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ORIGINAL SIZE
A1
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BY	CHECKED	DATE
DESIGN <i>D. Eaton</i>	<i>D. Haydon</i>	9/78
DRAWN <i>D. Gregory</i>	<i>D. Haydon</i>	9/78
DES. SUP. <i>D. Haydon</i>		9/78
DWG. SUP. <i>D. Haydon</i>		9/78

F. A. LANGBEIN
DIRECTOR OF ROADING

E. J. BURT
CHIEF
HIGHWAYS ENGINEER

APPROVED *P. O. Bell*
DIST. CIVIL ENG.

N.C. McLEOD
Commissioner

SH.8 RD.16 RS.310
REALIGNMENT R.P. 310/5.28-11.10
DAIRY CREEK - HARTLEY ROAD SECTION
CONSTRUCTION DRAWING - PLAN 12720-13520

ORIGINAL SCALES	1:1000	FILE	
JOB	CODE	SHEET	REVISION
7/76/2	7704	5	3

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a b c d e f

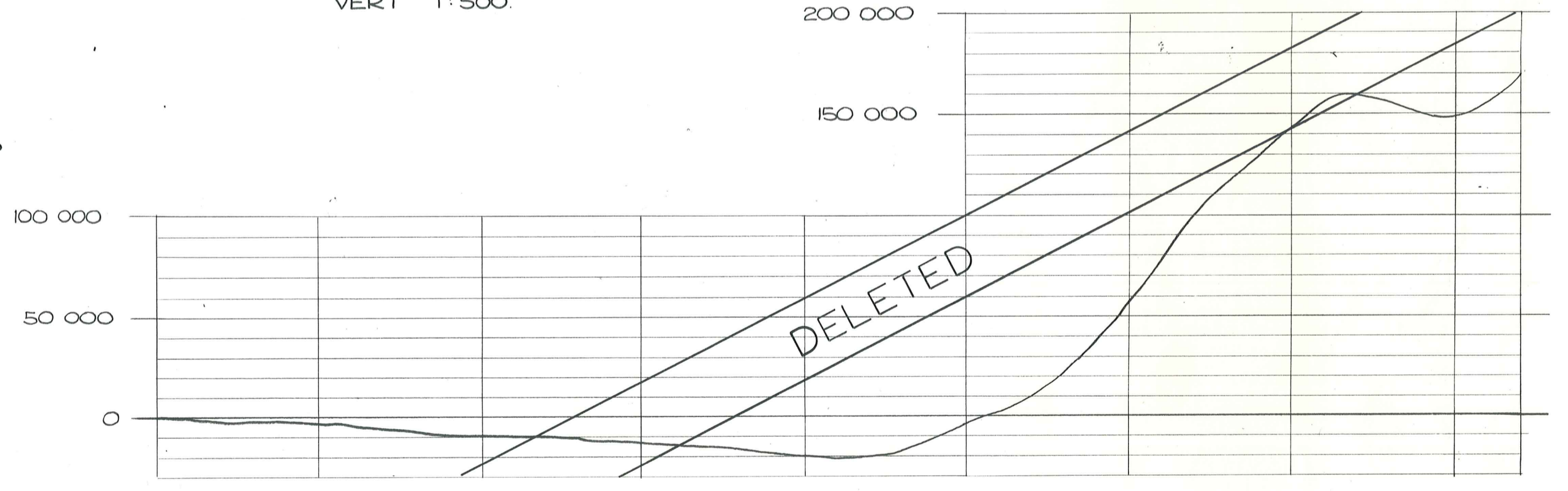
H.A.D. = 200-000.

CUT	4.48 13.36	9.41	6.86	2.49	2.04					9.34	21.26	13.03	9.15							
FILL			12.01			18.57	1.22	3.45	0.69	1.92	2.99	1.68	6.65							
FORMATION LEVEL	10680.0 213.94 209.46 10700.0 223.54 210.16	10800.2 223.30 213.69	10900.0 205.55 217.56 12.01	11000.0 228.10 221.24	11099.8 227.40 224.91	11199.4 230.61 228.57	11299.6 213.68 232.25 18.57	11399.4 234.70 235.92 1.22	11499.4 236.15 239.60 3.45	11599.4 242.60 243.29 0.69	11699.4 245.05 246.97 1.92	11799.2 247.66 250.64 2.99	11899.2 252.04 253.72 1.68	12000.4 264.74 255.40	12100.4 277.00 255.74	12200.4 267.75 254.72	12300.2 245.94 252.59 6.65	12340.2 260.71 251.56		
GROUND LEVEL																				
BASILINE STATION	10680.0 10700.0	10800.2	10900.0	11000.0	11099.8	11199.4	11299.6	11399.4	11499.4	11599.4	11699.4	11799.2	11899.2	12000.4	12100.4	12200.4	12300.2	12340.2		
BASILINE HORIZ. ALIGNMENT	STRAIGHT	500 m RADIUS	STRAIGHT	400 m RADIUS	STRAIGHT	400 m RADIUS	STRAIGHT	400 m RADIUS	STRAIGHT	400 m RADIUS	STRAIGHT	400 m RADIUS	STRAIGHT	400 m RADIUS	STRAIGHT	400 m RADIUS	STRAIGHT	400 m RADIUS	STRAIGHT	
VERTICAL ALIGNMENT	+3.6821%												300 m SUMMIT V.C.		700 m SAG V.C.		-0.785%			
HORIZONTAL ALIGNMENT	STRAIGHT		92 m TRANSITION	400 m RADIUS CIRCULAR ARC	92 m TRANSITION	STRAIGHT	92 m TRANSITION	400 m RADIUS CIRCULAR ARC	92 m TRANSITION	400 m RADIUS CIRCULAR ARC	92 m TRANSITION	74 m TRANSITION	400 m RADIUS CIRCULAR ARC	74 m TRANSITION	STRAIGHT	400 m RADIUS CIRCULAR ARC	74 m TRANSITION	STRAIGHT	400 m RADIUS CIRCULAR ARC	74 m TRANSITION

PROFILE.
SCALES HORIZ. 1:2500
VERT. 1:500.

- NOTES
- NO ALLOWANCES HAVE BEEN MADE IN THE MASS HAUL DIAGRAM FOR THE FOLLOWING -
a) STRIPPING
b) COMPACTION
c) UNSUITABLE MATERIAL
 - THIS DIAGRAM IS TO BE USED AS A GUIDE ONLY.
 - IT HAS BEEN ASSUMED THAT THE EARTHWORKS FROM 10680 - 11500 HAVE BEEN COMPLETED AND THEREFORE NOT INCLUDED IN THE MASS HAUL DIAGRAM.

