

Transmission & Distribution
Material & Installation Specification

Non-Metallic Subsurface Service Enclosure

I. Quantity

The base bid shall include the indicated number of Non-Metallic Subsurface Service enclosure of this type furnished and installed as hereinafter specified.

II. Material

- A. The material shall be equal in quality, design, performance, and appearance to the items specified on drawing TDMIS-1403.
- B. This specification covers the minimum requirements for cable junction subsurface enclosures designed for service applications.
- C. Enclosure shall be designed and tested for compliance with Western Underground Committee Guide 3.6, Telcordia GR-902 and GR-13, and ANSI/SCTE 77-2007.
- D. Enclosure shall comply with UV degradation per ASTM G-53.
- E. The fiberglass reinforced polymer shall be made with fire retardant resin and shall be 100% UV stabilized.
- F. The fiberglass reinforced polymer shall be resistant to typical roadside chemicals. The fiberglass material shall conform to the chemical resistance criteria listed in the latest revision of ANSI/SCTE 77. Specimens shall be exposed to the chemicals as follows:

Chemical	Common Use	Concentration
Sodium Chloride	Road De-Icer	5%
Sulfuric Acid	Battery Acid	0.1N
Sodium Carbonate	Water Softener	0.1N
Sodium Sulfate	Detergents	0.1N
Hydrochloric Acid	Mineral Acid / Cleaner	0.2N
Sodium Hydroxide	Lye / Caustic Soda	0.1N
Acetic Acid	Solvent / Vinegar	5%

Kerosene	Jet Fuel	Per ASTM D543
Transformer Oil	Mineral Oil	Per ASTM D543
Magnesium Chloride	Road De-Icer	5%

- G. Enclosure shall be Fire Resistance per RUS7CFR 1755.910 and WUC 3.6 Section 5.2.7
- H. Enclosure shall meet the requirements of:
 - Chemical resistance per ASTM D-543
 - Water absorption per ASTM D-570
 - Impact resistance per ASTM D-2444
 - Accelerated service per ASTM D-756
 - Weathering per ASTM D-822
 - Static coefficient of friction (cover slip test) per ASTM C1028-96
- I. Grounding shall be as required by TDMIS-1213 and TDMIS-1607.
- J. Enclosure size shall be as required by project and approved by engineer.

III. Installation

- A. The installation shall be as shown on drawing TDMIS-1403.
- B. Enclosure shall be installed on a composite ground sleeve as required by project specifications and drawings.
- C. Installation shall include all labels, tags and stickers required by DOP.
- D. Enclosure shall be installed level and plumb. When installed on ground sleeves over direct buried cable trenches, care shall be taken that enclosure is positioned over undisturbed soil alongside the trench to avoid settlement.

IV. Method of measurement

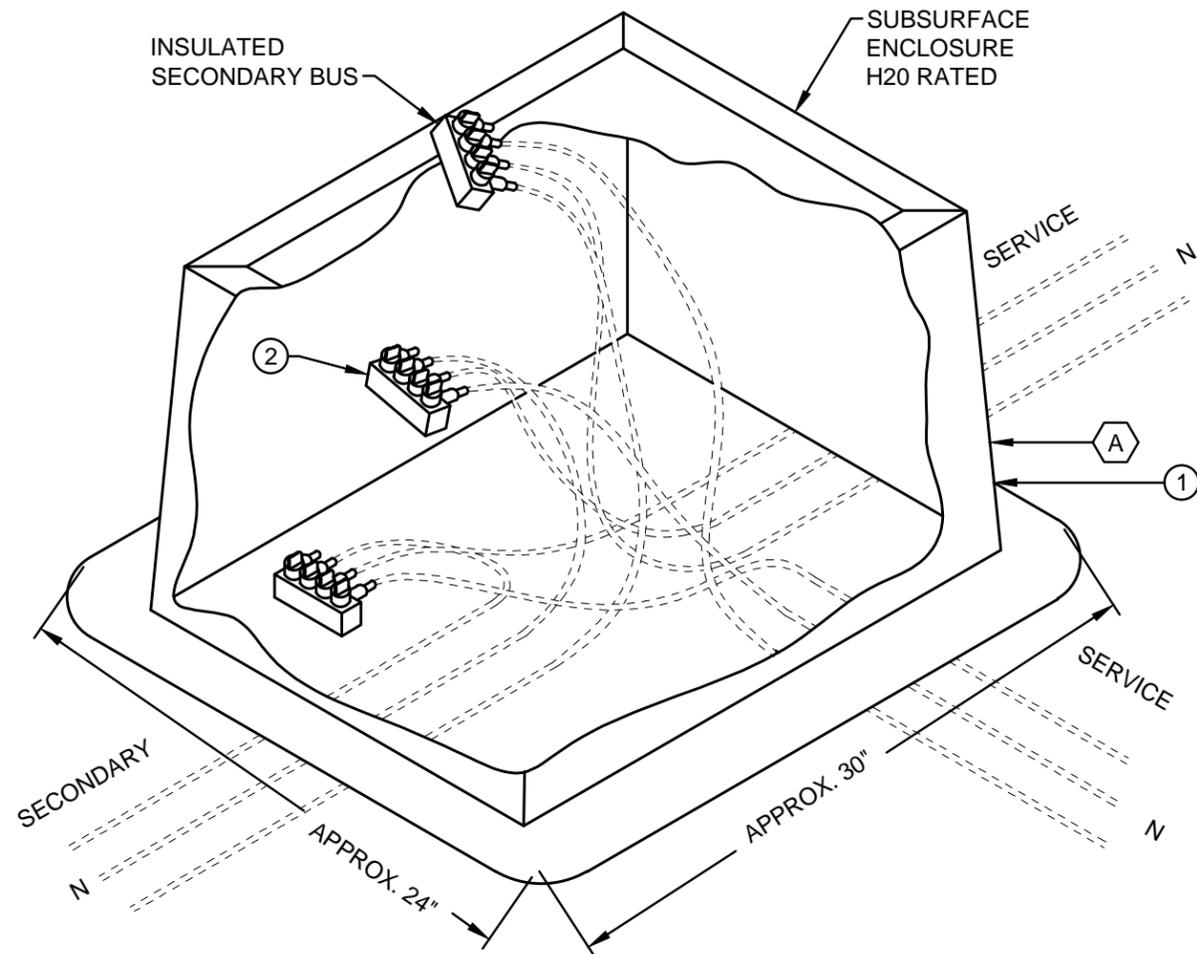
Shall include enclosure and all mounting and locking hardware, installation, ground sleeves, anchors, excavation, backfill, final grading, seed or sod, grounding, labor, equipment, supervision, and miscellaneous items required for a complete and operational enclosure.

