

**CANADA — BRITISH COLUMBIA**

**FRASER RIVER FLOOD CONTROL 1968 AGREEMENT**

Water Planning and Management Branch  
Inland Waters Directorate  
Pacific Region  
Ministry of the Environment  
Vancouver, British Columbia

Water Investigations Branch  
Environmental and Engineering Service  
Ministry of the Environment  
Victoria, British Columbia

**DISTRICT OF KENT**

**Operation and Maintenance Instructions  
Flood Control Works**

**VOLUME 3  
AS CONSTRUCTED DRAWINGS**

Willis, Cunliffe, Tait & Co. Ltd., Consulting Engineers, 827 Fort Street, Victoria, British Columbia



**District of Kent**

**Operation & Maintenance Instructions  
Flood Control Works**

**THE MANUAL**

The operation and maintenance instructions for the flood control works for the District of Kent are provided in three Volumes:

- VOLUME 1 GENERAL INSTRUCTIONS
- VOLUME 2 PUMPSTATION INSTRUCTIONS
- VOLUME 3 AS CONSTRUCTED DRAWINGS

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**District of Kent**  
**Operation and Maintenance Instructions**  
**Flood Control Works**

**Volume 3**  
**AS CONSTRUCTED DRAWINGS**

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Provincial  
105 mm  
negative  
number

amendment No. 1  
4758-1-7A

Bank Protection - Site 'G-1'  
Cross Sections of 1977 Emergency Work

9159

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amendment No. 2  
4758-6-1B

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9160

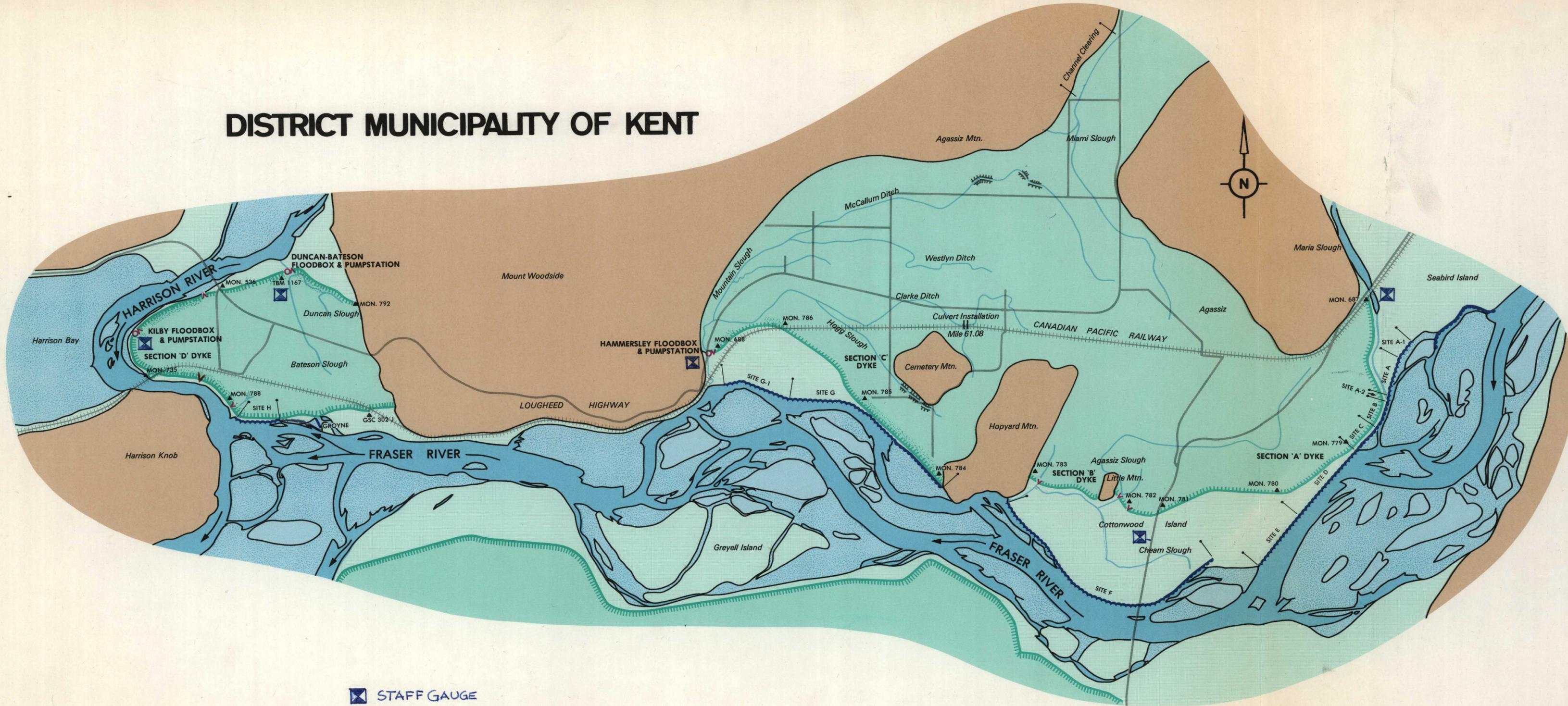
**DISTRICT OF KENT (As Constructed Drawing List Continued)****Provincial  
105 mm  
negative  
number**

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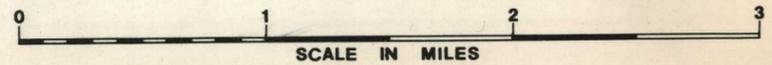
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# DISTRICT MUNICIPALITY OF KENT



- |                          |                                   |                            |
|--------------------------|-----------------------------------|----------------------------|
| STAFF GAUGE              | BANK PROTECTION PLACED BY PROGRAM | PUMPSTATION                |
| AGRICULTURAL LAND        | BENCHMARK                         | DYKE GRAVEL FILTER BLANKET |
| DYKE                     | FLOODBOX                          | DITCH BANK STABILIZATION   |
| EXISTING BANK PROTECTION |                                   |                            |

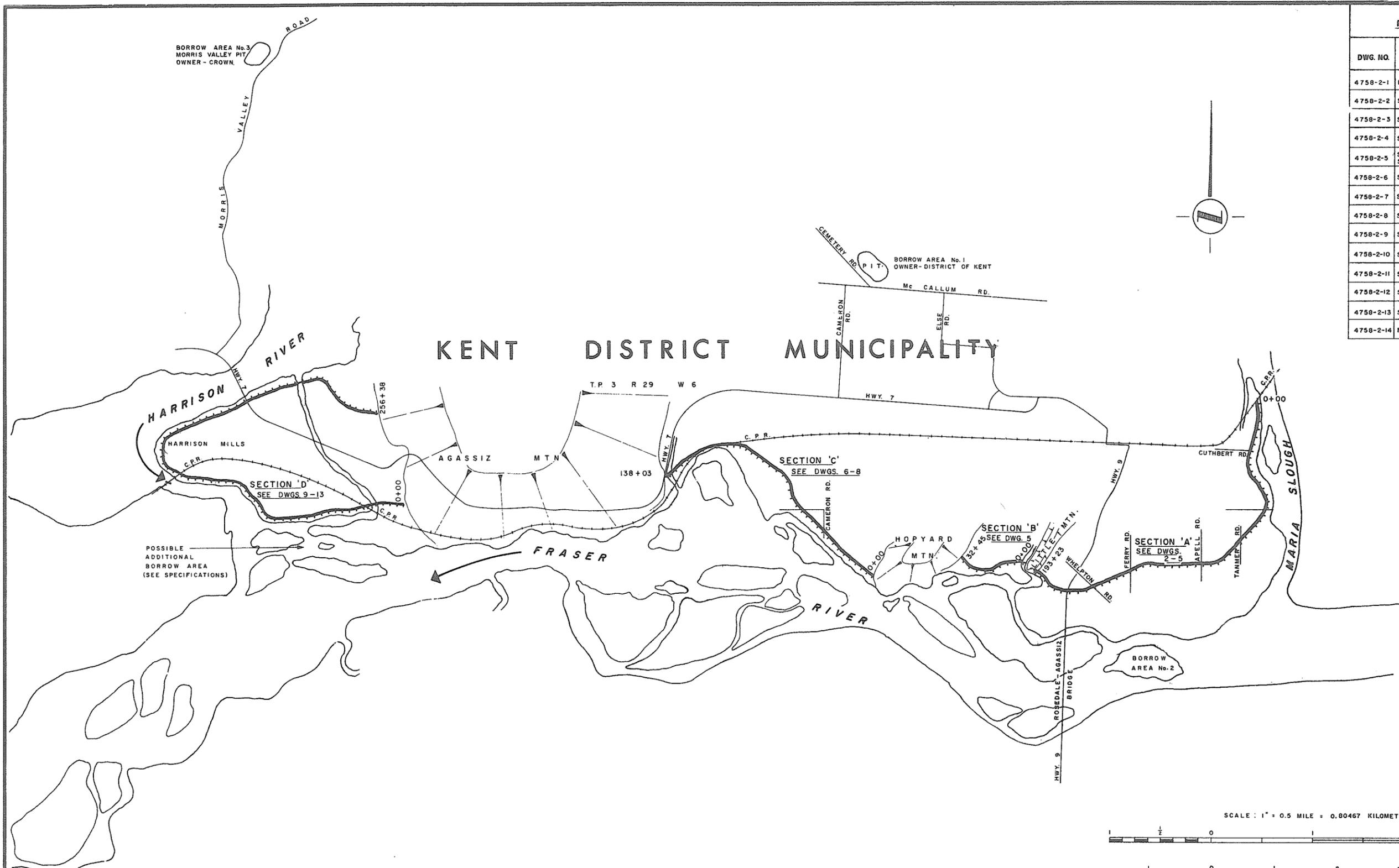


**DYKES**

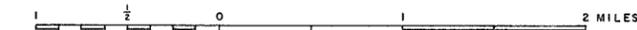
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REFERENCE DRAWINGS

DWG. NO.	DESCRIPTION
4758-2-1	KEY PLAN
4758-2-2	SECTION 'A' PLAN & PROFILE - STA. 0+00 TO 60+00
4758-2-3	SECTION 'A' PLAN & PROFILE - STA. 60+00 TO 120+00
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4758-2-5	SECTION 'A' & 'B' PLAN & PROFILE - STA. 180+00 TO 193+234 - C+00 TO 32+00
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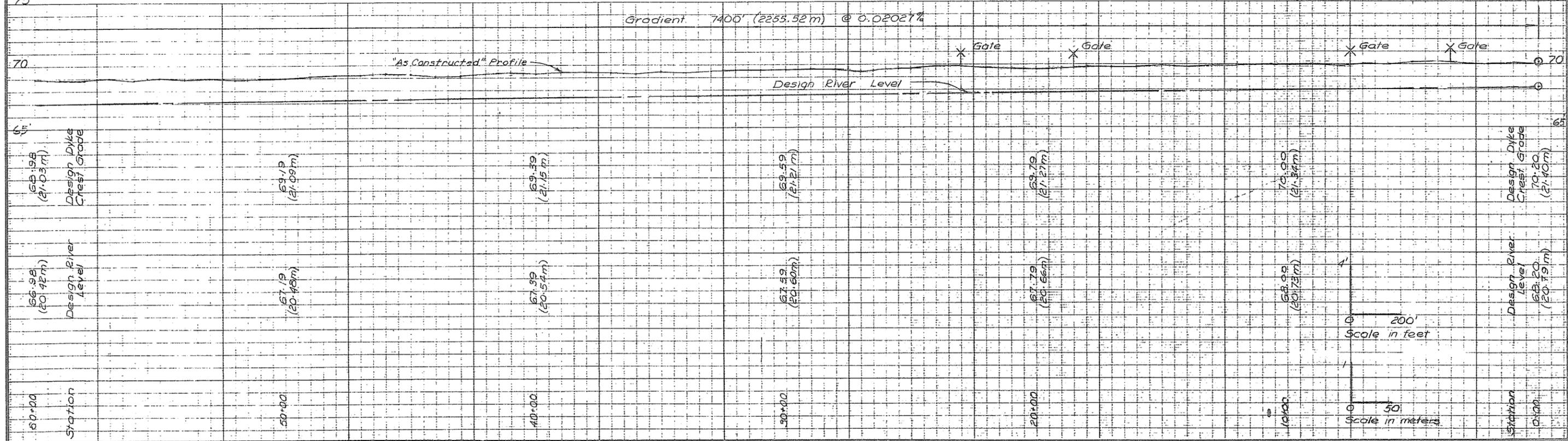
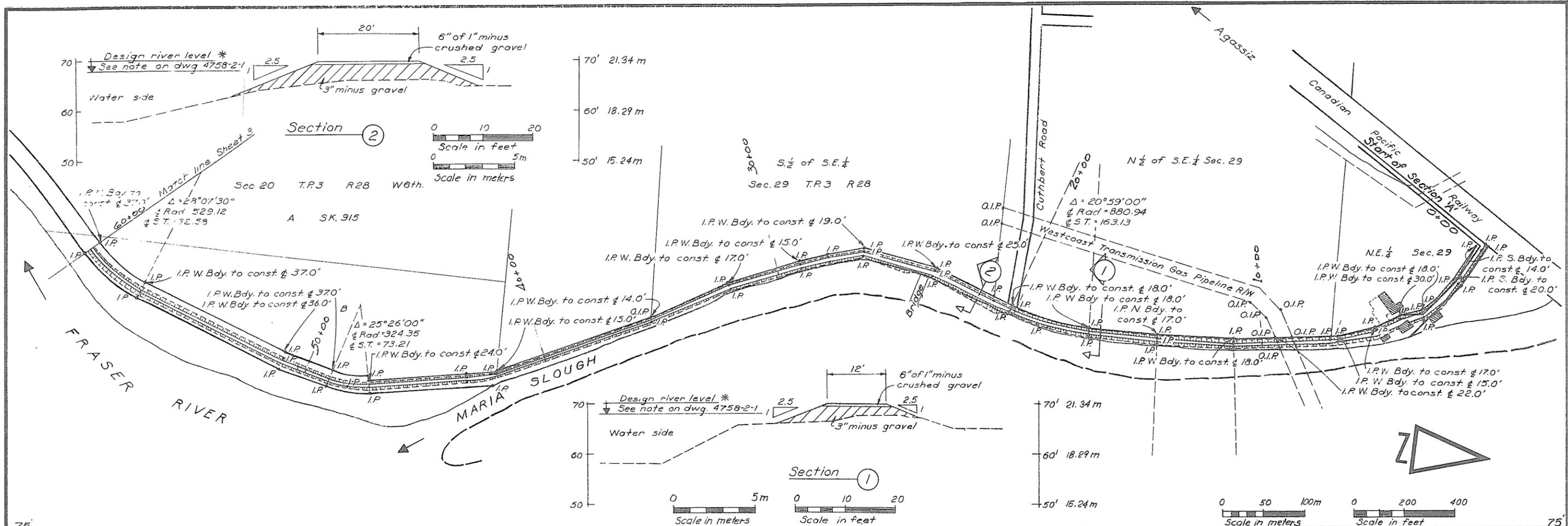


SCALE: 1" = 0.5 MILE = 0.80467 KILOMETER



NOTES ELEVATIONS ARE GEODETIC SURVEY CANADA 1951 DATUM  
 \* THE DESIGN RIVER LEVEL HAS BEEN SELECTED TO PROTECT AGAINST THE RECURRENCE OF THE LARGEST FLOOD OF RECORD.

RECOMMENDED PROJECT MANAGER DATE APPROVED DIRECTOR DATE	DESIGN DRAWN CHECKED APPROVED DATE SCALE FIELD BOOK No. W1219-1	THE GOVERNMENT OF THE PROVINCE OF BRITISH COLUMBIA DEPARTMENT OF LANDS, FORESTS AND WATER RESOURCES WATER RESOURCES SERVICE CANADA, BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT PROJECT No. 01 DISTRICT OF KENT CONTRACT No. 2 DYKE RECONSTRUCTION KEY PLAN DRAWING No. 4758-2-1-IN REV. SHEET 1 OF 16	WILLIS CUNLIFFE TAIT a Company Ltd.
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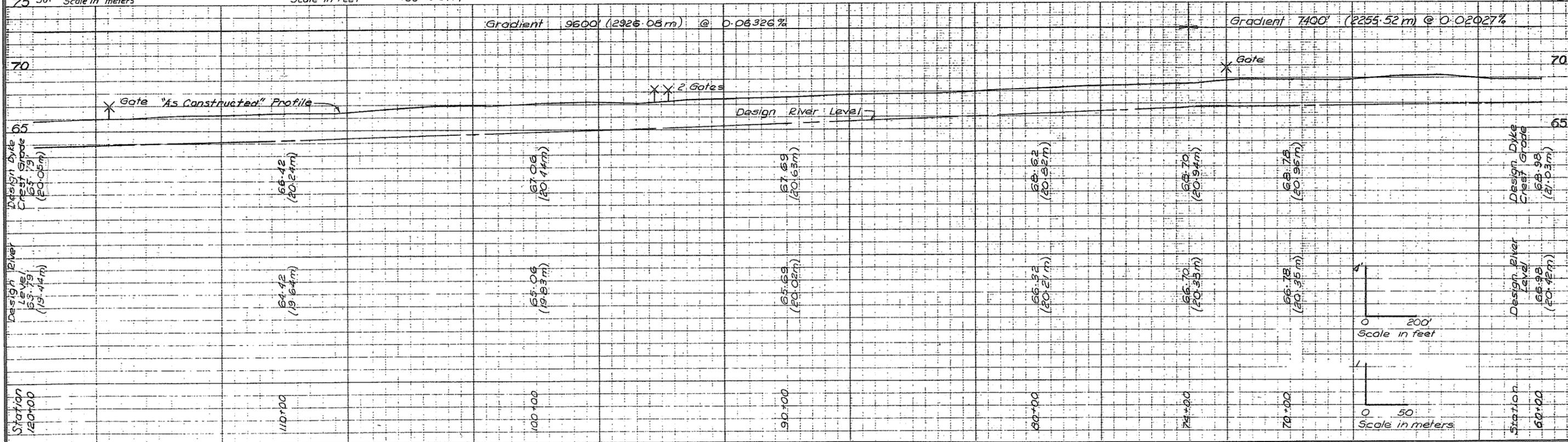
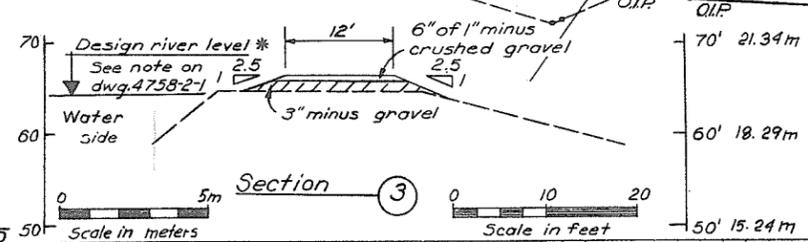
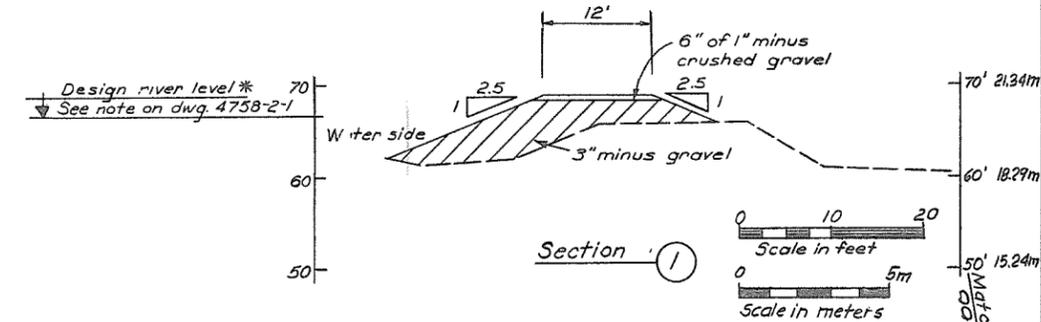
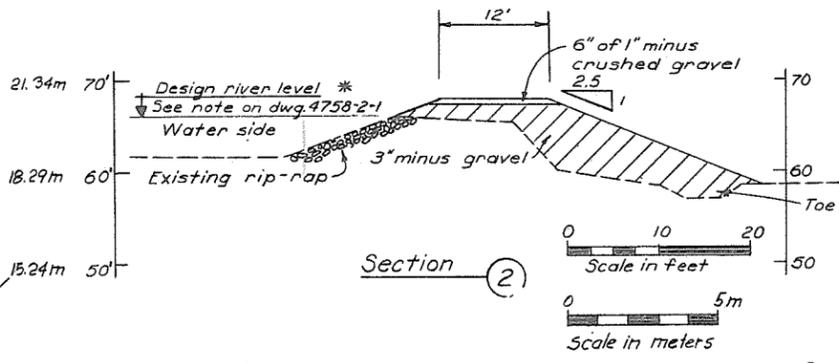
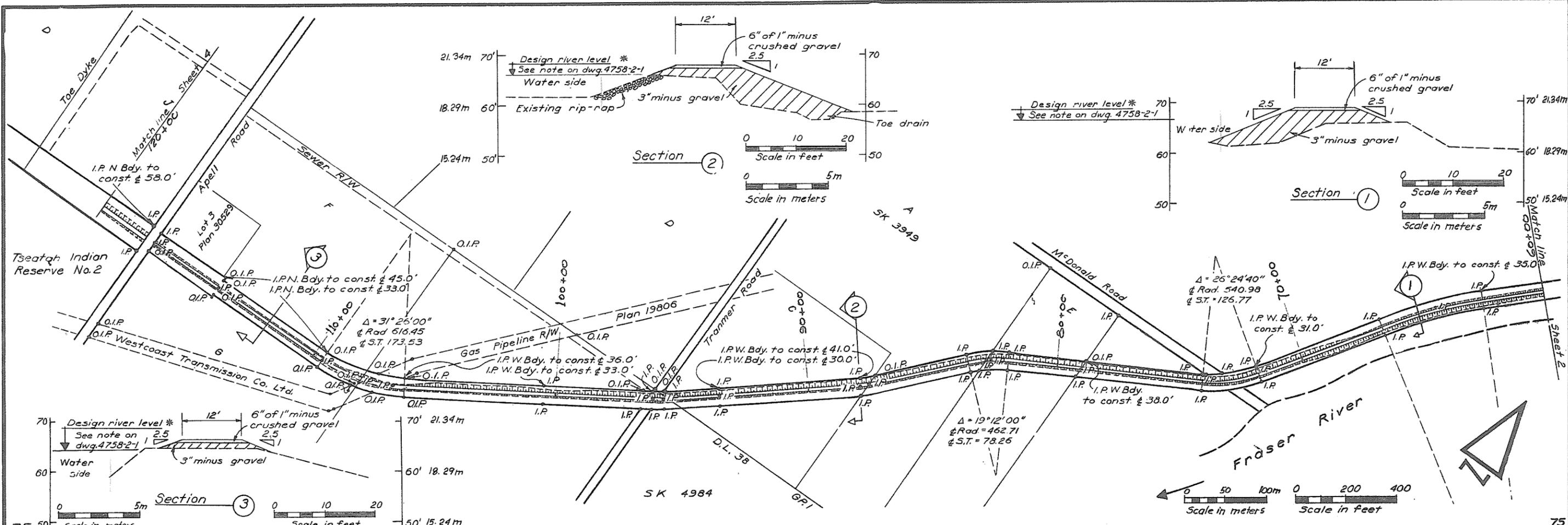
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					O.I.P.	old iron post	
					O.P.P.	old standard pipe post	
					C.M.P.	Corrugated metal pipe	
					m	meters	
	Feb 75	As Constructed		D.M.			

RECOMMENDED	DESIGN
PROJECT MANAGER	DRAWN: B.A.
DATE: Apr 11/75	CHECKED:
APPROVED:	APPROVED:
DATE: Aug 1974	SCALE: As Noted
DATE: Apr 11/75	FIELD BOOK No.

THE GOVERNMENT OF THE PROVINCE OF BRITISH COLUMBIA	WILLIS CUNLIFFE TAIT & Company Ltd.
DEPARTMENT OF LANDS, FOREST AND WATER RESOURCES	
WATER RESOURCES SERVICE	
CANADA, BRITISH COLUMBIA	
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT	
PROJECT No. 01 DISTRICT OF KENT	
CONTRACT No. 2 DYKE RECONSTRUCTION SECTION A	
PLAN & PROFILE STA. 0+00 TO 60+00	
DRAWING No. 4758-2-2-1M	REV. 1 SHEET 2 OF 16

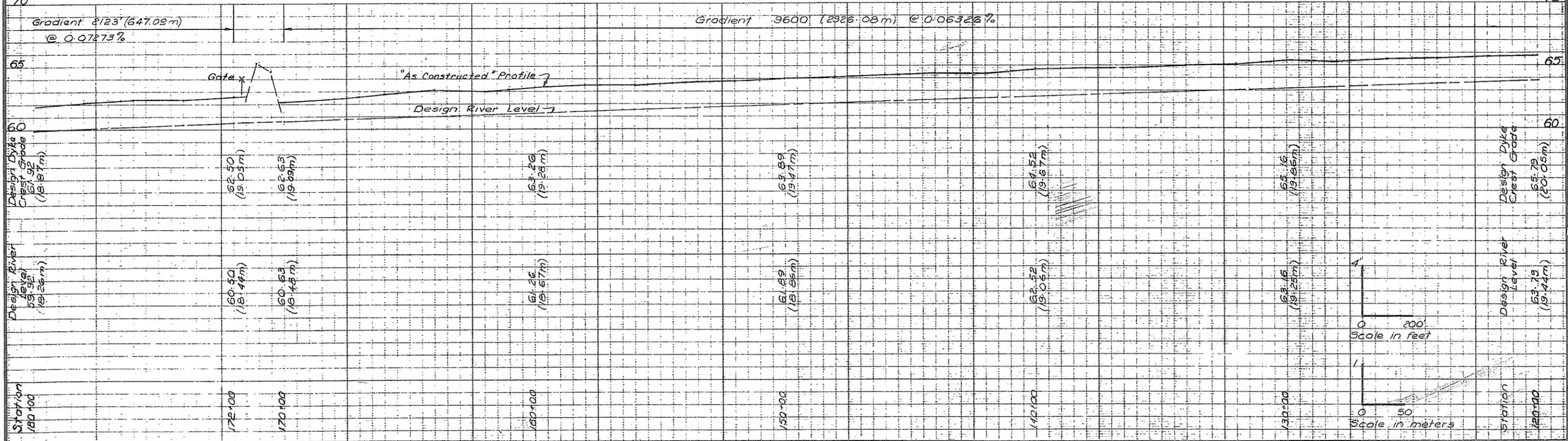
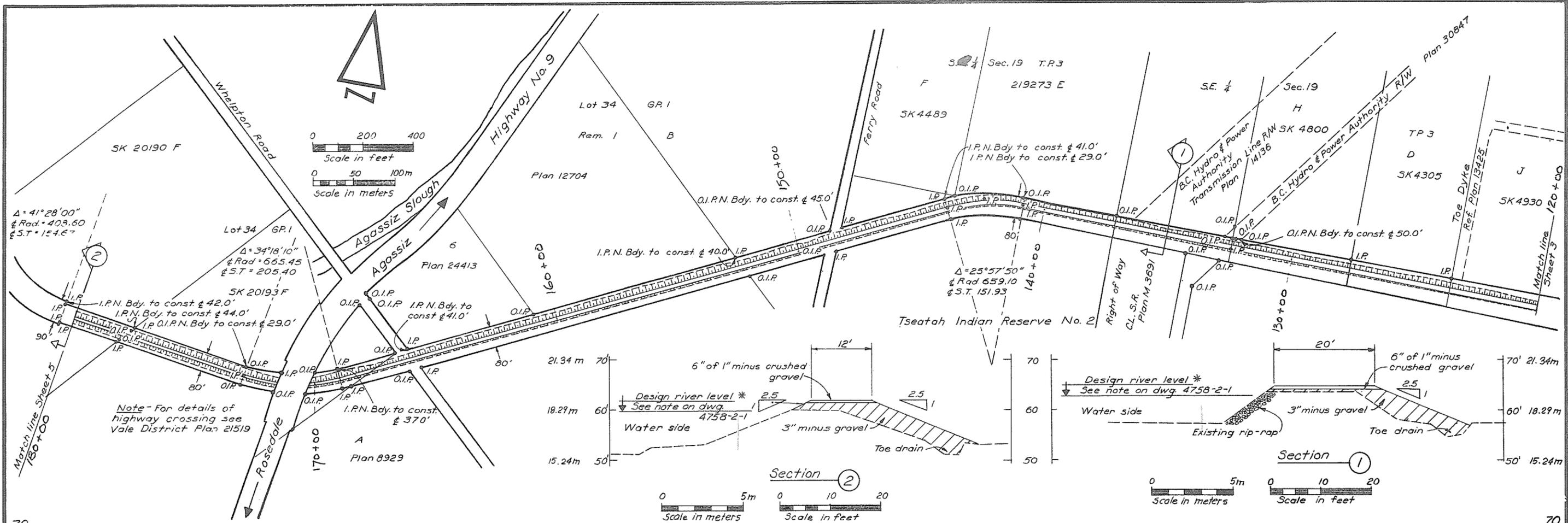


NO.	DATE	REVISIONS	BY	APPR.	EXISTING	LEGEND	PROPOSED
	Feb 75	As Constructed	DM				

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DATE: 4-1-75	CHECKED:
APPROVED: [Signature]	DATE: Aug. 1974
DIRECTOR	SCALE: As Noted
DATE: 3-14-75	FIELD BOOK No.:

THE GOVERNMENT OF THE PROVINCE OF BRITISH COLUMBIA  
 DEPARTMENT OF LANDS, FOREST AND WATER RESOURCES  
 WATER RESOURCES SERVICE  
 CANADA, BRITISH COLUMBIA  
 FRASER RIVER FLOOD CONTROL 1968 AGREEMENT  
 PROJECT No. DI DISTRICT OF KENT  
 CONTRACT No. 2 DYKE RECONSTRUCTION SECTION A  
 PLAN & PROFILE STA. 60+00 TO 120+00  
 DRAWING No. 4758-2-3-IN REV. SHEET 3 OF 16

**WILLIS CUNLIFFE TAIT**  
 & Company Ltd.



NO.	DATE	REVISIONS	BY	APPR.	EXISTING	LEGEND	PROPOSED
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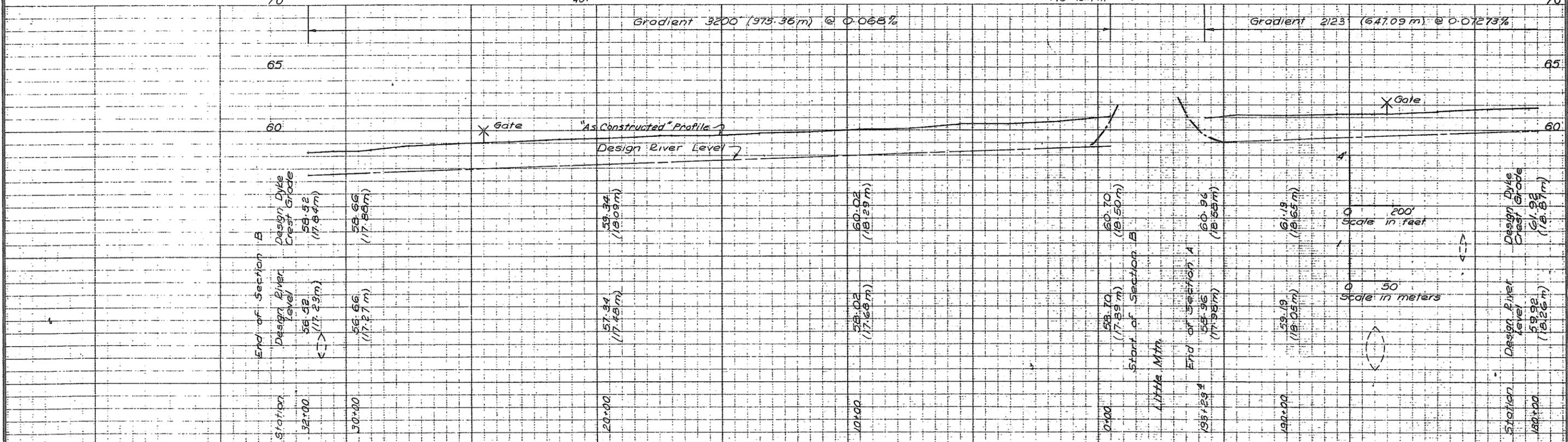
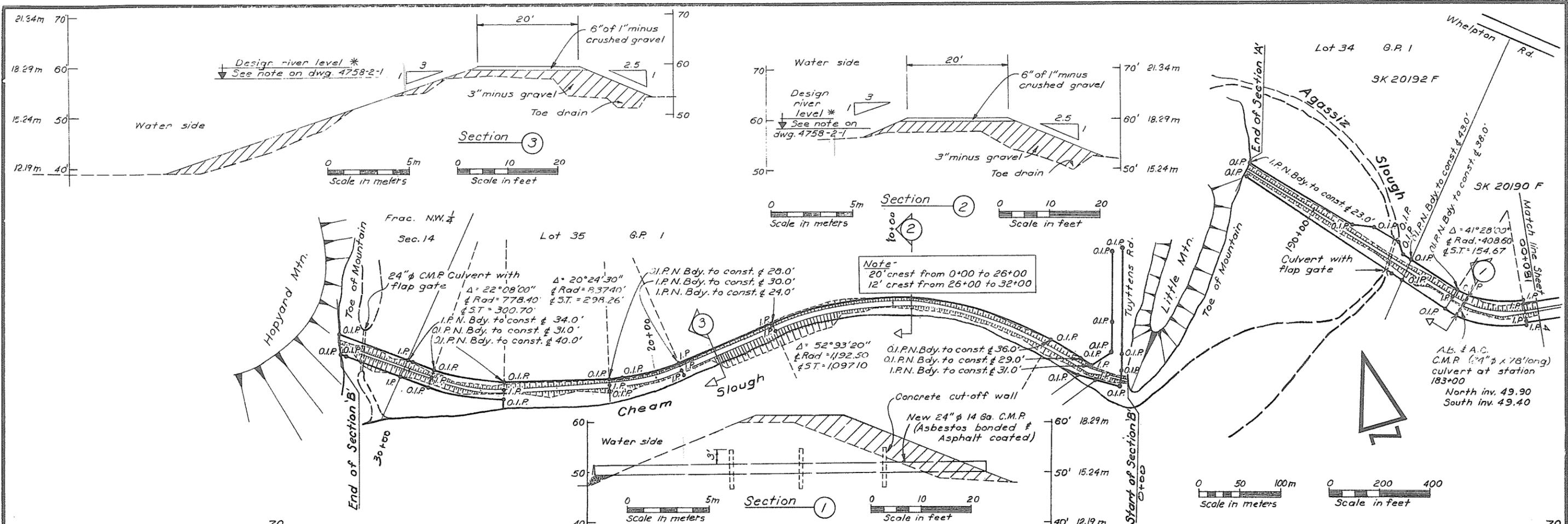
RECOMMENDED PROJECT MANAGER DATE: <i>11/1/75</i>	DESIGN DRAWN: <i>B.A.</i> CHECKED: <i>[Signature]</i> DATE: <i>Aug. 1974</i> SCALE: <i>As Noted</i> FIELD BOOK NO.
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APPROVED  
*[Signature]*  
DIRECTOR  
DATE: *11/1/75*



THE GOVERNMENT OF THE PROVINCE OF BRITISH COLUMBIA  
DEPARTMENT OF LANDS, FORESTS AND WATER RESOURCES  
WATER RESOURCES SERVICE  
CANADA, BRITISH COLUMBIA  
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT  
PROJECT No. 01 DISTRICT OF KENT  
CONTRACT No. 2 DYKE RECONSTRUCTION SECTION A  
PLAN & PROFILE STA. 120+00 TO STA. 180+00  
DRAWING No. 4758-2-4-IN REV. SHEET 4 OF 16

**WILLIS CUNLIFFE TAIT**  
& Company Ltd.



NO.	DATE	REVISIONS	BY	APPR.	EXISTING	LEGEND	PROPOSED
	Feb. 75	As Constructed	DM.				

RECOMMENDED  
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 DATE: 3/21/75  
 APPROVED  
 DIRECTOR  
 DATE: 3/21/75

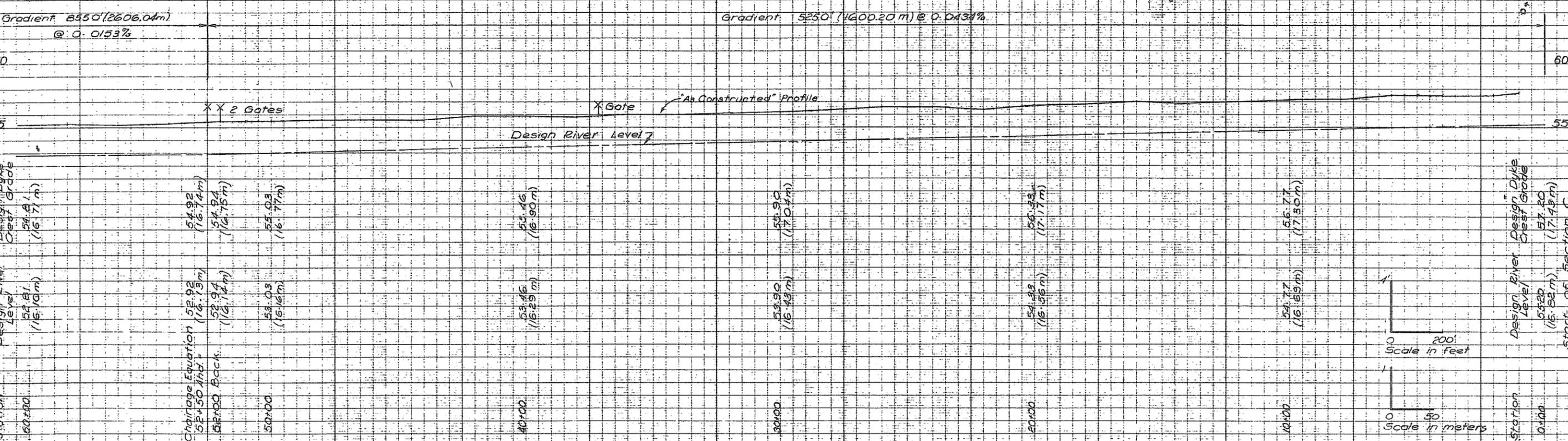
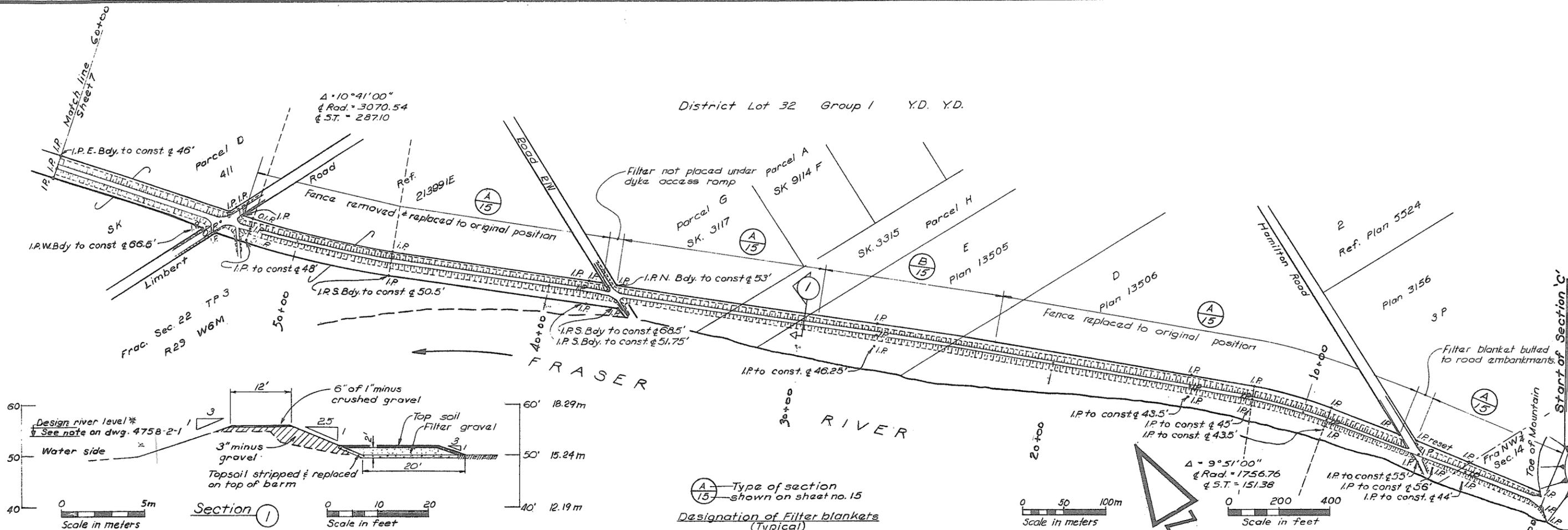
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 CHECKED  
 APPROVED  
 DATE: Aug. 1974  
 SCALE: As Noted  
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THE GOVERNMENT OF THE PROVINCE OF BRITISH COLUMBIA  
 DEPARTMENT OF LANDS, FORESTS AND WATER RESOURCES  
 WATER RESOURCES SERVICE  
 CANADA: BRITISH COLUMBIA  
 FRASER RIVER FLOOD CONTROL 1968 AGREEMENT  
 PROJECT No. 01 DISTRICT OF KENT  
 CONTRACT No. 2 DYKE RECONSTRUCTION SECTIONS A&B  
 PLAN & PROFILE STA. 180+00 TO STA. 193+23.4  
 AND STA. 0+00 TO STA. 32+00  
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**WILLIS CUNLIFF TAIT**  
 & Company Ltd.

District Lot 32 Group 1 Y.D. Y.D.

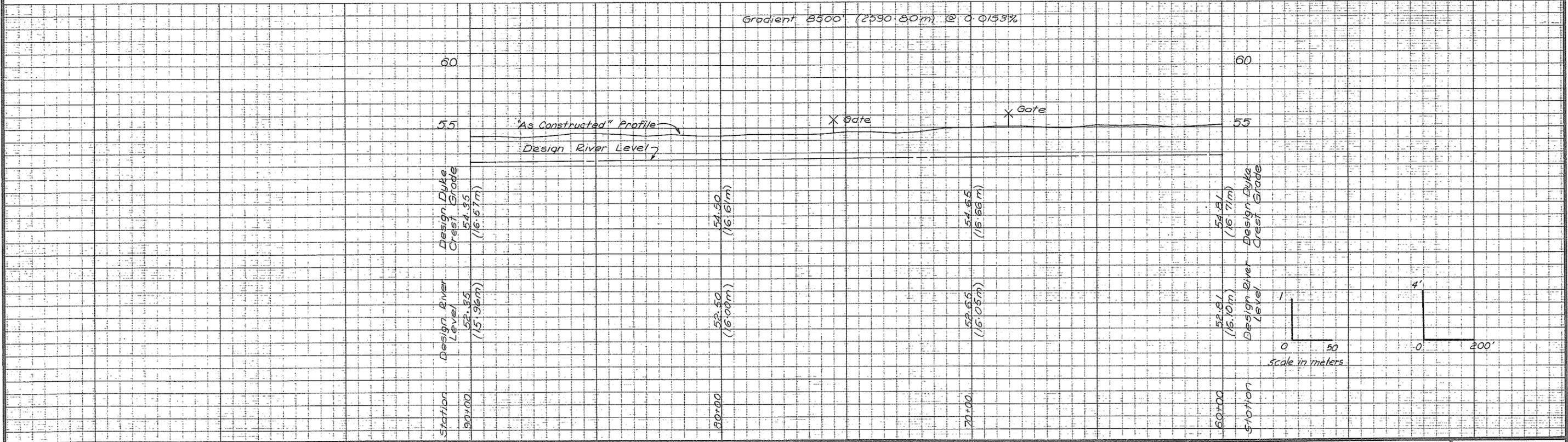
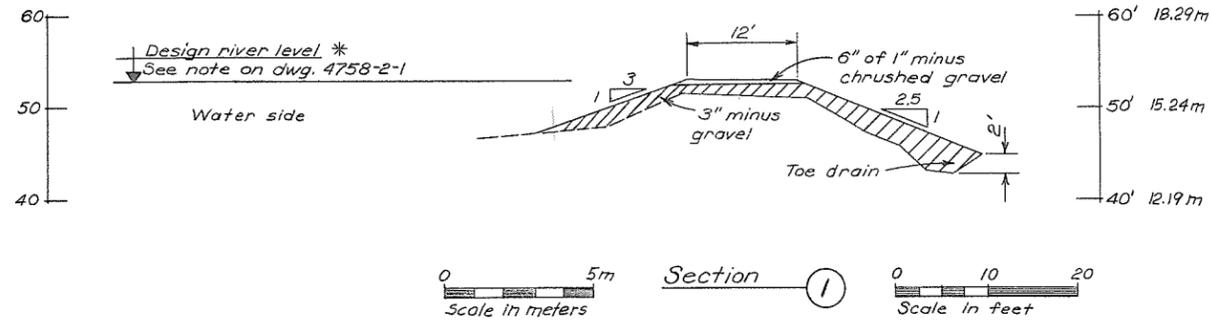
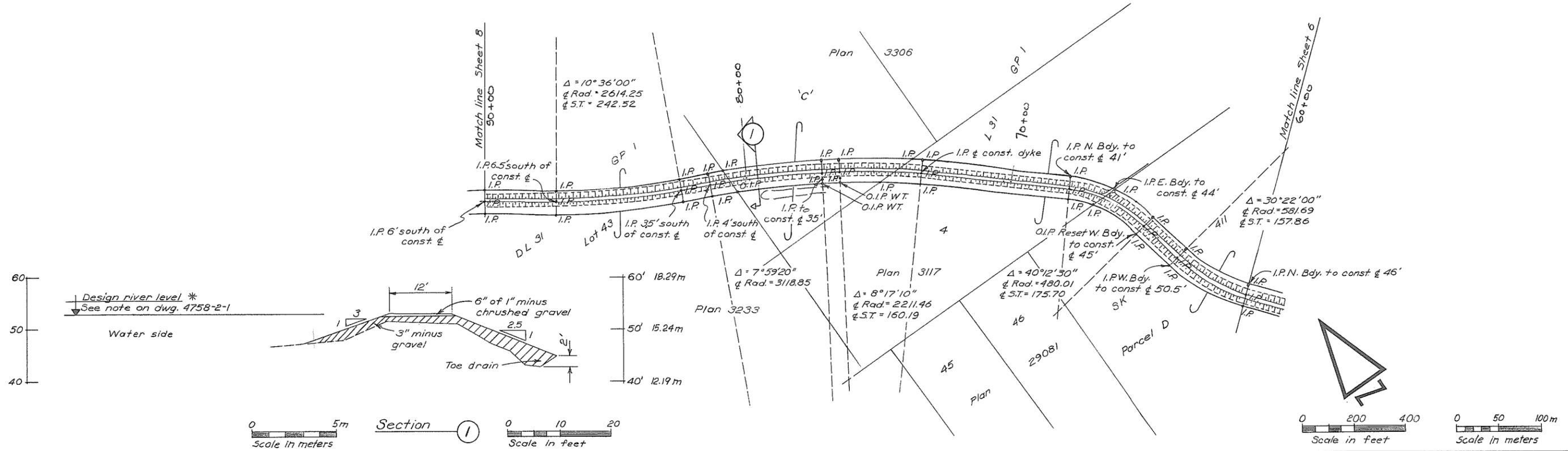


NO.	DATE	REVISIONS	BY	APPR.	EXISTING	LEGEND	PROPOSED
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RECOMMENDED	DESIGN
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DATE	AUG 1974
APPROVED	DATE August, 1974
DIRECTOR	SCALE: As Noted
DATE	FIELD BOOK No.

THE GOVERNMENT OF THE PROVINCE OF BRITISH COLUMBIA  
 DEPARTMENT OF LANDS, FORESTS AND WATER RESOURCES  
 WATER RESOURCES SERVICE  
 CANADA, BRITISH COLUMBIA  
 FRASER RIVER FLOOD CONTROL 1968 AGREEMENT  
 PROJECT No. 01 DISTRICT OF KENT  
 CONTRACT No. 2 DYKE RECONSTRUCTION SECTION C  
**PLAN & PROFILE STA. 0+00 TO STA. 60+00**  
 DRAWING No. 4758-2-6-IN REV. SHEET 6 OF 16

**WILLIS CUNLIFFE TAIT**  
 a Company Ltd.



NO.	DATE	REVISIONS	BY	APPR.	EXISTING	LEGEND	PROPOSED
	Feb 75	As Constructed		D.M.			

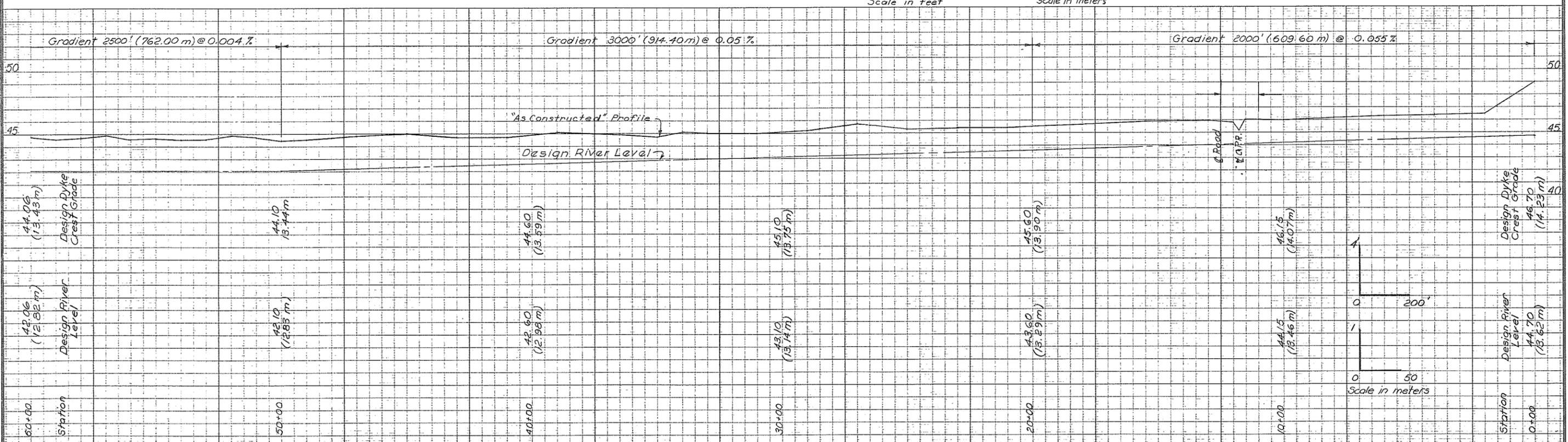
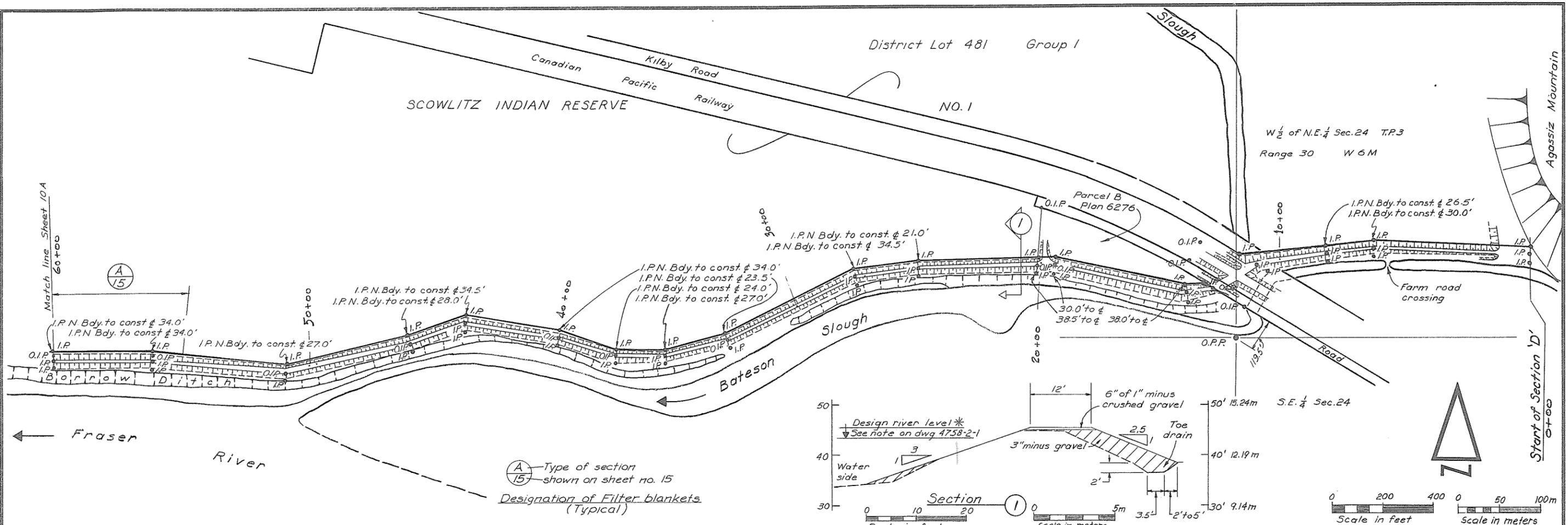
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DATE: 11/1/75	CHECKED:	
APPROVED:	APPROVED:	
DATE: August, 1974	DATE: As Noted	
SCALE: As Noted	FIELD BOOK No.	
DATE: 11/1/75		

THE GOVERNMENT OF THE PROVINCE OF BRITISH COLUMBIA DEPARTMENT OF LANDS, FORESTS AND WATER RESOURCES WATER RESOURCES SERVICE	
CANADA, BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT PROJECT No. 01 DISTRICT OF KENT CONTRACT No. 2 DYKE RECONSTRUCTION SECTION C	
PLAN & PROFILE STA. 60+00 TO STA. 90+00	
DRAWING No. 4758-2-7-IN	REV. SHEET 7 OF 16

105062  
**WILLIS  
 CUNLIFFE  
 TAIT**  
 & Company Ltd.

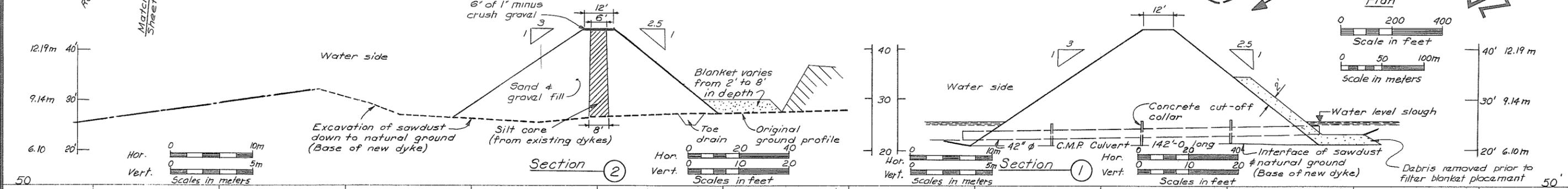
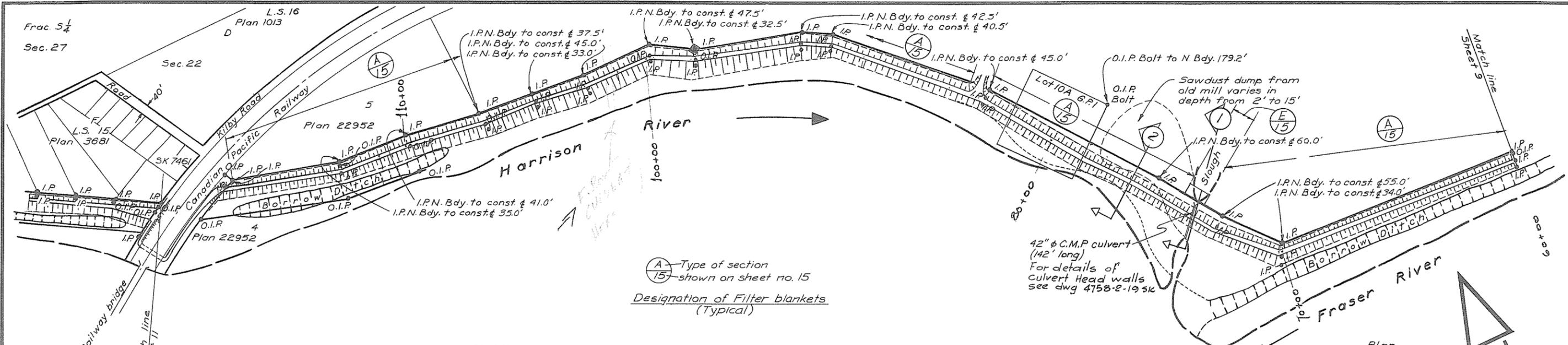




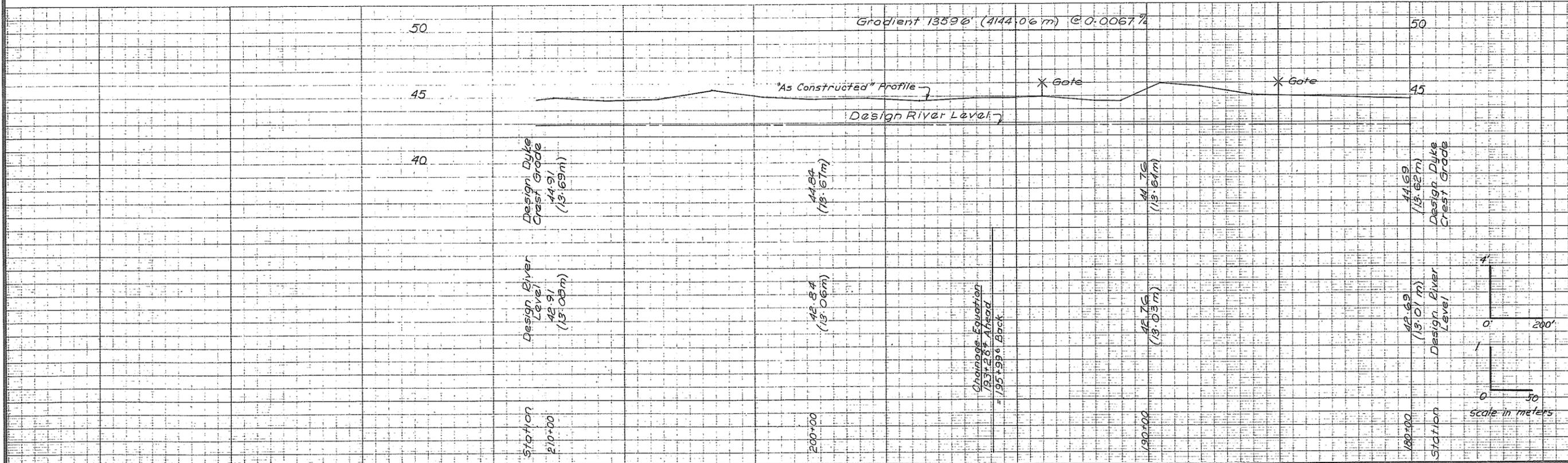
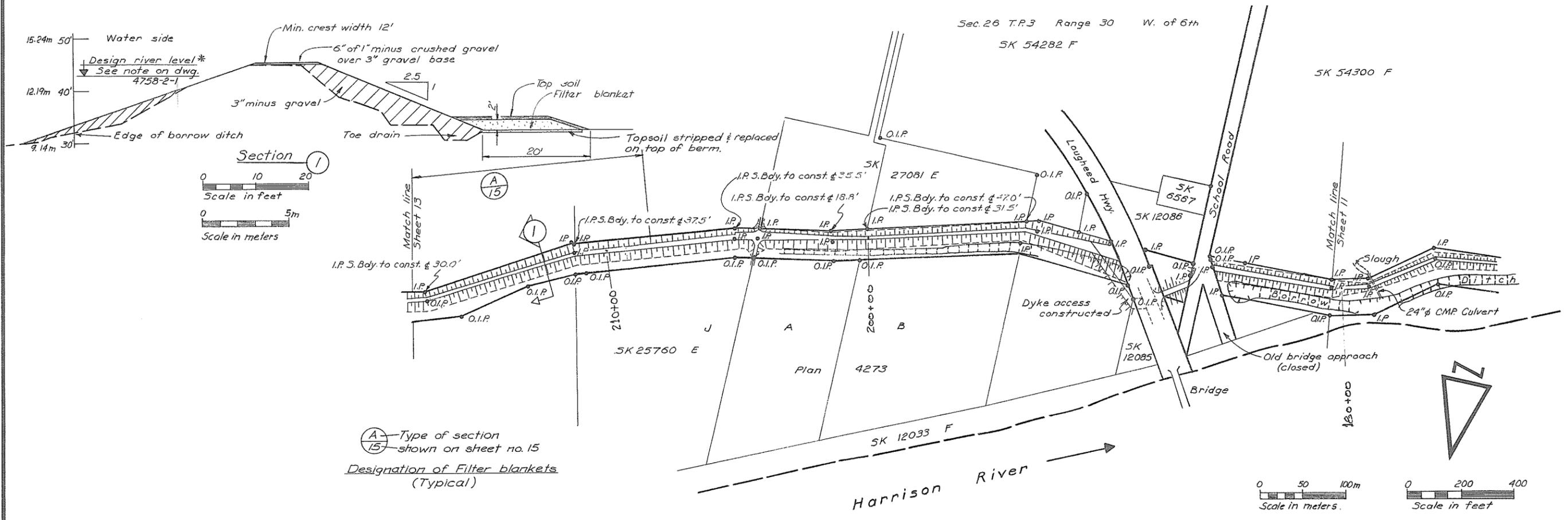
NO.	DATE	REVISIONS	BY	APPR.	EXISTING	LEGEND	PROPOSED
1	Feb 75	As Constructed	D.M.		I.P. • Iron pin O.I.P. • Old iron pin O.P.P. • Old pipe post		

RECOMMENDED	DESIGN		THE GOVERNMENT OF THE PROVINCE OF BRITISH COLUMBIA DEPARTMENT OF LANDS, FORESTS AND WATER RESOURCES WATER RESOURCES SERVICE CANADA, BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT PROJECT No. 01 DISTRICT OF KENT CONTRACT No. 2 DYKE RECONSTRUCTION SECTION D PLAN & PROFILE STA. 0+00 TO STA. 60+00 DRAWING No. 4758-2-9-1N	<b>WILLIS CUNLIFE TAIT</b> & Company Ltd.
PROJECT MANAGER	DRAWN		REV. SHEET 9 OF 16	
DATE	CHECKED			
APPROVED	APPROVED			







NO.	DATE	REVISIONS	BY	APPR.	EXISTING	LEGEND	PROPOSED
	Feb 75	As Constructed		D.M.			

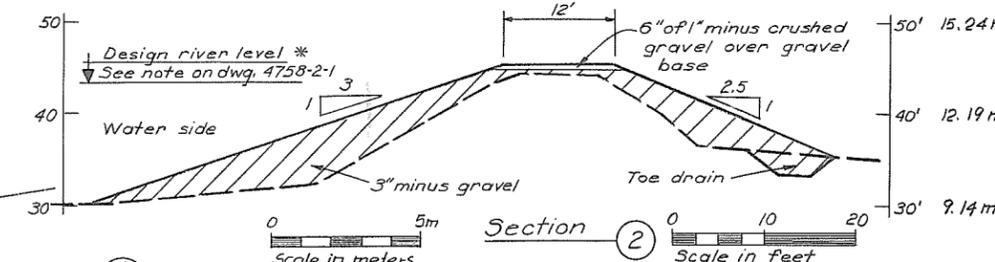
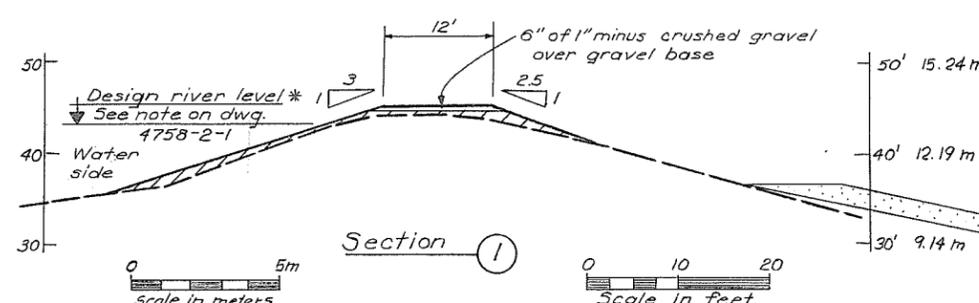
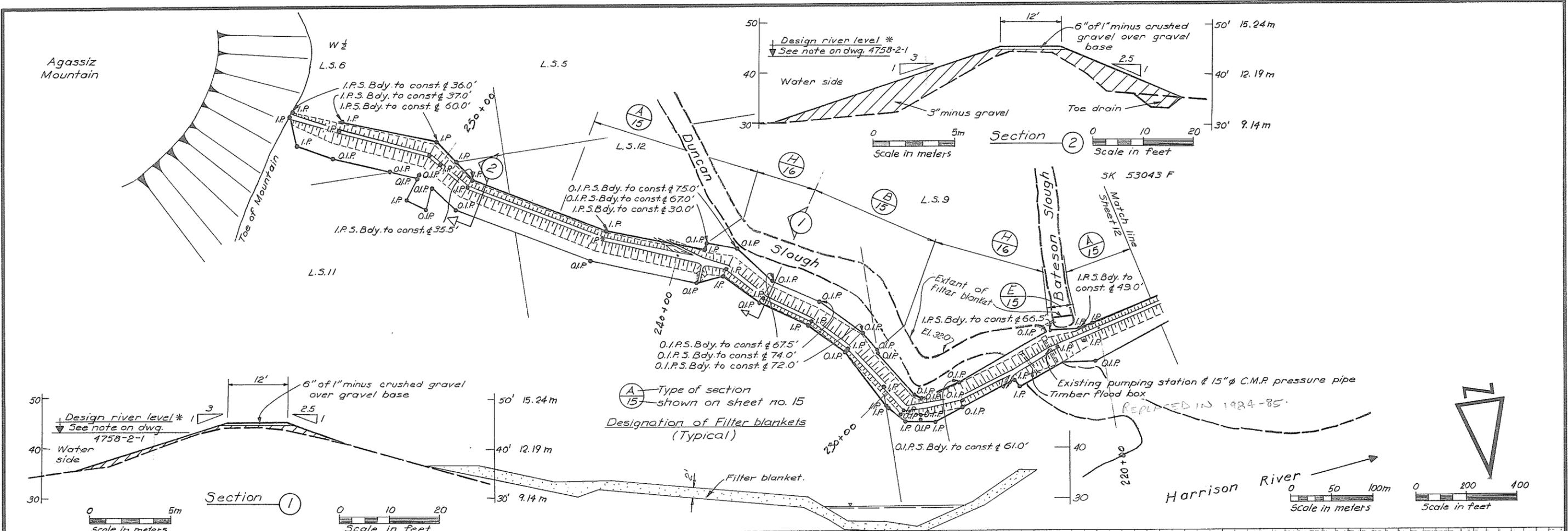
AS CONSTRUCTED

RECOMMENDED  
 PROJECT MANAGER  
 DATE: Apr 11/75  
 APPROVED: [Signature]  
 DIRECTOR  
 DATE: Apr 11/75

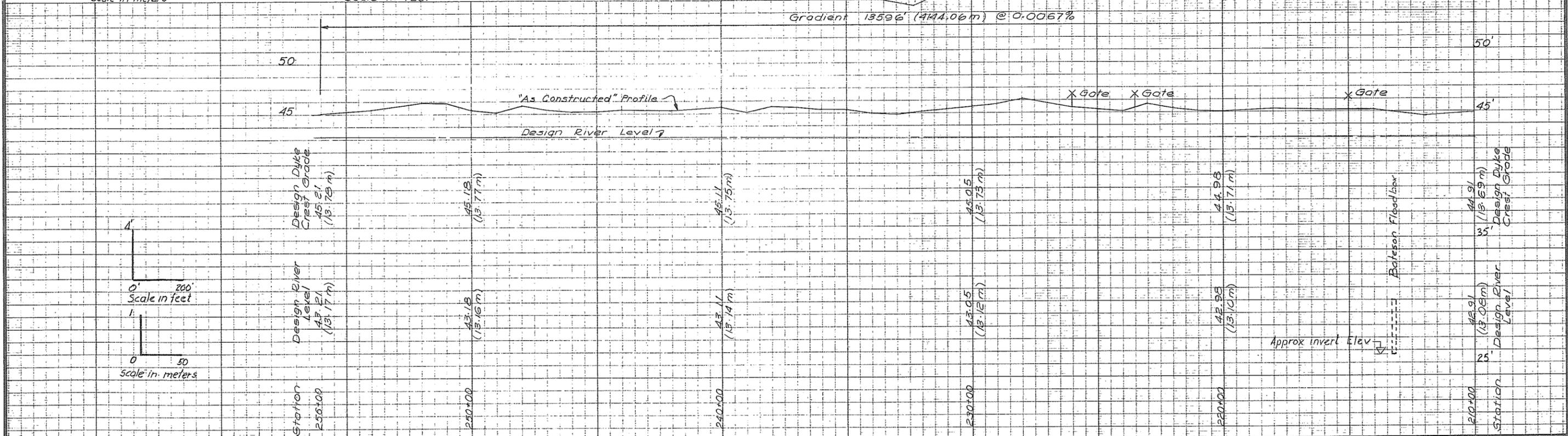
DESIGN: BA  
 DRAWN: BA  
 CHECKED: [Signature]  
 APPROVED: [Signature]  
 DATE: Aug. 1974  
 SCALE: As Noted  
 FIELD BOOK No.

THE GOVERNMENT OF THE PROVINCE OF BRITISH COLUMBIA  
 DEPARTMENT OF LANDS, FORESTS AND WATER RESOURCES  
 WATER RESOURCES SERVICES  
 CANADA, BRITISH COLUMBIA  
 FRASER RIVER FLOOD CONTROL 1968 AGREEMENT  
 PROJECT No. 01 DISTRICT OF KENT  
 CONTRACT No. 2 DYKE RECONSTRUCTION SECTION D  
 PLAN & PROFILE STA. 180+00 TO STA. 214+00  
 DRAWING No. 4758-2-12-IN REV. SHEET 12 OF 16

105067  
**WILLIS  
 CUNLIFFE  
 TAIT**  
 & Company Ltd.



(A) Type of section shown on sheet no. 15  
 Designation of Filter blankets (Typical)



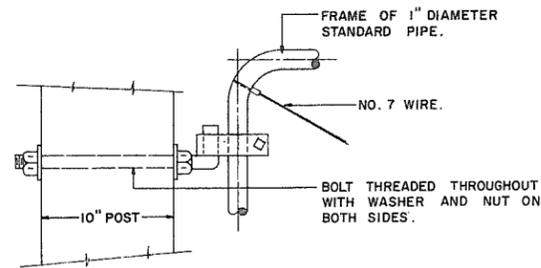
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	Feb. 75	As Constructed	D.M.				

RECOMMENDED PROJECT MANAGER  
 DATE: 11/73  
 APPROVED: [Signature]  
 DIRECTOR  
 DATE: 1/15/75

DESIGN: DRAWN: B.A.  
 CHECKED: [Signature]  
 APPROVED: [Signature]  
 DATE: Aug. 1974  
 SCALE: As Noted  
 FIELD BOOK No.

THE GOVERNMENT OF THE PROVINCE OF BRITISH COLUMBIA  
 DEPARTMENT OF LANDS, FORESTS AND WATER RESOURCES  
 WATER RESOURCES SERVICE  
 CANADA, BRITISH COLUMBIA  
 FRASER RIVER FLOOD CONTROL 1968 AGREEMENT  
 PROJECT No. 01 DISTRICT OF KENT  
 CONTRACT No. 2 DYKE RECONSTRUCTION SECTION D  
 PLAN & PROFILE STA. 210+00 TO STA. 256+38  
 DRAWING No. 4758-2-13-IN REV. SHEET 13 OF 16

105068  
**WILLIS CUNLIFFE TAIT**  
 & Company Ltd.



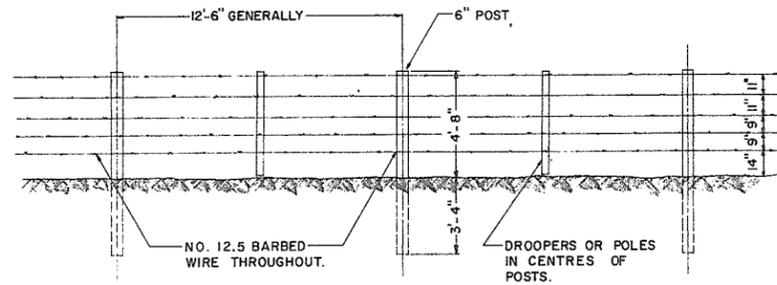
DETAIL AT HINGE

**GENERAL NOTES**

THE WIDTH OF OPENING BETWEEN GATE POSTS MAY BE VARIED TO SUIT LOCAL CONDITIONS BUT THE MAXIMUM SHALL BE 16 FEET.

**GENERAL SPECIFICATIONS FOR GATES**

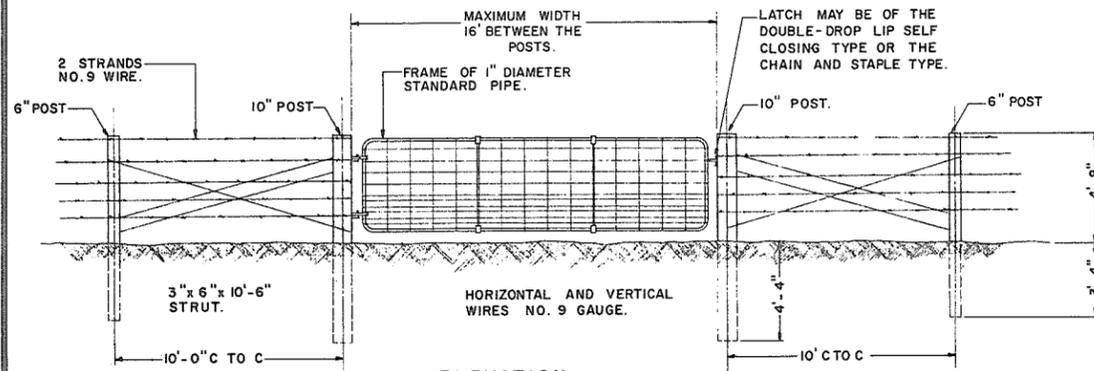
HEIGHT : 48"  
 FRAME : 1" DIAMETER STANDARD PIPE.  
 UPRIGHT BRACES : 3/4" DIAMETER STANDARD PIPE.  
 BRACE WIRE : NO. 7 GAUGE.  
 FILLING WIRE : NO. 9 GAUGE.  
 FRAME WELDED AT JOINT AND GALVANIZED AFTER WELDING.  
 PAIR OF HINGES AND LATCH TO BE SUPPLIED. ALL PIPE, WIRE AND FITTINGS TO BE GALVANIZED.  
 FENCE POSTS TO BE OF CEDAR 10" ROUND OR SQUARE.



FENCE

**GENERAL NOTES**

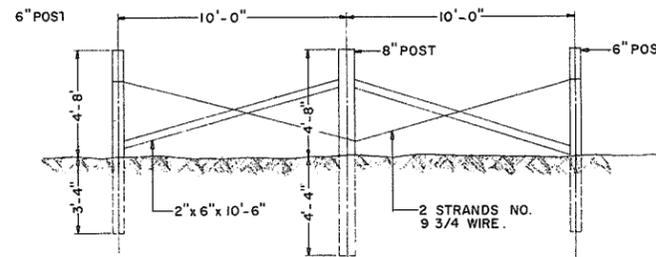
POSTS TO BE OF CEDAR, ROUND OR SQUARE AS MAY BE SPECIFIED.  
 DROOPERS OR POLES TO BE CEDAR.  
 TOP EDGES OF POLES TO BE CHAMFERED.  
 BARBED WIRE TO BE 2 STRANDS NO. 12.5 GAUGE GALVANIZED WIRE, 4 POINT ROUND BARBS SPACED 6" APART.  
 FASTEN WIRES WITH NO. 9 3/4 GAUGE GALVANIZED STAPLES 1 1/2" LONG.  
 THIS TYPE OF FENCING IS NOT TO BE USED ALONG BOUNDARIES OF RAILROAD PROPERTY.



ELEVATION

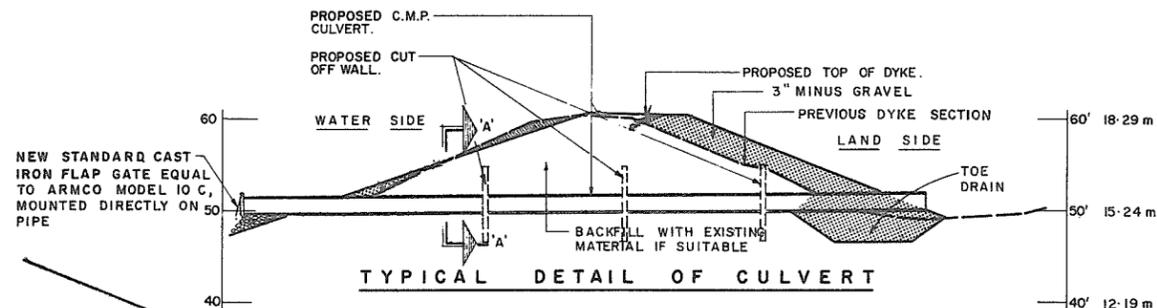
STANDARD FARM GATE

SCALE 1/4" = 1'-0"

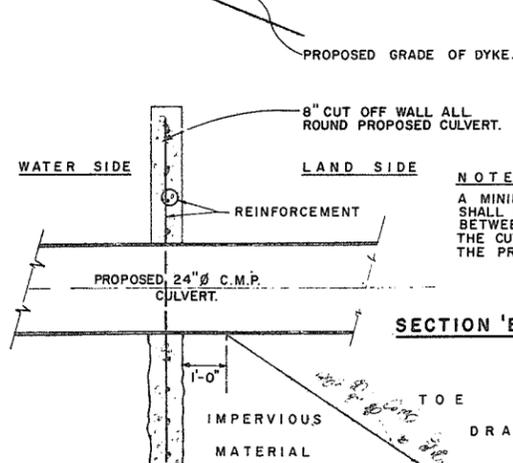


STRAINING POSTS

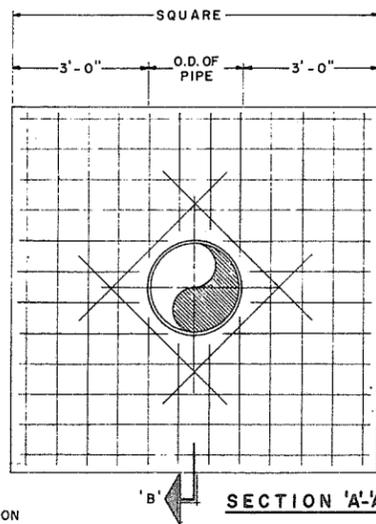
TYPE 'C' STANDARD BARBED WIRE FENCE SCALE 1/4" = 1'-0"



TYPICAL DETAIL OF CULVERT



SECTION 'B-B'

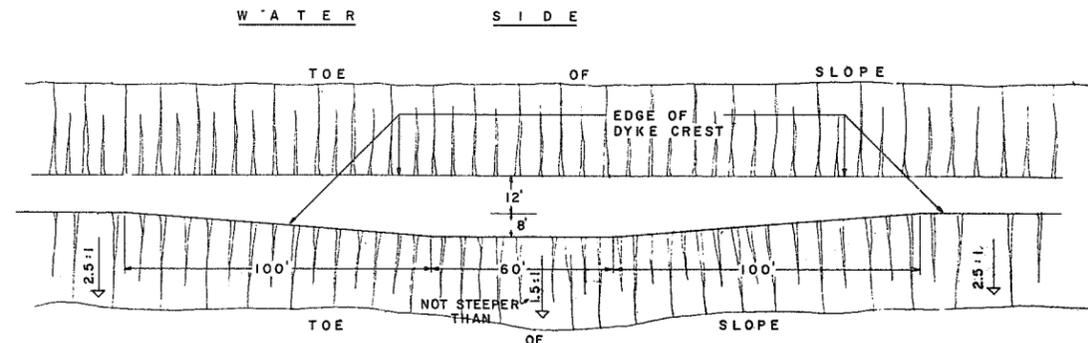


SECTION 'A-A'

**GENERAL NOTES**

ALL CONCRETE TO BE 2500 P.S.I. AT 28 DAYS.  
 ALL REINFORCING BARS TO BE INTERMEDIATE GRADE BILLET STEEL.  
 ALL BARS TO BE CENTRED IN 8" THICK WALL.  
 ALL REINFORCING STEEL TO BE NO. 4 BARS AT 8" CENTRES.  
 REINFORCING BARS FOR 24" DIAMETER CULVERT CUT OFF WALLS SHALL START 4" INSIDE OF CONCRETE AND SHALL OVERLAP 2".  
 REINFORCING BARS FOR 42" DIAMETER CULVERT CUT OFF WALLS SHALL START 5" INSIDE OF CONCRETE AND SHALL OVERLAP 3".  
 REINFORCING BARS SURROUNDING THE CULVERT SHALL BE NO CLOSER THAN 3" TO THE PIPE AND SHALL OVERLAP 12" AT THE ENDS.

