

University of South Carolina
UTS Main Data Center Fire Suppression System
FP00000096
Addendum Two
July 12, 2018

The following items add to, modify, clarify, or otherwise alter the Drawings and/or specifications and will become a part of the Contract Documents. Where a portion of the Drawings and/or specifications is added to, modified, clarified, or otherwise altered, the portion not so affected shall remain. Bidder shall include all effects that these items may have on his proposal.

General:

These questions were asked during the Pre-Bid meeting and the answer follows the question:

1. Are the old halon system drawings available to see what size piping is being removed.

The drawings are available in pdf format. Ralph Foster did not verify the pipe sizes shown on the drawings match what was installed. They will be provided as part of an addendum.

2. Who is providing the electrical circuit for the releasing panel?

USC is responsible for providing a 15 amp circuit to power the releasing panel. Contractor will coordinate with USC based on the releasing panel location.

3. Who is responsible for connection the releasing panel and the building fire alarm control panel?

The contractor is responsible for connecting the releasing panel to the building fire alarm control panel.

4. Does this project require a new panel?

Per General Note F19 on sheet CA1, the contractor is responsible for providing a listed releasing panel for the data center suppression system. The contractor will confirm the panel location with USC. The panel must be compatible with the existing building fire alarm control panel.

5. Is the contractor responsible for demolition and removal of the old halon piping?

Yes – The contractor may reuse existing piping per General Note F20 on sheet CA1.

6. Ralph Foster advised the contractor to read General Note F19 on sheet CA1 regarding the contractor's responsibility for programming of the building fire alarm control panel.

Attachments:

- A. Old halon system drawings dates 7/23/09

END OF ADDENDUM TWO

COMPUTER ROOM FIRE SUPPRESSION

FOR THE UNIVERSITY OF SOUTH CAROLINA

Project Number H27-N147

JULY 23, 2009

SCOPE OF WORK

PROVIDE ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY AS NOTED WITHIN THE CONSTRUCTION DOCUMENTS TO SUPPORT THE REPLACEMENT OF AN EXISTING HALON FIRE SUPPRESSION SYSTEM WITH A NEW CLEAN-AGENT FIRE SUPPRESSION SYSTEM.

CODE SEARCH

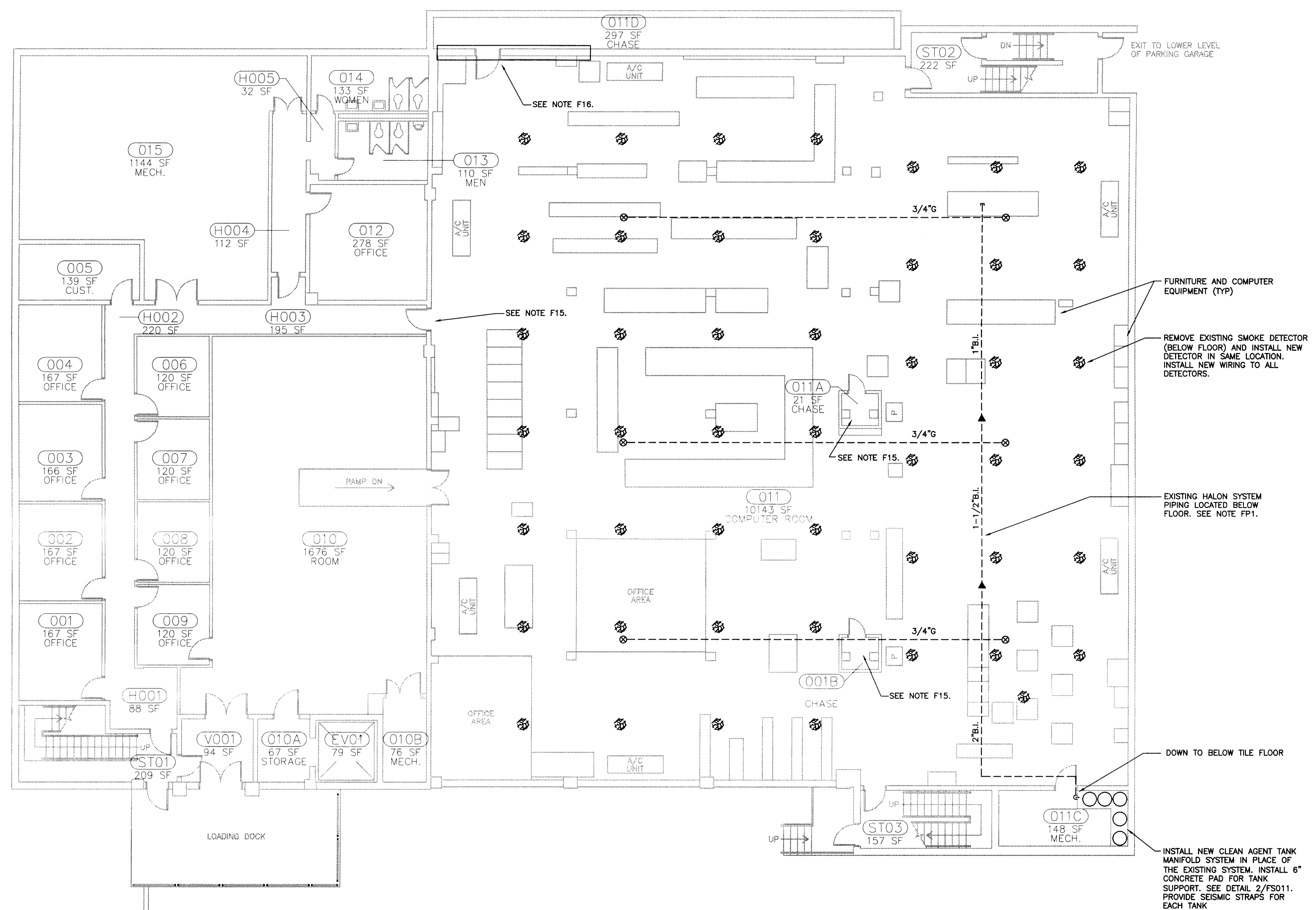
PROJECT DESIGNED IN ACCORDANCE WITH:

1. INTERNATIONAL BUILDING CODE, 2006 EDITION.
2. INTERNATIONAL FIRE CODE, 2006 EDITION.
3. NFPA 2001, 2008 EDITION
4. NFPA 75, 2009 EDITION
5. NATIONAL ELECTRICAL CODE, NFPA 70, 2005 EDITION.
6. STATE FIRE MARSHAL REGULATIONS, LATEST REVISION.

SCHEDULE OF DRAWINGS

| SHEET NO. | DESCRIPTION |
|-----------|---|
| | COVER |
| FS011 | 145 BASEMENT FIRE SUPPRESSION PLAN (BELOW FLOOR) |
| FS012 | 145 BASEMENT FIRE SUPPRESSION PLAN (ABOVE CEILING) |
| FS021 | 145 FIRST FLOOR FIRE SUPPRESSION PLAN (BELOW FLOOR) |
| FS022 | 145 FIRST FLOOR FIRE SUPPRESSION PLAN (ABOVE CEILING) |
| E010 | 145 BASEMENT EXISTING ELECTRICAL PLAN |
| E011 | 145 FIRST FLOOR EXISTING ELECTRICAL PLAN |
| E020 | 145 BASEMENT ELECTRICAL RENOVATION PLAN |
| E021 | 145 FIRST FLOOR ELECTRICAL RENOVATION PLAN |
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1 145 BASEMENT FLOOR FIRE SUPPRESSION PLAN (BELOW FLOOR)
 FS011 SCALE: 1/8"=1'-0"

| FIRE PROTECTION LEGEND | | |
|------------------------|-----------|---------------------------------|
| ABBREVIATION | SYMBOL | DESCRIPTION |
| | ———— | EXT'G ABOVE FLOOR HALON PIPING |
| | - - - - - | EXT'G BELOW FLOOR HALON PIPING |
| G | ○ | GALVANIZED PIPING |
| B.I. | ○ | BLACK IRON PIPING |
| SD | ○ | EXT'G CLEAN AGENT SENSOR DEVICE |
| | ○ | EXT'G UPRIGHT HALON NOZZLE |
| | ● | EXT'G PENDANT HALON NOZZLE |
| EXT'G | ○ | EXISTING |
| TYP | ○ | TYPICAL |

NOTE: LEGEND APPLIES TO ALL FIRE PROTECTION DRAWINGS.

