

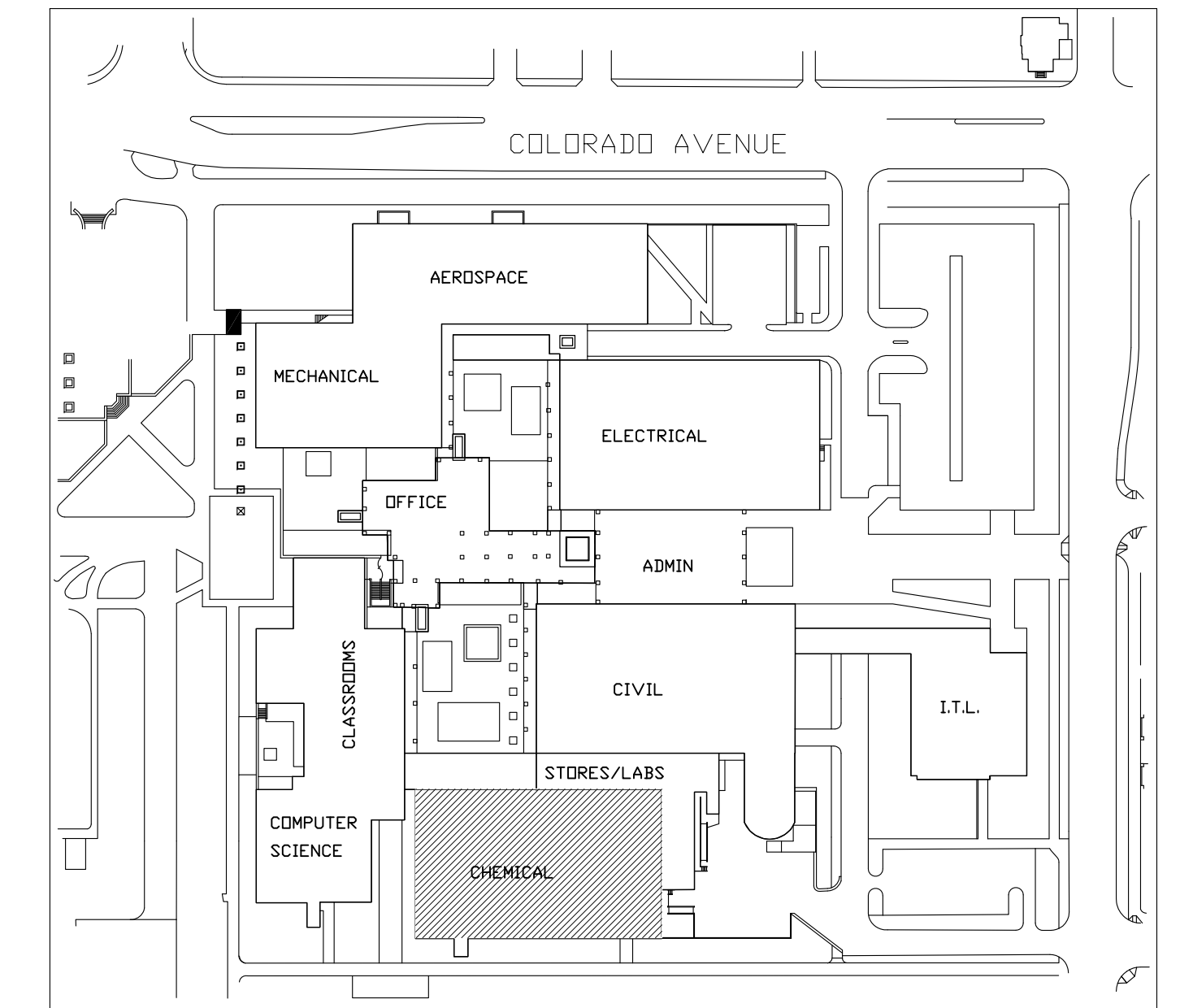
UNIVERSITY OF COLORADO BOULDER, COLORADO

