

GENERAL CONSTRUCTION NOTES

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

INTERNATIONAL EXISTING BUILDING CODE

2015 EDITION

NFPA 70 - NATIONAL ELECTRICAL CODE

2014 EDITION

ANSI A117.1 - ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES

2009 EDITION
2. PROVIDE NEW RACEWAY AND WIRING/CABLES 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 2014 EDITION OF THE NATIONAL ELECTRICAL CODE.

3. PROVIDE FIXTURES AND EQUIPMENT AS SHOWN IN THE LIGHTING FIXTURE SCHEDULE ON DRAWING E-4 OR PRIOR- APPROVED EQUALS.

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 E-5.

6. RACEWAYS SHALL BE EMT WITH COMPRESSION TYPE FITTINGS UNLESS NOTED OR DETAILED OTHERWISE.

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 ADDITIONS/RENOVATIONS.

8. INSTALL ELECTRICAL SYSTEMS WITHOUT INTERFERING WITH DUCTS, PIPES, STRUCTURAL MEMBERS, OR OTHER SYSTEMS.

9. 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.

10. PROGRAMMING AND TRAINING: PROCURE THE SERVICES OF A CERTIFIED DMX EQUIPMENT INSTALLER AND PROGRAMMER TO FULLY PROGRAM ALL FURNISHED EQUIPMENT, FIXTURES, AND CONSOLES AS DIRECTED BY THE OWNER. PROVIDE 16 HOURS OF TRAINING FOR THE OWNER AND DEVELOP PRESET SCENES COORDINATED WITH OWNER'S INPUT.

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.

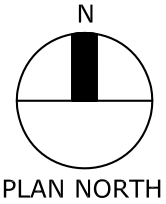
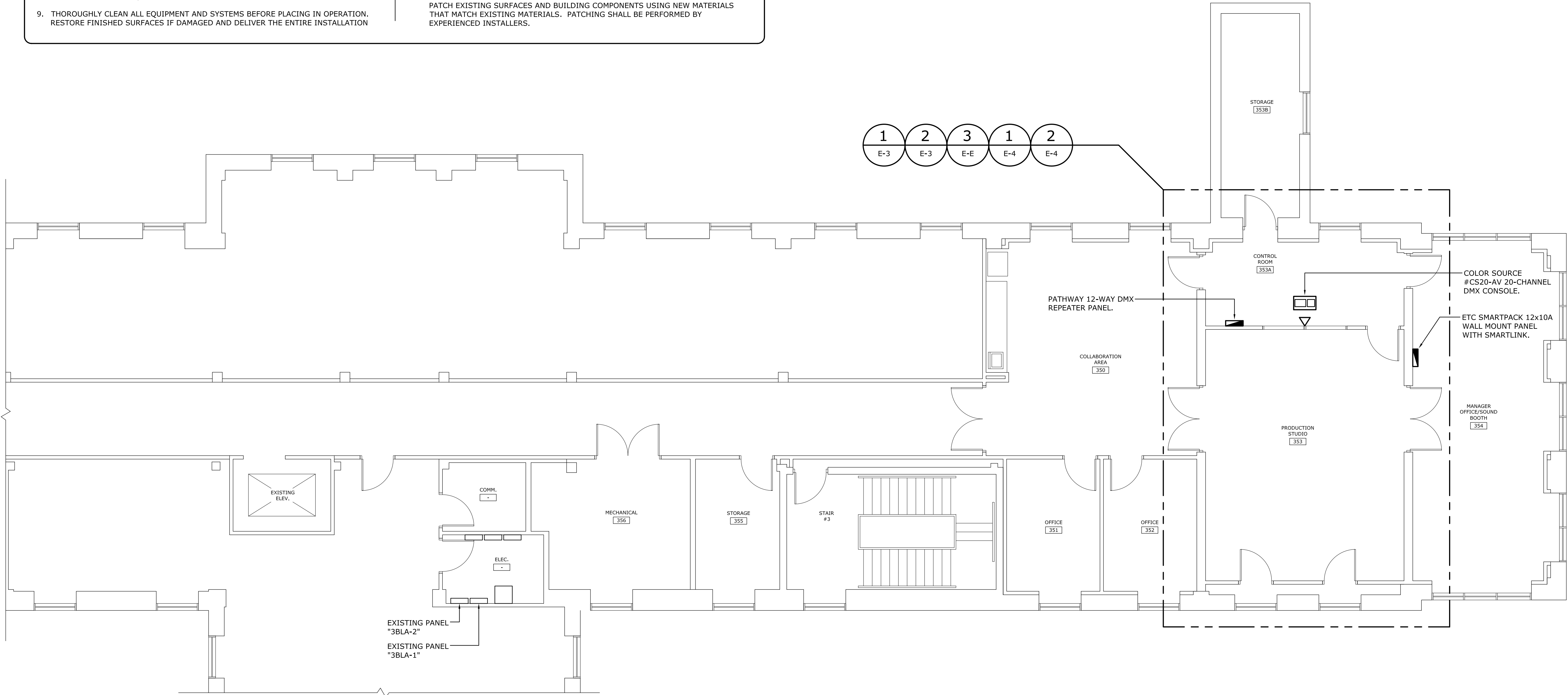
C) UPON WRITTEN INSTRUCTIONS FROM THE ARCHITECT/ENGINEER, UNCOVER AND RESTORE WORK TO PROVIDE FOR ARCHITECT/ENGINEER OBSERVATION OF CONCEALED WORK.

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 LEGEND

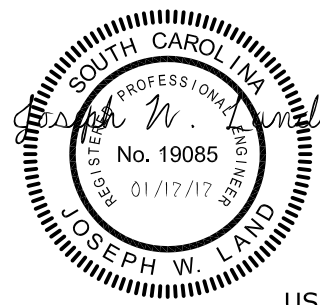
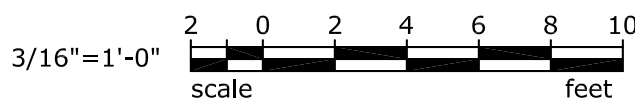
SYMBOL	DESCRIPTION
A ←	LIGHTING FIXTURE - TYPE AS INDICATED ON PLAN. SEE THE LIGHTING FIXTURE SCHEDULE FOR ADDITIONAL SYMBOLS AND TYPES.
■	CONTROL PANEL, TYPE AS INDICATED ON PLAN. SURFACE MOUNT PANEL TO WALL WITH TOP AT 66 INCHES ABOVE FINISHED FLOOR.
□	EXISTING 120/208 VOLT PANELBOARD - TO REMAIN IN PLACE.
▢	DESKTOP CONSOLE, TYPE AS INDICATED ON PLAN.
⌚	POWER AND DMX DISTRIBUTION CHANNEL, TYPE AND MOUNTING AS INDICATED ON PLAN.
TL ⚡	120-VOLT TWIST-LOCK RECEPTACLE, NEMA L5-20R. FLUSH MOUNT DEVICE IN DISTRIBUTION CHANNEL OR WALL AS INDICATED ON PLAN.
ASF ▶	FEMALE ASF XLR RECEPTACLE. FLUSH MOUNT DEVICE IN DISTRIBUTION CHANNEL OR WALL AS INDICATED ON PLAN.
▷	DATA COMMUNICATIONS OUTLET. PROVIDE A 4" SQUARE STEEL BOX WITH SINGLE-GANG PLASTER RING FLUSH MOUNTED IN WALL AT 18 INCHES ABOVE FINISHED FLOOR. OUTLET SHALL INCLUDE A METAL WALLPLATE WITH A 3/8" (MINIMUM) BUSHED HOLE FOR CABLE PASSAGE. PROVIDE A 3/4" INCH EMT RACEWAY FROM OUTLET TO PATHWAY REPEATER PANEL.



