

UNIVERSITY OF SOUTH CAROLINA SOM - BUILDING #1 4TH FLOOR ANIMAL SURGERY LABORATORY

COLUMBIA, SC H27-6100-D

A/E Project #13030.01 MAY 9, 2014 ISSUED FOR CONSTRUCTION

Prepared by:



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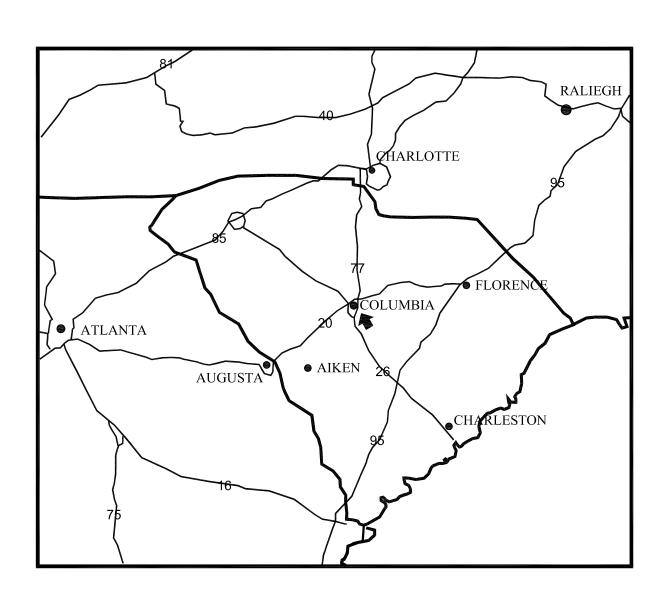
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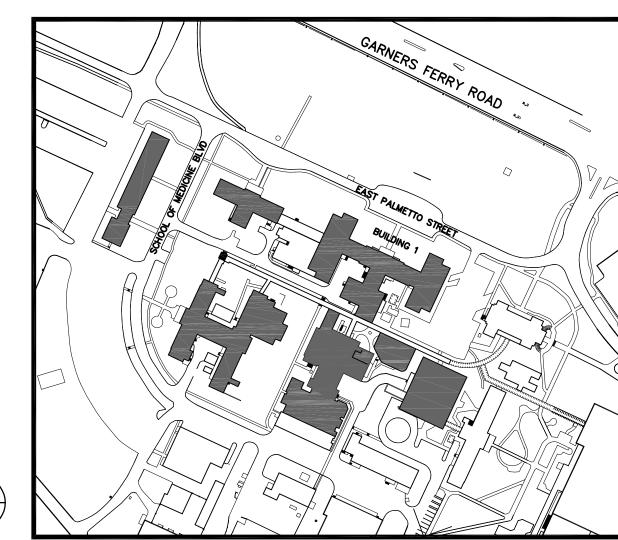
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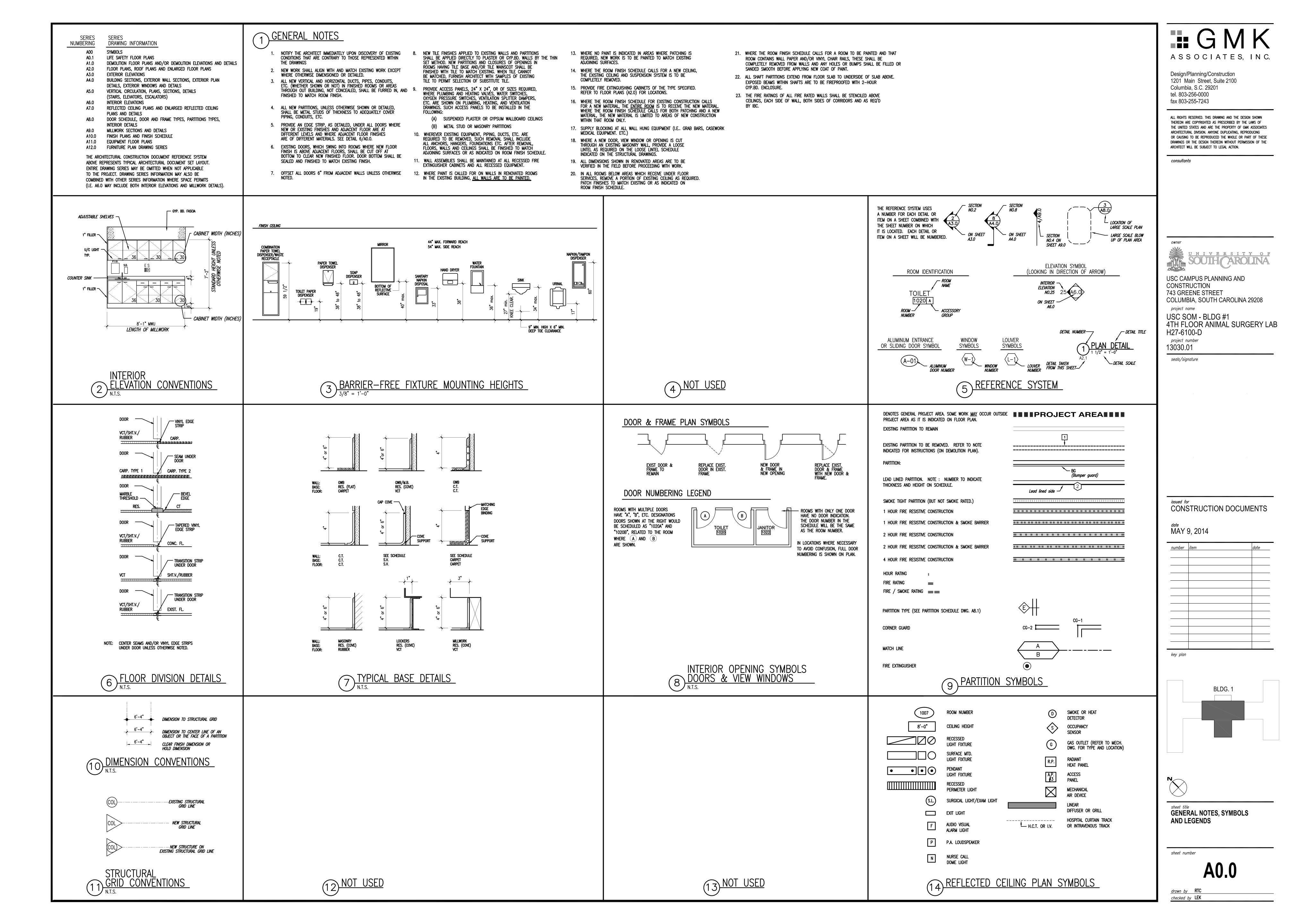
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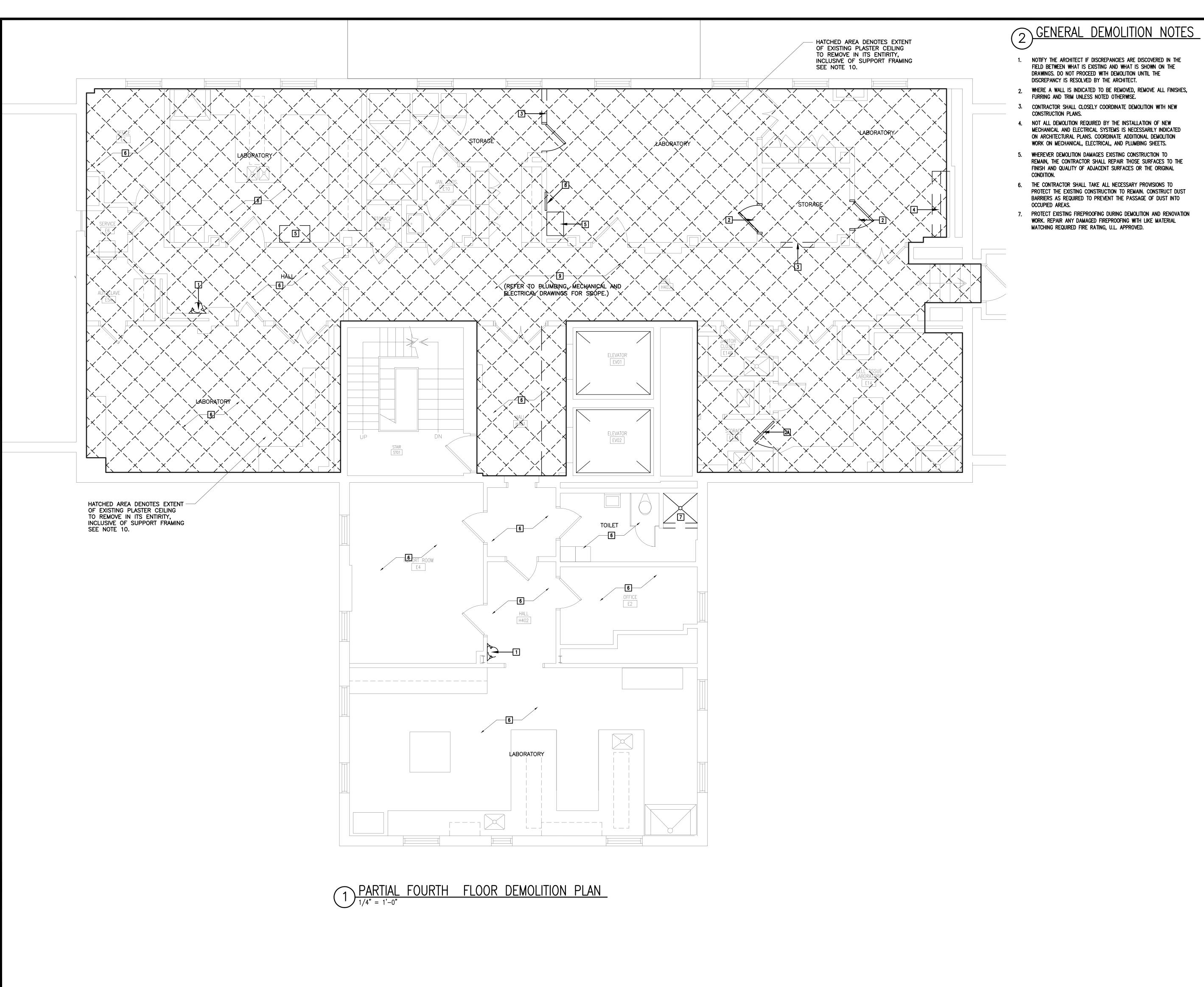
ATTIC FLOOR POWER PLAN

KEY PLAN









(3) KEYED DEMOLITION NOTES

- REMOVE EXISTING EMERGENCY EYE WASH AND SHOWERS COMPLETE. SEAL ALL FLOOR PENETRATIONS WITH CONCRETE FO A 1 HOUR FIRE RATING. SIMILAR TO DETAIL 7/A4.0.
- REMOVE EXISTING DOOR, FRAME AND HARDWARE COMPLETE. SALVAGE FOR REUSE IN THIS PROJECT.
- REMOVE EXISTING DOOR AND HARDWARE. FRAME TO REMAIN, SE ALL HOLES AFTER REMOVAL OF HARDWARE. TURN DOOR AND
- HARDWARE OVER TO OWNER. REMOVE EXISTING WALL COMPLETE, INCLUSIVE OF DOORS AND FRAMES, WHERE APPLICABLE.
- REMOVE EXISTING CASEWORK AND ALL WALL MOUNTED ITEMS COMPLETELY INCLUDING MOUNTING BRACKETS, ALL ASSOCIATED PLUMBING FIXTURES, HARDWARE, AND LAB RACKS. SALVAGE ANI TURN OVER TO OWNER.
- REMOVE EXISTING METAL CABINET(S) INCLUSIVE OF ALL MOUNTII HARDWARE AND WALL ATTACHMENTS. SALVAGE AND TURN OVER
- REMOVE EXISTING SUSPENDED CEILING TILE AND GRID. REFER T MECHANICAL AND ELECTRICAL PLANS FOR EXISTING CEILING SUPPORTED DEVICES.
- REMOVE SHOWER BASE. RETAIN EXISTING FLOR DRAIN PIPE AND MODIFY AS REQUIRED FOR NEW SHOWER INSERT.
- REMOVE EXISTING FILM ILLUMINATOR AND FILL WALL OPENING. SALVAGE AND TURN OVER TO OWNER.
- REMOVE EXISTING CEILING TILE AND GRID ON 3RD FLOOR A REQUIRED TO REMOVE EXISTING PLUMBING AND ELECTRICAL FEE SERVING 4TH PLOOR. SALVAGE TILE AND GRID FOR RE-INSTALLATION. COORDINATE ACTUAL EXTENTS WITH EXISTING
- OWNER HAS TESTED EXISTING PLASTER CEILINGS AND NO HAZARDOUS MATERIAL IS PRESENT. CONTRACTOR TO REPORT AN MATERIAL IN THE CEILING CAVITY THAT APPEARS QUESTIONABLE THE OWNER AND THEY WILL PROVIDE NECESSARY TESTING. CONTRACTOR IS TO TERMINATE REMOVAL UNTIL MATERIAL IS EITHER DETERMINED TO BE CLEAN OR ABATED.

_____ DASHED LINES INDICATE WALLS, CABINETRY,



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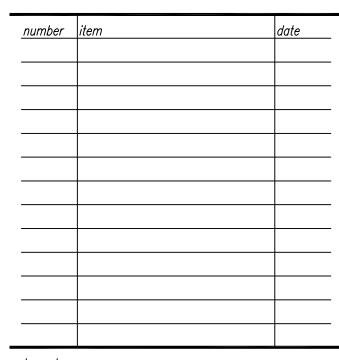
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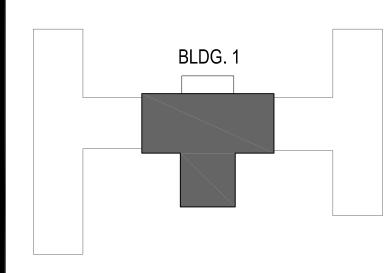
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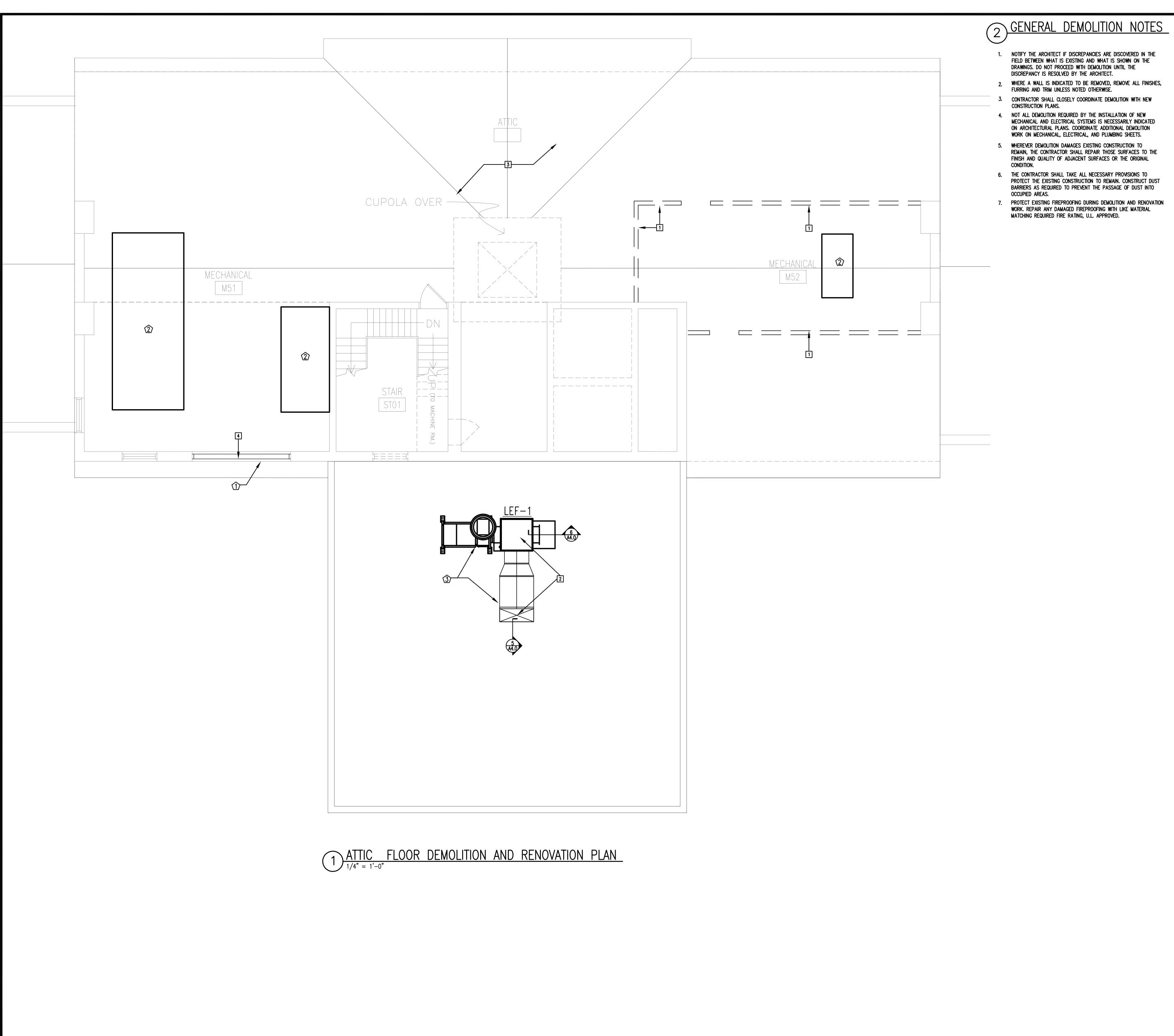






PARTIAL FOURTH FLOOR DEMOLITION PLAN, DEMOLITION NOTES

drawn by RTC checked by



- NOTIFY THE ARCHITECT IF DISCREPANCIES ARE DISCOVERED IN THE FIELD BETWEEN WHAT IS EXISTING AND WHAT IS SHOWN ON THE DRAWNGS. DO NOT PROCEED WITH DEMOLITION UNTIL THE
- WHERE A WALL IS INDICATED TO BE REMOVED, REMOVE ALL FINISHES, FURRING AND TRIM UNLESS NOTED OTHERWISE.
- CONTRACTOR SHALL CLOSELY COORDINATE DEMOLITION WITH NEW
- 4. NOT ALL DEMOLITION REQUIRED BY THE INSTALLATION OF NEW MECHANICAL AND ELECTRICAL SYSTEMS IS NECESSARILY INDICATED ON ARCHITECTURAL PLANS. COORDINATE ADDITIONAL DEMOLITION
- 5. WHEREVER DEMOLITION DAMAGES EXISTING CONSTRUCTION TO REMAIN, THE CONTRACTOR SHALL REPAIR THOSE SURFACES TO THE FINISH AND QUALITY OF ADJACENT SURFACES OR THE ORIGINAL
- 6. THE CONTRACTOR SHALL TAKE ALL NECESSARY PROVISIONS TO PROTECT THE EXISTING CONSTRUCTION TO REMAIN. CONSTRUCT DUST BARRIERS AS REQUIRED TO PREVENT THE PASSAGE OF DUST INTO
- PROTECT EXISTING FIREPROOFING DURING DEMOLITION AND RENOVATION WORK. REPAIR ANY DAMAGED FIREPROOFING WITH LIKE MATERIAL MATCHING REQUIRED FIRE RATING, U.L. APPROVED.

- (3) KEYED DEMOLITION NOTES
 - REMOVE EXISTING WALL COMPLETE, INCLUSIVE OF DOORS AND FRAMES, WHERE APPLICABLE.
 - REMOVE ROOFING, INSULATION AND CUT EXISTING ROOF STRUCTURE FOR NEW EXHAUST FAN AND CURB. REFER TO MECHANICAL DRAWINGS.
 - REMOVE EXISTING MECHANICAL EQUIPMENT, DUCTWORK, ETC. REFER TO MECHANICAL DRAWINGS.
 - REMOVE EXISTING LOUVER, LINTEL AND MASONRY. SALVAGE EXISTING BRICK FOR REUSE TO PATCH NEW OPENING.

(4) KEYED RENOVATION NOTES

NEW ALUMINUM LOUVER W/ BIRDSCREEN, WIDTH TO MATCH EXISTING OPENING AND HEIGHT AS REQUIRED FOR 46 S.F. GROSS LOUVER AREA. INSTALL NEW LINTEL, FLASHING AND

PATCH MASONRY OPENING W/ SALVAGED BRICK.

- NEW 4" HIGH CONCRETE HOUSEKEEPING PAD. COORDINATE SIZE WITH SELECTED MECHANICAL EQUIPMENT.
- NEW EXHAUST FAN AND DUCTWORK. SEE MECHANICAL.

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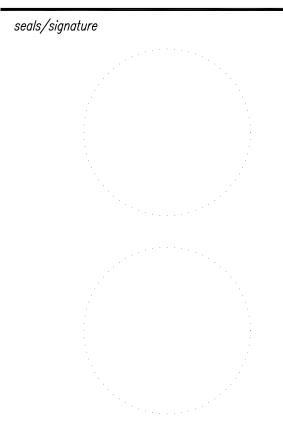
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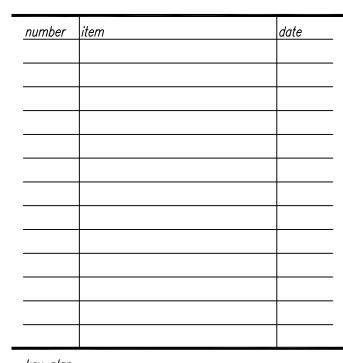
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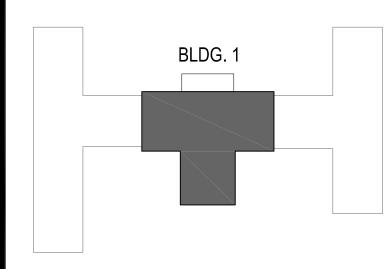
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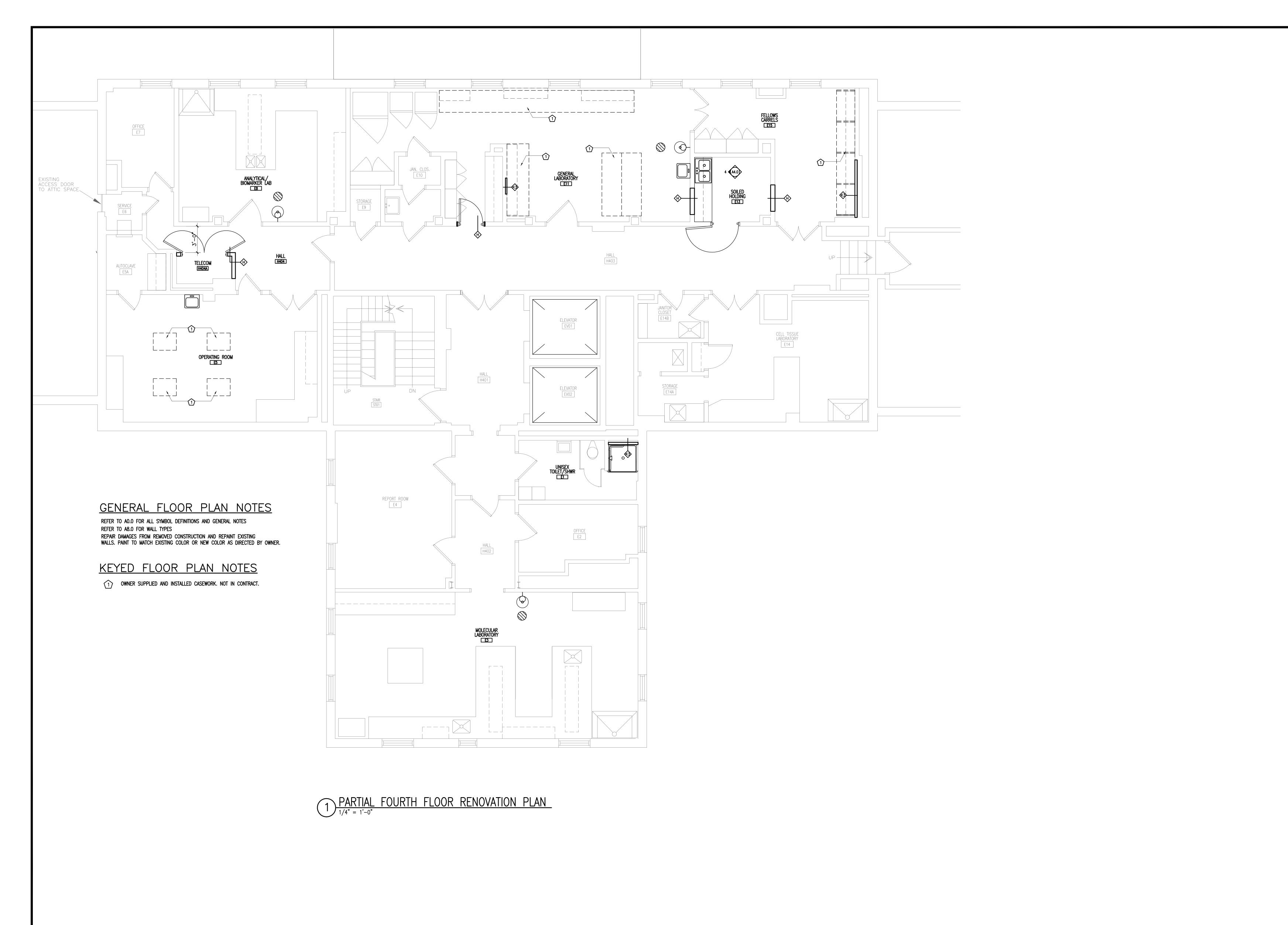




PARTIAL ATTIC FLOOR DEMOLITION AND RENOVATION PLAN
DEMOLITON AND RENOVATION NOTES

sheet number

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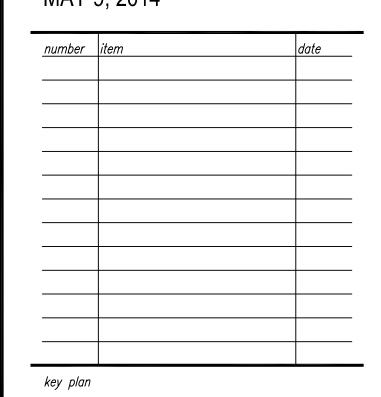
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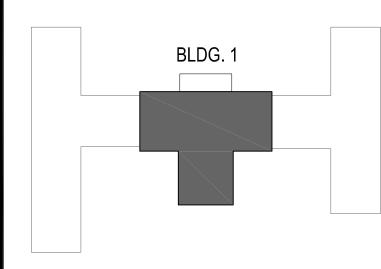
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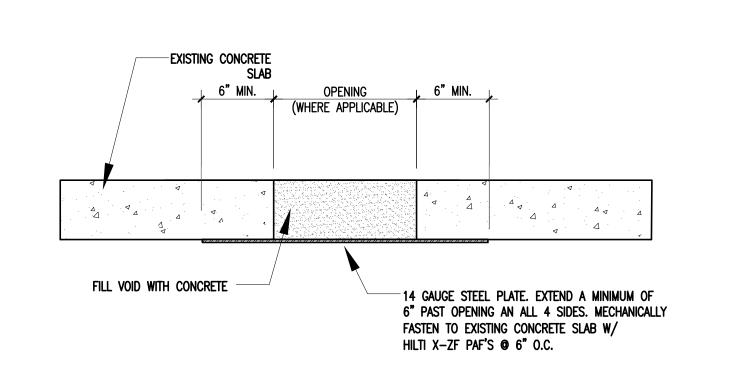


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PARTIAL FOURTH FLOOR
RENOVATION PLAN

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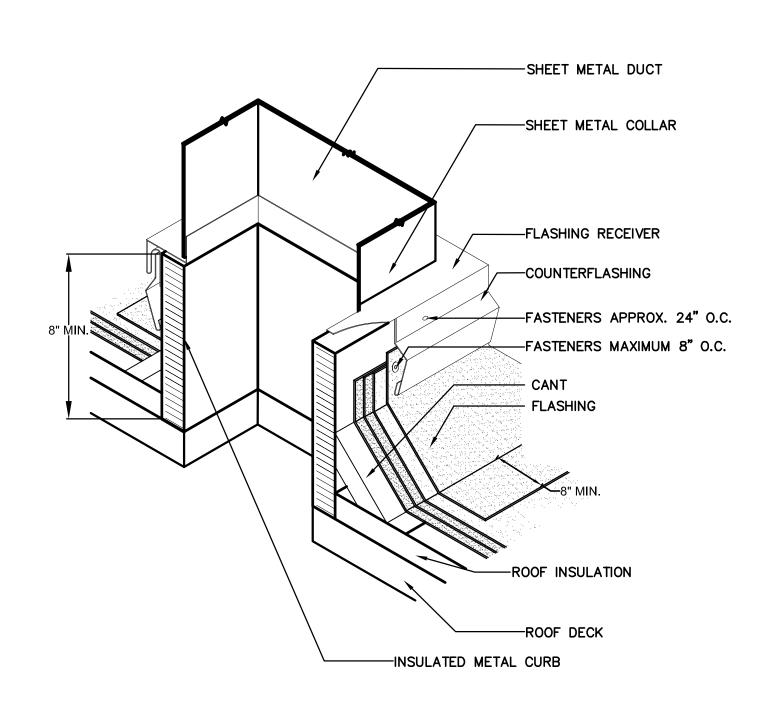
A2.4

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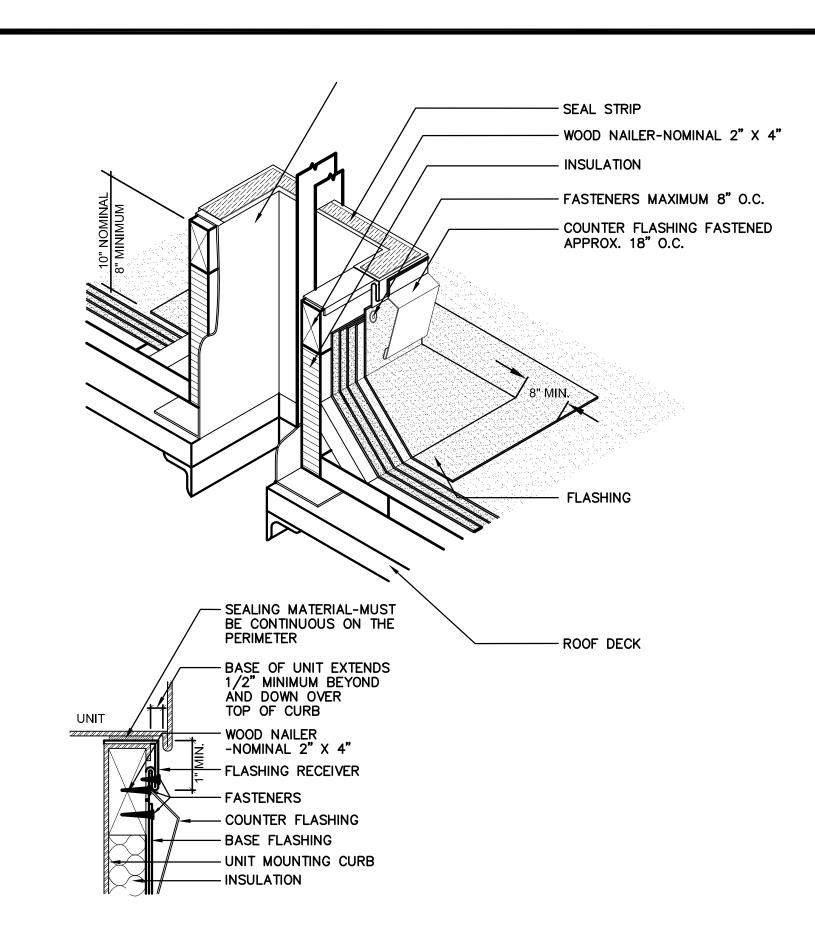
1 CONCRETE SLAB PATCH DETAIL

