ADDENDUM NUMBER 2
Thursday, May 5, 2016

PROJECT: **USC Lancaster Starr Hall Renovation**
USC PROJECT NO. H37-9517
GMC PROJECT NO. AGRE150048

This addendum forms a part of the Construction Documents and modifies the original Bidding Documents dated 03.28.2016 as noted below. Acknowledge receipt of this addendum in the space provided on the Bid Form. Failure to do so may subject Bidder to disqualification.

GENERAL:

A2G1 No new HVAC systems, materials or devices are to be included in this bid. However, the Contractor will be responsible for the minor relocation of existing thermostats, diffusers, and flexible ductwork.

SPECIFICATIONS:

A2S1 SE-330, Page BF3, the contract time (60 calendar days from notice to proceed to substantial completion) and the associated liquidated damages ($250 for each calendar day) applies only to the Base Bid.

DRAWINGS:

A2D1 Sheet A103, Detail 2 Enlarged Demolition RCP – Admissions, the Ceiling Tile will be removed by others in this area.

A2D2 Replace Electrical Drawings with the attached E1.00 General Notes, Legend and Details, E2.00 Electrical Demolition Plan, E3.00 Lighting Demolition Plan, E4.00 Electrical Renovation Plan, E5.00 Lighting Renovation Plan, and E6.00 Firestop Penetration Details.

END OF ADDENDUM NUMBER 2

LIGHTING FIXTURE SCHEDULE

SYMBOL	TYPE	DESCRIPTION	MANUFACTURER	MODEL NUMBER	OPTICAL ELEMENT	MOUNTING	VOLTS	LAMPS (PHILIPS)
	A	2'x4' DIRECT/INDIRECT STATIC L.E.D. GRID TROFFER.	CREE	ZR24-40L-40K-NON-DIM with 10-YEAR FULL WARRANTY ON ARRAYS AND DRIVER.	DIRECT/ INDIRECT w/CENTER BASKET	CEILING RECESSED	120/277V UNIVERS.	L.E.D. - 4000 lumens, 4000K
	B	2'x4' DIRECT/INDIRECT STATIC L.E.D. GRID TROFFER.	CREE	ZR24-50L-40K-NON-DIM with 10-YEAR FULL WARRANTY ON ARRAYS AND DRIVER.	DIRECT/ INDIRECT w/CENTER BASKET	CEILING RECESSED	120/277V UNIVERS.	L.E.D. - 5000 lumens, 4000K
	C	8" L.E.D. RECESSED DOWNLIGHT WITH WET LOCATION LISTING.	H.E. WILLIAMS	LX4RT-R-4-L12/840-S-A-DRV-UNV with 5-YEAR FULL WARRANTY ON ARRAYS AND DRIVER.	DIFFUSE ACRYLIC	GYPSUM CEILING RECESSED	120/277 UNIVERS.	L.E.D. - 1200 lumens, 4000k
	U	EMERGENCY LIGHTING UNIT, WALL MOUNTED WITH TWO HEADS, SELF DIAGNOSTICS, AND A 90 MINUTE BATTERY BACKUP SYSTEM.	EMERGI-LITE	PRO-3N-LA-AD with 3-YEAR FULL WARRANTY.	MR16 HEADLAMPS (FLOOD)	MOUNT OVER EXISTING BOX.	120/277V UNIVERS.	2 - 6-VOLT, 4-WATT MR16 L.E.D.
	-	EDGE-LIT L.E.D. EXIT SIGN WITH SINGLE FACE AND GREEN LETTERING. PROVIDE ARROWS/ CHEVRONS AS SHOWN ON PLAN.	EMERGI-LITE	TA-PEN-1-GC with 3-YEAR FULL WARRANTY ON ARRAYS AND DRIVER.	GREEN LETTERING	UNIVERSAL WALL OR CEILING	120/277V UNIVERS.	L.E.D. - COMPLY WITH 2012 IBC
	-	EDGE-LIT L.E.D. EXIT SIGN WITH DOUBLE FACE AND GREEN LETTERING. PROVIDE ARROWS/ CHEVRONS AS SHOWN ON PLAN.	EMERGI-LITE	TA-PEN-2-GC with 3-YEAR FULL WARRANTY ON ARRAYS AND DRIVER.	GREEN LETTERING	UNIVERSAL WALL OR CEILING	120/277V UNIVERS.	L.E.D. - COMPLY WITH 2012 IBC

NOTE: PROVIDE GRID HOLD-DOWN CLIPS FOR EACH 2'x2' FIXTURE AS REQUIRED TO COMPLY WITH ASTM E-580 AND THE INTERNATIONAL BUILDING CODE.

