

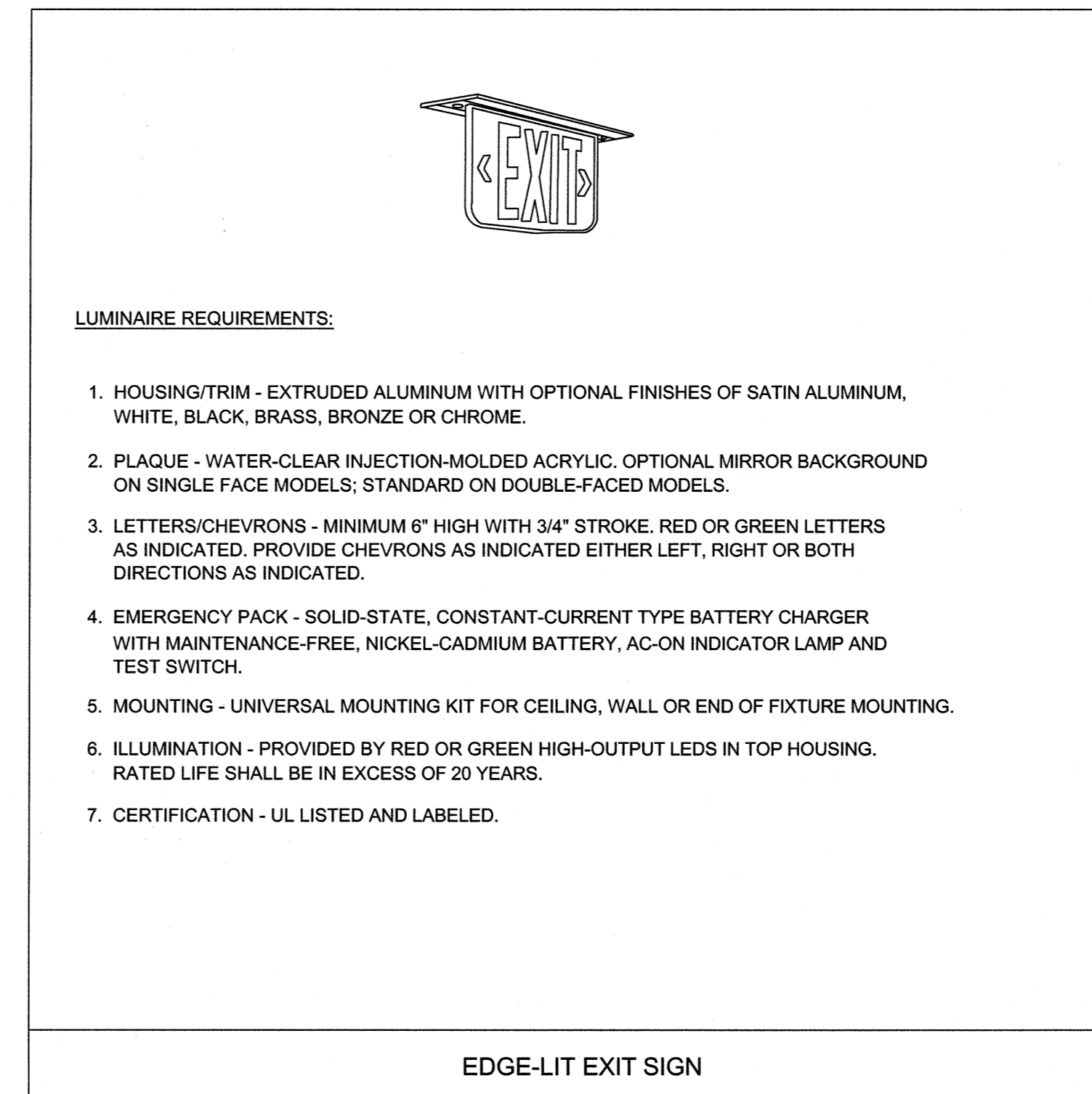


| REVISIONS |      |          |
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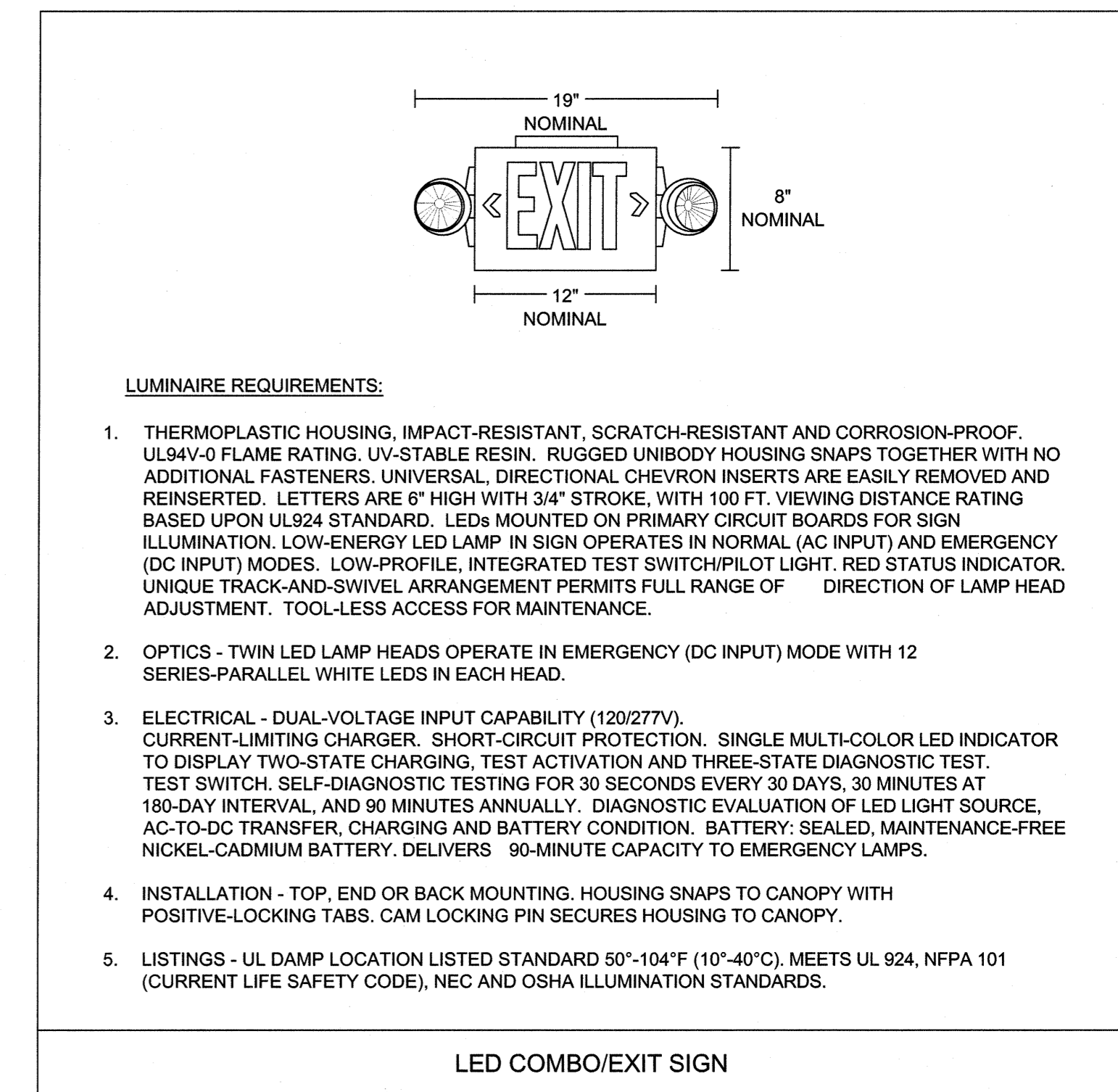
| LIGHTING FIXTURE SCHEDULE |  |                             |       |                                |       |                    |        |  |                                |         |
|---------------------------|--|-----------------------------|-------|--------------------------------|-------|--------------------|--------|--|--------------------------------|---------|
| MARK                      | DESCRIPTION  | SIZE/APERTURE               | VOLTS | LAMPS                          | WATTS | LENS               | COLOR  | MOUNTING HEIGHT                                  | DRIVER                         | REMARKS |
| A                         | 2x2 LED LAY-IN VOLUMETRIC LUMINAIRE  | 24"W X 24"L X 4"H           | MVOLT | LED<br>4000K<br>4500 LUMENS    | 45    | VOLUMETRIC         | WHITE  | RECESSED CEILING                                 | LED DRIVER<br>DIMMING<br>0-10V | 1       |
| B                         | 2x2 LED LAY-IN VOLUMETRIC LUMINAIRE  | 24"W X 24"L X 4"H           | MVOLT | LED<br>4000K<br>3000 LUMENS    | 27    | VOLUMETRIC         | WHITE  | RECESSED CEILING                                 | LED DRIVER<br>DIMMING<br>0-10V | 1       |
| C                         | 2x2 LED LAY-IN LENSED LUMINAIRE  | 24"W X 24"L X 4"H           | MVOLT | LED<br>4000K<br>3000 LUMENS    | 16    | N/A                | WHITE  | CEILING MOUNTED                                  | LED DRIVER                     | 6       |
| D                         | RECESSED MOUNTED 6" SHOWER LIGHT<br>WET LOCATION LISTED  | 6" DIA.                     | MVOLT | LED<br>4000K<br>1000 LUMENS    | 10    | ACRYLIC<br>CLEAR   | WHITE  | RECESSED CEILING                                 | LED DRIVER                     | 3       |
| D1                        | RECESSED MOUNTED 6" DOWN LIGHT   | 6" DIA.                     | MVOLT | LED<br>4000K<br>1000 LUMENS    | 10    | ACRYLIC<br>CLEAR   | WHITE  | RECESSED CEILING                                 | LED DRIVER<br>DIMMING<br>0-10V | 1,3     |
| E                         | 2-HEAD EMERGENCY FIXTURE<br>CONSTRUCTION: INJECTION-MOLDED HIGH-IMPACT<br>THERMOPLASTIC WITH SNAP-FIT COMPONENTS | 12.5"W X 3.75"D X 3.75"H    | MVOLT | 2-1.8W LED<br>SQUARE LAMPS     | 10    | N/A                | WHITE  | WALL MOUNTED<br>7" 6" AFF                        | N/A                            | 6       |
| F                         | 2x4 LED LAY-IN VOLUMETRIC LUMINAIRE  | 24"W X 48"L X 4"H           | MVOLT | LED<br>4000K<br>4300 LUMENS    | 36    | VOLUMETRIC         | WHITE  | RECESSED CEILING                                 | LED DRIVER<br>DIMMING<br>0-10V | 1       |
| G                         | WALL MOUNTED VANITY FIXTURE<br>CAST ALUMINUM WITH POWDER COAT FINISH   | 48"W X 4"T X 4"D            | MVOLT | LED<br>4000K<br>2800 LUMENS    | 31    | FROSTED<br>ACRYLIC | WHITE  | ABOVE MIRROR                                     | LED DRIVER                     | 2,6,7   |
| H                         | 4" LENSED STRIP FIXTURE  | 2.5"W X 48"L X 3"H          | MVOLT | LED<br>4000K<br>4000 LUMENS    | 31    | FROSTED            | WHITE  | SURFACE MOUNTED<br>CEILING OR WALL               | LED DRIVER                     | 4       |
| J                         | 4" CEILING MOUNTED SURFACE WET LOCATION VAPOR TITE   | 6"W X 48"L X 4"H            | MVOLT | LED<br>4000K<br>4300 LUMENS    | 39    | CLEAR              | WHITE  | CEILING MOUNTED                                  | LED DRIVER                     | 3       |
| K                         | WALL MOUNTED FULL CUT OFF FIXTURE<br>WITH EMERGENCY BATTERY BACKUP   | 7.5"W X 11.2"H X 3.75"D     | MVOLT | LED<br>4000K<br>700/500 LUMENS | 24    | N/A                | BRONZE | WALL MOUNTED                                     | LED DRIVER                     | 3,8,9   |
| L                         | LENSED RECESSED MOUNTED 6" DOWN LIGHT WITH<br>EMERGENCY BATTERY BACKUP, WET LOCATION                             | 6" DIA.                     | MVOLT | LED<br>4000K<br>2000 LUMENS    | 30    | FROSTED            |        | RECESSED CEILING                                 | LED DRIVER                     | 3,8     |
| M                         | TRACK LIGHTING 60 DEGREE LED WIDE FLOOD<br>HEAD WITH 60 DEGREE REFLECTOR<br>PROVIDE WITH 75W CURRENT LIMITER     | 3-3/8" X 5-3/4"<br>4" TRACK | MVOLT | LED<br>3500K<br>2100 LUMENS    | 21    |                    | WHITE  | CEILING MOUNTED                                  | LED DRIVER<br>DIMMING<br>0-10V | 1       |
| X                         | EXIT SIGN, SINGLE FACE, 6" RED LETTERS   | 12"W X 8"H X 2"D            | MVOLT | LED                            | 6     | N/A                | WHITE  | SURFACE CEILING<br>7-6" AFF WHEN<br>WALL MOUNTED | N/A                            | 6       |
| X1                        | EXIT SIGN, SINGLE FACE, 6" RED LETTERS WITH EMERGENCY<br>LIGHTING DUAL HEADS                                     | 12"W X 8"H X 2"D            | MVOLT | LED                            | 6     | N/A                | WHITE  | SURFACE CEILING<br>7-6" AFF WHEN<br>WALL MOUNTED | N/A                            | 6       |