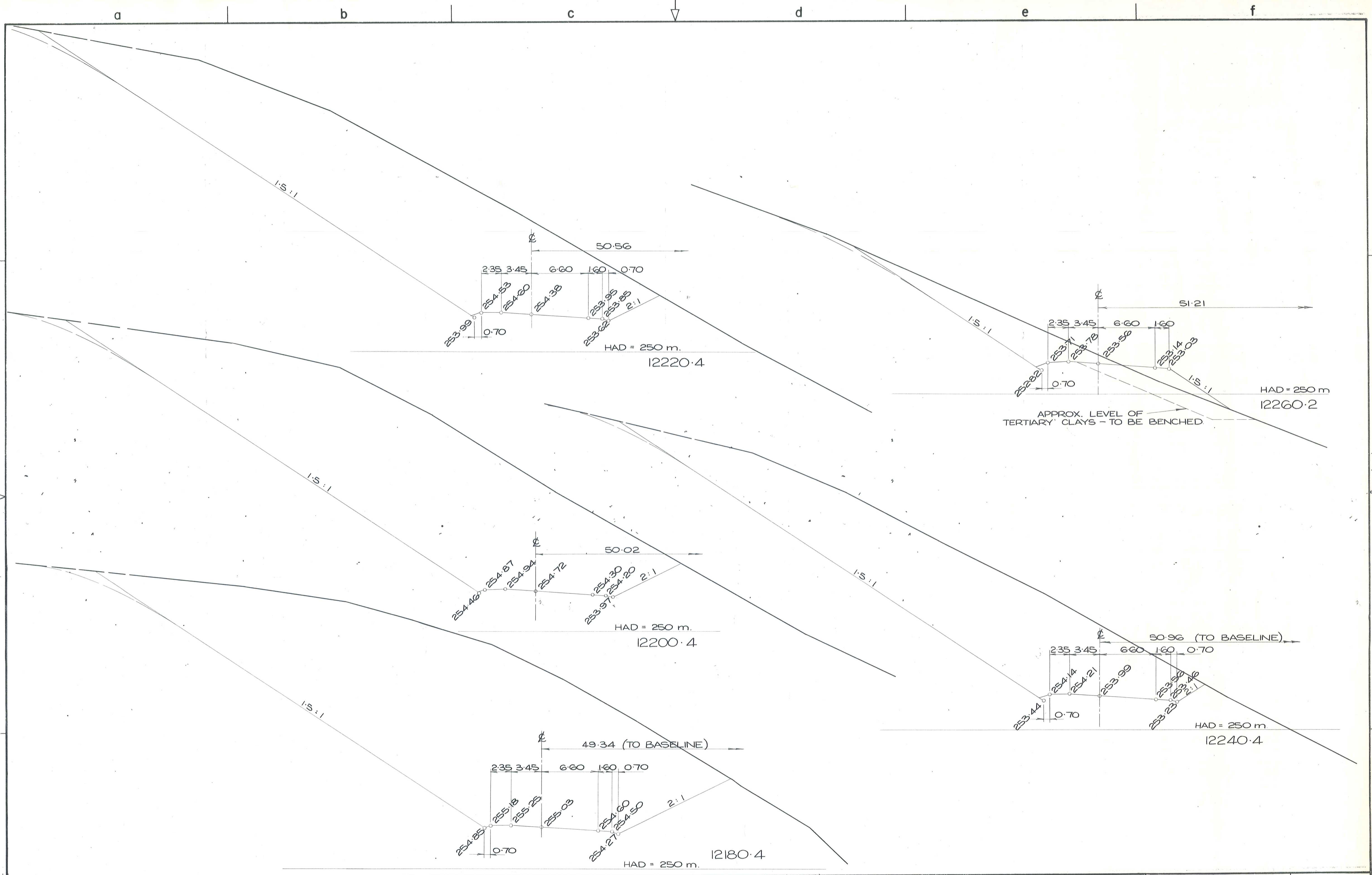
QUANTITY (CUBIC METRES)
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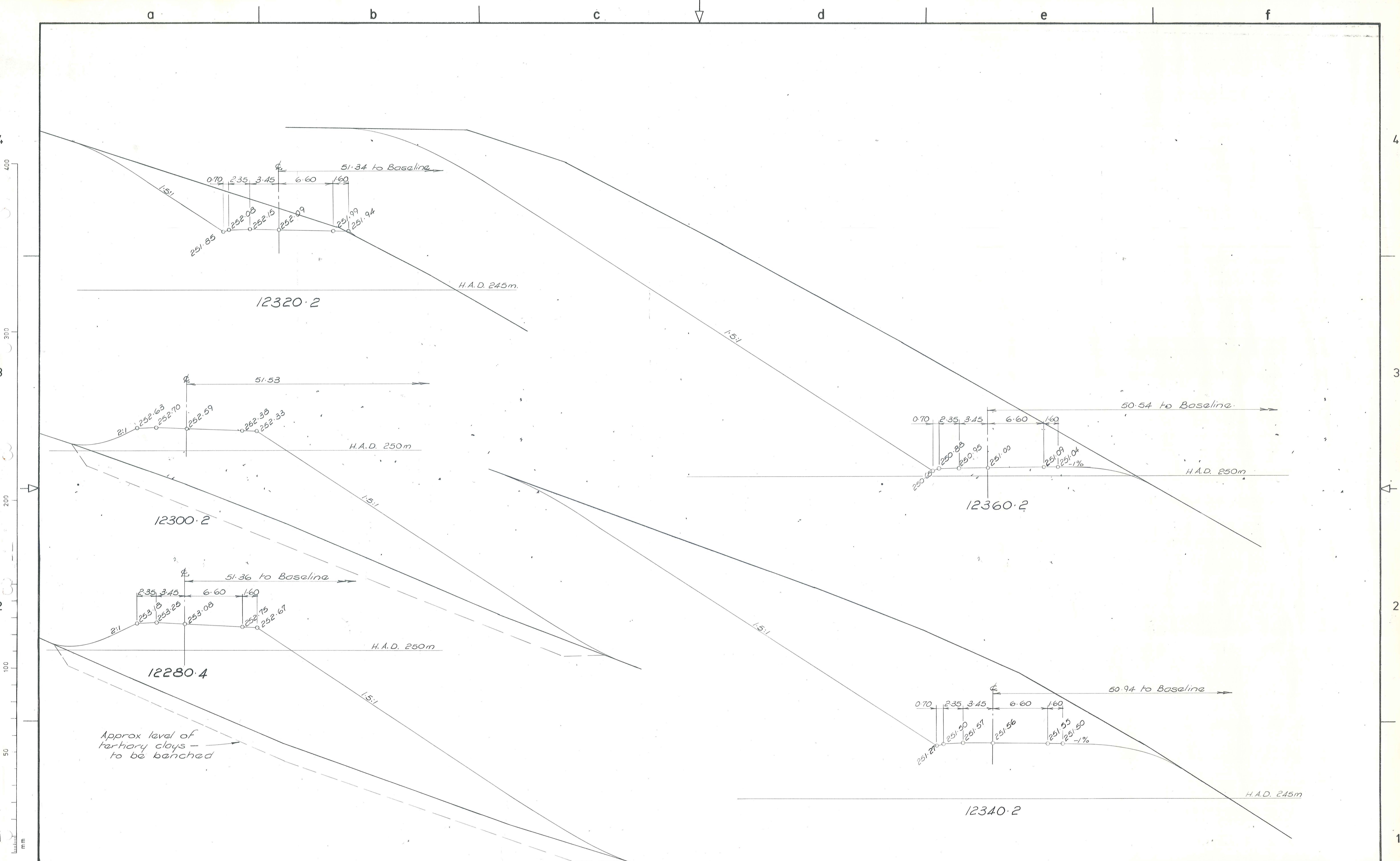
MASS HAUL DIAGRAM.
SCALES HORIZ. 1:2500
VERT. 1:2,000,000.

DESIGNED	BY	CHECKED	DATE	F. A. LANGBEIN DIRECTOR OF ROADING	Ministry of Works and Development	SH.8. R.D.16. RS.30. REALIGNMENT RP 310/5.28 - 11.10. DAIRY CREEK - HARTLEY ROAD SECTION. CONSTRUCTION DRAWING - PROFILE & MASS HAUL DIAGRAM.	ORIGINAL SCALES AS SHOWN.	FILE		
DRAWN			20/6/78	E. J. BURT CHIEF HIGHWAYS ENGINEER	CIVIL ENGINEERING DUNEDIN					
DES. SUP.			4/78				JOB	CODE	SHEET	REVISION
DWG. SUP.			4/78				7/76/2	7704	7	R2
RECOMMENDED	BY	APPD.	DATE	APPROVED	CIVIL DESIGN OFFICE.					
ACT. 29/6/78				29/6/78	N.C. McLEOD Commissioner					
DISTRICT HIGHWAYS ENGINEER.				DIST. CIVIL ENGINEER.						