NOT TO SCALE



2 SQUARE DUCT PENETRATION DETAIL

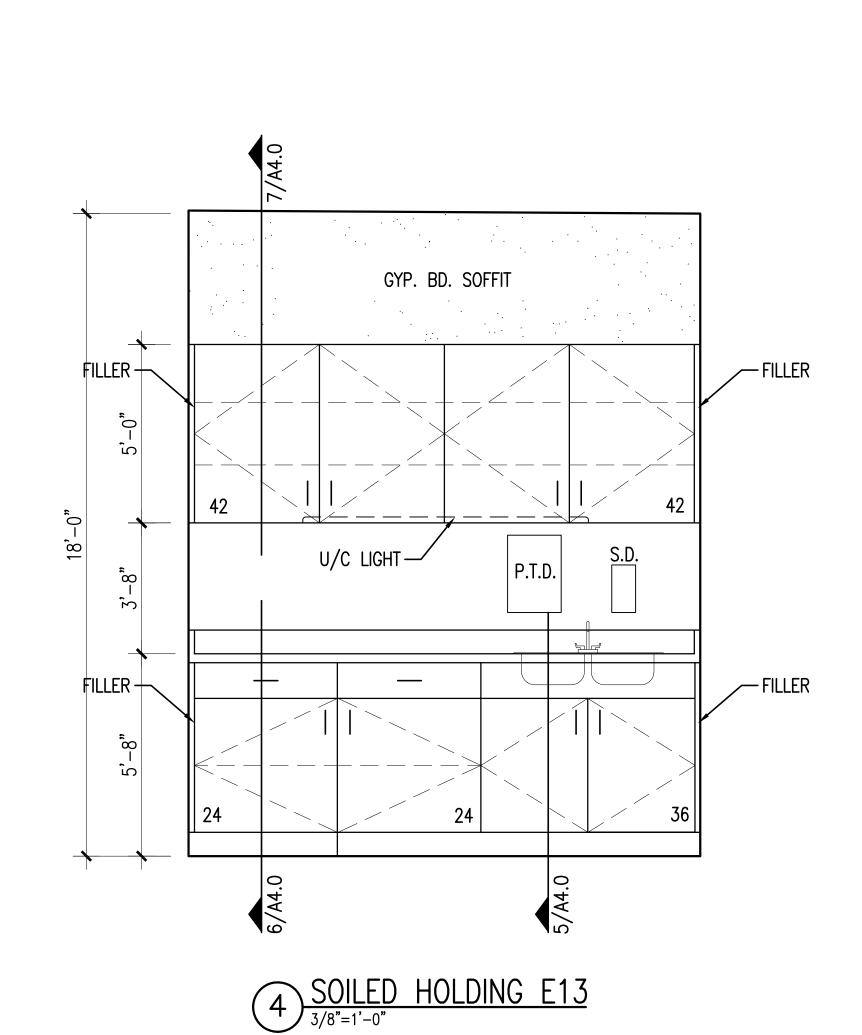
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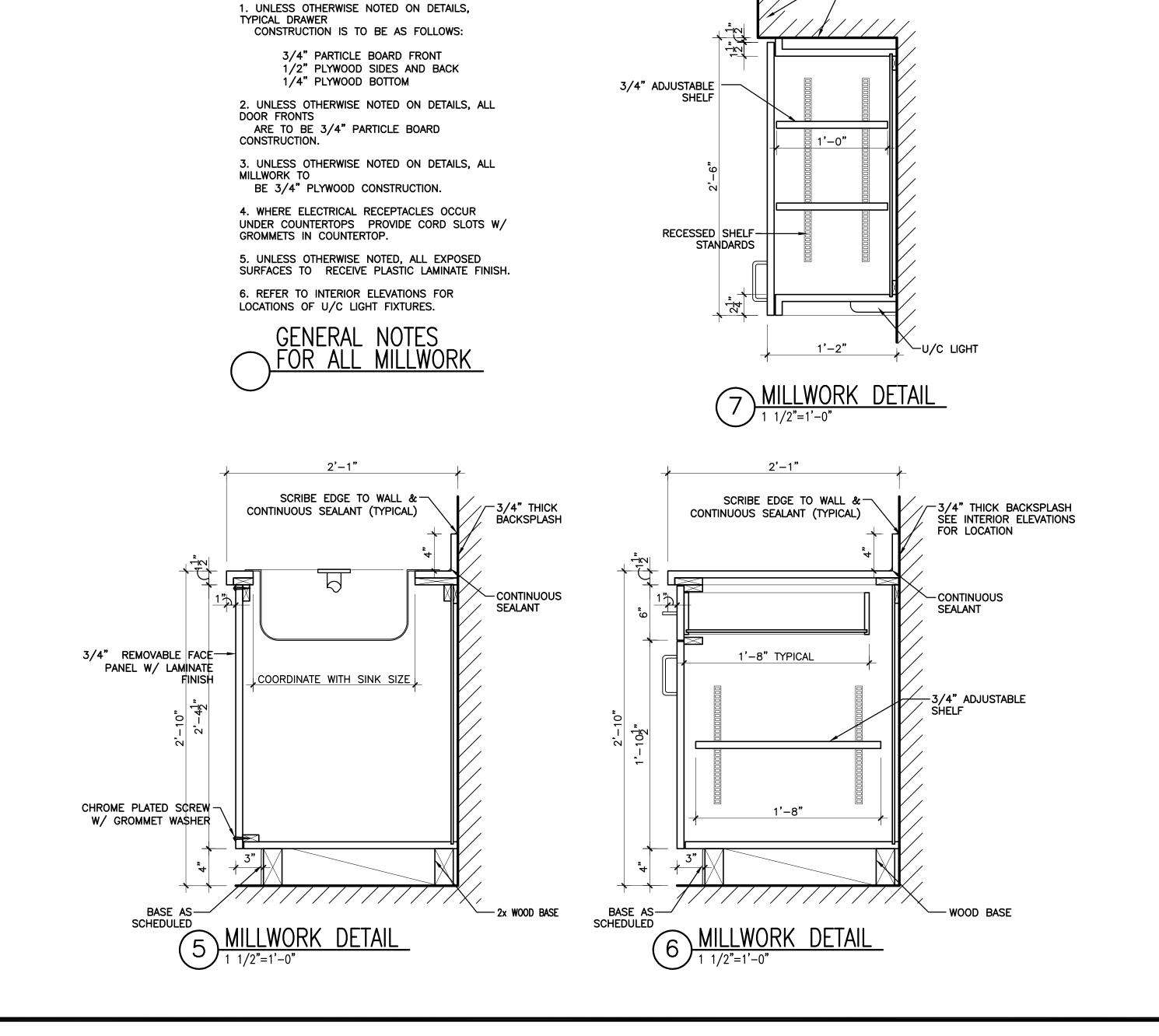


ROOF EQUIPMENT CURB DETAIL

NOT TO SCALE

—GYPSUM BOARD FASCIA AND SOFFIT





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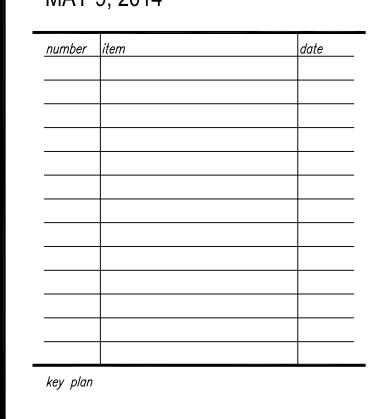
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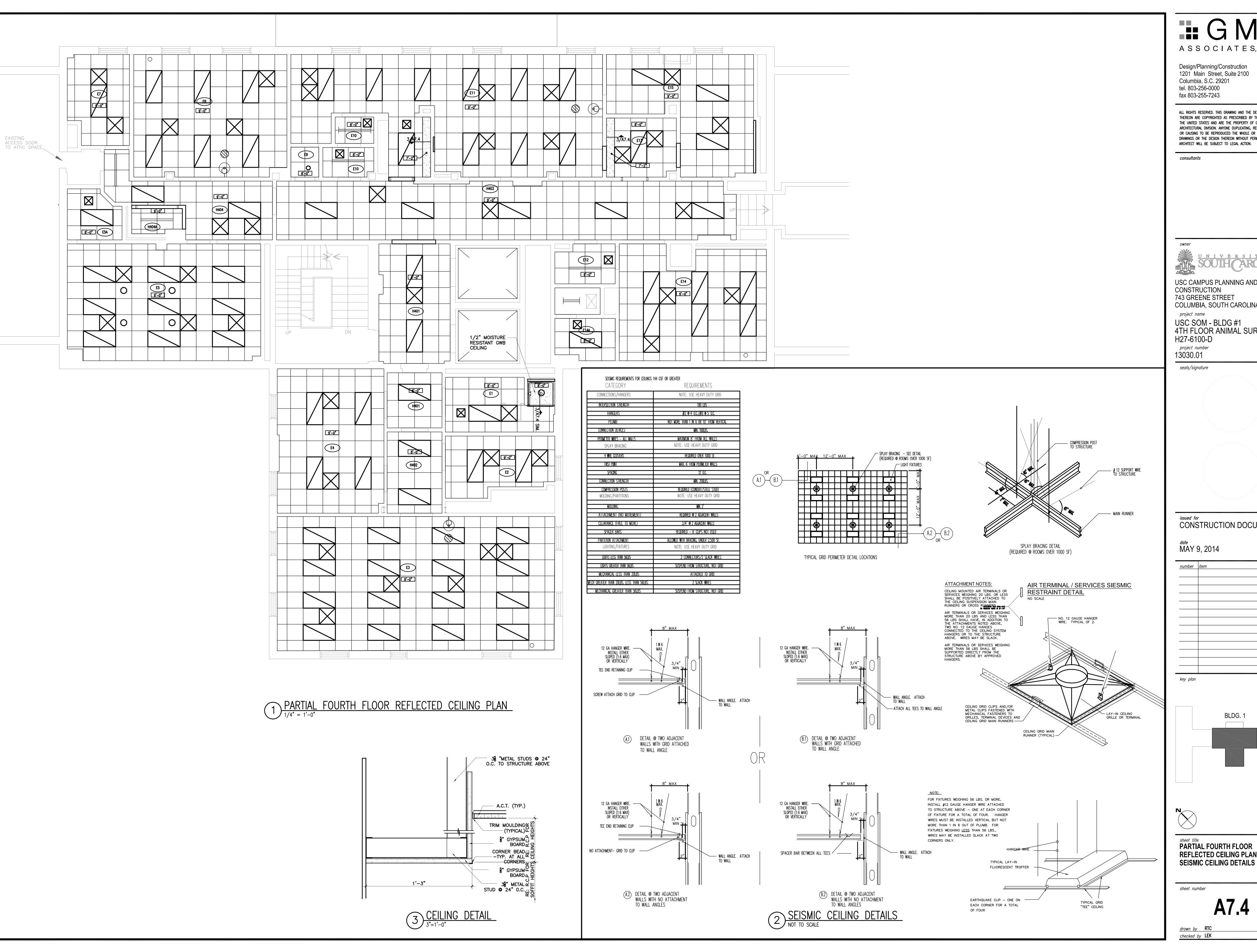
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CONCRETE SLAB PATCH DETAIL **ROOF PENETRATION DETAIL** INTERIOR ELEVATION AND **MILLWORK DETAILS**

sheet number

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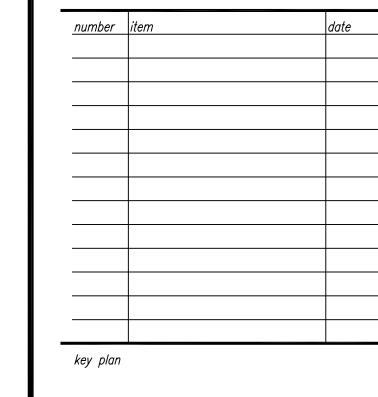
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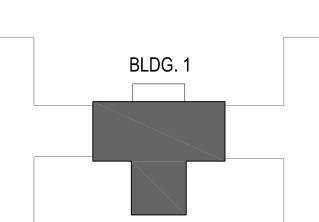


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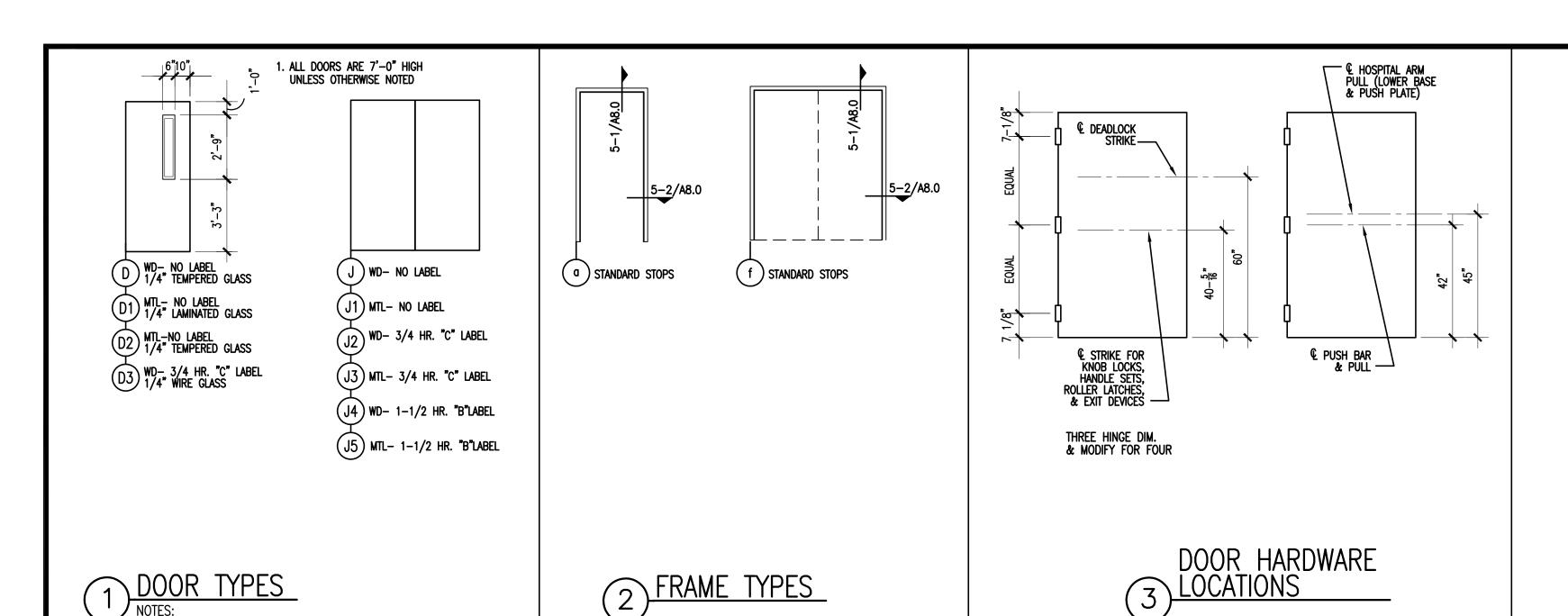
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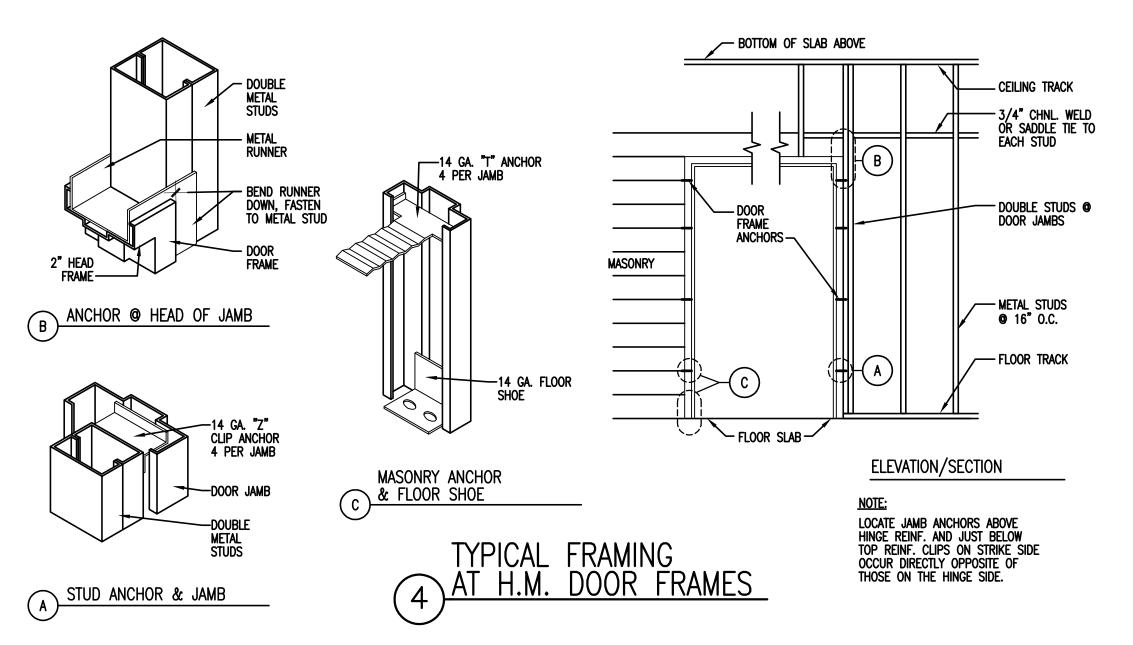
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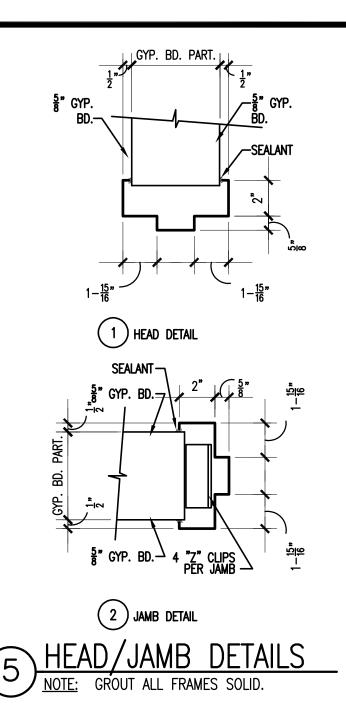




PARTIAL FOURTH FLOOR REFLECTED CEILING PLAN







ROOM	ROOM NAME	SURFACE	FLC	OOR	BASE	WALLS		CEIL	ING	MILL	WORK MATERIA	ALS	
NUMBER	NOOM NAME	SONFACE	MATERIAL	ACCENT	BASE	MATERIAL/FINISH	ACCENT	MATERIAL	ACCENT	SURFA	SURFB	SURFC	REMARKS
H401	CORRIDOR		TERR (EX)	_	RB	PNT	_	ACT	-	_	_	_	_
H402	CORRIDOR		VCT (EX)	_	RB	PNT	_	ACT	-	_	_	-	-
H403	CORRIDOR		TERR (EX)	_	RB	PNT	_	ACT	_	-	-	-	-
H404	CORRIDOR		TERR (EX)	_	RB	PNT	_	ACT	_	-	_	_	-
H404A	TELECOM		TERR (EX)	_	RB	PNT	_	ACT	_	_	_	_	_
ST01	STAIR		EX	_	EX	EX	_	EX	_	-	_	_	-
E1	UNISEX TOIL./SHR.		SV	_	INT	PNT*	_	ACT/GWB*	_	_	_	_	*EPOXY PAINT
E2	OFFICE		CPT (EX)	_	RB	PNT	_	ACT	_	_	_	_	-
E3	MOLECULAR LAB.		VCT (EX.)	_	RB	PNT	_	PNT*	_	_	_	_	*EPOXY PAINT
E4	REPORT ROOM		CPT (EX.)	_	RB	PNT	_	ACT	_	_	_	_	-
E5	OPERATING ROOM		TERR (EX)	_	RB	PNT*	_	ACT	_	_	_	_	*EPOXY PAINT
E5A	AUTOCLAVE		TERR (EX)	_	RB	PNT	_	ACT	_	_	_	_	-
E7	OFFICE		CPT (EX.)	_	RB	PNT	_	ACT	_	_	_	_	-
E8	ANALYTICAL LAB.		TERR (EX)	_	RB	PNT	_	ACT	_	_	_	_	*EPOXY PAINT
E9	EXSITING STORAGE		TERR (EX)	_	RB	PNT	_	ACT	_	_	_	_	-
E10	JANITOR CLOSET		TERR (EX)	_	RB	PNT	_	ACT	_	_	_	_	-
E11	GENERAL LAB.		TERR (EX)	_	RB	PNT**	_	ACT	_	_	_	_	*EPOXY PAINT
E13	SOILED HOLDING		TERR (EX)	_	RB	PNT	_	ACT	_	_	_	_	_
E14	CELL TISSUE LAB.		TERR (EX)	_	RB	PNT*	SS	ACT	_	_	_	_	*EPOXY PAINT
E14A	STORAGE		TERR (EX)	-	RB	PNT	-	ACT	-	-	_	-	-

DOOR SCHEDULE									
ROOM NAME	DOOR NUMBER	DOOR ELEV	DOOR SIZE		HDWR SET				
					NEW DOOR & FRAME, NEW HARDWARE, TOILET FUNCTION				
GENERAL LABORATORY	E11	D	3'-0" X 7'-0"	а	NEW DOOR & FRAME, NEW HARDWARE, CLASSROOM FUNCTION				
HALL	H403	D	3'-0" X 7'-0"	а	NEW DOOR, EX. FRAME, NEW HARDWARE, STOREROOM FUNCTION				
HALL	H404	J	5'-0" X 7'-0"	f	NEW DOOR & FRAME, NEW HARDWARE, STOREROOM FUNCTION 1				
				1					

DOOR HARDWARE:

1. ALL HARDWARE TO BE BHMA OPERATIONAL GRADE 1 — HEAVY DUTY COMMERCIAL.

2. ALL HARDWARE SHALL MEET ANSI 117.1 AND ADA AS APPLICABLE.

3. FINISH SHALL BE SATIN NICKEL.

4. KEYING SHALL BE COORDINATED WITH OWNER AND KEYS PROVIDED.

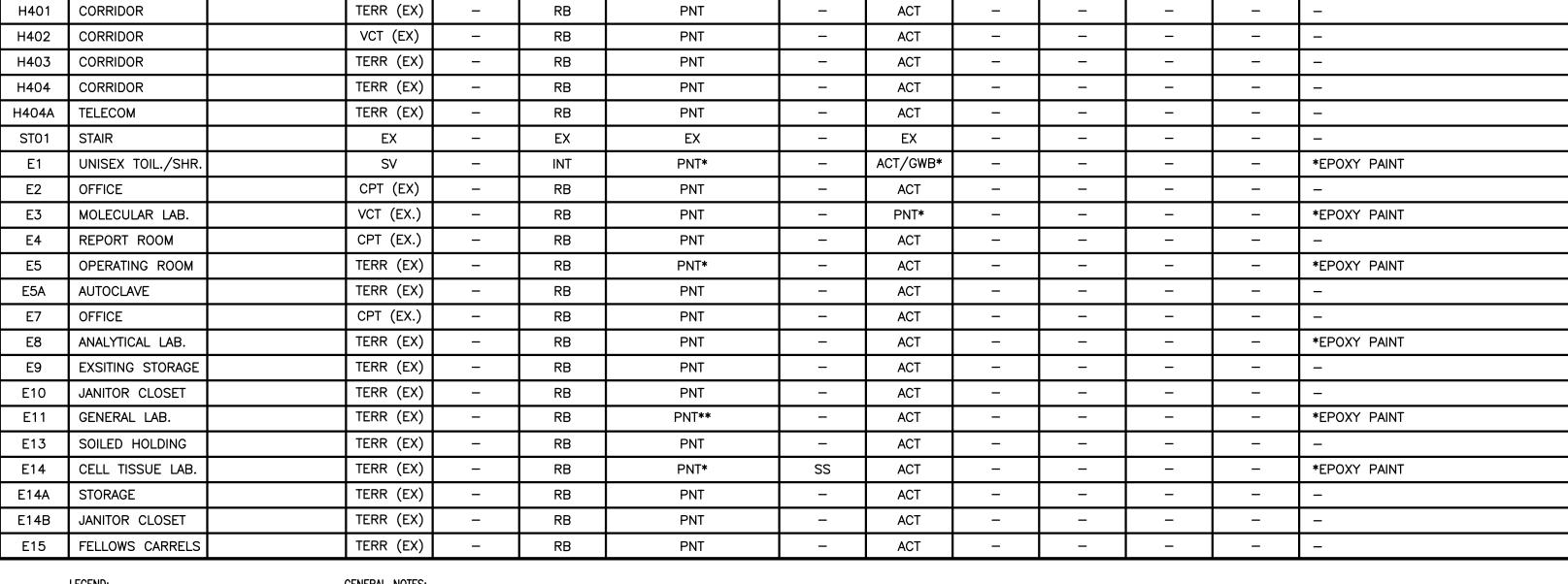
5. EXACT TRIM, FINISH AND STYLE SHALL MATCH EXISTING 4TH FLOOR HARDWARE.

HARDWARE SUPPLIER SHALL COORDINATE WITH DOOR AND FRAME SUPPLIER ON PREPARATION FOR HARDWARE. MINIMUM 7 YEAR WARRANTY 8. SUBMIT SCHEDULE, SPECS, PRODUCT DATA TO THE ARCHITECT FOR APPROVAL AS PER SECTION 01300.

CLASSROOM FUNCTION A. 3 MORTISE HINGES EACH DOOR LEAF FOR DOORS UP TO 3'-6" WIDE. B. 1 MORTISE LOCKSET (LEVER), CLASSROOM FUNCTION.C. DOOR SILENCERS IN FRAME. D. WALL BUMPER. E. CLOSER.

STOREROOM FUNCTION 1 A. 3 MORTISE HINGES EACH DOOR LEAF FOR DOORS UP TO 3'-6" WIDE. B. 1 MORTISE LOCKSET (LEVER), STOREROOM FUNCTION.
C. DOOR SILENCERS IN FRAME.
D. OVERHEAD STOP OR WALL BUMPER AS REQUIRED.

STOREROOM FUNCTION 2 A. 3 MORTISE HINGES EACH DOOR LEAF FOR DOORS UP TO 3'-6" WIDE. B. 1 MORTISE LOCKSET (LEVER), STOREROOM FUNCTION, ACTIVE LEAF. C. 1 SURFACE MOUNTED FLUSH BOLTS, INACTIVE LEAF. D. WALL BUMPERS.



<u>Legend:</u> CPT — Carpet PNT — Paint

RB - RUBBER BASE ACT — ACOUSTICAL TILE CEILING

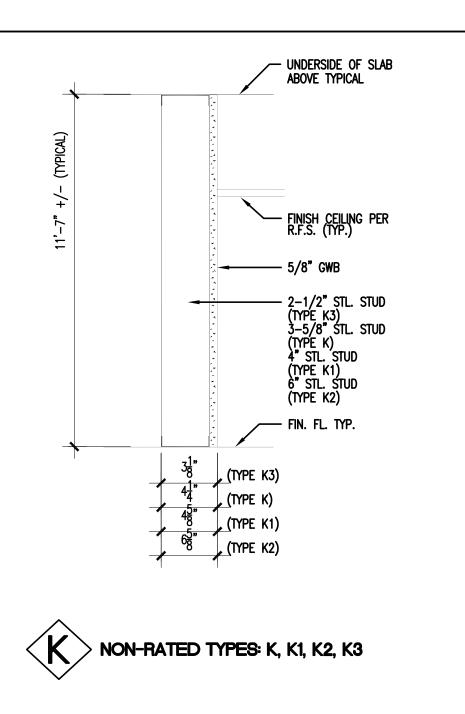
TERR – TERRAZZO (EXISTING) VCT - VINYL COMPOSITION TILE SV - SHEET VINYL INT - INTEGRAL COVED BASE

SS - SOLID SURFACING

<u>GENERAL NOTES:</u>
1. WHERE PAINT IS CALLED FOR, PAINT ALL WALLS OF THE ROOM WHETHER NEW OR EXISTING, EXCEPT FOR EXISTING OR ADDED MARBLE WAINSCOT. 2. RUBBER BASE TO BE APPLIED TO ALL WALLS WHETHER NEW OR EXISTING AND TO BASE OF ALL MILLWORK

INDICATED, EXCEPT WHERE OTHER BASE MATERIAL IS SCHEDULED.

— UNDERSIDE OF SLAB ABOVE TYPICAL - 5/8" GWB (TYPE H, H1, H2, H3) 5/8" FIRE RESISTIVE GWB (TYPE H4, H5, H6) (TYPE H3) 3-5/8" STL. STUD (TYPE H, H4) 4" STL. STUD (TYPE H1, H5) 6" STL. STUD (TYPE H2, H6) NON-RATED TYPES: H, H1, H2, H3



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4TH FLOOR ANIMAL SURGERY LAB

CONSTRUCTION

project name

H27-6100-D project number 13030.01

seals/signature

743 GREENE STREET

USC SOM - BLDG #1

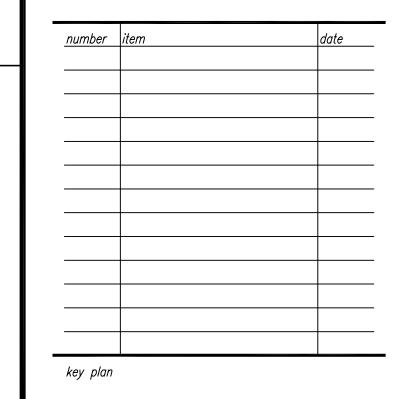
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MAY 9, 2014



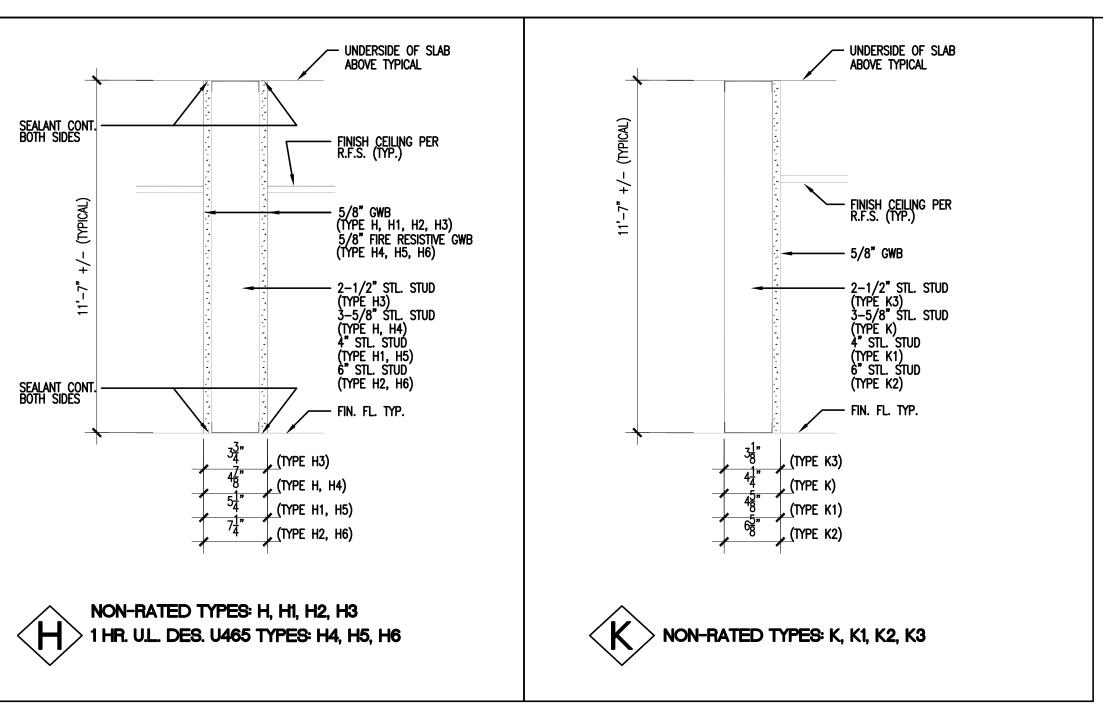
BLDG. 1

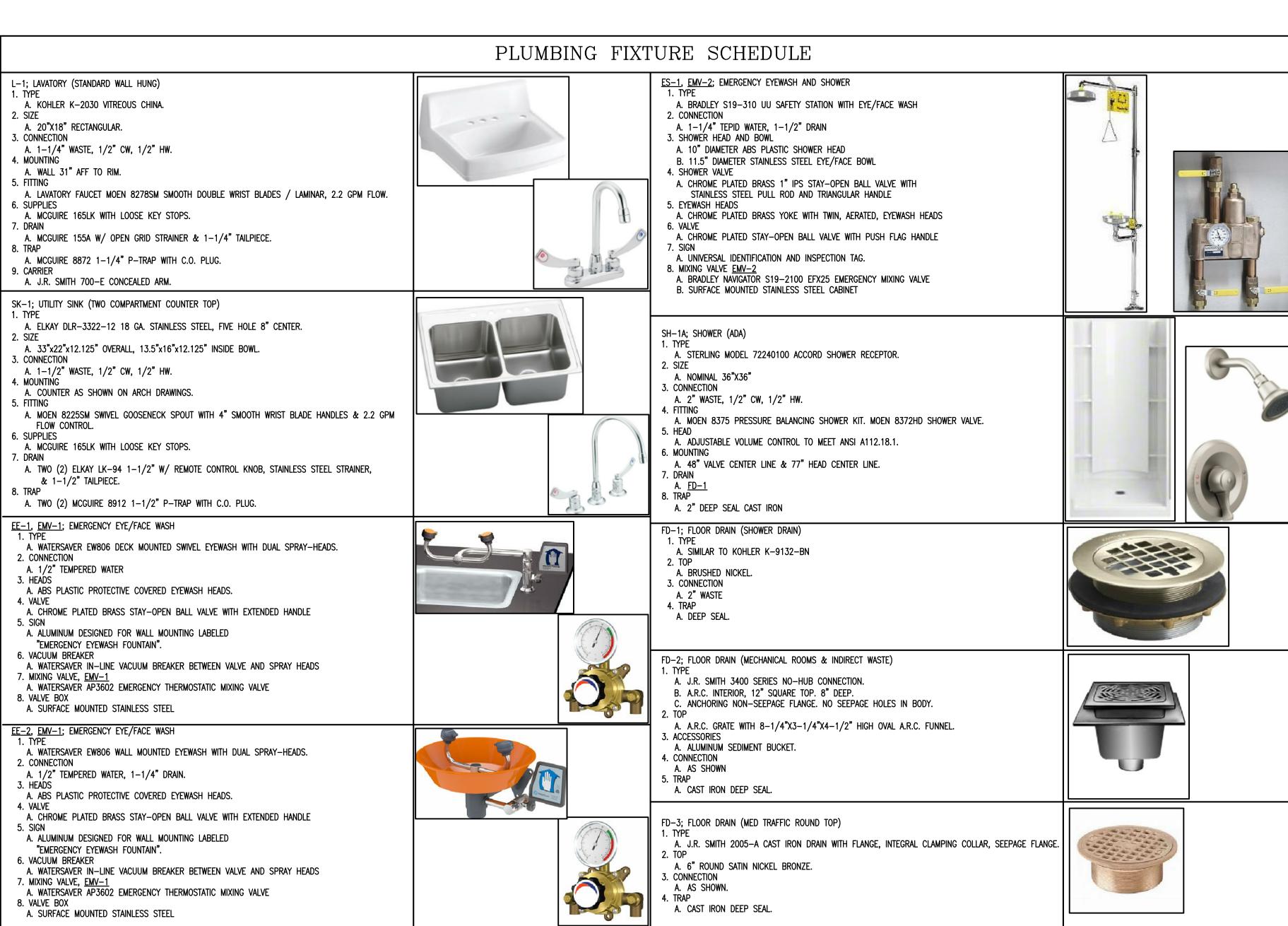


DOOR SCHEDULE, DOOR & FRAME TYPES AND DETAILS, WALL TYPES ROOM FINISH SCHEDULE

sheet number

drawn by RTC checked by LEK





	PLUMBING LEGEND									
	SYMBOL	DESCRIPTION			END CAP					
		COLD WATER LINE — ABOVE GROUND (CW)			STRAINER					
		HOT WATER LINE — ABOVE GROUND (HW)		FCO 🛞	FLOOR CLEANOUT					
		HOT WATER RECIRCULATING LINE (HWR)		FD 🔘	FLOOR DRAIN					
	——— AW ———	ACID WASTE LINE (AW)			BALL VALVE					
-	—— МА———	MEDICAL AIR LINE (MA)			GAS COCK					
	VAC	VACUUM LINE (VAC)			PRV					
	——— GAS ———	NATURAL GAS LINE (GAS)		•	POINT OF CONNECTION — NEW TO EXISTING					
9	ox	OXYGEN LINE (OX)			AREA TO BE DEMOLISHED					
		PIPE DOWN OR DROP (DN OR DROP)		H	DUAL CHECK VALVE					
	<u> </u>	PIPE UP								
		PIPE BREAK OR CONTINUATION								