TYPICAL DETAIL OF CULVERT CUT-OFF WALLS SCALE 1/2" = 1'-0"



TYPICAL TURNOUT DETAIL

(TRANSITION ALSO APPLIES WHERE ROAD CHANGES FROM 12'-0" TO 20'-0" WIDTH)

**GENERAL NOTES**

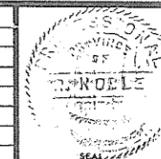
TURNOUTS ARE TO BE LOCATED BY THE ENGINEER IN THE FIELD. (APPROXIMATELY 12 TURNOUTS)

SCALE 1" = 30'

AS CONSTRUCTED

RECOMMENDED  
 PROJECT MANAGER  
 DATE  
 APPROVED  
 DIRECTOR  
 DATE

DESIGN  
 DRAWN  
 CHECKED  
 APPROVED  
 DATE  
 SCALE  
 FIELD BOOK No.  
 W1219-14

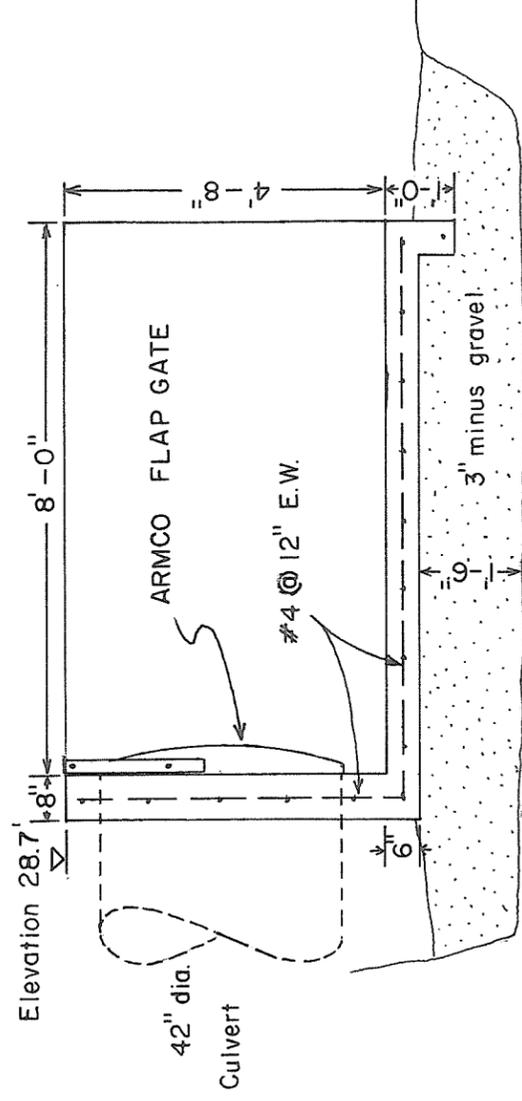
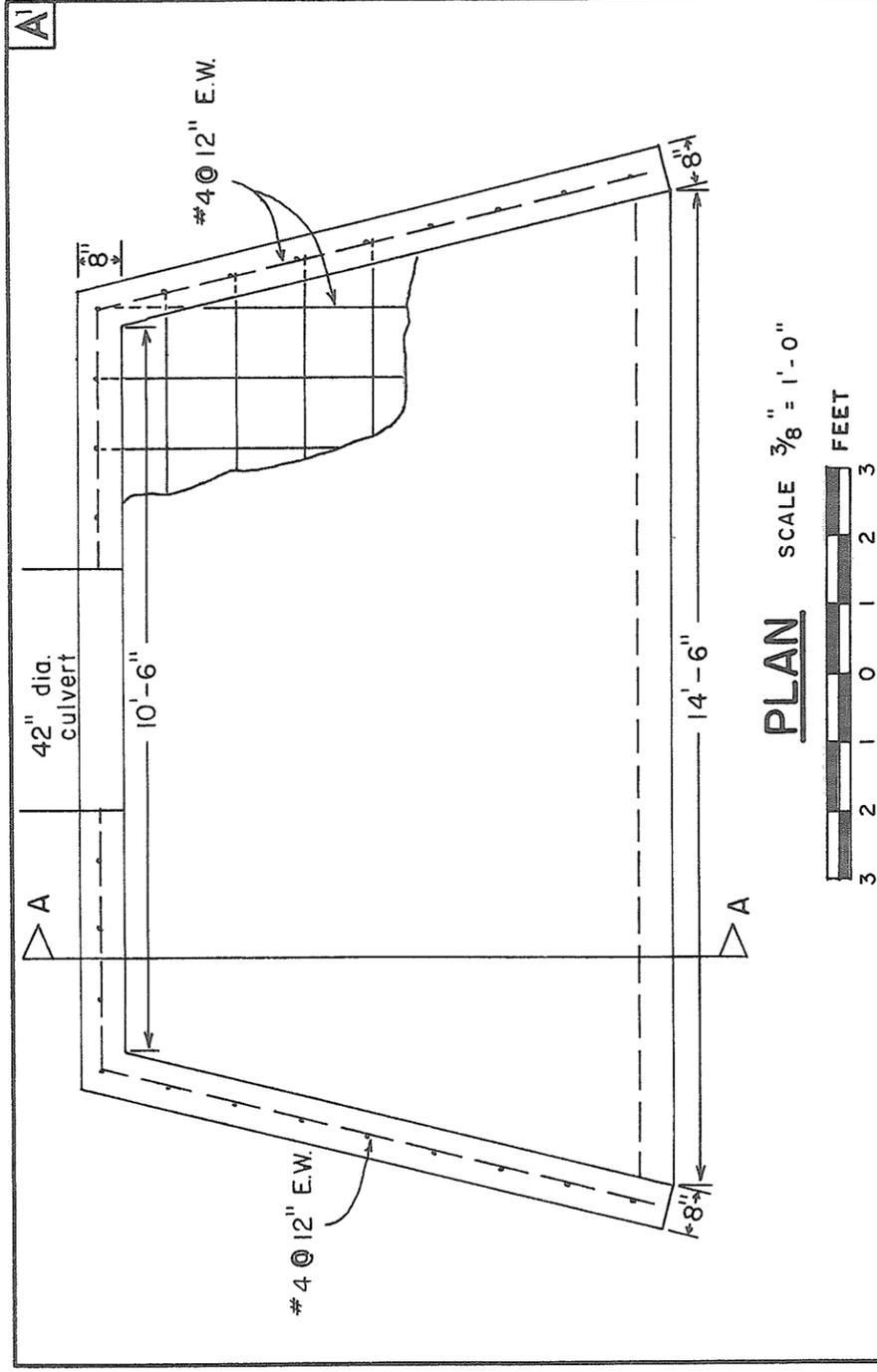


THE GOVERNMENT OF THE PROVINCE OF BRITISH COLUMBIA  
 DEPARTMENT OF LANDS, FORESTS AND WATER RESOURCES  
 WATER RESOURCES SERVICE  
 CANADA, BRITISH COLUMBIA  
 FRASER RIVER FLOOD CONTROL 1968 AGREEMENT  
 PROJECT No. 01 DISTRICT OF KENT  
 CONTRACT No. 2 DYKE RECONSTRUCTION  
 MISCELLANEOUS DETAIL  
 DRAWING No. 4758-2-14-IN REV. SHEET 14 OF 16

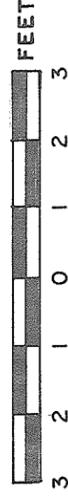
105069  
 WILLIS  
 CUNLIFFE  
 TAIT  
 & Company Ltd.



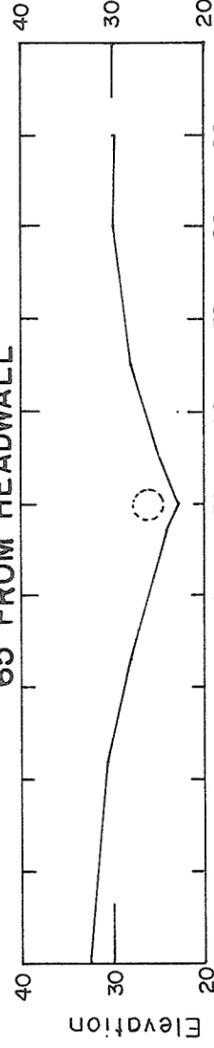




**SECTION A-A** SCALE  $\frac{3}{8}'' = 1'-0''$



**CROSS-SECTION OF OUTLET CHANNEL  
65' FROM HEADWALL**



**AS CONSTRUCTED**

**NOTES**

1. Date of construction: Oct. 18, to 27, 1972.
2. Elevations - G.S.C. datum, B.M. 6 elev. 37.38', station 69+59.
3. This sheet redrawn.

BRITISH COLUMBIA  
DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES  
WATER RESOURCES SERVICE  
WATER INVESTIGATIONS BRANCH

CANADA-BRITISH COLUMBIA  
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT  
**PROJECT No. 1 DISTRICT OF KENT  
CULVERT HEADWALL STA. 74+70  
HARRISON MILLS DYKE SECTION**

SCALE: VERT. AS SHOWN  
HOR. AS SHOWN  
DATE Dec. 1972

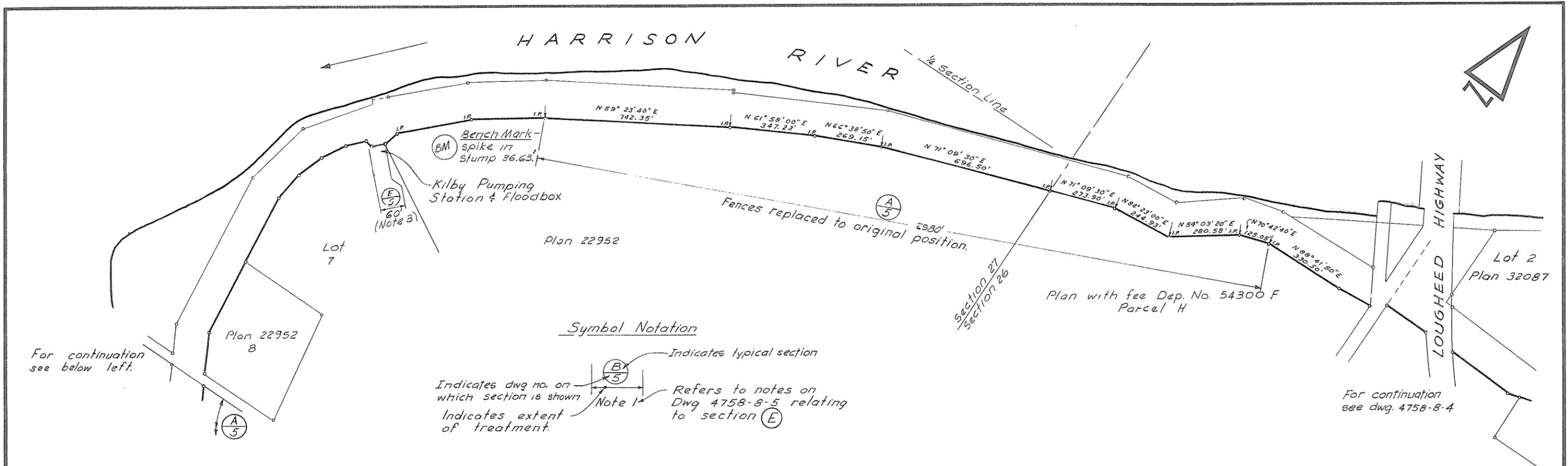
ENGINEER  
*R. Edwards*

FILE No. 0281550-C7 DWG. No. 4758-2-19 SK

105350





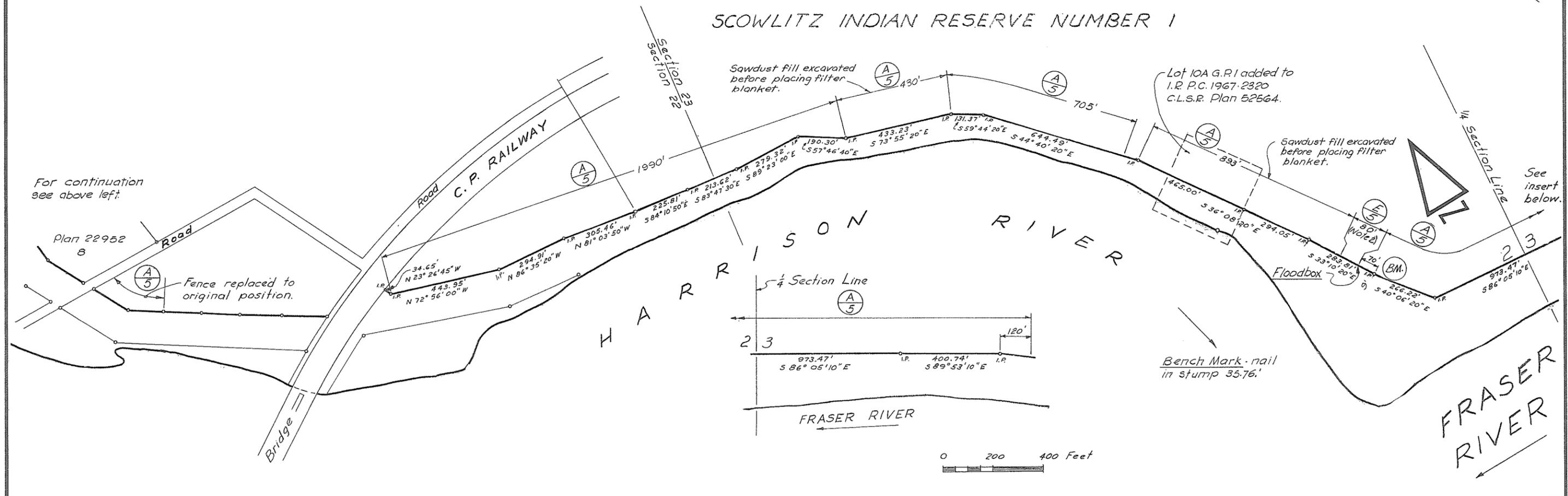


Symbol Notation

Indicates typical section  
 Indicates dwg no. on which section is shown  
 Indicates extent of treatment  
 Refers to notes on Dwg 4758-8-5 relating to section (E)

For continuation see below left.

For continuation see dwg. 4758-8-4



For continuation see above left.

See insert below.



NO.	DATE	REVISIONS	BY	APPR.	EXISTING	LEGEND	PROPOSED
					(BM)	Bench Mark	
	Mar '75	As Constructed	PM/HM				

AS CONSTRUCTED

RECOMMENDED  
 W. S. Tait  
 CHIEF, PROJECTS DIVISION  
 DATE: Mar 20/74  
 APPROVED  
 P. M. Quady  
 CHIEF ENGINEER  
 DATE: March 24/74

DESIGN: R. N.  
 DRAWN: M. M.  
 CHECKED: J.  
 APPROVED: J.  
 DATE: Jan. 1974  
 FIELD BOOK No.  
 W-2223-1-3

BRITISH COLUMBIA  
 DEPARTMENT OF LANDS, FORESTS AND WATER RESOURCES  
 WATER RESOURCES SERVICE  
 WATER INVESTIGATIONS BRANCH  
 CANADA, BRITISH COLUMBIA  
 FRASER RIVER FLOOD CONTROL 1968 AGREEMENT  
 PROJECT No. 1 DISTRICT OF KENT  
 CONTRACT No. 8 DYKE GRAVEL FILTER BLANKET  
 SECTION D  
 DYKE GRAVEL FILTER BLANKET LOCATION  
 DRAWING No. 4758-8-3 REV. SHEET 3 OF 6

105082  
**WILLIS CUNLIFFE TAIT**  
 & Company Ltd.

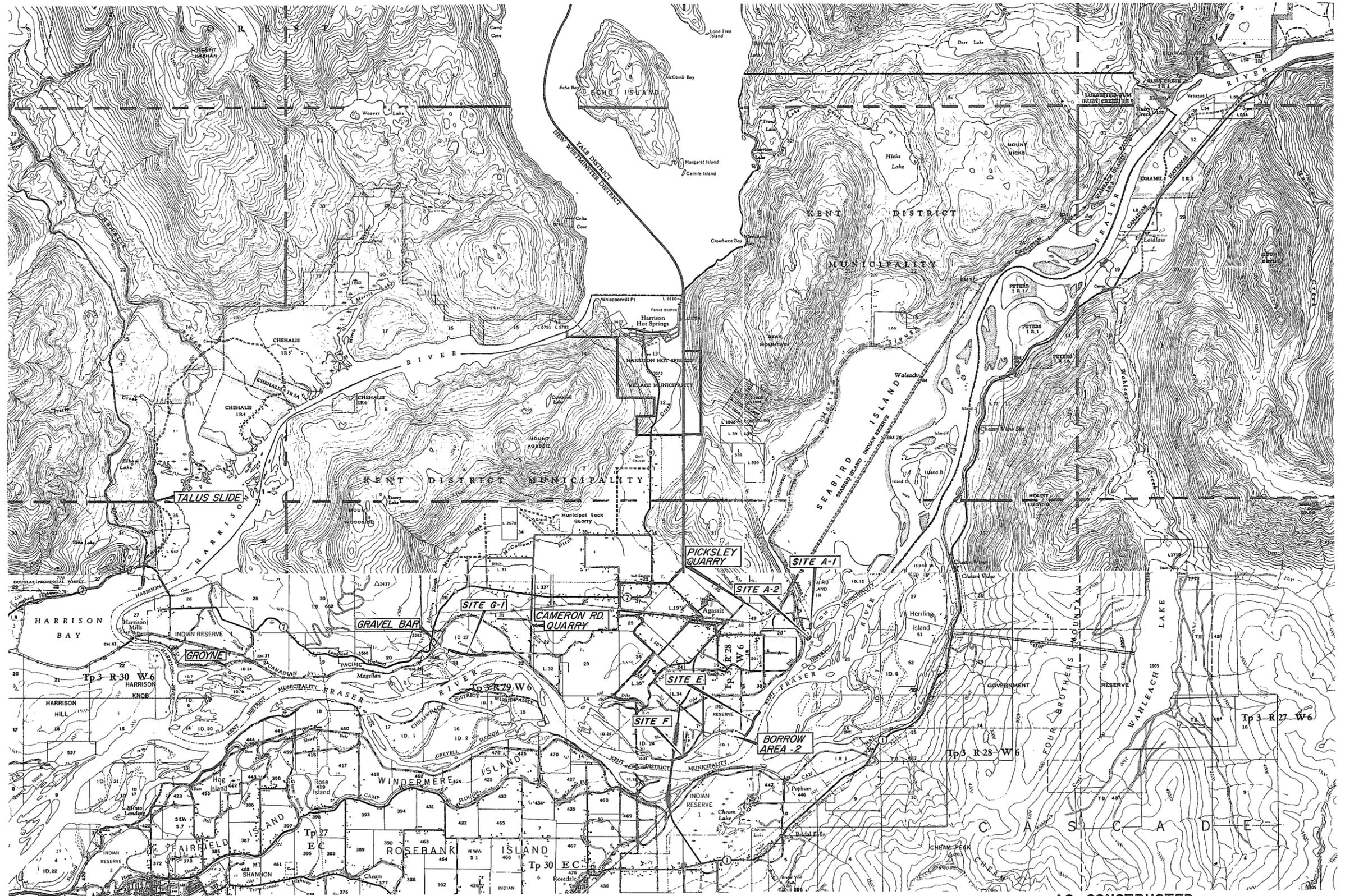






**BANK PROTECTION**

---



**AS CONSTRUCTED**

**NOTES:**  
1. Plan amended Sept, 1971

REFERENCES	
DWG. No.	DESCRIPTION
4758-KB-2	Plan & Sections, Site A, E, G-1
4758-KB-3	Plan & Sections, Site F
4758-1-10	Traverse, Site F, As constructed
4758-1-4,5	Plan & Sections, Site E
4758-1-4A,5A	Plan & Sections Site E As constructed
4758-1-7	Sections, Site G-1, As constructed
4758-1-6	Traverse, Site G-1, "
4758-1-12	Profile & Sections, Harrison Mills Grovne
4758-1-11	Site plan and traverse, " "
4758-1-9	Sections, Site A, As constructed
4758-1-8	Traverse, Site A, As constructed

APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE:  
*R. J. J. J.*  
DATE: 19 Jan 1972

APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA:  
*[Signature]*  
DATE: 1972

SURVEYED J. Stadt  
DATE Aug. 1969  
DESIGNED J. Wester  
DRAWN H. T.  
TRACED  
CHECKED R.A.E. Sept. 23/71  
DATE Nov. 1969

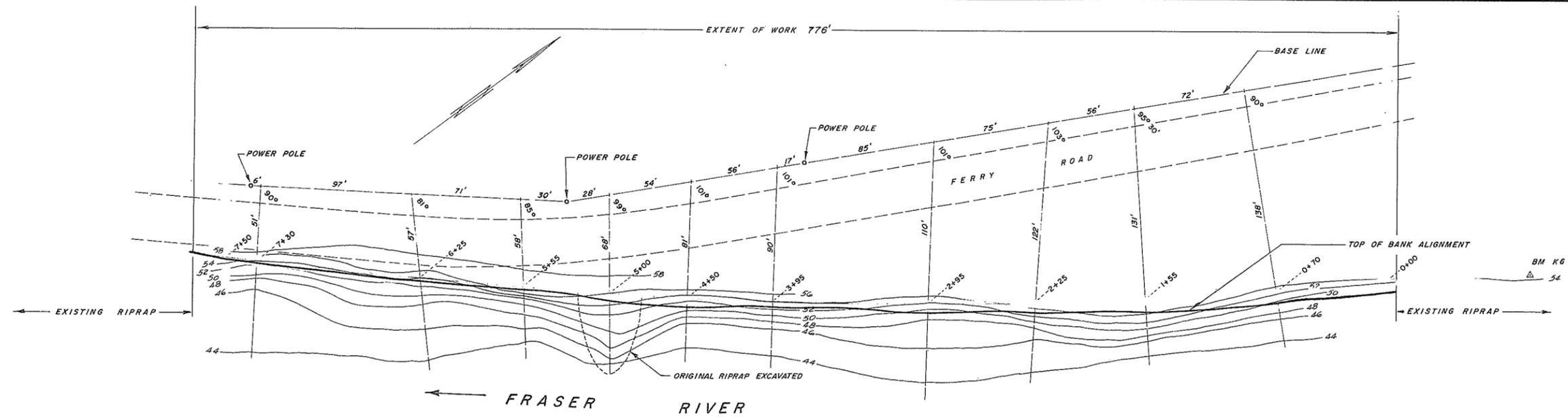
BRITISH COLUMBIA  
DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES  
WATER RESOURCES SERVICE  
WATER INVESTIGATIONS BRANCH

CANADA - BRITISH COLUMBIA  
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT  
PROJECT NO. 1 DISTRICT OF KENT  
CONTRACT NO. 1  
BANK PROTECTION  
KEY PLAN

APPROVED *P.M. Brady*

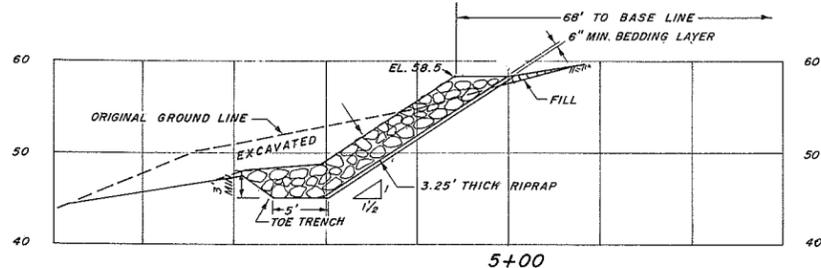
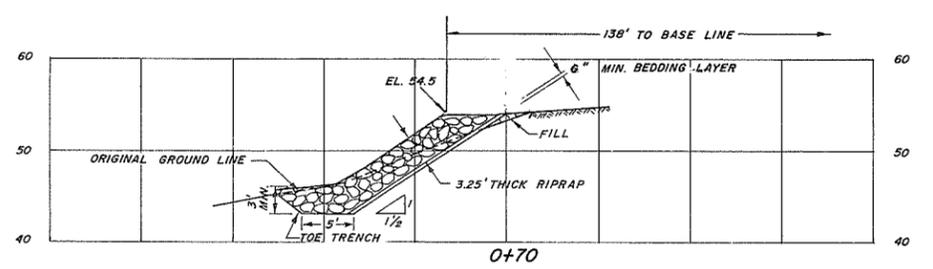
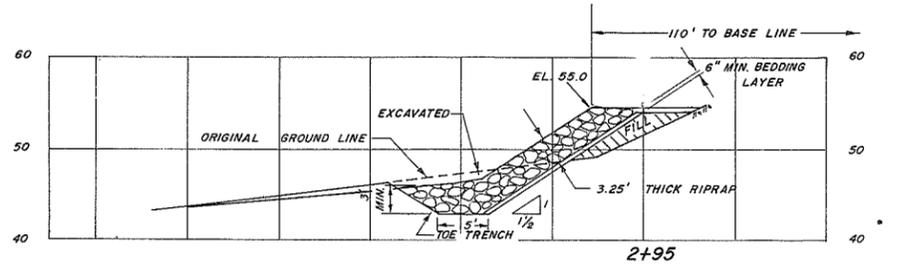
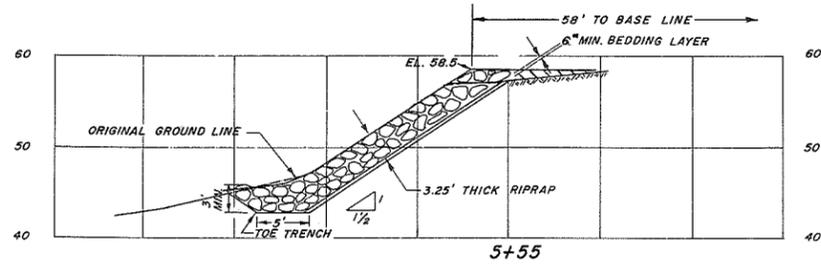
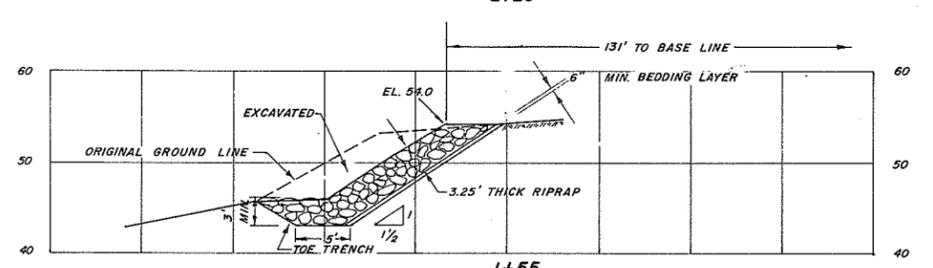
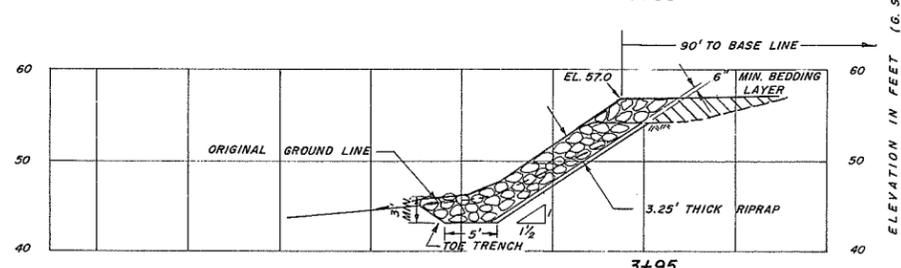
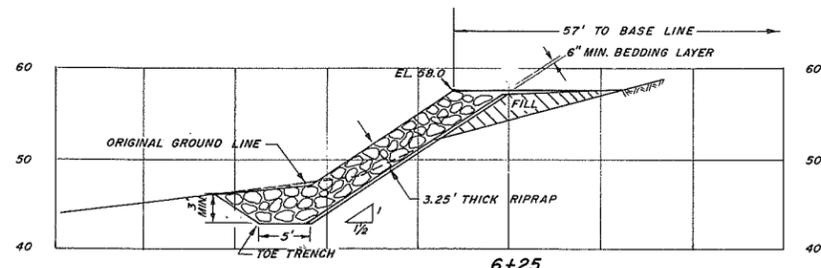
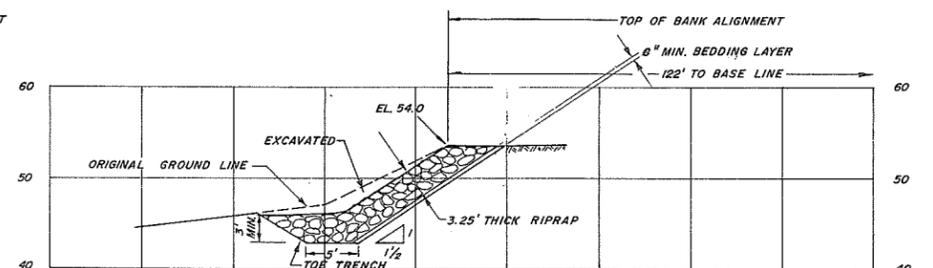
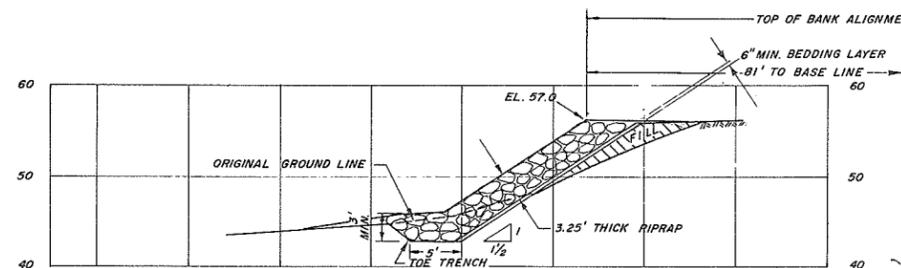
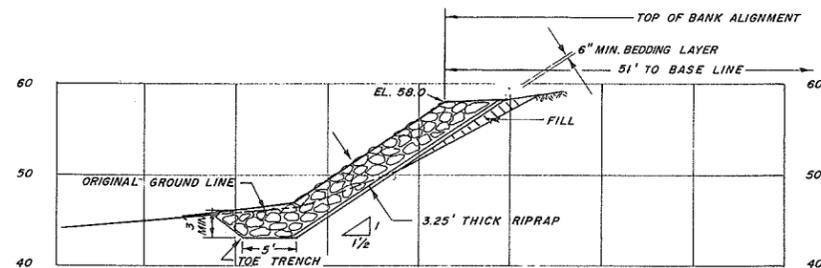
SCALE: 1.25 inch = 1 mi. approx.

FILE No. 0281550 B7  
1968  
DWG. No. 4758-1-1A  
SHEET 1 of 11



SITE "F"

SCALE: 1" = 40'



SECTIONS - SITE "F"

SCALE: Hor. 1" = 10' - Vert. 1" = 10'

NOTES

- As constructed amendments June 1971.
- The existing bank material is silty sand with gravel in the toe area.
- Source of materials:
  - fill and bedding layer, borrow no. 2.
  - rock riprap, Picklesy quarry.
- Elevations - B.M. 2 - SEE PLAN 4758-1-10
- All sections at right angles to base line unless otherwise shown

REFERENCES		
DWG. No.	DESCRIPTION	DATE
4758-1-10	SITE F TRAVERSE	AUG. 1971

APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE:

*R. J. Sells*

DATE: 19 Jan 1972

APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA:

*B. Mann*

DATE: 21 Jan 1970

SURVEYED  
J. Stadt  
DATE Aug. 1969

DESIGNED  
J. Wester

DRAWN  
H. T.

TRACED

CHECKED  
R.A.E. SEPT. 24/70

DATE  
Nov. 1969

BRITISH COLUMBIA  
DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES  
WATER RESOURCES SERVICE  
WATER INVESTIGATIONS BRANCH

CANADA - BRITISH COLUMBIA  
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT  
PROJECT NO. 1 DISTRICT OF KENT

CONTRACT NO. 1  
BANK PROTECTION  
PLAN & SECTIONS - SITE "F"

APPROVED *P.M. Brady*

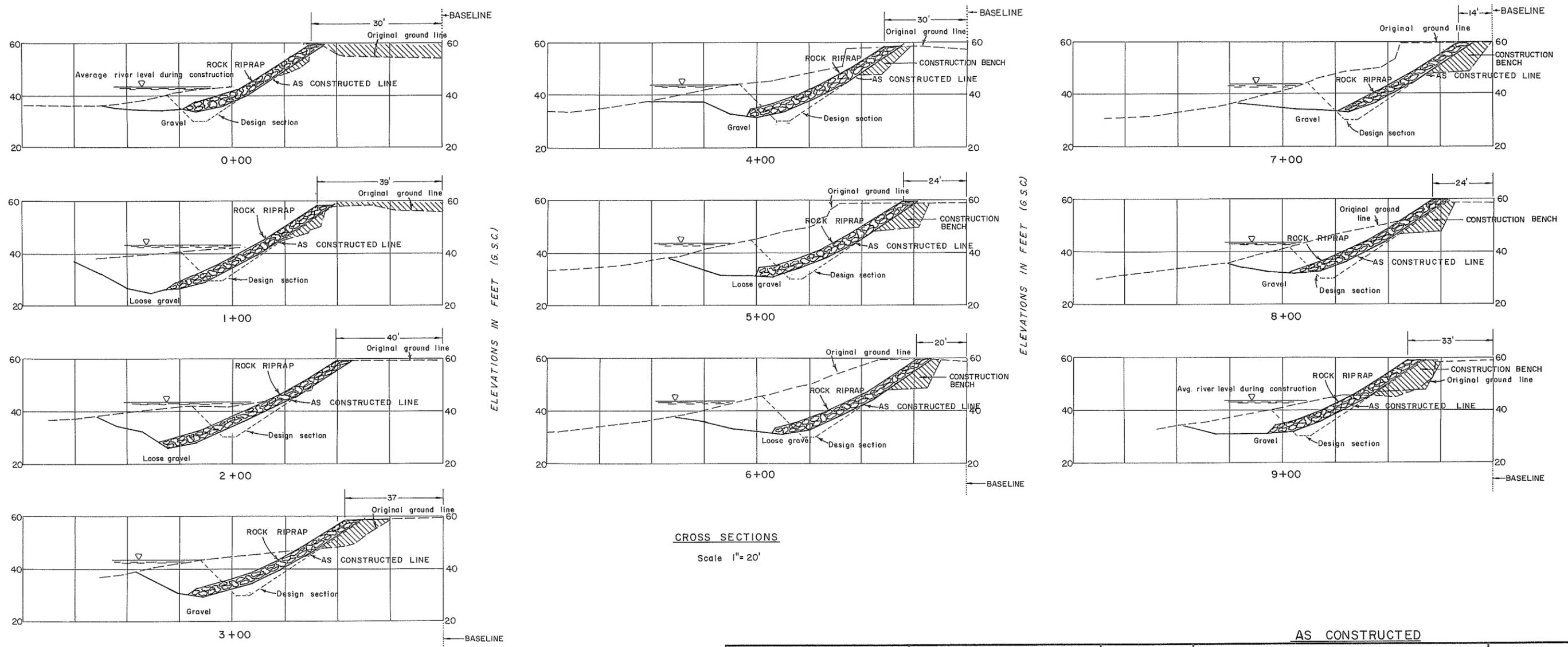
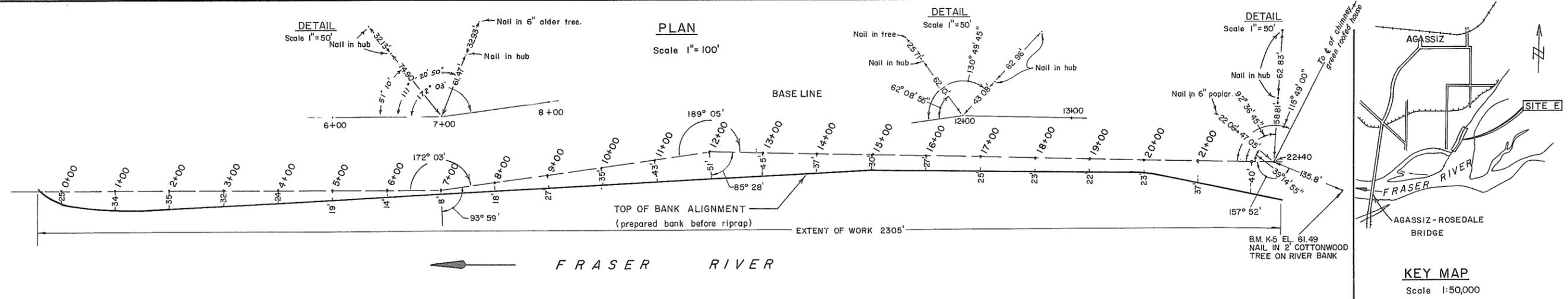
SCALE: as noted

FILE No.  
0281550 B7

3909

DWG. No.  
4758-1-3A

SHEET  
2 OF 11



CROSS SECTIONS  
Scale 1"=20'

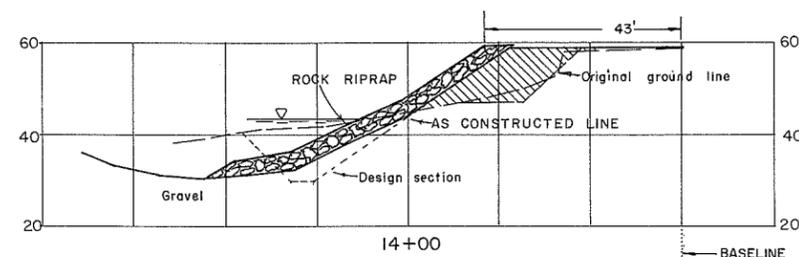
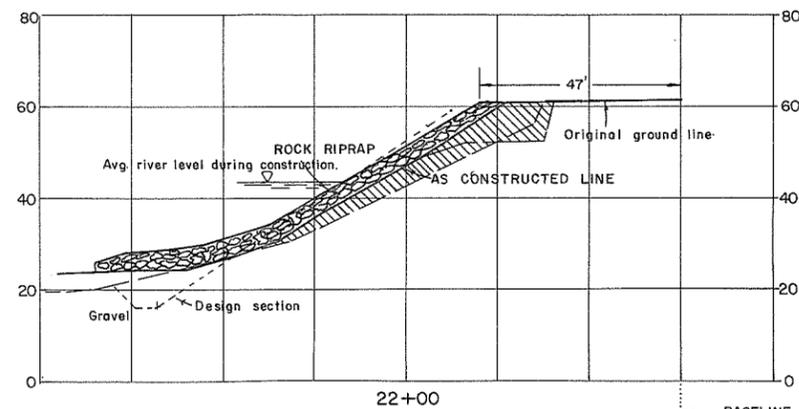
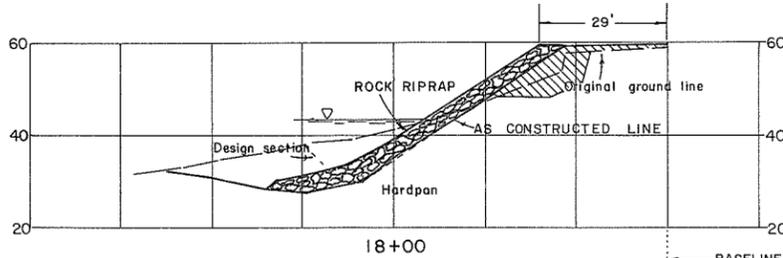
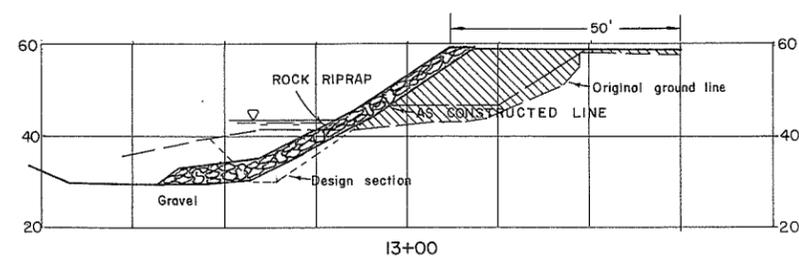
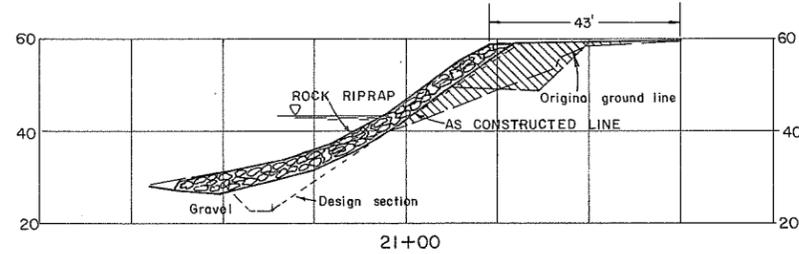
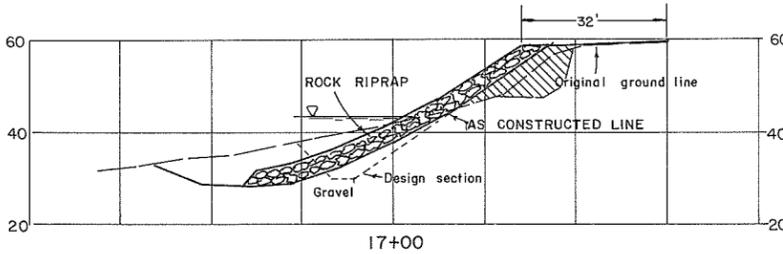
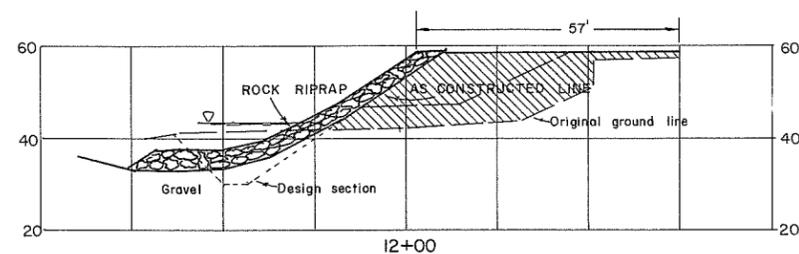
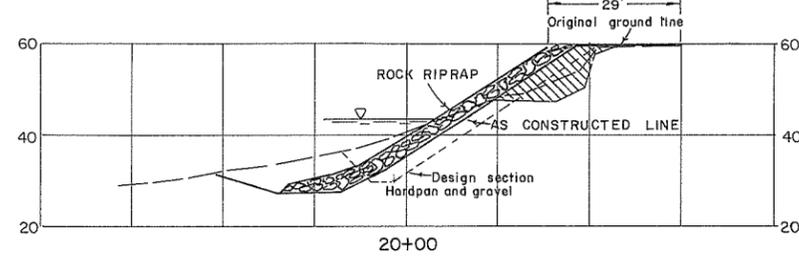
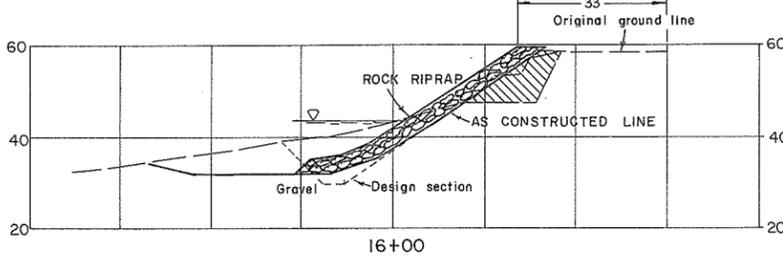
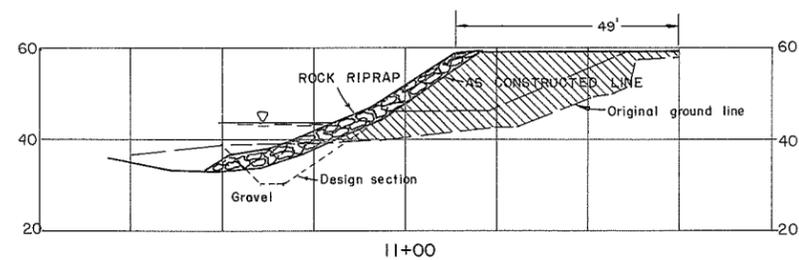
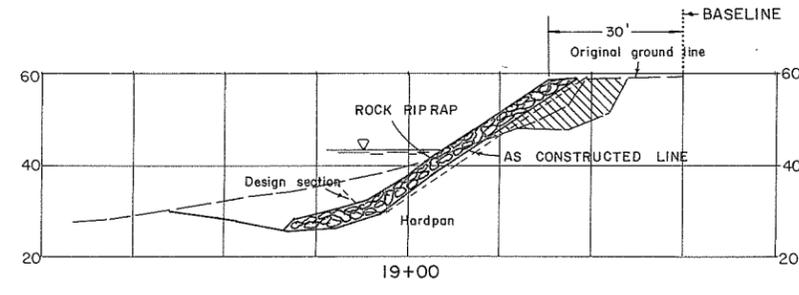
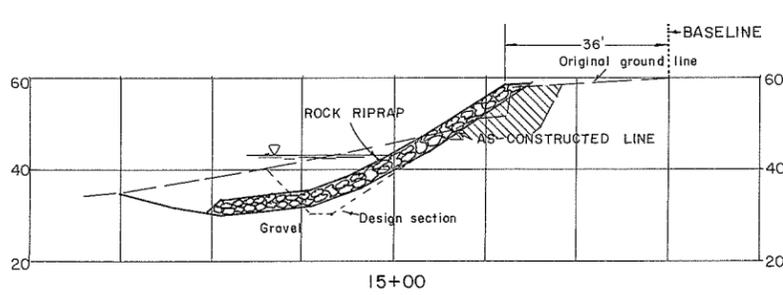
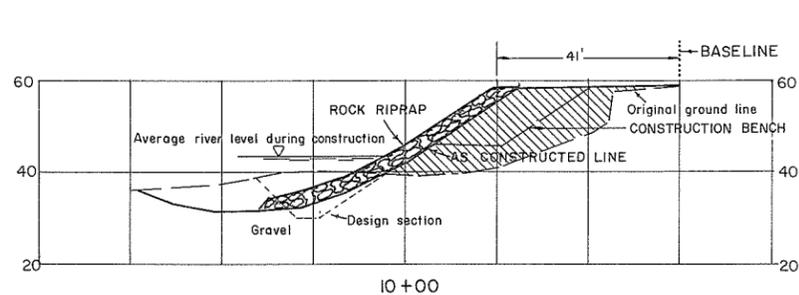
- NOTES**
- This sheet redrawn. See references.
  - Source of material
    - fill and bedding layer, gravel from the toe trench excavation.
    - rock riprap, Picklesy quarry.
  - Plan redrawn.
  - Construction dates - Oct. 30, 1970 to Mar. 17, 1971
  - Elevation - B.M. K-5 SEE PLAN
  - All sections at right angles to baseline unless otherwise shown.

REFERENCES		
DWG. No.	DESCRIPTION	DATE
4758-1-4	PLAN & SECTIONS, SITE 'E'	SEPT 1970

APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE  
 DATE *12 Jan 72*

APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA  
 DATE *Jan 18, 1972*

AS CONSTRUCTED		FILE No.
BRITISH COLUMBIA DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH		0281550 - C7
CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT PROJECT No. 1 DISTRICT OF KENT BANK PROTECTION CONTRACT No. 1 SITE 'E'		2910
SURVEYED J.A.S. DATE FEB. 1971 DESIGNED J.W. DRAWN J.A.S. TRACED CHECKED R.A.E. SEPT. 27/71 DATE JUNE 1971		DWG. No. 4758-1-4A
APPROVED: <i>[Signature]</i> SCALE: AS SHOWN		SHEET 3 OF 11



**CROSS SECTIONS**

Scale 1" = 20'

**NOTES**

- This sheet redrawn. See references.
- Source of materials:
  - fill and bedding layer, gravel from the toe trench excavation.
  - rock riprap, Picksley quarry.
- See sheet no. 3 for baseline to top of prepared bank offsets.
- Construction dates - Oct. 30/70 to Mar. 17/71
- Elevations - BM K-5 SEE PLAN 4758-1-4A

**REFERENCES**

DWG. No.	DESCRIPTION	DATE
4758-1-5	PLAN & SECTIONS, SITE 'E'	Aug. 1970

APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE

DATE 12 Jan 72

APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA

DATE Jan 18, 1972

SURVEYED J.A.S.  
 DATE FEB 1971  
 DESIGNED J.W.  
 DRAWN J.A.S.  
 TRACED  
 CHECKED R.A.E. SEPT. 27/71  
 DATE JUNE 1971

**AS CONSTRUCTED**

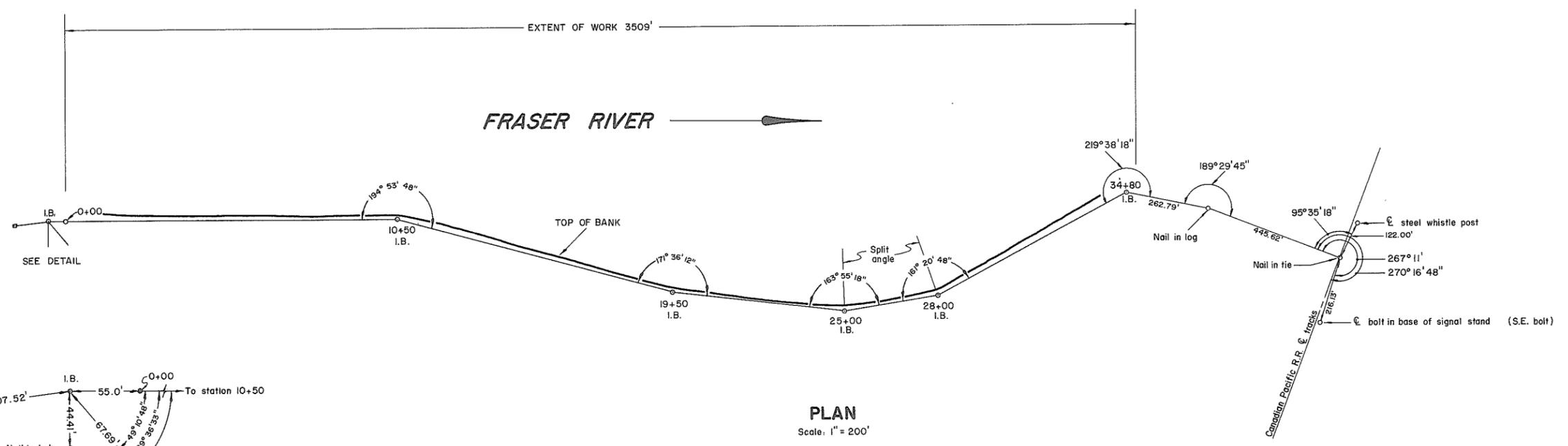
BRITISH COLUMBIA  
 DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES  
 WATER RESOURCES SERVICE  
 WATER INVESTIGATIONS BRANCH

CANADA - BRITISH COLUMBIA  
 FRASER RIVER FLOOD CONTROL 1968 AGREEMENT

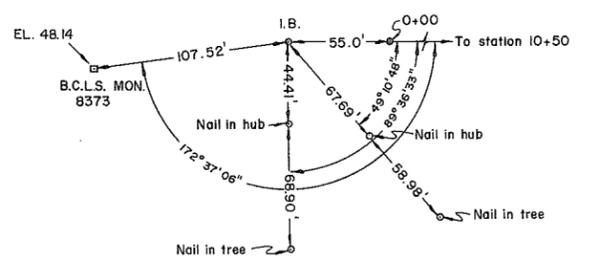
PROJECT No. 1 DISTRICT OF KENT  
**BANK PROTECTION**  
 CONTRACT No. 1  
 SITE 'E'

FILE No. 0281550 - C7  
 SCALE 1" = 20'  
 DWG. No. 2911  
 4758-1-5A  
 SHEET 4 of 11

ENGINEER John Miller APPROVED DIV. CHIEF



**PLAN**  
Scale: 1" = 200'



**DETAIL**  
Scale: 1" = 50'

- NOTES:**
- Dates of construction - Mar., 1970 to June 5, 1970 & July 29, 1970 to Aug. 12, 1970
  - Elevations - B.C.L.S. monument - SEE DETAIL
  - Source of materials  
(a) gravel - 100' downstream from sta. 34+80  
(b) rock - Cameron Road quarry
  - Plan redrawn.
  - All sections at right angles to base line unless otherwise shown.
  - I.B. denotes no. 4 rebar approx. 2' long

REFERENCES		
DWG. No.	DESCRIPTION	DATE
4758-1-2	PLAN & SECTIONS SITE A, E & G-1	JAN. 1970
4758-1-7	SITE G-1, CROSS-SECTIONS AS CONSTRUCTED.	JUNE 1971

APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE:  
*[Signature]*  
DATE: 12 Jan 72

APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA:  
*[Signature]*  
DATE: Jan 18, 1972

SURVEYED J.A.S.  
DATE: \_\_\_\_\_  
DESIGNED J.W.  
DRAWN J.A.S.  
TRACED \_\_\_\_\_  
CHECKED R.A.E. SEPT. 28/71  
DATE JUNE 1971

**AS CONSTRUCTED**

BRITISH COLUMBIA  
DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES  
WATER RESOURCES SERVICE  
WATER INVESTIGATIONS BRANCH

CANADA - BRITISH COLUMBIA  
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT

PROJECT No. 1 DISTRICT OF KENT  
**BANK PROTECTION**  
CONTRACT No. 1  
**SITE G-1 TRAVERSE**

APPROVED: *[Signature]* SCALE: AS SHOWN

FILE No.  
0281550-C7

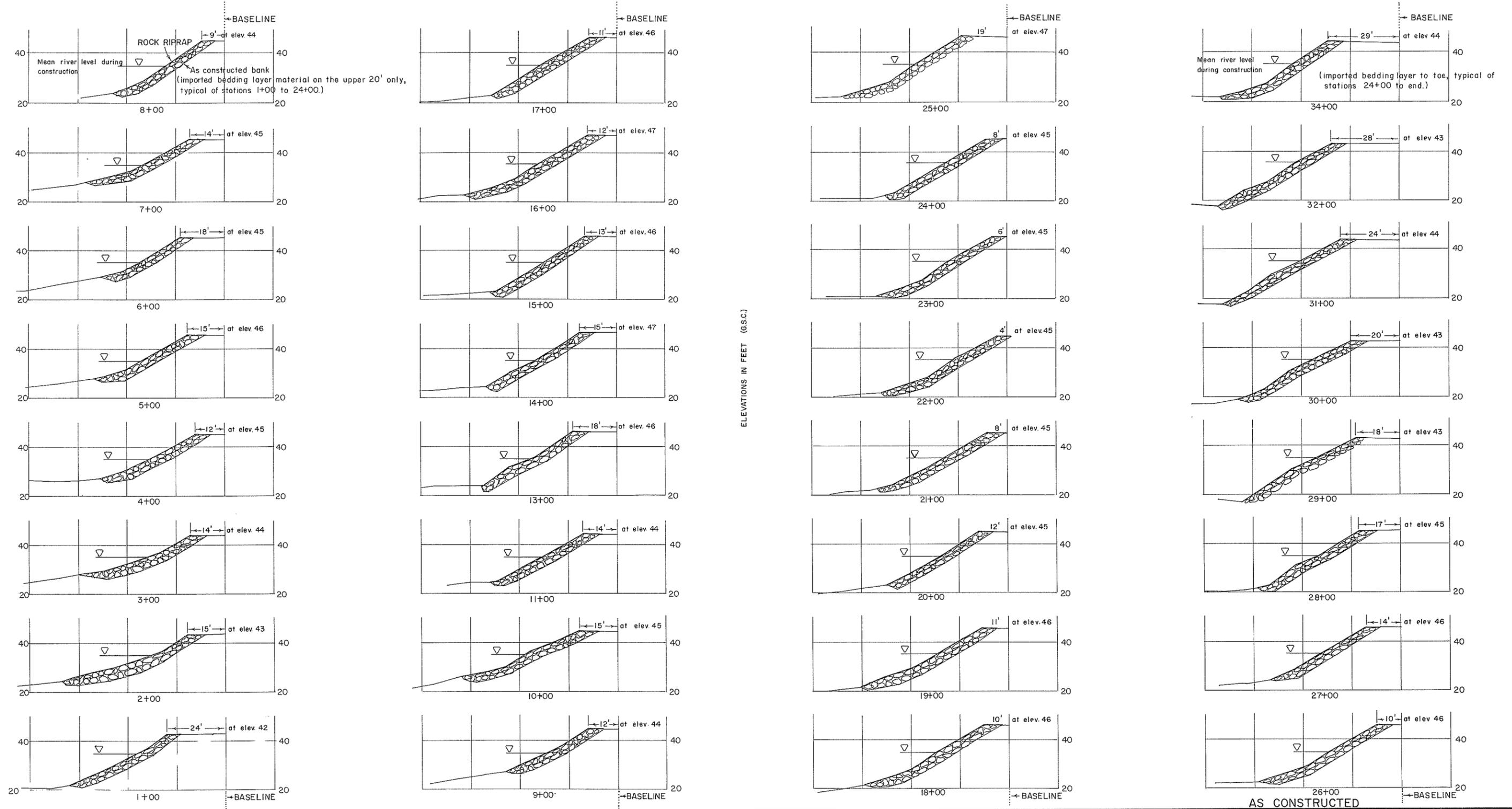
2912

DWG. No.  
4758-1-6

SHEET  
5 of 11

CROSS-SECTIONS

SCALE 1" = 20'



ROCK RIPRAP  
As constructed bank material on the upper 20' only, typical of stations 1+00 to 24+00.

(imported bedding layer to toe, typical of stations 24+00 to end.)

ELEVATIONS IN FEET (G.S.C.)

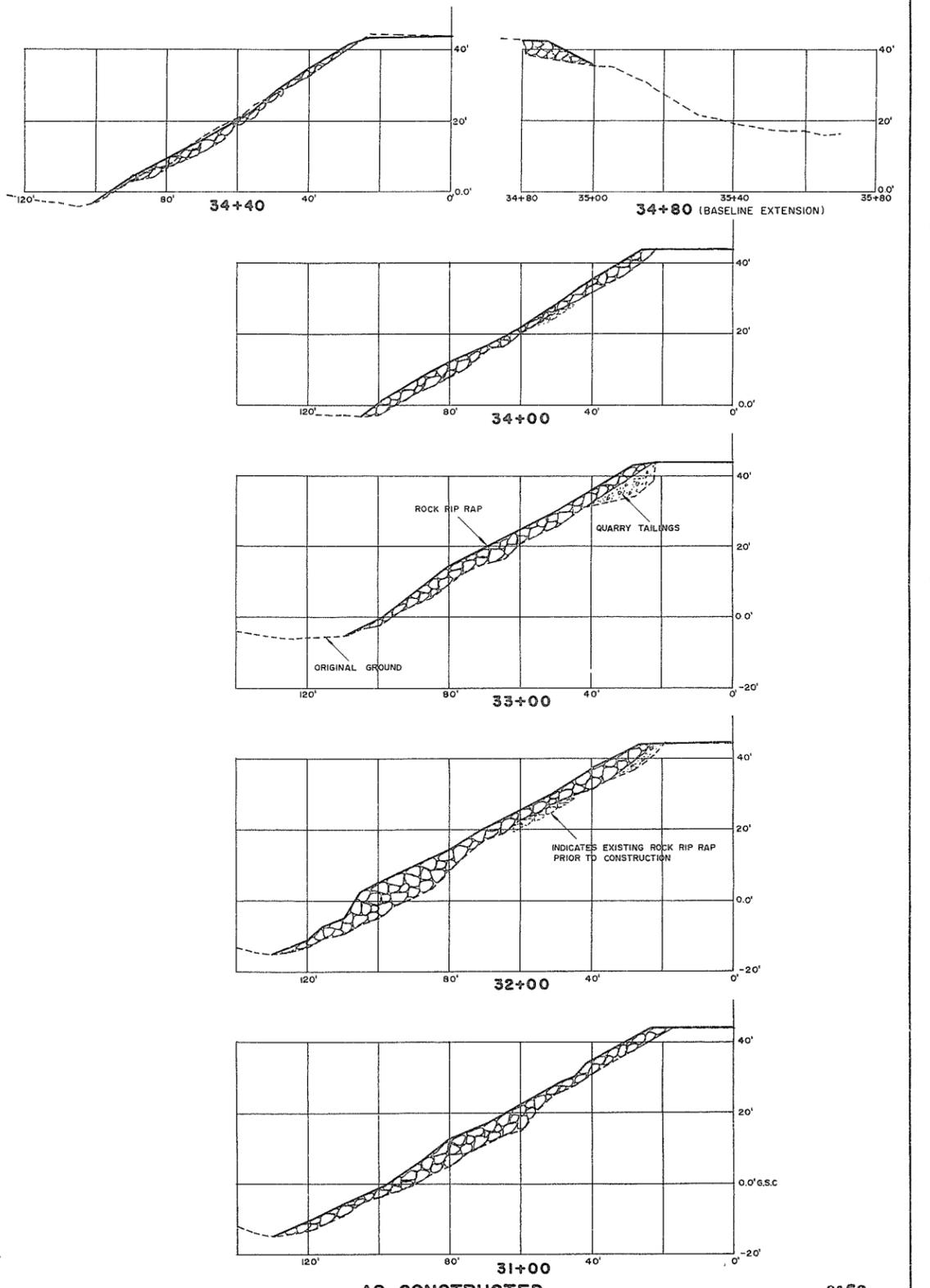
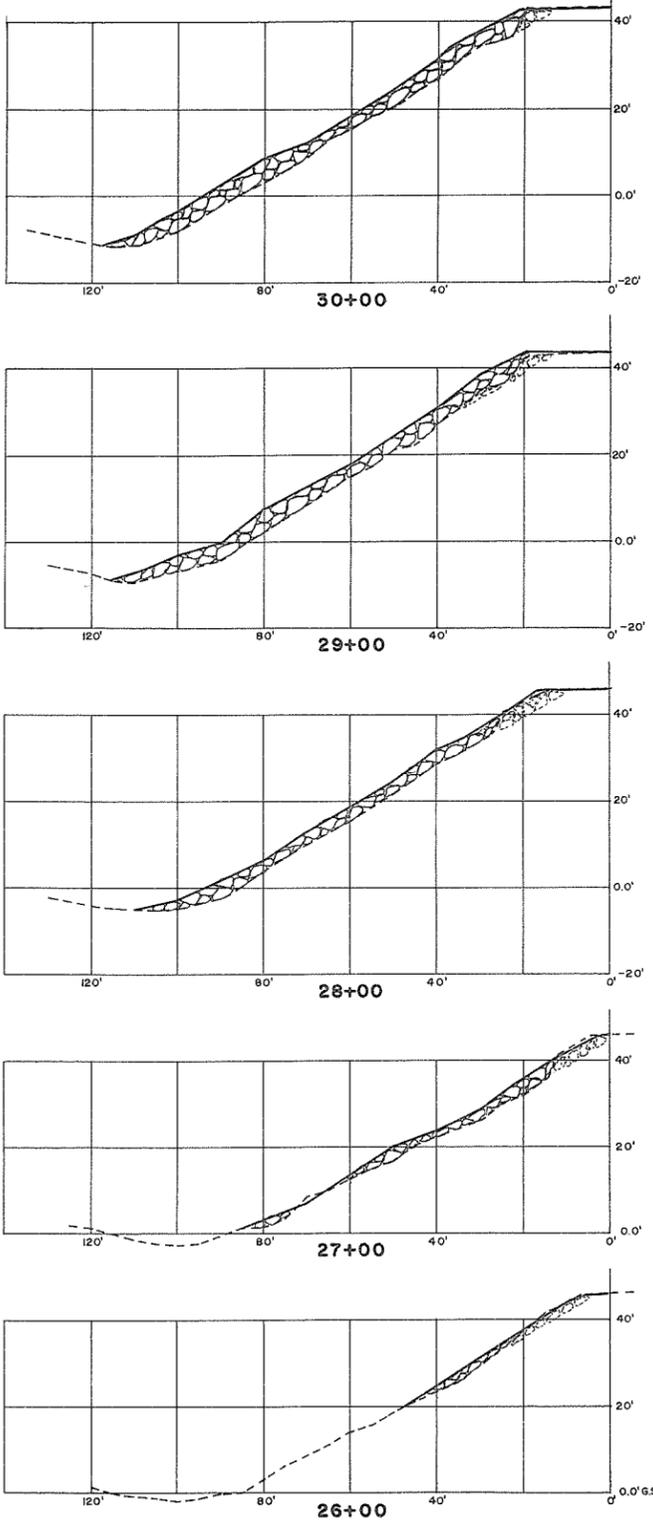
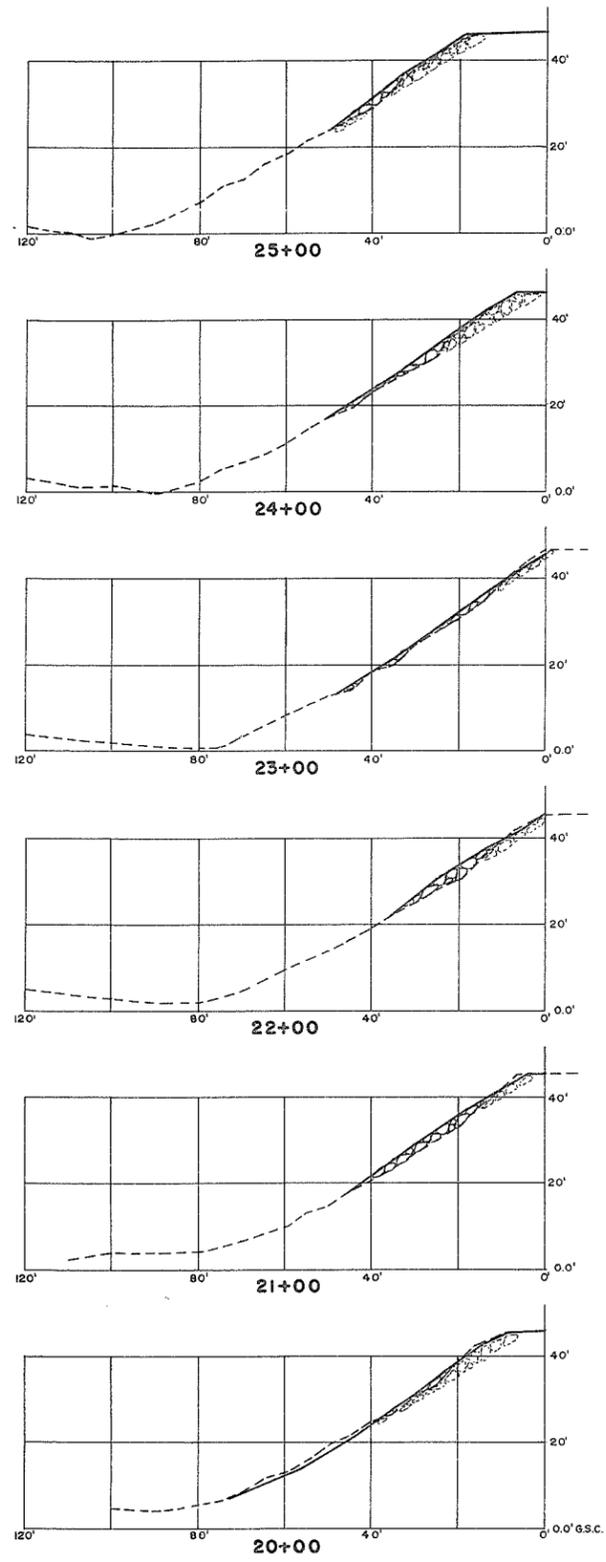
NOTES

- The existing bank material is silty sand with gravel in the toe area and lower slopes.
- Source of materials:  
-imported bedding, river bar downstream of station 34+00  
-rock riprap, Cameron road quarry.
- Plan redrawn

REFERENCES			APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE:	SURVEYED J A S DATE: _____	DESIGNED J W DRAWN J A S TRACED CHECKED R.A.E. SEPT 28/71 DATE JUNE 1971	BRITISH COLUMBIA DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH  CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT  PROJECT No. 1 DISTRICT OF KENT BANK PROTECTION CONTRACT No. 1 <b>SECTIONS-SITE G-1</b>	FILE No. 0281550-C7
DWG. No.	DESCRIPTION	DATE					
4758-1-2	PLAN B SECTIONS SITE A, E B G-1	JAN. 1970	_____ DATE: 12 Jan 72	_____ DATE: 12 Jan 72	_____ DATE: 12 Jan 72	_____ DATE: 12 Jan 72	_____ DATE: 12 Jan 72
4758-1-6	SITE G-1, TRAVERSE	JUNE 1971					

AS CONSTRUCTED

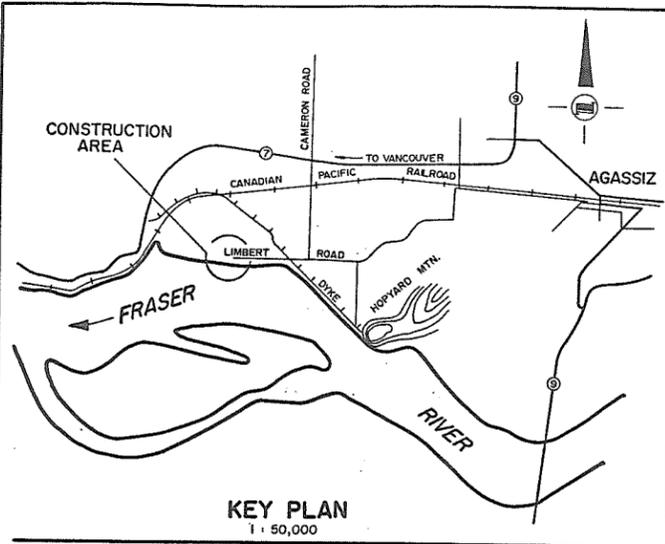
DWG. No.  
4758-1-7  
SHEET  
6 OF 11



**AS CONSTRUCTED** 9159

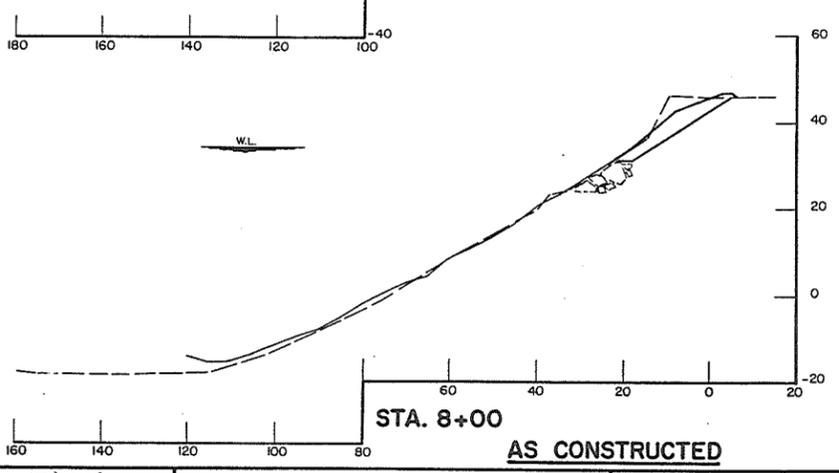
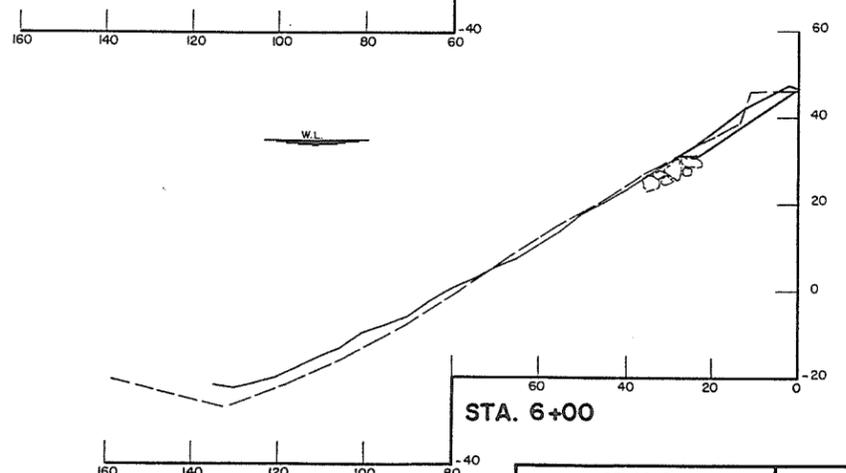
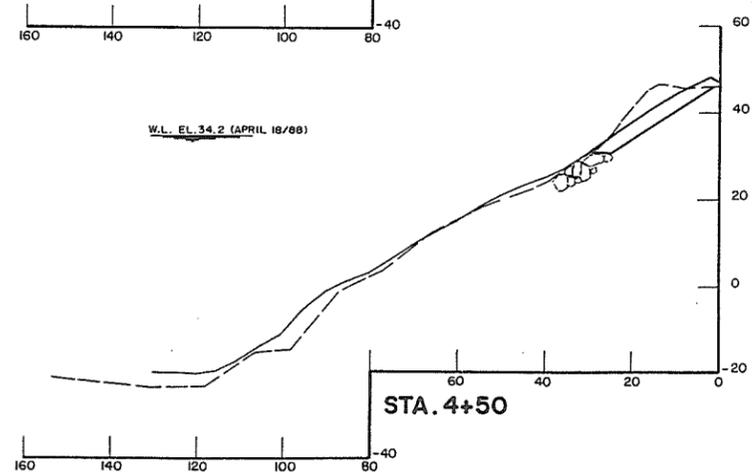
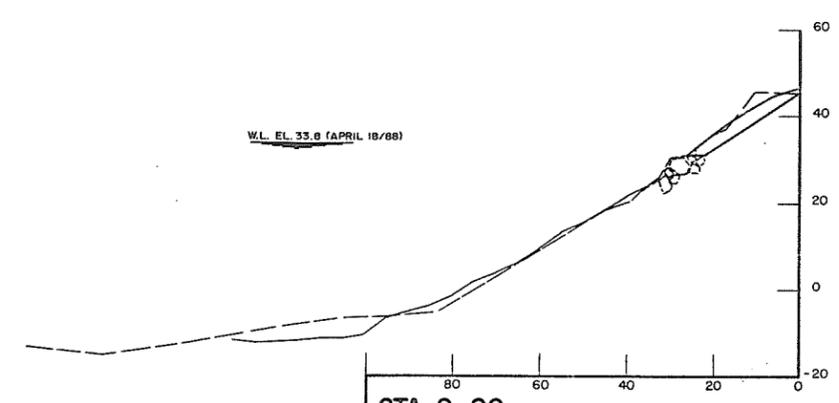
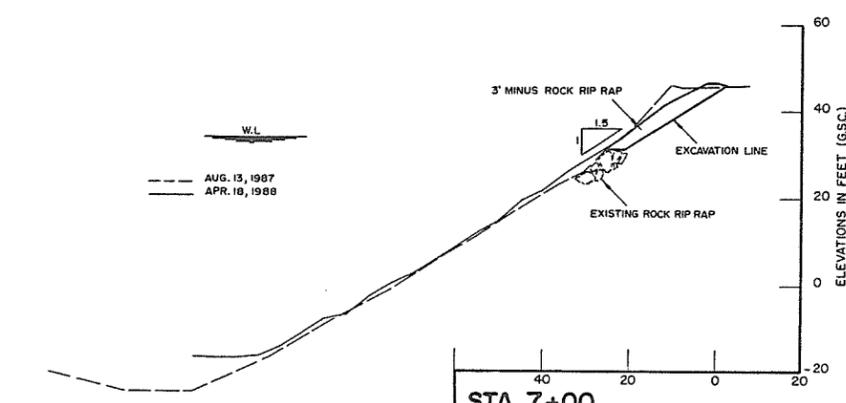
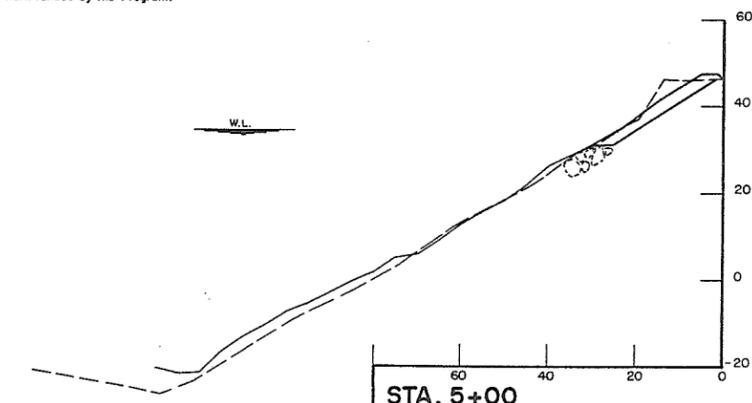
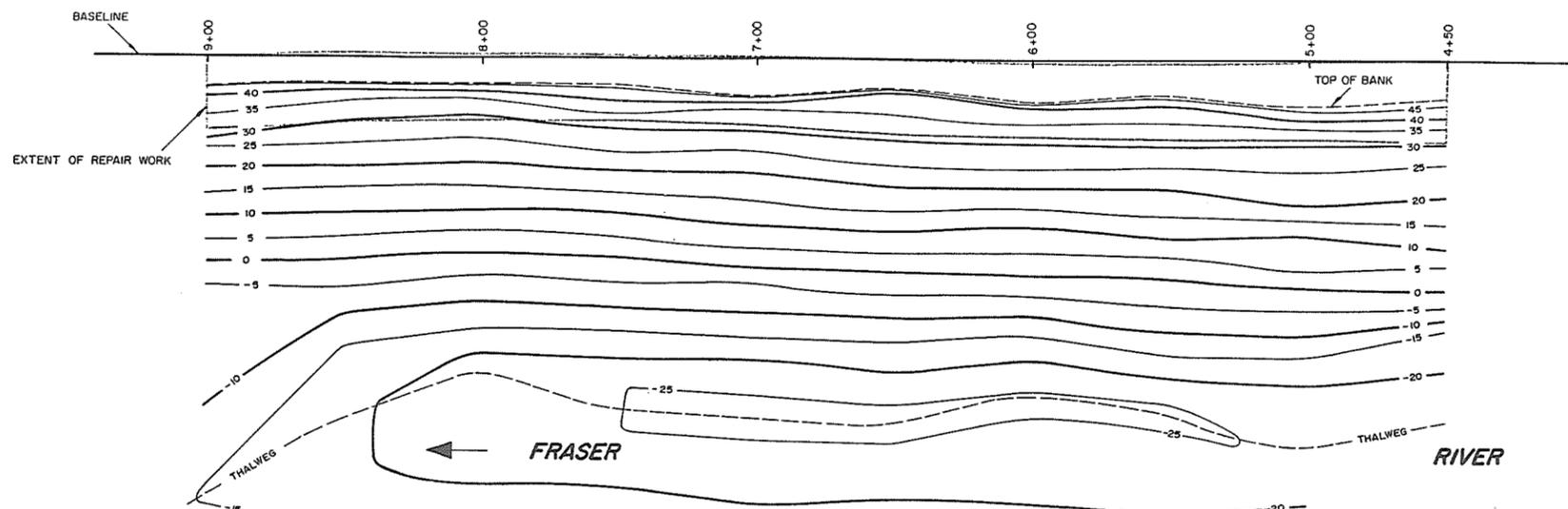
- REPAIR NOTES:**
1. Construction dates: Mar. 14 to Mar. 15 and Aug. 29 to Sept. 22, 1977.
  2. Source of materials:
    - (a) 6" quarry tailings - Kent municipal quarry.
    - (b) 2000 lb. rock rip rap - Kent municipal quarry.
  3. Plan redrawn.

A	B.P.	As constructed information added.	Nov., 1978	RECOMMENDED <i>P.R. Cameron</i>	BRITISH COLUMBIA MINISTRY OF THE ENVIRONMENT WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1988 AGREEMENT	DESIGNED	SURVEYED
				PROJECT MANAGER		B. EDGINGTON	
				DATE <i>Apr. 3, 1979</i>	Project No. 1 1977 EMERGENCY BANK PROTECTION CROSS SECTIONS SITE G-1	DRAWN	DATE
				APPROVED <i>[Signature]</i>		K.F.B. & D.B.P.	SEPT./76 - SEPT. 77
				DATE <i>Apr. 3, 1979</i>	DIRECTOR	SCALE	FILE NO.
						AS SHOWN	0281550 - C7
						DWG. NO. 4758-1-7A	DATE
							NOV., 1978
							SHEET _____ OF _____ SHEETS

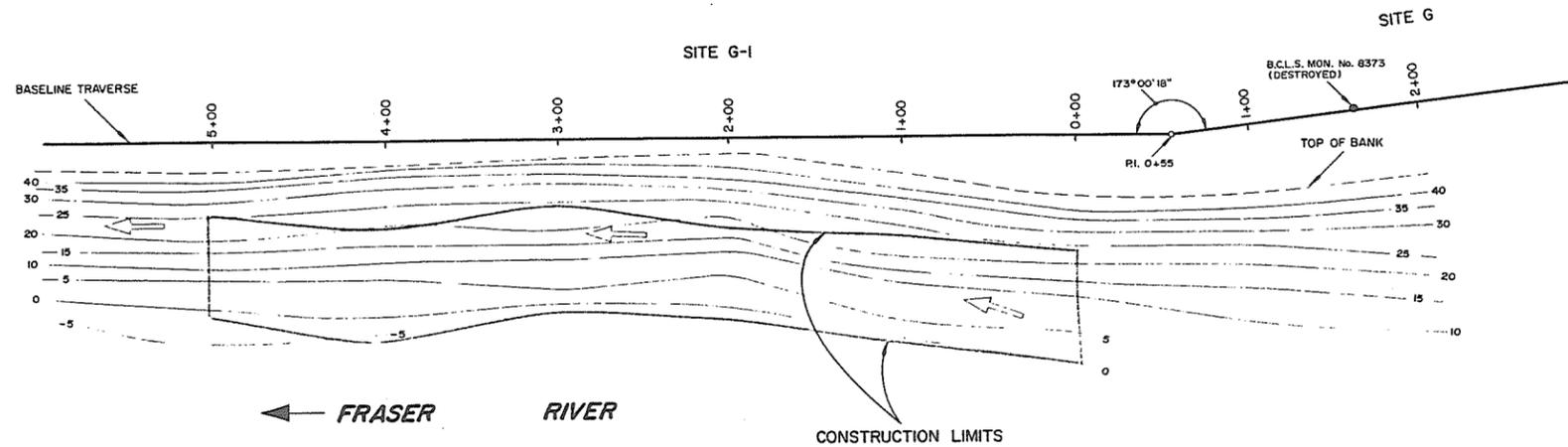
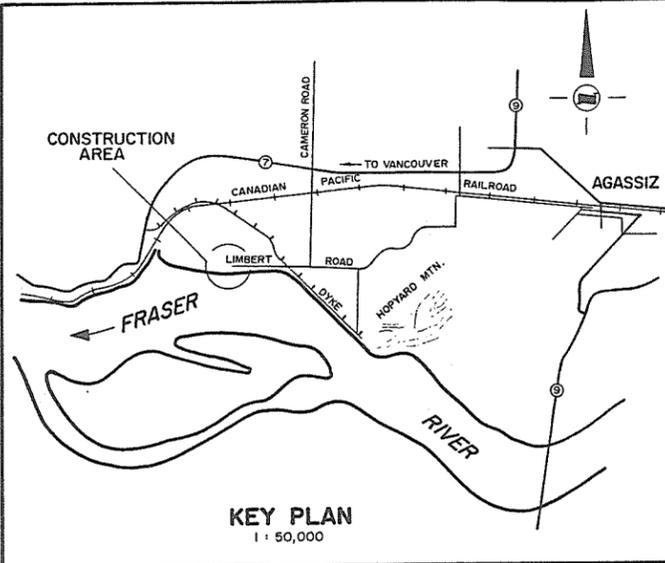


**NOTES:**

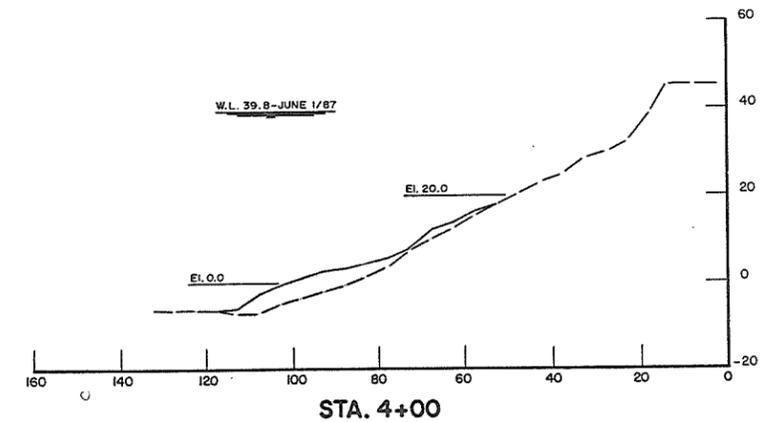
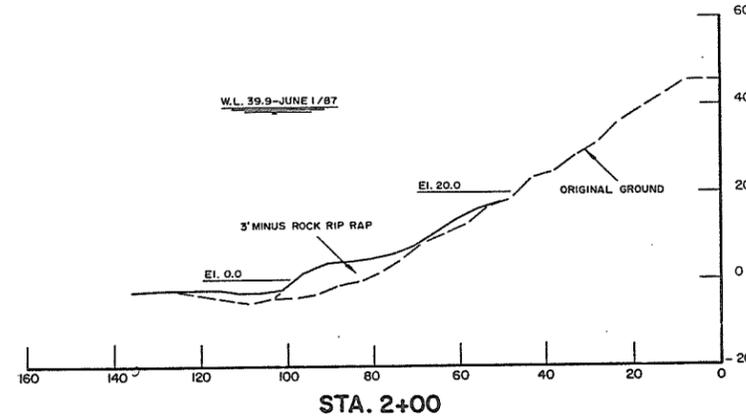
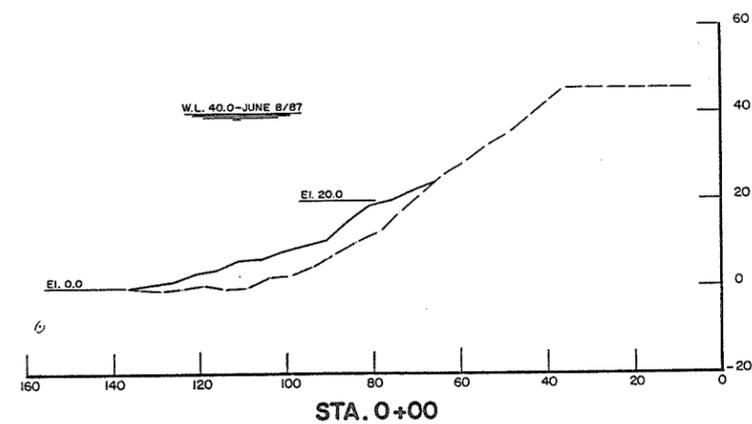
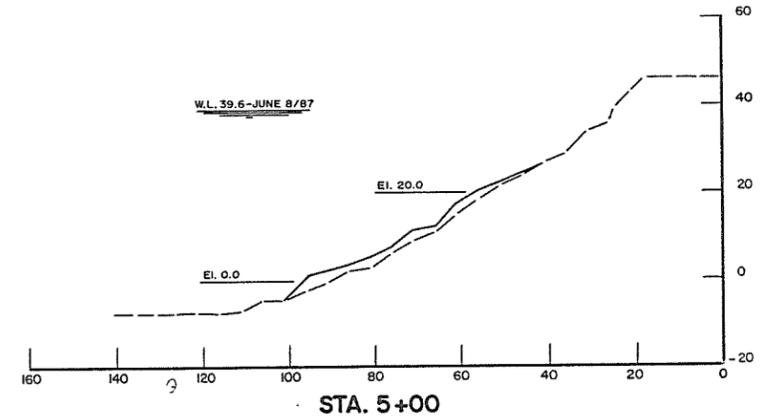
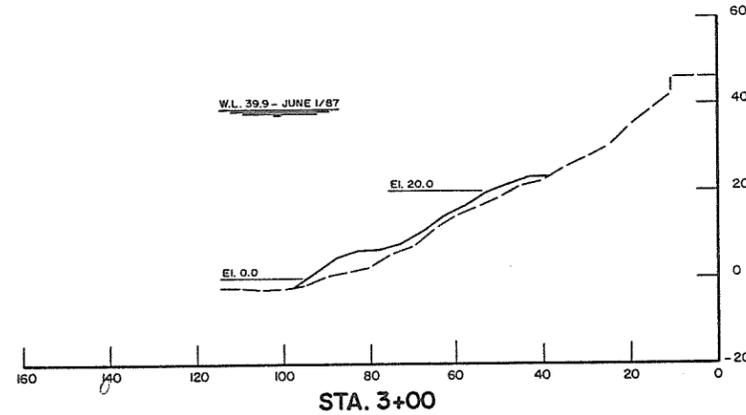
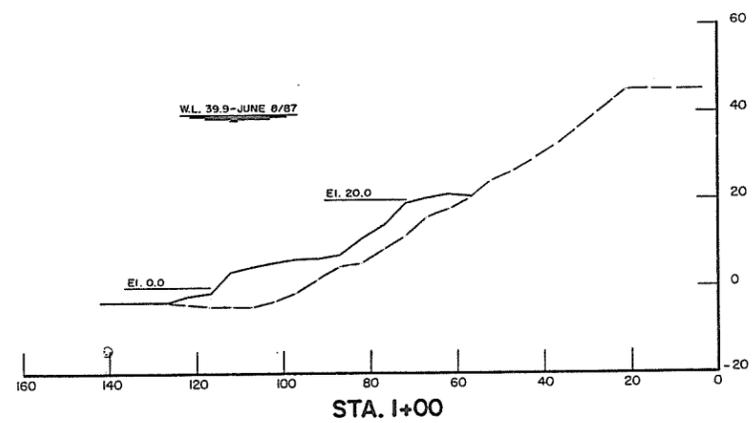
1. Construction dates: March 25 th. to March 31 st, 1988.
2. Elevations: Top of rebar on baseline at sta. 10+50 - El. 44.35 feet (G.S.C.).
3. Source of materials:
  - (a) 3' minus rock rip rap - Kent District quarry.
4. Reference drawings
  - (a) 4758-1-1A Contract no.1 - Bank protection - Key plan.
  - (b) 4758-1-6 Bank protection - Contract no.1 - Site G-1 traverse.
  - (c) 4758-1-7 Bank protection - Contract no.1 - Sections site G-1.
5. Repair work funded by the Program.