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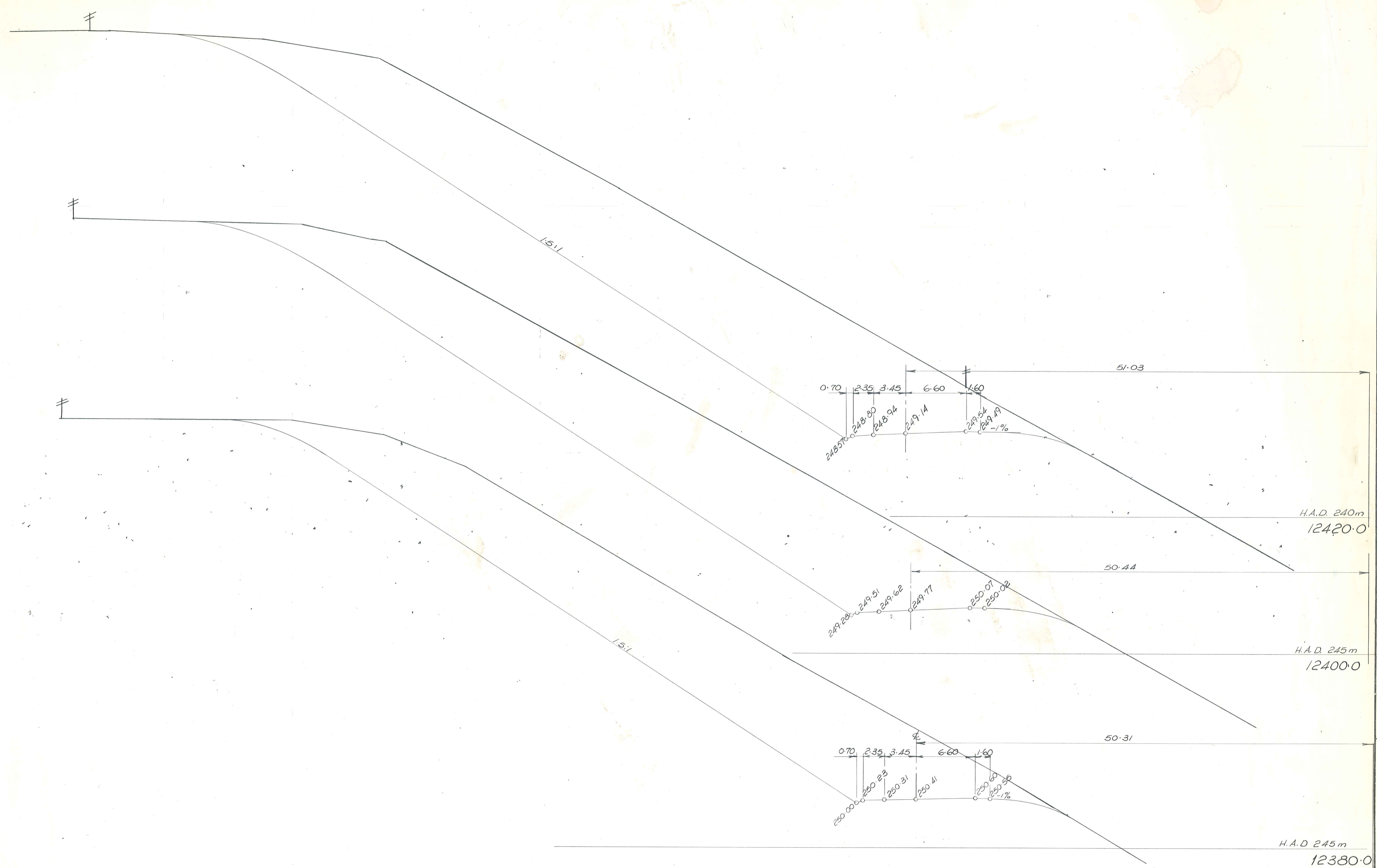
				BY		CHECKED	DATE	F. A. LANGBEIN DIRECTOR OF ROADING			SH 8 RD 16 RS 310.				ORIGINAL SCALES 1:200.		FILE	
				DRAWN				E. J. BURT CHIEF HIGHWAYS ENGINEER			CIVIL ENGINEERING DUNEDIN	REALIGNMENT FROM RP 310/5.28-11.10.						
				DES. SUP				APPROVED		CIVIL DESIGN OFFICE.	DAIRY CREEK - HARTLEY ROAD SECTION.				JOB	CODE	SHEET	REVISION
R2 REDESIGNED & RETRACED				BY		APPD.	DATE	N.C. McLEOD DIST. CIVIL ENGINEER		N.C. McLEOD Commissioner	CONST. DWG. - CROSS SECTIONS 12180+4 - 12260+2.				7/76/2	7704	25	R2
AMENDMENTS				BY		APPD.	DATE	ACTING D.H.E.										



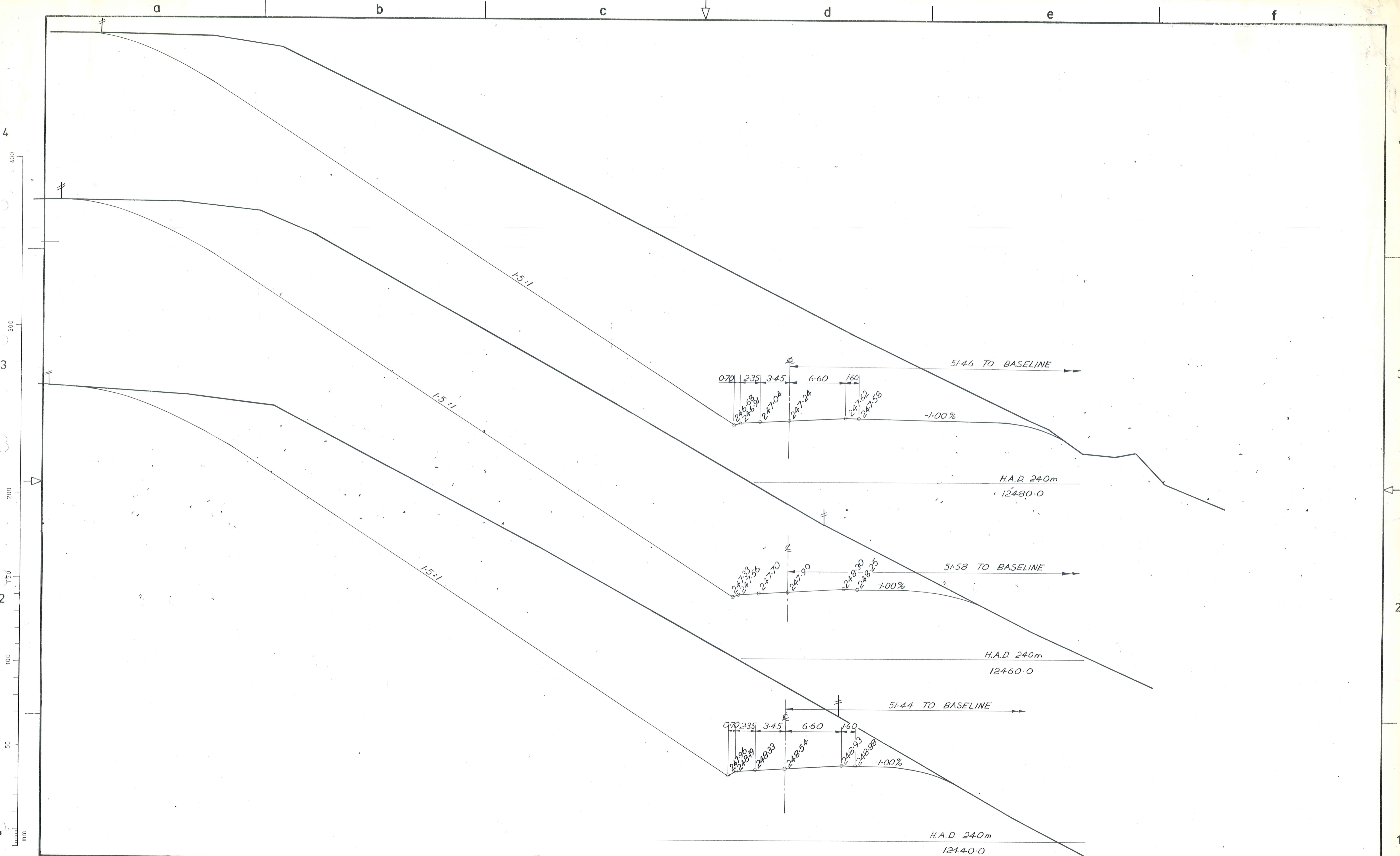
ORIGINAL SIZE A1	BY	CHECKED	DATE	F. A. LANGBEIN DIRECTOR OF ROADING	Ministry of Works and Development	SH 8 RD 16 RS 310. REALIGNMENT FROM RP 310/5:28 - 11:10 DAIRY CREEK - HARTLEY ROAD SECTION. CONST. DWG. ~ CROSS SECTIONS 12280.4 ~ 12360.2.	ORIGINAL SCALES	1:200.	FILE					
	Designed	Drawn	9/178	E. J. BURT CHIEF HIGHWAYS ENGINEER			CIVIL ENGINEERING DUNEDIN	JOB	7/76/2	CODE	7704	SHEET	26	REVISION
	Des. Supvd	9/78	APPROVED	R. O. Bille	CIVIL DESIGN OFFICE.									
	RECOMMENDED	10/78	ACT. DIST. HIGHWAYS ENG.	N. C. McLEOD	Commissioner									
R3 REDESIGNED & RETRACED AMENDMENTS	BY	APPD.	DATE											

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DESIGN'D BY <i>[Signature]</i>			F. A. LANGBEIN DIRECTOR OF ROADING				SH 8 RD 16 RS 310.				ORIGINAL SCALES 1 = 200.		FILE		
DRAWN. BY <i>[Signature]</i>			E. J. BURT CHIEF HIGHWAYS ENGINEER				REALIGNMENT FROM RP 310/5:28 - 11:10.								
DES. SUP. BY <i>[Signature]</i>			RECOMMENDED BY <i>[Signature]</i>			CIVIL ENGINEERING DUNEDIN		DAIRY CREEK ~ HARTLEY ROAD SECTION.				JOB 7/76/2		CODE 7704	
OWG. SUP. BY <i>[Signature]</i>			ACTING DIST. HIGHWAYS ENGINEER			CIVIL DESIGN OFFICE		CONST. DWG. ~ CROSS SECTIONS 12380.0 ~ 12420.0.				SHEET 27		REVISION R2	
AMENDMENTS			APPROVED BY <i>[Signature]</i>			N.C. McLEOD Commissioner									



ORIGINAL SIZE
A 1

AMENDMENTS	BY	APPD.	DATE
R2 REDESIGNED. & RETRACED	DE	B	10/78

DESIGNED	BY	CHECKED	DATE
	DE	W	9/78
DES. SUP.			
DWG. SUP.			