CITY OF COLUMBUS DEPT. OF PUBLIC UTILITIES – DIVISION OF POWER NON-METALLIC SUBSURFACE SERVICE ENCLOSURE		
DRAWN BY: AEC	DATE: 01/01/2018	TDMIS-1403
APPROVED: R. SPRITE		
SHEET 1 of 3		

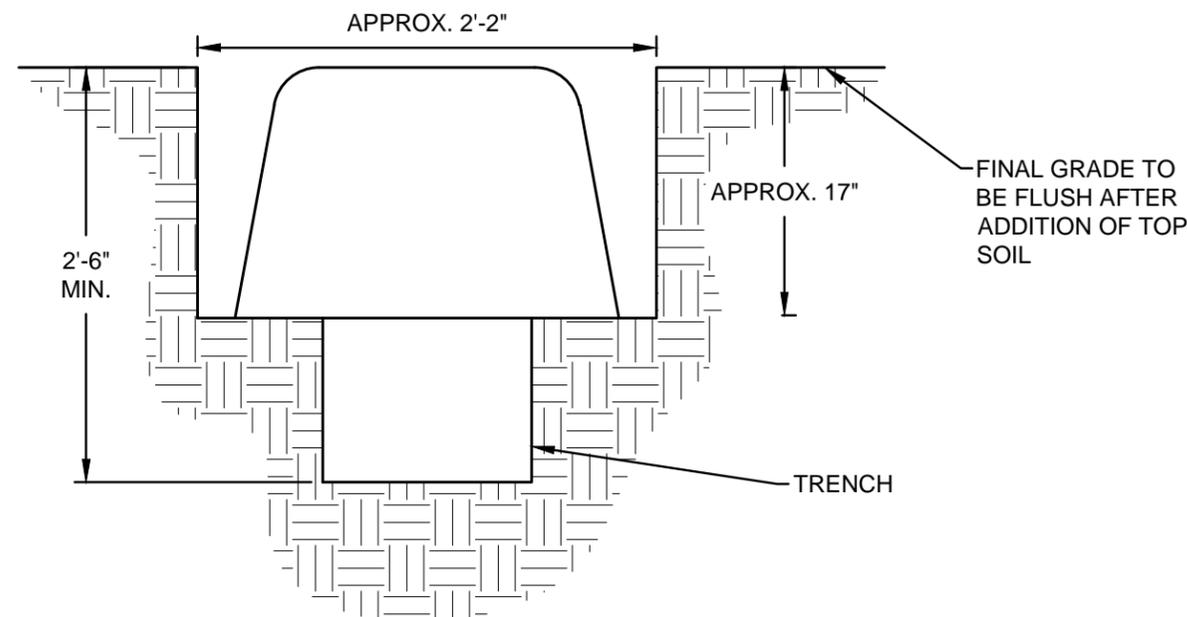
V. Basis of payment

Items	Unit	Description
TDMIS-1403	Each	Non-metallic subsurface service enclosure

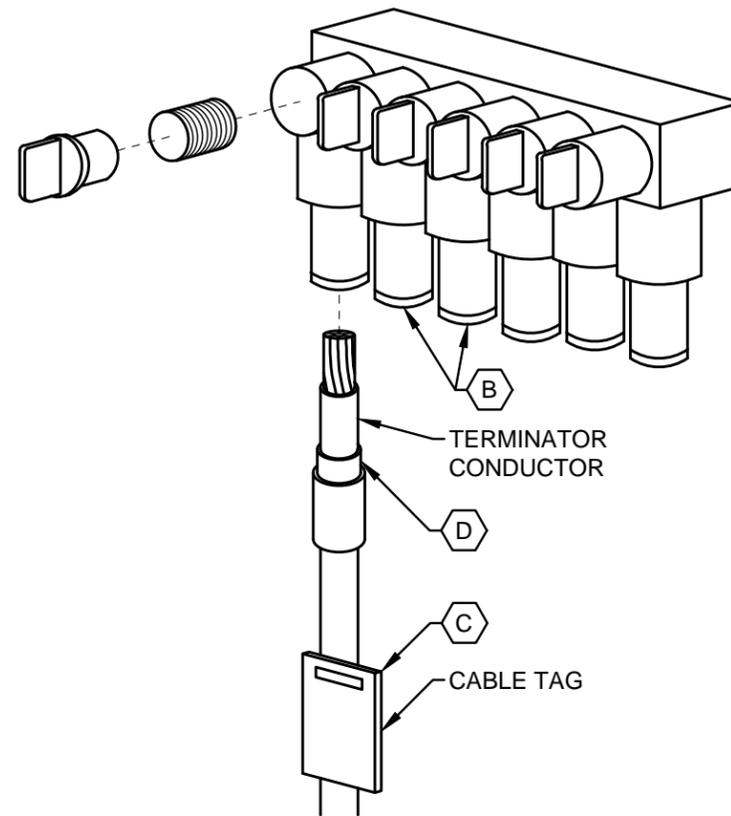
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	SHEET 2 of 3	



**DETAIL 1
SUBSURFACE SERVICE ENCLOSURE**



**DETAIL 2
ELEVATION VIEW**



**DETAIL 3
INSULATED SECONDARY BUS**

CODED NOTES:

- A** BRING ALL CABLES INTO ONE END OF ENCLOSURE. CONNECTIONS ARE TO BE MADE ABOVE GROUND LEVEL, THEN FOLDED IN TO ENCLOSURE. CONNECT SECONDARY TO THE TWO INNERMOST POSITIONS CONNECT CABLES OF SAME SERVICE TO THE CORRESPONDING POSITIONS ON EACH CONNECTOR.
- B** RETAIN CABLE ADAPTER WITH UNCUT END ON ALL UNOCCUPIED BUS POSITIONS.
- C** TAG ALL CABLES AS TO THE EXACT LOCATION OF THE OTHER END. POSITION CABLE TAGS ON THE CABLE SUCH THAT THEY DO NOT INTERFERE WITH INSTALLATION OF THE INSULATING BOOT.
