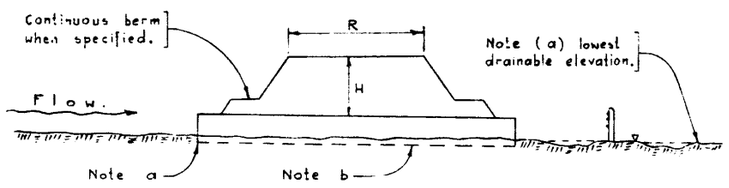
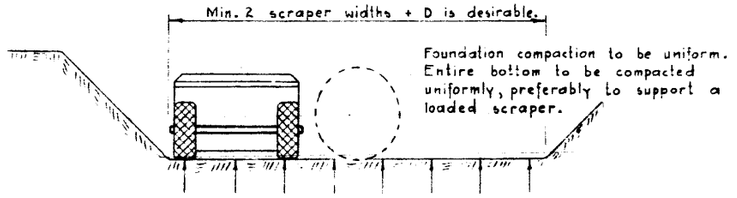
Form B-3012.

STAGE ① GRADE

a) In general the invert elevation at the upstream end to be placed at or below the lowest drainable elevation.
b) In general the slope of the culvert shall be not less than ½ %.
c) In general camber will not be required, but may where H exceeds ½ R, and relative settlement exceeding ½ the total drop in the pipe is anticipated.

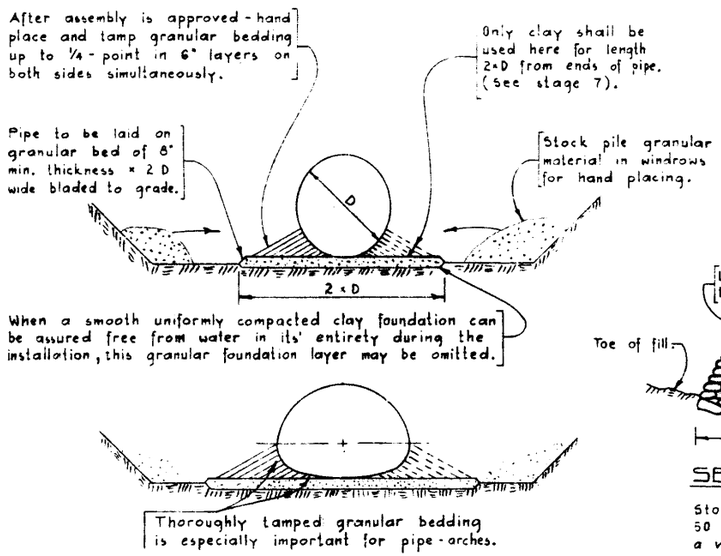


STAGE ② FOUNDATION EXCAVATION

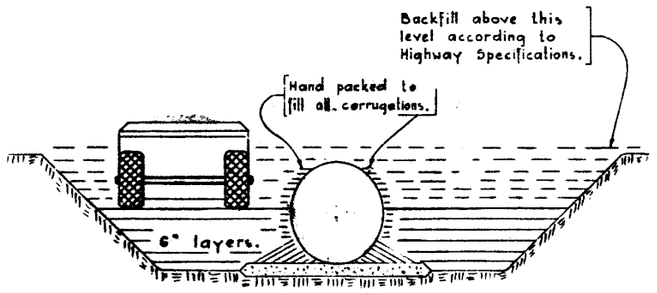


When compaction of clay to the grade established is not possible, it shall be replaced by granular backfill; In general a depth of two feet is a maximum. For extensive soft areas additional camber and allowance for settlement shall be made, and strutting may be required.