URE	SIZE	SCHE	DULE
WASTE	VENT	CW	HW
4"	2"	1"	
2"	1 1/2"	1/2"	1/2"
2"	1 1/2"	1/2"	1/2"
2"	1 1/2"	1/2"	1/2"
	+		+
	WASTE 4" 2" 2"	WASTE VENT 4" 2" 2" 1 1/2" 2" 1 1/2"	4" 2" 1" 2" 1 1/2" 1/2" 2" 1 1/2" 1/2"

CONNECTIONS UNLESS OTHERWISE NOTED

ABV	Above	NC	Normally Closed
AD	Access Door	NIC	Not in Contract
AFF	Above Finished Floor	NO NO	Normally Open
BFP	Backflow Preventer	NPT	National Pipe Thread
CI	Cast Iron	NTS	Not To Scale
COL	Column Line	OFST	Over Flow Storm Drain
CONN	Connection	0X	Oxygen
CW	Cold Water	PC	Plumbing Contractor
DI	Dionized Water	P-#	Pump - No.
DN	Down	PRV	Pressure Reducing Valve
EC	Electrical Contractor	PSI	Pounds Per Square Inch
ELEV	Elevation	RD	Roof Drain
ET	Expansion Tank	SA	Shock Absorber
EWC-#	Electric Water Cooler	SH-#	Shower
FD	Floor Drain	SK-#	Sink
FL	Floor	SS "	Stainless Steel
FT	Feet	ST	Storm Drain
GC	General Contractor	STD	Standard
GPH	Gallons Per Hour	TEMP	Temperature
GPM	Gallons Per Minute	TOS	Top of Steel
HW	Hot Water	TYP	Typical
HWR	Hot Water Return	U-#	Urinal
IE , ,	Invert Elevation	VAĆ	Vacuum
L-#	Lavatory	VB	Vacuum Breaker
MA	Medical Air	٧	Sanitary Vent
MAX	Maximum	VTR	Vent Thru Roof
MC	Mechanical Contractor	W	Sanitary Waste
MIN MPT	Minimum Male Pine Thread	WB-#	Wall Box
	Male Pipe Thread	WC−#̈́	Water Closet
MSB-#	Mop Sink Basin	wts "	Water Tight Sleeve
N/A	Not Applicable		•

PLUMBING GENERAL NOTES

- VERIFY EXACT LOCATION OF ALL PLUMBING FIXTURES IN OR ATTACHED TO CASEWORK WITH THE ARCHITECT AND THE MILLWORK SHOP DRAWINGS. COORDINATE PRIOR TO INSTALLATION.
- CONFIRM OR VERIFY EXACT LOCATION AND ACTUAL INVERT OF ACID WASTE LINES PRIOR TO INSTALLATION.
- 3. DUE TO THE LARGE QUANTITY OF PIPING, DUCTWORK, CONDUIT, ETC. ABOVE THE CEILING COORDINATION WITH OTHER DISCIPLINES IS MANDATORY.
- LOCATE SHUT-OFF VALVE ABOVE CEILING AND IN LOCATIONS ACCESSIBLE FOR SERVICE. LOCATION SHALL COMPLY WITH THE REQUIREMENTS OF
- ALL CODES REFERENCED HEREIN.
- ALL SANITARY/ACID DRAINAGE PIPING 3" AND LARGER SHALL SLOPE 1/8" PER FOOT UNLESS NOTED OTHERWISE. ALL SANITARY/ACID DRAINAGE PIPING 2" AND SMALLER SHALL SLOPE 1/4" PER FOOT UNLESS NOTED OTHERWISE.
- REFERENCE PLUMBING FIXTURE CONNECTION SCHEDULE ON DRAWING PO.0 FOR LINE SIZES NOT SHOWN TO FIXTURES/EQUIPMENT.
- . ALL FLOOR DRAINS SHALL BE INSTALLED PLUMB AND LEVEL WITH FINISHED FLOOR ELEVATION FOR SLAB INSTALLATION.
- 8. CONTRACTOR SHALL PROVIDE HANGERS AND SUPPORTS FOR SEISMIC RESTRAINT PER THE 2012 SOUTH CAROLINA PLUMBING CODE. (IPC 2012). ALL DRAINAGE PIPING AND PRESSURE SYSTEM PIPING SHALL BE RUN AS HIGH AS POSSIBLE TO BOTTOM OF STRUCTURE, UNLESS NOTED
- OTHERWISE. COORDINATE PIPE ROUTING WITH ALL OTHER TRADES. 10. THE FOLLOWING PLUMBING SYSTEMS SHALL BE INSULATED: COLD WATER, HOT WATER, HOT WATER RECIRCULATION, P-TRAPS AND HORIZONTAL
- PIPING RECEIVING CONDENSATE ABOVE CEILINGS, HORIZONTAL ROOF DRAIN LEADERS (REFERENCE DIVISION 15 OF THE SPECIFICATIONS). 11. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THAT ITEMS TO BE FURNISHED FIT THE SPACE AVAILABLE.
- 12. ALL WALL HUNG FIXTURES SHALL BE SEALED BETWEEN WALL AND FIXTURES WITH WHITE SILICONE CAULKING.
- 13. ALL COUNTER MOUNTED FIXTURE RIMS SHALL BE SEALED WITH SILICONE CAULKING. 14. LOCATE FLOOR CLEANOUTS PAST LIMITS OF THE CASEWORK.
- 15. CONTRACTOR SHALL MAKE PROVISIONS FOR EXPANSION LOOPS WHERE NECESSARY WHETHER OR NOT SHOWN ON DRAWINGS.
- 16. OFFSET PLUMBING VENTS, WATER PIPING AS NECESSARY TO AVOID CONFLICTS WITH DUCTWORK. SEE HVAC PLANS.
- 17. IT IS THE INTENT AND MEANING OF THE DRAWINGS TO PROVIDE COMPLETE AND OPERABLE PLUMBING AND DRAINAGE SYSTEMS. 18. CONTRACTOR SHALL BE BOUND BY THE REQUIREMENTS OF THE UNDERGROUND UTILITIES DAMAGE PREVENTION ACT, STATUTE 58-35-10.
- 19. ALL PLUMBING LINE SIZE REDUCTIONS SHALL BE MADE WITH REDUCERS AND/OR REDUCING FITTINGS.

TESTER IN ACCORDANCE WITH SOUTH CAROLINA PRIMARY DRINKING WATER REGULATIONS.

- 20. PLUMBING CONTRACTOR SHALL TEST EACH REDUCED PRESSURE BACKFLOW PREVENTER AND DOUBLE CHECK VALVE INSTALLED USING A CERTIFIED
- 1. ALL GAS PIPING IN PARTITION WALLS SHALL BE ANNEALED COPPER WITH BRAZED JOINTS. A STEEL STRIKER BARRIER NOT LESS THAN 0.0508 INCH THICK SHALL BE INSTALLED BETWEEN THE PIPING AND THE FINISHED WALL EXTENDING AT LEAST 4 INCHES BEYOND CONCEALED PENETRATIONS OF PLATES, FIRE STOPS, WALL STUDS, ETC... GAS PIPING SHALL NOT BE INSTALLED IN CMU OR SOLID WALLS.
- 22. PLUMBING CONTRACTOR TO MAKE FINAL CONNECTIONS ON ALL LAB FIXTURES.
- 23. PROVIDE WATTS #7C BACKFLOW PREVENTER AND DOWN STREAM OF DUAL OUTLET SHUT OFF VALVE FOR DISHWASHER.
- 24. THESE DRAWINGS ARE SCHEMATIC IN NATURE AND DO NOT SHOW EXACT LOCATIONS OF FIXTURES AND EQUIPMENT. ALL OFFSETS AND FITTINGS FOR COMPLETE INSTALLATION MAY NOT BE DEFINED ON THE DRAWINGS. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING EXACT DIMENSIONS AT THE BUILDING AND ANY NECESSARY CHANGES MADE IN ACCORDANCE WITH STRUCTURAL CONDITIONS, EQUIPMENT TO BE INSTALLED AND COORDINATION WITH OTHER SYSTEMS. IF CONFLICTS CANNOT BE RESOLVED THEY SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE
- CONTRACTOR SHALL COMPLY WITH THE FOLLOWING CODES AND STANDARDS INSOFAR AS THEY APPLY: NFPA 54, 2012 INTERNATIONAL BUILDING, GAS AND PLUMBING CODES.
- 6. CONTRACTOR SHALL SECURE ALL PERMITS, INSPECTIONS, LICENSES AND TESTS REQUIRED FOR THIS WORK AND PAY ALL FEES IN CONNECTION
- ALL MATERIALS SHALL BEAR THE MANUFACTURER'S NAME, TRADE NAME AND BE U.L. LABELED IF REQUIRED. UNLESS SPECIFICALLY INDICATED OTHERWISE, ALL EQUIPMENT AND MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE MANUFACTURER. ALL EQUIPMENT OF A SIMILAR TYPE SHALL BE OF THE SAME MANUFACTURER.
- CONTRACTOR SHALL LOCATE AND SIZE ALL OPENINGS REQUIRED FOR PLUMBING EQUIPMENT AND PIPING; AND PROVIDE THIS INFORMATION TO THE GENERAL CONTRACTOR IN TIME NOT TO DELAY BUILDING CONSTRUCTION.
- 29. CONTRACTOR SHALL PROVIDE AND LOCATE SLEEVES AND INSERTS REQUIRED BEFORE THE FLOOR AND WALLS ARE BUILT OR SHALL BE RESPONSIBLE FOR THE COST OF CUTTING AND PATCHING REQUIRED FOR PIPES WHERE SLEEVES AND INSERTS WERE NOT INSTALLED OR WHERE THEY WERE INCORRECTLY LOCATED.
- 30. CONTRACTOR SHALL NOTE THAT DEMOLITION AND CORE DRILLING SHALL COORDINATED WITH OWNER AFTER NORMAL BUSINESS HOURS.
- THE ENGINEER SHALL NOT BE RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES OF CONSTRUCTION SELECTED BY THE CONTRACTOR OR OF THE SAFETY PRECAUTIONS AND PROGRAMS INCIDENTAL TO THE WORK OF THE CONTRACTOR. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR THE FAILURE OF THE CONTRACTOR TO PERFORM THE CONSTRUCTION WORK IN ACCORDANCE WITH THE DRAWINGS.

WATER-HAMMER ARRESTER SCHEDULE PDI UNITS D FIXTURE UNITS 1-11 12-32 33-60 114-154 155-330 61-113

	THERMOSTATIC MIXING VALVE SCHEDULE									
TAG NO.	SERVING	TYPE	FLOW GPM	PRESS. DROP PSI		LEV. TEMP. *F	MFR.	MODEL	REMARKS	
EMV-1	EE-1	THERMOSTATIC	6.0	20	115	85	WATERSAVER	AP3602	1,3	
EMV-2	ES-1	THERMOSTATIC	30	26	115	85	BRADLEY	S19-2100	1,4	

1. MIXING ASSEMBLY SHALL INCLUDE MANUFACTURER'S RETURN FITTING. INTEGRAL THERMOMETER. INTEGRAL THERMOSTATIC RETURN LIMITER, INTEGRAL CHECKS AND STRAINERS.

LOCATE BELOW CABINET 4. SURFACE MOUNT STAINLESS STEEL CABINET

LOCATE ABOVE CEILING

drawn by JJR

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USC CAMPUS PLANNING AND

COLUMBIA, SOUTH CAROLINA 29208

4TH FLOOR ANIMAL SURGERY LAB

CONSTRUCTION DOCUMENTS

MAY 9, 2014

CONSTRUCTION

project name

H27-6100-D

project number

seals/signature

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743 GREENE STREET

USC SOM - BLDG #1

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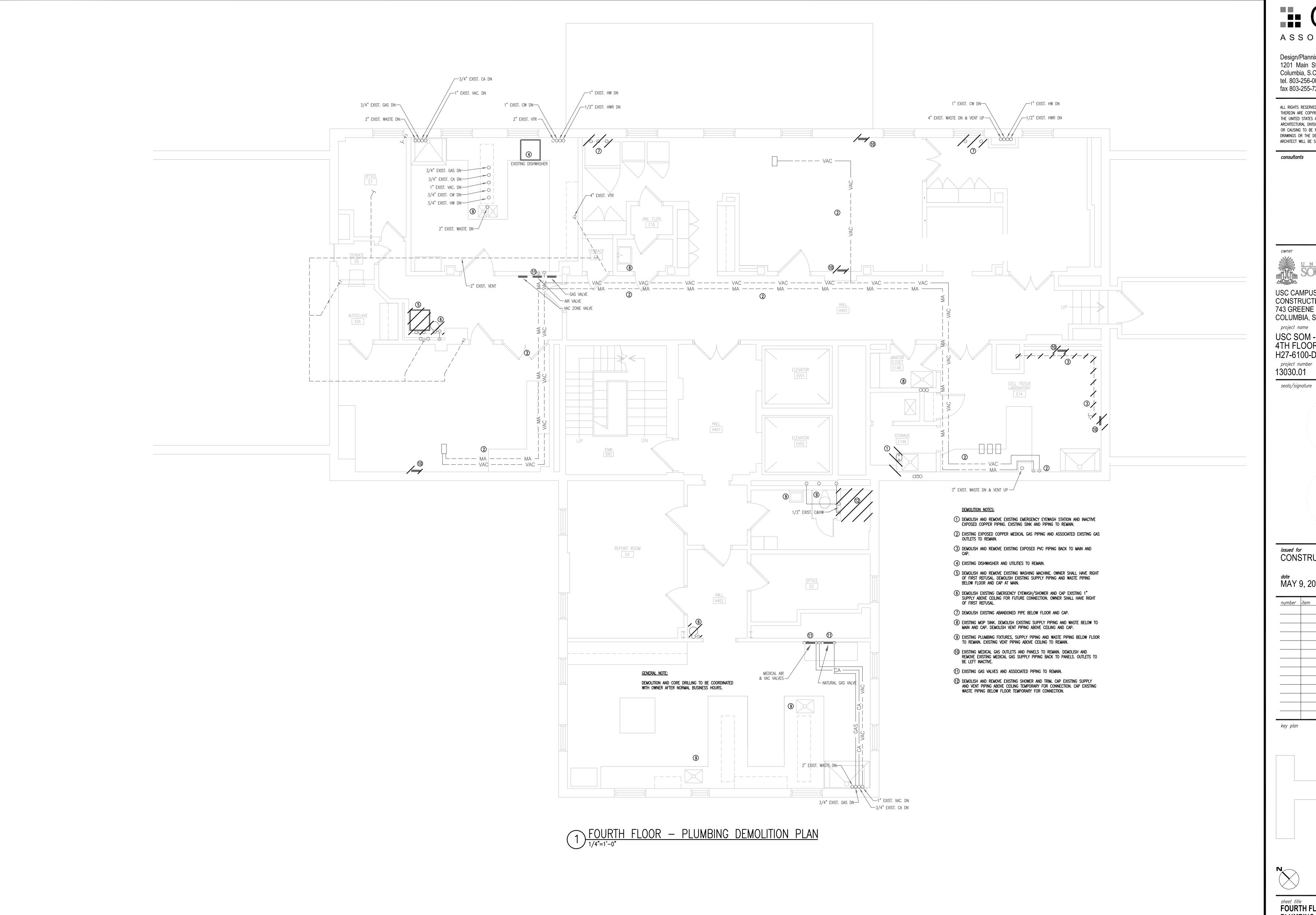
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key plan

PLUMBING SCHEDULES, NOTES ABBREVIATIONS AND LEGENDS

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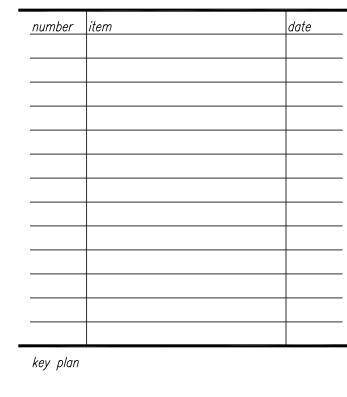
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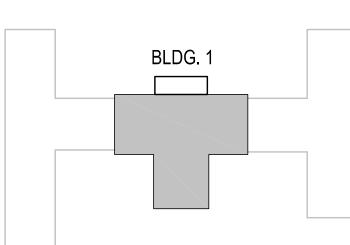
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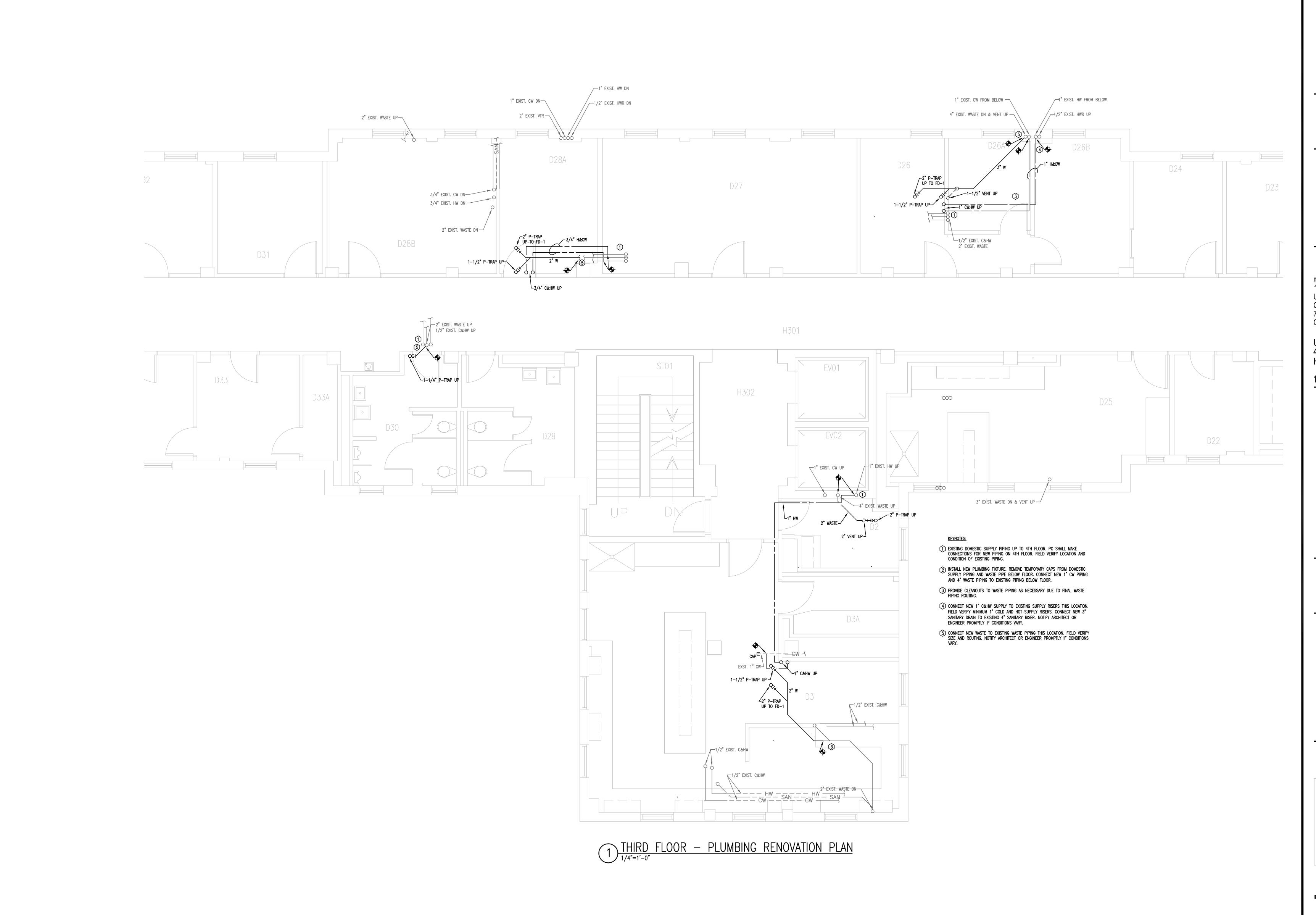






sheet title
FOURTH FLOOR
PLUMBING DEMOLITION PLAN

sheet number



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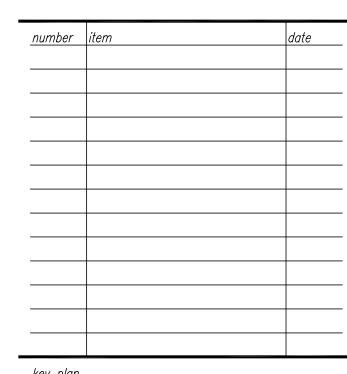
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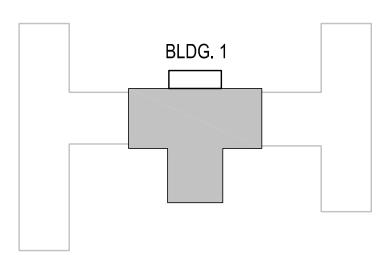
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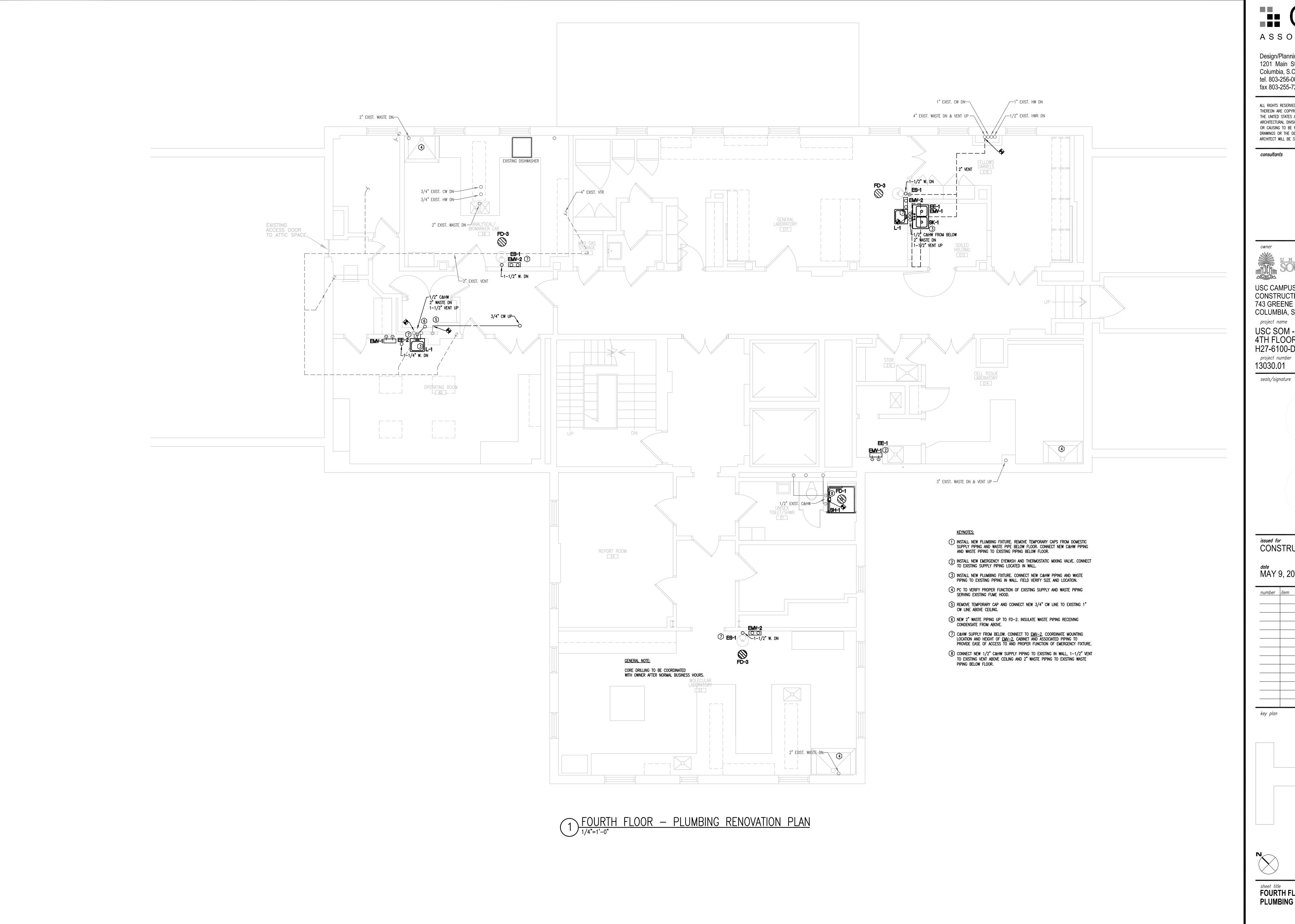
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sheet title
THIRD FLOOR
PLUMBING RENOVATION PLAN

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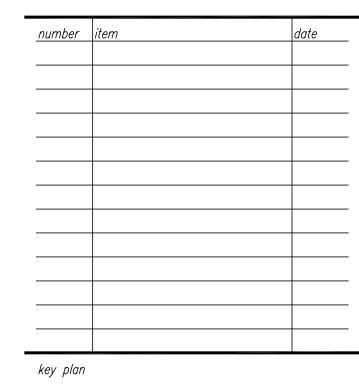
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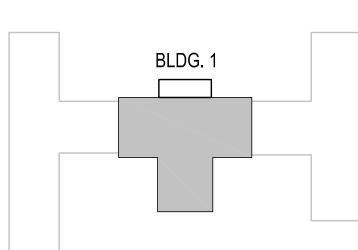
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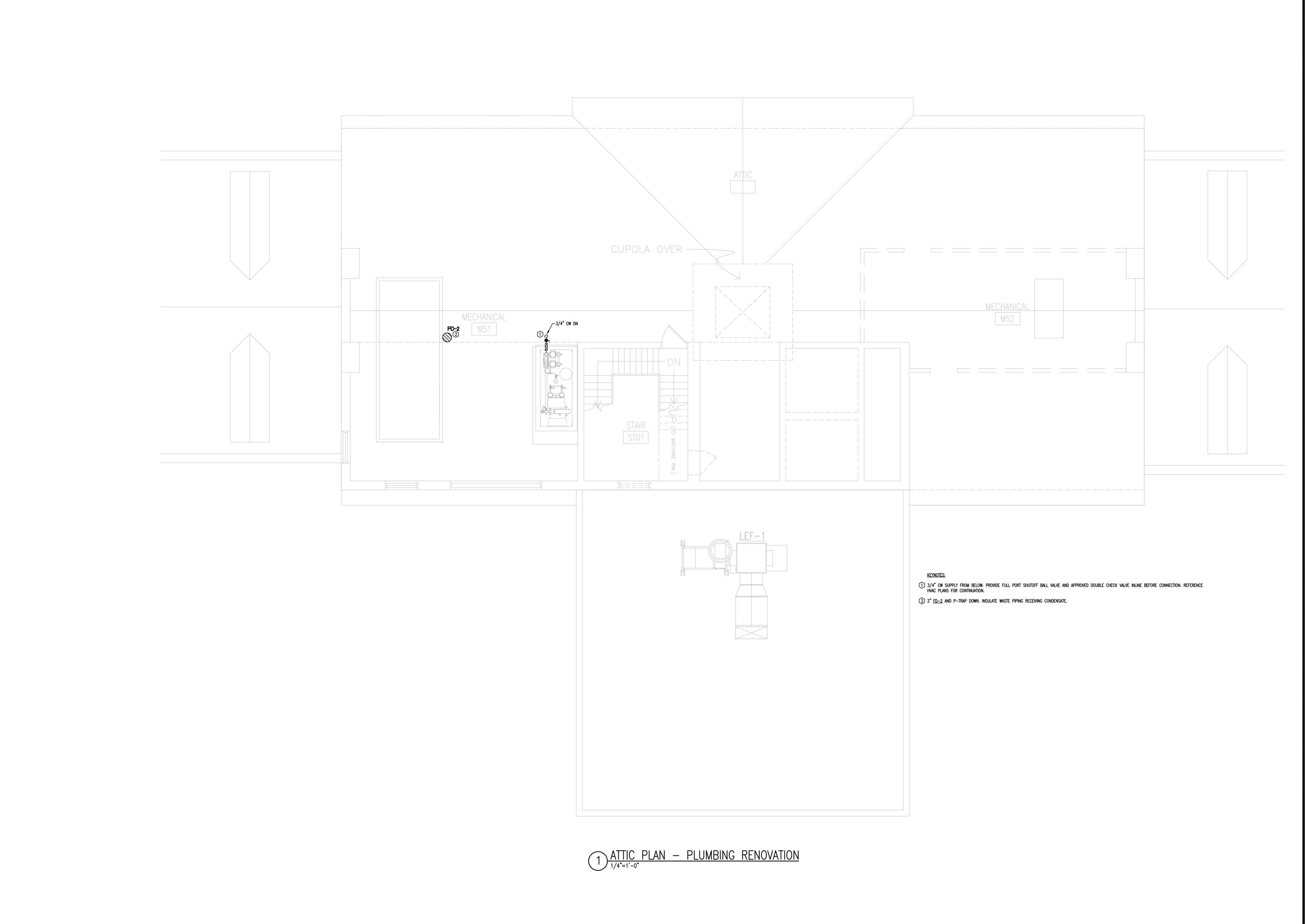






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FOURTH FLOOR
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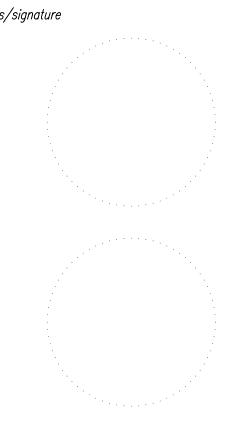
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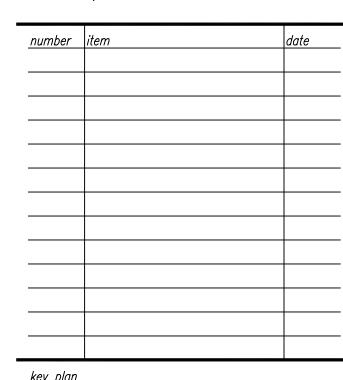
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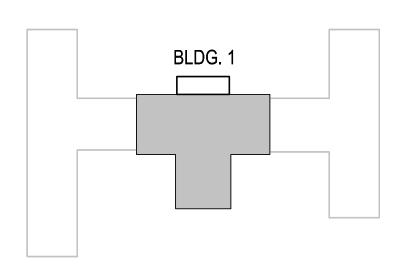
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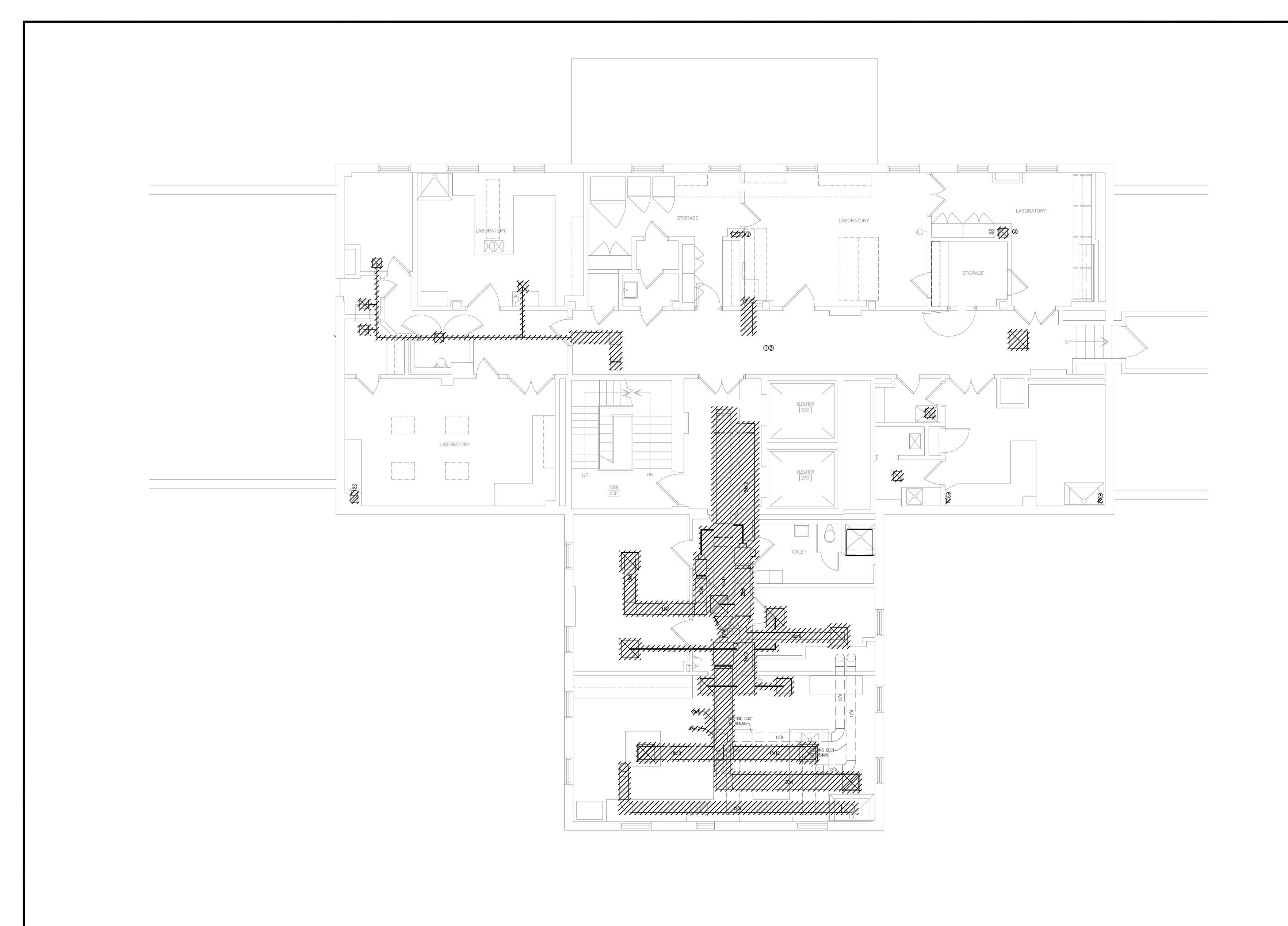
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ATTIC PLAN
PLUMBING RENOVATION

sheet number



1 FOURTH FLOOR LEVEL - HVAC DEMOLITION 1/4"=1'-0"

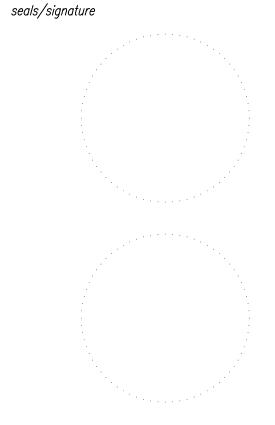


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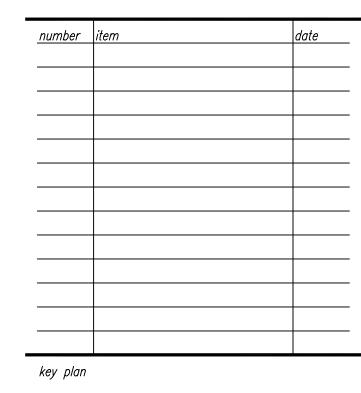
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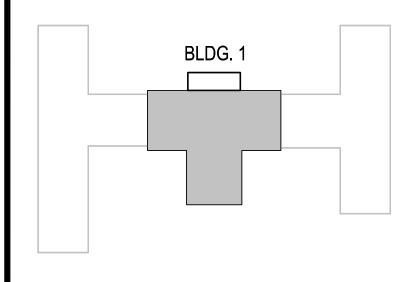
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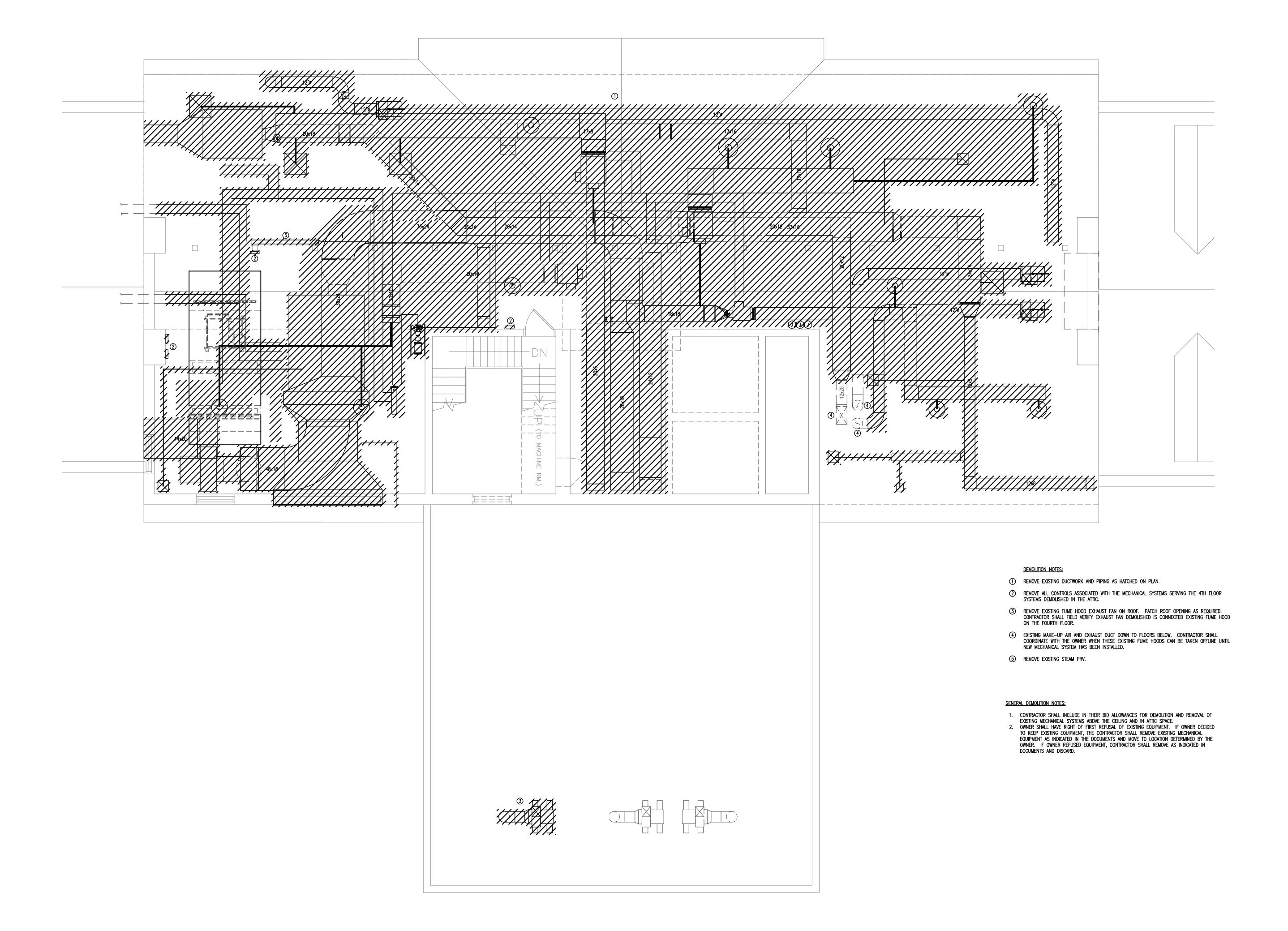
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FOURTH FLOOR PLAN
HVAC DEMOLITION