1
E-1

PARTIAL THIRD FLOOR ELECTRICAL PLAN

SCALE: 3/16" = 1'-0"



USC-2016-18



262 SANDHURST ROAD, SUITE 101
COLUMBIA, SOUTH CAROLINA
(803) 528-1437
Joe.Land.LEA@sc.rr.com

State Project No.: H27-Z259

PROJECT TITLE: BIOMEDICAL PRODUCTION STUDIO LIGHTING

SHEET:

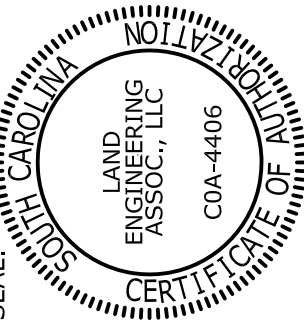
E-1

2 OF 6

SHEET IN SET:

2 OF 6

OFFICE OF
FACILITIES MANAGEMENT
COLUMBIA, SC 29208



CHECKED BY: JWL

DATE: 17JAN17

DRAWN BY: JSJ

DATE: 17JAN17

DRAWING: E1

REVISIONS

3

REV.

DESCRIPTION

DATE

ORIG. BY

DATE

DATE

DATE

DATE

DATE

DATE

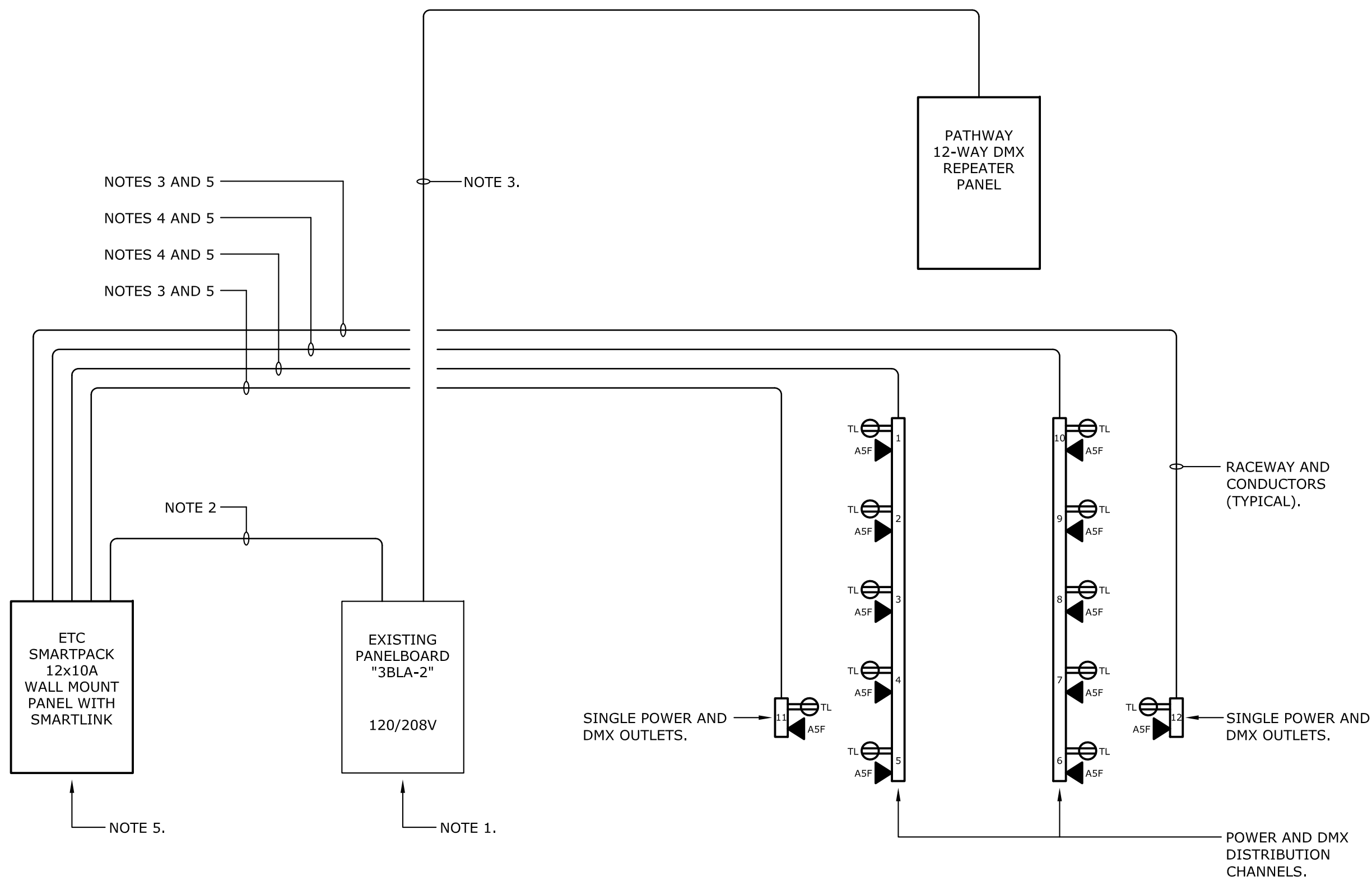
DATE

DATE

DATE

POWER SINGLE-LINE DIAGRAM NOTES

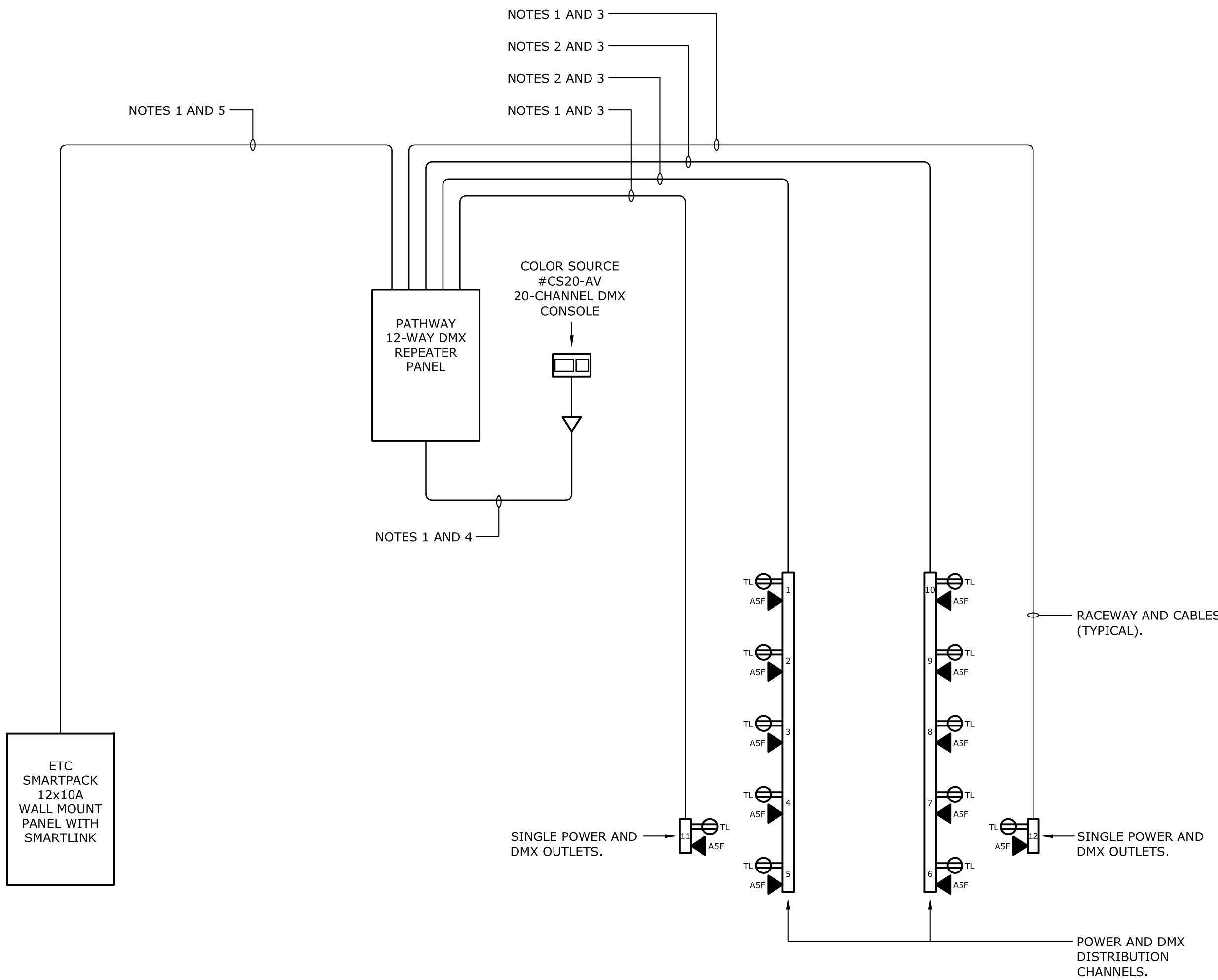
1. EXISTING PANELBOARD 3BLA-2: PROVIDE ONE SINGLE-POLE 20-AMP RATED CIRCUIT BREAKER IN PANELBOARD TO SERVE THE PATHWAY 12-WAY DMX REPEATER PANEL. PROVIDE ONE 3-POLE 40-AMP RATED CIRCUIT BREAKER IN PANELBOARD TO SERVE THE ETC SMARTPACK 12x10A WALL MOUNT PANEL. UPDATE EXISTING PANELBOARD DIRECTORY TO REFLECT ADDED LOADS.
2. RACEWAY AND CONDUCTORS REFERENCED TO THIS NOTE SHALL BE ONE SET OF FOUR #8 AWG COPPER THHN CONDUCTORS WITH ONE #10 AWG GREEN-INSULATED COPPER GROUND WIRE IN 3/4" EMT RACEWAY.
