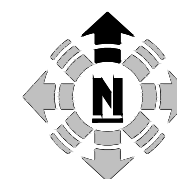
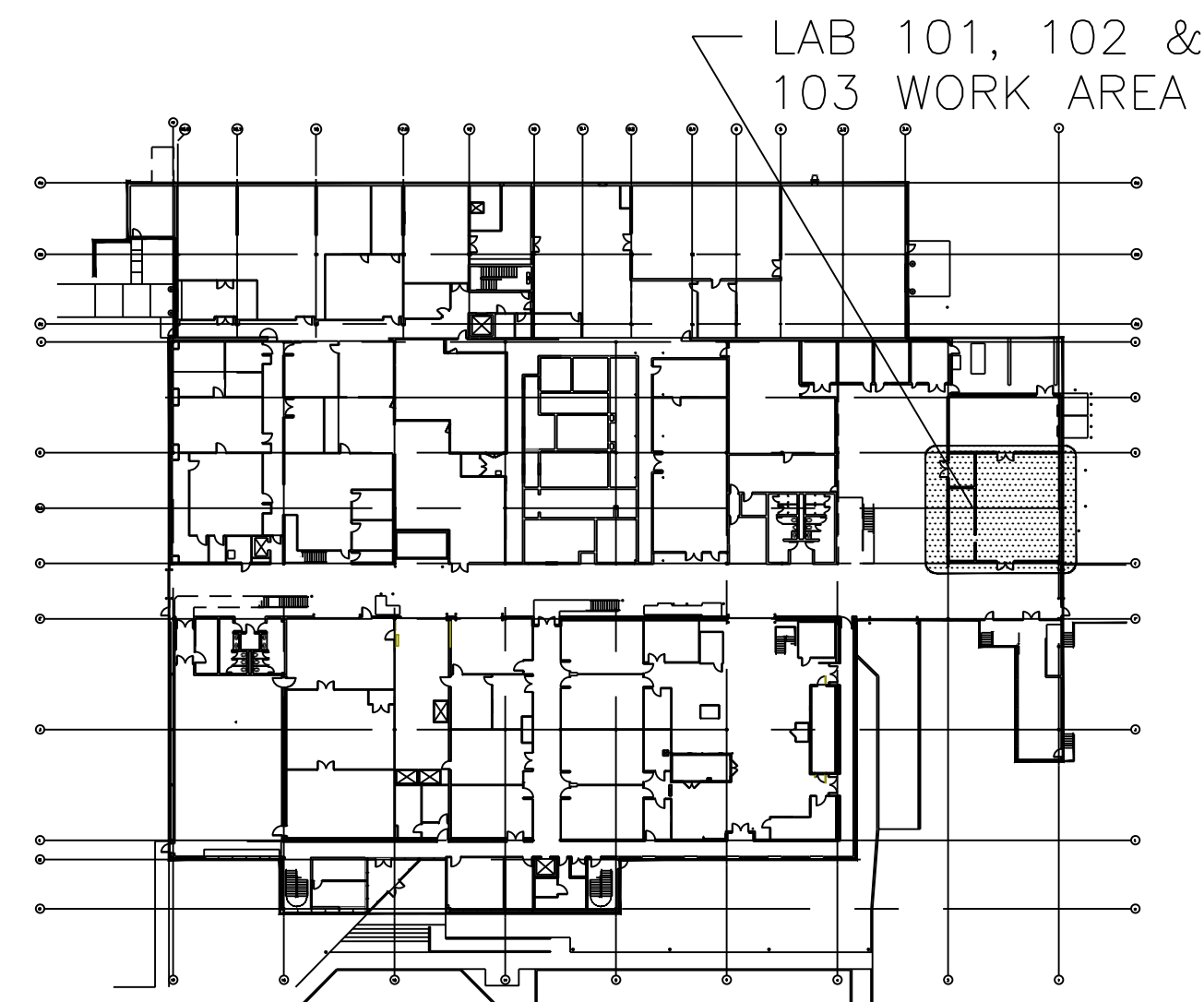


FIRST FLOOR HVAC/PIPING PLAN
SCALE: 1/4" = 1'



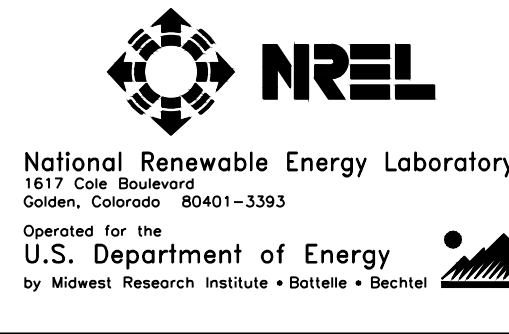
KEY PLAN
SCALE: NTS



FIRST FLOOR HVAC KEYNOTES:

- ① DUCTWORK SHALL BE ROUTED IN EXPOSED LAB SPACE.
- ② EG-1, 12"Ø, 850 CFM, 16"x14" FACE.
- ③ EG-1, 10"Ø, 460 CFM, 12"x12" FACE.
- ④ CD-1, 12"Ø, 600 CFM, 24"x24" FACE.
- ⑤ SWR-1, 690 CFM, 18"x10" FACE.
- ⑥ SWITCH TO CONTROL VAV-101-B.
- ⑦ REFER TO PIPING DIAGRAM ON SHEET M-05 FOR MORE INFORMATION.
- ⑧ CONNECT (E) 12"Ø SUPPLY DUCT TO NEW 12"Ø SUPPLY DUCT ROUTED FROM SECOND FLOOR. RE: SHEET M-02 FOR CONTINUATION.
- ⑨ 24"Ø EXHAUST DUCT UP. REFER TO SHEET M-02 FOR DUCTWORK CONTINUATION.
- ⑩ EXHAUST DUCT DOWN TO FUME HOOD. TRANSITION DUCTWORK IN VERTICAL TO OPENING SIZE OF HOOD OUTLET AS REQUIRED.
- ⑪ EXHAUST DUCT DOWN TO GAS CABINET. TRANSITION DUCTWORK IN VERTICAL TO OPENING SIZE OF CABINET OUTLET AS REQUIRED. PROVIDE MANUAL BALANCING DAMPER AT ALL GAS CABINET CONNECTIONS.
- ⑫ CWS/CWR AND HWS/HWR UP IN UTILITY CHASE. PROVIDE 1/2" BRANCH CWS PIPING IN PLUMBING WALL TO QUICK CONNECTION FITTINGS AT PLUMBING PANEL. REFER TO SHEET M-02 FOR PIPING CONTINUATION. REFER TO SHEET P-01 FOR CWS/CWR ROUTING AND CONNECTIONS TO QUICK CONNECT OUTLET FITTINGS LOCATED ON WALL/CHASE/MOUNTED PANEL.
- ⑬ SEE DIAGRAM 2 ON SHEET M-03 FOR CONTINUATION.
- ⑭ CD-1, 12"Ø, 635 CFM, 24"x24" FACE.
- ⑮ EG-1, 12"Ø, 650 CFM, 16"x14" FACE.
- ⑯ (E) 12"Ø EXHAUST DUCT FROM LAB 104C ROUTED UP TO BE CONNECTED WITH NEW 12"Ø EXHAUST DUCT. RE: SHEET M-02 FOR CONTINUATION.
- ⑰ CWS/CWR UP THROUGH UTILITY CHASE. REFER TO SHEET M-02 FOR PIPING CONTINUATION. REFER TO SHEET P-01 FOR CWS/CWR ROUTING AND CONNECTIONS TO QUICK CONNECT OUTLET FITTINGS LOCATED ON WALL/CHASE/MOUNTED PANEL.
- ⑱ CD-1, 900 CFM, 24"x24" FACE.
- ⑲ PROVIDE TWO RG-1, 24"x24" FACE, AND MOUNT IN SUSPENDED CEILING BELOW FCU-101. NO DUCT IS REQUIRED TO CONNECT THE RETURN GRILLS TO THE FCU.

REVISIONS					REVISIONS					FILE INFORMATION				ENGINEERING REVIEW		
NO.		DATE	BY	APP'D.	BAE	NO.		DATE	BY	APP'D.	BAE	USER:	DATE:	TIME:	APPROVAL	DATE
0	50% CONSTRUCTION DOCUMENTS	8-25-11	-	-	-	-	-	-	-	-	-	DLD	1/20/12			
1	90% CONSTRUCTION DOCUMENTS	9-30-11	-	-	-	-	-	-	-	-	-	DWG. FILE:			DESIGNER	DLD
2	100% CONSTRUCTION DOCUMENTS	11-3-11	-	-	-	-	-	-	-	-	-	DWG. FOLDER:			ENGINEER	DLD
3	FOR CONSTRUCTION	1-20-12	-	-	-	-	-	-	-	-	-	ACAD VERSION: AUTOCAD 2010			CHECKED BY	MTM
-	-	-	-	-	-	-	-	-	-	-	-	PLATFORM: WINDOWS XP			A/E APPROVED BY	-
-	-	-	-	-	-	-	-	-	-	-	-	BORDER: ZBD22340-3.DWG	PLOT SCALE: 1:1	UNITS: ARCH	NREL APPROVED BY	-
-	-	-	-	-	-	-	-	-	-	-	-	PLOT INFO.: NREL.STB			BLDG. AREA ENG.	-



FLTB THERMO-CHEM LABORATORY 101 CONVERSION MECH			TASK ORDER 13		
FIRST FLOOR HVAC/ PIPING PLAN					
DRAWING NO. PREFIX	DRAWING NO.	REVISION NO.			
FLTB-135-	M-01	3			
NREL PROJECT NO.	NREL WORK ORDER NO.	A/E PROJECT NO.			
EX2010034	13	11261			