SECTION 33 05 26.23 - UTILITY IDENTIFICATION TRACE WIRES

PART I - GENERAL

1.1 RELATED DOCUMENTS
   A. [Note to AE: Include applicable utility section references here.]
   B. Drawing 33 05 26.23-01, Tracer Wire Terminal Box (Fink Box)

PART 2 - PRODUCTS

2.1 TRACER WIRE
   A. Tracer wire shall be constructed with a # 12 AWG copper conductor and with a 45 MIL HDPE insulated jacket. Jacket color shall be suitable for the utility being traced per the American Public Work Association Uniform Color Code, per ANSI Standard Z535.
   B. Copper Conductors: Copper conductors shall be annealed copper (soft drawn). Conductors shall meet or exceed all applicable ASTM specifications, and requirements of the National Electrical Code, including: ASTM B-3, Standard Specification for Soft or Annealed Copper Wire; and ASTM B-170, Standard Specification for Soft on Annealed Copper Wire.
   C. HDPE Jacket: Conductors shall be insulated with high density, high molecular weight, polyethylene (HDPE) insulation. Jacket shall meet or exceed all applicable ASTM specifications, and requirements of the National Electrical Code, including: ASTM D1248, Standard Specification of Polyethylene Plastics Extrusion Materials for Wire and Cable; and ASTM D1238 Standard Test Methods for Melt Flow Rates of Thermoplastics by Extrusion Plastometer.

2.2 UNDERGROUND TERMINALS
   A. Underground terminals, or “fink boxes”, shall be flush mount type, installed with a concrete collar.
   B. Housing, cover, and terminal board shall be made of high strength polycarbonate alloy plastic. The complete assembly shall be rated for H20 traffic loading and impervious to chemicals routinely used in street maintenance and snow removal.
   C. Terminal board shall have nickel plated brass terminals. Number of terminals shall be as required for specific installation with a least four spare terminals.
   D. Minimum dimensions shall be 5-1/2 inch diameter, 8 inches high, and base shall be sized to fit a 4 inch schedule 40 pipe.

PART 3 - EXECUTION

3.1 TRACER WIRE
   A. Tracer wire shall be placed a minimum of eight inches above utility infrastructure. It shall be place carefully, and great care shall be exercised when continuing backfilling.
   B. Splices in tracer wire shall be kept to an absolute minimum. When splices are necessary they shall be made with weatherproof splice kits rated for direct bury use.
   C. Tracer wire shall be color coded to match the type of utility infrastructure traced. Colors shall be in conformance with the American Public Work Association Uniform Color Code, per ANSI Standard Z535.1 Colors utilized on the Urbana-Champaign Campus are: Red for electric; yellow for natural gas, compressed air and steam; green for storm and sanitary sewer; orange for communications; blue for potable water; purple for non potable water and chilled water.
D. Terminal boxes shall be located as required by layout of infrastructure, but not greater than 1500 linear feet apart. Terminal boxes shall not be located in streets, or drives, or other areas subject to vehicular traffic.

E. Terminal boxes shall have at least four spare terminals to allow for future use.

F. Terminal boxes shall be installed flush with finished grade, and centered in a grade level concrete pad. The concrete pad shall be 18 inch by 18 inch, and 6 inches deep.

G. Final testing of the tracer wire shall be required at the time the backfill is completed to final grade. Locate instruments shall be operated on the tracer wire to verify the installation is fully functioning, complete and continuous.

H. Tracer wire shall be installed with the following utilities: chilled water, natural gas, compressed air, steam, non potable water, water, or other installations as indicated on the Construction Documents.

END OF SECTION 33 05 26.23

This section of the *U of I Facilities Standards* establishes minimum requirements only. It should not be used as a complete specification.