CONSTRUCTION DOCUMENTS CHEMICAL ENGINEERING WING HVAC UPGRADES PHASE 1 OF 2

PR003039

FEBRUARY 9, 2009

ADDENDUM #5, MARCH 17, 2009



CODE REVIEW		
CODES	2006 IBC, 2006 IMC, 2005 NEC, 2000 IPC, 2006 IFC, NFPA 45	
GENERAL PROJECT INFORMATION	THE PROJECT CONSISTS ENTIRELY OF MECHANICAL UPGRADES TO THE CHEMICAL ENGINEERING WING OF THE ENGINEERING BUILDING. THE WORK INVOLVES MODIFICATIONS TO HEATING, VENTILATION AND AIR CONDITIONING SUPPLY SYSTEMS, EXHAUST SYSTEMS AND FUME HOOD CONTRDLS.	
7.1 THE BUILDING	ENGINEERING BUILDING, CHEMICAL ENGINEERING WING	
NO.	DESCRIPTION	COMMENTS
7.1.1	BUILDING HEIGHT AND AREA	2 STORIES + (2) MECHANICAL PENTHOUSES 1B LEVEL: 24,428 SF 1F LEVEL: 24,088 SF PH: 2,123 SF EXT. GSF: 50,639 SF
7.1.2	PROJECT OCCUPANCY AND USE GROUPS	OCCUPANCY GROUP: B, LABORATORIES, TESTING & RESEARCH. OCCUPANCY GROUP: B, EDUCATIONAL OCCUPANCIES ABOVE THE 12TH GRADE OCCUPANCY GROUP: B, PROFESSIONAL SERVICES - OFFICES (ENGINEERS)
7.1.3	OCCUPANCY SEPARATIONS	IT IS UNDERSTOOD THAT ALL OCCUPANCIES ARE IN THE B-GROUP, THEREFORE OCCUPANCY SEPARATIONS ARE NOT REQUIRED.
7.1.5	PROJECT AREA & OCCUPANCY LOAD	NOT AFFECTED BY THIS PROJECT
7.2 BUILDING FIRE RESISTANCE		
NO.	DESCRIPTION	COMMENTS
7.2.1	TYPE OF CONSTRUCTION	TYPE II - 1 HOUR
7.2.2	FIRE RESISTANCE OF STRUCTURAL MEMBERS (INCLUDE SPRINKLED BUILDING EXCEPTIONS)	PER TABLE 601, FOR TYPE II A CONSTRUCTION, FLOOR CONSTRUCTION, INCLUDING BEAMS AND JOISTS, ARE NOT REQUIRED TO HAVE 1-HOUR PROTECTION PER FOOTNOTE e WHEN THE BUILDING IS PROTECTED THROUGHOUT WITH AN APPROVED AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH 903.1.1. THE SPRINKLER SYSTEM INSTALLED IN THE CHEMICAL ENGINEERING WING IS NOT OTHERWISE REQUIRED BY ANY PROVISION OF THE CODE.
7.2.3	FIRE RESISTANCE OF ALL EXIT ROUTES INCLUDING STAIRS, CORRIDORS, AND RAMPS	CORRIDORS NEED NOT BE OF 1-HOUR FIRE RESISTIVE CONSTRUCTION PER TABLE 1017.1 'CORRIDOR FIRE-RESISTIVE RATING' FOR B GROUP OCCUPANCIES, TABLE NOTE c.
7.2.4	FIRE RESISTANCE OF VERT. OPENINGS AND SHAFTS	SHAFT ENCLOSURES ARE NOT REQUIRED FOR FLOOR OPENINGS PER SECTION 707.2 EXCEPTION 7, SUB ITEMS 7.1 THROUGH 7.7.
7.2.5	FIRE RESISTANCE OF SPECIAL OCCUPANCY ENCLOSURES SUCH AS STORAGE ROOMS AND HAZARDOUS AREAS	BASED ON INFORMATION PROVIDED TO THE ENGINEER, THE PROJECT IS B-GROUP OCCUPANCY, NO SPECIAL F.R. REQUIREMENTS
7.2.6	SEALING OF THROUGH PENETRATIONS	DUCTS AND CONDUIT PASSING THROUGH NON-RATED CORRIDOR WALLS MUST BE PROTECTED AS A THROUGH PENETRATION PER 716.5.4, EXCEPTION 1 EVEN THOUGH FIRE DAMPERS ARE EXEMPTED BY THE SAME PROVISION.
7.2.7	FLOORS AND FLOOR CEILING ASSEMBLIES, PENETRATIONS, SHAFTS	PER TABLE 601, FLOORS IN TYPE II-A CONSTRUCTION MUST BE OF 1-HR. FIRE-RESISTIVE CONSTRUCTION. PER 707.2, EXCEPTION 7, SHAFT ENCLOSURES ARE NOT REQUIRED IN 1-STORY BUILDINGS. PER 712.4.1 THROUGH PENETRATIONS, EXCEPTION 1, A DUCT MAY PASS THROUGH THE HORIZONTAL ASSEMBLY PROVIDED THAT THE ANNULAR SPACE IS PROTECTED WITH MATERIALS THAT PREVENT THE PASSAGE OF FLAME AND HOT GASSES.
7.3 IGNITION PREVENTION		
NO.	DESCRIPTION	COMMENTS
7.3.1	IDENTIFY POTENTIAL IGNITION SOURCES AND RELATED CODE REQUIREMENTS	NO IGNITION SOURCES OTHER THAN NORMAL FOR THIS USE HAVE BEEN REPORTED BY USERS
7.3.2	HAZARDOUS LOCATIONS AND CLASSIFICATIONS	BASED ON USER PROVIDED INFORMATION, PROJECT DOES NOT CONTAIN HAZARDOUS LOCATIONS.
7.4 FUEL CONTROL		
NO.	DESCRIPTION	COMMENTS
7.4.2	IDENTIFY AND LIST INTERIOR FINISH MATERIAL CLASSIFICATIONS IN EXIT PATHS, PLACES OF ASSEMBLY, AND ALL OTHER AREAS.	THIS PROJECT DOES NOT IMPACT EXISTING EXIT PATHS.