3. RACEWAY AND CONDUCTORS REFERENCED TO THIS NOTE SHALL BE ONE SET OF TWO #12 AWG COPPER THHN CONDUCTORS WITH ONE #12 AWG GREEN-INSULATED COPPER GROUND WIRE IN 3/4" EMT RACEWAY.
4. RACEWAY AND CONDUCTORS REFERENCED TO THIS NOTE SHALL BE ONE SET OF TEN #12 AWG COPPER THHN CONDUCTORS WITH FIVE #12 AWG GREEN-INSULATED COPPER GROUND WIRES IN 3/4" EMT RACEWAY.
5. CONNECT POWER CIRCUIT WIRING FROM EACH NEMA L5-20R RECEPTACLE TO CORRESPONDING POWER OUTPUT TERMINALS IN ETC SMARTPACK 12x10A WALL MOUNT PANEL (NUMBERED 1 THROUGH 12).



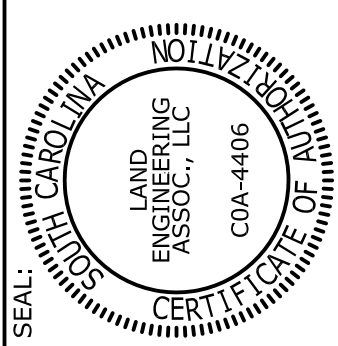
1 POWER SINGLE-LINE DIAGRAM
E-2 NOT TO SCALE

DMX SINGLE-LINE DIAGRAM NOTES

1. RACEWAY AND CABLES REFERENCED TO THIS NOTE SHALL BE ONE BELDEN #9729 CABLE IN 3/4" EMT RACEWAY.
2. RACEWAY AND CABLES REFERENCED TO THIS NOTE SHALL BE FIVE BELDEN #9729 CABLES IN 1" EMT RACEWAY.
3. CONNECT DMX CABLE FROM EACH A5F XLR FEMALE JACK TO CORRESPONDING DMX OUTPUT TERMINALS IN PATHWAY 12-WAY REPEATER PANEL (NUMBERED 1 THROUGH 12).
4. CONNECT DMX CABLE FROM COLOR SOURCE DMX CONSOLE TO DMX "IN" PORT ON PATHWAY 12-WAY REPEATER PANEL. PROVIDE AN A5M XLR MALE PLUG AT THE CONSOLE END OF CABLE.
5. CONNECT DMX CABLE FROM DMX "THRU" PORT IN PATHWAY 12-WAY DMX REPEATER PANEL TO THE DMX "IN" PORT ON THE ETC SMARTPACK 12x10A WALL MOUNT PANEL.



