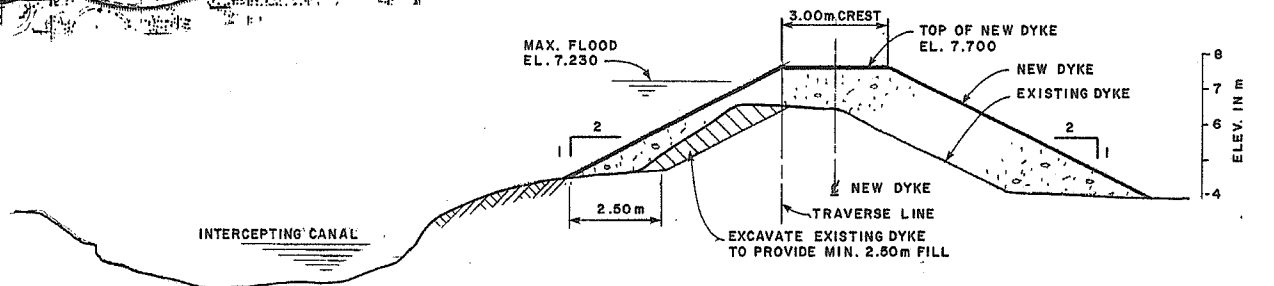
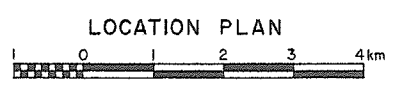
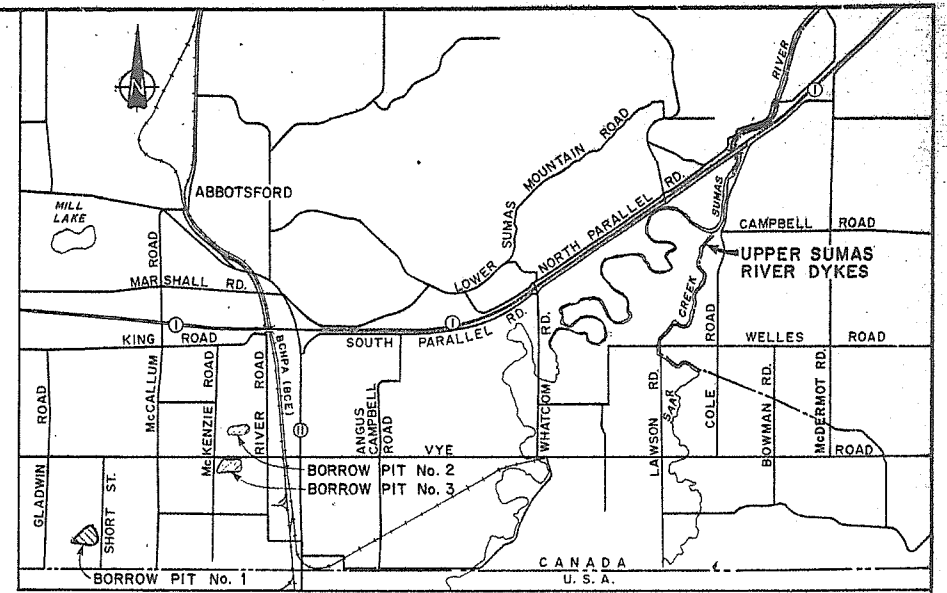
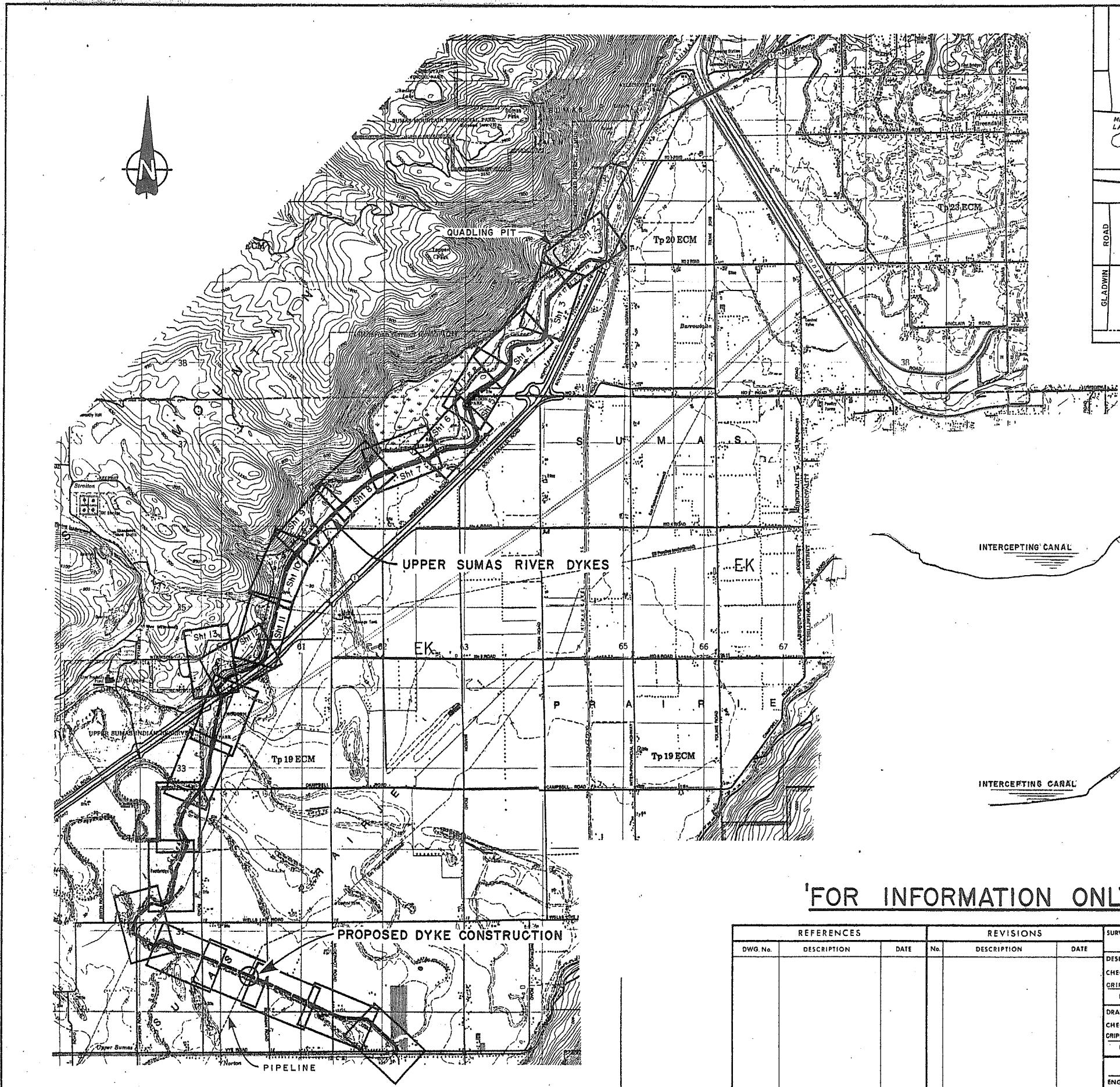


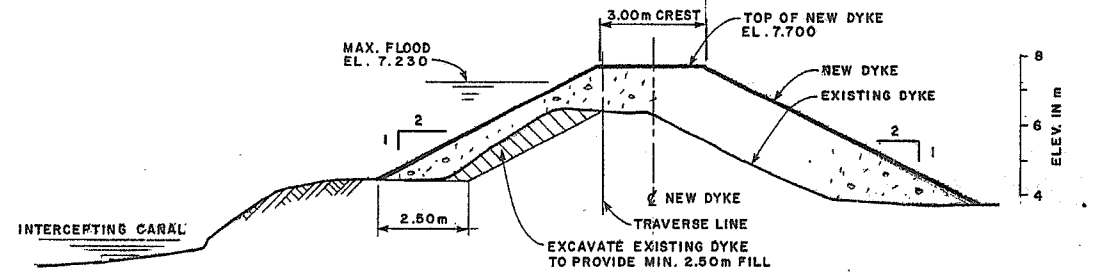
Upper Sumas River Dyke

Contract 2

As Constructed



CROSS SECTION AT STA 5+200



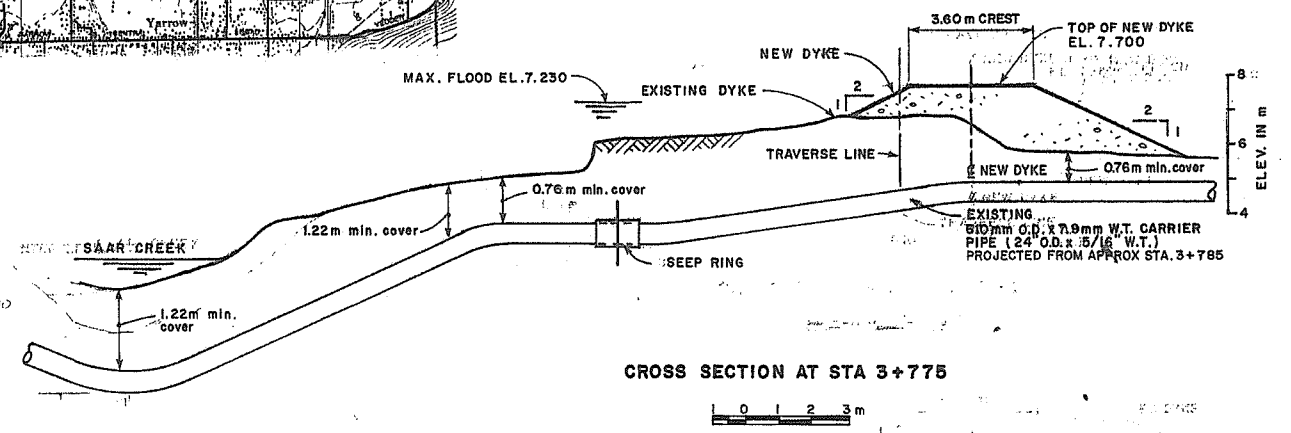
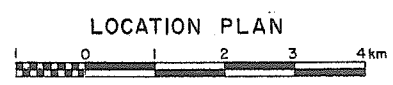
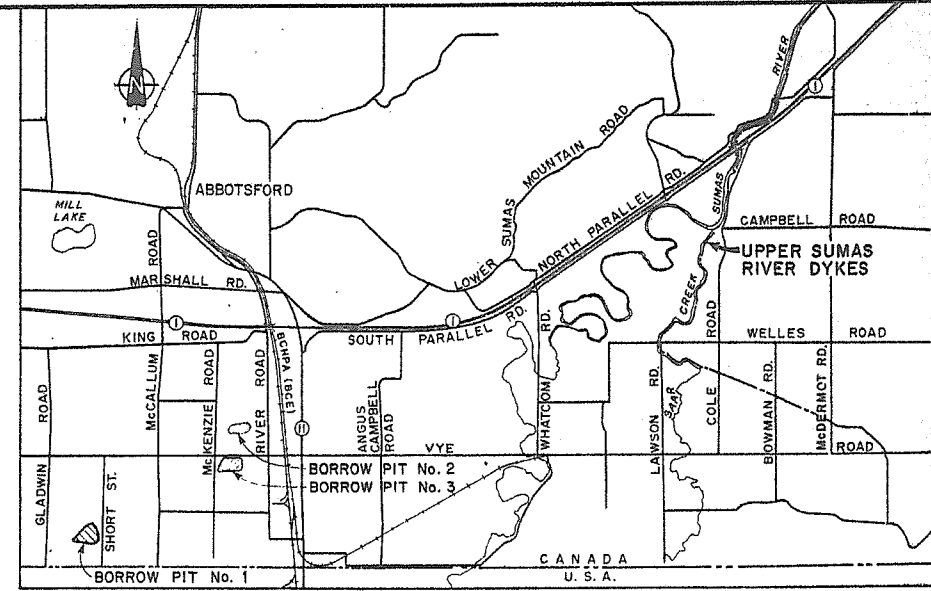
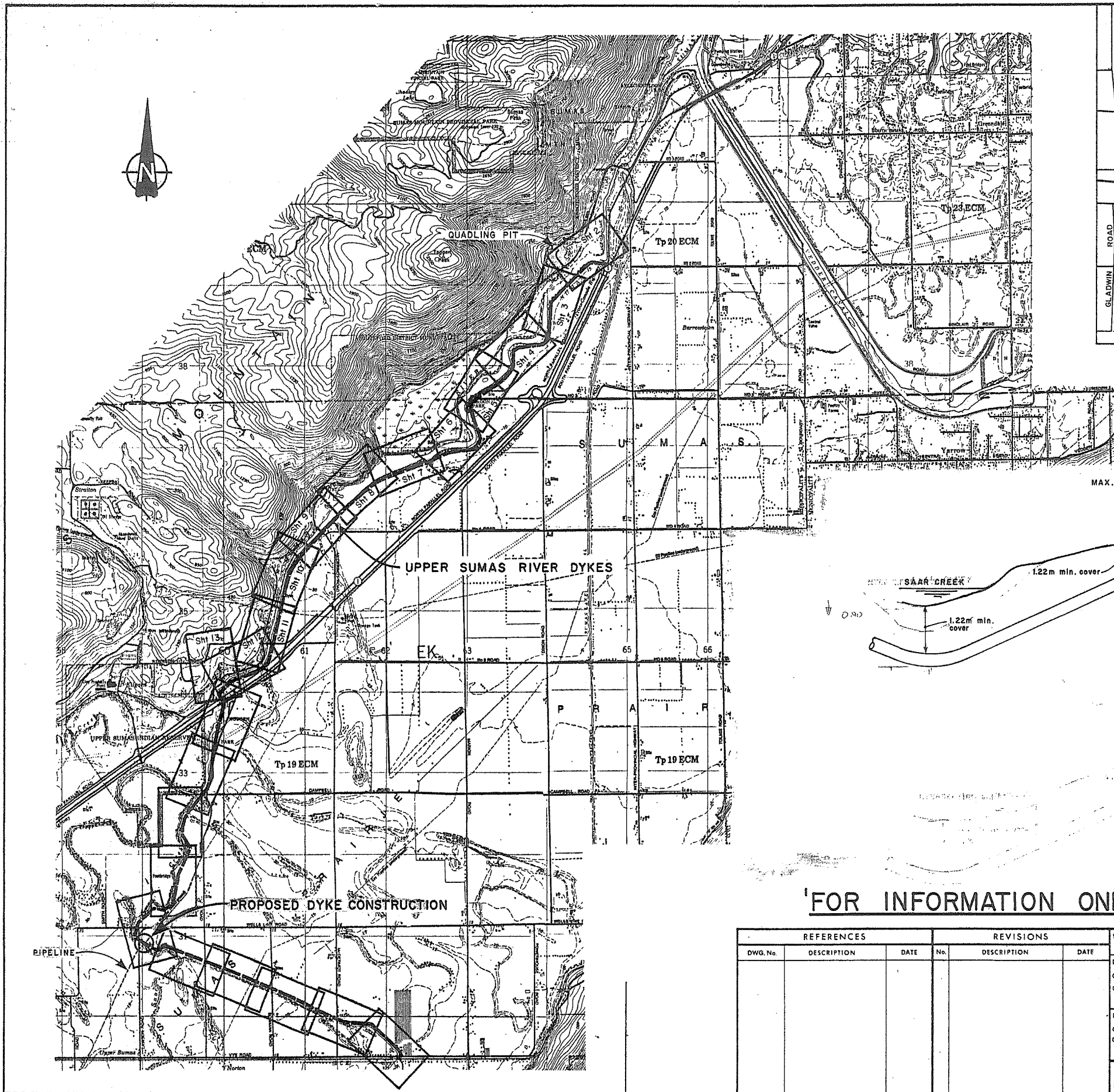
CROSS SECTION AT STA 5+226