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
A	LIGHTING FIXTURE - TYPE AS INDICATED ON PLAN. SEE THE LIGHTING FIXTURE SCHEDULE FOR ADDITIONAL SYMBOLS AND TYPES.
	SINGLE OR DOUBLE FACE EXIT SIGN, CEILING MOUNTED. PROVIDE DIRECTIONAL ARROWS/CHEVRONS AS INDICATED ON PLAN.
	SINGLE OR DOUBLE FACE EXIT SIGN, WALL OR BACK MOUNTED AT 7 FEET ABOVE FINISHED FLOOR OR 6 INCHES ABOVE DOORWAY. PROVIDE DIRECTIONAL CHEVRONS (ARROWS) AS INDICATED ON PLAN.
OS	DUAL TECHNOLOGY OCCUPANCY SENSOR, CEILING MOUNTED. PROVIDE WATTSTOPPER #DT300 WITH #BZ-50 UNIVERSAL VOLTAGE POWER PACK OR EQUAL. PROVIDE CONTROL AND LOW-VOLTAGE WIRING AS RECOMMENDED BY THE SENSOR MANUFACTURER.
OS	SINGLE-POLE WALL SWITCH OCCUPANCY SENSOR - WATTSTOPPER #PW-301 WITH WHITE PHENOLIC WALLPLATE. FLUSH MOUNT SWITCH IN WALL AT 42" ABOVE FINISHED FLOOR.
R	EXISTING 2'x4' RECESSED FLUORESCENT TROFFER - REMOVE TROFFER AND ALL ASSOCIATED RACEWAY AND WIRING.
R	EXISTING 2'x2' RECESSED FLUORESCENT TROFFER - REMOVE TROFFER AND ALL ASSOCIATED RACEWAY AND WIRING.
R	EXISTING INCANDESCENT VANITY WALL SCONCE - REMOVE SCONCE AND ALL ASSOCIATED RACEWAY AND WIRING.
R OS	EXISTING WALL OR CEILING MOUNTED OCCUPANCY SENSOR - REMOVE SENSOR AND ALL ASSOCIATED RACEWAY AND WIRING.
R OS	EXISTING WALL MOUNTED OCCUPANCY SENSOR - REMOVE SENSOR AND ALL ASSOCIATED RACEWAY AND WIRING.
R	EXISTING LIGHTING WALL SWITCH - REMOVE SWITCH AND ALL ASSOCIATED RACEWAY AND WIRING.
	DUPLEX RECPTACLE, NEMA 5-20R. FLUSH MOUNT DEVICE IN WALL AT 18" AFF UNLESS NOTED OTHERWISE.
	DUPLEX RECPTACLE, NEMA 5-20R. FLUSH MOUNT DEVICE IN WALL AT 42" AFF OR 6" ABOVE COUNTERTOP, AS APPLICALE, UNLESS NOTED OTHERWISE ON PLAN. COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL MILLWORK WHERE APPLICABLE.
GFI	DUPLEX, GROUND-FAULT-INTERRUPT TYPE RECEPTACLE, NEMA 5-20R. FLUSH MOUNT DEVICE AT 18" AFF UNLESS NOTED OTHERWISE.
GFI	DUPLEX, GROUND-FAULT-INTERRUPT RECPTACLE, NEMA 5-20R. FLUSH MOUNT DEVICE IN WALL AT 42" AFF OR 6" ABOVE COUNTERTOP, AS APPLICALE, UNLESS NOTED OTHERWISE ON PLAN. COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL MILLWORK WHERE APPLICABLE.
	QUADPLEX RECEPTACLE OUTLET, TWO NEMA 5-20R RECEPTACLES IN A SINGLE STEEL BOX. FLUSH MOUNT DEVICES IN WALL AT 18" AFF UNLESS NOTED OTHERWISE.
	VOICE/DATA COMMUNICATIONS OUTLET. PROVIDE A 4" SQUARE STEEL BOX WITH SINGLE-GANG PLASTER RING FLUSH MOUNTED IN WALL AT 18" AFF UNLESS NOTED OTHERWISE. PROVIDE A ONE INCH EMT RACEWAY WITH PULL-STRING FROM OUTLET TO SPACE ABOVE ACOUSTICAL DROP CEILING. PROVIDE A FIBER BUSHING ON BOTH ENDS OF RACEWAY.
	EXISTING ELECTRICAL PANELBOARD - TO REMAIN IN PLACE. PROVIDE MODIFICATIONS AND ADDITIONS AS NOTED ON PLANS.
	EXISTING CONTROL PANEL - TYPE AS INDICATED ON PLAN. RELOCATE PANEL AS DESCRIBED ON PLAN.
E	EXISTING WALL MOUNTED JUNCTION BOX - TO REMAIN IN PLACE.
R	EXISTING WALL MOUNTED JUNCTION BOX - REMOVE BOX AND ALL ASSOCIATED RACEWAY AND WIRING.
E	EXISTING DUPLEX RECEPTACLE - TO REMAIN IN PLACE. MAINTAIN INTEGRITY OF EXISTING CIRCUIT. EXTEND/RELOCATE OUTLET TO NEW WALL SURFACE WHERE WALLS ARE FURRED-OUT (PROVIDE STEEL EXTENSION BOX AS APPLICABLE). PROVIDE A NEW IVORY WALLPLATE FOR OUTLET TO MATCH NEW OUTLETS.
R	EXISTING DUPLEX RECEPTACLE OUTLET - REMOVE OUTLET AND ALL ASSOCIATED RACEWAY AND WIRING.
E	EXISTING FLOOR OUTLET WITH DUPLEX RECEPTACLE - TO REMAIN IN PLACE. MAINTAIN INTEGRITY OF EXISTING CIRCUIT. MAKE ADJUSTMENTS TO OUTLET AS REQUIRED TO INTERFACE WITH NEW FLOORING.
E	EXISTING VOICE, DATA, OR CATV COMMUNICATIONS OUTLET - TO REMAIN IN PLACE. EXTEND/RELOCATE OUTLET TO NEW WALL SURFACE WHERE WALLS ARE FURRED-OUT (PROVIDE STEEL EXTENSION BOX AS APPLICABLE).
R	EXISTING VOICE, DATA, OR CATV COMMUNICATIONS OUTLET - REMOVE OUTLET AND ALL ASSOCIATED RACEWAY AND WIRING.
R	EXISTING WALL MOUNTED A/V SYSTEM SPEAKER - REMOVE SPEAKER AND TURN OVER TO OWNER. REMOVE ALL ASSOCIATED RACEWAY AND WIRING.