BASE BID NO. 1

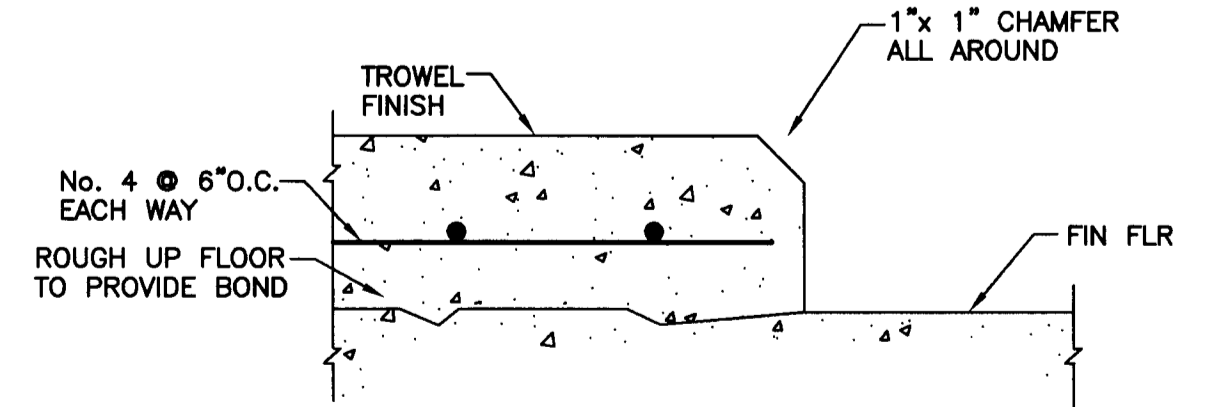
CLEAN AGENT SYSTEM NOTES

- F1. PROVIDE AND INSTALL A FULLY AUTOMATIC CLEAN AGENT SYSTEM DESIGNED AND INSTALLED PER MANUFACTURER'S INSTRUCTIONS, NFPA 2001, 2008 EDITION, ALL APPLICABLE LOCAL CODES AND ORDINANCES.
- F2. THE PIPING SYSTEM SHALL BE SECURELY SUPPORTED WITH DUE ALLOWANCE FOR AGENT THRUST FORCES, THERMAL EXPANSION, AND CONTRACTION. PIPE HANGERS SHALL BE SPACED AT INTERVALS NOT EXCEEDING 15 FEET. RIGID PIPE SUPPORTS SHALL BE PROVIDED TO SUPPORT THE 'LIVE' LOAD OF THE PIPE SYSTEM DURING DISCHARGE. RIGID BRACING SHALL BE PROVIDED AT EACH DIRECTIONAL CHANGE, FITTING, TEE AND NOZZLE. ALL DROPS TO 180° NOZZLES SHALL BE PROVIDED WITH BACK BRACING IN THE OPPOSITE DIRECTION OF THE DISCHARGE. SEISMIC BRACING SHALL BE PROVIDED PER ANSI 631.1 POWER PIPING.
- F3. SENSORS AND CLEAN AGENT NOZZLES SHALL BE LOCATED IN THE CENTER OF 2 X 2 LAY-IN TILES AND IN THE HALF-CENTER OF 4 X 2 TILES. IN HARD CEILINGS LOCATE HEADS SYMMETRICALLY AND ALIGNED WITH ADJACENT WALLS.
- F4. FIRE STOP ALL PENETRATIONS OF FIRE RATED ASSEMBLIES.
- F5. FIRE SUPPRESSION CONTRACTOR SHALL PROVIDE SHOP DRAWINGS, PRODUCT DATA, SEISMIC BRACING CALCULATIONS STAMPED AND SIGNED BY SEISMIC ENGINEER AND SYSTEM CALCULATIONS TO ENGINEER FOR REVIEW PRIOR TO BEGINNING WORK. SUBMITTAL SHALL INCLUDE ALL CALCULATIONS AND DRAWINGS REQUIRED PER NFPA 2001, 2008 EDITION.
- F6. DISCHARGE NOZZLES SHALL BE POSITIONED SUCH THAT THE CEILING PENETRATION WILL OCCUR NEAR THE CENTER OR HALF CENTER OF CEILING TILES.
- F7. COORDINATE CLEAN AGENT SYSTEM WITH ALL TRADES TO AVOID INTERFERENCE AND CONFLICTS PRIOR TO INSTALLATION OF PIPING, VALVES, AND EQUIPMENT.
- F8. ALL SUSPENDED PIPING SHALL BE SUPPORTED FROM FLOOR AND/OR ROOF STRUCTURAL MEMBERS. IN NO CASE SHALL PIPING BE SUSPENDED FROM FLOOR OR ROOF DECK.
- F9. WHENEVER THE WORD "PROVIDE" IS USED, IT SHALL MEAN FURNISH AND INSTALL COMPLETE AND READY FOR USE.
- F10. UNLESS OTHERWISE SHOWN OR NOTED, ALL PIPING SHALL BE RUN CONCEALED IN WALLS, CHASES, AND/OR ABOVE CEILINGS.
- F11. CONTRACTOR SHALL PROVIDE CEILING TILE CLIPS TO PREVENT CEILING TILES FROM BLOWING OUT UPON DISCHARGE OF SYSTEM.
- F12. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING MOVING ALL EXISTING FURNITURE AND COMPUTER/SERVER EQUIPMENT AS REQUIRED FOR INSTALLATION OF NEW CLEAN AGENT SYSTEM. ALL WORK ASSOCIATED WITH MOVING COMPUTER EQUIPMENT SHALL BE PERFORMED IN ACCORDANCE WITH OWNER'S SUPPLEMENTAL INSTRUCTIONS. THE OWNER SHALL BE RESPONSIBLE FOR PROTECTING ALL COMPUTER EQUIPMENT IN THE PROJECT AREAS DURING CONSTRUCTION. CONTRACTOR SHALL COORDINATE WITH OWNER FOR EQUIPMENT PROTECTION REQUIREMENTS AND PROJECT CONSTRUCTION TIMES PER THE PROJECT MANUAL.
- F13. PROVIDE CONNECTION TO THE EXISTING FIRE ALARM PANEL FOR MONITORING OF THE NEW FIRE SUPPRESSION SYSTEM. PROVIDE SENSORS AND FIRE SUPPRESSION SYSTEM PANELS AS INDICATED AND PER MANUFACTURER'S INSTRUCTIONS. INSTALL SENSORS IN BELOW FLOOR SPACE TO PREVENT DUST AND DEBRIS FROM COLLECTING IN SENSOR. INSTALL PER NFPA 2001, 2008 EDITION.
- F14. COORDINATE ELECTRICAL AND SIGNAL CONNECTIONS FOR SHUT-DOWN OF ALL ELECTRICAL EQUIPMENT AND MECHANICAL UNITS UPON ACTIVATION OF CLEAN AGENT SYSTEM PER NFPA 75 WITH ELECTRICAL DRAWINGS.
- F15. SEAL ALL PENETRATIONS IN WALLS ABOVE AND BELOW THE FLOOR AS WELL AS BETWEEN FLOORS.
- F16. THIS AREA IS A MAIN ENTRANCE FOR CABLING. SEAL WALL PENETRATION WITH UL LISTED FIRE RATED CAULKING ASSEMBLY FOR MULTIPLE CABLE.

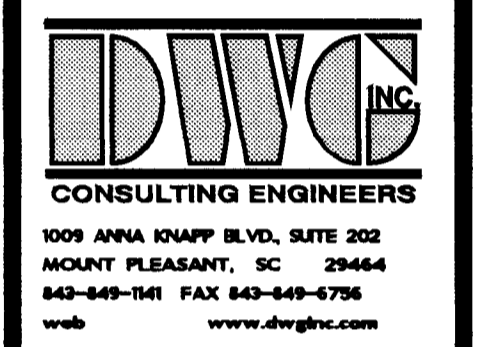
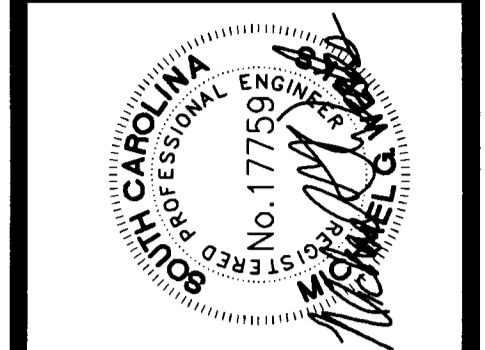
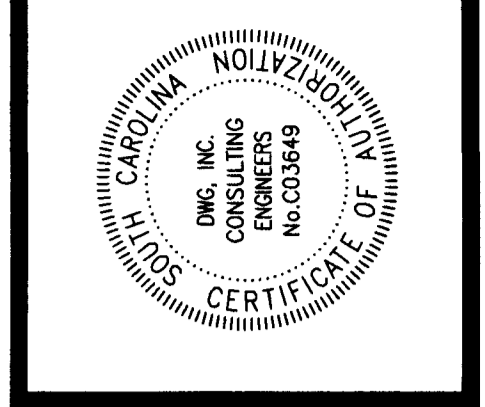
BASE BID NO. 2

DEMOLITION NOTES

- D1. THE CONTRACTOR SHALL EVALUATE THE CONDITION, SIZE AND ROUTING OF THE EXISTING HALON SYSTEM PIPING TO DETERMINE IF IT CAN BE RETROFITTED FOR A NEW FM-200 SYSTEM THAT IS LISTED IN ACCORDANCE WITH NFPA 2001. IF SO, REVISE THE EXISTING PIPING.
- D2. SEE USC SUPPLEMENTAL COMPUTER ROOM WORK PROTOCOL FOR PROTECTION OF COMPUTER EQUIPMENT.



