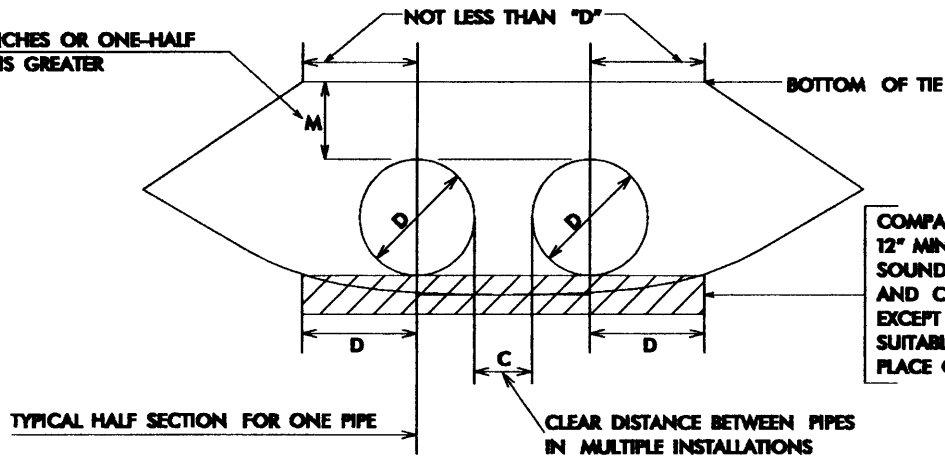


PLACE MATERIAL (6" LAYERS ONLY) EVENLY ON EACH SIDE OF PIPE. STONES LARGER THAN 2" SHALL NOT BE USED

MINIMUM COVER "M" TO BE 24 INCHES OR ONE-HALF DIAMETER OF THE PIPE, WHICHEVER IS GREATER



TYPICAL HALF SECTION FOR ONE PIPE

CLEAR DISTANCE BETWEEN PIPES IN MULTIPLE INSTALLATIONS

COMPACTED 1/2 INCH PER FOOT. WHEN ON ROCK 12" MINIMUM. IF FOUNDATION IS SOFT REPLACE WITH SOUND MATERIAL. MATERIAL AND METHOD OF PLACING AND COMPACTING IS TO BE THE SAME AS FOR BACKFILL EXCEPT THAT AT THE OPTION OF THE CONTRACTOR, SUITABLE COMPACTING MACHINERY MAY BE USED IN PLACE OF TAMPERS.

## DETAILS FOR BEDDING AND BACKFILLING PIPE INSTALLATION INSTRUCTIONS FOR CORRUGATED METAL DRAINAGE STRUCTURES

- PROTECTION:** A REASONABLE AMOUNT OF CARE MUST BE TAKEN IN HANDLING CORRUGATED METAL DRAINAGE PRODUCTS TO PROTECT AGAINST CRACKING OR BREAKING THE PIPE OR DAMAGING THE GALVANIZED AND/OR OTHER COATING. HEAVY CONSTRUCTION EQUIPMENT MUST NOT BE RUN DIRECTLY OVER STRUCTURE UNTIL IT HAS BEEN BACKFILLED AND EMBANKMENT PLACED TO THE MAXIMUM HEIGHT ABOVE TOP OF PIPE AS SHOWN ON THIS DRAWING.
- STRUTTING:** PIPES SHOWN TO BE SHOP STRUTTED WILL HAVE TWISTED WIRE OR ROD STRUTS. STRUTS SHALL BE HORIZONTAL WHEN PIPE IS PLACED.
- CAMBER:** UNDER HIGH FILLS, WHERE THE FOUNDATION IS SUBJECT TO SUBSIDENCE, THE GRADE LINE WILL BE CAMBERED TO PRODUCE A STRAIGHT GRADE AFTER SUSIDENCE.
- HAND TAMPED:** WHEN APPROVED BY THE ENGINEER, A HAND TAMPER SHALL WEIGH NOT LESS THAN TWENTY (20) POUNDS AND HAVE A TAMPING FACE NOT LESS THAN 6" X 6".

- ASSEMBLY OF STRUCTURE:** RIVETED CORRUGATED METAL PIPES MUST BE PLACED WITH INSIDE CIRCUMFERENTIAL LAPS POINTING DOWNSTREAM. THE LONGITUDINAL LAPS SHOULD BE AT THE SIDES OR QUARTER POINTS BUT NOT IN THE BOTTOM. STRUCTURAL PLATE PIPES WILL BE ASSEMBLED FROM DETAILED ERECTION INSTRUCTIONS WHICH ACCOMPANY EACH PIPE WHEN SHIPPED.
- BEDDING AND BACKFILLING:** BEDDING AND BACKFILL MATERIAL SHALL BE DENSE GRADED CRUSHED STONE MAXIMUM SIZE 2 INCHES TO DUST. BACKFILL IS TO BE PLACED IN LAYERS NOT LESS THAN 4" OR MORE THAN 6" AND COMPACTED WITH MECHANICAL TAMPERS TO 100% STANDARD PROCTOR. HEAVY EARTH COMPACTING EQUIPMENT SHALL NOT BE USED OVER THE PIPE UNTIL BACKFILL HAS BEEN COMPLETED AS SHOWN AND SPECIFIED ON THE PLAN. CARE MUST BE TAKEN NOT TO STRIKE THE PIPE WITH THE TAMPER.
- MULTIPLE LINES OF PIPE:**
- |                        |                               |
|------------------------|-------------------------------|
| PIPE DIAMETERS MINIMUM | CLEARANCE "C"                 |
| UP TO 72"              | ONE HALF DIAMETER OF THE PIPE |
| 72" TO 180"            | 36"                           |

### NORFOLK SOUTHERN RAILWAYS

INSTALLATION INSTRUCTIONS  
CORRUGATED METAL PIPE CULVERTS  
REVISED 3-11-93