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1 ATTIC FLOOR LEVEL - HVAC DEMOLITION



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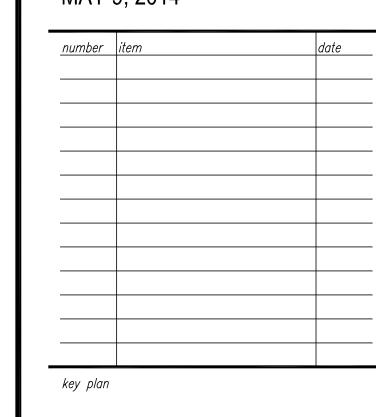
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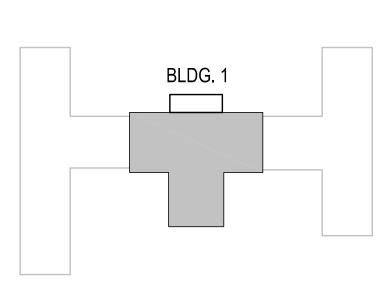
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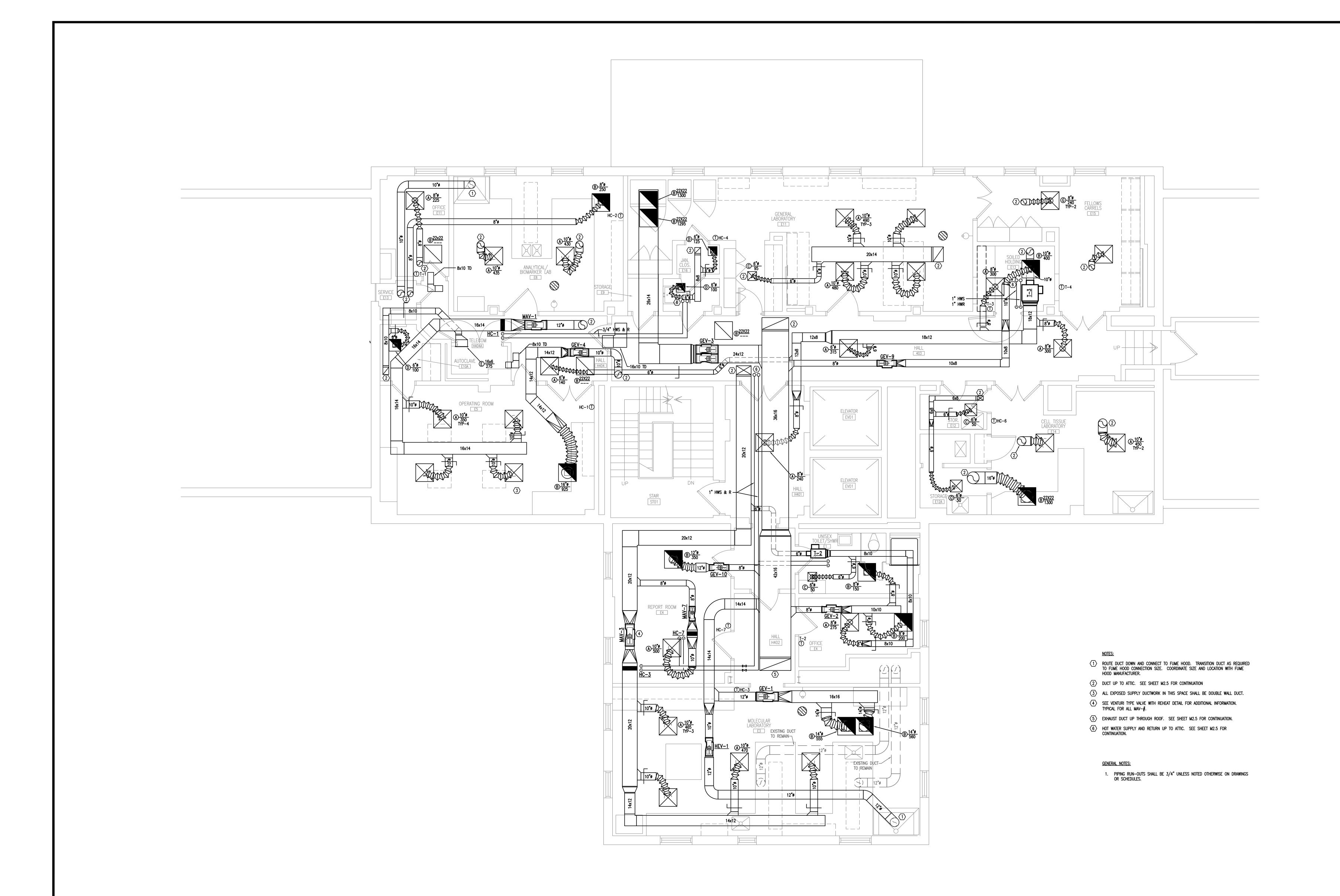




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ATTIC FLOOR PLAN
HVAC DEMOLITION

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M1.5



1 FOURTH FLOOR LEVEL — HVAC RENOVATION 1/4"=1'-0"

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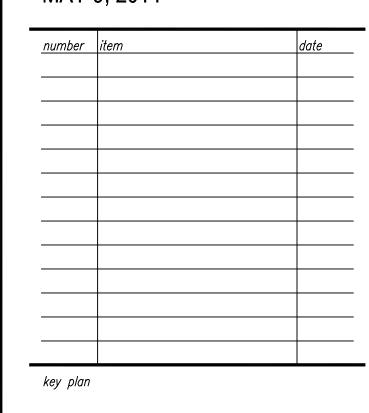
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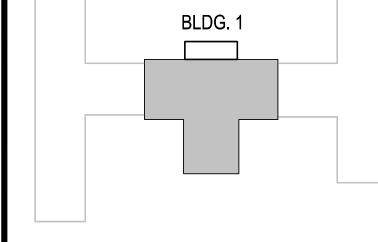
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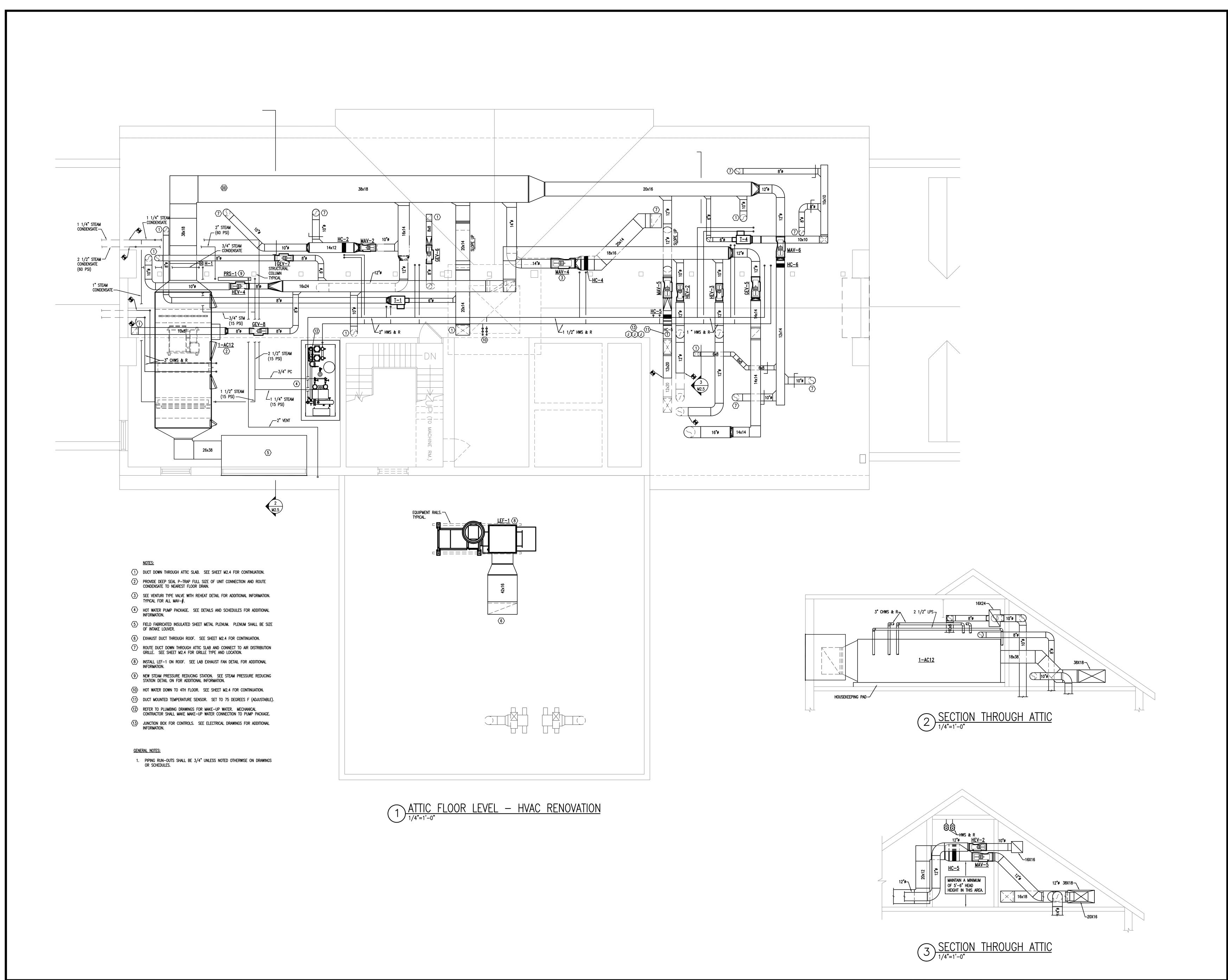
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FOURTH FLOOR PLAN
HVAC RENOVATION

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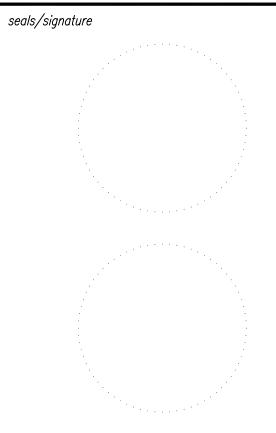
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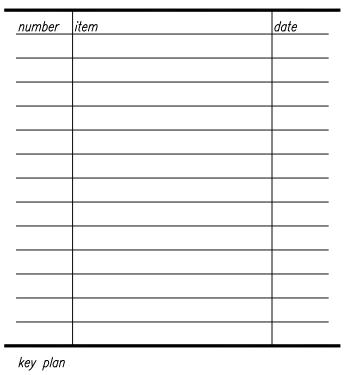
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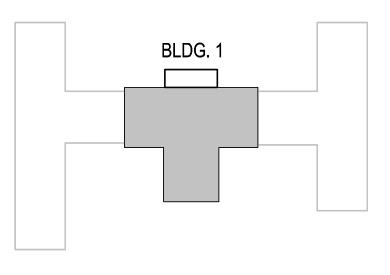
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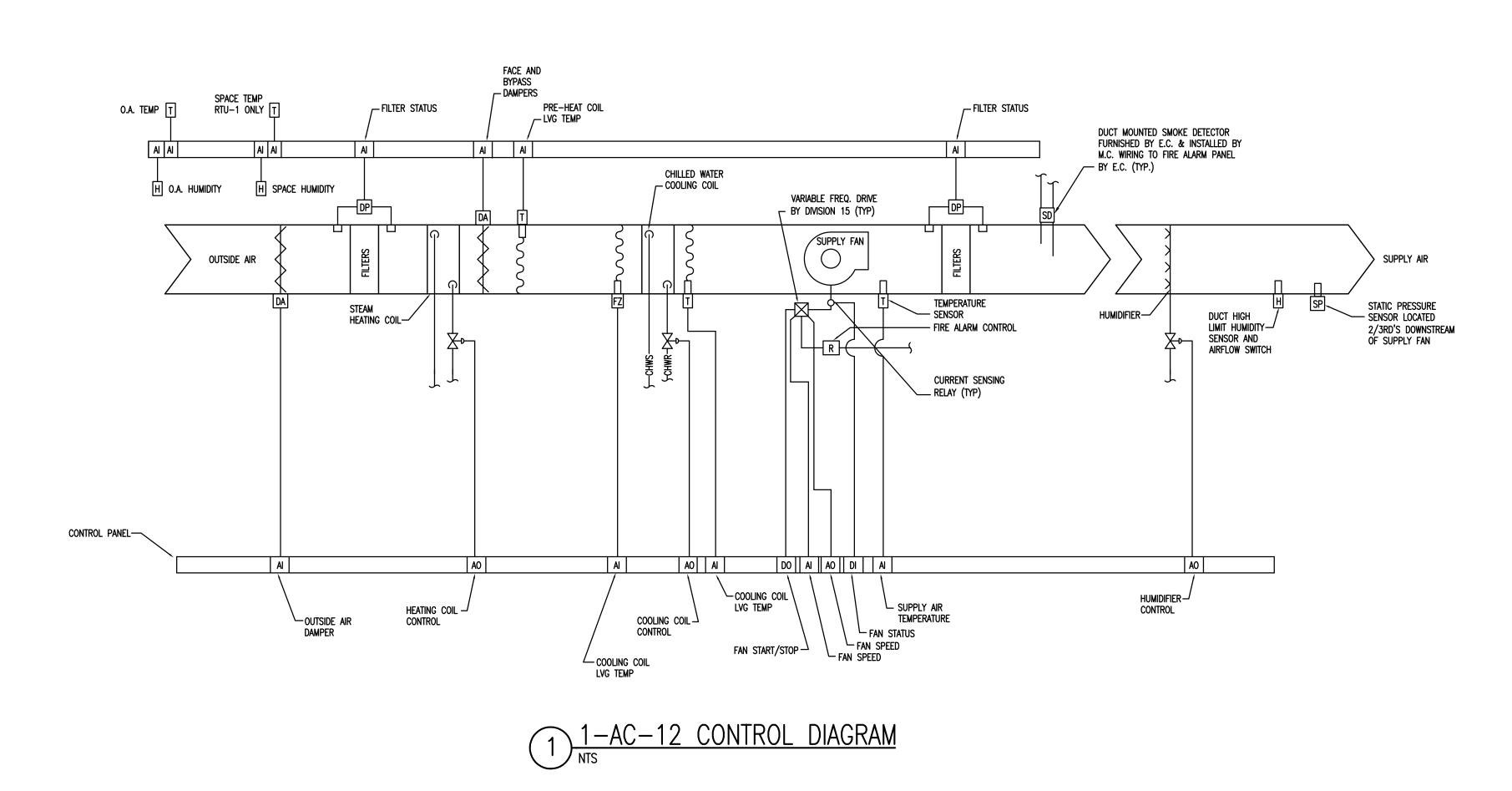
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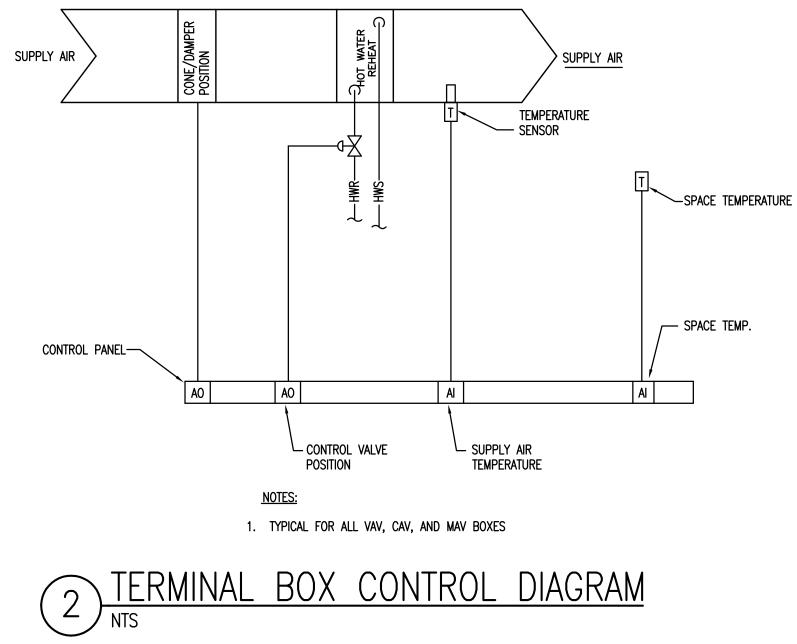


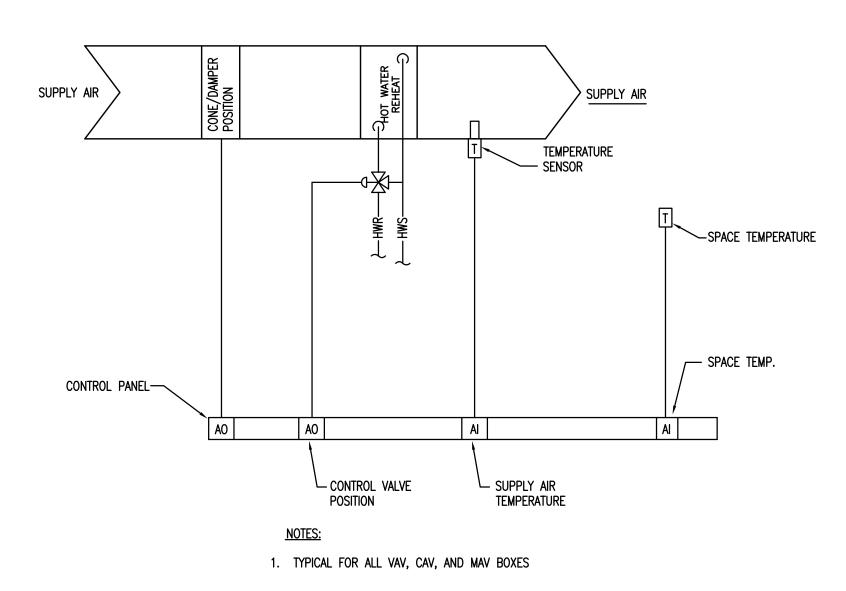


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ATTIC FLOOR PLAN
HVAC RENOVATION

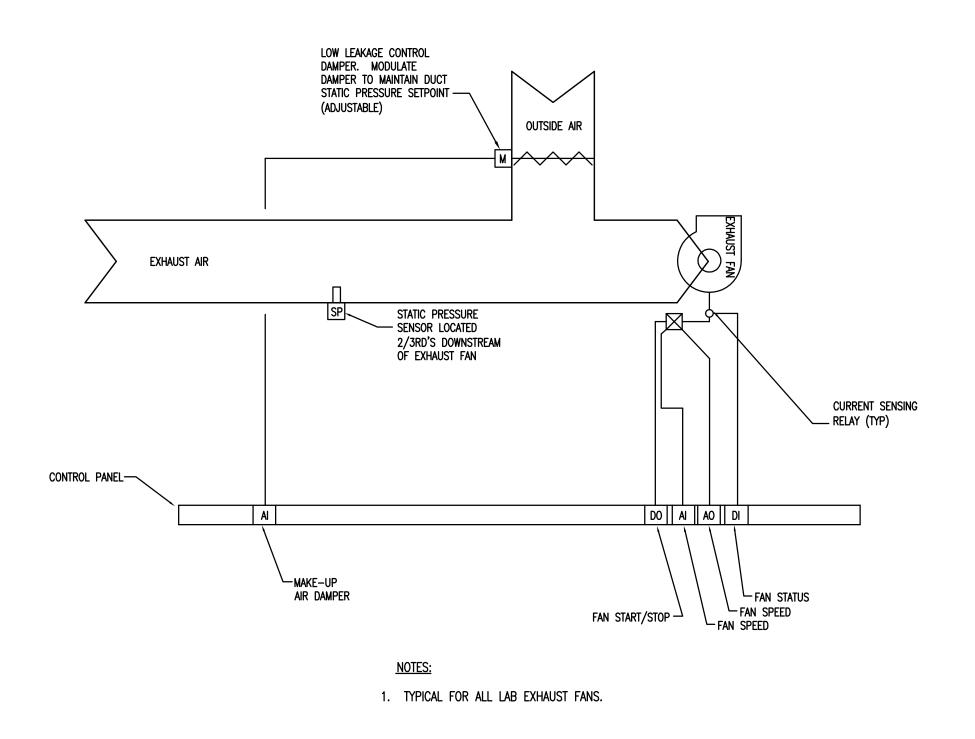
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TERMINAL BOX CONTROL DIAGRAM (MAV-5 & 7)
NTS



4 LAB EXHAUST FAN CONTROL DIAGRAM



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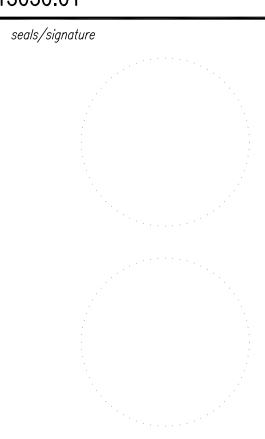
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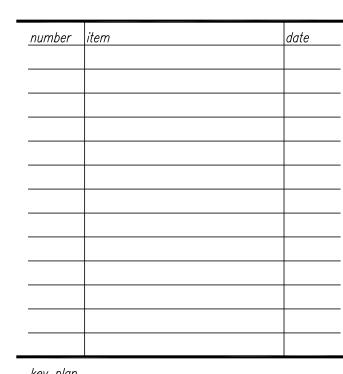
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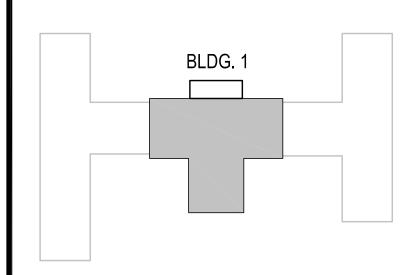
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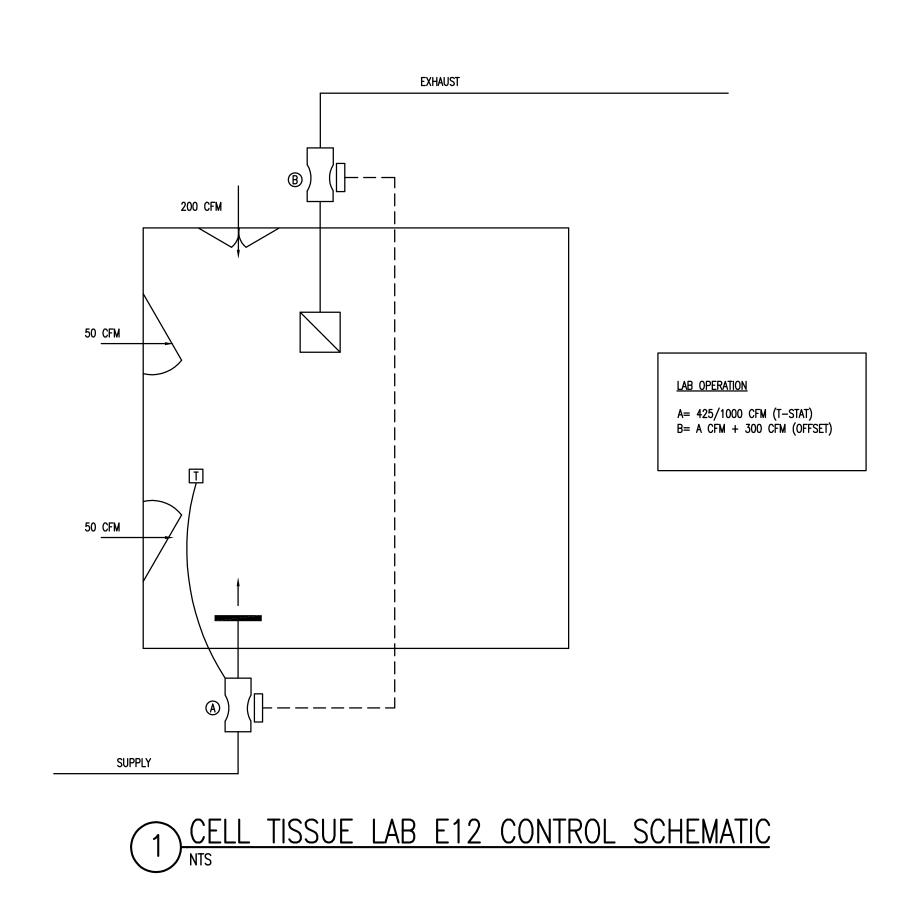
^{date} MAY 9, 2014

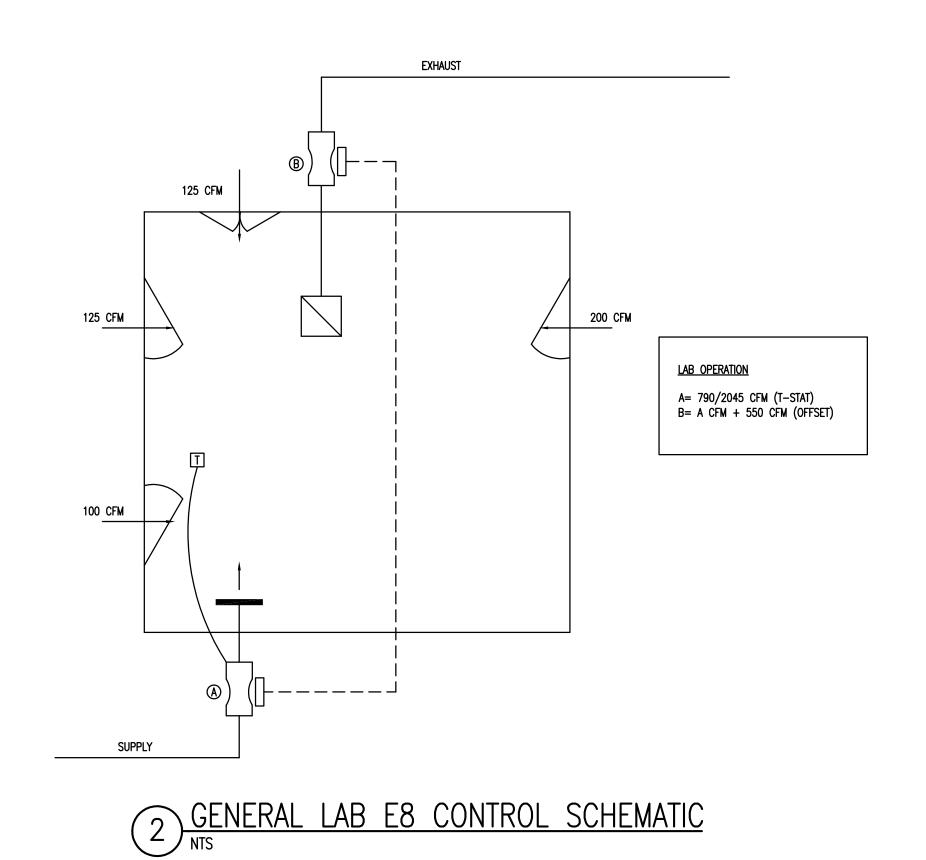


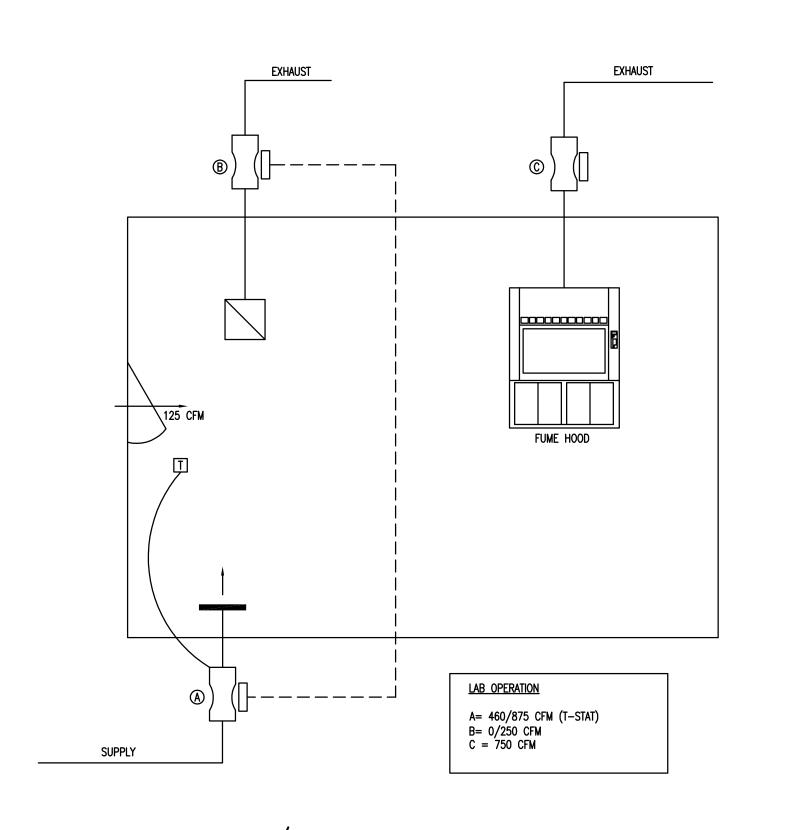


sheet title
HVAC CONTROL SCHEMATICS

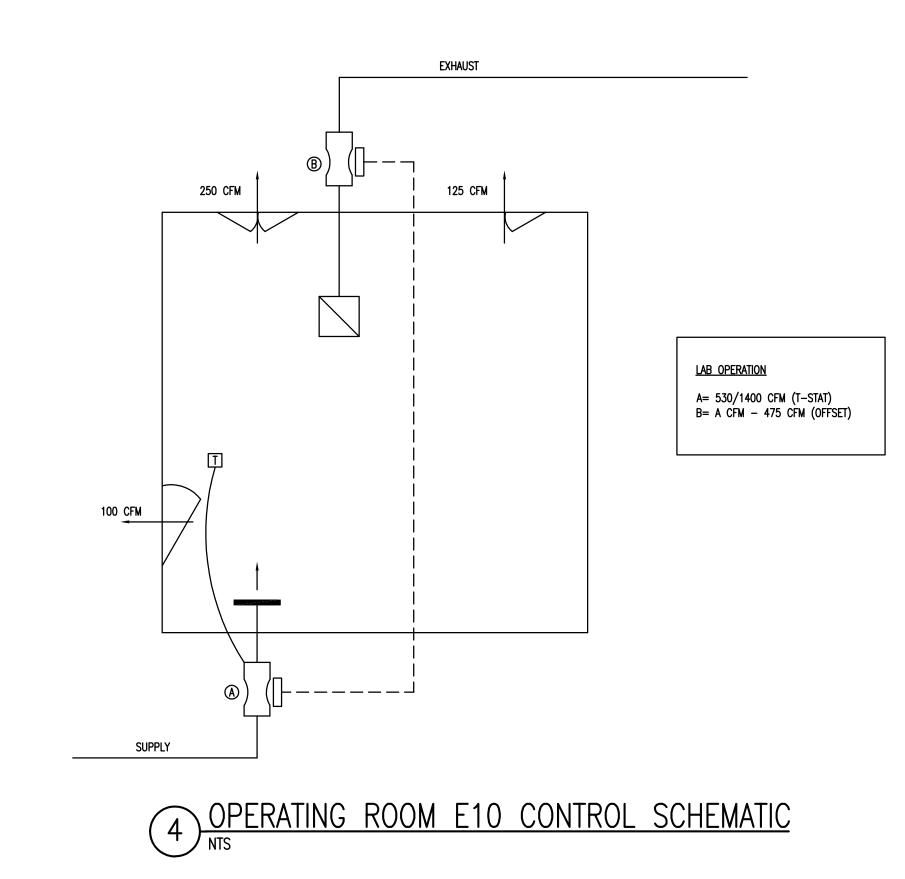
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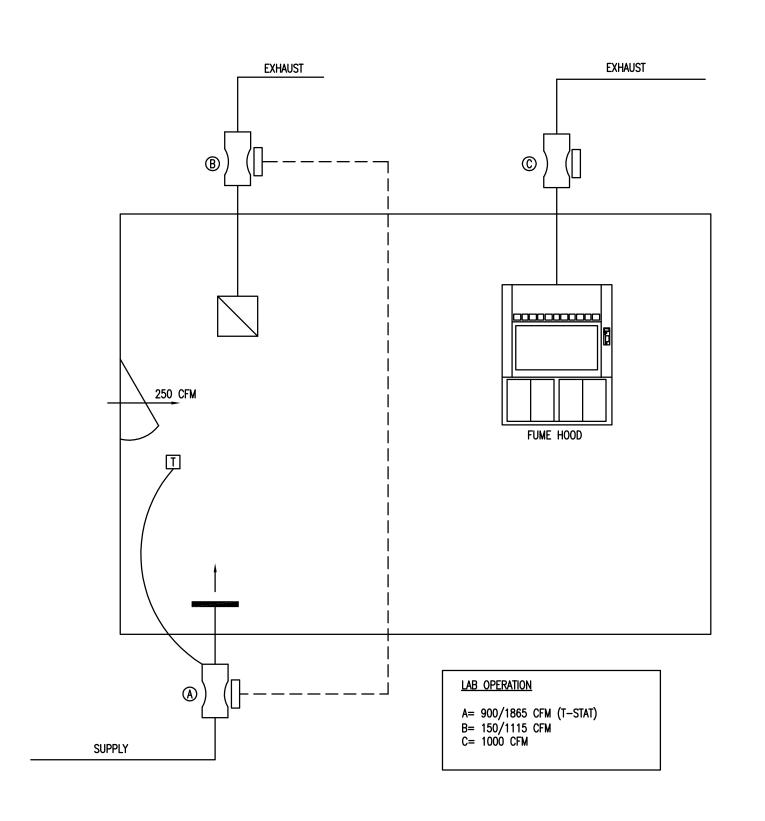