GENERAL DEMOLITION NOTES

1. REMOVE AND LEGALLY DISPOSE OF ALL EXISTING CONTROLS, DEVICES, LIGHTING FIXTURES, EXIT SIGNS, AND ALL ASSOCIATED RACEWAY AND WIRING NOTED ON PLANS.
2. REMOVE AND LEGALLY DISPOSE OF ALL EXISTING CONTROLS, DEVICES, LIGHTING FIXTURES, EXIT SIGNS, AND ALL ASSOCIATED RACEWAY AND WIRING NOTED ON PLANS. ROVIDE 2-HOUR RATED FIRESTOPPING COMPOUND IN HOLES WHERE EXISTING RACEWAYS ARE REMOVED.
3. THE CONTRACTOR SHALL VISIT THE SITE/ BUILDING TO FIELD VERIFY EXISTING CONDITIONS PRIOR TO BID AND SHALL INCLUDE ALL WORK REQUIRED FOR COMPLETE DEMOLITION AND RENOVATION IN HIS BID.

GENERAL CONSTRUCTION NOTES

1. PROVIDE ALL WORK IN ACCORDANCE WITH THE FOLLOWING CODES AND STANDARDS:

   INTERNATIONAL BUILDING CODE 2012 EDITION

   NFPA 70 - NATIONAL ELECTRICAL CODE 2011 EDITION

   ANSI A117.1 - ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES 2009 EDITION

2. PROVIDE NEW RACEWAY AND WIRING TO ALL DEVICES, FIXTURES, AND EQUIPMENT INDICATED ON THE CONTRACT DRAWINGS. THE DRAWINGS INDICATE PARTIAL RACEWAY AND WIRING REQUIREMENTS TO HELP CLARIFY DESIGN INTENT. WHERE RACEWAY AND/OR WIRING IS NOT INDICATED FOR DEVICES, FIXTURES, OR EQUIPMENT THE ARRANGEMENT, GROUPING, AND ROUTING SHALL BE PROVIDED IN ACCORDANCE WITH THE 2011 EDITION OF THE NATIONAL ELECTRICAL CODE.
3. PROVIDE FIXTURES AS SHOWN IN THE LIGHTING FIXTURE SCHEDULE OR PRIOR-APPROVED EQUALS BY COOPER OR LITHONIA.
4. ALL FIXTURES AND ELECTRICAL MATERIALS SHALL BE U.L. TESTED & LISTED OR BE TESTED & LISTED BY A NATIONALLY RECOGNIZED TESTING LABORATORY.
5. ALL CONDUIT PENETRATIONS THROUGH WALLS AND CEILINGS SHALL BE 2-HOUR FIRESTOPPED IN ACCORDANCE WITH DETAILS SHOWN ON DRAWING E6.00.
6. RACEWAYS SHALL BE EMT WITH COMPRESSION TYPE FITTINGS UNLESS NOTED OR DETAILED OTHERWISE. PROVIDE FIXTURE WHIPS THAT COMPLY WITH THE NATIONAL ELECTRICAL CODE.
7. JUNCTION BOXES SHALL BE STEEL TYPE WITH SCREW COVER, SIZED AND SUPPORTED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE. PROVIDE JUNCTION BOXES AS REQUIRED FOR POWER AND CONTROL WIRING RENOVATIONS.
8. INSTALL ELECTRICAL SYSTEMS WITHOUT INTERFERING WITH DUCTS, PIPES, STRUCTURAL MEMBERS, OR OTHER SYSTEMS.
9. PROVIDE SEISMIC WIRE SUPPORTS TO SUPPORT ALL NEW LIGHTING FIXTURES - ENSURE INSTALLATION COMPLIES WITH ASTM E-580 AND THE INTERNATIONAL BUILDING CODE (ONE WIRE FOR EACH EXIT SIGN AND TWO WIRES FOR ALL OTHER LIGHTING FIXTURES).
10. THOROUGHLY CLEAN ALL EQUIPMENT AND SYSTEMS BEFORE PLACING IN OPERATION. RESTORE FINISHED SURFACES IF DAMAGED AND DELIVER THE ENTIRE INSTALLATION IN AN APPROVED CONDITION. THE CONTRACTOR SHALL INSTRUCT THE OWNER'S PERSONNEL IN THE PROPER OPERATION AND MAINTENANCE OF ALL FIXTURES AND SYSTEMS. FURNISH 3 SETS OF OPERATION AND MAINTENANCE MANUALS TO THE OWNER FOR THE INSTALLED LIGHTING SYSTEM.
11. THE CONTRACTOR SHALL GUARANTEE THE WORK INSTALLED UNDER THIS CONTRACT FOR A PERIOD OF ONE YEAR AFTER DATE OF FINAL ACCEPTANCE. DEFECTS WHICH APPEAR AS A RESULT OF NORMAL USAGE SHALL BE REMEDIED BY THE CONTRACTOR TO THE COMPLETE SATISFACTION OF THE OWNER WITHOUT COST TO THE OWNER. SEE SPECIAL LIGHTING WARRANTY REQUIREMENTS IN LIGHTING FIXTURE SCHEDULE.
12. CUTTING, DRILLING, AND PATCHING: PROVIDE CHASES, SLOTS, AND OPENINGS IN EXISTING BUILDING COMPONENTS TO ALLOW FOR ELECTRICAL INSTALLATIONS. PERFORM CUTTING, DRILLING, FITTING, AND PATCHING REQUIRED TO:

    A) INSTALL EQUIPMENT, MATERIALS, AND RACEWAYS IN EXISTING STRUCTURES.

    B) REMOVE AND REPLACE DEFECTIVE WORK THAT DOES NOT CONFORM TO REQUIREMENTS OF THE CONTRACT DOCUMENTS.

    C) UPON WRITTEN INSTRUCTIONS FROM THE ARCHITECT/ENGINEER, UNCOVER AND RESTORE WORK TO PROVIDE FOR ARCHITECT/ENGINEER OBSERVATION OF CONCEALED WORK.

    PROTECT EXISTING STRUCTURES, FURNISHINGS, FINISHES, MECHANICAL SYSTEMS, AND ELECTRICAL SYSTEMS WHILE PERFORMING CUTTING, DRILLING, FITTING, AND PATCHING.

    PATCH EXISTING SURFACES AND BUILDING COMPONENTS USING NEW MATERIALS THAT MATCH EXISTING MATERIALS. PATCHING SHALL BE PERFORMED BY EXPERIENCED INSTALLERS.

ELECTRICAL DRAWING INDEX

E1.00	GENERAL NOTES, LEGEND, AND SCHEDULES
E2.00	ELECTRICAL DEMOLITION PLAN
E3.00	LIGHTING DEMOLITION PLAN
E4.00	ELECTRICAL RENOVATION PLAN
E5.00	LIGHTING RENOVATION PLAN
E6.00	FIRESTOP PENETRATION DETAILS

USC-2016-03

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ISSUE	DATE
Issued for Bid	03/28/16

drawn by: JSJ
checked by: JWL

SOUTH CAROLINA LAND ENGINEERING ASSOC., LLC COA-4406 CERTIFICATE OF AUTHORIZATION

USC LANCASTER - STARR HALL RENOVATIONS
476 Hubbard Dr, Lancaster SC 29720

GMC # AGRE150048
ose # H37-9715
Issued for Bid

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 19085 JOSEPH W. LAND 03/28/2016

