

GENERAL NOTES

GENERAL

- THIS DRAWING PROVIDES GENERAL INFORMATION ONLY. IT WILL BE SUPPLEMENTED WITH AND/OR SUPERSEDED BY DETAILS IN THE BRIDGE AUTHORIZATION AND WHERE NECESSARY BY SPECIAL PROVISIONS, DESIGN DRAWINGS, ASSEMBLY DRAWINGS, AND ENVIRONMENTAL PERMITS AND LICENCES.
- REFER TO THE CURRENT VERSION OF SPECIFICATION B269 "INSTALLATION OF LARGE STEEL PIPES", SECTION 21 OF THE BRIDGE CONSTRUCTION SPECIFICATIONS FOR ADDITIONAL INFORMATION.

- WORK SHALL BE PERFORMED IN A MANNER SO AS TO PROVIDE A FINAL STRUCTURE WITH NO DAMAGE OR DEFICIENCIES.
- CONTACT THE ENGINEER IF ADDITIONAL DIRECTION IS REQUIRED.

ASSEMBLY

- CSP SECTIONS SHALL BE LAID SO THAT THE ENDS ARE IN CLOSE CONTACT. COUPLERS SHALL BE WELL FITTED AND EVENLY TIGHTENED ALL AROUND THE PIPE.
- SPCSP SHALL BE ASSEMBLED AS SHOWN ON THE ASSEMBLY DRAWINGS AND AS OUTLINED BELOW:

- BOLTS SHALL BE TORQUED TO AND THE TORQUE MAINTAINED AT NOT LESS THAN 200 NEWTON METRES AND NOT MORE THAN 340 NEWTON METRES.
- ALL BOLTED SEAMS SHALL BE PROPERLY LAPPED AND PLATES SHALL BE IN CONTACT FOR THE FULL WIDTH AND LENGTH OF THE LAP. THE BOLTS IN THE VALLEY OF EACH LONGITUDINAL SEAM SHALL BE NEARER TO THE VISIBLE EDGE OF THE PLATE THAN THE BOLTS ON THE CREST.
- THE VERTICAL AXIS SHALL BE UPRIGHT AND THE LONGITUDINAL SEAMS SHALL BE STRAIGHT. ROTATION OF THE PIPE AND/OR SPIRALING OF THE LONGITUDINAL SEAMS SHALL NOT BE PERMITTED.
- THE SHAPE OF THE PIPE SHALL BE MAINTAINED WITHIN TWO PERCENT OF DESIGN DIMENSIONS.
- DISTORTION OF BOLT HOLES CAUSED BY OVER-TORQUING, OR POOR ASSEMBLY METHODS SHALL NOT BE PERMITTED. WHERE ADDITIONAL HOLES ARE REQUIRED THEY SHALL BE DRILLED. TORCH CUTTING HOLES OR WELDING ON THE PIPE IS NOT PERMITTED.
- BOLTS ON PEDESTRIAN OR STOCK UNDERPASSES SHALL BE INSTALLED WITH THE BOLT HEADS INSIDE THE STRUCTURE.

STRUCTURAL FILL

- SOILS USED FOR STRUCTURAL FILL REQUIRE THE APPROVAL OF THE ENGINEER. STRUCTURAL FILL SHALL CONSIST OF GRANULAR MATERIAL AND INORGANIC CLAYS BOTH OF WHICH SHALL BE NON-CORROSIVE. STRUCTURAL FILL SHALL NOT CONTAIN FROZEN MATERIAL, ROCKS EXCEEDING 80mm IN DIAMETER, ROOTS, SOD, RUBBISH OR ORGANIC MATERIAL.

GRANULAR BACKFILL SPECIFICATION (PIT RUN DES 6/C80)

SIEVE SIZE (µm)	80000	50000	25000	16000	5000	315	80
% BY WEIGHT PASSING	100	55-100	38-100	32-85	20-65	6-30	2-10

CLAY SEEPAGE CUTOFFS

- CLAY SEEPAGE CUTOFFS SHALL BE PLACED AT EACH END OF THE PIPE FOR A LENGTH OF TWO TIMES THE RISE. THE SEEPAGE CUTOFFS SHALL EXTEND FROM THE BOTTOM OF THE EXCAVATION TO THE TOP OF THE PIPE, AND FOR THE FULL WIDTH OF THE EXCAVATION.

