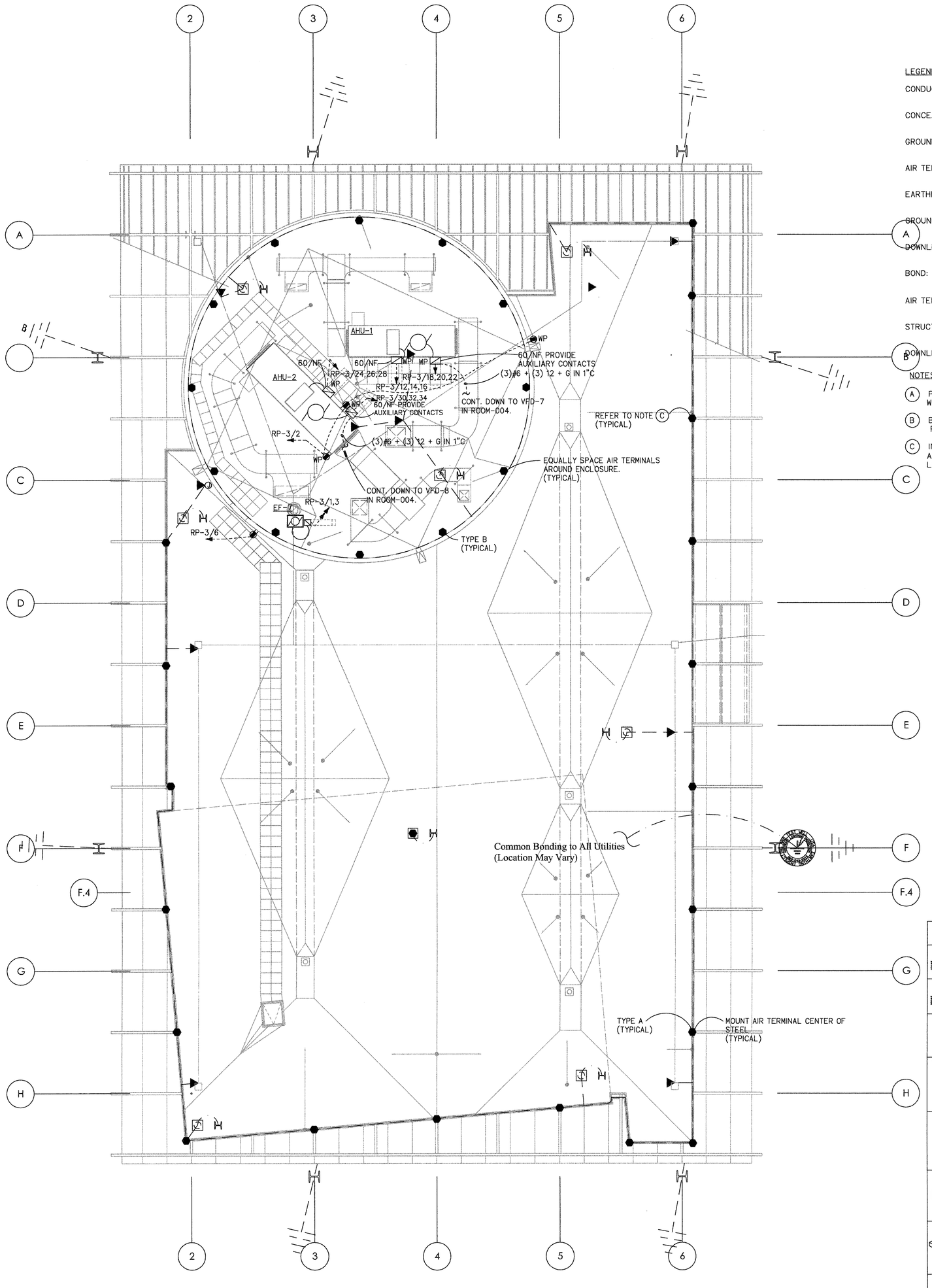


VISITOR'S CENTER ADDITION ROOF PLAN – ELECTRICAL POWER & LIGHTNING

1 E1.01 E1.01 SCALE: 1/8" = 1'-0"

LEGEND:

CONDUCTOR CABLE:

CONCEALED CABLE:

GROUNDING LOOP:

AIR TERMINAL:

EARTHING WELL:

GROUND ELECTRODE:

DOWNLEAD EXPOSED ON WALL:

BOND:

AIR TERMINAL W/ THRU ROOF UNIT:

STRUCTURAL STEEL TO GROUND ELECTRODE:

DOWNLEAD TO STEEL:

NOTES:

(A) PROVIDE CONTINUITY TO ALL METALLIC AND/OR ELECTRICALLY GROUNDED BODIES WITHIN 6 FEET OF THE MAIN LIGHTNING PROTECTION CONDUCTOR.

(B) BOND WATER MAIN, ELECTRIC, CABLE TV, PHONE GROUNDS AND GAS LINES. REFER TO ELECTRICAL DRAWINGS FOR DETAILS.

(C) INSTALL ROOF MOUNTED AIR TERMINALS AS FAR BACK FROM THE EDGE OF THE ROOF AS POSSIBLE USING 15" AIR TERMINALS AND MAINTAINING UL AND MASTER LABEL LISTING. TO MINIMIZE VISIBILITY.

NOTES:

1. REFER TO GENERAL NOTES ON DRAWING E4.1.

2. REFER TO ARCHITECTURAL DRAWINGS FOR THE COMPLETE ROOF PLAN IN APPLYING THE GENERAL LAYOUT AS SHOWN.

3. PROVIDE COMPLETE LIGHTNING PROTECTION SYSTEM THAT SHALL BE INSTALLED TO MEET ALL REQUIREMENTS FOR UL LISTED, MASTER LABEL SYSTEM. REFER TO SPECIFICATION SECTION 264113.

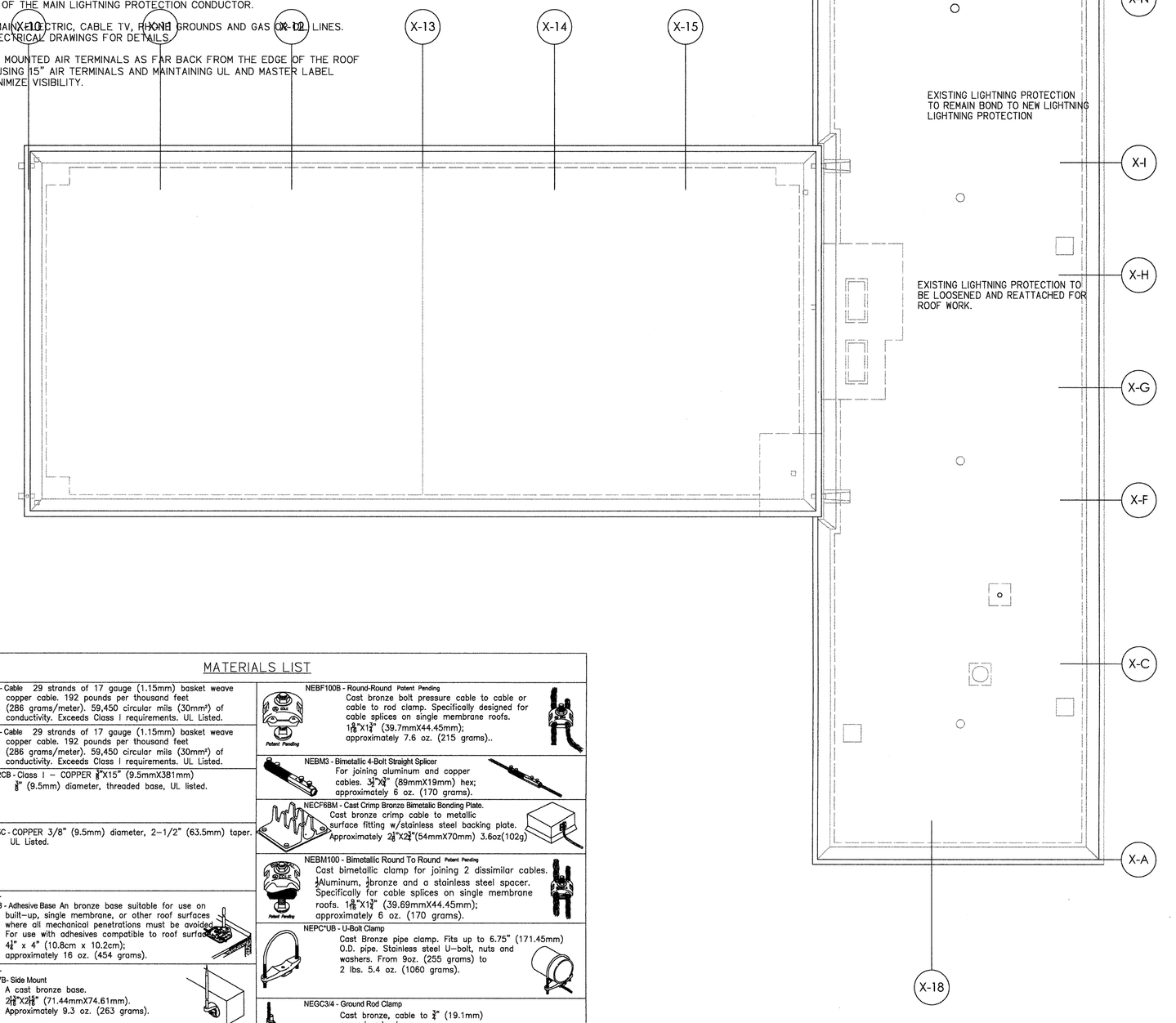
4. PROVIDE LIGHTNING PROTECTION EARTHING INSPECTION WELL WITH DISCONNECTABLE ELECTRODE CONNECTION. COORDINATE FINAL LOCATION W/ARCHITECT.

