

# SOUTH TOWER MECHANICAL RENOVATIONS

University of South Carolina

Columbia, South Carolina

State Project No. H27-6082-NA

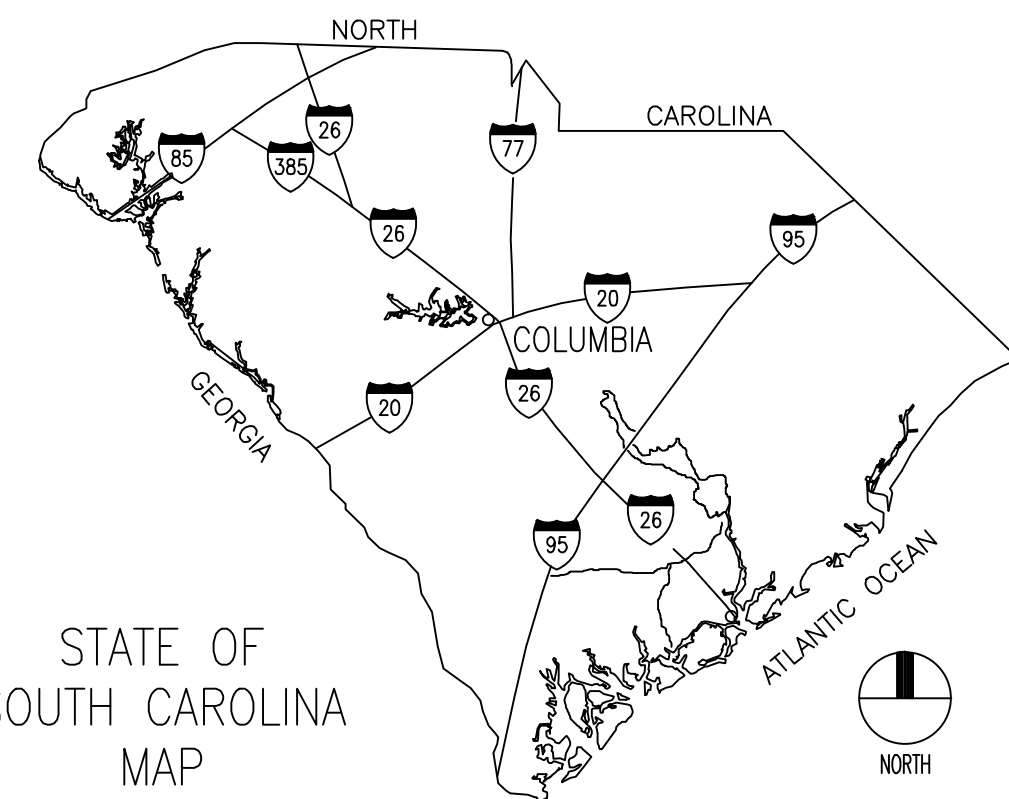
Architect's Project Number: U290.11



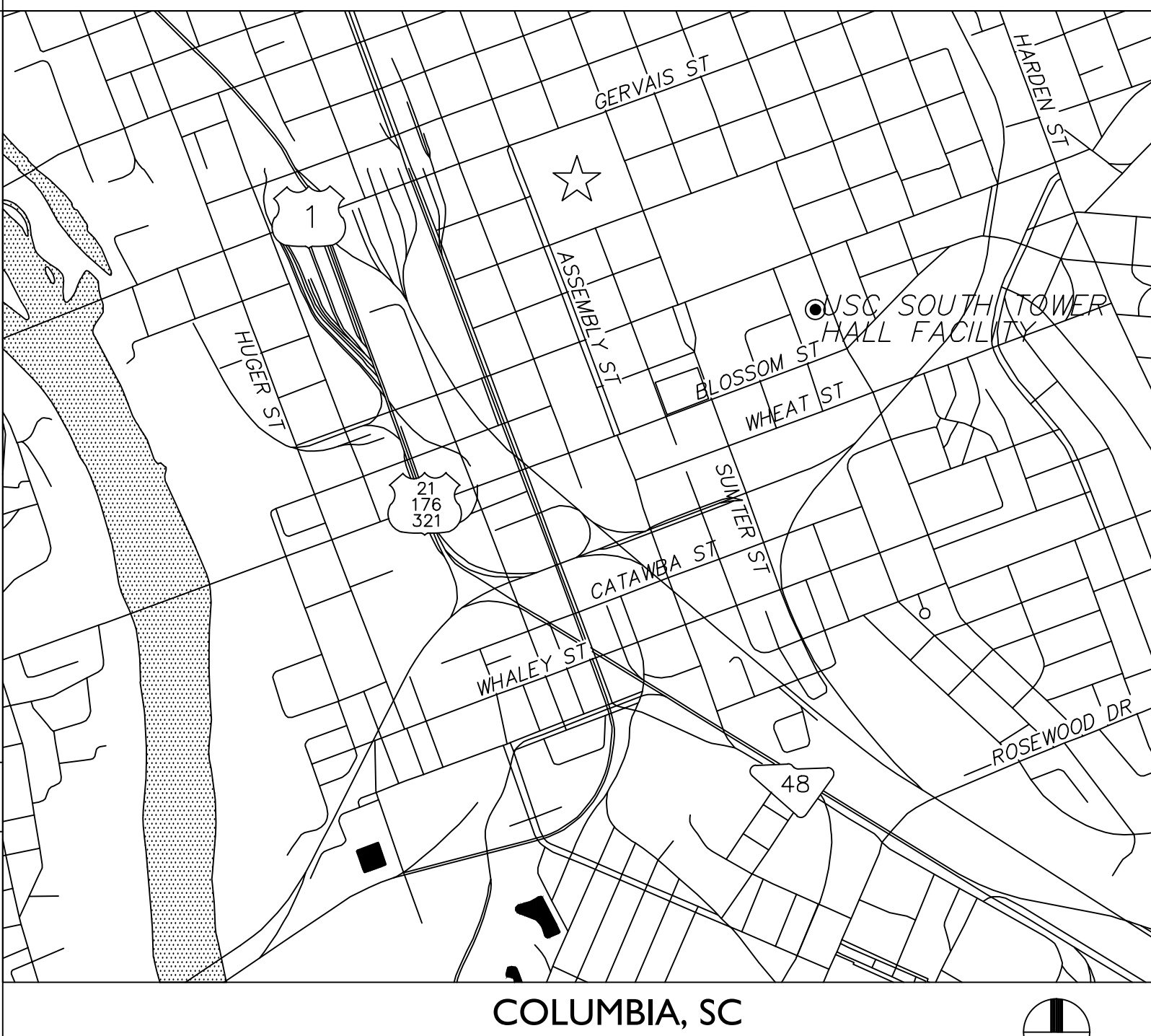
BID DOCUMENTS  
15 MARCH 2012

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## MASTER KEY PLAN



## LOCATION MAP



## DESIGN CODES AND STANDARDS

- PROJECT DESIGNED IN ACCORDANCE WITH:
- INTERNATIONAL BUILDING CODE (IBC), 2009 EDITION
  - INTERNATIONAL EXISTING BUILDING CODE, 2009 EDITION
  - INTERNATIONAL ENERGY CONSERVATION CODE, 2009 EDITION
  - INTERNATIONAL FIRE CODE, 2009 EDITION
  - INTERNATIONAL FUEL GAS CODE, 2009 EDITION
  - INTERNATIONAL MECHANICAL CODE, 2009 EDITION
  - INTERNATIONAL PLUMBING CODE, 2009 EDITION
  - INTERNATIONAL PRIVATE SEWAGE DISPOSAL CODE, 2009 EDITION
  - INTERNATIONAL PROPERTY MAINTENANCE CODE, 2009 EDITION
  - ICC ELECTRICAL CODE, ADMINISTRATIVE PROVISIONS, ICC EC-2006 EDITION
  - NATIONAL ELECTRICAL CODE, NFPA 70, 2008 EDITION
  - NATIONAL ELECTRICAL SAFETY CODE, ANSI-C2-2002 EDITION
  - STATE FIRE MARSHAL REGULATIONS, LATEST REVISION
  - SOUTH CAROLINA ELEVATOR CODE AND REGULATIONS, LATEST EDITION
  - ASHRAE/IESNA 90.1 ENERGY STANDARD FOR BUILDINGS EXCEPT LOW-RISE RESIDENTIAL BUILDINGS, 2007 EDITION
  - ICC/ANSI-A117.1-1998, ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES
  - ANSI/ASHRAE 62.1-2007, VENTILATION FOR ACCEPTABLE INDOOR AIR QUALITY