7.6 SMOKE MANAGEMENT SYSTEMS		
NO.	DESCRIPTION	COMMENTS
7.6.3	DETERMINE LOCATIONS AND SEQUENCE OF OPERATIONS FOR ALL SMOKE AND FIRE/SMOKE DAMPERS AND DUCT DETECTORS.	FIRE / SMOKE DAMPERS ARE NOT REQUIRED PER 7.2.3, 7.2.4 AND 7.2.7 PREVIOUSLY MENTIONED.
7.8 FIRE DETECTION AND ALARM SYSTEMS		
NO.	DESCRIPTION	COMMENTS
7.8.1	DETERMINE MANUAL PULL STATION REQUIREMENTS: TYPE, SPACING, AND LOCATION	MANUAL PULL STATIONS ARE EXISTING.
7.8.2	DETERMINE AUTOMATIC DETECTOR REQUIREMENTS: TYPE, SPACING, AND LOCATION	THE AUTOMATIC DETECTION SYSTEM IS EXISTING AND WILL NOT BE MODIFIED UNDER THIS PROJECT.
7.8.3	DETERMINE OCCUPANT NOTIFICATION AND ALARM REQUIREMENTS: TYPE (HORN, HORN/STROBE, SPEAKER STROBE) AND LOCATION. (VERIFY IMPACT OF INTERIOR ROOMS)	LOCATION OF THE EXISTING HORN/STROBES ARE BELIEVED TO PROVIDE SUFFICIENT AUDIBILITY TO THE REMODELED AREAS. EVALUATION OF ALARM AUDIBILITY IS NOT IN THE SCOPE OF THIS PROJECT.
7.8.4	DETERMINE SEQUENCE OF OPERATION OF ALL SYSTEMS, e.g. THAT ARE CONNECTED TO OR MONITORED BY THE BUILDING DETECTION AND ALARM SYSTEM. EXAMPLES INCLUDE: FAN SHUT-DOWN, SMOKE MANAGEMENT SYSTEMS, AND STAIRWELL PRESSURIZATION SYSTEMS	PER SECTION 606.4 OF THE IMC THE EXISTING DUCT DETECTORS IN THE SUPPLY PLENUM OF THE AIR SUPPLY UNIT SERVING THIS SPACE SHALL SHUT DOWN ALL OPERATIONAL CAPABILITIES OF THE AIR DISTRIBUTION SYSTEM ON DETECTION OF SMOKE.
7.14 OTHER ISSUES IDENTIFIED BY THE DESIGN TEAM		
7.14.1	IMCF 7502.9.5.4 USE, DISPENSING AND MIXING	CONTINUOUS MECHANICAL VENTILATION SHALL BE PROVIDED FOR THE USE, DISPENSING AND MIXING OF FLAMMABLE AND COMBUSTIBLE LIQUIDS IN OPEN OR CLOSED SYSTEMS IN AMOUNTS EXCEEDING THE MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA AND FOR BULK TRANSFER AND PROCESS TRANSFER OPERATIONS. NOTE: QUANTITIES AS REPORTED DO NOT EXCEED EXEMPT LIMITS. HOWEVER, MECHANICAL VENTILATION IS PROVIDED.
7.14.2	716.5.4 DUCT PENETRATIONS IN FIRE PARTITIONS	FIRE DAMPERS ARE NOT REQUIRED PER 716.5.4, EXCEPTION NO.1. THE BUILDING IS EQUIPPED THROUGHOUT WITH AN APPROVED AUTOMATIC SPRINKLER SYSTEM AND DUCT PENETRATIONS ARE PROTECTED AS A THROUGH PENETRATION PER SECTION 712.
7.14.3	716.5.4.1 SMOKE DAMPERS AT CORRIDORS	LISTED SMOKE DAMPERS ARE NOT REQUIRED IN CORRIDOR PENETRATIONS SINCE THE CORRIDOR IS NOT REQUIRED TO BE RATED.

DRAWING LIST

MECHANICAL	
M1.01	MECHANICAL LEGENDS AND SCHEDULES
M1.02	MECHANICAL DETAILS
MD2.03	BASEMENT HVAC DEMOLITION FLOOR PLAN - CHEMICAL ENG.
MD2.04	1ST LEVEL HVAC DEMOLITION FLOOR PLAN - CHEMICAL ENG.
M2.03	BASEMENT HVAC FLOOR PLAN - CHEMICAL ENG.
M2.04	1ST LEVEL HVAC FLOOR PLAN - CHEMICAL ENG.
M2.05	ROOF HVAC PLAN - CHEMICAL ENG.
ELECTRICAL	
E2.01	BASEMENT POWER PLAN - CHEMICAL ENGINEERING
E2.02	1ST LEVEL POWER PLAN - CHEMICAL ENGINEERING

PROJECT CONTACT LIST

FACILITIES MANAGEMENT
UNIVERSITY OF COLORADO
STADIUM 255, CAMPUS BOX 53
BOULDER, COLORADO 80309-0053
TELEPHONE: 303-492-5511

MECHANICAL/ELECTRICAL ENGINEERS

CATOR, RUMA & ASSOCIATES
896 TABOR STREET
LAKEWOOD, COLORADO 80401
TELEPHONE: 303-232-6200

CONSTRUCTION SEQUENCE

1. PERFORM DEMOLITION AND NEW WORK IN A DESIGNATED AREA PRIOR TO PROCEEDING TO NEXT ROOM.
2. BASE BID IS DESIGNATED BY (AA) AND SHALL BE THE HIGHEST PRIORITY.
3. ADD ALTERNATE #1 IS DESIGNATED BY (BB) AND SHALL BE MEDIUM PRIORITY.
4. ADD ALTERNATE #2 IS DESIGNATED BY (CC) AND SHALL BE THE LOWEST PRIORITY.