GENERAL NOTES, LEGEND, AND DETAILS

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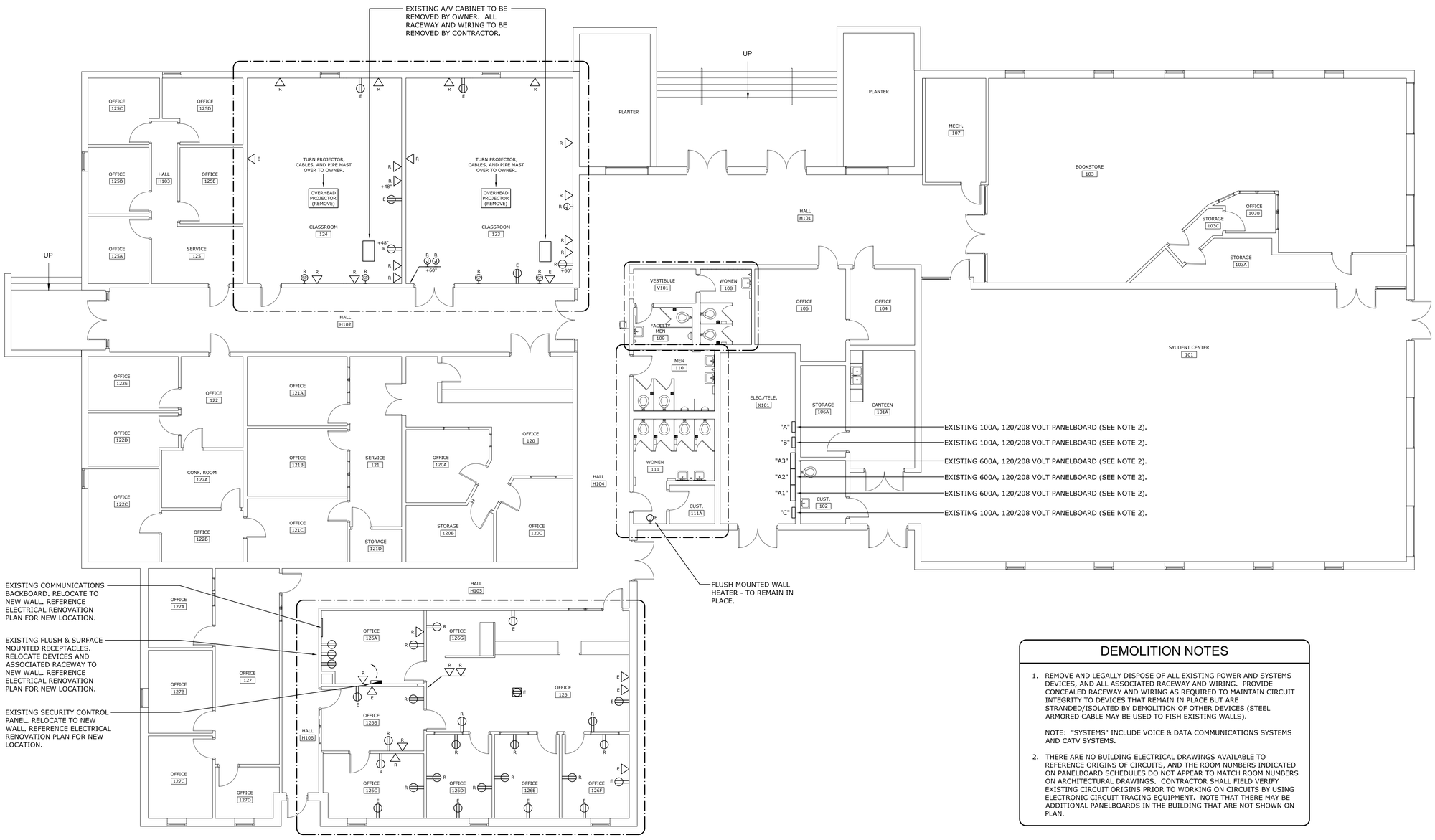

DEMOLITION NOTES

1. REMOVE AND LEGALLY DISPOSE OF ALL EXISTING POWER AND SYSTEMS DEVICES, AND ALL ASSOCIATED RACEWAY AND WIRING. PROVIDE CONCEALED RACEWAY AND WIRING AS REQUIRED TO MAINTAIN CIRCUIT INTEGRITY TO DEVICES THAT REMAIN IN PLACE BUT ARE STRANDED/ISOLATED BY DEMOLITION OF OTHER DEVICES (STEEL ARMORED CABLE MAY BE USED TO FISH EXISTING WALLS).

   NOTE: "SYSTEMS" INCLUDE VOICE & DATA COMMUNICATIONS SYSTEMS AND CATV SYSTEMS.

2. THERE ARE NO BUILDING ELECTRICAL DRAWINGS AVAILABLE TO REFERENCE ORIGINS OF CIRCUITS, AND THE ROOM NUMBERS INDICATED ON PANELBOARD SCHEDULES DO NOT APPEAR TO MATCH ROOM NUMBERS ON ARCHITECTURAL DRAWINGS. CONTRACTOR SHALL FIELD VERIFY EXISTING CIRCUIT ORIGINS PRIOR TO WORKING ON CIRCUITS BY USING ELECTRONIC CIRCUIT TRACING EQUIPMENT. NOTE THAT THERE MAY BE ADDITIONAL PANELBOARDS IN THE BUILDING THAT ARE NOT SHOWN ON PLAN.

N
PLAN NORTH

1 / E2.00 ELECTRICAL DEMOLITION PLAN
SCALE: 1/8" = 1'-0"

