

UNIVERSITY OF  
SOUTH CAROLINA

# USC Byrnes Mechanical - Electrical Infrastructure Upgrades COLUMBIA, SC H27-Z153

A/E Project #14024.01  
October 6, 2014  
CONSTRUCTION DOCUMENTS

Prepared by:

**G M K**  
ASSOCIATES, INC.

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1201 Main Street  
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## 1 GENERAL NOTES

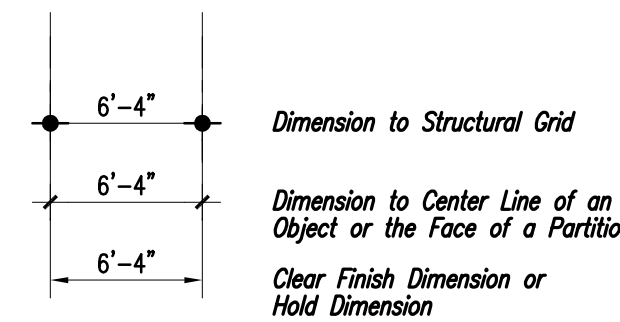
1. NOTIFY THE ARCHITECT IMMEDIATELY UPON DISCOVERY OF EXISTING CONDITIONS THAT ARE CONTRARY TO THOSE REPRESENTED WITHIN THE DRAWINGS.
2. ALL NEW VERTICAL AND HORIZONTAL DUCTS, PIPES, CONDUITS, ETC. (WHETHER SHOWN OR NOT) IN FINISHED ROOMS OR AREAS THROUGH OUT BUILDING, NOT ENCASED IN MASONRY, METAL OR WOOD CONSTRUCTION SHALL BE FURRED IN, THE FURRING FINISHED TO MATCH ROOM FINISH.
3. ALL NEW PARTITIONS, UNLESS OTHERWISE SHOWN OR DETAILED, SHALL BE METAL STUDS OF THICKNESS TO ADEQUATELY COVER PIPING, CONDUITS, ETC.
4. PROVIDE AN EDGE STRIP, AS DETAILED, UNDER ALL DOORS WHERE NEW OR EXISTING FINISHES AND ADJACENT FLOOR ARE AT DIFFERENT LEVELS AND WHERE ADJACENT FLOOR FINISHES ARE OF DIFFERENT MATERIALS. SEE DETAIL 6/A10.
5. OFFSET ALL DOORS IN METAL STUD WALLS 6" FROM ADJACENT WALLS 8" IN CMU WALLS UNLESS OTHERWISE NOTED.
6. PROVIDE ACCESS PANELS, 24" X 24", OR OF SIZES REQUIRED, WHERE PLUMBING AND HEATING VALVES, WATER SWITCHES, OXYGEN PRESSURE SWITCHES, VENTILATION SPLITTER DAMPERS, ETC. ARE SHOWN ON PLUMBING, HEATING, AND VENTILATION DRAWINGS. SUCH ACCESS PANELS TO BE INSTALLED IN THE FOLLOWING:  
(A) SUSPENDED PLASTER OR GYPSUM WALLBOARD CEILINGS  
(B) METAL STUD OR MASONRY PARTITIONS
7. WALL ASSEMBLIES SHALL BE MAINTAINED AT ALL RECESSED FIRE EXTINGUISHER CABINETS AND ALL RECESSED EQUIPMENT.
8. PROVIDE FIRE EXTINGUISHING CABINETS OF THE TYPE SPECIFIED. REFER TO FLOOR PLANS (A2 SERIES) FOR LOCATIONS.
9. SUPPLY BLOCKING AT ALL WALL HUNG EQUIPMENT (I.E. GRAB BARS, CASEWORK MEDICAL EQUIPMENT, ETC.)
10. THE FIRE RATINGS OF ALL FIRE RATED WALLS SHALL BE STENCILED ABOVE CEILINGS, EACH SIDE OF WALL, BOTH SIDES OF CORRIDORS AND AS REQ'D BY IBC .



## 2 REFERENCE SYSTEM

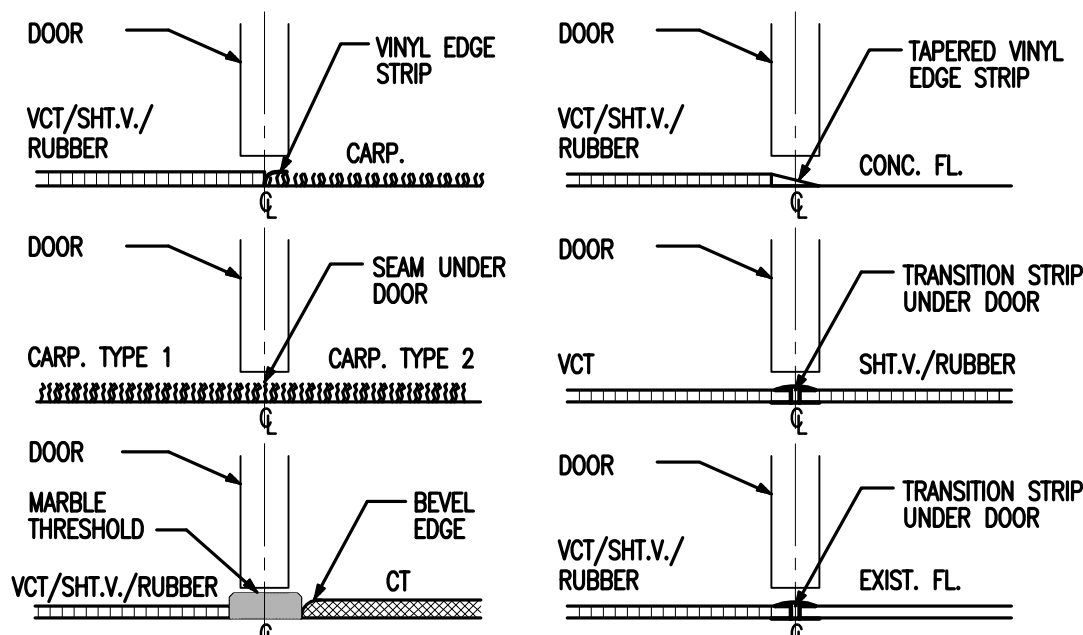


## 3 PARTITION SYMBOLS



## 4 DIMENSION CONVENTIONS

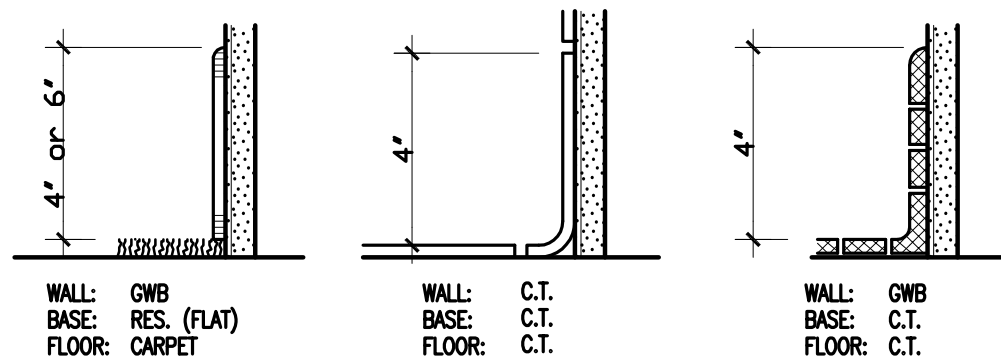
N.T.S.



CODE REQUIREMENT: CHANGES IN LEVEL GREATER THAN 1/4" IN HEIGHT AND NOT MORE THAN 1/2" MAXIMUM IN HEIGHT SHALL BE BEVELED WITH A SLOPE NOT STEEPER THAN 1:2.  
NOTE: CENTER SEAMS AND/OR VINYL EDGE STRIPS UNDER DOOR UNLESS OTHERWISE NOTED.

## 5 FLOORING SEPARATION DETAILS

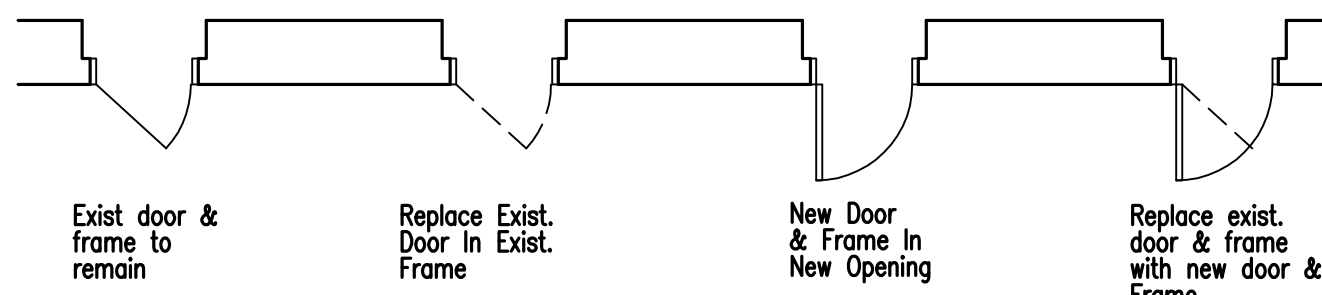
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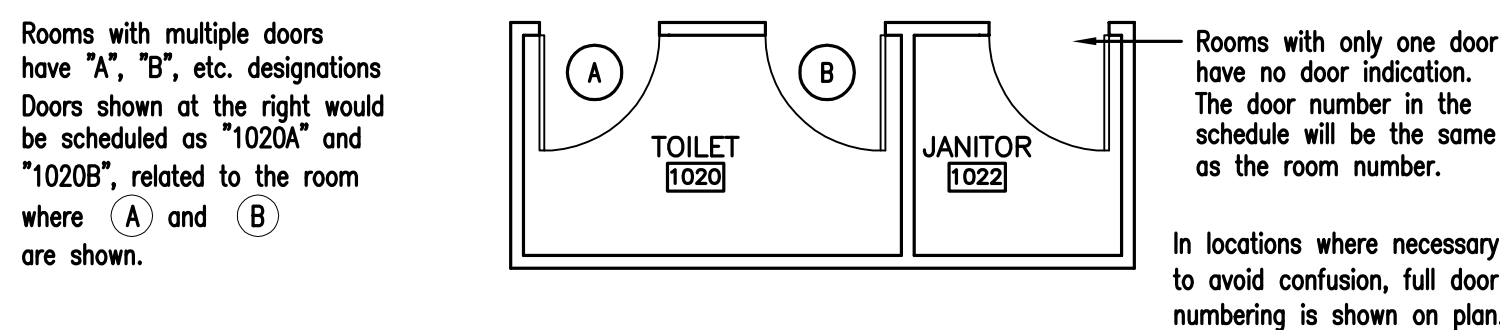
## 6 TYPICAL FLOOR BASE DETAILS

N.T.S.

### DOOR & FRAME PLAN SYMBOLS



### DOOR NUMBERING LEGEND



## 7 INTERIOR OPENING SYMBOLS DOORS & VIEW WINDOWS

N.T.S.

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### STRUCTURAL

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A2.1 SECOND AND THIRD FLOOR PLANS  
A2.2 FOURTH AND FIFTH FLOOR PLANS  
A2.3 SIXTH AND SEVENTH FLOOR PLANS  
A8.0 DOOR AND FRAME TYPES AND DETAILS, PARTITION TYPES DOOR SCHEDULE ROOM FINISH SCHEDULE

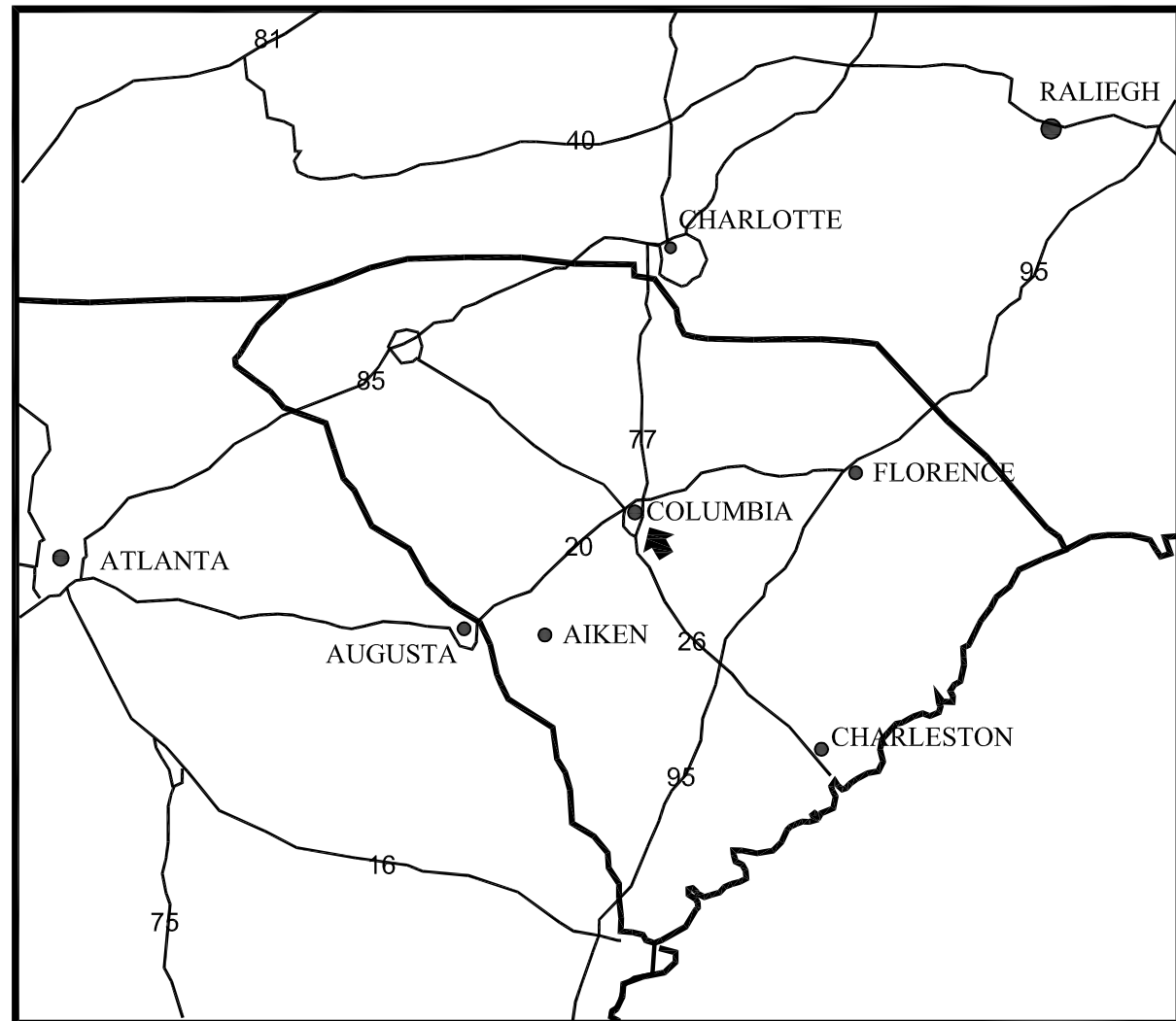
### MECHANICAL

M1.0 MECHANICAL PIPING BASEMENT DEMOLITION FLOOR PLAN  
M3.0 MECHANICAL PIPING BASEMENT FLOOR PLAN  
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M7.1 MECHANICAL DETAILS AND SPECIFICATIONS

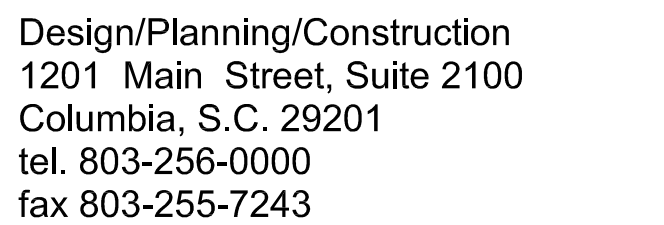
### ELECTRICAL

E1.0 PARTIAL SINGLE LINE DIAGRAM AND SCHEDULES  
E2.0 BASEMENT AND FIRST FLOOR ELECTRICAL PLANS  
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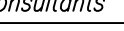
### KEY PLAN