REVISIONS			RECOMMENDED	Province of British Columbia Ministry of Environment and Parks WATER MANAGEMENT BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT	FILE No.	SURVEYED	
No.	DESCRIPTION	DATE	DATE		0281550-C7	Wm. Kerr (B.C.L.S.) B. EDGINGTON	
			DATE <u>JUNE 27 1988</u> RECOMMENDED DATE APPROVED <i>[Signature]</i> DATE <u>JUN 27 1988</u>		PROJECT No. 1 DISTRICT OF KENT <b>REPAIRS</b> BANK PROTECTION - SITE G-1	DESIGNED DRAWN <u>D.B. PATERSON</u> DATE <u>MAY 1988</u> CHECKED	DATE <u>APRIL 1988</u> NEGATIVE No. <u>280 439</u> DRAWING No. <u>88-25-1</u> SHEET <u>1</u> of <u>1</u>



PLAN  
Scale: 1" = 50'

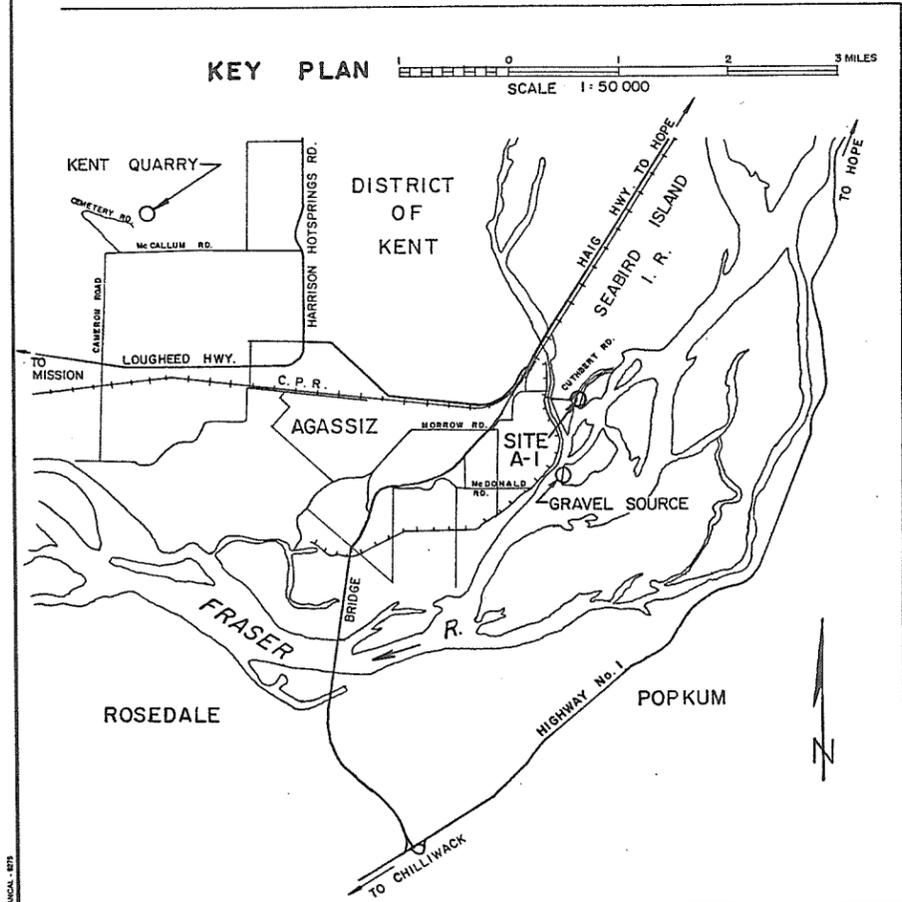
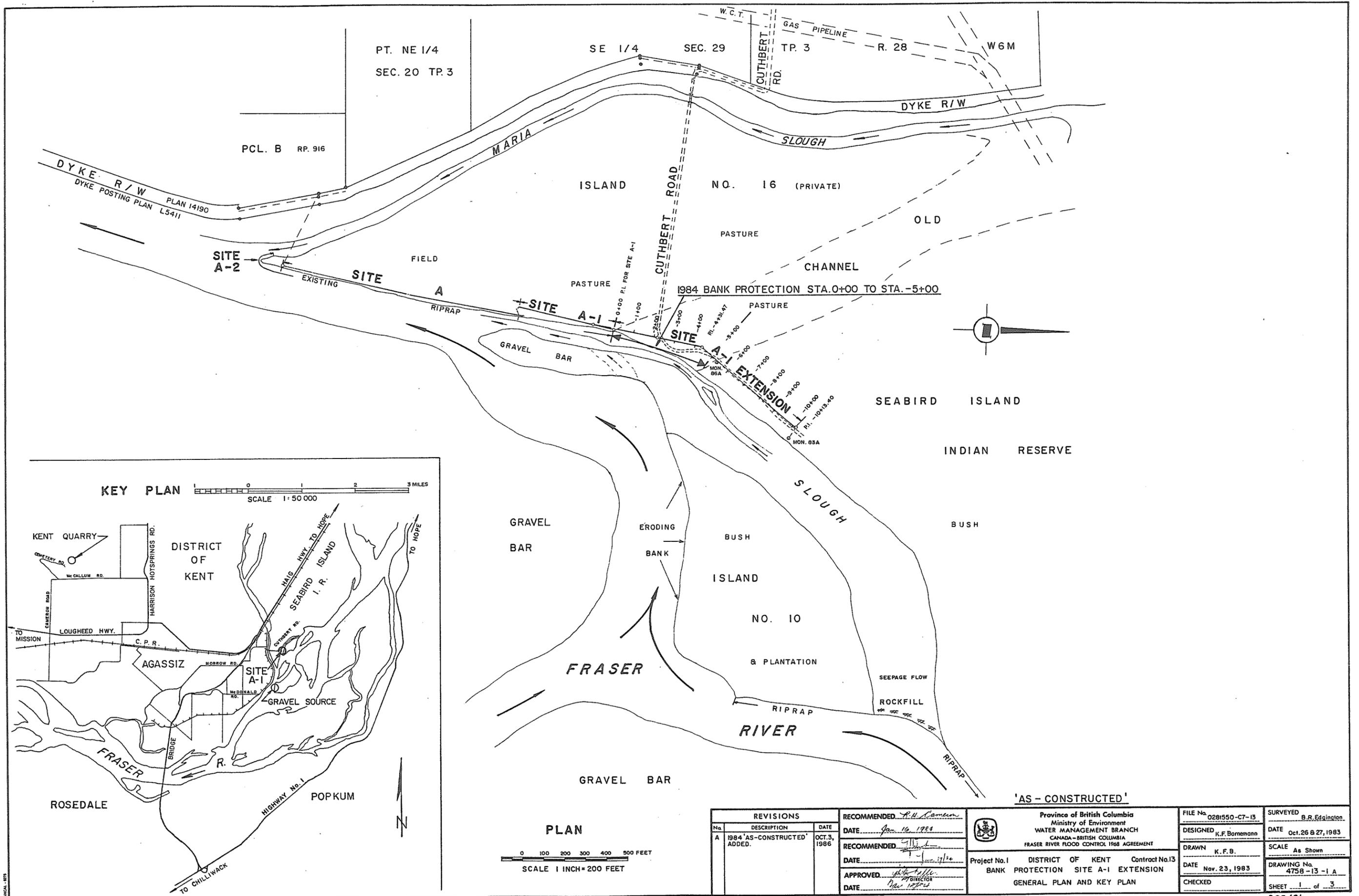


CROSS SECTIONS  
HORIZ. 1" = 20'  
VERT. 1" = 20'

- NOTES:
- Construction dates: May 15th. to June 4th., 1987.
  - Source of materials:  
- Rock rip rap: District of Kent quarry.
  - Elevations: Top of rebar at sta. 10+50 (R.L.), elevation 44.35 feet G.S.C.
  - Reference drawings:  
- 4758-1-6 (5 of 11), & 4758-1-7 (6 of 11)  
- 4758-6-4A (4 of 29).

AS CONSTRUCTED

REVISIONS			RECOMMENDED <i>R.D. Cameron</i>		Province of British Columbia Ministry of Environment WATER MANAGEMENT BRANCH CANADA-BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT	FILE No. O281550-C7	SURVEYED Wm. KERR B.C.L.S. B. EDGINGTON
No.	DESCRIPTION	DATE	DATE	DATE		DESIGNED	DATE
			Oct. 20/87	Oct. 20/87	Project No. DISTRICT OF KENT EMERGENCY BANK PROTECTION SITE G-1 PLAN & CROSS SECTIONS STA. 0+00 TO STA. 5+00	DRAWN D.B. PATERSON <td>SCALE AS SHOWN</td>	SCALE AS SHOWN
			Oct. 12/87	Oct. 12/87		DATE JUNE, 1987	DRAWING No. 87-33
			Dec 20/87	Dec 20/87		CHECKED	SHEET 1 of 1



**PLAN**  
SCALE 1 INCH = 200 FEET

REVISIONS		
No.	DESCRIPTION	DATE
A	1984 'AS-CONSTRUCTED' ADDED.	OCT. 3, 1986

RECOMMENDED *R.H. Camen*  
DATE *Jan 16, 1989*

RECOMMENDED *[Signature]*  
DATE *11/12/84*

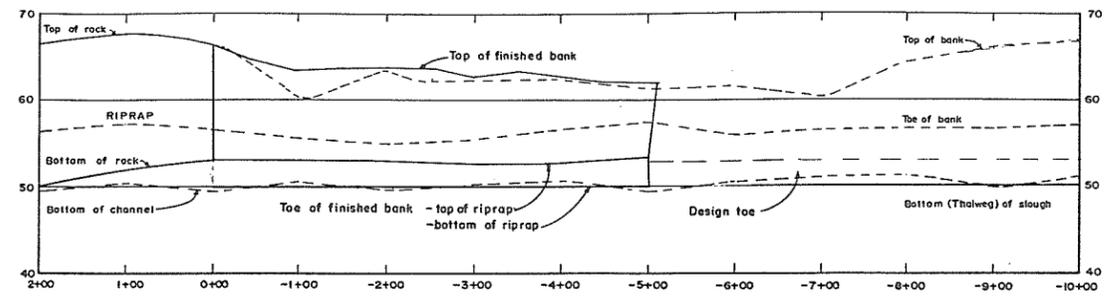
APPROVED *[Signature]*  
DATE *Nov 1984*

Province of British Columbia  
Ministry of Environment  
WATER MANAGEMENT BRANCH  
CANADA - BRITISH COLUMBIA  
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT

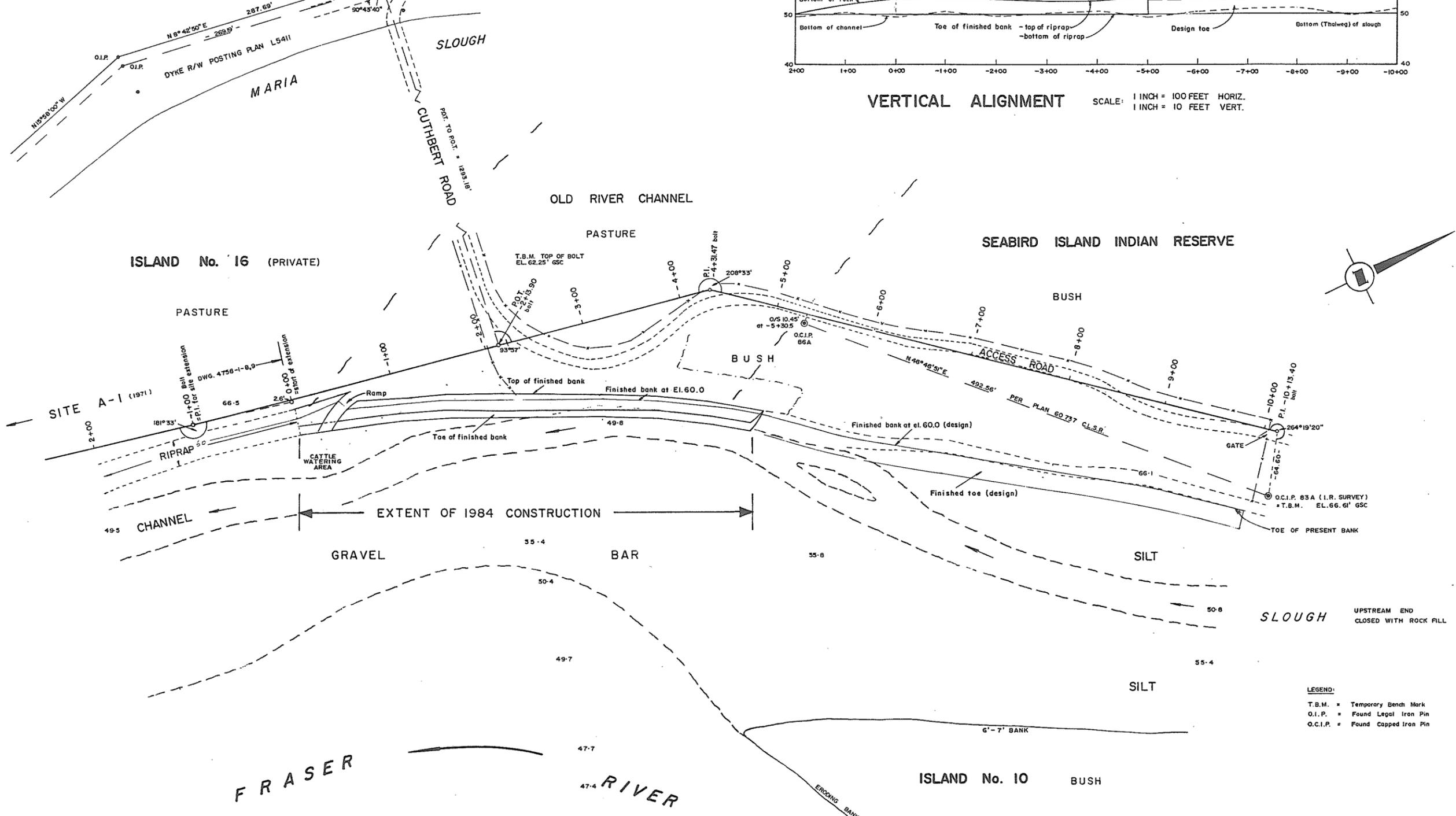
Project No. 1 DISTRICT OF KENT Contract No. 13  
BANK PROTECTION SITE A-1 EXTENSION  
GENERAL PLAN AND KEY PLAN

FILE No. 0281550-C7-13	SURVEYED B.R. Edgington
DESIGNED K.F. Bornemann	DATE Oct. 26 & 27, 1983
DRAWN K.F.B.	SCALE As Shown
DATE Nov. 23, 1983	DRAWING No. 4758-13-1.A
CHECKED	SHEET 1 of 3

FROM DRAWING No. 4758-2-2 "AS-CONSTRUCTED DYKE"  
 ELEVATION DATUM:  
 DYKE CREST ELEVATION AT STA. 23+00  
 FORMER GATE LOCATION  
 18' SOUTH OF P.O.T.  
 EL. 69.90' GSC



VERTICAL ALIGNMENT SCALE: 1 INCH = 100 FEET HORIZ.  
 1 INCH = 10 FEET VERT.



ISLAND No. 16 (PRIVATE)

SEABIRD ISLAND INDIAN RESERVE

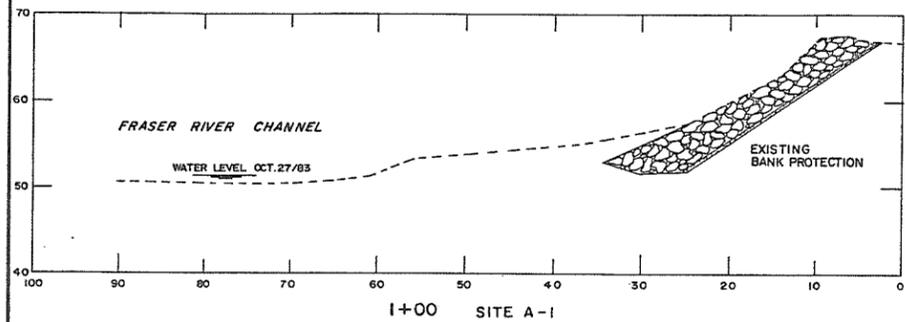
PLAN SCALE 1 INCH = 50 FEET



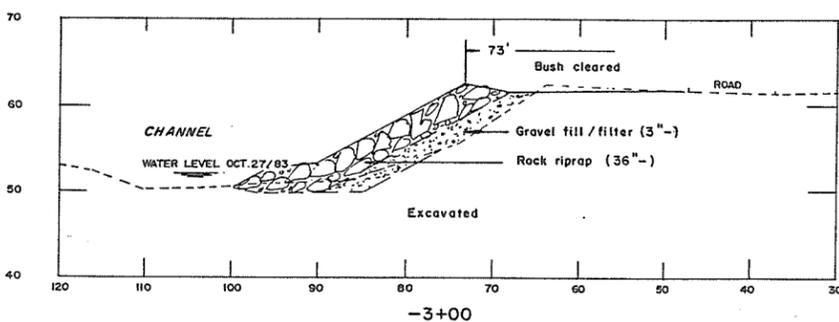
LEGEND:  
 T.B.M. = Temporary Bench Mark  
 O.I.P. = Found Legal Iron Pin  
 O.C.I.P. = Found Capped Iron Pin

REVISIONS		RECOMMENDED	Province of British Columbia	FILE No.	SURVEYED
No.	DESCRIPTION	DATE	Ministry of Environment WATER MANAGEMENT BRANCH CANADA-BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT	0281550-C7-13	B.R. Edgington
A	1984 'As-Constructed' Sta 0+00 to Sta. -5+00 added.	Oct. 3, 1986		DESIGNED K.F. Bornemann	DATE Oct. 26 & 27, 1983
				DRAWN K.F.B.	SCALE As Shown
				DATE Nov. 18, 1983	DRAWING No. 4758-13-2 A
				CHECKED	SHEET 2 of 3

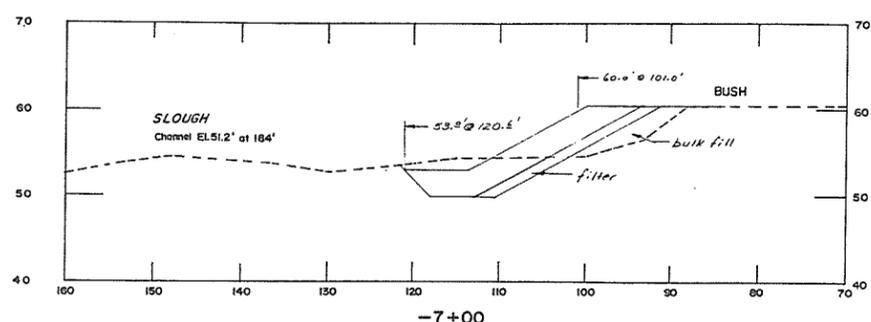
'AS - CONSTRUCTED'



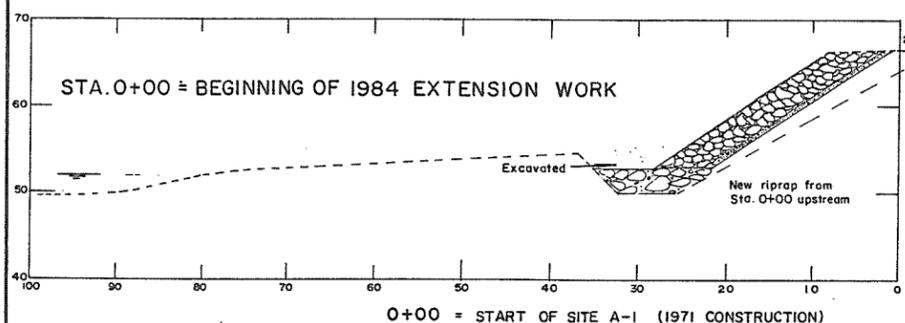
1+00 SITE A-1



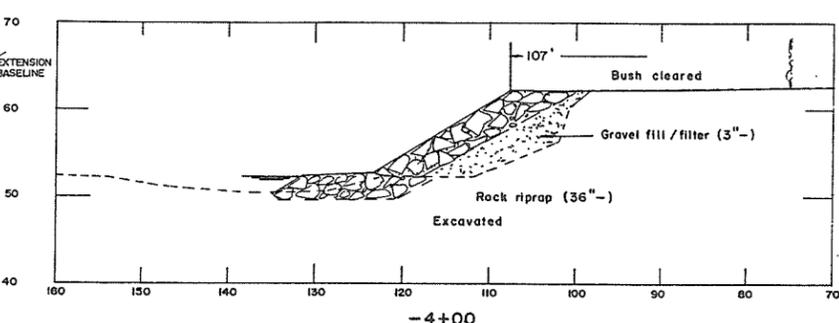
-3+00



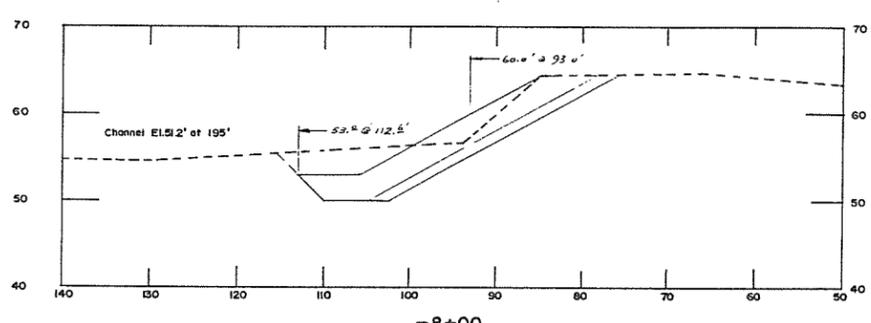
-7+00



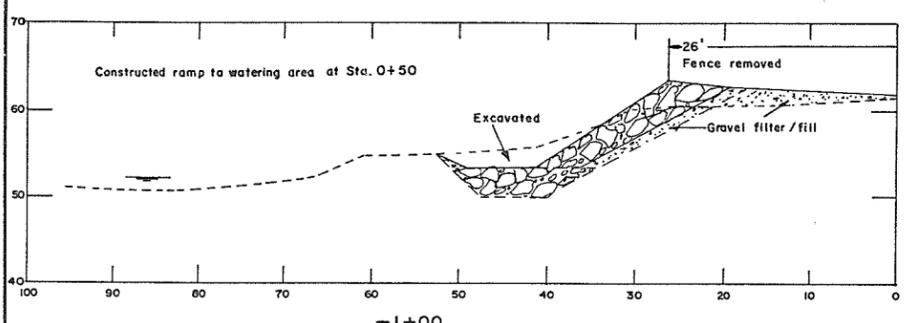
0+00 = START OF SITE A-1 (1971 CONSTRUCTION)



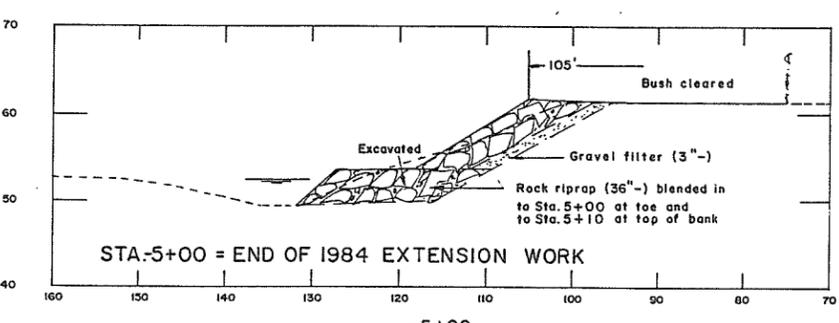
-4+00



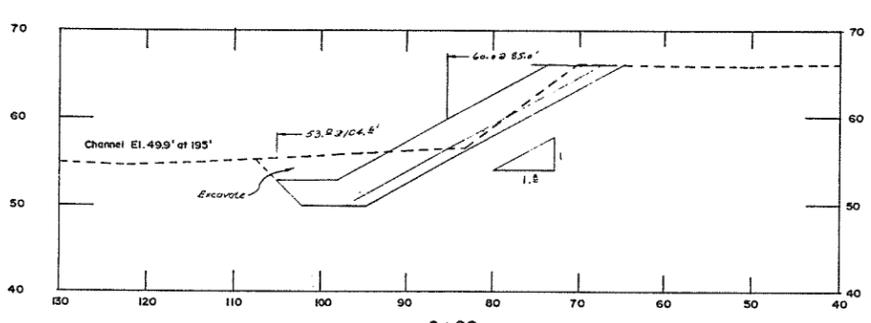
-8+00



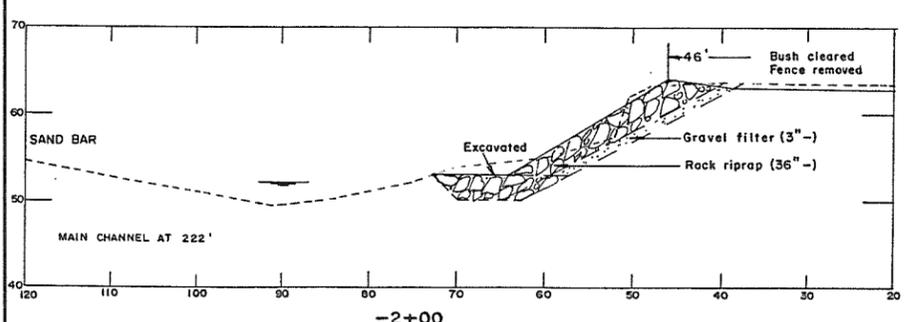
-1+00



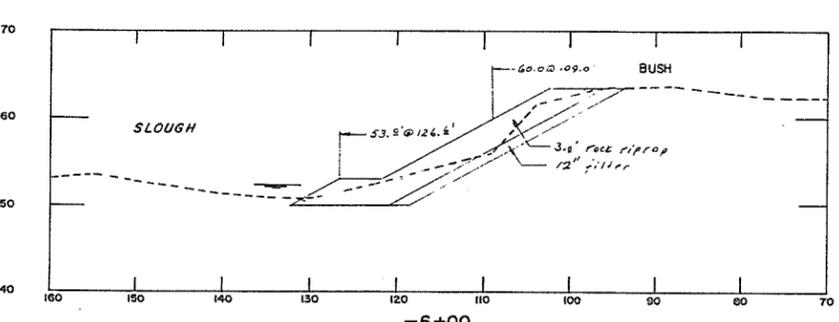
-5+00



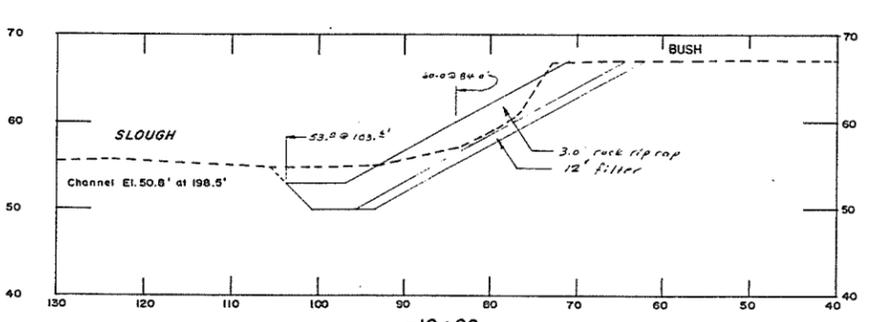
-9+00



-2+00



-6+00



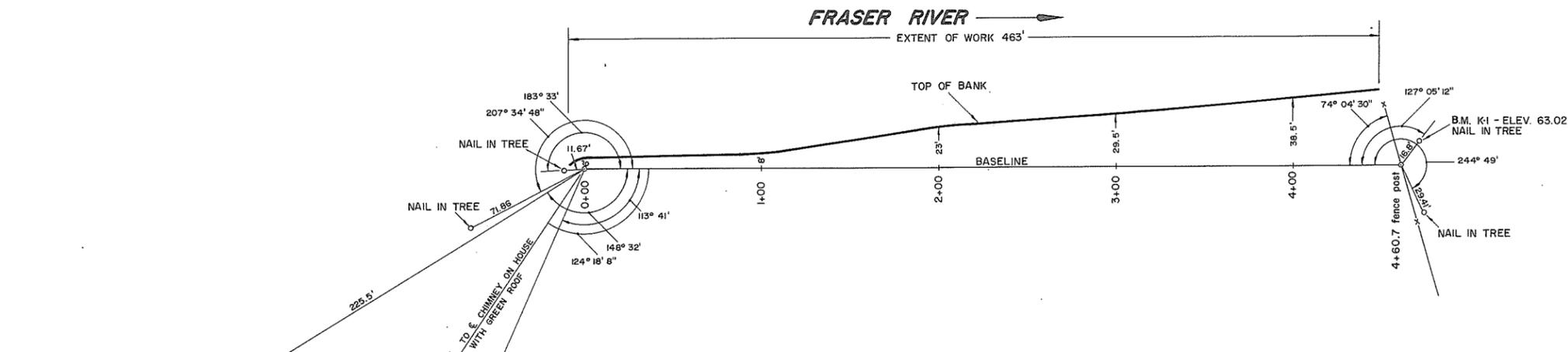
-10+00

**Construction Notes:**

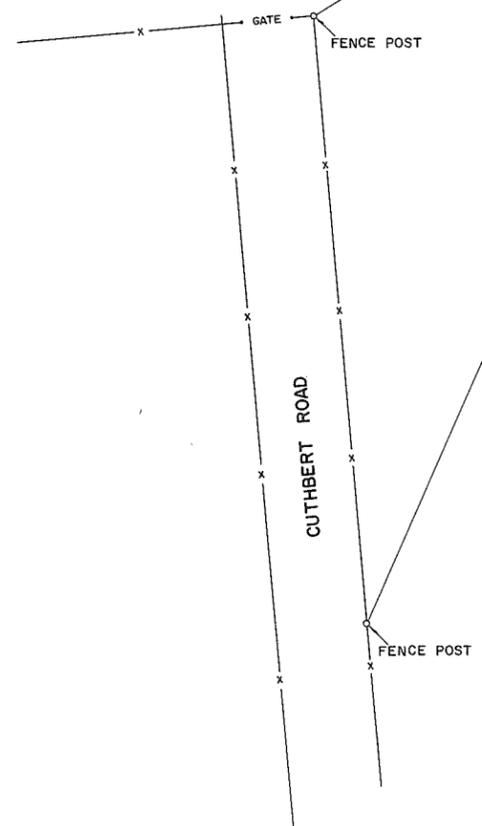
1. 'As - Constructed' information added Sta. 0+00 to Sta. -5+00;  
Design Sta. -6+00 to Sta. -10+00 unchanged.
2. Construction dates: March 7 to 19, 1984.
3. Source of materials:  
36" minus rock riprap from Kent Municipal Quarry;  
3" minus gravel for bankfill, access road and filter from McDonald Road river bar.
4. Design specifications:  
minimum 3' layer of riprap on minimum 1' layer of filter, slope 1.8:1,  
buried toe 3' thick, 5' wide.

'AS - CONSTRUCTED'

REVISIONS			RECOMMENDED <i>R. K. Barnemann</i>	Province of British Columbia Ministry of Environment WATER MANAGEMENT BRANCH CANADA-BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT	FILE No. 0281550-07-13	SURVEYED B.R. Edgington
No.	DESCRIPTION	DATE				
A	1984 'As - Constructed' Sta. 0+00 to Sta. -5+00 added.	Sept. 29, 1986	DATE: <i>Jan. 16, 1984</i>	Project No. 1 DISTRICT OF KENT BANK PROTECTION SITE A-1 EXTENSION CROSS SECTIONS STA. 2+00 TO STA. -10+00	DESIGNED K.F. Barnemann	DATE Oct. 26 & 27, 1983
			DATE: <i>Jan. 16, 1984</i>			
			APPROVED: <i>John F. Kelly</i> DIRECTOR	Contract No. 13	DATE Nov. 18, 1983	DRAWING No. 4758-13-3A
			DATE: <i>Jan. 16, 1984</i>		CHECKED	SHEET 3 of 3



PLAN SITE A-1  
Scale: 1" = 40'



PLAN SITE A-2  
Scale: 1" = 20'

**NOTES:**

1. Dates of construction - Mar. 18, 1971 to Mar. 31, 1971
2. Elevations - B.M. K-1 - SEE PLAN
3. Source of materials
  - (a) gravel - Borrow area 2
  - (b) rock - Picklesly quarry
4. Plan redrawn
5. All sections at right angles to base line unless otherwise shown

REFERENCES		
DWG. No.	DESCRIPTION	DATE
4758-1-2	Plan & sections Site A, E & G-1	Jan., 1970
4758-1-9	Sections - Site A	May, 1971

APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE:

*[Signature]*  
DATE: 18 Jan 72

APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA:

*[Signature]*  
DATE: Jan 18, 1972

SURVEYED  
J.A.S.  
DATE AUG., 1971

DESIGNED  
J.W.

DRAWN  
J.A.S. & D.B.P.

TRACED

CHECKED  
R.A.E. SEPT. 28/71

DATE  
SEPT., 1971

**AS CONSTRUCTED**

BRITISH COLUMBIA  
DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES  
WATER RESOURCES SERVICE  
WATER INVESTIGATIONS BRANCH

CANADA - BRITISH COLUMBIA  
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT  
PROJECT No. 1 - DISTRICT OF KENT  
CONTRACT No. 1

**BANK PROTECTION  
SITE A**

APPROVED: *[Signature]* SCALE: AS SHOWN

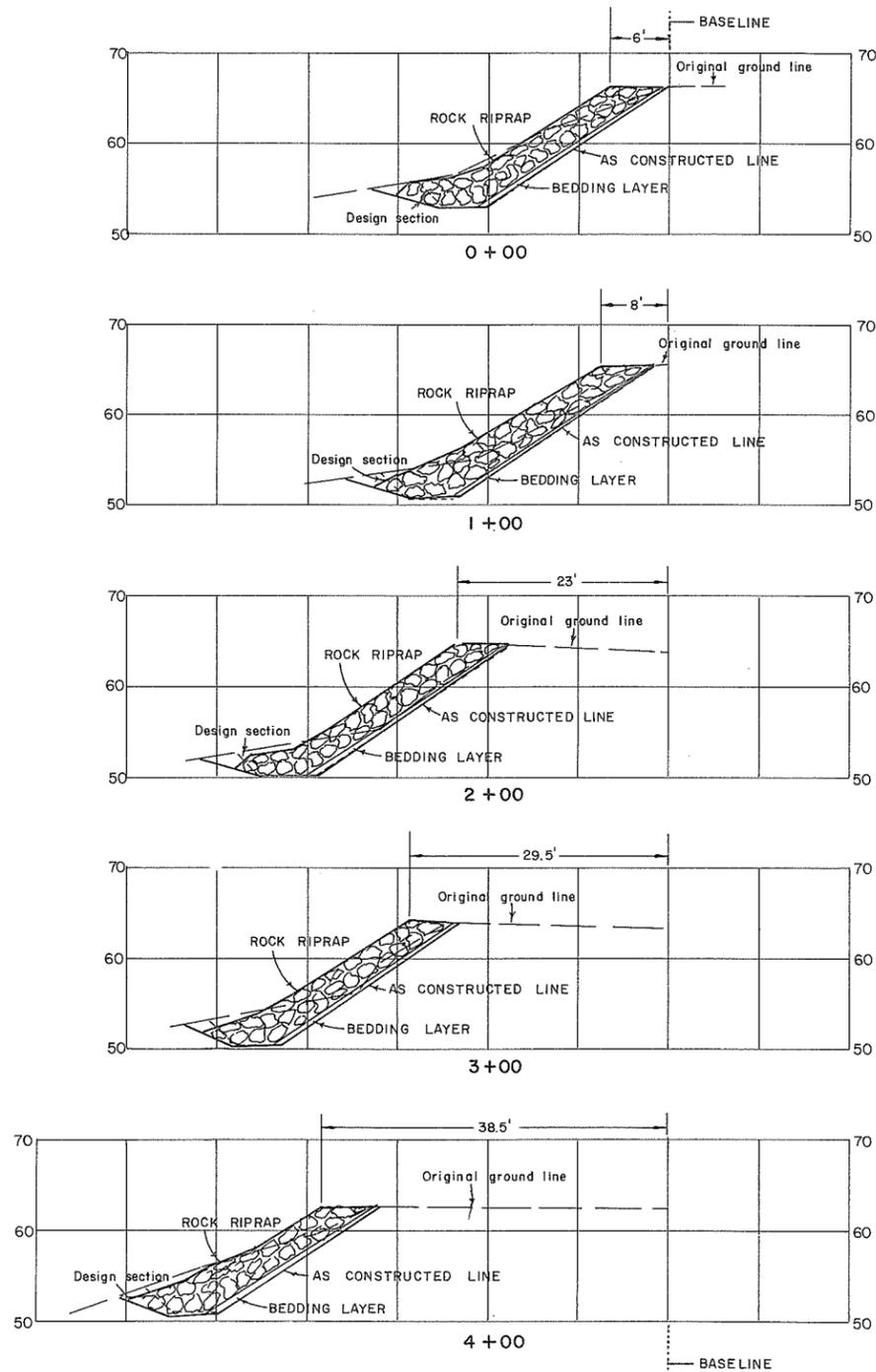
FILE No.  
0281550-C7

3314

DWG. No.  
4758-1-8

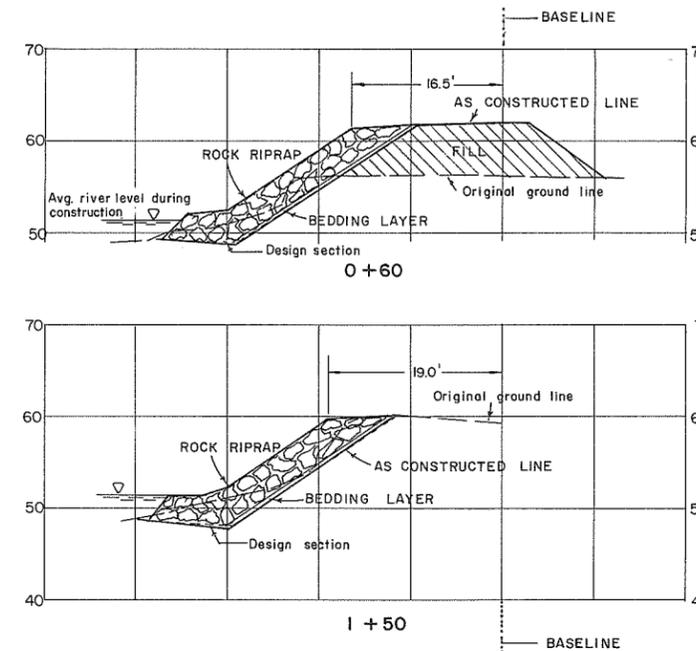
SHEET  
7 OF 11

**SITE A-1**



NOTES:  
1. Plan redrawn

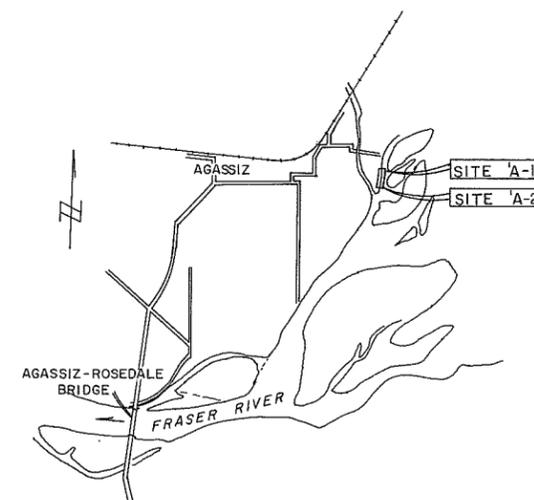
**SITE A-2**



ELEVATIONS IN FEET (G.S.C.)

**CROSS SECTIONS**

Scale 1" = 10'



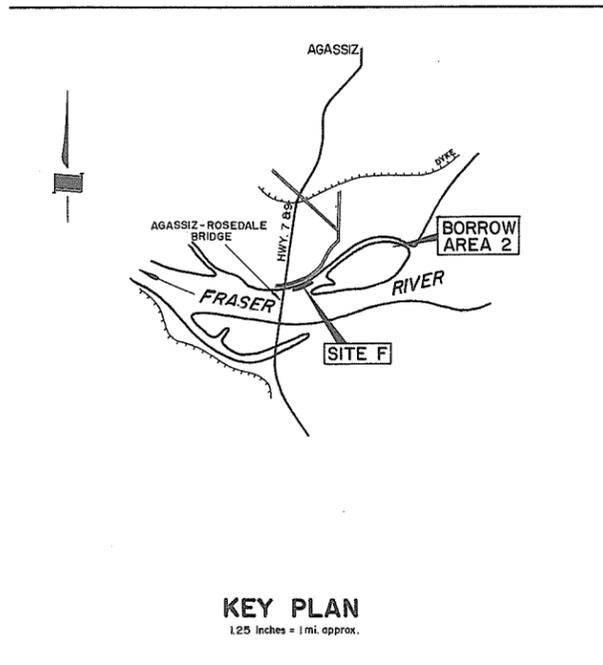
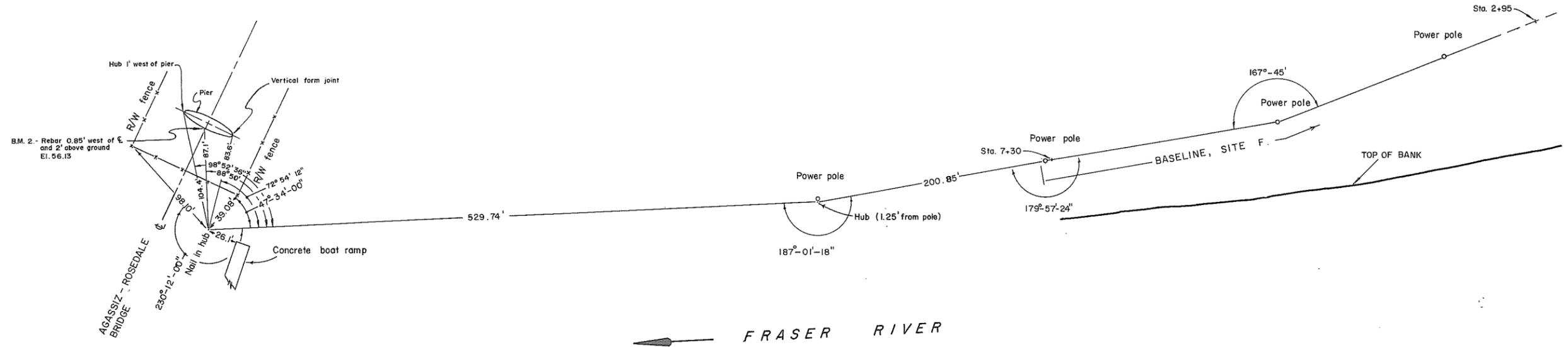
**KEY MAP**

Scale 1" = 50,000

**AS CONSTRUCTED**

REFERENCES			APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE		SURVEYED		BRITISH COLUMBIA DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH		FILE No.
DWG. No.	DESCRIPTION	DATE	DATE		DATE		FRASER RIVER FLOOD CONTROL 1968 AGREEMENT		0281550 - C7
4758-1-2	PLAN & SECTION SITE A, E, & G-1	JAN. 1970	12 Jan 72		APRIL 1971		CANADA - BRITISH COLUMBIA		SCALE AS SHOWN
4758-1-10	TRAVERSE, SITE A	AUG. 1971	APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA		DESIGNED J.W.		PROJECT No. 1 DISTRICT OF KENT		3915
			DATE		DRAWN J.A.S.		BANK PROTECTION CONTRACT No. 1		DWG. No.
			DATE		TRACED		SECTIONS-SITE A		4758-1-9
			DATE		CHECKED R.A.E. SEPT. 28/71		ENGINEER		SHEET
			DATE		DATE		APPROVED DIV. CHIEF		9 OF 11
			DATE		MAY 1971				

PLAN  
Scale 1" = 50'



- NOTES:
- Dates of construction - Sept. 25, 1970 to Oct. 29, 1970
  - Elevations - B.M. 2 - Location and elev. shown on plan
  - Source of materials  
(a) gravel - borrow area 2  
(b) rock - Ficksley quarry
  - All sections at right angles to base line unless otherwise shown.
  - New plan

REFERENCES		
DWG. No.	DESCRIPTION	DATE
4758-1-3	PLAN & SECTIONS SITE F.	JAN. 1970

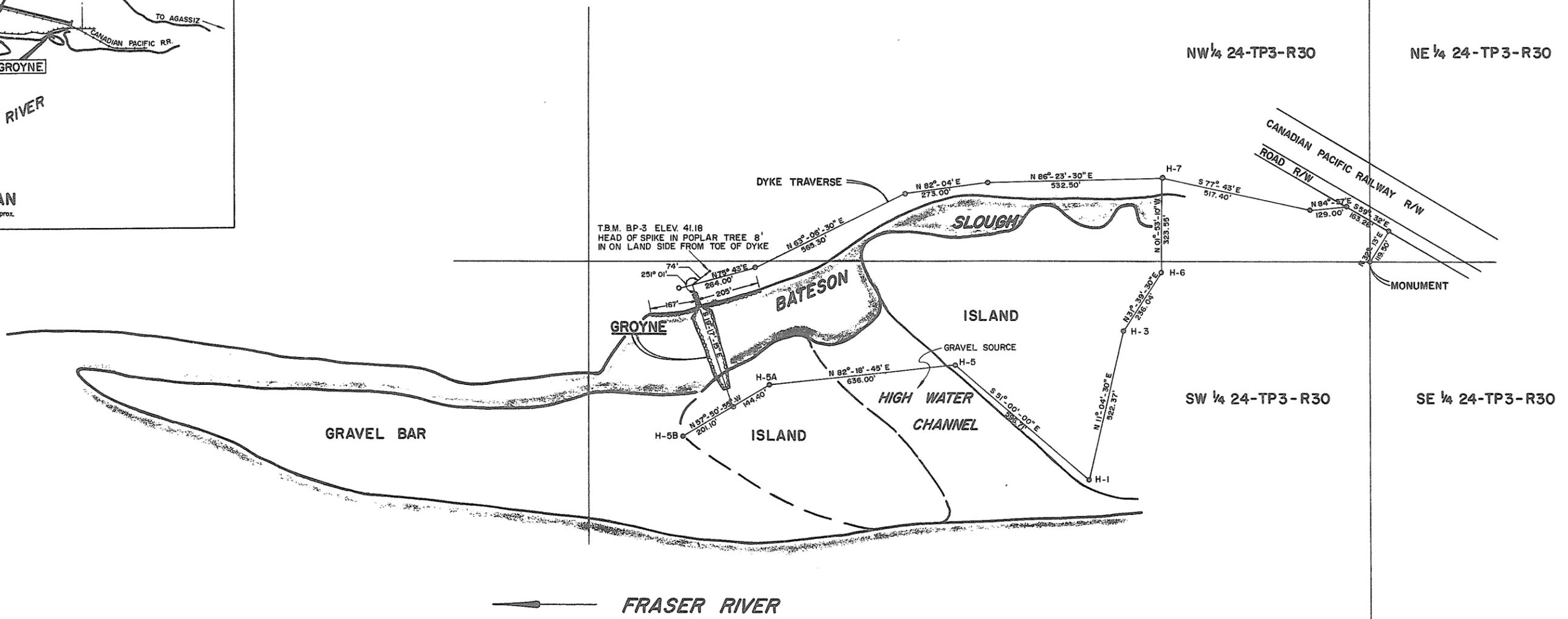
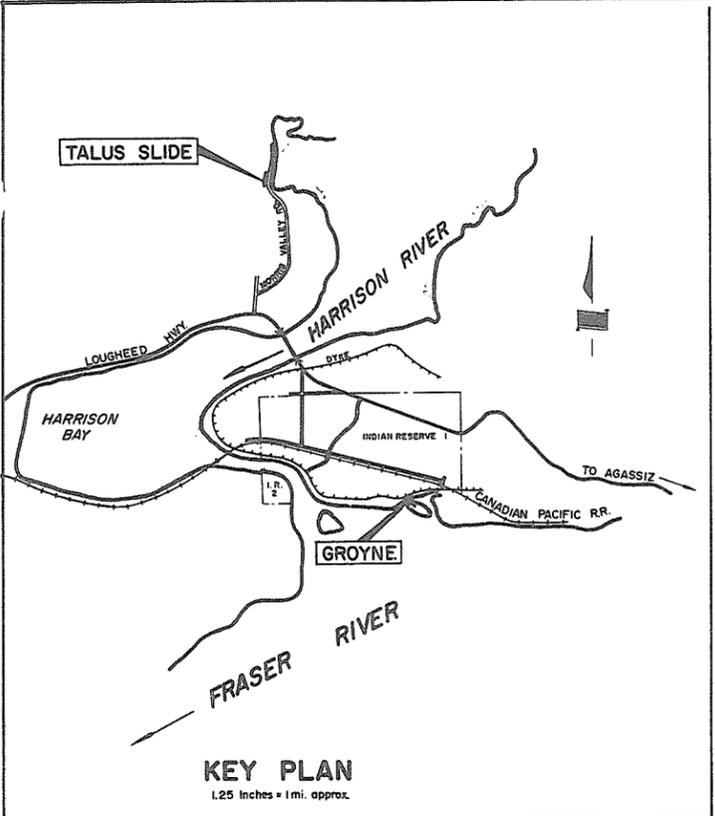
APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE:  
*[Signature]*  
DATE: *12 Jan 72*

APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA:  
*[Signature]*  
DATE: *Jan 18, 1972*

SURVEYED  
J A S  
DATE: JUNE 1970  
DESIGNED  
J W  
DRAWN  
J A S  
TRACED  
CHECKED  
R.A.E. SEPT. 24/71  
DATE  
AUG. 1971

AS CONSTRUCTED  
BRITISH COLUMBIA  
DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES  
WATER RESOURCES SERVICE  
WATER INVESTIGATIONS BRANCH  
CANADA - BRITISH COLUMBIA  
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT  
PROJECT No. 1 DISTRICT OF KENT  
BANK PROTECTION  
CONTRACT No. 1  
SITE F, TRAVERSE  
APPROVED *[Signature]* SCALE: 1" = 50'

FILE No.  
0281550-C7  
3916  
DWG. No.  
4758-1-10  
SHEET  
9 OF 11



- NOTES:**
- Dates of construction - May 14, 1970 to June 3, 1970.
  - Elevations - T.B.M. BP-3 - SEE PLAN.
  - Source of materials.
    - (a) gravel - from high water channel upstream of groyne.
    - (b) rock - from talus slide approx. 2 miles up Morris Valley road.
  - Plan redrawn.

REFERENCES		
DWG. No.	DESCRIPTION	DATE
4758-1-7	PROFILE & SECTIONS	March 1971
4758-1-4	PLAN & SECTIONS	May 1970

APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE

DATE 12 Jan 72

APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA

DATE Jan 13, 1972

SURVEYED B. P.

DATE DEC. 1970

DESIGNED J. W.

DRAWN J. S.

TRACED D.B.P.

CHECKED R.A.E.

DATE JUNE 1971

AS CONSTRUCTED

BRITISH COLUMBIA  
DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES  
WATER RESOURCES SERVICE  
WATER INVESTIGATIONS BRANCH

CANADA - BRITISH COLUMBIA  
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT

PROJECT No. 1 DISTRICT OF KENT  
CONTRACT No. IA  
**HARRISON MILLS GROUYNE**  
SITE PLAN

ENGINEER [Signature]

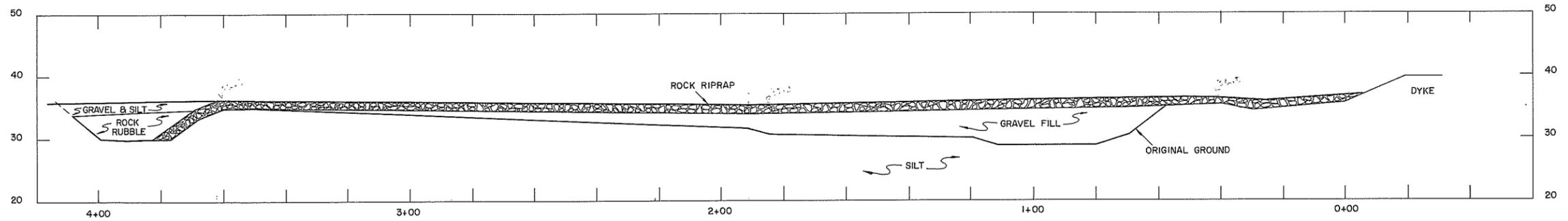
APPROVED DIV. CHIEF

FILE No.  
0281550 - C7

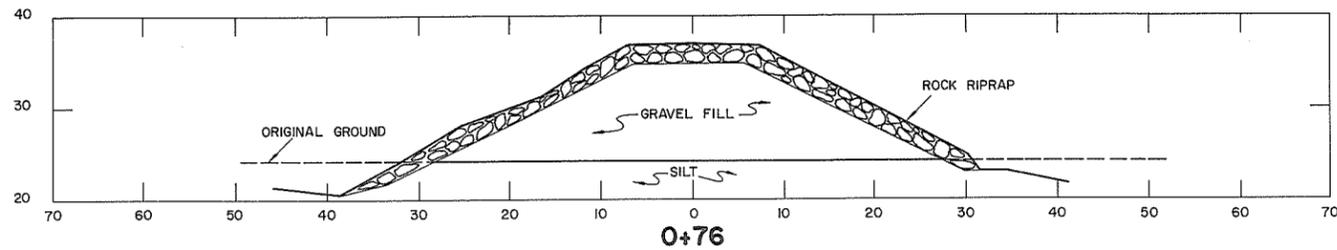
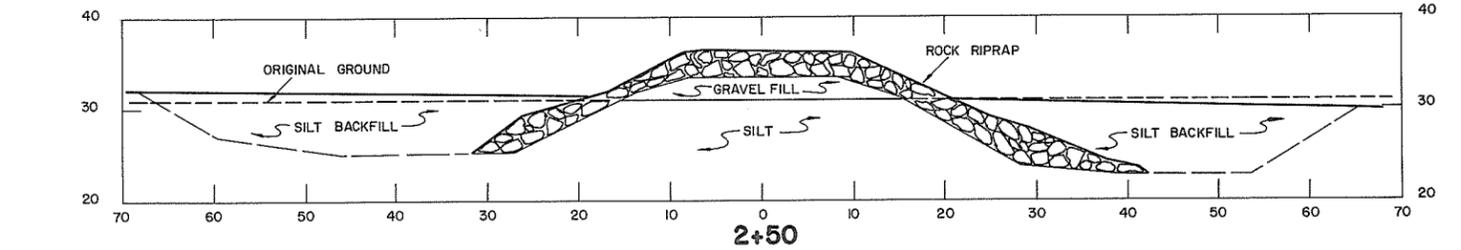
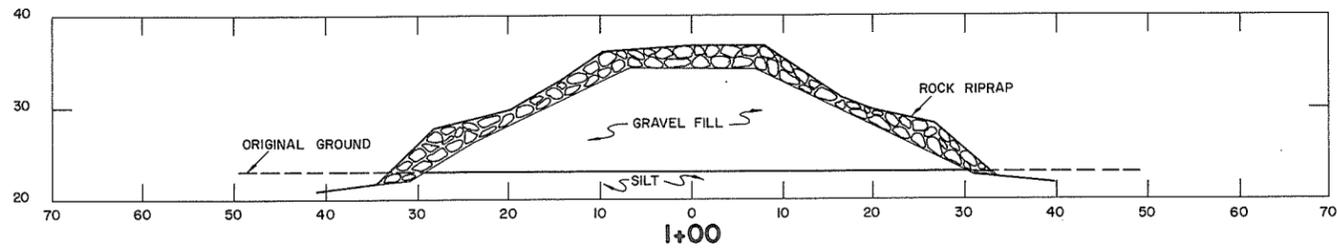
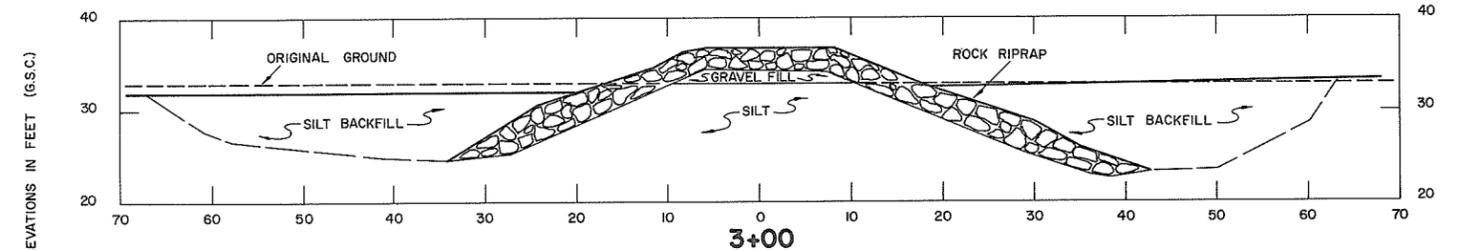
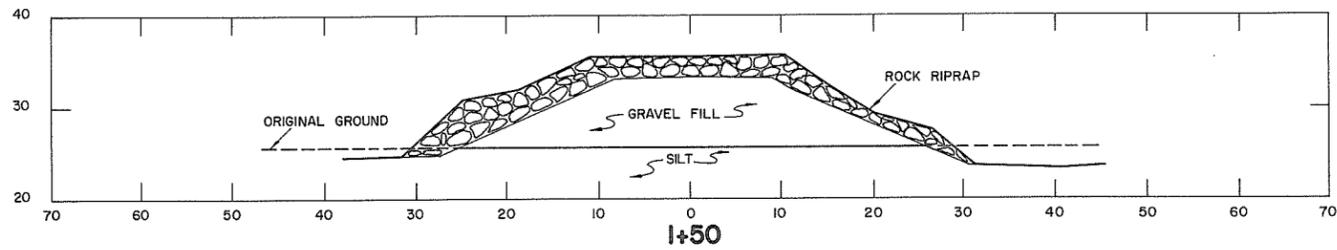
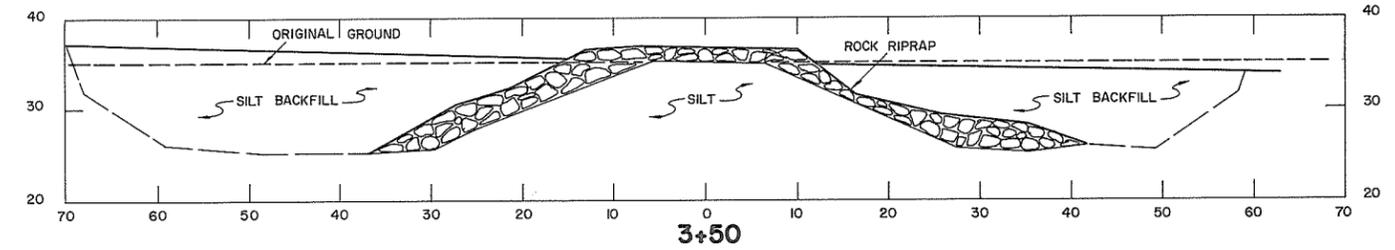
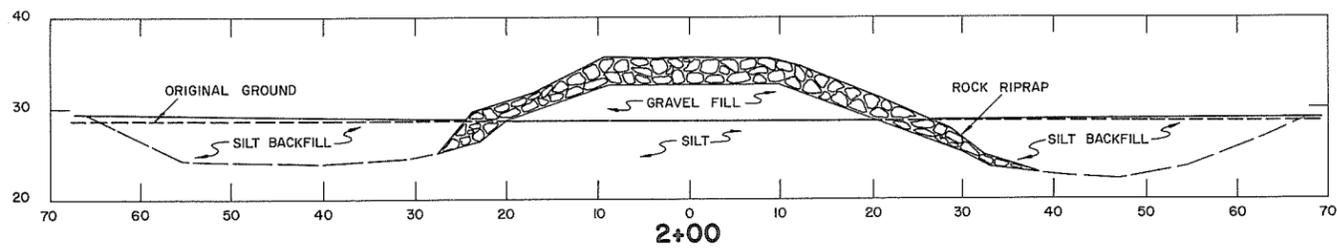
SCALE  
1" = 200'

3917  
DWG. No.  
4758-1-11

SHEET  
10 of 11



**CENTERLINE PROFILE**  
Scale: 1" = 20'

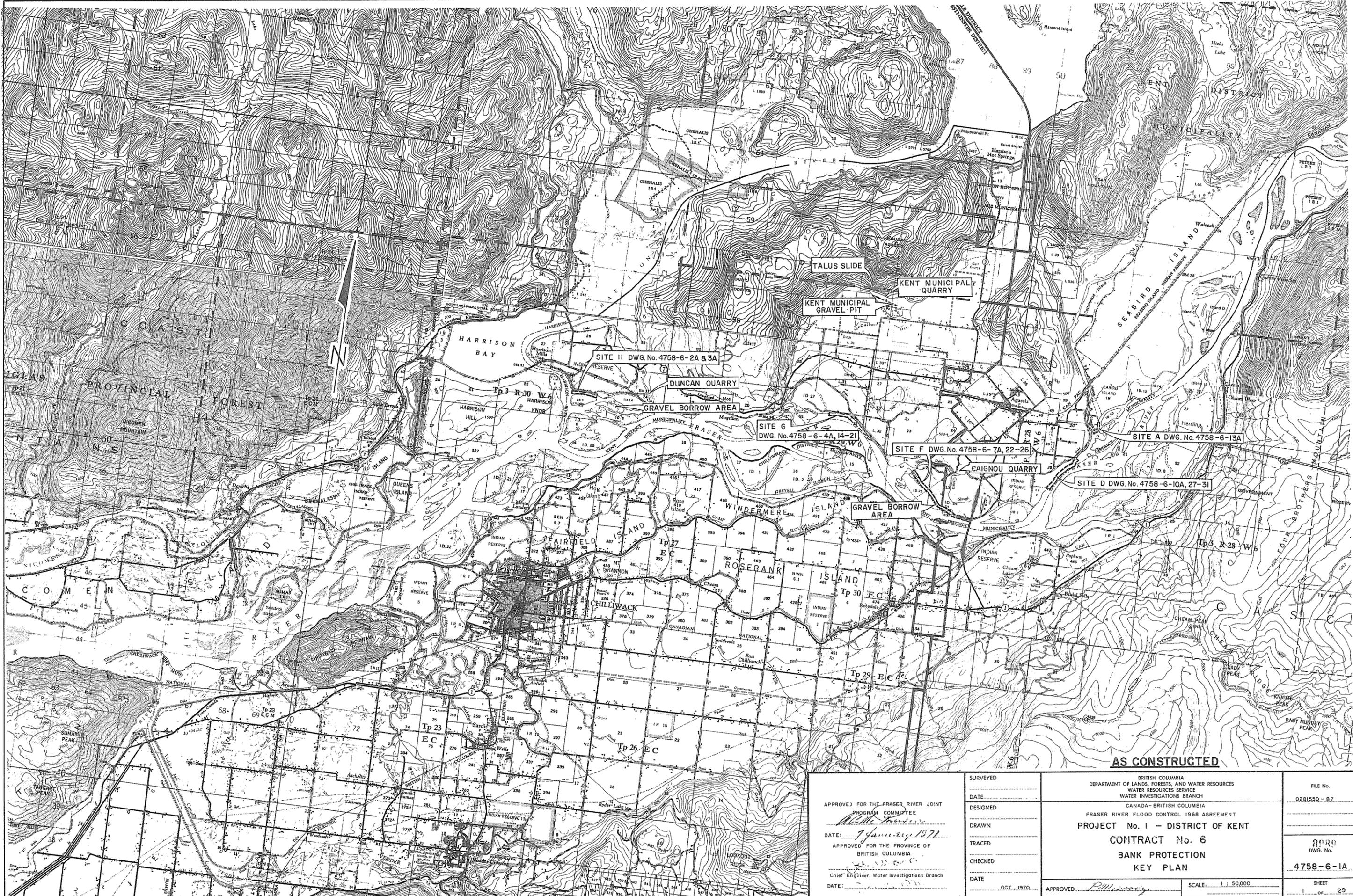


**CROSS SECTIONS**  
Scale: 1" = 10'

NOTES:  
1. Plan redrawn

**AS CONSTRUCTED**

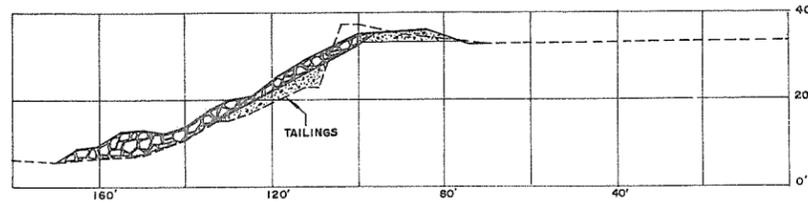
REFERENCES			APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE:		SURVEYED		BRITISH COLUMBIA DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH		FILE No.
DWG. No.	DESCRIPTION	DATE	DATE: <i>12 Jan 72</i>		J.S. & D.B.P. DATE: DEC., 1970		CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT PROJECT No.1- DISTRICT OF KENT CONTRACT No. 1A		0281550 - C7
4758-1-4	Plan and sections	May, 1970	DATE: <i>Jan 18, 1972</i>		DESIGNED J.W. DRAWN J.S. & D.B.P. TRACED		<b>HARRISON MILLS GROUYNE PROFILE &amp; SECTIONS</b>		8918
4758-1-11	Site plan	June, 1971	DATE: <i>Jan 18, 1972</i>		CHECKED R.A.E. SEPT. 24/71 DATE SEPT., 1970		APPROVED: <i>J.S. &amp; D.B.P.</i>		DWG. No. 4758-1-12
							SCALE: AS SHOWN		SHEET 11 OF 11



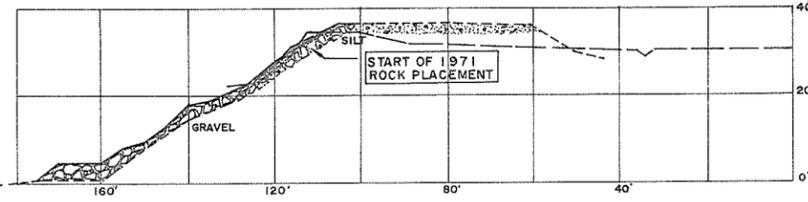
**AS CONSTRUCTED**

APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE <i>W. H. [Signature]</i> DATE: <u>7 January 1971</u> APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA Chief Engineer, Water Investigations Branch DATE: _____	SURVEYED _____ DATE _____ DESIGNED _____ DRAWN _____ TRACED _____ CHECKED _____ DATE _____	BRITISH COLUMBIA DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT <b>PROJECT No. 1 - DISTRICT OF KENT</b> <b>CONTRACT No. 6</b> <b>BANK PROTECTION</b> <b>KEY PLAN</b>	FILE No. 0281550-87 DWG. No. <b>4758-6-1A</b> SHEET 1 of 29
	APPROVED <i>P. [Signature]</i> SCALE: 1 : 50,000	DATE: OCT. 1970	

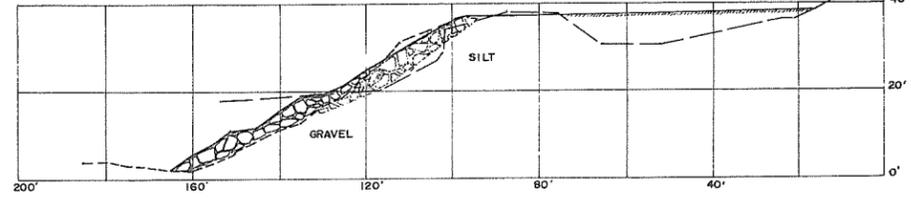




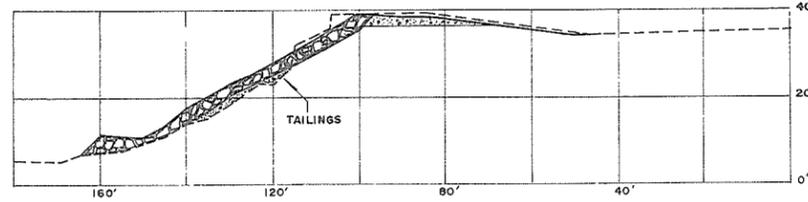
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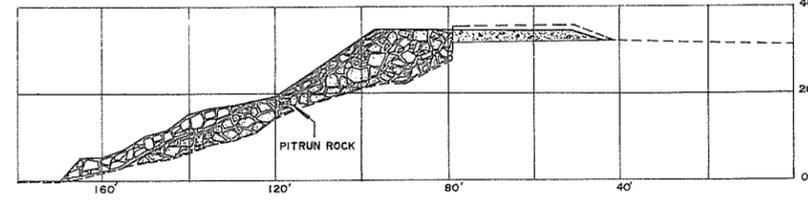
50+00



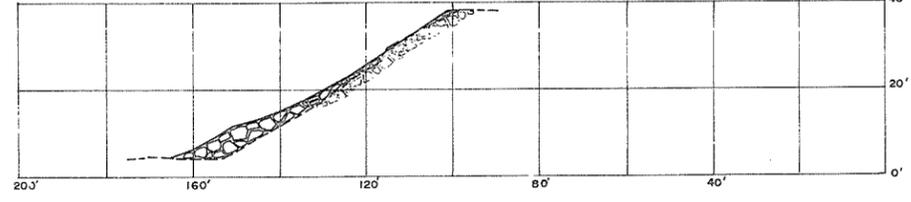
56+00



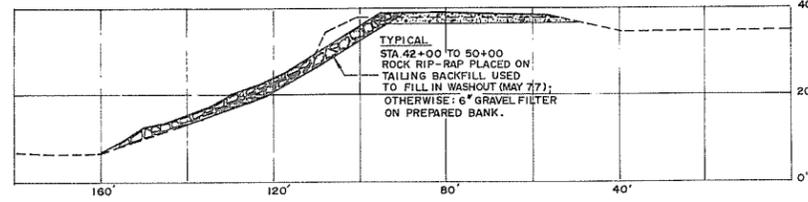
43+00



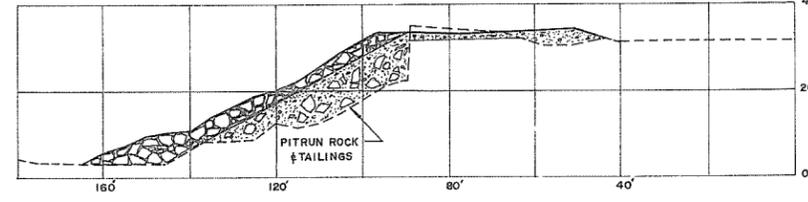
49+00



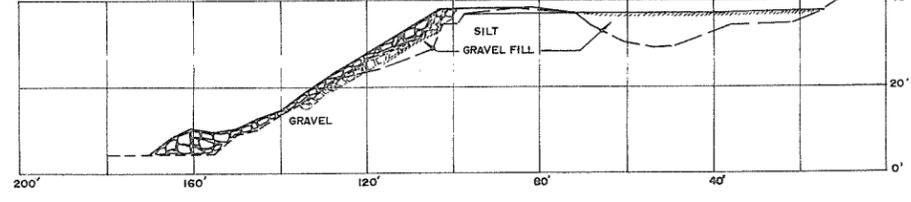
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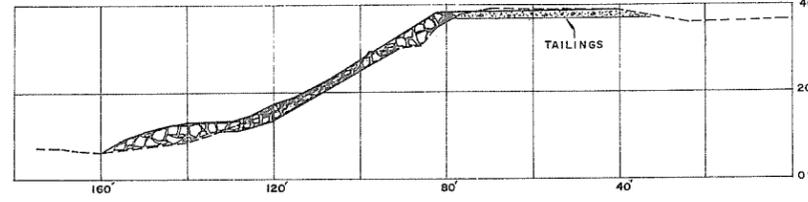
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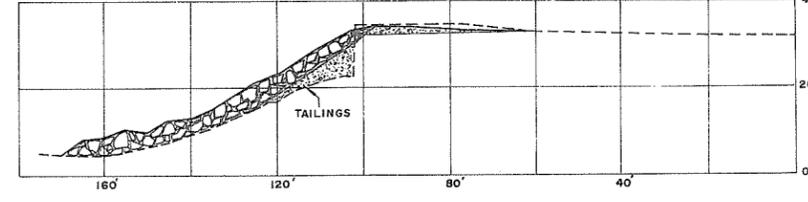
48+00



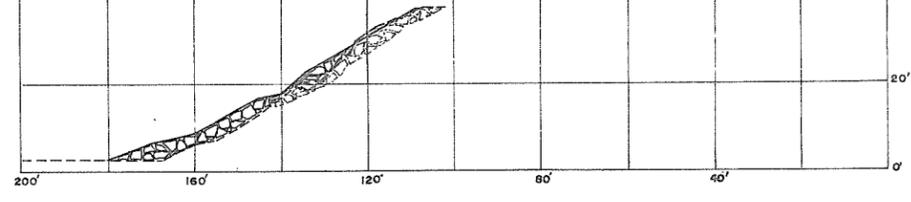
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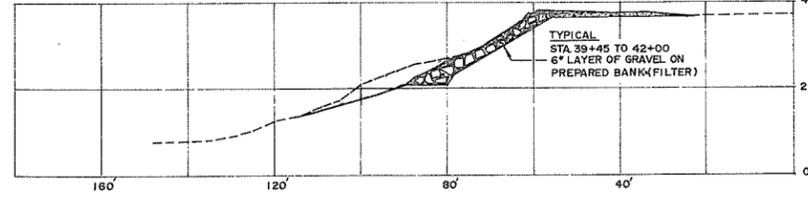
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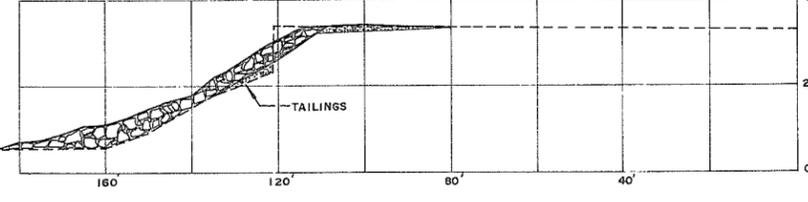
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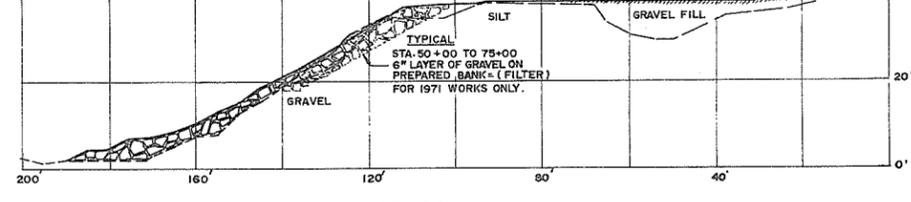
53+00



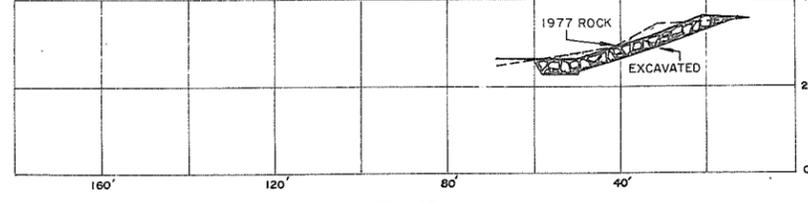
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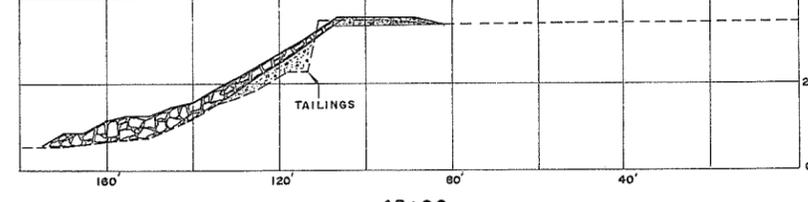
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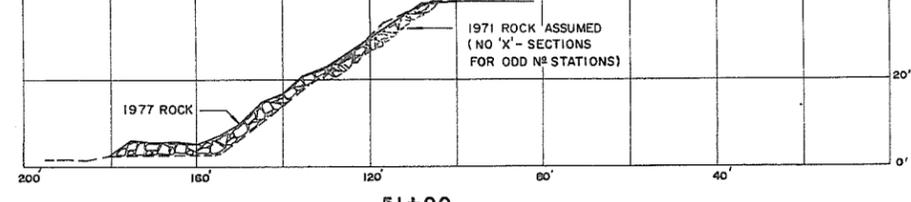
52+00



39+45



45+00



51+00

START OF ROCK @ 30' UPSTREAM FROM STA. 39+45 - CURVED IN TOWARDS BASELINE

STA. 39+45 TO 49+50: CONSTRUCTED IN 1977  
 STA. 49+50 TO 75+00: CONSTRUCTED IN 1971  
 STA. 49+50 TO 63+45: BANK PROTECTION ADDED AND EXTENDED AT LOWER SLOPE IN NOV. 1977.