### BUILDING CODE REVIEW INFORMATION:

- OCCUPANCY (EXISTING OCCUPANCY TO REMAIN)
- TYPE OF CONSTRUCTION
  - A. EXISTING BUILDING: ALTERATION-LEVEL 2 (IEBC 2009)
- GENERAL BUILDING DESIGN, ALLOWABLE AREA, HEIGHT AND OCCUPANT LOAD

BUILDING AREA: EXISTING BUILDING AREA WILL NOT BE MODIFIED

BUILDING HEIGHT: EXISTING BUILDING HEIGHT WILL NOT BE MODIFIED

GENERAL BUILDING DESIGN: ALLOWABLE AREA, HEIGHT AND OCCUPANT LOAD: EXISTING AREA, HEIGHT AND OCCUPANT LOAD WILL NOT BE MODIFIED

FIRE RESISTANCE RATING OF BUILDING ELEMENTS: THE EXISTING FIRE RESISTANCE RATINGS OF BUILDING ELEMENTS WILL NOT BE MODIFIED.

### OTHER FIRE PROTECTION REQUIREMENTS

ITEM	YES	NO	COMMENTS
ARE SPRINKLERS REQUIRED? (PER IBC SECTION 905)	X	-	MINOR SPRINKLER MODIFICATIONS ARE REQUIRED
ARE STANDPIPES REQUIRED? (PER IBC SECTION 905)	X	-	EXISTING STANDPIPES WILL NOT BE MODIFIED
IS A FIRE ALARM SYSTEM REQUIRED? (PER IBC SECTION 907)	X	-	MINOR MODIFICATIONS TO THE EXISTING FIRE ALARM SYSTEM IS REQUIRED

### STRUCTURAL DESIGN INFORMATION:

- BUILDING CODE - 2009 INTERNATIONAL BUILDING CODE AND 2009 INTERNATIONAL EXISTING BUILDING CODE.
- LOADS:
  - (A) ROOF LIVE LOAD: 20 PSF
  - (B) ROOF SNOW LOAD:  $P_g = 10$  PSF  $I_s =$  PSF  $P_f =$  PSF  $C_t =$  PSF  $C_e =$  PSF

- WIND LOADS:
  - (A) BASIC WIND SPEED,  $V_{bb} = 100$  MPH
  - (B) WIND IMPORTANCE FACTOR,  $I_w = 1.15$
  - (C) BUILDING CATEGORY: III
  - (D) WIND EXPOSURE: B
  - (E) INTERNAL PRESSURE COEFFICIENT:  $C_{pi} = +/- 0.18$

- SEISMIC LOADS:
  - (A) SEISMIC DESIGN CATEGORY: C
  - (B) SPECTRAL RESPONSE COEFFICIENT,  $S_{ds}$  &  $S_{d1}$ :  $S_{ds} = 0.40$ ,  $S_{d1} = 0.18$
  - (C) SITE CLASS: D
  - (D) BASIC SEISMIC FORCE RESISTING SYSTEM: N/A

- ANALYSIS PROCEDURE: N/A

- MECHANICAL INFORMATION:
  - 1. OVERALL ROOF THERMAL TRANSFER VALUE (OTV): 4.30 BTU/h/S.F.
  - 2. OVERALL WALL THERMAL TRANSFER VALUE (OTV): 33.71 BTU/h/S.F.
  - 3. COOLING LOAD: 255.8 S.F./TON
  - 4. HEATING LOAD: 27.8 BTU/h/S.F.
  - 5. OUTSIDE AIR (CFM/PERSON): PER ASHRAE 62.1 - 2007
  - 6. INSULATION R-VALUE: EXTERIOR WALLS: EXIST ROOF: 30
  - 7. GLASS: U-FACTOR: EXIST SC: EXIST

- PLUMBING INFORMATION:
  - 1. WATER SYSTEM: NO. OF FIXTURE UNITS: N/A PEAK GPM: N/A SERVICE LINE SIZE: N/A
  - 2. SANITARY SEWER SYSTEM (LOADING): N/A
  - 3. SERVICE LINE SIZE: N/A SLOPE: N/A
  - 4. MINIMUM NUMBER OF PLUMBING FIXTURES REQUIRED (PER IBC SECTION 403 & TABLE 403.1): SEE PLUMBING FIXTURE CALCULATIONS CHART