SET NO. \_\_\_\_\_



*consultants*



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US21404



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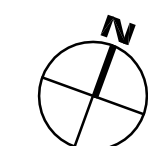
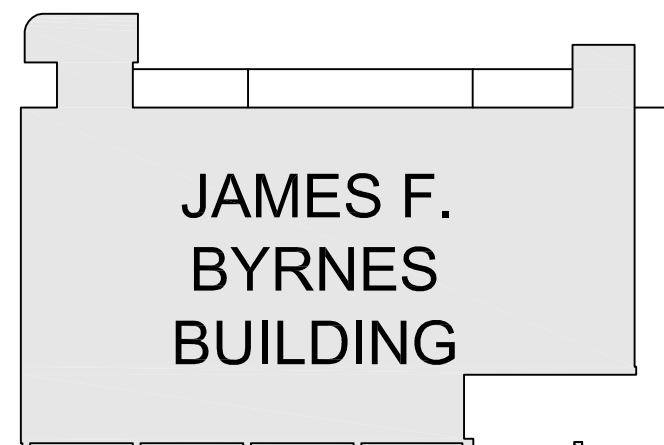
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OCTOBER 6, 2014

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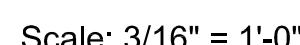
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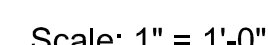
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drawn by PR  
checked by WV



1. All structural and miscellaneous steel shall conform to the Thirteenth Edition of the AISC "Specification for Structural Steel Buildings" and all its supplements, and to the AISC "Code of Standard Practice for Steel Buildings and Bridges".
2. All structural steel shall conform to ASTM A-36, FY=36,000 PSI unless otherwise noted.
3. All welded connections shall be done with E70XX electrodes with 3/16" min. material, unless otherwise noted. All welding shall comply with AWS D1-1 structural welding code the latest edition.
4. The structural steel shall have one coat of anti-rust paint. Prior to painting, all steel surfaces shall be prepared in accordance with SSPC-SP3.
5. No openings in beams shall be permitted without the written permission of the engineer.
6. The use of a gas-cutting torch in the field for cutting holes or for correcting fabrication errors will not be permitted on structural framing members except w/ the written approval of the Engineer for each specification.
7. An independent inspection agency shall be employed by the owner and approved by the engineer to inspect the structural steel in the field and verify that it conforms to the requirements of the contract documents.



Scale: 3" = 1'-0"

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USC BYRNES MECHANICAL-ELECTRICAL INFRASTRUCTURE UPGRADES

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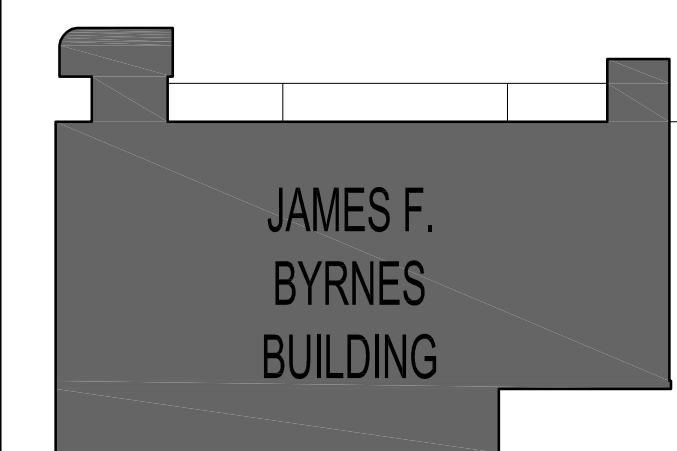


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key plan

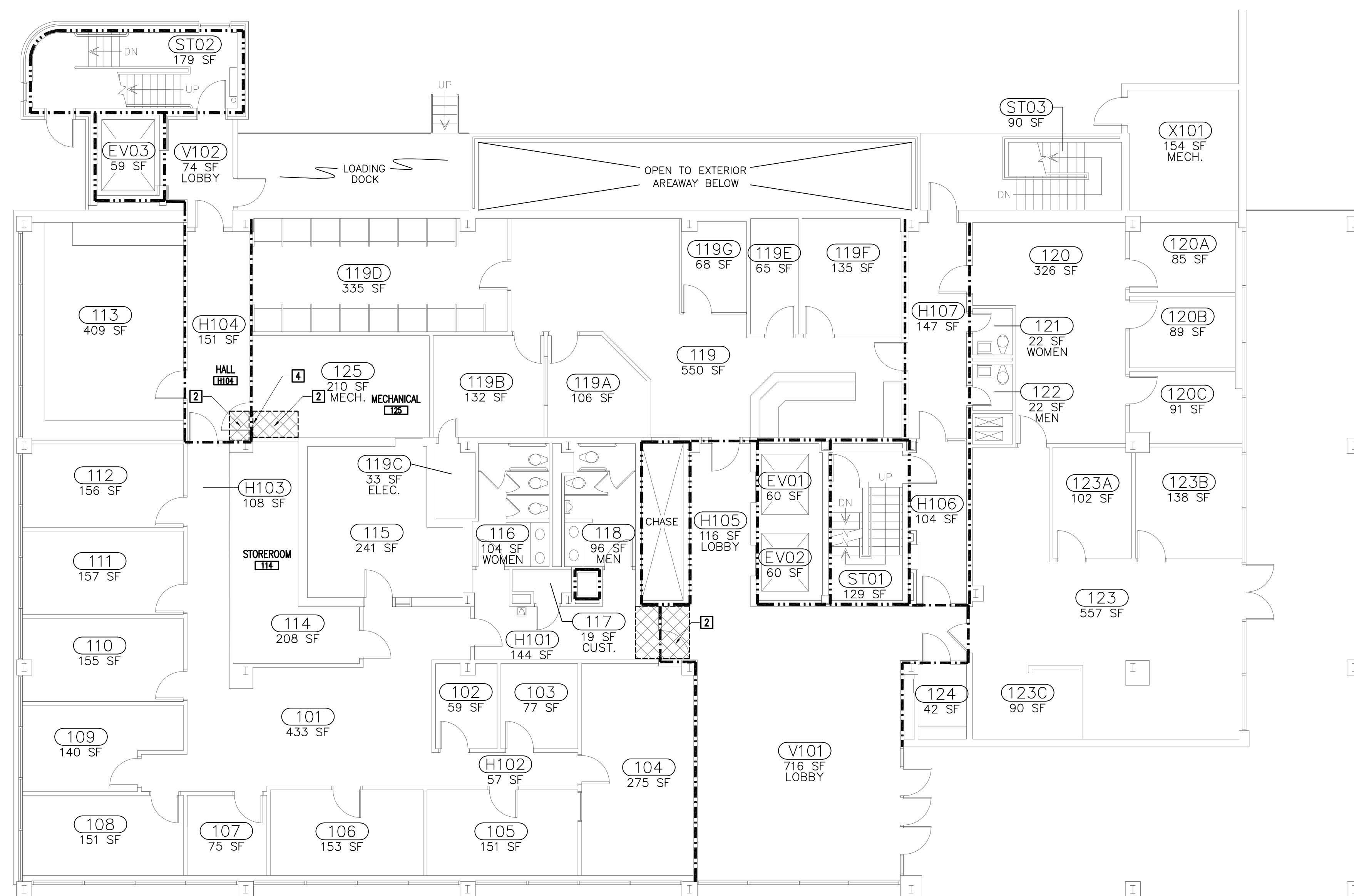


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**BASEMENT AND FIRST FLOOR PLAN**

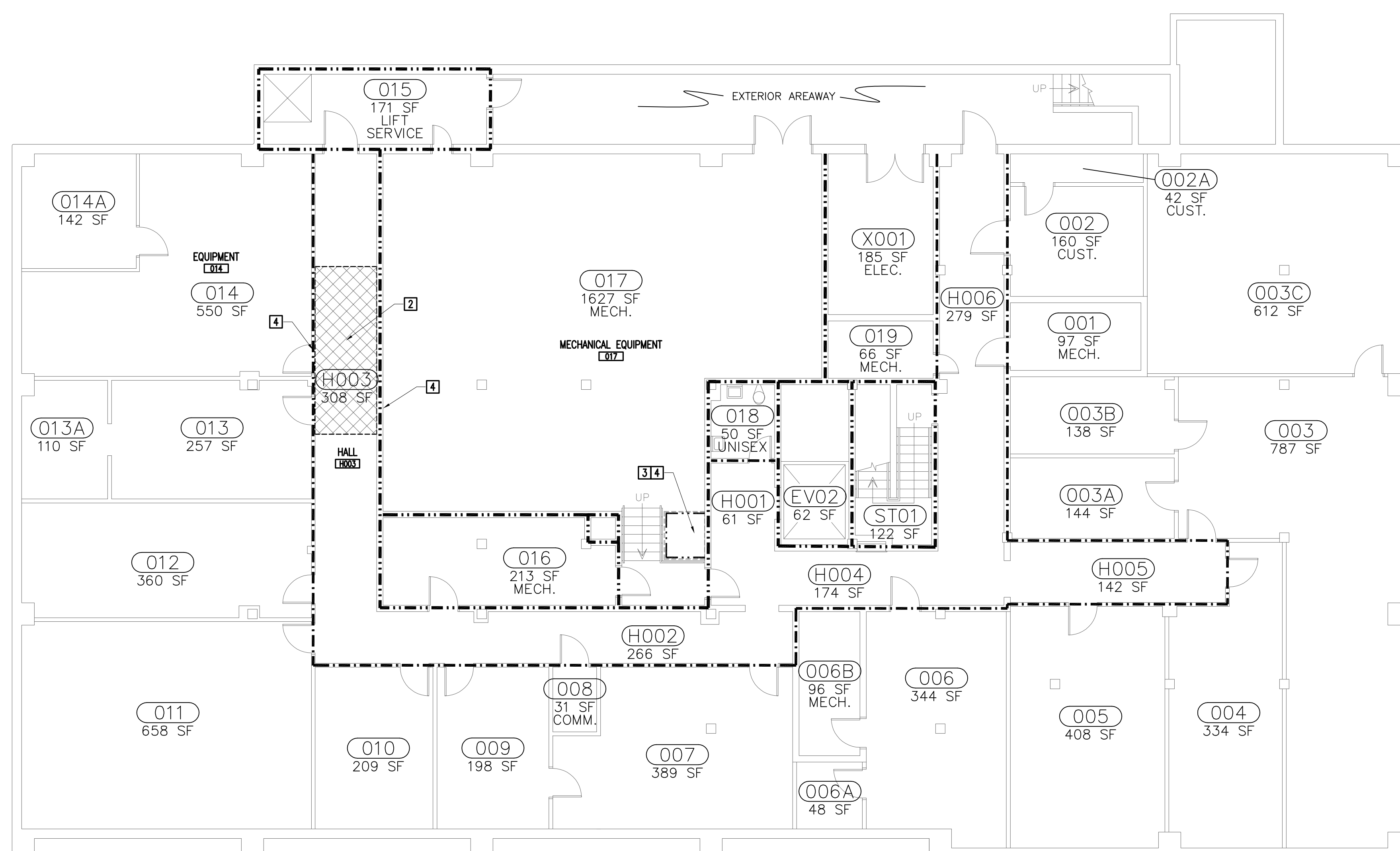
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## A2.0

drawn by RTC  
checked by JKS



② FIRST FLOOR PLAN  
1/8"=1'-0"



1 BASEMENT FLOOR PLAN  
1/8"=1'-0"

- ## GENERAL NOTES

1. NOTIFY THE ARCHITECT IF DISPARANCES ARE DISCOVERED IN THE FIELD BETWEEN WHAT IS EXISTING AND WHAT IS SHOWN ON THE DRAWINGS. DO NOT PROCEED WITH DEMOLITION UNTIL THE DISPARANCY IS RESOLVED BY THE ARCHITECT.
2. CONTRACTOR SHALL CLOSELY COORDINATE DEMOLITION WITH NEW CONSTRUCTION PLANS.
3. NOT ALL DEMOLITION REQUIRED BY THE INSTALLATION OF NEW MECHANICAL AND ELECTRICAL SYSTEMS IS NECESSARILY INDICATED ON ARCHITECTURAL PLANS. COORDINATE ADJACENT DEMOLITION WORK ON MECHANICAL, ELECTRICAL, AND PLUMBING SHEETS.
4. WHEREVER DEMOLITION DAMAGES EXISTING CONSTRUCTION TO SUCH EXTENT THAT THE CONTRACTOR MUST REMOVE THOSE SUBJECTS TO THE FINISH AND QUALITY OF ADJACENT SURFACES ON THE ORIGINAL CONDITION.
5. THE CONTRACTOR SHALL TAKE ALL NECESSARY PROVISIONS TO PROTECT THE EXISTING CONSTRUCTION TO REMAIN. CONSTRUCTION BARRIERS AS REQUIRED TO PREVENT THE PASSAGE OF DUST INTO OCCUPIED AREAS.
6. PROJECT EXISTING SPRAYED-ON FIREPROOFING DURING DEMOLITION AND REMOVAL WORK. REPAIR ANY DAMAGED FIREPROOFING WITH LIKE MATERIALS. MAINTAINING RECORDS OF THESE REPAIRS.
7. INSTALL TEMPORARY BRACING PRIOR TO REMOVAL OF EXISTING CEILING AS NECESSARY TO INSURE PLUMBNESS AND INTEGRITY OF EXISTING PARTITIONS TERMINATING AT CEILING GRID.
8. THERE ARE HAZARDOUS MATERIALS PRESENT IN ITEMS TO BE DEMOLISHED AND MOVED DURING RENOVATION ACTIVITIES. REFER TO THE HAZARDOUS MATERIALS SURVEY REPORT AND THE PROJECT MANUAL TO IDENTIFY SPECIFIC MATERIALS AND LOCATIONS. THE CONTRACTOR IS RESPONSIBLE FOR MAKING PROVISIONS FOR THE DISTURBANCE, REMOVAL AND REMEDIATION OF THESE DISTURBED AREAS.

## DEMOLITION NOTES

- 1 REMOVE EXISTING CEILING IN ITS ENTIRETY, INCLUDING OF LIGHT FIXTURES, SUPPLY AND RETURN GRIDS AND DIFFUSERS, AND ALL OTHER DEVICES ATTACHED TO EXISTING GRID OR CEILING LINES. PROVIDE TEMPORARY HANGERS AS NECESSARY TO MAINTAIN CEILING HEIGHT AND PROVIDE TEMPORARY BRACING TO MAINTAIN WALLS TO REMAIN. PROVIDE EDGE TRIM, HANGARS SUPPORTS AS NECESSARY FOR GRID THAT IS TO REMAIN.
- 2 REMOVE AND RE-INSTALL EXISTING SUSPENDED ACOUSTICAL TILE CEILING AS REQUIRED FOR NEW ROOM. SALVAGE ALL MATERIAL FOR RE-INSTALLATION. PROVIDE TEMPORARY SUPPORTS FOR EXISTING CEILING MOUNTED DEVICES FOR RE-INSTALLATION. ADJUST EXISTING TIE WIRES AND/OR INSTALL NEW TIE WIRES AS REQUIRED TO LEVEL CEILING.
- 3 REMOVE EXISTING PLASTER ENCLOSURE AND SHEET METAL DUCT AS REQUIRED FOR RE-SECTION OF NEW HVAC PIPE RISERS. INSTALL NEW 2-HOUR RATED PLASTER ENCLOSURE.
- 4 FIREALUM ALL PENETRATIONS OF RATED WALLS, FLOORS AND ENCLOSURES.
- 5 REMOVE EXISTING FLOOR FINISH AS NECESSARY FOR THE INSTALLATION OF SPACERS. PATCH EXISTING FLOOR FINISH AND BARE IN FINISHED ROOMS AS NECESSARY AND DETAILED IN FINISH SCHEDULE TO MATCH EXISTING ADJACENT

----- DASHED LINES INDICATE WORK  
----- TO BE DEMOLISHED.