2 CONCRETE PAD DETAIL
 FS011 SCALE: NOT TO SCALE

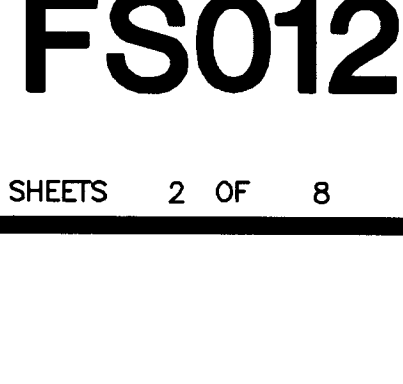
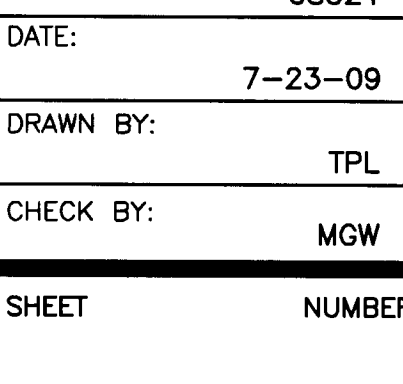
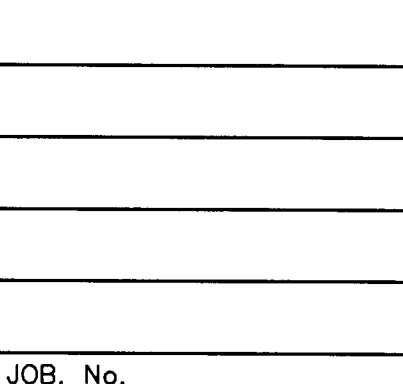
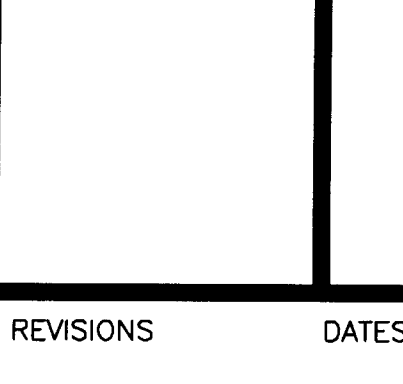
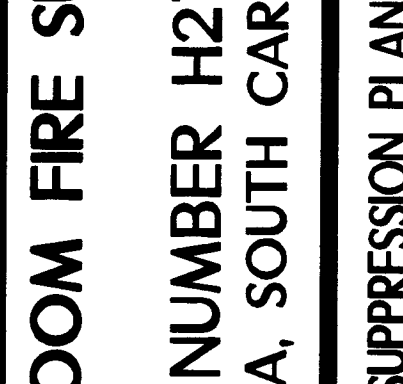
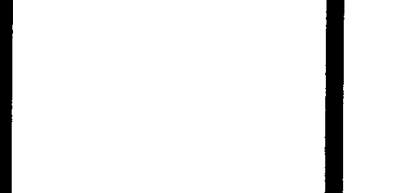
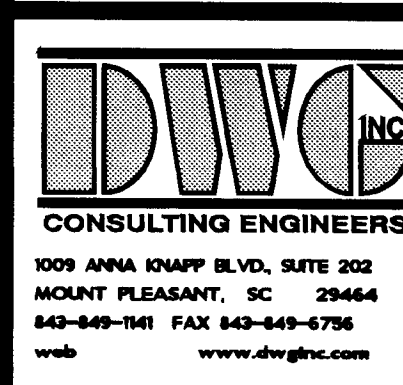
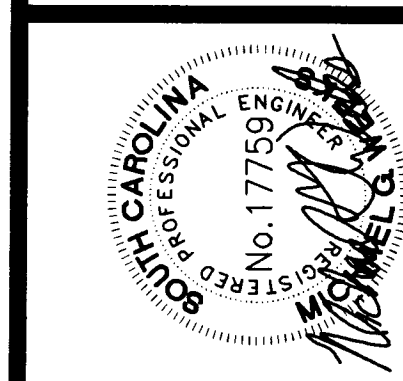
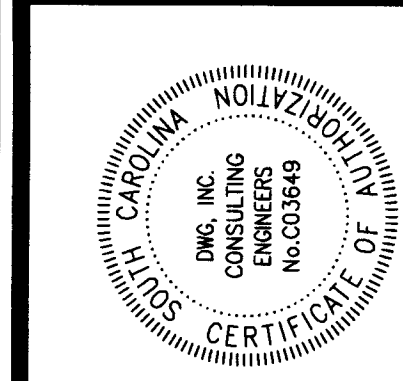


COMPUTER ROOM FIRE SUPPRESSION
 PROJECT NUMBER H27-N147
 COLUMBIA, SOUTH CAROLINA
 145 BASEMENT FIRE SUPPRESSION PLAN (BELOW FLOOR)

| REVISIONS | DATES |
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JOB. No. 08024
 DATE: 7-23-09
 DRAWN BY: TPL
 CHECK BY: MGW
 SHEET NUMBER

FS011



BASE BID NO. 1

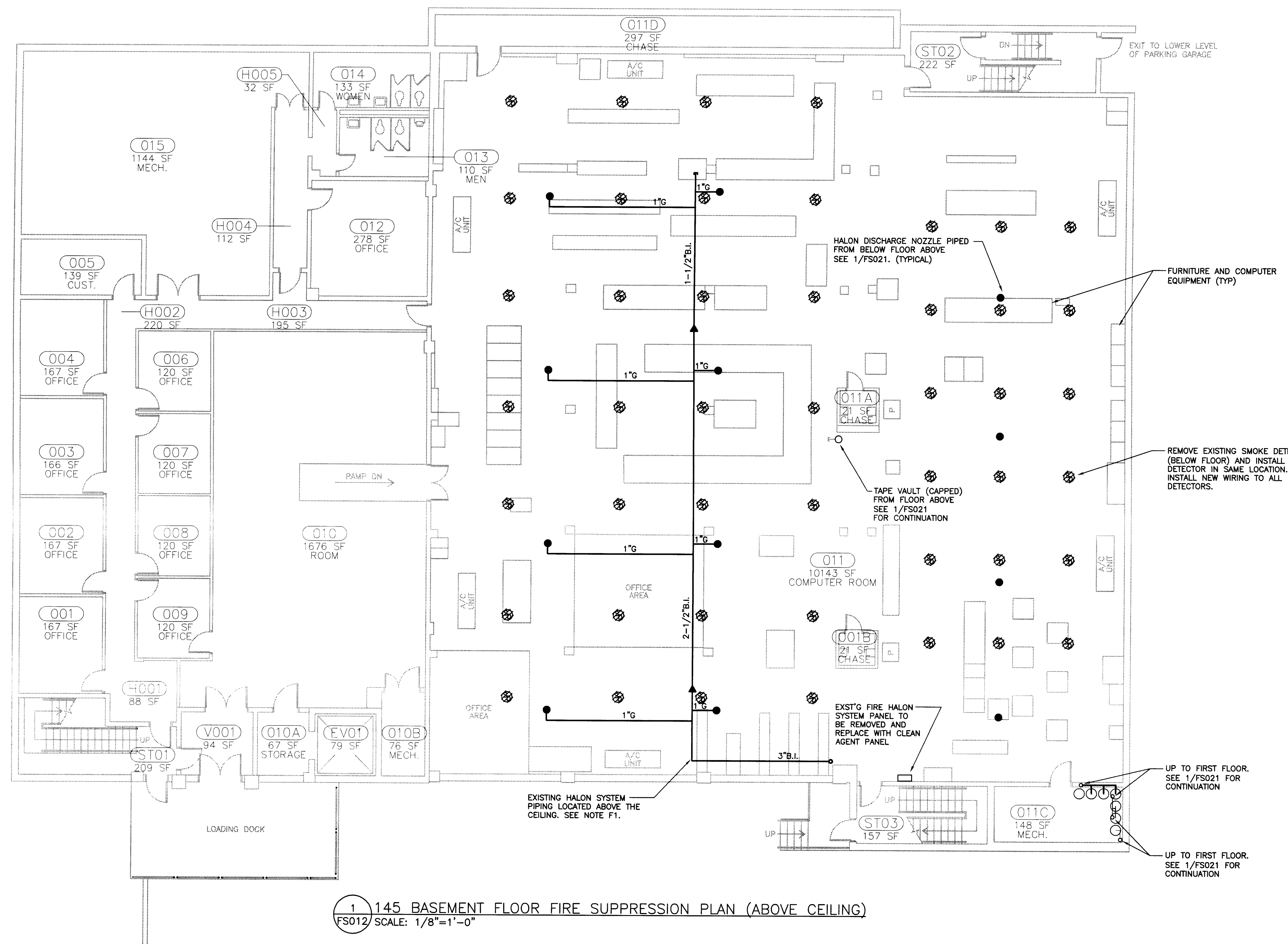
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BASE BID NO. 2

DEMOLITION NOTES

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- D2. SEE USC SUPPLEMENTAL COMPUTER ROOM WORK PROTOCOL FOR PROTECTION OF COMPUTER EQUIPMENT.