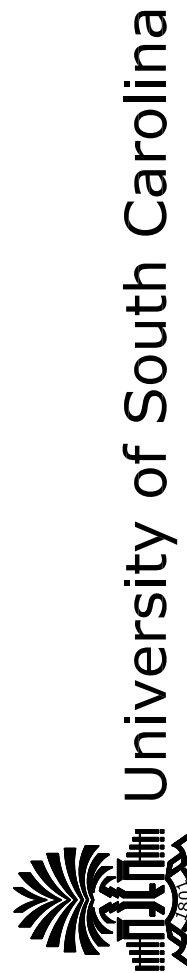
2 DMX SINGLE-LINE DIAGRAM
E-2 NOT TO SCALE



CHECKED BY:	JWL	DATE:	17JAN17
DRAWN BY:	JSJ	DATE:	
ORIG. BY:		DATE:	
REV.		DESCRIPTION	

State Project No.: H27-Z259

PROJECT TITLE: BIOMEDICAL PRODUCTION STUDIO LIGHTING



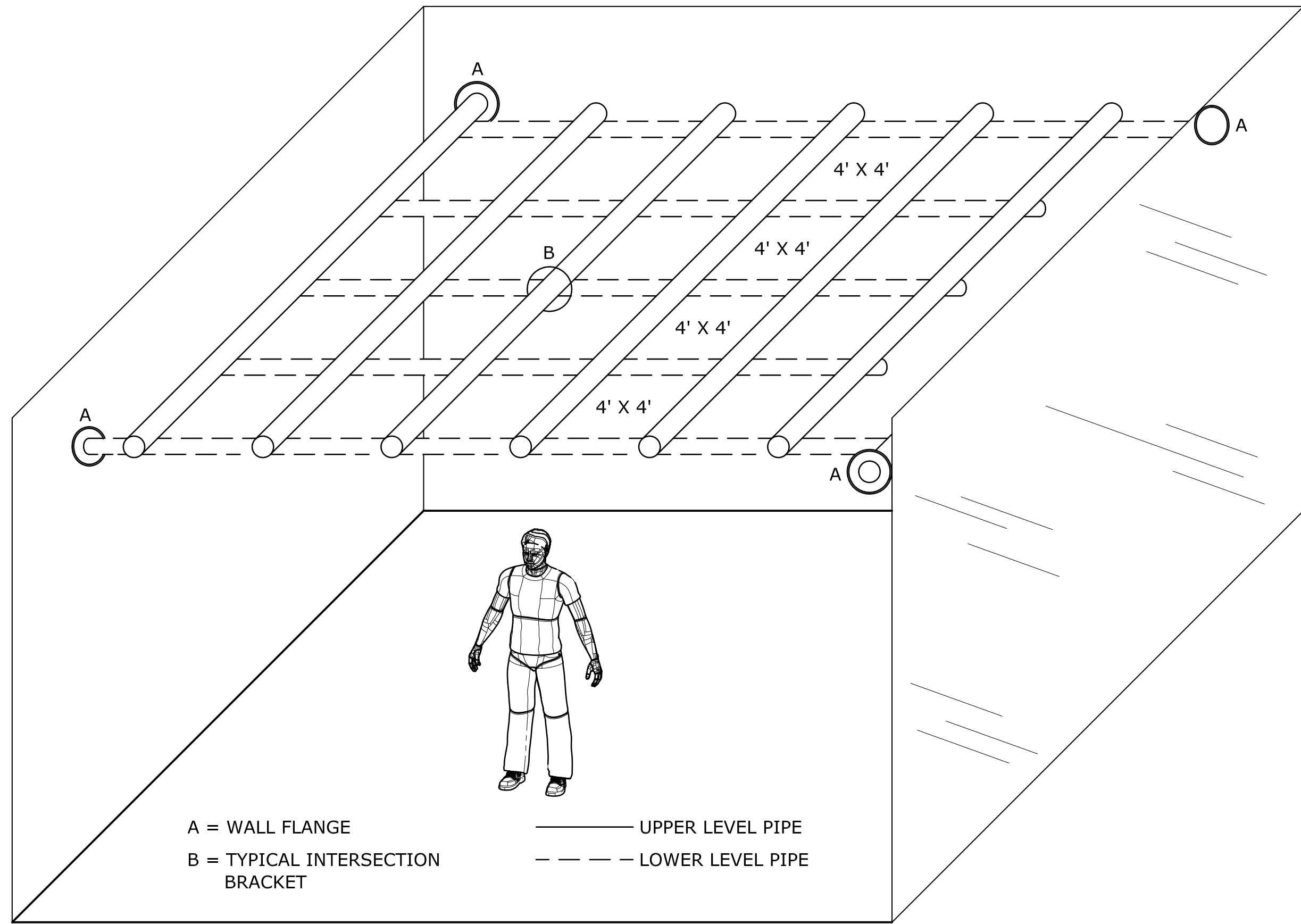
LEA LAND
ENGINEERING
ASSOCIATES, LLC
262 SANDHURST ROAD, SUITE 101
COLUMBIA, SOUTH CAROLINA
(803) 528-1437
Joe.Land.LEA@sc.rr.com

SHEET:

E-2
3 OF 6

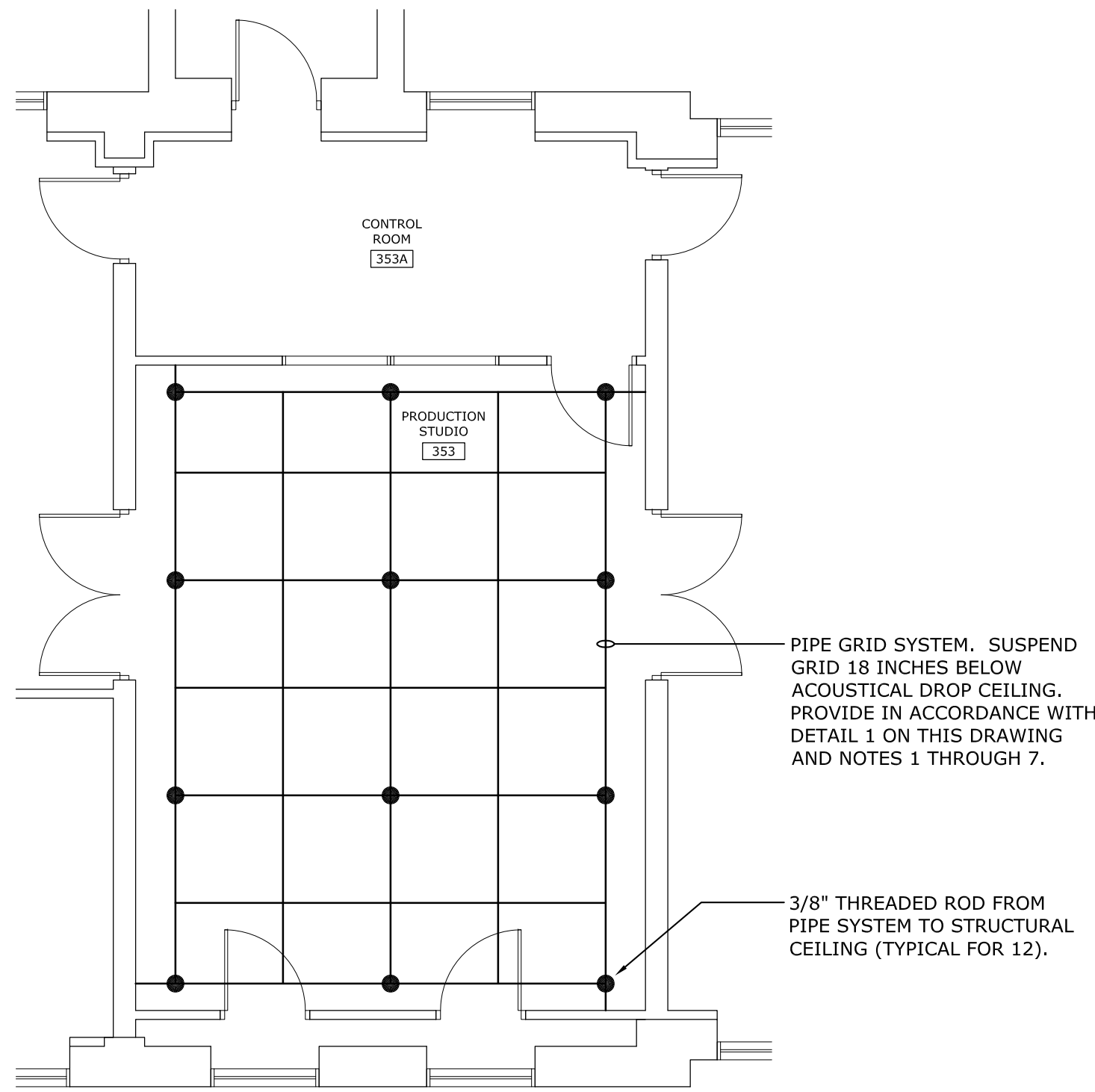
SHEET IN SET:

3 OF 6



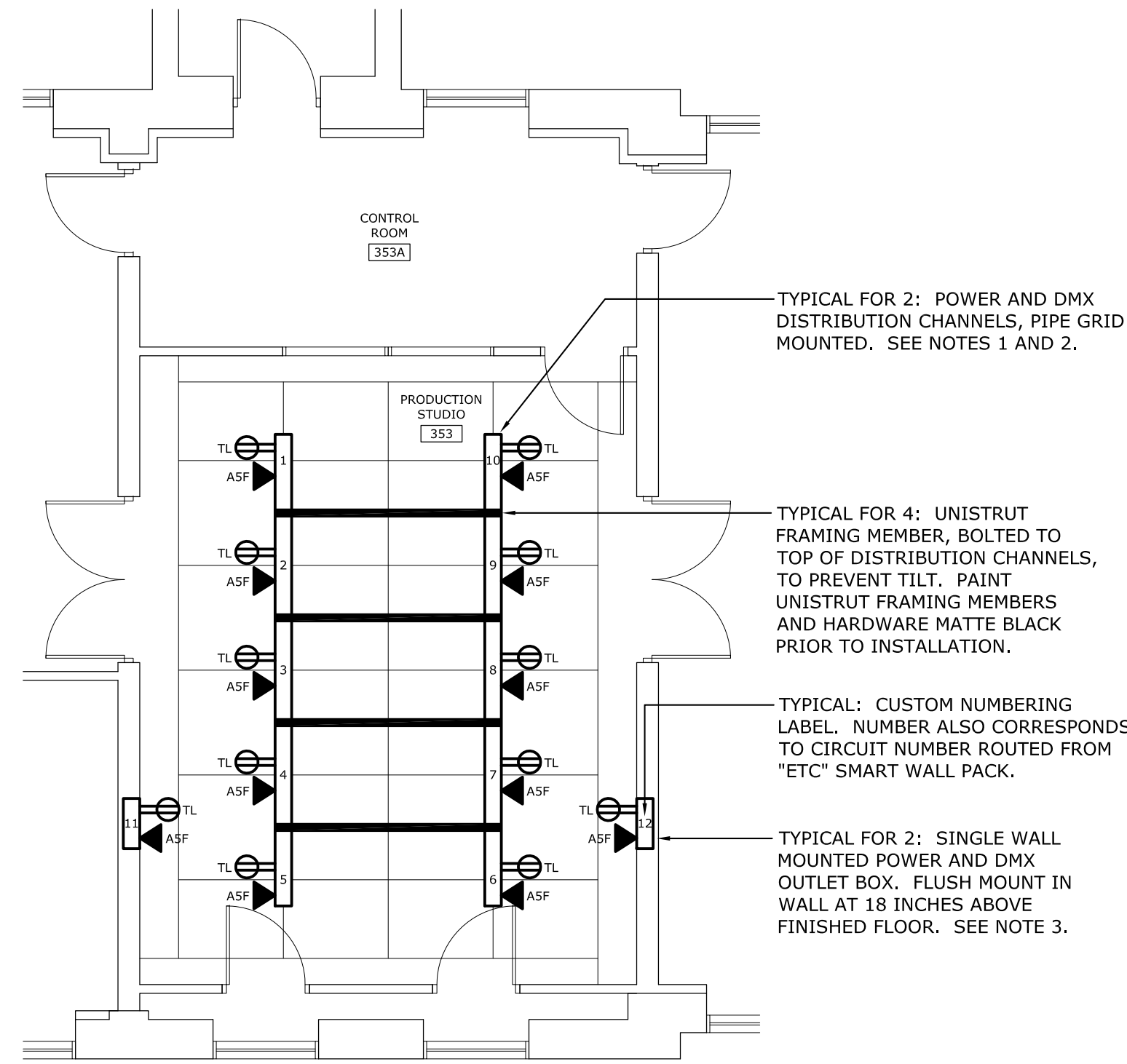
1 PIPE GRID DETAIL
E-3 NOT TO SCALE

- PIPE GRID SYSTEM PLAN NOTES
1. PIPE GRID SYSTEM SHALL BE MANUFACTURED BY IWEISS THEATRICAL SOLUTIONS OR PRIOR APPROVED EQUAL.
 2. PIPE GRID CONFIGURATION SHALL BE 4' X 4' MATRIX.
 3. ALL PIPE SHALL BE 1-1/2" SCHEDULE 40 STEEL PIPE, MATTE BLACK IN COLOR.
 4. FIELD CUT PIPE TO FIT ACTUAL ROOM DIMENSIONS. PROVIDE SPLICE COUPLINGS WHERE SUPPLIED LENGTHS ARE NOT LONG ENOUGH TO SPAN ROOM.
 5. PROVIDE ALL REQUIRED CONNECTING AND SUPPORT HARDWARE.
 6. PROVIDE GRID CROSS CONNECTOR CLAMPS (INTERSECTION BRACKETS) ON EVERY PIPE MEMBER AROUND OUTER PERIMETER AND EVERY OTHER PIPE MEMBER ON GRID INTERIOR (MINIMUM). PROVIDE WALL FLANGES AS SHOWN IN DETAIL 1 ON THIS DRAWING.
 7. PROVIDE 3/8" THREADED ROD FROM PIPE SYSTEM TO STRUCTURAL CEILING TO SUPPORT RACK - INCLUDE ASSOCIATED PIPE CLAMPS AND TURNBUCKLES.