435  
161 SE  
UNIVERSITY OF SOUTH CAROLINA  
ROOM IDENTIFICATION



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USC BYRNES MECHANICAL-ELECTRICAL INFRASTRUCTURE UPGRADES

state project number  
H27-Z153  
project number  
14024.01

seals/signature

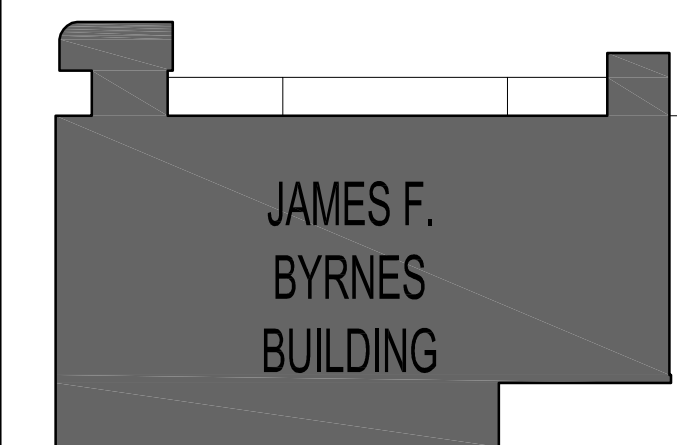


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key plan

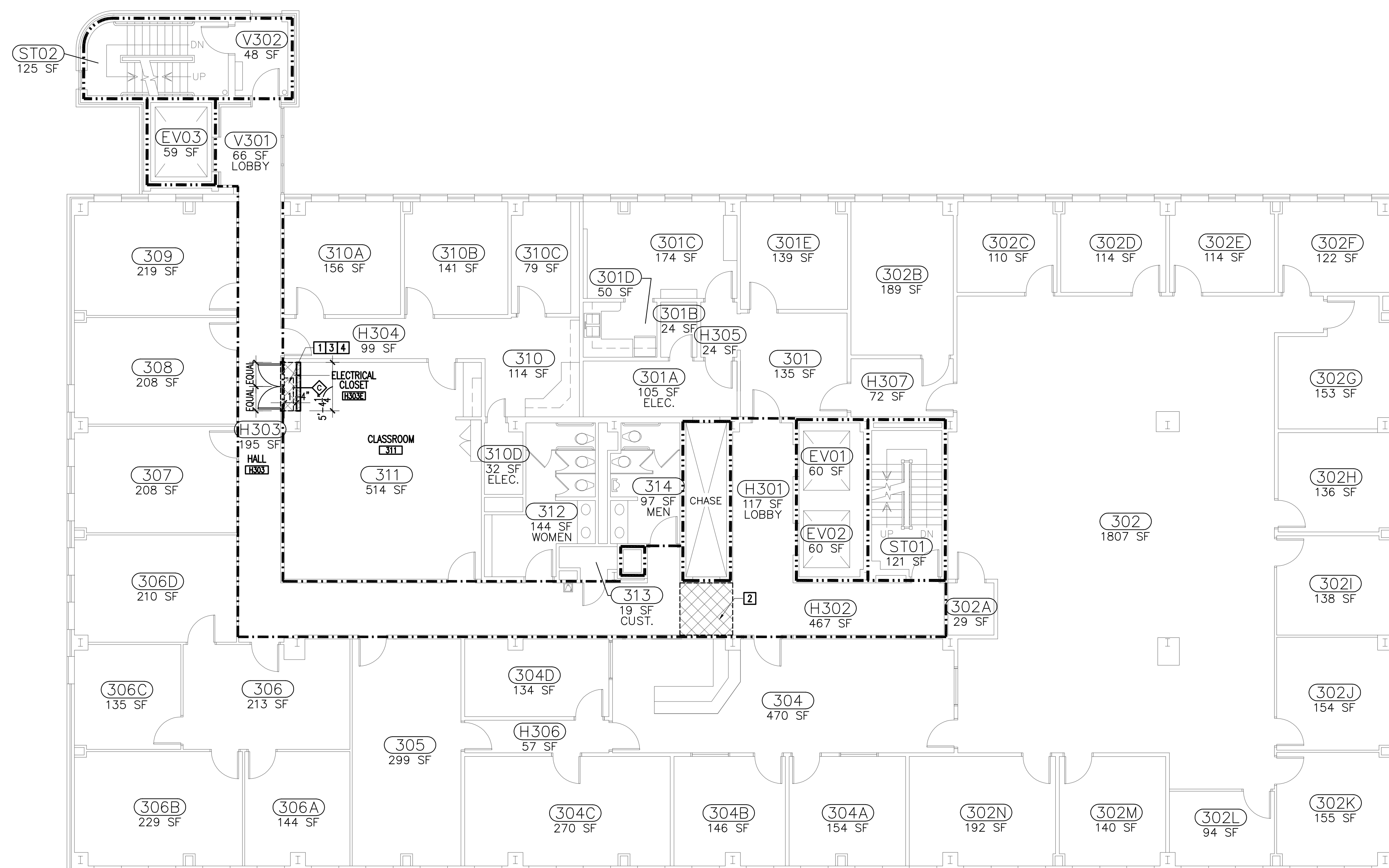


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**SECOND AND THIRD FLOOR PLANS**

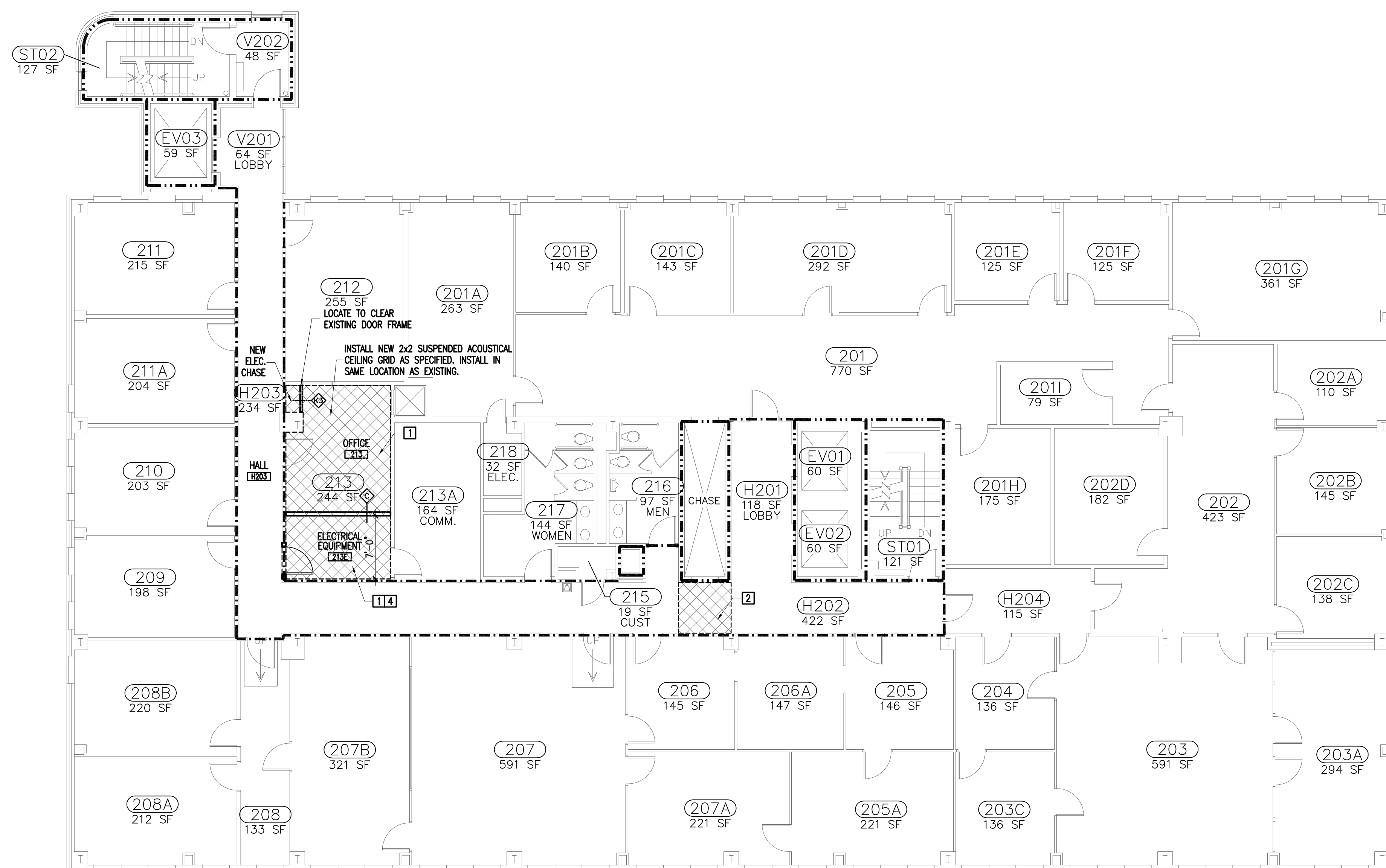
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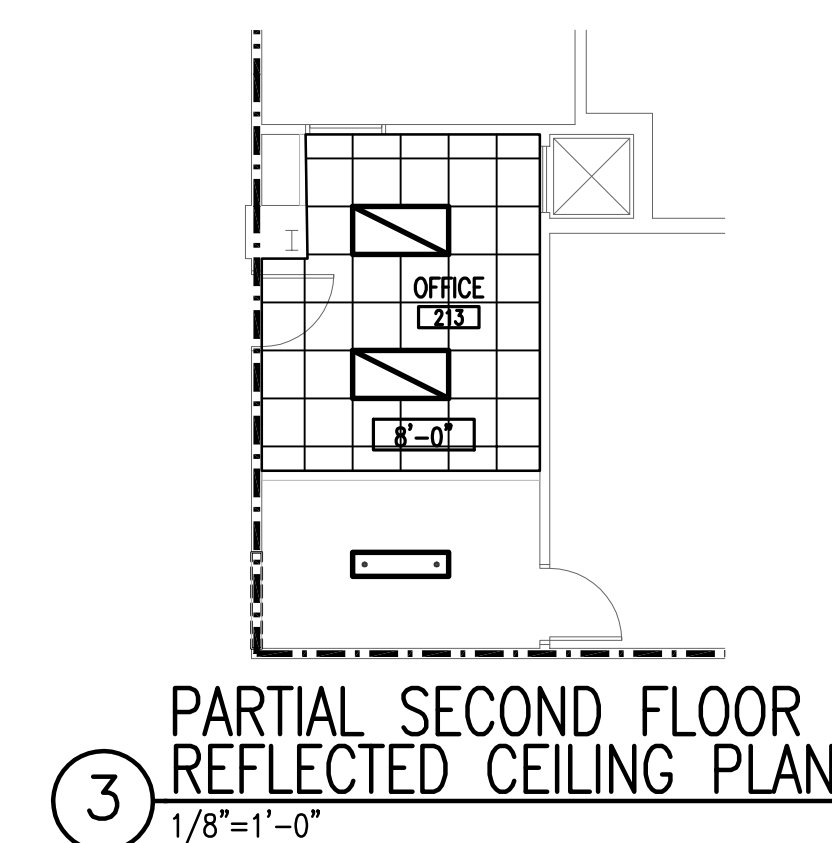
drawn by RTC  
checked by JKS



② THIRD FLOOR PLAN  
1/8"=1'-0"



1 SECOND FLOOR PLAN  
1/8"=1'-0"



3 PARTIAL SECOND FLOOR  
REFLECTED CEILING PLAN  
1/8"=1'-0"

1. NOTIFY THE ARCHITECT IF DISCREPANCIES ARE DISCOVERED IN THE FIELD BETWEEN WHAT IS EXISTING AND WHAT IS SHOWN ON THE DRAWINGS. DO NOT PROCEED WITH DEMOLITION UNTIL THE DISCREPANCY IS RESOLVED BY THE ARCHITECT.
2. CONTRACTOR SHALL CLOSELY COORDINATE DEMOLITION WITH NEW CONSTRUCTION PLANS.
3. NOT ALL DEMOLITION REQUIRED BY THE INSTALLATION OF NEW MECHANICAL AND ELECTRICAL SYSTEMS IS NECESSARILY INDICATED ON ARCHITECTURAL PLANS. COORDINATE ADDITIONAL DEMOLITION WORK ON MECHANICAL, ELECTRICAL, AND PLUMBING SHEETS.
4. WHEREVER DEMOLITION DEMANDS EXISTING CONSTRUCTION TO BE REMOVED, THE CONTRACTOR SHALL REPAIR THOSE SURFACES TO THE FINISH AND QUALITY OF ADJACENT SURFACES OR THE ORIGINAL CONDITION.
5. THE CONTRACTOR SHALL TAKE ALL NECESSARY PREVISIONS TO PROTECT THE EXISTING CONSTRUCTION TO REMAIN. CONSTRUCTION MUST BE STOPPED AS REQUIRED TO PREVENT THE PASSAGE OF DUST INTO ADJACENT AREAS.
6. PROTECT EXISTING SPRAYED-ON FROOFPROOFING DURING DEMOLITION AND RENOVATION WORK. REPAIR ANY DAMAGED FROOFPROOFING WITH LIKE MATERIALS. REPAIRING REPAIRS TO THE STRUCTURED SURFACES.
7. INSTALL TEMPORARY BRACING PRIOR TO REMOVAL OF EXISTING CEILING GRID AS NECESSARY TO INSURE PLUMBLINESS AND INTEGRITY OF EXISTING PARTITIONS TERMINATING AT CEILING GRID.
8. THERE ARE HAZARDOUS MATERIALS PRESENT IN ITEMS TO BE DEMOLISHED AND MODIFIED DURING RENOVATION ACTIVITIES. REFER TO THE HAZARDOUS MATERIALS SURVEY REPORT AND PROJECT MANUAL TO IDENTIFY SPECIFIC MATERIALS AND LOCATIONS. THE CONTRACTOR IS RESPONSIBLE FOR MAKING PROVISIONS FOR THE DISTURBANCE, REMOVAL AND REMEDIATION OF ANY HAZARDOUS MATERIALS.

## DEMOLITION NOTES

REMOVE EXISTING CEILING IN ITS ENTIRETY, INCLUSIVE OF LIGHT FIXTURES, SUPPLY AND RETURN GRILLES AND DIFFUSERS, AND ALL OTHER DEVICES ATTACHED TO CEILING GRID OR CEILING TILES. PROVIDE TEMPORARY HANGERS AS NECESSARY TO MAINTAIN INTEGRITY AND OPERATION OF DEVICES TO BE RE-INSTALLED. PROVIDE EDGE TRIM, HANGARS SUPPORTS AS NECESSARY FOR GRID THAT IS TO REMAIN.

1

REMOVE AND RE-INSTALL EXISTING SUSPENDED ACOUSTICAL TILE CEILING AS REQUIRED FOR NEW WORK. SALVAGE ALL MATERIAL FOR RE-INSTALLATION. PROVIDE TEMPORARY SUPPORT FOR EXISTING CEILING MOUNTED DEVICES FOR RE-INSTALLATION. ADJUST EXISTING TIE WIRES AND/OR INSTALL NEW TIE WIRES AS REQUIRED TO LEVEL CEILING.

2

REMOVE EXISTING CABINETRY

3

REMOVE EXISTING FLOOR FINISH AS NECESSARY FOR THE INSTALLATION OF SPACES. PATCH EXISTING FLOOR FINISH AND BASE IN FINISHED ROOMS AS NECESSARY AND DETAILED IN FINISH SCHEDULE TO MATCH EXISTING ADJACENT FINISHES.

**4**

----- DASHED LINES INDICATE WORK  
----- TO BE DEMOLISHED.