F. A. LANGBEIN
DIRECTOR OF ROADING

E. J. BURT
CHIEF
HIGHWAYS ENGINEER

APPROVED
N.C. McLEOD
DIST. CIVIL ENGINEER

Ministry of Works and Development

CIVIL ENGINEERING DUNEDIN

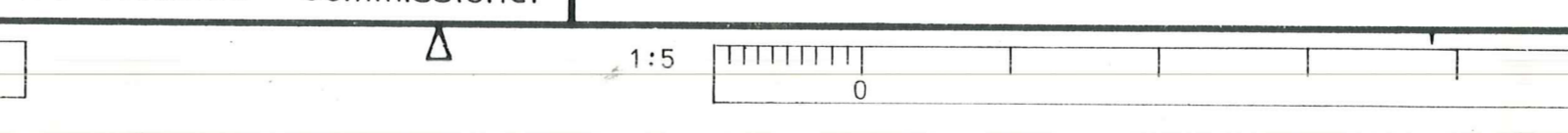
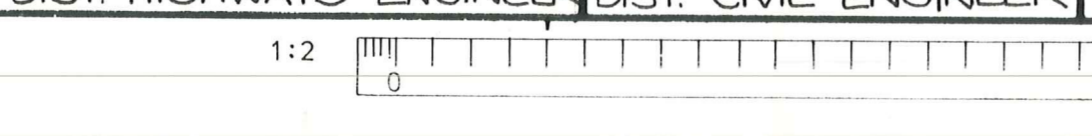
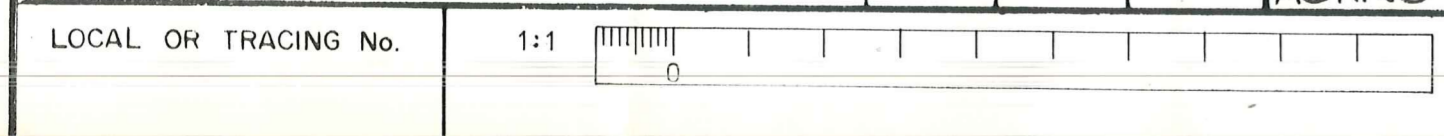
CIVIL DESIGN OFFICE.

N.C. McLEOD Commissioner

SH 8 RD 16 RS 310.
REALIGNMENT FROM RP 310/5.28 - 11.10.
DAIRY CREEK - HARTLEY ROAD SECTION.
CONST. DWG. ~ CROSS SECTIONS 12440.0 - 12480.0.