3 ANALYTICAL/BIOMARKER LAB E15 CONTROL SCHEMATIC





5 MOLECULAR LAB E5 CONTROL SCHEMATIC



Design/Planning/Construction 1201 Main Street, Suite 2100 Columbia, S.C. 29201 tel. 803-256-0000 fax 803-255-7243

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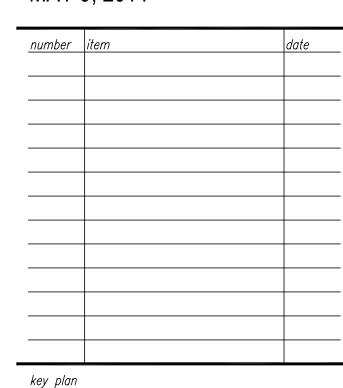
project name USC SOM - BLDG #1 4TH FLOOR ANIMAL SURGERY LAB H27-6100-D

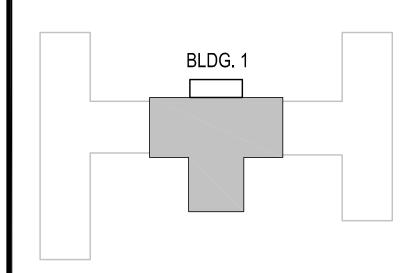
project number 13030.01



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^{date} MAY 9, 2014

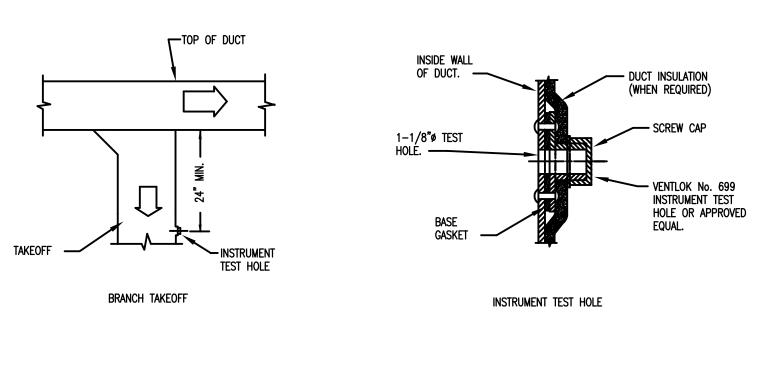


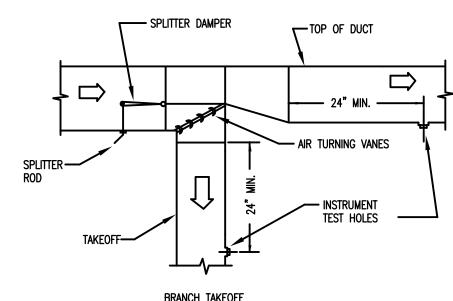




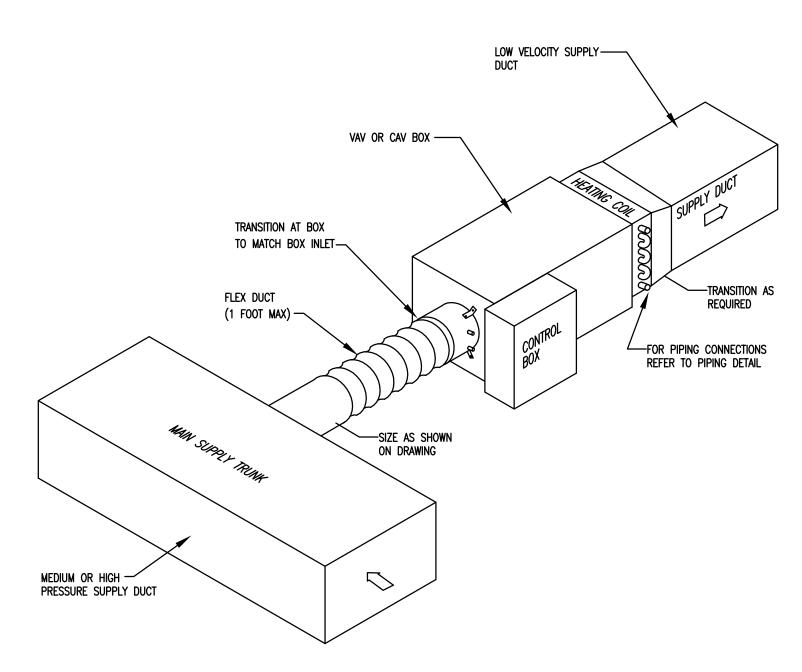
sheet title
HVAC CONTROL SCHEMATICS

sheet number

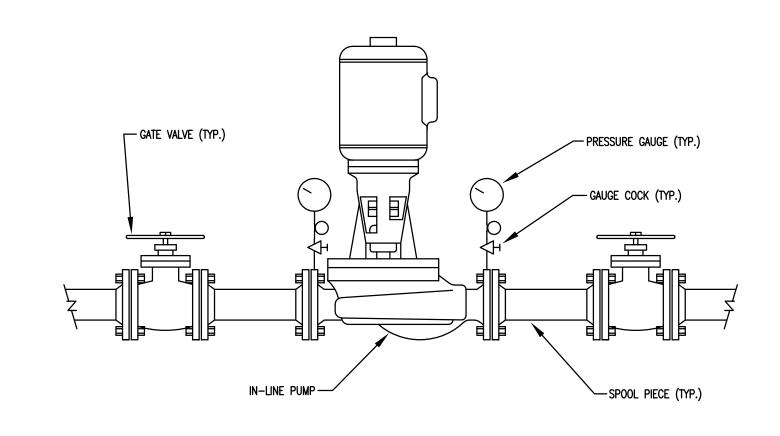




1) TYPICAL LOW PRESSURE DUCT DETAILS

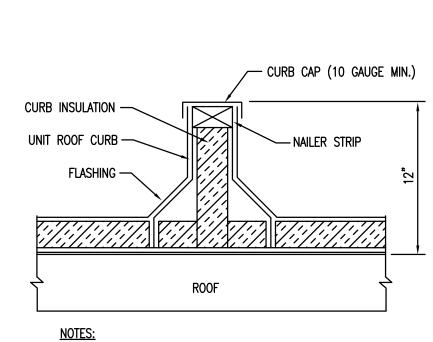


5 SHUT OFF TYPE VAV OR CAV DETAIL



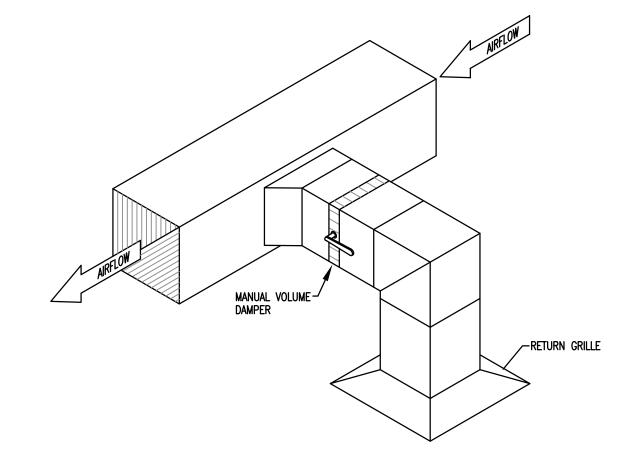
9 IN-LINE PUMP DETAIL

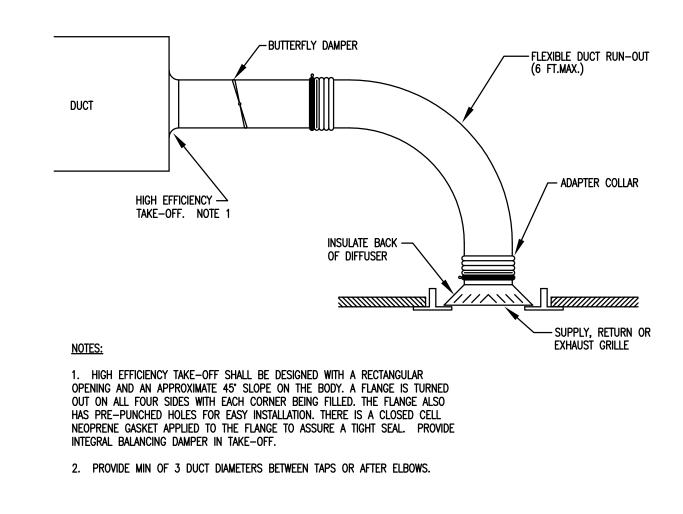
NTS

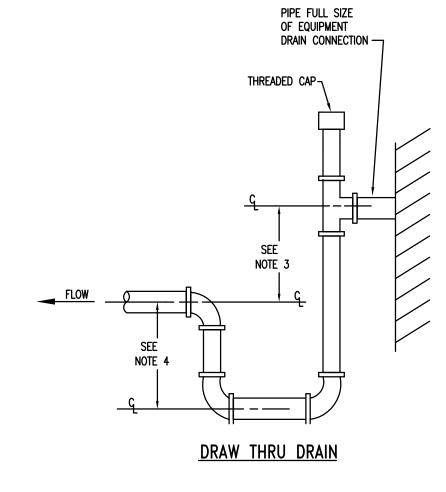


- 1. PROVIDE RAISED CANT. SEE SPECIFICATIONS.
- SEE SPECIFICATIONS FOR TYPE OF BASE REQUIRED. 3. SPOT WELD OR ANCHOR CURB TO ROOF DECKING OR SUPPORTS PER SEISMIC REQUIREMENTS. 4. ATTACH CAP TO CURB 12" O.C. MINIMUM, 2 PER SIDE PROVIDE
- 5. 3/4" SPACE BETWEEN CURB CAP AND CURB FOR ROOFING AND FLASHING. 6. COORDINATE INSTALLATION OF CURB CAP WITH ROOF FLASHING.
- 2 EQUIPMENT RAIL DETAIL

 2 NTS





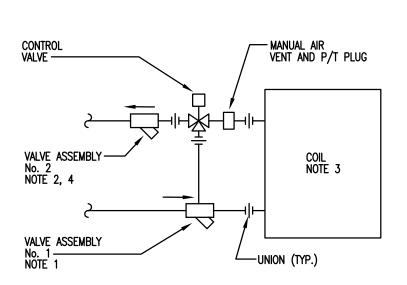


NOTE:

1. LOCATE TRAPS SO AS TO BE ACCESSIBLE FOR CLEANING.

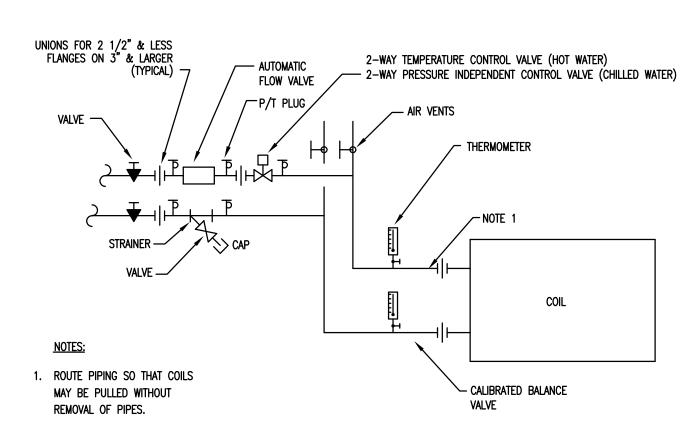
2. HEIGHT SHALL BE EQUAL TO UNIT MAXIMUM TOTAL STATIC PRESSURE PLUS 1/2". 3. HEIGHT SHALL BE EQUAL TO UNIT MAXIMUM NEGATIVE STATIC PRESSURE PLUS 1". 4. HEIGHT SHALL BE 1/2 OF HEIGHT INSTALLED IN NOTE 3.
5. PIPE TO NEAREST FLOOR DRAIN.
6. TRAP SHALL NOT BLOCK ACCESS TO EQUIPMENT.

6 EQUIPMENT CONDENSATE DRAIN DETAIL NTS

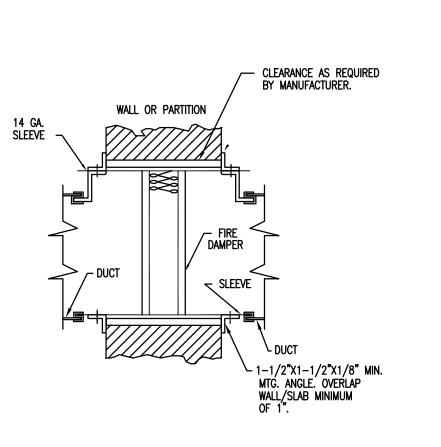


- 1. VALVE ASSEMBLY No. 1: COMBINATION BALL VALVE, Y-STRAINER, UNION, 2P/T'S, BYPASS ADAPTER, HOSE END DRAIN VALVE WITH CAP AND CHAIN.
- 2. VALVE ASSEMBLY No. 2: AUTOMATIC FLOW LIMITING DEVICE, 2P/T'S, BALL VALVE. 3. PROVIDE ON EQUIPMENT UP TO 80 GPM
- 4. IF FLOW MODULE CAN NOT BE REMOVED WITHOUT REMOVAL OF ASSEMBLY, THE BALL VALVES MUST BE SEPARATED FROM FLOW DEVICE BY A UNION. 5. PROVIDE ON THE FOLLOWING: HC-5 & HC-7
- THREE WAY COIL PIPING DETAIL

 NTS



7 TWO WAY COIL PIPING DETAIL

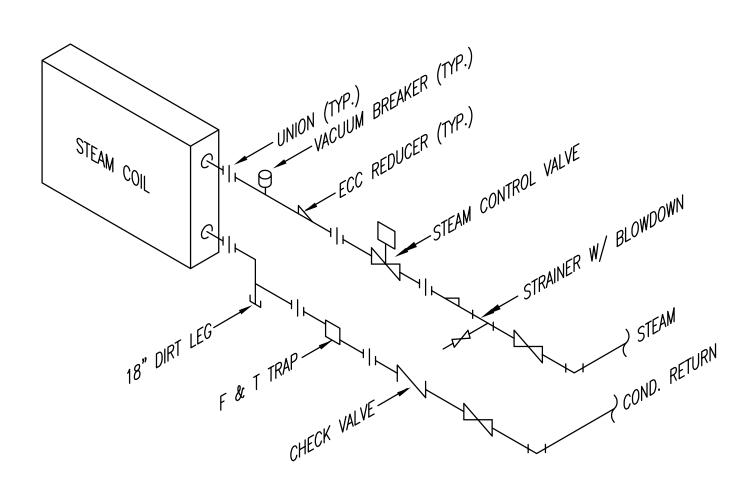


1. PROVIDE FIRE DAMPERS IN ALL 1 HR. THRU 4 HR. WALLS, SLABS, AND PARTITIONS SHOWN ON ARCH. AND MECH. DRAWINGS. 2. PROVIDE DUCT ACCESS DOOR. ACCESS DOOR SHALL BE LARGE ENOUGH TO PERMIT INSPECTION AND MAINTENANCE OF THE DAMPER AND ITS OPERATING PARTS. ACCESS DOOR SHALL BE LABELED "FIRE DAMPER". THE LETTERS SHALL NOT BE LESS THAN 0.5 INCHES IN

3. PROVIDE ALL CEILING, FLOOR, AND WALL ACCESS DOORS NECESSARY FOR ACCESS TO FIRE DAMPER. 4. FIRE DAMPERS SHALL COMPLY WITH THE REQUIREMENTS OF UL 555 AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. ONLY FIRE DAMPERS LABELED FOR USE IN DYNAMIC SYSTEMS SHALL BE INSTALLED IN HEATING, VENTILATION AND AIR-CONDITIONING SYSTEMS DESIGNED TO OPERATE WITH FANS ON DURING A FIRE. 5. BLANKET INSULATION SHALL BE INSTALLED OVER ANGELS AND SEALED TO WALL.

6. DAMPER BLADES SHALL BE LOCATED OUT OF THE AIR STREAM. 7. SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS INSTALLED SIMILARLY.





SHEET METAL DUCT -

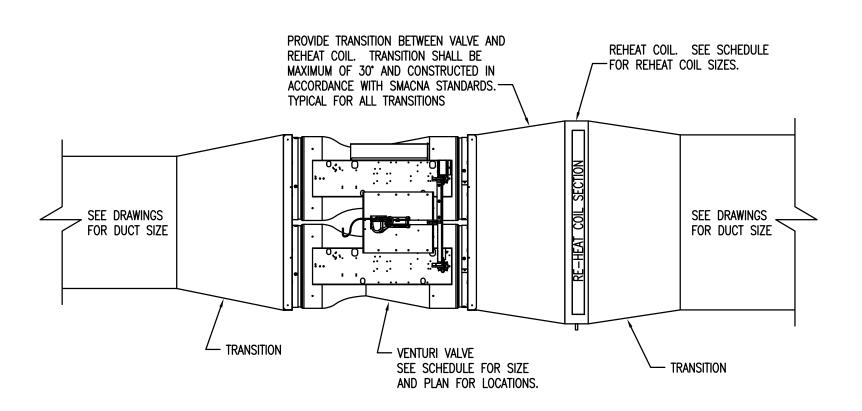
SHEETMETAL ANGLE ATTACH — TO SLEEVE 12" O.C. (MIN. 2 PER SIDE)

~PACK OPENING WITH MINERAL WOOL

NOTE: EXTERNALLY WRAPPED DUCT INSTALLED SIMILARLY. BLANKET INSULATION SHALL BE INSTALLED OVER ANGLES AND SEALED

8 DUCT THRU NON-RATED WALL

STEAM COIL PIPING DETAIL



<u>NOTES:</u> INSTALL VENTURI VALVE IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS. INSTALLATION FOR SINGLE AND TRIPPLE VALVE BODIES SIMILIAR. 3. PROVIDE MANUFACTURER'S INSULATION ON ALL SUPPLY VAVLES.

ASSOCIATES, INC.

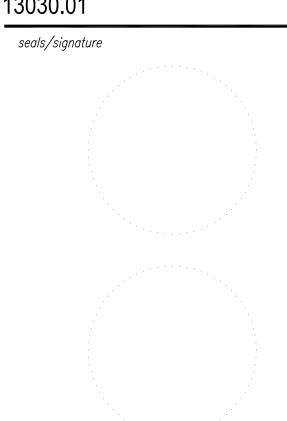
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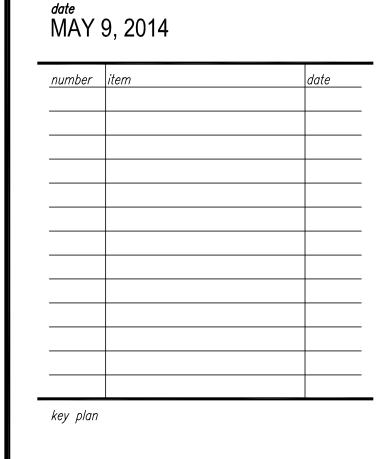
USC CAMPUS PLANNING AND CONSTRUCTION 743 GREENE STREET COLUMBIA, SOUTH CAROLINA 29208

project name USC SOM - BLDG #1 4TH FLOOR ANIMAL SURGERY LAB H27-6100-D

project number 13030.01

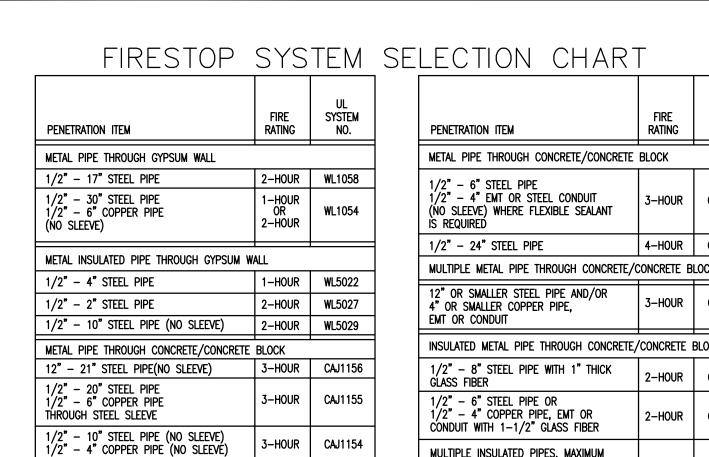


CONSTRUCTION DOCUMENTS



HVAC DETAILS

sheet number



8" — 10" Steel Pipe(no Sleeve) Where Flexible Sealant is required

SCH. 40 STEEL ——— PIPE SLEEVE

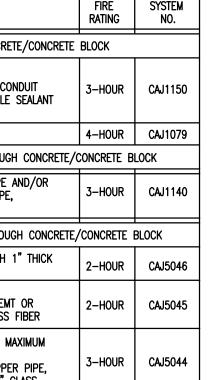
PENETRATION ITEM	FIRE RATING	UL System No.	
METAL PIPE THROUGH CONCRETE/CONCRETE	BLOCK		
1/2" — 6" STEEL PIPE 1/2" — 4" EMT OR STEEL CONDUIT (NO SLEEVE) WHERE FLEXIBLE SEALANT IS REQUIRED	3-HOUR	CAJ1150	
1/2" - 24" STEEL PIPE	4-HOUR	CAJ1079	
MULTIPLE METAL PIPE THROUGH CONCRETE/O	CONCRETE B	LOCK	
12" OR SMALLER STEEL PIPE AND/OR 4" OR SMALLER COPPER PIPE, EMT OR CONDUIT	3-Hour	CAJ1140	
INSULATED METAL PIPE THROUGH CONCRETE/	CONCRETE BLOCK		
1/2" – 8" Steel Pipe With 1" Thick Glass Fiber	2-HOUR	CAJ5046	
1/2" — 6" STEEL PIPE OR 1/2" — 4" COPPER PIPE, EMT OR CONDUIT WITH 1-1/2" GLASS FIBER	2-HOUR	CAJ5045	
MULTIPLE INSULATED PIPES, MAXIMUM QUANTITY OF 4 1/2" -3" STEEL PIPE, COPPER PIPE, EMT OR CONDUIT WITH 3/4" GLASS	3-HOUR	CAJ5044	

	1-HOUR OR 2-HOUR	WL1054		1/2" — 6" STEEL PIPE 1/2" — 4" EMT OR STEEL CONDUIT (NO SLEEVE) WHERE FLEXIBLE SEALANT IS REQUIRED	3-Hour	CAJ1150
				1/2" – 24" STEEL PIPE	4-HOUR	CAJ1079
N	ALL			MULTIPLE METAL PIPE THROUGH CONCRETE/	CONCRETE B	LOCK
	1-HOUR	WL5022		12" OR SMALLER STEEL PIPE AND/OR		
	2-HOUR	WL5027		4" OR SMALLER COPPER PIPE,	3-HOUR	CAJ1140
	2-HOUR	WL5029		EMT OR CONDUIT		
	BLOCK			INSULATED METAL PIPE THROUGH CONCRETE,	CONCRETE I	3LOCK
	3-HOUR	CAJ1156		1/2" - 8" STEEL PIPE WITH 1" THICK GLASS FIBER	2-HOUR	CAJ5046
	3-HOUR	CAJ1155		1/2" – 6" STEEL PIPE OR 1/2" – 4" COPPER PIPE, EMT OR CONDUIT WITH 1–1/2" GLASS FIBER	2-HOUR	CAJ5045
	3-HOUR	CAJ1154		MULTIPLE INSULATED PIPES, MAXIMUM		
	2-HOUR	CAJ1158		QUANTITY OF 4 1/2" -3" STEEL PIPE, COPPER PIPE, EMT OR CONDUIT WITH 3/4" GLASS	3-HOUR	CAJ5044
T	ERIAL		\ \	PACKING MATERIAL FIRE RATED WALL		

EACH SIDE OF WALL FLUSH

SEE FIRESTOP SYSTEM SLECTION CHART

TO EXTERIOR OF WALL.



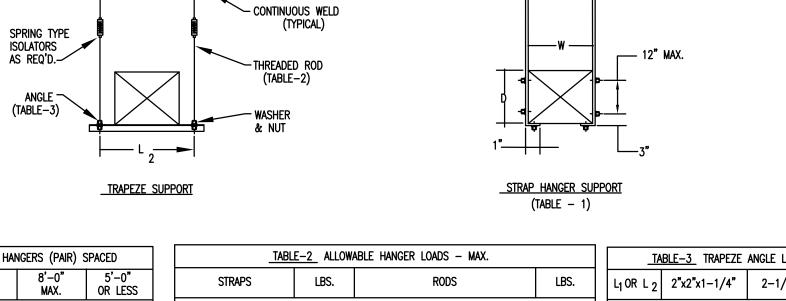
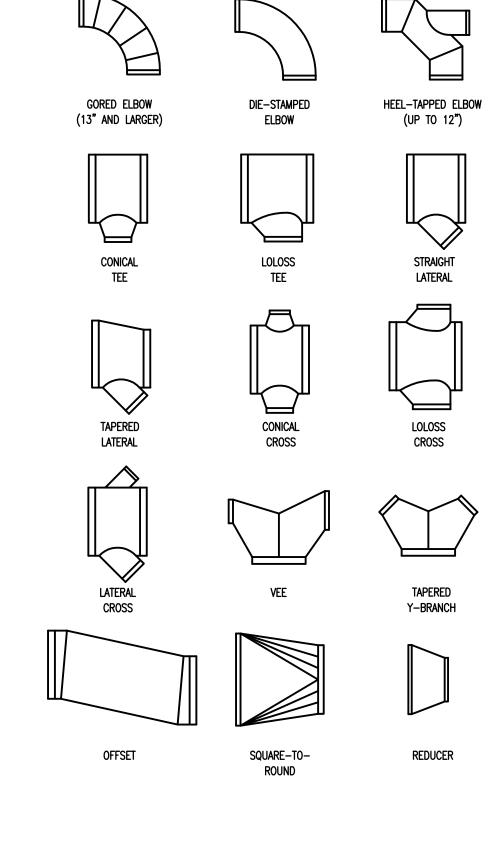


TABLE-1 STRAP HANGERS (PAIR) SPACED			SPACED	TABL	<u>E-2</u> ALLOWA	ABLE HANGER LOADS — MAX.		<u>TABLE-3</u> TRAPEZE ANGLE LOAD — MAX.			
W + D MAX.	10'-0" MAX.	8'-0" MAX.	5'-0" OR LESS	STRAPS	LBS.	RODS	LBS.	L ₁ OR L ₂	2"x2"x1-1/4"	2-1/2"x2-1/2"x1/4"	
72"	1" x 22Ga.	1" x 22Ga.	1" x 22Ga.	2 - 1"x22Ga.	520	2 – 1/4" DIA.	540	36"	1200 LBS.	1940 LBS.	
96"		1" x 20Ga.	1" x 22Ga.	2 - 1"x20Ga.	640	2 - 3/8" DIA.	1360	48"	1160 LBS.	1900 LBS.	
120"		1" x 18Ga.	1" x 22Ga.	2 - 1"x18Ga.	840	2 – 1/2" DIA.	2500	60"	1060 LBS.	1800 LBS.	
168"			1" x 18Ga.	2 - 1"x16Ga.	1400	2 – 5/8" DIA.	4000	72"	900 LBS.	1640 LBS.	
192"			1" x 16Ga.			2 - 3/4" DIA.	6000	84"	660 LBS.	1400 LBS.	
								96"	320 LBS.	1060 LBS.	
								•			

2 DUCT AND EQUIPMENT SUPPORT DETAILS

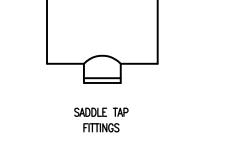
STOP WASHER
PLAIN WASHER



REQUIRED FITTINGS

NOTE 1,4

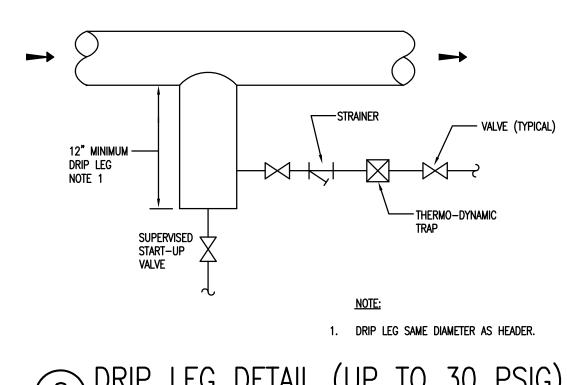
ALTERNATIVE FITTINGS PROHIBITED FITTINGS NOTE 3 PLEATED ELBOW BULLHEAD TEE STRAIGHT STRAIGHT TEE MITERED ELBOW W/VANES W/VANES CROSS LOLOSS SADDLE SADDLE TAP TAP FITTINGS

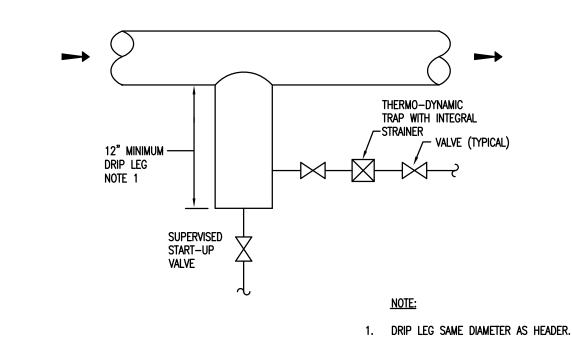


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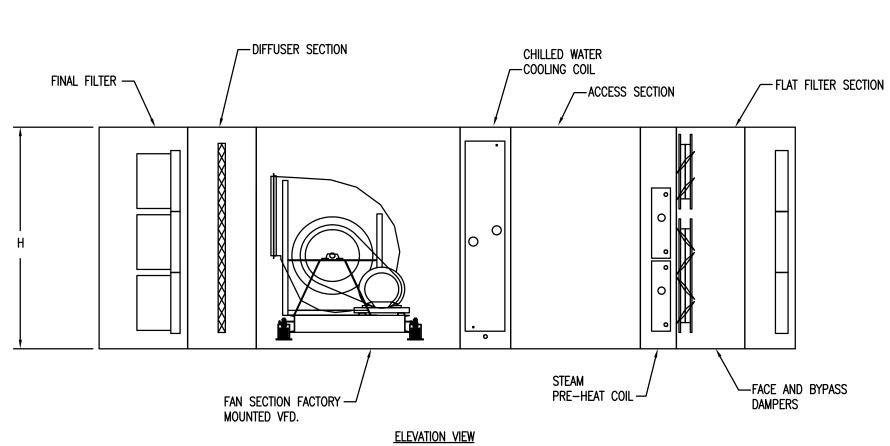
- 1. REQUIRED FITTINGS ARE FITTINGS THAT SHALL BE INCLUDED IN BIDDING THE PROJECT.
- 2. ALTERNATIVE FITTINGS ARE FITTINGS THAT MAY BE CONSIDERED BY THE A/E IF IT IS DETERMINED THAT PHYSICAL CONSTRAINTS MAKE A FITTING IN THIS GROUP A BETTER ALTERNATIVE TO THE REQUIRED FITTING. THESE FITTINGS WILL ONLY BE CONSIDERED BY THE A/E UPON REVIEW OF COORDINATION DRAWINGS OR SKETCHES SUBMITTED BY THE
- 3. PROHIBITED FITTINGS INCLUDE THOSE INDICATED PLUS ANY OTHERS NOT INDICATED ON THIS
- 4. ALL RADIUS SHALL BE 1 1/2"R.