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161 SF ROOM IDENTIFICATION

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seals/signature



A circular seal for the State of South Carolina. The outer ring contains the text "STATE OF SOUTH CAROLINA" at the top and "REGISTERED ARCHITECT" at the bottom. The center of the seal contains the text "GMK, INC.", "COLUMBIA", and "B74015" arranged vertically.

issued for  
**CONSTRUCTION DOCUMENTS**

date  
OCTOBER 6, 2014

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key plan

JAMES F.  
BYRNES  
BUILDING

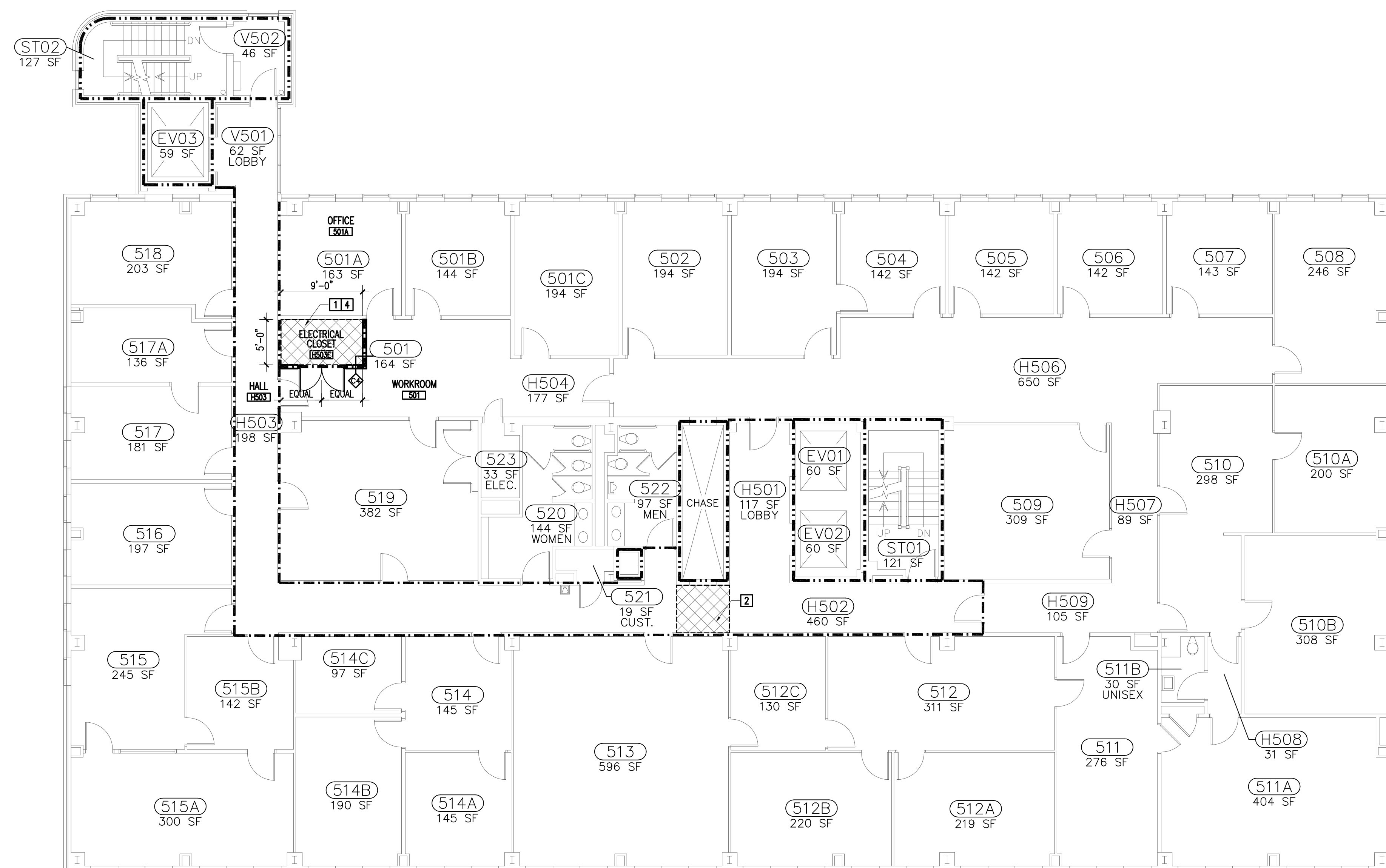


sheet title  
**FOURTH AND FIFTH FLOOR PLANS**

sheet number

## A2.2

*drawn by* RTC  
*checked by* JKS



② FIFTH FLOOR PLAN  
1/8"=1'-0"



① FOURTH FLOOR PLAN  
1/8"=1'-0"

- GENERAL NOTES

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4. WHEREVER DEMOLITION DAMAGES EXISTING CONSTRUCTION TO REMAIN, THE CONTRACTOR SHALL REPAIR OR REPLACE SUCH DAMAGE TO THE FINISH AND QUALITY OF ADJACENT SURFACES OR THE ORIGINAL CONDITION.
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6. PROTECT EXISTING SPRAYED-ON FIREPROOFING DURING DEMOLITION AND RENOVATION WORK. REPAIR ANY DAMAGED FIREPROOFING WITH LIKE MATERIALS AS SOON AS POSSIBLE. REINSTATE THE PROJECT MANUAL TO IDENTIFY SPECIFIC MATERIALS AND LOCATIONS. THE CONTRACTOR IS RESPONSIBLE FOR MAKING PROVISIONS FOR THE DISTURBANCE, REMOVAL, AND REMEDIATION OF ANY ASBESTOS.
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DEMOLITION NOTES

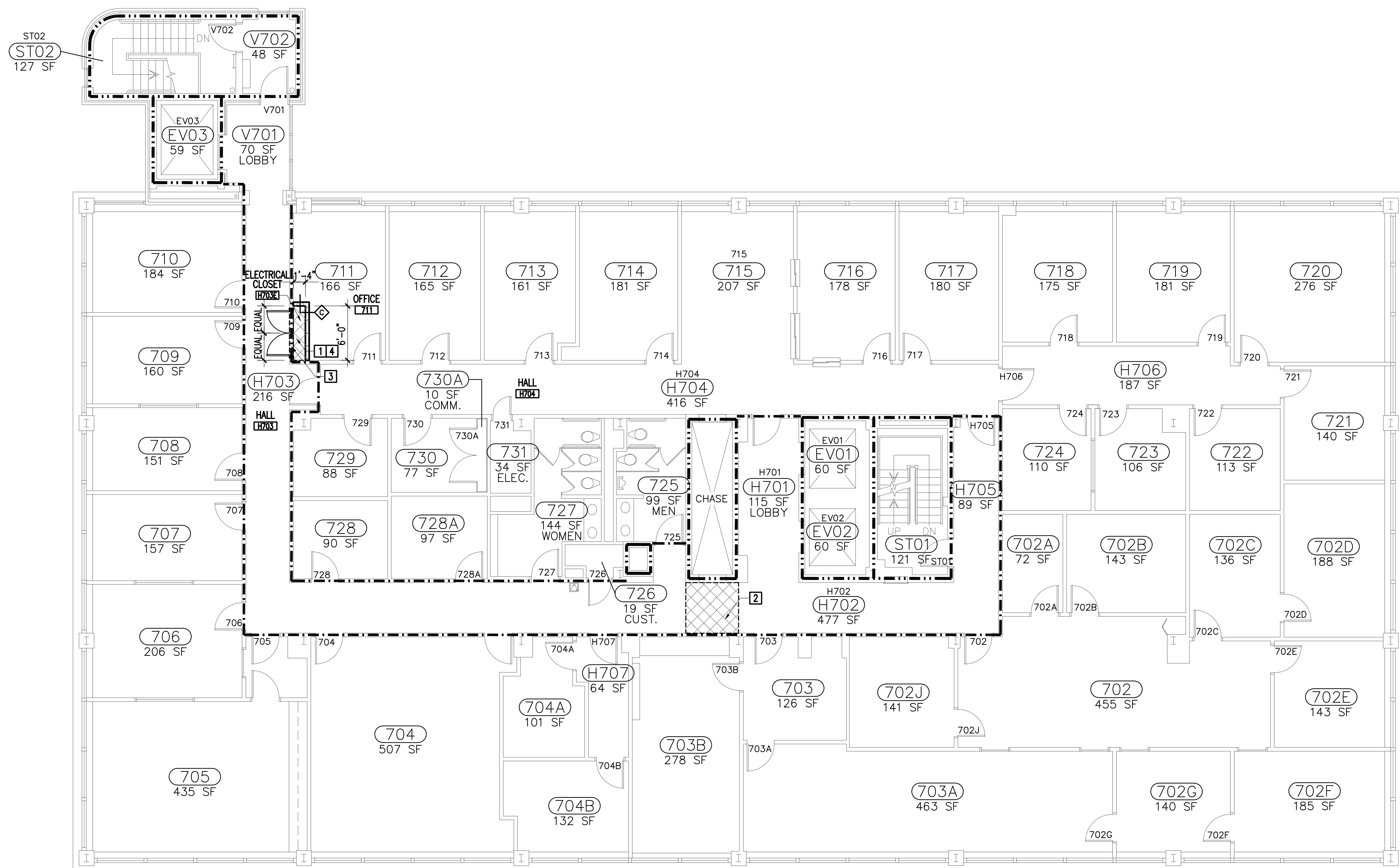
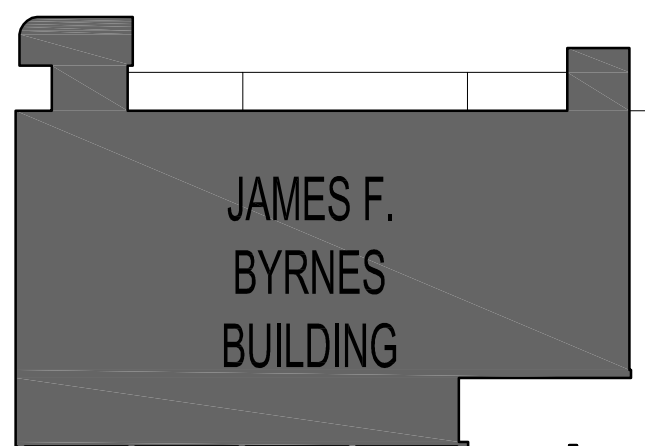
- 1 REMOVE EXISTING CEILING IN ITS ENTIRETY, INCLUSIVE OF LIGHT FIXTURES, SUPPLY AND RETURN GRILLS AND DIFFUSERS, AND ALL OTHER DEVICES ATTACHED TO CEILING GRID OR CEILING TELES. PROVIDE TEMPORARY HANGERS AS NECESSARY TO MAINTAIN POSITION AND OPERATION OF DEVICES TO BE RE-INSTALLED. PROVIDE TEMPORARY HANGERS SUPPLY AS NECESSARY FOR THAT IS TO REMAIN.
- 2 REMOVE AND RE-INSTALL EXISTING SUSPENDED ACOUSTICAL TILE CEILING AS REQUIRED FOR NEW WORK. SALVAGE ALL MATERIAL FOR RE-INSTALLATION. PROVIDE TEMPORARY SUPPORT FOR EXISTING CEILING MOUNTED DEVICES FOR RE-INSTALLATION. ADJUST EXISTING THE WIRES AND/OR INSTALLED NEW THE WIRES AS REQUIRED TO LEVEL CEILING.
- 3 REMOVE EXISTING WALL, DOOR AND FRAME. SALVAGE LOCKSET AND HINGES FOR RE-INSTALLATION IN NEW WALL. PATCH EXISTING WALL TO MATCH EXISTING ADJACENT FINISHES.
- 4 REMOVE EXISTING FLOOR FINISH AS NECESSARY FOR THE INSTALLATION OF SPACERS. PATCH EXISTING FLOOR FINISH AND BASE IN FINISHED ROOMS AS NECESSARY AND DETAILED IN FINISH SCHEDULE TO MATCH EXISTING ADJACENT FINISHES.
- 5 REMOVE PORTION OF EXISTING WALL AS NECESSARY TO NEW DOOR AND FRAME.

----- DASHED LINES INDICATE WORK  
----- TO BE DEMOLISHED.

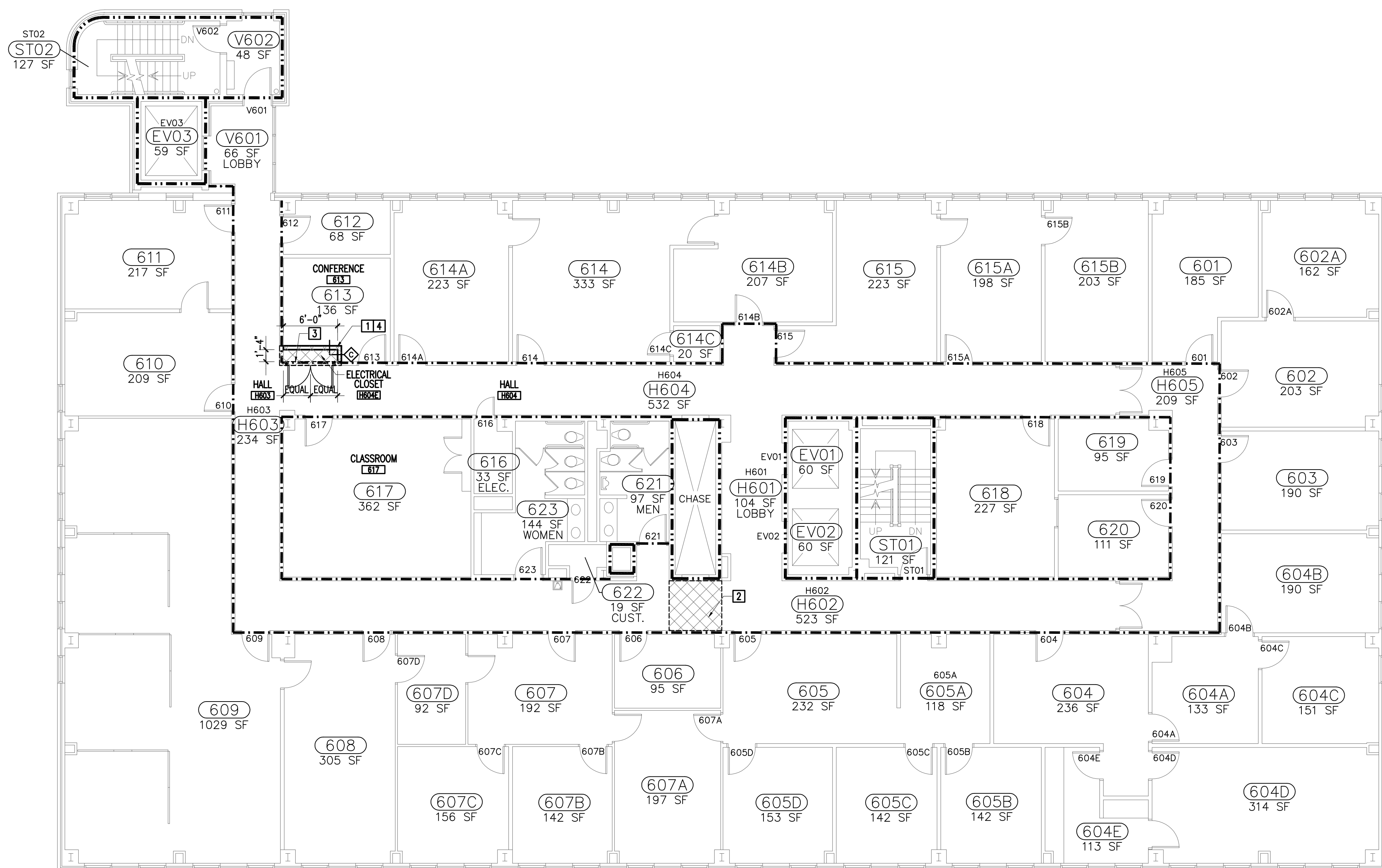
435 UNIVERSITY OF SOUTH CAROLINA  
161 SF ROOM IDENTIFICATION



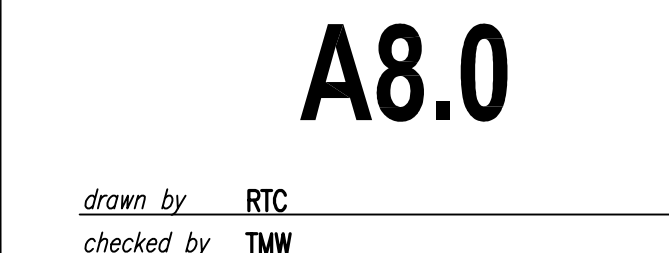
number	item	date



2 SEVENTH FLOOR PLAN  
1/8"=1'-0"



1 SIXTH FLOOR PLAN  
1/8"=1'-0"



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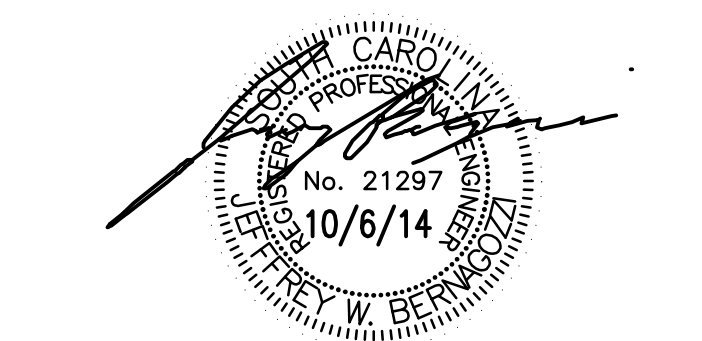
USC CAMPUS PLANNING AND  
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743 GREENE STREET  
COLUMBIA, S.C. 29208