LEGEND:

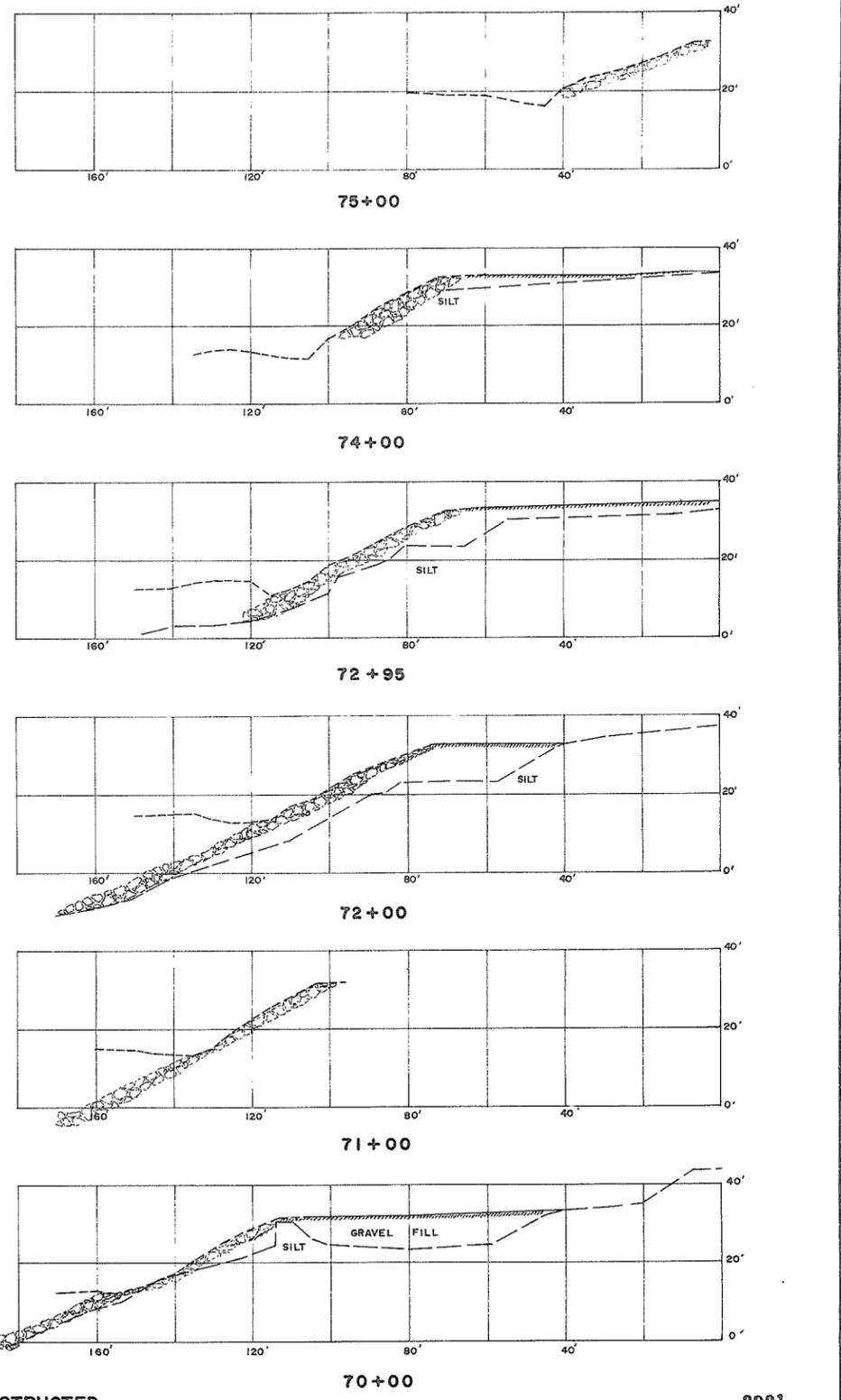
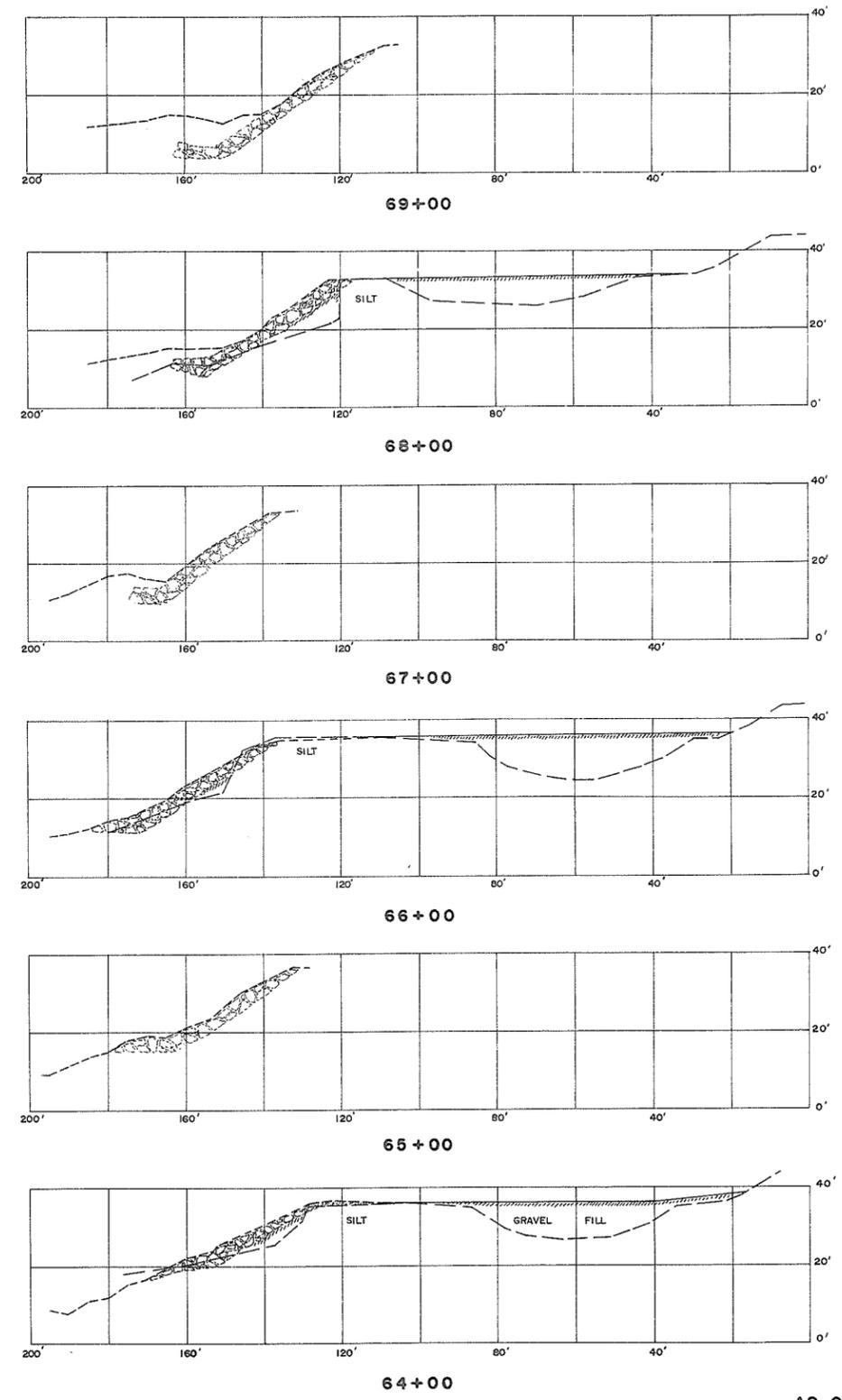
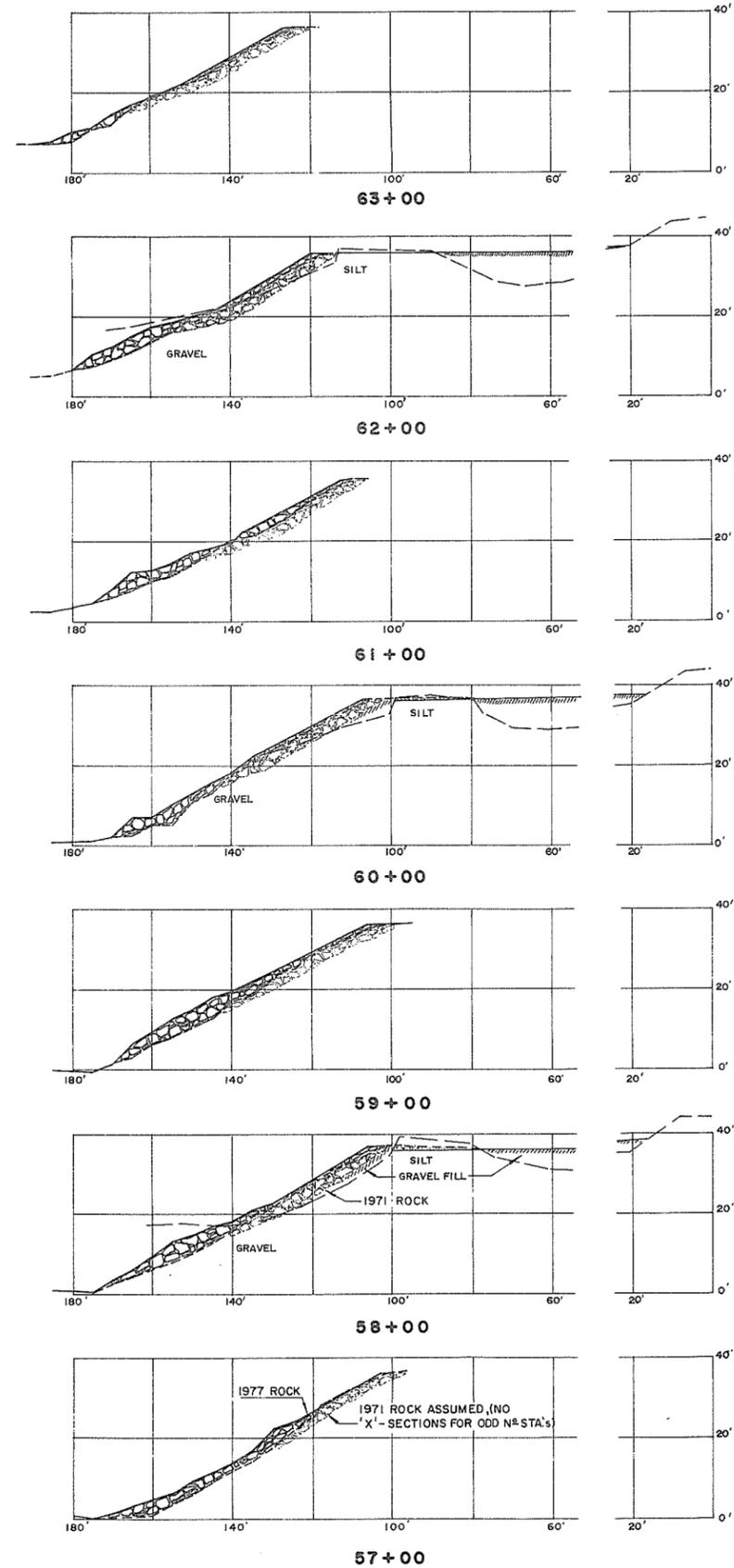
- AS CONSTRUCTED, 1977
- O.G. (PRE-CONST, 1977)
- EXCAVATION
- O.G. (PRE-CONST, 1971)
- 1971 ROCK PLACEMENT (LEFT IN PLACE, SEPT. 77)
- 1971 ROCK ASSUMED

AS CONSTRUCTED

NO.		BY	REVISIONS	DATE	RECOMMENDED <i>B.R. Cameron</i> PROJECT MANAGER DATE <i>Apr. 3, 1979</i>		BRITISH COLUMBIA MINISTRY OF THE ENVIRONMENT WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT		DESIGNED J.W. DRAWN F.A.W. CHECKED <i>[Signature]</i> SCALE 1" = 20' DWG. NO. 4758-6-2B	SURVEYED (D.B.P.) B.R.E. DATE (SEPT. 70); DEC. 20, 1977 FILE NO. 0281550-C-7 DATE NOV. 7, 1978 SHEET OF SHEETS
					APPROVED <i>[Signature]</i> DIRECTOR DATE <i>Apr. 3, 1979</i>		PROJECT # 1 DISTRICT OF KENT SITE 'H' BANK PROTECTION - SECTIONS 39+45-56+00		8990	

END OF 1977 ROCK PLACEMENT @ STA. 63+45

END OF 1971 ROCK PLACEMENT

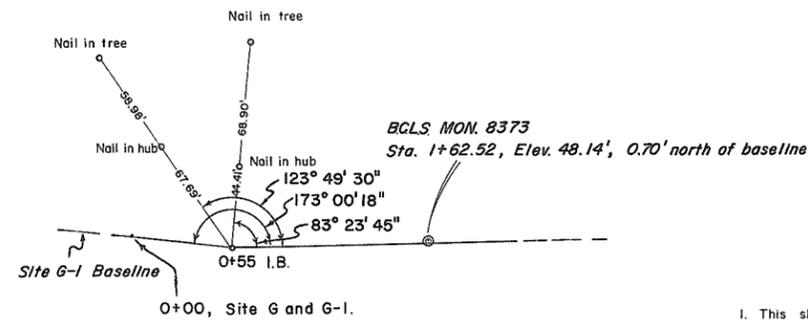
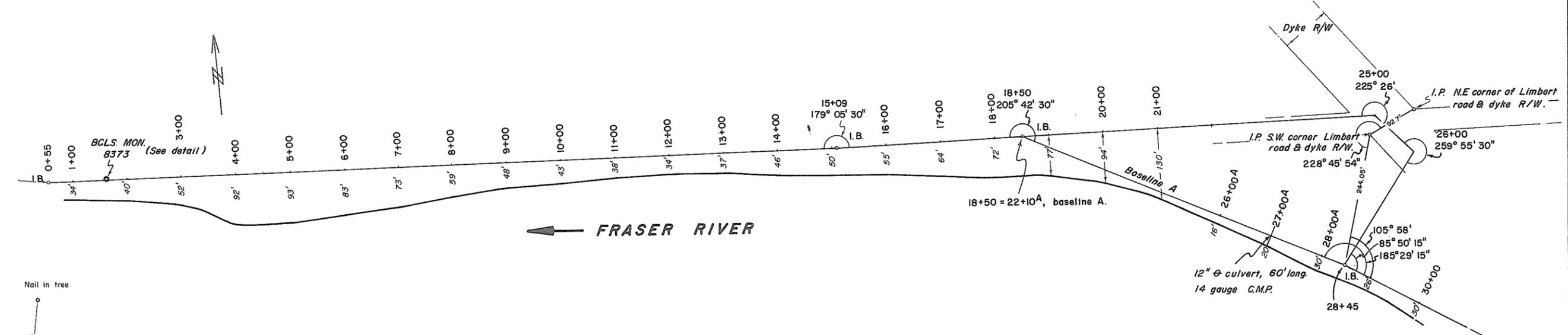
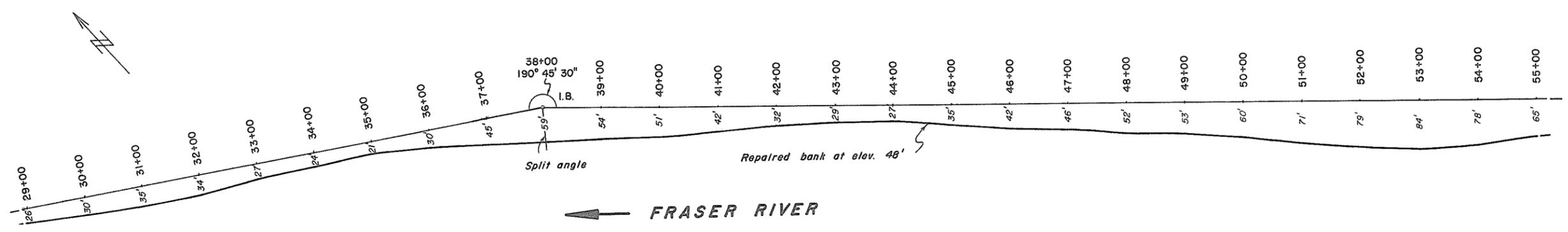
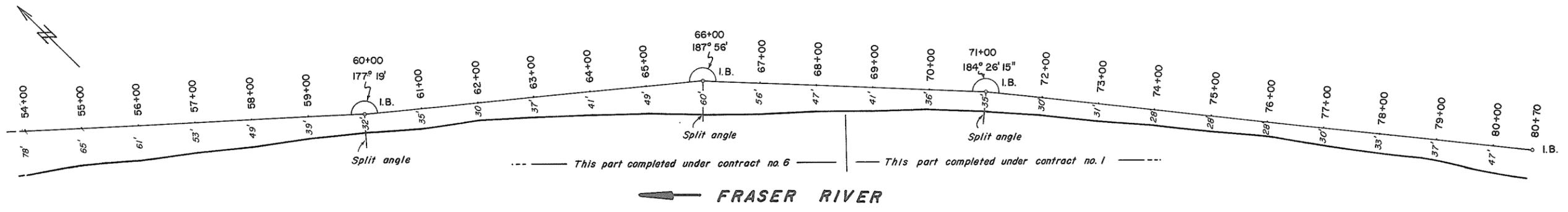


STA. 39+45 TO 49+50: CONSTRUCTED IN 1977  
 STA. 49+50 TO 75+00: CONSTRUCTED IN 1971  
 STA. 49+50 TO 63+45: BANK PROTECTION ADDED  
 AND EXTENDED AT LOWER SLOPE IN NOV. 1977

AS CONSTRUCTED

8991

NO.	BY	REVISIONS	DATE	RECOMMENDED <i>R.H. Cameron</i> PROJECT MANAGER	BRITISH COLUMBIA MINISTRY OF THE ENVIRONMENT WATER INVESTIGATIONS BRANCH CANADA — BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT	DESIGNED J.W.	SURVEYED (D.B.P.) B.R.E.
				DATE <i>Apr. 3, 1979</i>		DRAWN F.A.W.	DATE (SEPT. 20), DEC. 20, 1977
				APPROVED <i>Rob Fuller</i> DIRECTOR	PROJECT NO. 1 DISTRICT OF KENT SITE 'H' BANK PROTECTION — SECTIONS 57+00-75+00	SCALE 1" = 20'	FILE NO. 0281550-C-7
				DATE <i>Apr. 2/79</i>		DWG. NO. 4758-6-38	DATE NOV. 7, 1978
						SHEET OF SHEETS	



**DETAIL**  
Scale 1"=50'

**NOTES**

- This sheet redrawn.
- Source of materials, -fills, rock rubble from the talus slide near the Kent municipal quarry. gravel from the Kent municipal pit. - rock riprap, from the Kent municipal quarry.
- Construction dates, station 0+00 to 68+50, contract no. 6, Sept. 1 to Dec. 8, 1971 station 68+50 to 80+70, contract no. 1, Aug. 27 to Sept. 24/70
- Elevations, G.S.C. B.M. 303 J
- All sections at right angles to the baseline unless otherwise shown.
- I.B. denotes no. 4 rebar approx. 2' long.

REFERENCES		
DWG. No.	DESCRIPTION	DATE
4758-6-4	Plan of Site G	Nov. 1970

APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE:  
 DATE: 8 Oct 1972

APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA:  
 Chief Engineer, Water Investigations Branch  
 DATE: March 9, 1973

SURVEYED  
 B.P.  
 DATE: June 1970

DESIGNED  
 J.W.

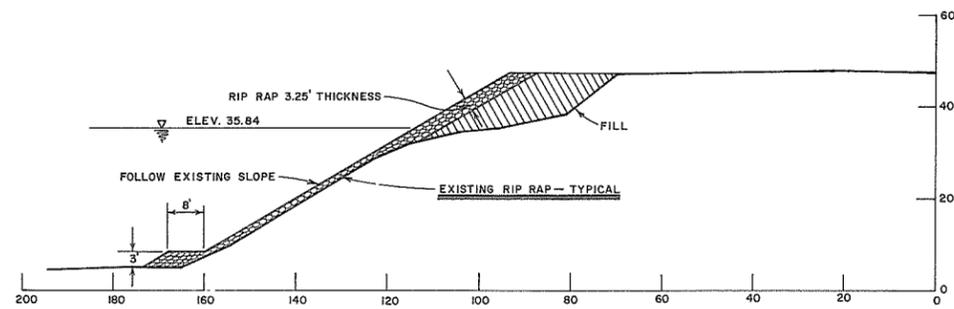
DRAWN  
 J.S.

TRACED

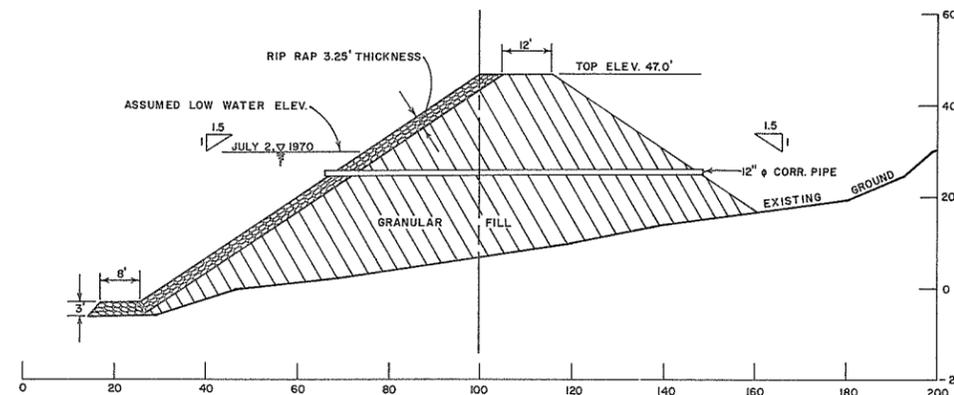
CHECKED  
 DATE: July 1972

**AS CONSTRUCTED**

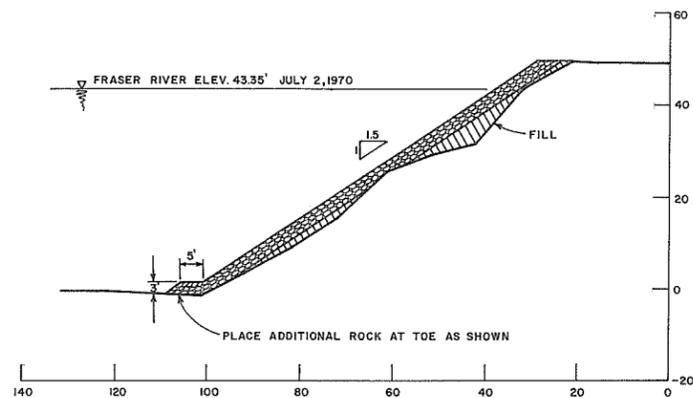
BRITISH COLUMBIA DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH	FILE No. 0281550-C7
CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT PROJECT No. I-DISTRICT OF KENT CONTRACT No. 6	
<b>BANK PROTECTION, SITE G</b> <b>PLAN</b>	
APPROVED: <u>[Signature]</u>	SCALE: 1"=100' SHEET 4 of 29



TYPICAL SECTION  
STATION 4+00-7+00

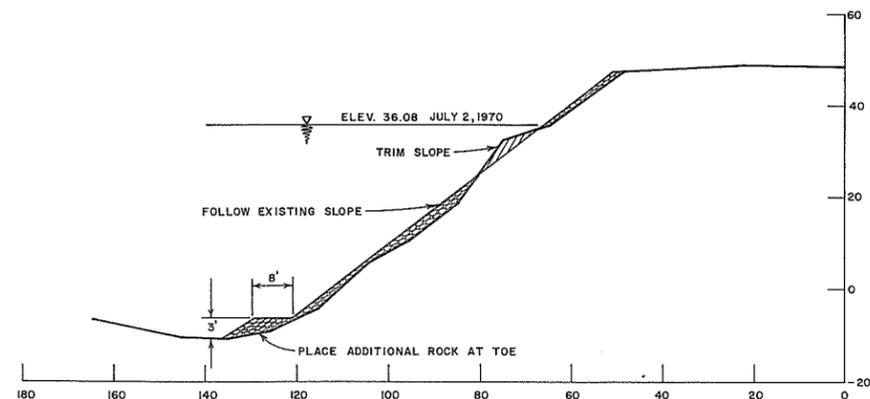


TYPICAL SECTION  
SECTION 22+75



TYPICAL SECTION  
WHERE EXISTING BANK IS STEEPER THAN 1.5:1

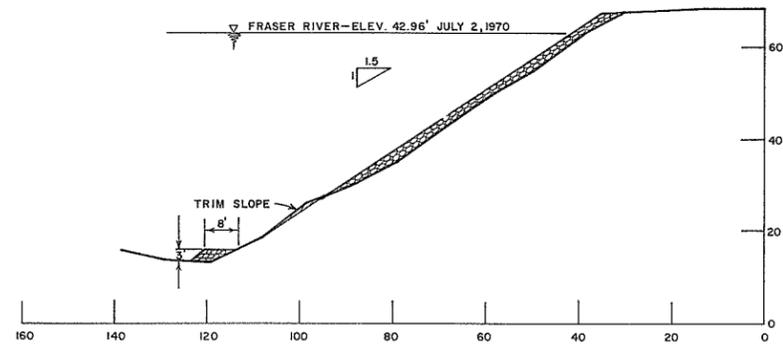
1. REMOVE EXISTING RIP RAP, FILL TO BACK SLOPE OF 1.5:1.
2. OVERLAY WITH RIP RAP 3.25' MIN. THICKNESS.
3. PLACE ADDITIONAL RIP RAP AT TOE.



TYPICAL SECTION  
WHERE EXISTING BANK IS FLATTER THAN 1.5:1

1. WHERE TRIM SLOPE IS INDICATED, RE-ARRANGE EXISTING RIP RAP TO OBTAIN A SMOOTH SURFACE WHERE THICKNESS OF RIP RAP IS SUFFICIENT.
2. THE MINIMUM ACCEPTABLE THICKNESS OF EXISTING RIP RAP IS 2.5' IF THE RIP RAP IS WELL CONSOLIDATED AND STABLE.
3. WHERE THE EXISTING THICKNESS OF RIP RAP IS LESS THAN 2.5' ADDITIONAL ROCK IS REQUIRED TO OBTAIN A MINIMUM THICKNESS OF 3.25'.
4. ROCK FOR ALL OTHER AREAS TO HAVE A MINIMUM THICKNESS OF 3.25'.

WHERE THICKNESS OF ROCK IS INSUFFICIENT THE EXISTING ROCK SHOULD BE RE-ARRANGED AND MIXED WITH ADDITIONAL ROCK TO OBTAIN A WELL GRADED MASS OF STONE TO GET THE REQUIRED THICKNESS.



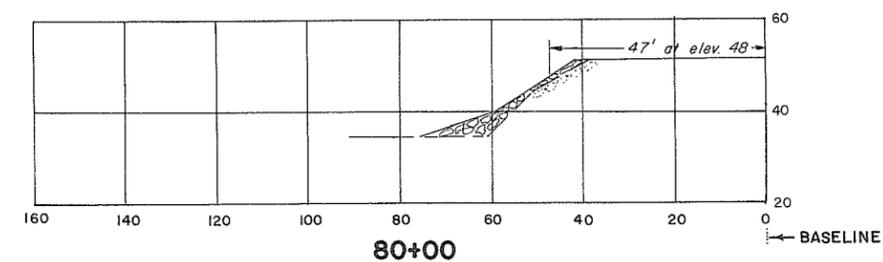
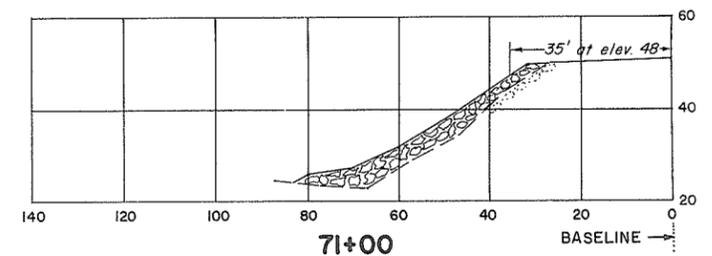
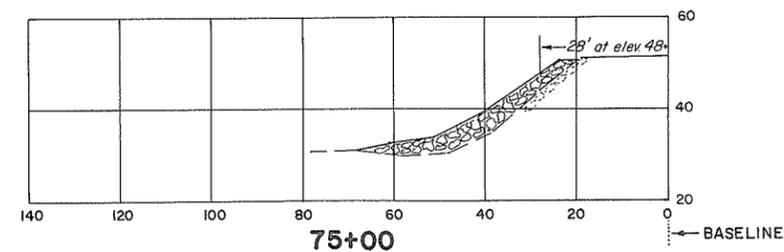
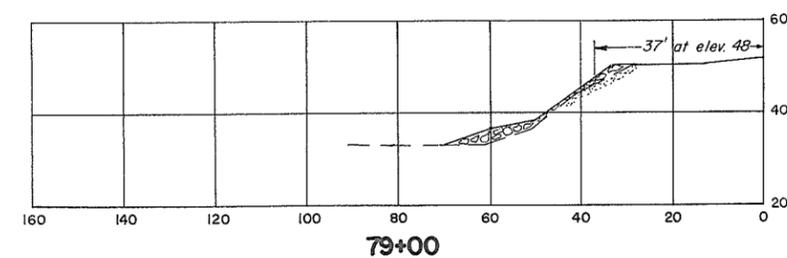
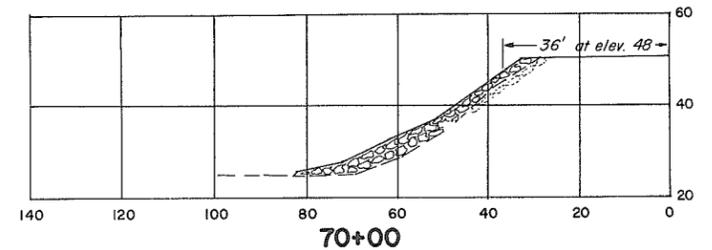
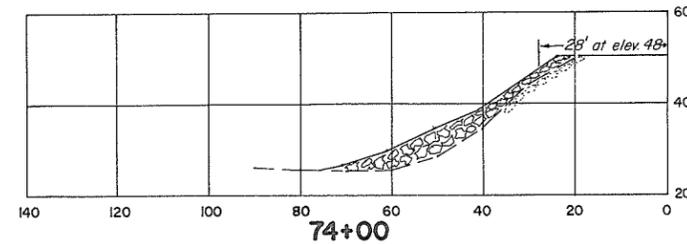
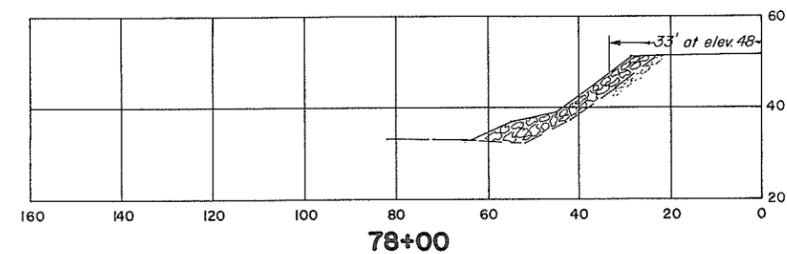
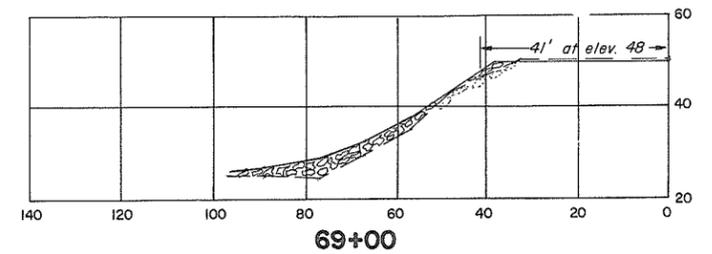
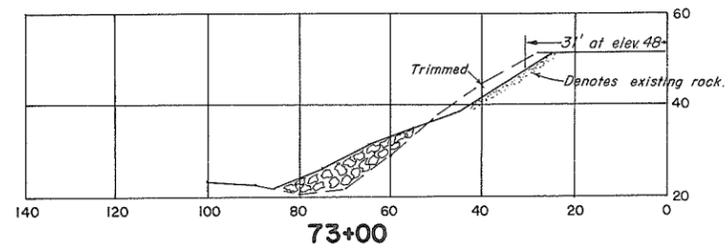
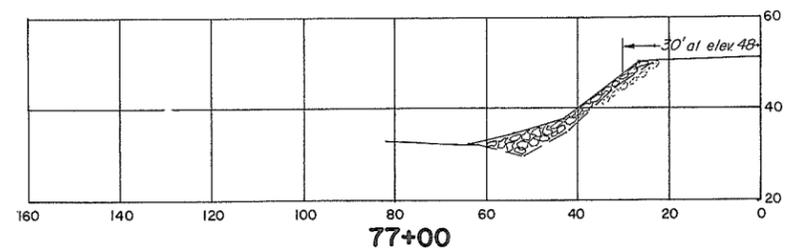
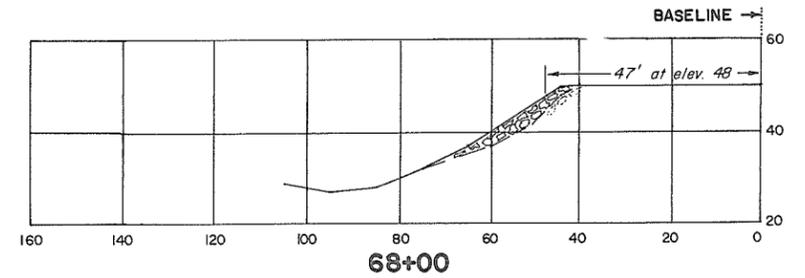
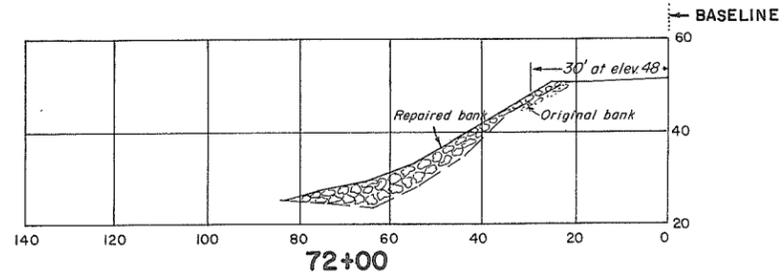
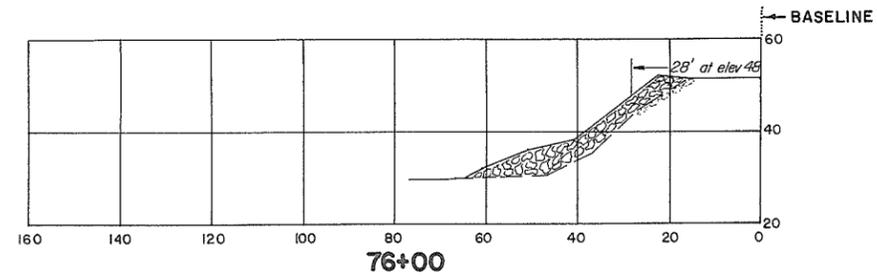
TYPICAL SECTION  
WHERE EXISTING SLOPE IS APPROXIMATELY 1.5:1

1. WHERE TRIM SLOPE IS INDICATED, RE-ARRANGE EXISTING RIP RAP TO OBTAIN A SMOOTH SURFACE WHERE THICKNESS OF RIP RAP IS SUFFICIENT.
2. THE MINIMUM ACCEPTABLE THICKNESS OF EXISTING RIP RAP IS 2.5' IF THE RIP RAP IS WELL CONSOLIDATED AND STABLE.
3. WHERE THE EXISTING THICKNESS OF RIP RAP IS LESS THAN 2.5' ADDITIONAL ROCK IS REQUIRED TO OBTAIN A MINIMUM THICKNESS OF 3.25'.
4. ROCK FOR ALL OTHER AREAS TO HAVE A MINIMUM THICKNESS OF 3.25'.

- NOTE:**
1. OFFSET DISTANCES FROM BASE LINE TO TOP OF BANK ARE TAKEN AT ELEV. 48' G.S.C.
  2. A GOOD ALIGNMENT SHOULD BE MAINTAINED OVER THE ENTIRE LENGTH.
  3. REPAIR WORK: STATIONS: 0+00-20+50  
28+00-32+00  
36+50-51+00  
55+00-58+00  
62+50-68+50

**AS CONSTRUCTED**

REFERENCES			SURVEYED		BRITISH COLUMBIA DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH		FILE No.
DWG. No.	DESCRIPTION	DATE	J.S. & B.P.	DATE	CANADA — BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT		0281550-B7
	APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE.		J. WESTER <td></td> <td colspan="2">PROJECT No. 1 — DISTRICT OF KENT</td> <td>8993</td>		PROJECT No. 1 — DISTRICT OF KENT		8993
	DATE: 7 January 1971		P. DIXON <td></td> <td colspan="2">CONTRACT No. 6</td> <td>DWG. No.</td>		CONTRACT No. 6		DWG. No.
	APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA.		TRACED		TYPICAL CROSS SECTIONS REPAIR WORK		4758-6-5
	DATE: Jan 11, 1971		CHECKED		SITE 'G'		SHEET
			A. K.M. <td></td> <td colspan="2">APPROVED: P.M. Brody <td>5 of 29</td> </td>		APPROVED: P.M. Brody <td>5 of 29</td>		5 of 29
			DATE	NOV. 1970 <td colspan="2">SCALE: HOR. 1" = 20'</td> <td></td>	SCALE: HOR. 1" = 20'		
					VERT. 1" = 20'		



**CROSS-SECTIONS**

Scale: 1" = 20'

**NOTES**

- See sheet no. 4 for baseline details.
- Stations 68+50 to 80+70 completed under contract no. 1.
- Construction dates under contract no. 1, Aug. 27 to Sept. 24, 1970. construction dates under contract no. 6, Sept 1 to Dec. 8, 1971.

**REFERENCES**

DWG. No.	DESCRIPTION	DATE
4758-6-5,6	Typical repair sections	Nov. 1970

APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE:

DATE: *8 Oct 1972*

APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA:

DATE: *March 9, 1972*

SURVEYED

B.P.

DATE: *June 1970*

DESIGNED

J.W.

DRAWN

J.S.

TRACED

CHECKED

DATE

July, 1972

**AS CONSTRUCTED**

BRITISH COLUMBIA  
DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES  
WATER RESOURCES SERVICE  
WATER INVESTIGATIONS BRANCH

FILE No.

0281550 - C7

CANADA - BRITISH COLUMBIA  
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT  
PROJECT No. 1 - DISTRICT OF KENT

CONTRACT No. 6  
BANK PROTECTION, SITE G

8999

DWG. No.

4758-6-14

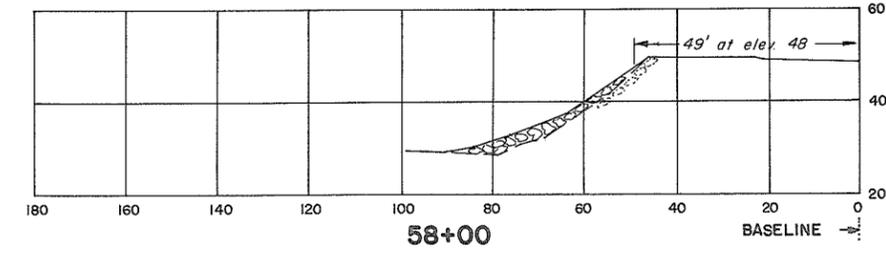
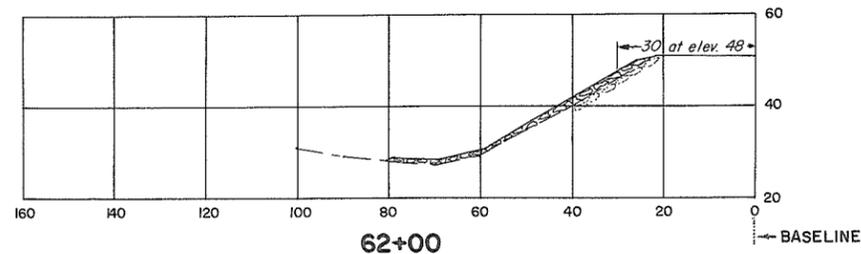
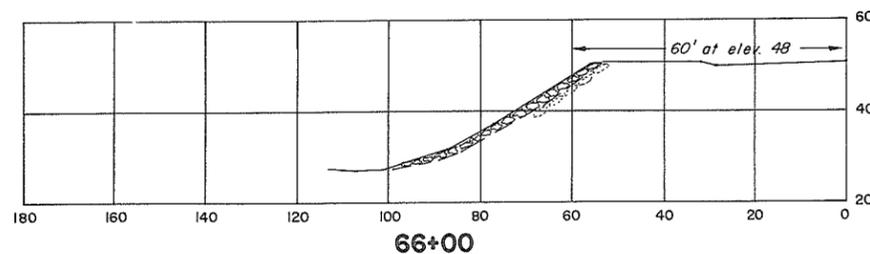
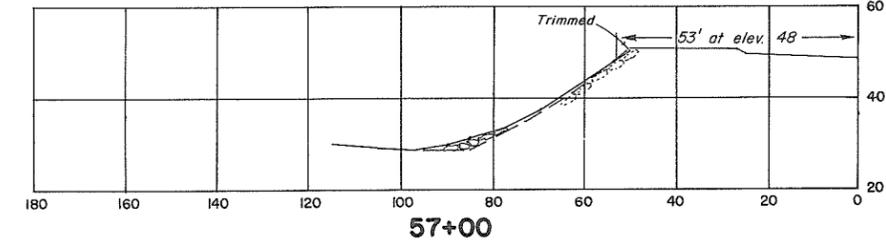
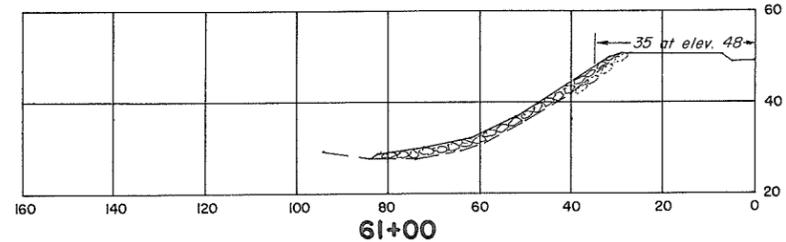
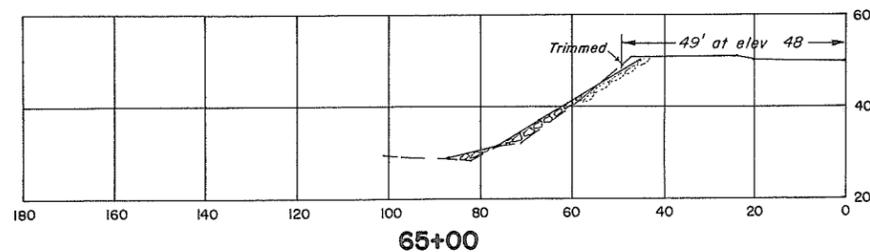
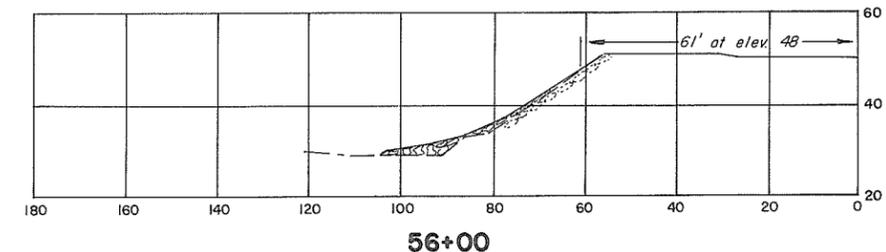
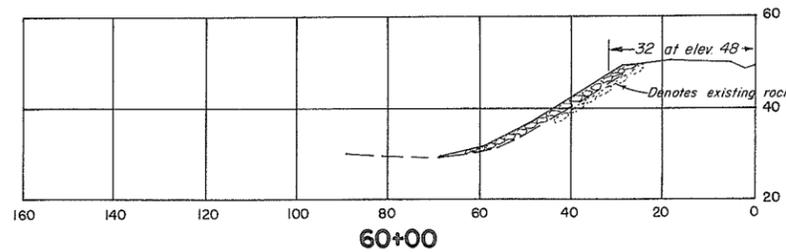
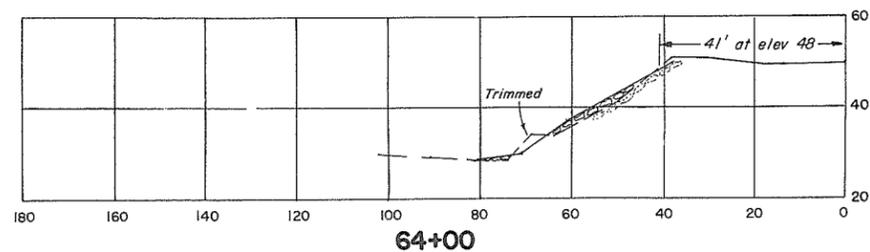
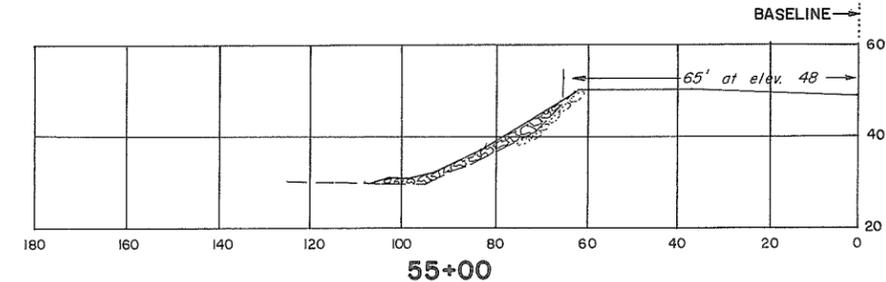
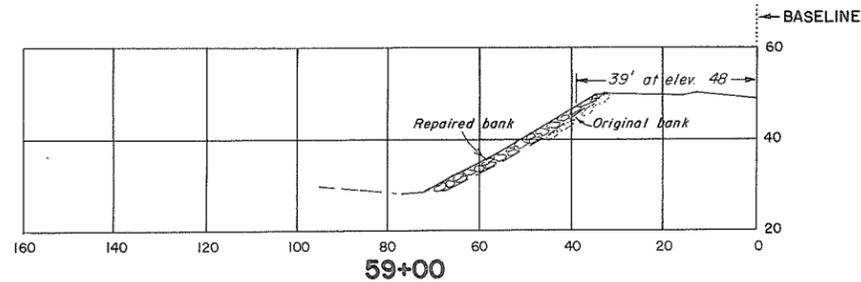
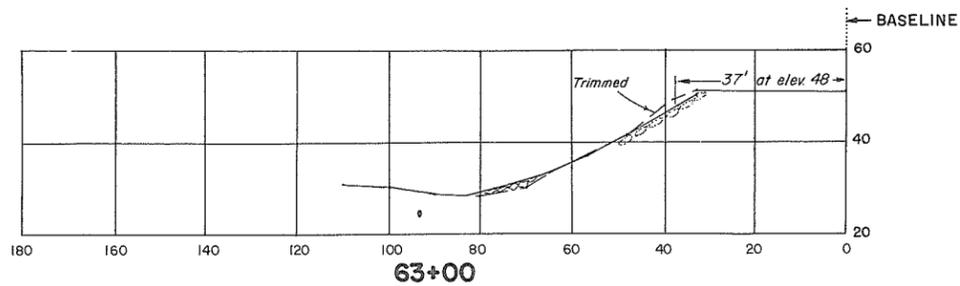
SECTIONS

SHEET

6 of 29

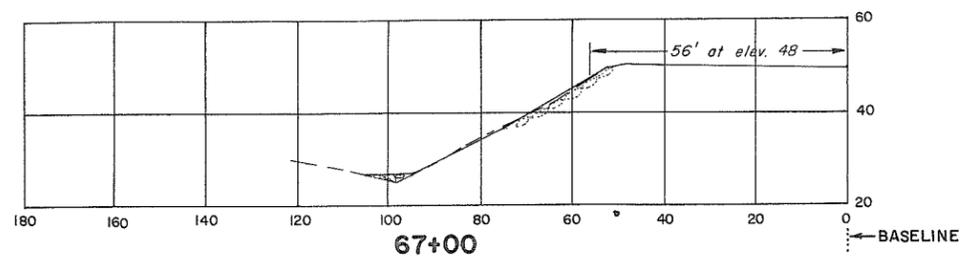
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SCALE: As Shown



**CROSS-SECTIONS**

Scale: 1"=20'



**NOTES**

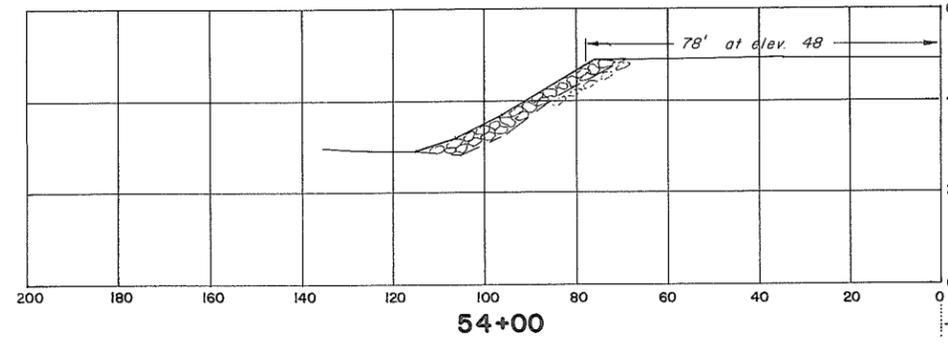
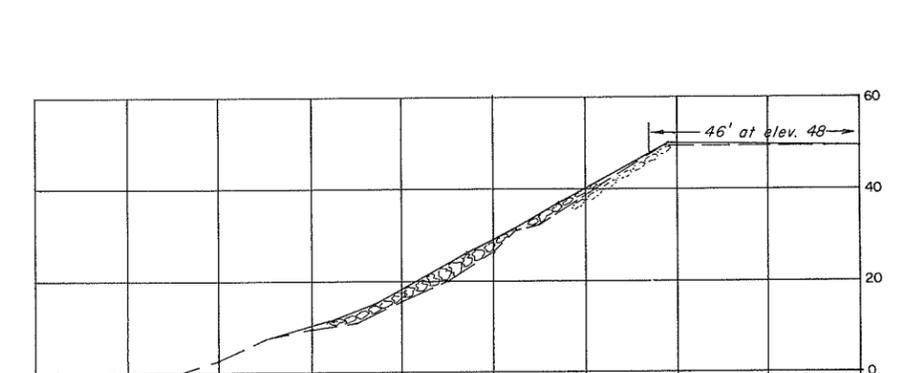
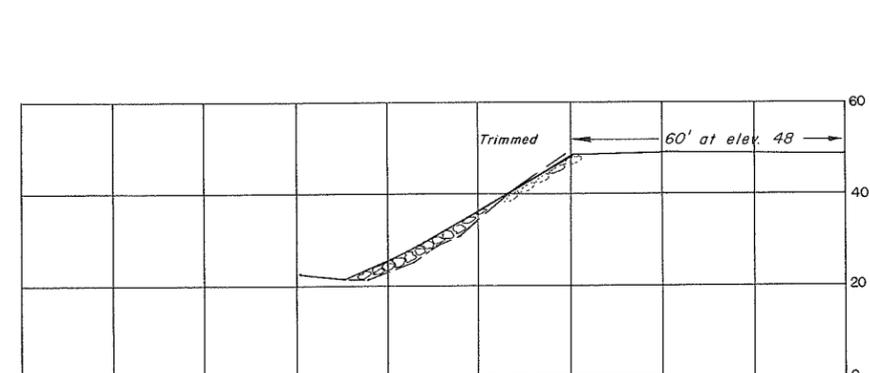
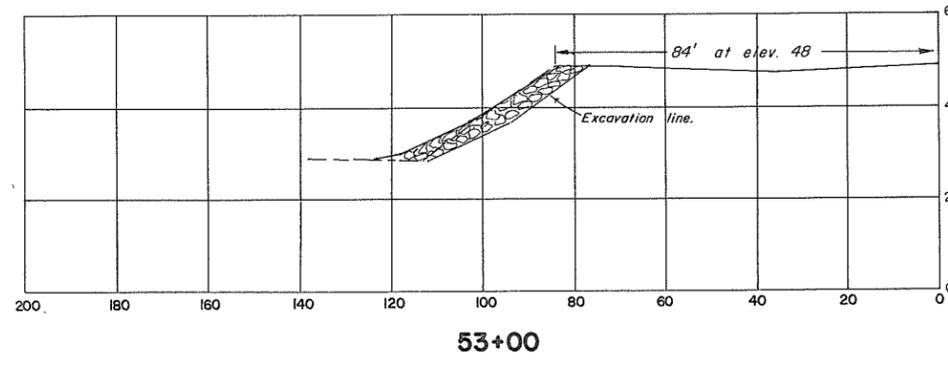
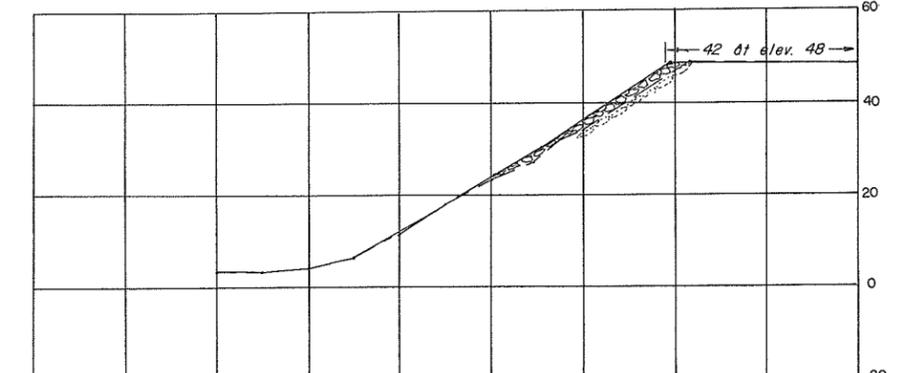
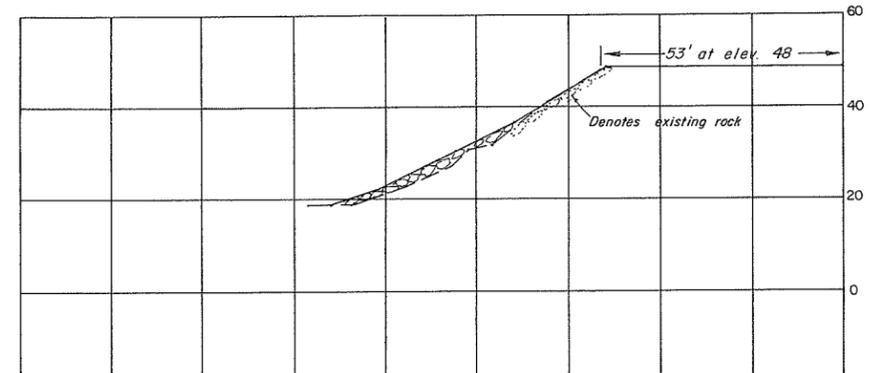
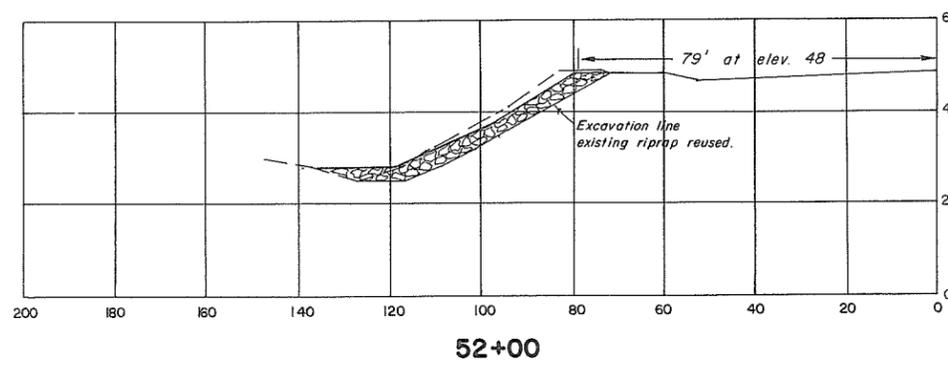
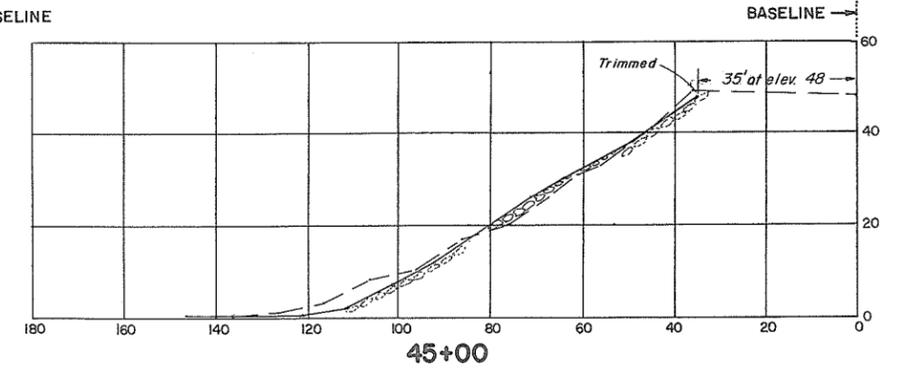
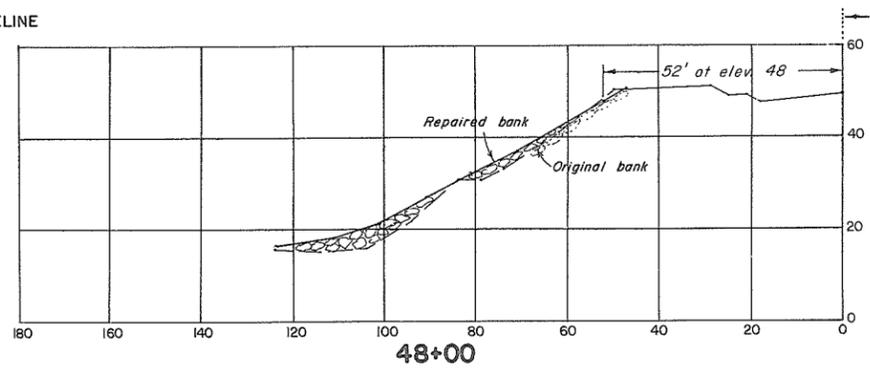
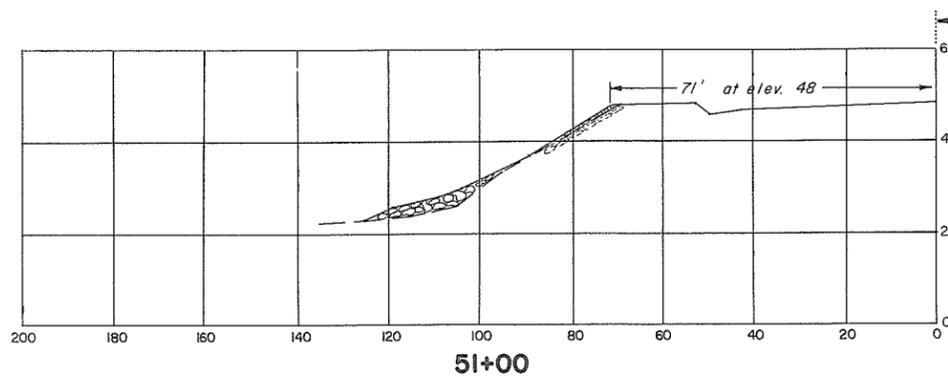
See sheet no. 4.

REFERENCES		
DWG. No.	DESCRIPTION	DATE
4758-6-5,6	Typical repair sections	Nov. 1970

APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE:	SURVEYED B.P. DATE: June 1970
DATE: 8 Oct 1972	DESIGNED J.W.
APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA:	DRAWN J.S.
Chief Engineer, Water Investigations Branch	TRACED
DATE: March 9, 1973	CHECKED [Signature]
	DATE: July 1972

**AS CONSTRUCTED**

BRITISH COLUMBIA DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH	FILE No. 0281550 - C7
CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT PROJECT No. 1 - DISTRICT OF KENT CONTRACT No. 6 BANK PROTECTION, SITE G SECTIONS	9000 DWG. No. 4758-6-15
APPROVED: [Signature]	SHEET 7 of 29
SCALE: As Shown	



**CROSS-SECTIONS**  
Scale: 1" = 20'

**NOTES**  
See sheet no. 4

REFERENCES		
DWG. No.	DESCRIPTION	DATE
4758-6-5,6	Typical repair sections	Nov. 1970

APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE:  
  
 DATE: 8 Oct 1972

APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA:  
  
 Chief Engineer, Water Investigations Branch  
 DATE: March 9, 1973

SURVEYED B.P.  
 DATE June 1970

DESIGNED J.W.  
 DRAWN J.S.

TRACED

CHECKED

DATE July 1972

**AS CONSTRUCTED**

BRITISH COLUMBIA  
 DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES  
 WATER RESOURCES SERVICE  
 WATER INVESTIGATIONS BRANCH

CANADA - BRITISH COLUMBIA  
 FRASER RIVER FLOOD CONTROL 1968 AGREEMENT  
 PROJECT No. 1 - DISTRICT OF KENT  
 CONTRACT No. 6

**BANK PROTECTION, SITE G  
 SECTIONS**

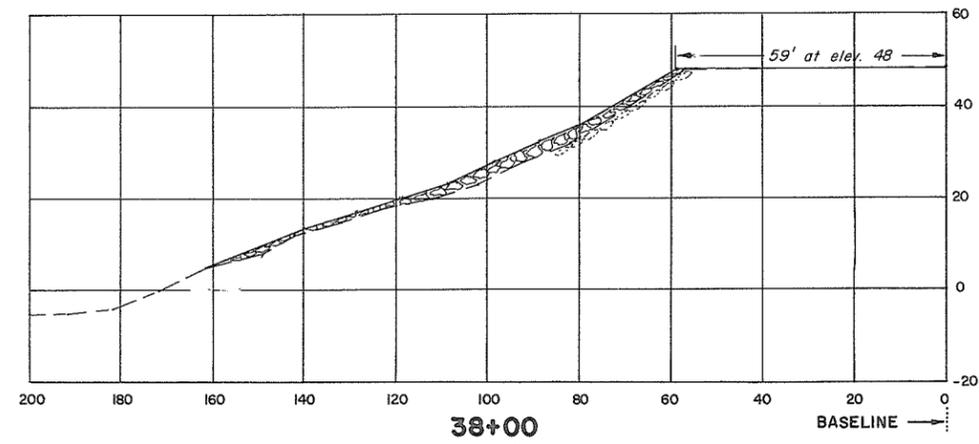
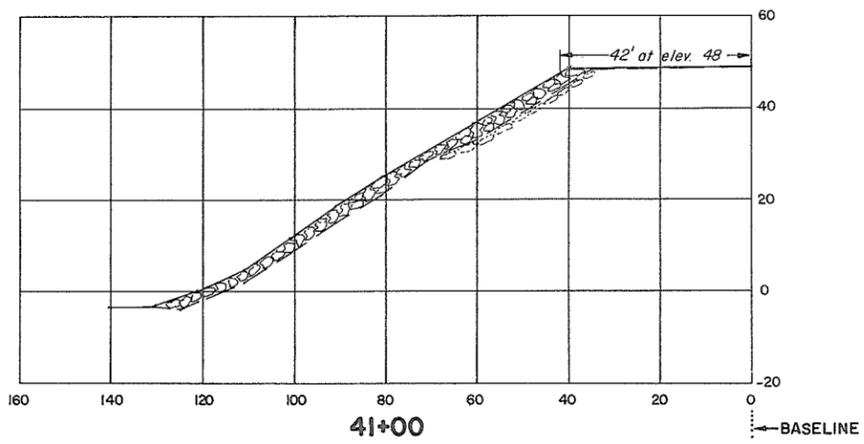
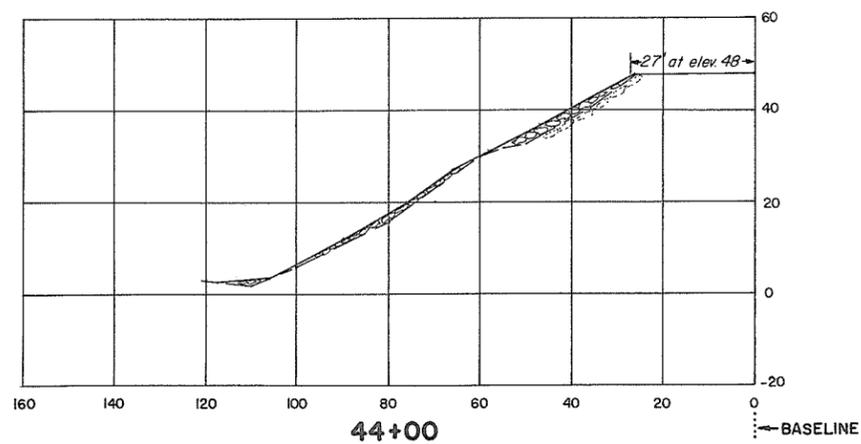
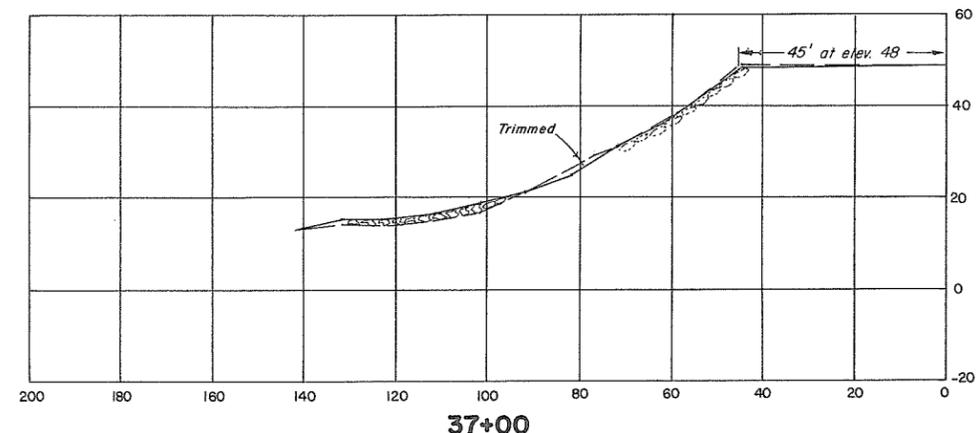
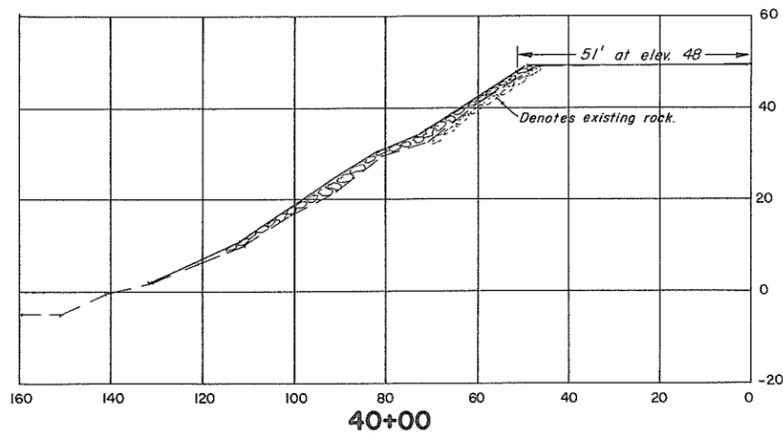
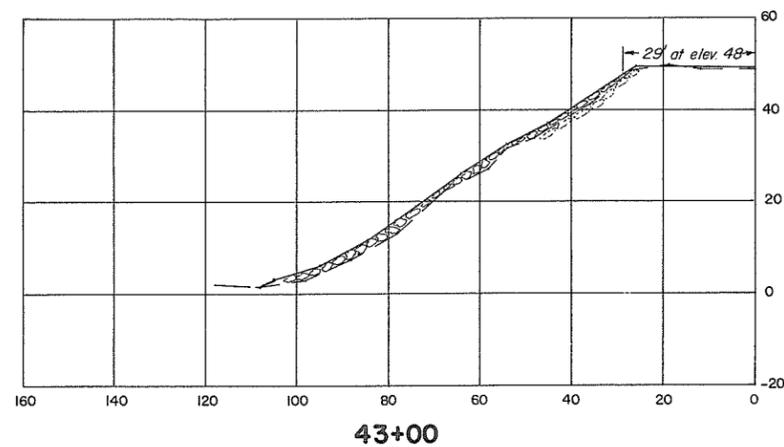
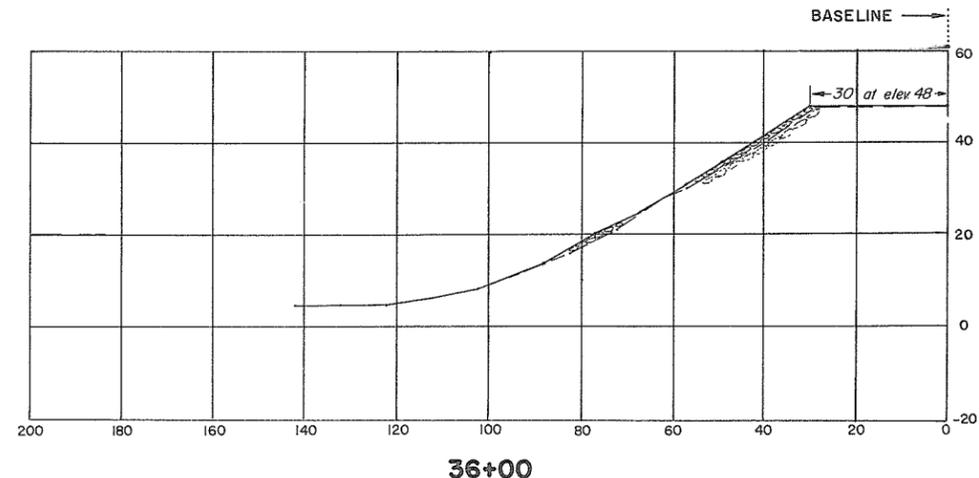
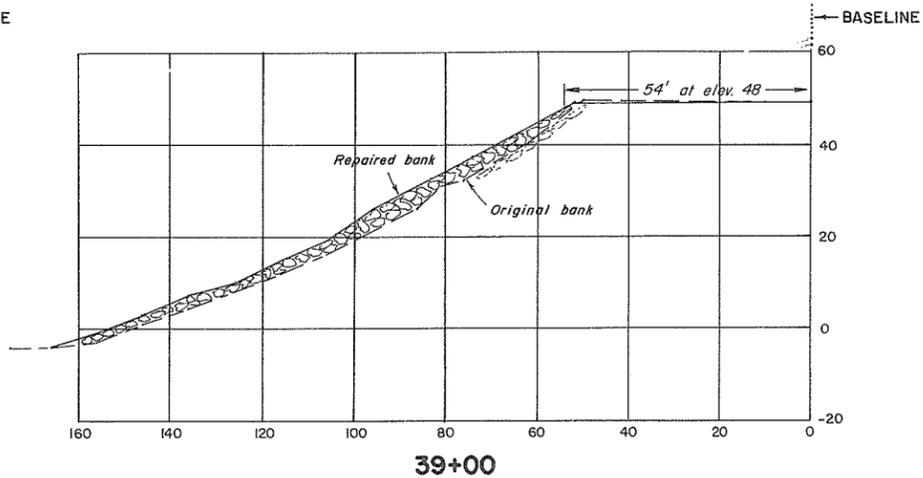
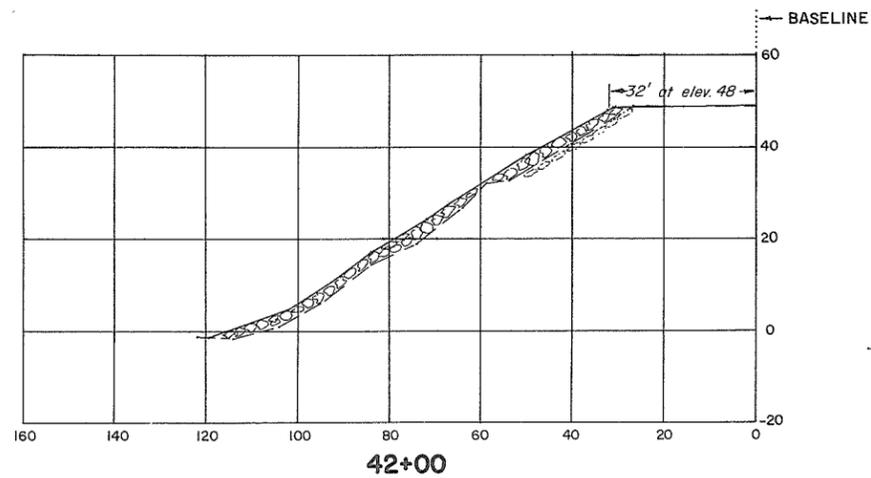
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SCALE: As Shown

FILE No.  
0281550-C7

9001  
DWG. No.  
4758-6-16

SHEET  
8 OF 29



**CROSS-SECTIONS**

Scale: 1" = 20'

**NOTES**

See sheet no. 4

**REFERENCES**

DWG. No.	DESCRIPTION	DATE
4758-6-5,6	Typical repair sections	Nov. 1970

APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE:

DATE: 8 Oct 1972

APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA:

DATE: March 9, 1973

**SURVEYED**

B.P.

DATE: June 1970

**DESIGNED**

J.W.

**DRAWN**

J.S.

**TRACED**

**CHECKED**

**DATE**

July 1972

**AS CONSTRUCTED**

BRITISH COLUMBIA  
DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES  
WATER RESOURCES SERVICE  
WATER INVESTIGATIONS BRANCH

CANADA - BRITISH COLUMBIA  
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT  
PROJECT No. 1 - DISTRICT OF KENT  
CONTRACT No. 6

**BANK PROTECTION, SITE G**  
**SECTIONS**

APPROVED: [Signature]

SCALE: As Shown

FILE No.

0281550- C7

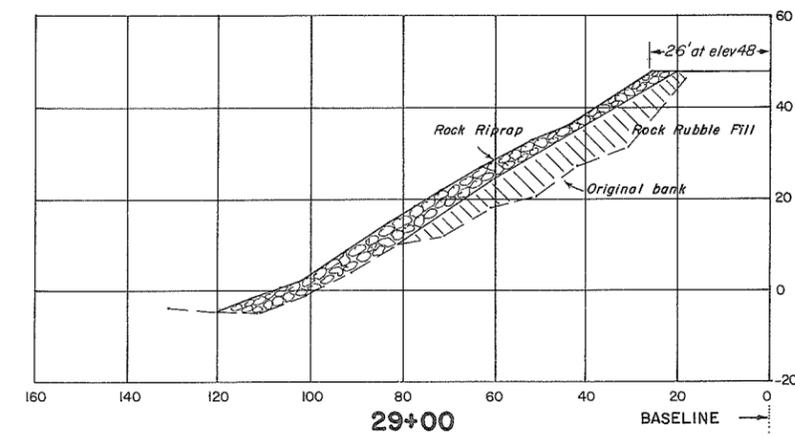
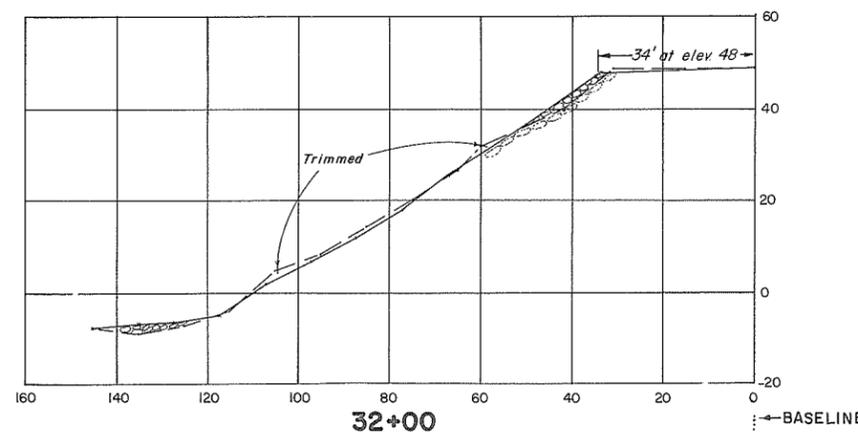
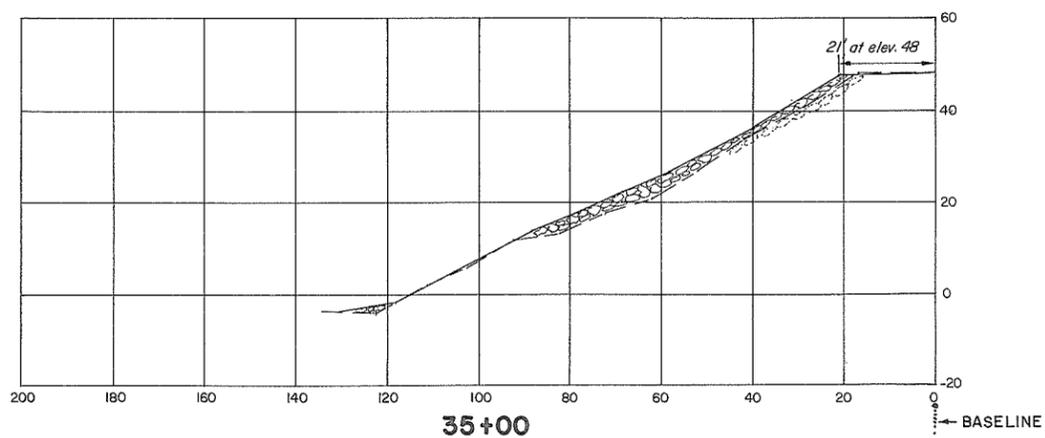
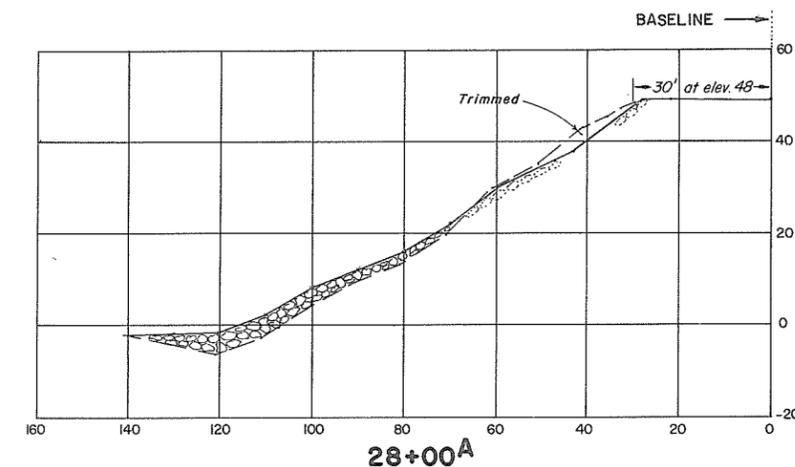
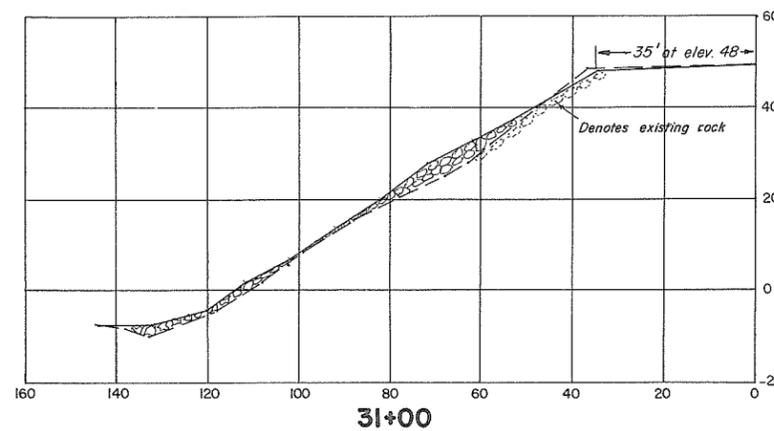
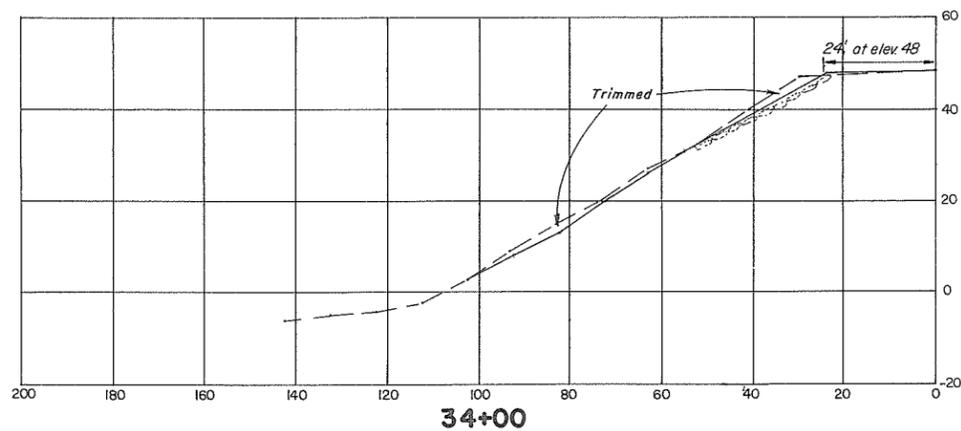
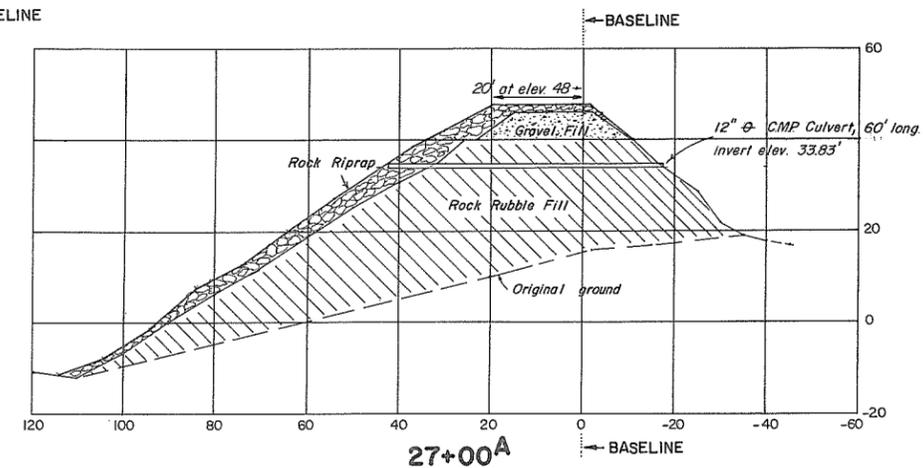
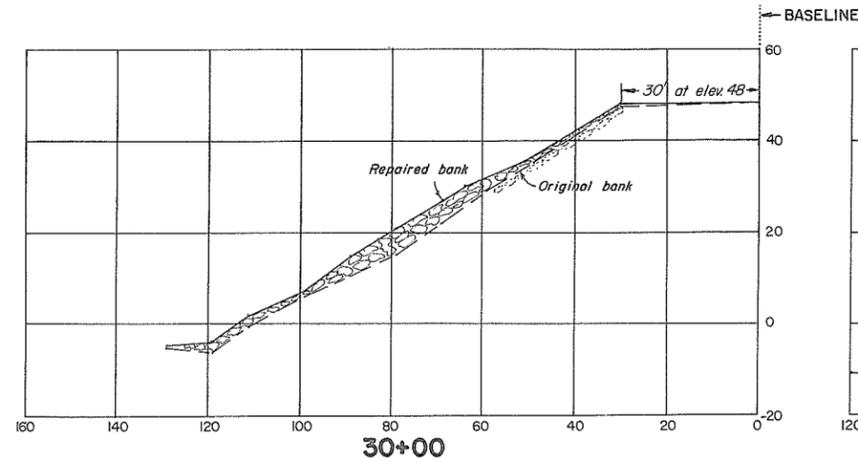
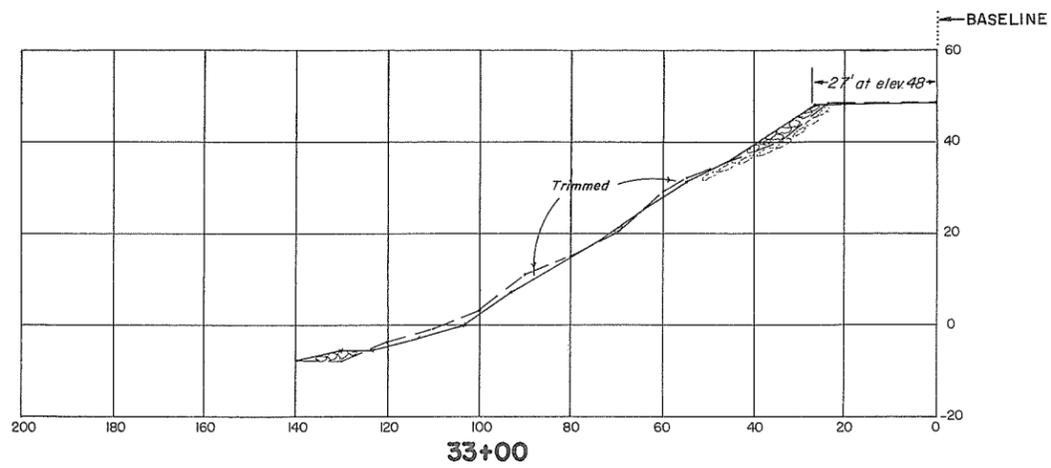
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DWG. No.

4758-6-17

SHEET

9 OF 29



**CROSS-SECTIONS**

Scale: 1" = 20'

**NOTES**

See sheet no. 4.

**REFERENCES**

DWG. No.	DESCRIPTION	DATE
4758-6-5,6	Typical repair sections	Nov. 1970

APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE:

DATE: 2 Oct 1972

APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA:

Chief Engineer, Water Investigations Branch  
DATE: March 9, 1973

**SURVEYED**

B.P.  
DATE: June 1970

DESIGNED: J.W.

