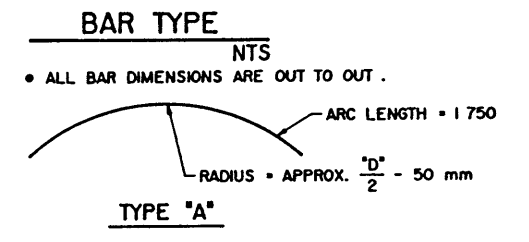
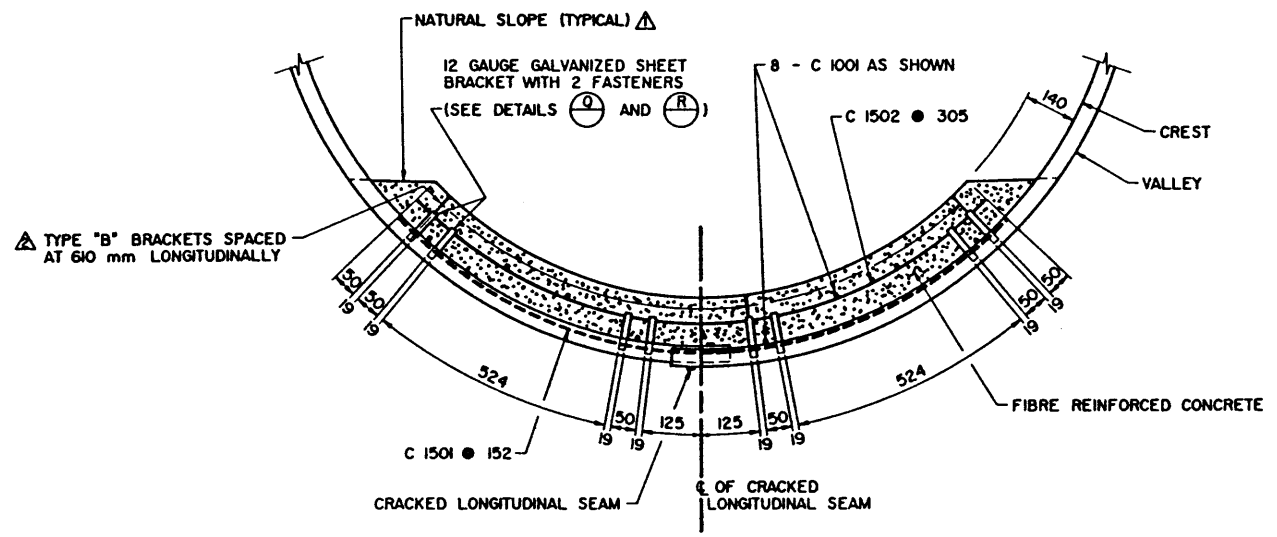


BAR LIST PER 10 m OF BEAM					
MARK	SIZE	NO.	TYPE	LENGTH (mm)	MASS (kg)
C 1001	10	14	STR	6 000	66
C 1501	15	66	A	1 750	181
C 1502	15	33	A	1 750	91
				TOTAL	338



QUANTITY ESTIMATE PER 10m OF BEAM			
ITEM	UNIT	ESTIMATE	ACTUAL
REINFORCING STEEL	kg	338	
SHOTCRETE	m³	3.2	
BRACKETS - TYPE 'A'	pcs	480	
BRACKETS - TYPE 'B'	pcs	48	

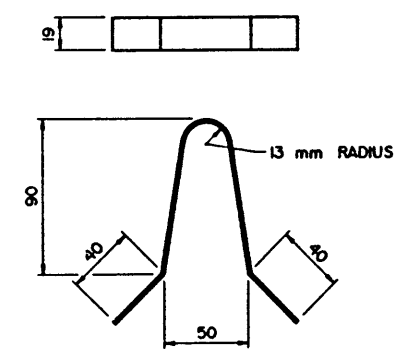
- GENERAL NOTES**
- DIMENSIONS ARE GIVEN IN MILLIMETERS UNLESS NOTED OTHERWISE .
 - ALL CONCRETE TO BE PNEUMATICALLY APPLIED (SHOTCRETED) STEEL FIBRE REINFORCED WITH THE DESIGN MIN. 28 DAY COMPRESSIVE STRENGTH OF 50MPa AS PER SPECIFICATION B375 .
 - ALL REINFORCING STEEL TO HAVE A MINIMUM 50 mm COVER .
 - ALL REINFORCING STEEL SHALL BE G30J2M - GRADE 400 .
 - ANY INSIDE SURFACES OF THE CULVERT AGAINST WHICH CONCRETE WILL BE PLACED SHALL BE THOROUGHLY CLEANED PRIOR TO SHOTCRETING AND APPROVED BY THE ENGINEER (LIGHT SANDBLASTING IS REQUIRED) .
 - EACH U-BRACKET TO BE CONNECTED TO SPCSP BY TWO "HILTI" FASTENERS ENP2K-20L15 .
 - 2.8 mm THICK GALVANIZED U-BRACKET TO CONFORM TO A.S.T.M. A526M COMMERCIAL QUALITY, YIELD STRENGTH 230 MPa .
 - CONCRETE SURFACE TO HAVE CLASS "C" GUN FINISH .



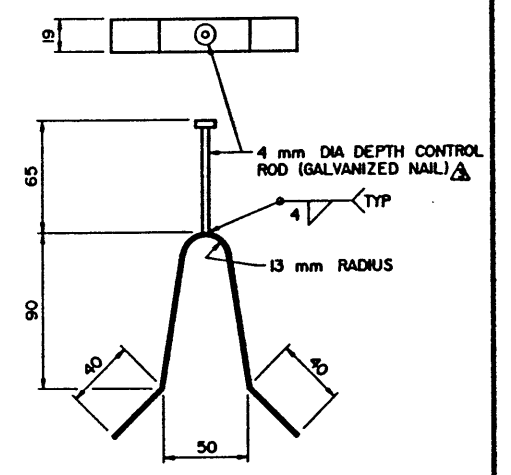
P DETAIL OF SHOTCRETE BEAM
1:10

NOTE : THE SHOTCRETE BEAMS ARE TO BE INSTALLED FOR THE FULL LENGTH OF EACH SECTION WITH CRACKED LONGITUDINAL SEAM(S) AS SHOWN .

PLATE THICKNESS	HILTI GUN	PINS	CARTRIDGES
3 mm TO 7 mm	DX 750	ENP2K-20L15	RED



Q DETAIL OF U-BRACKET (TYPE 'A')
1:2



R DETAIL OF U-BRACKET (TYPE 'B')
1:2

REV	DATE	DESCRIPTION	BY
1	94-08-01	CHANGED "HILTI" FASTENER NAME	LDM
2	93-12-10	NOTE REVISED TO METRIC STANDARD	LDM
3	92-10-20	DEPTH CONTROL ROD NOTE (DETAIL "R")	CTC
4	92-03-18	TYPE "B" BRACKET SPACING	CTC
5	87-10-09	BEAM SLOPE, SHOTCRETE QUANTITY & BEAM NOTE	L M

ORIGINAL DRAWING APPROVED BY
N. BOYD
EXECUTIVE DIRECTOR
BRIDGE ENGINEERING
OCT. 6, 1987

Alberta TRANSPORTATION AND UTILITIES
BRIDGE ENGINEERING BRANCH

CULVERT REPAIR SHOTCRETE BEAM DETAILS

DESIGNED	DRAWN	DATE	CHECKED	DATE	STREAM	LOCATION	HIGHWAY	FILE	SHEET	DRAWING
L M	W A B	87-10-01	ELW	87-10-02					1 of 1	S-1476