'FOR INFORMATION ONLY'

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					CHECKED		NTS MAP NO. 92G-1				
					DATE		SCALE AS SHOWN				
					DRAWN	HNC	DRAWING NO. SK 2				
					CHECKED	GWS	DATE	APPROVED	A/DIRECTOR	DATE	
					DATE						
ENGINEER CRIPPEN CONSULTANTS LTD.			RECOMMENDED PROJECT MANAGER DATE			APPROVED		A/DIRECTOR		SHEET	OF

SUMAS RIVER DYKE PROJECT
 WESTCOAST TRANSMISSION PIPELINE
 SK 2

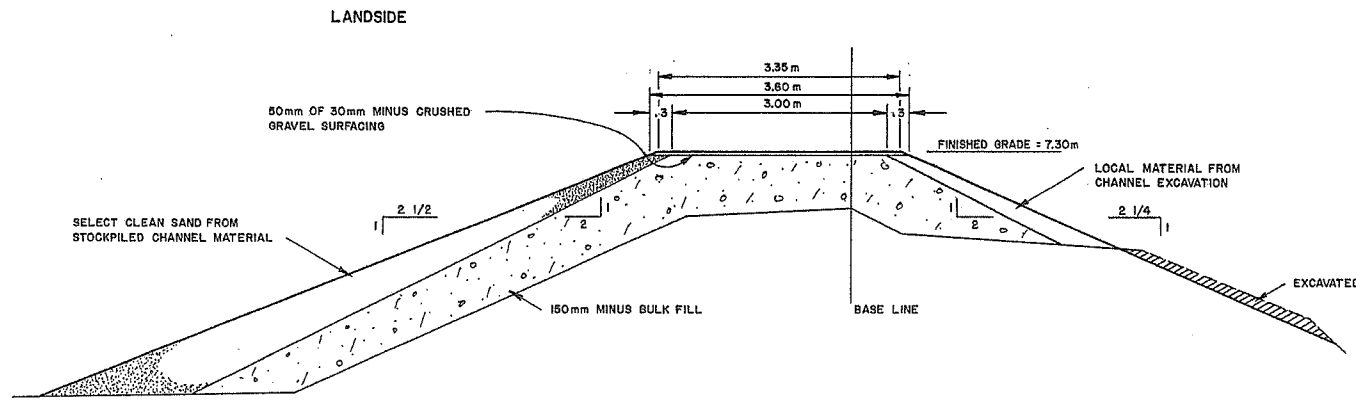


NOTES
 1. PIPELINE DETAILS FROM TRANS MOUNTAIN PIPELINE CO. DWG. R-A-574, RI DATED 6/30/83

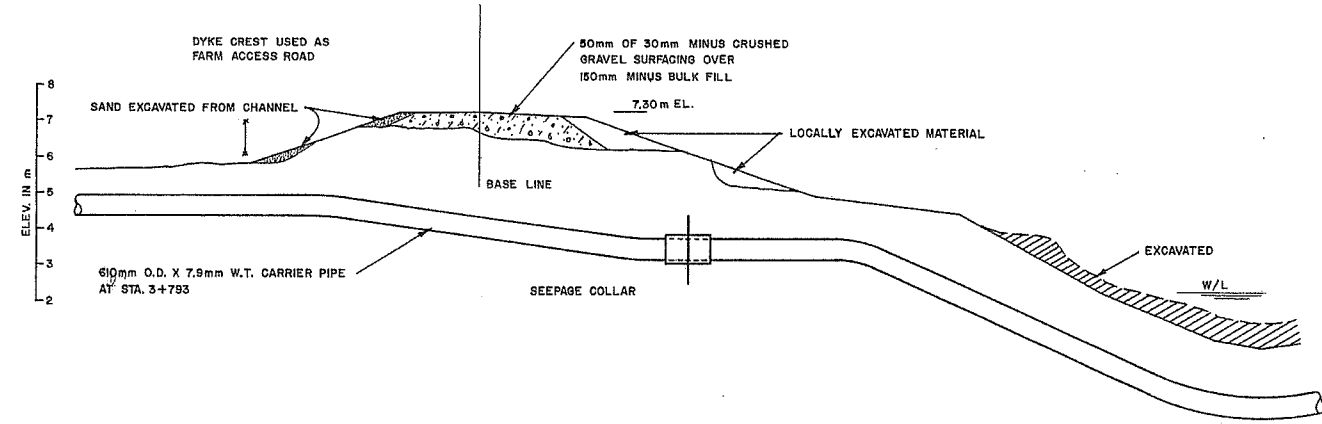
'FOR INFORMATION ONLY'

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1985-1986 FLOOD CONTROL PROGRAM DISTRICT OF ABBOTSFORD CONTRACT No.2 UPPER SUMAS RIVER DYKES PROPOSED DYKE CONSTRUCTION AT TRANS MOUNTAIN PIPELINE											ENG. PROJECT NO. 10182 NTS MAP NO. 92G-1 SCALE AS SHOWN DRAWING NO. REV. NO. SK 1			
ENGINEER	CRIPPEN CONSULTANTS LTD.	DATE	RECOMMENDED PROJECT MANAGER	DATE	APPROVED	A/DIRECTOR	DATE	SHEET		OF				

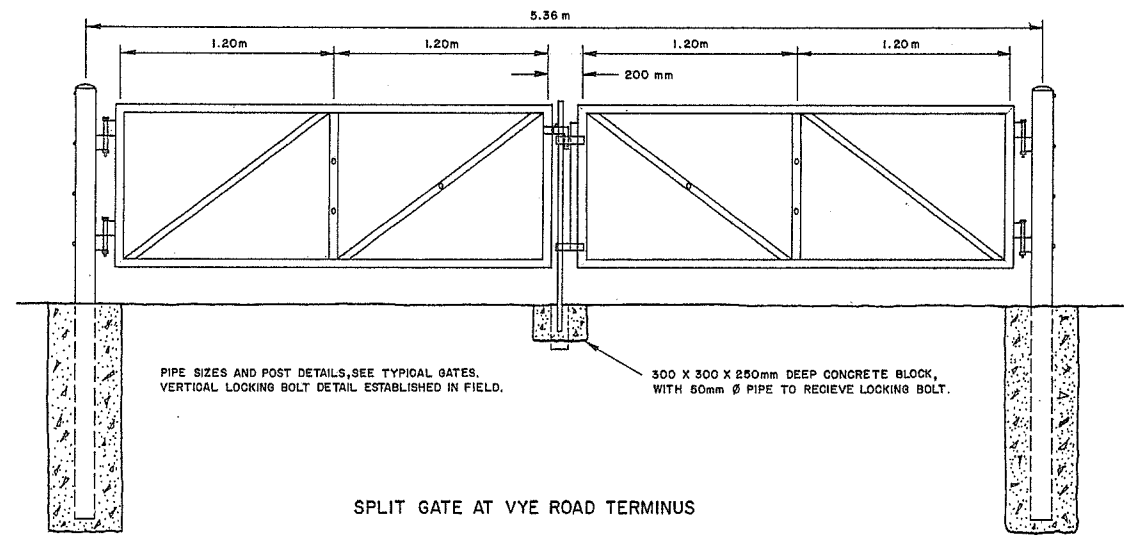
SUMAS DYKE AMSC II
 TRANS MOUNT. PIPELINE CO.
 SK 1



TYPICAL SECTION
1+300 - 7+300
CAMPBELL RD. TO VYE RD.
SCALE 1:50

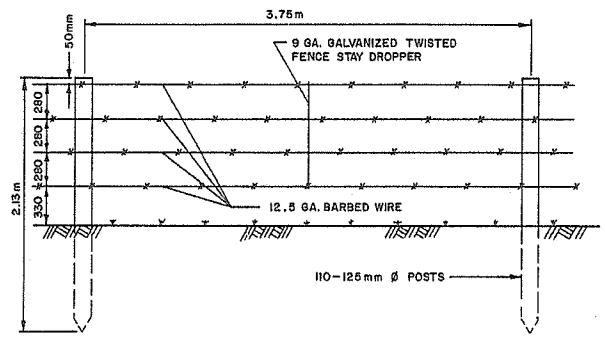


OIL PIPELINE CROSSING
AT STA. 3+793 - SKEWED



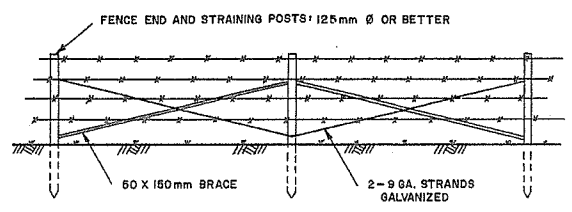
SPLIT GATE AT VYE ROAD TERMINUS

SCALE 1:20



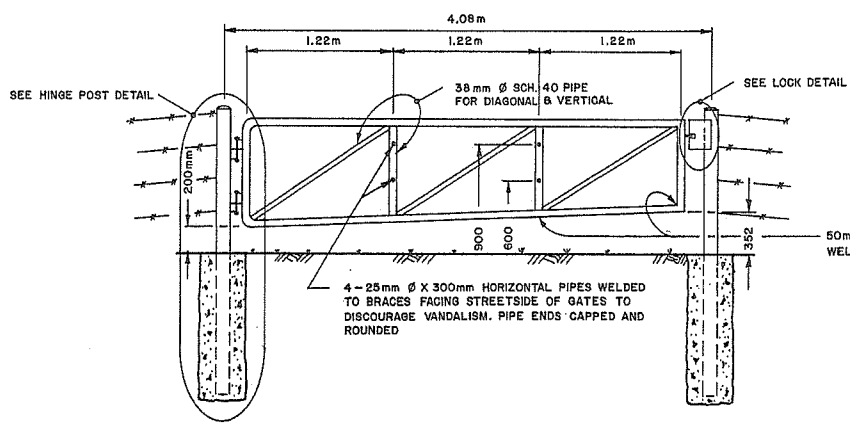
TYPICAL 4 STRAND BARBED WIRE FENCE

SCALE 1:30



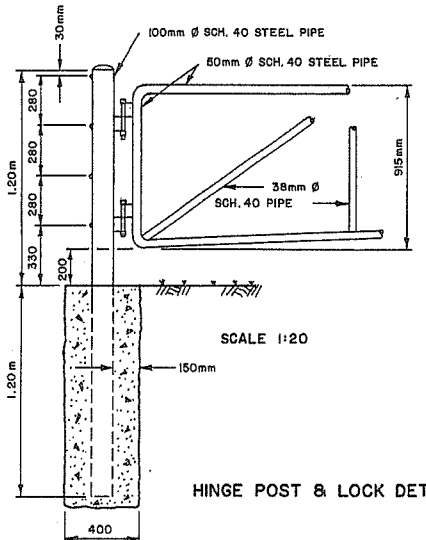
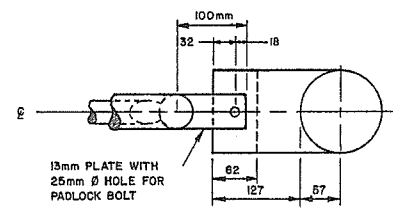
END & STRAINING POST DETAIL

NOT TO SCALE



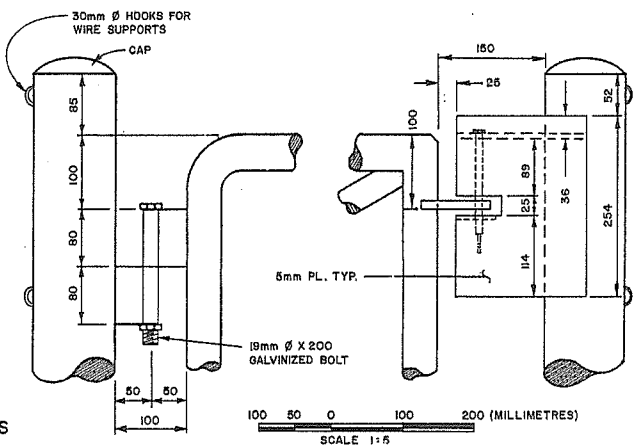
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SCALE 1:30