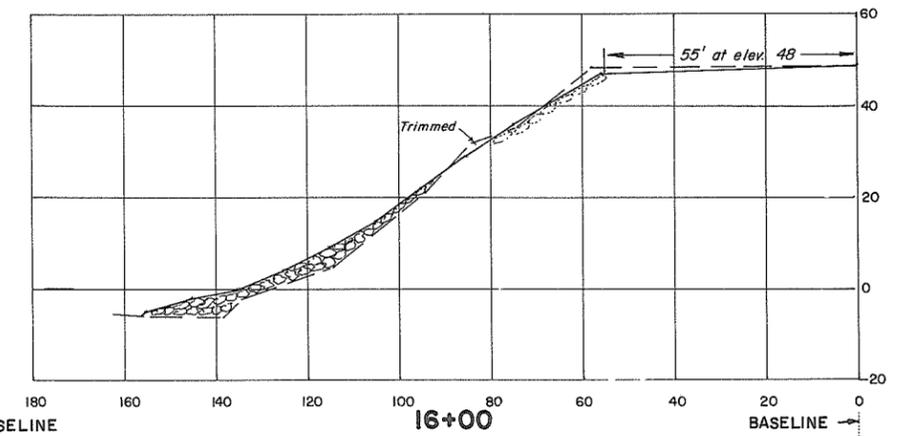
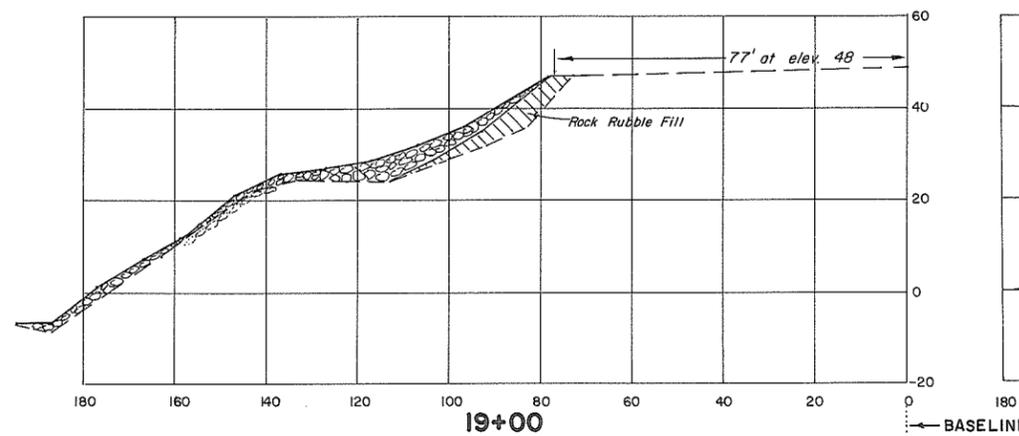
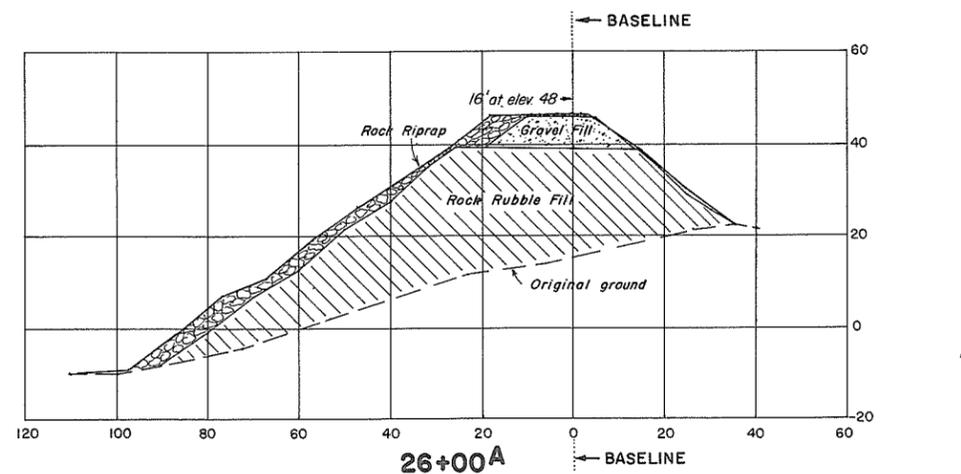
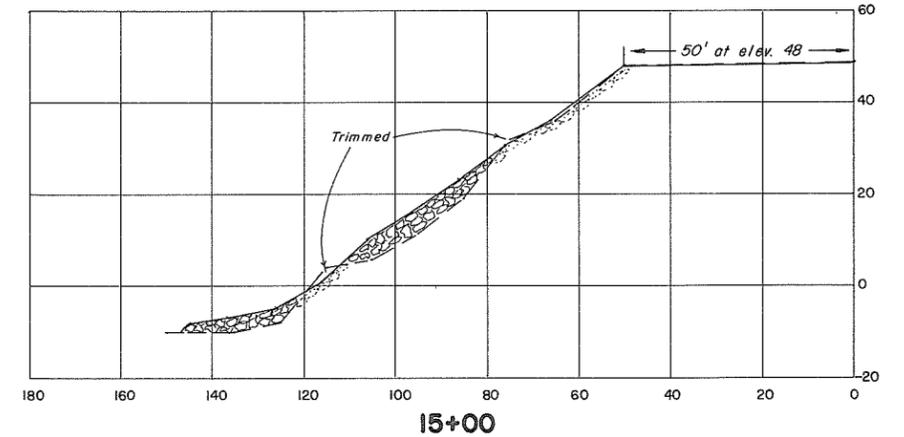
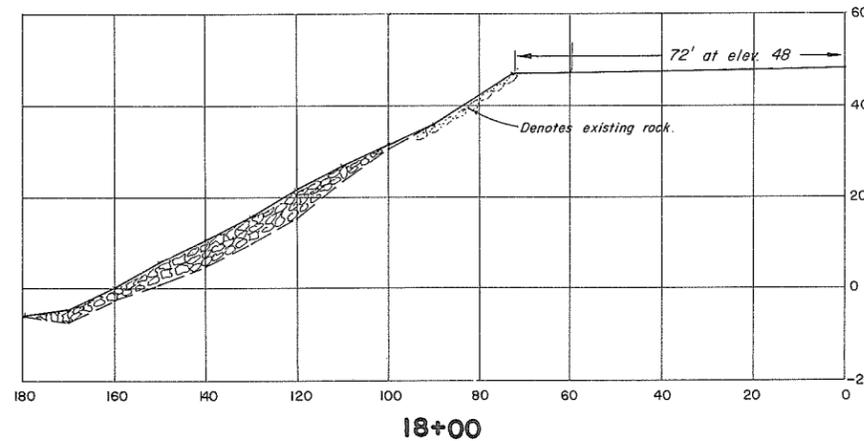
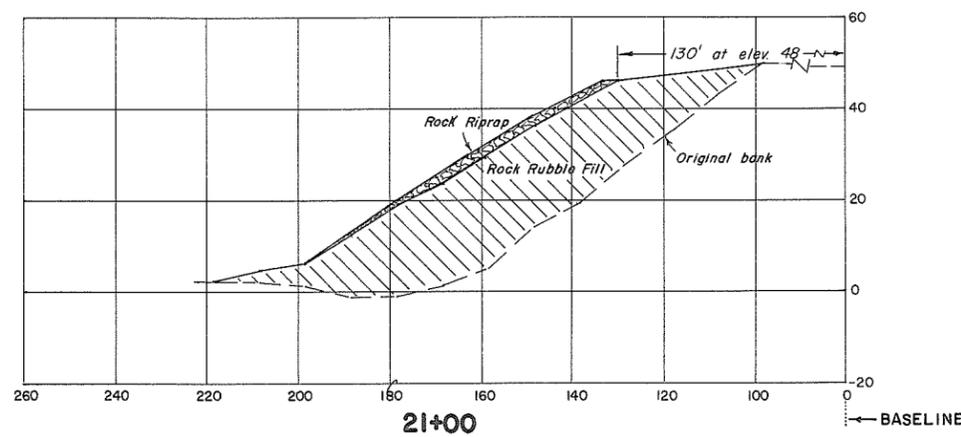
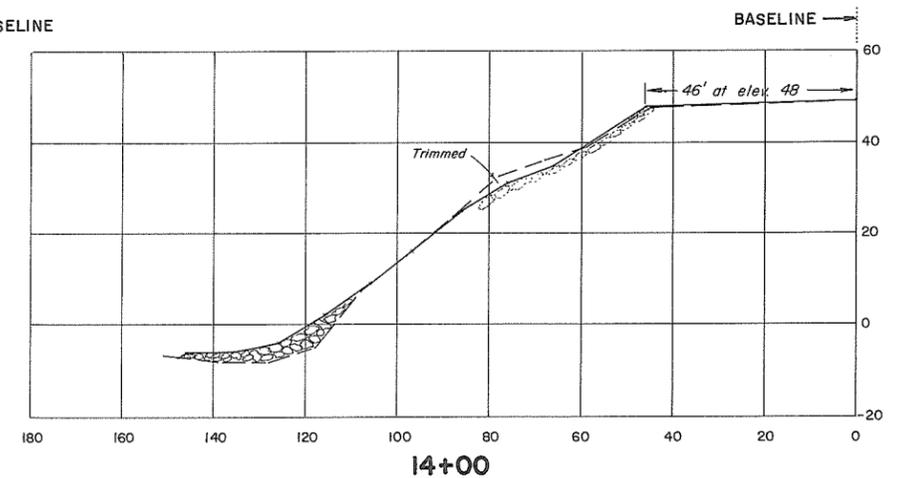
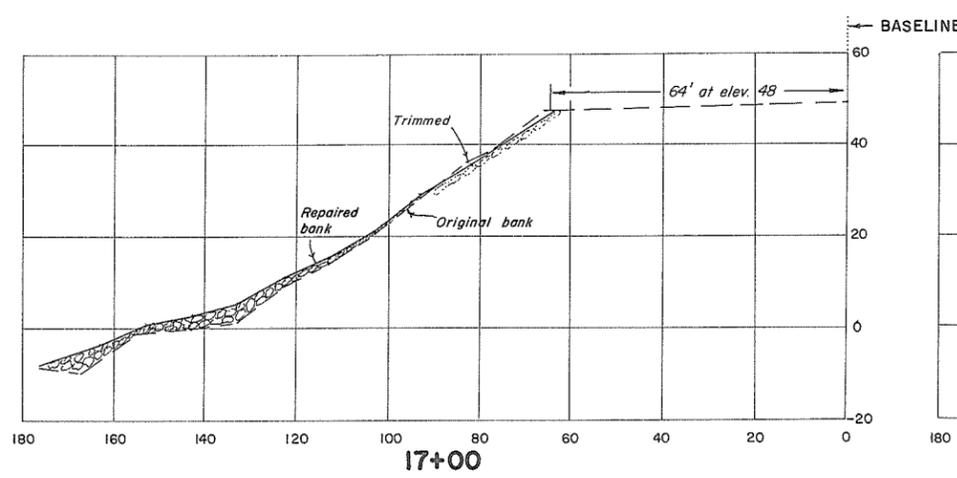
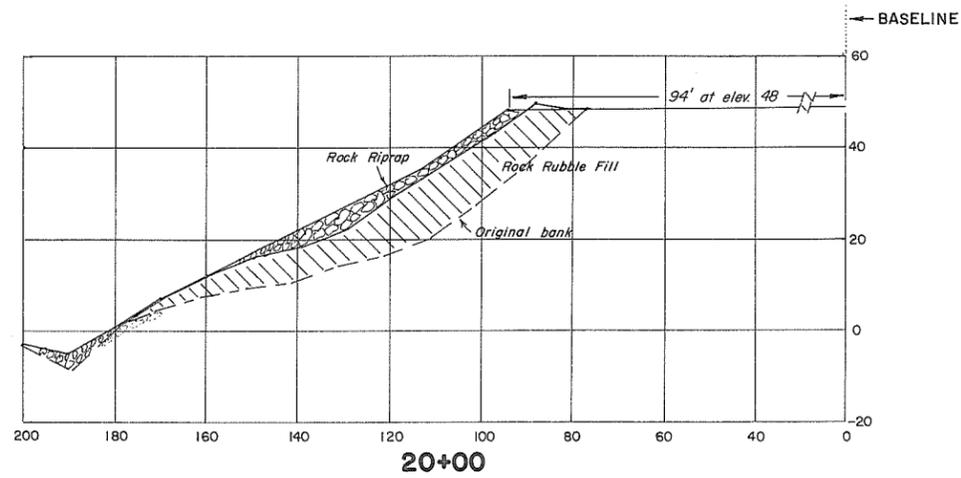
DRAWN: J.S.

TRACED

CHECKED

DATE: July 1972

BRITISH COLUMBIA DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH		FILE No. 0281550-C7
CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT PROJECT No. 1 - DISTRICT OF KENT CONTRACT No. 6 <b>BANK PROTECTION, SITE G</b> <b>SECTIONS</b>		9003 DWG. No. 4758-6-18
APPROVED: <i>[Signature]</i>	SCALE: As Shown	SHEET 10 OF 29



**CROSS-SECTIONS**

Scale: 1" = 20'

**NOTES**

See sheet no. 4.

**REFERENCES**

DWG. No.	DESCRIPTION	DATE
4758-6-5, 6	Typical repair sections	Nov. 1970

APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE:

DATE: *B. Oct 1972*

APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA:

DATE: *March 9, 1973*

SURVEYED

DATE: *B.P. June 1970*

DESIGNED

DATE: *J.W. J.S.*

DRAWN

TRACED

CHECKED

DATE: *July 1972*

BRITISH COLUMBIA DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH

CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT PROJECT No. 1 - DISTRICT OF KENT CONTRACT No. 6

**BANK PROTECTION, SITE G SECTIONS**

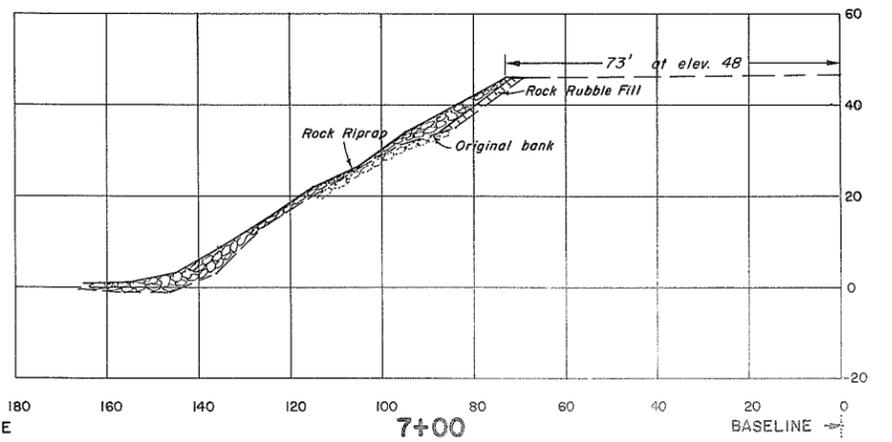
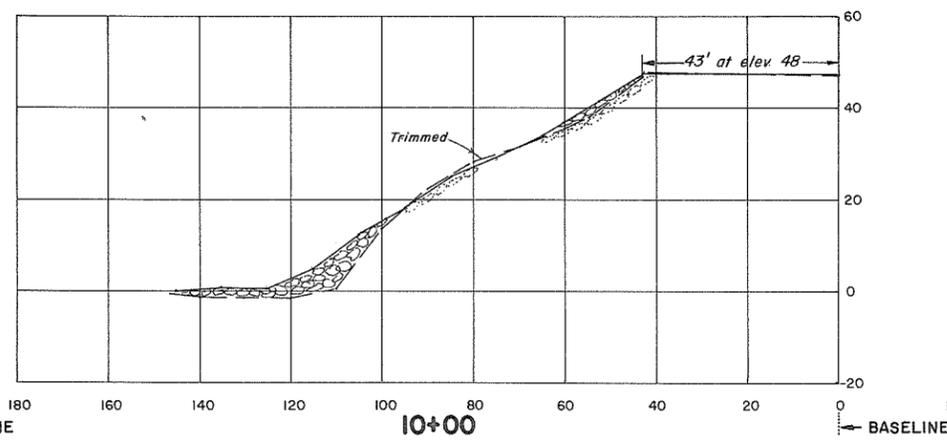
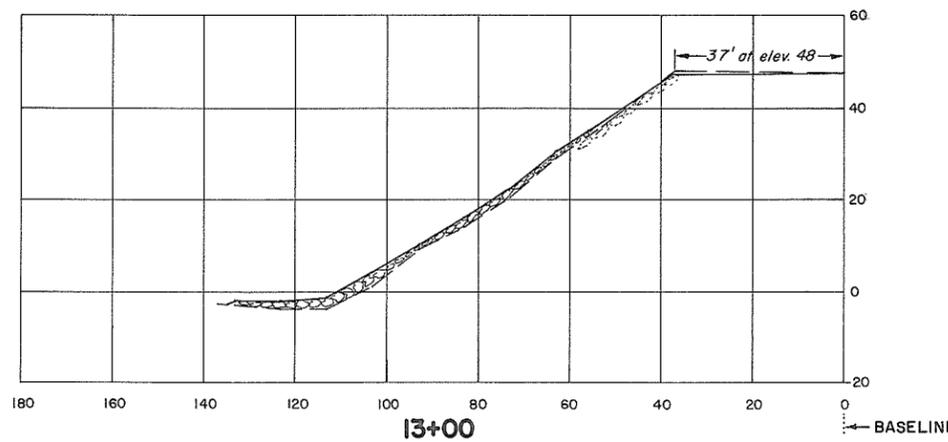
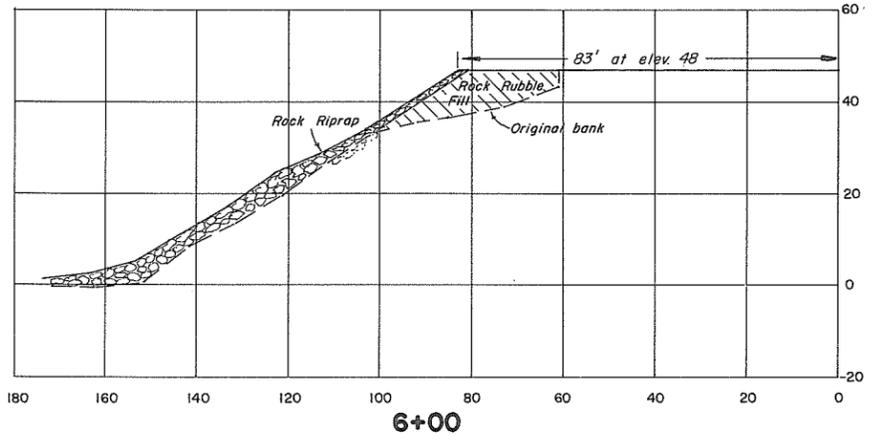
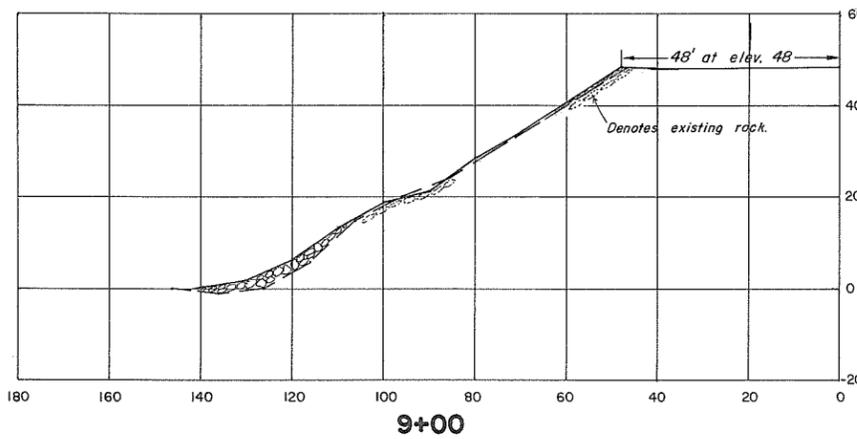
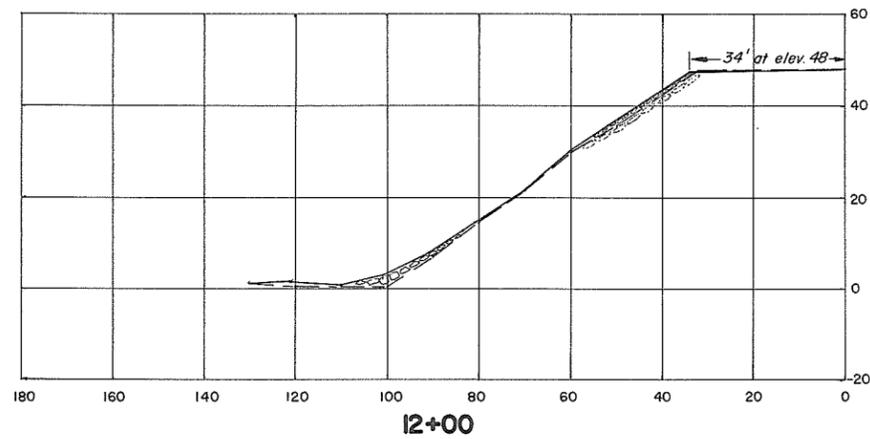
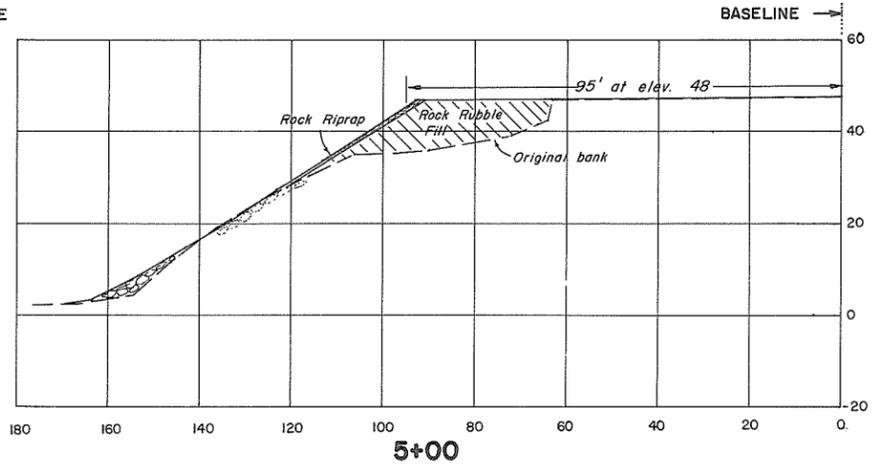
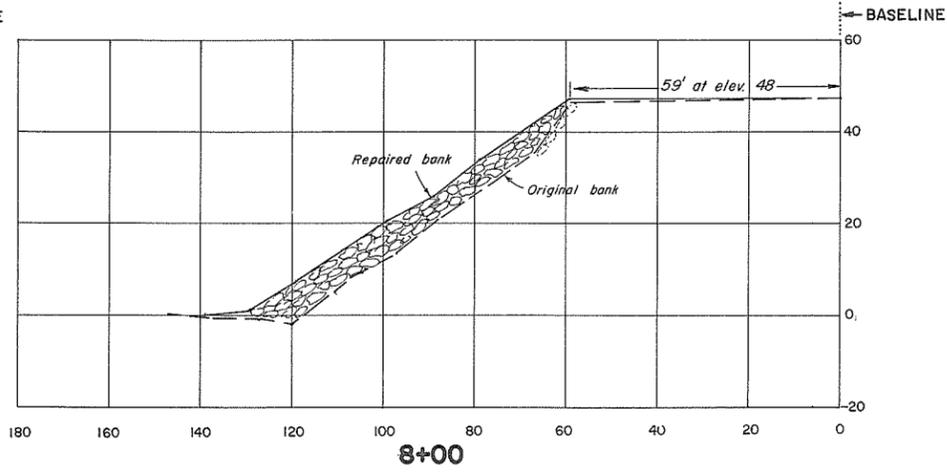
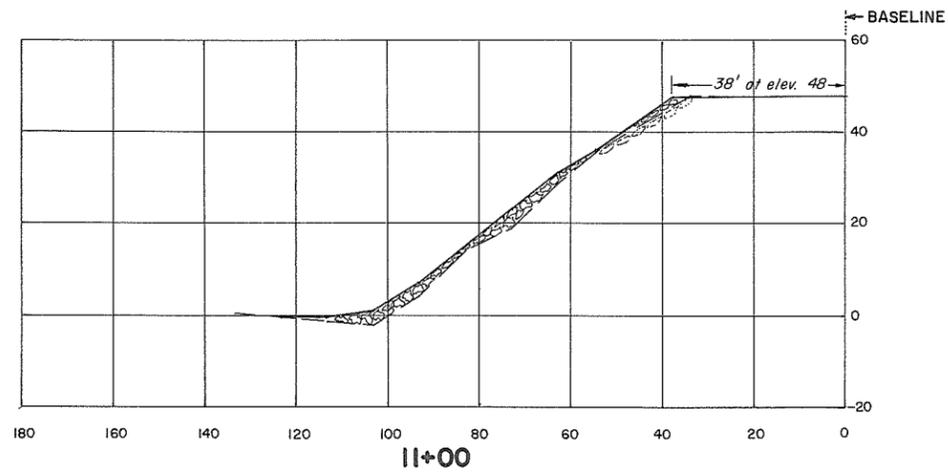
APPROVED: *John Fuller* SCALE: *As Shown*

FILE No. 0281550-C7

9004 DWG. No.

4758-6-19

SHEET 11 OF 29



**CROSS-SECTIONS**

Scale: 1" = 20'

**NOTES**

See sheet no. 4

**REFERENCES**

DWG. No.	DESCRIPTION	DATE
4758-6-5,6	Typical repair sections	Nov. 1970

APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE:

*[Signature]*  
DATE: 8 Oct 1972

APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA:

*[Signature]*  
Chief Engineer, Water Investigations Branch  
DATE: March 9, 1973

SURVEYED  
B. P.  
DATE: June 1970

DESIGNED  
J. W.  
DRAWN  
J. S.

TRACED

CHECKED  
DATE  
July 1972

BRITISH COLUMBIA  
DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES  
WATER RESOURCES SERVICE  
WATER INVESTIGATIONS BRANCH

CANADA - BRITISH COLUMBIA  
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT  
PROJECT No. 1 - DISTRICT OF KENT  
CONTRACT No. 6  
**BANK PROTECTION, SITE G**  
**SECTIONS**

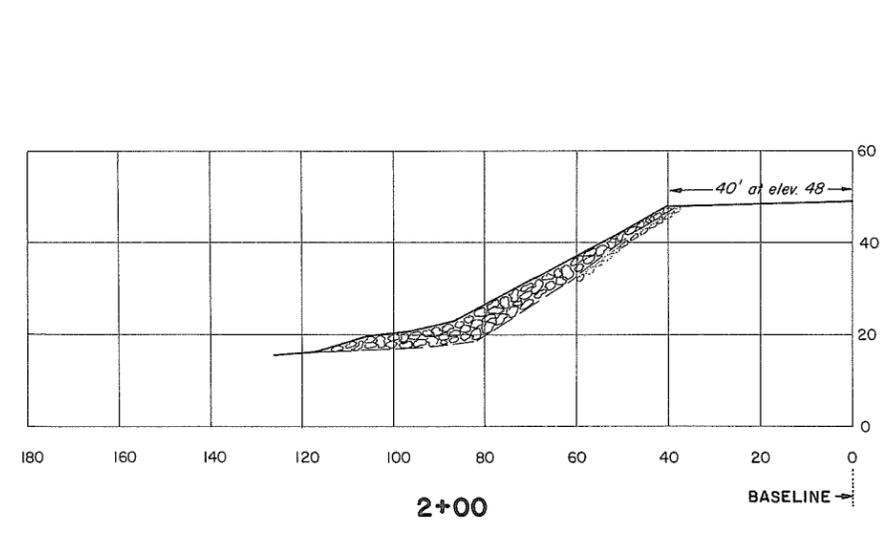
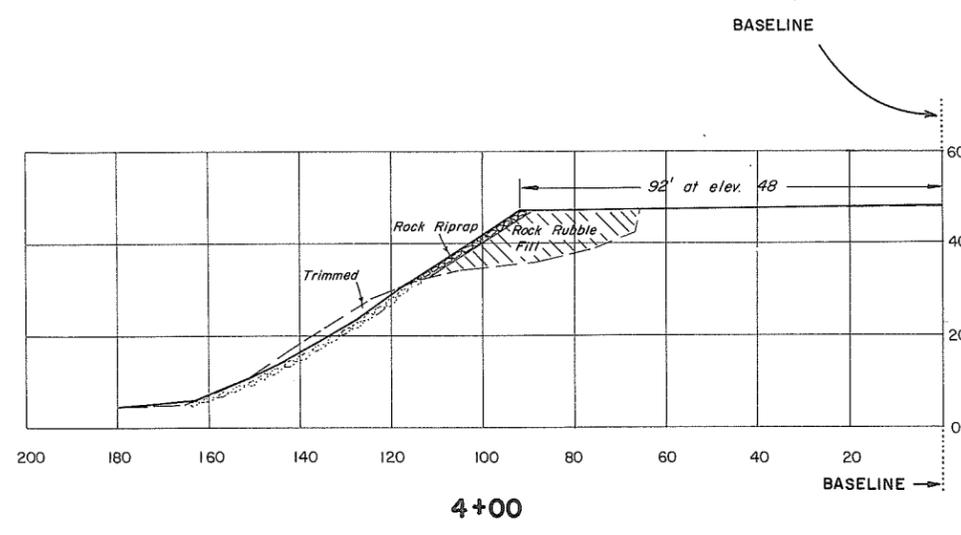
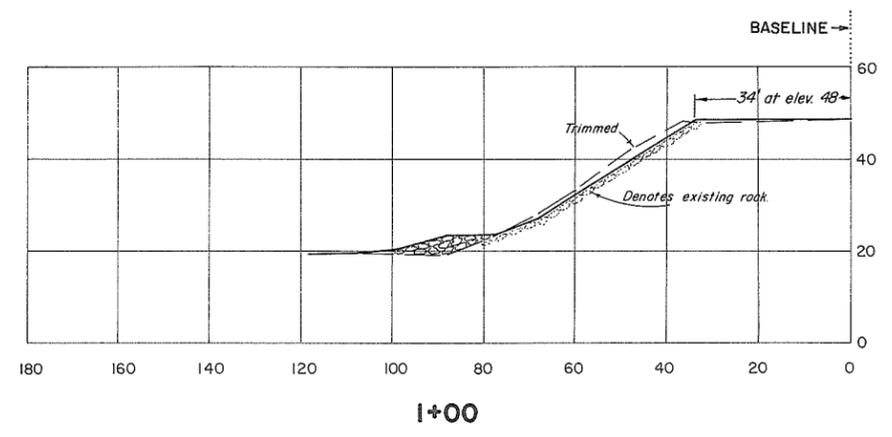
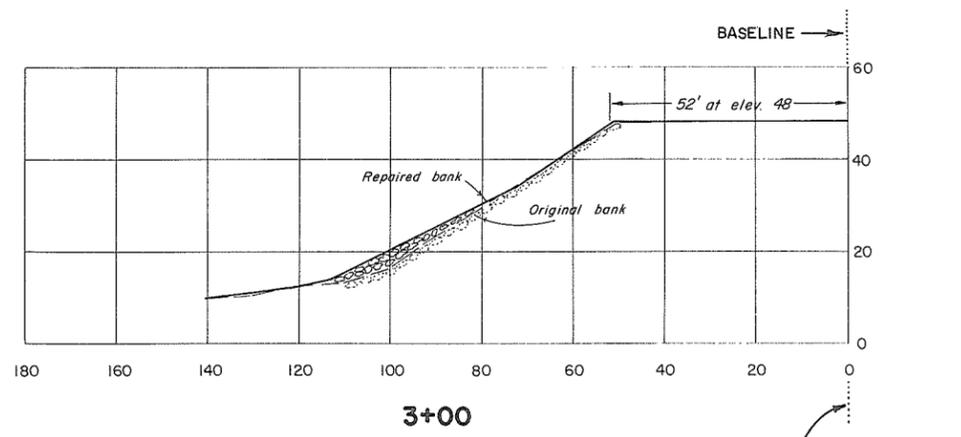
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SCALE: As Shown

FILE No.  
0281550 - C7

9005  
DWG. No.  
4758-6-20

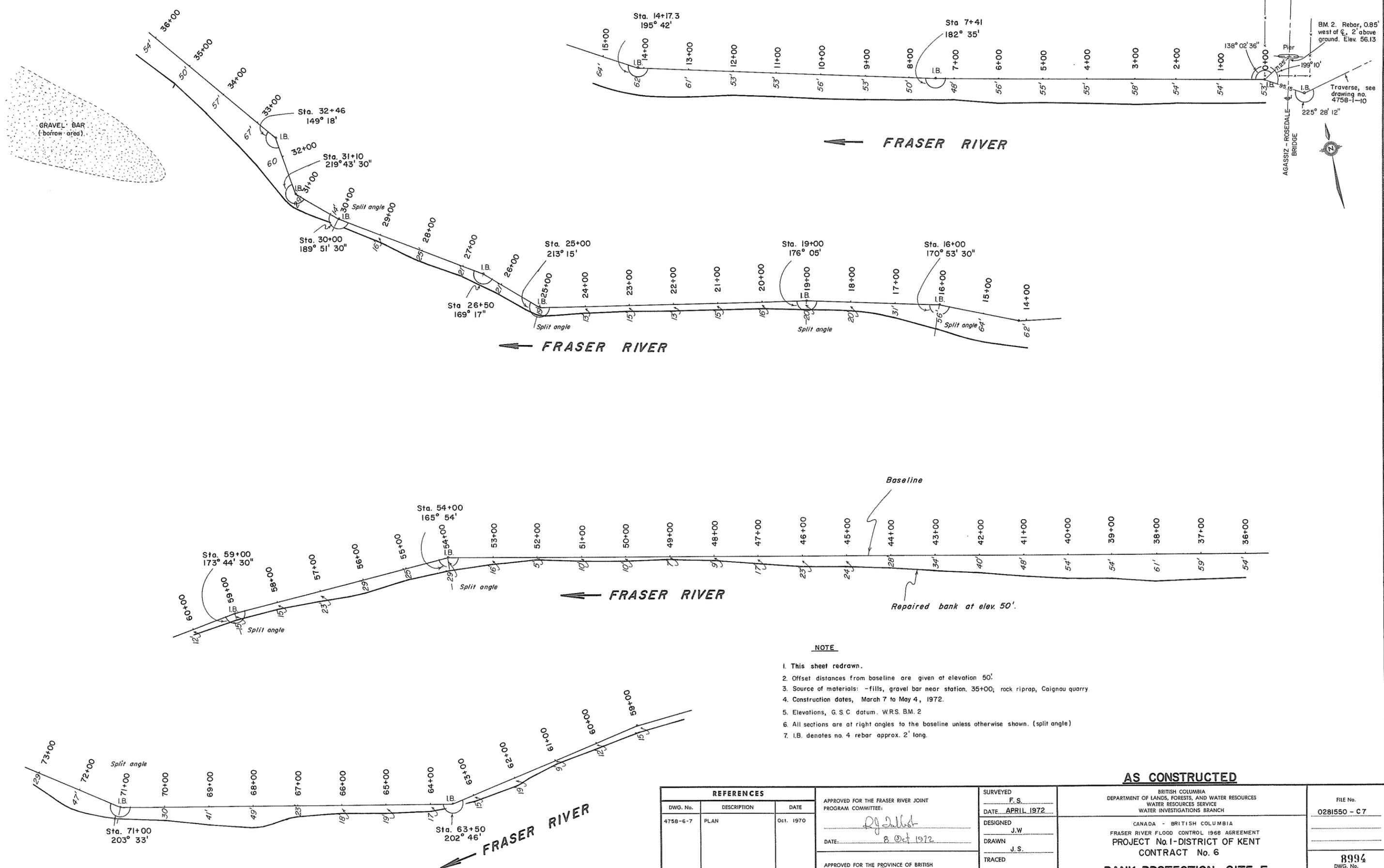
SHEET  
12 of 29



**NOTES**  
See sheet no. 4.

REFERENCES			APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE:		SURVEYED		BRITISH COLUMBIA DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH		FILE No.
DWG. No.	DESCRIPTION	DATE	DATE: <u>8 Oct 1972</u>		B.P. DATE: <u>June 1970</u>		CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT PROJECT No. 1 - DISTRICT OF KENT CONTRACT No. 6		0281550-C7
4758-6-4	Typical repair sections	Nov. 1970	APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA: <u>[Signature]</u> Chief Engineer, Water Investigations Branch DATE: <u>March 9, 1973</u>		DESIGNED: J.W. DRAWN: J.S. TRACED: <u>[Signature]</u> CHECKED: <u>[Signature]</u> DATE: July 1972		<b>BANK PROTECTION, SITE G SECTIONS</b>		9006 DWG. No. 4758-6-21
			APPROVED: <u>[Signature]</u>		SCALE: 1" = 20'				SHEET 13 of 29

**AS CONSTRUCTED**



- NOTE**
1. This sheet redrawn.
  2. Offset distances from baseline are given at elevation 50'.
  3. Source of materials: -fills, gravel bar near station. 35+00; rock riprap, Caignou quarry.
  4. Construction dates, March 7 to May 4, 1972.
  5. Elevations, G. S. C. datum. W.R.S. B.M. 2
  6. All sections are at right angles to the baseline unless otherwise shown. (split angle)
  7. I.B. denotes no. 4 rebar approx. 2' long.

REFERENCES		
DWG. No.	DESCRIPTION	DATE
4758-6-7	PLAN	Oct. 1970

APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE:

*[Signature]*  
DATE: 8 Oct 1972

APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA:

*[Signature]*  
Chief Engineer, Water Investigations Branch  
DATE: March 9, 1973

SURVEYED F.S.  
DATE: APRIL 1972

DESIGNED J.W.  
DRAWN J.S.

TRACED  
CHECKED  
DATE JULY 1972

**AS CONSTRUCTED**

BRITISH COLUMBIA  
DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES  
WATER RESOURCES SERVICE  
WATER INVESTIGATIONS BRANCH

CANADA - BRITISH COLUMBIA  
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT  
PROJECT No. 1 - DISTRICT OF KENT  
CONTRACT No. 6

**BANK PROTECTION, SITE F  
PLAN**

APPROVED: *[Signature]* SCALE: 1" = 100'

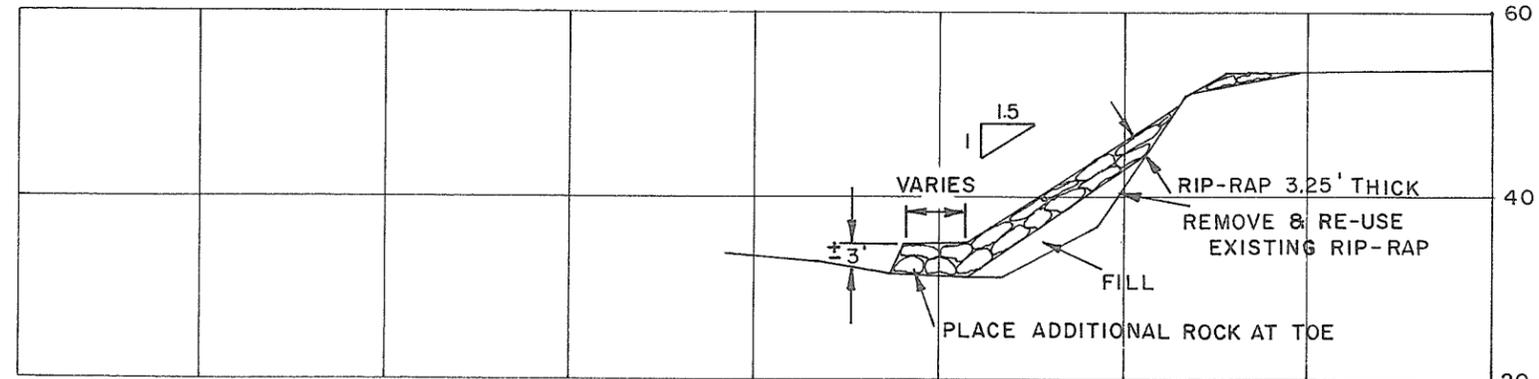
FILE No. 0281550 - C 7	8994 DWG. No. 4758-6-7A
SHEET 14 OF 29	

**REPAIR WORK**

STATIONS 0+00 - 14+00,  
18+00 - 24+00, 27+00 - 31+00  
36+00 - 73+00

**NOTES**

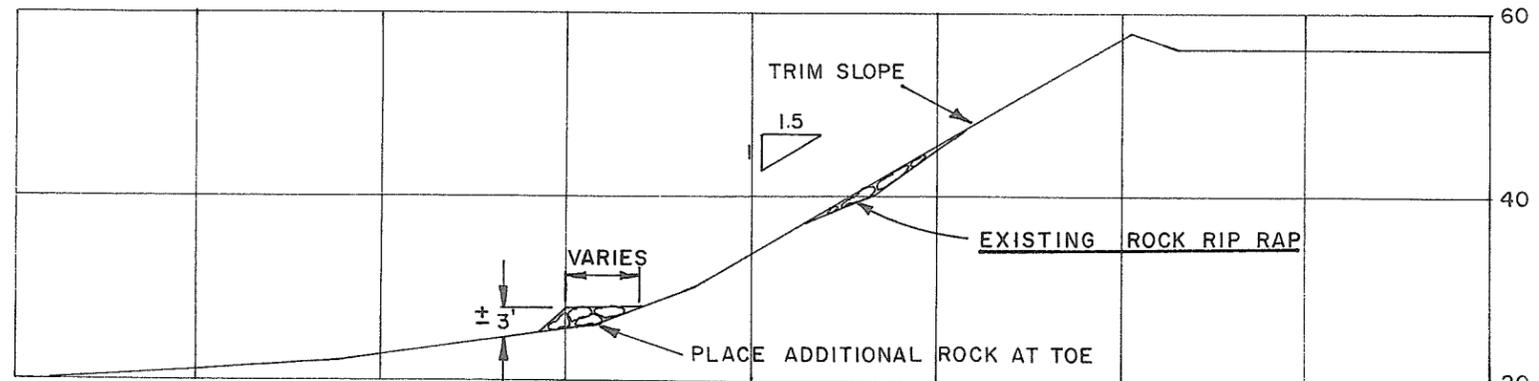
1. A GOOD ALIGNMENT SHOULD BE MAINTAINED OVER THE ENTIRE LENGTH. FIELD ADJUSTMENTS TO BE MADE TO MAXIMIZE USE OF EXISTING RIP RAP.
2. THE MINIMUM ACCEPTABLE THICKNESS OF EXISTING RIP RAP IS 2.5' IF THE RIP RAP IS WELL CONSOLIDATED AND STABLE.
3. WHERE THE EXISTING THICKNESS OF RIP RAP IS LESS THAN 2.5' ADDITIONAL ROCK IS REQUIRED TO OBTAIN A MINIMUM THICKNESS OF 3.25'.
4. ROCK FOR ALL OTHER AREAS TO HAVE A MINIMUM THICKNESS OF 3.25'.



**TYPICAL SECTION**

**SLOPE STEEPER THAN 1.5:1**

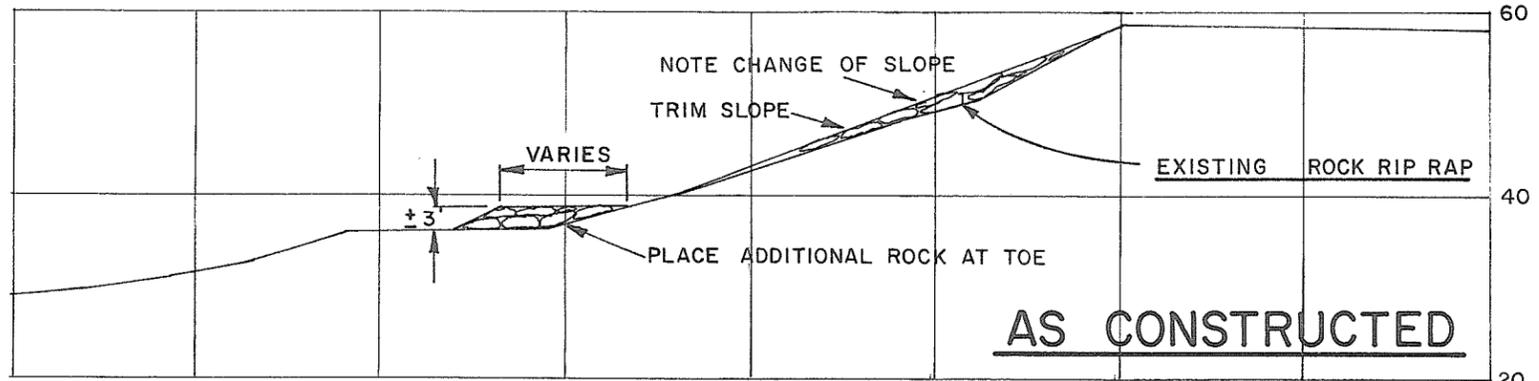
1. REMOVE EXISTING RIP-RAP, FILL TO BACK SLOPE OF 1.5:1.
2. OVERLAY WITH RIP-RAP 3.25 FT. MIN. THICKNESS.
3. PLACE ADDITIONAL RIP-RAP AT TOE.



**TYPICAL SECTION**

**SLOPE APPROXIMATELY 1.5:1**

1. WHERE TRIM SLOPE IS INDICATED, RE-ARRANGE EXISTING RIP-RAP TO OBTAIN A SMOOTH SURFACE WHERE THICKNESS OF RIP-RAP IS SUFFICIENT.
2. WHERE THICKNESS OF ROCK IS INSUFFICIENT THE EXISTING ROCK SHOULD BE RE-ARRANGED AND MIXED WITH ADDITIONAL ROCK TO OBTAIN A WELL GRADED MASS OF STONE TO GET THE REQUIRED THICKNESS.



**TYPICAL SECTION**

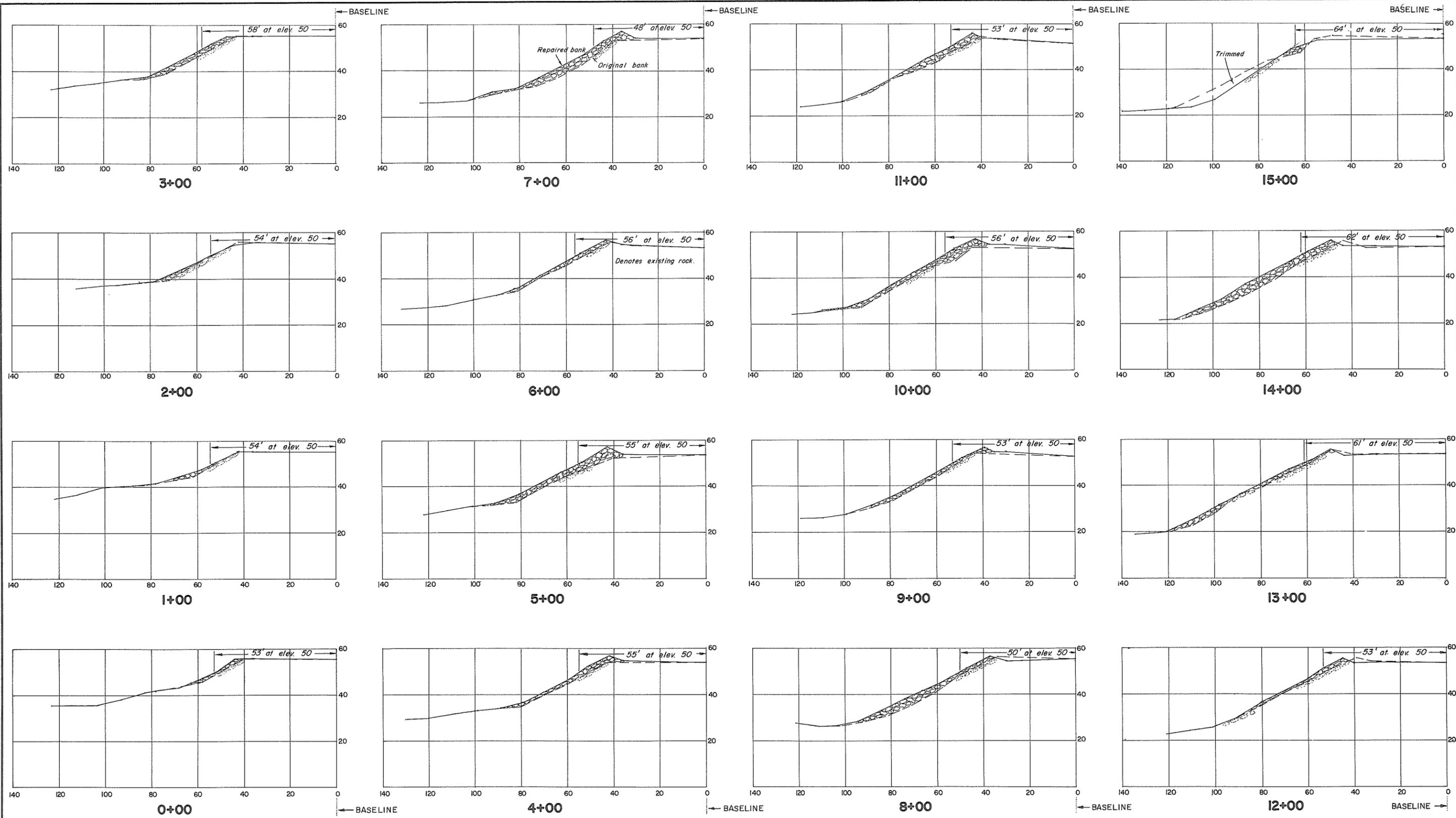
**SLOPE FLATTER THAN 1.5:1**

1. WHERE TRIM SLOPE IS INDICATED, RE-ARRANGE EXISTING RIP-RAP TO OBTAIN A SMOOTH SURFACE WHERE THICKNESS OF RIP-RAP IS SUFFICIENT.
2. WHERE THICKNESS OF ROCK IS INSUFFICIENT THE EXISTING ROCK SHOULD BE RE-ARRANGED AND MIXED WITH ADDITIONAL ROCK TO OBTAIN A WELL GRADED MASS OF STONE TO GET THE REQUIRED THICKNESS.

**AS CONSTRUCTED**

APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE  DATE: 7 JANUARY 1971 APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA  DATE: Jan 11, 1971	SURVEYED J.S. & B.P. DATE: JULY, 1970	BRITISH COLUMBIA DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH CANADA-BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT PROJECT No. 1 - DISTRICT OF KENT CONTRACT No. 6 BANK PROTECTION CROSS SECTIONS - SITE "F"	FILE No. 0281550 - B7
	DESIGNED J.W. DRAWN A.K.M. TRACED J.A.A. CHECKED A.K.M. DATE OCT, 1970		APPROVED 

8995  
DWG. No.  
4758-6-9



**CROSS-SECTIONS**  
Scale: 1" = 20'

**NOTES**

See sheet no. 13 for details.

**REFERENCES**

DWG. No.	DESCRIPTION	DATE
4758-6-8	Sections	Oct., 1970

APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE:

*[Signature]*  
DATE: 8 Oct 1972

APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA:

*[Signature]*  
Chief Engineer, Water Investigations Branch  
DATE: March 9, 1973

SURVEYED  
D.B.P.  
DATE: June, 1970  
DESIGNED  
J.W.  
DRAWN  
J.S.  
TRACED  
CHECKED  
*[Signature]*  
DATE  
July, 1972

BRITISH COLUMBIA  
DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES  
WATER RESOURCES SERVICE  
WATER INVESTIGATIONS BRANCH

CANADA - BRITISH COLUMBIA  
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT  
PROJECT No. 1 - DISTRICT OF KENT  
CONTRACT No. 6

**BANK PROTECTION, SITE F  
SECTIONS**

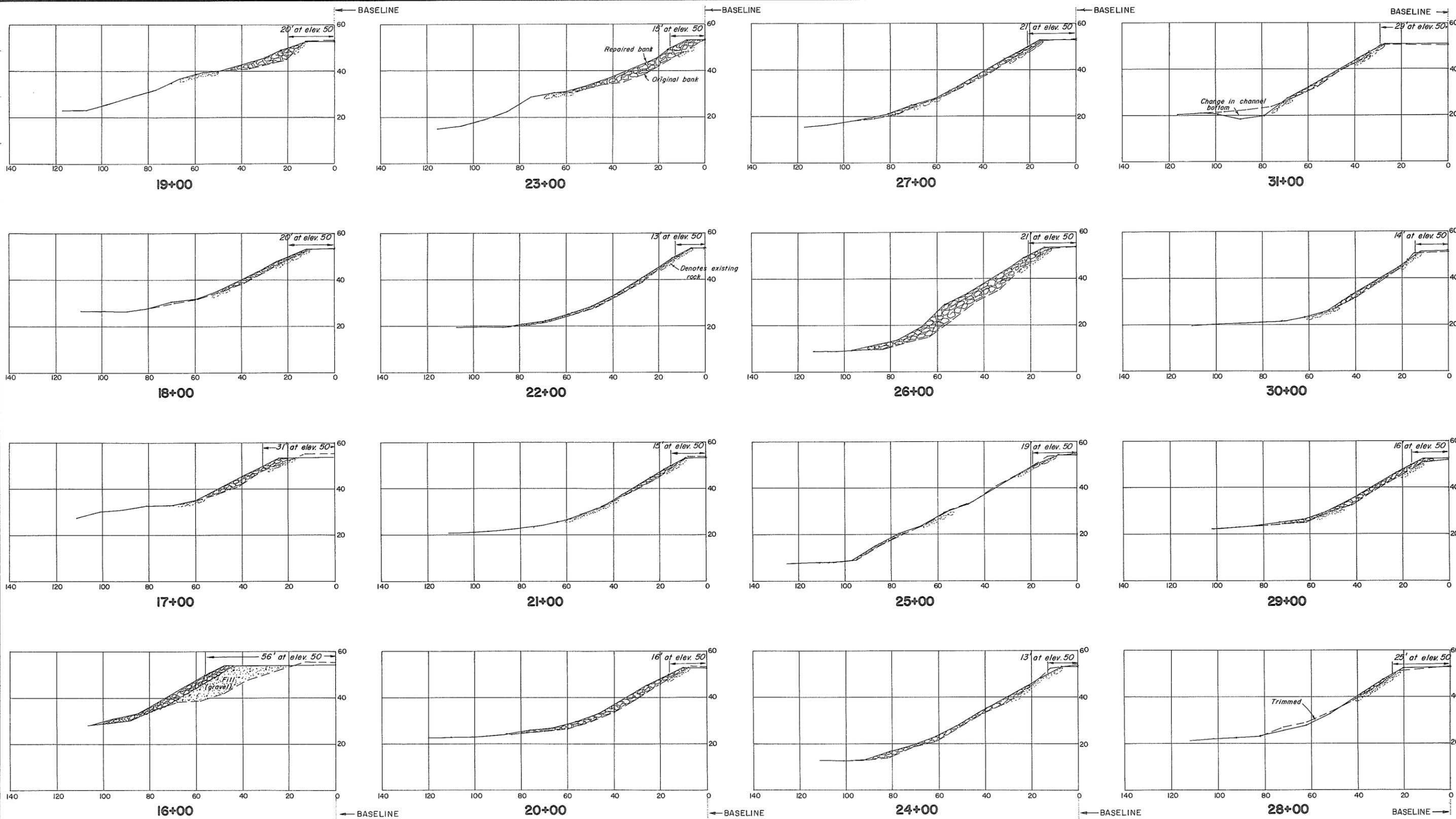
APPROVED: *[Signature]* SCALE: AS SHOWN

FILE No.  
0281550 - C7

9007  
DWG. No.  
4758-6-22

SHEET  
16 of 29

**AS CONSTRUCTED**



**CROSS-SECTIONS**  
Scale: 1" = 20'

**NOTE**  
See sheet no. 13 for details.

REFERENCES		
DWG. No.	DESCRIPTION	DATE
4758-6-8	Sections	Oct, 1970

APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE:  
*[Signature]*  
DATE: 8 Oct 1972

APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA:  
*[Signature]*  
Chief Engineer, Water Investigations Branch  
DATE: March 9, 1973

SURVEYED  
D.B.P.  
DATE: June 1970

DESIGNED  
J.W.

DRAWN  
J.S.

TRACED

CHECKED  
*[Signature]*

DATE  
July, 1972

**AS CONSTRUCTED**

BRITISH COLUMBIA  
DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES  
WATER RESOURCES SERVICE  
WATER INVESTIGATIONS BRANCH

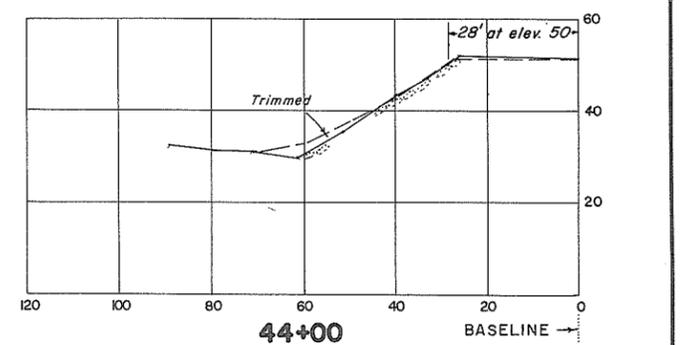
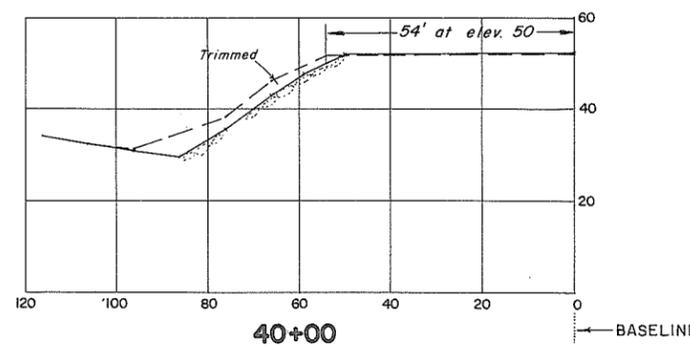
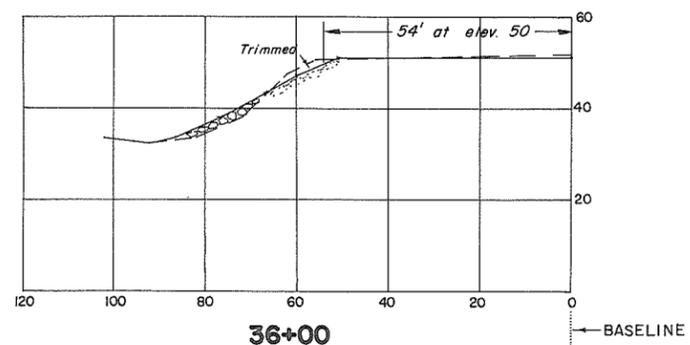
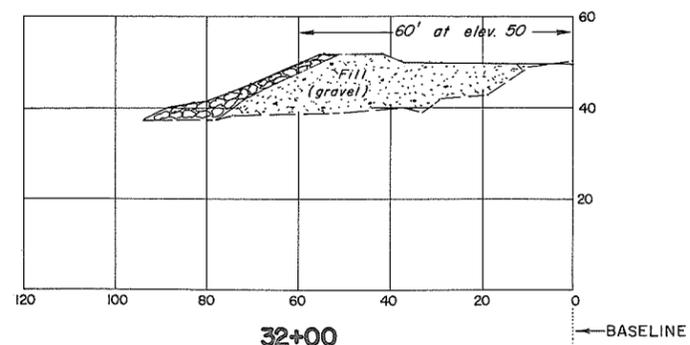
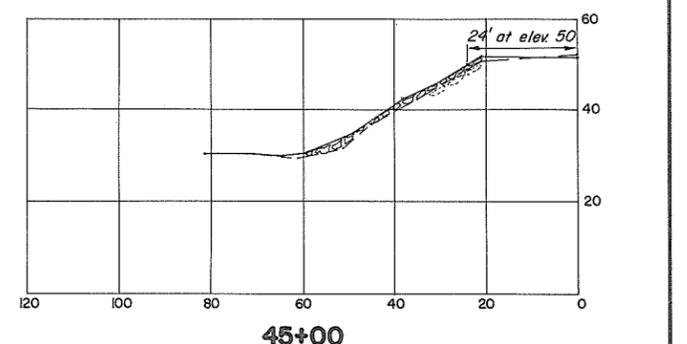
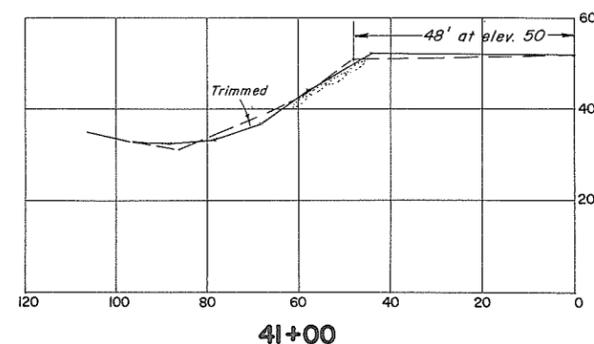
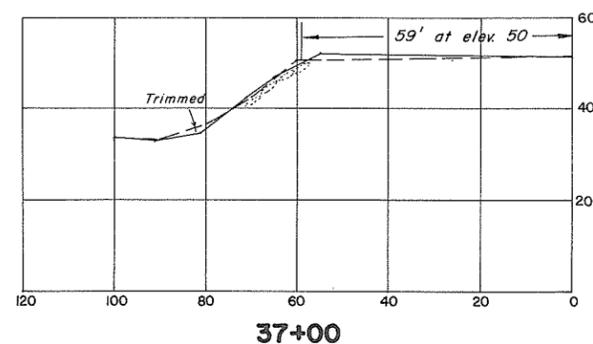
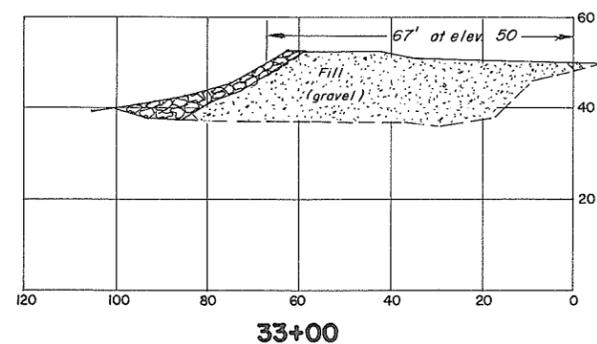
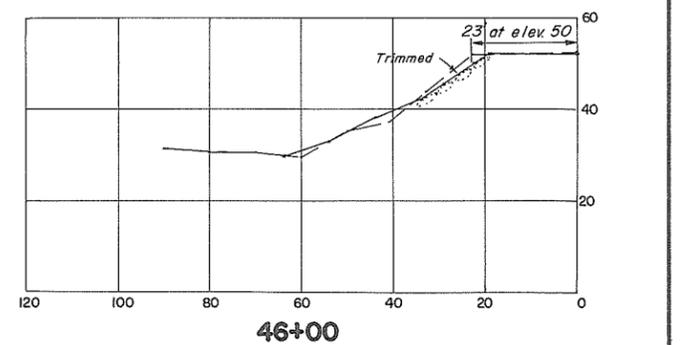
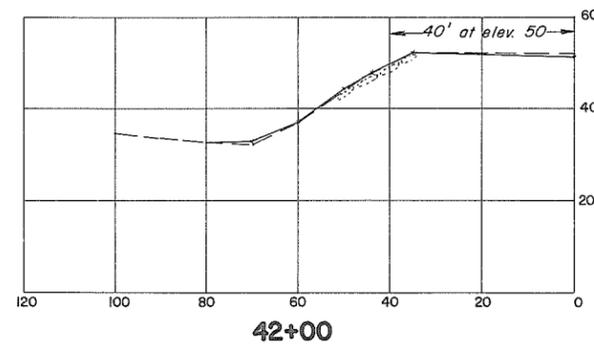
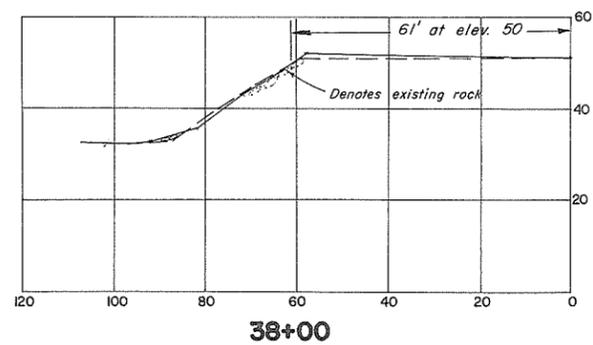
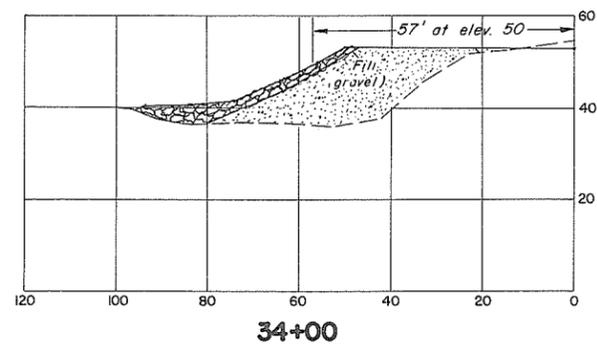
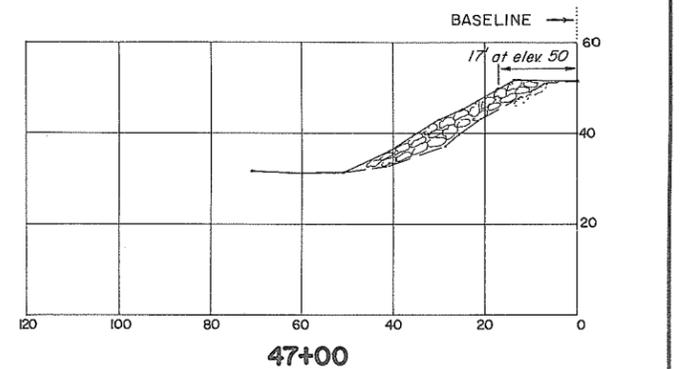
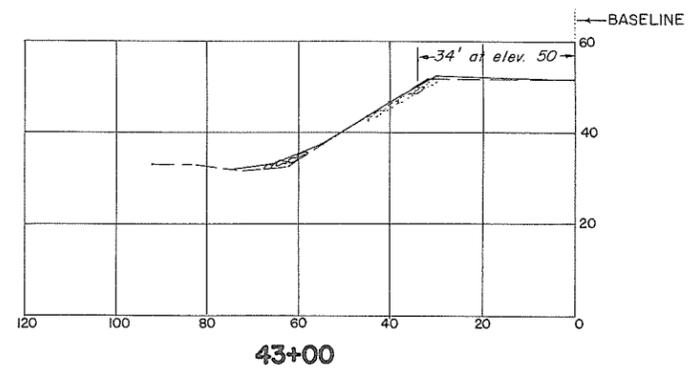
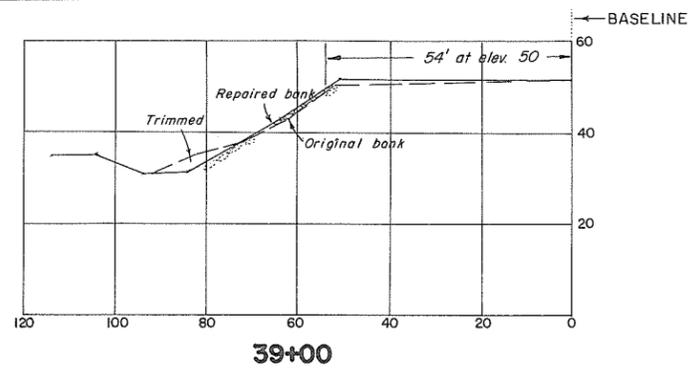
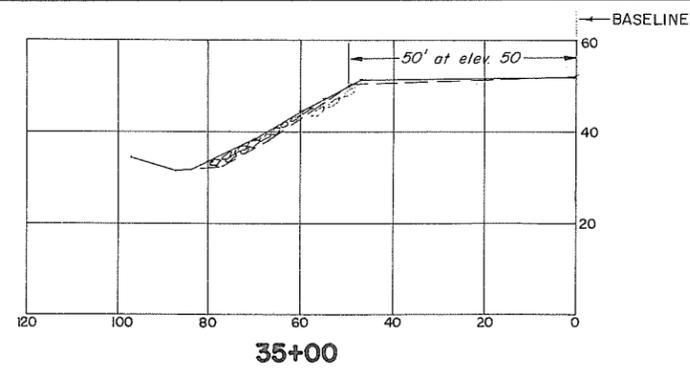
CANADA - BRITISH COLUMBIA  
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT  
PROJECT No. 1 - DISTRICT OF KENT  
CONTRACT No. 6  
**BANK PROTECTION, SITE F  
SECTIONS**

APPROVED: *[Signature]* SCALE: AS SHOWN

FILE No.  
0281550 - C7

9008  
DWG. No.  
4758-6-23

SHEET  
17 OF 29

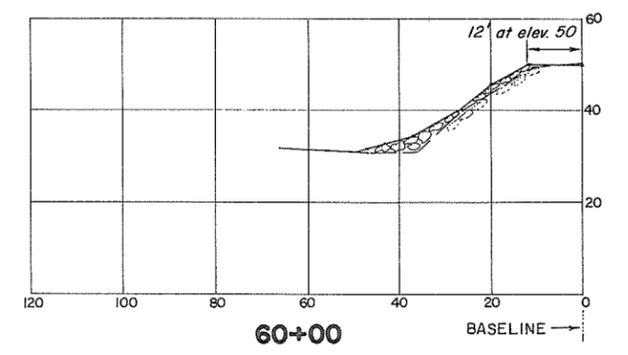
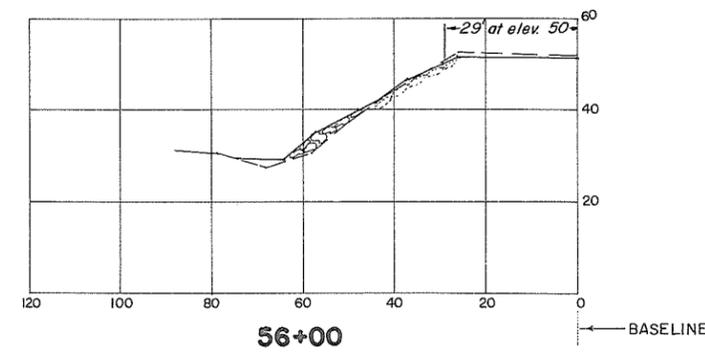
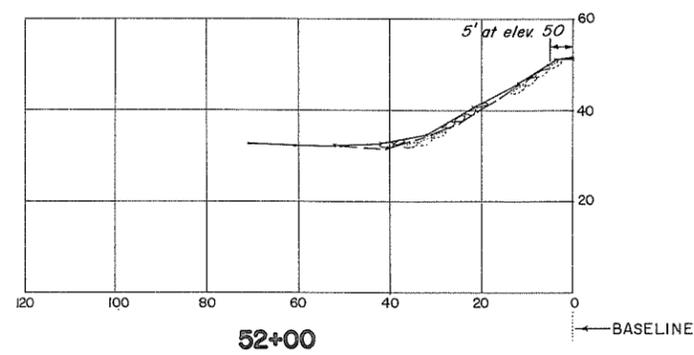
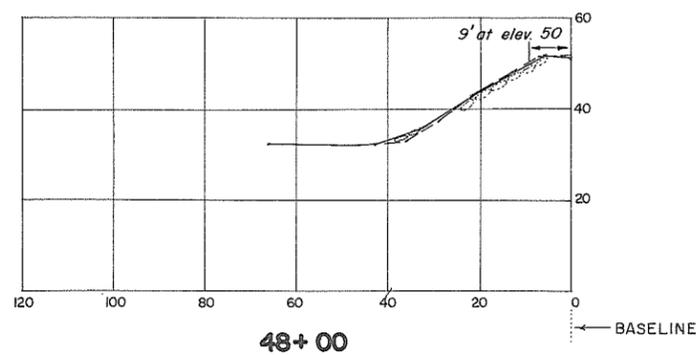
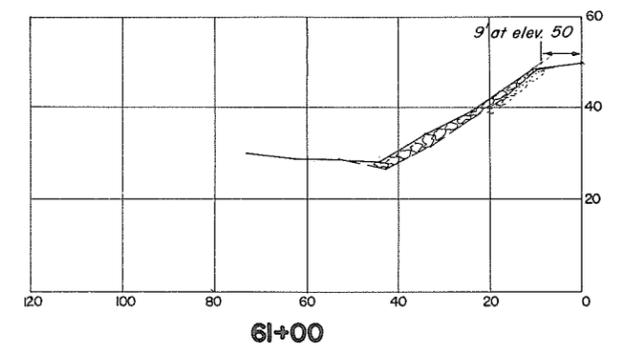
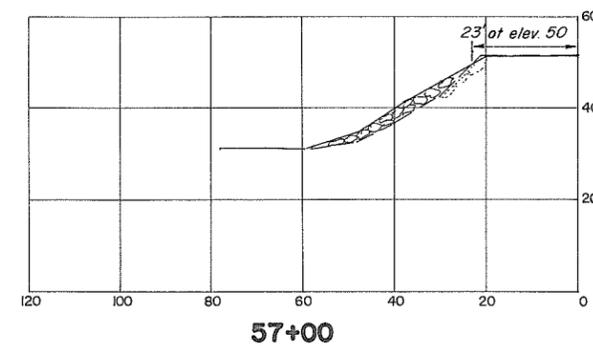
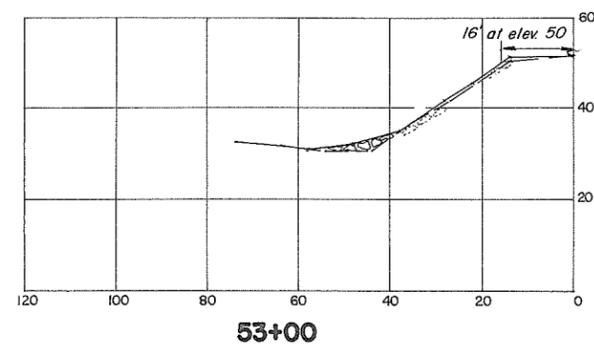
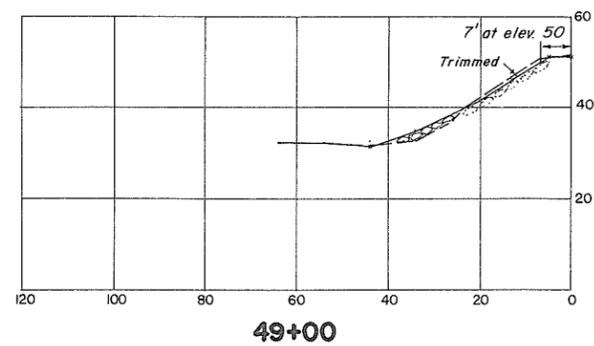
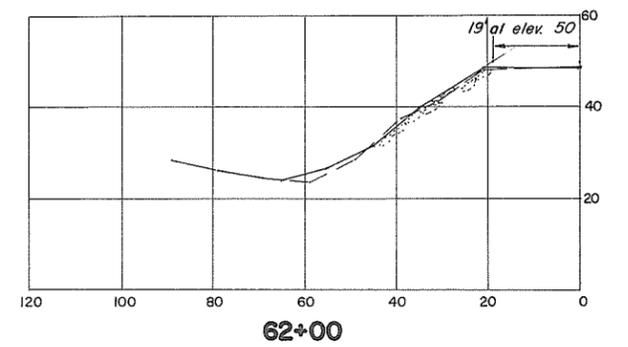
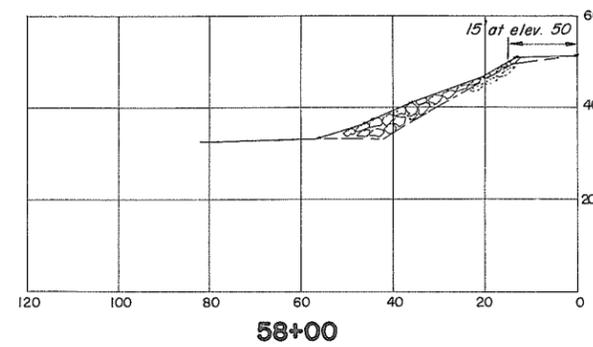
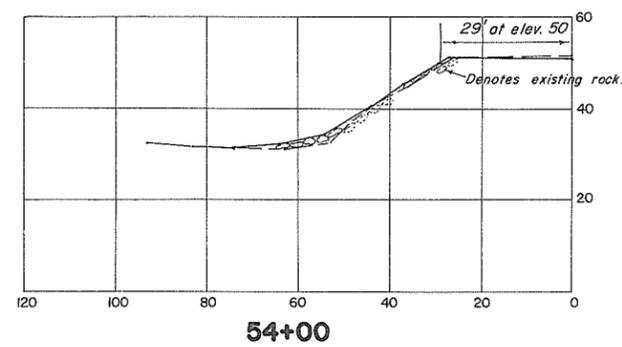
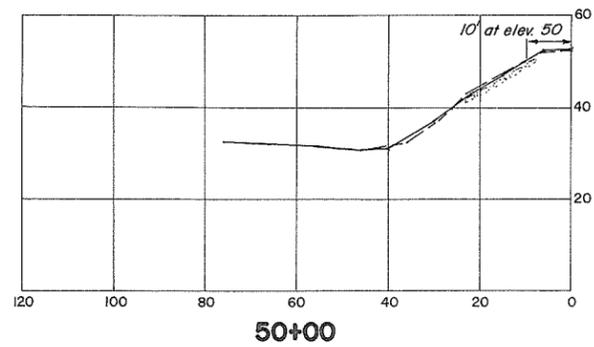
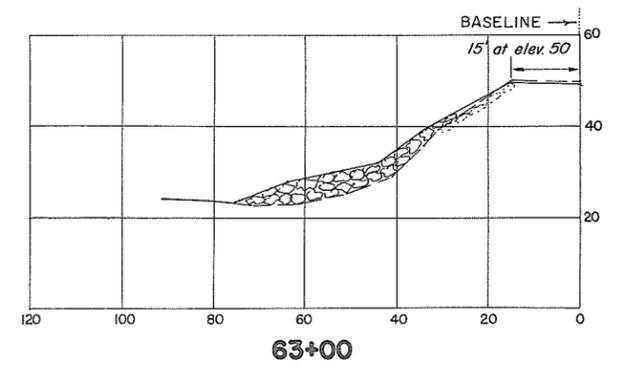
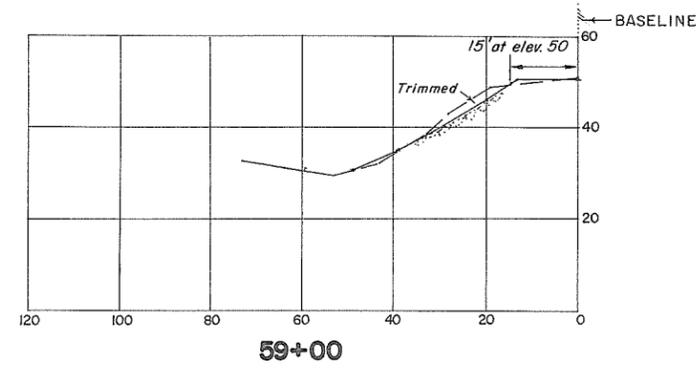
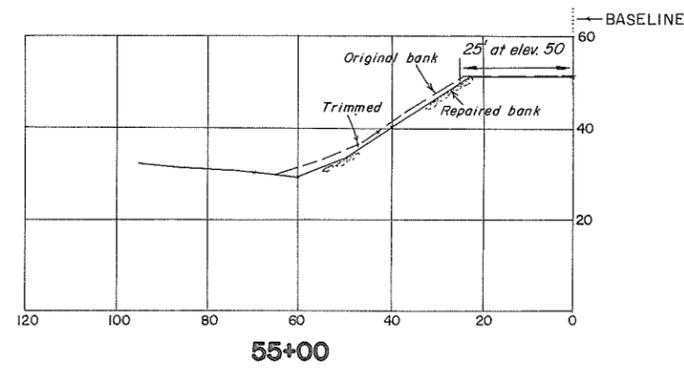
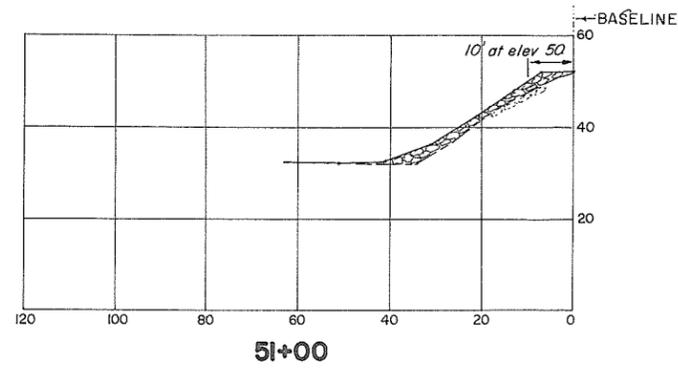


**CROSS-SECTIONS**  
Scale: 1" = 20'

**NOTE**

See sheet no. 13 for details.

REFERENCES			APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE:		SURVEYED		BRITISH COLUMBIA DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH		FILE No.
DWG. No.	DESCRIPTION	DATE	DATE: <u>8 Oct 1972</u>		D.B.P.		CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT PROJECT No. 1- DISTRICT OF KENT CONTRACT No. 6		0281550 - C7
4758-6-8	Sections	Oct., 1970	DATE: <u>March 9, 1973</u>		DESIGNED J.W.		BANK PROTECTION, SITE F SECTIONS		9009 DWG. No.
APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA: <u>[Signature]</u> Chief Engineer, Water Investigations Branch			DATE: <u>July, 1972</u>		DRAWN J.S.		SCALE: AS SHOWN		4758-6-24
APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA: <u>[Signature]</u> Chief Engineer, Water Investigations Branch			DATE: <u>July, 1972</u>		TRACED		APPROVED: <u>[Signature]</u>		SHEET 18 of 29



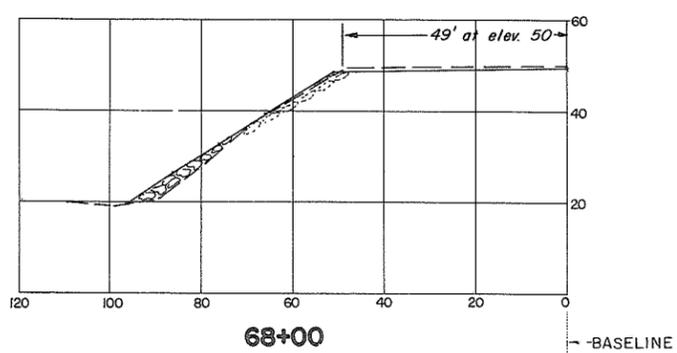
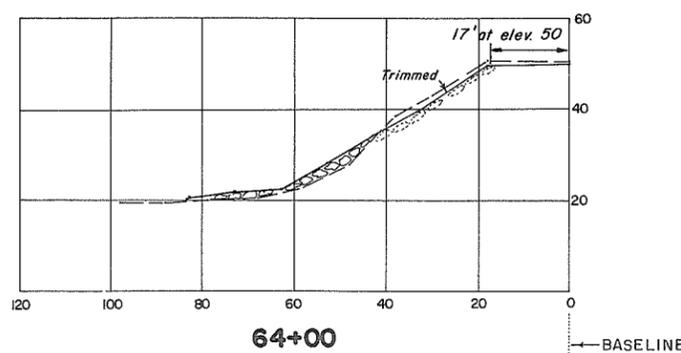
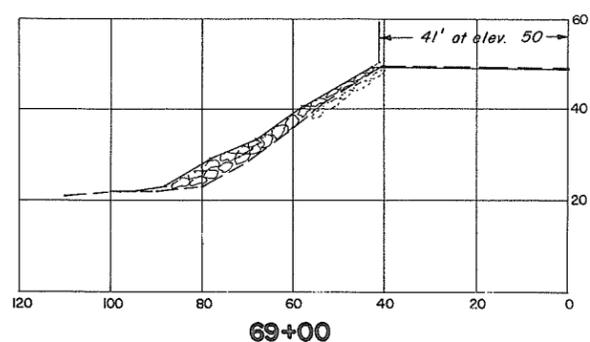
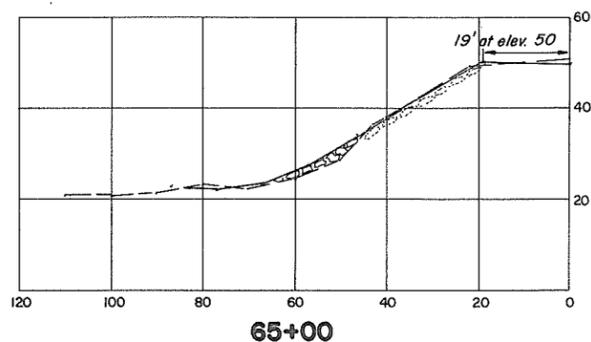
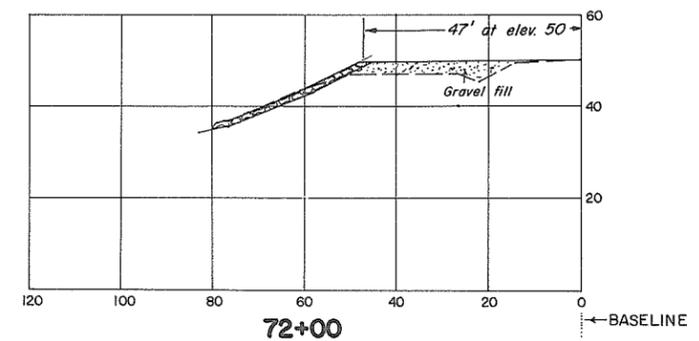
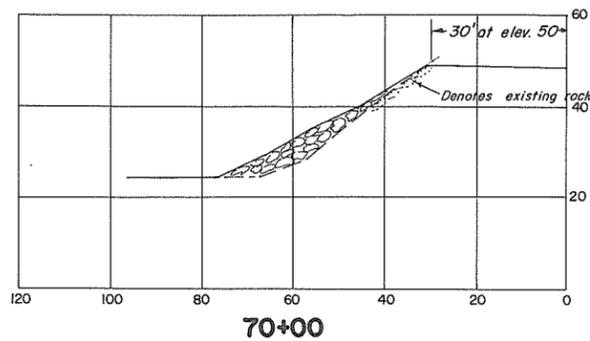
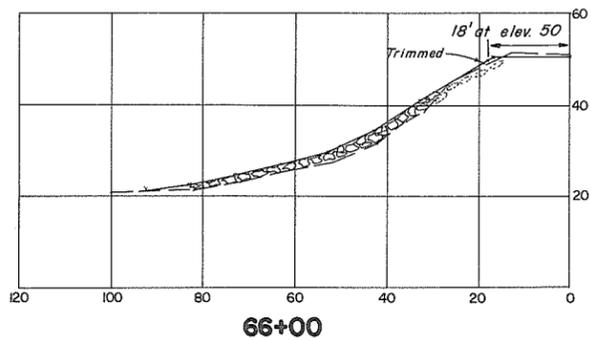
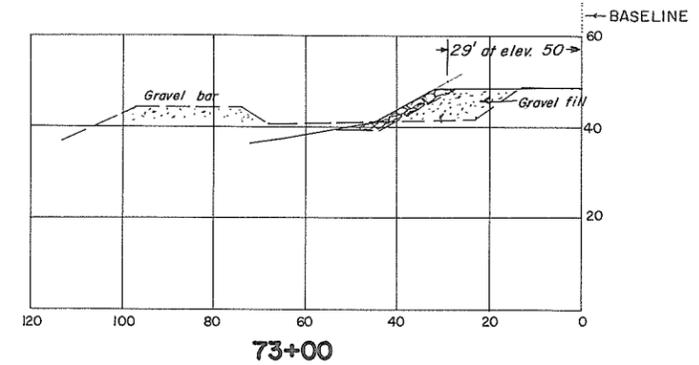
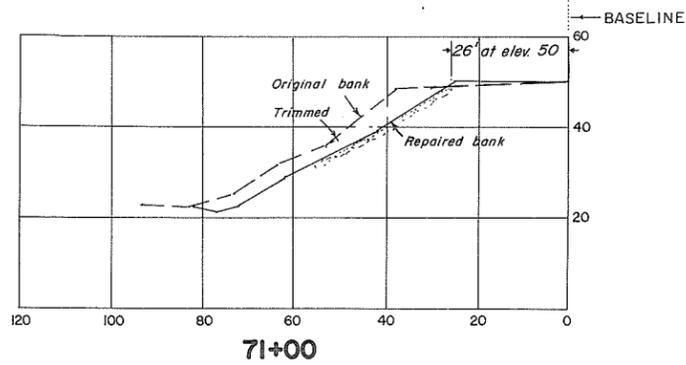
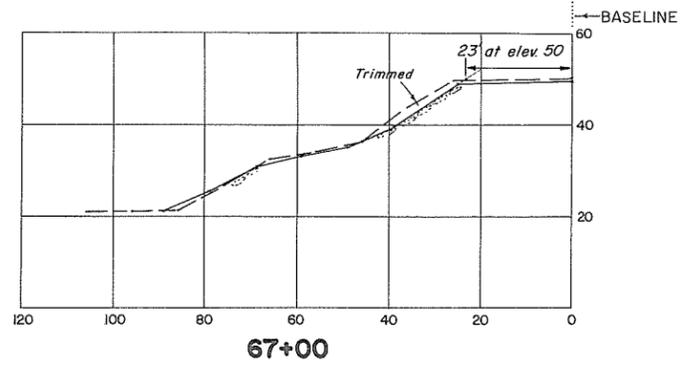
**CROSS-SECTIONS**

Scale: 1" = 20'

**NOTE**

See sheet no. 13 for details.