USC-2016-03

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ELECTRICAL DEMOLITION PLAN

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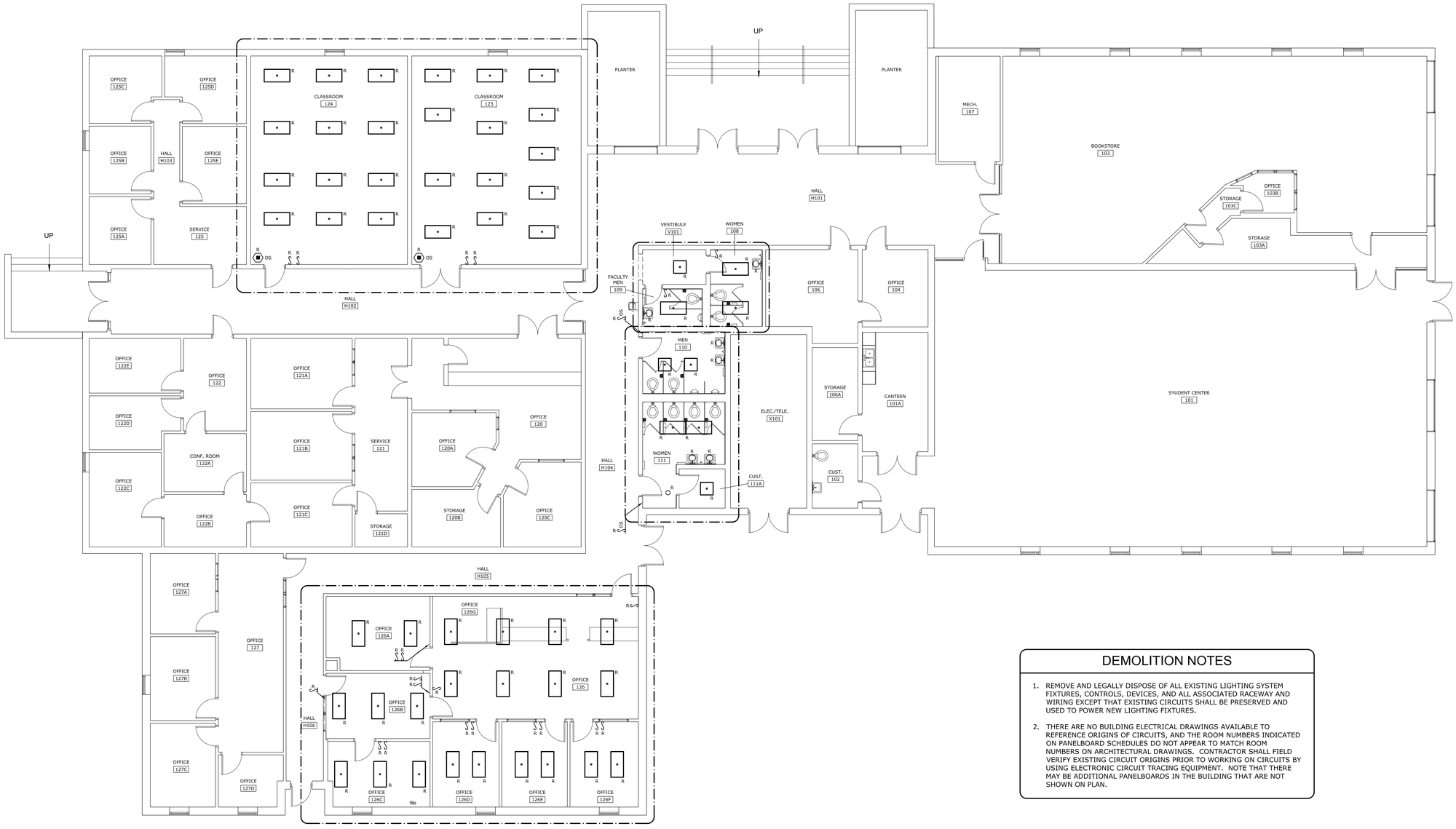

DEMOLITION NOTES

1. REMOVE AND LEGALLY DISPOSE OF ALL EXISTING LIGHTING SYSTEM FIXTURES, CONTROLS, DEVICES, AND ALL ASSOCIATED RACEWAY AND WIRING EXCEPT THAT EXISTING CIRCUITS SHALL BE PRESERVED AND USED TO POWER NEW LIGHTING FIXTURES.

2. THERE ARE NO BUILDING ELECTRICAL DRAWINGS AVAILABLE TO REFERENCE ORIGINS OF CIRCUITS, AND THE ROOM NUMBERS INDICATED ON PANELBOARD SCHEDULES DO NOT APPEAR TO MATCH ROOM NUMBERS ON ARCHITECTURAL DRAWINGS. CONTRACTOR SHALL FIELD VERIFY EXISTING CIRCUIT ORIGINS PRIOR TO WORKING ON CIRCUITS BY USING ELECTRONIC CIRCUIT TRACING EQUIPMENT. NOTE THAT THERE MAY BE ADDITIONAL PANELBOARDS IN THE BUILDING THAT ARE NOT SHOWN ON PLAN.

N
PLAN NORTH

1 / E3.00 LIGHTING DEMOLITION PLAN

SCALE: 1/8" = 1'-0"

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SOUTH CAROLINA PROFESSIONAL ENGINEER JOSEPH W. LAND No. 19085 03/28/2016