5. PROVIDE COMPLETE SHOP DRAWINGS & SUBMITTAL PRIOR TO ANY FIELD INSTALLATION. SEE 264113.

6. ALL LIGHTNING PROTECTION CONDUCTORS INSTALLED WITHIN STRUCTURAL CONCRETE OR MASONRY WALLS SHALL BE INSTALLED IN MIN. 1"PVC CONDUIT WITH MIN. 8" RADIUS BENDS.

7. NO CONDUCTORS ARE TO PENETRATE THE ROOF.

8. MOUNT AIR TERMINAL AS FAR BACK AS POSSIBLE TO MINIMIZE VISIBILITY.



VISITOR'S CENTER RENOVATION ROOF PLAN – ELECTRICAL POWER

2 E1.01 E1.01 SCALE: 1/8" = 1'-0"

MATERIALS LIST

NEC29 - Cable 29 strands of 17 gauge (1.15mm) basket weave copper cable. 192 pounds per thousand feet (286 grams/meter). 59,450 circular mils (30mm²) of conductivity. Exceeds Class I requirements. UL Listed.

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NEAT12CB - Class 1 – COPPER ⅜"X15" (9.5mmX381mm) ⅜" (9.5mm) diameter, threaded base, UL listed.

NEAT15C - COPPER 3/8" (9.5mm) diameter, 2–1/2" (63.5mm) taper. UL Listed.

Type A - NEBB3B - Adhesive Base An bronze base suitable for use on built–up, single membrane, or other roof surfaces where all mechanicol penetrations must be avoided. For use with adhesives compatible to roof surface. 4" x 4" (10.8cm x 10.2cm); approximately 16 oz. (454 grams).

Type B - NEBB57B- Side Mount A cast bronze base. 2⅝"X2⅝" (71.44mmX74.61mm). Approximately 9.3 oz. (263 grams).

NEB844B - Base Cast bronze base and clamp. Stainless steel hardware. 2⅜"X3" 7" (60mmX87mm); approx. 13.6 oz. (385.6 grams).