HINGE POST & LOCK DETAILS

SCALE 1:20



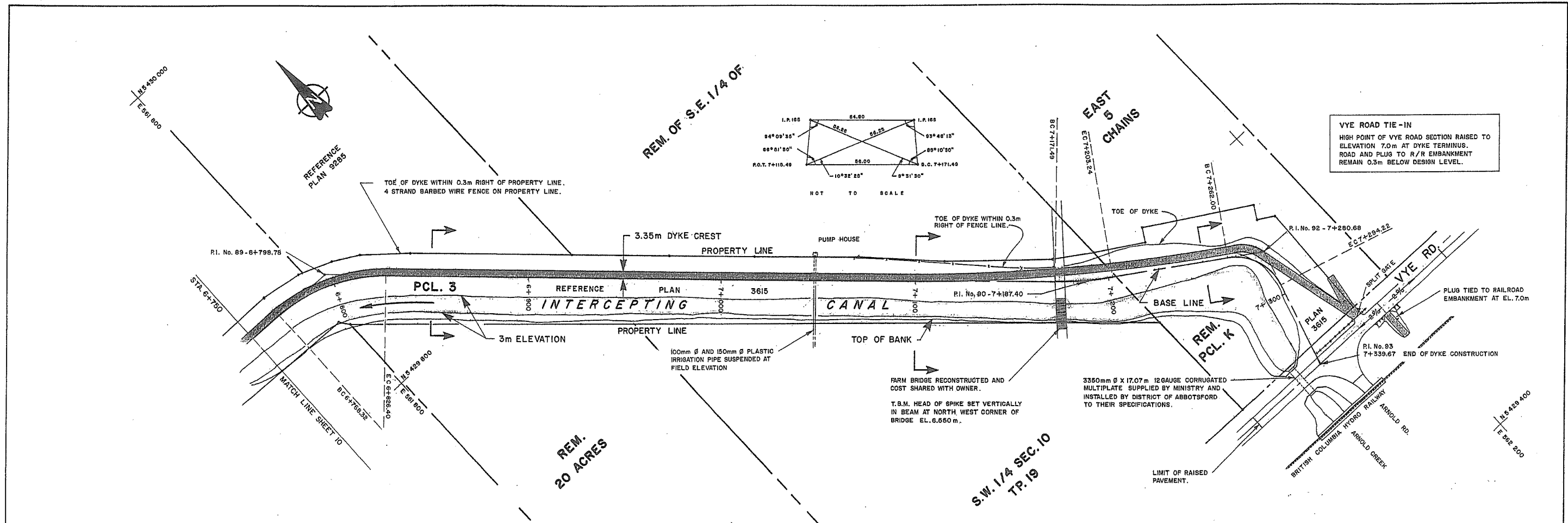
SCALE 1:5

'AS CONSTRUCTED'

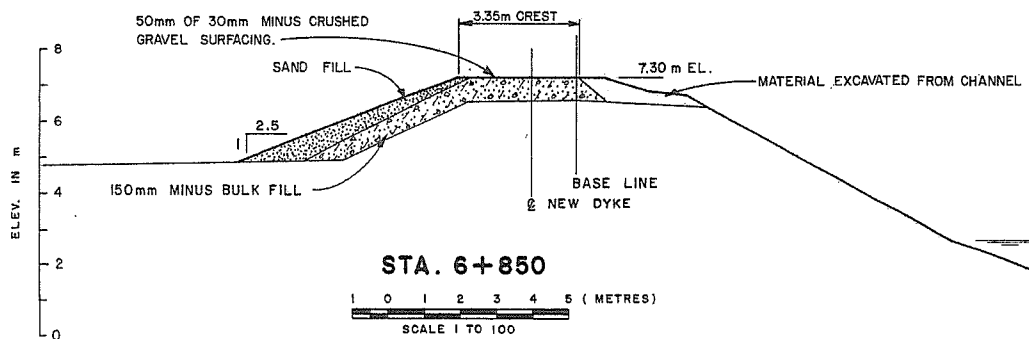
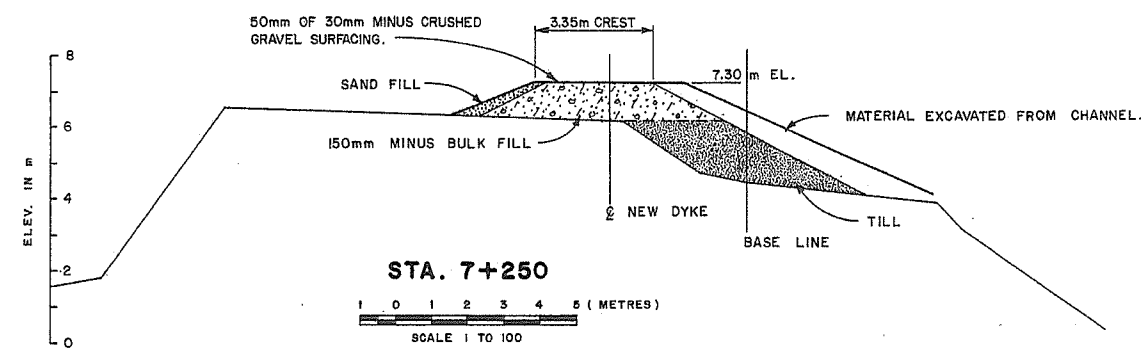
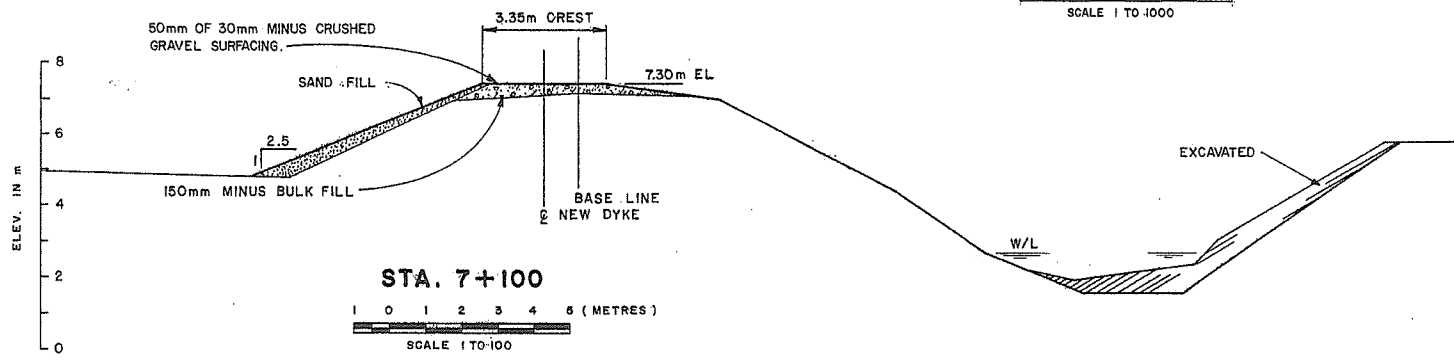
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						DATE	APRIL 24 1985					AS SHOWN
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						APPROVED						DRAWING NO.
						HEAD, DRAFTING SECTION						REV.
						DATE	JAN. 1989					SHEET 12 OF 13
						ENGINEER		DATE	RECOMMENDED	DATE	APPROVED	DIRECTOR

MANUAL USE

D



PLAN
SCALE 1 TO 1000



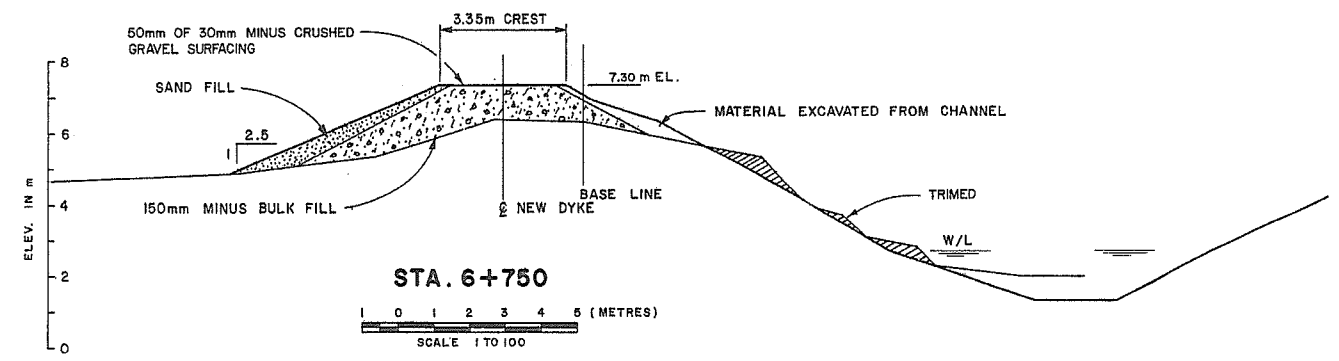
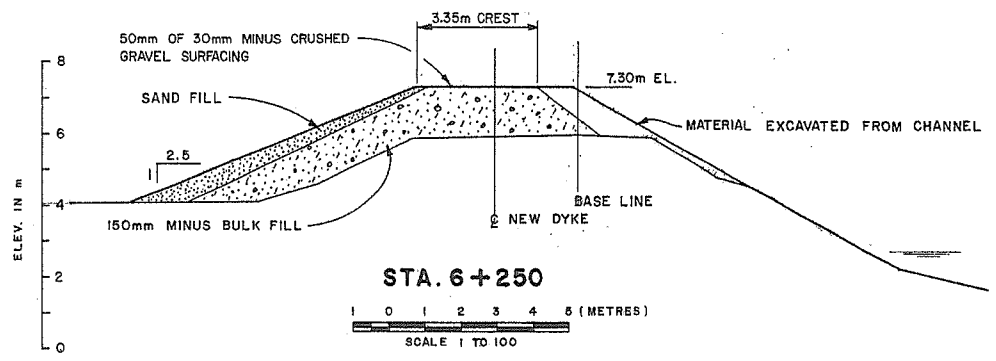
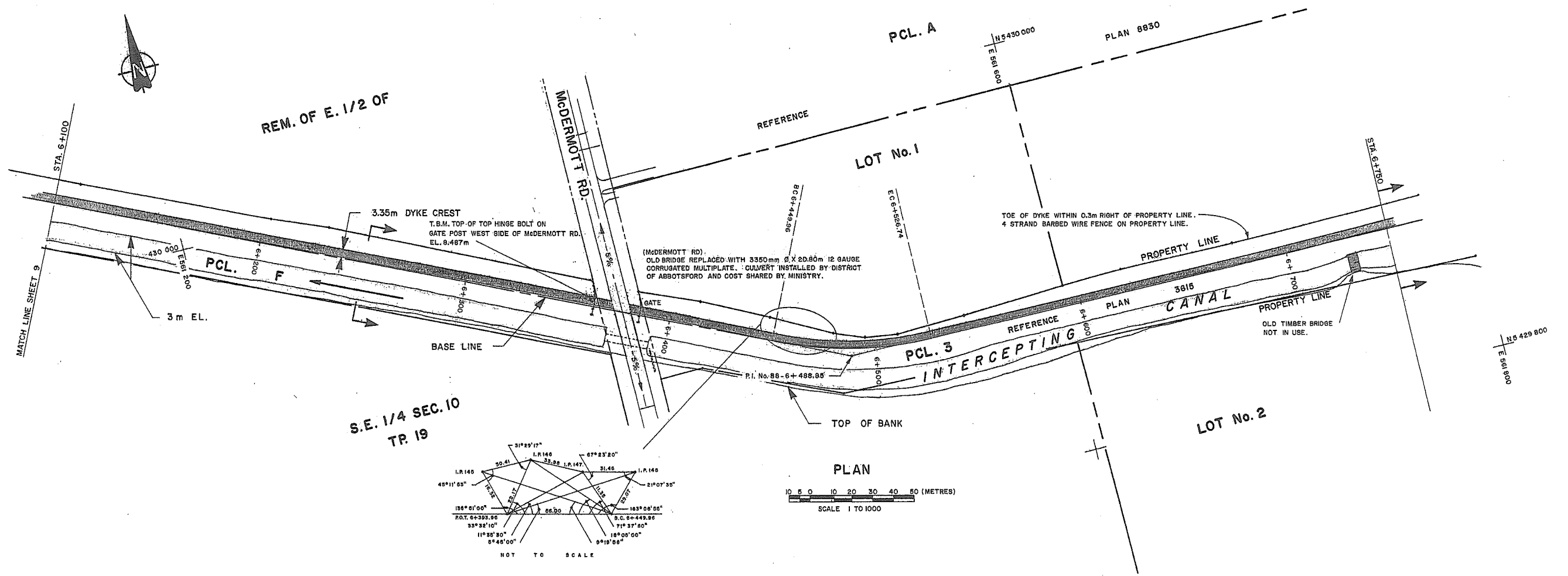
'AS CONSTRUCTED'

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						CHECKED				
						DATE	APRIL 24 1985			
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1985 - 1986 FLOOD CONTROL PROGRAM
DISTRICT OF ABBOTSFORD
CONTRACT No. 2