REMARKS:  
1. 0-10V DIMMING DRIVER  
2. DAMP LOCATION  
3. WET LOCATION  
4. COORDINATE LOCATION WITH DUCTWORK AND/OR EQUIPMENT  
5. LED REQUIRED SURGE PROTECTION  
6. CONFIRM MOUNTING HEIGHT WITH ARCHITECT  
7. FINAL COLOR SELECTION BY ARCHITECT  
8. 90 MIN BATTERY BACKUP-INTEGRAL  
9. INTEGRAL PHOTOCELL

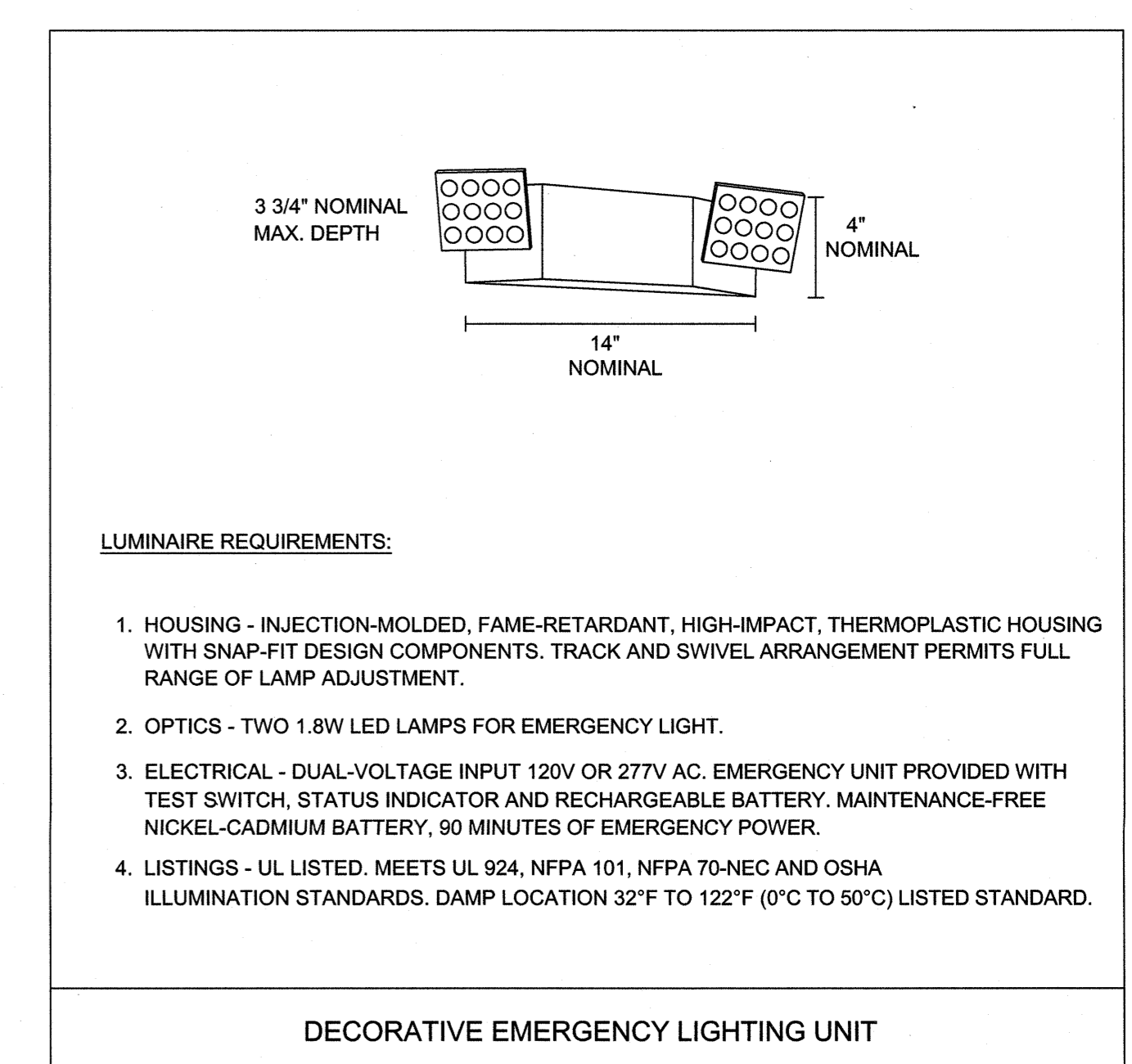
GENERAL NOTES:  
A. THE CONTRACTOR SHALL VERIFY THE LEAD TIME OF ALL PRODUCTS SPECIFIED IN THIS SCHEDULE AT THE TIME OF PACKAGE QUOTE.  
B. DURING THE BID PROCESS, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER OF ANY DELIVERY/SCHEDULING ISSUES.  
C. NO SUBSTITUTIONS WILL BE ALLOWED DUE TO THE LACK OF COORDINATION OF DELIVERY DATES AND CONSTRUCTION SCHEDULE AFTER BID.  
D. ALL EXPEDITED EXPENSES SHALL BE THE RESPONSIBILITY OF THE CONTRACTORS.  
E. FIXTURES TO BE INSTALLED IN CEILINGS, INDICATE ON THE ARCHITECTURAL PLANS AS HAVING INSULATION IN CONTACT WITH THE CEILING SURFACE, SHALL BE IC RATED BY MANUFACTURER.  
F. LIGHTING FIXTURES SHALL MEET THE AESTHETICS, DESCRIPTION AND SPECIFICATIONS, SUBSTITUTIONS SHALL INCLUDE PT. BY PT. CALCULATIONS.  
G. LIGHTING FIXTURES, AS SPECIFIED, HAVE BEEN SO SELECTED TO ACHIEVE REQUIRED/DESIRED FOOTCANDLE LEVELS IN THEIR RESPECTIVE AREA. HENCE SPECIFIC FIXTURE CHARACTERISTICS WHICH MAY CREATE PARTICULAR ILLUMINATION RESULTS ARE ESSENTIAL. ANY DEVIATIONS FROM SPECIFIED FIXTURES SHALL DEEM THE SUBMITTING AGENT AND CONTRACTORS RESPONSIBLE IN PROVIDING SUCH DEVIATION FOR THE ARCHITECT/ENGINEER AND OWNER TO MAKE AN INFORMED DECISION.  
H. SUBSTITUTIONS ARE ACCEPTABLE AS LONG AS THEY ARE EQUAL TO THE FIXTURE SPECIFIED, UNLESS OTHERWISE NOTED THIS INCLUDES LENS, COLORS, REFLECTORS, PHOTOMETRICS, HOUSING MATERIAL, FINISHES, ETC. ALL  
I. ANY FIXTURE WITH THE TEXT "NL" ADJACENT TO IT SHALL INDICATE THAT THAT FIXTURE IS A NIGHT LIGHT (24HR LIGHT). THE FIXTURE SHALL BE CONNECTED TO THE UNSWITCHED HOT LEG OF THE INDICATED CIRCUIT.  
J. ACRYLIC PRISMATIC LENSES SHALL BE 0.156" NOMINAL MINIMUM THICKNESS.  
K. ALL EXIT AND EMERGENCY FIXTURES SHALL COMPLY WITH NCSBC STANDARDS AND HAVE AUTOMATIC TESTING DEVICES.  
L. LED EMERGENCY BATTERY SHALL PROVIDE 1400 MINIMUM LUMENS OUTPUT FROM 1 LAMP FOR 90 MINUTES MINIMUM.  
M. LED MODULES SHALL BE REPLACEABLE.  
N. SEE SPECIFICATIONS SECTIONS 265100 AND 265200 FOR ADDITIONAL REQUIREMENTS.  
O. ELECTRICAL CONTRACTOR SHALL RECEIVE APPROVAL FOR ALL LIGHTING FIXTURES FROM ARCHITECT/OWNER PRIOR TO PURCHASE AND ROUGH-IN.  
P. ALL LIGHTING FIXTURES PENETRATING RATED FLOOR/CEILING ASSEMBLY SHALL BE PROVIDED WITH ACCESSORIES TO MAINTAIN ASSEMBLY FIRE RATING. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL RATINGS.  
Q. THE ABOVE FIXTURE TYPES ARE LISTED AS THE DESIGN BASIS. THE ACTUAL FIXTURES SUBMITTED SHALL BE MANUFACTURED IN THE UNITED STATES.  
R. PROVIDE MANUFACTURER INSTALLED NEC 2014 ARTICLE 410.130 (G) COMPLIANT DISCONNECTING MEANS FOR ALL APPLICABLE FIXTURES.  
S. ALL LUMINAIRE SUPPORTS, INCLUDING POLES, SHALL BE 3RD PARTY LISTED.