REFERENCES			APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE:		SURVEYED		BRITISH COLUMBIA DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH		FILE No.
DWG. No.	DESCRIPTION	DATE	DATE: <u>8 Oct 1972</u>		D.B.P.		CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT PROJECT No. 1 - DISTRICT OF KENT CONTRACT No. 6		0281550 - C7
4758-6-8	Sections	Oct, 1970	DATE: <u>March 9, 1972</u>		DATE: <u>June, 1970</u>		BANK PROTECTION, SITE F SECTIONS		9010
APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA: <u>[Signature]</u> Chief Engineer, Water Investigations Branch			DATE: <u>July, 1972</u>		CHECKED		SCALE: AS SHOWN		DWG. No. 4758-6-25
APPROVED: <u>[Signature]</u>			DATE: <u>July, 1972</u>		DATE: <u>July, 1972</u>		APPROVED: <u>[Signature]</u>		SHEET 19 of 29

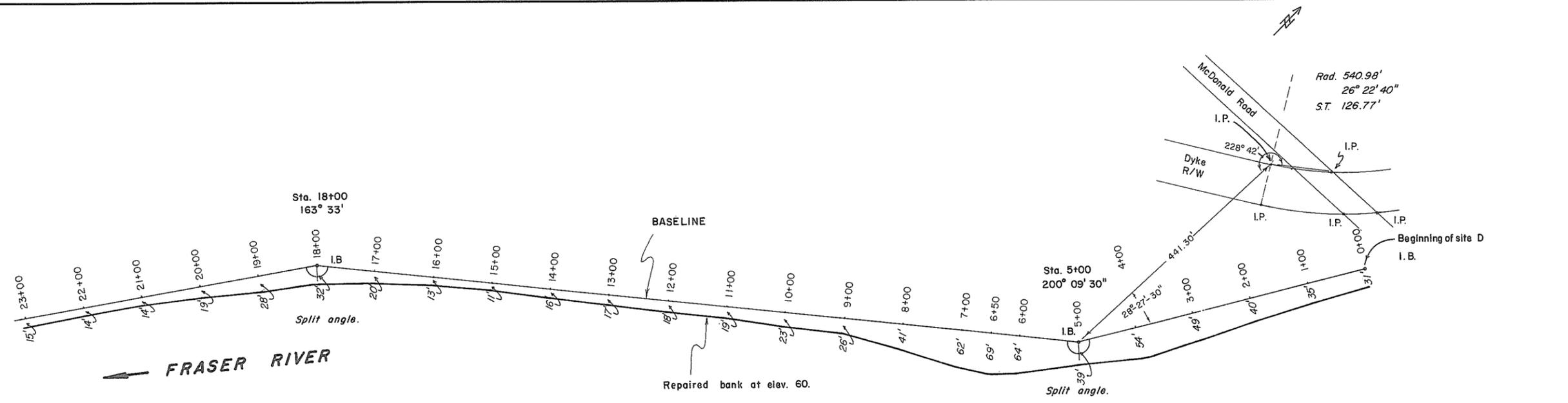


- NOTE**
- All site F sheets redrawn.
  - Source of materials:
    - fills, gravel bar near station 35+00.
    - rock riprap. Caignou quarry.
  - Construction dates, March 7 to May 4, 1972.
  - Elevations, G.S.C. datum.
  - All sections at right angles to the baseline unless otherwise shown. See sheet no. 12.

**CROSS-SECTIONS**  
Scale: 1" = 20'

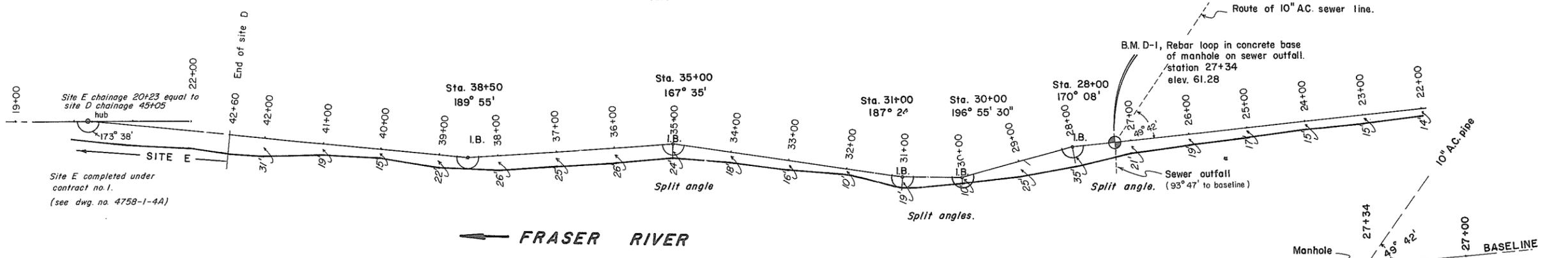
**AS CONSTRUCTED**

REFERENCES			APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE:		SURVEYED		BRITISH COLUMBIA DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH		FILE No.
DWG. No.	DESCRIPTION	DATE	DATE: <i>B. Oct 1972</i>		D.B.P.		FRASER RIVER FLOOD CONTROL 1968 AGREEMENT PROJECT No. I- DISTRICT OF KENT CONTRACT No. 6		0281550 - C7
4758-6-8	Sections	Oct, 1970	DATE: <i>March 9, 1973</i>		DATE: <i>June, 1970</i>		CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT PROJECT No. I- DISTRICT OF KENT CONTRACT No. 6		9011
APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA: <i>[Signature]</i> Chief Engineer, Water Investigations Branch			DATE: <i>July, 1972</i>		DESIGNED: <i>J.W.</i>		BANK PROTECTION, SITE F SECTIONS		DWG. No. 4758-6-26
APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA: <i>[Signature]</i> Chief Engineer, Water Investigations Branch			DATE: <i>July, 1972</i>		DRAWN: <i>J.S.</i>		APPROVED: <i>[Signature]</i>		SHEET 20 OF 29
					TRACED		SCALE: AS SHOWN		
					CHECKED: <i>[Signature]</i>				
					DATE: <i>July, 1972</i>				



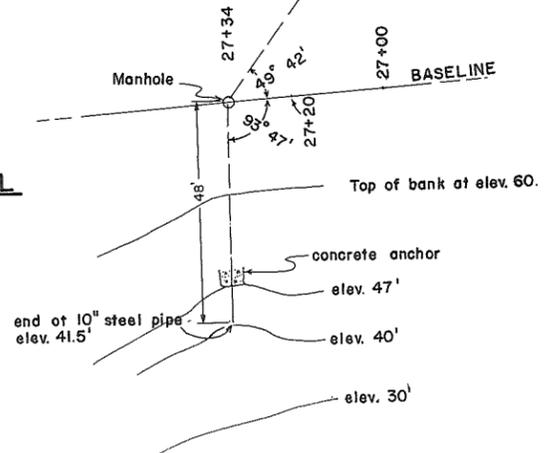
**PLAN**

Scale 1" = 100'



**SEWER DETAIL**

Scale 1" = 20'

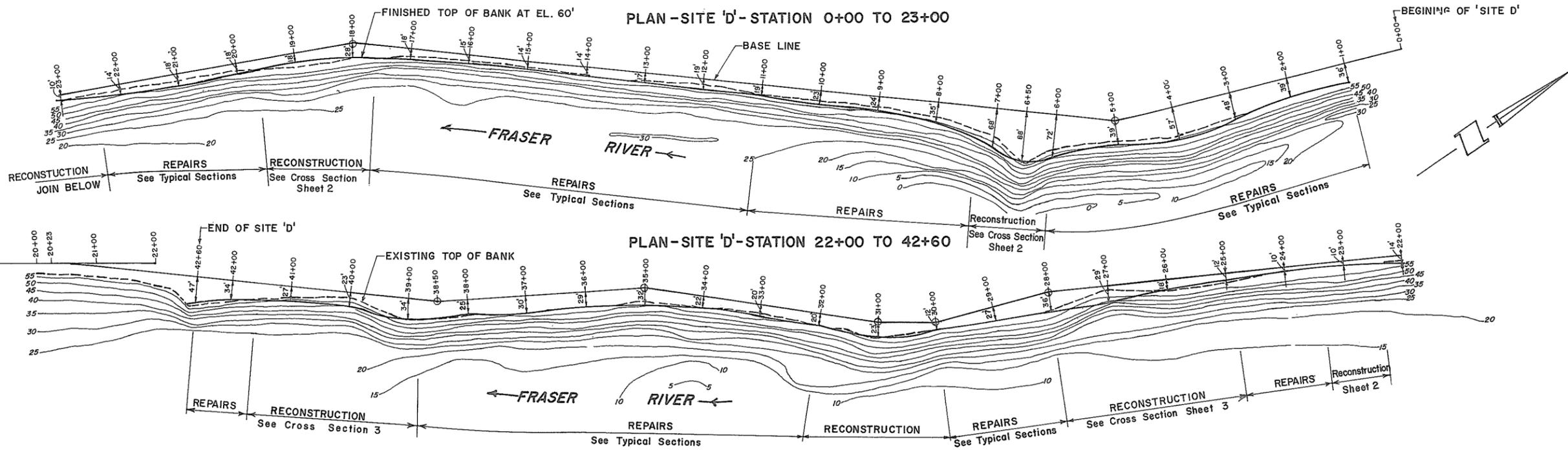


**NOTE**

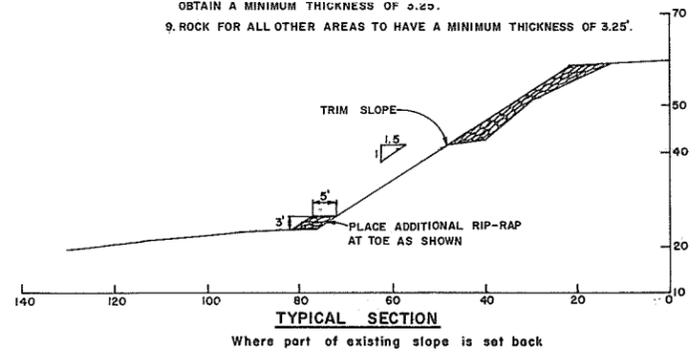
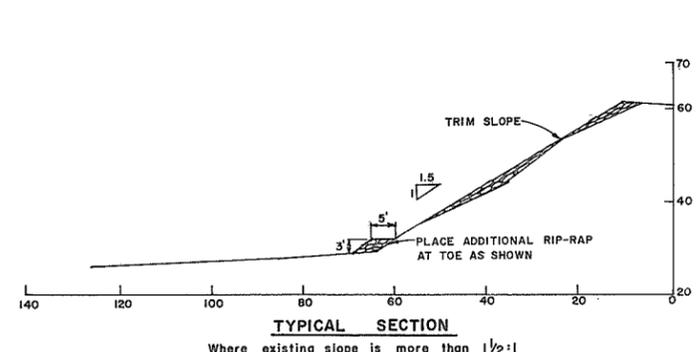
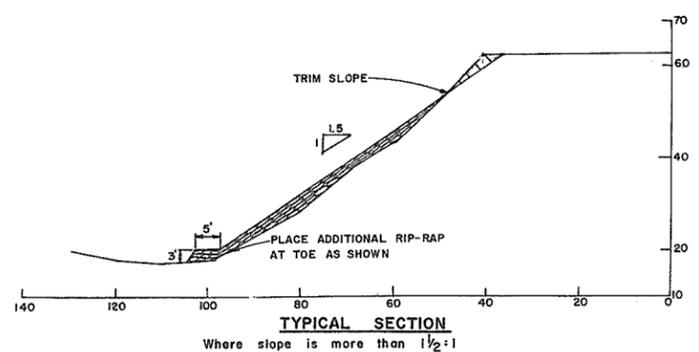
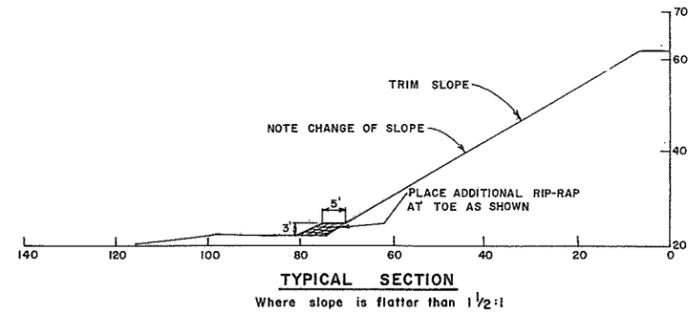
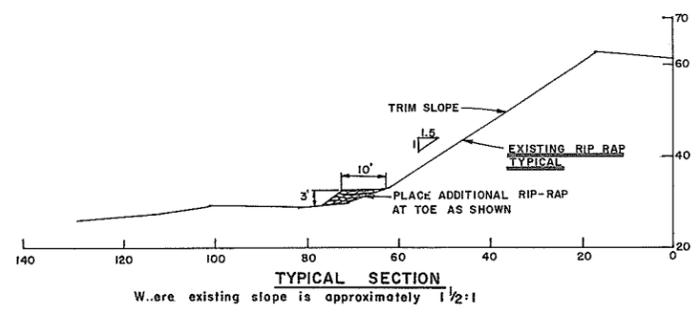
1. This sheet redrawn.
2. All sections are at right angles to the baseline unless otherwise shown. (split angle)
3. Source of materials: -fills, excavated bank material and rock rubble from Caignou quarry.  
-rock riprap, Caignou quarry.
4. Construction dates January 3 to April 19, 1972.
5. Elevations, G.S.C. datum. W.R.S. B.M. K5
6. I.B. denotes no.4 rebar approx. 2' long.
7. Cadastral information from Dyke R/W posting plan (preliminary) by Tunbridge & Tunbridge

**AS CONSTRUCTED**

REFERENCES			APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE:	SURVEYED D.B.P. DATE: JUNE 1970	DESIGNED J.W. DRAWN J.S.	TRACED	CHECKED R. Edwards DATE: JULY 1972	APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA: Chief Engineer, Water Investigations Branch DATE: March 9, 1973	BRITISH COLUMBIA DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT PROJECT No. 1 - DISTRICT OF KENT CONTRACT No. 6 <b>BANK PROTECTION, SITE D</b> <b>PLAN</b>	FILE No. 0281550-C7 8996
DWG. No.	DESCRIPTION	DATE								
4758-6-10	PLAN & TYPICAL SECTION	OCT, 1970								DWG. No. 4758-6-10A
									SCALE: AS SHOWN	SHEET 21 of 29



**REPAIR - TYPICAL SECTIONS**  
**STATION 1+00-5+00, 11+00-17+00, 20+00-22+00, 28+00-30+00, 32+00-38+00**

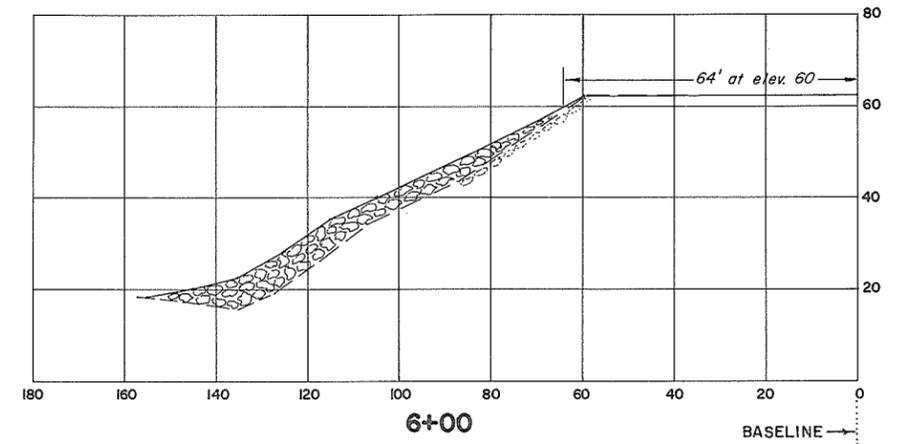
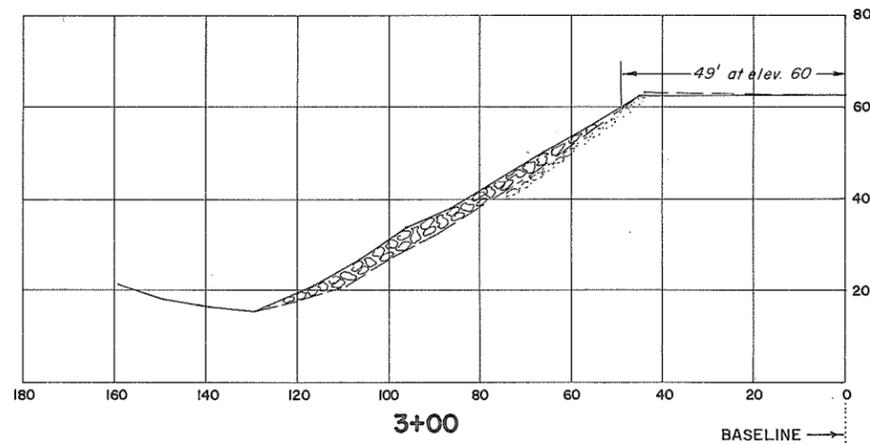
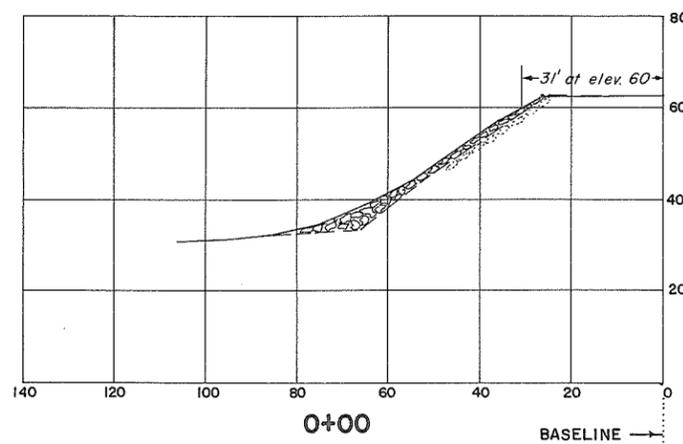
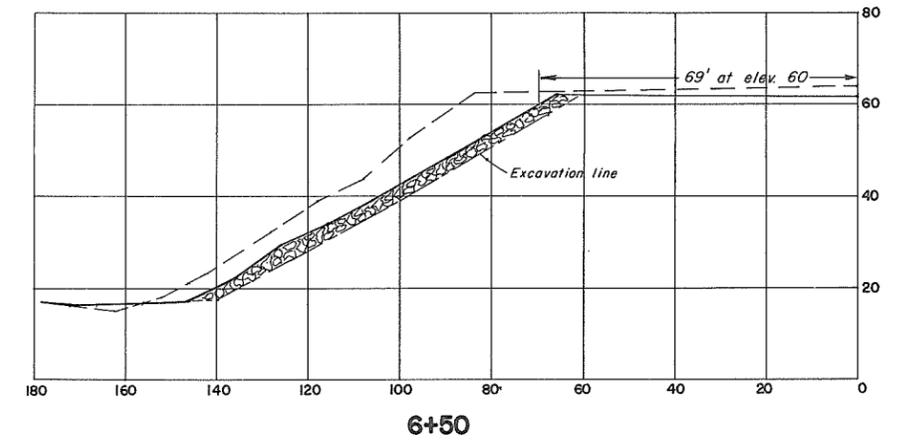
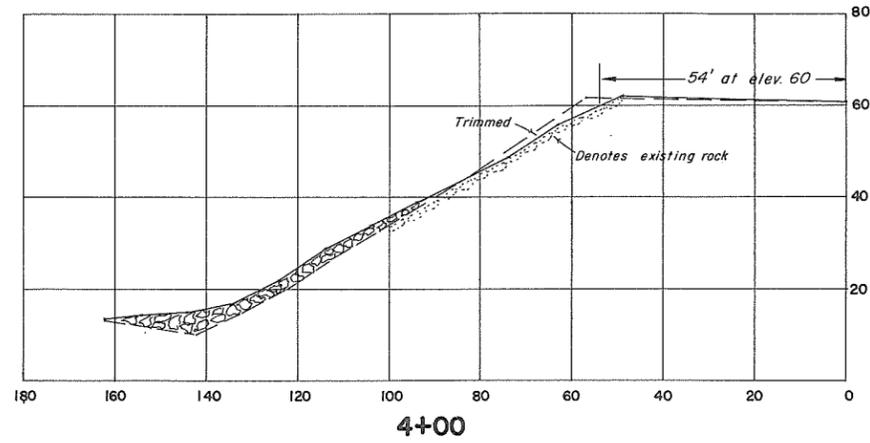
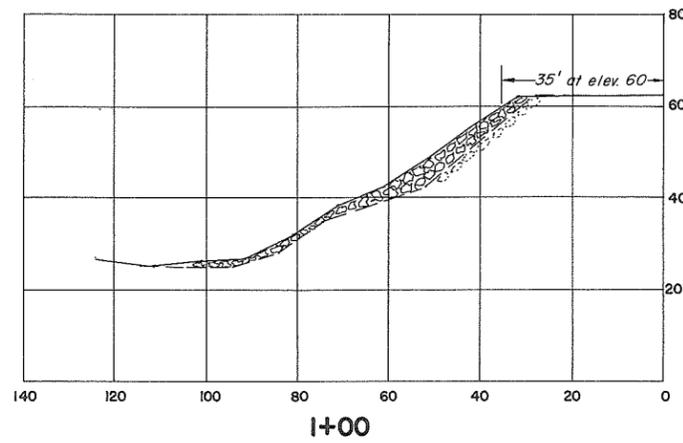
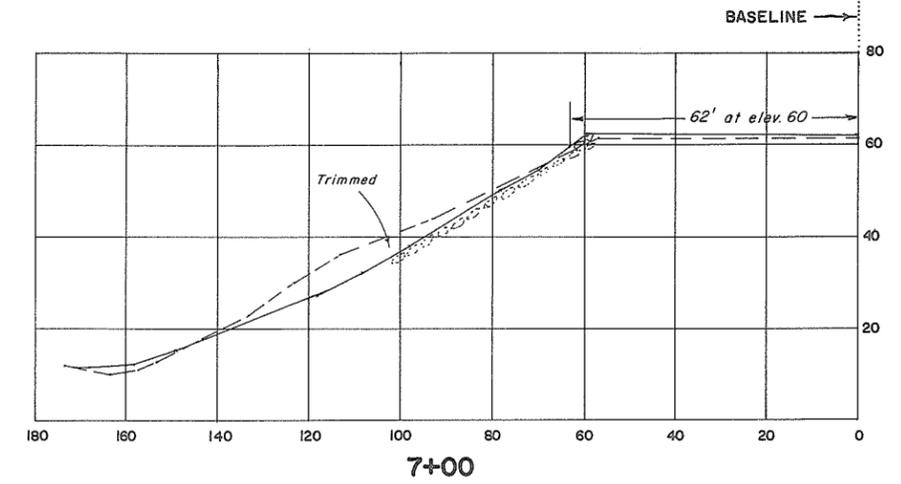
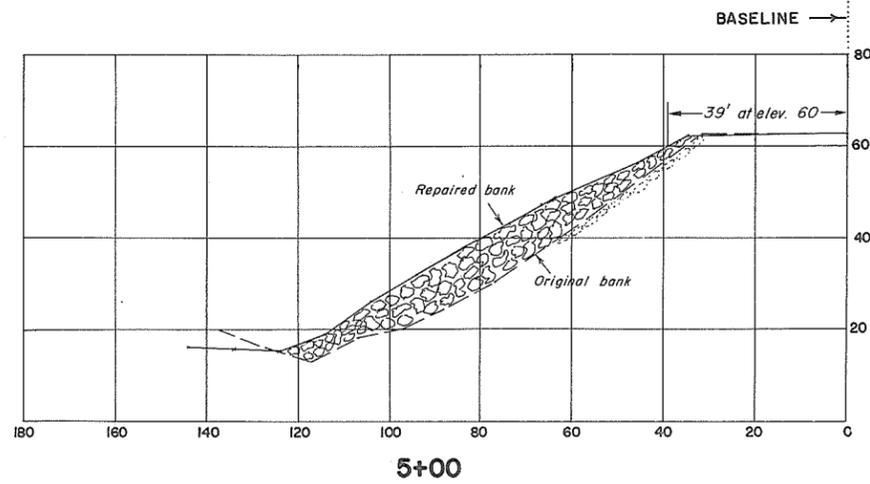
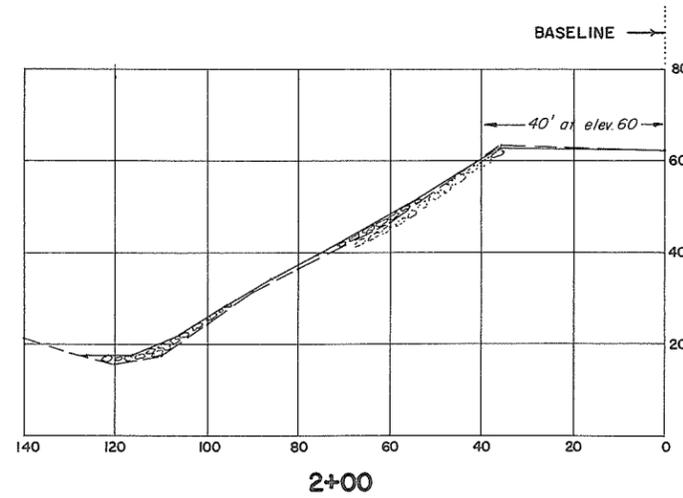


- NOTES:**
1. OFFSET DISTANCES FROM BASE LINE TO TOP OF BANK ARE TAKEN AT EL. 60' G.S.C.
  2. PLACE ADDITIONAL RIP-RAP AT TOE AS SHOWN.
  3. MINIMUM THICKNESS OF RIP-RAP TO BE 3.25' OR AS DIRECTED BY THE ENGINEER.
  4. ROCK SIZES TO BE IN ACCORDANCE WITH DETAILED SPECIFICATIONS.
  5. WHERE TRIM SLOPE IS INDICATED, RE-ARRANGE EXISTING RIP-RAP TO OBTAIN A SMOOTH SURFACE WHERE THICKNESS OF RIP-RAP IS SUFFICIENT.
  6. WHERE THICKNESS OF ROCK IS INSUFFICIENT THE EXISTING ROCK SHOULD BE RE-ARRANGED AND MIXED WITH ADDITIONAL ROCK TO OBTAIN A WELL GRADED MASS OF STONE TO GET THE REQUIRED THICKNESS.
  7. A GOOD ALIGNMENT SHOULD BE MAINTAINED OVER THE ENTIRE LENGTH. FIELD ADJUSTMENTS TO BE MADE TO MAXIMIZE USE OF EXISTING RIP-RAP.
  8. THE MINIMUM ACCEPTABLE THICKNESS OF EXISTING RIP-RAP IS 2.5' IF THE RIP-RAP IS WELL CONSOLIDATED AND STABLE.
  9. WHERE THE EXISTING THICKNESS OF RIP-RAP IS LESS THAN 2.5' ADDITIONAL ROCK IS REQUIRED TO OBTAIN A MINIMUM THICKNESS OF 3.25'.
  10. ROCK FOR ALL OTHER AREAS TO HAVE A MINIMUM THICKNESS OF 3.25'.

**AS CONSTRUCTED**

REFERENCES			APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE <i>[Signature]</i> DATE: 7 JANUARY 1971 APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA <i>[Signature]</i> DATE: 24 11 1971	SURVEYED B. P. & J.S. DATE JULY 1970 DESIGNED J. WESTER DRAWN A. K. M. TRACED B.M. CHECKED A.K.M. DATE OCT. 1970	BRITISH COLUMBIA DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH CANADA-BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT PROJECT No. 1 - DISTRICT OF KENT CONTRACT No. 6 PLAN - SITE 'D' REPAIR-TYPICAL CROSS SECTIONS	FILE No 0281550-87 9017 DWG. No. 4758-6-10 SHEET 22 of 29
DWG. No.	DESCRIPTION	DATE				

APPROVED *[Signature]* SCALE: PLAN - 1 inch = 100 feet  
 X-SECTION - 1 inch = 20 feet



**CROSS-SECTIONS**  
Scale: 1" = 20'

**NOTE**  
See sheet 19 for details.

REFERENCES		
DWG. No.	DESCRIPTION	DATE
4758-6-11,12	Typical repair sections	Oct, 1970

APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE:  
*[Signature]*  
DATE: 8 Oct 1972

APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA:  
*[Signature]*  
Chief Engineer, Water Investigations Branch  
DATE: March 9, 1973

SURVEYED  
D.B.P.  
DATE: June, 1970

DESIGNED  
J.W.  
DRAWN  
J.S.

TRACED

CHECKED  
*[Signature]*

DATE  
July, 1972

BRITISH COLUMBIA  
DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES  
WATER RESOURCES SERVICE  
WATER INVESTIGATIONS BRANCH

CANADA - BRITISH COLUMBIA  
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT  
PROJECT No. 1 - DISTRICT OF KENT  
CONTRACT No. 6

**BANK PROTECTION, SITE D  
SECTIONS**

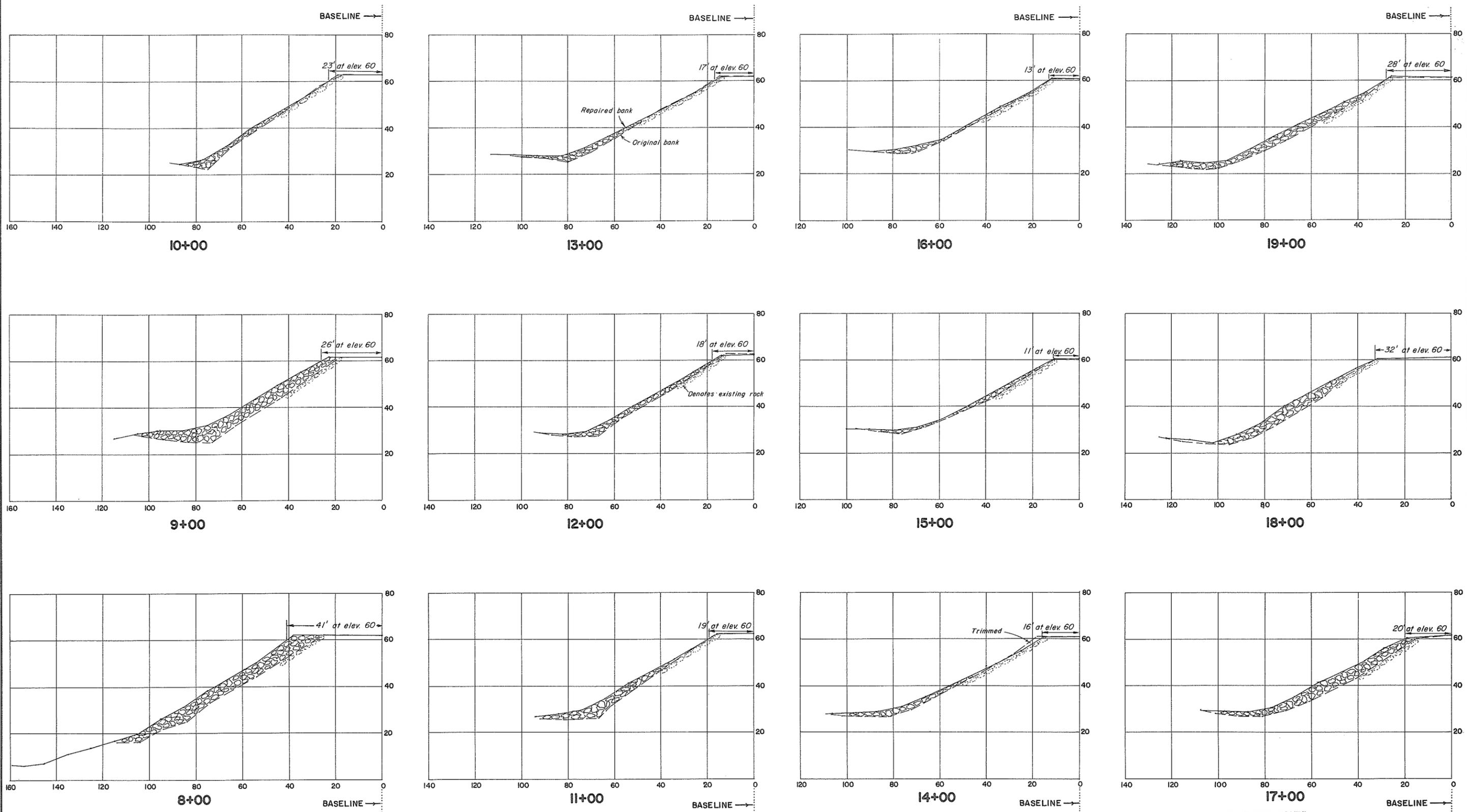
APPROVED: *[Signature]* SCALE: AS SHOWN

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0281550 - C7

9012  
DWG. No.  
4758-6-27

SHEET  
23 OF 29

**AS CONSTRUCTED**

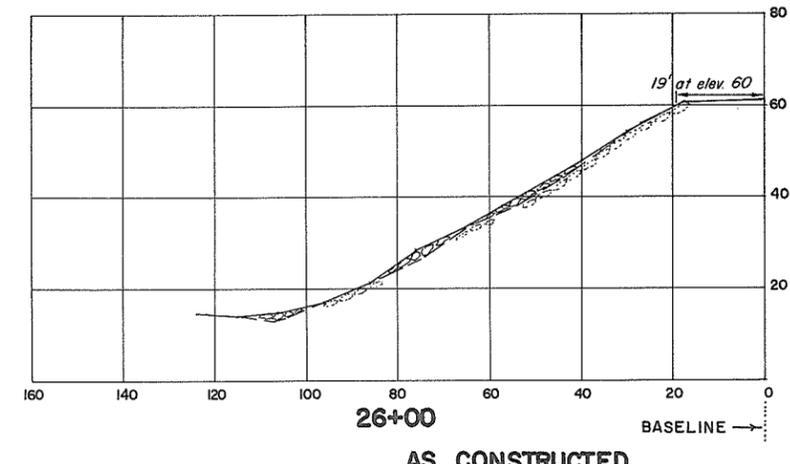
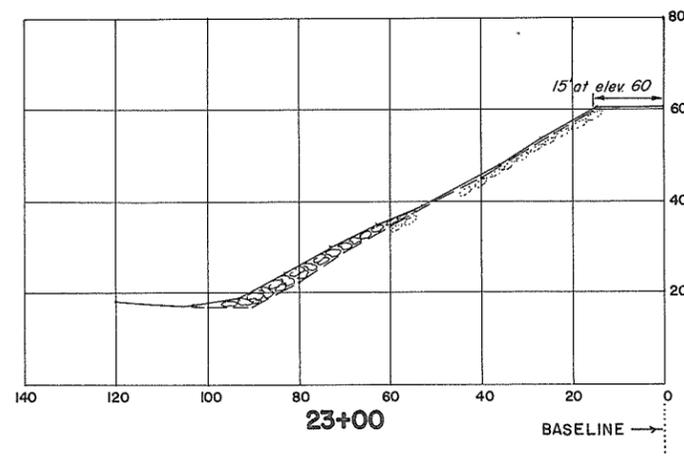
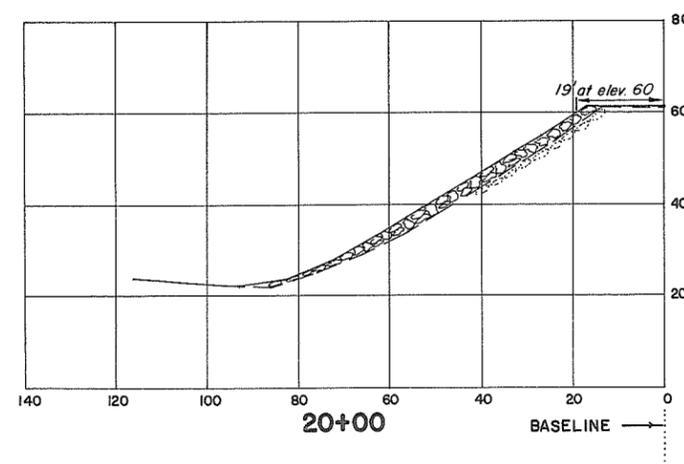
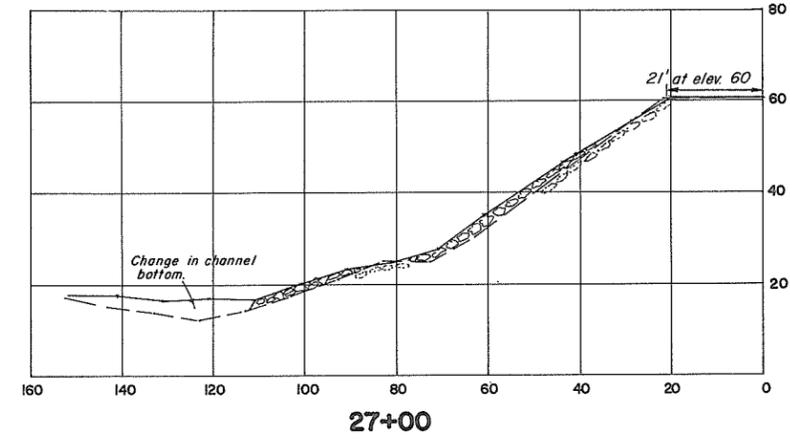
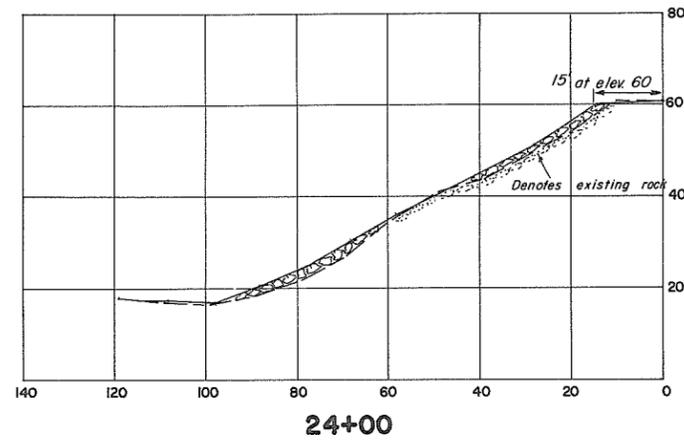
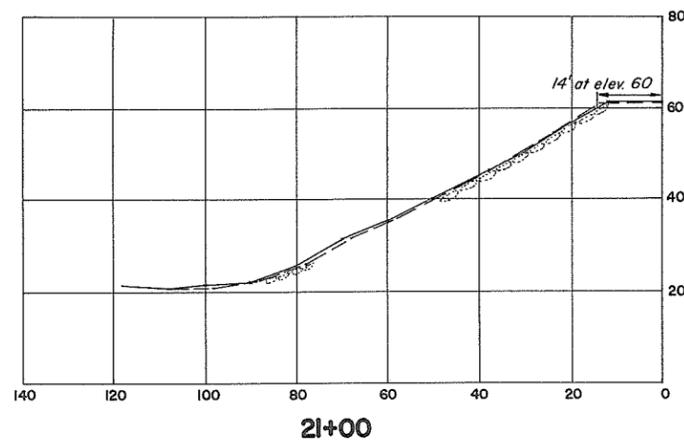
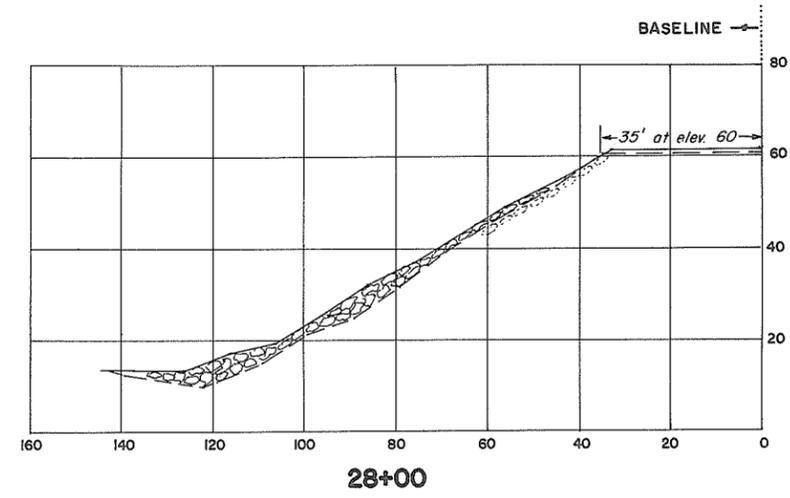
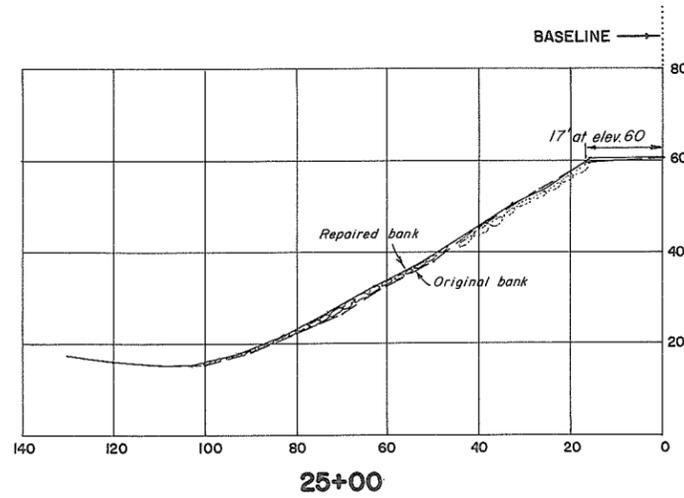
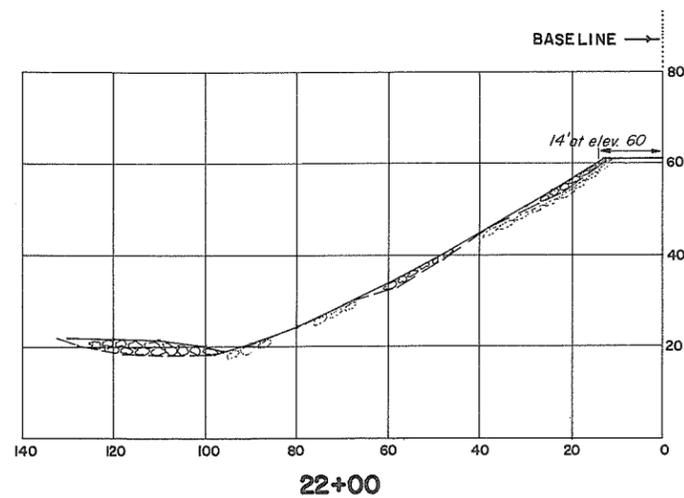


**CROSS-SECTIONS**  
Scale: 1" = 20'

**NOTE**  
See sheet 19 for details.

REFERENCES			APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE:		SURVEYED		BRITISH COLUMBIA DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH	FILE No. 0281550-C7
DWG. No.	DESCRIPTION	DATE	DATE: <i>2 Oct 1972</i>		D.B.P.			
4758-6-11,12	Typical repair sections	Oct, 1970	DATE: <i>March 9, 1973</i>		DATE: <i>June, 1970</i>		APPROVED: <i>[Signature]</i> SCALE: AS SHOWN	SHEET 24 OF 29
APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA: Chief Engineer, Water Investigations Branch			DATE: <i>March 9, 1973</i>		CHECKED: <i>[Signature]</i> DATE: July, 1972			

**AS CONSTRUCTED**



**CROSS-SECTIONS**  
Scale: 1" = 20'

**NOTE**  
See sheet 19 for details

REFERENCES		
DWG. No.	DESCRIPTION	DATE
4758-6-11,12	Typical repair sections	Oct, 1970

APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE:  
*[Signature]*  
DATE: 8 Oct 1972

APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA:  
*[Signature]*  
Chief Engineer, Water Investigations Branch  
DATE: March 9, 1973

SURVEYED  
D.B.P.  
DATE June, 1970

DESIGNED  
J.W.  
DRAWN  
J.S.

TRACED

CHECKED  
*[Signature]*

DATE  
July, 1972

**AS CONSTRUCTED**

BRITISH COLUMBIA  
DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES  
WATER RESOURCES SERVICE  
WATER INVESTIGATIONS BRANCH

CANADA - BRITISH COLUMBIA  
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT  
PROJECT No. 1- DISTRICT OF KENT  
CONTRACT No. 6

**BANK PROTECTION, SITE D  
SECTIONS**

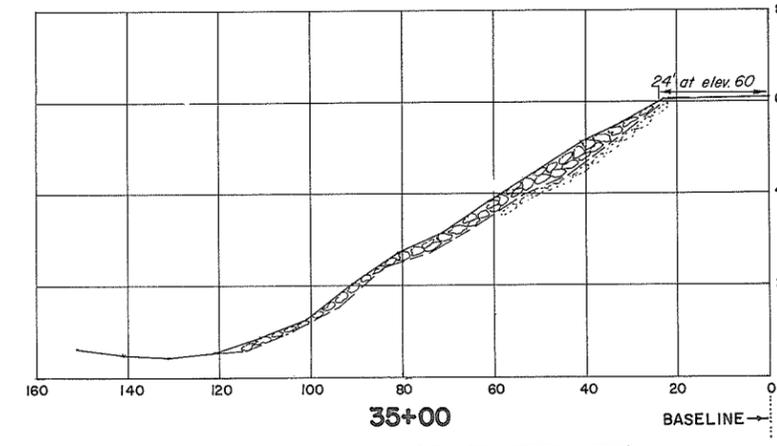
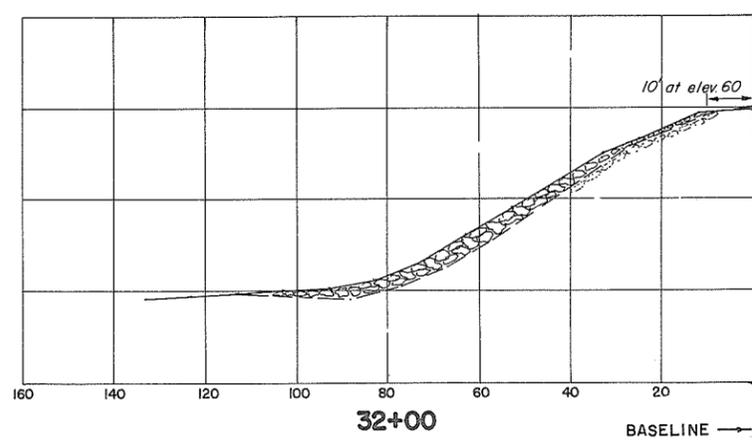
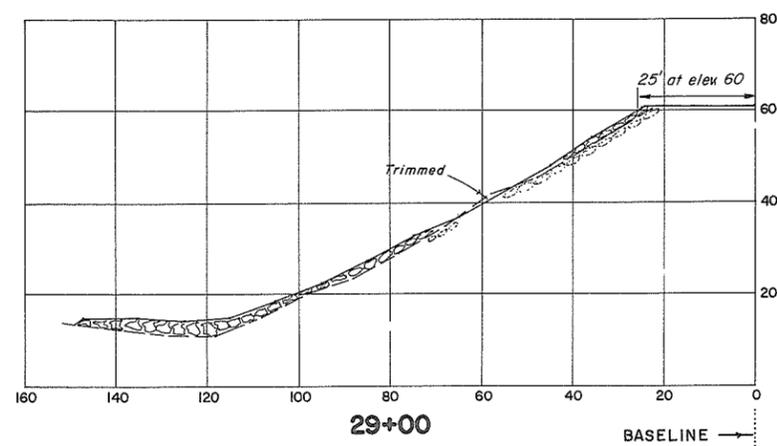
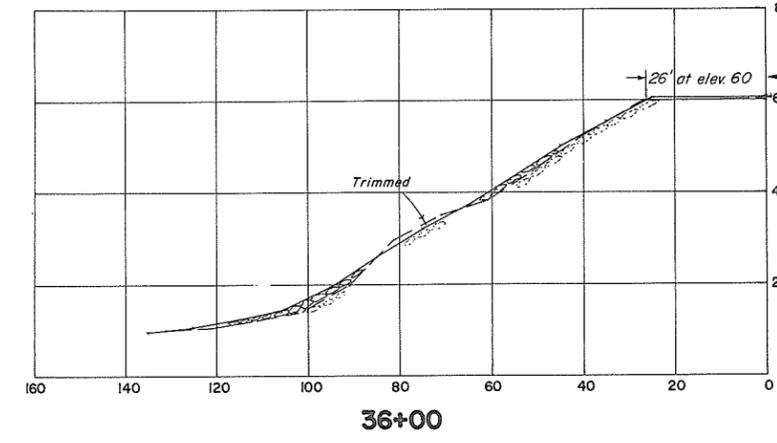
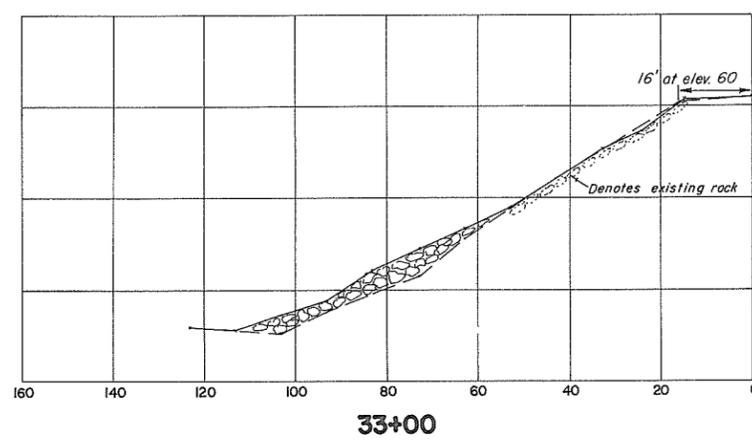
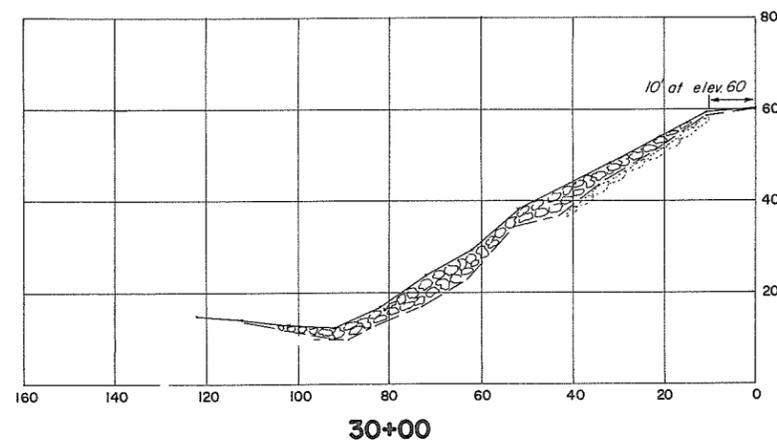
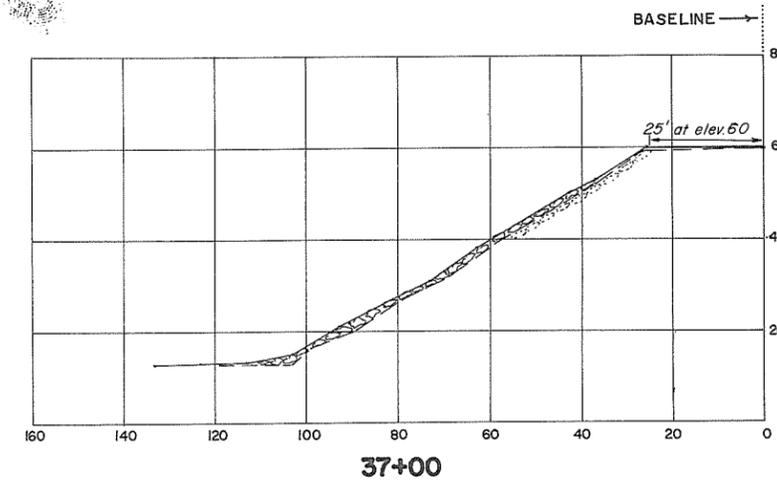
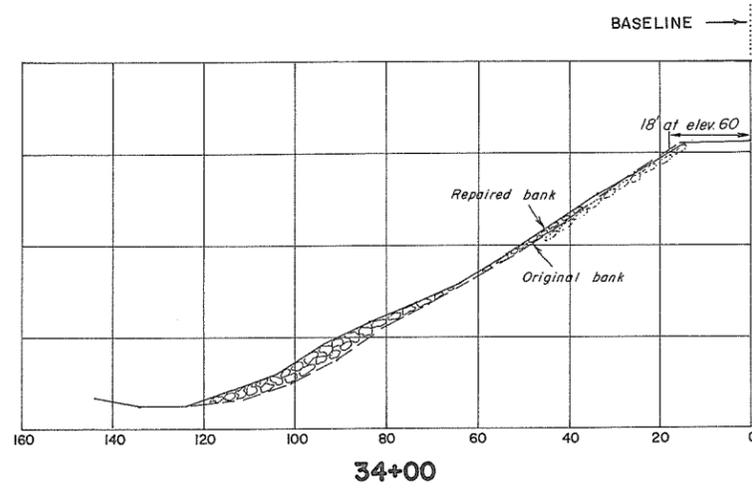
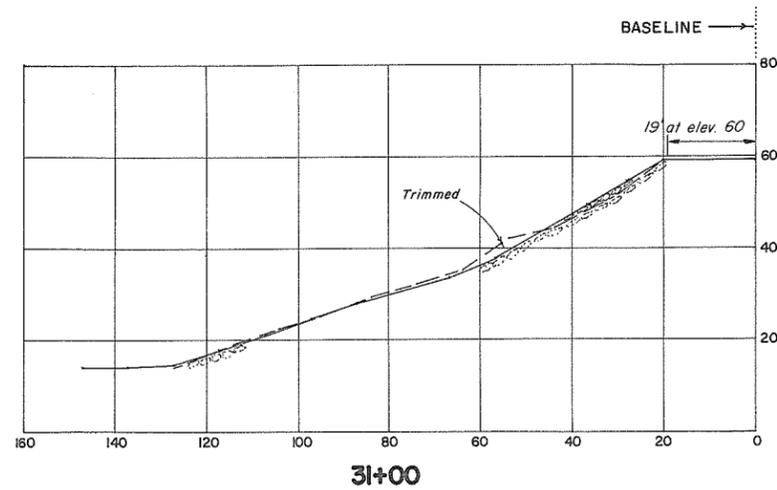
APPROVED: *[Signature]* SCALE: AS SHOWN

FILE No.  
0281550-C7

9014  
DWG. No.

4758-6-29

SHEET  
25 of 29



**CROSS-SECTIONS**  
Scale: 1" = 20'

**NOTE**

See sheet 19 for details.

**REFERENCES**

DWG. No.	DESCRIPTION	DATE
4758-6-11,12	Typical repair sections	Oct, 1970

APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE:

*[Signature]*  
DATE: 8 Oct 1972

APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA:  
Chief Engineer, Water Investigations Branch

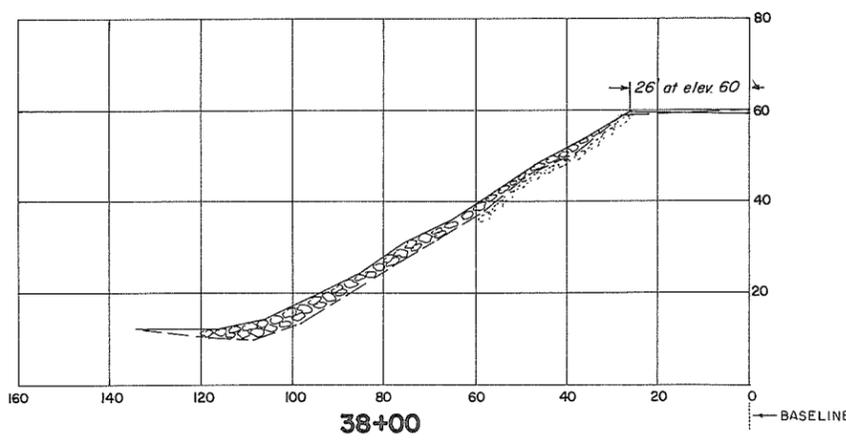
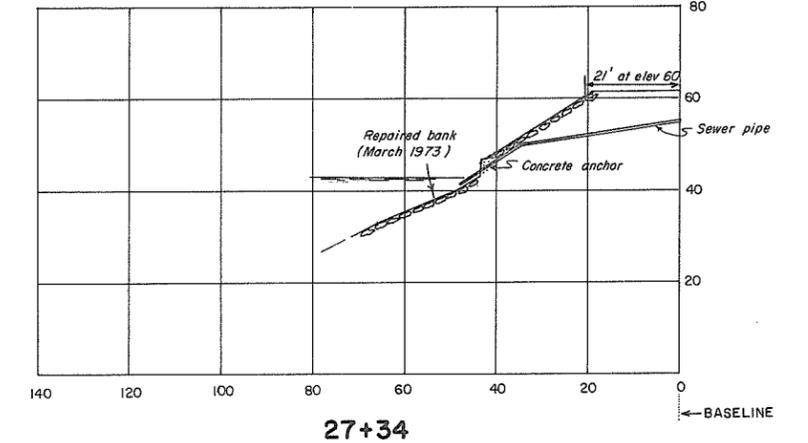
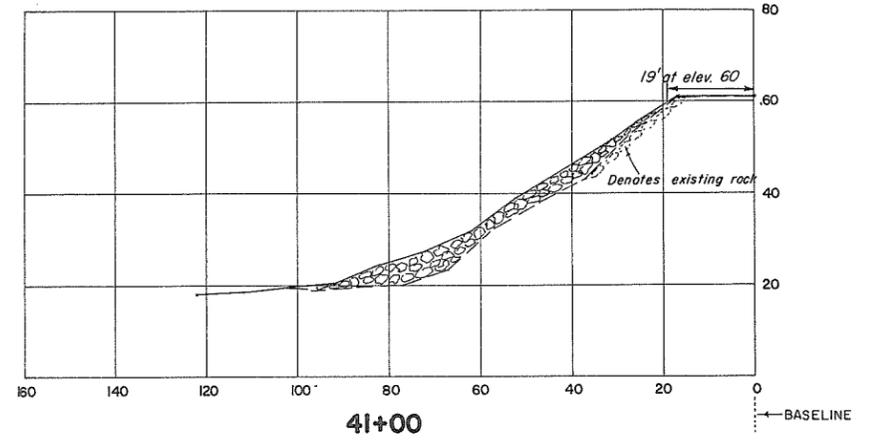
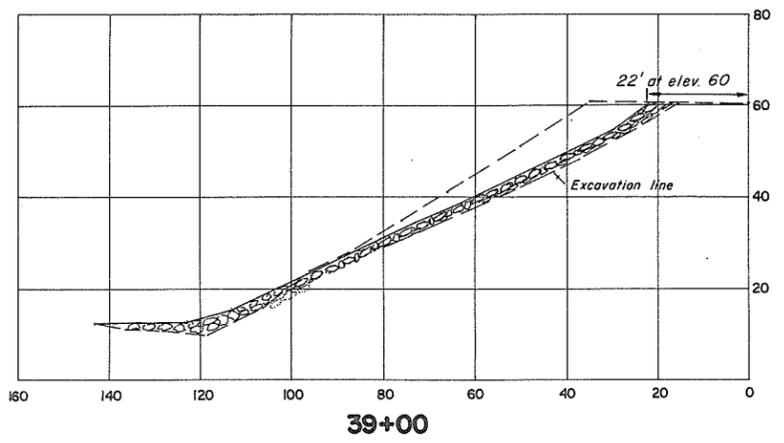
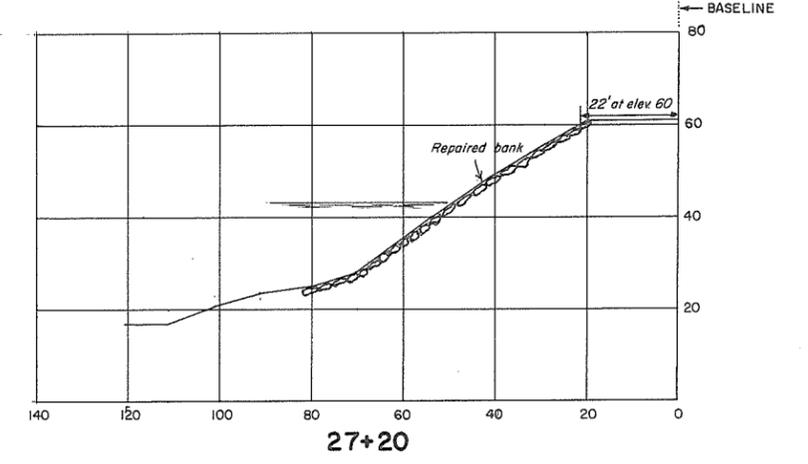
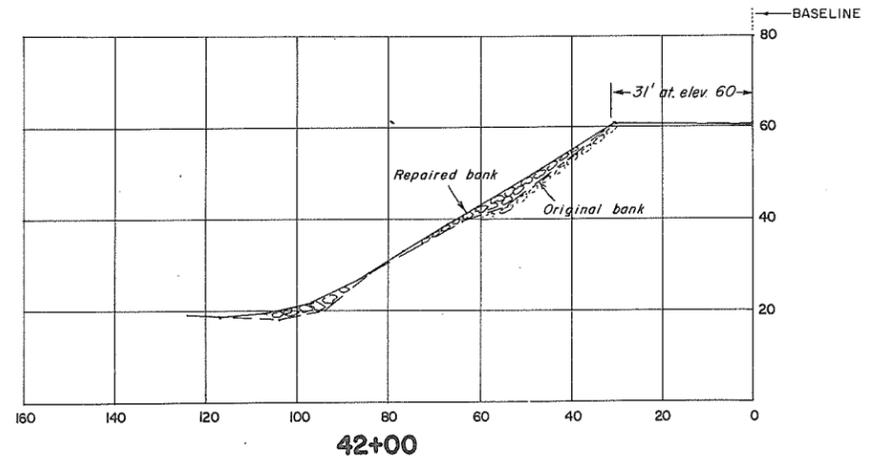
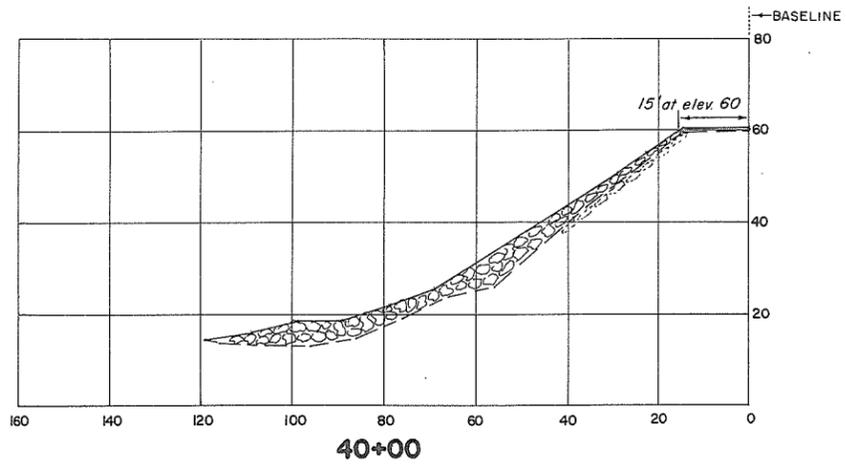
*[Signature]*  
DATE: March 9, 1973

SURVEYED  
D.B.P.  
DATE June, 1970  
DESIGNED  
J.W.  
DRAWN  
J.S.  
TRACED  
CHECKED  
*[Signature]*  
DATE July, 1972

BRITISH COLUMBIA  
DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES  
WATER RESOURCES SERVICE  
WATER INVESTIGATIONS BRANCH  
CANADA - BRITISH COLUMBIA  
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT  
PROJECT No. 1 - DISTRICT OF KENT  
CONTRACT No. 6  
**BANK PROTECTION, SITE D  
SECTIONS**  
APPROVED *[Signature]* SCALE: AS SHOWN

FILE No.  
0281550-C7  
9015  
DWG. No.  
4758-6-30  
SHEET  
26 OF 29

**AS CONSTRUCTED**



**CROSS SECTIONS**  
Scale: 1" = 20'

**SEWER OUTFALL**  
Scale: 1" = 20'

**NOTE**

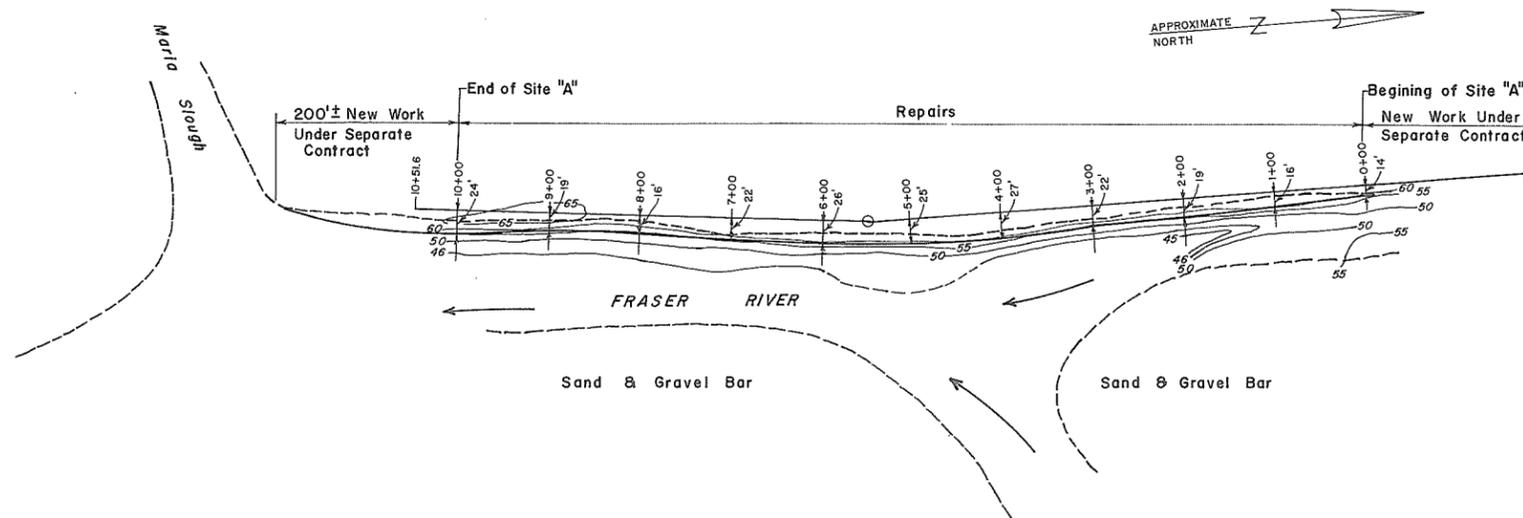
1. All site D sheets redrawn.
2. Source of materials:
  - fills, excavated bank material and rock rubble from Caignou quarry.
  - rock riprap, Caignou quarry.
3. Construction dates, January 3 to April 19, 1972.
4. Elevations, G.S.C. datum.
5. All sections are at right angles to the baseline unless otherwise shown.
6. Sewer outfall changes added June 1973.

**AS CONSTRUCTED**

REFERENCES			APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE:  DATE: <u>8 Oct 1972</u>	SURVEYED D.B.P. DATE: <u>JUNE 1970</u>	DESIGNED J.W. DRAWN J.S. TRACED	BRITISH COLUMBIA DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH  CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT PROJECT No.1-DISTRICT OF KENT CONTRACT No. 6 <b>BANK PROTECTION, SITE D SECTIONS</b>	FILE No. 0281550-C7  9016  DWG. No. 4758-6-31  SHEET 27 of 29
DWG. No.	DESCRIPTION	DATE					
4758-6-11,12	Typical repair sections.	Oct, 1970	APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA: Chief Engineer, Water Investigations Branch DATE: <u>March 9, 1973</u>	CHECKED R.D. Edward DATE JULY 1972	APPROVED: <u>[Signature]</u>	SCALE: AS SHOWN	

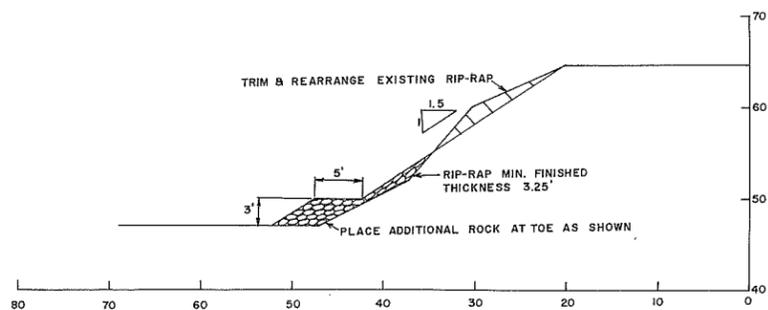
**PLAN-SITE "A"**

Scale - 1 inch = 100 feet



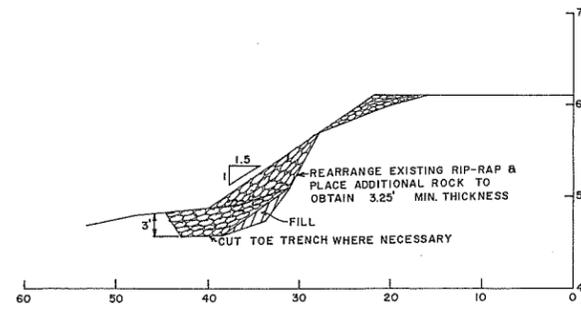
**TYPICAL CROSS SECTIONS**

Scale - 1 inch = 10 feet



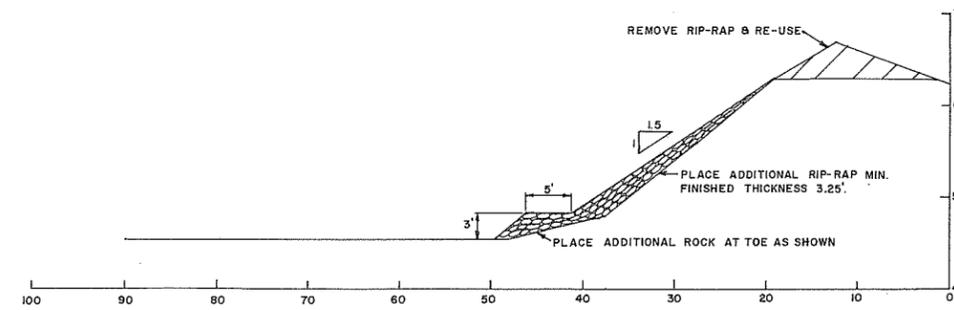
**TYPICAL SECTION**  
Where existing rip-rap requires trimming

1. WHERE TRIM SLOPE IS INDICATED, RE-ARRANGE EXISTING RIP-RAP TO OBTAIN A SMOOTH SURFACE WHERE THICKNESS OF RIP-RAP IS SUFFICIENT, WHERE THICKNESS OF ROCK IS INSUFFICIENT THE EXISTING ROCK SHOULD BE RE-ARRANGED AND MIXED WITH ADDITIONAL ROCK TO OBTAIN A WELL GRADED MASS OF STONE TO GET THE REQUIRED THICKNESS.
2. THE MINIMUM ACCEPTABLE THICKNESS OF EXISTING RIP RAP IS 2.5' IF THE RIP RAP IS WELL CONSOLIDATED AND STABLE.
3. WHERE THE EXISTING THICKNESS OF RIP RAP IS LESS THAN 2.5' ADDITIONAL ROCK IS REQUIRED TO OBTAIN A MINIMUM THICKNESS OF 3.25'.
4. ROCK FOR ALL OTHER AREAS TO HAVE A MINIMUM THICKNESS OF 3.25'.



**TYPICAL SECTION**  
SLOPE IS STEEPER THAN 1.5:1

1. REMOVE EXISTING RIP-RAP, FILL TO 1.5:1
2. OVERLAY WITH RIP-RAP 3.25' MINIMUM THICKNESS
3. PLACE ADDITIONAL RIP-RAP AT TOE.



**TYPICAL SECTION**  
SLOPE IS APPROXIMATELY 1.5:1

1. WHERE TRIM SLOPE IS INDICATED, RE-ARRANGE EXISTING RIP-RAP TO OBTAIN A SMOOTH SURFACE WHERE THICKNESS OF RIP-RAP IS SUFFICIENT. WHERE THICKNESS OF ROCK IS INSUFFICIENT THE EXISTING ROCK SHOULD BE RE-ARRANGED AND MIXED WITH ADDITIONAL ROCK TO OBTAIN A WELL GRADED MASS OF STONE TO GET THE REQUIRED THICKNESS.
2. THE MINIMUM ACCEPTABLE THICKNESS OF EXISTING RIP RAP IS 2.5' IF THE RIP RAP IS WELL CONSOLIDATED AND STABLE.
3. WHERE THE EXISTING THICKNESS OF RIP RAP IS LESS THAN 2.5' ADDITIONAL ROCK IS REQUIRED TO OBTAIN A MINIMUM THICKNESS OF 3.25'.
4. ROCK FOR ALL OTHER AREAS TO HAVE A MINIMUM THICKNESS OF 3.25'.

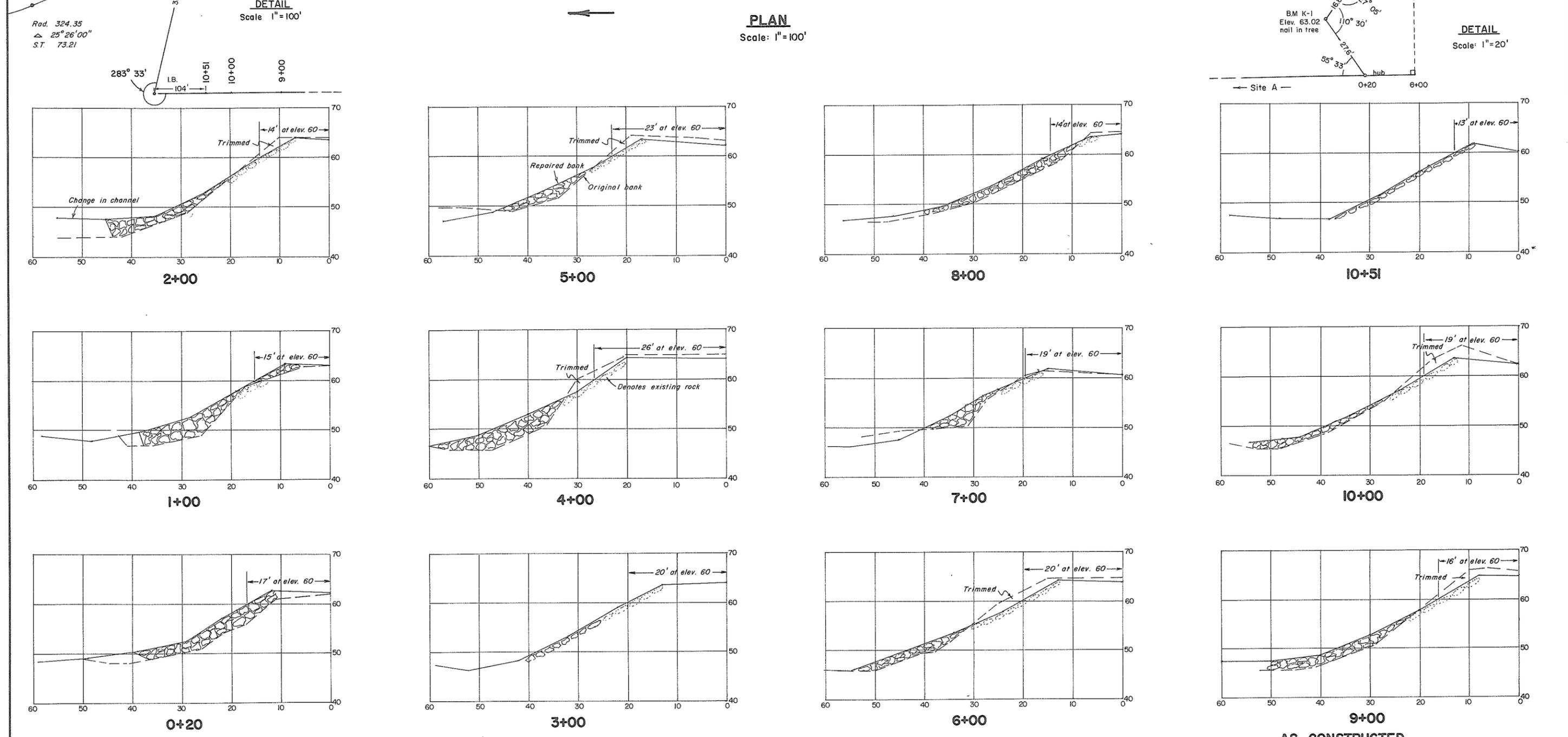
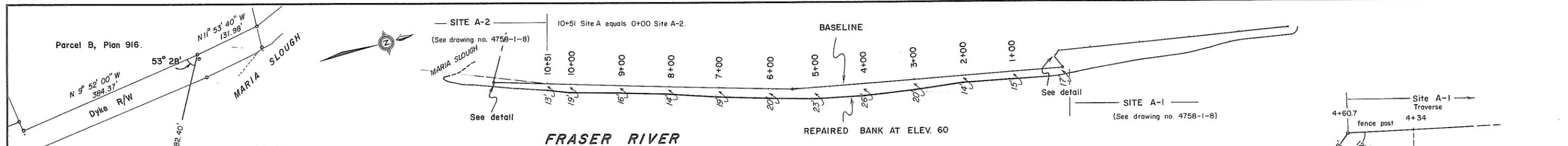
**NOTE:**

1. A GOOD ALIGNMENT SHOULD BE MAINTAINED OVER THE ENTIRE LENGTH.
2. OFFSET DISTANCES FROM BASE LINE TO TOP OF BANK ARE TAKEN AT EL. 60 G.S.C.
3. MINIMUM THICKNESS OF RIP-RAP TO BE 3.25'
4. ROCK SIZES TO BE IN ACCORDANCE WITH DETAILED SPECIFICATIONS.

**AS CONSTRUCTED**

REFERENCES			APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE <i>[Signature]</i> DATE: 7 January 1971	APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA <i>[Signature]</i> DATE: Jan 11/71	SURVEYED J. M. DATE: NOV. 1970	DESIGNED J. WESTER	DRAWN A. K. M.	TRACED B. Mc.	CHECKED A. K. M.	DATE NOV. 1970	BRITISH COLUMBIA DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH	CANADA-BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT PROJECT No. 1 - DISTRICT OF KENT CONTRACT No. 6 PLAN AND TYPICAL CROSS SECTIONS SITE "A" STATION 0+00 TO 10+00	FILE No. 0281550-B7
DWG. No.	DESCRIPTION	DATE											

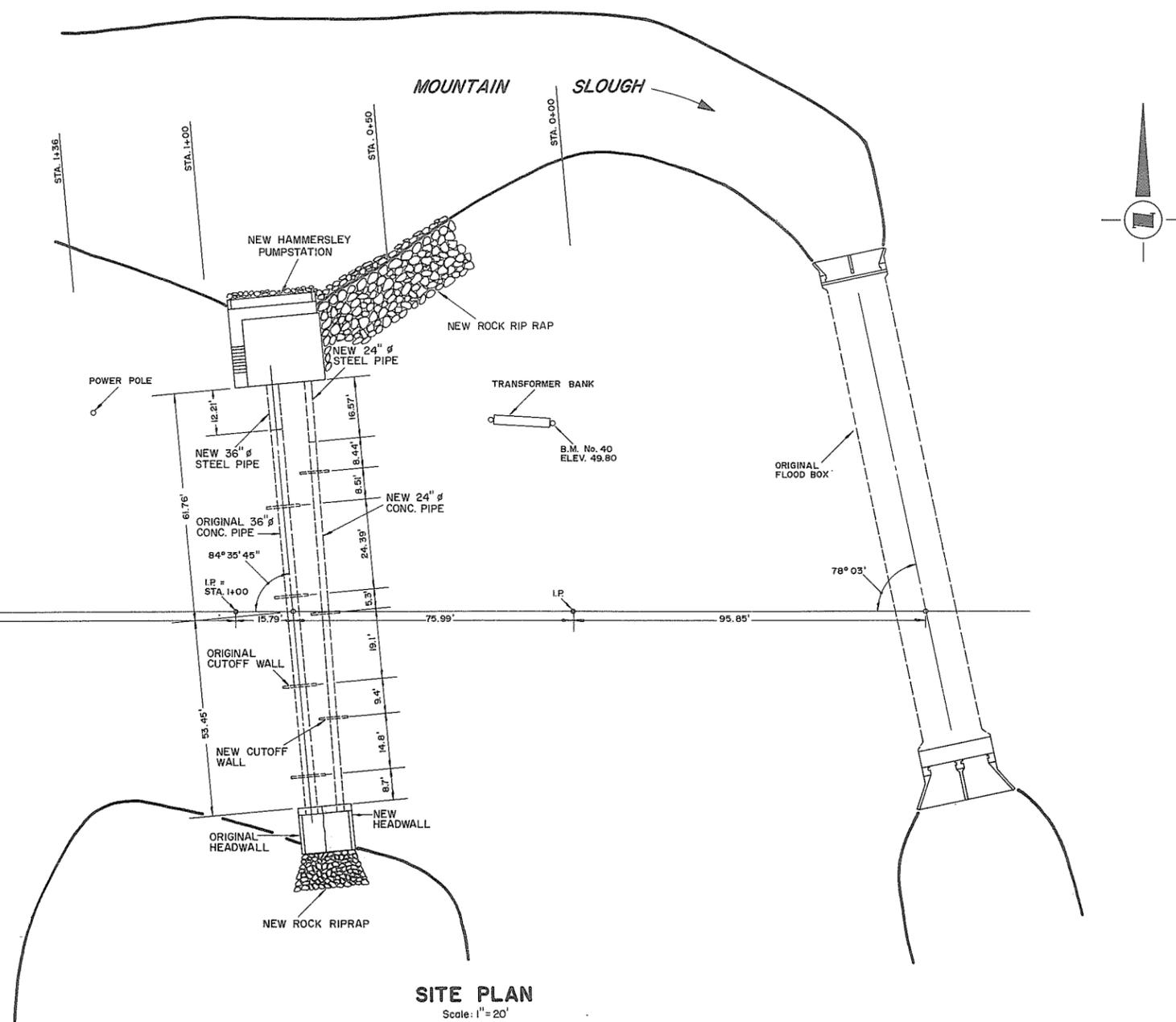
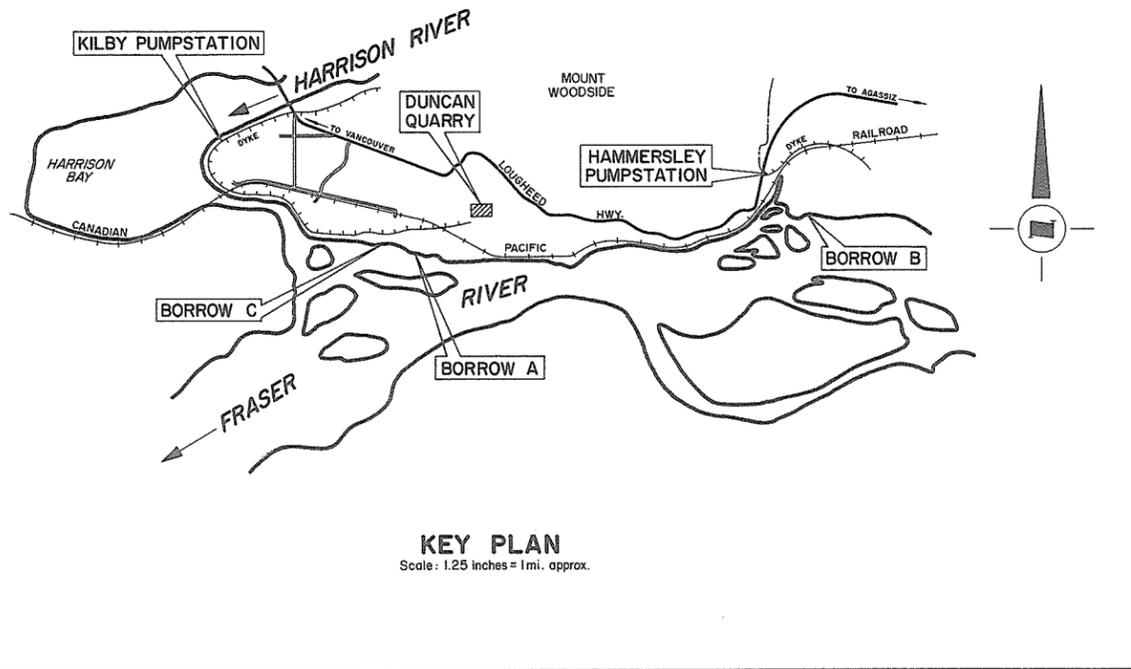
8997  
DWG. No.  
4758-6-13



REFERENCES			APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE:		SURVEYED		BRITISH COLUMBIA DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH	FILE No. 0281550-C7
DWG. No.	DESCRIPTION	DATE	DATE	DATE	DATE	DATE		
4758-6-13	PLAN & SECTION	NOV, 1970	8 Oct 1972	NOV. 1970			CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT PROJECT No. 1-DISTRICT OF KENT CONTRACT No. 6 <b>BANK PROTECTION, SITE A</b> <b>PLAN AND SECTIONS</b>	8998 DWG. No. 4758-6-13A
								APPROVED: [Signature] SCALE: AS SHOWN

# **INTERNAL DRAINAGE**

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- NOTES**
- Dates of construction - October 16, 1970 to July 31, 1971.
  - Elevations - W.C.T. & Co. B.M. No. 40. (G.S.C.).
  - Source of materials:
    - Rip rap - Municipal quarry & Caignou quarry at south end of Tuyettens Road.
    - Gravel - Municipal pit & Borrow B
    - Impervious - Borrow A.
  - Plan redrawn.