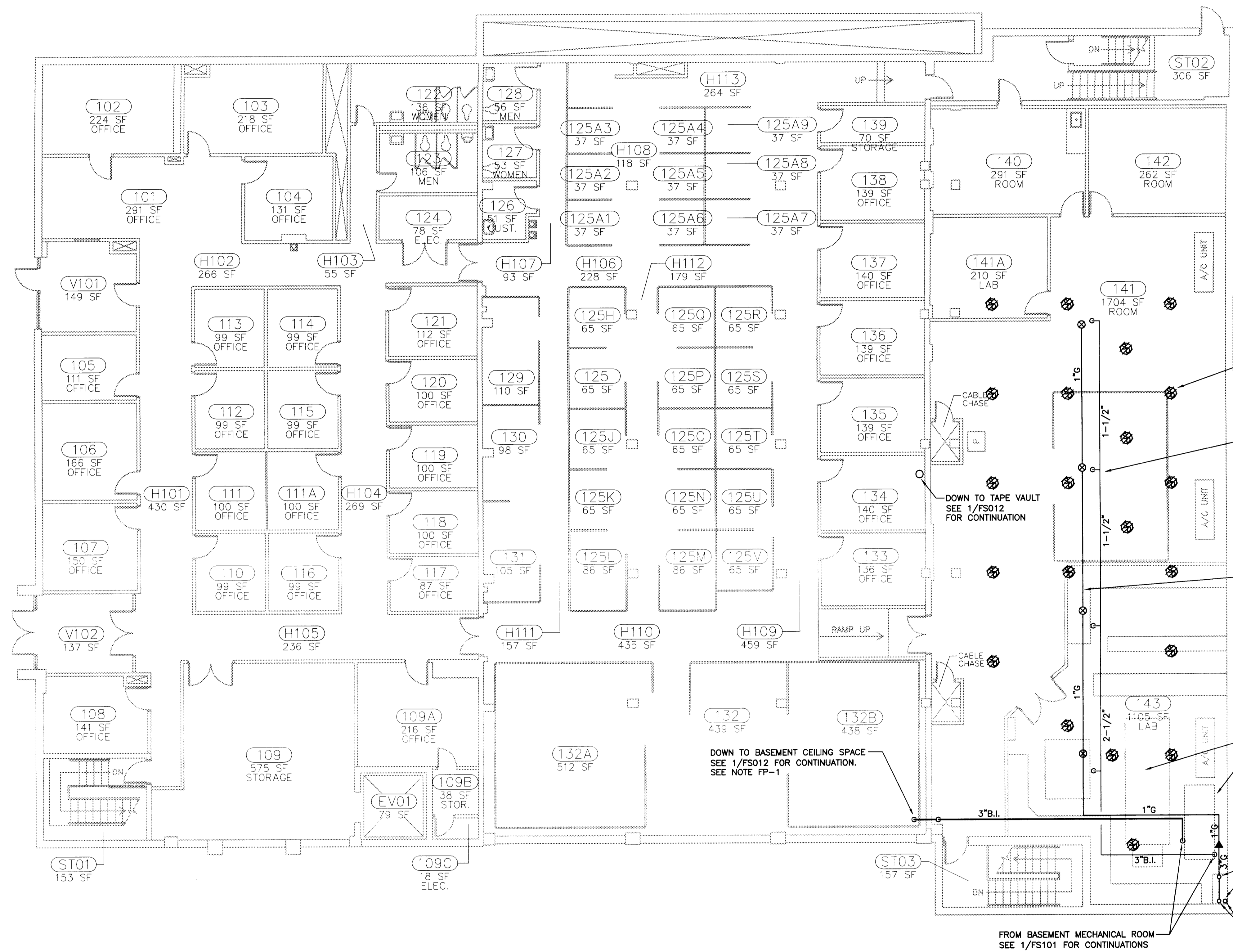


COMPUTER ROOM FIRE SUPPRESSION
PROJECT NUMBER H27-N147
COLUMBIA, SOUTH CAROLINA
145 BASEMENT FIRE SUPPRESSION PLAN (ABOVE CEILING)

| REVISIONS | DATES |
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| JOB No. | 08024 |
| DATE: | 7-23-09 |
| DRAWN BY: | TPL |
| CHECK BY: | MGW |
| SHEET | NUMBER |

FS012

SHEETS 2 OF 8



1 145 FIRST FLOOR FIRE SUPPRESSION PLAN (BELOW FLOOR)
 FS021 SCALE: 1/8"=1'-0"

BASE BID NO. 1

DEMOLITION NOTES

D1. REMOVE EXISTING NOZZLES AND ALARM DEVICES AS INDICATED. PIPING SHALL BE ABANDONED IN PLACE. CAP ENDS OF PIPES WHERE THEY HAVE BEEN DISCONNECTED AND WHERE NOZZLES HAVE BEEN REMOVED. WHERE PIPING EXTENDS THROUGH THE CEILING TILE, THE CONTRACTOR SHALL RAISE THE PIPING UNTIL IT IS CONCEALED ABOVE THE CEILING AND SUPPORT IT IN PLACE. INSTALL A BLANK COVER PLATE IN TILES AT NOZZLE AND ALARM DEVICE PENETRATIONS.

D2. SEE USC SUPPLEMENTAL COMPUTER ROOM WORK PROTOCOL FOR PROTECTION OF COMPUTER EQUIPMENT.

BASE BID NO. 2

DEMOLITION NOTES

D1. BASE BID NUMBER 2 SHALL BE THE SAME AS BASE BID NUMBER 1 EXCEPT THE CONTRACTOR SHALL REUSE THE PIPING SERVING THE BASEMENT COMPUTER ROOM.

REMOVE EXISTING HALON SYSTEM SENSOR, BASE AND WIRING BELOW FLOOR. INSTALL COVER PLATE ON JUNCTION BOX. (TYP THIS SHEET)

EXISTING HALON SYSTEM PIPING INSTALLED BELOW FLOOR SERVES THE COMPUTER ROOM 145 IN THE BASEMENT BELOW. SEE NOTE F1 ON SHEET FS012.

REMOVE HALON NOZZLES AND CAP PIPE. INSTALL PRINTED LABEL ON PIPING THAT SAYS "ABANDONED HALON SYSTEM PIPING"

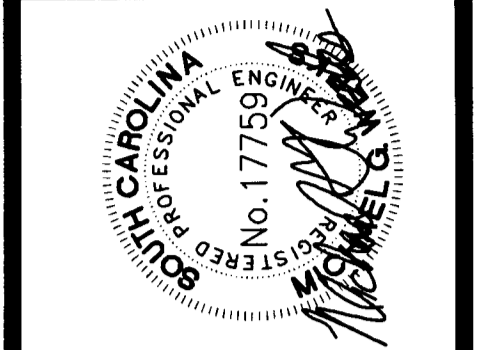
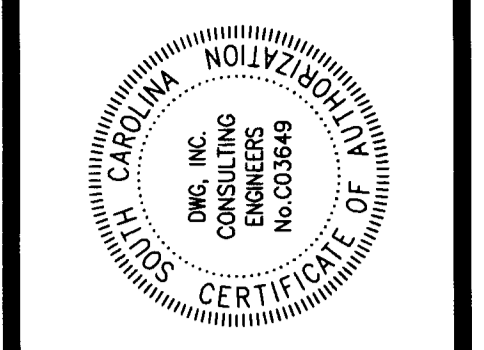
FURNITURE AND COMPUTER EQUIPMENT (TYP)

FROM BASEMENT MECHANICAL ROOM SEE 1/FS012 FOR CONTINUATION

UP TO ABOVE CEILING SEE 1/FS022 FOR CONTINUATION

FROM BASEMENT MECHANICAL ROOM SEE 1/FS011 FOR CONTINUATIONS

DOWN TO TAPE VAULT SEE 1/FS012 FOR CONTINUATION



COMPUTER ROOM FIRE SUPPRESSION

PROJECT NUMBER H27-N147

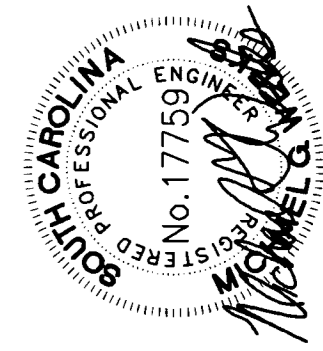
COLUMBIA, SOUTH CAROLINA

145 FIRST FLOOR FIRE SUPPRESSION PLAN (BELOW FLOOR)

| REVISIONS | DATES |
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| JOB. No. | 08024 |
| DATE: | 7-23-09 |
| DRAWN BY: | TPL |
| CHECK BY: | MGW |
| SHEET | NUMBER |