1 TYPE X DETAIL  
NOT TO SCALE



2 TYPE X1 DETAIL  
NOT TO SCALE



3 TYPE E DETAIL  
NOT TO SCALE

SEE DISCLOSURE OF INFORMATION STATEMENT ON SHEET T-1

|  |  |              |   |
|--|--|--------------|---|
| <b>CBHF</b><br><b>Engineers, PLLC</b><br>2248 Yaupon Drive<br>Wilmington, NC 28401<br>Phone: 910.791.4000<br>Fax: 910.791.5266<br>www.cbhfindesign.com<br><small>© Copyright 2019 CBHF Engineers, PLLC. All Rights Reserved.</small> | SHEET TITLE: ELECTRICAL LIGHTING DETAILS   |              | E-7   |
|  | TALLEY & SMITH ARCHITECTURE INC.<br>P.O. BOX 518 SHELBY, NC 28151-0518<br>409 EAST MARION ST. SHELBY, NC 28150 |              |   |
|  | DES. JLG<br>DR. JLG<br>CHK. JPF<br>SUBMITTED BY:<br>DESIGN DIR. T.H. BURTON, PE                                |              | DEPARTMENT OF THE NAVY<br>NAVAL FACILITIES ENGINEERING COMMAND<br><b>MARINE CORPS BASE</b><br>CAMP LEJEUNE, NORTH CAROLINA<br>RENOVATION<br>BLDG. M-104<br>CAMP LEJEUNE, NORTH CAROLINA |
|  | APPROVED:  | DATE:        | CODE IDENT. NO. 80091<br>NAVFAC DRAWING NO. 60025149<br>CONST. CONTR. NO. N40085-19-B-0034  |
| SATISFACTORY TO:   | DATE:  | SCALE: NOTED | SPEC: 05-19-0034  |

06/28/2019

| REVISIONS |      |          |
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| SYM.      | DATE | APPROVED |
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**LUMINAIRE REQUIREMENTS:**

- CONSTRUCTION - COMPONENTS ARE DIE-FORMED FOR DIMENSIONAL CONSISTENCY AND PAINTED AFTER FABRICATION WITH A POLYESTER POWDER PAINT FOR IMPROVED PERFORMANCE AND PROTECTION. THE REFLECTOR IS FINISHED WITH A HIGH REFLECTIVE MATTE WHITE POWDER PAINT FOR IMPROVED AESTHETICS AND INCREASED LIGHT DIFFUSION. END PLATES CONTAIN EASY-TO-POSITION INTEGRAL T-BAR CLIPS FOR SECURELY ATTACHING THE LUMINAIRE TO THE T-GRID. FOR ADDITIONAL T-GRID SECURITY, OPTIONAL SCREW ON T-BAR CLIPS ARE AVAILABLE. DIFFUSERS ARE EXTRUDED FROM IMPACT MODIFIED ACRYLIC FOR INCREASED DURABILITY. LED BOARDS AND DRIVERS ARE ACCESSIBLE FROM THE PLENUM.
- OPTICS - VOLUMETRIC ILLUMINATION IS ACHIEVED BY CREATING AN OPTIMAL MIX OF LIGHT TO WALLS, PARTITIONS AND VERTICAL AND HORIZONTAL WORK SURFACES - RENDERING THE INTERIOR SPACE, OBJECTS AND OCCUPANTS IN A MORE BALANCED, COMPLIMENTARY LUMINOUS ENVIRONMENT. HIGH PERFORMANCE EXTRUDED ACRYLIC DIFFUSERS CONCEAL LEADS AND EFFERENTLY DELIVER LIGHT IN A VOLUMETRIC DISTRIBUTION. FOUR DIFFUSER CHOICES AVAILABLE - CURVED AND SQUARE DESIGNS WITH LINEAR PRISMS OR A SMOOTH FROSTED FINISH.
- ELECTRICAL - LONG-LIFE LEADS, COUPLED WITH HIGH-EFFICIENCY DRIVERS, PROVIDE SUPERIOR QUANTITY AND QUALITY OF ILLUMINATION FOR EXTENDED SERVICE LIFE. FIXTURE SHALL BE RATED TO DELIVER L80 PERFORMANCE FOR 50,000 HOURS.
- LED DRIVER - DRIVER DELIVERS FULL RANGE DIMMING FROM 0 - 10V CONTROL SIGNAL.
- INSTALLATION - GRID INTERFACING ARRANGEMENT PROVIDES MOUNTING INTO STANDARD 1" AND 9/16" TEE BAR OR SCREW SLOT GRIDS. 9/16" ALLOWS FIXTURE TRIM TO HANG LEVEL WITH ARCHITECTURAL CEILING TILES. DRYWALL CEILING ADAPTORS AVAILABLE. SUITABLE FOR DAMP LOCATION.
- LISTINGS - CSA CERTIFIED TO MEET US AND CANADIAN STANDARDS. PATENTS PENDING. DLC CERTIFIED TEST TO LM80 STANDARDS.
- SEE SCHEDULE FOR DELIVERED LUMEN PACKAGE, 3500K
- FIXTURE MUST HAVE A HIGH IMPACT RESISTANT LENS SUITABLE FOR THE APPLICATION OF THE FIXTURE IN THE ATHLETIC FACILITY.
- PROVIDE DRYWALL FLANGE KIT AND ANY OTHER OPTIONS AS REQUIRED FOR INSTALLATION.

DIRECT RECESSED 2' X 2' LED

**LUMINAIRE REQUIREMENTS:**

- HOUSING - 2" NOMINAL 1 1/4" X 1 3/4" RECTANGULAR HOUSING FORMED FROM COLD-ROLLED STEEL.
- END CAPS - DIE-CAST END CAPS ARE MECHANICALLY ATTACHED WITH NO EXPOSED FASTENERS. FLAT END CAPS STANDARD, SCULPTURED END CAPS OPTIONAL.
- COLOR - HOUSING AND END CAPS IS WHITE, BLACK OR PAINTED ALUMINUM.
- LUMINAIRE LENGTH - 4' AND 8' LENGTHS IS A SINGLE SECTION FOR EXACT SUSPENSION SPACING OF 4' OR 8'. FOR TOTAL LUMINAIRE LENGTH, ADD 5/8" FOR EACH FLAT END CAP AND 4" FOR EACH SCULPTURED END CAP. USING INTERNAL JOINERS, 4' AND 8' SECTIONS CAN BE JOINED TO FOR LONGER ROWS.
- SOURCE - TWO LED LUMEN PACKAGES AND THREE AVAILABLE COLOR TEMPERATURE OPTIONS (3000K, 3500K, AND 4000K) - ALL WITHIN 2.5 MACADAM ELLIPSE.
- OPTICS - HIGH PERFORMANCE LENS, DIFFUSERS AND METAL REFLECTORS.
- DIMMING DRIVER - SMOOTH CONTINUOUS AND FLICKER-FREE DIMMING TO DARK (0.1%), ZYNG FOR CONTROLS: 2mA MAX. THD <20%, INSIGNIFICANT INRUSH CURRENT AT 120 AND 277VAC. FCC CLASS A AND B TESTED FOR EMI AND RFI.
- ELECTRICAL - LED LIGHT ENGINE - CONSISTING OF MODULAR LED BOARDS AND ELDOLED DIMMING DRIVER - RATED FOR 50,000 HOURS (L80) AT 25°C AMBIENT TEMPERATURE. SPECIFY 120V OR 277V. PRE-WIRED WITH 16WAG FIXTURE WIRE. PLUG-IN ELECTRICAL CONNECTORS INCLUDED.