ORIGINAL SCALES	1:200.	FILE
JOB	CODE	SHEET
7/76/2	7704	28
REVISION		
R2		

PW 482-A1
Rev. JAN 1977

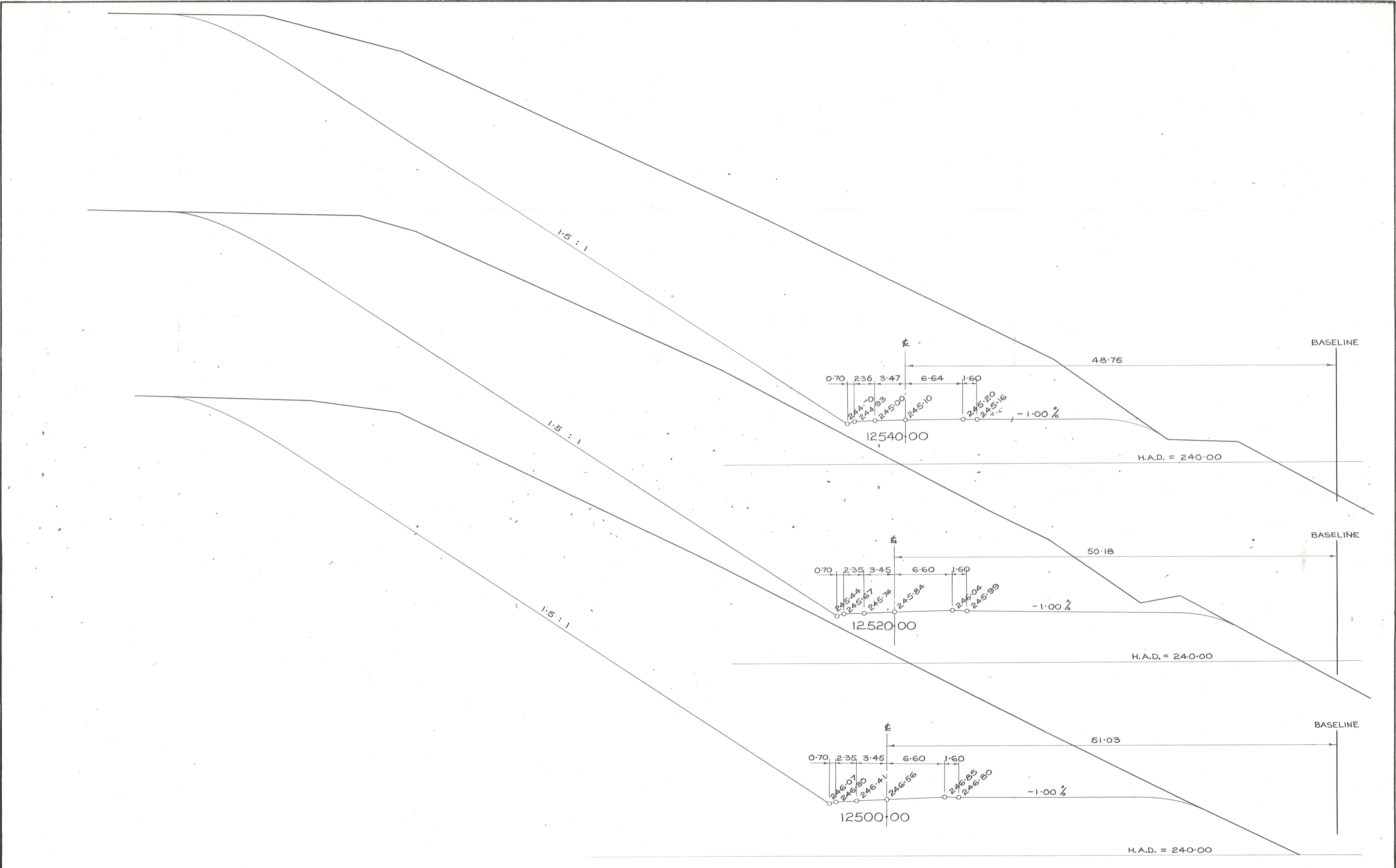


Whole numbers = mm
Decimalised expressions = m
unless indicated otherwise

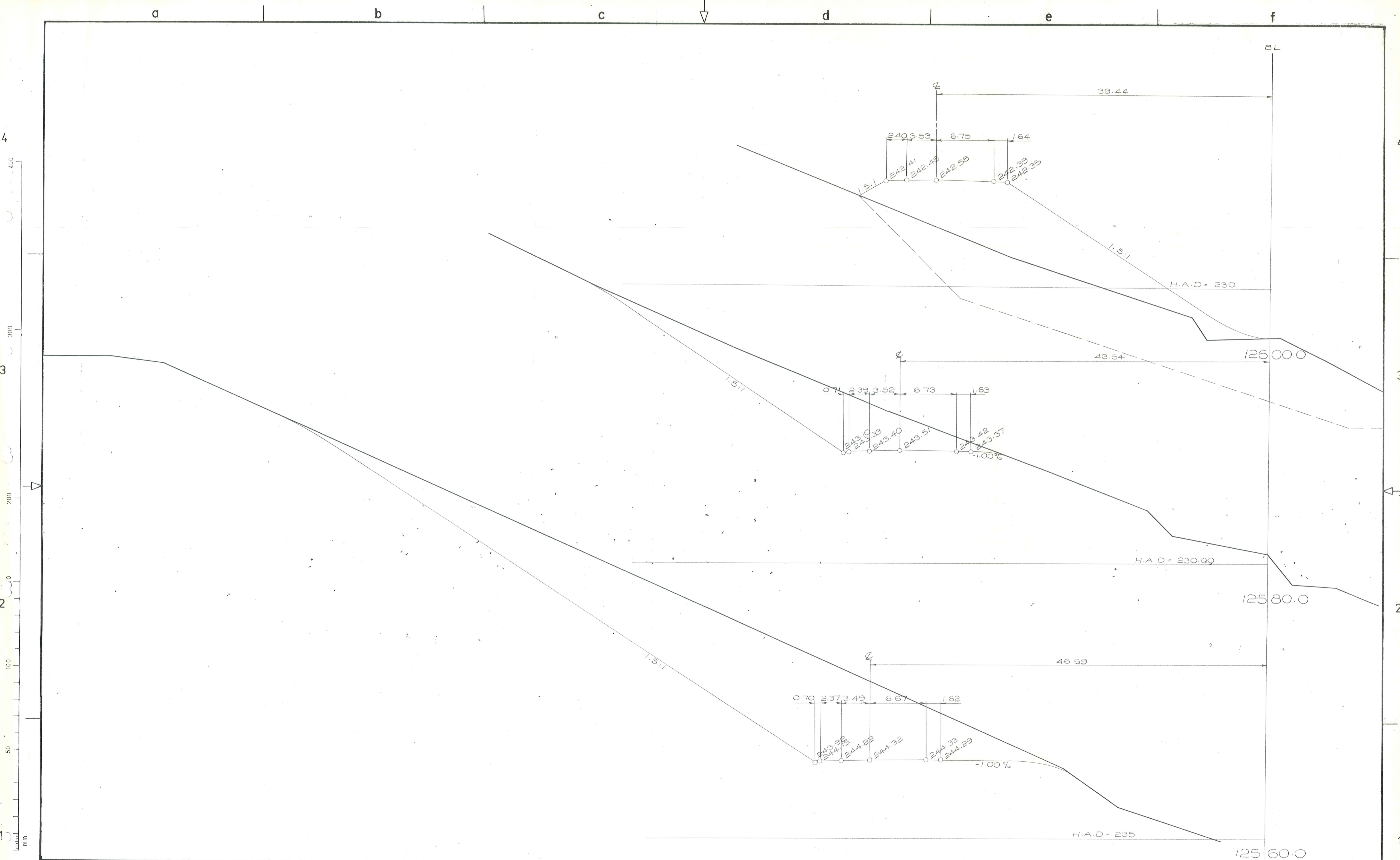
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DESIGN'D		BY	CHECKED	DATE	F. A. LANGBEIN DIRECTOR OF ROADING		SH 8 RD 16 RS 30 REALIGNMENT FROM RP 310/5.28 - 11.10. DAIRY CREEK ~ HARTLEY ROAD SECTION. CONST. DWG. ~ CROSS SECTIONS 12500.0 - 12540.0	ORIGINAL SCALES	1:200	FILE				
DRAWN					E. J. BURT CHIEF HIGHWAYS ENGINEER			CIVIL ENGINEERING DUNEDIN	JOB	7/76/2	CODE	7704	SHEET	29
DES.SUP					APPROVED	N.C. McLEOD Commissioner								
DWG.SUP					RECOMMENDED									
AMENDMENTS		BY	APPD.	DATE	ACTING DIST. HIGHWAYS ENGINEER									



BY	CHECKED	DATE
Design'd <i>J. C. [Signature]</i>	<i>[Signature]</i>	9/78
Drawn <i>[Signature]</i>	<i>[Signature]</i>	
Des. Sup. <i>[Signature]</i>	<i>[Signature]</i>	9/78
Dwg. Sup. <i>[Signature]</i>	<i>[Signature]</i>	
R3 REDESIGNED. & RETRACED AMENDMENTS		
BY <i>[Signature]</i>	APPD. <i>[Signature]</i>	DATE 10/78
Acting District Highways Engineer		

F. A. LANGBEIN
DIRECTOR OF ROADING

E. J. BURT
CHIEF
HIGHWAYS ENGINEER

APPROVED
[Signature]
District Civil Engineer

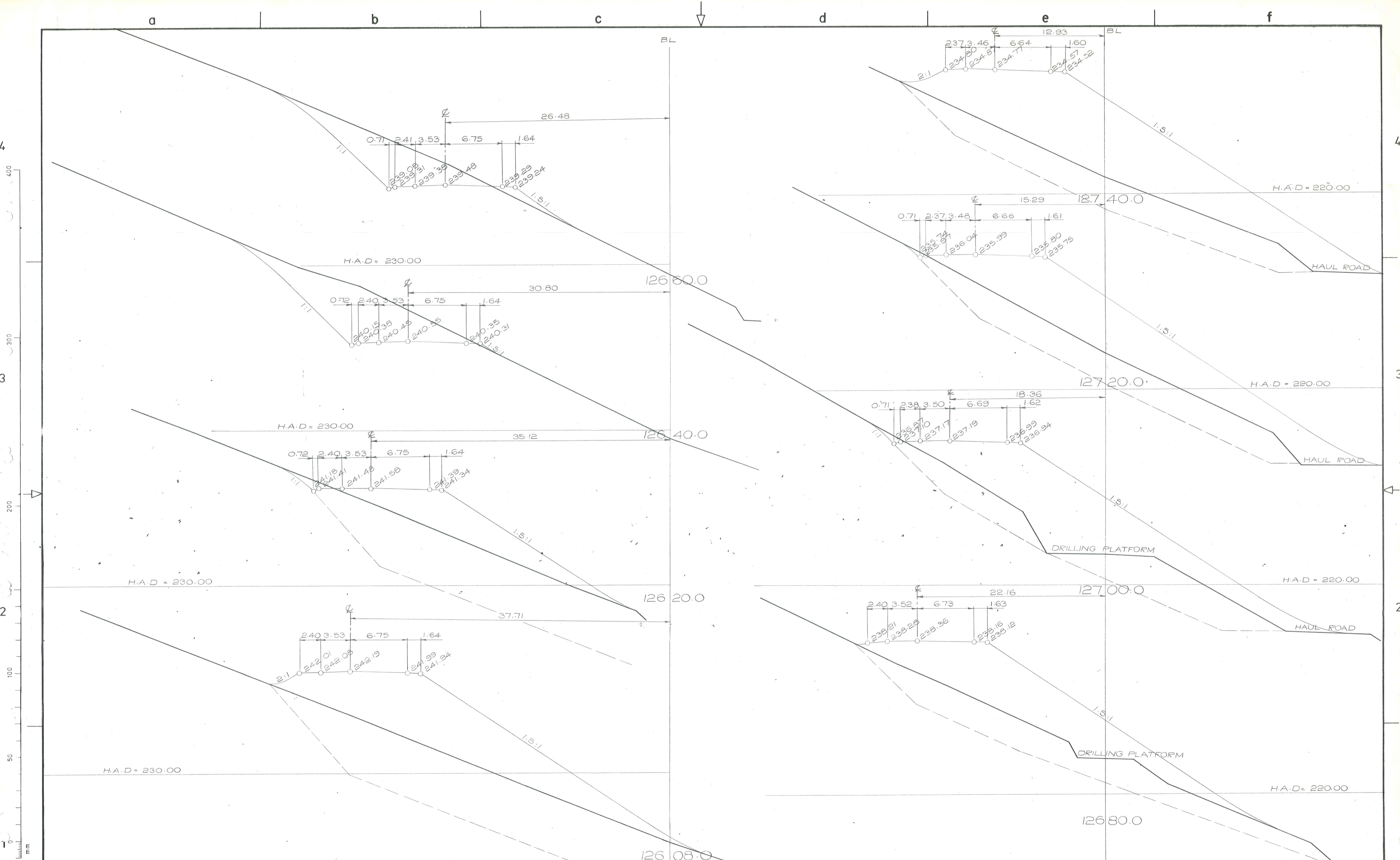
Ministry of Works and Development

CIVIL ENGINEERING
DUNEDIN

Civil Design Office.
N.C. McLEOD Commissioner

SH 8 RD 16 RS 310.
REALIGNMENT FROM RP 310/5.28 - 11.10.
DAIRY CREEK - HARTLEY ROAD SECTION.
CONST. DWG. ~ CROSS SECTIONS 12560.0 ~ 12600.0

