



MINIMUM HEIGHT OF COVER FOR PIPE ARCHES IS SPAN/8 BUT NOT LESS THAN 12" FOR CORRUGATIONS:

- 2 2/3"X1/2"
- 3"X1"
- 5"X1"

(SEE NOTE 6)

• BACKFILL REQUIREMENTS FOLLOW THE GUIDELINES OF AASHTO LRFD BRIDGE DESIGN (SEC 12) and CONSTRUCTION (SEC 26).

- ① MINIMUM TRENCH WIDTH MUST ALLOW ROOM FOR PROPER COMPACTION OF HAUNCH MATERIALS UNDER THE PIPE ARCH. THE MINIMUM TRENCH WIDTH (12.6.6.1):
SPAN > 12": 1.5S + 12"
- ①a MINIMUM EMBANKMENT WIDTH (in feet) FOR INITIAL FILL ENVELOPE (12.6.6.2):
 - SPAN < 24": 3.0S
 - SPAN 24" - 144": S + 4'0"
 - SPAN > 144": S + 10'0"
- ② THE FOUNDATION UNDER THE PIPE ARCH AND SIDE BACKFILL SHALL BE ADEQUATE TO SUPPORT THE LOADS ACTING UPON IT (26.5.2).
- ③ BEDDING MATERIAL SHALL BE A RELATIVELY LOOSE MATERIAL THAT IS ROUGHLY SHAPED TO FIT THE BOTTOM OF THE PIPE ARCH, AND A MINIMUM OF TWICE THE CORRUGATION DEPTH IN THICKNESS, WITH THE MAXIMUM PARTICLE SIZE OF ONE-HALF OF THE CORRUGATION DEPTH (26.3.8.1). WIDTH OF BEDDING TO BE EXTENTS OF THE INVERT OF THE PIPE ARCH (26.5.3, FIG. 26.5.3-1).
- ④ CORRUGATED STEEL PIPE ARCH (CSPA) [HEL-COR PIPE ARCH].
- ⑤ HAUNCH ZONE MATERIAL SHALL BE HAND SHOVELED OR SHOVEL SLICED INTO PLACE TO ALLOW FOR PROPER COMPACTION (26.5.2 & 26.5.4).
- ⑤a INITIAL BACKFILL FOR PIPE EMBEDMENT TO MEET AASHTO A-1, A-2 OR A-3 CLASSIFICATION OR APPROVED EQUAL, COMPACTED TO 90% STANDARD PROCTOR (T-99). MAXIMUM PARTICLE SIZE NOT TO EXCEED 3" (12.4.1.2). ALL LIFTS SHALL BE PLACED IN A CONTROLLED MANNER. IT IS RECOMMENDED THAT LIFTS NOT EXCEED AN 8" UNCOMPACTED LIFT HEIGHT TO PREVENT UNEVEN LOADING, AND THE LESSER OF 1/3 THE SPAN OR 24" AS THE MAXIMUM DIFFERENTIAL SIDE-TO-SIDE (26.5.4).
- ⑥ INITIAL BACKFILL ABOVE PIPE ARCH MAY INCLUDE ROAD BASE MATERIAL (AND RIGID PAVEMENT IF APPLICABLE). THE MINIMUM COVER HEIGHT IS DEFINED IN TABLE (12.6.6.3-1).
- ⑥a TOTAL HEIGHT OF COMPACTED COVER FOR CONVENTIONAL HIGHWAY LOADS IS MEASURED FROM TOP OF PIPE ARCH TO BOTTOM OF FLEXIBLE PAVEMENT OR TOP OF RIGID PAVEMENT (12.6.6.3).
- ⑦ FINAL BACKFILL MATERIAL SELECTION AND COMPACTION REQUIREMENTS SHALL FOLLOW THE PROJECT PLANS AND SPECIFICATIONS PER THE ENGINEER OF RECORD (26.5.4.1).

NOTES:

- GEOTEXTILE SHOULD BE CONSIDERED FOR USE TO PREVENT SOIL MIGRATION INTO VARYING SOIL TYPES (PROJECT ENGINEER).
- FOR MULTIPLE BARREL INSTALLATIONS THE RECOMMENDED STANDARD SPACING BETWEEN PARALLEL PIPE ARCH RUNS SHALL BE SPAN/3 BUT NO LESS THAN 12", OR 36" FOR PIPE ARCH SPANS 108" AND LARGER. CONTACT YOUR CONTECH REPRESENTATIVE FOR NONSTANDARD SPACING (SEE TABLE C12.6.7-1).

240-CSP-STANDARD BACKFILL-PIPE ARCH-AASHTO



240 - CSP PIPE ARCH
STANDARD BACKFILL DETAIL
AASHTO

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