project name  
USC BYRNES MECHANICAL-  
ELECTRICAL INFRASTRUCTURE  
UPGRADES

state project number  
H27-Z153

project number  
14024.01

seals/signature

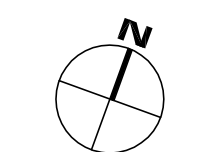
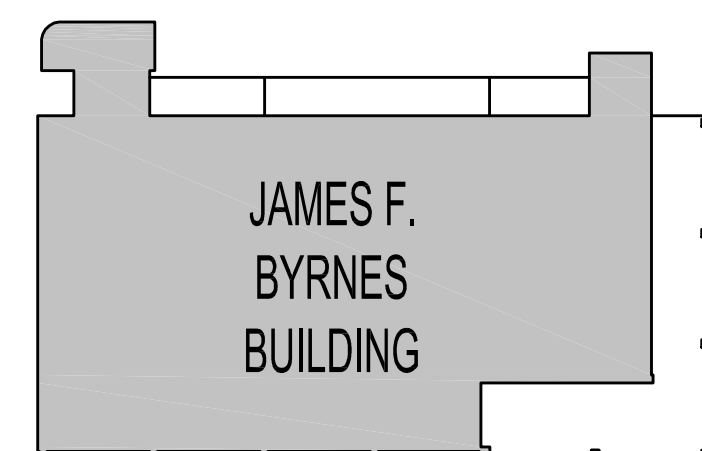


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date  
OCTOBER 6, 2014

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key plan



sheet title

**MECHANICAL PIPING  
BASEMENT DEMOLITION  
FLOOR PLAN**

sheet number

# M1.0

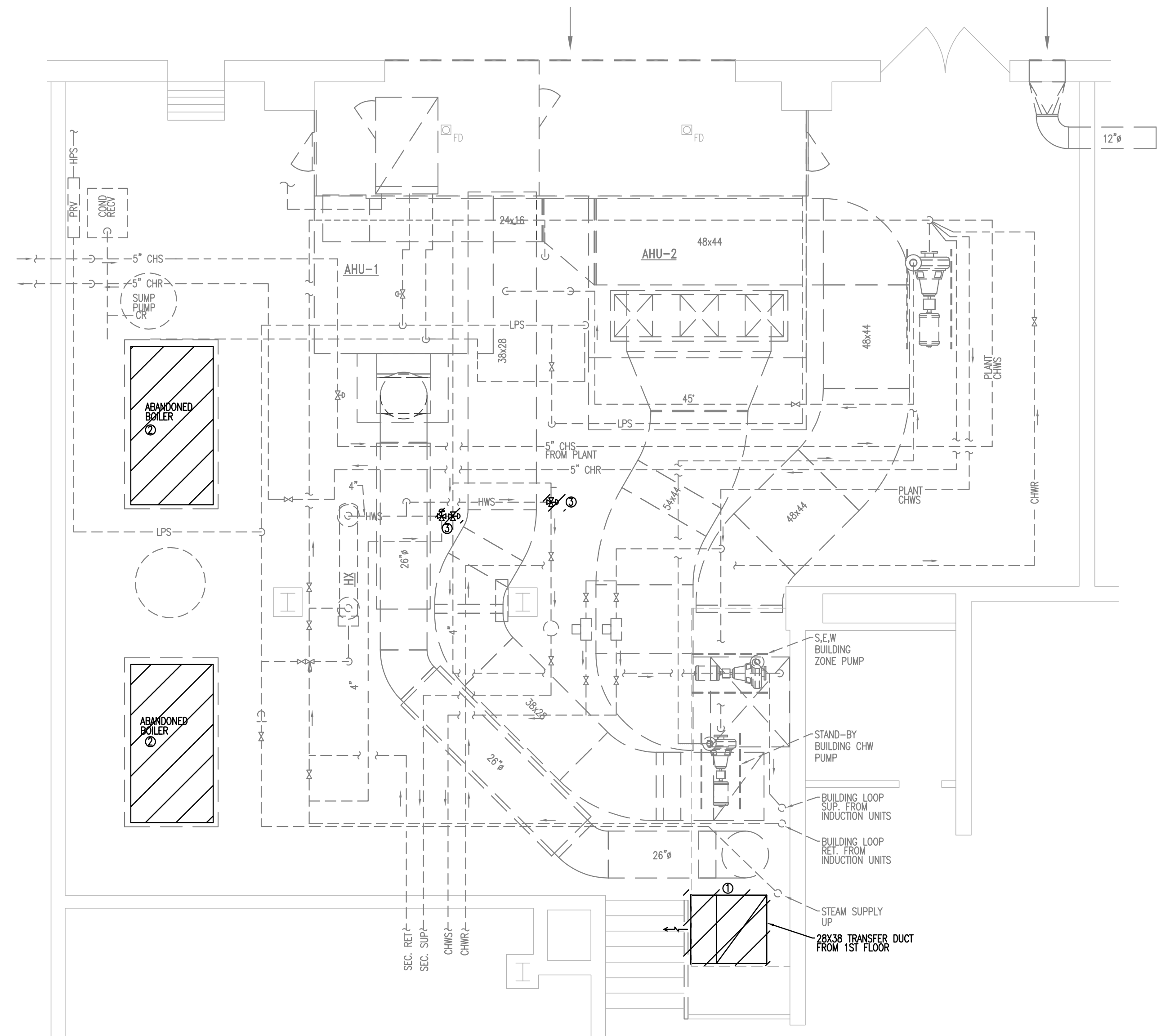
drawn by **JWB**  
checked by **JDR**

1. DRAWINGS SHOW GENERAL INTENT OF DEMOLITION, QUANTITIES, LOCATIONS, SIZES AND EQUIPMENT ARE SHOWN TO INDICATE THE TYPE OF DEMOLITION TO BE PERFORMED. IT IS NECESSARILY REPRESENT EXACT CONDITIONS. CONTRACTOR SHALL FIELD VERIFY BEFORE BIDDING.
2. DEMOLITION OF EQUIPMENT, SYSTEMS, AND COMPONENTS CAN INCLUDE ALL TYPES OF EQUIPMENT, INSTRUMENTATION, CONTROLS, STARTERS, ACCESSORIES, AND APPURTENANCES NOT REQUIRED FOR THE INSTALLATION OF THE NEW SYSTEM.

WHEN PARTIAL DEMOLITION OF A SYSTEM IS INDICATED, THE REMAINING OF THE SYSTEM SHALL BE DEMOLISHED AND REMOVED TO THE ACTIVE MAIN OR BRANCH IF NOT REQUIRED FOR THE INSTALLATION OF THE NEW SYSTEM. THE ACTIVE MAIN OR BRANCH SHALL BE REMOVED TO THE NEW INSTALLATION AS MUCH AS PRACTICAL. IF SYSTEM IS INSULATION, INSULATION SHALL BE REMOVED AND FINISHED REPAIR (E. VAPOR BARRIER, COATING, ETC).
4. PATCHING OF BUILDING STRUCTURES AND FINISHES SHALL PERTAIN TO ALL WALLS, FLOORS, SLABS, ROOFS, STRUCTURES, AND FINISHES. PATCHES SHALL MATCH EXISTING STRUCTURE, FINISHES AND FINISHES.
5. ALL OPENINGS CREATED BY THE ABANDONMENT OR REMOVAL OF EXISTING SYSTEMS SHALL BE PATCHED.
6. ALL WALLS, ROOFS, SLABS, STRUCTURES, AND FINISHES WHOME FINISH IS IRREGULAR DUE TO THE REMOVAL OF SUPPORTS, STRUCTURES, ACCESSORIES, AND APPURTENANCES SHALL BE PATCHED.
7. ALL FINISHES SHALL MATCH EXISTING FINISH. WHEN FINISH OBVIOUSLY DOES NOT MATCH EXISTING FINISH SUCH AS SHADE OR TYPE OF FINISH, THE FINISH SHALL BE PATCHED TO BE APPLIED TO THE PATCH AND THE SURFACE IN ALL DIRECTIONS UNTIL A SURFACE CHANGE OF A MINIMUM OF 45 DEGREES.

REMOVAL OF SYSTEMS SHALL INCLUDE COMPLETE SYSTEMS, INCLUDING PRACTICAL, SUCH AS, DUCTWORK, CONDUT, ETC.) SHALL BE REMOVED TO 1 INCH BELOW SURFACE.

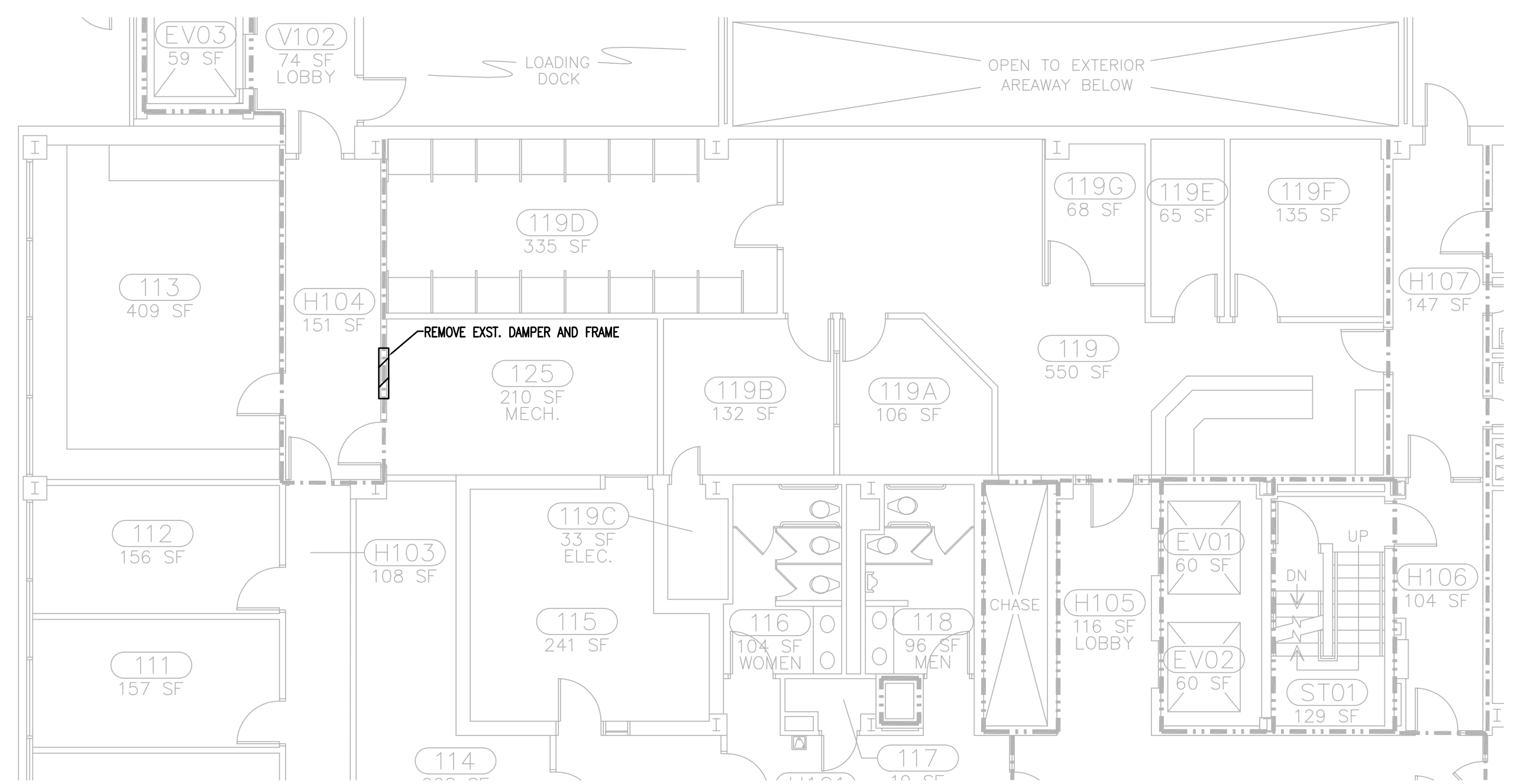
1. DO NOT SCALE DRAWINGS; SEE ARCHITECTURAL DRAWINGS AND REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF DOORS, WINDOWS, CEILING DOWNSPOTS, ETC.
2. USE ECCENTRIC REDUCERS (FOT) ON PUMP SUCTION AND EXHAUST REDUCERS ON PUMP DISCHARGE. USE ECCENTRIC REDUCERS ON AUTOMATIC VALVES WHERE REQUIRED.
3. EXTEND ALL DRAIN LINES TO NEAREST FLOOR OR VOID AS INDICATED. ROUTE TO AVOID INTERFERENCE WITH PASSAGeways. CONDENSATE DRAINS SHALL BE TRAPPED. EXTEND DRAIN LINES TO NEAREST DRAIN.
4. ALL PIPING SHALL PITCH DOWN IN DIRECTION OF FLOW OR AS INDICATED ON DRAWINGS: 1" PER 40 FEET WITH MANUAL AIR VENTS AT ALL HIGH POINTS, AND 3/4" DRAIN LINES AT ALL LOW POINTS.
5. ALL PIPING AND DUCTWORK INSULATION SHALL BE RUN CONTINUOUSLY THROUGH FLOORS, ROOFS AND PARTITIONS EXCEPT WHERE PROHIBITED BY FIRE CODES.
6. EXTEND DRAIN LINES TO NEAREST DRAIN TO 2" ABOVE EXISTING FLOOR OR VOID AS INDICATED.
7. ALL PIPING SHALL BE SUPPORTED IN ACCORDANCE WITH THE SPECIFICATIONS AND FURTHER SUPPORTS OR BRACES SHALL BE REQUIRED TO ELIMINATE TO PREVENT WEIGHT OF PIPING BEING PLACED ON THE EQUIPMENT. SUPPORT DETAILS SHALL BE SUBMITTED TO THE MECHANICAL ENGINEER.
8. ALL PIPING AND DUCTWORK LOCATIONS SHALL BE COORDINATED WITH THE WORK UNDER OTHER DIVISIONS OF THE SPECIFICATIONS TO AVOID INTERFERENCE.
9. CORRECT SETTINGS ON ALL BALANCING FITTINGS SHALL BE PERMANENTLY MARKED.
10. RUNOUTS SHALL PITCH DOWN IN DIRECTION OF FLOW A MINIMUM OF 1" IN 30 FEET.
11. PROVIDE ALL TRANSITIONS REQUIRED FOR INSTALLATION OF THE FOLLOWING COMPONENTS: FAN COIL UNITS, EXHAUST FANS, SUPPLY FANS, AND ALL OTHER EQUIPMENT AT ALL APPEARANCES.
12. ALL DUCT IS GALVANIZED SHEET METAL EXCEPT AS NOTED. DUCT SIZES ARE CLEAR INSIDE DIMENSIONS.
13. AIR DISTRIBUTION UNITS SHALL HAVE TRIM REQUIRED FOR FINISHED SERVICE.
14. COORDINATE ORIENTATION OF SUPPLY AND RETURN PIPING TO MECH. FABRICATION.
15. PROVIDE DIELECTRIC FITTINGS AT ALL LOCATIONS WHERE DISSIMILAR METALS ARE JOINED IN PIPING AND DUCT SYSTEMS.
16. PROVIDE SINKING TYPE RISER EXPANSION COMPENSATION FOR ALL PIPING SYSTEMS.



