



**BILL OF MATERIAL-NEGATIVE BUS ENCLOSURES**

- (1) (2) FIBERGLASS ENCLOSURE WITH FLANGE LIP (6-BANG TYPE) 61" WIDE x 48 1/2" HIGH x 15" DEEP - SEE DWG. STP-23.
- (2) 4" x 4" x 3/8" ANGLE 6'-8" LG (ASTM A36 STRUCTURAL STEEL) GALVANIZED.
- (3) 2" x 4" x 4" PINE 12'-4" LG, TREATED WITH AMPA TYPE P(95) FOR CREO-PINE.
- (4) 2" x 4" x 3/8" ANGLE 2'-3" LG (ASTM A36 STRUCTURAL STEEL) GALVANIZED.
- (5) 2" x 3" x 1/4" (BRACE ANGLE) 3'-0" LG (ASTM A36 STRUCTURAL STEEL) GALVANIZED.
- (6) (4) 3/4" THIRDBOLT, NUT & 2 WASHERS (IN 13/16" HOLES) A307 GALVANIZED.
- (7) (4) 1/2" BOLT & WASHERS A307 GALVANIZED.
- (8) 1/2" STAINLESS STEEL BOLT, NUT, SQUARE WASHER & LOCKWASHER.
- (9) 1/4" x 4" COPPER BUS BARS (140 FT. TOTAL NEEDED).
- (10) COPPER ALLOY BOLTED POWER CONNECTOR FOR 500 MCM CABLE, SEE DETAIL 3, DWG. STP-17.
- (11) COPPER ALLOY BOLTED POWER CONNECTOR FOR 1500 MCM CABLE, SEE DETAIL 3, DWG. STP-17.
- (12) 5/8" HEX HEAD SILICON BRONZE BOLT WITH STAINLESS STEEL BELLEVILLE WASHER.
- (13) 3/4" HEX HEAD STAINLESS STEEL BOLT WITH FLAT & SPLIT WASHERS 18-855.
- (14) 190 H (7 1/2") & 4-102H(4") FIBERGLASS REINFORCED POLYESTER TRACK RESISTANT STANDOFF INSULATOR CLASS A-40.
- (15) CABLE SUPPORT, SEE DETAIL 1.
- (16) 1/2" HEX HEAD COPPER ALLOY BOLT, NUT, LOCK WASHER AND TWO 1 1/4" OD FLAT WASHERS.
- (17) 3/8" HEX HEAD COPPER ALLOY BOLT, NUT, LOCK WASHER AND TWO 1" OD FLAT WASHERS.
- (18) 6" POLYVINYL CHLORIDE (PVC) SCHEDULE 40 CONDUIT.
- (19) TERMINAL ADAPTER FOR 6" PVC CONDUIT.
- (20) INSULATING BUSHING FOR 6" PVC CONDUIT.
- (21) DRAIN PLUG PER ENCLOSURE.
- (22) (24) 3" RTRC CONDUIT 7'-10" LONG.

**NOTES:**

1. NEGATIVE BUS BAR ENCLOSURE CONSTRUCTION SHALL CONFORM TO FIBERGLASS SWITCH ENCLOSURE DETAILS SHOWN ON DRAWING STP-23.
2. BUS SHALL BE ADEQUATELY BRACED, SPACING BETWEEN BUS BARS SHALL BE 6.4 (1/4") AND MAINTAINED ENTIRE LENGTH.
3. CONTRACTOR SHALL FIELD VERIFY DIMENSIONS.
4. SEAL ALL MOUNTING BOLTS AND ANY PENETRATION THROUGH THE ENCLOSURE WITH RTV SILICON SEALER PER ENCLOSURE MANUFACTURER'S INSTRUCTIONS.
5. ENCLOSURES' DOORS ARE NOT SHOWN FOR CLARITY.
6. FOR PORCELAIN ENAMEL ENCLOSURE NUMBER OR LETTER AND ENCLOSURE DESIGNATIONS SEE DRAWING STP-26.
7. FOR CABLE SUPPORT USE CONDUIT SEALING BUSHING TYPE CSBE-300P-SE0 (500KCM) AND CSBE-300-20-CSBE (1500KCM) MANUFACTURED BY D-2/DEWNEY CO. OR SPE-30 MAC PRODUCTS, INC. ONE (1) GROMMET REQUIRED TO SUPPORT 500KCM CABLE.
8. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS SHOWN OTHERWISE.
9. ALL MILD STEEL STRUCTURAL SHAPES, BOLTS, NUTS, AND WASHERS ARE TO BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C.
10. FOR MANHOLE STRUCTURAL DETAILS SEE DWG. TPPE-601 FOR CABLE LAYOUT SEE DWG. TPPE-106.
11. FOR CABLES TO CONTACT RAIL SEE HWTS DWGS.

In Charge HS  
Designed By DP  
Drawn By ND  
Checked By MA  
Approved By HS

Loramore, Douglass And Popham, Inc.  
Consulting Engineers  
IN ASSOCIATION WITH  
Rubinos & Mesio Engineers, Inc.  
Architecture • Engineering • Construction Management  
Environmental Design International  
Globaltrators Engineering Corporation  
Ground Engineering Consultants

No.	Date	Revision	App'd
1	05-27-03	ISSUED FOR BIDS	HS



SUBSTATION ENHANCEMENT DAN RYAN-RED LINE  
PE, 42, 50, PR & 79  
**PERSHING SUBSTATION**  
NEGATIVE BUS ENCLOSURES N-1 & N-2  
Scale: AS NOTED Date: 05-27-03 J.O. No.:

Sheet No.  
TPPE-302  
of

BOWMAN, BARRETT & ASSOCIATES INC  
CONSULTING ENGINEERS  
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FOR INFORMATION ONLY

REVISIONS	NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
31ST STREET TO 71ST STREET  
SB EXPRESS LANE RECONSTRUCTION  
CTA PERSHING  
SUBSTATION PLANS  
SCALE: NTS DRAWN BY: BDC  
DATE: 07/07/05 CHECKED BY: JDC