HVAC NOTES:

1. ALL PENETRATIONS THROUGH RATED ASSEMBLIES SHALL BE FIRE STOPPED IN ACCORDANCE WITH SPECIFICATIONS AND DETAILS.
2. ALL LOW PRESSURE RECTANGULAR DUCTWORK DOWNSTREAM OF TERMINAL BOX (TB) AND UPSTREAM OF GENERAL EXHAUST TERMINALS (GX) SHALL HAVE 1" THICK INTERNAL DUCT LINER. SIZES LISTED ARE ACTUAL SHEET METAL SIZE AND INCLUDE THICKNESS OF LINER, UNLESS NOTED OTHERWISE.
3. BALANCE AIR DISTRIBUTION SYSTEM TO AIR QUANTITIES SHOWN.
4. DUCT SIZE OF BRANCH DUCT TO AIR DEVICE SHALL BE THE SAME SIZE AS NECK SIZE OF AIR DEVICE UNLESS NOTED OTHERWISE.
5. BRANCH DUCT SIZE TO INLET OF ALL TERMINAL BOXES SHALL BE THE SAME SIZE AS THE INLET SCHEDULED UNLESS NOTED OTHERWISE. MEDIUM PRESSURE ROUND SHEET METAL DUCTWORK SHALL BE USED UPSTREAM OF TERMINAL BOXES.
6. ALL MEDIUM PRESSURE AND ROUND LOW PRESSURE SUPPLY AIR DUCTWORK SHALL BE EXTERNALLY WRAPPED TO THICKNESS AS STATED IN SPECIFICATIONS. FUME EXHAUST DUCTWORK IS NEITHER LINED NOR WRAPPED (UNLESS NOTED OTHERWISE). DUCTWORK WILL BE TESTED IN ACCORDANCE WITH SPECIFICATIONS, UNIVERSITY OF COLORADO STANDARDS AND SMACNA DUCT CONSTRUCTION STANDARDS.
7. ADJUSTABLE ELBOW MAY BE UTILIZED TO FACILITATE FINAL CONNECTION TO TERMINAL BOX. FITTING SHALL BE RIGIDLY MOUNTED AND SEALED AIR TIGHT AFTER INSTALLATION.
8. GENERAL EXHAUST AIR QUANTITY AND FUME HOOD EXHAUST AIR QUANTITY SHOWN ON PLAN ARE NOT COINCIDENT. GENERAL EXHAUST AIR QUANTITY REFLECTS MINIMUM AIR QUANTITY OF FUME HOOD TERMINAL UNIT.
9. AIR QUANTITY SHOWN FOR FUME HOODS IS WITH SASH HEIGHT OF 18".
10. PRESSURE RELATIONSHIP WITH RESPECT TO CORRIDOR IS DESIGNATED BY SIGN. TAB CONTRACTOR TO BALANCE AS INDICATED. ROOM PRESSURIZATION TO BE MAINTAINED BY A CONSTANT AIR VOLUME OFFSET, BY THE CONTROL SYSTEM. REFER TO PLAN FOR OFFSET AND PRESSURE RELATIONSHIPS ON A ROOM BASIS.
11. MAINTAIN MINIMUM SEPARATION DISTANCE BETWEEN DIFFUSER AND FUME HOOD. SEPARATION DISTANCE SHALL NOT BE LESS THAN THE DIFFUSER THROW AT A TERMINAL VELOCITY OF 50 FEET PER MINUTE.
12. NEW DUCTWORK SHALL NOT BLOCK ACCESS TO EXISTING COMMUNICATION FULL BOXES, CABLE TRAYS, GUTTER PATHWAYS, D-RINGS OR CONDUIT ENDS.
13. CONTRACTOR IS RESPONSIBLE FOR ANY COSTS FOR RELOCATING ANY "ITS" COMMUNICATIONS PATHWAYS AS IN CONDUITS, CABLE TRAYS, JACKS OR RELOCATION OF TELEPHONE ROOMS. IF ANY OF ABOVE IS REQUIRED THE CONTRACTOR WILL EMPLOY THE CURRENT "ITS" STANDING ORDER CONTRACTOR TO COMPLETE THIS WORK.

ARCHITECTURAL NOTES:

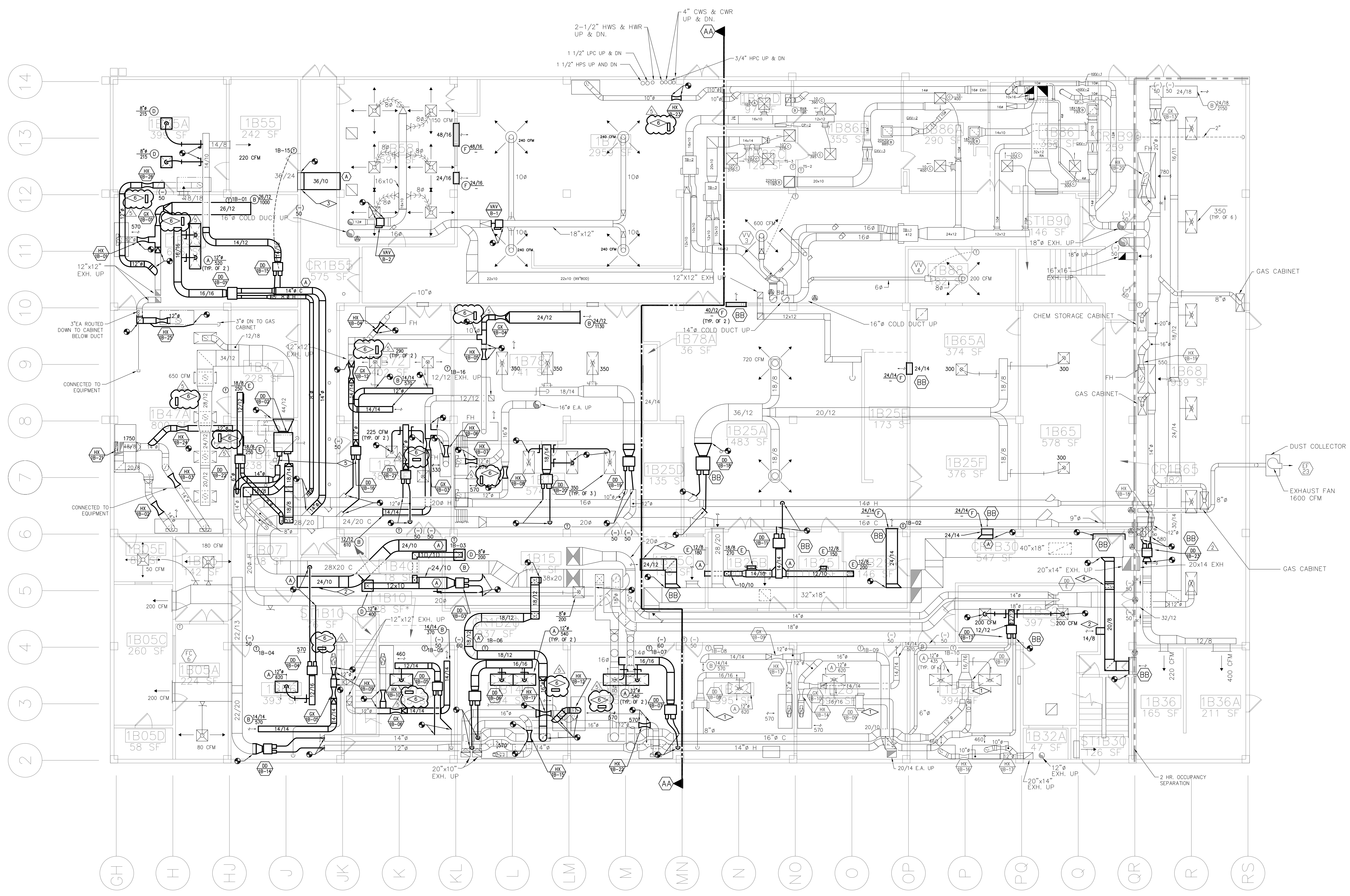
1. REMOVE AND REINSTALL (E) SUSPENDED ACoustICAL CEILING GRID AND TILES AS REQUIRED.
2. PAINT ALL EXPOSED DUCTWORK, PROTECT SPRINKLER HEADS FROM OVERSPRAY.

ARCHITECTURAL KEY NOTES:

- (A) PROVIDE OPENING IN (E) CMU / (E) GYP. BD. WALL AS REQ'D TO ACCOMMODATE NEW DUCTS. PROVIDE 1-HR FIRE SAFETY AT ALL NEW PENETRATIONS THROUGH (E) WALLS. RE: FIRE SAFETY DETAILS ON M1.02.
- (B) REMOVE AND INSTALL (E) SUSPENDED ACoustICAL CEILING GRID AND TILES AS REQUIRED. DISCONNECT AND REMOVE EXISTING CEILING MOUNTED LUMINAIRES IN THIS AREA TO ACCOMMODATE THE MECHANICAL SCOPE OF WORK. REINSTALL LUMINAIRES IN EXISTING LOCATIONS AND RECONNECT TO EXISTING BRANCH CIRCUIT AND CONTROLS. REPLACE LUMINAIRES DAMAGED DURING REMOVAL. NOTE: ALL WORK ASSOCIATED WITH REMOVAL AND REINSTALLATION OF LUMINAIRES SHALL BE PERFORMED BY ELECTRICAL CONTRACTOR.
- (C) PROVIDE OPENING IN WOOD TRANSOM, SEAL WITH 1-HR FIRE SAFETY REQUIRED. TRIM WITH 5/8" OAK QTR. ROUND, BOTH SIDES.
- (D) REMOVE SAC BULKHEAD. REBUILD BULKHEAD FOLLOWING DUCT INSTALLATION.
- (E) ENLARGE (E) OPENINGS IN GYP. BD. AND CMU WALLS, 1-HR FIRE SAFETY REQUIRED. RE: FIRE SAFETY DETAILS ON M1.02.
- (F) REMOVE (E) AIR TRANSFER GRILLE IN WALL AND INFILL PER WALL INFILL DTL. SHT M1.02.
- (G) PROVIDE BLANKING PANEL TO CONVERT (E) OPEN BYPASS FUME HOOD TO RESTRICTED BYPASS.

