ACCESSIBLE LOCATION FOR FILLING.)



AHU-3 SCHEMATIC
SCALE: NTS



UNIVERSITY OF SOUTHERN MAINE PORTLAND, ME		PROJECT NO. 151.008.003	
LUTHER BONNEY ENERGY UPGRADES		DRAWING NO. M-503	
1 ADDENDUM #1	CSS ERP CBC 3-15-12	SCALE: AS NOTED	PROJECT NO. 151.008.003
0 ISSUED FOR CONSTRUCTION	CSS ERP CBC 2-21-12	DATE: 2-21-12	SHEET 25 OF 37
MECHANICAL SCHEMATIS		DES BY: EAF	
REV.	DESCRIPTION	DR. CKD. APP. BY DATE	
		DWN BY: CSS	
		CHK BY: ERP	

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