- ELECTRICAL INFORMATION:
  - 1. SERVICE TRANSFORMER: BY OWNER EXISTING BY UTILITY
  - IF BY OWNER: KVA: 750 PRIMARY VOLTAGE/PHASE: 8,320 3-PHASE
  - 2. PROVIDE THE FOLLOWING SERVICE INFORMATION: SERVICE VOLTAGE/PHASE: 208V/3-PHASE AMPERES: 3,000 SERVICE ENTRANCE CONDUCTORS SIZE: EXISTING 3000 AMP FEEDER BUSWAY TOTAL CONNECTED LOAD KVA: N/A ESTIMATED DEMAND FACTOR: N/A ESTIMATED MAXIMUM DEMAND KVA: 432 AVAILABLE FAULT CURRENT IN SYMMETRICAL AMPERES: 100,000 (ASSUMING INFINITE SCA) INTERRUPTING CAPACITY OF SERVICE OVERCURRENT DEVICE: EXISTING (100,000) TYPE OF GROUNDING ELECTRODE SYSTEM(S) PER NEC 250-C: EXISTING 3/0 COPPER TO GROUND ROD AND WATER PIPE
  - 3. EMERGENCY GENERATOR (IF ANY): KVA: 375 VOLTAGE/PHASE: 208V/3-PHASE FUEL: DIESEL
  - 4. EXISTING EMERGENCY LIGHTS BACKUP POWER: INTEGRAL BATTERY GENERATOR: X
  - 5. EMERGENCY EGRESS ILLUMINATION, MINIMUM FOOTCANDLES: 1.0
  - 6. FIRE ALARM SYSTEM: MANUAL: X AUTOMATIC: X ADDRESSABLE? X CLASS A OR B? B
  - 7. LIGHTNING PROTECTION PROVIDED? YES: X NO: X
  - 8. BUILDING COMMUNICATIONS COORDINATED WITH OIR? YES: X NOT REQUIRED: X

## INDEX TO DRAWINGS

### TITLE SHEET:

T1.1 TITLE SHEET, CODE ANALYSIS, INDEX TO DRAWINGS

### DEMOLITION:

- D1.00 BASEMENT DEMOLITION PLAN
- D1.01 GROUND LEVEL DEMOLITION PLAN
- D1.1 FIRST FLOOR DEMOLITION PLAN
- D1.2 TYPICAL DEMOLITION PLAN, LEVELS 2-17
- D1.3 18TH FLOOR DEMOLITION PLAN
- D1.4 ROOF DEMOLITION PLAN
- D2.00 BASEMENT DEMOLITION REFLECTED CEILING PLAN
- D2.01 GROUND LEVEL DEMOLITION REFLECTED CEILING PLAN
- D2.1 FIRST FLOOR DEMOLITION REFLECTED CEILING PLAN
- D2.2 TYPICAL DEMOLITION REFLECTED CEILING PLAN, LEVELS 2-17
- D2.3 18TH FLOOR DEMOLITION REFLECTED CEILING PLAN

### ARCHITECTURAL:

- A1.00 BASEMENT FLOOR PLAN
- A1.01 GROUND LEVEL FLOOR PLAN
- A1.1 FIRST FLOOR PLAN
- A1.2 TYPICAL FLOOR PLAN, LEVEL 2-17
- A1.3 18TH FLOOR PLAN
- A1.4 ROOF PLAN
- A2.00 BASEMENT REFLECTED CEILING PLAN
- A2.01 GROUND LEVEL REFLECTED CEILING PLAN
- A2.1 FIRST FLOOR REFLECTED CEILING PLAN
- A2.2 TYPICAL REFLECTED CEILING PLAN, LEVELS 2-17
- A2.3 18TH FLOOR REFLECTED CEILING PLAN
- A3.1 DETAILS
- A3.2 DETAILS
- A8.0 FINISH SCHEDULE
- A8.1 FIRST FLOOR FINISH PLAN
- A8.2 TYPICAL FINISH PLANS, LEVELS 2-18