LIGHTING DEMOLITION PLAN

E3.00 sheet of

RENOVATION NOTES

1. POWER CIRCUITS INDICATED ON PLAN SHALL BE SERVED FROM EXISTING PANEL "C" UNLESS NOTED OTHERWISE. ALL CIRCUITS SHALL BE TWO #12 AWG THHN COPPER CONDUCTORS WITH ONE #12 AWG COPPER GREEN INSULATED GROUND WIRE IN 3/4" EMT RACEWAY UNLESS NOTED OTHERWISE. MULTI-WIRE CIRCUITS WITH A SHARED NEUTRAL SHALL NOT BE USED.
2. PANEL "A": PANEL IS AN EXISTING FEDERAL PACIFIC "NBLP" 120/208 VOLT, 100 AMP RATED PANELBOARD. REMOVE HANDLE-TIE JOINING CIRCUIT BREAKERS IN SPACES 19 AND 20. PROVIDE A SINGLE-POLE, 20-AMP RATED CIRCUIT BREAKER IN SPACE 22 TO SERVE NEW RECEPTACLE CIRCUIT. UPDATE EXISTING PANELBOARD CIRCUIT DIRECTORY TO REFLECT ADDED LOADS
3. PANEL "B": PANEL IS AN EXISTING FEDERAL PACIFIC "NBLP" 120/208 VOLT, 100 AMP RATED PANELBOARD. PROVIDE SINGLE-POLE, 20-AMP RATED CIRCUIT BREAKERS IN SPACES 7, 8, 9, AND 10 TO SERVE NEW RECEPTACLE CIRCUITS. UPDATE EXISTING PANELBOARD CIRCUIT DIRECTORY TO REFLECT ADDED LOADS.
4. PANEL "C": PANEL IS AN EXISTING FEDERAL PACIFIC "NBLP" 120/208 VOLT, 100 AMP RATED PANELBOARD. PROVIDE SINGLE-POLE, 20-AMP RATED CIRCUIT BREAKERS IN SPACES 8, 9, 10, 11, 12, AND 24 TO SERVE NEW RECEPTACLE CIRCUITS. UPDATE EXISTING PANELBOARD CIRCUIT DIRECTORY TO REFLECT ADDED LOADS.

N
PLAN NORTH

1 / E4.00 ELECTRICAL RENOVATION PLAN
SCALE: 1/8" = 1'-0"

USC-2016-03

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SOUTH CAROLINA PROFESSIONAL ENGINEER No. 19085 JOSEPH W. LAND 03/28/2016

ELECTRICAL RENOVATION PLAN

E4.00
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RENOVATION NOTES

1. UTILIZE EXISTING CIRCUITS THAT SERVE EXISTING LIGHTING FIXTURES IN AREAS OF DEMOLITION AND RENOVATION TO SERVE NEW LIGHTING FIXTURES, OCCUPANCY SENSORS, AND EXIT SIGNS. EXTEND CIRCUITS USING TWO #12 AWG THHN COPPER CONDUCTORS WITH ONE #12 AWG GREEN INSULATED GROUND WIRE IN 3/4" EMT RACEWAY UNLESS NOTED OTHERWISE. PROVIDE NEC CODE-COMPLIANT JUNCTION BOXES AND FIXTURE WHIPS WHERE APPLICABLE. OCCUPANCY SENSORS SHALL CONTROL ALL LIGHTS IN AREAS SEPARATED BY DOORWAYS AND/OR BY CASED OPENINGS.
2. A NON-SWITCHED PHASE CONDUCTOR SHALL BE ROUTED TO ALL EMERGENCY LIGHTING UNITS AND EXIT SIGNS (FOR CHARGING AND FOR CIRCUIT LOSS DETECTION). EACH EXIT SIGN AND EMERGENCY LIGHTING UNIT SHALL BE SERVED WITH SAME LIGHTING CIRCUIT THAT SERVES THE GENERAL LIGHTING FIXTURES IN THEIR ASSOCIATED ROOM.
3. UPDATE PANELBOARD CIRCUIT DIRECTORIES TO ACCURATELY INDICATE ROOM NUMBERS USED FOR THIS RENOVATION. PROVIDE A NEW CIRCUIT DIRECTORY IF NONE CURRENTLY EXISTS IN THE PANELBOARD.

N
PLAN NORTH

1 / E5.00 LIGHTING RENOVATION PLAN

SCALE: 1/8" = 1'-0"

USC-2016-03

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SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER No. 19085 03/28/2016 JOSEPH W. LAND

LIGHTING RENOVATION PLAN

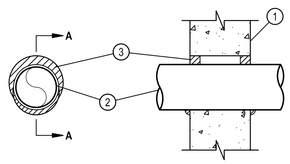
E5.00
sheet of

WJ 1226

System No. W-J-1226

C UL US
Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings — 1, 2, 3 and 4 Hr (See Item 3)	F Ratings — 1, 2, 3 and 4 Hr (See Item 3)
T Rating — 0 Hr	FT Rating — 0 Hr
L Rating At Ambient — Less Than 1 CFM/Sq Ft	FH Ratings — 1, 2, 3 and 4 Hr (See Item 3)
L Rating At 400 F — 4 CFM/Sq Ft	FTH Rating — 0 Hr
	L Rating At Ambient — Less Than 1 CFM/Sq Ft
	L Rating At 400 F — 4 CFM/Sq Ft