FS021

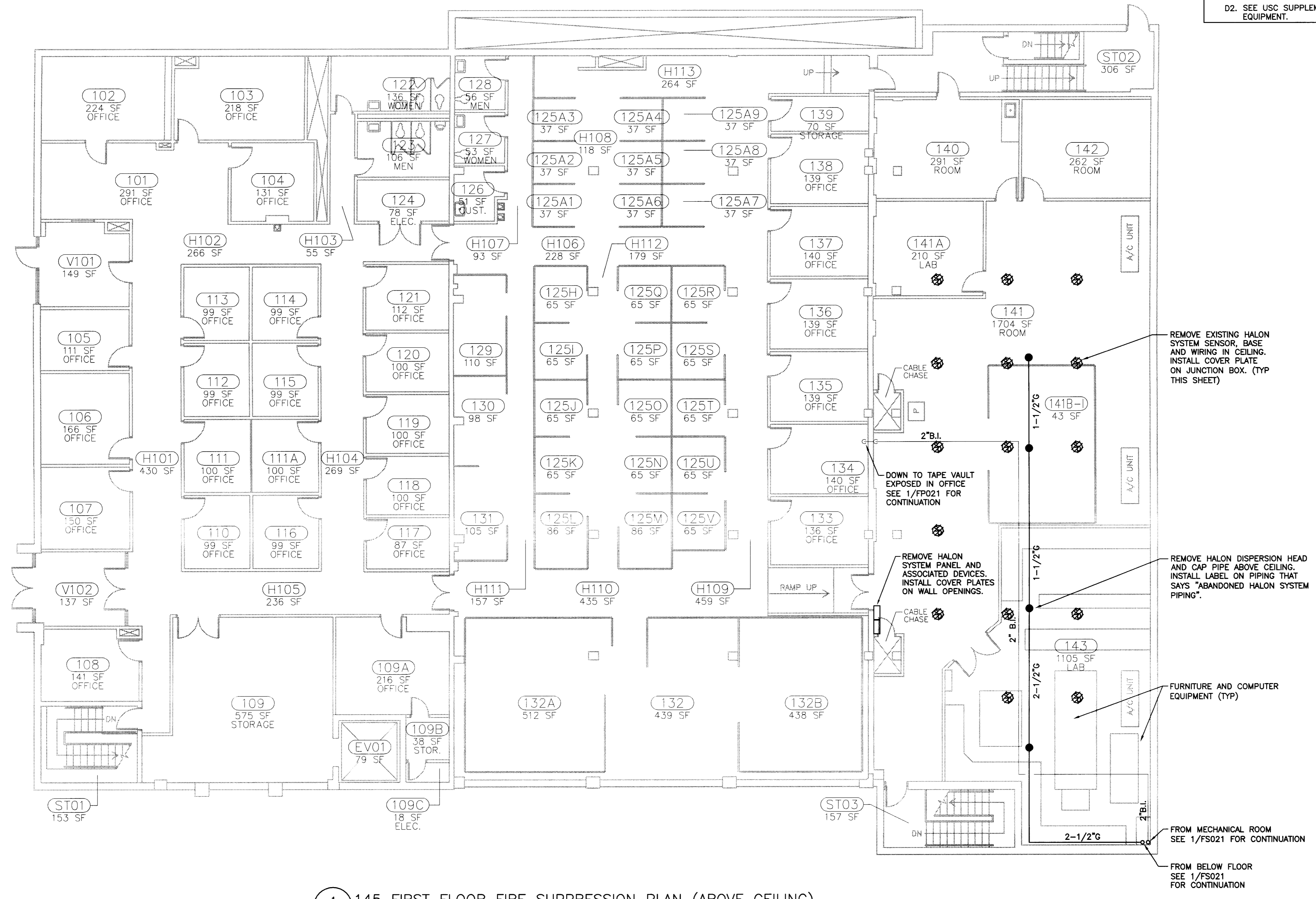
SHEETS 3 OF 8



BASE BID NO. 1 AND 2

DEMOLITION NOTES

- D1. REMOVE EXISTING NOZZLES AND ALARM DEVICES AS INDICATED. PIPING SHALL BE ABANDONED IN PLACE. CAP ENDS OF PIPES WHERE THEY HAVE BEEN DISCONNECTED AND WHERE NOZZLES HAVE BEEN REMOVED. WHERE PIPING EXTENDS THROUGH THE CEILING TILE, THE CONTRACTOR SHALL RAISE THE PIPING UNTIL IT IS CONCEALED ABOVE THE CEILING AND SUPPORT IT IN PLACE. INSTALL A BLNK COVER PLATE IN TILES AT NOZZLE AND ALARM DEVICE PENETRATIONS.
- D2. SEE USC SUPPLEMENTAL COMPUTER ROOM WORK PROTOCOL FOR PROTECTION OF COMPUTER EQUIPMENT.



1 145 FIRST FLOOR FIRE SUPPRESSION PLAN (ABOVE CEILING)
FS022 SCALE: 1/8"=1'-0"



COMPUTER ROOM FIRE SUPPRESSION
PROJECT NUMBER H27-N147
COLUMBIA, SOUTH CAROLINA
145 FIRST FLOOR FIRE SUPPRESSION PLAN (ABOVE CEILING)

| REVISIONS | DATES |
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JOB No. 08024
DATE: 7-23-09
DRAWN BY: TPL
CHECK BY: MGW
SHEET NUMBER

FS022

ELECTRICAL LEGEND

- PANELBOARD, SURFACE-MOUNTED
- PANELBOARD, FLUSH-MOUNTED
- ▨ DISTRIBUTION PANEL/SWITCHBOARD
- ⊞ FUSED DISCONNECT SWITCH
- ⊞ MANUAL FIRE SUPPRESSION ACTIVATION SWITCH, PUSHBUTTON, EXISTING
- ⊞ MANUAL FIRE SUPPRESSION ACTIVATION SWITCH, PUSHBUTTON
- ⊞ ENCLOSED CIRCUIT BREAKER
- ⊞ SMOKE DETECTOR, CEILING-MOUNTED
- ⊞ SIGNAL CONTROL MODULE
- /// HASHMARKS, INDICATE ITEM TO BE DEMOLISHED

ELECTRICAL NOTES:

GENERAL:

- G1: COMPUTER SYSTEMS IN THE USC COMPUTER ANNEX BUILDING ARE CRITICAL TO THE OPERATION OF USC CAMPUSES AND OTHER ENTITIES. UNPLANNED AND/OR UNCOORDINATED POWER OUTAGES AFFECTING COMPUTER SYSTEMS WILL RESULT IN CATASTROPHIC FAILURES AND SHALL NOT BE PERMITTED. PRIOR TO START OF CONSTRUCTION AND CONTINUALLY DURING THE COURSE OF THE PROJECT, ALL WORK INVOLVING POWER OUTAGES, EQUIPMENT REPLACEMENT, CONTROLS INSTALLATION AND SYSTEM TESTING SHALL BE CLOSELY COORDINATED WITH THE USC PROJECT MANAGER AND USERS. SCHEDULING OF ACTIVITIES SHALL ALLOW USERS TO TAKE ALL NECESSARY PRECAUTIONS AND PERFORM SOFT SHUTDOWNS. DOWNTIME SHALL BE MINIMIZED. TESTS SHALL BE CONDUCTED, TO THE GREATEST EXTENT POSSIBLE, BY METHODS WHICH WILL VERIFY OPERABILITY WITHOUT CUTTING POWER TO COMPUTER SYSTEMS.
- G2: BRANCH CIRCUIT WIRING SHALL BE NO. 12 AWG UNLESS NOTED OTHERWISE. WHERE CONDUCTOR AND RACEWAY SIZE ARE SHOWN AT HOMERUN, SUCH SIZE SHALL BE USED FOR THE ENTIRE CIRCUIT. EXCEPTION: FINAL CONNECTION TO DEVICES, IN OUTLET BOXES, IS NOT REQUIRED TO BE LARGER THAN NO. 12 AWG.
- G3: 20A/120V BRANCH CIRCUITS EXCEEDING 100' IN LENGTH FROM PANEL TO FARTHEST DEVICE OR FIXTURE SHALL USE NO. 10 CONDUCTORS AND 3/4" C.
- G4: WHERE DEVICES ARE REQUIRED TO BE IDENTIFIED, PROVIDE ENGRAVED PLATE USING 1/8" HIGH BLACK LETTERS.
- G5: OUTLET BOXES FOR SWITCHES, RECEPTACLES, ETC MOUNTED ON OPPOSITE SIDES OF FIRE RATED PARTITIONS SHALL NOT BE MOUNTED IN THE SAME WALL CAVITY. SEPARATE WALL PENETRATIONS BY MOUNTING ON OPPOSITE SIDES OF WALL STUDS OR OTHER VERTICAL STRUCTURAL MEMBER IN THE WALL.
- G6: CONTRACTOR MUST FIELD VERIFY DUCT-TYPE DETECTORS USED FOR SMOKE DAMPER CONTROL AND AIR HANDLER SHUTDOWN. CONTRACTOR INSTALL OR UPDATE ANY DUCT-TYPE DETECTOR THAT MAY BE REQUIRED BY THE MECHANICAL CODE.

DEMOLITION:

- ED1: EXISTING HALON SYSTEM IN BASEMENT COMPUTER ROOM TO BE DEMOLISHED IN ITS ENTIRETY. DISCONNECT BRANCH CIRCUIT 1EPP1-42 FROM HALON SYSTEM CONTROL PANEL. CONTROL PANEL TO BE REMOVED. CIRCUIT TO REMAIN FOR RECONNECTION (SEE NOTE P1).
- ED2: EXISTING HALON SYSTEM IN FIRST FLOOR COMPUTER ROOM TO BE DEMOLISHED IN ITS ENTIRETY. DISCONNECT AND REMOVE BRANCH CIRCUIT 1EPP1-40 FROM HALON SYSTEM CONTROL PANEL AND REMOVE BACK TO PANEL. CONTROL PANEL TO BE REMOVED.
- ED3: DISCONNECT AND REMOVE HALON SYSTEM EMERGENCY MANUAL ACTIVATION PUSHBUTTONS. REMOVE WIRING BACK TO HALON SYSTEM CONTROL PANEL. CONCEALED CONDUIT AND FLUSH-MOUNTED OUTLET BOXES MAY REMAIN IN PLACE FOR REUSE, AS APPLICABLE. PROVIDE BLANK COVERPLATES FOR ABANDONED BOXES.
- ED4: 200A/3-POLE FUSED DISCONNECT SWITCH TO BE REPLACED W/ SHUNT-TRIP BREAKER (SEE NOTE P4). DISCONNECT AND REMOVE SWITCH; PANEL AND ASSOCIATED FEEDERS TO REMAIN (SEE NOTE G1). SWITCH IS SERVED FROM 300A BREAKER IN DISTRIBUTION PANEL IN MECHANICAL RM 015 (CONFIRM).