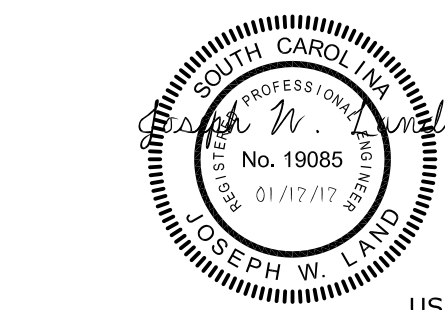
2 PIPE GRID SYSTEM PLAN
E-3 SCALE: 3/16" = 1'-0"
PLAN NORTH

- POWER & DMX PLAN NOTES
1. POWER AND DISTRIBUTION CHANNELS SHALL BE MANUFACTURED BY PHILIPS STRAND LIGHTING OR PRIOR APPROVED EQUAL.
 2. POWER AND DISTRIBUTION CHANNELS SHALL #96700-18-05-GTL-FL-05(ASF) WITH APPROPRIATE PIPE GRID MOUNTING HARDWARE.
 3. SINGLE WALL MOUNTED POWER AND DISTRIBUTION OUTLETS MAY BE TWO SEPARATE SINGLE OUTLETS IN LIEU OF A CUSTOM COMBINATION BOX/PLATE. RECEPTACLES SHALL BE NEMA L5-20R, TWIST-LOCK TYPE. DMX RECEPTACLES SHALL BE ASF XLR FEMALE TYPE. OUTLETS SHALL HAVE STEEL BACKBOXES AND BRUSHED-STEEL WALLPLATES.
 4. FURNISH TEN (10) BLACK NEMA L5-20P MALE PLUGS EACH WITH A 5-FOOT LONG BLACK 12/2 WITH GROUND SO CORD. INSTALL AS DIRECTED BY THE OWNER.
 5. FURNISH TWO (2) BLACK NEMA L5-20P MALE PLUGS EACH WITH A 12-FOOT LONG BLACK 12/2 WITH GROUND SO CORD. INSTALL AS DIRECTED BY THE OWNER.
 6. FURNISH TEN (10) BLACK BELDEN #9729 5-FOOT LONG CABLES EACH WITH AN ASM XLR MALE PLUG ON EACH END OF CABLE. INSTALL AS DIRECTED BY THE OWNER.
 7. FURNISH TWO (2) BLACK BELDEN #9729 12-FOOT LONG CABLES EACH WITH AN ASM XLR MALE PLUG ON EACH END OF CABLE. INSTALL AS DIRECTED BY THE OWNER.



3 POWER & DMX PLAN
E-3 SCALE: 3/16" = 1'-0"
PLAN NORTH

3/16"=1'-0"
scale feet



LEA LAND ENGINEERING ASSOCIATES, LLC
262 SANDHURST ROAD, SUITE 101
COLUMBIA, SOUTH CAROLINA
(803) 528-1437
Joe.Land.LEA@sc.rr.com

State Project No.: H27-Z259

PROJECT TITLE: BIOMEDICAL PRODUCTION STUDIO LIGHTING



PROJECT TITLE: BIOMEDICAL PRODUCTION STUDIO LIGHTING

SHEET:

E-3
4 OF 6

SHEET IN SET:

4 OF 6

CHECKED BY: JWL
DATE: 17JAN17

DRAWN BY: JSJ
DATE: 17JAN17

ORIG. BY: JWL
DATE: 17JAN17

REV. 1
DESCRIPTION

REV. 2
DESCRIPTION

REV. 3
DESCRIPTION

REV. 4
DESCRIPTION

REV. 5
DESCRIPTION

REV. 6
DESCRIPTION

REV. 7
DESCRIPTION

REV. 8
DESCRIPTION

REV. 9
DESCRIPTION

REV. 10
DESCRIPTION

REV. 11
DESCRIPTION

REV. 12
DESCRIPTION

REV. 13
DESCRIPTION

REV. 14
DESCRIPTION

REV. 15
DESCRIPTION

REV. 16
DESCRIPTION

REV. 17
DESCRIPTION

REV. 18
DESCRIPTION

REV. 19
DESCRIPTION

REV. 20
DESCRIPTION

REV. 21
DESCRIPTION

REV. 22
DESCRIPTION

REV. 23
DESCRIPTION

REV. 24
DESCRIPTION

REV. 25
DESCRIPTION

REV. 26
DESCRIPTION

REV. 27
DESCRIPTION

REV. 28
DESCRIPTION

REV. 29
DESCRIPTION

REV. 30
DESCRIPTION

REV. 31
DESCRIPTION

REV. 32
DESCRIPTION

REV. 33
DESCRIPTION

REV. 34
DESCRIPTION

REV. 35
DESCRIPTION

REV. 36
DESCRIPTION

REV. 37
DESCRIPTION

REV. 38
DESCRIPTION

REV. 39
DESCRIPTION

REV. 40
DESCRIPTION

REV. 41
DESCRIPTION

REV. 42
DESCRIPTION

REV. 43
DESCRIPTION

REV. 44
DESCRIPTION

REV. 45
DESCRIPTION

REV. 46
DESCRIPTION

REV. 47
DESCRIPTION

REV. 48
DESCRIPTION

REV. 49
DESCRIPTION

REV. 50
DESCRIPTION

REV. 51
DESCRIPTION

REV. 52
DESCRIPTION

REV. 53
DESCRIPTION

REV. 54
DESCRIPTION

REV. 55
DESCRIPTION

REV. 56
DESCRIPTION

REV. 57
DESCRIPTION

REV. 58
DESCRIPTION

REV. 59
DESCRIPTION

REV. 60
DESCRIPTION

REV. 61
DESCRIPTION

REV. 62
DESCRIPTION

REV. 63
DESCRIPTION

REV. 64
DESCRIPTION

REV. 65
DESCRIPTION

REV. 66
DESCRIPTION

REV. 67
DESCRIPTION

REV. 68
DESCRIPTION

REV. 69
DESCRIPTION

REV. 70
DESCRIPTION

REV. 71
DESCRIPTION

REV. 72
DESCRIPTION

REV. 73
DESCRIPTION

REV. 74
DESCRIPTION

REV. 75
DESCRIPTION

REV. 76
DESCRIPTION

REV. 77
DESCRIPTION

REV. 78
DESCRIPTION

REV. 79
DESCRIPTION

REV. 80
DESCRIPTION

REV. 81
DESCRIPTION

REV. 82
DESCRIPTION

REV. 83
DESCRIPTION

REV. 84
DESCRIPTION

REV. 85
DESCRIPTION

REV. 86
DESCRIPTION

REV. 87
DESCRIPTION

REV. 88
DESCRIPTION

REV. 89
DESCRIPTION

REV. 90
DESCRIPTION

REV. 91
DESCRIPTION

REV. 92
DESCRIPTION

REV. 93
DESCRIPTION

REV. 94
DESCRIPTION

REV. 95
DESCRIPTION

REV. 96
DESCRIPTION

REV. 97
DESCRIPTION

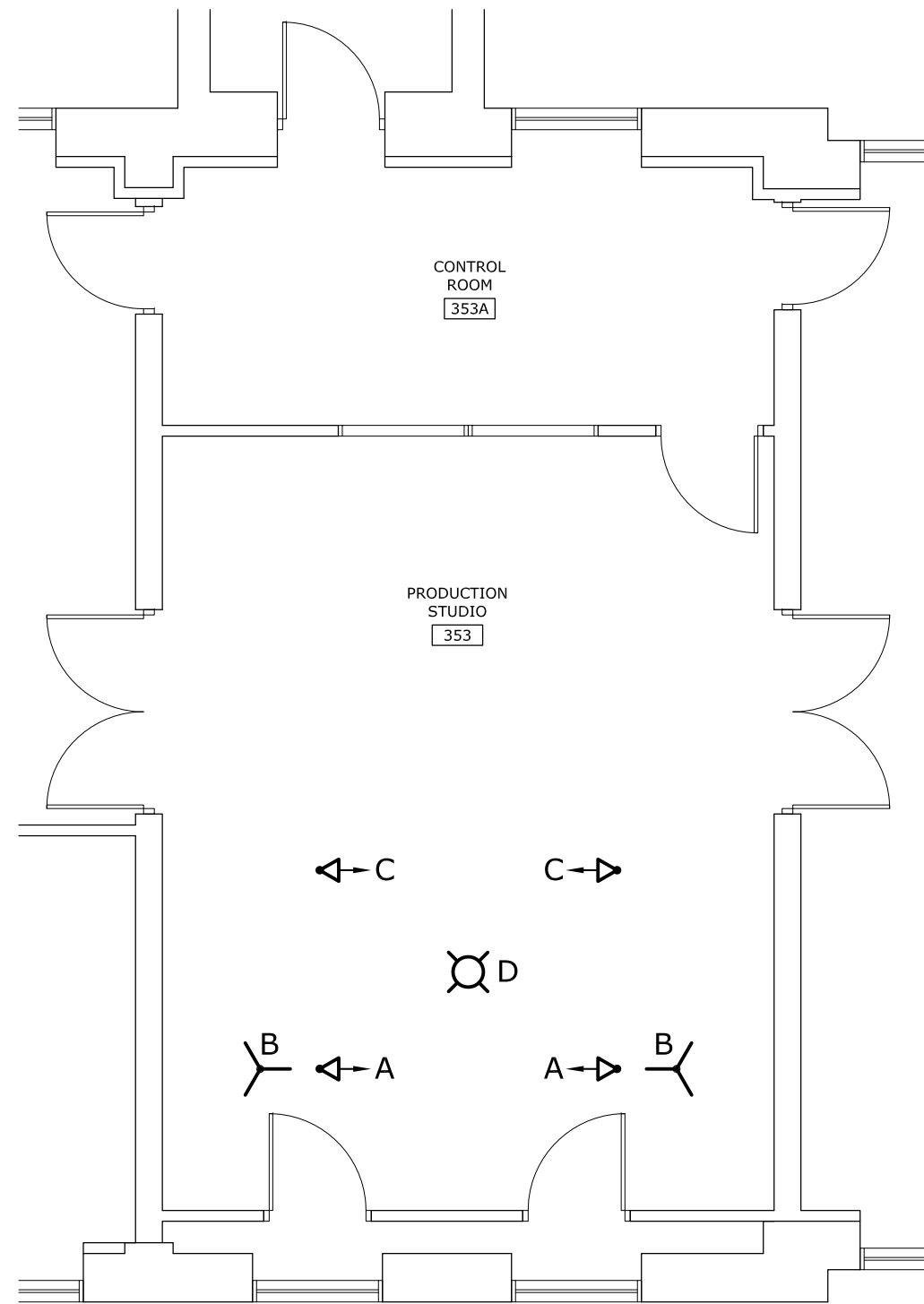
REV. 98
DESCRIPTION

REV. 99
DESCRIPTION

REV. 100
DESCRIPTION

LIGHTING FIXTURE SCHEDULE								
SYMBOL	TYPE	DESCRIPTION	MANUFACTURER	MODEL NUMBER	OPTICAL ELEMENT	MOUNTING	VOLTS	LAMPS (PHILIPS)
	A	POLE MOUNT, L.E.D., TUNABLE SOFT LIGHT WITH A 645 x 300mm LIGHT APERTURE, BLUE/SILVER IN COLOR.	ARRI	SKYPANEL S60-C (COLOR) WITH POLE OPERATED YOKE, S60-PSU AC/DC POWER SUPPLY, SUPER-CLAMP ADAPTER FOR PSU, AND DC CABLES (XLR)	L-SERIES L.E.D. FRESNEL	POLE OPERATED YOKE	120V	L.E.D. - TUNABLE FROM 2,800K TO 10,000K
	B	CHROME STEEL UNIVERSAL LIGHTING STAND WITH GEARED COLUMN AND WHEELS WITH BRAKES. HEIGHT 139-247cm.	ARRI	L2.8800561/LS.6 (083NWA)	-	FREE STANDING	-	N/A
	C	L.E.D., TUNABLE, THEATRICAL SPOTLIGHT WITH HANGING MOUNT BRACKET THAT IS COMPATIBLE WITH 1.5" PIPE GRID SYSTEM.	ARRI	L7-C/LE-2 - BLUE/SILVER WITH 4-LEAF BARN DOOR, SAFETY CABLE, HANGING MOUNT BRACKET, AND 1.5" PIPE CLAMP HARDWARE.	L.E.D. FRESNEL	HANGING	120V	L.E.D. - TUNABLE FROM 2,800K TO 10,000K
	D	CHAIN MOUNT, L.E.D., VARIABLE COLOR, THEATRICAL DOWNLIGHT.	MOLE RICHARDSON	9261 WITH WHITE/SILK SKIRT, INPUT POWER CABLE w/LS-20P PLUG, AND CHAIN MOUNT ACCESSORIES.	60 DEGREE POLISHED ALUMINUM REFLECTOR	CHAIN HUNG	120V	L.E.D. - 2,000K AND 5,600K