LED 4' SURFACE MOUNT STRIP FIXTURE

**LUMINAIRE REQUIREMENTS:**

- HOUSING - ONE-PIECE, DIE-STAMPED, COLD ROLLED STEEL OR ACRYLIC-ENAMELED ALUMINUM. PROVIDE WITH PRE-WIRED JUNCTION BOX HAVING SNAP-ON ACCESS COVER. ACCESS TO JUNCTION BOX FROM BELOW CEILING SHALL BE PROVIDED THROUGH FIXTURE AFTER REMOVAL OF REFLECTOR.
- REFLECTOR AND TRIM - ONE-PIECE, CLEAR, SPUN ALUMINUM, IRIDESCENCE-SUPPRESSED, WITH PAINTED WHITE SELF TRIM. OTHER FINISHES AND TYPES AVAILABLE. SEE LIGHTING FIXTURE SCHEDULE.
- LED DRIVER - DRIVER DELIVERS FULL RANGE DIMMING FROM 0 - 10V CONTROL SIGNAL.
- ELECTRICAL - LONG-LIFE LEADS, COUPLED WITH HIGH-EFFICIENCY DRIVERS, PROVIDE SUPERIOR QUANTITY AND QUALITY OF ILLUMINATION FOR EXTENDED SERVICE LIFE. FIXTURE SHALL BE RATED TO DELIVER L80 PERFORMANCE FOR 50,000 HOURS.
- CERTIFICATION - UL LISTED AND LABELED.
- OPTIONS - REFLECTOR TYPE - DIRECT DOWNLIGHT OR WALL WASH; SEMI-SPECULAR OR SPECULAR. REFLECTOR COLOR - CLEAR, CHAMPAGNE, PEWTER, WHEAT, GOLD OR BRONZE. TRIM - OPEN REFLECTOR, STEPPED WHITE OR BLACK BAFFLE.

RECESSED LED DOWNLIGHT

**LUMINAIRE REQUIREMENTS:**

- CONSTRUCTION - COMPONENTS ARE DIE-FORMED FOR DIMENSIONAL CONSISTENCY AND PAINTED AFTER FABRICATION WITH A POLYESTER POWDER PAINT FOR IMPROVED PERFORMANCE AND PROTECTION. THE REFLECTOR IS FINISHED WITH A HIGH REFLECTIVE MATTE WHITE POWDER PAINT FOR IMPROVED AESTHETICS AND INCREASED LIGHT DIFFUSION. END PLATES CONTAIN EASY-TO-POSITION INTEGRAL T-BAR CLIPS FOR SECURELY ATTACHING THE LUMINAIRE TO THE T-GRID. FOR ADDITIONAL T-GRID SECURITY, OPTIONAL SCREW ON T-BAR CLIPS ARE AVAILABLE. DIFFUSERS ARE EXTRUDED FROM IMPACT MODIFIED ACRYLIC FOR INCREASED DURABILITY. LED BOARDS AND DRIVERS ARE ACCESSIBLE FROM THE PLENUM.
- OPTICS - VOLUMETRIC ILLUMINATION IS ACHIEVED BY CREATING AN OPTIMAL MIX OF LIGHT TO WALLS, PARTITIONS AND VERTICAL AND HORIZONTAL WORK SURFACES - RENDERING THE INTERIOR SPACE, OBJECTS AND OCCUPANTS IN A MORE BALANCED, COMPLIMENTARY LUMINOUS ENVIRONMENT. HIGH PERFORMANCE EXTRUDED ACRYLIC DIFFUSERS CONCEAL LEADS AND EFFERENTLY DELIVER LIGHT IN A VOLUMETRIC DISTRIBUTION. FOUR DIFFUSER CHOICES AVAILABLE - CURVED AND SQUARE DESIGNS WITH LINEAR PRISMS OR A SMOOTH FROSTED FINISH.
- ELECTRICAL - LONG-LIFE LEADS, COUPLED WITH HIGH-EFFICIENCY DRIVERS, PROVIDE SUPERIOR QUANTITY AND QUALITY OF ILLUMINATION FOR EXTENDED SERVICE LIFE. FIXTURE SHALL BE RATED TO DELIVER L80 PERFORMANCE FOR 50,000 HOURS.
- LED DRIVER - DRIVER DELIVERS FULL RANGE DIMMING FROM 0 - 10V CONTROL SIGNAL.
- INSTALLATION - GRID INTERFACING ARRANGEMENT PROVIDES MOUNTING INTO STANDARD 1" AND 9/16" TEE BAR OR SCREW SLOT GRIDS. 9/16" ALLOWS FIXTURE TRIM TO HANG LEVEL WITH ARCHITECTURAL CEILING TILES. DRYWALL CEILING ADAPTORS AVAILABLE. SUITABLE FOR DAMP LOCATION.
- LISTINGS - CSA CERTIFIED TO MEET US AND CANADIAN STANDARDS. PATENTS PENDING. DLC CERTIFIED TEST TO LM80 STANDARDS.
- SEE SCHEDULE FOR DELIVERED LUMEN PACKAGE, 3500K

DIRECT/INDIRECT RECESSED 2' X 2' & 2' X 4' LED

**1 TYPE C DETAIL**  
NOT TO SCALE

**LUMINAIRE REQUIREMENTS:**

- HOUSING - CAST ALUMINUM HOUSING.
- FINISH - THERMOSET POWDER COAT FINISH.
- LENS - CLEAR GLASS.
- LAMPS - LEDS.
- DRIVER - ELECTRONIC >90% POWER FACTOR.
- ELECTRICAL - 120/277V
- CERTIFICATION - UL LISTED AND LABELED.
- INTEGRAL PHOTOCCELL

LED EXTERIOR / EGRESS SURFACE FIXTURE

**2 TYPE H DETAIL**  
NOT TO SCALE

**LUMINAIRE REQUIREMENTS:**

- TRACK SECTION - HEAVY-GAUGE, EXTRUDED ALUMINUM CHANNEL WITH NATURAL ALUMINUM OR BAKED ENAMEL OR POWDER COAT WHITE, OR BLACK FINISH.
- AMPACITY - TRACK SHALL HAVE ONE OR TWO 20 AMP CIRCUITS INTEGRAL TO EXTRUDED TRACK CHANNEL AS NOTED.
- LENGTHS - TRACK SHALL BE AVAILABLE IN 2', 4', 8', AND 12' CONTINUOUS SECTIONS.
- MOUNTING - EACH 4' OR LESS SECTION OF TRACK SHALL BE SECURED BY TWO TOGGLE-BOLT TYPE FASTENERS, OR SCREWS IF JOIST IS AVAILABLE.
- FIXTURE TYPES - SEE NL-43 FOR COMMON TRACK LIGHTING FIXTURES.
- CERTIFICATION - UL LISTED AND LABELED.
- OPTIONS - PROVIDE ACCESSORIES AS NECESSARY FOR A COMPLETE INSTALLATION. AVAILABLE ACCESSORIES INCLUDE:
  - A. LIVE END FEED - USED TO START A SINGLE RUN.
  - B. LINEAR COUPLER - USED TO JOIN TWO STRIGHT TRACKS.
  - C. L FEED CONNECTOR - JOINS TWO TRACKS IN 90 DEGREE CONFIGURATION.
  - D. T FEED CONNECTOR - JOINS THREE TRACKS IN TEE CONFIGURATION.
  - E. X FEED CONNECTOR - JOINS FOUR TRACKS IN AN X CONFIGURATION.
  - F. FLEXIBLE CONNECTOR - JOINS TWO TRACKS IN UP TO A 90 DEGREE BEND.
  - G. SURFACE CONDUIT FEED - PERMITS TRACK END TO BE CONNECTED TO 1/2" CONDUIT.
  - H. CONCEALED FEED - PERMITS TRACK TO BE CONNECTED FROM ABOVE WITHOUT OUTLET BOX.

SURFACE-MOUNTED TRACK LIGHTING

**3 TYPE D, D1 & L DETAIL**  
NOT TO SCALE

**LED TRACK LIGHTING SPOT AND FLOOD**

**LUMINAIRE REQUIREMENTS:**

- HOUSING - SEAMLESS ALUMINUM WITH CAST ALUMINUM TOP FOR HEAT DISSIPATION.
- FINISH - TYPE L & M: MATTE WHITE POWDER COAT STANDARD. VARIETY OF OTHER COLORS AVAILABLE. ADD SPECIFIC DESCRIPTION TO LIGHTING FIXTURE SCHEDULE.
- DRIVER - LED DIMMABLE TO 5% VIA AN ELECTRONIC LOW VOLTAGE DIMMER ON 120V TRACK TRACK. MUST HAVE A SEAMLESS DRIVER CASE.
- LAMPS - LED LIGHT SOURCE 2100L/CRI 80+ @ 3000K. TYPE L - 21 DEGREE SPOT. TYPE M - 60 DEGREE WIDE FLOOD.
- CERTIFICATION - UL LISTED AND LABELED.

TYPICAL TRACK LIGHTING FIXTURES

**4 TYPE A & B & F DETAIL**  
NOT TO SCALE

**LUMINAIRE REQUIREMENTS:**

- HOUSING - ONE-PIECE, IMPACT-RESISTANT, FIBERGLASS REINFORCED POLYESTER
- FINISH - ALUMINUM REFLECTOR
- LENS - 100% CLEAR OR FROSTED POLYCARBONATE. FILM CLOSED CELL NEOPRENE GASKET WITH CAPTIVE NONMETALLIC, SNAP ACTION CAM LATCHES TO SECURE LENS TO HOUSING.
- LUMEN SOURCE - LED ARRAYS WITH LUMEN OUTPUTS AS INDICATED. SEE LIGHTING FIXTURE SCHEDULE.
- POWER SUPPLY/LED DRIVER - CLASS 1 DRIVER SHALL OPERATE AT 120/277 VOLTS, 50/60 HZ, WITH OTHER VOLTAGES OPTIONAL. POWER FACTOR GREATER THAN 0.9 AND THD LESS THAN 20% AT FULL LOAD.
- CERTIFICATION - UL LISTED AND LABELED. SUITABLE FOR WET LOCATION AS DESIGNATED IN LIGHTING FIXTURE SCHEDULE.