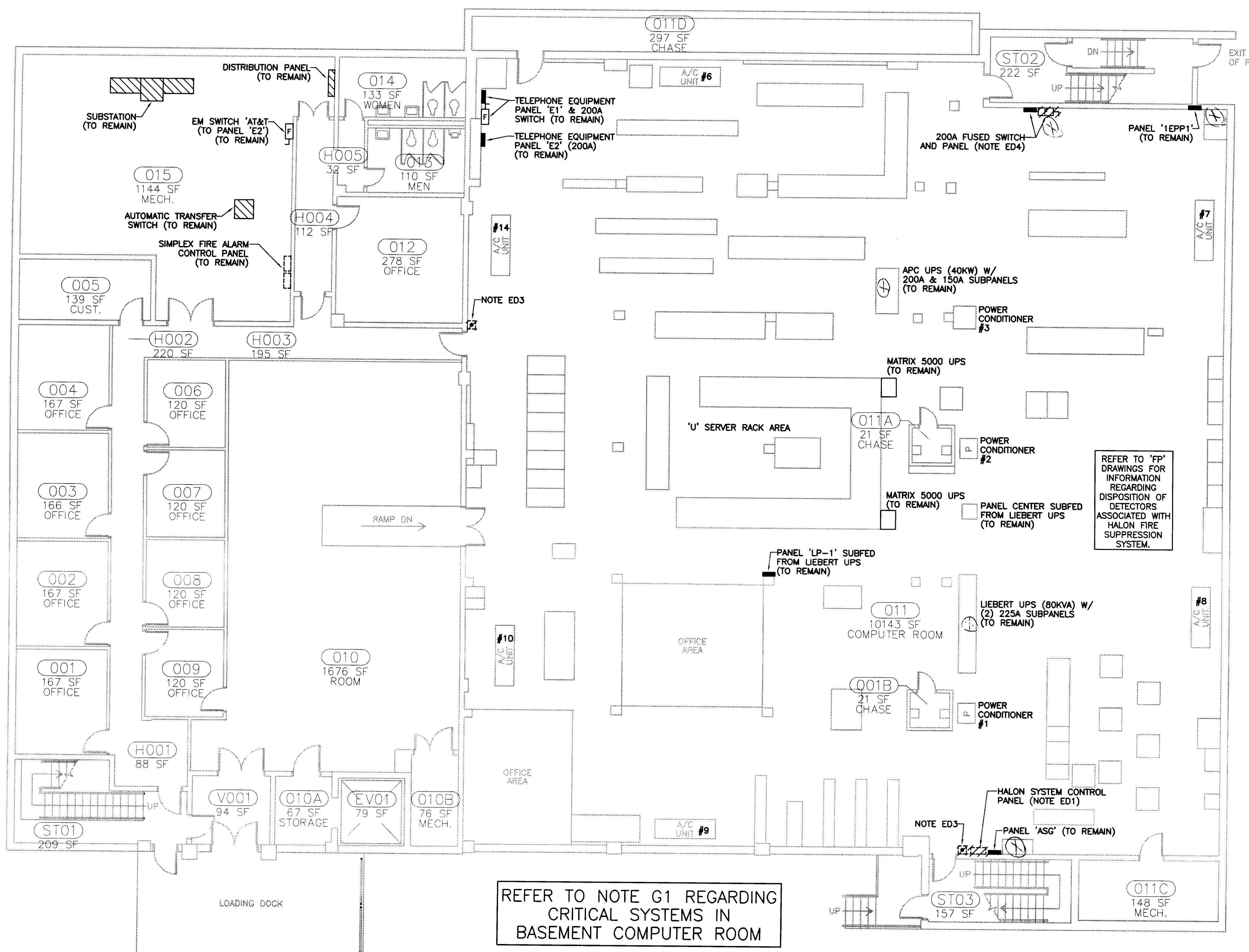
POWER:

- P1: FM200 FIRE SUPPRESSION SYSTEM TO BE PROVIDED FOR BASEMENT COMPUTER ROOM. CONTROL PANEL TO BE MOUNTED IN LOCATION OF DEMOLISHED HALON SYSTEM PANEL (SEE NOTE ED1). RECONNECT EXISTING BRANCH CIRCUIT 1EPP1-42 TO NEW CONTROL PANEL.
- P2: PROVIDE EMERGENCY MANUAL FIRE SUPPRESSION ACTIVATION PUSHBUTTONS AT INDICATED LOCATIONS. PUSHBUTTON SHALL BE 2" MUSHROOM TYPE, RED, PUSH TO ACTIVATE, MUST BE MANUALLY PULLED OUT TO DEACTIVATE. PROVIDE CLEAR PLASTIC COVER TO PREVENT ACCIDENTAL CONTACT. PROVIDE LABEL, RED W/ WHITE LETTERING, ON COVER READING "EMERGENCY FIRE SUPPRESSION". EXTEND 1/2" W/2 No.12 FROM EACH PUSHBUTTON TO FM200 SYSTEM CONTROL PANEL AND CONNECT. EXISTING OUTLET BOXES AND CONDUIT MAY BE REUSED WHERE APPLICABLE. TEST FOR PROPER OPERATION (SEE NOTE G1).
- P3: PROVIDE SHUNT-TRIP COIL FOR EXISTING 225A/3-POLE MAIN BREAKER IN PANEL 'ASG'. EXTEND 1/2" W/2 No.12 & 1 No.12 (G) FROM FM200 CONTROL PANEL TO COIL AND CONNECT SO AS TO SHUNT-TRIP BREAKER UPON ACTIVATION OF FIRE SUPPRESSION IN BASEMENT COMPUTER ROOM. TEST FOR PROPER OPERATION (SEE NOTE G1). PANEL IS SERVED FROM 300A BREAKER IN DISTRIBUTION PANEL IN MECHANICAL RM 015 (CONFIRM). 'ASG' IS A GE A-SERIES TYPE PANEL.
- P4: PROVIDE 200A/3-POLE SHUNT-TRIP BREAKER AND INSTALL AT LOCATION OF DEMOLISHED FUSED SWITCH (SEE NOTE ED4). EXTEND 1/2" W/2 No.12 & 1 No.12 (G) FROM FM200 CONTROL PANEL TO COIL AND CONNECT SO AS TO SHUNT-TRIP BREAKER UPON ACTIVATION OF FIRE SUPPRESSION IN BASEMENT COMPUTER ROOM. TEST FOR PROPER OPERATION (SEE NOTE G1). BREAKER IS SERVED FROM 300A BREAKER IN DISTRIBUTION PANEL IN MECHANICAL RM 015 (CONFIRM).
- P5: PROVIDE SHUNT-TRIP COIL FOR EXISTING 200A/3-POLE MAIN BREAKER IN PANEL 'E2'. EXTEND 1/2" W/2 No.12 & 1 No.12 (G) FROM FM200 CONTROL PANEL TO COIL AND CONNECT SO AS TO SHUNT-TRIP BREAKER UPON ACTIVATION OF FIRE SUPPRESSION IN BASEMENT COMPUTER ROOM. TEST FOR PROPER OPERATION (SEE NOTE G1). PANEL IS SERVED FROM 200A FUSED SWITCH 'AT&T' IN MECHANICAL RM 015 (CONFIRM). 'E2' IS A SQUARE-D TYPE MOOD PANEL.
- P6: PROVIDE SHUNT-TRIP KITS FOR INDICATED EXISTING BREAKERS IN THE MAIN SWITCHBOARD:
 - 1000A/3-POLE SERVING PANEL '1EPP1'
 - 350A/3-POLE SERVING POWER CONDITIONER #1 (LABELLED 'COMP PWR CENTER 2')
 - 350A/3-POLE SERVING POWER CONDITIONER #2 (LABELLED 'COMP PWR CENTER 3')
 - 250A/3-POLE SERVING APC 40KVA UPS
 - 350A/3-POLE SERVING POWER CONDITIONER #3 (LABELLED 'COMP PWR CENTER 4')
 - 350A/3-POLE SERVING LIEBERT 80KVA UPS
 EXTEND 1/2" W/2 No.12 & 1 No.12 (G) FROM FM200 CONTROL PANEL TO EACH COIL AND CONNECT SO AS TO SHUNT-TRIP BREAKERS UPON ACTIVATION OF FIRE SUPPRESSION IN BASEMENT COMPUTER ROOM. TEST FOR PROPER OPERATION (SEE NOTE G1). SWITCHBOARD IS GE "POWERBREAK" SERIES, 208Y/120V, 3PH, 4W, 4-SECTION.
- P7: POWER CONDITIONERS #1, #2 & #3 EACH HAVE SHUNT-TRIP COILS ON THE MAINBREAKERS. EXTEND 1/2" W/2 No.12 & 1 No.12 (G) FROM FM200 CONTROL PANEL TO EACH COIL AND CONNECT SO AS TO SHUNT-TRIP BREAKERS UPON ACTIVATION OF FIRE SUPPRESSION IN BASEMENT COMPUTER ROOM. TEST FOR PROPER OPERATION (SEE NOTE G1). POWER CONDITIONERS ARE SERVED FROM MAIN SWITCHBOARD IN ELECTRICAL ROOM X201.