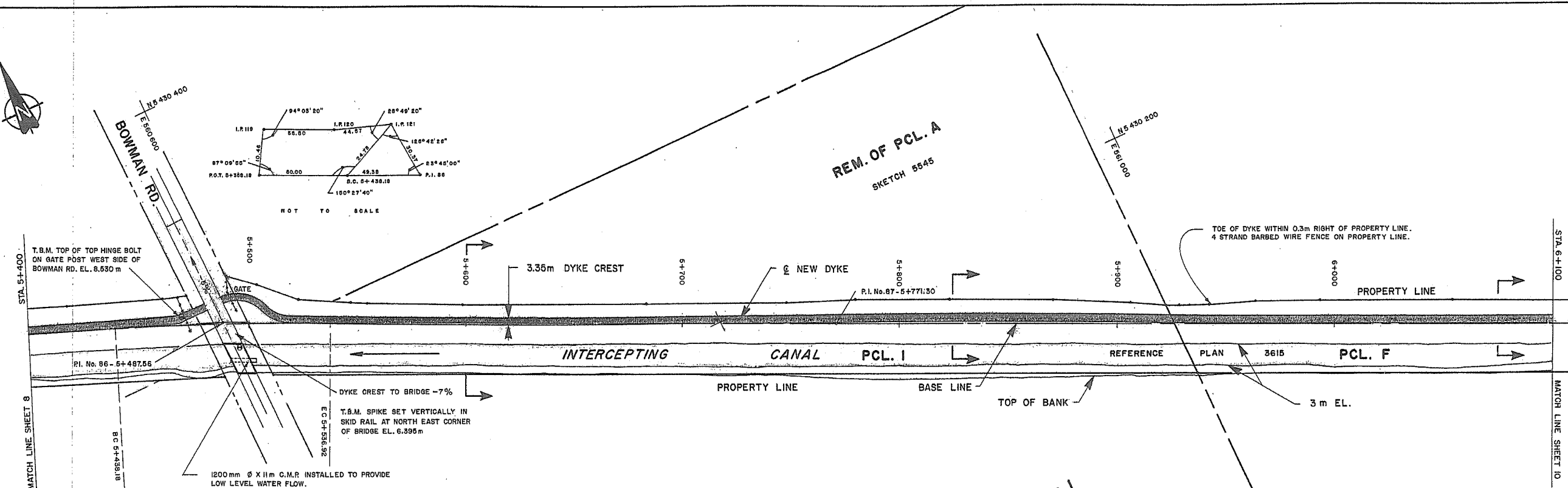
UPPER SUMAS RIVER DYKES
PHASE II PLAN AND SECTIONS
STA. 6+750 TO STA. 7+339.67

ENG. PROJECT NO.
NTS MAP NO.
SCALE AS SHOWN
NEGATIVE NO.
DRAWING NO. REV.
SHEET 11 OF 13



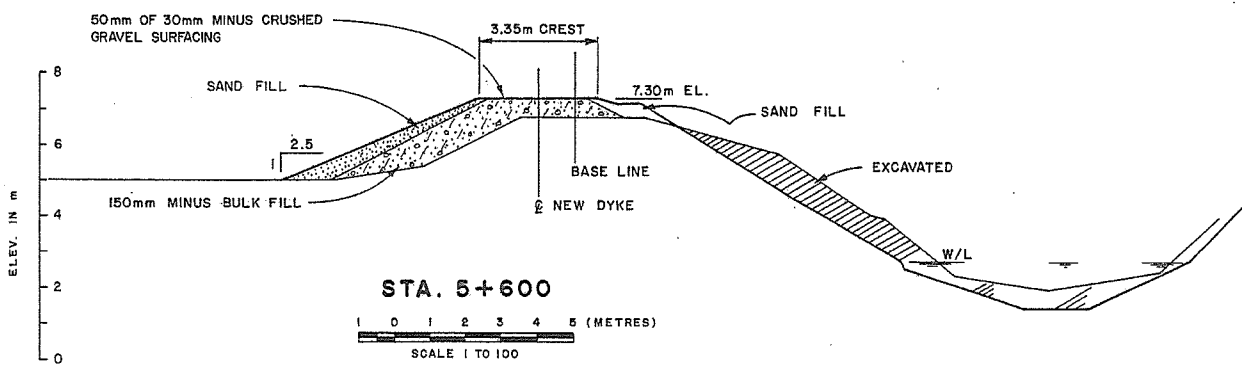
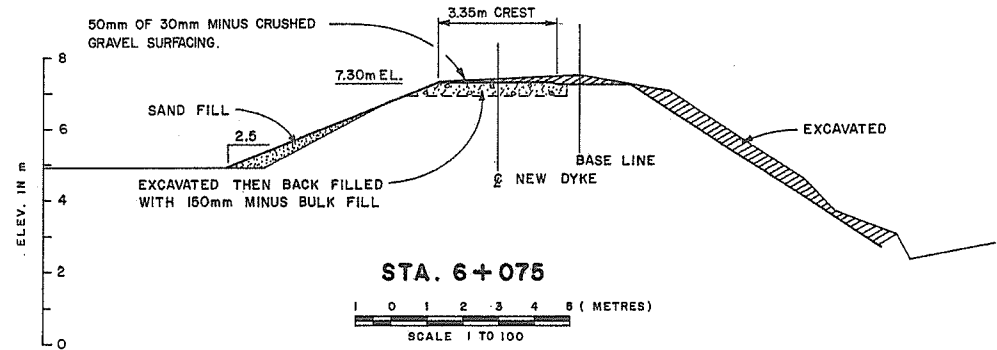
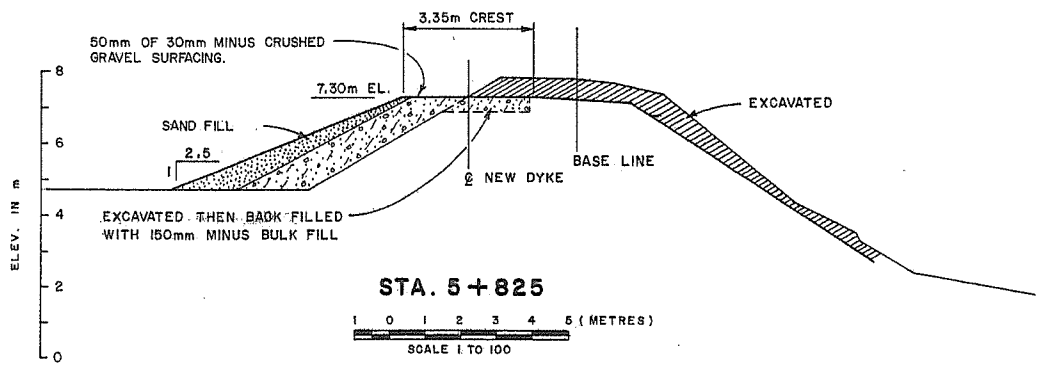
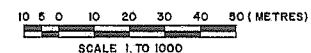
'AS CONSTRUCTED'

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WEST 1/2 SOUTH EAST 1/4 SECTION 9
(32239 E)

PLAN



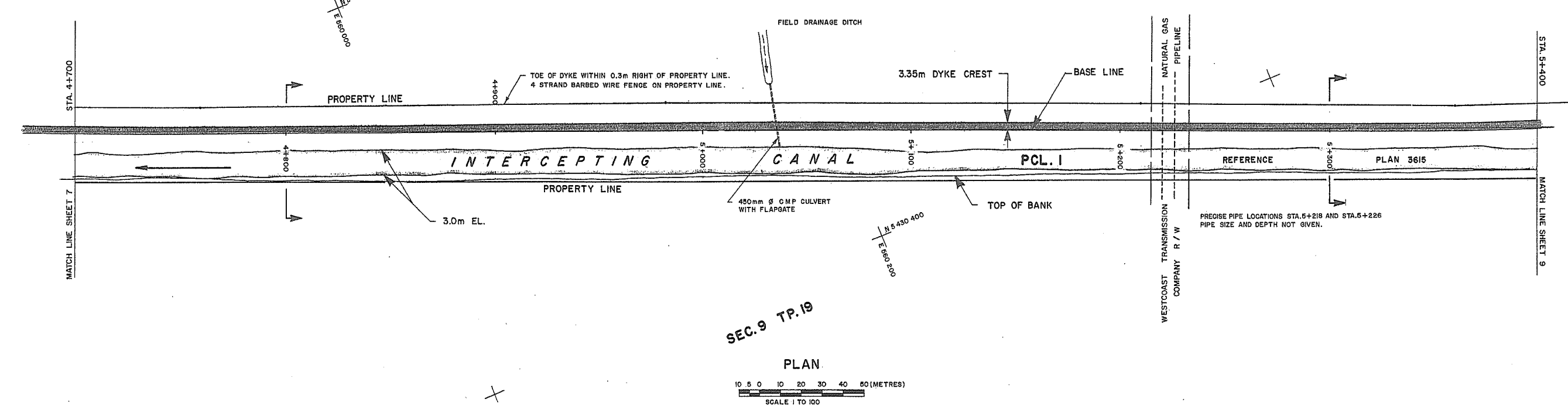
'AS CONSTRUCTED'

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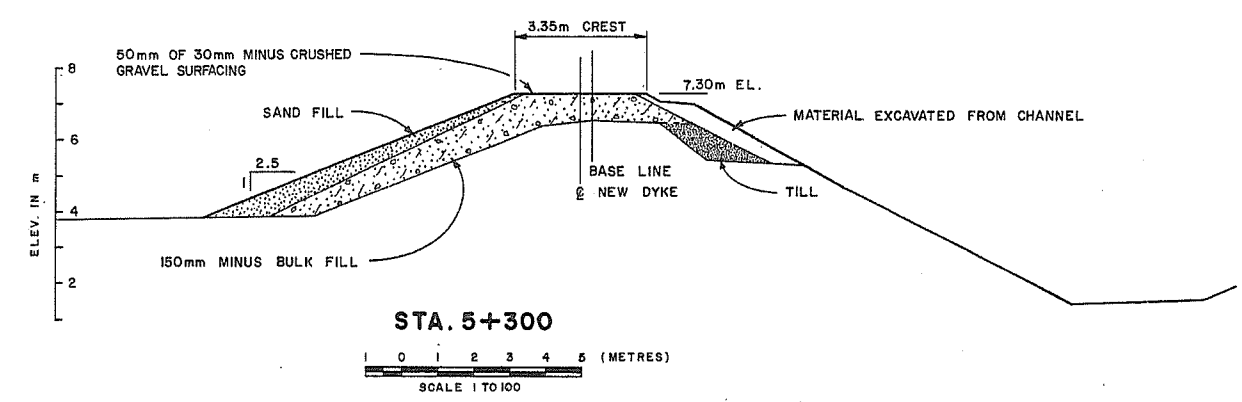
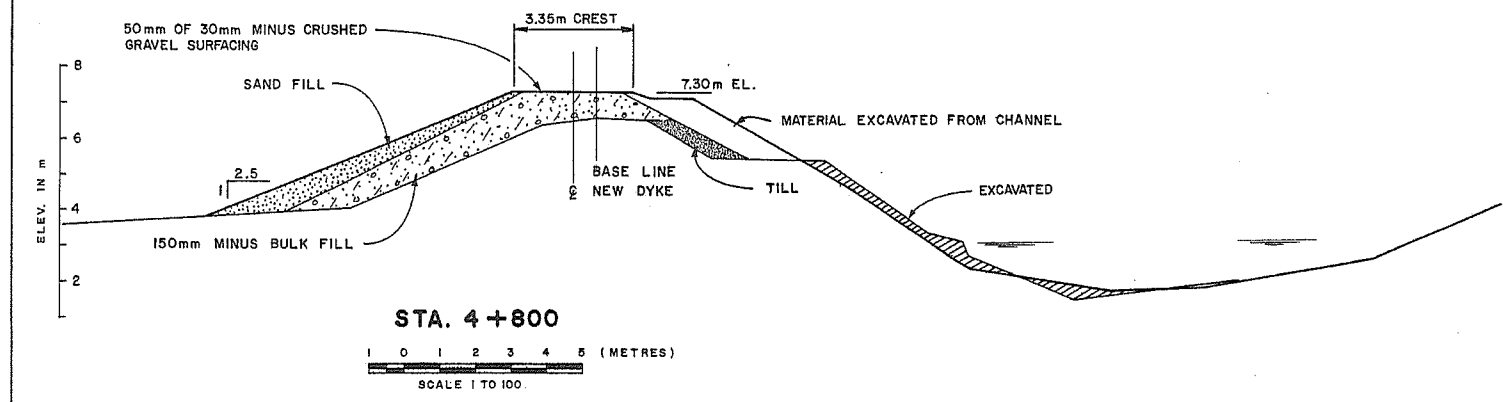
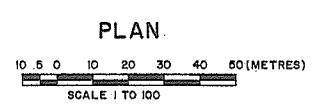
1985-1986 FLOOD CONTROL PROGRAM
DISTRICT OF ABBOTSFORD
CONTRACT No. 2
UPPER SUMAS RIVER DYKES
PHASE II PLAN AND SECTIONS
STA. 5+400 TO STA. 6+100



S. 1/2 OF N.W. 1/4



SEC. 9 TP. 19



'AS CONSTRUCTED'

REFERENCES			REVISIONS			SURVEYED		Province of British Columbia		FILE NO.
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						DATE	APRIL 24 1985			
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						HEAD, DRAFTING SECTION				
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										SHEET 8 OF 13