JOB	CODE	SHEET	REVISION
7/76/2	7704	30	R3



ORIGINAL SIZE
A 1

DESIGND	BY	CHECKED	DATE
DRAWN			9/78
DES. SUP			
DWG. SUP			9/78
RECOMMENDED			
ACTING DIST. HIGHWAYS ENGINEER			

F. A. LANGBEIN
DIRECTOR OF ROADING

Ministry of Works and Development

E. J. BURT
CHIEF
HIGHWAYS ENGINEER

CIVIL ENGINEERING
DUNEDIN

CIVIL DESIGN OFFICE

N.C. McLEOD
Commissioner

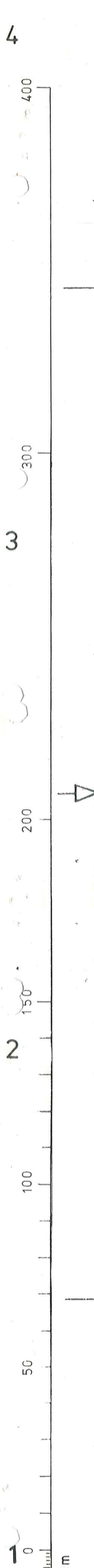
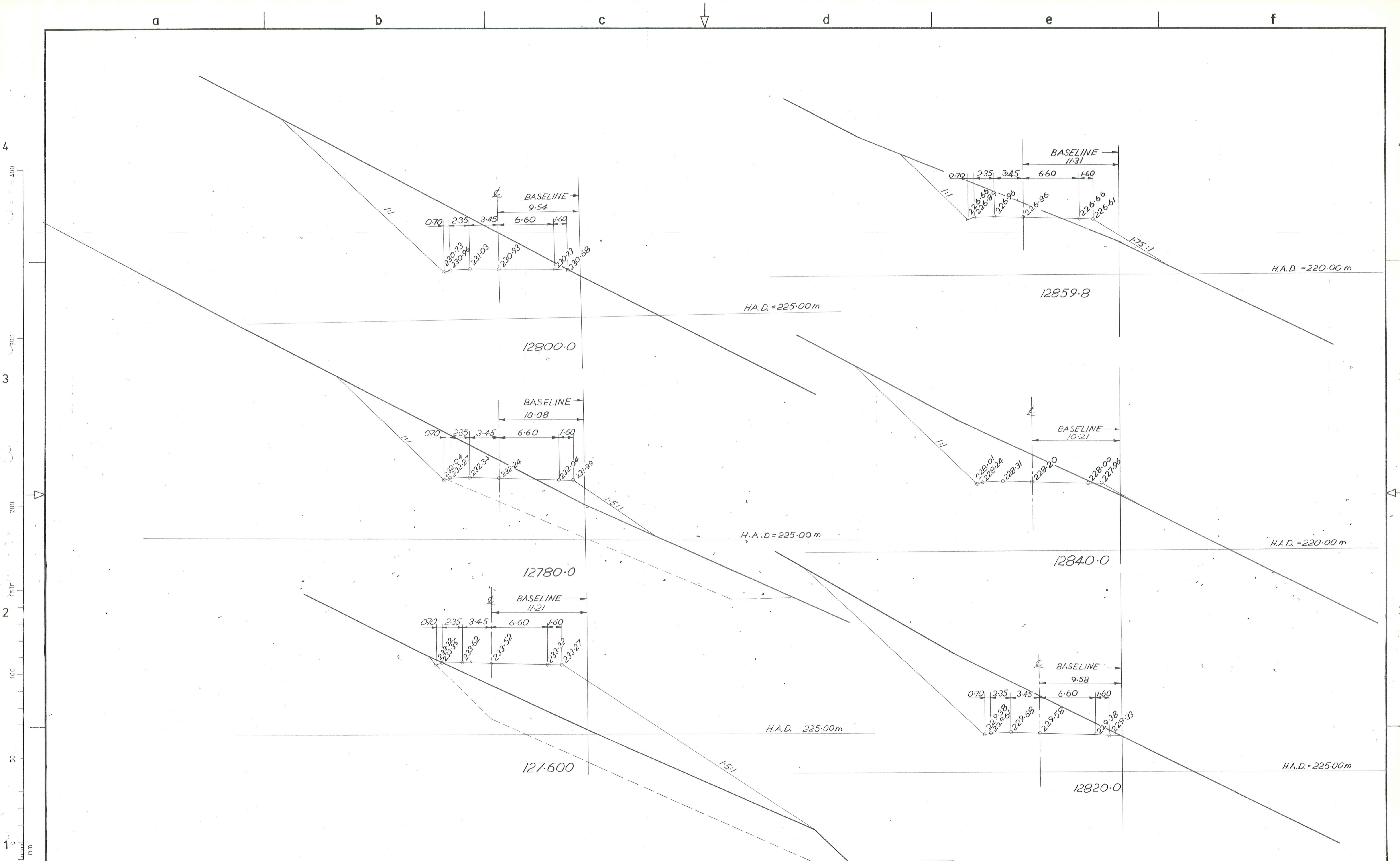
SH 8.. RD 16 RS 310.

REALIGNMENT FROM RP 310/5-28 - 11-10

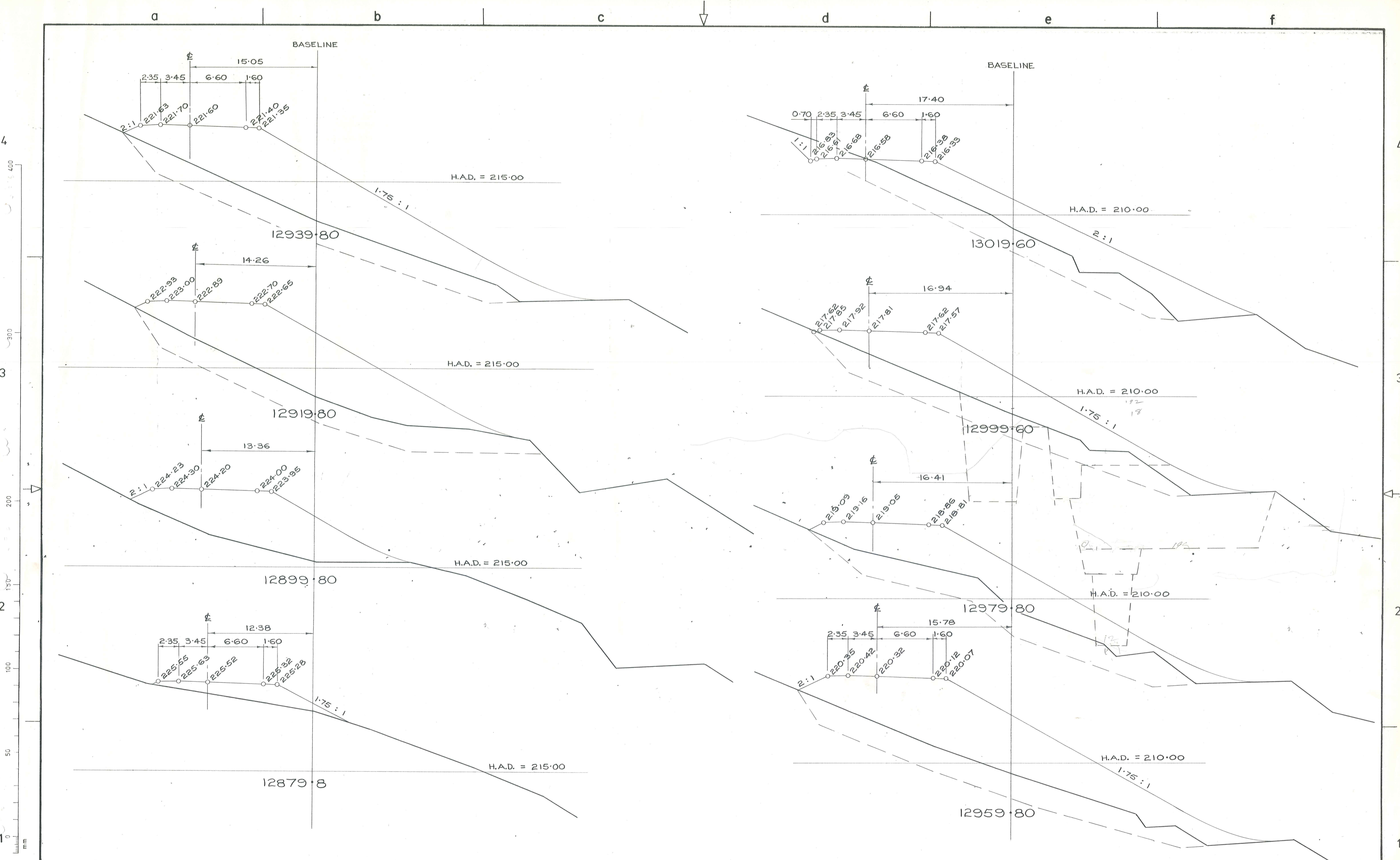
DAIRY CREEK - HARTLEY ROAD SECTION.

CONST. DWG. - CROSS SECTIONS 12608.0 - 12740.0.

