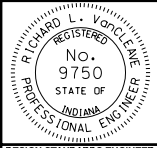


GENERAL NOTES

1. Standard Drawing E 715-BKFL-01, 03, 05 and 07 illustrate the requirements for pipe installations utilizing structure backfill. Standard Drawings E 715-BKFL-02, 04, 06, and 08 illustrate the requirements for pipe installations using flowable backfill.
2. Protective cover shall be constructed prior to running heavy equipment over installed pipes. The minimum covers are listed below:
 - a.) 1.5' for $B_c \leq 18"$, where B_c = pipe diameter or span
 - b.) 3' for $18" < B_c \leq 54"$
 - c.) 4' for $B_c > 54"$
- 3 For backfill purposes, paved shoulders, curbs, and sidewalks are considered pavement.
4. Method 1 backfill shall be utilized for all Type 2 or 5 pipe installed parallel to the mainline or public road approaches and within 5'-0" of pavement. Method 2 backfill shall be utilized for such pipe installed outside 5'-0" from pavement.
5. If the existing ground line is less than V_c above the proposed top of pipe elevation, the embankment shall be constructed to at least V_c above the proposed top of pipe elevation prior to pipe installation. $V_c = 12"$ for $B_c \leq 18"$ and $V_c = 18"$ for $B_c > 18"$.
6. In paved median areas, structure backfill shall be utilized instead of compacted earth backfill between the V_c dimension above the pipe and the top of the trench.
- 7 Flowable or structure backfill shall be encased by compacted earth backfill. The minimum encasement shall be 2 feet. If necessary, the 2:1 slope between the flowable or structure backfill and the encasement shall be modified to maintain the minimum 2 feet encasement.
8. Flowable backfill shall be utilized for plastic pipes fabricated of non hydrostatic design basis rated resins and installed at locations where method 1 backfill is required.

INDIANA DEPARTMENT OF TRANSPORTATION	
PIPE STRUCTURE BACKFILL	
MARCH 2005	
STANDARD DRAWING NO. E 715-BKFL-09	
	<i>/s/ Richard L. VanCleave</i> 3-01-05 DESIGN STANDARDS ENGINEER DATE
DESIGN STANDARDS ENGINEER	<i>/s/ Richard K. Smutzer</i> 3-01-05 CHIEF HIGHWAY ENGINEER DATE