NETS** - Round or Square Mount, Through Roof Assembly Supplied with 18" (457mm) of ½–13 threaded rod, 16" (406mm) of Schedule 40 PVC tubing, stainless steel hardware, fully adjustable bolt cable holder, and 3⅜" (83mm) diameter mount for fastening to flat decking.

NEBF3B- Straight splicer 4–bolt hex brass. 3½"X" (88.9mmX19mm); approximately 6 oz. (170 grams). NEBF3B - brass; approximately 6 oz. (170 grams).

NEBF8B - 2-Way Bonding Plate Cast bronze, 8–square–inch bonding plate 2⅛"X4" (52.4mmX101.6mm); approximately 10.3 oz. (292 grams).

NEBP9B - Bonding Clamp Cast bronze, 4–square–inch bonding clamp with bolt pressure cable holder. Approximately 9 oz. (255 grams).

NEBF16B - Bonding Plate Cast bronze secondary bonding plate. 1⅞"X2½" (47.63mmX63.5mm); approximately 7.1 oz. (201 grams).

NEBF19B - 8 sq. in. Beam Clamp Cast Bronze, bonding plate with "c" clamp 3½"X2⅜"X2½" (88.9mmX60.3mmX60.3mm) approximately 1lb. (.45kg).

NEBF100B - Round-Round Patent Pending Cast bronze bolt pressure cable to cable or cable to rod clamp. Specifically designed for cable splices on single membrane roofs. 1⅜"X1½" (39.7mmX44.45mm); approximately 7.6 oz. (215 grams)..

NEBM3 - Bimetallic 4-Bolt Straight Splicer For joining aluminum and copper cables. 3½"X" (89mmX19mm) hex; approximately 6 oz. (170 grams).

NECFRBM - Cast Crimp Bronze Bimetalic Bonding Plate. Cast bronze crimp cable to metallic surface fitting w/stainless steel backing plate. Approximately 2⅞"X2¾"(54mmX70mm) 3.6oz(102g)

NEBM100 - Bimetallic Round To Round Patent Pending Cast bimetallic clamp for joining 2 dissimilar cables. Aluminum, bronze and a stainless steel spacer. Specifically for cable splices on single membrane roofs. 1⅜"X1½" (39.69mmX44.45mm); approximately 6 oz. (170 grams).

NEPC*UB - U-Bolt Clamp Cast Bronze pipe clamp. Fits up to 6.75" (171.45mm) O.D. pipe. Stainless steel U–bolt, nuts and washers. From 9oz. (255 grams) to 2 lbs. 5.4 oz. (1060 grams).

NEGC3/4 - Ground Rod Clamp Cast bronze, cable to ¾" (19.1mm) ground rod, clamp. Approximately 9 oz. (255 grams).
NEGR4 - Copper clad steel rod ¾"X10' (19.1mmX3.05m)

NEFL2C - Fastener Loop ¼" hole, Medium stamped copper loop. Use with class I conductors.

NEFL4C - Stamped Adhesive Crimp copper Loop. For use on built–up, single membrane or other flat roof surfaces where mechanical penetrations must be avoided. Use with adhesives compatible to roof surface. 2¼"X2" (57mmX89mm); approximately 1.4 oz (40 grams).

Earthing Wells

Heavy Duty Earthing Test Well 12" Length PVC Schedule 80 12"X12"

CAST METAL RING

12–3/4" DIAMETER BASE

TYPICAL APPLICATION

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VERSIONS

No.	Date	Description
	10-03-2011	BID DOCUMENTS

Professional License Number

PROJECT TITLE:

VISITOR'S CENTER RENOVATION AND EXPANSION

MONMOUTH BATTLEFIELD STATE PARK

MANALAPAN, NEW JERSEY

PROJECT NO.: P1035-00

SHEET TITLE:

ELECTRICAL ROOF PLAN POWER & LIGHTNING

DATE: 10-03-2011

DRAWN BY: AK

DRAWING NO.:

E1.01