SIGNAL:

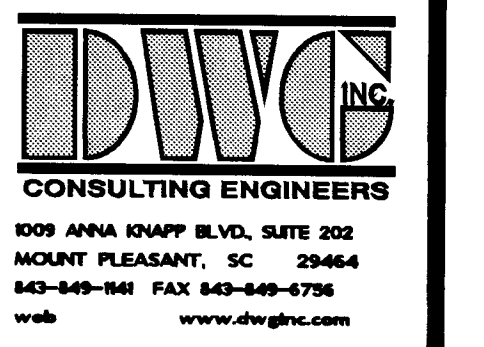
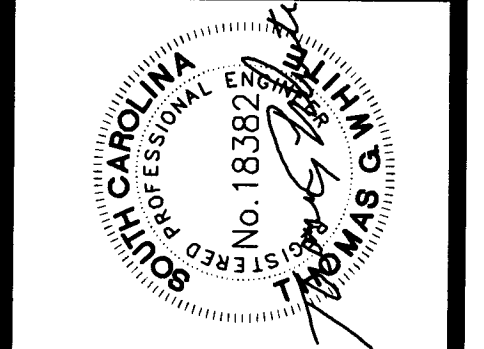
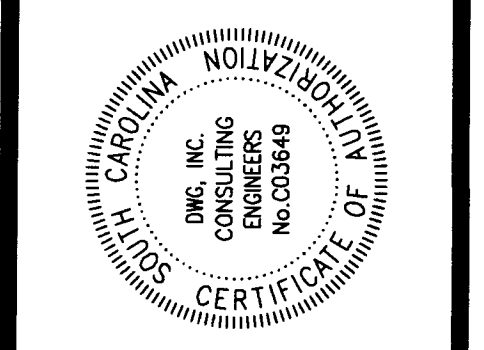
- S1: REFER TO POWER NOTES P3 THRU P7 REGARDING THOSE PANELS AND OTHER EQUIPMENT THAT ARE TO BE SHUT OFF BY MEANS OF SHUNT-TRIP SIGNAL FROM THE FM200 CONTROL PANEL.
- S2: EXTEND 1/2" W/2 No.12 AND 1 No.12 (G) FROM FM200 CONTROL PANEL TO LIEBERT 80KVA UPS. CONNECT CONTROL WIRING SUCH THAT AN ACTIVATION SIGNAL FROM THE CONTROL PANEL WILL PREVENT TRANSFER OF LOADS FROM NORMAL TO UPS POWER. TEST FOR PROPER OPERATION (SEE NOTE G1).
- S3: EXTEND 1/2" W/2 No.12 AND 1 No.12 (G) FROM FM200 CONTROL PANEL TO APC 40KVA UPS. CONNECT CONTROL WIRING SUCH THAT AN ACTIVATION SIGNAL FROM THE CONTROL PANEL WILL PREVENT TRANSFER OF LOADS FROM NORMAL TO UPS POWER. TEST FOR PROPER OPERATION (SEE NOTE G1).
- S4: EXTEND 1/2" W/2 No.12 AND 1 No.12 (G) FROM FM200 CONTROL PANEL TO EACH OF (2) MATRIX 5000 UPS UNITS. CONNECT CONTROL WIRING SUCH THAT AN ACTIVATION SIGNAL FROM THE CONTROL PANEL WILL PREVENT TRANSFER OF LOADS FROM NORMAL TO UPS POWER. TEST FOR PROPER OPERATION (SEE NOTE G1).
- S5: EXTEND 1/2" W/2 No.12 AND 1 No.12 (G) FROM FM200 CONTROL PANEL TO EACH OF APPROX. (18) APC 3000 SERIES UPS UNITS. CONNECT CONTROL WIRING SUCH THAT AN ACTIVATION SIGNAL FROM THE CONTROL PANEL WILL PREVENT TRANSFER OF LOADS FROM NORMAL TO UPS POWER. TEST FOR PROPER OPERATION (SEE NOTE G1).
- S6: PROVIDE CONTROL MODULE IN EACH BASEMENT COMPUTER ROOM A/C UNIT (EDPAC MODEL CDCW-23). EXTEND 1/2" W/2 No.12 AND 1 No.12 (G) FROM FM200 CONTROL PANEL TO EACH A/C UNIT. CONNECT CONTROL WIRING SUCH THAT AN ACTIVATION SIGNAL FROM THE CONTROL PANEL WILL SHUT DOWN THE UNITS. TEST FOR PROPER OPERATION (SEE NOTE G1).
- S7: EXTEND 3/4" W/ CONTROL WIRING FROM FM200 CONTROL PANEL TO EXISTING SIMPLEX FIRE ALARM CONTROL PANEL IN MECHANICAL ROOM 015. CONNECT SYSTEMS SUCH THAT ACTIVATION OF FIRE SUPPRESSION IN THE BASEMENT COMPUTER ROOM WILL SEND AN ALARM SIGNAL TO THE FIRE ALARM CONTROL PANEL. PROVIDE CONTROL PANEL ACCESSORIES/UPGRADES AS NECESSARY TO ALLOW SUPERVISION OF FIRE SUPPRESSION SYSTEM.
- S8: EXISTING 1ST FLOOR COMPUTER ROOM TO BE CONVERTED TO VACANT SPACE. PROVIDE CEILING-MOUNTED SMOKE DETECTORS IN SPACE AS INDICATED. EXTEND 3/4" W/ FIRE ALARM CABLE TO TIE DETECTORS INTO EXISTING SIMPLEX FIRE ALARM SYSTEM.

THIS DRAWING SHALL APPLY TO
BASE BID 1 AND 2



REFER TO NOTE G1 REGARDING
CRITICAL SYSTEMS IN
BASEMENT COMPUTER ROOM

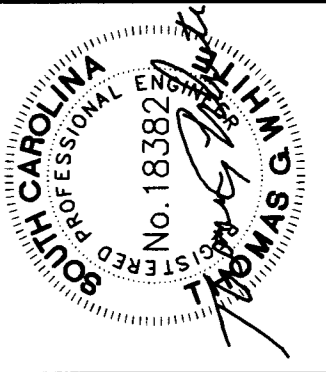
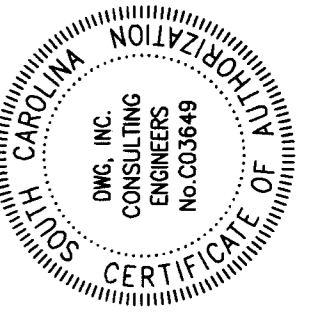
1 145 BASEMENT EXISTING ELECTRICAL ALARM
E010 SCALE: 1/8"=1'-0"



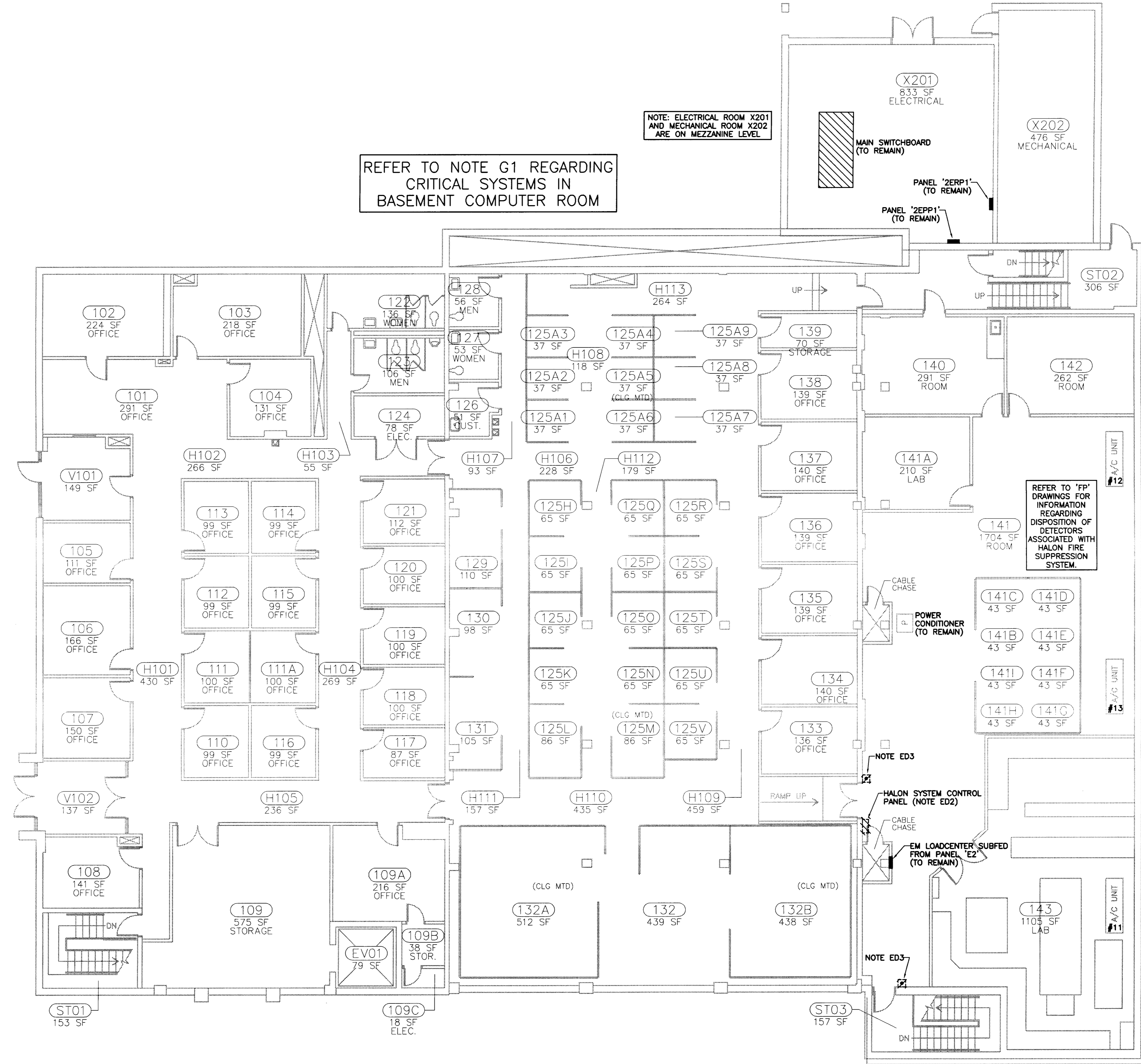
COMPUTER ROOM FIRE SUPPRESSION
PROJECT NUMBER H27-N147
COLUMBIA, SOUTH CAROLINA
145 BASEMENT EXISTING ELECTRICAL PLAN