HEAVY ROCK RIPRAP

- HEAVY ROCK RIPRAP SHALL COVER THE AREA SHOWN ON THE DRAWINGS PROVIDED AND SHALL BE PLACED TO THE FOLLOWING MINIMUM THICKNESS:

CLASS OF ROCK	1M	1	2	3
THICKNESS (mm)	300	450	800	1100

CLASS 1 GRADATION :

- NOMINAL DIAMETER 300mm OR 40kg MASS
- 100% SMALLER THAN 450mm OR 130kg MASS
- 20 - 50% LARGER THAN 350mm OR 70kg
- 50 - 80% LARGER THAN 300mm OR 40kg
- 80 - 100% LARGER THAN 200mm OR 10kg

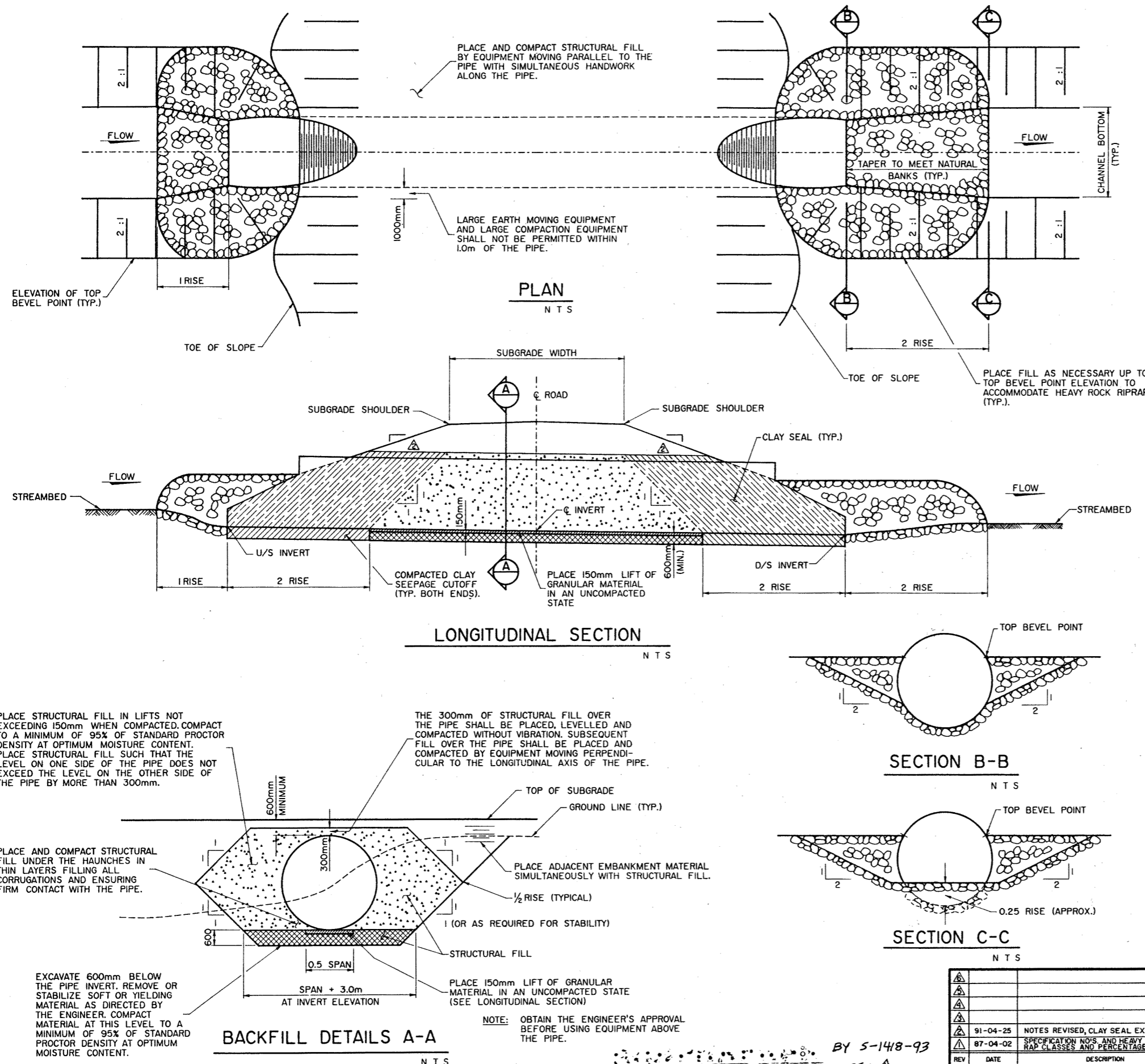
- REFER TO THE CURRENT VERSION OF B354 "HEAVY ROCK RIPRAP SECTION 10 OF THE BRIDGE CONSTRUCTION SPECIFICATIONS FOR ADDITIONAL INFORMATION.