KEY NOTES:

- ◊ TERMINAL BOXES REPLACED DURING LAST PHASE.
- ◊ TRANSFER DUCT OPEN ABOVE CEILING.
- ◊ CONNECT TRANSFER DUCT TO EXISTING WALL. INSTALL TRANSITION FROM FULL WALL OPENING TO DUCT SIZE SHOWN. INST. BOTTOM OF DUCT AT 8'-0" AFF MINIMUM.
- ◊ PROVIDE OFFSETS IN DUCT AS REQUIRED.
- ◊ SEAL FLOOR OPENING AROUND EXISTING SANITARY PIPE.
- ◊ PHOENIX CONTROL TRANSFORMER UNIT.



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

THIS WORK SHOWN AS EXISTING CONDITIONS WAS TAKEN FROM OWNER FURNISHED DRAWINGS. CATOR, RUMA & ASSOCIATES, CO. IS NOT RESPONSIBLE FOR THE ACCURACY OF ANY INFORMATION WHICH WAS PROVIDED WITH THE OWNER FURNISHED DRAWINGS. FURTHERMORE, CATOR, RUMA & ASSOCIATES, CO. IS NOT RESPONSIBLE FOR THE ADEQUACY, CAPACITIES, SAFETY AND CONFORMANCE TO CURRENT PREVAILING CODES OF ANY WORK SHOWN AS EXISTING.

DRAWING TITLE: **BASEMENT HVAC FLOOR PLAN**

TITLE: **UNIVERSITY OF COLORADO, ENGINEERING CENTER CHEMICAL ENGINEERING HVAC UPGRADES - PHASE 1**

REVISIONS:

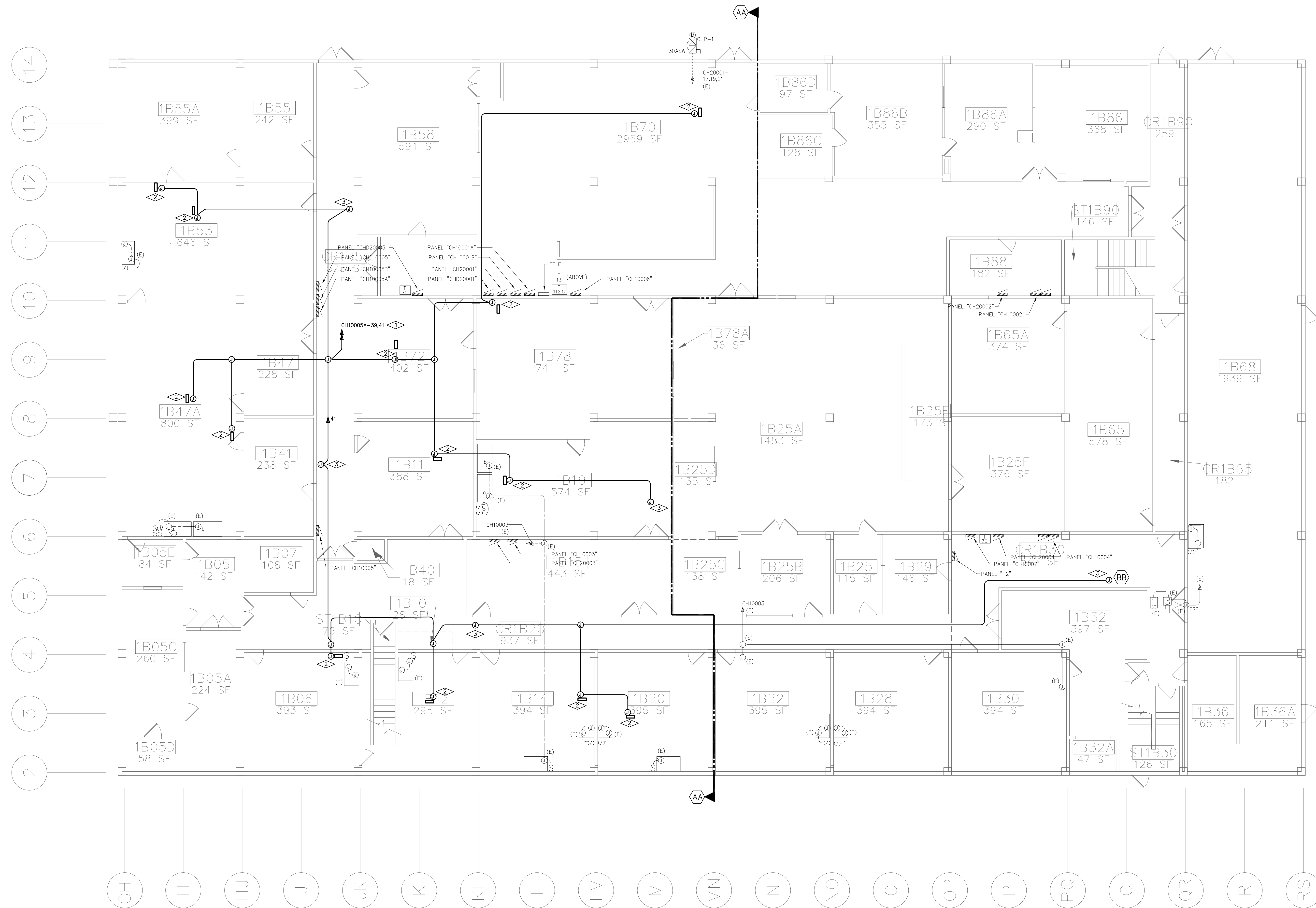
SCHEMATIC DESIGN	11-13-07
DESIGN DEVELOPMENT	12-18-07
95% OWNER REVIEW	08-11-08
FOR CONSTRUCTION	02-09-09
ADDENDUM #5	03-17-09