REFERENCES		
DWG. No.	DESCRIPTION	DATE
4758-4-1	Site plan and general arrangement	Dec., 1969

APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE:  
*[Signature]*  
 DATE: *5 Oct 71*

APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA:  
*[Signature]*  
 CHIEF ENGINEER, WATER INVESTIGATIONS BRANCH  
 DATE: *Nov 14 1971*

SURVEYED \_\_\_\_\_  
 DATE \_\_\_\_\_  
 DESIGNED Willis, Cunliffe, Tait & Co.  
 DRAWN D.B.P.  
 TRACED \_\_\_\_\_  
 CHECKED R.A.E.  
 DATE NOV., 1971

**AS CONSTRUCTED**

BRITISH COLUMBIA  
 DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES  
 WATER RESOURCES SERVICE  
 WATER INVESTIGATIONS BRANCH

CANADA - BRITISH COLUMBIA  
 FRASER RIVER FLOOD CONTROL 1968 AGREEMENT

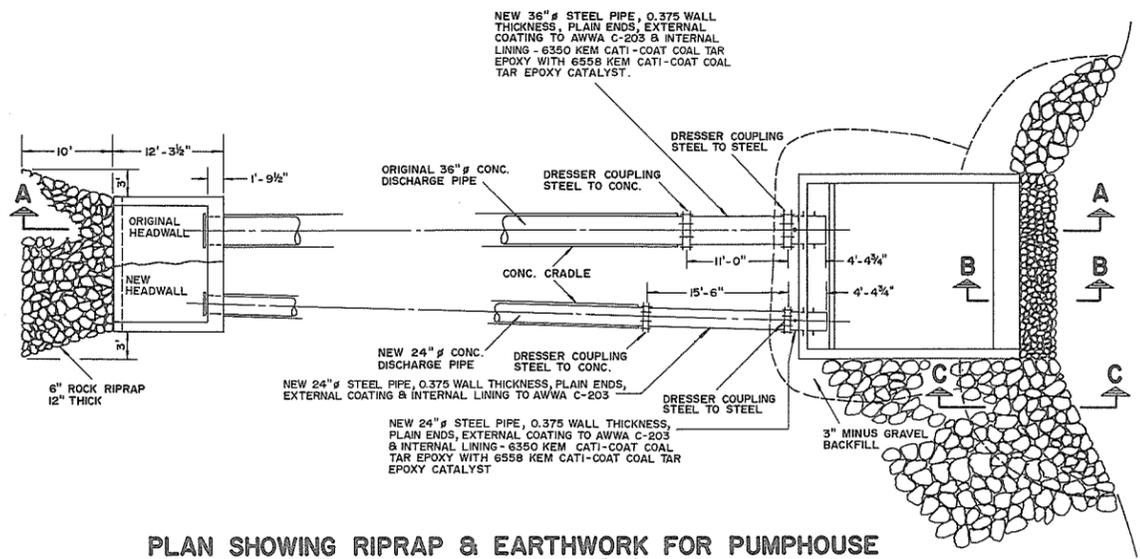
PROJECT No. 1 - DISTRICT OF KENT  
 CONTRACT No. 4 - CONSTRUCTION OF PUMPHOUSES  
**SITE PLAN AND GENERAL ARRANGEMENTS  
 HAMMERSLEY PUMPSTATION**

APPROVED *[Signature]* SCALE: AS SHOWN

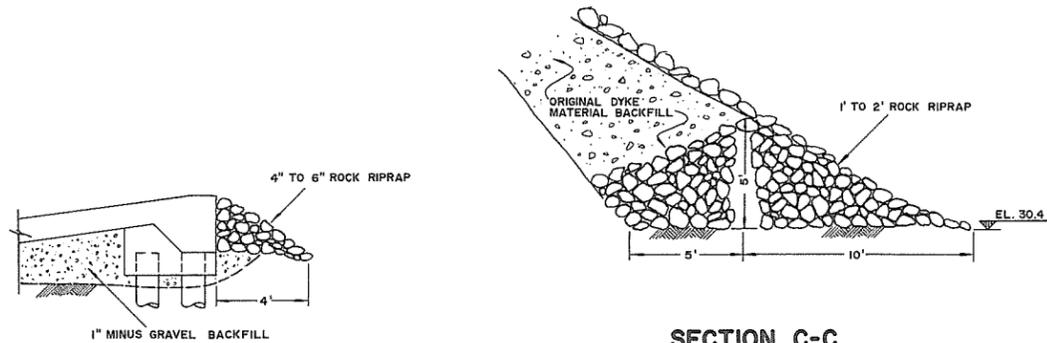
FILE No. 0281550 - C7

104586  
 DWG. No. 4758-4-1A

SHEET 1 of 12

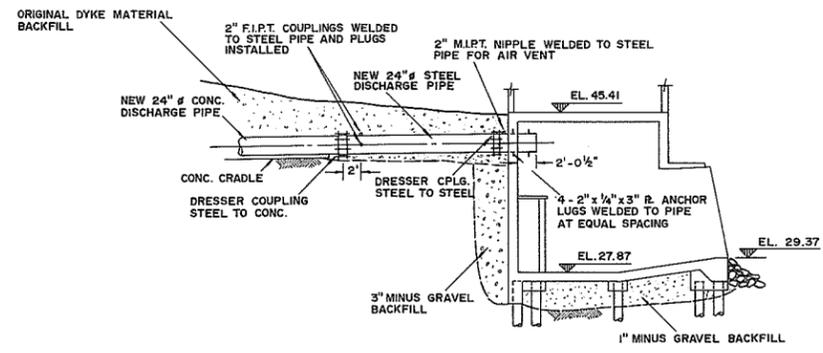


**PLAN SHOWING RIPRAP & EARTHWORK FOR PUMPHOUSE**  
Scale: 1" = 10'



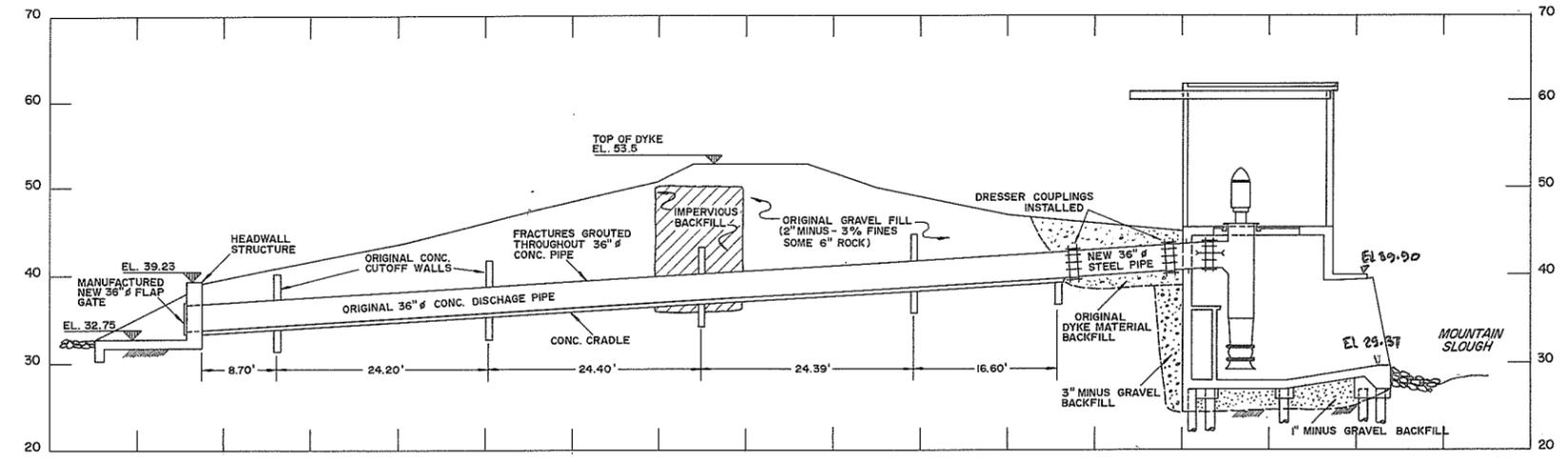
**SECTION B-B**  
Scale: 1/4" = 1'-0"

**SECTION C-C**  
Scale: 1/4" = 1'-0"

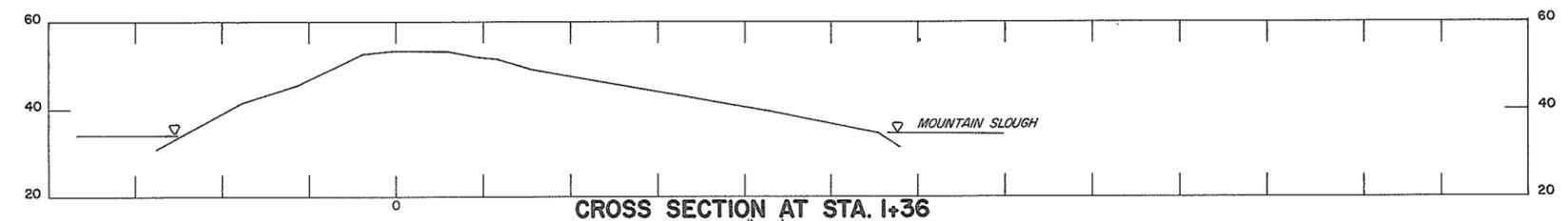


**CROSS SECTION SHOWING BACKFILL AROUND PUMPHOUSE**  
Scale: 1" = 10'

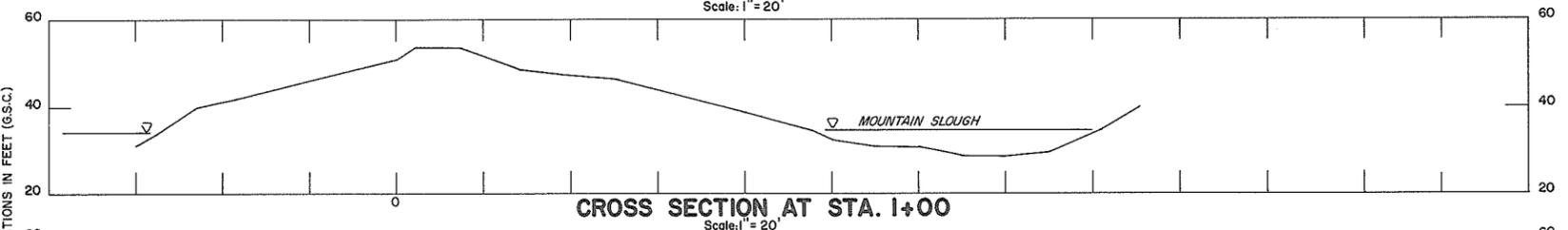
- NOTES**
- Dates of construction - October 16, 1970 to July 31, 1971.
  - Elevations - W.C.T. & Co. B.M. No. 40 (G.S.C.).
  - Gravel encountered throughout 24" discharge pipe excavation.
  - Plan redrawn.



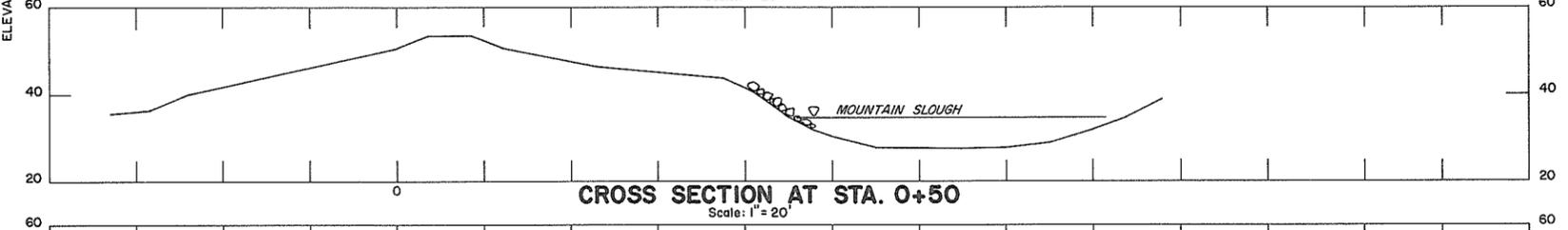
**SECTION A-A**  
Scale: 1" = 10'



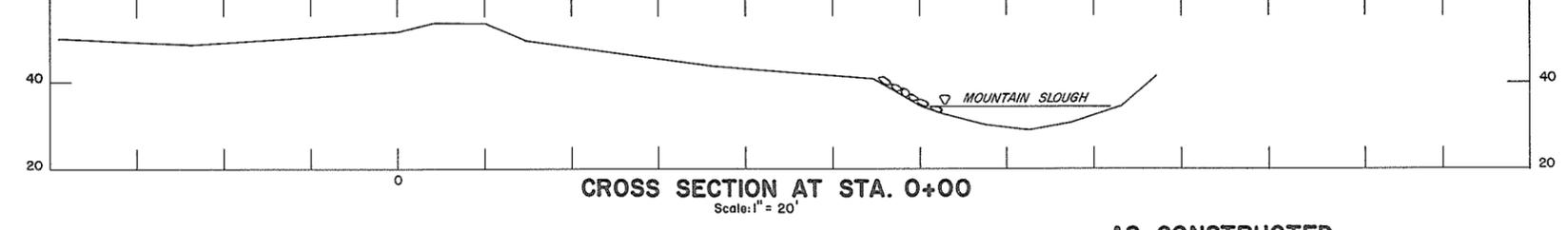
**CROSS SECTION AT STA. 1+36**  
Scale: 1" = 20'



**CROSS SECTION AT STA. 1+00**  
Scale: 1" = 20'



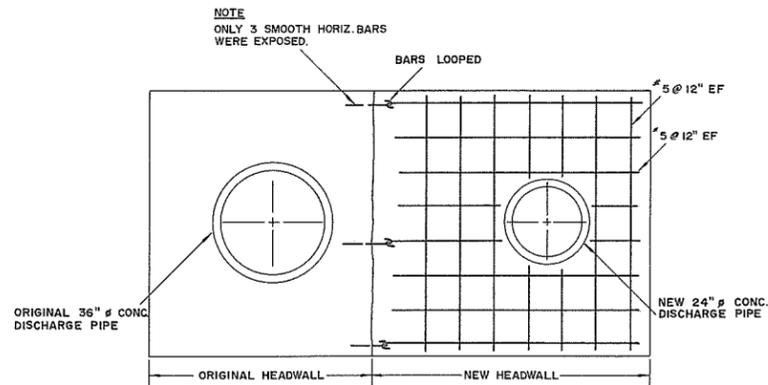
**CROSS SECTION AT STA. 0+50**  
Scale: 1" = 20'



**CROSS SECTION AT STA. 0+00**  
Scale: 1" = 20'

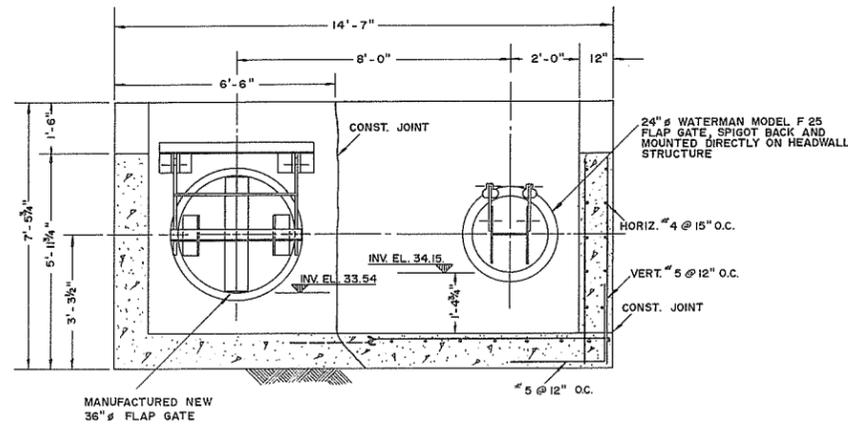
**AS CONSTRUCTED**

REFERENCES			APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE:		SURVEYED		BRITISH COLUMBIA DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH		FILE No.
DWG. No.	DESCRIPTION	DATE	DATE: <i>5 Oct 72</i>		DATE	CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT		0281550 - C7	
4758-4-2	Rip-rap and earthwork details - cross sections of existing pumphouses	Dec., 1969	APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA: <i>[Signature]</i>		DRAWN	PROJECT No. 1 - DISTRICT OF KENT		104587	
			DATE: <i>Nov 14 72</i>		TRACED	CONTRACT No. 4 - CONSTRUCTION OF PUMPHOUSES		DWG. No.	
			CHIEF ENGINEER WATER INVESTIGATIONS BRANCH		CHECKED	RIPRAP AND EARTHWORK DETAILS		4758-4-2A	
			DATE: <i>Nov 14 72</i>		R.A.E.	HAMMERSLEY PUMPSTATION		SHEET	
			APPROVED: <i>[Signature]</i>		DATE	SCALE: AS SHOWN		2 of 12	
					NOV., 1971				



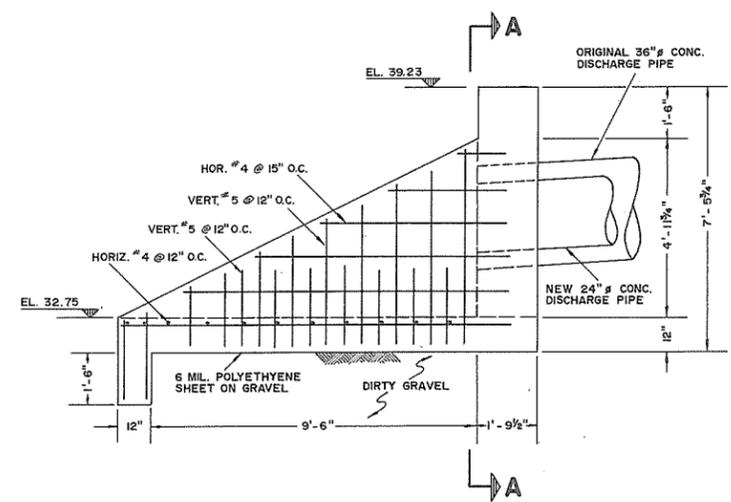
**ELEVATION SHOWING STEEL IN HEADWALL**

Scale:  $\frac{3}{8}'' = 1' - 0''$



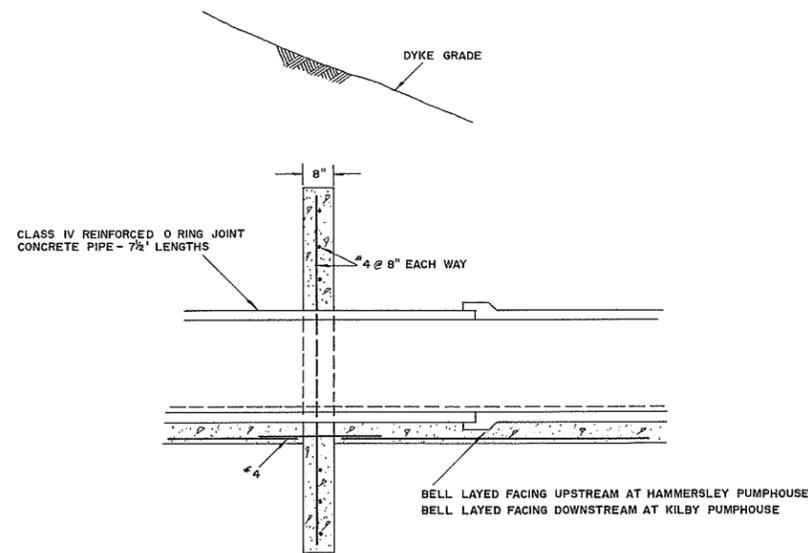
**SECTION A-A**

Scale:  $\frac{3}{8}'' = 1' - 0''$



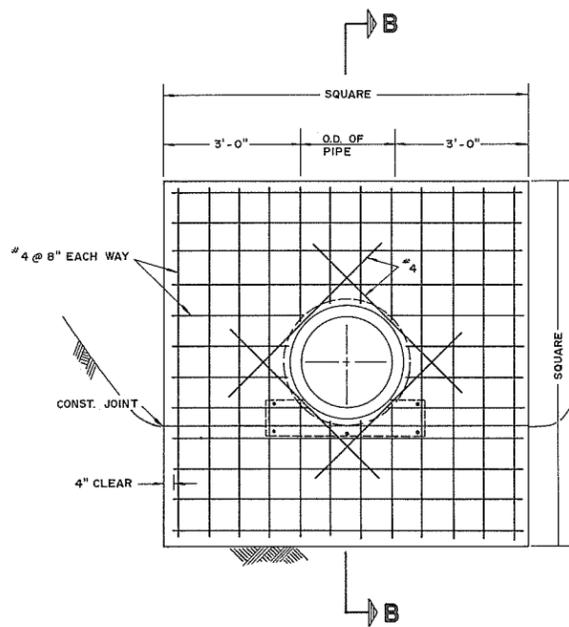
**ELEVATION SHOWING STEEL IN WING WALL**

Scale:  $\frac{3}{8}'' = 1' - 0''$



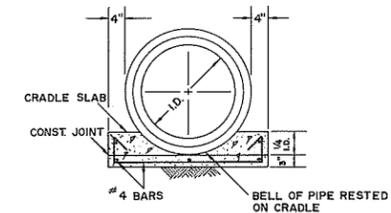
**SECTION B-B**

Scale:  $\frac{1}{2}'' = 1' - 0''$



**DETAIL OF STEEL IN CUTOFF WALL**

Scale:  $\frac{1}{2}'' = 1' - 0''$



**CONCRETE CRADLE DETAIL**

Scale:  $\frac{1}{2}'' = 1' - 0''$

**NOTES**

1. Dates of construction - October 16, 1970 to July 31, 1971.
2. Elevation - W.C.T. & Co. B.M. No. 40 (G.S.C.).
3. Gravel encountered in cutoff wall excavation.
4. Plan redrawn.

**REFERENCES**

DWG. No.	DESCRIPTION	DATE
4758-4-3	Test hole data - headwall and cutoff wall structural details	Dec., 1969

APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE:

*[Signature]*  
DATE: 15 Oct 72

APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA:

*[Signature]*  
CHIEF ENGINEER - WATER INVESTIGATIONS BRANCH  
DATE: Nov 14 72

SURVEYED

DATE

DESIGNED  
Willis, Cunliffe, Tai & Co.

DRAWN  
D.B.P.

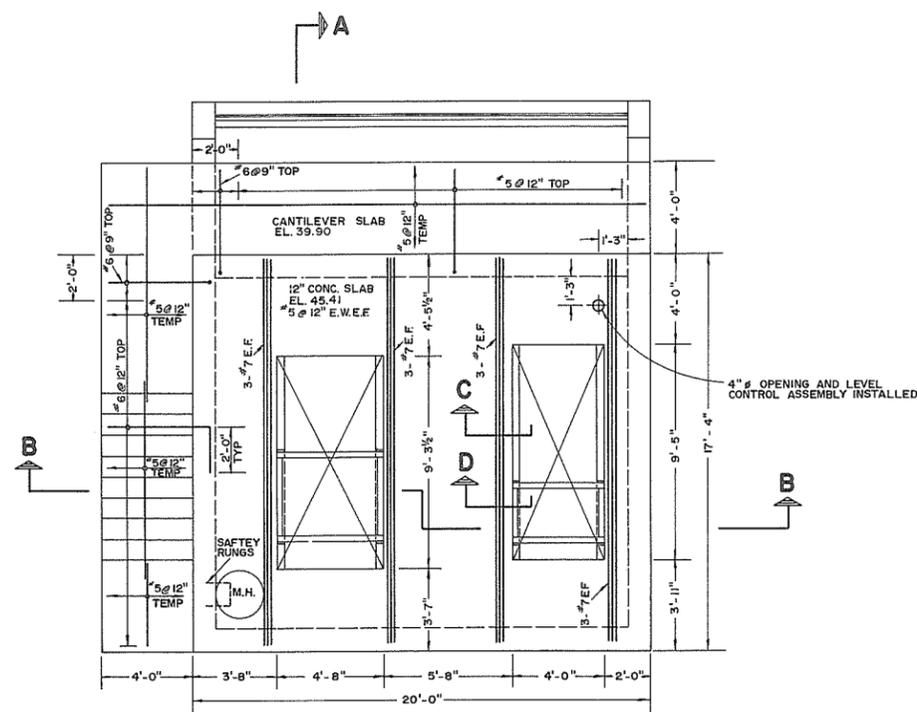
TRACED

CHECKED  
R.A.E.

DATE  
NOV., 1971

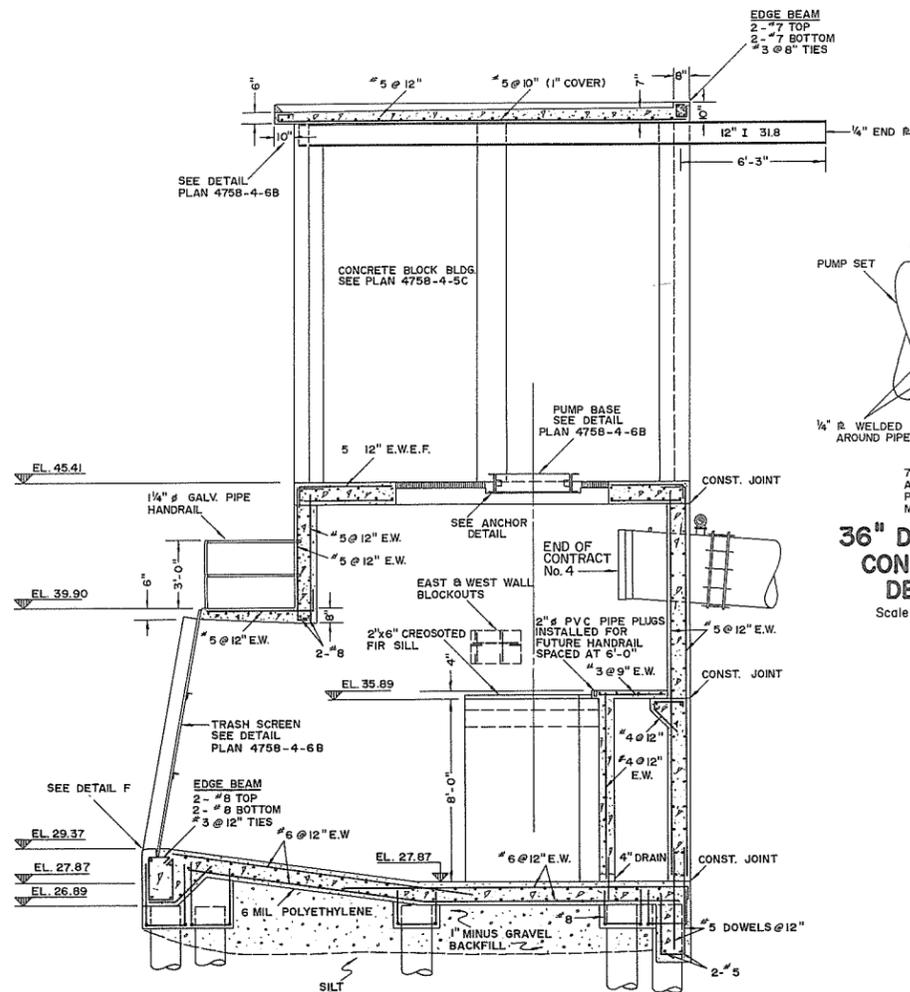
**AS CONSTRUCTED**

BRITISH COLUMBIA DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH	FILE No. 0281550 - C7
CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT	
PROJECT No. 1 - DISTRICT OF KENT CONTRACT No. 4 - CONSTRUCTION OF PUMPHOUSES HEADWALL AND CUTOFF WALL STRUCTURAL DETAILS HAMMERSLEY PUMPHOUSE	104588 DWG. No. 4758-4-3A
APPROVED <i>[Signature]</i>	SCALE: AS SHOWN
	SHEET 3 OF 12



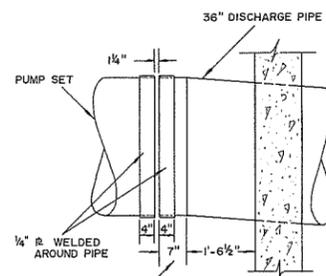
**MAIN FLOOR PLAN**

Scale: 1/4" = 1'-0"



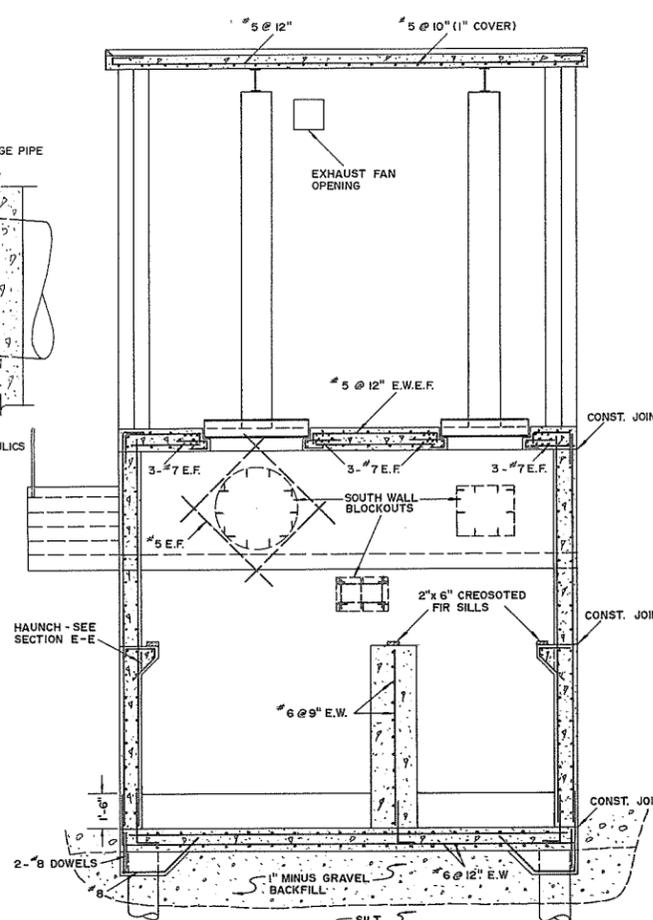
**SECTION A-A**

Scale: 1/4" = 1'-0"



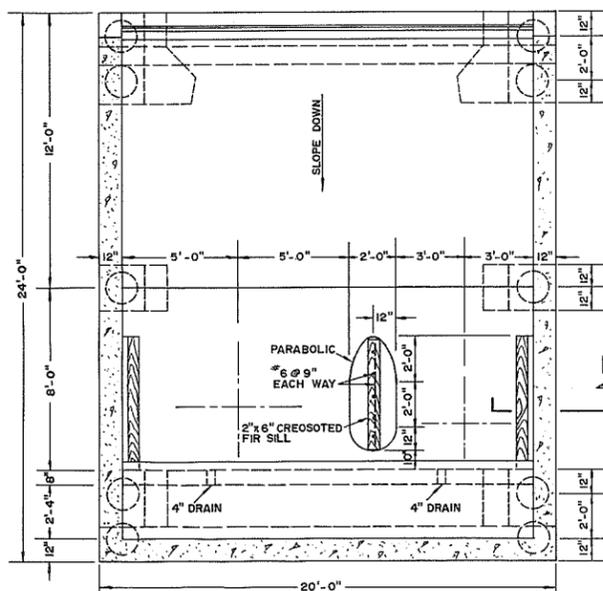
**36" DISCHARGE CONNECTION DETAIL**

Scale: 1/2" = 1'-0"



**SECTION B-B**

Scale: 1/4" = 1'-0"

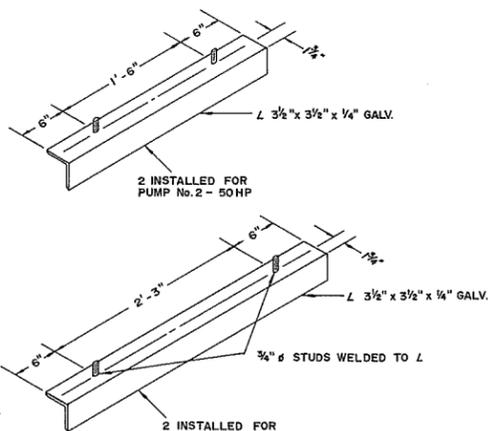


**SUMP PLAN**

Scale: 1/4" = 1'-0"

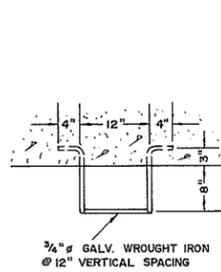
**NOTES**

- Dates of construction - October 16, 1970 to July 31, 1971.
- Elevations - W.C.T. & Co. B.M. No. 40 (G.S.C.).
- Saturated silt encountered in pumphouse excavation.
- Plan redrawn.



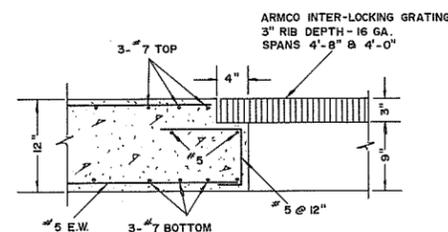
**PUMP BASE ANCHOR DETAILS**

N.T.S.



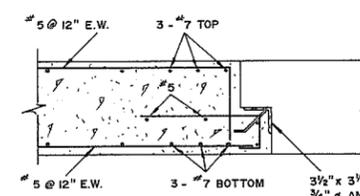
**SAFETY RUNG DETAILS**

Scale: 3/4" = 1'-0"



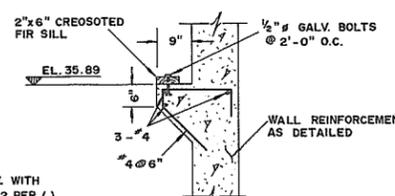
**SECTION C-C**

Scale: 1" = 1'-0"



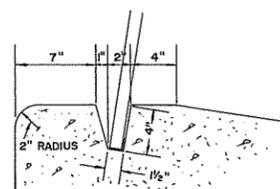
**SECTION D-D**

Scale: 1" = 1'-0"



**SECTION E-E**

Scale: 1" = 1'-0"

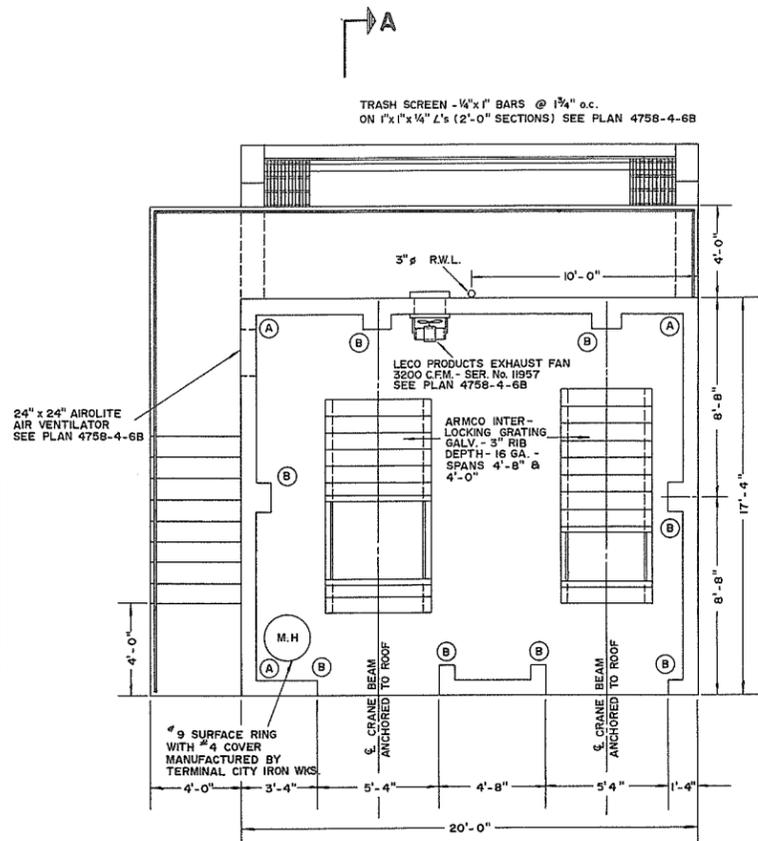


**DETAIL F**

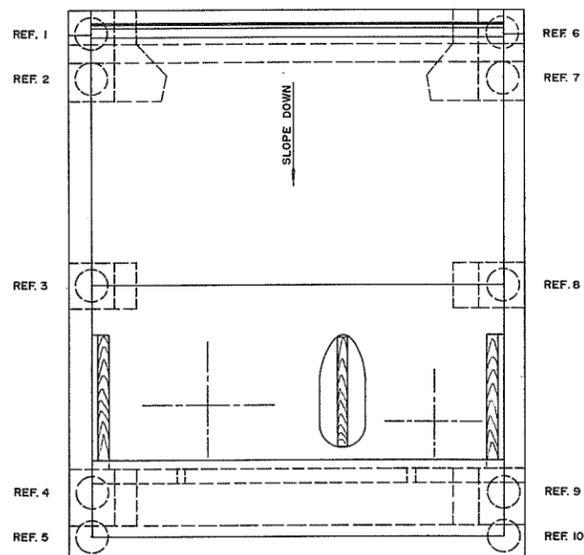
Scale: 1 1/2" = 1'-0"

**AS CONSTRUCTED**

REFERENCES			SURVEYED		BRITISH COLUMBIA DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH	FILE No. 0281550 - C7
DWG. No.	DESCRIPTION	DATE	DATE	DATE		
4758-4-4A	Structural concrete details	Dec., 1969	15 Oct 72		CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT	104589 DWG. No.
					PROJECT No. 1 - DISTRICT OF KENT CONTRACT No. 4 - CONSTRUCTION OF PUMPHOUSES HAMMERSLEY PUMPSTATION	4758-4-4B
					APPROVED: <i>[Signature]</i>	SHEET 4 of 12



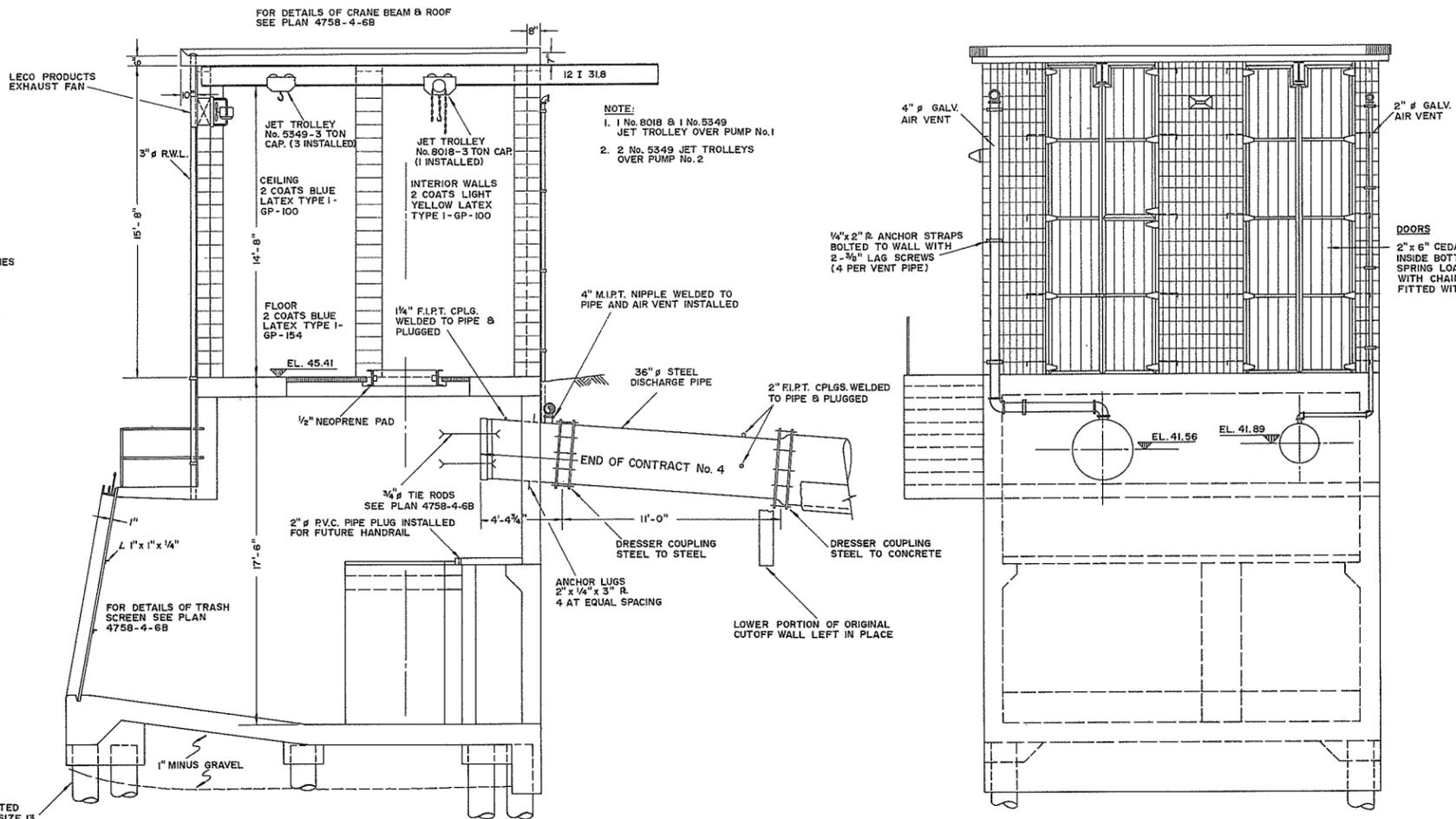
**MAIN FLOOR PLAN**  
Scale: 1/4" = 1'-0"



**SUMP PLAN**  
Scale: 1/4" = 1'-0"

- NOTES**
- Dates of construction - October 16, 1970 to July 31, 1971.
  - Elevations - W.C.T. & Co. B.M. No. 40 (G.S.C.)
  - Plan redrawn.

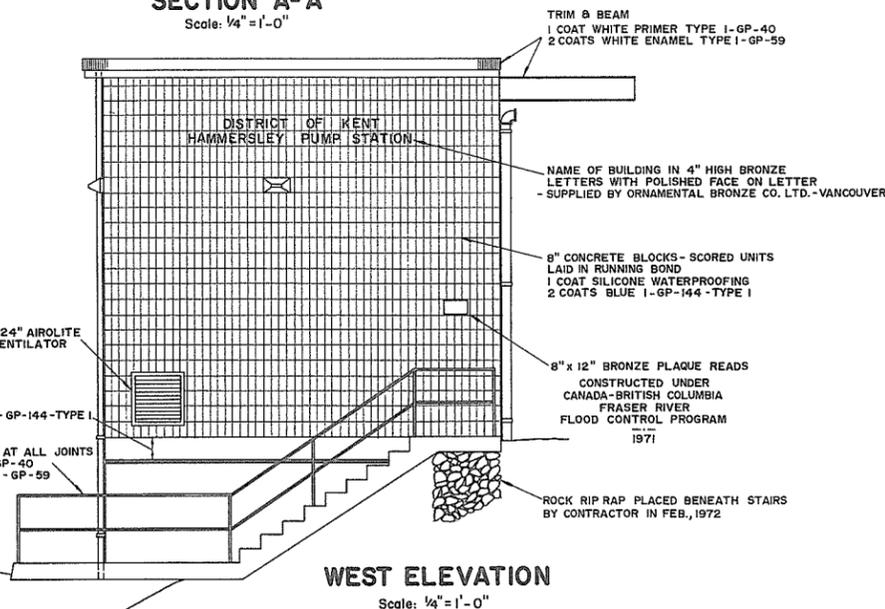
- CONCRETE BLOCK REINFORCEMENT**
- (A) CORNERS - 3 ADJACENT CORES FILLED WITH CONCRETE - NO REBAR.
  - (B) PILASTER - 4 - "6 VERT. "2 @ 8" TIES CORES FILLED WITH CONCRETE
- HORIZONTAL WALL REINFORCEMENT**
- 6" x 16" 3/8 HEAVY WIRE MASONRY BINDER EVERY SECOND COURSE



**SECTION A-A**  
Scale: 1/4" = 1'-0"

**SOUTH ELEVATION**  
Scale: 1/4" = 1'-0"

PRESSURE TREATED DOUGLASS FIR, SIZE 13 TIMBER PILES

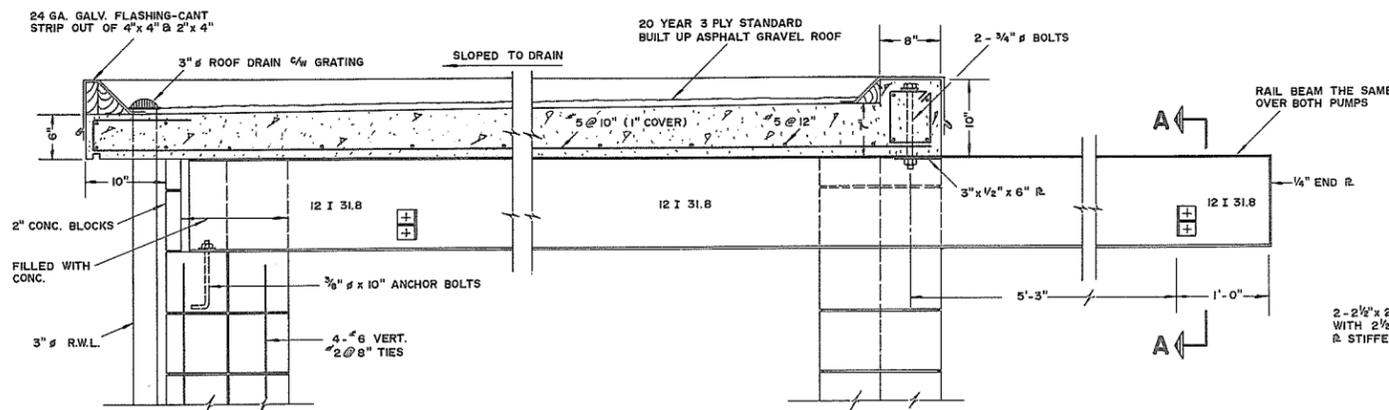


**WEST ELEVATION**  
Scale: 1/4" = 1'-0"

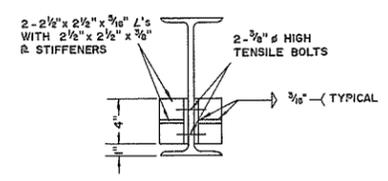
**FOUNDATION PILING DATA - 2000 LB. DROP HAMMER WITH A DROP OF 13"**

REF. No.	TOP EL.	TIP EL.	LENGTH IN PLACE	PENETRATION ON LAST 5 BLOWS
1	26.79	-21.30	47.30'	1 1/4"
2	26.84	-20.97	46.97'	1 1/4"
3	26.81	-23.50	49.50'	1"
4	26.88	-20.17	46.17'	1 1/8"
5	26.91	-18.20	44.26'	1 1/4"
6	26.89	-22.15	48.15'	1 1/2"
7	26.49	-20.24	46.24'	5/8"
8	26.91	-19.10	45.10'	3/8"
9	26.59	-18.35	44.35'	1 1/4"
10	26.29	-18.50	44.50'	1 1/4"

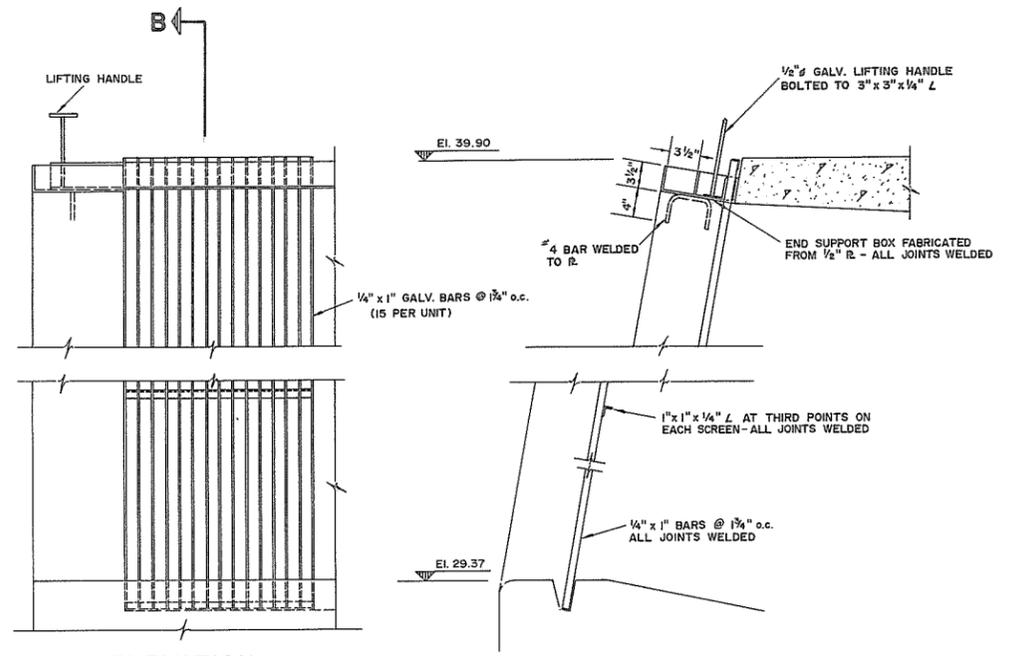
REFERENCES			SURVEYED		AS CONSTRUCTED	
DWG. No.	DESCRIPTION	DATE	DATE	DESIGNED	PROJECT No. 1 - DISTRICT OF KENT	FILE No.
4758-4-5B	General details of pump house	Jan., 1970	15 Oct 72	Willis, Cunliffe, Tait & Co.	FRASER RIVER FLOOD CONTROL 1968 AGREEMENT	0281550 - C7
				D.B.P.	CONTRACT No. 4 - CONSTRUCTION OF PUMPHOUSES	104590
				TRACED	GENERAL DETAILS OF PUMPHOUSE	4758-4-5C
				CHECKED R.A.E.	HAMMERSLEY PUMPSTATION	
				DATE DEC., 1971	APPROVED <i>[Signature]</i>	SHEET 5 OF 12
					SCALE: AS SHOWN	



**CRANE BEAM & ROOF DETAILS**  
Scale: 1" = 1'-0"

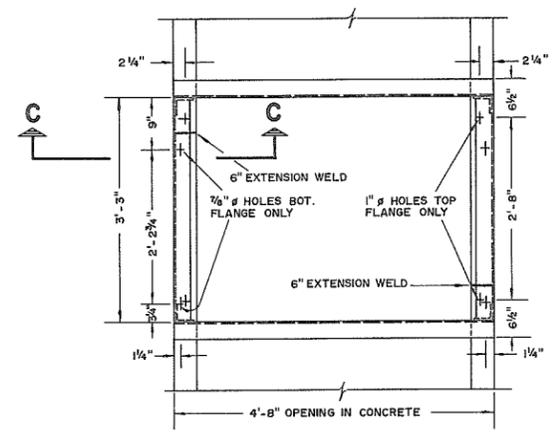


**SECTION A-A**  
Scale: 1/2" = 1'-0"

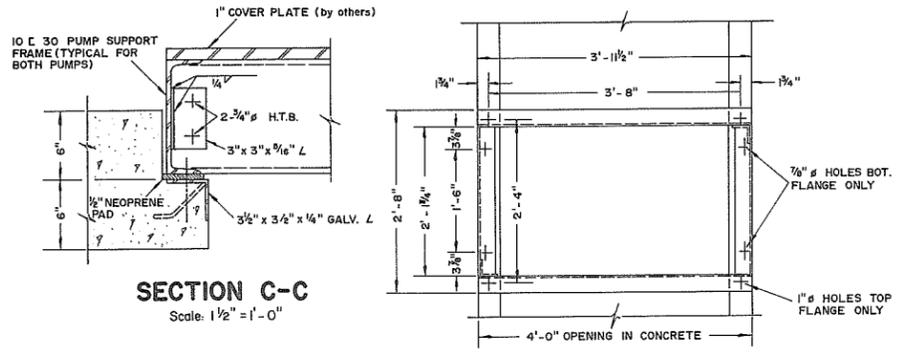


**ELEVATION**  
Scale: 1" = 1'-0"

**SECTION B-B**  
Scale: 1" = 1'-0"

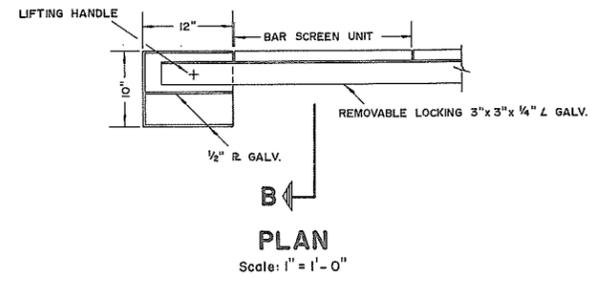


**PLAN PUMP BASE No. 1**  
Scale: 3/4" = 1'-0"

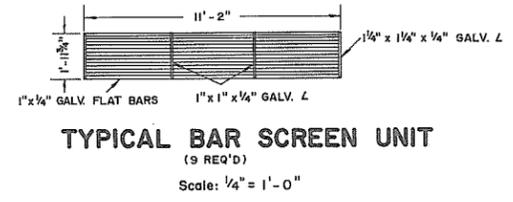


**SECTION C-C**  
Scale: 1/2" = 1'-0"

**PLAN PUMP BASE No. 2**  
Scale: 3/4" = 1'-0"

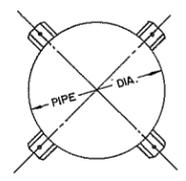


**PLAN**  
Scale: 1" = 1'-0"

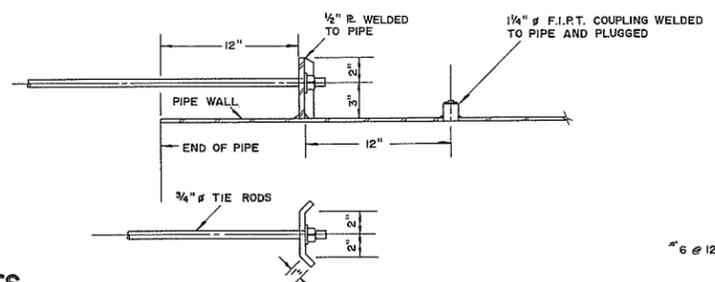


**TYPICAL BAR SCREEN UNIT**  
(9 REQ'D)  
Scale: 1/4" = 1'-0"

**TRASH SCREEN DETAILS**

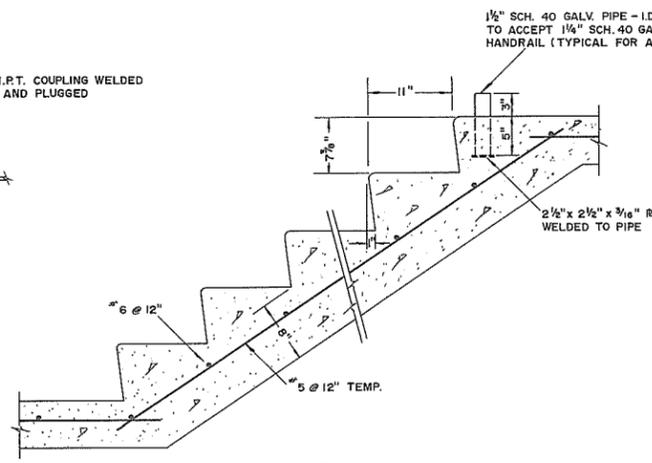


**POSITION OF BRACKETS**  
Scale: 1/2" = 1'-0"

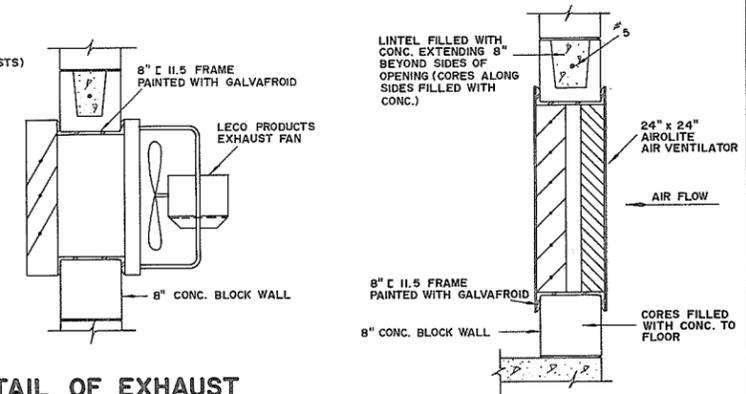


**PLAN**  
Scale: 1 1/2" = 1'-0"

**TIE ROD DETAILS**

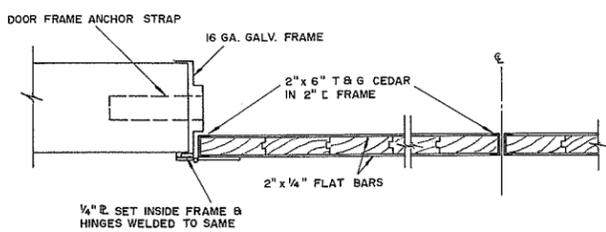


**STAIR DETAILS**  
Scale: 1" = 1'-0"



**DETAIL OF EXHAUST FAN OPENING**  
Scale: 1" = 1'-0"

**DETAIL OF LOUVRE OPENING**  
Scale: 1" = 1'-0"



**DOOR DETAIL**  
Scale: 1 1/2" = 1'-0"

- NOTES**
- Dates of construction - October 16, 1970 to July 31, 1971
  - Elevations - W.C.T. & Co B.M. No. 40 (G.S.C.)
  - Plan redrawn.

REFERENCES		
DWG. No.	DESCRIPTION	DATE
4758-4-6A	Mechanical & structural details	Jan., 1970

APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE:  
*[Signature]*  
DATE: *5 Oct 72*

APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA:  
*[Signature]*  
CHIEF ENGINEER, WATER INVESTIGATIONS BRANCH  
DATE: *Nov 14 72*

SURVEYED \_\_\_\_\_  
DATE \_\_\_\_\_  
DESIGNED *Willis, Cunliffe, Tait & Co.*  
DRAWN *D.B.P.*  
TRACED \_\_\_\_\_  
CHECKED *R.A.E.*  
DATE *DEC., 1971*

**AS CONSTRUCTED**

BRITISH COLUMBIA  
DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES  
WATER RESOURCES SERVICE  
WATER INVESTIGATIONS BRANCH

CANADA - BRITISH COLUMBIA  
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT

PROJECT No. 1 - DISTRICT OF KENT  
CONTRACT No. 4 - CONSTRUCTION OF PUMPHOUSES  
**MECHANICAL & STRUCTURAL DETAILS**  
**HAMMERSLEY PUMPSTATION**

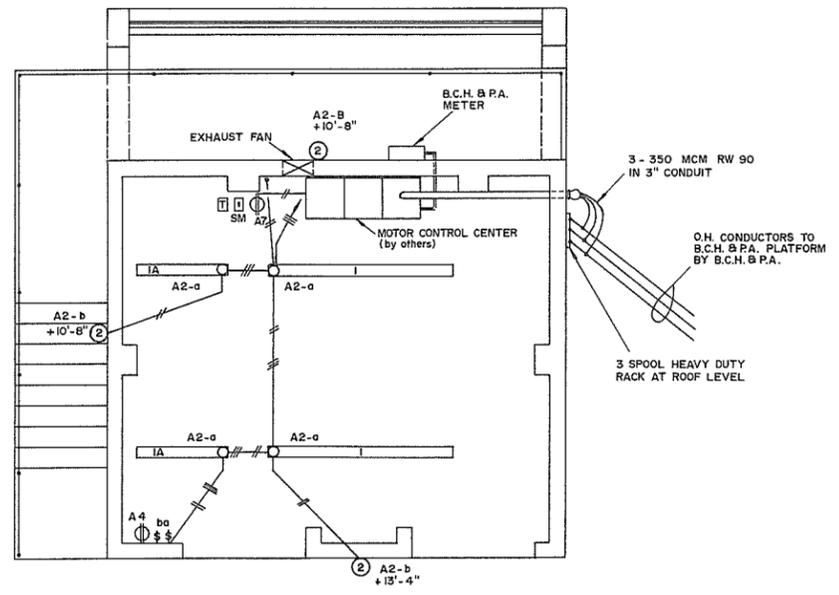
APPROVED: *[Signature]* SCALE: AS SHOWN

FILE No.  
O281550 - C7

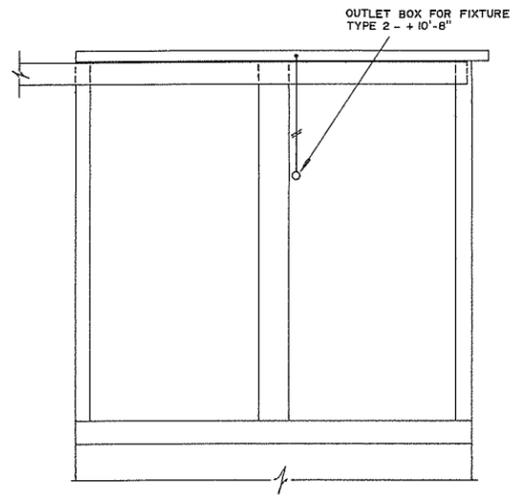
104591  
DWG. No.

4758-4-6B

SHEET  
6 OF 12

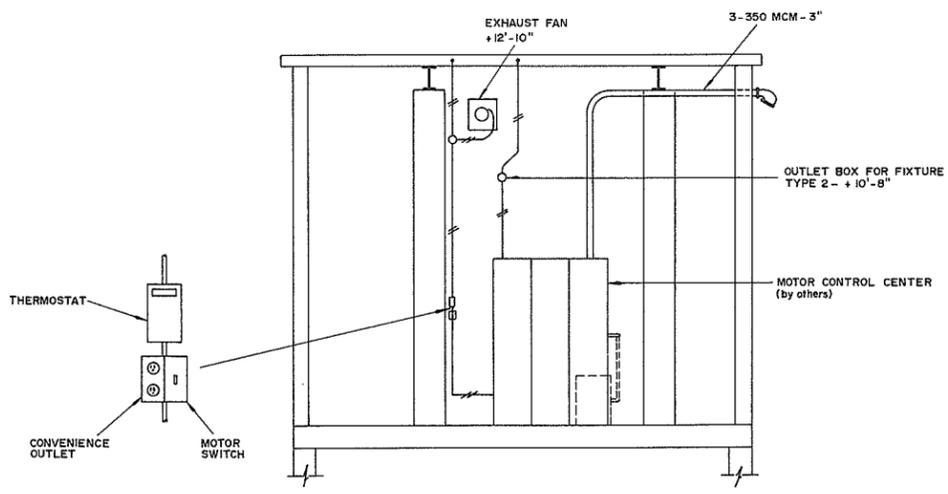


**PLAN VIEW**  
Scale: 1/4" = 1'-0"

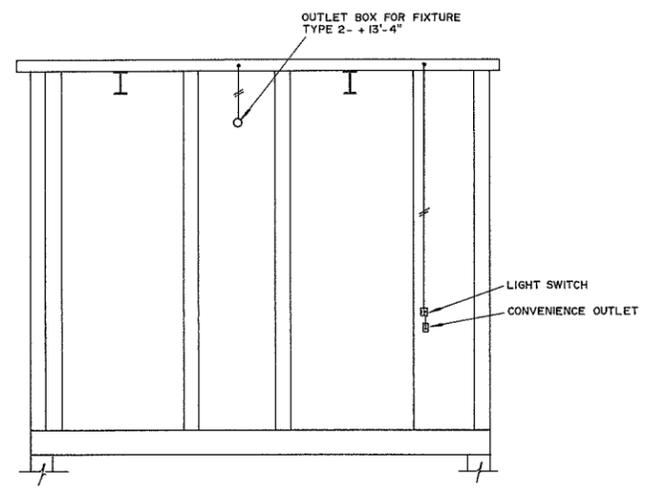


**ELEVATION - WEST WALL**  
Scale: 1/4" = 1'-0"

SYMBOL SCHEDULE	
○	OUTLET BOX
⎓	FLUORESCENT FIXTURE TYPE 1
Ⓢ	INCANDESCENT FIXTURE TYPE 2
⎓	SINGLE POLE SWITCH +4'-6"
Ⓢ	DUPLEX RECEPTACLE +4'-6"
—	CONDUIT RUN IN OR NEAR CEILING



**ELEVATION - NORTH WALL**  
Scale: 1/4" = 1'-0"

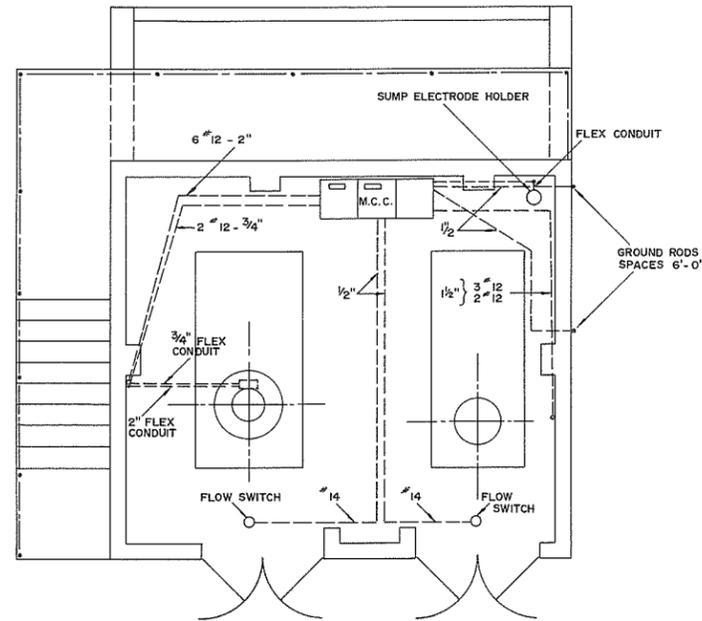


**ELEVATION - SOUTH WALL**  
Scale: 1/4" = 1'-0"

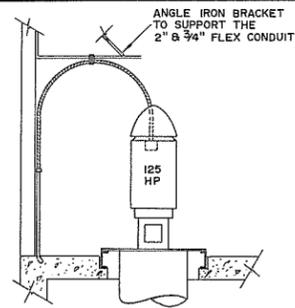
- NOTES**
- Dates of construction - October 16, 1970 to July 31, 1971.
  - Plan redrawn.

REFERENCES			AS CONSTRUCTED	
DWG. No.	DESCRIPTION	DATE	APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE:	SURVEYED
4758-4-10	Hammersley pump - electrical details - contract 4	Jan, 1970	[Signature] DATE: 15 Oct 72	DESIGNED: Spratt & Assoc. / W.C.T. DRAWN: D.B.P. TRACED: CHECKED: R.A.E. DATE: SEPT, 1972
			APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA: [Signature] CHIEF ENGINEER, WATER INVESTIGATIONS BRANCH DATE: Nov 14/72	BRITISH COLUMBIA DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT PROJECT No. 1 - DISTRICT OF KENT CONTRACT No. 4 - CONSTRUCTION OF PUMPHOUSES <b>ELECTRICAL DETAILS</b> <b>HAMMERSLEY PUMPSTATION</b>
			APPROVED: [Signature]	SCALE: AS SHOWN
			FILE No. 0281550 - C7	DWG. No. 104595 4758-4-10A
			SHEET 10 OF 12	





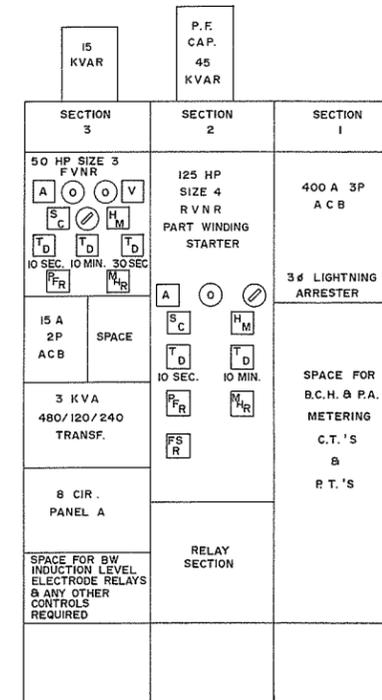
**PART PLAN OF PUMPHOUSE**  
Scale: 1/4" = 1'-0"



**ELEVATION AT 125 HP PUMP**  
N.T.S.

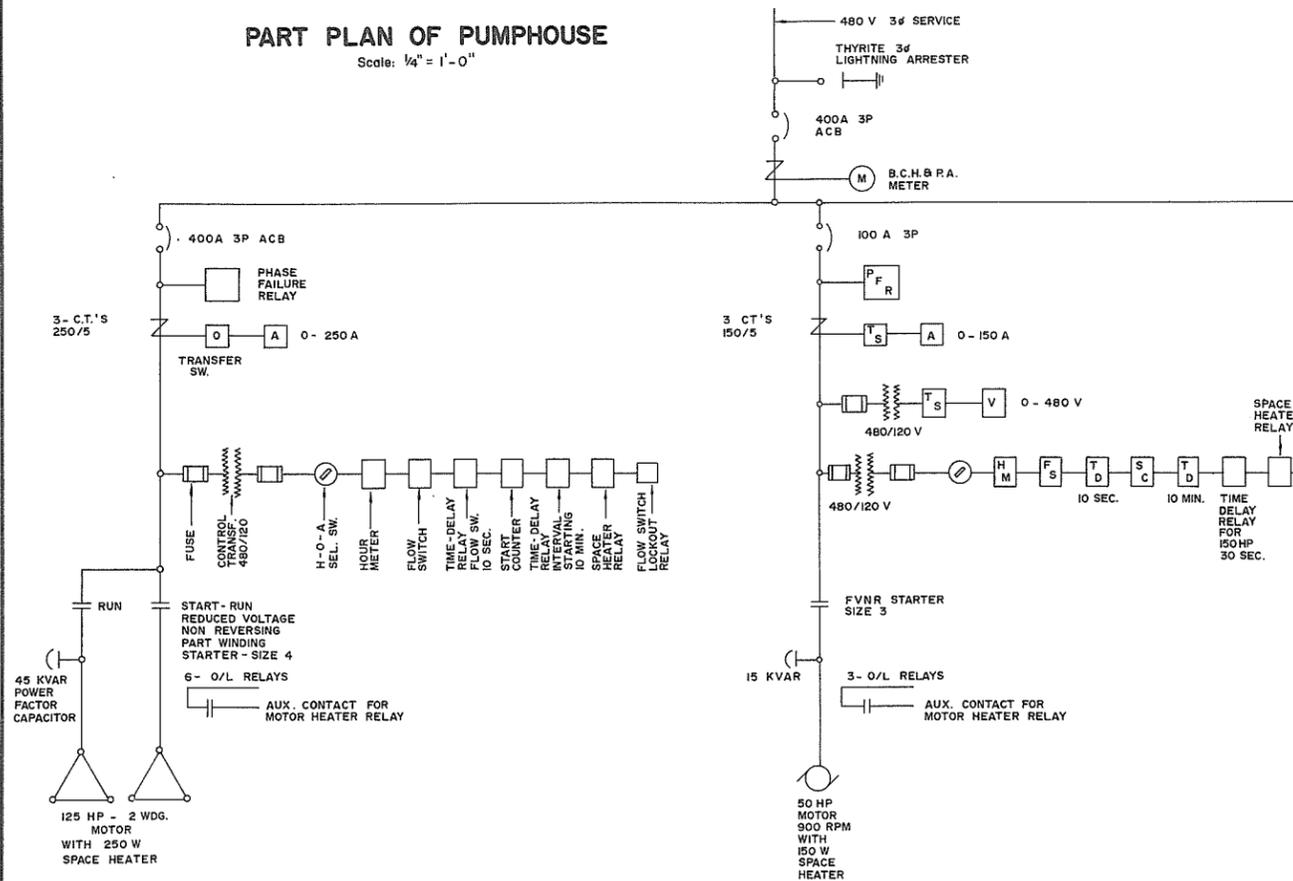
**LEGEND**

- A — AMMETER
- O — TRANSFER SWITCH
- V — VOLTMETER
- S C — START COUNTER
- ⊗ — HAND-OFF - AUTO SELECTOR SWITCH
- H M — HOUR METER
- T D — TIME DELAY RELAY - CARRY OVER ON FLOW SW. FOR SET TIME - UP TO 10 SECONDS
- T D — TIME DELAY RELAY - PREVENTS MOTOR STARTING ON INTERVALS LESS THAN SET TIME - UP TO 10 MINUTES
- T D — TIME DELAY RELAY - PREVENTS 150 HP PUMP STARTING UNTIL 30 SECONDS AFTER 50 HP PUMP STARTS
- P F R — PHASE FAILURE RELAY - STOPS MOTOR IF A SINGLE PHASE CONDITION DEVELOPS
- M R — RELAY FOR SWITCHING OF SPACE HEATERS IN THE MOTOR FRAME
- F S R — FLOW SWITCH LOCKOUT RESET

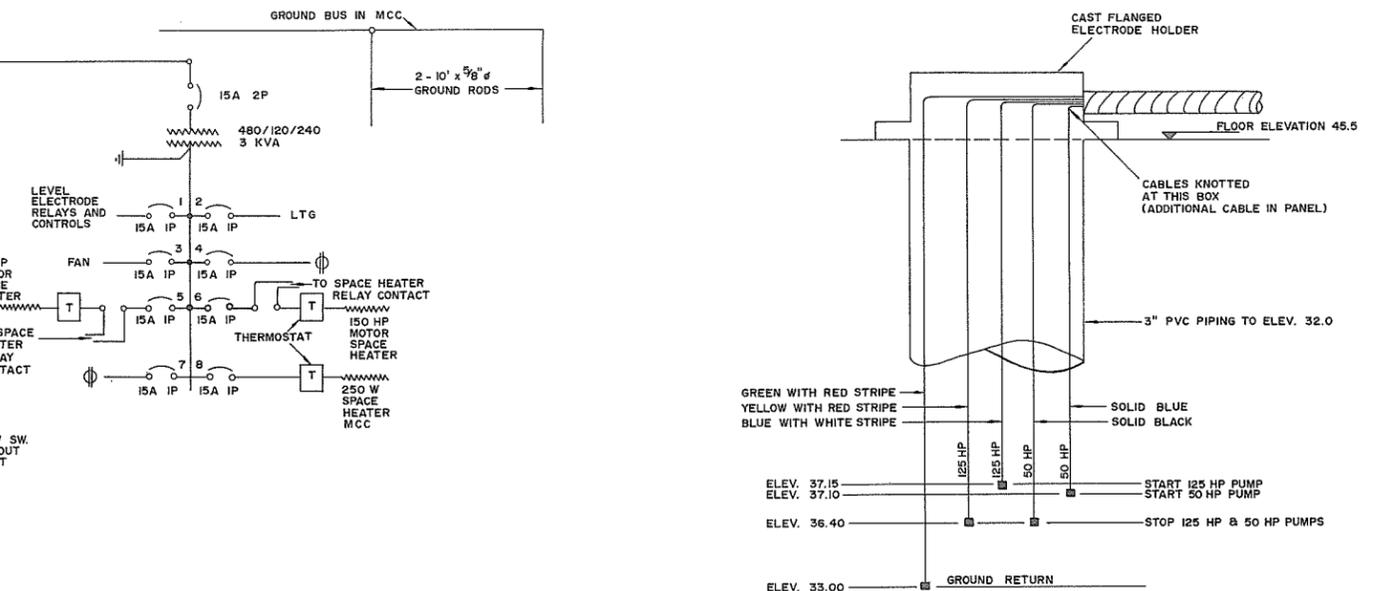


**SCHEMATIC ELEVATION MOTOR CONTROL CENTER**  
N.T.S.

- NOTES:**
1. Electrical panel - Type NA MCC 3 section - Class II B - manufactured by Klockner-Moeller Ltd.
  2. Level electrodes set to elevations requested by District of Kent.
  3. Conduit shown in part plan of pumphouse cast in concrete floor with the flex being above the floor.
  4. Date of installation - Jan. 25, April 21 & April 29 to May 4, 1971.
  5. Plan redrawn.



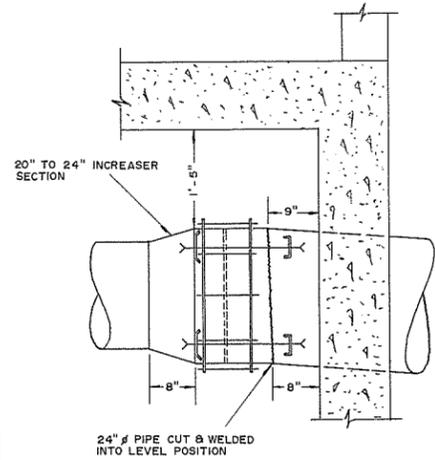
**SCHEMATIC SINGLE LINE DIAGRAM**  
N.T.S.  
(SEE KLOCKNER-MOELLER PLAN No. IWD-68V-462-1803, SEPT. 25/70 REV. 2)



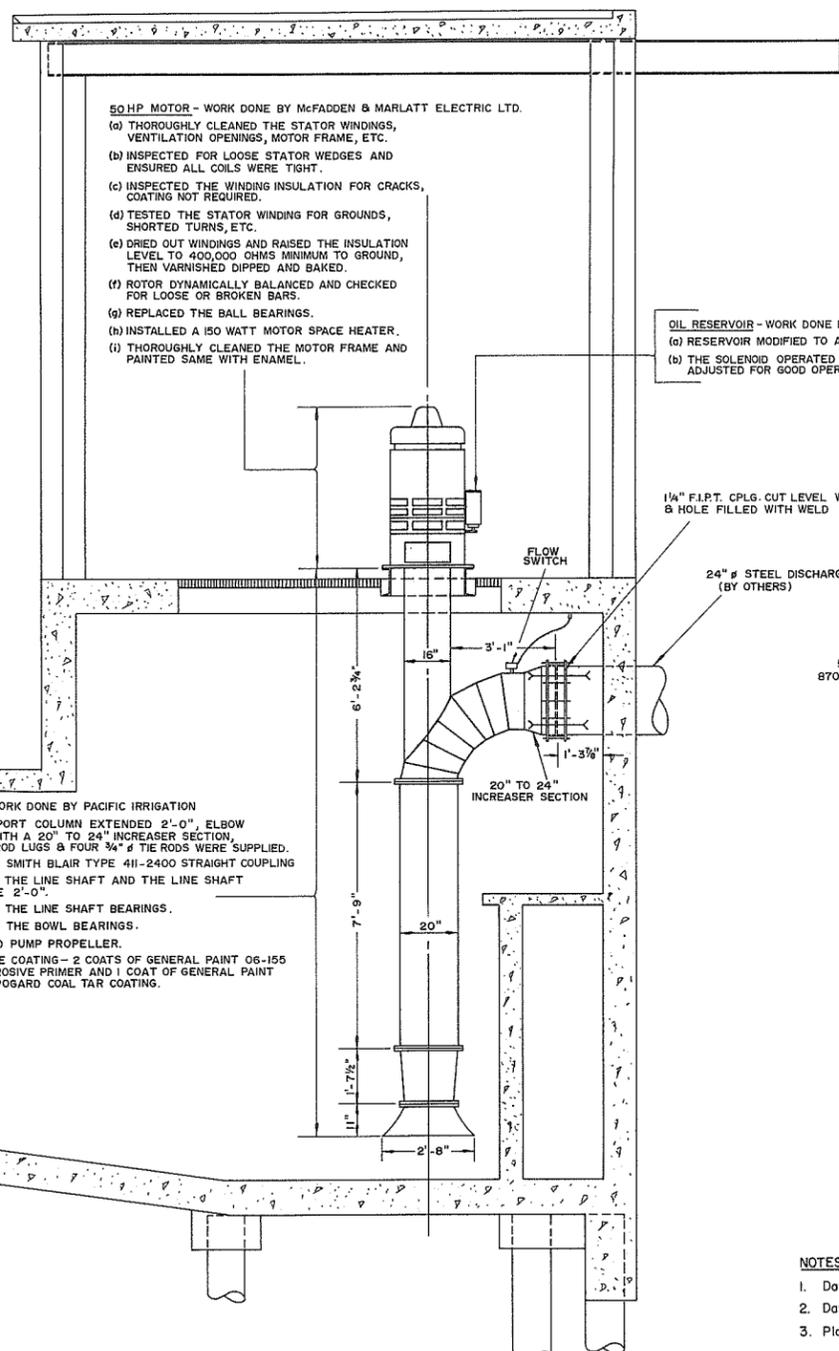
**SCHEMATIC ARRANGEMENT OF LEVEL ELECTRODES**  
N.T.S.