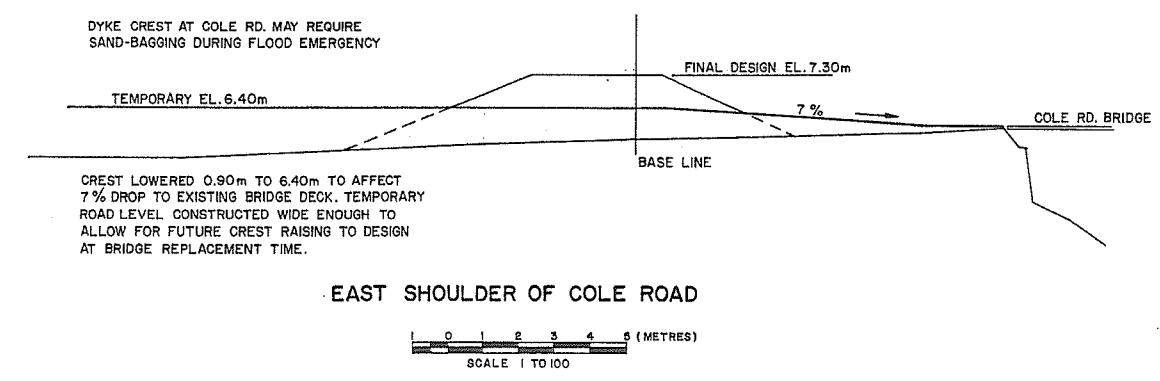
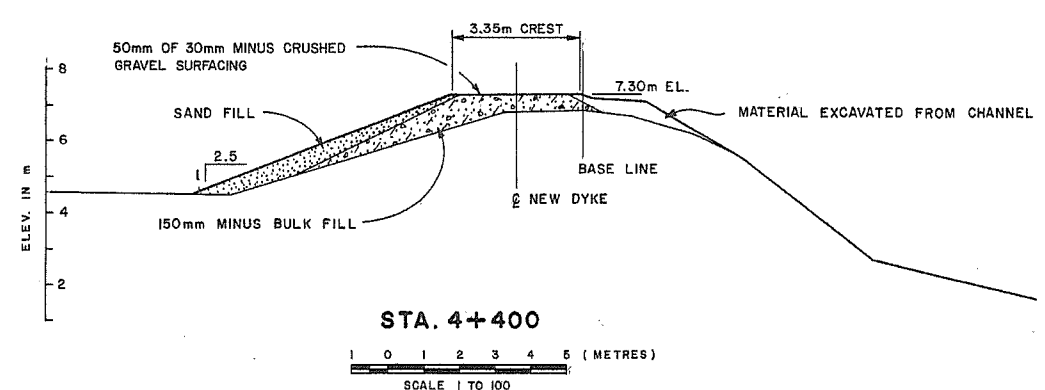
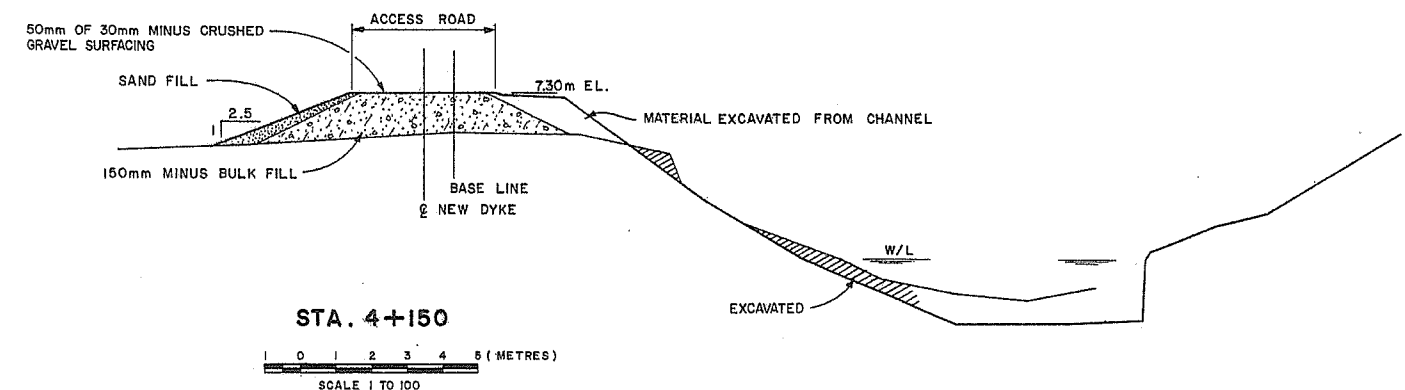
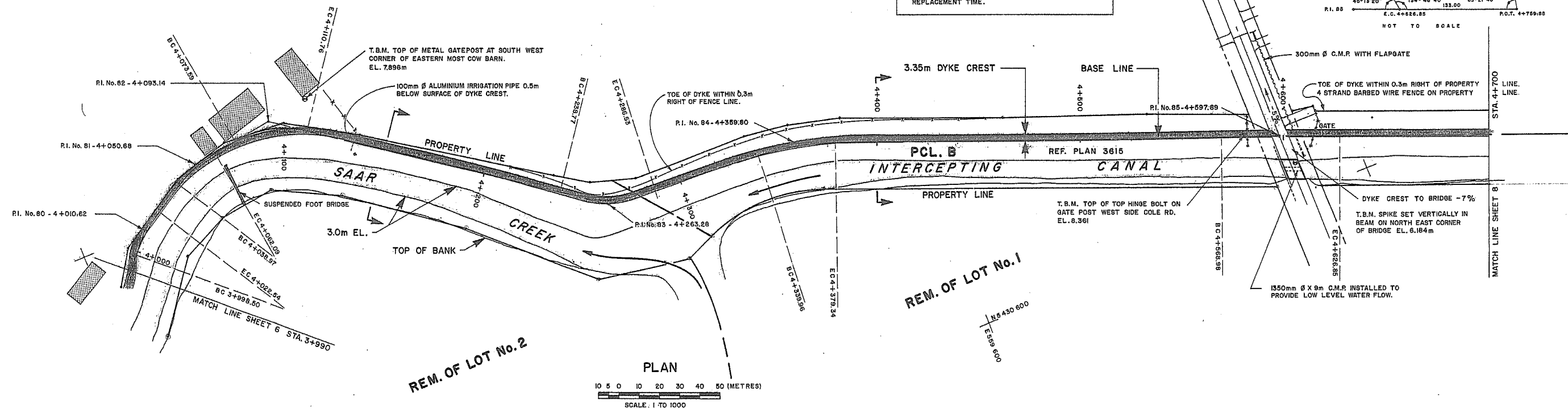
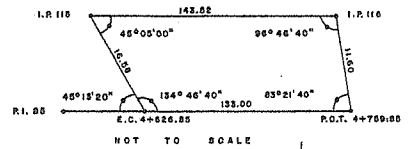
1985-1986 FLOOD CONTROL PROGRAM
 DISTRICT OF ABBOTSFORD
 CONTRACT No. 2
 UPPER SUMAS RIVER DYKES
 PHASE II PLAN AND SECTIONS
 STA. 4+700 TO STA. 5+400



NO LANDSIDE TOE FENCE FROM STA. 3+950 TO 4+135
DYKE CREST ABOVE DESIGN AND LEVEL WITH SURROUNDING GROUND FROM 4+020 TO STA. 4+080 AND 4+225 TO STA. 4+275.

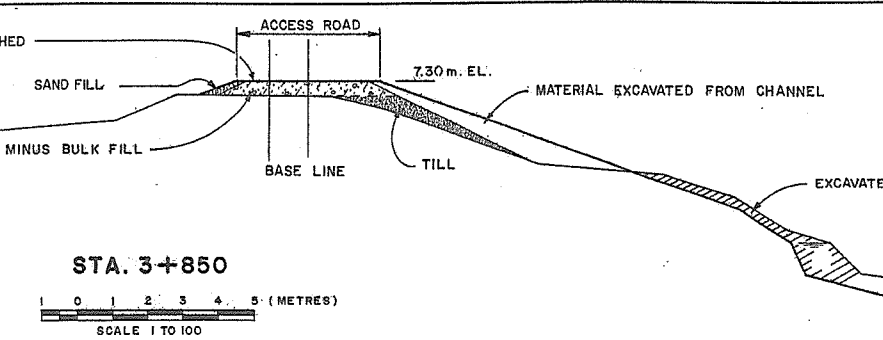
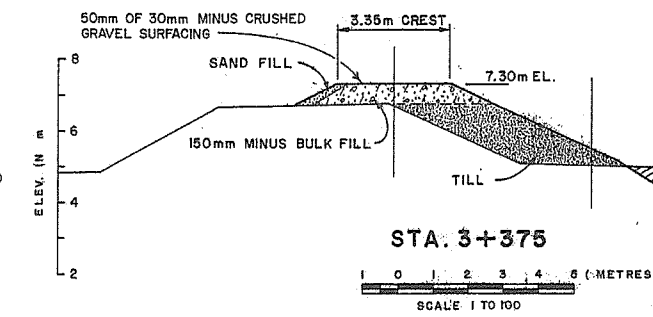
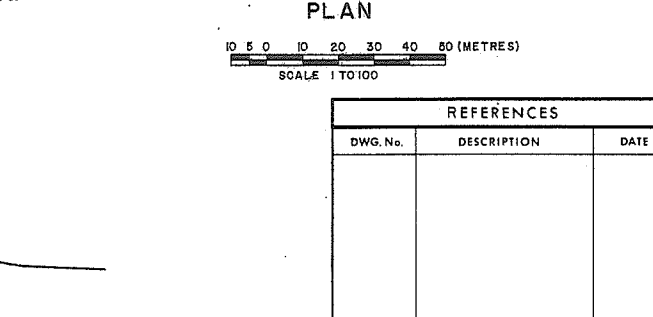
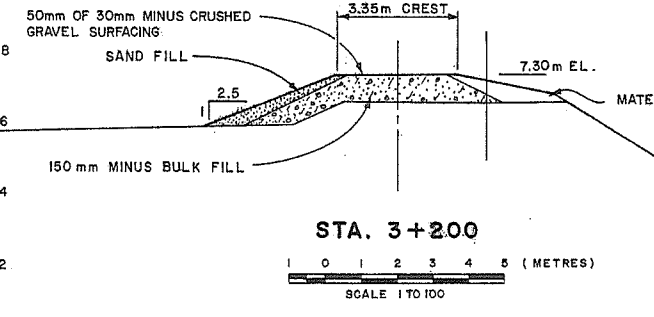
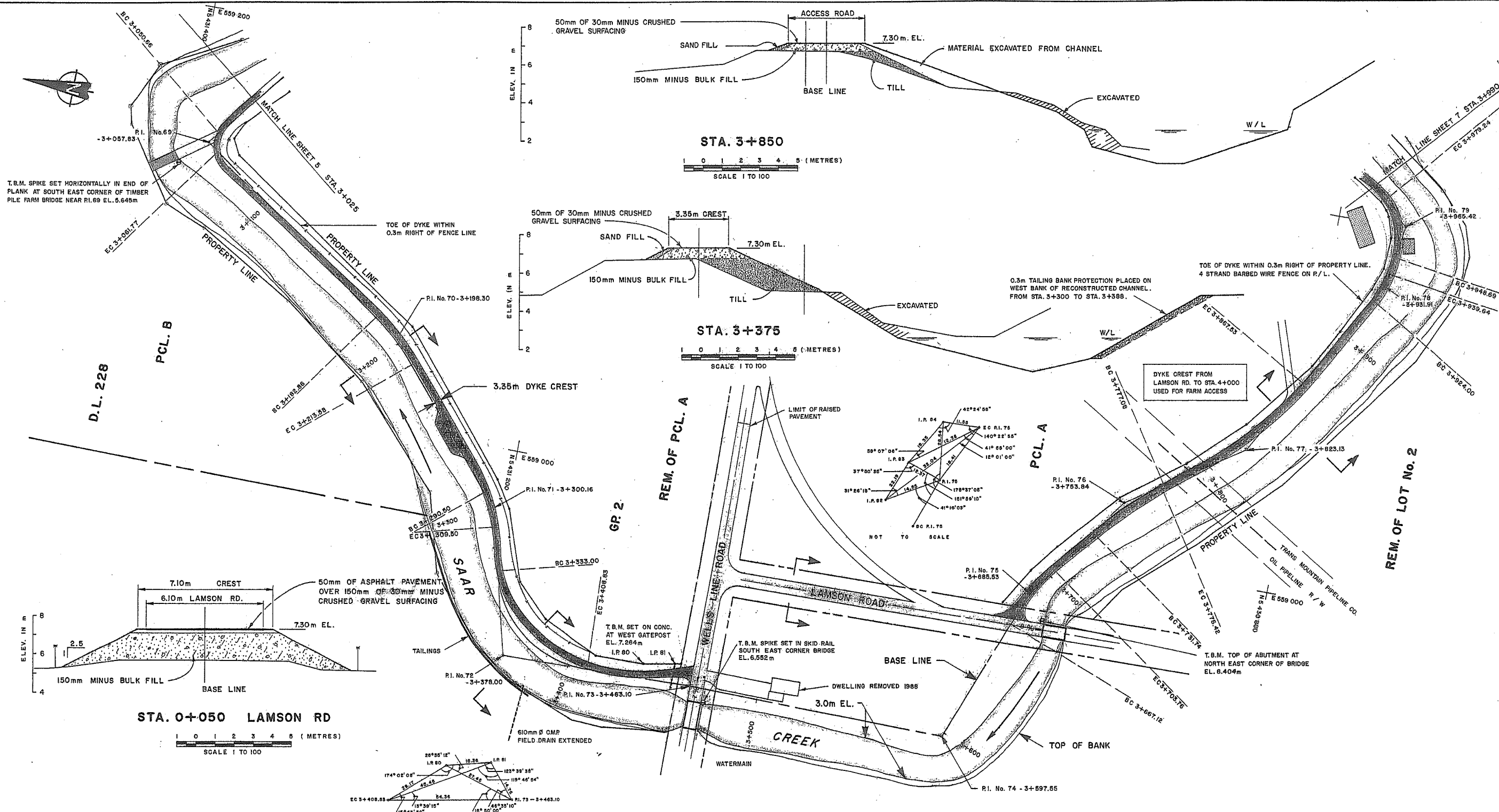
PARCEL A
N.E. 1/4 OF SEC. 8 TP. 19

DYKE CREST AT COLE RD. MAY REQUIRE SAND-BAGGING DURING FLOOD EMERGENCY CONDITIONS.
CREST LOWERED 0.90m TO 6.40m TO AFFECT 7% DROP TO EXISTING BRIDGE DECK. TEMPORARY ROAD LEVEL CONSTRUCTED WIDE ENOUGH TO ALLOW FOR FUTURE CREST RAISING TO DESIGN AT BRIDGE REPLACEMENT TIME.