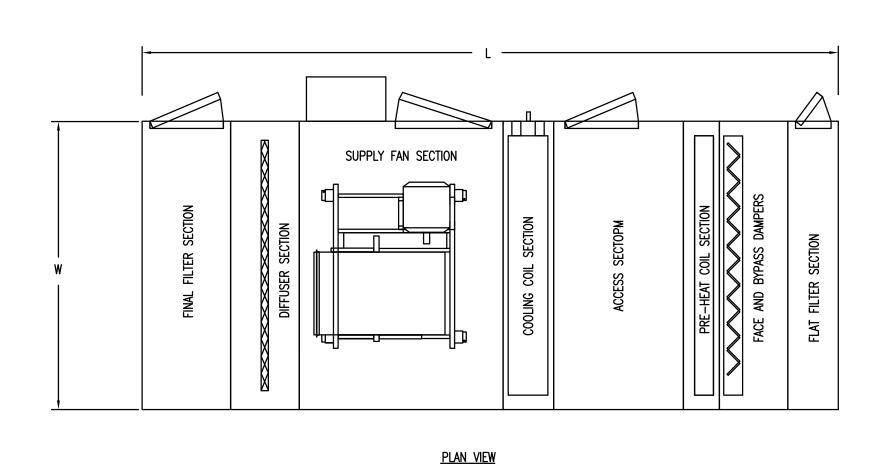
ROUND DUCT FITTINGS NTS





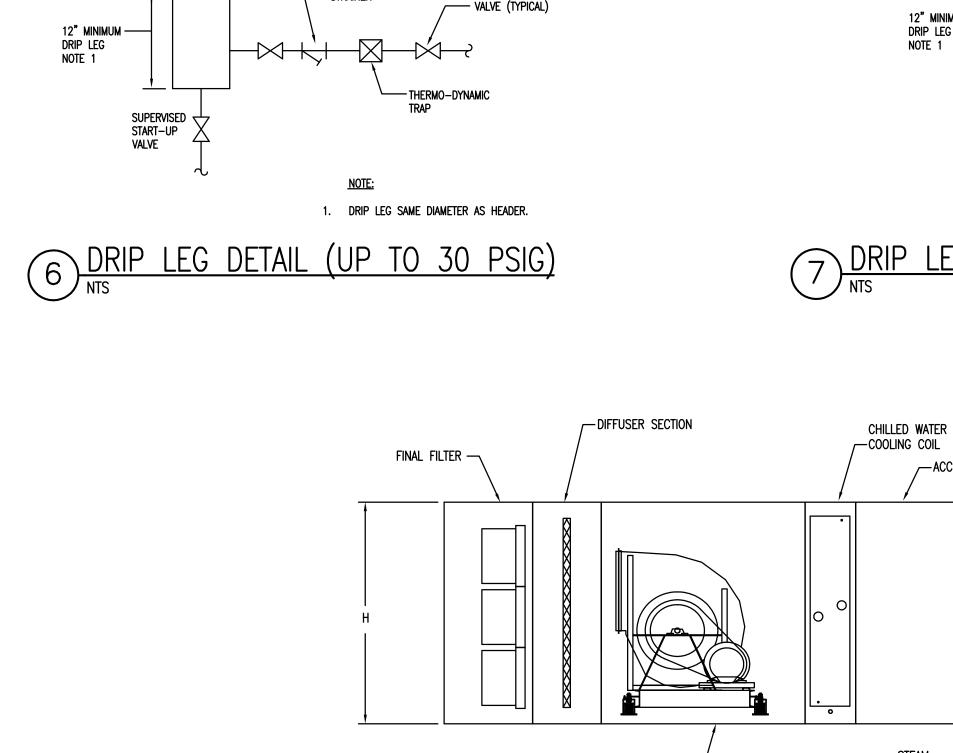
7 DRIP LEG DETAIL (30 PSIG AND ABOVE)

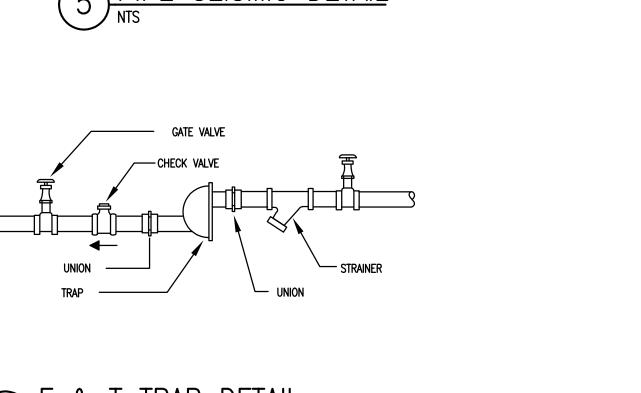




	OVERALL UNIT	DIMENSIONS	
TAG	MAX. LENGTH "L"	MAX. WIDTH "W"	MAX. HEIGHT "H"
1-AC12	210.25	80	61.5

- 1. PROVIDE ACCESS DOORS, AS SHOWN ABOVE. (ORIENTATION DETERMINED BY "FACING" 2. LEFT HAND COIL AND CONDENSATE DRAIN CONNECTIONS (ORIENTATION DETERMINED BY





4. CABLE, ROD, SLEEVE, HANGER AND SPACING SHALL BE CALCULATED BY VIBRATION ISOLATOR VENDOR. BUT IN NO CASE SHALL BE LESS THAN MIN. SIZE SPECIFIED.

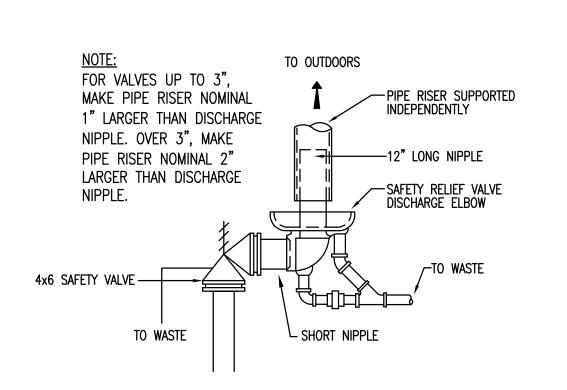
5. PROVIDE VIBRATION ISOLATOR WHEN SPECIFIED.

A. ALL PIPING SUSPENDED BY INDIVIDUAL

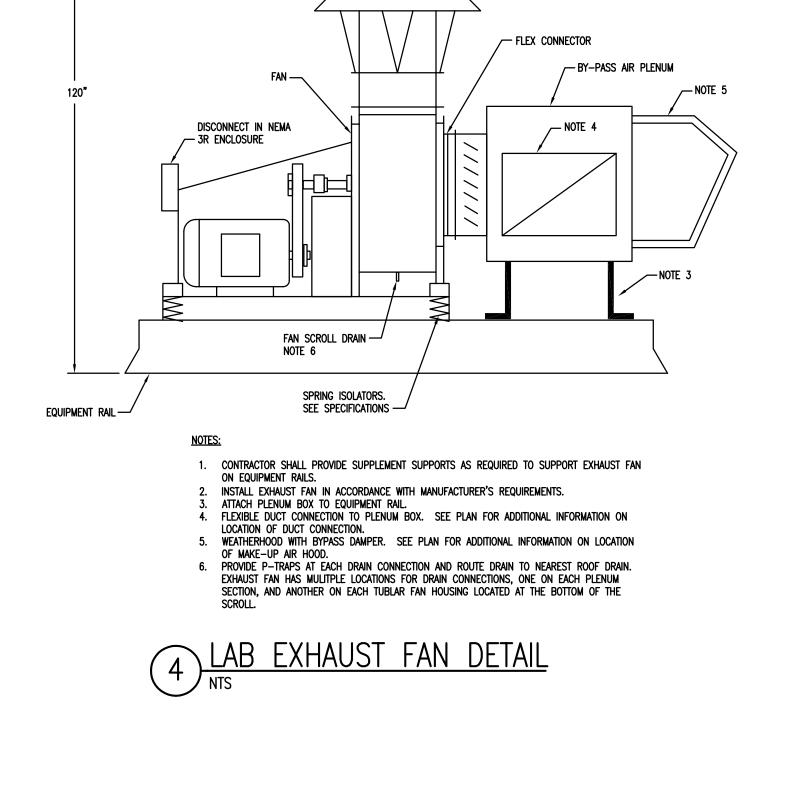
B. 2 1/2" PIPE AND GREATER.

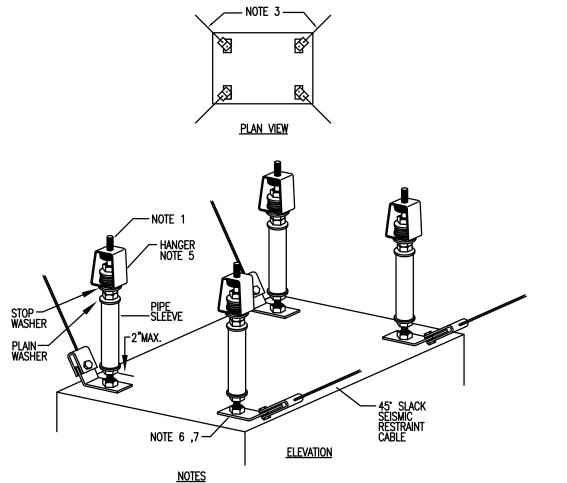
6. PROVIDE FOR THE FOLLOWING (NEW AND/OR EXIST. PIPING):

HANGERS MORE THAN 12" IN LENGTH FROM THE TOP OF THE PIPE TO THE BOTTOM OF THE SUPPORT FOR THE HANGER.



10 SAFETY STEAM RELIEF VALVE DETAIL





- ATTACH ROD TO STRUCTURE. PROVIDE 1/4" CLEARANCE BETWEEN STRUCTURE AND TOP OF ISOLATOR OR NUT. 2. PROVIDE TWO NUTS WITH 1/8" CLEARANCE BETWEEN BOTTOM OF ISOLATOR AND WASHER. CABLE SHALL BE AT 45 DEGREES FROM UNIT AND CEILING. ALTERNATE DIRECTIONS EVERY OTHER SET OF CABLES.
- 5. PROVIDE VIBRATION ISOLATOR WHEN SPECIFIED. 6. PROVIDE TWO NUTS ON INTERIOR OF UNIT. 7. EQUIPMENT MAY BE TRAPEZE MOUNTED. TRAPEZE SHALL BE SECURED TO UNIT.
- 8 SUSPENDED EQUIPMENT SEISMIC DETAIL
 NTS

11 1-AC12 UNIT CONFIGURATION DETAIL

"FACING" DISCHARGE AIRFLOW).

HVAC DETAILS

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COLUMBIA, SOUTH CAROLINA 29208

4TH FLOOR ANIMAL SURGERY LAB

CONSTRUCTION DOCUMENTS

^{date} MAY 9, 2014

CONSTRUCTION

project name

H27-6100-D project number 13030.01

seals/signature

743 GREENE STREET

USC SOM - BLDG #1

Design/Planning/Construction

1201 Main Street, Suite 2100

Columbia, S.C. 29201

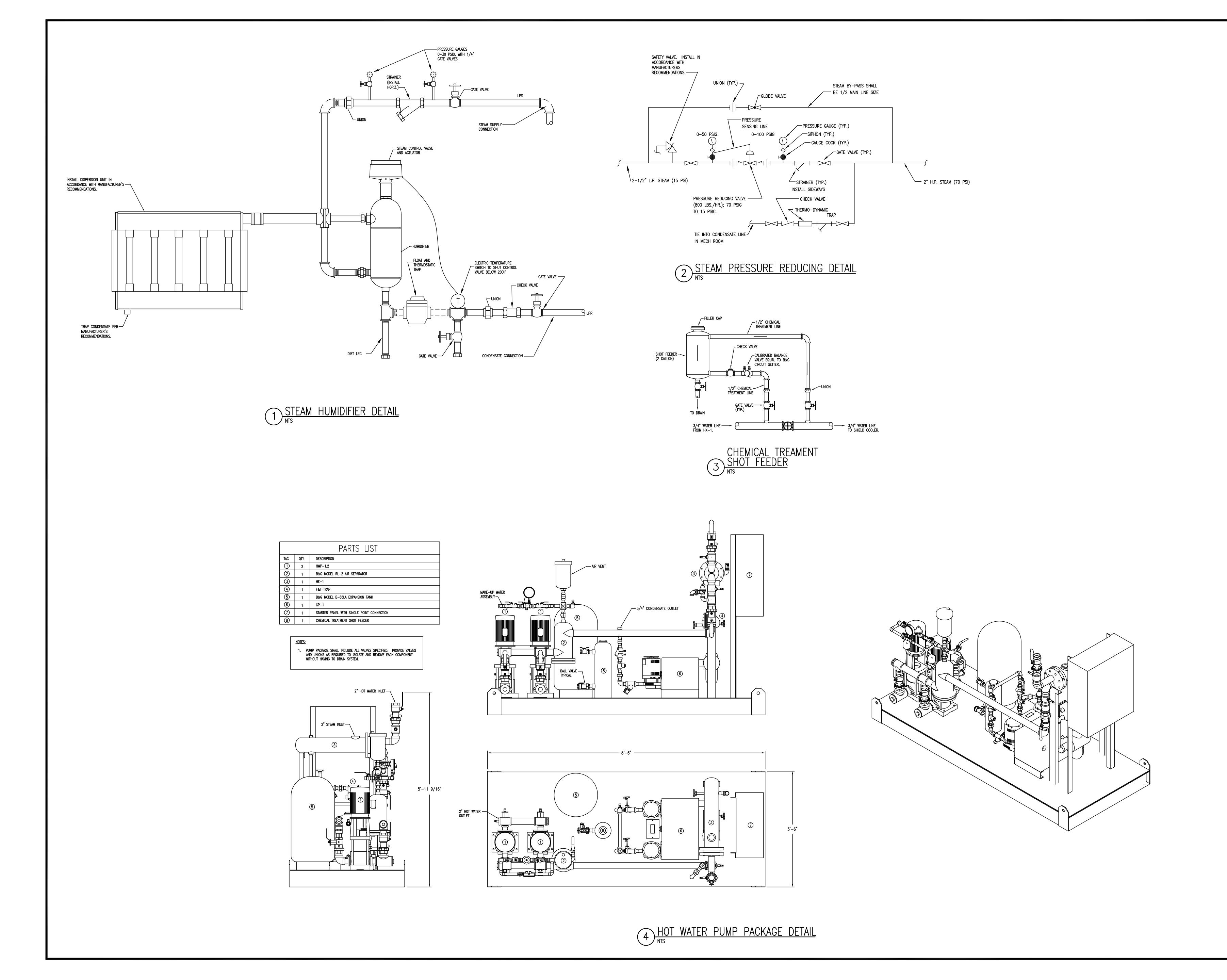
tel. 803-256-0000

fax 803-255-7243

M6.2

drawn by JDR checked by JDR

sheet number



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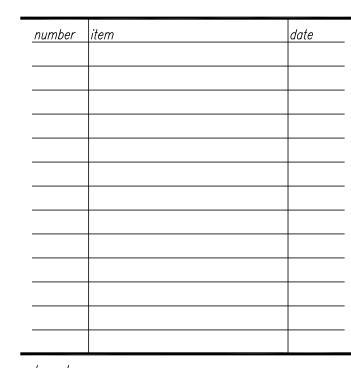
project name USC SOM - BLDG #1 4TH FLOOR ANIMAL SURGERY LAB H27-6100-D project number

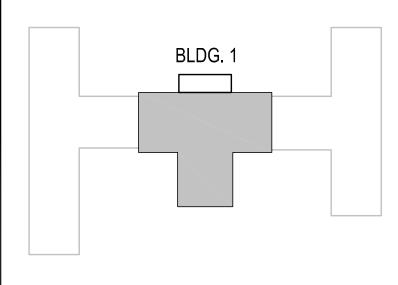
13030.01

seals/signature

CONSTRUCTION DOCUMENTS

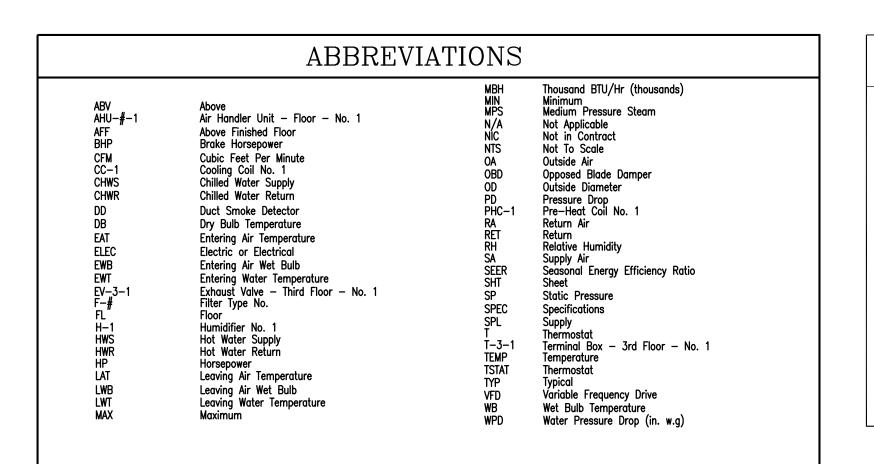
^{date} MAY 9, 2014





sheet title
HVAC DETAILS

sheet number



TAG	DESCRIPTION	NECK	MODULE SIZE	MOUNT	CONSTR.	MFGR	MODEL	NOTE
Α	SQUARE PLAQUE CEILING SUPPLY	AS SHOWN	24x24	LAY-IN	ALUMINUM	PRICE	SERIES ASPD	2,3,
В	CEILING RETURN/EXHAUST	AS SHOWN	24x24	LAY-IN	ALUMINUM	PRICE	SERIES APDDR	3
С	SQUARE PLAQUE CEILING SUPPLY	AS SHOWN	12x12	LAY-IN	ALUMINUM	PRICE	SERIES ASPD	2,3,
D	CEILING RETURN/EXHAUST	AS SHOWN	12x12	SURFACE	ALUMINUM	PRICE	SERIES APDDR	3
E	SIDEWALL GRILLE RETURN/EXHAUST	AS SHOWN	AS SHOWN	LAY-IN	ALUMINUM	PRICE	SERIES 735	3
		+						+
				-				1

MECHANICAL DEMOLITION NOTES

- DRAWINGS SHOW GENERAL INTENT OF DEMOLITION. QUANTITIES, LOCATIONS, SIZES AND EQUIPMENT ARE SHOWN TO INDICATE TYPE OF SYSTEM INSTALLED AND DOES NOT NECESSARILY REPRESENT EXACT CONDITIONS. CONTRACTOR SHALL FIELD VERIFY BEFORE BIDDING.
- 2. DEMOLITION OF EQUIPMENT, SYSTEMS, AND COMPONENTS SHALL INCLUDE ALL SUPPORTS, PADS, HANGERS, INSULATION, CONTROLS, STARTERS, ACCESSORIES, AND APPURTENANCES
- NOT REQUIRED FOR THE INSTALLATION OF THE NEW SYSTEM. 3. WHEN PARTIAL DEMOLITION OF A SYSTEM IS INDICATED, THE PART OF THE SYSTEM SHOWN TO REMOVED SHALL BE REMOVED TO THE ACTIVE MAIN OR BRANCH IF NOT REQUIRED FOR THE INSTALLATION OF THE NEW SYSTEM. THE ACTIVE MAIN OR BRANCH SHALL BE REPAIRED TO MATCH NEW INSTALLATION AS MUCH AS PRACTICAL. IF SYSTEM IS INSULATED, INSULATION SHALL BE PATCHED AND FINISHED
- REPAIR (IE: VAPOR BARRIER, COATING, ETC.) 4. REMOVAL OF SYSTEMS SHALL INCLUDE COMPLETE SYSTEM WHENEVER PRACTICAL. IF NOT, SYSTEM (IE: PIPE, CONDUIT, ETC.) SHALL BE REMOVED TO 1 INCH BELOW SURFACE.

MAXIMUM

1000

1000

1000

750

1. HIGH SPEED ELECTRIC ACTUATOR 4. CORROSION—RESISTANT COATING ON VALVE

3. CONTROL POWER TRANSFORMER 6. SEE LAB CONTROL DIAGRAMS FOR MORE INFORMATION

2. LOW SPEED ELECTRIC ACTUATOR 5. CONNECT TO TWO POSITION WALL SWITCH

BOX CFM

area served

TAG NO.

HEV-1

HEV-2

HEV-3

HEV-4

MINIMUM

BOX CFM

MECHANICAL GENERAL NOTES

 DO NOT SCALE DRAWINGS; SEE ARCHITECTURAL DRAWINGS AND REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF DOORS, WINDOWS, CEILING, DIFFUSERS, ETC. 2. EXTEND ALL DRAIN LINES TO EXTERIOR AND SPILL ON GRADE. ROUTE TO AVOID INTERFERENCE WITH PASSAGEWAYS. CONDENSATE DRAINS SHALL BE TRAPPED. SLOPE DRAIN LINES 1/8" PER FOOT. 3. ALL PIPING AND DUCTWORK INSULATION SHALL BE RUN CONTINUOUSLY THROUGH FLOORS, ROOFS AND PARTITIONS EXCEPT WHERE PROHIBITED BY FIRE CODES. 4. ALL PIPING SHALL BE SUPPORTED IN ACCORDANCE WITH THE SPECIFICATIONS AND FURTHER SUPPORTS OR HANGERS SHALL BE ADJACENT TO ELBOWS, TO PREVENT WEIGHT OF PIPING BEING PLACED ON THE EQUIPMENT. SUPPORT DETAILS SHALL BE SUBMITTED TO THE MECHANICAL ENGINEER.

5. ALL PIPING AND DUCTWORK LOCATIONS SHALL BE COORDINATED WITH THE WORK UNDER OTHER DIVISIONS OF THE SPECIFICATIONS TO AVOID INTERFERENCE. 6. ALL PIPING, DUCTS, VENTS, ETC. EXTENDING THRU EXTERIOR WALLS AND ROOFS SHALL BE FLASHED AND COUNTERFLASHED. 7. PROVIDE ALL TRANSITIONS REQUIRED FOR INSTALLATION OF DUCT, EXHAUST FANS, AND ALL OTHER EQUIPMENT AND APPURTENANCES.

8. ALL DUCT IS GALVANIZED SHEET METAL EXCEPT AS NOTED. 9. DUCT SIZES ARE CLEAR INSIDE DIMENSIONS.

HVAC LEGEND												
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION							
T	TEMPERATURE SENSOR OR THERMOSTAT		CEILING SUPPLY DIFFUSER, RETURN GRILLE W/ FLEX DUCT CONN. FOR RETURN OR EXHAUST AIR; SEE "DIFFUSER & GRILLE SCHEDULE"	18x12 12x12	TRANSITION, FLAT ON BOTTOM (FOB) FLAT ON TOP (FOT, IF APPLICABLE)							
(\$)	WALL SWITCH	+ +	EXISTING DUCT WORK TO REMAIN		TURNING VANES							
(H)	WALL HUMIDISTAT	*//////	EXISTING DUCT WORK TO BE REMOVED	- 00	DUCT SMOKE DETECTORS							
•	CONNECT TO EXISTING	+ 🔀	DUCT TURNING DOWN	CR	CONCEALED REGULATOR							
18x12	RECTANGULAR DUCT SIZE, FIRST FIGURE IS SIDE SHOWN		DUCT TURNING UP		MANUAL VOLUME DAMPER							
18"ø	ROUND DUCT SIZE	——————————————————————————————————————	UNION	<u>6″ø</u> 100	A – DIFFUSER TAG 6"Ø – NECK SIZE 100 – CFM							
R	CHANGE OF ELEVATION, RISER (R), DROP (0)		STRAINER		GATE VALVE							
<u> </u>	ACOUSTICAL LINING INSULATION		STRAINER WITH BLOW OFF		CONTROL VALVE, TWO WAY							
	FLEXIBLE DUCT		ECCENTRIC REDUCER FLAT ON TOP		END CAP							
CHWS	CHILLED WATER SUPPLY	-+0+-	TEE OUTLET UP	-+	ELBOW TURNED DOWN							
CHWR	CHILLED WATER RETURN	-+	TEE OUTLET DOWN	-+0	ELBOW TURNED UP							
	CONCENTRIC REDUCER				ECCENTRIC REDUCER FLAT ON BOTTOM							

TAG NO.	AREA SERVED	MAXIMUM BOX CFM	MINIMUM BOX CFM	MIN. INLET S.P. (W.C.)	PRIMARY NC @ 1.5" SP DISCH/RAD.	INLET SIZE (INCHES)	ELECTRICAL (VOLTS/PHASE)	MANUFACTURER	MODEL NO.	NOTE
GEV-1		1115	150	1.25		12		PHOENIX CONTROLS	HEVAF12M-ALNHZ	1,3,6,7
GEV-2		350	350	1.25		8		PHOENIX CONTROLS	CEVAF08M-ACNHZ	1,3,6,7
GEV-3		2595	1340	1.25		24X12		PHOENIX CONTROLS	HEVA212M-ALNHZ	1,3,6,7
GEV-4		925	55	1.25		10		PHOENIX CONTROLS	HEVAF10M-ALNHZ	1,3,6,7
GEV-5		1300	725	1.25		12		PHOENIX CONTROLS	HEVAF12M-ALNHZ	1,3,6,7
GEV-6		225	225	1.25		8		PHOENIX CONTROLS	CEVAF08M-ACNHZ	1,3,6,7
GEV-7		250	35	1.25		8		PHOENIX CONTROLS	HEVAF08M-ALNHZ	1,3,6,7
GEV-8		375	375	1.25		8		PHOENIX CONTROLS	CEVAF08M-ACNHZ	1,3,6,7
GEV-9		300	300	1.25		8		PHOENIX CONTROLS	CEVAF08M-ACNHZ	1,3,6,7
GEV-10		350	35	1.25		8		PHOENIX CONTROLS	HEVAF08M-ALNHZ	1,3,6,7

MODEL NO.

CEVBF10M-ACNHZ

CEVBF10M-ACNHZ

CEVBF10M-ACNHZ

CEVBF08M-ACNHZ

MANUFACTURER

PHOENIX CONTROLS

PHOENIX CONTROLS

PHOENIX CONTROLS

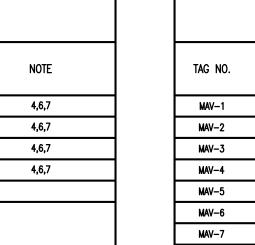
PHOENIX CONTROLS

(VOLTS/PHASE)

		роот	REHEA'	1 0011	1 001	םטעםו	L			
TAG NO.	MINIMUM	COIL SIZE	PIPE RUNOUT		REHEA	COIL		MAX. WPD	MAX. APD	NOTES
IAG NO.	BOX CFM	(WXL)	SIZE (INCHES)	GPM	мвн	EWT (°F)	LWT (°F)	FT W.C.	IN W.C.	NOILS
HC-1	530	18X12	3/4"	2.1	21.2	180	160	5.0	0.25	1,2
HC-2	460	12X14	3/4"	1.8	18.4	180	160	5.0	0.25	1,2
HC-3	900	20X15	1"	3.7	36.8	180	160	5.0	0.25	1,2
HC-4	790	20X15	3/4"	3.2	31.6	180	160	5.0	0.25	1,2
HC-5	1500	12X24	1"	6.0	59.1	180	160	5.0	0.25	1,2
HC-6	425	12X14	3/4"	1.7	17.0	180	160	5.0	0.25	1,2
HC-7	400	12X14	3/4"	1.6	16.0	180	160	5.0	0.25	1,2

MAXIMUM BOX CFM
1400

3. REHEAT COIL MOUNTED IN DUCT



				MAKEU]	P AIR VA	LVE SCHED	ULE			
TAG NO.	MAXIMUM BOX CFM	MINIMUM BOX CFM	MIN. INLET S.P. (W.C.)	REHEAT COIL TAG	INLET SIZE (INCHES)	ELECTRICAL (VOLTS/PHASE)	Tracking Valve	MANUFACTURER	MODEL NO.	NOTE
MAV-1	1400	530	1.25	HC-1	12	120/1	GEV-4	PHOENIX CONTROLS	HSVAF12M-ALAHZ	1,2,3,4
MAV-2	875	460	1.25	HC-2	10	120/1	GEV-7	PHOENIX CONTROLS	HSVAF10M-ALAHZ	1,2,3,4
MAV-3	1865	900	1.25	HC-3	14	120/1	GEV-1	PHOENIX CONTROLS	HSVAF14M-ALAHZ	1,2,3,4
MAV-4	2045	790	1.25	HC-4	14	120/1	GEV-3	PHOENIX CONTROLS	HSVAF14M-ALAHZ	1,2,3,4
MAV-5	1500	1500	1.25	HC-5	12	120/1		PHOENIX CONTROLS	BSVAF12M-ACNHC	1,2,3,4
MAV-6	1000	425	1.25	HC-6	12	120/1	GEV-5	PHOENIX CONTROLS	HSVAF12M-ALAHZ	1,2,3,4
MAV-7	500	400	1.25	HC-7	8	120/1	GEV-10	PHOENIX CONTROLS	HSVAF08M—ALAHZ	1,2,3,4
	ELECTRIC ACTUATOR WER TRANSFORMER	4. FLANGED CON	INECTION							

					ST	EAM	CON	IDEN	SATE PUMP S	SCHEDULE			
TAG	SERVICE	TYPE	FLOW	HEAD	EFFICIENCY		MOTOR		ELECTRICAL	EMERGENCY	MANUFACTURER	MODEL	NOTES
	5252		(GPM)	FT (PSI)	(%)	HP	RPM	TYPE	(VOLTS/PHASE)	POWER		522	
CP-1		STEAM COND.	6	34.65		1/3	1750	ODP	120/1	NO	BELL AND GOSSETT	SERIES CC	1,3,4
3. DUPLEX CO	RELIEF VALVE (SET AT 60 CONDENSATE PUMPS	PSIG) INGLE POINT CONNECTION (S	see detail)										

MIN. INLET S.P. (W.C.)

1.25

1.25

1.25

1.25

HOOD EXHAUST VALVE SCHEDULE

(INCHES)

10

10

10

NC @ 1.5" SP

DISCH/RAD.

7. FLANGED CONNECTION

				SILAI	м помп	DIFIER S		_ <u></u>			
TAG	LOCATION	TYPE	DUCT SIZE	CFM	CAPACITY (LBS/HR)	STEAM PRESS. (PSIG)	MAXIMUM ABSORPTION DISTANCE	AIR PD (IN W.C.)	MANUFACTURER	MODEL	NOTES
H-1	1-AC12		36X18	5000	94.6	15	6"	0.006	DRI-STEEM	ULTRA-SORB LV	1,2,3,4,5,6,7

					P	UMP S	SCHED	ULE					
TAG	SERVICE	TYPE	FLOW	HEAD	EFFICIENCY		MOTOR		ELECTRICAL	EMERGENCY	MANUFACTURER	MODEL	NOTES
ino	SENTICE	111 2	(GPM)	FT (PSI)	(%)	HP	RPM	TYPE	(volts/phase)	POWER	MANOTACIONEN	WODEL	HOLS
HWP-1,2	HOT WATER PUMP	INLINE	25.0	40.8	67.7	1/2	1800	ODP	120/1	NO	BELL & GOSSETT	10SV3GA7J10	1,2,3
	ge with single point connection (see detail)		ONE PUMP STAN										

			HEAT I	EXCHAN	IGER	SCH	EDUL	E					
				LICATING	TU	BE-SIDE WA	TER	SHE	ELL-SIDE ST	EAM			
TAG	SERVICE	TYPE	MATERIAL	HEATING MBH	EWT *F	LWT *F	GPM	NO. Passes	PRESS. (PSIG)	LBS/HR	MANUFACTURER	MODEL	REMARKS
HE-1	HOT WATER	SHELL & TUBE	CAST IRON	244.3	180	160	25		15	258.4	BELL & GOSSETT	SU 4 2-2	1,2
INFOR	IOT WATER PUMP PACKAGE D MATION. PUMP SCHEDULE FOR ADDITION		1,2										

							FAN SCHE	CDULE			
TAG	TYPE	CAPACITY	MIN.	E.S.P.	М	OTOR	ELECTRICAL	EMERGENCY	MANUFACTURER	MODEL NO.	NOTES
	2	CFM	CFM	(IN. WG.)	HP	RPM	(VOLTS/PHASE)	POWER	THE RESTRICTION OF THE PERSON	model not	
LEF-1	vent set	11635	6755	3.0	15	1725	460/3/60	NO	GREENHECK	VEKTOR-CD-24-1	3,6,9,10,11,12,13
	ACKDRAFT DAMPER (DRAFT DAMPER SWITCH	5. SEISMIC RO 6. BELT GUAR 7. FILTER 8. ECM MOTOI	D		10. F 11. (PER SIST FLEX CONNECTION A 3R ENCLOSURE	13. SPRING ISOLATORS			

2. STARTERS, DISCONNECTS, AND VFD'S PROVIDED BY DIVISION 15

												AI	R HANDLII	NG UNIT	' SCHEDU	JLE							
TAG	SERVICE	CAPACITY CFM	MINIMUM O.A.	FAN TYPE		PRESS. W.G.	RPM FA	BHP	RPM	OTOR HP	LAT UNIT (°F)	ELECTRICAL VOLTS/PHASE	EMERGENCY POWER	AIR VOLUME CONTROL	Preheat Coil Eq. No.	Heating Coil Eq. No.	COOLING COIL EQ. NO.	PRE-FILTER (%)	FINAL FILTER (%)	HUMIDIFIER EQ. NO.	MANUFACTURER	MODEL	REMARKS
1-AC12	SUPPLY	11500	11500	AF	6.0	3.0	1839	16.4	1800	20.0	55.0	480/3	NO	VFD	PHC-1		CC-1	30	85	H-1	TRANE	PCC 25	1,2
					士	<u> </u>		上′															
1. FACTORY M 2. SINGLE POI	MOUNTED VFD DINT POWER CONNECTION	ПОМ																					

TAG NO.	AREA SERVED	MAXIMUM	MINIMUM	MIN. INLET	PIPE RUNOUT		REHEA	T COIL		PRIMARY NC @ 1.5" SP	inlet size	ELECTRICAL	MANUFACTURER	MODEL NO.	NOTE
IAG NO.	AREA SERVED	BOX CFM	BOX CFM	S.P. (W.C.)	SIZE (INCHES)	GPM	MBH	EWT (°F)	LWT (°F)	DISCH/RAD.	(INCHES)	(VOLTS/PHASE)	MANUFACTURER	MODEL NO.	NOTE
T-1	OFFICE	225	225	1.0	3/4"	0.9	9.0	180	160		6"		TRANE	VCWF06	1,2,4
T-2	OFFICE	325	290	1.0	3/4"	1.2	11.6	180	160		6"		TRANE	VCWF06	1,2,4 1
T-3	OFFICE	1295	1295	1.0	1"	5.2	51.7	180	160		10"		TRANE	VCWF10	1,2,4
T-4	OFFICE	480	145	1.0	3/4*	0.8	7.9	180	160		6"		TRANE	VCWF06	1,2,4

											COIL	SCHE	EDULE	E									
			CADACITY	MAX. AIR	MIN. FACE	AIR PRESS		CAPACITY			AIR TEM	PERATURE			WA	TER		ST	EAM	MINIMUM	MAXIMUM	EL ECTRICAL	
TAG	LOCATION	SERVICE	CAPACITY CFM	VELOCITY (FPM)	AREA	DROP	TOTAL	SENS.	КW	ENTE	ERING	LEA	VING	ENTERING	LEAVING	GPM	MAX. WPD	PRESSURE	COIL COND. (LB/HR)	NO. OF	NO. OF	ELECTRICAL (VOLTS/PHASE)	NOTES
			O1 III	(FPM)	(SQ. FT.)	(IN. WG.)	MBH	MBH	IVW	DB ' F	WB 'F	DB °F	WB 'F	TEMP. *F	TEMP. *F	OI W	(FT. WATER)	TINESSONE	(LB/HR)	ROWS	fins/ft.	(10210)111102)	
CC-1	1-AC12	COOLING	11500	460	24.97	0.897	1174.0	565.4		95	80.0	51.0	50.0	42	58	146.23	14.54			8	139		
PHC-1	1-AC12	HEATING	6000	265	22.67	0.023	320.4			20.0		69.23						15	338.67	1	42		1
STEAM PRESSI	IRE = 50 PSIG	3 3-W	AY VALVE					•			•	•	-					-		•	-	•	
. 2-WAY VALVE	- 00 1 010			CITY - 4 FEET P	PER SECOND																		

ASSOCIATES, INC.