ORIGINAL SCALES	1:200.	FILE
JOB	CODE	SHEET
7/76/2	7704	31
REVISION		
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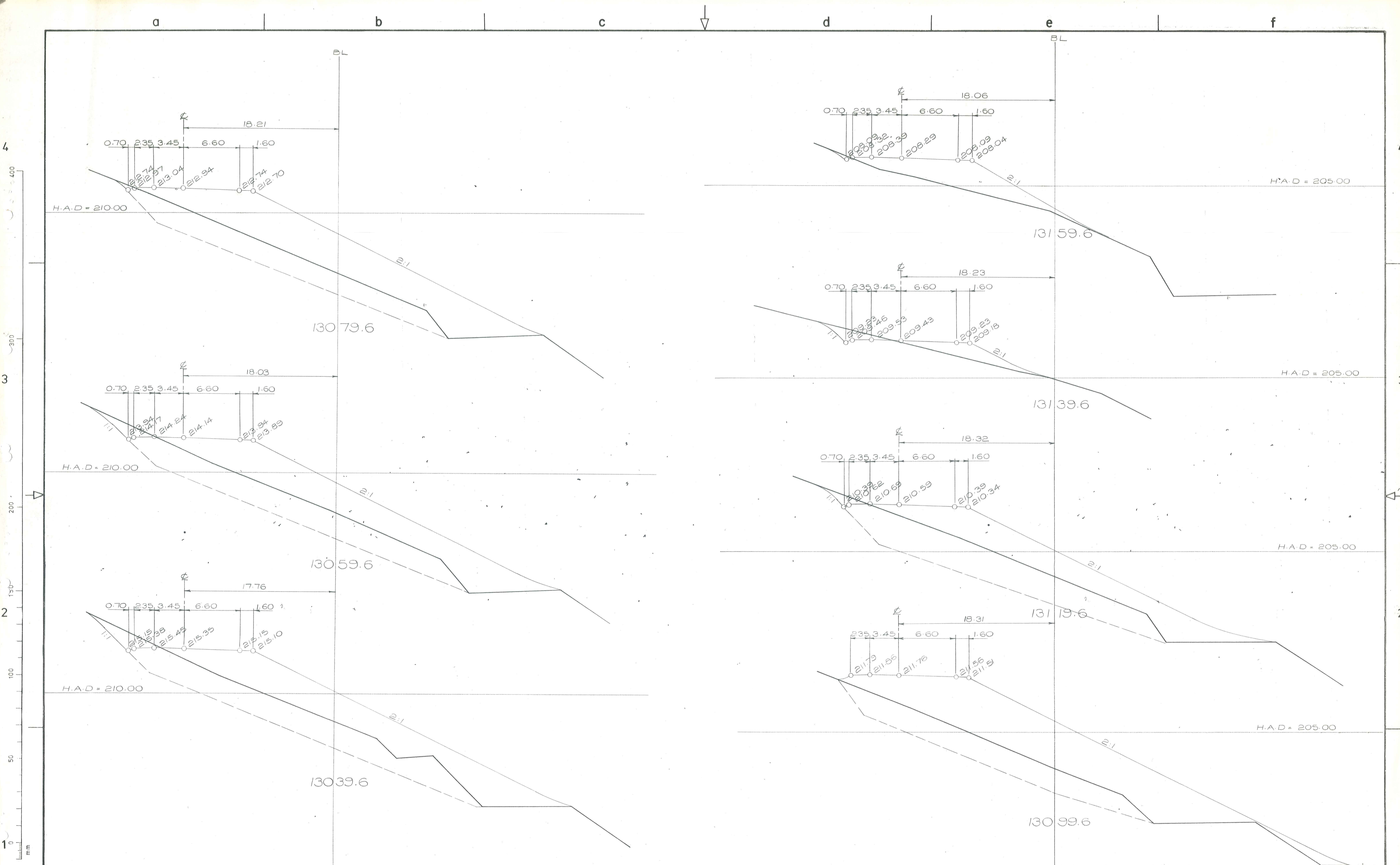


DESIGN'D		BY	CHECKED	DATE	F. A. LANGBEIN DIRECTOR OF ROADING	 Ministry of Works and Development	SH 8 RD 16 RS 310		ORIGINAL SCALES	1 : 200	FILE		
DRAWN				9/78	E. J. BURT CHIEF HIGHWAYS ENGINEER		CIVIL ENGINEERING DUNEDIN	REALIGNMENT FROM RP 310/5:28 - 11:10					
DES.SUP.							CIVIL DESIGN OFFICE	DAIRY CREEK - HARTLEY ROAD SECTION.		JOB	CODE	SHEET	REVISION
DWG.SUP.				9/10			N.C. McLEOD Commissioner	CONST. DWG. - CROSS SECTIONS 12760.0 - 12859.8		7/76/2	7704	32	R2
RECOMMENDED					APPROVED								
AMENDMENTS		BY	APPD.	DATE	ACTING DIST. HIGHWAYS ENGINEER	DIST. CIVIL ENGINEER							
R2 REDESIGNED & RETRACED		DE	B	10/78									

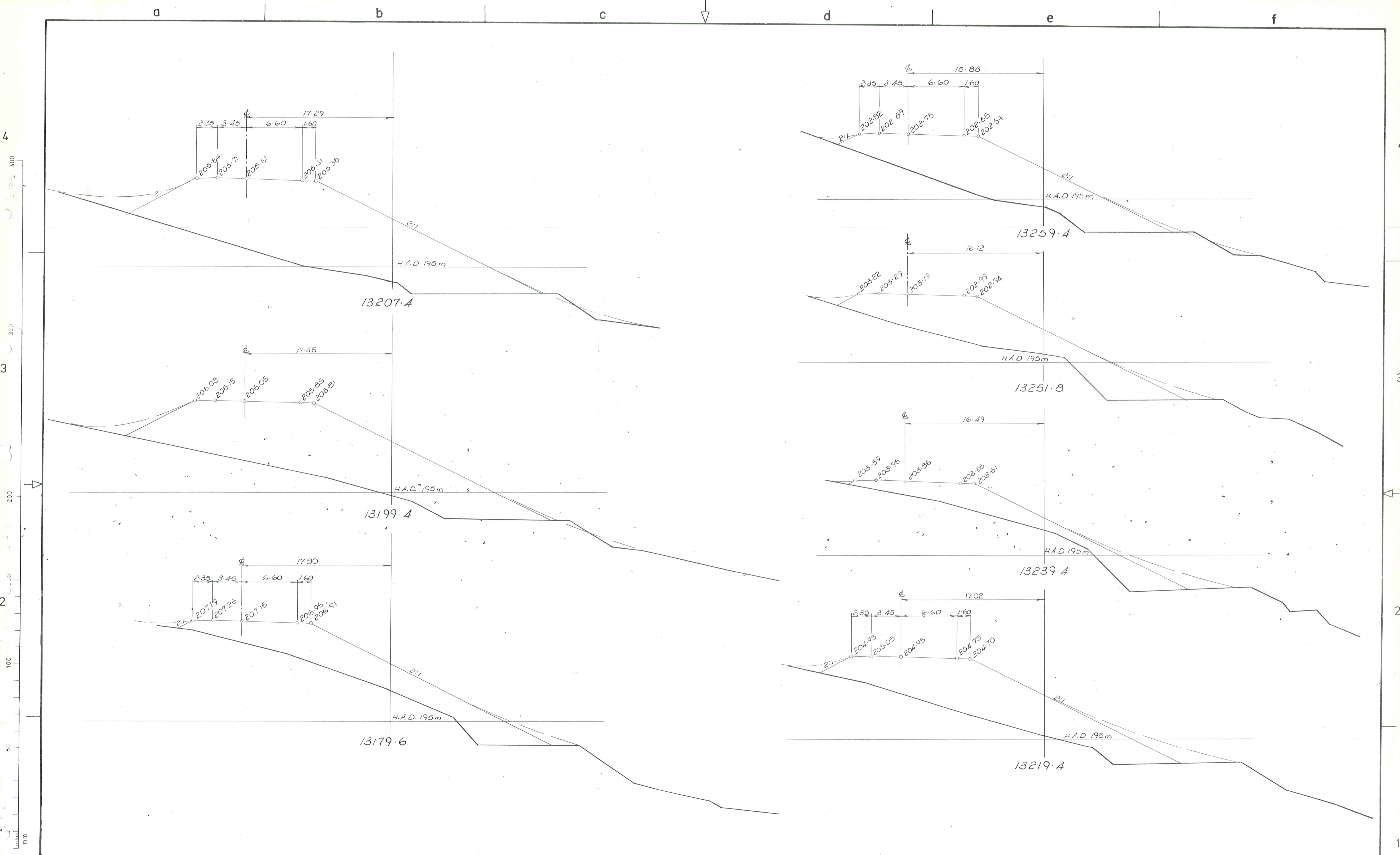


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DESIGN'D BY <i>D. C. B.</i>		CHECKED <i>D. C. B.</i>	DATE 9/78	F. A. LANGBEIN DIRECTOR OF ROADING		SH 8 RD 16 RS 310. REALIGNMENT FROM RP 310/5.28-11.10 DAIRY CREEK - HARTLEY ROAD SECTION. CONST. DWG. - CROSS SECTIONS 12879.8 - 13019.6.	ORIGINAL SCALES 1:200	FILE	
DRAWN <i>G. Lockhart</i>		DES. SUP. <i>D. C. B.</i>	DWG. SUP. <i>D. C. B.</i>	E. J. BURT CHIEF HIGHWAYS ENGINEER			CIVIL ENGINEERING DUNEDIN	JOB 7/76/2	CODE 7704
RECOMMENDED BY <i>D. C. B.</i>		DATE 12/10/78	ACTING DIST. HIGHWAYS ENGINEER	APPROVED <i>R. S. Buller</i>	DIST. CIVIL ENGINEER	N.C. McLEOD Commissioner			
R2 REDESIGNED & RETRACED AMENDMENTS		BY <i>DC</i>	APPD. <i>B</i>	DATE					