### STRUCTURAL:

- S1.1 STRUCTURAL PLANS
- S2.1 STRUCTURAL DETAILS

### MECHANICAL:

- M1.00A BASEMENT FLOOR DEMOLITION PLAN - PHASE A
- M1.01A GROUND FLOOR DEMOLITION PLAN - PHASE A
- M1.1A FIRST FLOOR DEMOLITION PLAN - PHASE A
- M1.2A TYPICAL FLOOR DEMOLITION PLAN - PHASE A
- M1.3A ROOF DEMOLITION PLAN - PHASE A
- M1.00A BASEMENT FLOOR PLAN - PHASE A
- M1.01A GROUND FLOOR PLAN - PHASE A
- M1.1A FIRST FLOOR PLAN - PHASE A
- M1.2A TYPICAL FLOOR PLAN (LEVEL 2 - 17) - PHASE A
- M1.3A 18TH FLOOR PLAN - PHASE A
- M1.4A ROOF PLAN - PHASE A
- M2.00A BASEMENT FLOOR PIPING PLAN - PHASE A
- M2.01A GROUND FLOOR PIPING PLAN - PHASE A
- M2.1A FIRST FLOOR PIPING PLAN - PHASE A
- M2.2A TYPICAL FLOOR PIPING PLAN (LEVEL 2 - 17) - PHASE A
- M2.3A 18TH FLOOR PIPING PLAN - PHASE A
- M2.4A ROOF PIPING PLAN - PHASE A

- M1.00B BASEMENT FLOOR DEMOLITION PLAN - PHASE B
- M1.01B FIRST FLOOR DEMOLITION PLAN - PHASE B
- M1.02B TYPICAL FLOOR DEMOLITION PLAN - PHASE B
- M1.03B ROOF DEMOLITION PLAN - PHASE B
- M1.04B TYPICAL FLOOR PLAN (LEVEL 2 - 17) - PHASE B
- M1.05B 18TH FLOOR PLAN - PHASE B
- M1.06B ROOF PLAN AND PENTHOUSE PLAN - PHASE B
- M2.00B BASEMENT FLOOR PIPING PLAN - PHASE B
- M2.01B GROUND FLOOR PIPING PLAN - PHASE B
- M2.02B TYPICAL FLOOR PIPING PLAN (LEVEL 2 - 17) - PHASE B
- M2.03B 18TH FLOOR PIPING PLAN - PHASE B
- M2.04B ROOF PIPING PLAN - PHASE B

- M3.1 RISERS
- M3.2 PIPING DETAILS
- M4.1 NOTES AND SCHEDULES
- M4.2 DETAILS
- M4.3 DETAILS
- M4.4 DETAILS

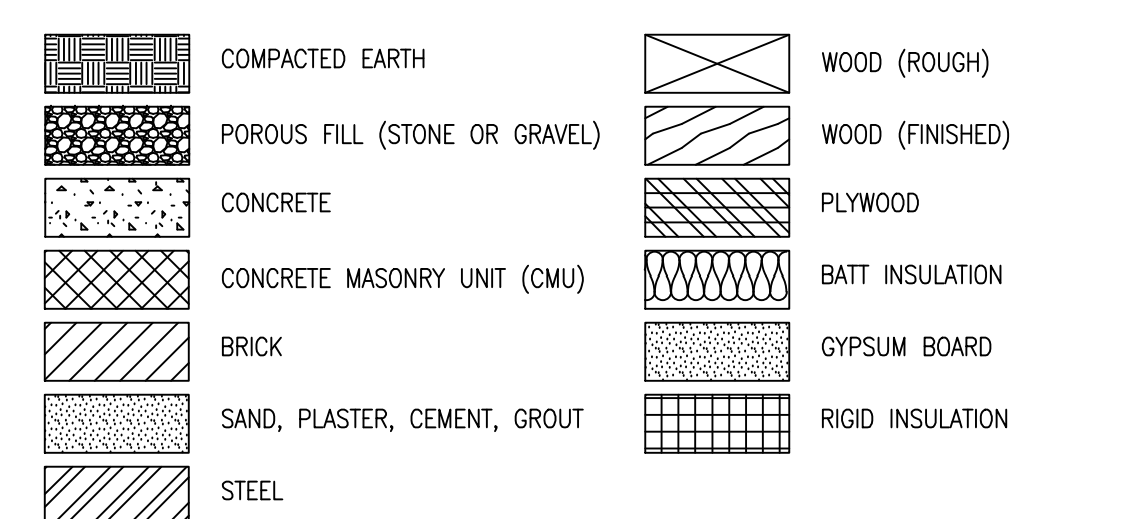
### PLUMBING:

- P1.00A BASEMENT FLOOR PLAN - PHASE A
- P1.01A GROUND FLOOR PLAN - PHASE A
- P1.1A FIRST FLOOR PLAN - PHASE A
- P1.2A TYPICAL FLOOR PLAN (LEVEL 2 - 17) - PHASE A
- P1.3A 18TH FLOOR PLAN - PHASE A
- P1.4A ROOF PLAN - PHASE A, DETAILS, NOTES, SCHEDULE, AND LEGEND