Design/Planning/Construction 1201 Main Street, Suite 2100 Columbia, S.C. 29201 tel. 803-256-0000 fax 803-255-7243

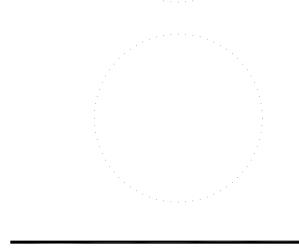
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consultants

USC CAMPUS PLANNING AND CONSTRUCTION 743 GREENE STREET COLUMBIA, SOUTH CAROLINA 29208

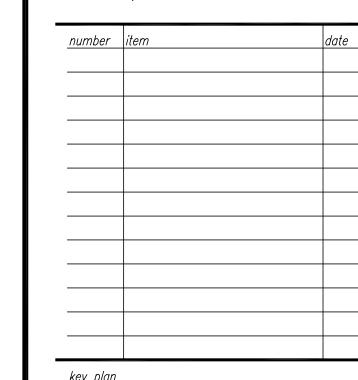
project name USC SOM - BLDG #1 4TH FLOOR ANIMAL SURGERY LAB H27-6100-D project number

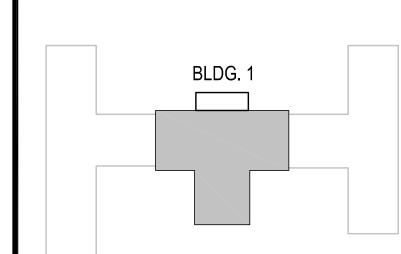
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CONSTRUCTION DOCUMENTS

^{date} MAY 9, 2014





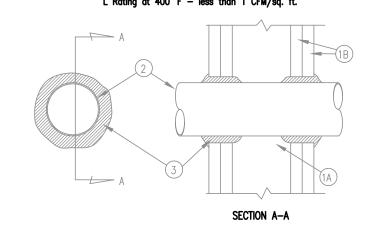


HVAC LEGENDS, ABBREVIATIONS, NOTES, AND SCHEDULES

sheet number

checked by JDR

System No. W-L-1001 F Rating - 1, 2, 3 and 4 Hr (See items 2 and 3) T Rating - 0, 1, 2, 3, and 4 Hr (See item 3) L Rating at Ambient - less than 1 CFM/sq. ft. L Rating at 400° F - less than 1 CFM/sq. ft.



- 1. Wall Assembly The 1, 2, 3, or 4 hour fire—rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400 Series Wall or Partition Designs in the UL Fire Resistance Directory and shall include the following construction features: A Studs - Wall framing may consist of either wood or steel channel studs. Wood studs (max 2 hour fire rated assemblies) or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC with nom 2 by 4 in. lumber end plates and cross braces. Steel studs to be min
- 3-5/8 in. wide by 1-3/8 in. deep channels spaced max 24 in. OC. B. Wallboard, Gypsum* — Nom 1/2 or 5/8 in. thick, 4 ft. wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam
- of opening is 13-1/2 in. 2. Pipe or conduit - Nom 12 in. diam (or smaller) Schedule 10 (or heavier) steel pipe, nom 12 in. diam (or smaller) service weight (or heavier) cast iron soil pipe, nom 12 in. diam (or smaller) Class 50 (or heavier) smaller) service weight (or heavier) cast iron soil pipe, nom 12 in. diam (or smaller) class 50 (or heavier) ductile iron pressure pipe, nom 6 in. (or smaller) steel conduit, nom 4 in. diam (or smaller) steel electrical metallic tubing, nom 6 in. diam (or smaller) Type L or (or heavier) copper tubing or nom 1 in. diam (or smaller) flexible steel conduit. When copper pipe is used, max F Rating of firestop system (Item 3) is 2 hr. Steel pipes or conduits larger than nom 4 in. diam may only be used in walls constructed using steel channel studs. A max of one pipe or conduit is permitted in the firestop system. Pipe or conduit to be installed near center of stud cavity width and to be rigidly supported on both sides of wall assembly.
- 3. Fill, Void or Cavity Material* Caulk Caulk fill material installed to completely fill annular space between pipe or conduit and gypsum wallboard and with a min 1/4 in. diam bead of caulk applied to perimeter of pipe or conduit at its egress from the wall. Caulk installed symmetrically on both sides of wall assembly. The hourly F Rating of the firestop system is DEPENDENT upon the hourly fire rating of the wall assembly in which it is installed, as shown in the following table. The hourly T rating of the firestop system is dependent upon the type or size of the pipe or conduit and the hourly fire rating of the wall assembly in which it is installed, as tabulated below:

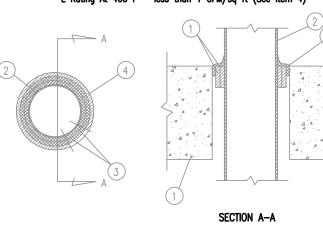
Max Pipe or conduit Diam, In.	Annular Space, In	F Rating, Hr	T Rating, Hr
1	0 to 3/16	1 or 2	0+, 1 or 2
1	1/4 to 1/2	3 or 4	3 or 4
4	0 to 1-1/2	1 or 2	0
6	1/4 to 1/2	3 or 4	0
12	3/16 to 3/8	1 or 2	0

+When copper pipe is used, T Rating is 0 hr.

Minnesota Mining & Mfg. Co. — CP 25WB+.

*Bearing the UL Classification Marking.

System No. WL1052 F Rating - 2, 3 AND 4 Hr T Rating — 0 Hr L Rating At Ambient - 2 CFM/sq ft (See Item 4) L Rating At 400 F - less than 1 CFM/sq ft (See Item 4)

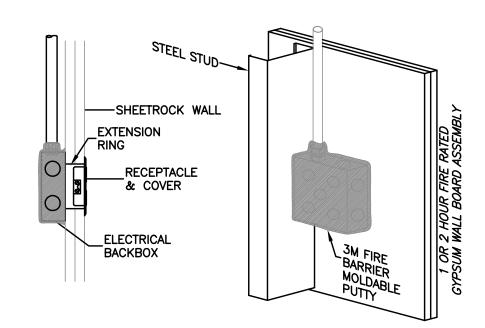


- 1. Floor or Wall Assembly Lightweight or normal weight (100-150 pcf) concrete. Min. thickness of concrete floor or wall assembly is 4-1/2 in. for 2 and 3 hr F Ratings and 5-1/2 in. for 4 hr F Rating. Wall may also be constructed of any UL Classified Concrete Blocks*. Max diam of circular opening is 13-1/2 in. See Concrete Blocks (CAZT category in the Fire Resistance Directory for names of manufacturers. 2. Steel Pipe or Conduit - Nom 12 in. diam (or smaller) Schedule 10 or heavier steel pipe, nom 6 in. diam (or smaller) steel conduit or nom 4 in. diam (or smaller) steel EMT. Max one pipe or conduit per opening, centered in opening. Min clearance between pipe or conduit and sides of through opening is 1/4 in. Max clearance between pipe or conduit and sides of through opening is 1-3/4 in for 2 hr F rating
- 3. Fill, Void or Cavity Material* Wrap Strip Nom 1/4 in. thick intumescent elastomeric material faced on one side with aluminum foil, supplied in 2 in. wide strips. For the 2 and 3 hr F Ratings, min 1 in. wide strip(s) wrapped around pipe/conduit (foil side exposed) until OD of wrap strip is equal to or max 3/16 in. less than ID of circular through opening. Wrap strip tightly bound with steel tie wire or pressure sensitive tape and slid into through opening such that the top edge of the wrap strip(s) is recessed 1/4 in. from the top surface of floor or, in wall assemblies, such that the wrap strip(s) is centered in the wall thickness. For the 4 hr F Rating, nom 2 in. wide strip(s) wrapped around pipe/conduit (foil side exposed) on each side of the floor or wall assembly until OD of wrap strip is equal to or max 3/16 in. less than ID of circular through opening. Wrap strip tightly bound with steel tie wire or pressure sensitive tape and slid into through opening on each side of floor or wall assembly such that the exposed edges are recessed 1/4 in. from the floor or wall surfaces.

and 3/4 in. for 3 and 4 hr F ratings. Pipe or conduit to be rigidly supported on both sides of floor or

Minnesota Mining & Mfg. Co. — Types FS—195, FS—195+
4. Fill, Void or Cavity Material* — Caulk — Nom 1/4 in. thickness of caulk to be applied to the exposed edges of the wrap strip and to fill all voids between the pipe/conduit and the periphery of the through opening. For 2 or 3 hour F rating in floor assemblies, caulk to be installed flush with top surface of floor. For wall assemblies and for the 4 hour F Rating in floor assemblies, caulk to be applied on both

Minnesota Mining & Mfg. Co. — Types CP—25 S/L, CP—25 N/S, CP—25 WB, CP—25 WB+. (Note: L Ratings apply only when Type CP—25 WB+ caulk is used.) *Bearing the UL Classification Marking.



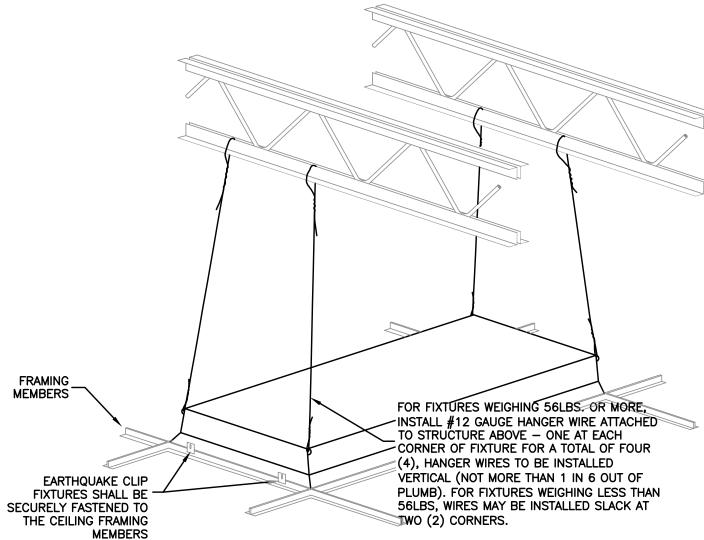
WALL OPENING PROTECTION DETAIL NTS - UL SECTION CLIV

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC. 5400 S 122ND EAST AVE, TULSA OK 74146
FS Pads, for use with max 4 by 4 in. flush device UL Listed Metallic Outlet Boxes in 1 and 2 hr. fire rated gypsum wallboard wall assemblies framed with min 3-5/8 in. wide steel studs and constructed as specified in the individual U400 Series Wall and Partition Designs in the Fire Resistance Directory. Min 1/8 in. thick moldable putty pads are to be installed to completely cover the exterior surfaces of the outlet box (except for the side of the outlet box against the stud) and completely seal against the stud within the stud cavity. When moldable putty pad outlet box protective material is used on boxes on both sides of wall as directed, the horizontal seperation between outlet boxes on opposite sides of the wall may be less than 24 in. provided that the boxes are not installed back to back. MINNESOTA MINING & MFG CO 3M CENTER, ST PAUL MN 55144

Type MPP-4S+ moldable putty pads for use with max 4-11/16 by 4-11/16 in. flush device UL listed

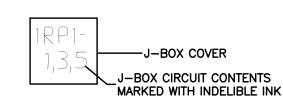
Metallic Outlet Boxes in fire rated gypsum wallboard wall assemblies framed with min 3-1/2 in. wide wood or steel studs and constructed as specified in the individual U300 or U400 Series Wall and Partition Designs in the Fire Resistance Directory. Outlet boxes secured to wood studs by means of two nailing tabs in

conjunction with nails supplied with the outlet box.



2 RECESSED LIGHTING FIXTURE DETAIL

WHERE FIXTURES ARE HUNG IN A FIRE RATED CEILING, THE CEILING CONTRACTOR SHALL PROVIDE FIRE PROTECTION AS SHOWN IN UL FIRE RESISTANCE BOOK AS DESIGN NOTE P230 OR P510.



ALL EXPOSED J-BOXES, NOT INCLUDING ELECTRICAL OR MECHANICAL ROOMS, SHALL BE MARKED ON THE INSIDE COVER. ALL OTHERS SHALL BE MARKED ON THE OUTSIDE. ALL J-BOXES CONTAINING FIRE ALARM CIRCUITS SHALL BE ALL J-BOXES CONTAINING SOUND CIRCUITS SHALL BE PAINTED GREEN. J-BOX COVER DETAIL

NTS

> ALL CONDUIT SHALL BE INSTALLED IN A NEAT AND ORDERLY MANNER, PERPENDICULAR TO ALL BUILDING WALLS AND BEAMS AND SHALL COMPLY STRICTLY WITH ALL CODES AND REQUIREMENTS OF THE NEC, NFPA, UL AND SBCCI WITH NO EXCEPTIONS.

	ELECTRICAL SYM	1BOL SC	HEDULE
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	BRANCH CIRCUIT RACEWAY. RUN CONCEALED IN CEILING OR WALLS. ARROWHEAD DENOTES HOMERUN		ELECTRICAL CIRCUIT BREAKER PANELBOARD.
LP1-2,4 TWO A	TO PANEL. CROSSLINES DENOTE NUMBER OF PHASE AND NEUTRAL CONDUCTORS WHEN MAORE THAN TWO ARE TO BE INSTALLED. TEXT DENOTES PANEL NAME AND CIRCUIT NUMBERS FOR HOMERUN. INSTALL GROUND WIRE IN ALL RACEWAYS. #12 AWG MINIMUM AND AS PER CODE.	= GF WP 8	DUPLEX RECEPTACLE, 120 VOLT, 20 AMP, WALL MOUNTED, GROUND FAULT CIRCUIT INTERRUPTER, 16" AFF. THE NUMBER DENOTES CIRCUIT NUMBER. "WP" DENOTES WEATHERPROOF COVER.
, which is a second of the sec	BRANCH CIRCUIT RACEWAY. RUN IN AND/OR UNDER SLAB. ARROWHEAD DENOTES HOMERUN TO PANEL. CROSSLINES DENOTE NUMBER OF PHASE AND NEUTRAL CONDUCTORS WHEN MORE THAN TWO ARE TO	gғ = ф 8	DUPLEX RECEPTACLE, 120 VOLT, 20 AMP, WALL MOUNTED. THE NUMBER DENOTES CIRCUIT NUMBER. "GF" DENOTES GFCI RECEPTACLE.
LP1-2,4	BE INSTALLED. TEXT DENOTES PANEL NAME AND CIRCUIT NUMBERS FOR HOMERUN. INSTALL GROUND WIRE IN ALL RACEWAYS. #12 AWG MINIMUM AND AS PER CODE.	 8	2 — 120 VOLT, 20 AMP DUPLEX RECEPTACLES, WALL MOUNTED, 16" AFF, UNLESS OTHERWISE NOTED. THE NUMBER DENOTES CIRCUIT NUMBER.
~~#\ FERROT	FLEXIBLE CONDUIT. WEATHERPROOF TYPE WHEN CONNECTED TO MOTORS. CROSSLINES DENOTE NUMBER OF PHASE AND NEUTRAL CONDUCTORS WHEN MORE THAN TWO ARE INSTALLED. INSTALL GROUND WIRE WIRE #12 AWG MINIMUM.	= ф ^{GF} 8	2 — 120 VOLT, 20 AMP DUPLEX RECEPTACLES, WALL MOUNTED. THE NUMBER DENOTES CIRCUIT NUMBER "GF" DENOTES GFCI RECEPTACLE.
ESSPOT STORAGE 1188	SPACE NAME AND NUMBER. COORDINATE WITH ARCHITECTURAL SPACE NUMBER.	= 8	DUPLEX RECEPTACLE, 20 AMP, 120 VOLT, CEILING MOUNTED. NUMBER DENOTES CIRCUIT NUMBER.
X	CEILING MOUNTED FLOURESCENT LIGHT FIXTURE. LETTER DENOTES TYPE OF FIXTURE IS EXISTING. SEE LIGHTING PLAN.	Ŭ Mb	FLUSH WALL MOUNTED JUNCTION BOX, SIZED PER NEC. "WP" DENOTES NEMA 3R WEATHERPROOF. PROVIDE AND INSTALL A FLUSH COVER PLATE.
<u> </u>	EXIT SIGN. REFER TO FIXTURE SCHEDULE. DARKENED AREA DENOTES SIGN FACE. NUMBER DENOTES	0	JUNCTION BOX, MOUNTED ABOVE CEILING, SIZED PER NEC. REFER TO THE NEC TO MAINTAIN CLEARANCES.
∑ 4	CIRCUIT NUMBER. STEM DESIGNATES WALL MOUNTING. NO STEM DENOTES CEILING MOUNTED. DOUBLE FACED EXIT SIGN. NOTATION SAME AS ABOVE. ARROWS DENOTE EXIT DIRECTION.	= 1,3 20A	RECEPTACLE, 240 VOLT, WALL MOUNTED. THE ONE NUMBER DENOTES THE AMPERE RATING. THE TWO NUMBER DENOTES CIRCUIT NUMBER.
\$	LIGHT SWITCH, SPST, 20A, 48" AFF.		RECEPTACLE, 240 VOLT, WALL MOUNTED HIGH. THE ONE NUMBER DENOTES THE AMPERE RATING. THE TWO NUMBER DENOTES CIRCUIT NUMBER.
\$3	LIGHT SWITCH, 3-WAY, 20A, 48" AFF.	1,3 20A	TWO NOMBER DENOTES CINCOTI NOMBER.
\$4	LIGHT SWITCH, 4-WAY, 20A, 48" AFF.	∮ EF	FRACTIONAL HORSEPOWER MOTOR.
\$m	MANUAL MOTOR STARTER FOR USE AS A DISCONNECT ON FRACTIONAL HORSEPOWER MOTORS.	☐ S-1	SURFACE WALL MOUNTED DISCONNECT SWITCH. HEAVY DUTY.
⊙ •	CONDUIT FLOOR STUB-UP. DENOTES THAT ELECTRICAL DEVICE IS SURFACE MOUNTED.	<u> </u>	SURFACE WALL MOUNTED COMBINATION STARTER/DISCONNECT SWITCH. HEAVY DUTY. TWO CHANNEL SURFACE MOUNTED RACEWAY FOR POWER AND DATA, WITH DUPLEX POWER RECEPTACLES AND TWO PORT DATA RECEPTACLES.
	COMMUNICATIONS/SIGNAL		ABBREVIATIONS
▼	SINGLE PORT VOICE OUTLET RECEPTACLE. FLUSH WALL MOUNTED, 16" AFF.	A AFF	AMPERE. ABOVE FINISHED FLOOR.
≪	TWO PORT COMBINATION TELEPHONE AND DATA OUTLET RECEPTACLE, FLUSH WALL MOUNTED. SINGLE GANG, 16". DOT	ATS BKR C	AUTOMATIC TRANSFER SWITCH BREAKER. CONDUIT.
◆ <	TWO PORT COMBINATION TELEPHONE AND DATA OUTLET RECEPTACLE SAME AS ABOVE, EXCEPT MOUNTED 48" AFF OR HIGHER.	CKT E EC	CIRCUIT. EXISTING ELECTRICAL DEVICE ELECTRICAL CONTRACTOR, DIVISION 16.
◁	SINGLE GANG DATA OUTLET. FLUSH WALL MOUNTED, 16" AFF.	EF FCU	EXHAUST FAN. FAN COIL UNIT.
	DATA OUTLET. FLOOR MOUNTED.	GC GF	GENERAL CONTRACTOR, DIVISION OO THROUGH 14.
↓	SINGLE GANG DATA OUTLET. FLUSH WALL MOUNTED, 48" AFF OR HIIGHER. TELEPHONE OUTLET. FLUSH WALL MOUNTED, 48" AFF OR HIIGHER.	JB or J-BOX KVA	GROUND FAULT CIRCUÍT INTERRUPTER. JUNCTION BOX. KILOVOLT AMPERES.
□ ₁₅	WALL MOUNTED FIRE ALARM HORN WITH FLASHING LIGHT. NUMBER DENOTES LIGHT LEVEL OF STROBE.	KW	KILOWATT. MAXIMUM.
□◀ 30	FIRE ALARM VISUAL UNIT WITH STROBE LIGHT, MOUNTED 80" AFF OR 12" BELOW CEILING, WHICHEVER IS LOWER. NUMBER DENOTES LIGHT LEVEL OF STROBE.	MAX MC MDP	MECHANICAL CONTRACTOR, DIVISION 15. MAIN DISTRIBUTION PANEL.
(SD)	CEILING MOUNTED SMOKE DETECTOR. IONIZATION.	MIN V	MINIMUM. VOLT.
(HID)	CEILING MOUNTED HEAT DETECTOR. 130°.	VFĎ NEC	VĂRÎABLE FREQUENCY DRIVE 2011 NATIONAL ELECTRICAL CODE. (NFPA 70).
	PHOTOELECTRIC SMOKE DETECTOR MOUNTED ON AIR DUCT WITH SAMPLING TUBE THE FULL WIDTH OF DUCT, FURNISHED AND WIRED BY THE EC, INSTALLED BY THE MC.	SWBD TYP	SWITCHBOARD. TYPICAL.
15	CEILING MOUNTED FIRE ALARM HORN WITH FLASHING STROBE. NUMBER DENOTES LIGHT LEVEL OF STROBE.	wc XFMR	WATER COOLER. TRANSFORMER.

LIGHT FIXTURE SCHEDULE					
	TYPE	DESCRIPTION	CATALOG NO.	LAMPS	
A	А	FLUORESCENT, 2' x 4', 4 LAMP RECESSED TROFFER NO PRE PAINT WITH 2-2 LAMP BALLAST.	LITHONIA 2GT8-432-A12125-MVOLT-1/2,1/2-GEB10IS-PAF	4-F32T8/SPX41	
	A2	FLUORESCENT, 2' x 4', 2 LAMP RECESSED TROFFER NO PRE PAINT.	LITHONIA 2GT8-232-A12125-MVOLT-GEB10IS-PAF	2-F32T8/SPX41	
	A2E	FLUORESCENT, 2' x 4', 2 LAMP RECESSED TROFFER NO PRE PAINT. 2-1 LAMP BALLAST. 1-1 LAMP BALLAST ON EMERGENCY CIRCUIT.	LITHONIA 2GT8-232-A12125-MVOLT-1/1,1/1-GEB10IS-PAF	2-F32T8/SPX41	
	A3	FLUORESCENT, 2' x 4', 3 LAMP RECESSED TROFFER NO PRE PAINT.	LITHONIA 2GT8-332-A12125-MVOLT-GEB10IS-PAF	3-F32T8/SPX41	
To the state of th	С	FLUORESCENT, 4 FOOT, 2 LAMP STRIP LIGHT. 120 VOLT	COLUMBIA CS4-232-EU-CSWG4-PAF-DL 120 VOLT	2-F32T8/SPX41	
	C1	FLUORESCENT, 4 FOOT, 2 LAMP STRIP LIGHT. 120 VOLT	COLUMBIA K4-232-EU-CSWG4-PAF-KHC 120 VOLT	2-F32T8/SPX41	
	K	RECESSED CFL SHOWER LIGHT. 1-32W LAMP. 120 VOLT.	PRESCOLITE LF6CFH1 32EB 6CFH1 CRCL 120 VOLT	1-32W TRIPLE TUBE	
	K1	FLUORESCENT, ROUND, 6" RECESSED COMPACT FLOURESCENT DOWNLIGHT, 1-32W LAMP, CLEAR ALZAK REFLECTOR. 120V	PRESCOLITE LF6CFV 32EB 6CFV 120 VOLT	1-32W TRIPLE TUBE	
	P1	TRIM, LOW-PROFILE UNDERCABINET LIGHT FIXTURE 120 VOLT.	LITHONIA UC33E—120—LPWW—PAF	1-8W T5 1-13W T5	
	Т	8" L.E.D., RECESSED, DIMMABLE, ROUND, OPEN DOWNLIGHT FIXTURE.	SPECTRUM SGV8LEDGV-37w-35K-DS101-SGSO	1–37w L.E.D.	
EXIT.	⊗ ⊗	EXIT LIGHT. SEE PLANS TO DETERMINE WHICH UNITS ARE SINGLE / DOUBLE FACED WALL OR CEILING MOUNTED. WALL MOUNTED EXIT LIGHTS SHALL BE MOUNTED AT 6" ABOVE TOP OF DOOR FRAME. LED.	MCPHILBEN #CXL-3-R-W 120 VOLT INPUT	LED	
	NOTE #1:	ALL RECESSED LIGHT FIXTURES SHALL BE HUNG WITH 4 HANGEF ALL RECESSED FIXTURES SHALL BE INSTALLED WITH EARTHQUAKI WITH T8 LAMPS AND ELECTRONIC BALLASTS, UNLESS OTHERWISE CEILING PLAN AND THE HVAC PLAN.	E CLIPS. ALL 2' AND 4' FLUORESCENT FIXTURES SHAL	L BE EQUIPPED	
	NOTE #2:	THE NUMBER AFTER THE FIXTURE CATALOG NUMBER DENOTES NUMBER OF BALLASTS (EXAMPLE: 1/4 DENOTES 1 - 4 LAMP BALLAST).			

ASSOCIATES, INC.

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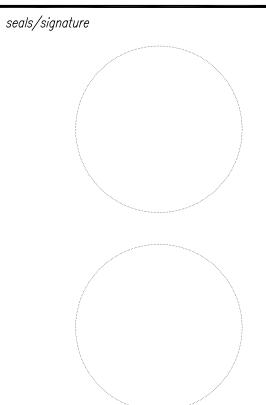


USC CAMPUS PLANNING AND CONSTRUCTION 743 GREENE STREET COLUMBIA, SOUTH CAROLINA 29208

project name USC SOM - BLDG #1 4TH FLOOR ANIMAL SURGERY LAB H27-6100-D

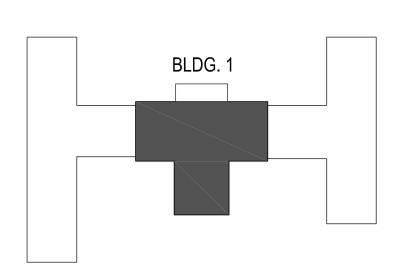
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project number



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MAY 9, 2014 <u>number</u> item key plan

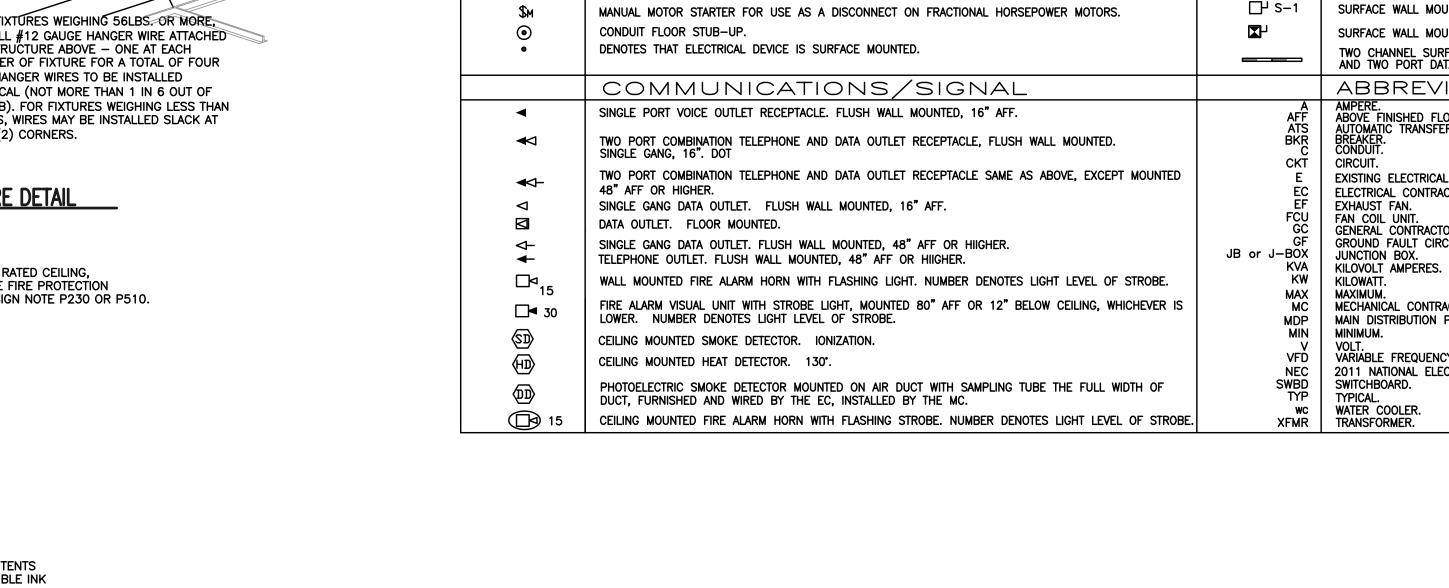




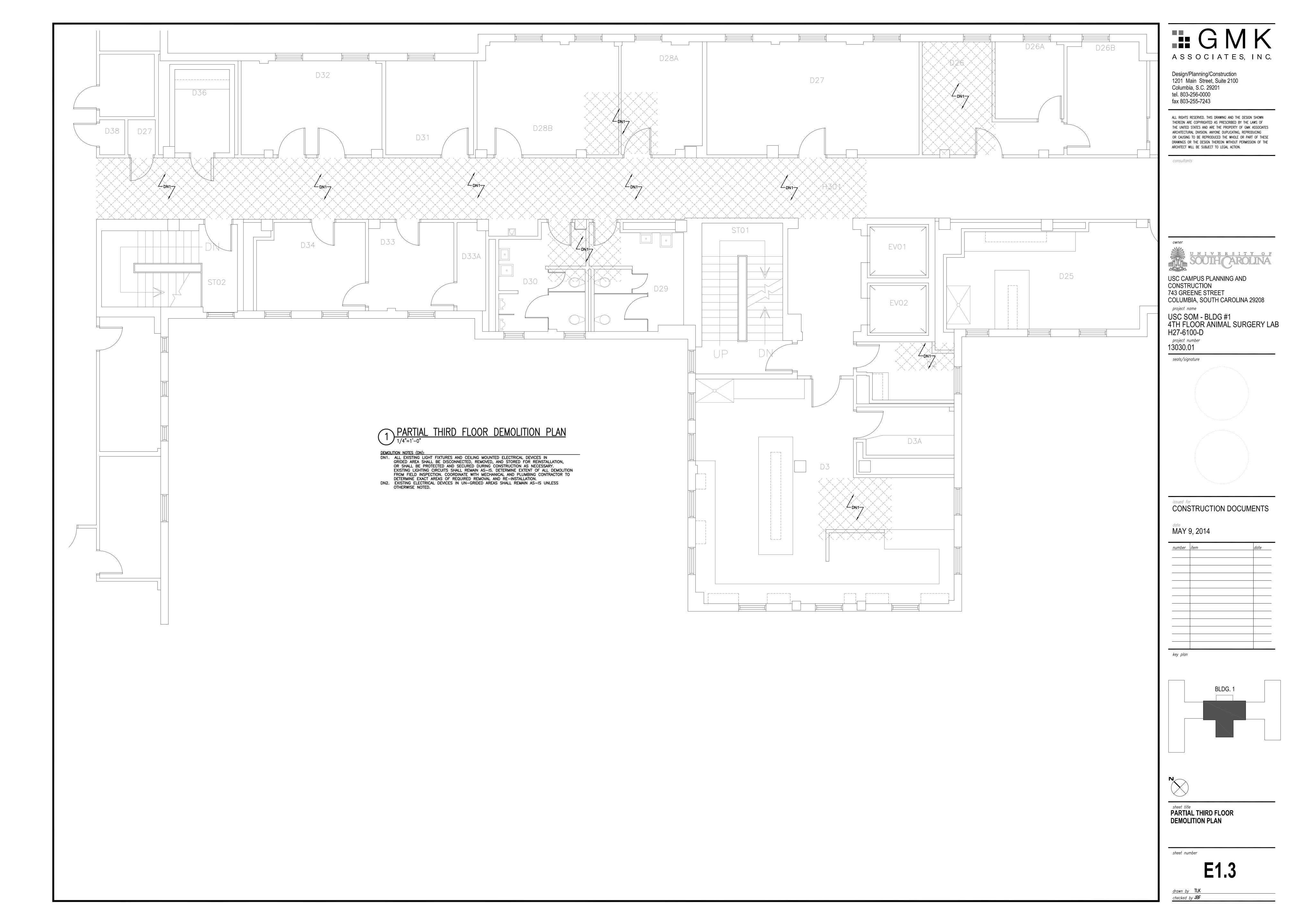
ELECTRICAL SYMBOLS, SCHEDULES, AND DETAILS

