

DIVISION 33 – UTILITIES
33 05 00 COMMON WORK RESULTS FOR UTILITIES
33 05 26 UTILITY IDENTIFICATION

PART 1 - GENERAL

1.01 BURIED UTILITY MARKING AND IDENTIFICATION

- A. All newly installed buried utilities shall be identifiable with continuous tracer wire and underground locator tape.
1. Pipe tracer wire shall be physically attached to buried pipes and run up from the top of valve through the valve box sleeve. Terminate tracer wire at valve boxes and other surface appurtenances (i.e., FDC, PIV, etc.)
 - i. No tracer wire splices permitted in runs 1000' or less. If required distance exceeds 1000', obtain approval from WSU Engineering Services before installing splices. Underground splice kits required.
 - ii. Tracer wire shall be listed for direct burial (i.e., HDPE-type tracer wire).
 - iii. Tracer wire shall be free of any abrasions or cuts on the exterior jacket.
 - iv. Route tracer wire in valve boxes in such a manner to prevent wire damage.
 2. Underground locator tape shall be 2-inch wide tape identifying the corresponding utility (water, storm, sewer, electric, gas, etc.), buried two feet above the utility line.
 - i. Locator tape not required for electrical circuits <100 amps and <1000 volts.
 - ii. Coordinate with WSU Construction Manager for marking utilities buried < 2 ft deep.
- B. Utility locations and depths shall be clearly identified and submitted on Record Drawings.
- C. WSU Standard Detail Drawings:
1. C 31 23 33 "Standard Utility Trench & Pipe Placement"
 2. C 33 05 13 "Standard Manhole"
 3. C 33 41 00 "Perforated Storm Drain Pipe Placement and Backfill"

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PART 2 - PRODUCTS

2.01 CONTROLLED DENSITY FILL

- A. The use of Controlled Density Fill (CDF), a sand, cement, and water slurry capable of attaining over 100 psi, has proven to be an efficient method of backfill. Where compaction around utilities or tight structures is necessary, CDF may be a cost effective alternate to mechanically compacted fills. Specification of CDF is acceptable where it is compatible with design. Also consider the use of CDF in locations where vibration from compaction equipment may be detrimental to the University's operations.
1. When utilities lines are cast in CDF, CDF shall be dyed in accordance with standard marking colors for ease of future identification:
 - i. Red = Electrical
 - ii. Yellow = Steam, Condensate, Gas, Oil, Petroleum
 - iii. Orange = Telecommunications
 - iv. Blue = Drinking Water
 - v. Green = Sewer
 - vi. Purple = Non-Drinking Water (including Chilled Water)

PART 3 - EXECUTION

3.01 OBSTRUCTIONS OR UTILITIES ENCOUNTERED DURING EXCAVATION:

- A. See procedures in Section 31 00 00 "Earthwork" when excavation reveals previously unknown or unlocatable utilities.

3.02 VALVE NUMBERING AND TAGGING

- A. Install brass identification tags, stamped with the appropriate valve number, on all valve covers for domestic water and campus chilled water. Tag shape and number shall identify the appropriate utility:
1. Domestic Water tags shall be rectangular.
 2. Chilled Water tags shall be round.

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- B. Coordinate through the WSU Construction Manager to obtain appropriate valve number sequences from WSU Utilities staff.
- C. WSU Valve Numbering Format:
 - i. Digits 1-2: Utility (High Pressure Water, Low Pressure Water, or Chilled Water)
 - ii. Digits 3-5: Location per WSU 40-scale maps
 - iii. Digits 6-7: Valve number sequence
 - iv. Example: “WHL14-21” = Water (High Pressure), Map Sheet L14, Valve 21

END OF SECTION