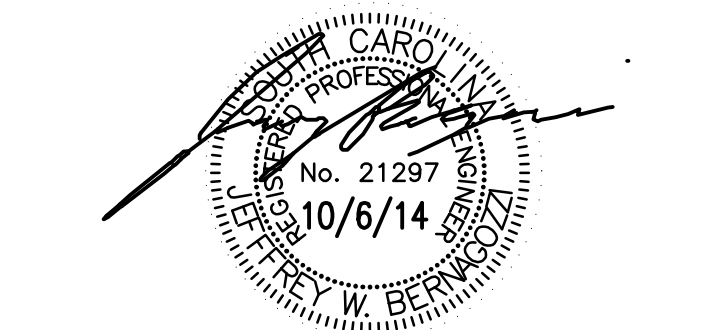
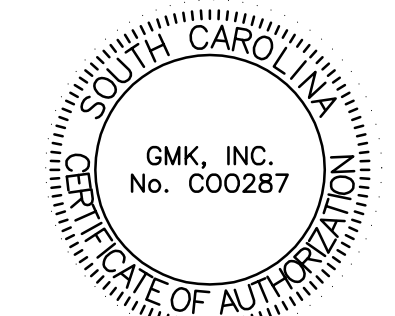
1 BASEMENT MECHANICAL PLAN  
1/4"=1'-0"

DEMOLITION KEYNOTES

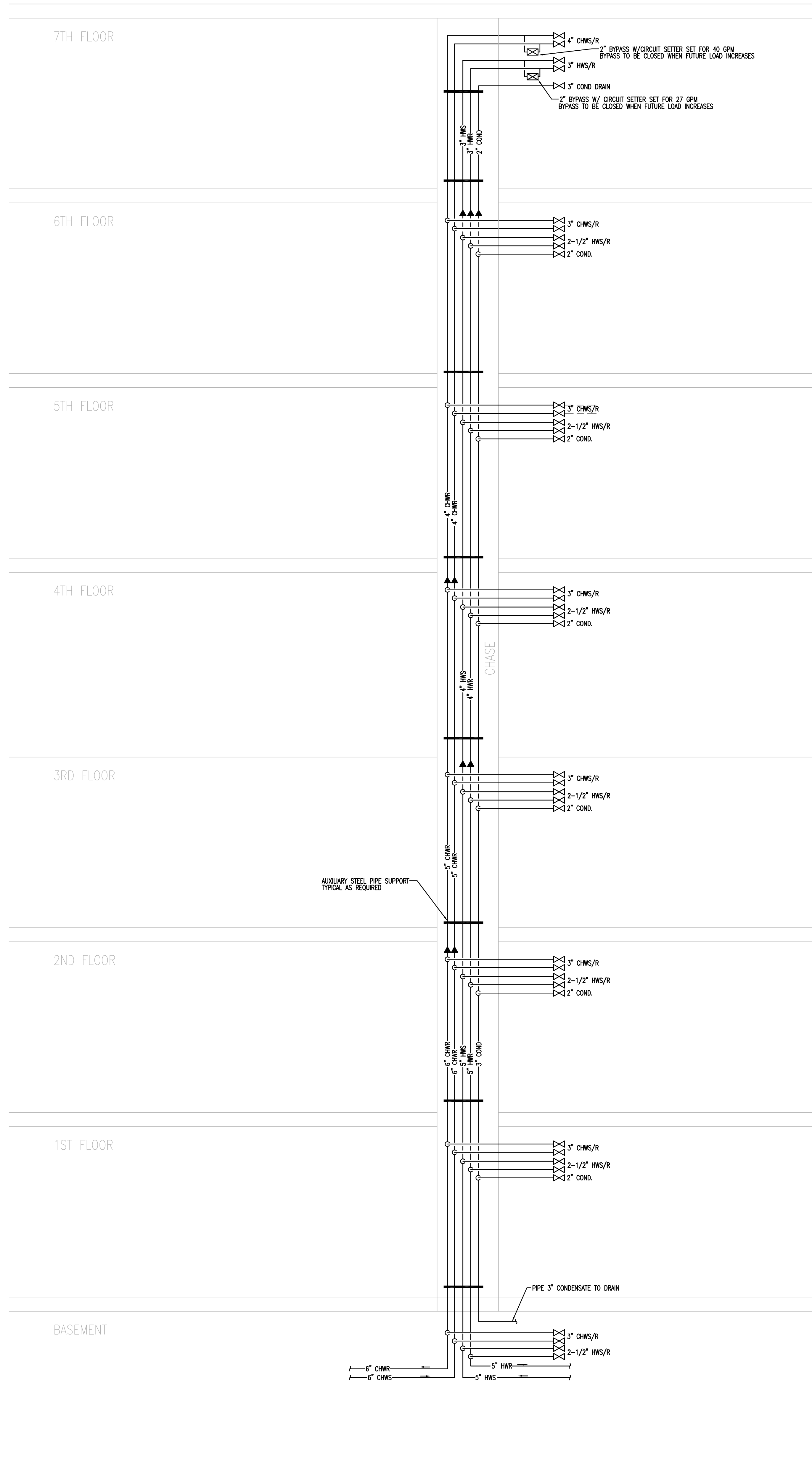
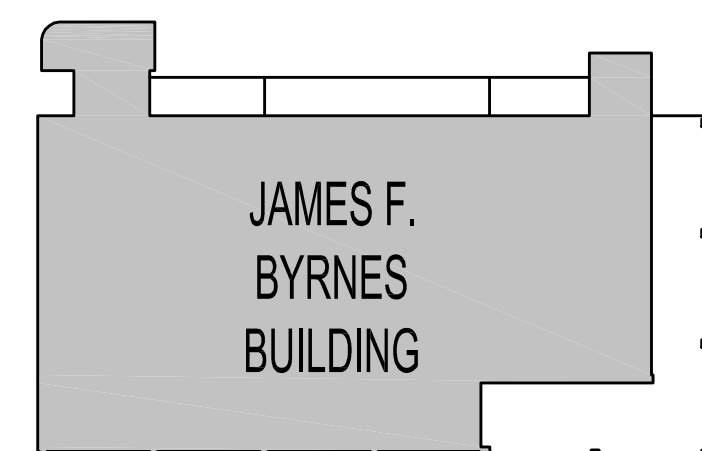
- ① REMOVE 28x38 TRANSFER DUCT FROM 1ST FLOOR, INCLUDING DAMPERS AND OPENINGS. PATCH AND REPAIR OPENINGS LEFT IN CHASE.
- ② EXISTING BOILERS TO BE REMOVED UNDER SEPARATE CONTRACT TO MAKE WAY FOR PUMPS UNDER THIS SCOPE
- ③ REPLACE EXISTING MIXING VALVES



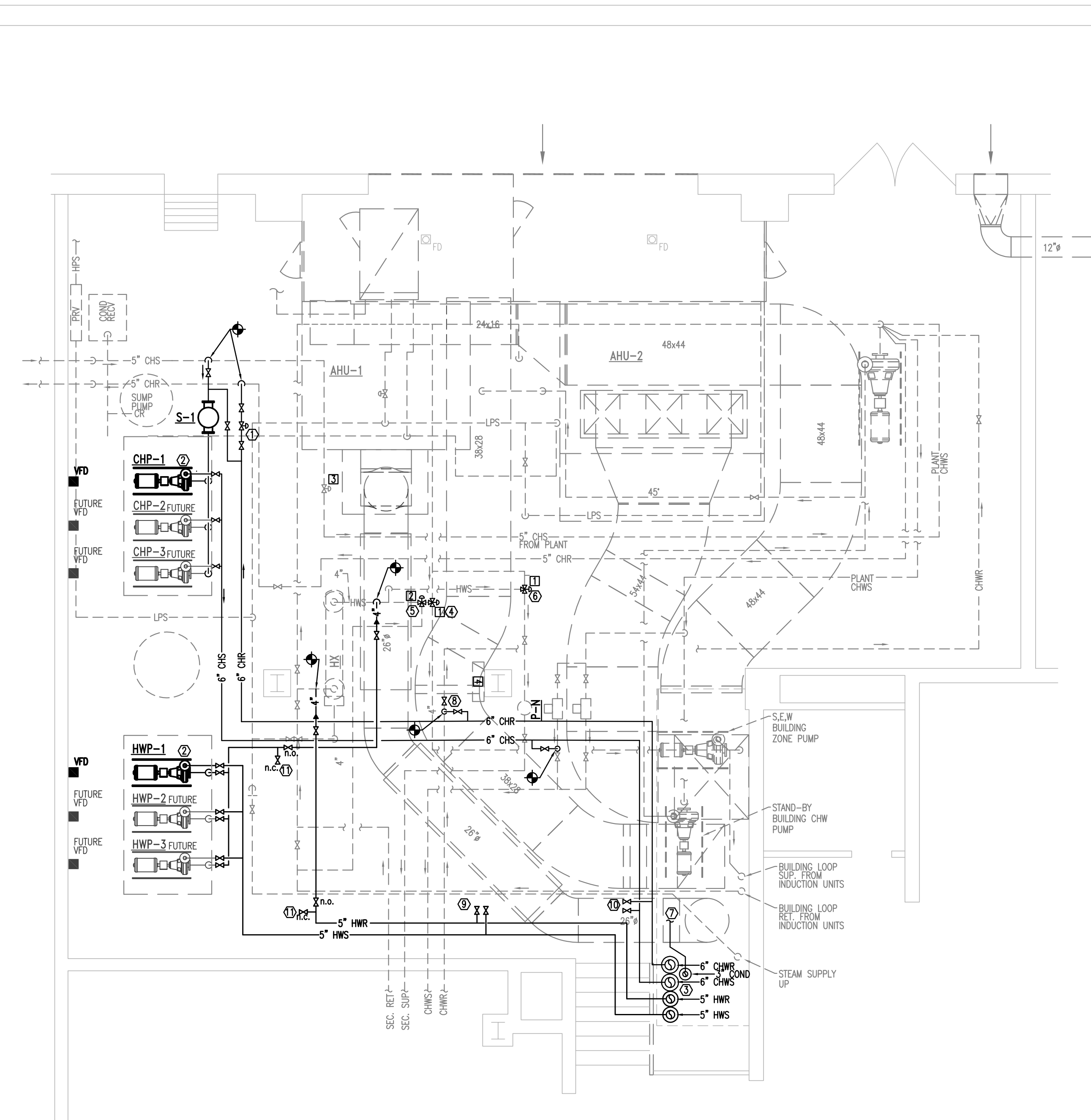
2 FIRST FLOOR PARTIAL MECHANICAL DEMOLITION PLAN  
1/8"=1'-0"



number	item	date



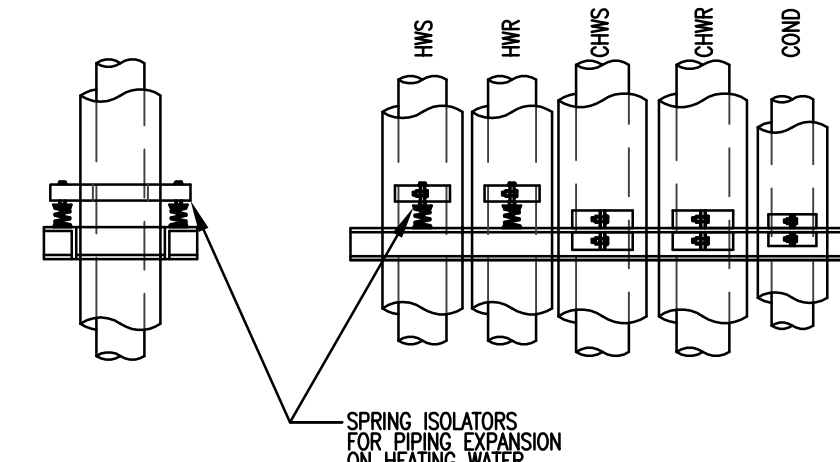
2 RISER SCHEMATIC  
NTS



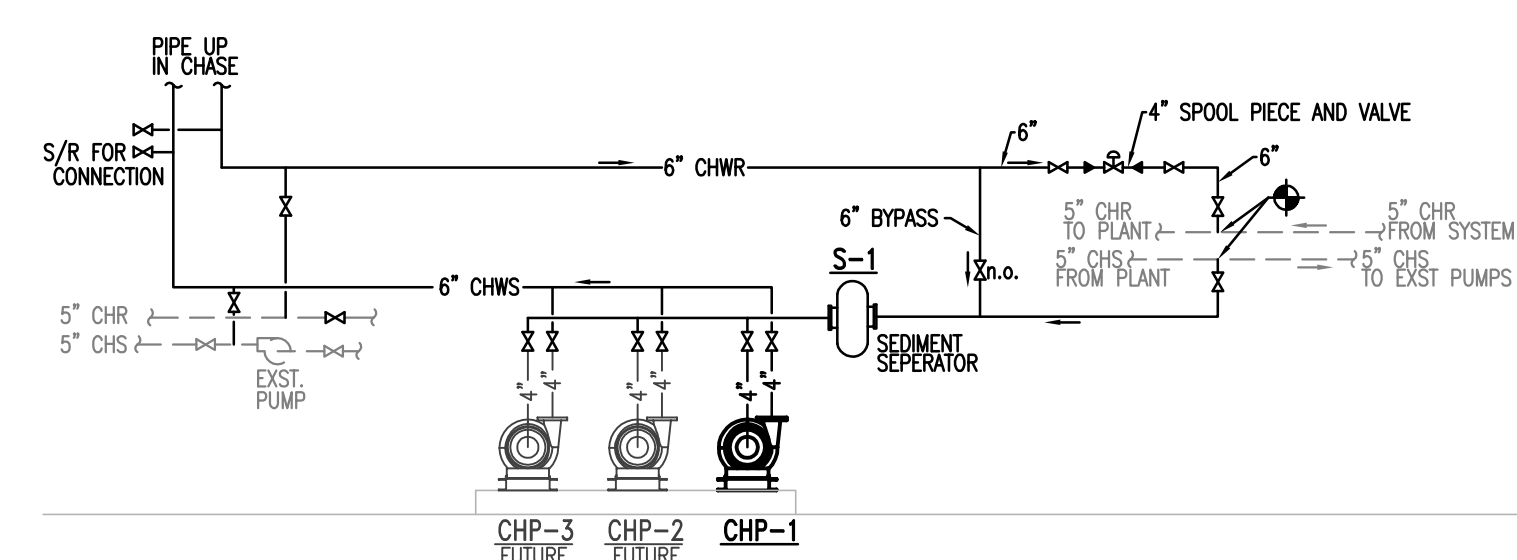
1 BASEMENT MECHANICAL PLAN  
1/4"=1'-0"