LED SURFACE MOUNTED FIXTURE

**5 TYPE K DETAIL**  
NOT TO SCALE

**6 TYPE M DETAIL**  
NOT TO SCALE

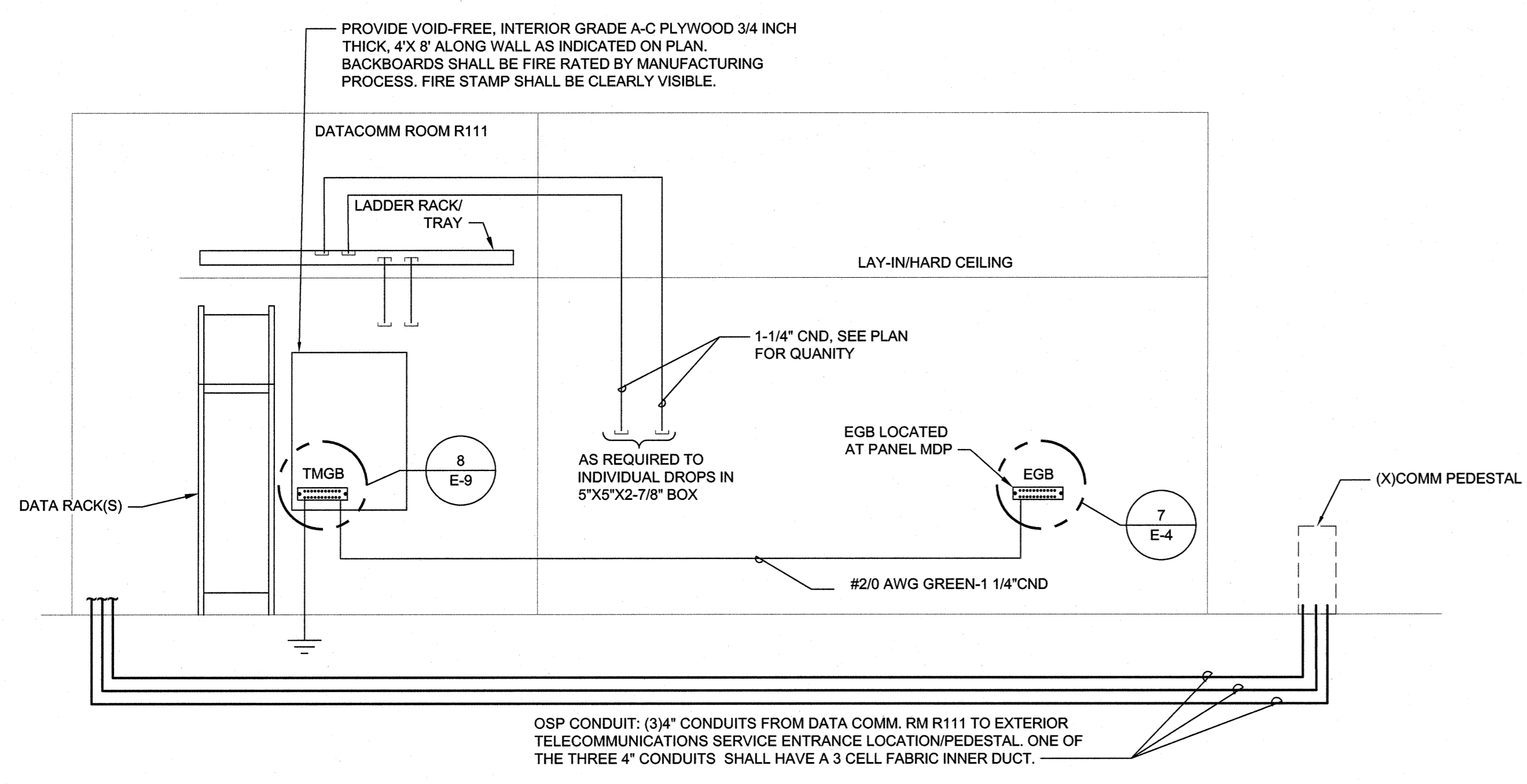
**7 TYPE M DETAIL**  
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**8 TYPE J DETAIL**  
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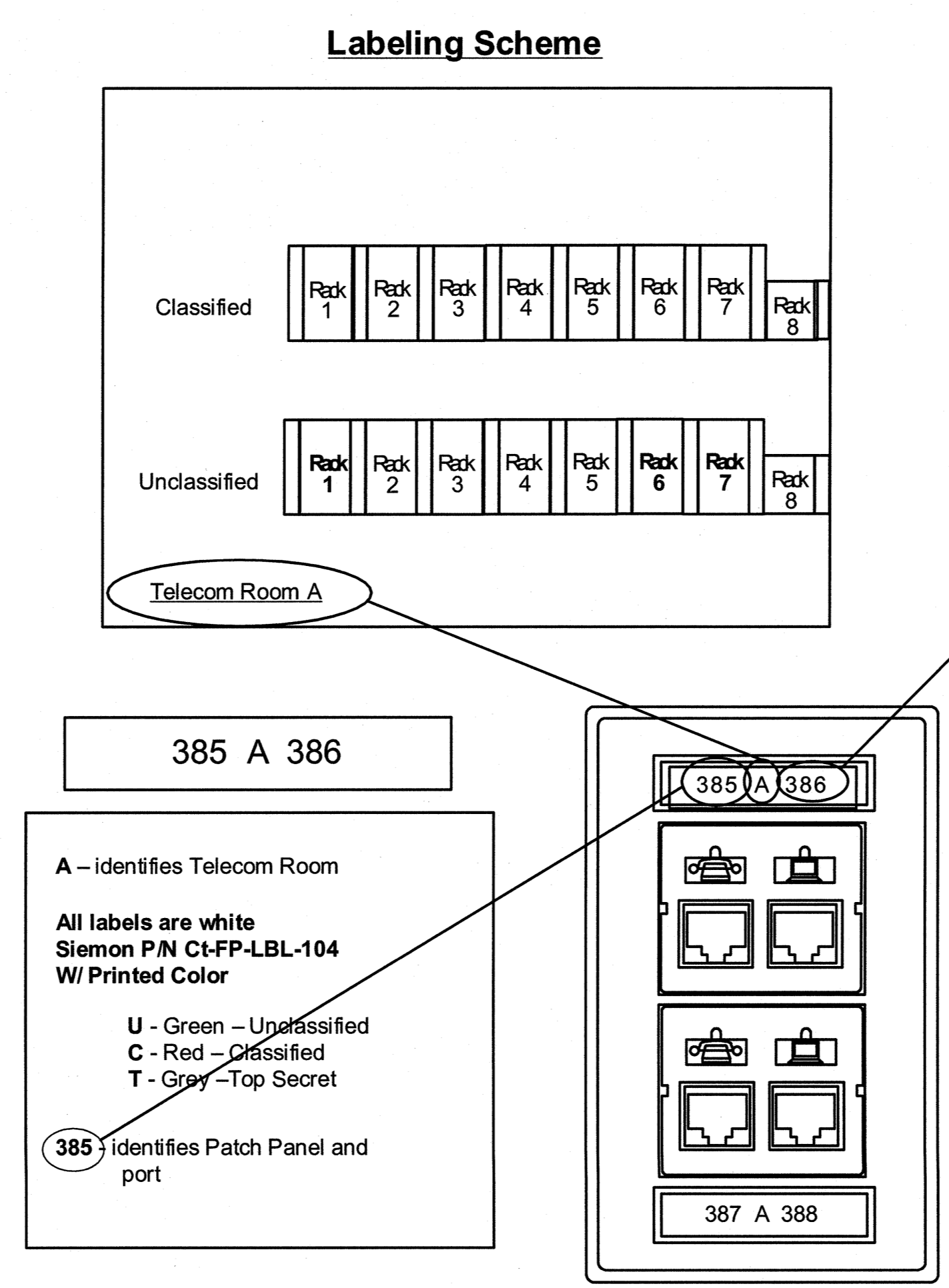
SEE DISCLOSURE OF INFORMATION STATEMENT ON SHEET T-1

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| <br>2246 Yaupon Drive<br>Wilmington, NC 28401<br>Phone: 910.791.4000<br>Fax: 910.791.5266<br>www.cbhfindesign.com | SHEET TITLE: <b>ELECTRICAL LIGHTING DETAILS</b>  |  | <b>E-8</b>  |
|   | TALLEY & SMITH ARCHITECTURE INC.<br>P.O. BOX 518 SHELBY, NC 28151-0518<br>409 EAST MARION ST. SHELBY, NC 28150 |  |   |
|   | DES. JLG<br>DR. JLG<br>CHK. JPF<br>SUBMITTED BY:<br>DESIGN DIR. T. H. BURTON, PE                               | RENOVATION<br>BLDG. M-104<br>CAMP LEJEUNE, NORTH CAROLINA      |   |
|   | APPROVED: _____<br>DATE: _____   | DATE: _____<br>SIZE: <b>F</b><br>CODE IDENT. NO.: <b>80091</b> | NAVFAC DRAWING NO.: 60025150<br>CONST. CONTR. NO.: N40085-19-B-0034 |