CURTAIN PLAN NOTES	
1. CURTAINS AND CURTAIN TRACK SYSTEMS SHALL BE MANUFACTURED AND/OR SUPPLIED BY S&K THEATRICAL DRAPERIES OR PRIOR APPROVED EQUAL.	
2. CURTAIN TRACK SYSTEMS SHALL BE REG-I-FLEX 140 SERIES.	
3. PROVIDE ALL REQUIRED HANGERS/CARRIERS, CONNECTORS, PARALLEL TRACK ALIGNMENT CONNECTORS, AND SUPPORT HARDWARE FOR CURTAIN TRACK SYSTEMS AND CURTAINS.	
4. PROVIDE 3/8" THREADED ROD ON FOUR-FOOT CENTERS (MAXIMUM FROM EACH CURTAIN TRACK TO STRUCTURAL CEILING ABOVE - INCLUDE ASSOCIATED TRACK HANGERS AND TURNBUCKLES.	
5. CURTAINS: PROVIDE THREE (3) 45' LONG BY 10' HIGH SOFTGOODS THEATRICAL CURTAINS OF THE FOLLOWING COLORS:	
A. POLYPRO CHROMA GREEN	
B. BLEACHED MUSLIM WHITE	
C. PLATEAU BLACK	

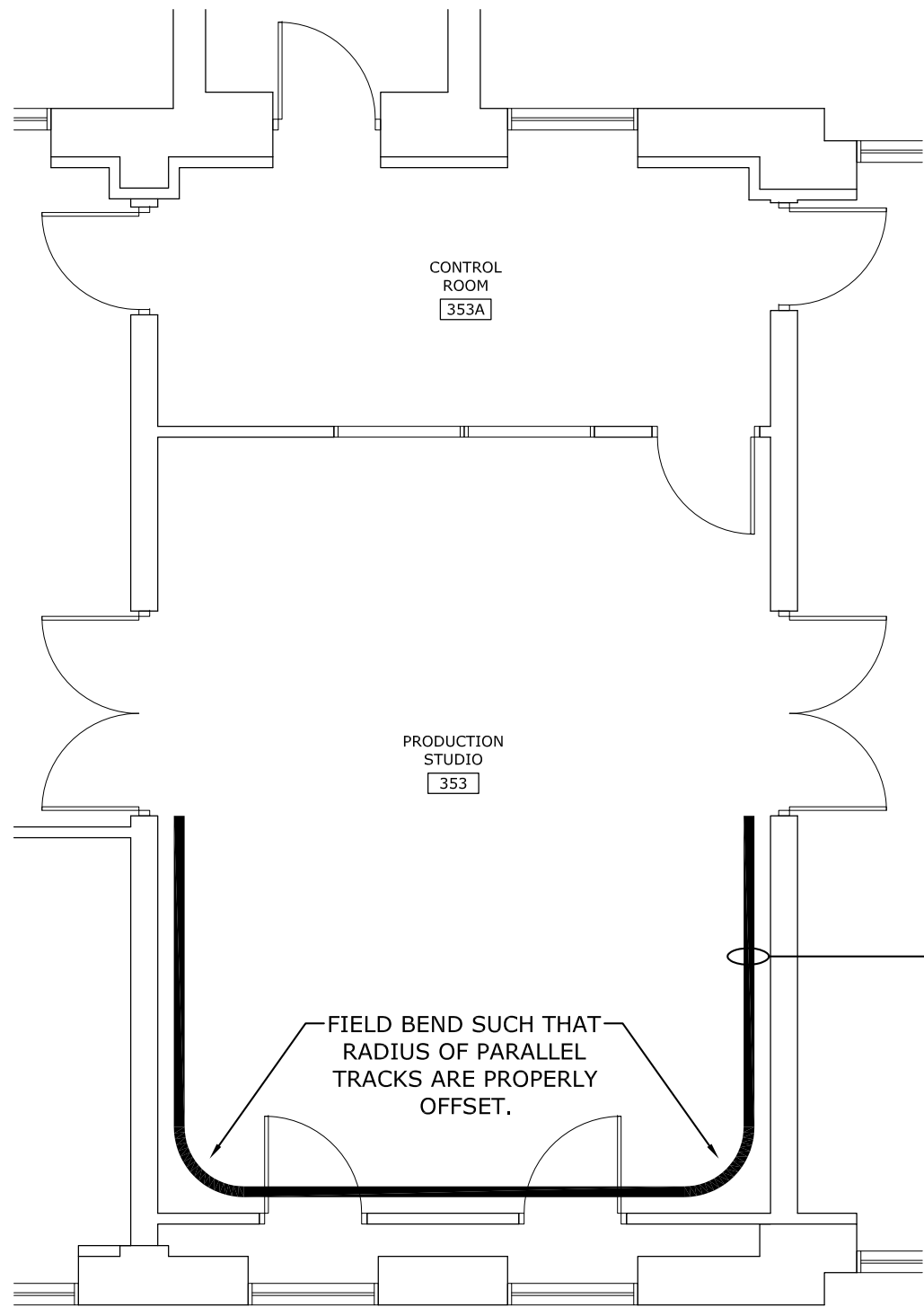


PLAN NORTH

1 LIGHTING PLAN

E-4

SCALE: 3/16" = 1'-0"



PLAN NORTH

2 CURTAIN PLAN

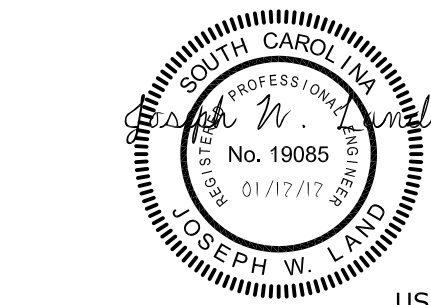
E-4

SCALE: 3/16" = 1'-0"

3/16"=1'-0"

2 0 2 4 6 8 10

scale feet



LEA LAND ENGINEERING ASSOCIATES, LLC

262 SANDHURST ROAD, SUITE 101
COLUMBIA, SOUTH CAROLINA
(803) 528-1437
Joe.Land.LEA@sc.rr.com

State Project No.: H27-Z259

PROJECT TITLE: BIOMEDICAL PRODUCTION STUDIO LIGHTING

USC-2016-18

SHEET:

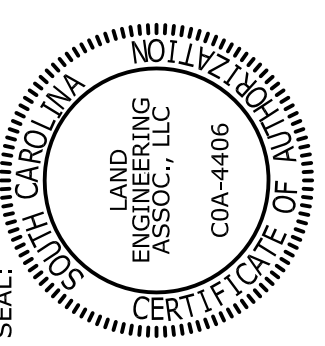
E-4

5 OF 6

SHEET IN SET:

5 OF 6

OFFICE OF
FACILITIES MANAGEMENT
COLUMBIA, SC 29208



CHECKED BY:		DRAWN BY:	
JWL		JWL	
DATE:		DATE:	
17JAN17			
DRAWING:		DESCRIPTION:	
E1			
BUILDING:		REV.	
3			