- EQUIPMENT KEYNOTES
- 3-WAY MIXING VALVE
  - SUMMER/WINTER 3-WAY VALVE
  - TERTIARY CHW CTRL. VALVE
  - CONTROL PANEL

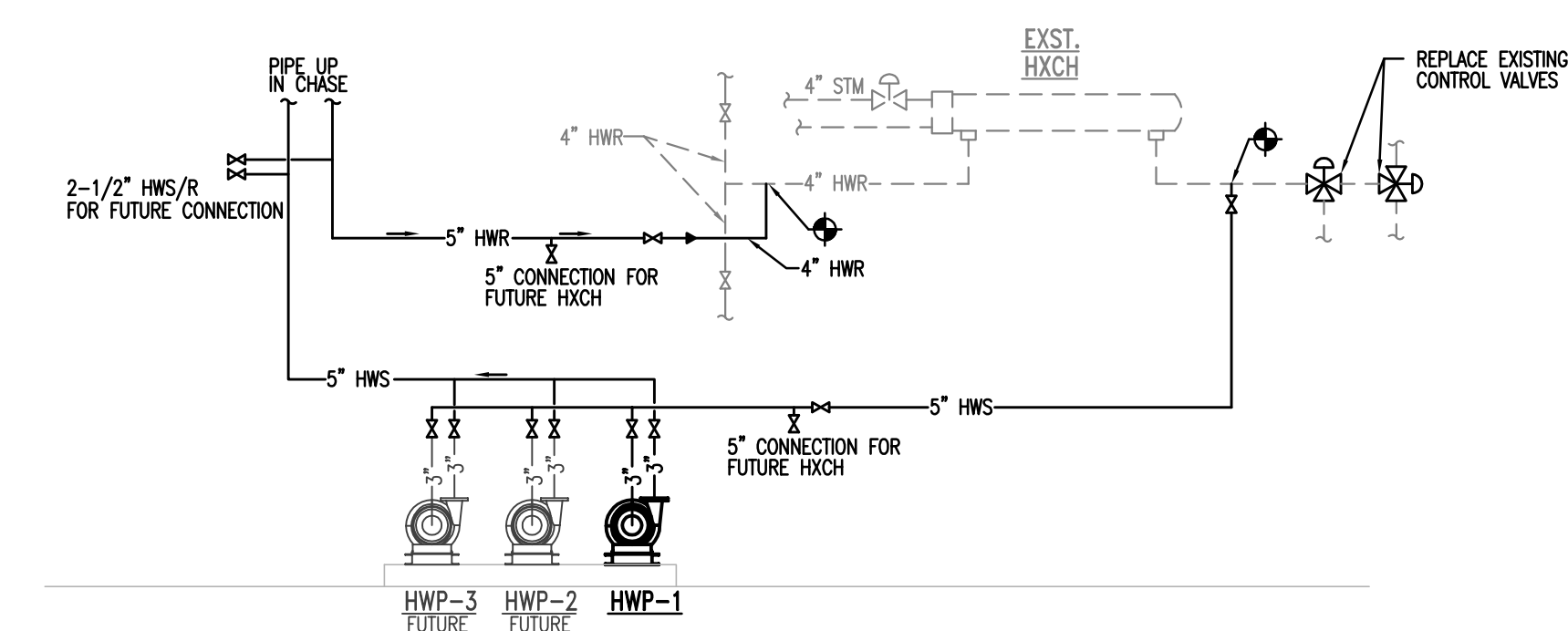
- RENOVATION KEYNOTES
- INSTALL NEW 4" TERTIARY CHILLED WATER VALVE BETWEEN ISOLATION VALVES. VALVE SHALL BE CHANGED OUT FOR A LARGER SIZE AS BUILDING LOAD INCREASES IN FUTURE.
  - INSTALL NEW PUMPS ON EXISTING HOUSEKEEPING PADS
  - ROUTE NEW BUILDING SERVICES PIPING TO EXISTING BUILDING CHASE AND TURN UP INTO CHASE TO CEILING LEVEL OF 7TH FLOOR. CONTRACTOR SHALL FIELD COORDINATE ROUTING OF PIPE IN MECHANICAL ROOM AND UP CHASE DUE TO LARGE AMOUNT OF EXISTING UTILITIES AND SERVICES. CONTRACTOR MAY NEED TO RE-ROUTE SOME MINOR ELEC TO FACILITATE INSTALLATION OF PIPING.
  - REPLACE EXISTING 4" PNEUMATIC 3-WAY MIXING VALVE WITH NEW ELECTRONIC/DOC ACTUATED 3-WAY MIXING VALVE COMPATIBLE WITH EXISTING JCI BMS SYSTEM. VALVE SHALL UTILIZE EXISTING BUILDING CONTROL SENSOR TO ACTIVATE VALVE. CONTRACTOR SHALL FIELD COORDINATE.
  - REPLACE EXISTING 4" PNEUMATIC SUMMER/WINTER 3-WAY MIXING VALVE WITH NEW ELECTRONIC/DOC ACTUATED 3-WAY MIXING VALVE COMPATIBLE WITH EXISTING JCI BMS SYSTEM. VALVE SHALL UTILIZE EXISTING BUILDING CONTROL SENSOR TO ACTIVATE VALVE. CONTRACTOR SHALL FIELD COORDINATE.
  - REPLACE EXISTING APPROX. 2-1/2" PNEUMATIC 3-WAY MIXING VALVE WITH NEW ELECTRONIC/DOC ACTUATED 3-WAY MIXING VALVE COMPATIBLE WITH EXISTING JCI BMS SYSTEM. VALVE SHALL UTILIZE EXISTING BUILDING CONTROL SENSOR TO ACTIVATE VALVE. CONTRACTOR SHALL FIELD COORDINATE AND VERIFY VALVE SIZE.
  - ROUTE 3" COND TO SUMP PUMP IN PLAN NW CORNER OF ROOM
  - NEW ISOLATION VALVE. CONTRACTOR SHALL VERIFY SIZE.
  - 2-1/2" HWS/R FOR FUTURE CONNECTION
  - 3" CHWS/R FOR FUTURE CONNECTION
  - 5" TAP FOR CONNECTION TO FUTURE HCHX



5 TYPICAL RISER SUPPORT DETAIL  
NTS



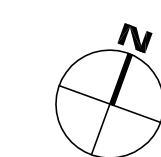
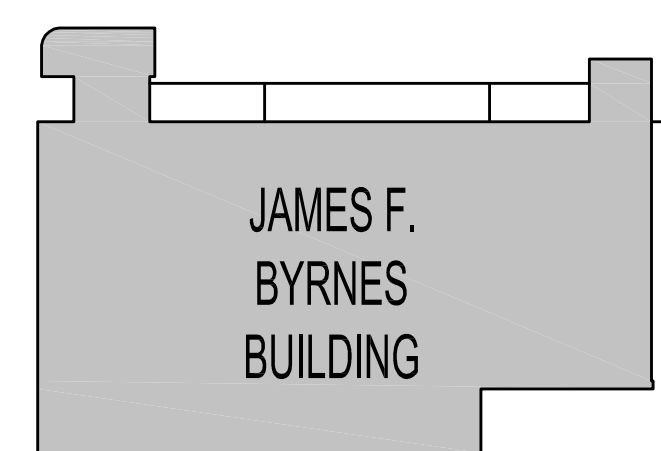
3 CHILLED WATER PIPING SCHEMATIC  
NTS



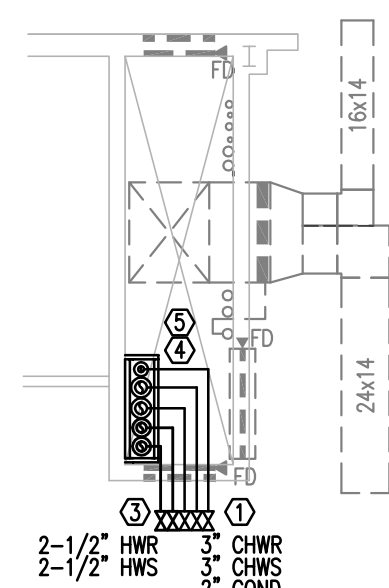
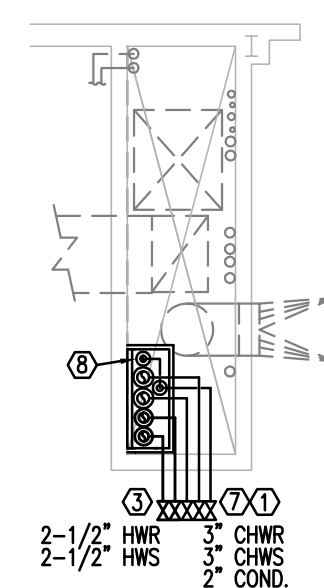
4 HEATING WATER PIPING SCHEMATIC  
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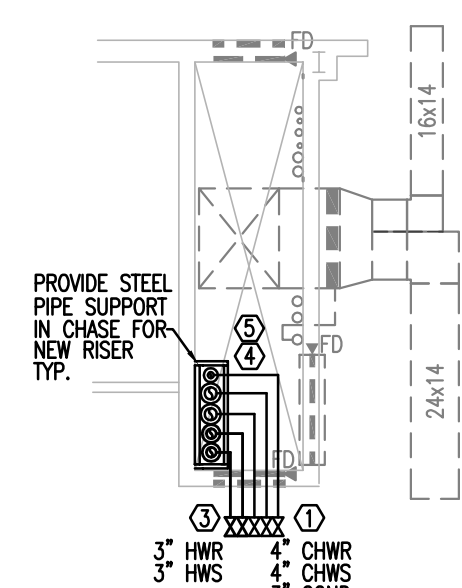
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③ 1ST FLOOR MECH CHASE PLAN  
1/8"=1'-0"



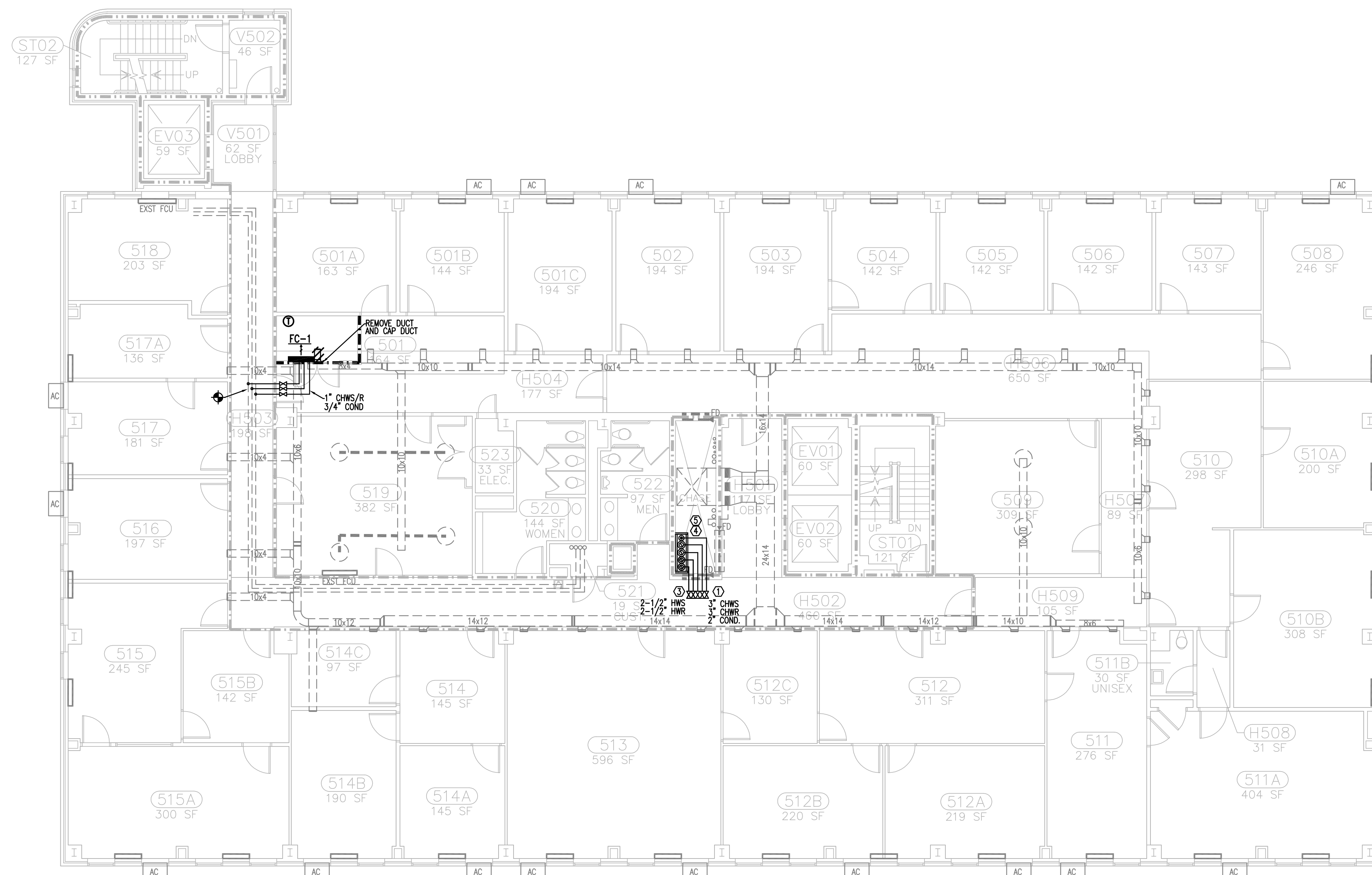
④ 3RD THROUGH 6TH FLOOR MECH CHASE PLAN  
1/8"=1'-0"



⑤ 7TH FLOOR MECH CHASE PLAN  
1/8"=1'-0"

- RENOVATION KEYNOTES
- CONTRACTOR SHALL REMOVE GRILLE, FIRE DAMPER AND BLOCK IF NECESSARY TO ACCESS SHAFT. REPLACE AND REPAIR/REINSTALL LINTEL AND RENEWAL WALL BLOCK AFTER INSTALLATION OF RISER PIPING.
  - CONTRACTOR SHALL PROVIDE STEEL PIPE SUPPORTS IN CHASE TO SUPPORT NEW PIPE RISER. INSTALLATION MUST ALLOW FOR HOT WATER PIPING EXPANSION.
  - INSTALL NEW ISOLATION VALVES AT EACH FLOOR FOR FUTURE CONNECTION OF CHILLED AND HOT WATER EQUIPMENT. INSTALL VALVE ABOVE CORRIDOR. CONTRACTOR SHALL REMOVE CEILING TILE STORE AND RE-INSTALL AFTER CONSTRUCTION IN AREA REQUIRED FOR INSTALLATION OF ISOLATION VALVES.
  - PIPE RISER TO BE INSTALLED IN EXISTING RETURN AIR SHAFT. PROVIDE ALL NECESSARY TEMPORARY RIGGING AND SUPPORTS NECESSARY TO INSTALL PIPING WHILE SYSTEM AND BUILDING IS IN OPERATION.
  - ALL PIPING LOCATED IN SHAFT SHALL BE FLANGED. NO WELDING SHALL BE DONE WITHIN SHAFT FOOTPRINT.
  - MOUNT FAN-COIL ABOVE DOOR AND ROUTE CHILLED WATER PIPING TO EXISTING PIPES ABOVE CORRIDOR AND CONNECT. COND. MUST MAINTAIN 1/4" PER FOOT SLOPE BACK TO MAIN COND. PIPE.
  - CONTRACTOR SHALL PROVIDE TEMPORARY WALL OPENING IF NECESSARY TO ACCESS SHAFT. REPLACE AND REPAIR/REINSTALL LINTEL AND RENEWAL WALL BLOCK AFTER INSTALLATION OF RISER PIPING.
  - IMMEDIATELY ABOVE 1ST FLOOR CEILING, TRANSITION CONDENSATE PIPE OVER AGAINST THE WEST SHAFT WALL AND CONTINUE AT THIS LOCATION UP TO 7TH FLOOR.