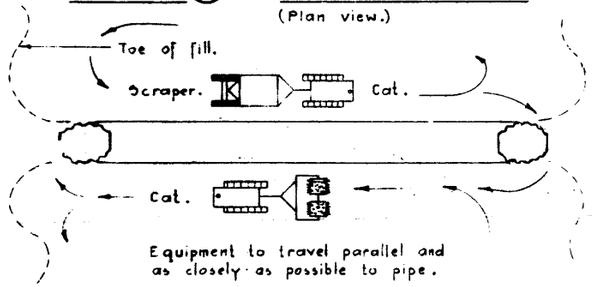
STAGE ③ BEDDING



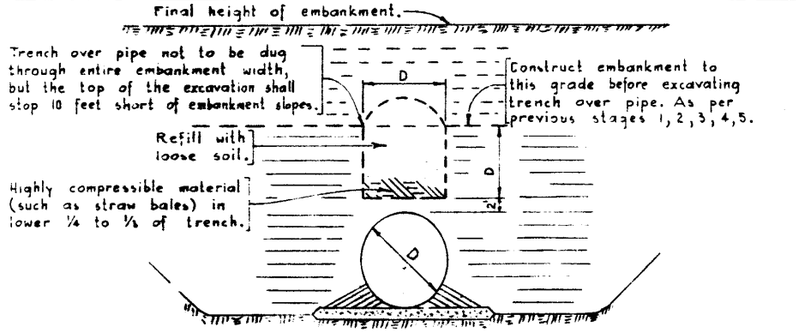
STAGE ④ BACKFILLING



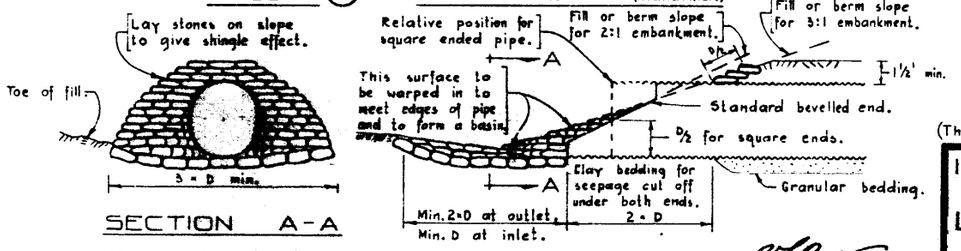
STAGE ⑤ COMPACTION



STAGE ⑥ IMPERFECT - TRENCH METHOD (When specified)



STAGE ⑦ RIP - RAP (Handlaid.)



Stones shall weigh not less than 50 lbs. At least 50 % shall have a volume greater than ½ cu.ft.

GENERAL NOTES

1. This drawing to be used in conjunction with the Specifications for the Installation of Large Metal Pipe of average diameter 60 inches and greater.
2. Elliptical SPCMP, with vertical diameter expanded 5 %, will be supplied rather than round SPCMP.
3. Detailed Assembly Instructions for SPCMP are available when required.
4. Where a pipe is to be used as an underpass, all bolts shall be placed so that the bolt heads are on the inside of the pipe.
5. For installations designated as underpasses the width of the sloped area of Rip-Rap shown shall be reduced by 50 % and granular material a minimum of 8" thick, shall be used in place of apron Rip-Rap.
6. The clear spacing between pipes in multiple installations shall, in general, be greater than one clear scraper width.
7. Bagged concrete Rip-Rap may, with approval, be placed in lieu of handlaid Rip-Rap if proper stones are not economically available.
8. Vertical strutting of metal pipe will not be required. In cases where the placing of bedding and backfill proves to be inadequate as evidenced by the shortening of the original vertical diameter by more than 3 % during the placing of embankment, the Engineer shall be immediately notified and he may order the removal and replacement of the entire backfill, or removal and replacement of part of the embankment over the pipe and strutting of the pipe.
9. Horizontal strutting of the larger elliptical SPCMP to restrain it laterally during the backfill operation along side the pipe, may be necessary when horizontal deformation exceeds 5 % of original horizontal diameter. If such deformation occurs backfilling shall cease and the Engineer shall be notified. He may then order that the pipe be horizontally strutted according to details to be provided.
10. Granular material for foundation, bedding and backfill shall be well graded of max. size 2" and shall contain sufficient fines to act as binder, pit run being used where suitable. Granular material for underpass approaches and floors shall however in no case be of crushed stone.

SUPERSEDED

①

(This dwg. supersedes Dwg. 5521) March, 1962.

DESIGNED BY R. P. Parish. DATE Jan. 19,'62
DETAILED BY D. W. S. DATE Jan. 28,'62
CHECKED BY E. J. S. DATE Jan. 29,'62

APPROVED _____ CHIEF BRIDGE ENGINEER

NO.	DATE	DESCRIPTION	BY

REVISIONS

INSTALLATION PROCEDURE FOR LARGE METAL PIPE CMP AND SPCMP

GOVERNMENT OF THE PROVINCE OF ALBERTA
DEPARTMENT OF HIGHWAYS
BRIDGE BRANCH, EDMONTON

FILE NO. 23 HWY. NO. DWG. NO. S-772
LOCATION SCALE N.T.S.
STREAM SHEET OF