### FIRE PROTECTION:

- FP1.1A TYPICAL FLOOR PLAN (LEVEL 2 - 18) AND NOTES - PHASE A
- FP1.1B TYPICAL FLOOR PLAN (LEVEL 2 - 18) AND NOTES - PHASE B

## MATERIAL DESIGNATIONS



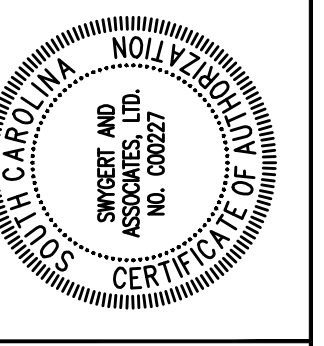
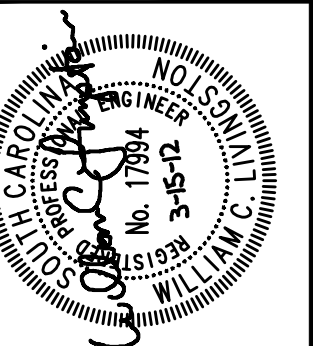
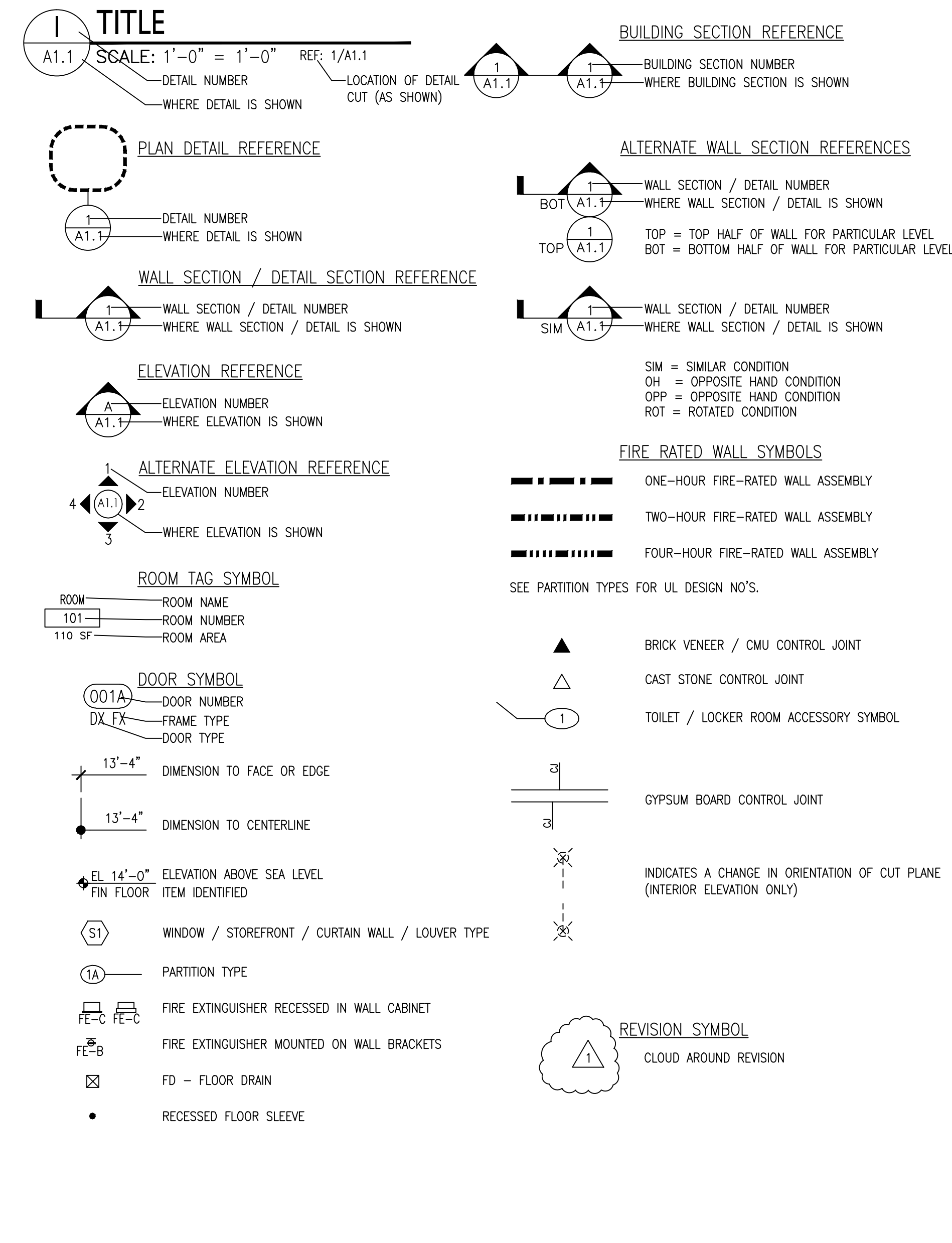
"I HEREBY CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE, THESE PLANS COMPLY WITH APPLICABLE ZONING ORDINANCES, AND THAT PLANS HAVE BEEN SUBMITTED TO APPROPRIATE AUTHORITY FOR THEIR REVIEW AND/OR APPROVAL."