'AS CONSTRUCTED'

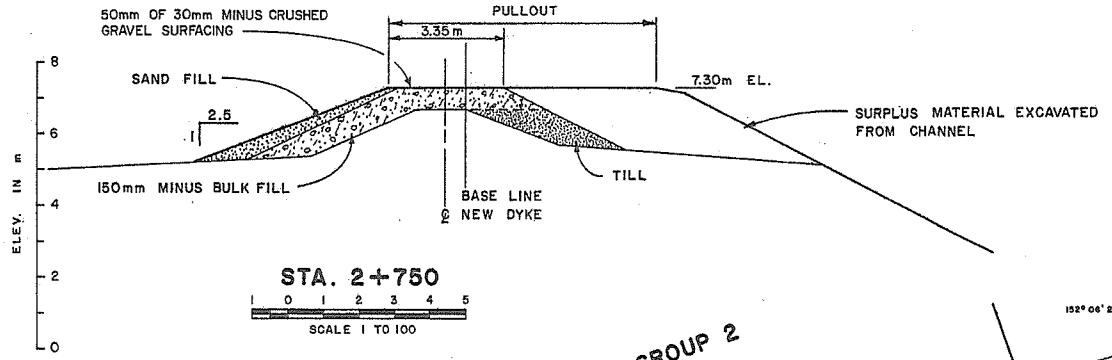
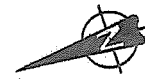
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						APRIL 24 1985	E.M.D.B. & F.A.W.	CONTRACT No. 2		DISTRICT OF ABBOTSFORD		NTS MAP NO.
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							DATE	PHASE II PLAN AND SECTIONS		DISTRICT OF ABBOTSFORD		AS SHOWN
							DRAWN	STA. 3+990 TO STA. 4+700		DISTRICT OF ABBOTSFORD		NEGATIVE NO.
							APPROVED			DISTRICT OF ABBOTSFORD		DRAWING NO.
							HEAD, DRAFTING SECTION			DISTRICT OF ABBOTSFORD		REV.
							DATE			DISTRICT OF ABBOTSFORD		SHEET 7 OF 13
							DATE			DISTRICT OF ABBOTSFORD		
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PLAN
SCALE 1 TO 100

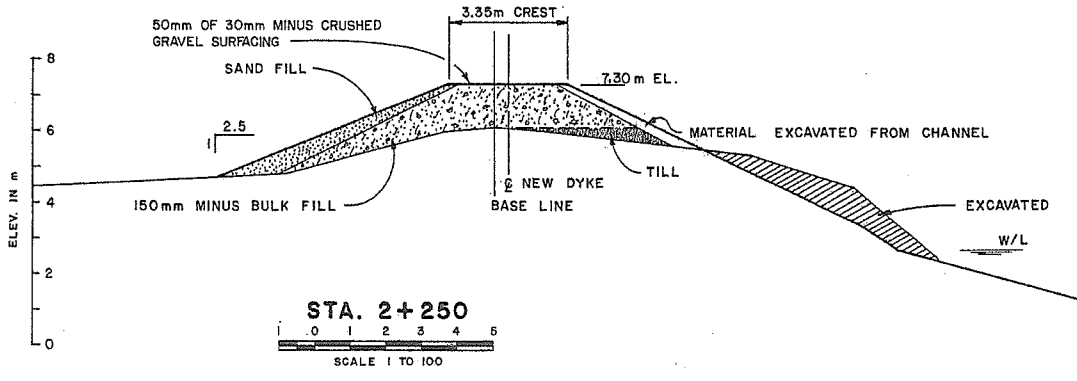
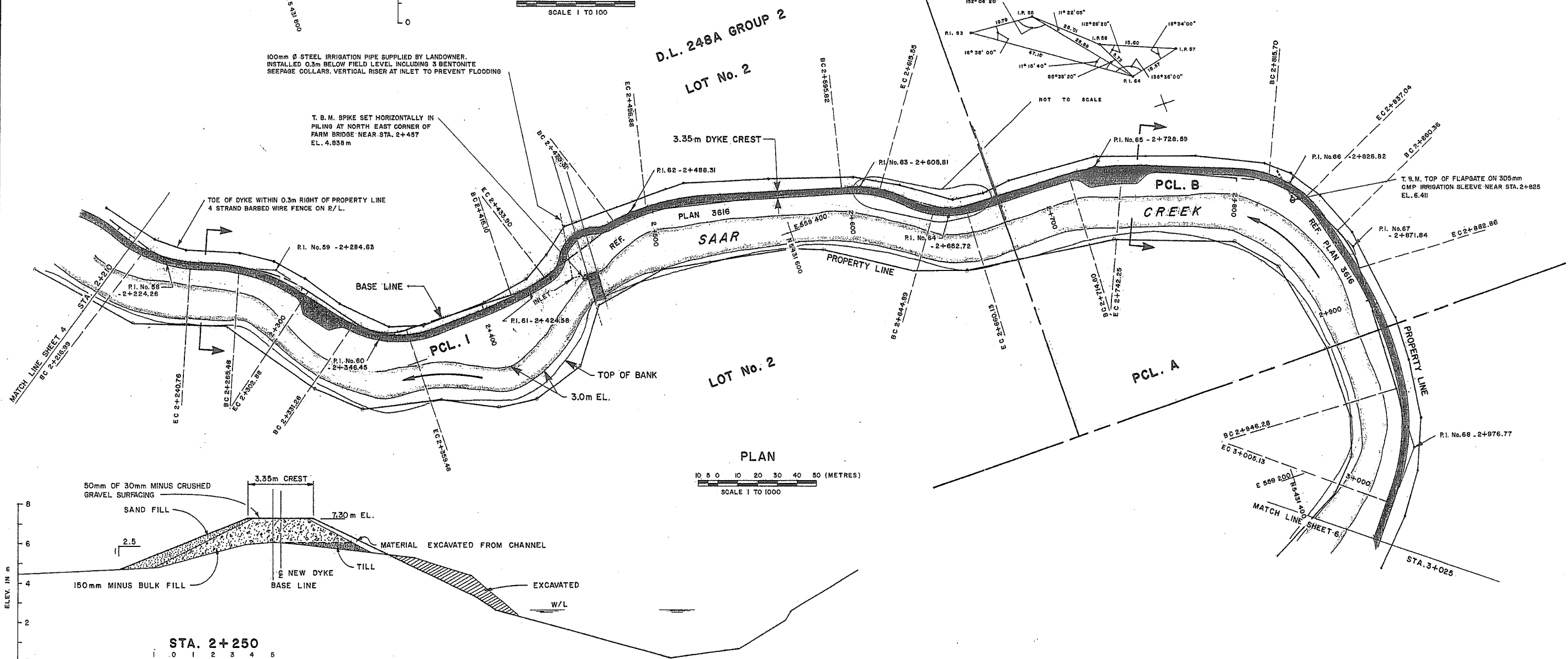
'AS CONSTRUCTED'

REFERENCES			REVISIONS			SURVEYED		Province of British Columbia		FILE NO.
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						DISTRICT OF ABBOTSFORD				
						CONTRACT No. 2				
						UPPER SUMAS RIVER DYKES				
						PHASE II PLAN AND SECTIONS				
						STA. 3+025 TO STA. 3+990				
						DATE	APRIL 24 1985			ENG. PROJECT NO.
						DRAWN	A. D. BEAULIEU			NTS MAP NO.
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						DATE				REV.
						RECOMMENDED				SHEET 6 OF 13
						DATE				
						APPROVED				
						DIRECTOR				
						DATE				



100mm Ø STEEL IRRIGATION PIPE SUPPLIED BY LANDOWNER. INSTALLED 0.3m BELOW FIELD LEVEL INCLUDING 3 BENTONITE SEEPAGE COLLARS. VERTICAL RISER AT INLET TO PREVENT FLOODING

T. B. M. SPIKE SET HORIZONTALLY IN PILING AT NORTH EAST CORNER OF FARM BRIDGE NEAR STA. 2+457 EL. 4.838 m



DL. 248A GROUP 2
PARCEL A

DL. 248A GROUP 2
LOT No. 2

LOT No. 2

PCL. A

PCL. B
CREEK

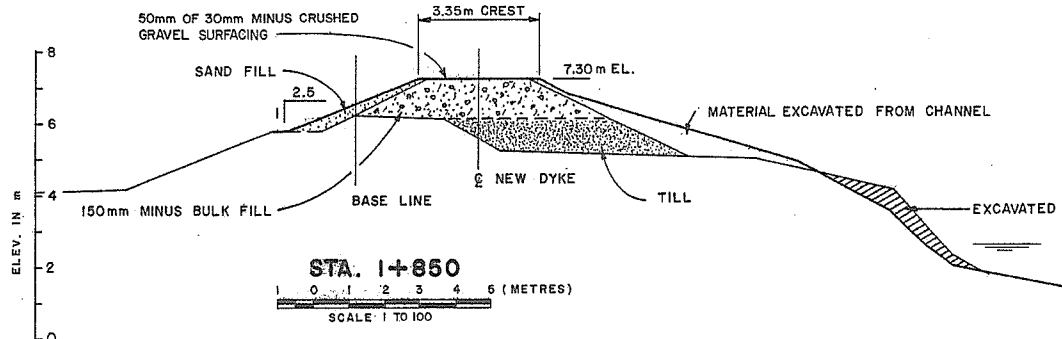
PLAN
SCALE 1 TO 1000

'AS CONSTRUCTED'

REFERENCES			REVISIONS			SURVEYED		Province of British Columbia		Ministry of Environment WATER MANAGEMENT BRANCH		FILE NO.	
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												SHEET 5 OF 13	

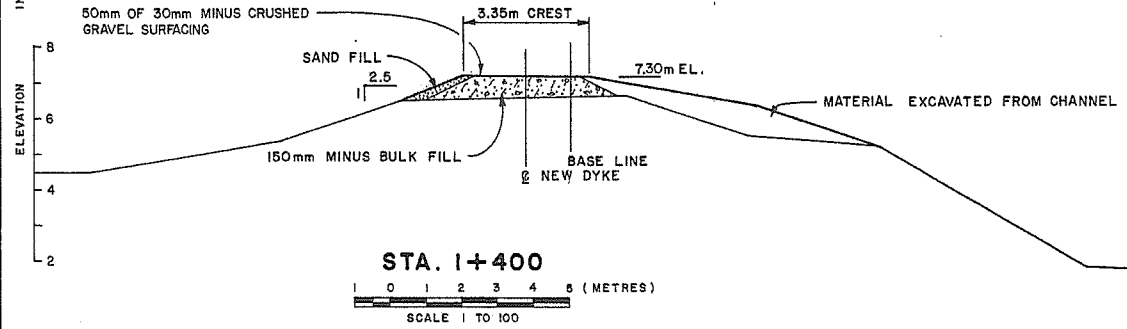
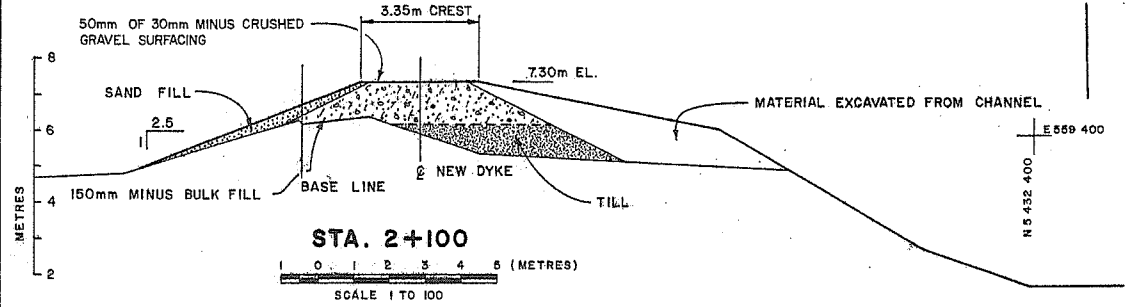
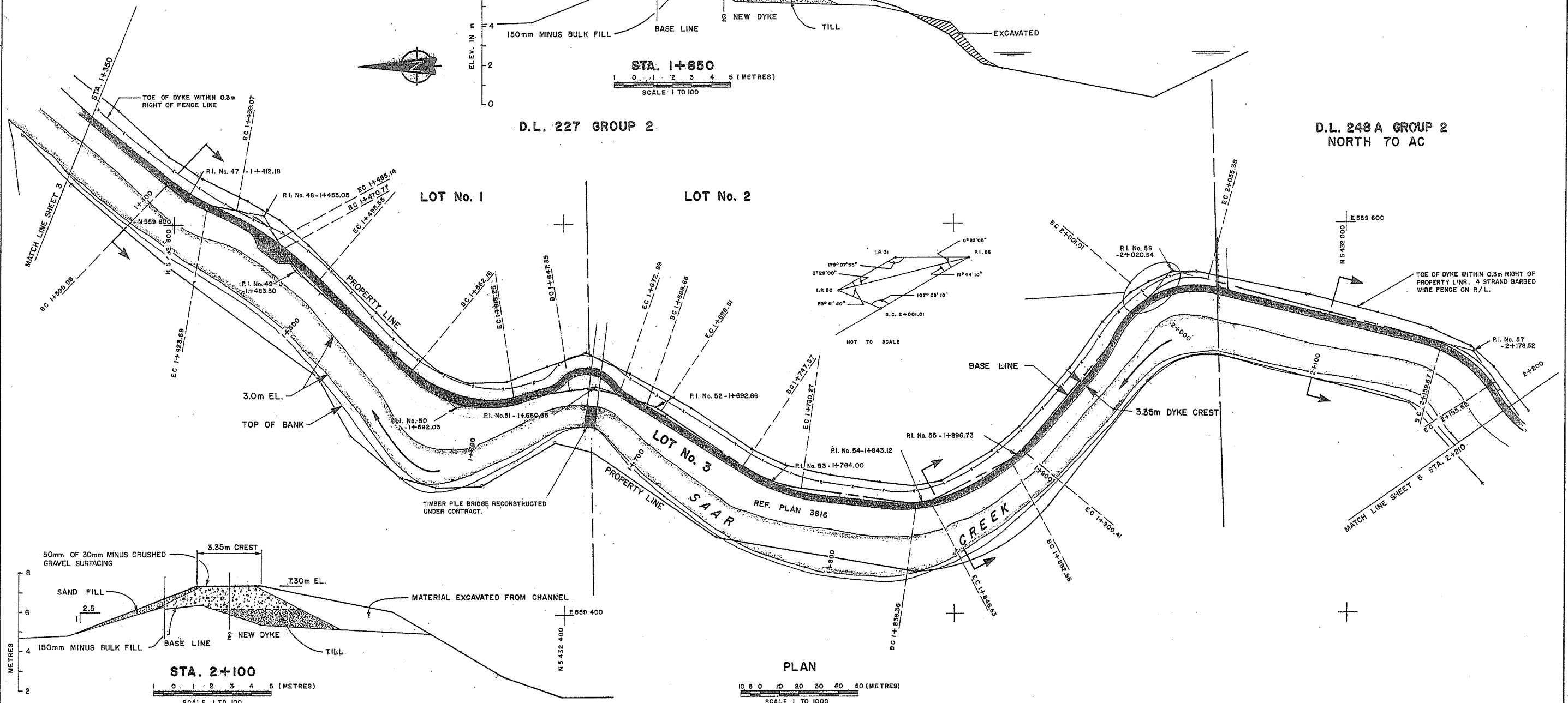
MANUAL 1382