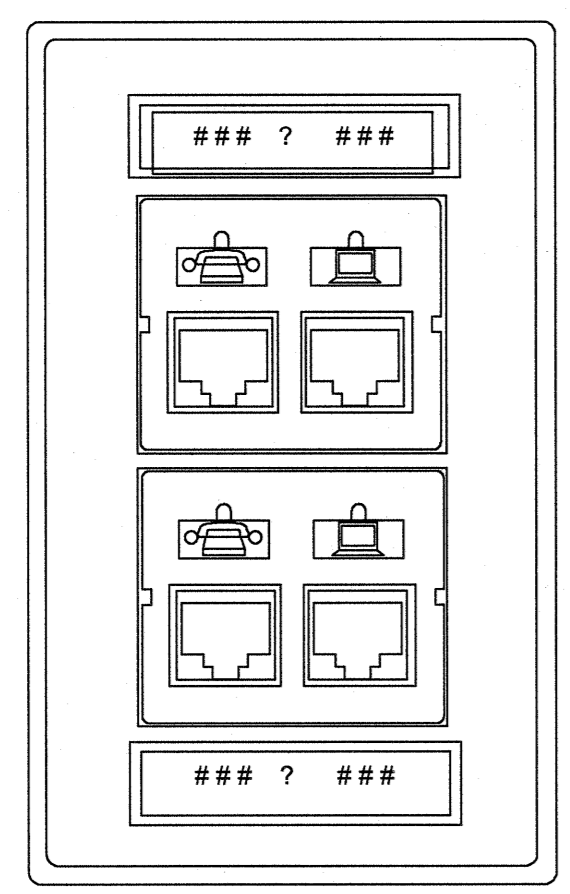
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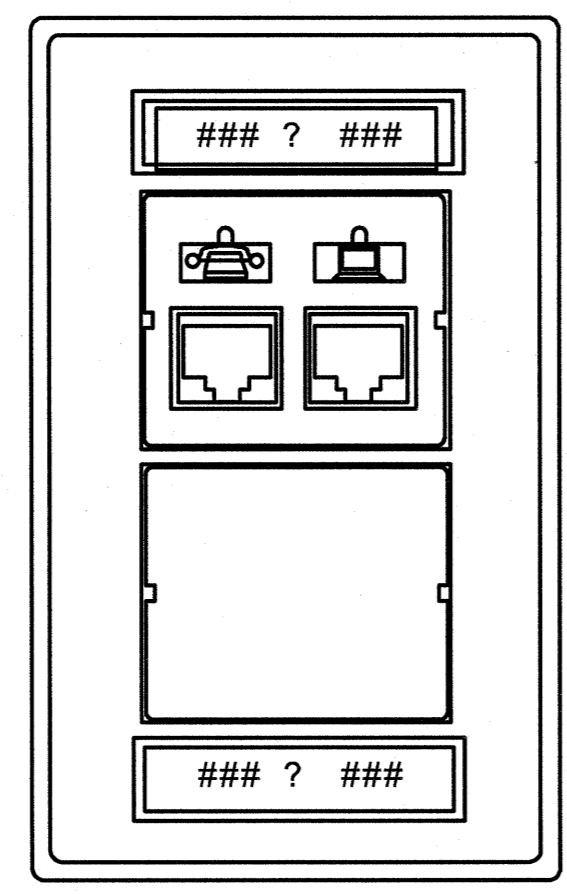
**1 TELECOMMUNICATION RISER**  
NOT TO SCALE



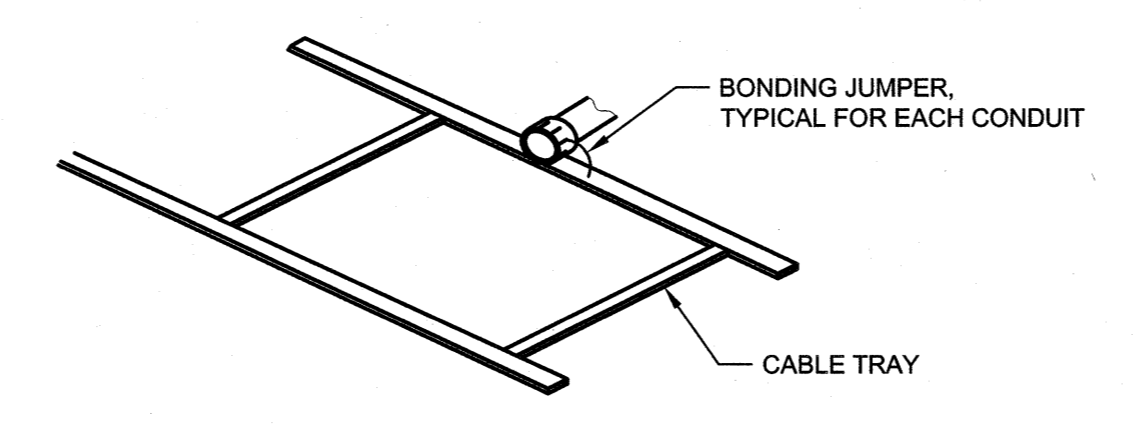
**2 DATA OUTLET LABELING DETAIL**  
NOT TO SCALE



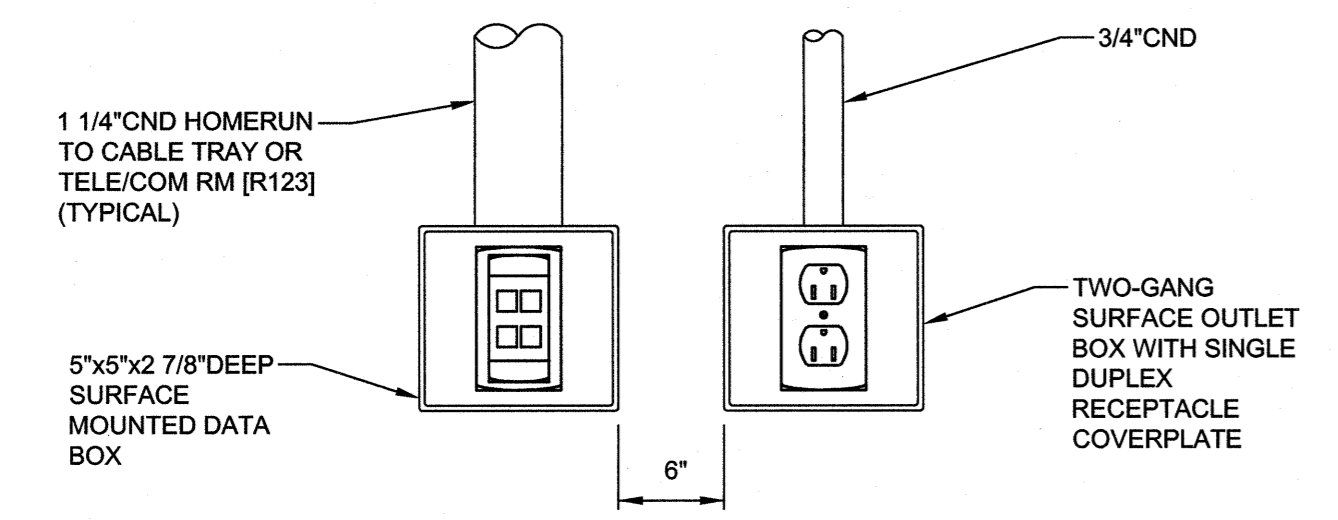
**3 TYPICAL DATA OUTLET DETAIL**  
NOT TO SCALE



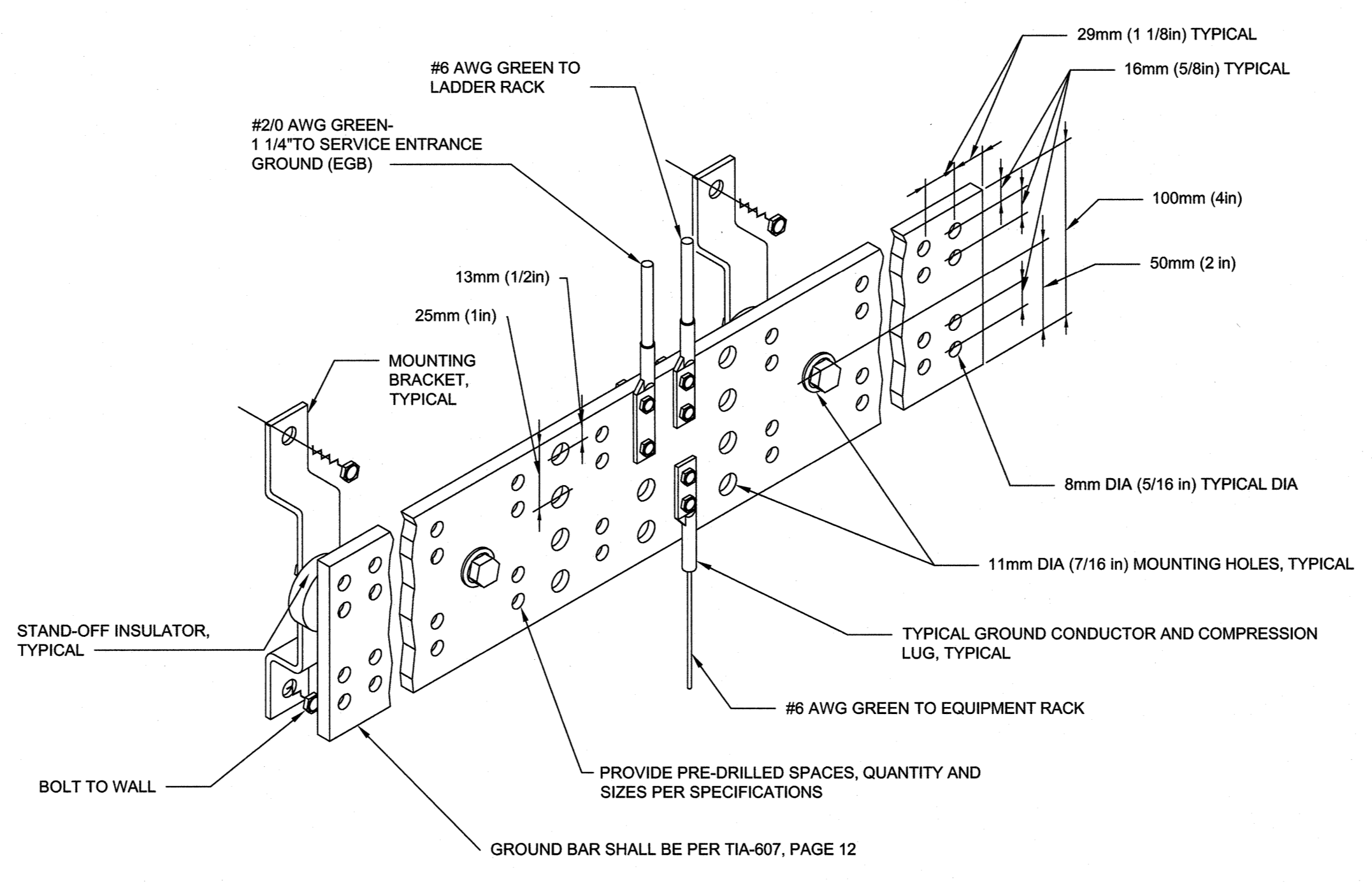
**4 DDC AND FMCP OUTLET DETAIL**  
NOT TO SCALE