① 2ND FLOOR MECHANICAL PLAN  
1/8"=1'-0"



② 5TH FLOOR MECHANICAL PLAN  
1/8"=1'-0"















480/277V, 3 PH., 4W, 60 HZ  
100 AMP MAIN BREAKER  
SURFACE MOUNTED  
22,000 A.I.C. SYM. (MINIMUM)

LOADS SERVED				BKR. AMP	LOAD KVA	CKT. NO.	( S / N )	CKT. NO.	LOAD KVA	BKR. AMP	LOADS SERVED
CHP-1	20	4.2	1		2	4.2	20	HWP-1			
		4.2	3		4	4.2					
		4.2	5		6	4.2					
SPARE	20	-	7		8	-	20	SPARE			
		-	9		10	-					
		-	11		12	-					
SPARE	20	-	13		14	-	20	SPARE			
		-	15		16	-					
		-	17		18	-					
SPARE	20	-	19		20	-	20	SPARE			
SPARE	20	-	21		22	-	20	SPARE			
SPARE	20	-	23		24	-	20	SPARE			

CONNECTED LOADS (kVA)  
 $\phi A$  8.4    $\phi B$  8.4    $\phi C$  8.4

---

TOTAL LOADS (kVA)  
25.2

ELECTRICAL SYMBOL LEGEND	
12 	20 AMP DUPLEX RECEPTACLE, MOUNTED 18" AFF (NUMBER DENOTES CIRCUIT)
GFI 	20 AMP DUPLEX RECEPTACLE, MOUNTED 42" AFF OR 6" ABOVE COUNTER BACKSPASH (GFI = GROUND FAULT INTERRUPTER)
	20 AMP DOUBLE DUPLEX RECEPTACLE, MOUNTED 18" AFF UNLESS NOTED OTHERWISE
	JUNCTION BOX, WALL MOUNTED 18" AFF UNLESS NOTED OTHERWISE (FUNCTION AS INDICATED)
	ELECTRICAL PANELBOARDS, SURFACE AND FLUSH MOUNTED RESPECTIVELY
	DISCONNECT SWITCH (SEE SWITCH SCHEDULE, THIS SHEET)
	CONDUCTOR/CONDUIT NOTATION (SEE SCHEDULE ON SHEET E1.0)
	MOTOR CONNECTION
 TE	SWITCH WITH THERMAL ELEMENT IN NEMA 1 ENCLOSURE
 S	MOTOR SNAP SWITCH, 1 POLE, 120V. MOUNT IN HANDY BOX ADJACENT TO EQUIPMENT
	4' STRIP FIXTURE WITH EMERGENCY BATTERY PACK.
 S	20 AMP SINGLE POLE TOGGLE SWITCH.

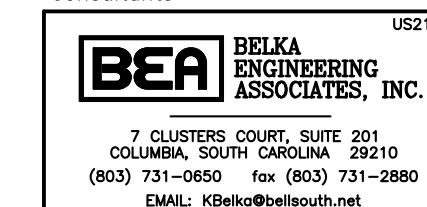
ELECTRICAL DRAWING INDEX	
E1	ELECTRICAL SYMBOL LEGEND & POWER SINGLE-LINE DIAGRAM
E2	BASEMENT AND FIRST FLOOR POWER PLANS
E3	SECOND, THIRD AND FOURTH FLOOR ELECTRICAL PLANS
E4	FIFTH, SIXTH AND SEVENTH FLOOR ELECTRICAL PLANS





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consultant



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USC CAMPUS PLANNING AND  
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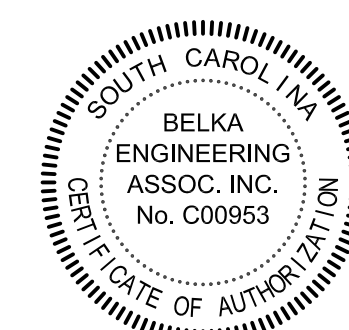
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ELECTRICAL INFRASTRUCTURE  
UPGRADES

state project number

H27-7153

project number

seals/signature

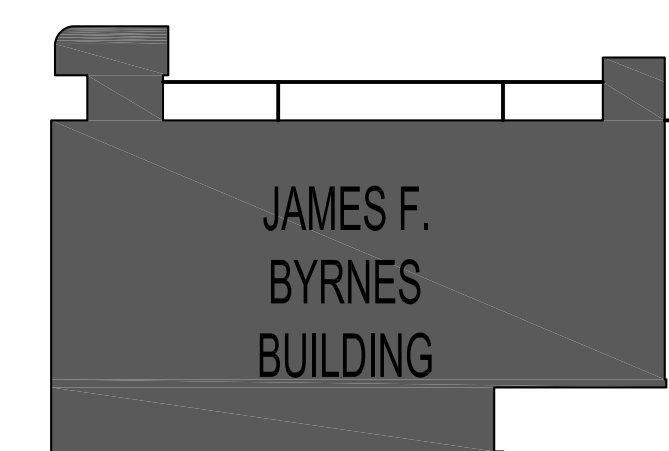


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key plan

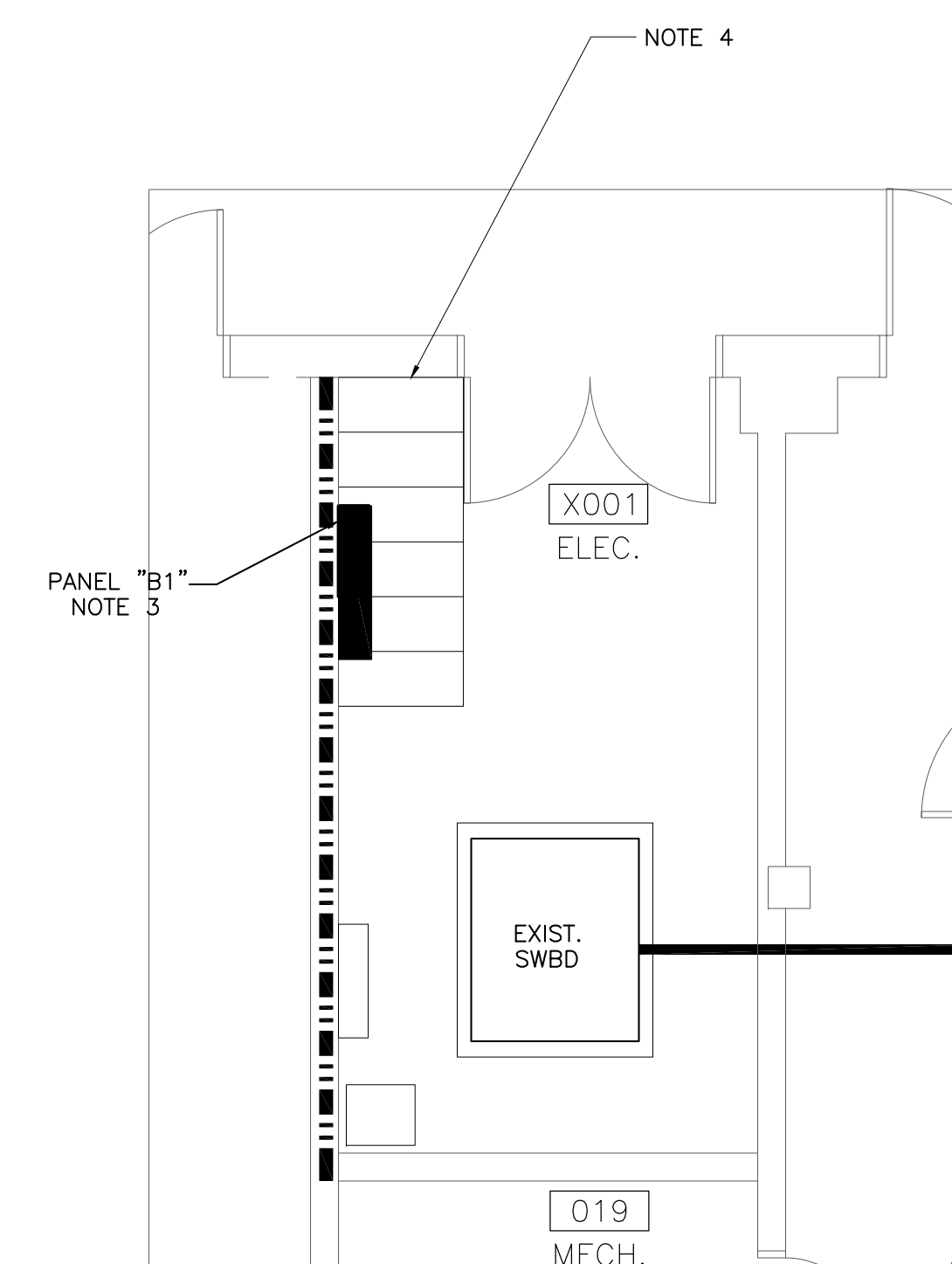
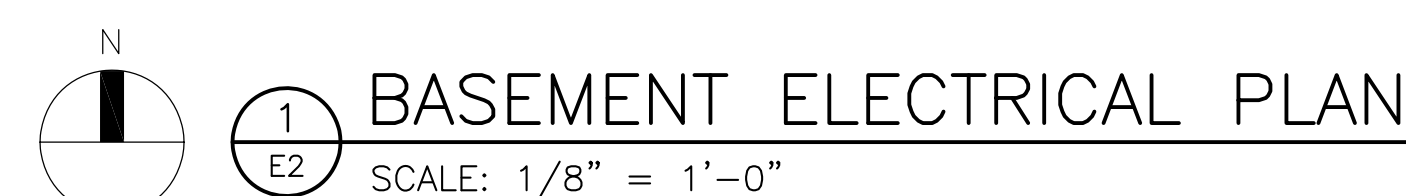


sheet title  
**BASEMENT AND FIRST FLOOR  
ELECTRICAL PLANS**

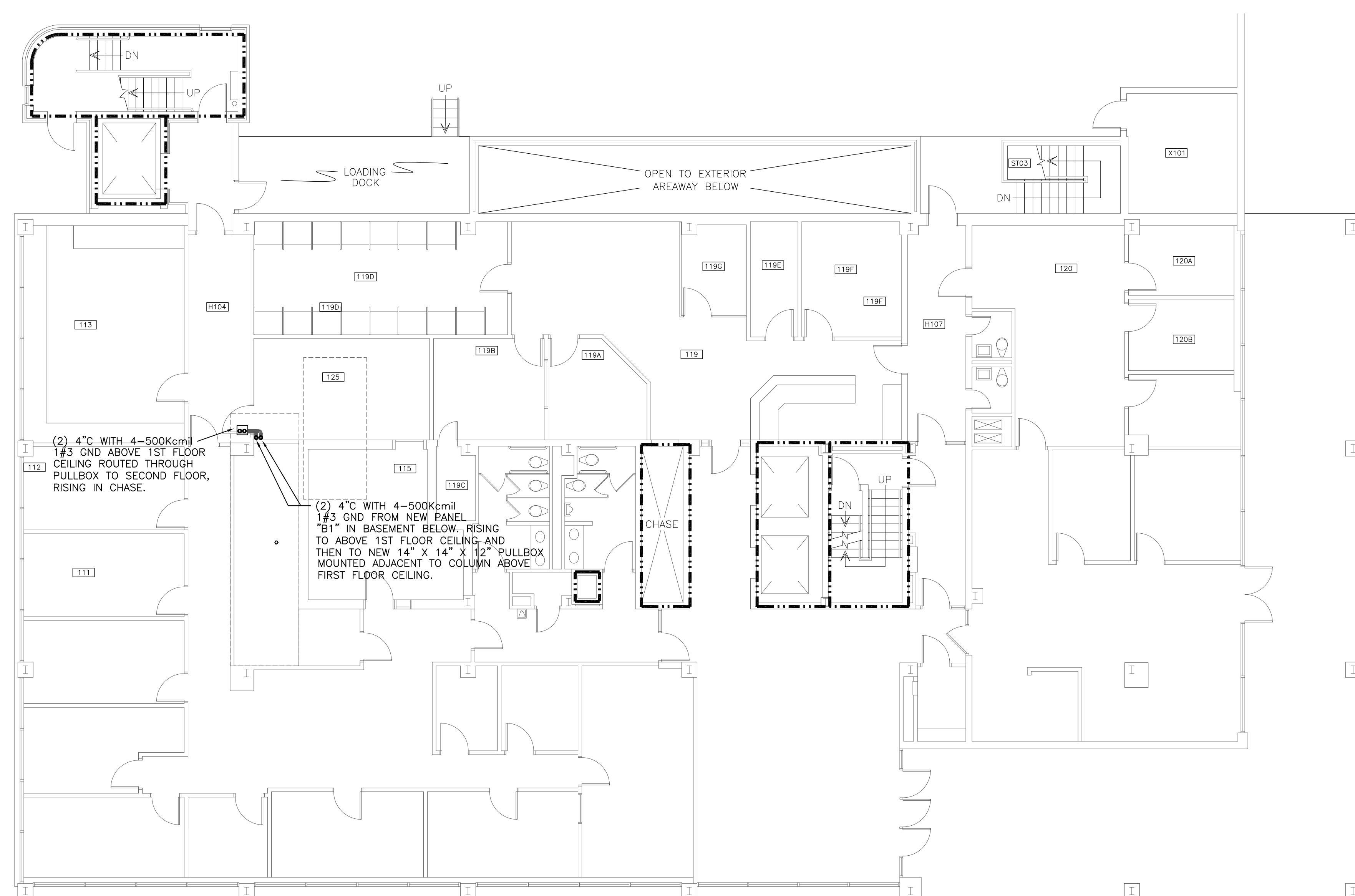
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## E2.0

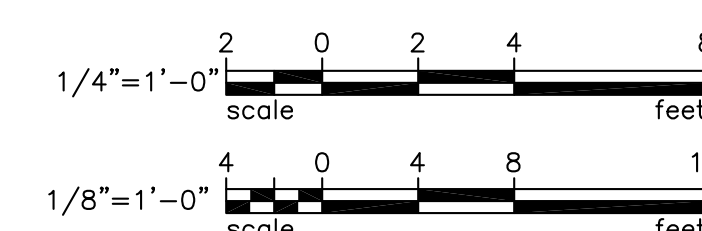
drawn by TSR  
checked by KLB



3 BASEMENT ELECTRICAL PLAN  
E2 SCALE: 1/4" = 1'-0"





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





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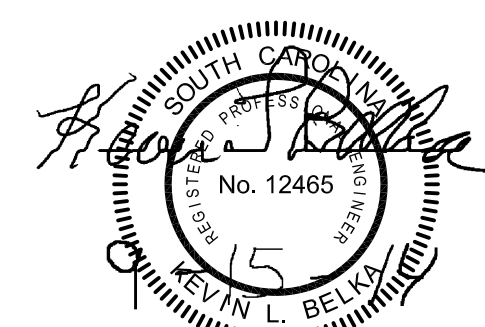
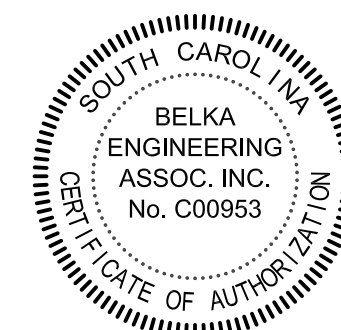
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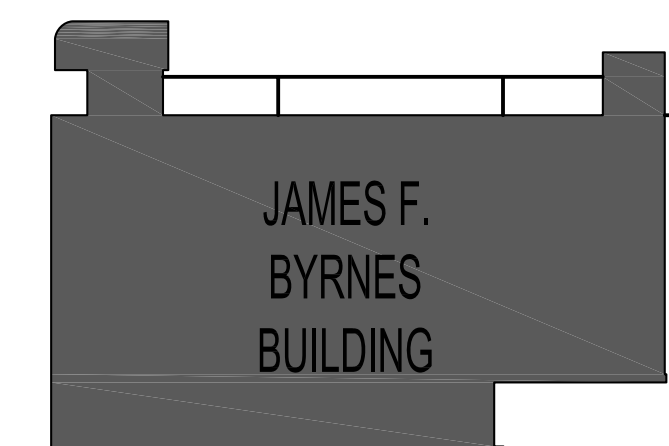


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**SECOND, THIRD AND FOURTH FLOOR  
ELECTRICAL PLANS**

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## E3.0

drawn by TSR  
checked by KLB