D



D.L. 227 GROUP 2

D.L. 248 A GROUP 2
NORTH 70 AC



REFERENCES			REVISIONS			SURVEYED		Province of British Columbia		Ministry of Environment		FILE NO.	
DWG. No.	DESCRIPTION	DATE	No.	DESCRIPTION	DATE	DATE	M O F E	WATER MANAGEMENT BRANCH		1985		P83-4	
						DESIGNED	E. W. D. B. & F. A. W.					ENG. PROJECT NO.	
						CHECKED						NTS MAP NO.	
						DATE	APRIL 24 1985					SCALE	
						DRAWN	A. D. B.					AS SHOWN	
						APPROVED						NEGATIVE NO.	
						HEAD, DRAFTING SECTION						DRAWING NO. REV.	
						DATE	JANUARY 1989					SHEET 4 OF 13	
ENGINEER		DATE		RECOMMENDED		DATE		APPROVED		DIRECTOR		DATE	

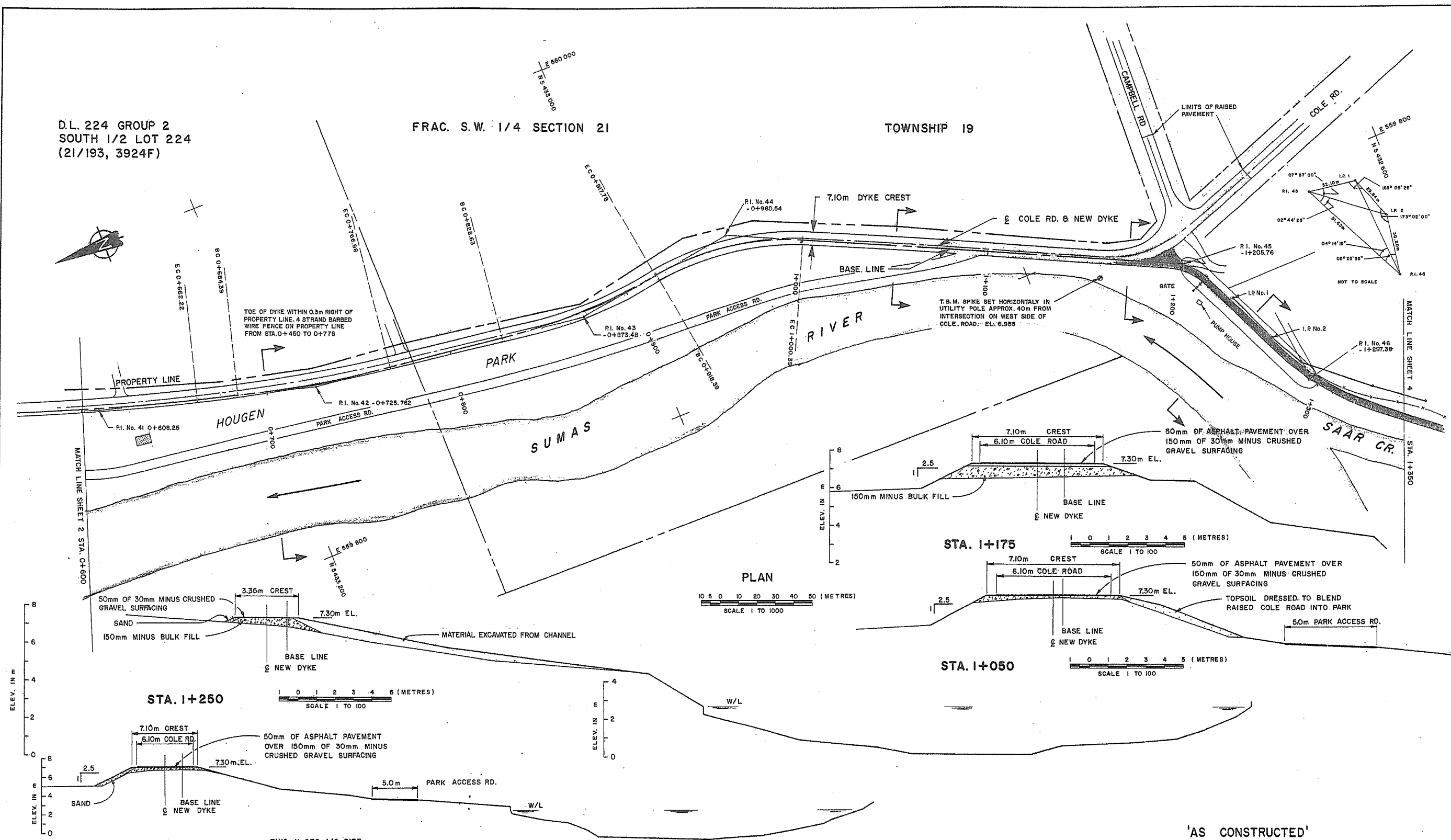
'AS CONSTRUCTED'

1985-1986 FLOOD CONTROL PROGRAM
DISTRICT OF ABBOTSFORD
CONTRACT No. 2
UPPER SUMAS RIVER DYKES
PHASE II PLAN AND SECTIONS
STA. 1+350 TO STA. 2+210

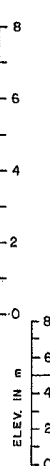
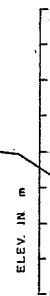
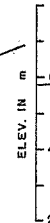
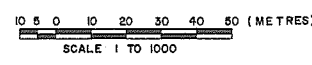
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SOUTH 1/2 LOT 224
(21/193, 3924F)

FRAC. S.W. 1/4 SECTION 21

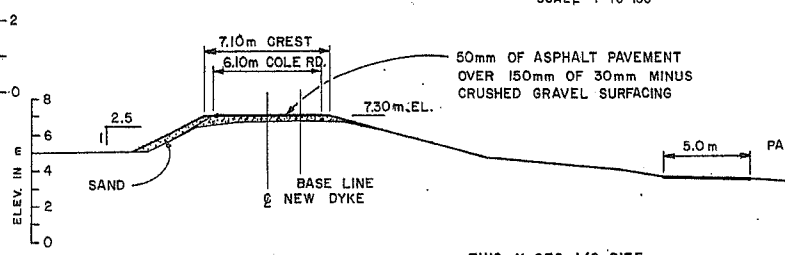
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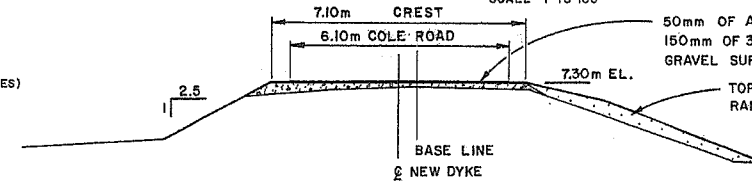
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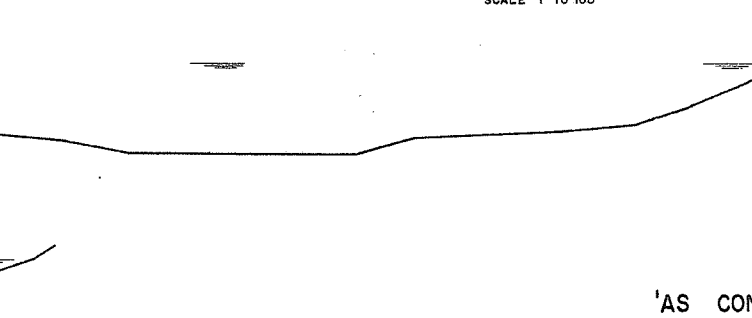
STA. 1+250



STA. 1+175



STA. 1+050

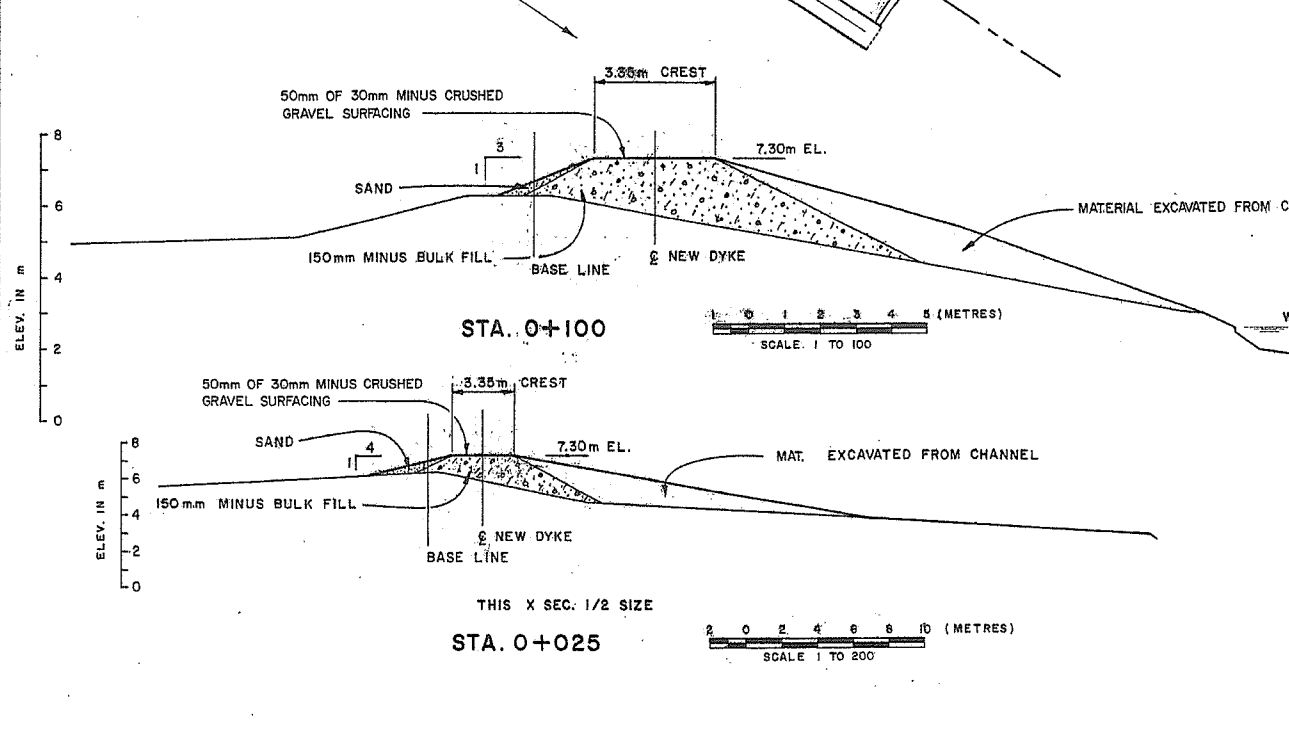
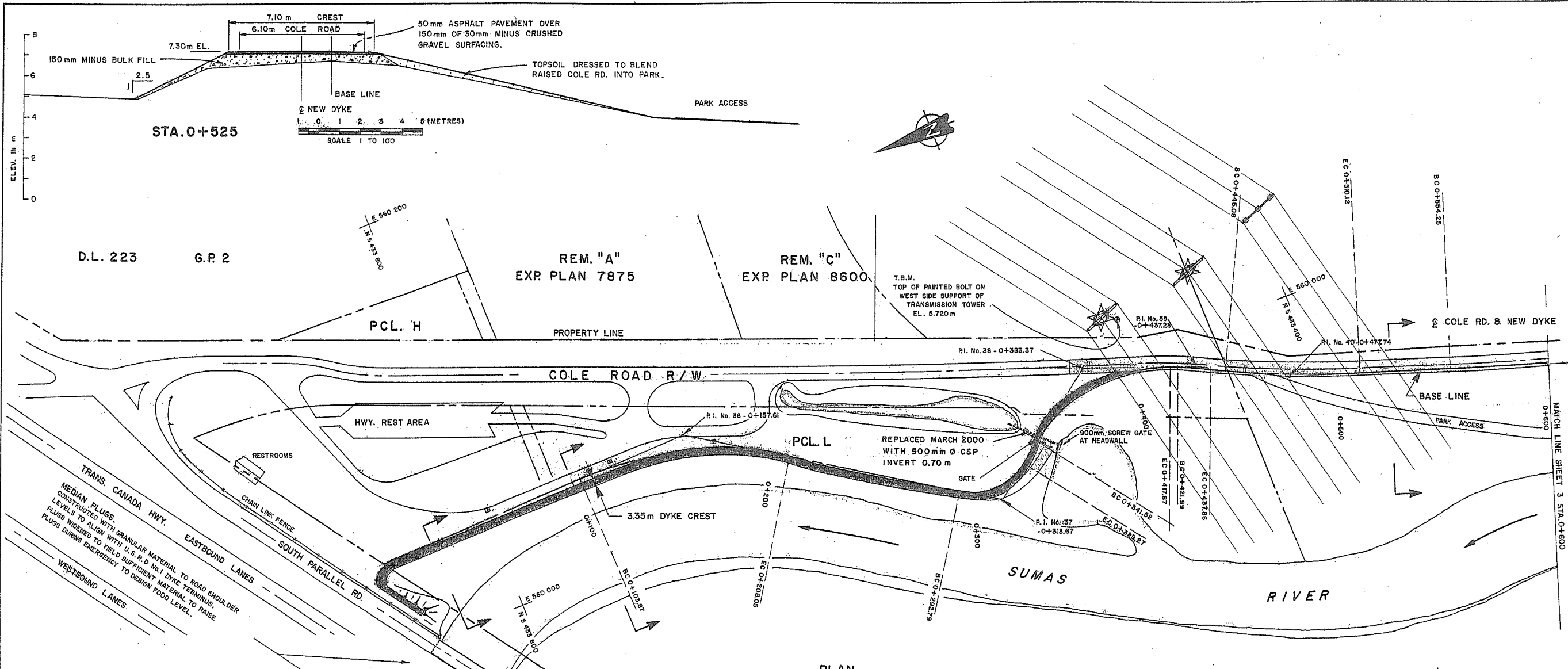