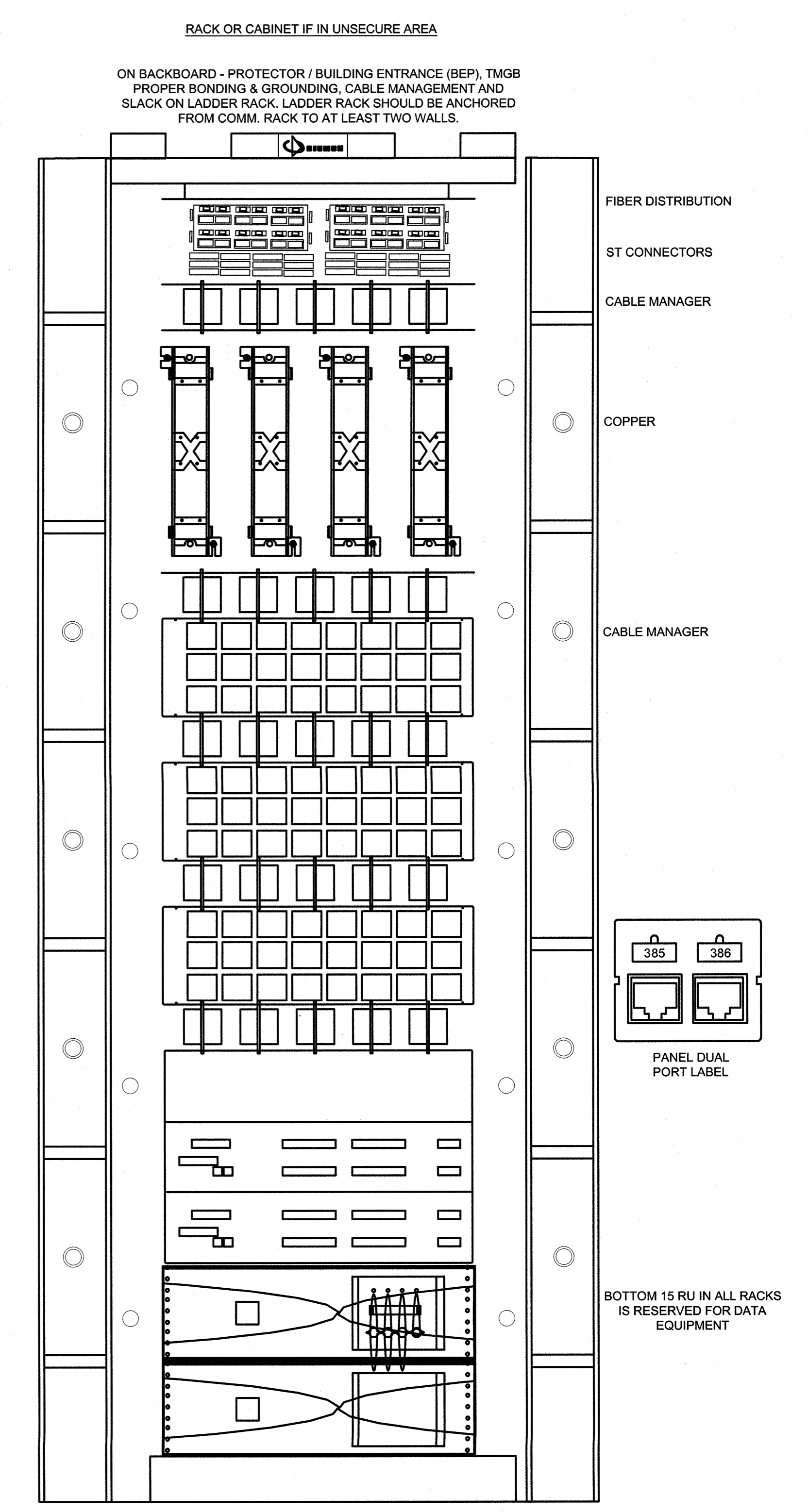
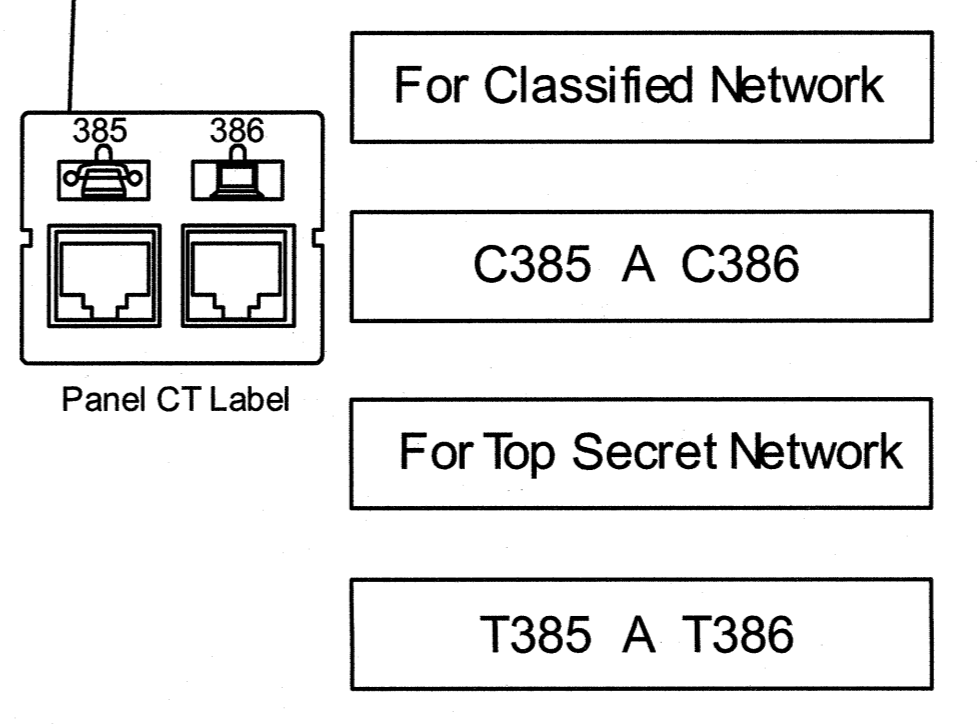
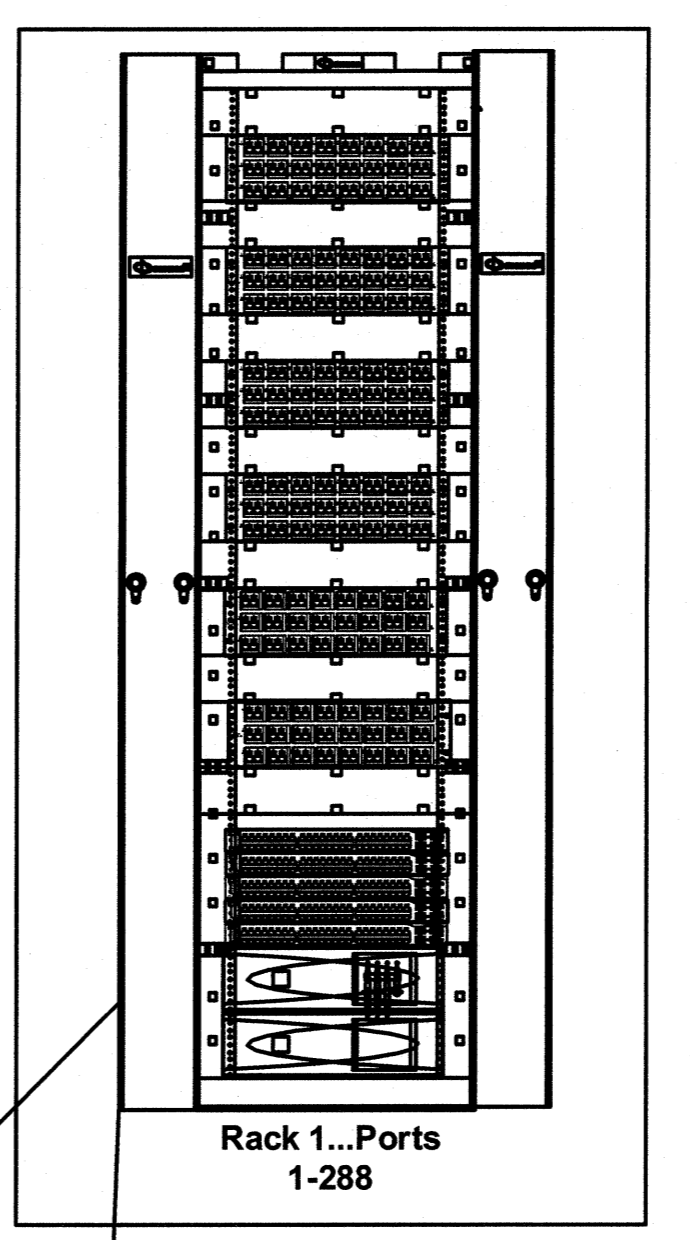
**5 CONDUIT/TRAY BONDING DETAIL**  
NOT TO SCALE



**6 DATA/RECEPTACLE MOUNTING DETAIL**  
NOT TO SCALE



**8 TELECOMMUNICATIONS GROUND BAR DETAIL**  
NOT TO SCALE



NUMBER OF TELECOMMUNICATIONS WORK OUTLETS IN BUILDING DETERMINE NUMBER OF PATCH PANELS AND NEED FOR ADDITIONAL RACKS.  
IF 2 RACKS ARE USED: BACKBONE FIBER AND COPPER CABLE TERMINATIONS ARE IN THE LEFT RACK  
IF 3 OR MORE RACKS ARE USED: PLACE THE FIBER AND COPPER TERMINATIONS IN THE CENTER RACKING TO REDUCE PATCH CORD LENGTH