ARCHITECT \_\_\_\_\_ DATE \_\_\_\_\_

## ABBREVIATIONS

- ANGLE
- AT ABOVE FINISH FLOOR
- ALUM ALUMINUM
- ARCH ARCHITECTURAL
- BLKG BLOCKING
- BUR BUILT-UP ROOF
- CJ CENTERLINE
- CLG CONTROL JOINT
- CLJ CEILING
- CTR CENTER
- CMU CONCRETE MASONRY UNIT
- CONT CONTINUOUS
- DIA DIAMETER
- DS DOWN SPOUT
- DWG DRAWING
- EXT EXTERIOR
- EXIST EXISTING
- EJ EACH
- EJ EXPANSION JOINT
- ELEC ELECTRICAL
- ELEV ELEVATION
- ELEV ELEVATOR
- EQUIP EQUIPMENT
- ENC ELECTRIC WATER COOLER
- EQUP EQUIPMENT
- ENC ELECTRIC WATER COOLER
- FIN FINISH
- FD FLOOR DRAIN
- FD FLOOR DRAIN
- FD FLOOR DRAIN
- FOS FACE OF STUD
- FOS FIRE RETARDANT
- FR FIELD VERIFY
- GA GAUGE
- GYP BD GYPSUM BOARD
- HM HOLLOW METAL
- HORIZ HORIZONTAL
- HT HEIGHT
- HVAC HEATING VENTILATION AIR-CONDITIONING
- ID INSIDE DIAMETER
- INSUL INSULATION
- JOINT JOINT
- JT JOINT
- LAV LAVATORY
- MAX MAXIMUM
- MECH MECHANICAL
- MFR MANUFACTURER
- MIN MINIMUM
- MO MASONRY OPENING
- NOT IN CONTRACT NOT IN CONTRACT
- NOM NOMINAL
- NTS NOT TO SCALE
- ON CENTER ON CENTER
- OD OUTSIDE DIAMETER
- OPNG OPENING
- OPP OPPOSITE
- P PAINT
- PR PAIR
- PROPERTY LINE PROPERTY LINE
- PT PRESSURE TREATED
- R, RAD RADIUS
- REDD REQUIRED
- ROOF DRAIN ROOF DRAIN
- RO ROUGH OPENING
- SF SQUARE FEET
- SIM SIMILAR
- SPEC SPECIFICATIONS
- SS STAINLESS STEEL
- STD STANDARD
- STR STRUCTURAL
- SUSP SUSPENDED
- TOS TOP OF STEEL
- TOW TOP OF WALL
- TYP TYPICAL
- UNO UNLESS NOTED OTHERWISE
- VERT VERTICAL
- VCT VINYL COMPOSITION TILE
- WHI WATER CLOSET
- WR WATER RESISTANT
- WRF WELDED WIRE FABRIC
- WOOD WOOD
- P.I.P. POURED-IN-PLACE
- CSU CAST STONE UNIT

## ARCHITECTURAL SYMBOLS



SOUTH TOWER  
MECHANICAL RENOVATIONS  
UNIVERSITY OF SOUTH CAROLINA  
STATE PROJECT NUMBER H27-6082-NA  
BID DOCUMENTS

DATE	DESCRIPTION	BY	DATE	DESCRIPTION	BY
03/15/12	WCL	WCL			
	DEM	DEM			

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TITLE SHEET  
T1.0