DATE: 02-09-09
DRAWN BY: MWJ
CHECKED BY: DFR
JOB NO: 2007-213
FILE NAME: P-HV6

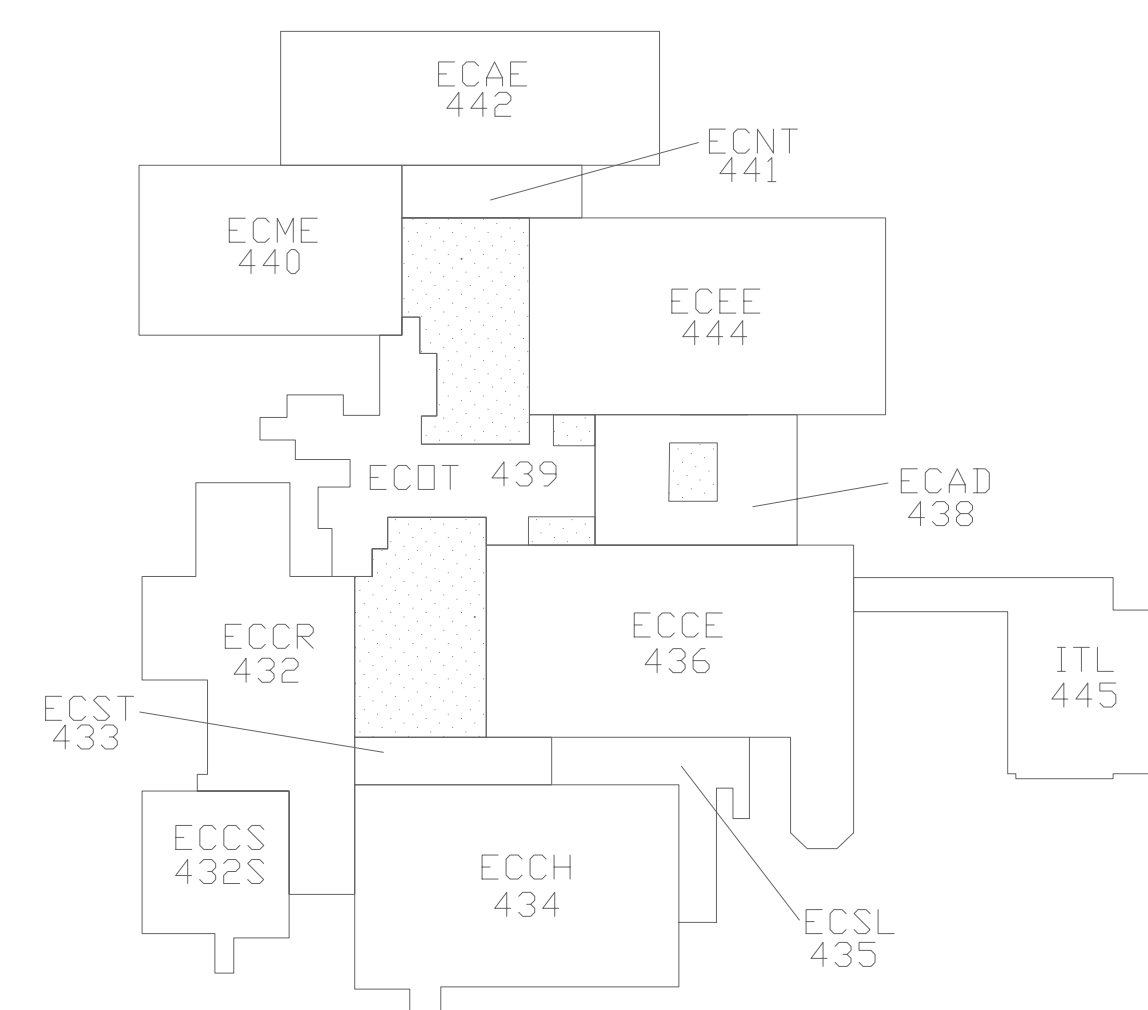
SHEET NO. **M2.03**

6 OF 8
PRO03039

CATOR, RUMA & ASSOCIATES CO.
886 TABOR STREET, LAKEWOOD, CO. 80401
PHONE: (303) 232-6200 FAX: (303) 233-3701



BASEMENT POWER PLAN - CHEMICAL ENGINEERING
SCALE: 1/8"=1'-0"



GENERAL NOTES:

1. WORK INCLUDED IN THE CONTRACT IS DENOTED IN BOLD. EXISTING CONDITIONS TO REMAIN ARE DENOTED LIGHTLY.
2. PROTECT STRUCTURE AND OWNER EQUIPMENT FROM DAMAGE. IMMEDIATELY REPLACE OR REPAIR TO ORIGINAL CONDITION. DAMAGE CAUSED BY THE CONTRACTOR WHETHER EQUIPMENT APPEARS TO BE CURRENTLY IN USE OR NOT, UNLESS WRITTEN AUTHORIZATION FROM THE OWNER INDICATES OTHERWISE. PREPARE LISTING OF ALL EXISTING DAMAGED ITEMS AND SUBMIT TO OWNER PRIOR TO BEGINNING WORK.
3. INSTALL CONDUIT CONCEALED IN FINISHED AREAS UNLESS OTHERWISE NOTED.
4. FIRE SEAL ALL FIRE RATED WALL AND FLOOR PENETRATIONS. REFER TO MECHANICAL DRAWINGS FOR FIRE RATED WALLS.
5. PAINT EXPOSED CONDUIT TO MATCH EXISTING FINISHES WITHIN THE SURROUNDING AREA.
6. PROVIDE SEPARATE INSULATED GROUNDING CONDUCTOR IN ALL FEEDER AND HOME RUN BRANCH CIRCUITS.
7. A DETAILED WRITTEN METHOD OF PROCEDURE IS REQUIRED WHEN A CONSTRUCTION ACTIVITY OR AN OUTAGE AFFECTS THE SAFETY OF OCCUPANTS, TELEPHONE/DATA, FIRE ALARM EQUIPMENT OR COMPONENTS OF ANY SYSTEM WHICH SUPPORTS THIS EQUIPMENT OR ESSENTIALLY AFFECTS THE BUILDING MANAGEMENT, OPERATIONS OR SECURITY. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
8. COORDINATE EXACT REQUIREMENTS AND LOCATIONS OF MECHANICAL EQUIPMENT WITH MECHANICAL DRAWINGS AND MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.
9. MAKE ALL FINAL ELECTRICAL CONNECTIONS TO EQUIPMENT REQUIRING ELECTRICAL CONNECTION. THIS SHALL INCLUDE BUT NOT BE LIMITED TO ALL MECHANICAL FIRE SMOKE DAMPERS AND OTHER EQUIPMENT INCLUDED IN THIS PROJECT.
10. DISCONNECT AND REMOVE EXISTING LUMINAIRES AS NECESSARY TO ACCOMMODATE THE MECHANICAL SCOPE OF WORK. REINSTALL IN EXISTING LOCATIONS AND RECONNECT TO EXISTING CIRCUIT UPON COMPLETION OF MECHANICAL WORK. COORDINATE EXACT EXTENT OF REMOVAL WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.
11. PROVIDE EMT CONDUIT, 3/4" MINIMUM, FOR ALL BRANCH CIRCUITS.
12. PROVIDE 4" SQUARE JUNCTION BOXES WITH SOLID COVERS. PROVIDE PANEL AND CIRCUIT DESIGNATION ON EACH JUNCTION BOX.
13. PROVIDE SOLID COPPER CONDUCTORS, #10 AWG AND SMALLER. PROVIDE STRANDED COPPER CONDUCTORS, #8 AWG AND LARGER. PROVIDE GROUND CONDUCTOR FOR ALL CIRCUITS.
14. BRANCH CIRCUIT WIRING SHALL BE COLOR CODED IN ACCORDANCE WITH THE NEC.
15. PROVIDE #9 WIRE FOR SUPPORT OF 3/4" CONDUIT. DO NOT SUPPORT CONDUIT FROM CEILING SUPPORT WIRES OR THE CEILING GRID.

DETAIL NOTES THIS SHEET:

- ◊ HOMERUN TO EXISTING PANEL INDICATED AND CONNECT TO EXISTING 20AIP SPARE CIRCUIT BREAKER (TOTAL NEW LOAD ADDED: CIRCUIT #39=1000 WATTS, CIRCUIT #41=500 WATTS) FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO ROUGH-IN. NOTE CIRCUIT NUMBER USED ON RECORD DRAWINGS AND UPDATED PANEL DIRECTORY ACCORDINGLY.
- ◊ CONNECT NEW LAB CONTROL UNIT AND POWER SUPPLY TO CIRCUIT INDICATED. COORDINATE EXACT JUNCTION BOX MOUNTING LOCATION WITH LAB CONTROL UNIT MFR. PRIOR TO ROUGH-IN.
- ◊ LOCATION OF CONTROL POWER FOR TERMINAL BOXES, COORDINATE EXACT LOCATION WITH TEMPERATURE CONTROLS CONTRACTOR.

DRAWING TITLE

FIRST BASEMENT POWER PLAN
CHEMICAL ENGINEERING

TITLE

UNIVERSITY OF COLORADO, ENGINEERING CENTER
CHEMICAL ENGINEERING HVAC UPGRADES - PHASE 1

REVISIONS:	
SCHEMATIC DESIGN	11-13-07
DESIGN DEVELOPMENT	12-18-07
95% OWNER REVIEW	08-11-08
FOR CONSTRUCTION	02-09-09
ADDENDUM #5	03-17-09

DATE: 02-09-09
DRAWN BY:
CHECKED BY: JAH
JOB NO: 2007-213
FILE NAME: P-PWRB

SHEET NO.

E2.01