**7 ENCLOSURE/RACK ELEVATION EXAMPLE**  
NOT TO SCALE

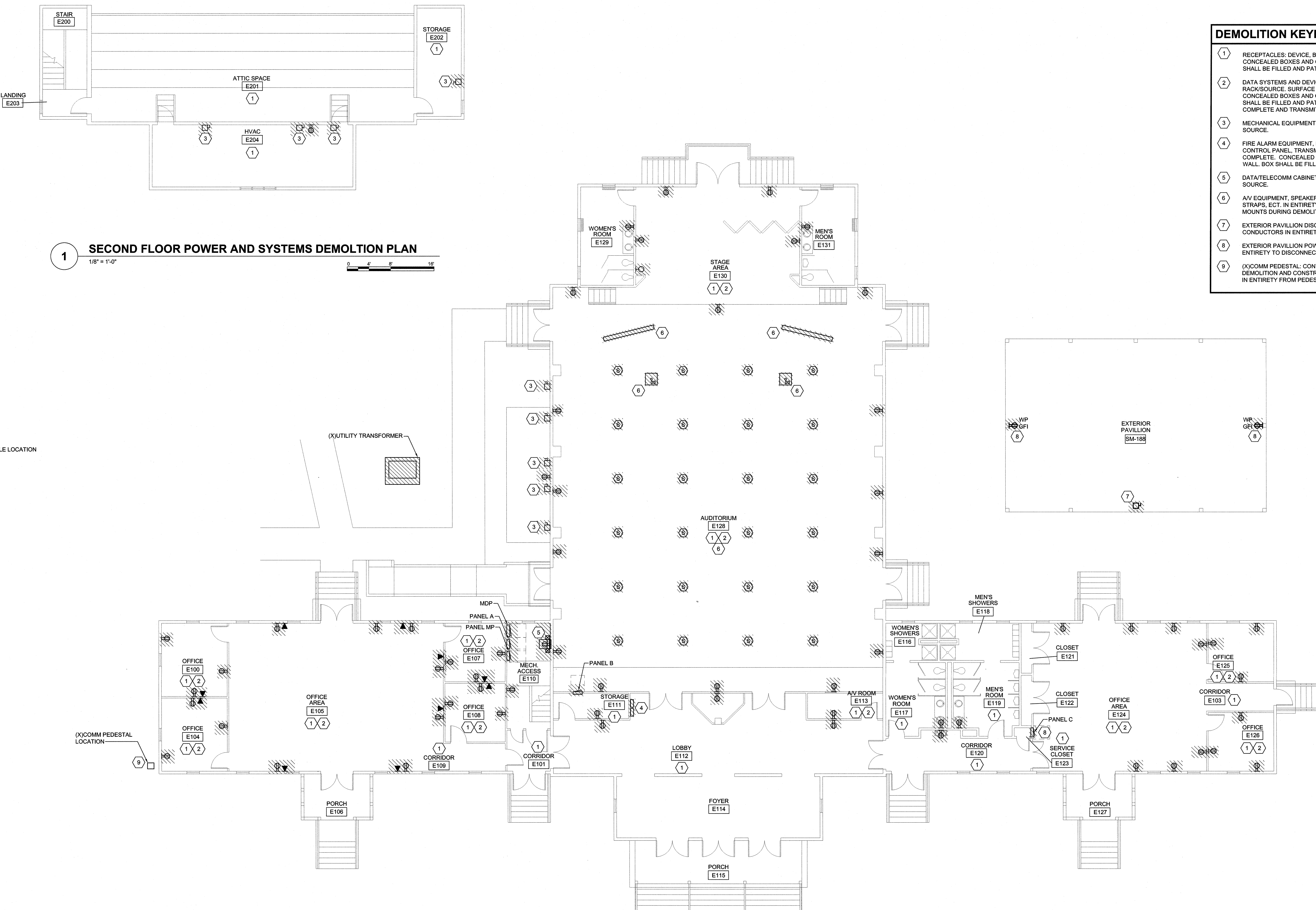
SEE DISCLOSURE OF INFORMATION STATEMENT ON SHEET T-1

|   |  |  |                             |
|---|--|--|-----------------------------|
| <b>CBHF</b><br>Engineers, PLLC<br>2246 Yaupon Drive<br>Wilmington, NC 28401<br>Phone: 910.791.4000<br>Fax: 910.791.5266<br>www.cbhfindesign.com | SHEET TITLE: <b>ELECTRICAL COMMUNICATIONS DETAILS</b>  |  | <b>E-9</b>                  |
|   | TALLEY & SMITH ARCHITECTURE INC.<br>P.O. BOX 518 SHELBY, NC 28151-0518<br>409 EAST MARION ST. SHELBY, NC 28150 |  |                             |
| DES. JLG<br>DR. JLG<br>CHK. JPF<br>SUBMITTED BY:<br>DESIGN DR. T.H. BURTON, PE  |  | DEPARTMENT OF THE NAVY<br><b>MARINE CORPS BASE</b><br>CAMP LEJEUNE, NORTH CAROLINA |                             |
| APPROVED: [Signature]<br>DATE: 06/28/2019   |  | RENOVATION<br>BLDG. M-104<br>CAMP LEJEUNE, NORTH CAROLINA                          |                             |
| SATISFACTORY TO:  |  | CODE IDENT. NO. <b>80091</b>   | NAVFAC DRAWING NO. 60025151 |
| SCALE: NOTED  |  | CONST. CONTR. NO. N46085-19-B-0034   | SHEET 53 OF 57              |

| REVISIONS |      |          |
|-----------|------|----------|
| SYM.      | DATE | APPROVED |
|           |      |          |
|           |      |          |

- DEMOLITION KEYED NOTES**
- RECEPTACLES, DEVICE, BOXES, CONDUIT AND CONDUCTORS SHALL BE REMOVED COMPLETE TO SOURCE. CONCEALED BOXES AND CONDUIT SHALL BE ABANDONED IN PLACE AND CUT FLUSH WITH WALL. BOX SHALL BE FILLED AND PATCHED TO MATCH WALL FINISH.
  - DATA SYSTEMS AND DEVICES: REMOVE DEVICE, COVERPLATE AND CABLING COMPLETE TO DATA RACK/SOURCE. SURFACE RACEWAY, J-HOOKS AND CONDUIT SLEEVES SHALL BE REMOVED COMPLETE. CONCEALED BOXES AND CONDUIT SHALL BE ABANDONED IN PLACE AND CUT FLUSH WITH WALL. BOX SHALL BE FILLED AND PATCHED TO MATCH WALL FINISH. DATA RACK AND EQUIPMENT TO BE REMOVED COMPLETE AND TRANSMITTED TO THE CONTRACTING OFFICER.
  - MECHANICAL EQUIPMENT: REMOVE DISCONNECT, STARTER, CONDUIT AND CONDUCTORS COMPLETE TO SOURCE.
  - FIRE ALARM EQUIPMENT, DEVICES AND POWER DISCONNECT SWITCH: REMOVE DISCONNECT, FIRE ALARM CONTROL PANEL, TRANSMITTER, ANTENNA, FIRE ALARM DEVICES, BOXES, RACEWAYS AND CONDUCTORS COMPLETE. CONCEALED BOXES AND CONDUIT SHALL BE ABANDONED IN PLACE AND CUT FLUSH WITH WALL. BOX SHALL BE FILLED AND PATCHED TO MATCH WALL FINISH.
  - DATA/TELECOMM CABINET: REMOVE CABINET, BOARD, RACEWAYS AND CONDUCTORS COMPLETE TO SOURCE.
  - AV EQUIPMENT, SPEAKERS: CONTRACTOR MUST REMOVE EQUIPMENT, CONDUIT, CONDUCTORS, MOUNTS, STRAPS, ECT. IN ENTIRETY. PROTECT AND STOR PROJECTION SCREENS, PROJECTORS AND PROJECTOR MOUNTS DURING DEMOLITION AND CONSTRUCTION FOR RE-USE.
  - EXTERIOR PAVILLION DISCONNECT: CONTRACTOR MUST REMOVE DISCONNECT, CONDUIT AND CONDUCTORS IN ENTIRETY TO SOURCE PANEL C.
  - EXTERIOR PAVILLION POWER: CONTRACTOR MUST REMOVE DEVICE, BOX, CONDUIT AND CONDUCTORS IN ENTIRETY TO DISCONNECT LOCATION.
  - TELECOMM PEDESTAL: CONTRACTOR MUST PROTECT PEDESTAL AND INCOMING UTILITY CABLES DURING DEMOLITION AND CONSTRUCTION FOR RE-USE. REMOVE OUTGOING DISTRIBUTION CABLES AND CONDUIT IN ENTIRETY FROM PEDESTAL TO COMMUNICATIONS BACKBOARD IN ROOM MECH. ACCESS E110.

**1 SECOND FLOOR POWER AND SYSTEMS DEMOLITION PLAN**  
1/8" = 1'-0"



**2 FIRST FLOOR POWER AND SYSTEMS DEMOLITION PLAN**  
1/8" = 1'-0"

SEE DISCLOSURE OF INFORMATION STATEMENT ON SHEET T-1

|  |  |                                  |   |
|--|--|----------------------------------|---|
| <b>CBHF</b><br>Engineers, PLLC<br>2246 Yaupon Drive<br>Wilmington, NC 28401<br>Phone: 910.791.4000<br>Fax: 910.791.5266<br>www.cbhfengineers.com | SHEET TITLE: <b>ELECTRICAL POWER &amp; SYSTEMS DEMOLITION PLAN</b>   |                                  | <b>E-10</b>   |
|  | TALLEY & SMITH ARCHITECTURE INC.<br>P.O. BOX 518 SHELBY, NC 28151-0518<br>409 EAST MARION ST. SHELBY, NC 28150 |                                  |   |
|  | DES. JLG<br>DR. JLG<br>CHK. JPF<br>SUBMITTED BY:<br>DESIGN DIR. T. H. BURTON, PE                               |                                  | DEPARTMENT OF THE NAVY<br><b>MARINE CORPS BASE</b><br>CAMP LEJEUNE, NORTH CAROLINA<br><br>RENOVATION<br>BLDG. M-104<br>CAMP LEJEUNE, NORTH CAROLINA |
|  | APPROVED:  | DATE:                            |   |
| SATISFACTORY TO:   | DATE:  | SCALE: NOTED<br>SPEC: 05-19-0034 | CONST. CONTR. NO. N40085-19-B-0034<br>SHEET 54 OF 57  |