| REVISIONS | DATES |
|-----------|---------|
| REV | DATE |
| REV | DATE |
| REV | DATE |
| REV | DATE |
| REV | DATE |
| JOB. No. | 08024 |
| DATE: | 7-23-09 |
| DRAWN BY: | TGW |
| CHECK BY: | MGW |
| SHEET | NUMBER |

E010



THIS DRAWING SHALL APPLY TO
BASE BID 1 AND 2



REFER TO NOTE G1 REGARDING
CRITICAL SYSTEMS IN
BASEMENT COMPUTER ROOM

NOTE: ELECTRICAL ROOM X201
AND MECHANICAL ROOM X202
ARE ON MEZZANINE LEVEL

REFER TO 'FP'
DRAWINGS FOR
INFORMATION
REGARDING
DISPOSITION OF
DETECTORS
ASSOCIATED WITH
HALON FIRE
SUPPRESSION
SYSTEM.

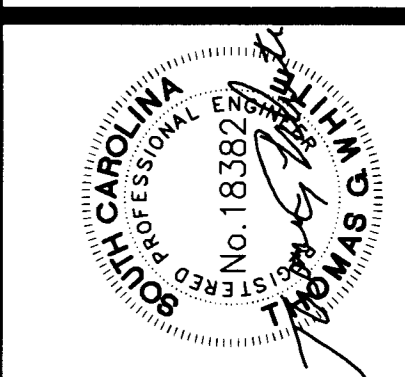
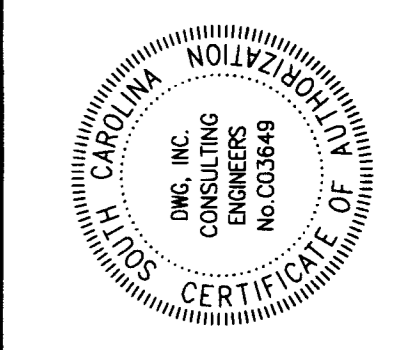
1 145 FIRST FLOOR EXISTING ELECTRICAL PLAN
E011 SCALE: 1/8"=1'-0"



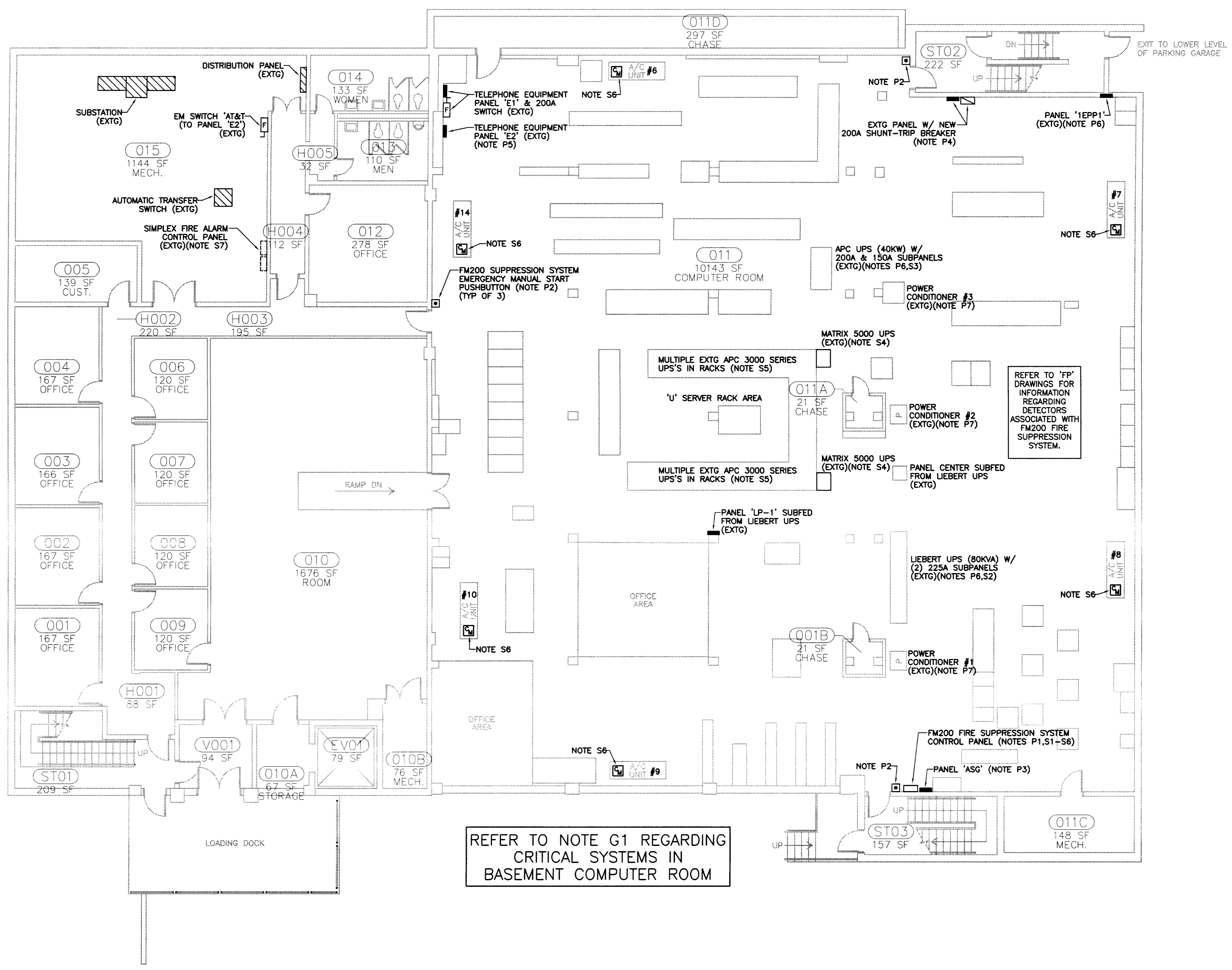
COMPUTER ROOM FIRE SUPPRESSION
PROJECT NUMBER H27-N147
COLUMBIA, SOUTH CAROLINA
145 FIRST FLOOR EXISTING ELECTRICAL PLAN

| REVISIONS | DATES |
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| REV | DATE |
| REV | DATE |
| REV | DATE |
| REV | DATE |
| REV | DATE |
| JOB. No. | 08024 |
| DATE: | 7-23-09 |
| DRAWN BY: | TGW |
| CHECK BY: | MGW |
| SHEET | NUMBER |

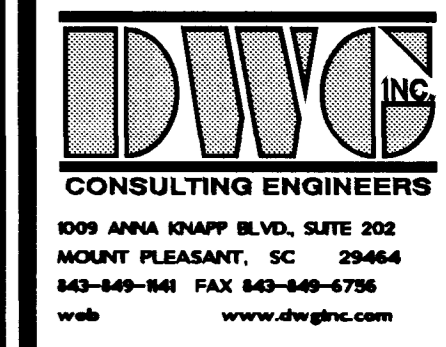
E011



THIS DRAWING SHALL APPLY TO
BASE BID 1 AND 2



REFER TO NOTE G1 REGARDING
CRITICAL SYSTEMS IN
BASEMENT COMPUTER ROOM



COMPUTER ROOM FIRE SUPPRESSION
PROJECT NUMBER H27-N147
COLUMBIA, SOUTH CAROLINA
145 BASEMENT ELECTRICAL RENOVATION PLAN

1 145 BASEMENT ELECTRICAL RENOVATION PLAN
E020 SCALE: 1/8"=1'-0"

| REVISIONS | DATES |
|-----------|---------|
| REV | DATE |
| REV | DATE |
| REV | DATE |
| REV | DATE |
| REV | DATE |
| JOB. No. | 08024 |
| DATE: | 7-23-09 |
| DRAWN BY: | TGW |
| CHECK BY: | MGW |
| SHEET | NUMBER |

E020