SECTION A-A

1. Wall Assembly — Min 6 in. (152 mm) thick lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete. Wall may also be constructed of any UL Classified Concrete Blocks*. Max diam of opening is 5-3/4 in. (146 mm).
   See Concrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufacturers.
   2. Through Penetrant — One metallic pipe, conduit or tube to be installed either concentrically or eccentrically within the firestop system. The annular space between the pipe, conduit or tube and periphery of opening shall be min 0 in. (point contact) to max 7/8 in. (22 mm). Pipe, conduit or tube to be rigidly supported on both sides of wall assembly.
   A. Steel Pipe — Nom 4 in. (102 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe — Nom 4 in. (102 mm) diam (or smaller) cast or ductile iron pipe.
   C. Conduit — Nom 4 in. (102 mm) diam (or smaller) rigid steel conduit.
   D. Conduit — Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic conduit.
   E. Copper Tubing — Nom 4 in. (102 mm) diam (or smaller) Type L (or heavier) copper tubing.
   F. Copper Pipe — Nom 4 in. (102 mm) diam (or smaller) Regular (or heavier) copper pipe.
3. Fill, Void or Cavity Material — Sealant* — Fill material applied within annulus, flush with both surfaces of wall. Type and thickness of sealant is dependent on F and FH Ratings as indicated in Table below. An additional 1/2 in. (13 mm) diameter bead of sealant applied at penetrant/gypsum board interface at point contact location on both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE or CP 606 Sealant

F, FH Ratings hr	Sealant Type	Sealant Thickness, In. (mm)
1, 2	FS-ONE or CP 606	5/8 (16)
3	FS-ONE or CP 606	1 (25)
4	FS-ONE	1 (25)

*Bearing the UL Classification Mark

Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of Underwriters Laboratories, Inc. November 26, 2012

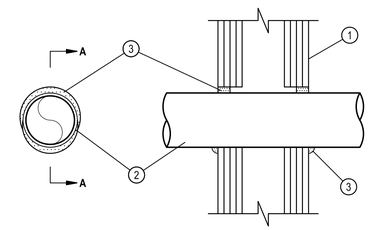
1 / E6.00 FIRESTOP DETAIL - CONCRETE
NOT TO SCALE

WL 1252

System No. W-L-1252

C UL US
Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings — 1, 2, 3 and 4 Hr (See Items 1 and 3)	F Ratings — 1, 2, 3 and 4 Hr (See Items 1 and 3)
T Rating — 1, 2, 3 and 4 Hr (See Items 1 and 3)	FT Rating — 0 HR.
L Rating At Ambient — Less Than 1 CFM/Sq Ft	FH Ratings — 1, 2, 3 and 4 Hr (See Items 1 and 3)
L Rating At 400 F — Less Than 1 CFM/Sq Ft	FTH Rating — 0 HR.
	L Rating At Ambient — Less Than 1 CFM/Sq Ft
	L Rating At 400 F — Less Than 1 CFM/Sq Ft



SECTION A-A

1. Wall Assembly — The 1, 2, 3 or 4 hr fire rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described in the Individual U400, V400 or W400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs — Wall framing shall consist of steel channel studs. Steel studs to be min 3-1/2 in. (89 mm) wide spaced max 24 in. (610 mm) OC.
   B. Gypsum Board* — Min 5/8 in. (16 mm) thick with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual Wall or Partition Design in the UL Fire Resistance Directory. Max diam of opening is 5-3/4 in. (146 mm).
   The hrly F and FH Ratings of the firestop system are equal to the hourly fire rating of the wall assembly in which it is installed.
2. Through Penetrant — One metallic pipe, conduit or tube to be installed either concentrically or eccentrically within the firestop system. The annular space between the pipe, conduit or tube and periphery of opening shall be min 0 in. (point contact) to max 7/8 in. (22 mm). Pipe, conduit or tube to be rigidly supported on both sides of wall assembly.
   A. Steel Pipe — Nom 4 in. (102 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe — Nom 4 in. (102 mm) diam (or smaller) cast or ductile iron pipe.
   C. Conduit — Nom 4 in. (102 mm) diam (or smaller) rigid steel conduit.
   D. Conduit — Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic conduit.
   E. Copper Tubing — Nom 4 in. (102 mm) diam (or smaller) Type L (or heavier) copper tubing.
   F. Copper Pipe — Nom 4 in. (102 mm) diam (or smaller) Regular (or heavier) copper pipe.
3. Fill, Void or Cavity Material — Sealant* — Fill material applied within annulus , flush with both surfaces of wall. Type and thickness of sealant is dependent on F and FH Ratings as indicated in Table below. An additional 1/2 in. (13 mm) diameter bead of sealant applied at penetrant/gypsum board interface at point contact location on both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE or CP 606 Sealant

F, FH Ratings hr	Sealant Type	Sealant Thickness, In. (mm)
1, 2	FS-ONE or CP 606	5/8 (16)
3	FS-ONE or CP 606	1 (25)
4	FS-ONE	1 (25)

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2 / E6.00 FIRESTOP DETAIL - STUD WALLS
NOT TO SCALE

USC-2016-03

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ISSUE	DATE
Issued for Bid	03/28/16

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checked by: JWL

SOUTH CAROLINA LAND ENGINEERING ASSOC., LLC COA-4406 CERTIFICATE OF AUTHORIZATION

USC LANCASTER - STARR HALL RENOVATIONS
476 Hubbard Dr. Lancaster SC 29720

GMC # AGRE150048
ose # H37-9715
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FIRESTOP PENETRATION DETAILS

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