UNDERPASSES

- A LAYER OF GRANULAR MATERIAL, PIT RUN DES 6/C80, SHALL BE PLACED TO A THICKNESS OF 200mm ON THE APPROACHES TO THE PIPE. DO NOT USE ROCK RIPRAP UNLESS SPECIFIED.
- A CONCRETE OR COMPACTED GRANULAR FLOOR AND SIDEWALK SHALL BE PLACED TO A DEPTH OF 150mm AT THE INVERT.
- CLAY SEALS ARE NOT REQUIRED FOR UNDERPASSES.

SUPERSEDED

3/3/3



PLACE STRUCTURAL FILL IN LIFTS NOT EXCEEDING 150mm WHEN COMPACTED. COMPACT TO A MINIMUM OF 95% OF STANDARD PROCTOR DENSITY AT OPTIMUM MOISTURE CONTENT. PLACE STRUCTURAL FILL SUCH THAT THE LEVEL ON ONE SIDE OF THE PIPE DOES NOT EXCEED THE LEVEL ON THE OTHER SIDE OF THE PIPE BY MORE THAN 300mm.

THE 300mm OF STRUCTURAL FILL OVER THE PIPE SHALL BE PLACED, LEVELLED AND COMPACTED WITHOUT VIBRATION. SUBSEQUENT FILL OVER THE PIPE SHALL BE PLACED AND COMPACTED BY EQUIPMENT MOVING PERPENDICULAR TO THE LONGITUDINAL AXIS OF THE PIPE.

PLACE AND COMPACT STRUCTURAL FILL UNDER THE HAUNCHES IN THIN LAYERS FILLING ALL CORRUGATIONS AND ENSURING FIRM CONTACT WITH THE PIPE.

EXCAVATE 600mm BELOW THE PIPE INVERT. REMOVE OR STABILIZE SOFT OR YIELDING MATERIAL AS DIRECTED BY THE ENGINEER. COMPACT MATERIAL AT THIS LEVEL TO A MINIMUM OF 95% OF STANDARD PROCTOR DENSITY AT OPTIMUM MOISTURE CONTENT.

NOTE: OBTAIN THE ENGINEER'S APPROVAL BEFORE USING EQUIPMENT ABOVE THE PIPE.

BY 5-1418-93
REV. A
93-02-03

REV	DATE	DESCRIPTION	BY
91-04-25		NOTES REVISED, CLAY SEAL EXTENDED	CTC
87-04-02		SPECIFICATION NOS. AND HEAVY ROCK RIPRAP CLASSES AND PERCENTAGES	ELW

APPROVED
R. L. J. J.
EXECUTIVE DIRECTOR
BRIDGE ENGINEERING
DATE: May 7 1986

Alberta TRANSPORTATION
BRIDGE ENGINEERING BRANCH

INSTALLATION OF
LARGE STEEL PIPES

DESIGNED	DRAWN	DATE	CHECKED	DATE	STREAM	LOCATION	HIGHWAY	FILE	SHEET	DRAWING
J E J O'B	W A B	86-05-01	J G R	86-05-01					1 of 1	S-1418-86