STA. 0+700



'AS CONSTRUCTED'

REFERENCES			REVISIONS			SURVEYED		Province of British Columbia		FILE NO.
DWG. No.	DESCRIPTION	DATE	No.	DESCRIPTION	DATE	M	OF E	Ministry of Environment		P83-4
						DATE	1983 <td colspan="2">WATER MANAGEMENT BRANCH <td></td> </td>	WATER MANAGEMENT BRANCH <td></td>		
						DESIGNED	E.W.D.B. & F.A.W. <td colspan="2">1985-1986 FLOOD CONTROL PROGRAM</td> <td>ENG. PROJECT NO.</td>	1985-1986 FLOOD CONTROL PROGRAM		ENG. PROJECT NO.
						CHECKED	<td colspan="2">DISTRICT OF ABBOTSFORD</td> <td>NTS MAP NO.</td>	DISTRICT OF ABBOTSFORD		NTS MAP NO.
						DATE	APRIL 24 1985 <td colspan="2">CONTRACT No. 2</td> <td>SCALE</td>	CONTRACT No. 2		SCALE
						DRAWN	A.D.B. <td colspan="2">UPPER SUMAS RIVER DYKES</td> <td>AS SHOWN</td>	UPPER SUMAS RIVER DYKES		AS SHOWN
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						HEAD DRAFTING SECTION	<td colspan="2">STA. 0+600 TO STA. 1+350</td> <td>DRAWING NO.</td>	STA. 0+600 TO STA. 1+350		DRAWING NO.
						DATE	JANUARY 1989 <td></td> <td></td> <td>REV.</td>			REV.
						ENGINEER	<td></td> <td></td> <td>SHEET 3 OF 13</td>			SHEET 3 OF 13
						DATE	<td>RECOMMENDED</td> <td>DATE</td> <td>APPROVED</td>	RECOMMENDED	DATE	APPROVED
							<td></td> <td>DATE</td> <td>DIRECTOR</td>		DATE	DIRECTOR



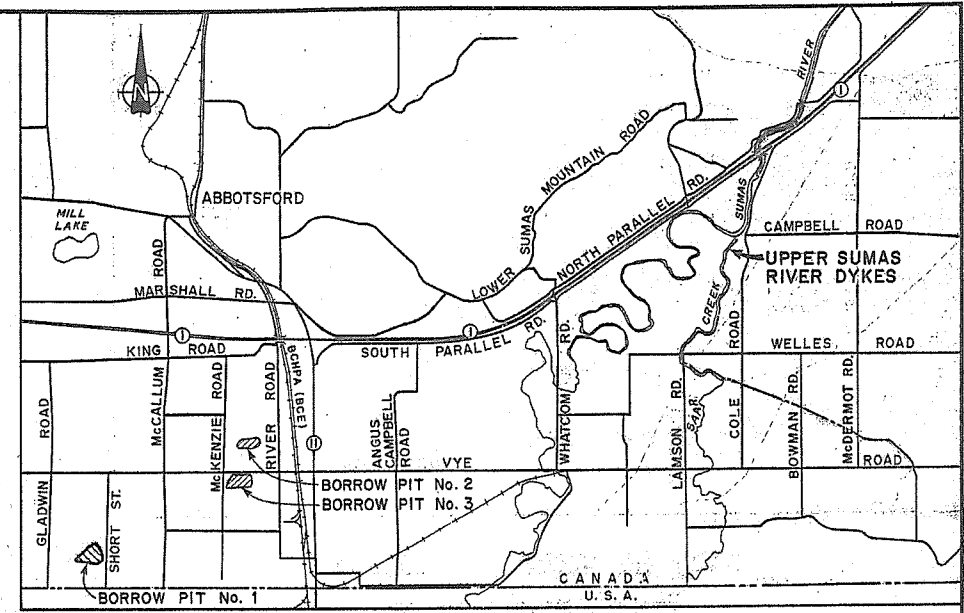
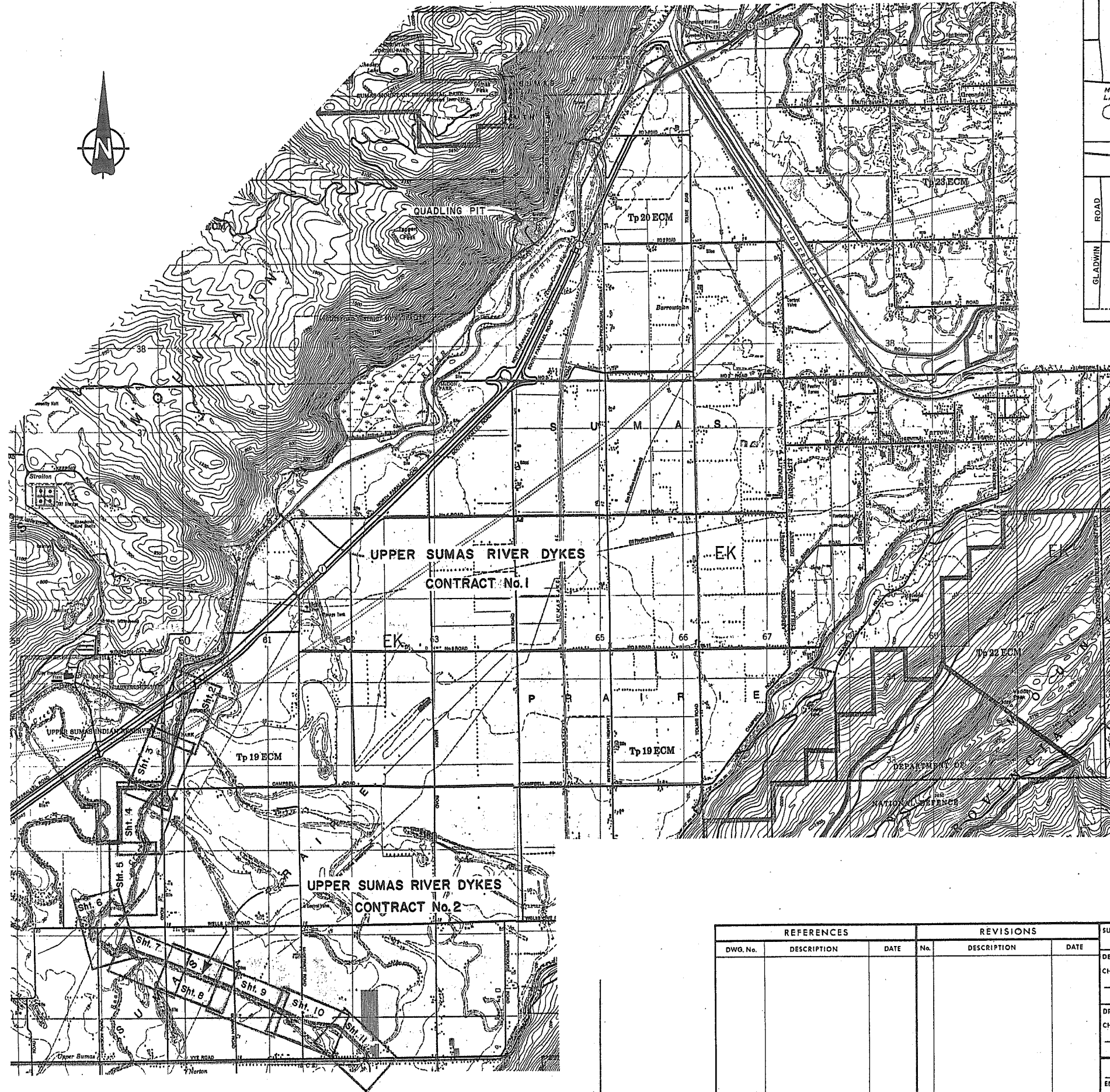
REFERENCES			REVISIONS		
DWG. No.	DESCRIPTION	DATE	No.	DESCRIPTION	DATE

SURVEYED	M. O'F E.
DATE	1983
DESIGNED	E.W. D.B. & F.A.W.
CHECKED	
DATE	APRIL 24 1985
DRAWN	A.D. BEAULIEU
APPROVED	
HEAD, DRAFTING SECTION	
DATE	JANUARY 1989
ENGINEER	
DATE	

Province of British Columbia
 Ministry of Environment
 WATER MANAGEMENT BRANCH

1985-1986 FLOOD CONTROL PROGRAM
 DISTRICT OF ABBOTSFORD
 CONTRACT No. 2
**UPPER SUMAS RIVER DYKES
 PHASE II PLAN AND SECTIONS
 STA. 0+000 TO STA. 0+600**

FILE NO.	P83-4
ENG. PROJECT NO.	
NTS MAP NO.	
SCALE	AS SHOWN
NEGATIVE NO.	
DRAWING NO.	
REV.	
SHEET	2 OF 13



**BORROW PITS 1, 2 & 3
LOCATION PLAN**

GENERAL NOTES

1. DIMENSIONS AND ELEVATIONS IN METRES.
2. DYKE STATIONS AND OFF-SET DIMENSIONS ARE MEASURED FROM BASE LINE. (O/S TABLE PAGE 13)
3. BASE LINE FOLLOWS APPROXIMATELY CENTER LINE OF OLD PRE-CONSTRUCTION DYKE CREST. (P. I. TABLE, PAGE 13)
4. CREST ELEVATIONS ARE CONSTANT AT 7.30m.
5. BENCH MARKS SHOWN ARE DERIVED FROM GEODETIC: B.M. 77-C-583 AT TRANS MOUNTAIN PIPELINE CO., SUMAS PUMPING STA. SOUTH OF HWY. No. 1, 1.8m EAST OF NORTH FACE OF MOST N.W. CONCRETE COLUMN OF MAIN BUILDING, 10cm FROM N.W. CORNER AND 10cm ABOVE GROUND LEVEL.
77-C-621 BARN ON NORTH SIDE OF VYE RD. JUST WEST OF McDERMOTT RD. TABLE IN SOUTH FACE OF FOUNDATION, 50cm EAST OF S.W. CORNER, 20cm ABOVE GROUND LEVEL.
77-C-622 CULVERT ON VYE RD. OVER SAAR CREEK, TABLE IN NORTH FACE OF SOUTH HEADWALL, 20cm WEST OF N.E. CORNER AND SLIGHTLY ABOVE GRADE LEVEL.
6. GRID SYSTEM DERIVED FROM U.T.M. COORDINATES.
7. SURVEY DATA FOR CROSS SECTIONS PROVIDED BY SURVEYS SECTION, VICTORIA.
8. SOURCE OF MATERIALS:
 - I) 150mm MINUS BULKFILL FROM PIT No. 2 AND No. 3, MCKENZIE AND VYE ROAD, ABBOTSFORD
 - II) 150mm MINUS TILL BULKFILL FROM PIT No. 2
 - III) SAND WEDGE FROM SELECTED CHANNEL EXCAVATION STOCKPILES
 - IV) 30mm MINUS SURFACING GRAVEL FROM BLACKHAM CONSTRUCTION, IMMEL ROAD, ABBOTSFORD.
9. STATIONS 0+000 TO 0+300, 2+040 TO 2+700 AND COLE ROAD TO VYE ROAD: GRAVELLED SURFACE OF DYKE CREST COVERED WITH SILTY SAND UP TO 40mm THICK TO AID GRASS GROWTH FOR AREAS DESIGNATED IN 1986 FOR POSSIBLE CATTLE GRAZING & REST AREA MAINTENANCE.



REFERENCES			REVISIONS			SURVEYED BY M. D. E.		Province of British Columbia Ministry of Environment WATER MANAGEMENT BRANCH		FILE NO
DWG. No.	DESCRIPTION	DATE	No.	DESCRIPTION	DATE	DATE	1983	1985-1986 FLOOD CONTROL PROGRAM DISTRICT OF ABBOTSFORD CONTRACT No. 2		P83-4
						DESIGNED BY W.D.B. & F.A.W.		1985-1986 FLOOD CONTROL PROGRAM DISTRICT OF ABBOTSFORD CONTRACT No. 2		ENG. PROJECT NO.
						CHECKED		UPPER SUMAS RIVER DYKES KEY PLAN		NTS MAP NO.
						DATE APRIL 24 1985				SCALE AS SHOWN
						DRAWN A.D. BEAULIEU				DRAWING NO. REV. NO.
						CHECKED				
						DATE JANUARY 1989				
ENGINEER	DATE	RECOMMENDED PROJECT MANAGER DATE	APPROVED A/DIRECTOR	DATE	SHEET 1 OF 13					