ORIGINAL SIZE A 1	DESIGN'D	BY	CHECKED	DATE	F. A. LANGBEIN DIRECTOR OF ROADING	Ministry of Works and Development	SH 8 RD 16 RS 310. REALIGNMENT FROM RP 310/528-11-10. DAIRY CREEK - HARTLEY ROAD SECTION. CONST. DWG. - CROSS SECTIONS 13039.6 - 13159.6.	ORIGINAL SCALES	1:200.	FILE					
	DRAWN	<i>Gregory</i>	<i>D. H. H. H.</i>	9/78	E. J. BURT CHIEF HIGHWAYS ENGINEER			CIVIL ENGINEERING DUNEDIN	JOB	7/76/2	CODE	7704	SHEET	34	REVISION
	DES.SUP	<i>D. H. H. H.</i>	<i>D. H. H. H.</i>	9/78	APPROVED	CIVIL DESIGN OFFICE									
	DWG.SUP	<i>D. H. H. H.</i>	<i>D. H. H. H.</i>	9/78	<i>R. O. Bullen</i> DIST. CIVIL ENGINEER	N.C. McLEOD Commissioner									
R2 REDESIGNED & RETRACED AMENDMENTS	P.F.G.	BY	APPD.	DATE	RECOMMENDED	ACTING DIST. HIGHWAYS ENGINEER									



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ORIGINAL SIZE
A 1

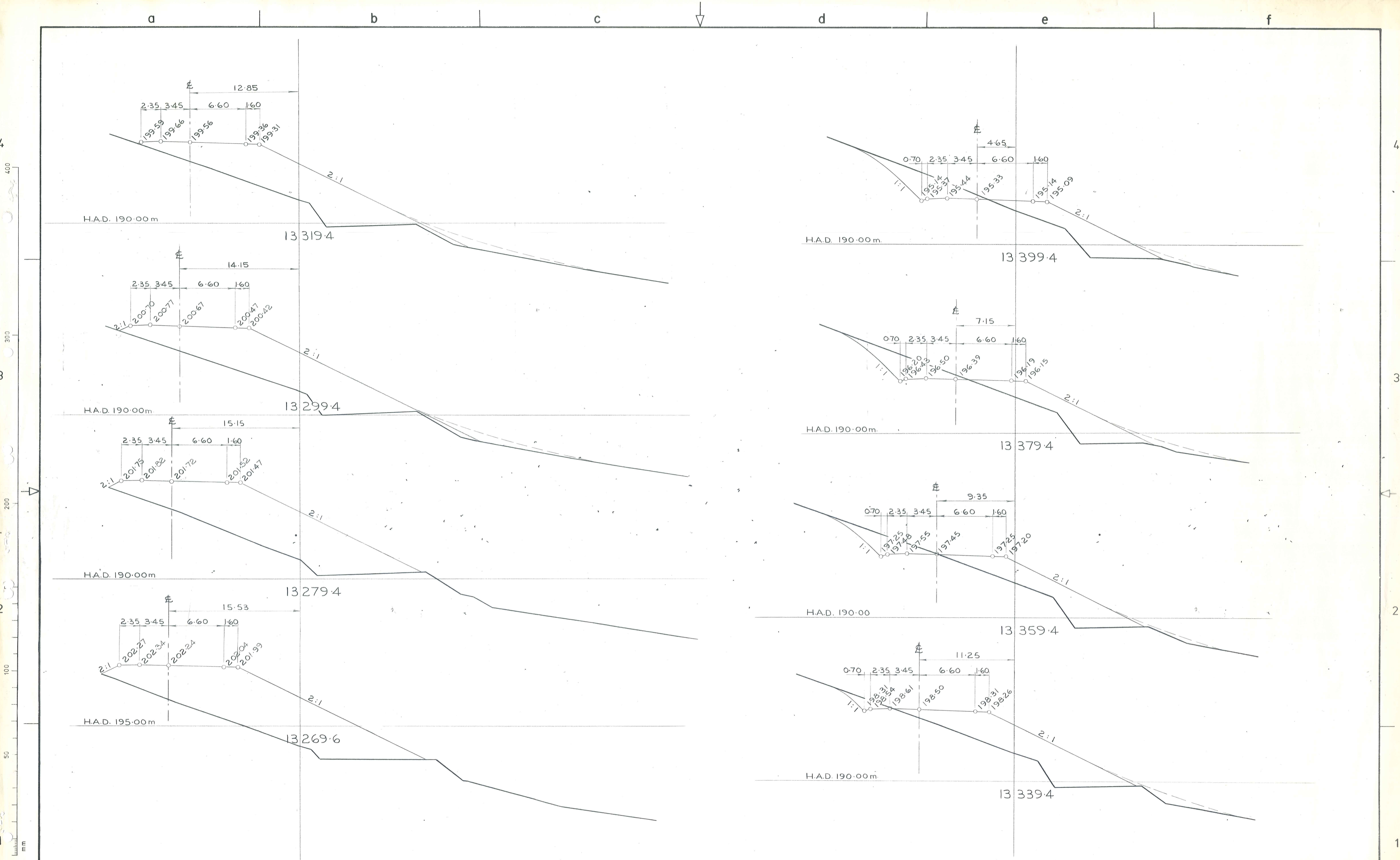
BY	CHECKED	DATE	F. A. LANGBEIN DIRECTOR OF ROADING	
Designed	<i>[Signature]</i>	6/78	E. J. BURT CHIEF HIGHWAYS ENGINEER	
Drawn	<i>[Signature]</i>	6/78	APPROVED	
Des. Sup'vd	<i>[Signature]</i>	6/78	<i>[Signature]</i> ACTING DIST HIGHWAYS ENGR	
R2 REDESIGNED	<i>[Signature]</i>	10/78	<i>[Signature]</i> DIST CIVIL ENGR	N.C. McLEOD Commissioner
R1 REDESIGNED	<i>[Signature]</i>	6/78		
AMENDMENTS	BY	APPD.	DATE	

SH.8. RD.16. RS.310.
REALIGNMENT RP.310/5.28 - RP.310/11.10.
DAIRY CREEK - HARTLEY ROAD SECTION.
CONSTRUCTION DRAWING - CROSS SECTIONS 13179.6 - 13259.4

ORIGINAL SCALES	1:200	FILE
JOB	7/76/2	CODE
SHEET	35	REVISION
		R2

P.W. 482-A1
LOCAL OR TRACING No. 1:1
1:2
1:5

Whole numbers = mm
Decimalised expressions = m
unless indicated otherwise



DESIGNED		BY	CHECKED	DATE	F. A. LANGBEIN DIRECTOR OF ROADING	 Ministry of Works and Development	S.H. 8.	R.D. 16	R.S. 310	ORIGINAL SCALES	1:200	FILE	
DRAWN		J. Boyle	J. Boyle	6/78	E. J. BURT CHIEF HIGHWAYS ENGINEER		CIVIL ENGINEERING DUNEDIN	REALIGNMENT	R.P. 310/5.28 - R.P. 310/11.10				
DES. SUP.		J. Boyle	J. Boyle	6/78	APPROVED	CIVIL DESIGN OFFICE	DAIRY CREEK - HARTLEY ROAD SECTION.			JOB	CODE	SHEET	REVISION
DWG. SUP.		J. Boyle	J. Boyle	6/78	Acting Dist. Highways Eng.	N.C. McLEOD Commissioner	CONSTR. DWG: CROSS SECTS 13269.6 - 13399.4			7/76/2	7704	36	R2
RECOMMENDED		Steelhead 6/78											
AMENDMENTS		BY	APPD.	DATE									