- D** REMOVE SET SCREW PLUG AND LOOSEN SET SCREW TO ALLOW CABLE ENTRY IN TO BAR. REMOVE CABLE INSULATION AND TAPER EDGE OF INSULATION TO EASE INSTALLATION OF CABLE ADAPTER. CUT CABLE ADAPTER AS SHOWN AND INSTALL ON CABLE. DISCARD ADAPTER FOR CABLE SIZES LARGER THAN 4/0. INSERT CONDUCTOR INTO THE CABLE OUTLET UNTIL THE CONDUCTOR HITS THE BACK OF THE CONNECTOR AND TIGHTEN SET SCREW TO THE RECOMMENDED TORQUE. REFER TO MANUFACTURER'S INSTRUCTIONS. REPLACE SET SCREW ACCESS PLUG. WHEN USING THE ADAPTER, SLIDE THE ADAPTER COMPLETELY INTO THE CABLE OUTLET UNTIL THE ADAPTER STOP CONTACTS THE END OF THE CABLE OUTLET.

ITEM LIST			
ITEM #	DESCRIPTION	PART #	QTY.
①	NON-METALLIC SUBSURFACE SERVICE ENCLOSURE H2O LOADING	*	1
②	INSULATED TERMINATOR CONDUCTOR	*	3

CITY OF COLUMBUS, OHIO
DEPT. OF PUBLIC UTILITIES - DIVISION OF POWER

**NON-METALLIC SUBSURFACE
SERVICE ENCLOSURE**

DRAWN BY: AEC	DATE: 01/01/2018	TDMIS-1403
APPROVED: R. SPRITE		
SCALE: NTS	SHEET: 3 OF 3	