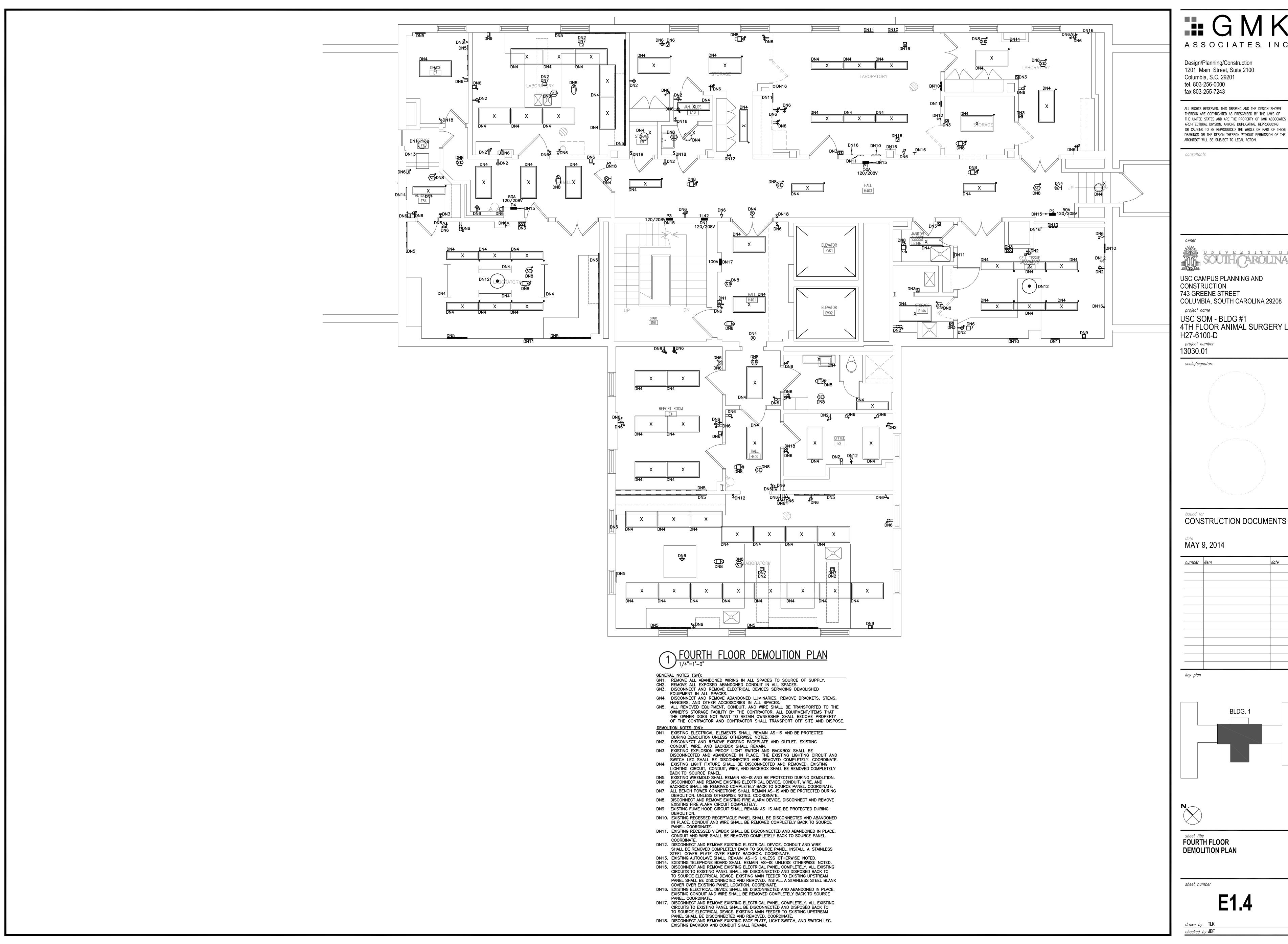
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drawn by TLK checked by JBF



	A2	FLUORESCENT, 2' x 4', 2 LAMP RECESSED TROFFER NO PRE PAINT.	LITHONIA 2GT8-232-A12125-MVOLT-GEB10IS-PAF	2-F32T8/SPX41
А	A2E	FLUORESCENT, 2' x 4', 2 LAMP RECESSED TROFFER NO PRE PAINT. 2-1 LAMP BALLAST. 1-1 LAMP BALLAST ON EMERGENCY CIRCUIT.	LITHONIA 2GT8-232-A12125-MVOLT-1/1,1/1-GEB10IS-PAF	2-F32T8/SPX41
	A3	FLUORESCENT, 2' x 4', 3 LAMP RECESSED TROFFER NO PRE PAINT.	LITHONIA 2GT8-332-A12125-MVOLT-GEB10IS-PAF	3-F32T8/SPX41
	С	FLUORESCENT, 4 FOOT, 2 LAMP STRIP LIGHT. 120 VOLT	COLUMBIA CS4-232-EU-CSWG4-PAF-DL 120 VOLT	2-F32T8/SPX41
	C1	FLUORESCENT, 4 FOOT, 2 LAMP STRIP LIGHT. 120 VOLT	COLUMBIA K4-232-EU-CSWG4-PAF-KHC 120 VOLT	2-F32T8/SPX41
	K	RECESSED CFL SHOWER LIGHT. 1-32W LAMP. 120 VOLT.	PRESCOLITE LF6CFH1 32EB 6CFH1 CRCL 120 VOLT	1-32W TRIPLE TUBE
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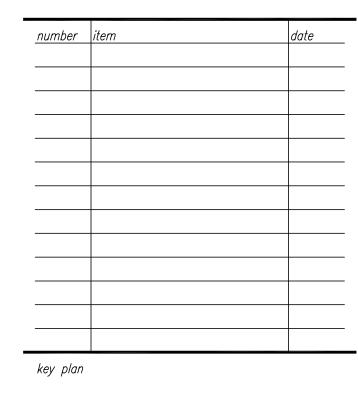


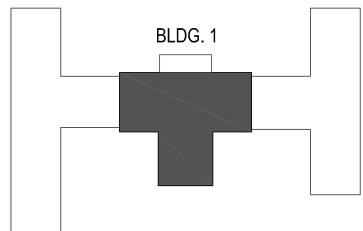


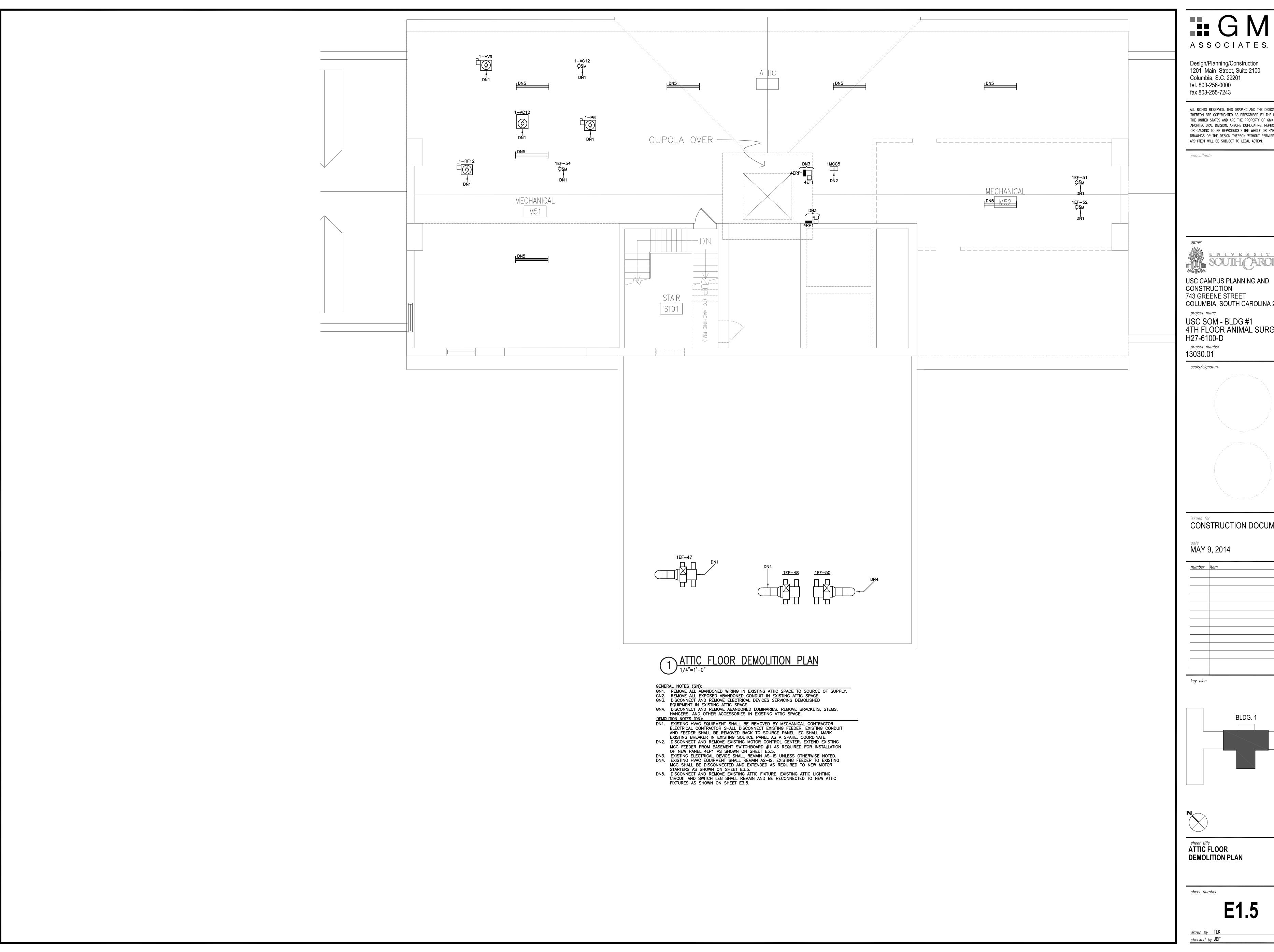
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4TH FLOOR ANIMAL SURGERY LAB





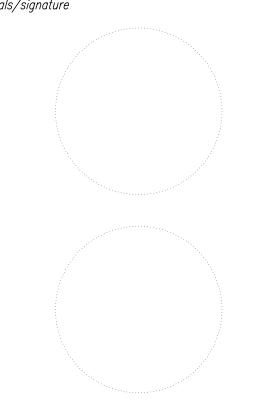


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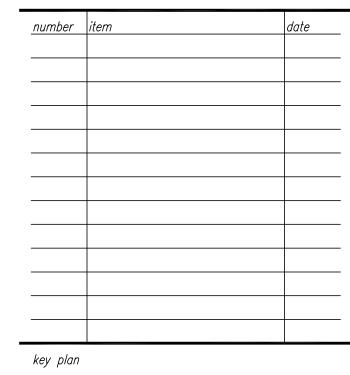


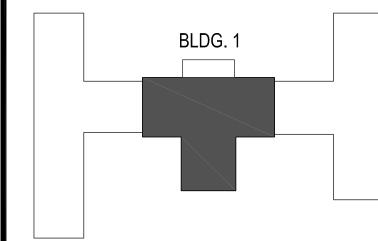
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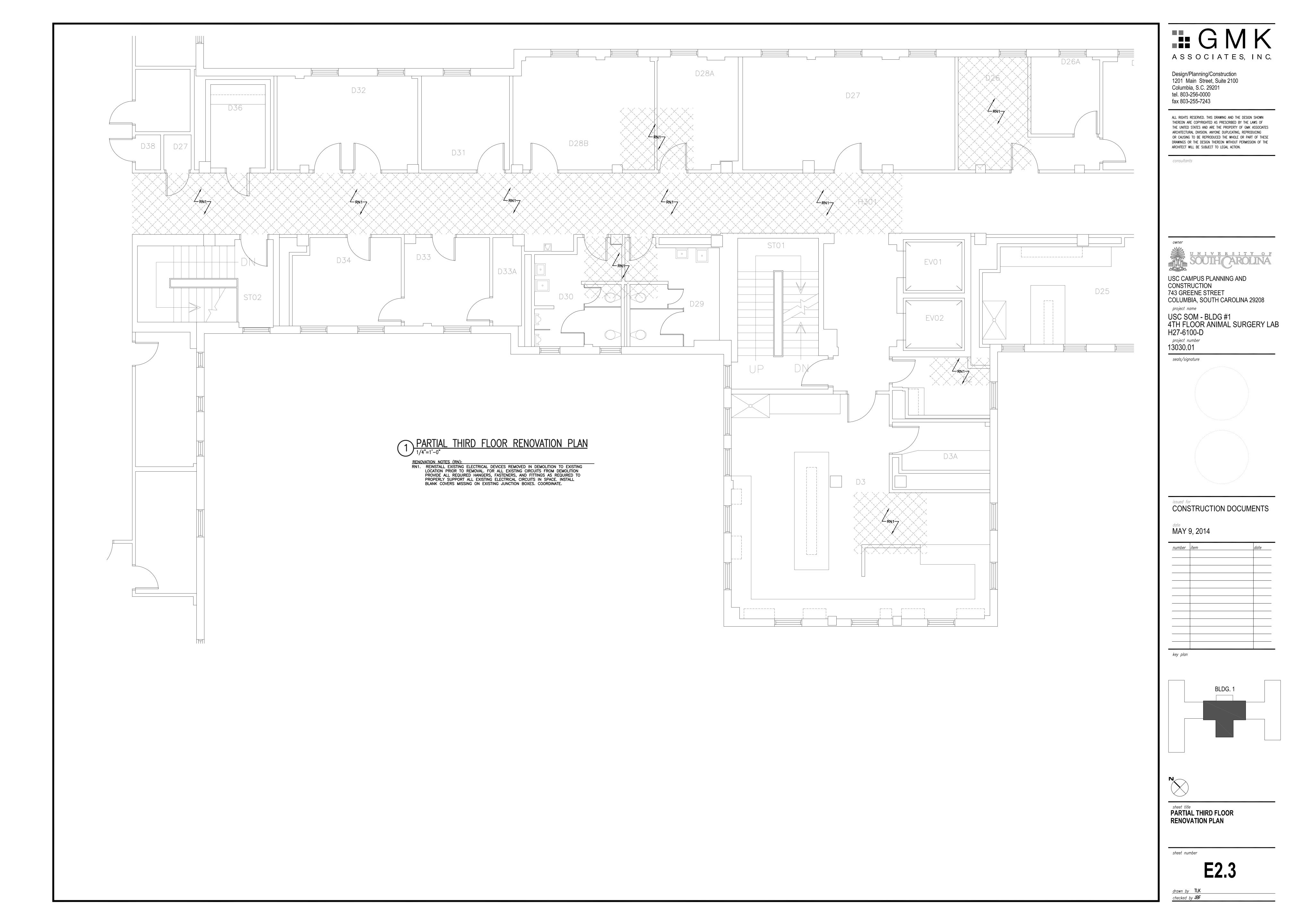
4TH FLOOR ANIMAL SURGERY LAB

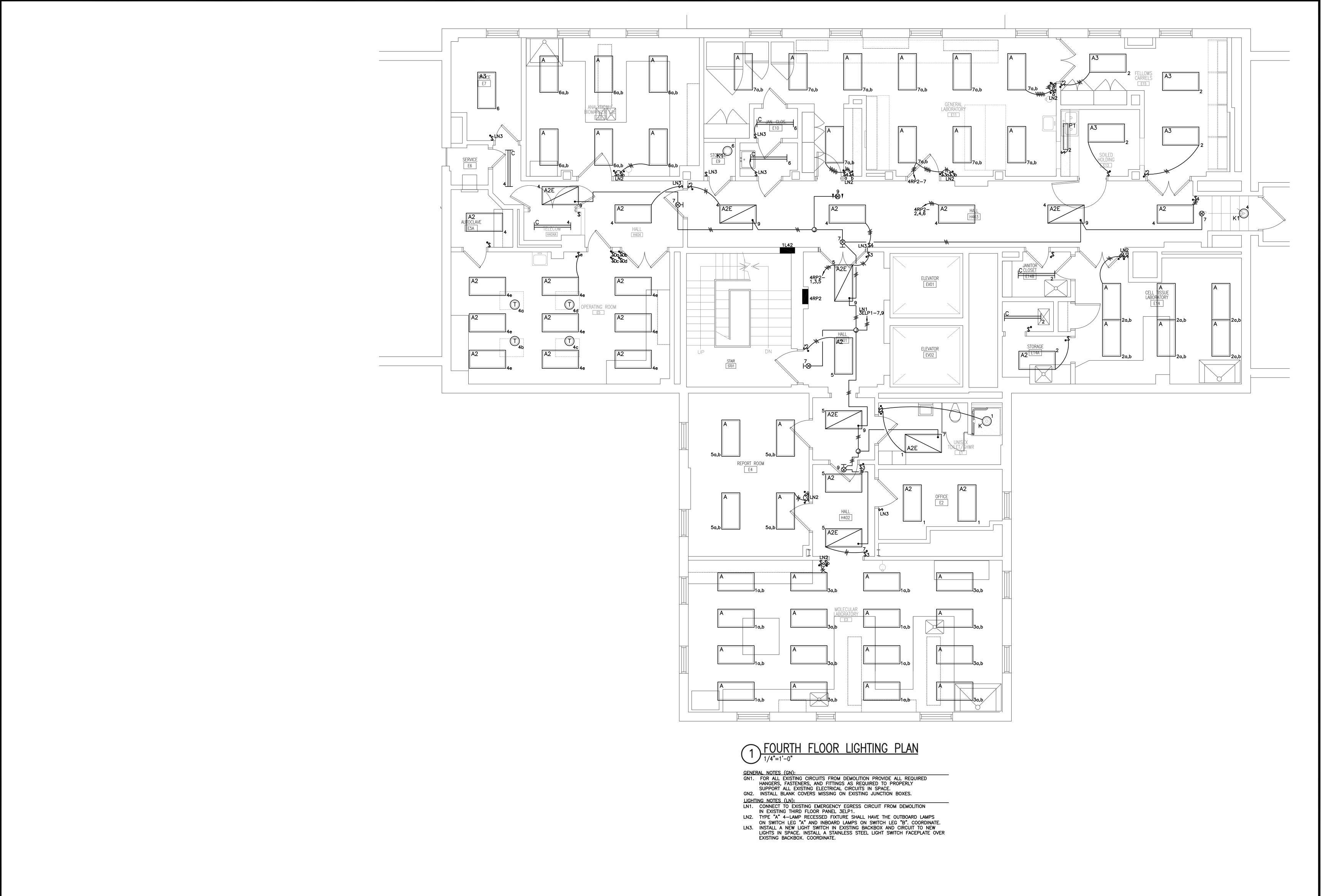


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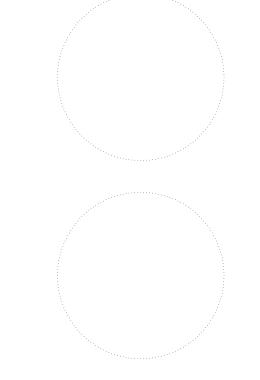


USC CAMPUS PLANNING AND CONSTRUCTION 743 GREENE STREET COLUMBIA, SOUTH CAROLINA 29208 project name

USC SOM - BLDG #1 4TH FLOOR ANIMAL SURGERY LAB H27-6100-D

project number 13030.01

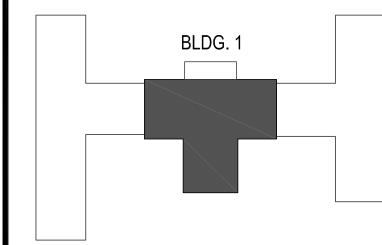




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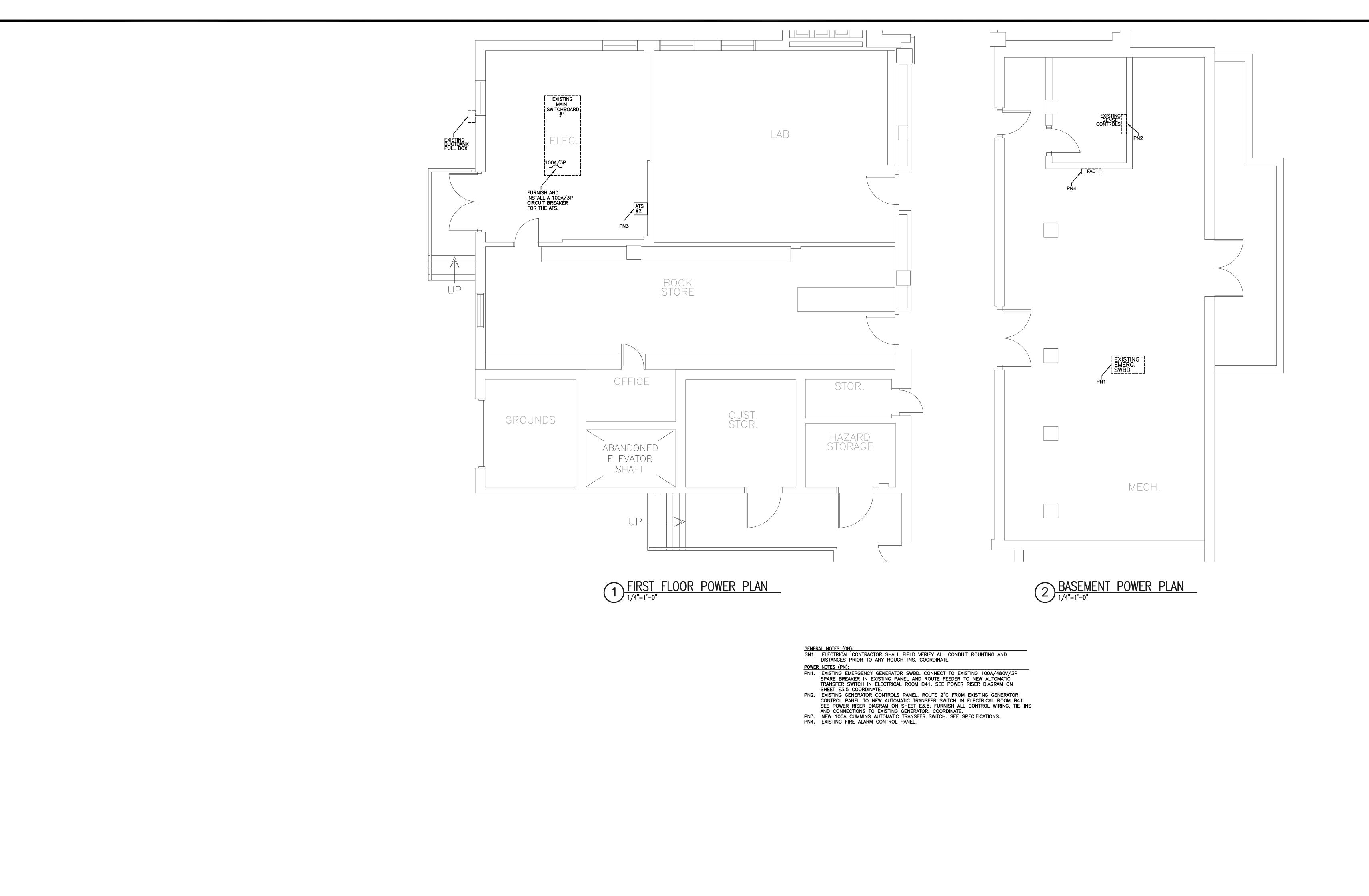






sheet title
FOURTH FLOOR **LIGHTING PLAN**

drawn by TLK checked by JBF



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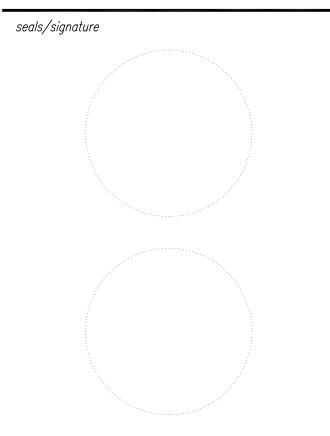
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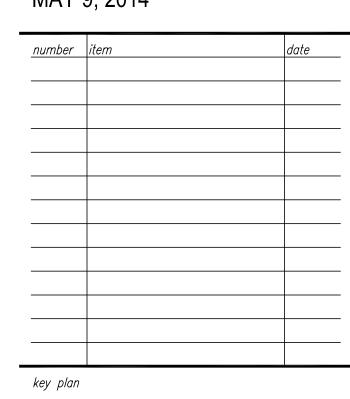
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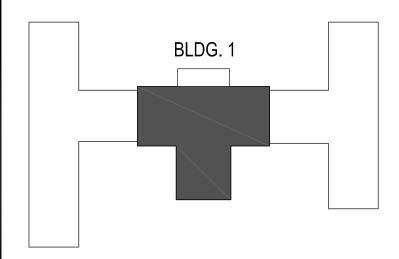
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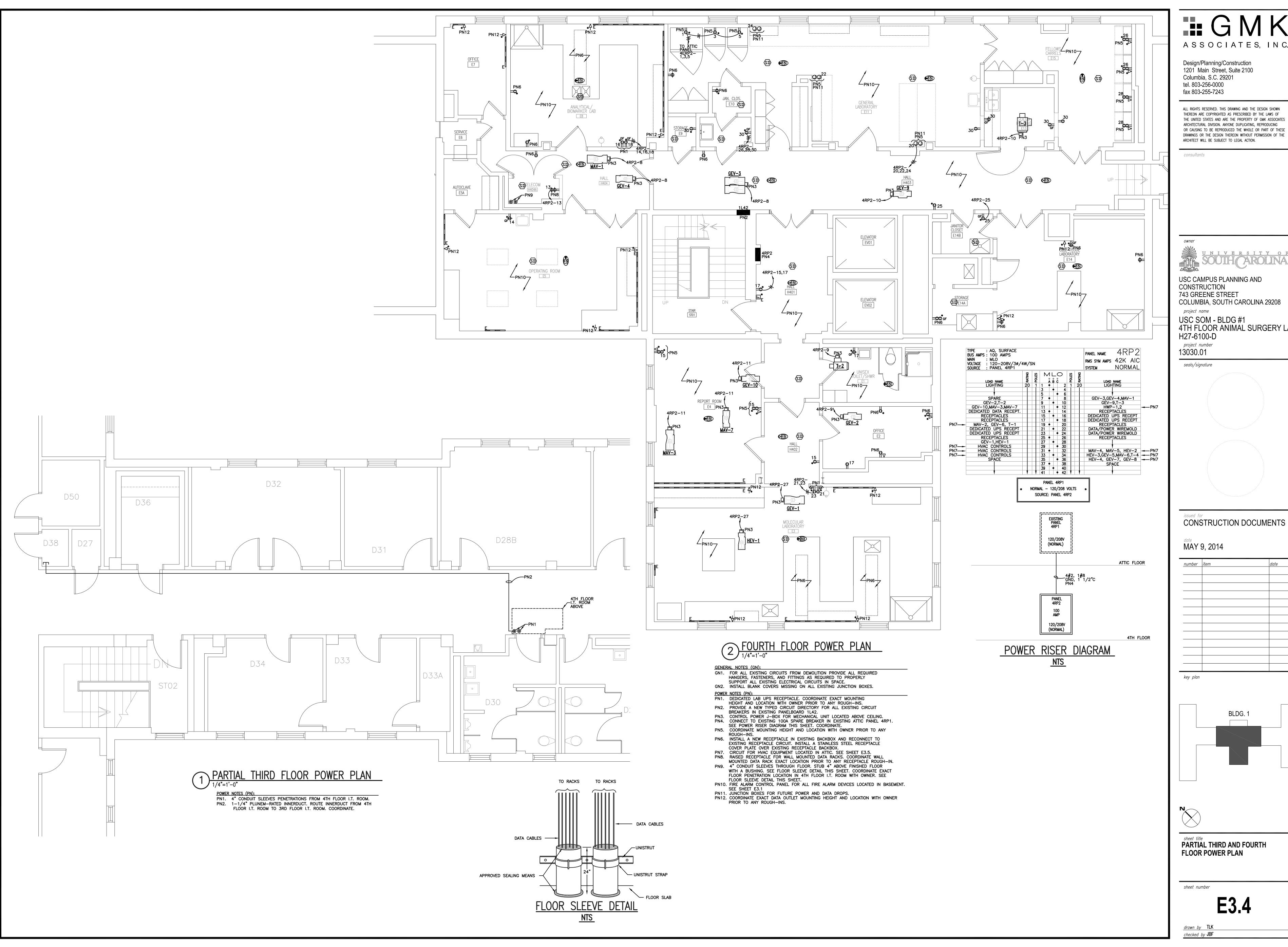




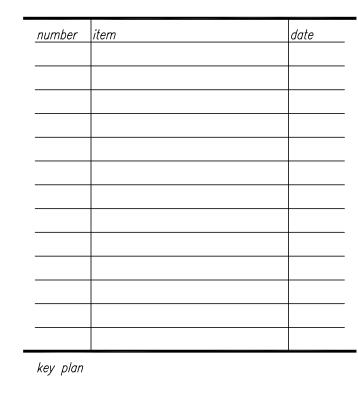
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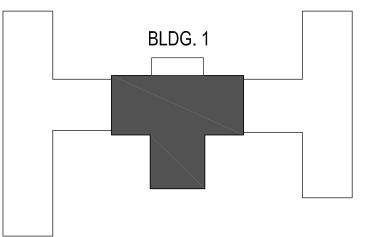
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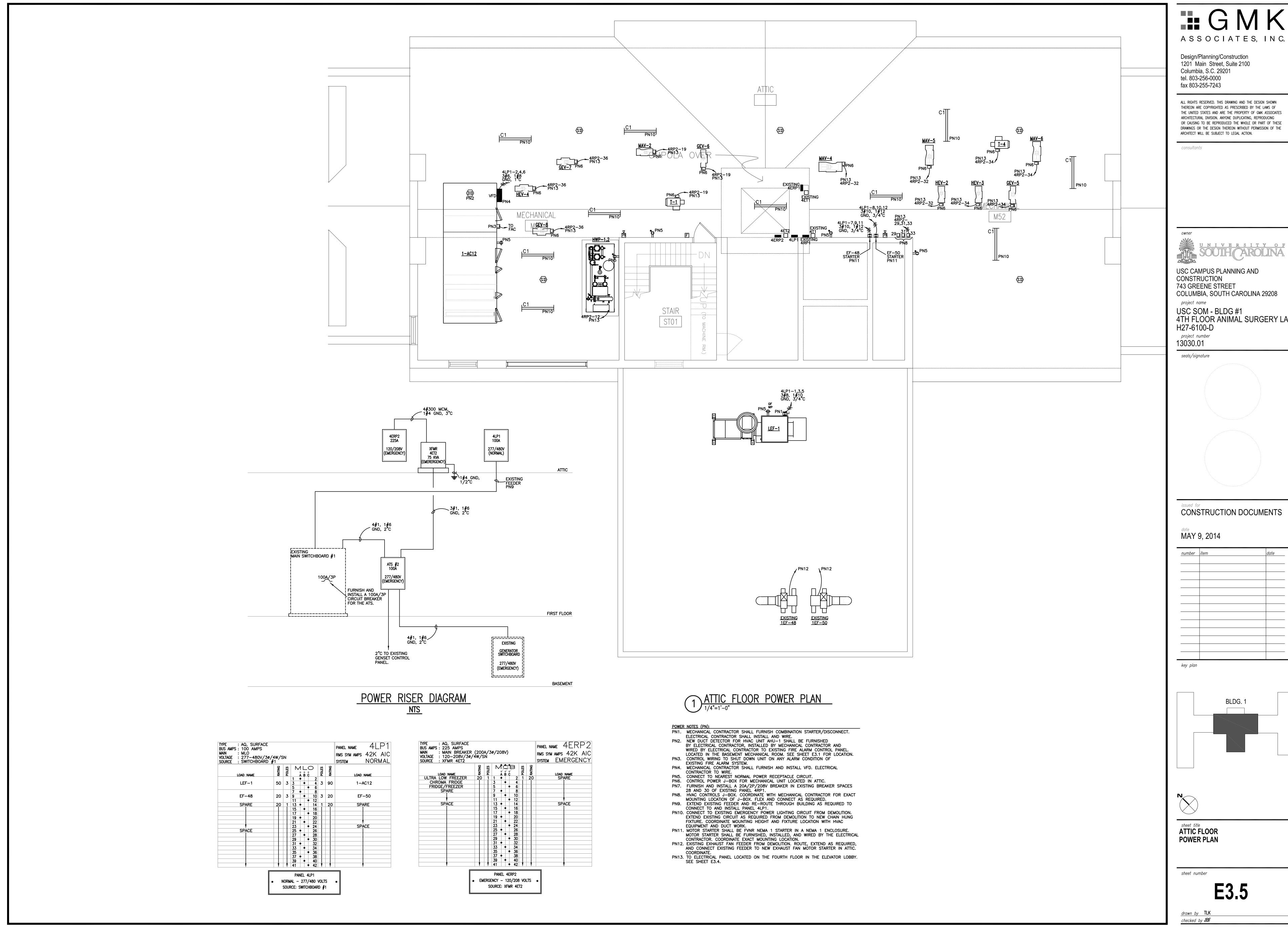
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4TH FLOOR ANIMAL SURGERY LAB









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