**AS CONSTRUCTED**

REFERENCES			APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE:	SURVEYED	BRITISH COLUMBIA DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH	FILE No.
DWG. No.	DESCRIPTION	DATE				
4758-3-5	Hammersley pump electrical details contract no. 3	Dec., 1969	<i>[Signature]</i>	DATE	CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT	0281550-C7
IWD-68V-462-1803	Klockner-Moeller motor control class II B	Sept., 1970		DESIGNED Spratt & assoc Willis, Cunliffe, Tait & Co.		
APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA:			<i>[Signature]</i>	DRAWN	PROJECT No. 1 - DISTRICT OF KENT CONTRACT No. 3 - SUPPLY OF PUMPING EQUIPMENT ELECTRICAL DETAILS HAMMERSLEY PUMPSTATION	DWG. No. 4758-3-5A
DATE: Jan 18, 1972				TRACED		
			CHECKED R.A.E. OCT. 14, 1971	DATE OCT., 1971	APPROVED <i>[Signature]</i>	SCALE: AS SHOWN
						SHEET 3 of 4



**24"  $\phi$  DISCHARGE CONNECTION DETAIL**  
Scale:  $\frac{3}{4}$ " = 1'-0"

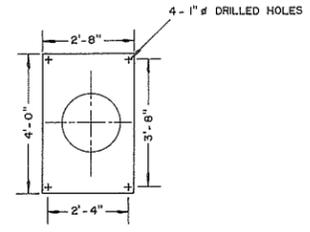


**50 HP MOTOR - WORK DONE BY McFADDEN & MARLATT ELECTRIC LTD.**  
 (a) THOROUGHLY CLEANED THE STATOR WINDINGS, VENTILATION OPENINGS, MOTOR FRAME, ETC.  
 (b) INSPECTED FOR LOOSE STATOR WEDGES AND ENSURED ALL COILS WERE TIGHT.  
 (c) INSPECTED THE WINDING INSULATION FOR CRACKS, COATING NOT REQUIRED.  
 (d) TESTED THE STATOR WINDING FOR GROUNDS, SHORTED TURNS, ETC.  
 (e) DRIED OUT WINDINGS AND RAISED THE INSULATION LEVEL TO 400,000 OHMS MINIMUM TO GROUND, THEN VARNISHED DIPPED AND BAKED.  
 (f) ROTOR DYNAMICALLY BALANCED AND CHECKED FOR LOOSE OR BROKEN BARS.  
 (g) REPLACED THE BALL BEARINGS.  
 (h) INSTALLED A 150 WATT MOTOR SPACE HEATER.  
 (i) THOROUGHLY CLEANED THE MOTOR FRAME AND PAINTED SAME WITH ENAMEL.

**OIL RESERVOIR - WORK DONE BY PACIFIC IRRIGATION**  
 (a) RESERVOIR MODIFIED TO A CAPACITY OF 1 U.S. GALLON.  
 (b) THE SOLENOID OPERATED VALVE CHECKED AND ADJUSTED FOR GOOD OPERATION.

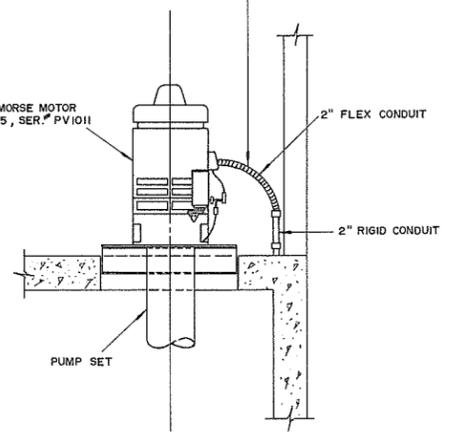
**PUMP SET - WORK DONE BY PACIFIC IRRIGATION**  
 (a) PUMP SUPPORT COLUMN EXTENDED 2'-0", ELBOW MODIFIED WITH A 20" TO 24" INCREASER SECTION, FOUR TIE ROD LUGS & FOUR  $\frac{3}{4}$ "  $\phi$  TIE RODS WERE SUPPLIED.  
 (b) INSTALLED SMITH BLAIR TYPE 411-2400 STRAIGHT COUPLING  
 (c) EXTENDED THE LINE SHAFT AND THE LINE SHAFT ENCLOSURE 2'-0".  
 (d) INSPECTED THE LINE SHAFT BEARINGS.  
 (e) INSPECTED THE BOWL BEARINGS.  
 (f) INSPECTED PUMP PROPELLER.  
 (g) PROTECTIVE COATING - 2 COATS OF GENERAL PAINT 06-155 ANTI-CORROSIVE PRIMER AND 1 COAT OF GENERAL PAINT 81-303 EPOGARD COAL TAR COATING.

**ELEVATION**  
Scale:  $\frac{3}{8}$ " = 1'-0"

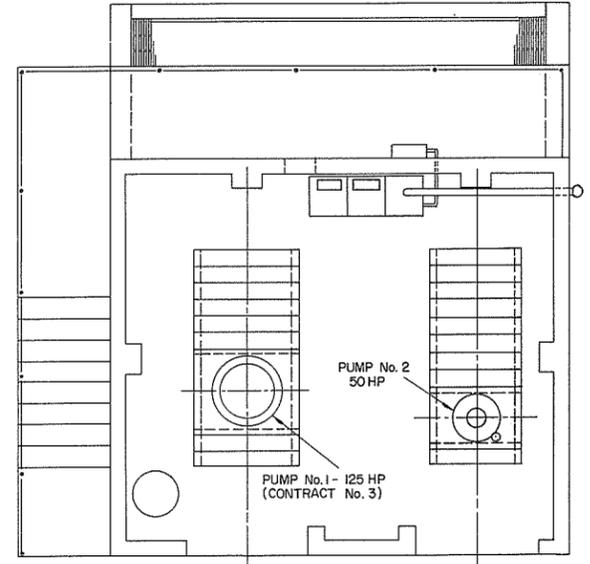


**BASE PLATE DETAIL**  
Scale:  $\frac{3}{8}$ " = 1'-0"

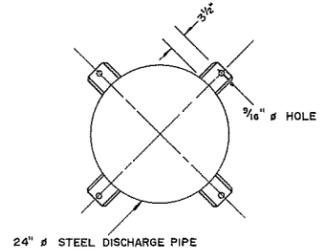
**ELECTRICAL WORKS - WORK DONE BY KETCO ELECTRIC LTD.**  
 (a) INSTALLED FLOW SWITCH INTO COUPLING AND CONNECTED 3- CONDUCTOR CABTIRE CABLE TO SAME.  
 (b) CONNECTED THE THREE 2 CONDUCTORS TO THE TERMINAL BOX.  
 (c) CONNECTED THE TWO 12 CONDUCTORS FOR THE 150 WATT MOTOR SPACE HEATER.



**MOTOR CONNECTION**  
Scale:  $\frac{3}{8}$ " = 1'-0"



**MAIN FLOOR PLAN**  
Scale:  $\frac{1}{4}$ " = 1'-0"

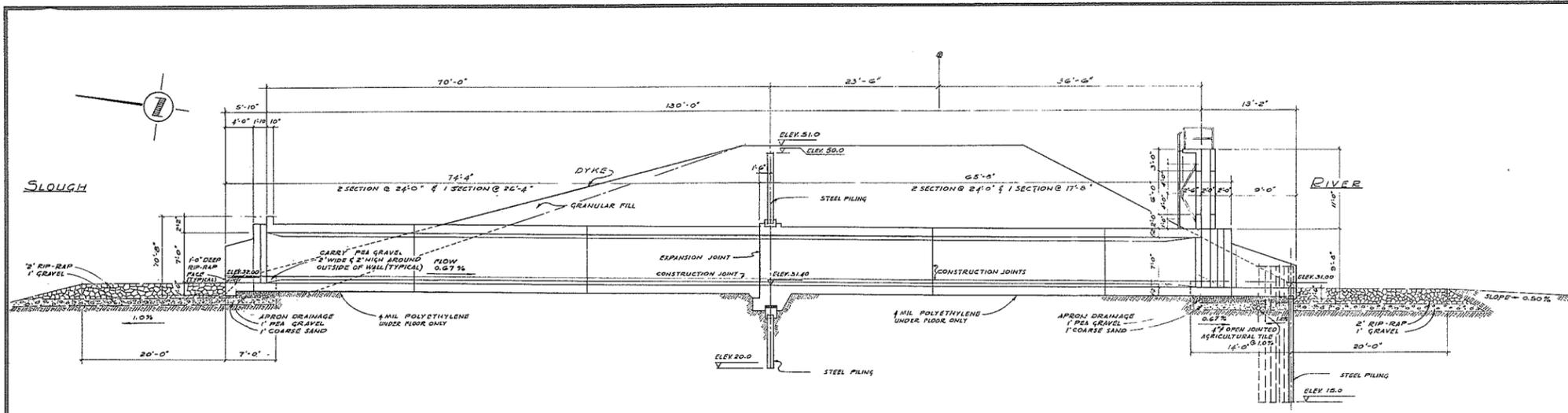


**TIE LUG DETAIL**  
Scale:  $\frac{3}{4}$ " = 1'-0"

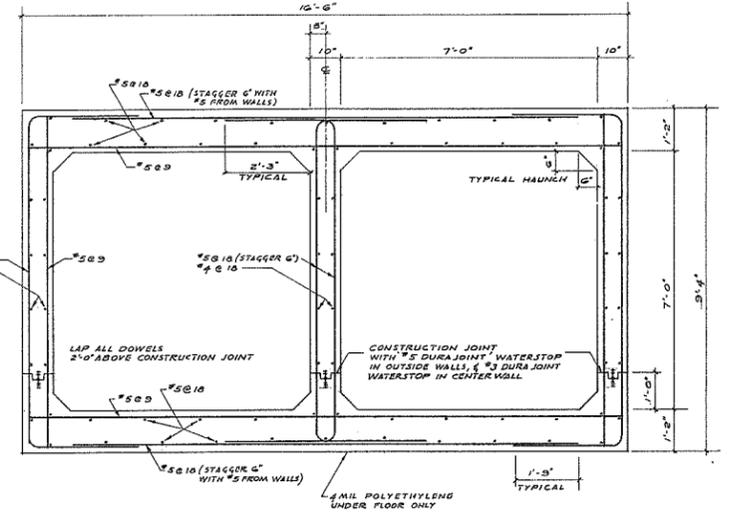
- NOTES:**
- Dates of construction - November 1, 1971 to June 29, 1972.
  - Dates of installation - February 8 and 9, 1972.
  - Plan redrawn.

REFERENCES			APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE:		SURVEYED		BRITISH COLUMBIA DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH		FILE No.
DWG. No.	DESCRIPTION	DATE	DATE: 5 Oct 72		DATE	CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT		0281550 - C7	
4758-4A-1	Overhaul and installation of Fairbanks Morse 50 H.P. propeller pump	June, 1971	DATE: 5 Oct 72		DESIGNED Willis, Cunliffe, Tait & Co.	PROJECT No. 1-DISTRICT OF KENT CONTRACT No. 4A-OVERHAUL AND INSTALLATION OF AXIAL FLOW PUMP		104598	
			APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA: [Signature]		DRAWN D.B.P.	OVERHAUL & INSTALLATION DETAILS HAMMERSLEY PUMPSTATION		DWG. No. 4758-4A-1A	
			DATE: [Signature]		CHECKED R.A.E.	APPROVED: [Signature]		SHEET 1 OF 1	
			DATE: [Signature]		DATE SEPT, 1972	SCALE: AS SHOWN			



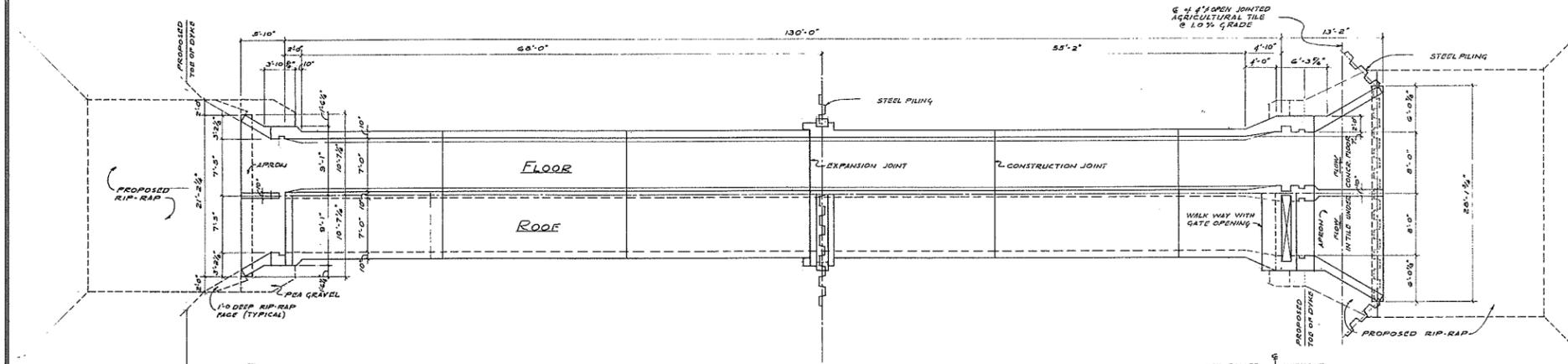


LONGITUDINAL SECTION

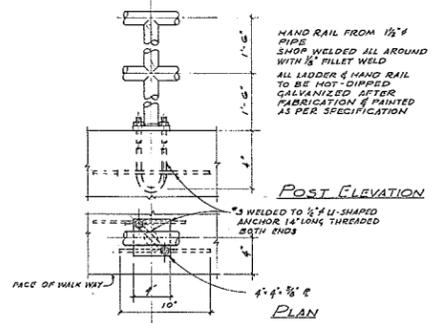


TYPICAL SECTION THROUGH FLOODBOX

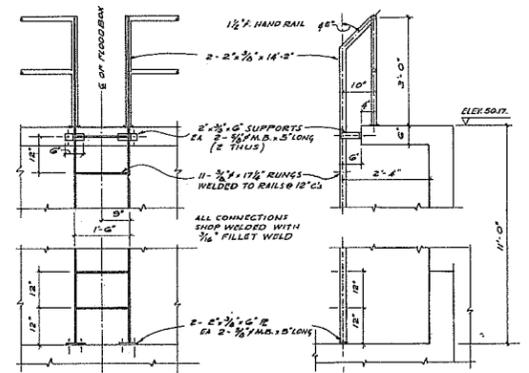
SCALE: 1/2" = 1'-0"



PLAN

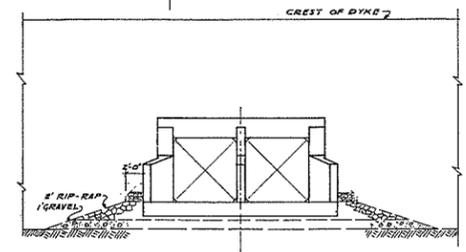


HAND RAIL DETAIL

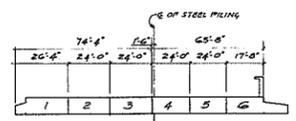


DETAIL OF LADDER

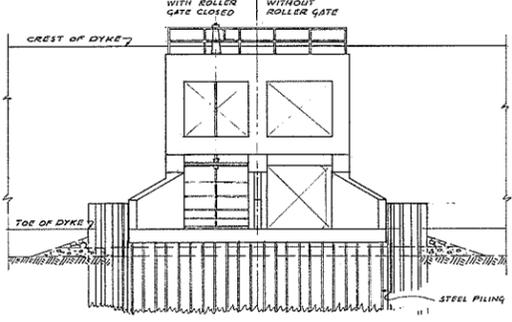
SCALE: 1/2" = 1'-0"



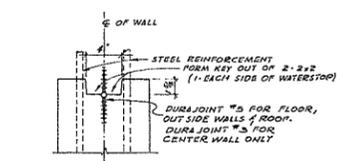
END ELEVATION (NORTH)



POUR SCHEDULE



END ELEVATION (SOUTH)



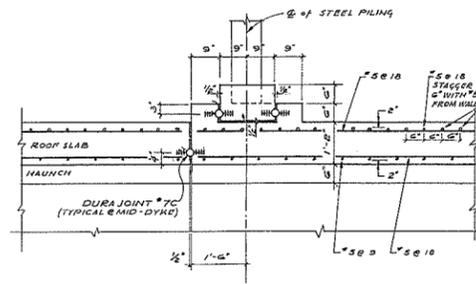
CONSTRUCTION JOINT DETAIL

ARCHITECTURAL LAYOUT

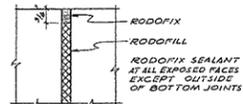
SCALE: 1/8" = 1'-0"

10 8 6 4 2 0 2 4 6 8 10

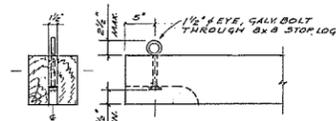
0	OCT. 1968	AS CONSTRUCTED	E.O.	G.P.	
1	DEC. 1967	CROSS-SECTION OF DYKE, DIMENSIONS TO BASELINE	G.M.P.	G.M.P.	
2	DATE	REVISION	DESCRIPTION	BY	CHECKED
CLIENT: THE CORPORATION OF THE DISTRICT OF KENT					
PROJECT: HAMMERSLEY PRAIRIE FLOODBOX					
TITLE: STRUCTURAL DIAGRAM & DETAILS					
105073					
SURVEY BY	AB.	SCALE	WILLIS; CUNLIFFE, TAIT & COMPANY LTD. CONSULTING ENGINEERS		
DESIGN BY	G.M.P.	AS SHOWN			
DRAWN BY	E.O.				
TRACED BY	DATE	NOV. 1967			
CHECKED BY	APPROVED	[Signature]	DRAWING No. W 616-11B	SHT. No. 2 OF 3	



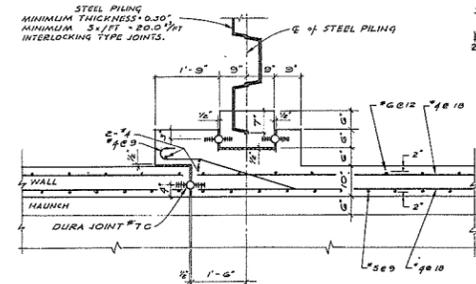
ROOF DETAIL



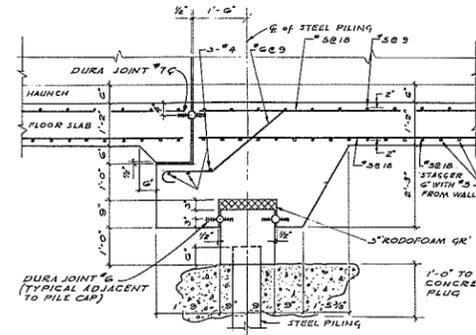
EXPANSION JOINT  
DETAIL  
N.T.S.



SECTION C-C ELEVATION  
STOPLOG DETAIL (TYPICAL)  
SCALE: 1" = 1'-0"

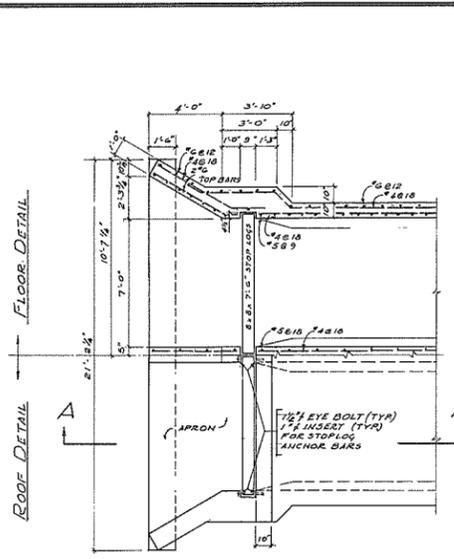


WALL DETAIL

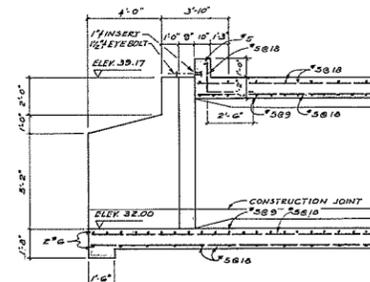


FLOOR DETAIL

MID-DYKE DETAILS  
SCALE: 1/2" = 1'-0"

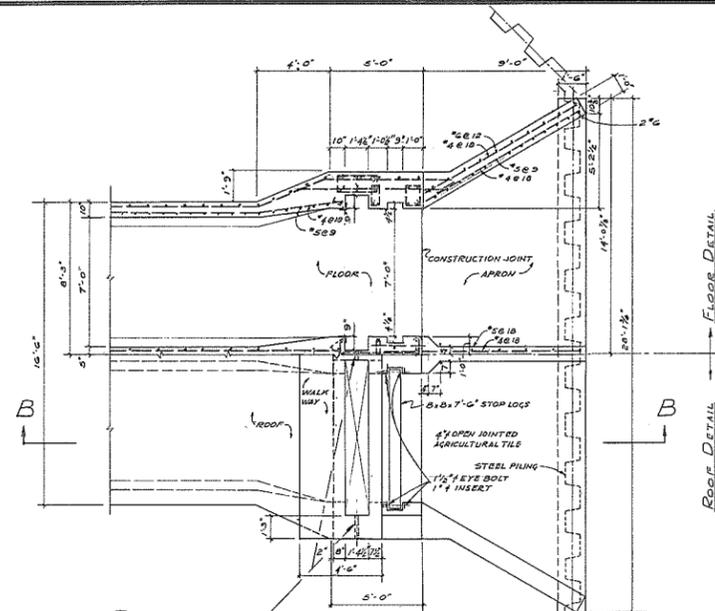


PLAN

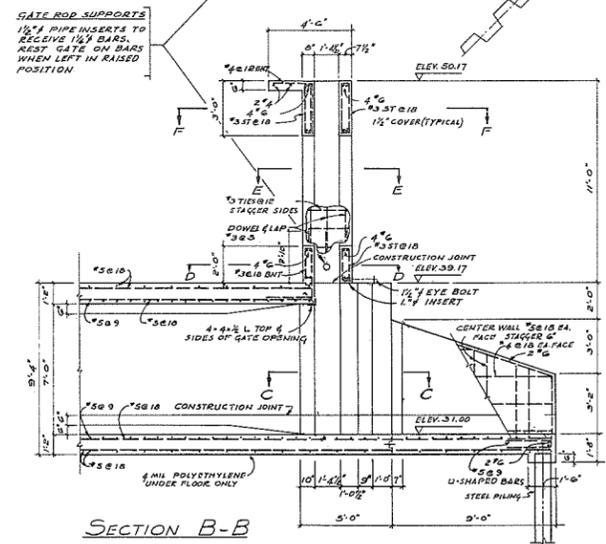


SECTION A-A

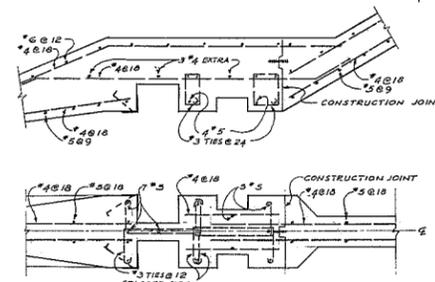
END DETAILS  
SCALE: 1/2" = 1'-0"



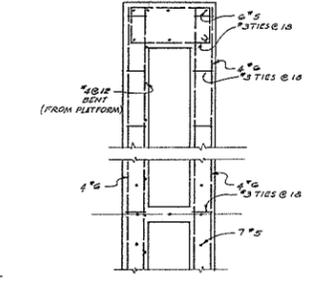
PLAN



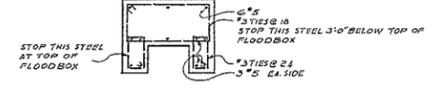
SECTION B-B



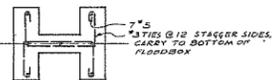
SECTION C-C  
SCALE: 1/2" = 1'-0"



SECTION F-F



SECTION E-E



SECTION D-D

NOTE: ALL TIES & STIRRUPS (IF) ARE #3 BARS BENT TO FIT PRIMARY STEEL

REINFORCING STEEL DETAILS  
SCALE: 1/2" = 1'-0"

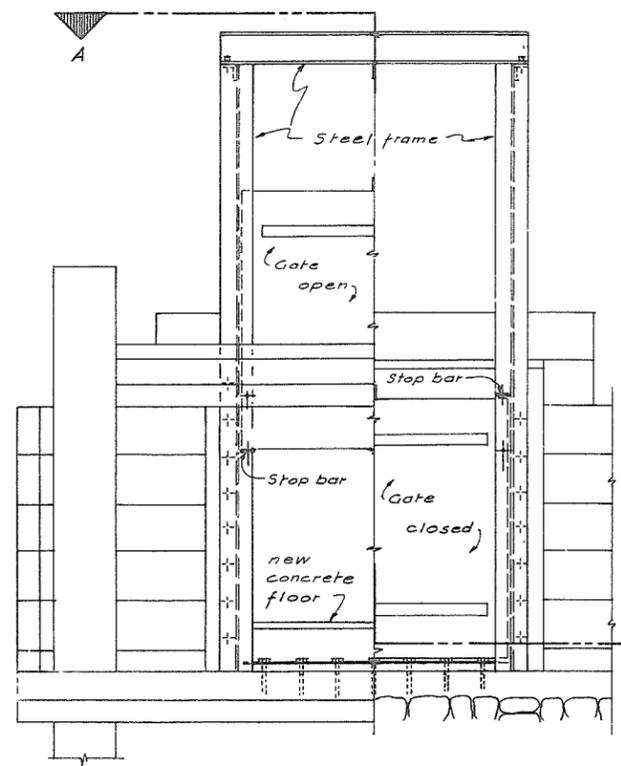


ISSUE No.	DATE	REVISION	DESCRIPTION	BY	CHECKED
B	OCT. 1968	AS CONSTRUCTED		E.O.	G.P.
A	DEC 1967	STOPLOG CHAINS ADDED		G.M.P./E.O.	S.M.P.

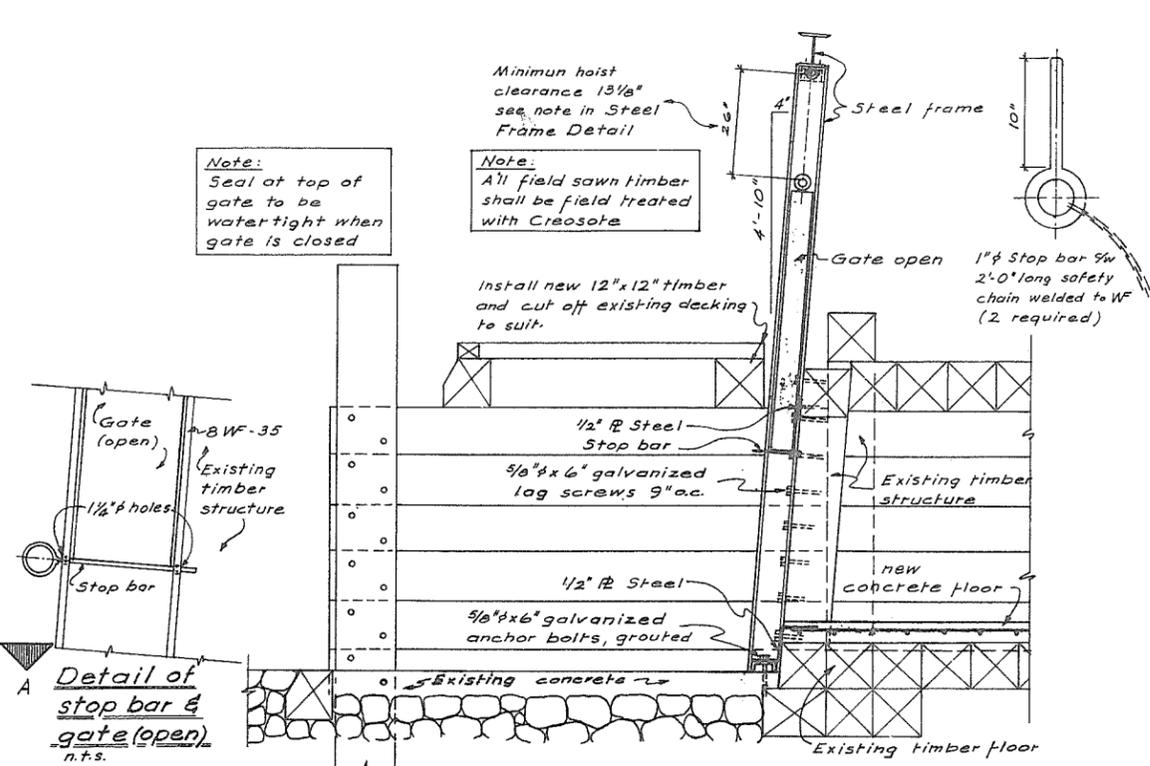
CLIENT: THE CORPORATION OF THE DISTRICT OF KENT  
PROJECT: HAMMERSLEY PRAIRIE FLOODBOX  
TITLE: STRUCTURAL DETAILS 105074

SURVEY BY	A.B.	SCALE	WILLIS, CUNLIFFE, TAIT & COMPANY LTD. CONSULTING ENGINEERS
DESIGN BY	G.M.P.	AS SHOWN	
DRAWN BY	E.O.		
TRACED BY		DATE NOV 1967	
CHECKED BY	G.P.	APPROVED	DRAWING No W616-12B

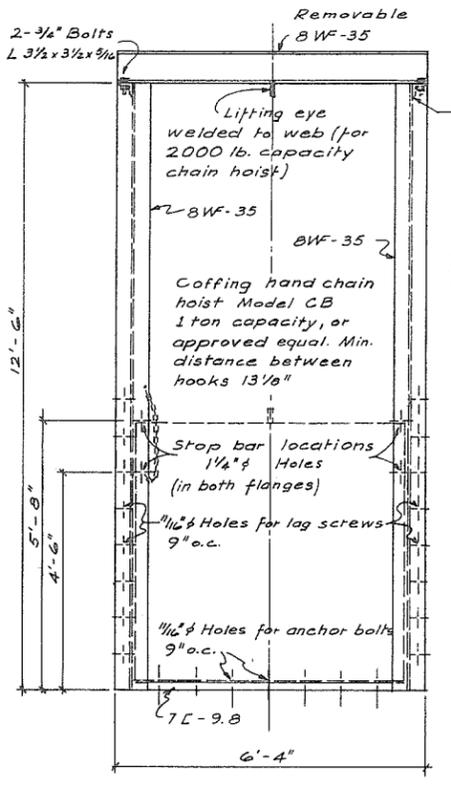
SHT. No. 3 of 3



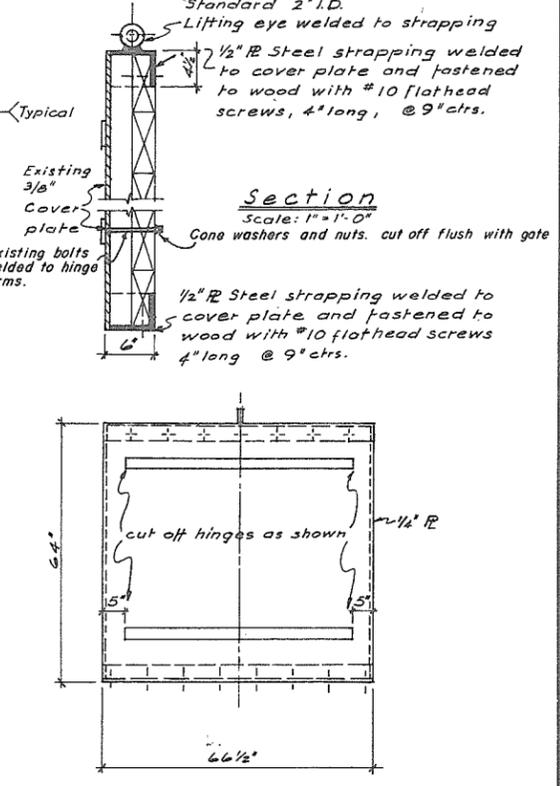
**End Elevation & Section**  
Scale: 1/2" = 1'-0"



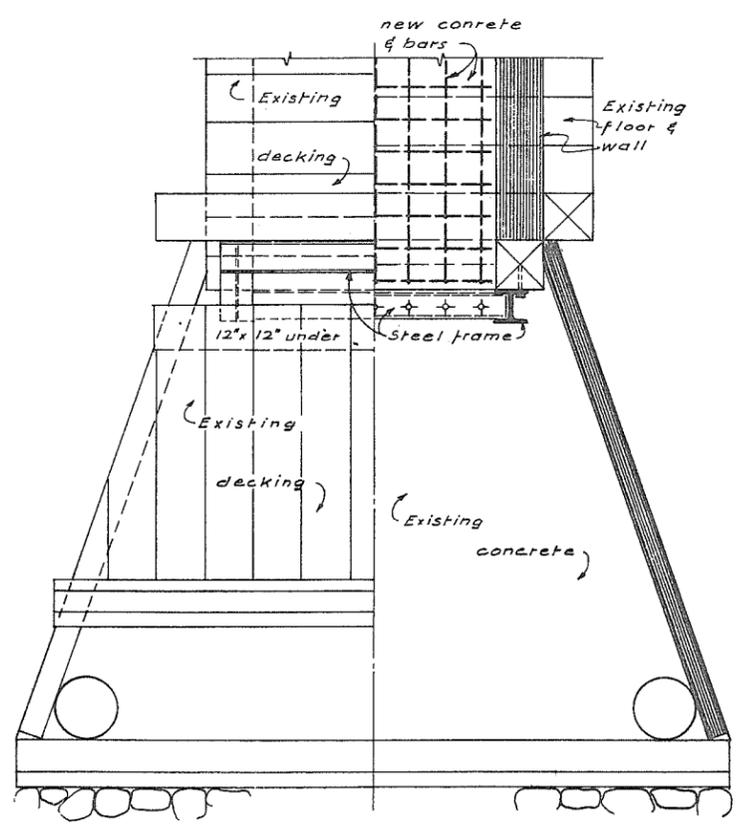
**Longitudinal Section**  
Scale: 1/2" = 1'-0"



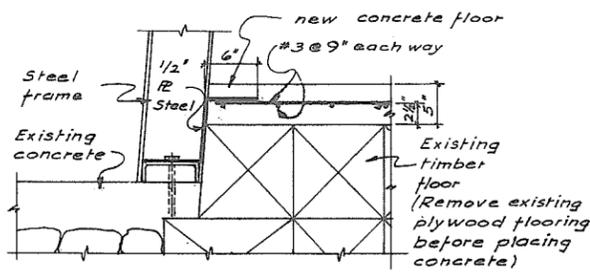
**Steel Frame Detail**  
Scale: 1/2" = 1'-0"



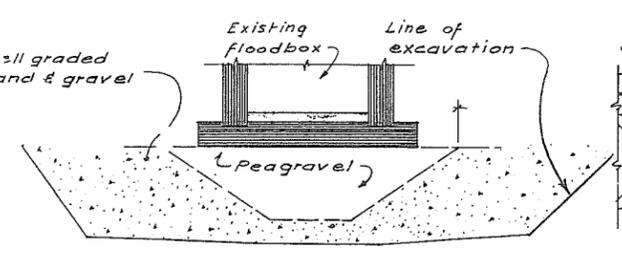
**Elevation Existing gate modification**  
Scale: 1/2" = 1'-0"



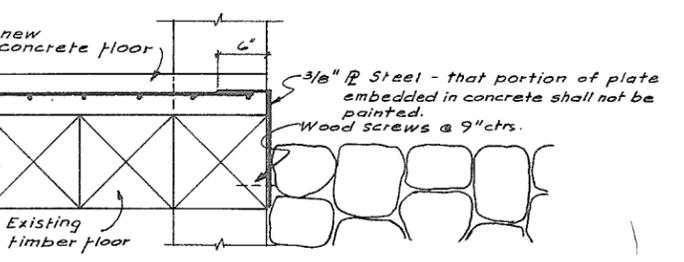
**Plan A-A**  
Scale: 1/2" = 1'-0"



**Floor Detail (River side)**  
Scale: 1" = 1'-0"

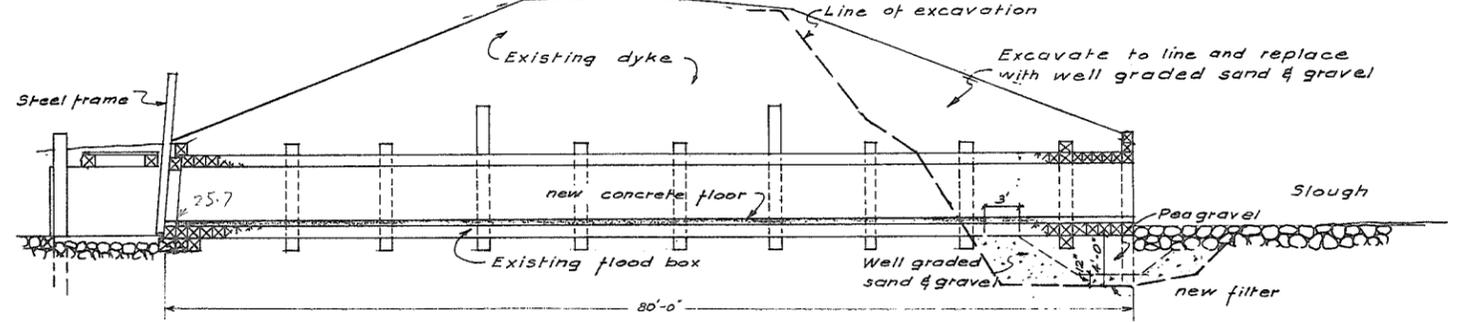


**Cross-section through new filter**  
Scale: 1/4" = 1'-0"



**Floor Detail (Slough side)**  
Scale: 1" = 1'-0"

**Note:**  
Concrete:  $f_c = 3,000$  p.s.i.  
Reinforcing:  $f_y = 40,000$  p.s.i.



**Longitudinal Section through Floodbox**  
Scale: 1/8" = 1'-0"

- Excavated material consisted of well graded gravel, except for some pockets of silt. The silt was wasted and the gravel used to backfill the excavation.
- Gate, the bolts protruding through the back were cut off flush.
- Concrete, 6.2 c.y. 28 day test, 4660 p.s.i.
- Dates of construction, Oct. 12 to Nov. 1, 1971

APPROVED THE FRASER RIVER JOINT PROGRAM COMMITTEE	1 July 72	As constructed details.	J.S.
APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA			
	NO.	DATE	BY
		REVISIONS	APPROVED

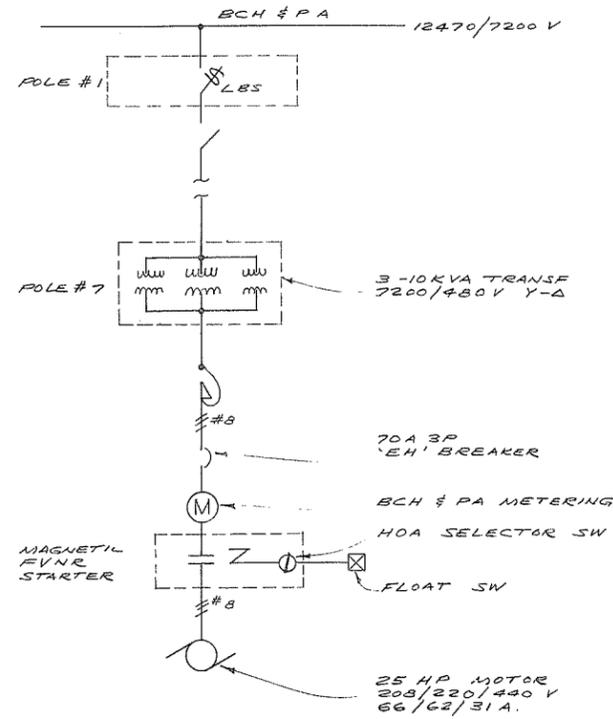


THE GOVERNMENT OF THE PROVINCE OF BRITISH COLUMBIA  
DEPT. OF LANDS, FORESTS AND WATER RESOURCES  
WATER RESOURCES SERVICE  
CANADA - BRITISH COLUMBIA  
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT  
PROJECT No. 01 DISTRICT OF KENT  
TITLE **DUNCAN-BATESON FLOODBOX CONSTRUCTION DETAILS**  
CONTRACT No. 7

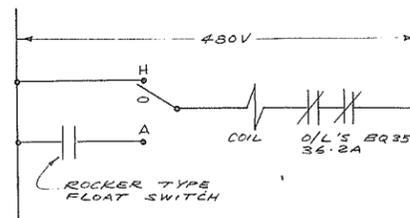
**WILLIS, CUNLIFFE, TAIT & COMPANY LTD.**  
CONSULTING ENGINEERS  
VICTORIA, B.C.  
DESIGN O.N.  
DRAWN E.O.  
CHECKED [Signature]  
DRAWING No. 4758  
SCALE AS SHOWN  
DATE JAN. 71  
APPROVED [Signature]  
REV.

105086

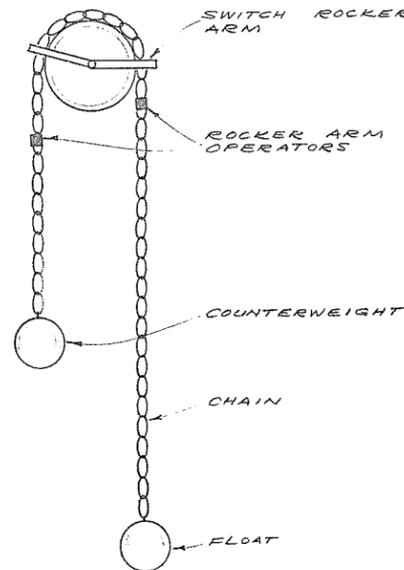
**AS CONSTRUCTED**



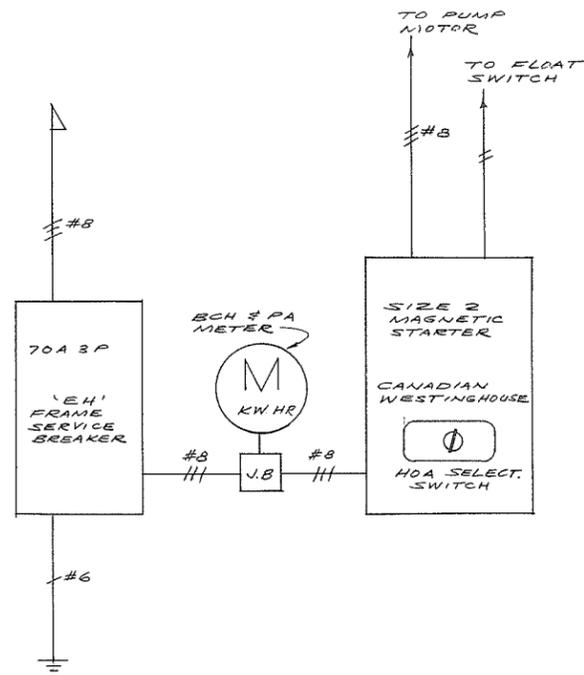
**SCHEMATIC SINGLE LINE DIAGRAM - N.T.S.**



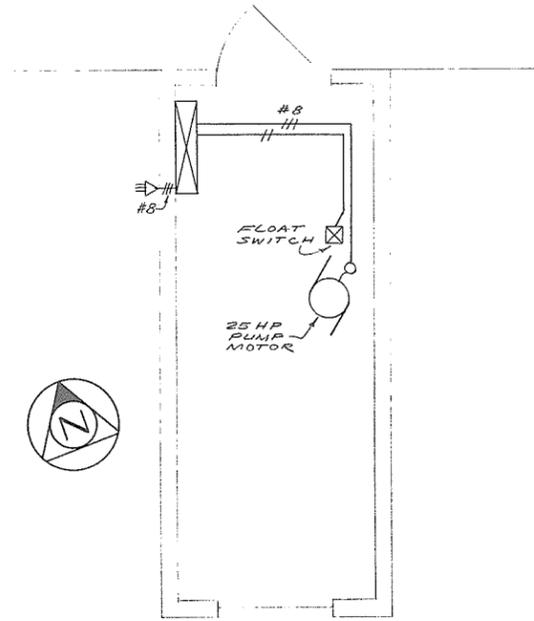
**SCHEMATIC OF MOTOR STARTER**



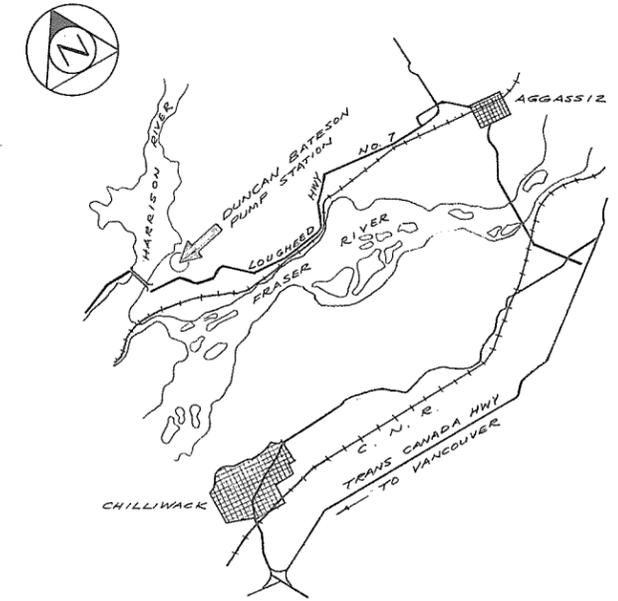
**FLOAT SWITCH OPERATOR N.T.S.**



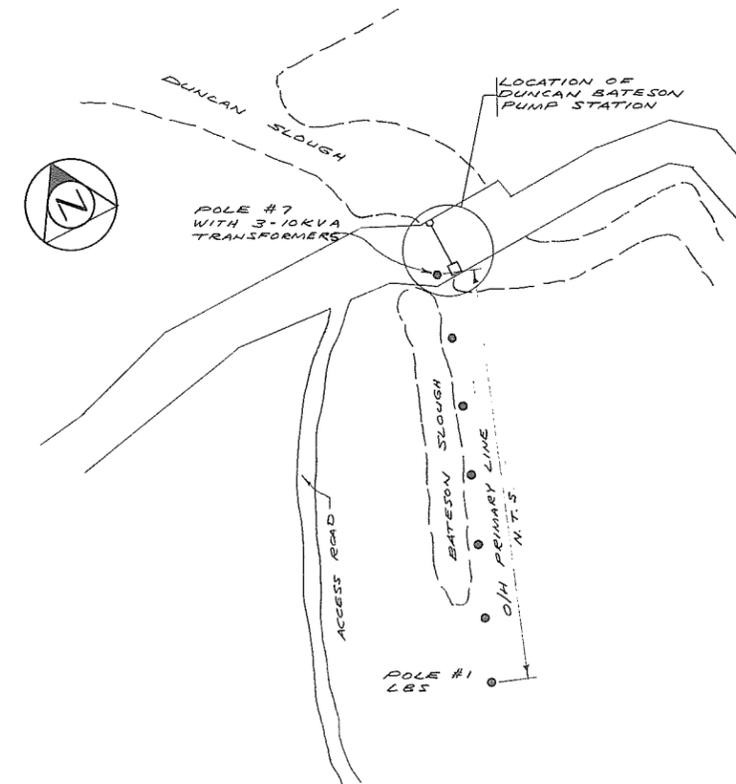
**ELEV. OF ELECTRICAL CONTROLS N.T.S.**



**PLAN - PUMPING STATION 1/2" = 1' - 0"**



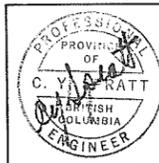
**LOCATION PLAN 1" = 2 Miles**



**SITE PLAN 1" = 200' - 0"**

AS CONSTRUCTED

105075



**SPRATT & ASSOCIATES**  
CONSULTING ENGINEERS LIMITED

1039 JOHNSON STREET, VICTORIA, B.C., 604-386-3396

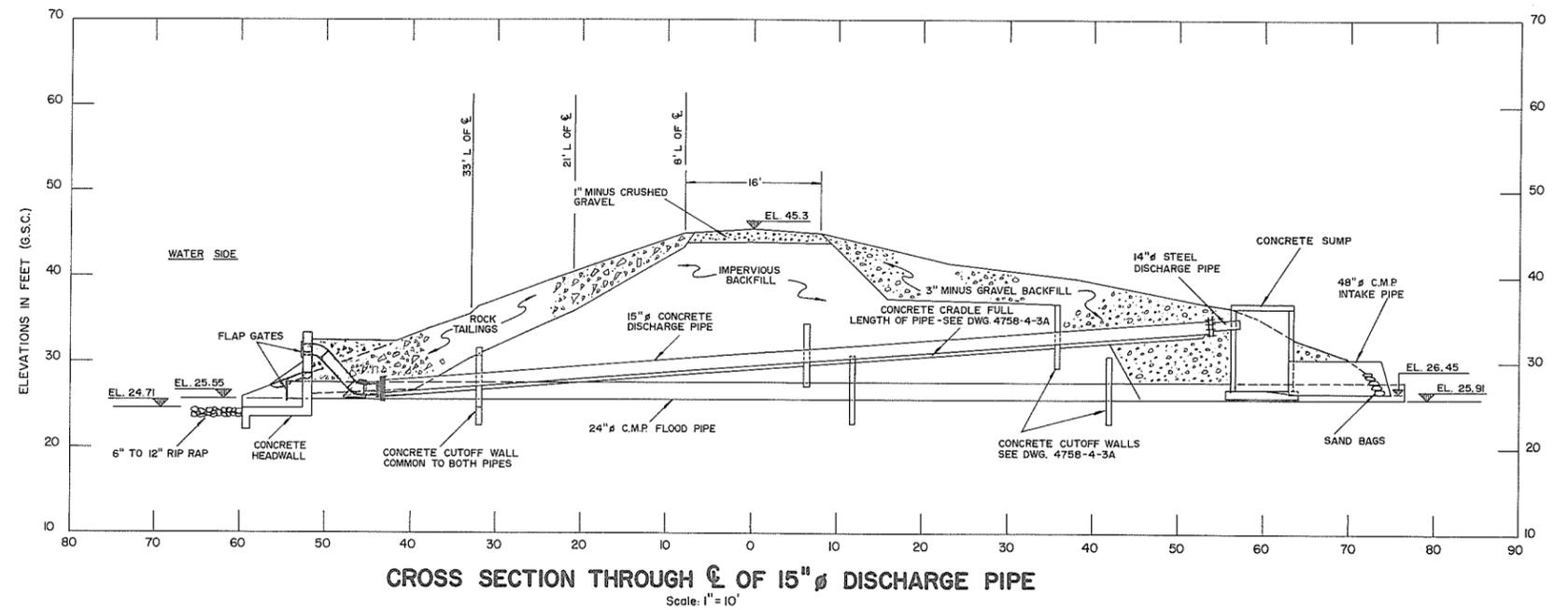
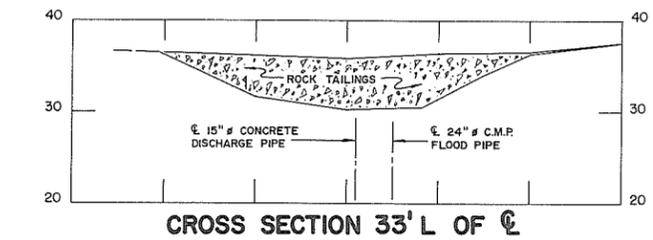
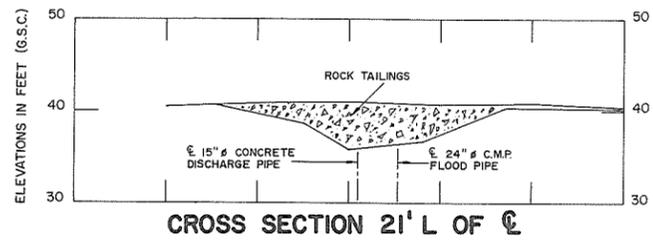
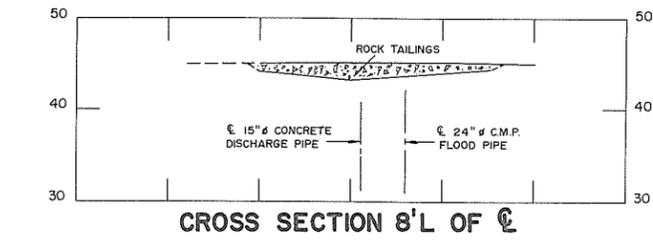
C1080

RECOMMENDED	CHIEF, PROJECTS DIV.		
DATE			
APPROVED	CHIEF ENGINEER		
DATE			
NO.	BY	REVISIONS	DATE

BRITISH COLUMBIA  
DEPARTMENT OF LANDS, FORESTS AND WATER RESOURCES  
WATER RESOURCES SERVICE  
WATER INVESTIGATIONS BRANCH  
CANADA - BRITISH COLUMBIA  
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT

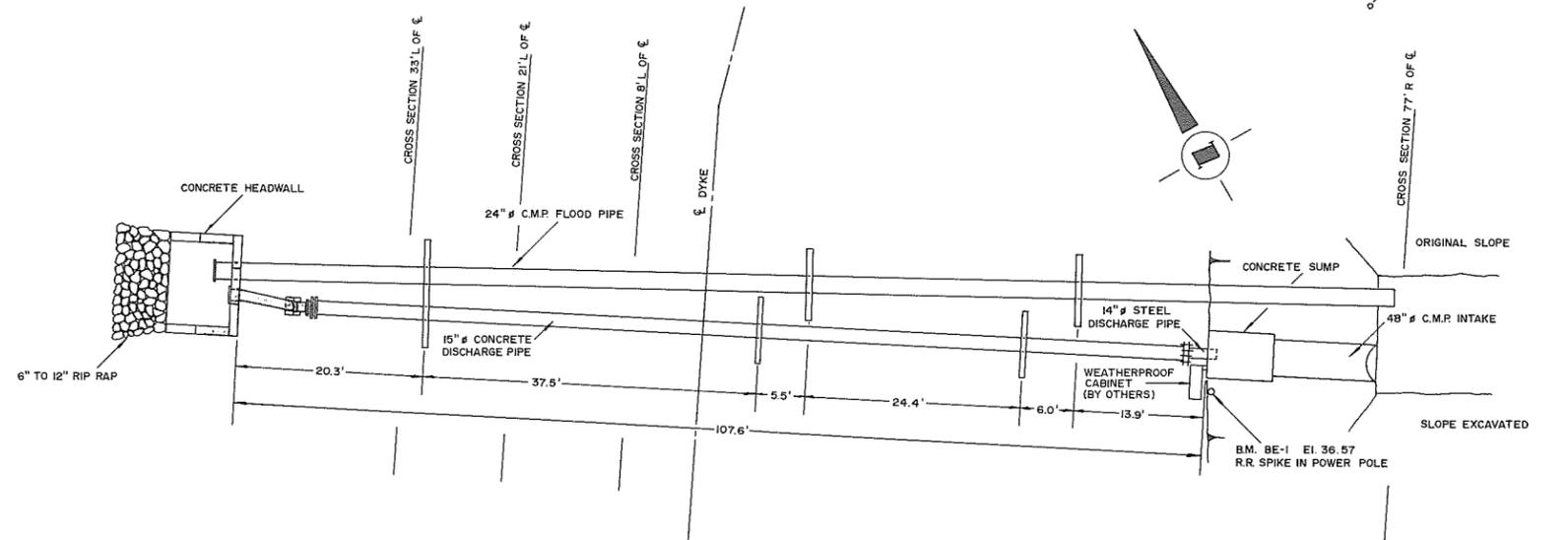
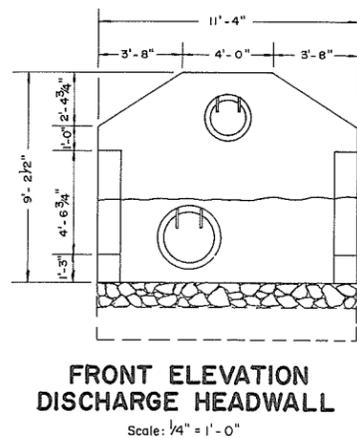
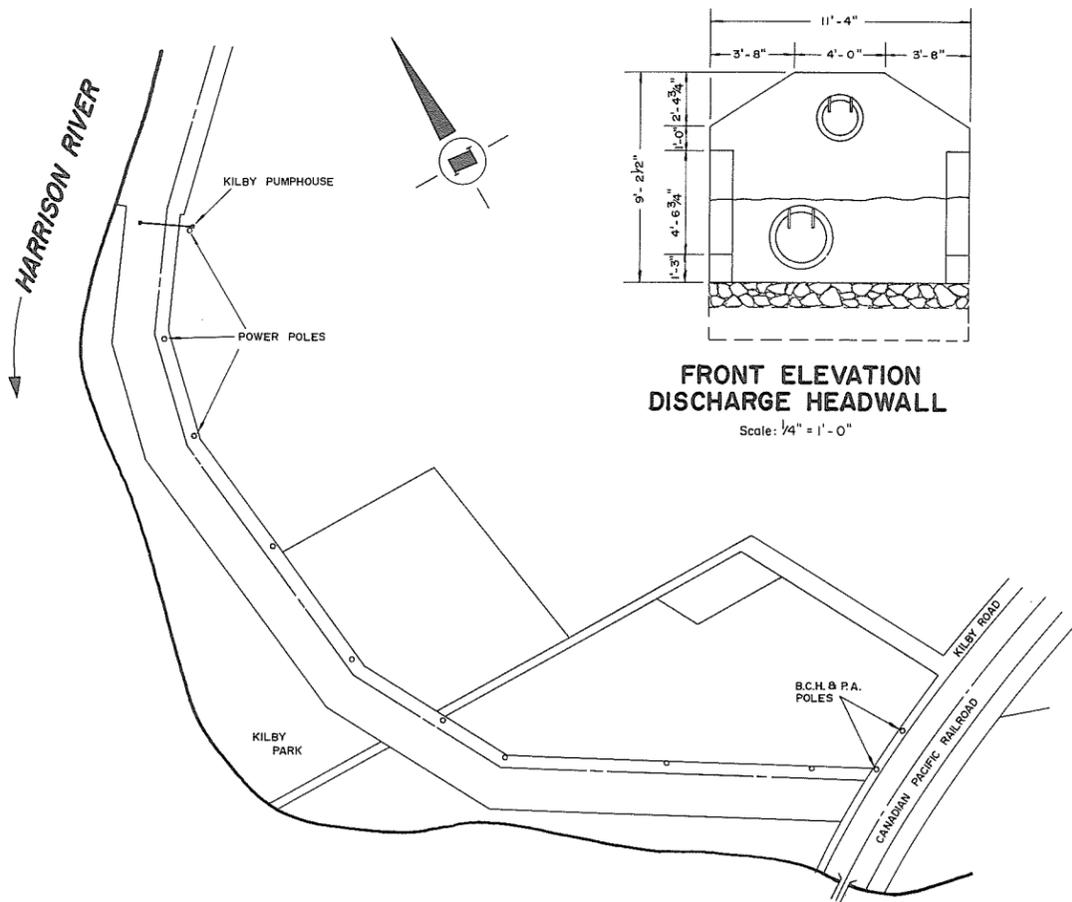
PROJECT NO. 1 DISTRICT OF KENT  
ELECTRICAL FACILITIES  
DUNCAN BATESON PUMP STATION

DESIGNED	SPRATT & ASSOC.
DRAWN	K.L.
CHECKED	E.S.
SCALE	AS NOTED
DWG. NO.	4758-2-3
DATE	NOV. 1974
FILE NO.	0281550-C7
SHEET	1 OF 1 SHEETS

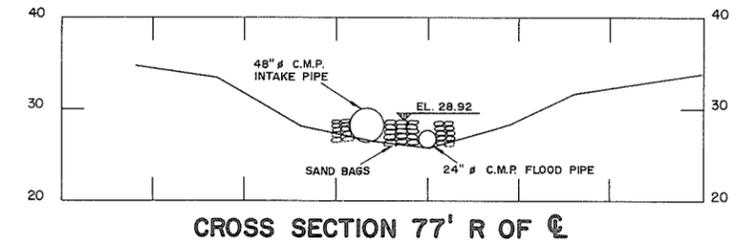


INDICATES MODIFICATIONS TO DISCHARGE HEADWORKS (JANUARY TO APRIL, 1976)

W.C.T. & CO. LTD. B.M. No. 13  
EL. 35.99 - R.R. SPIKE IN TREE STUMP

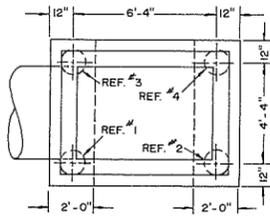


- NOTES**
- Dates of construction - October 16, 1970 to July 31, 1971.
  - Elevations - W.C.T. & Co. B.M. No. 13 (G.S.C.)
  - Source of materials:
    - Rip rap - Obtained at site.
    - Rock tailings - Duncan quarry.
    - Gravel - Borrow C.
  - Plan redrawn.



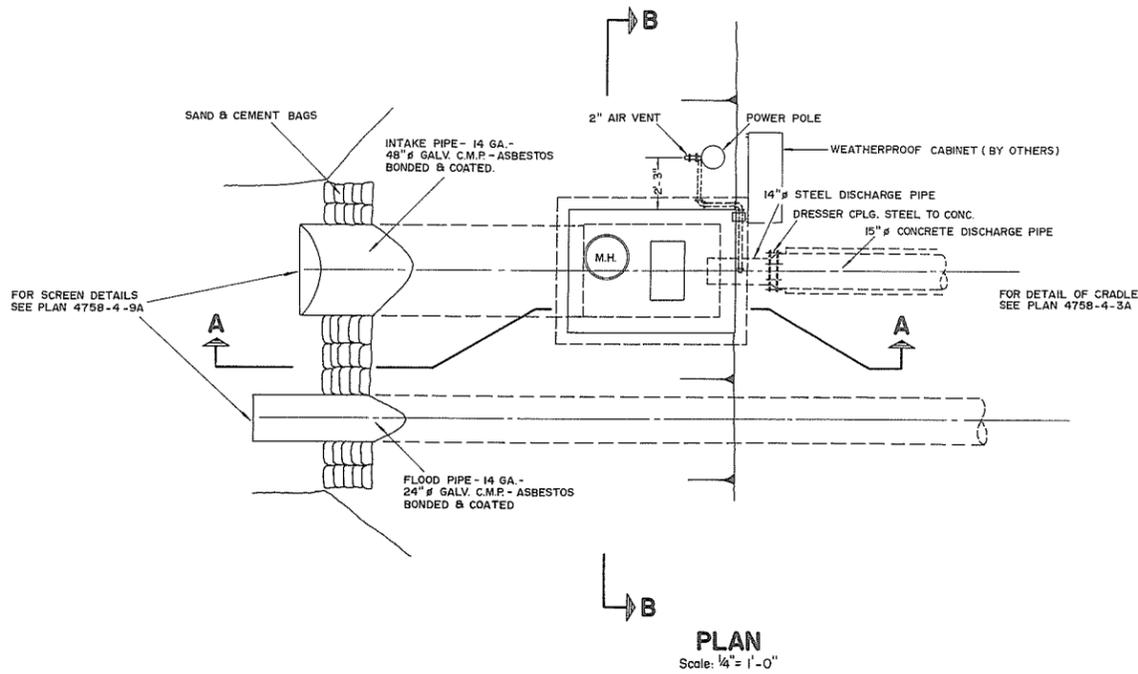
**AS CONSTRUCTED**

REFERENCES			APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE:	SURVEYED	BRITISH COLUMBIA DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH	FILE No. 0281550 - C7
DWG. No.	DESCRIPTION	DATE	DATE: <i>5 Oct 72</i>	DATE		
4758-4-7	Site plan & general details	Oct., 1969	DATE: <i>Nov 14/72</i>	DESIGNED Willis, Cunliffe, Tait & Co. DRAWN D.B.P.	PROJECT No. 1 - DISTRICT OF KENT CONTRACT No. 4 - CONSTRUCTION OF PUMPHOUSES	104592 DWG. No.
			APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA: CHIEF ENGINEER - WATER INVESTIGATIONS BRANCH	TRACED	<b>SITE PLAN &amp; GENERAL ARRANGEMENT KILBY PUMPSTATION</b>	4758-4-7B
			DATE: <i>Nov 14/72</i>	CHECKED R.A.E. DATE AUG., 1972		APPROVED: <i>John Fuller</i>
						SHEET 7 of 12

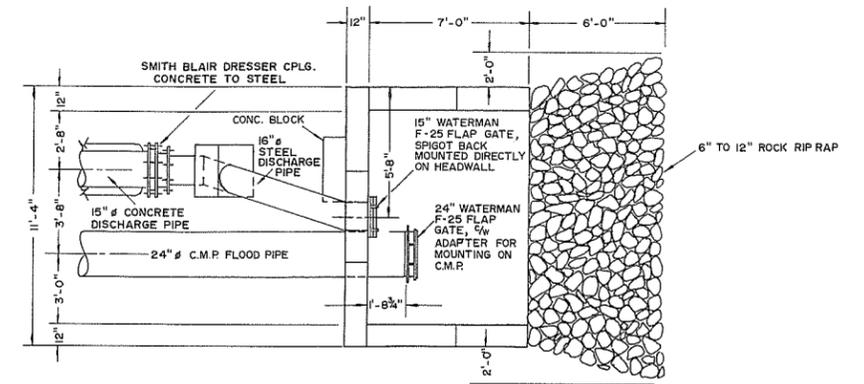


**PLAN SHOWING PILE LOCATION**  
Scale: 1/4" = 1'-0"

FOUNDATION PILING DATA - 2000 lb. DROP HAMMER WITH A DROP OF 10'				
REF. No.	TOP EL.	TIP EL.	LENGTH IN PLACE	PENETRATION ON LAST 5 BLOWS
1	26.01	-13.35	39.35'	1 1/4"
2	26.00	-16.40	42.40'	1 1/4"
3	25.98	-17.85	40.85'	1 1/4"
4	26.02	-9.30	35.30'	1 1/4"

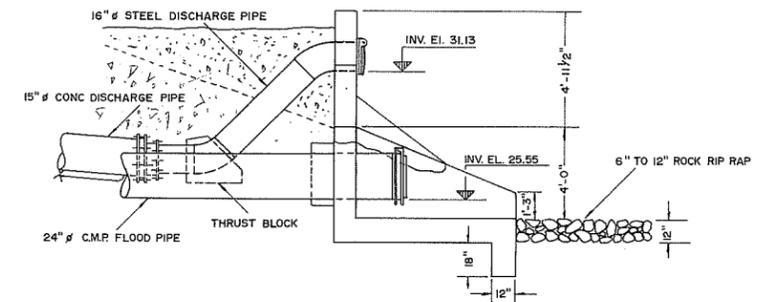


**PLAN**  
Scale: 1/4" = 1'-0"

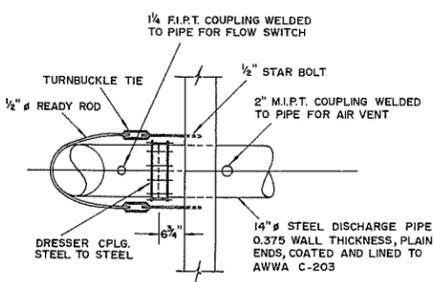


**PLAN OF DISCHARGE HEADWALL**  
Scale: 1/4" = 1'-0"

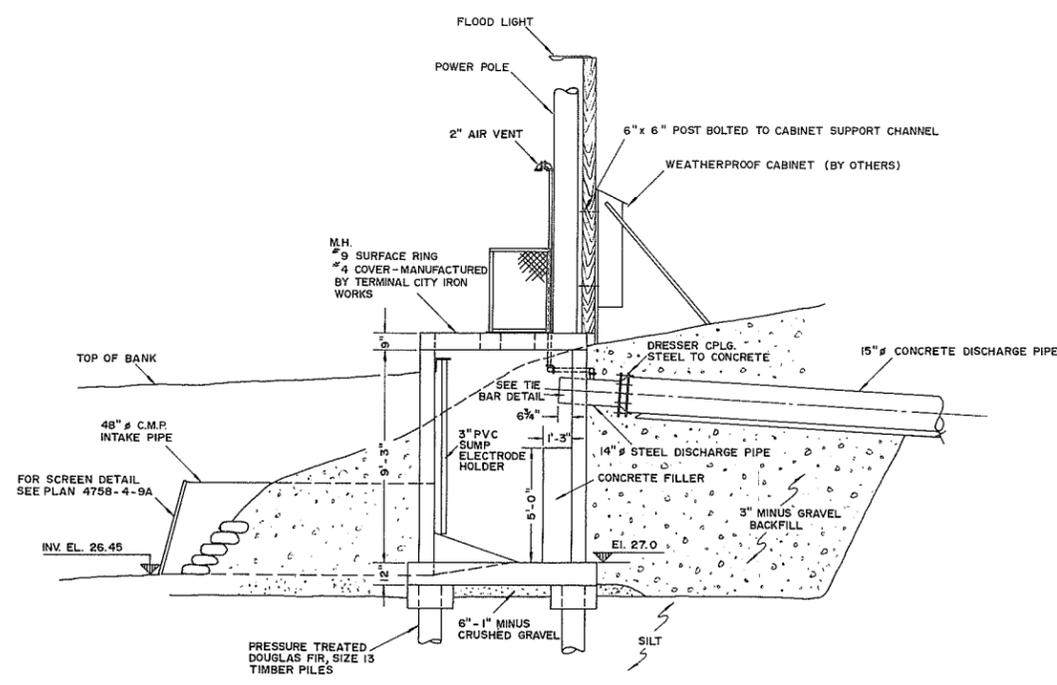
INDICATES MODIFICATIONS TO DISCHARGE HEADWORKS (JANUARY TO APRIL, 1976)



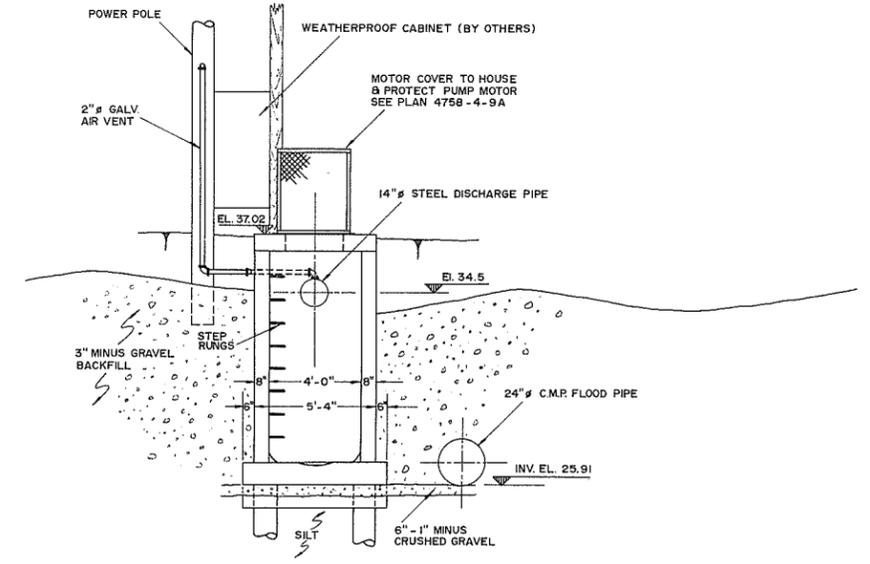
**SECTION THROUGH HEADWALL**  
Scale: 1/4" = 1'-0"



**TIE BAR DETAIL**  
Scale: 1/2" = 1'-0"



**SECTION A-A**  
Scale: 1/4" = 1'-0"



**SECTION B-B**  
Scale: 1/4" = 1'-0"

- NOTES**
- Dates of construction - October 16, 1970 to July 31, 1971
  - Elevations - W.C.T. & Co. B.M. No. 13.
  - Silts encountered in all excavations.
  - Plan redrawn.

REFERENCES		
DWG. No.	DESCRIPTION	DATE
4758-4-8	General details of pumphouse	Oct., 1969

APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE:  
*[Signature]*  
DATE: *5 Oct 72*

APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA:  
*[Signature]*  
DATE: *Nov 14 72*

SURVEYED  
DATE:  
DESIGNED  
*Willis, Cunliffe, Tait & Co.*  
DRAWN  
D.B.P.  
TRACED  
CHECKED  
R.A.E.  
DATE  
AUG., 1972

BRITISH COLUMBIA  
DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES  
WATER RESOURCES SERVICE  
WATER INVESTIGATIONS BRANCH

CANADA - BRITISH COLUMBIA  
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT

PROJECT No. 1-DISTRICT OF KENT  
CONTRACT No. 4 - CONSTRUCTION OF PUMPHOUSES  
**GENERAL DETAILS  
OF PUMPHOUSE  
KILBY PUMPSTATION**

APPROVED *[Signature]* SCALE: AS SHOWN

FILE No.  
0281550 - C7

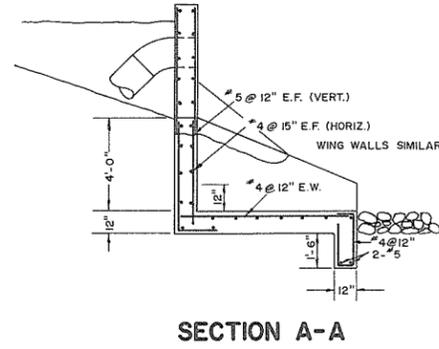
104593  
DWG. No.

4758-4-8D

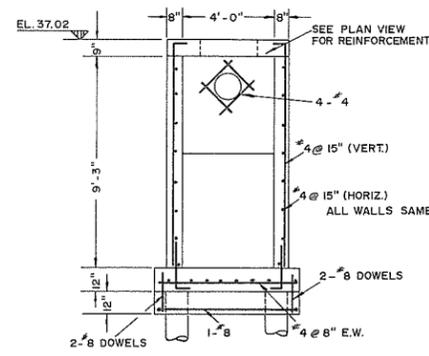
SHEET  
8 OF 12

**AS CONSTRUCTED**

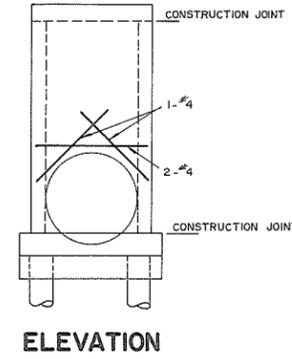
INDICATES MODIFICATIONS TO DISCHARGE HEADWORKS (JANUARY TO APRIL, 1976)



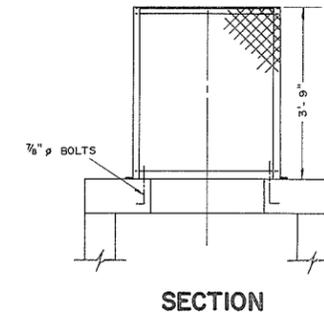
SECTION A-A



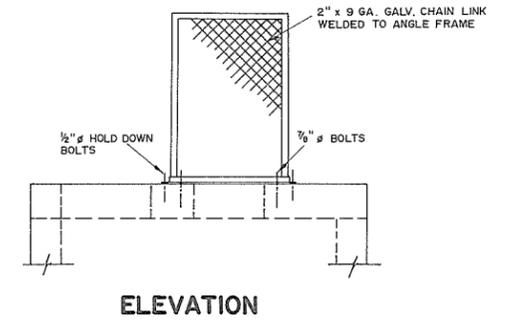
SECTION B-B



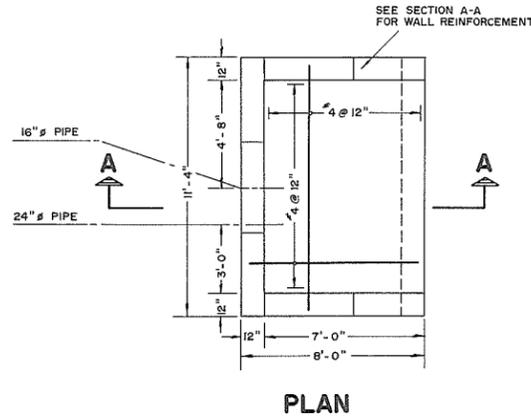
ELEVATION



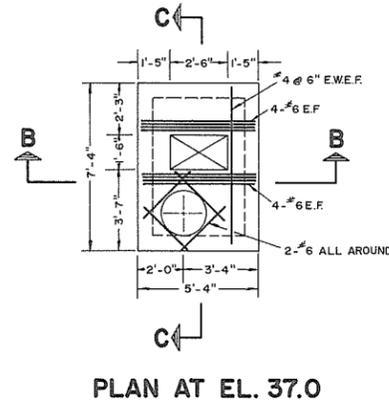
SECTION



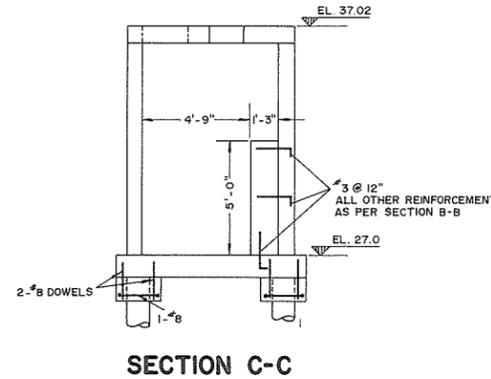
ELEVATION



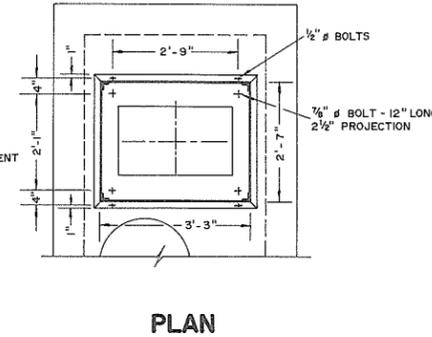
PLAN



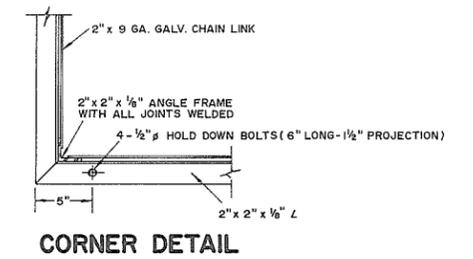
PLAN AT EL. 37.0



SECTION C-C



PLAN

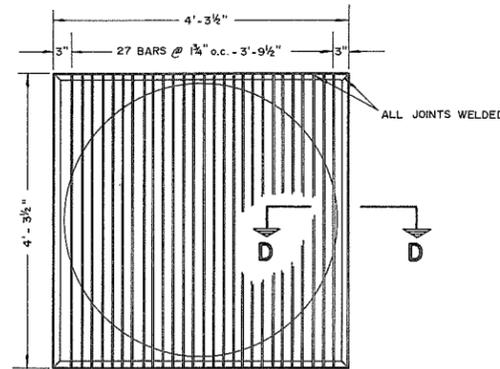


CORNER DETAIL

DETAIL OF HEADWALL  
Scale: 1/4" = 1'-0"

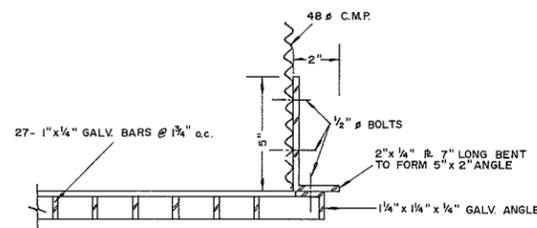
PUMPHOUSE REINFORCEMENT  
Scale: 1/4" = 1'-0"

DETAIL OF MOTOR COVER  
Scale: 1/2" = 1'-0"

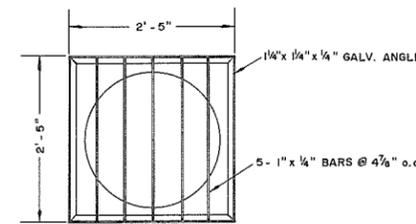


ELEVATION  
Scale: 3/4" = 1'-0"

DETAIL OF TRASH SCREEN FOR 48" PIPE



SECTION D-D  
Scale: 3/4" = 1'-0"



DETAIL OF TRASH SCREEN FOR 24" PIPE  
Scale: 3/4" = 1'-0"

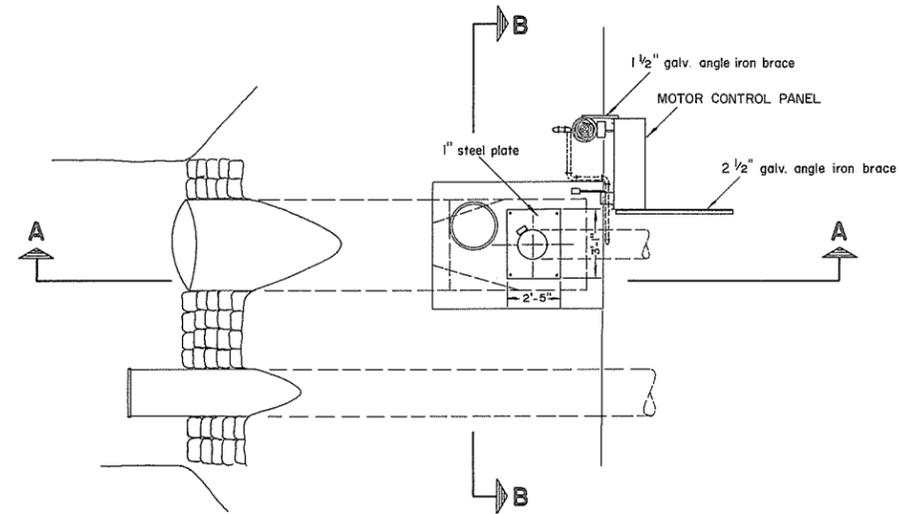
NOTES

- Dates of construction - October 16, 1970 to July 31, 1971.
- Elevations - W.C.T. & Co. B.M. No. 13 (G.S.C.).
- Plan redrawn.

REFERENCES			APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE:		SURVEYED		BRITISH COLUMBIA DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH		FILE No.	
DWG. No.	DESCRIPTION	DATE	DATE: <i>15 Oct 72</i>		DATE	DESIGNED Willis, Cunliffe, Tait & Co.		CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT		104594
4758-4-9	Miscellaneous details	Feb., 1970	DATE: <i>Nov. 14/72</i>		DATE	DRAWN D.B.P.		PROJECT No. 1 - DISTRICT OF KENT CONTRACT No. 4 - CONSTRUCTION OF PUMPHOUSES		DWG. No. 4758-4-9B
			APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA: <i>Roman</i>		CHECKED R.A.E.	TRACED		MISCELLANEOUS DETAILS KILBY PUMPSTATION		SHEET 9 of 12
			CHIEF ENGINEER, WATER INVESTIGATIONS BRANCH DATE: <i>Nov. 14/72</i>		DATE AUG., 1972	APPROVED: <i>[Signature]</i>		SCALE: AS SHOWN		

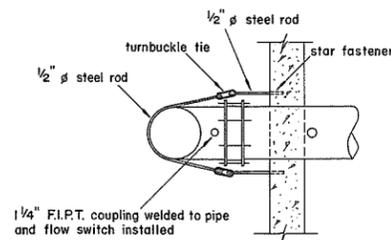
**NOTES:**

1. Westinghouse motor — Type HSB - Frame 254 TP - Serial no. I-19S3119 - supplied by Chutter Hydraulics & Machinery Ltd.
2. Motor control panel manufactured by Ross Morrison Electrical Ltd.
3. Date of installation - April 15 & April 28 to May 4, 1971.
4. Plan redrawn.



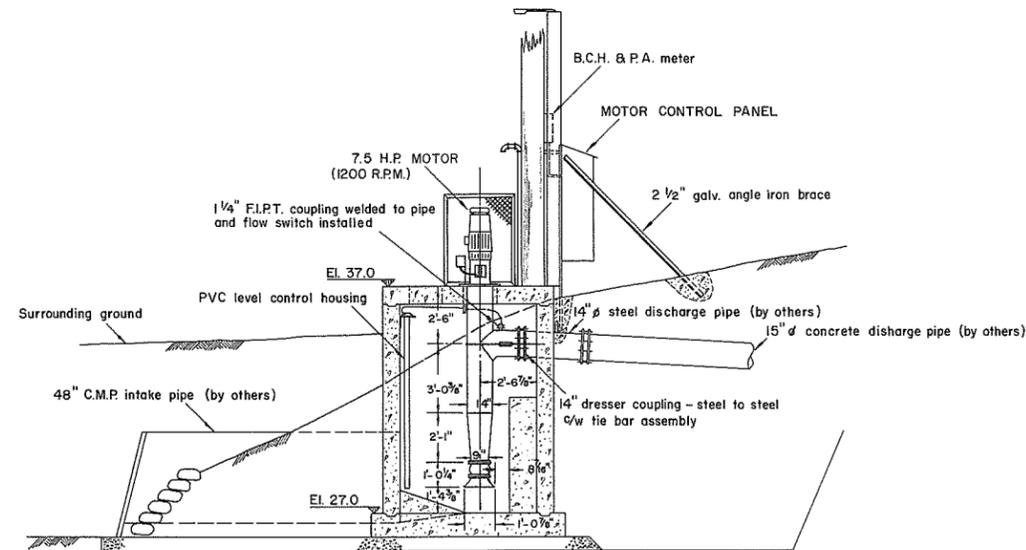
**PLAN**

Scale: 1/4" = 1'-0"



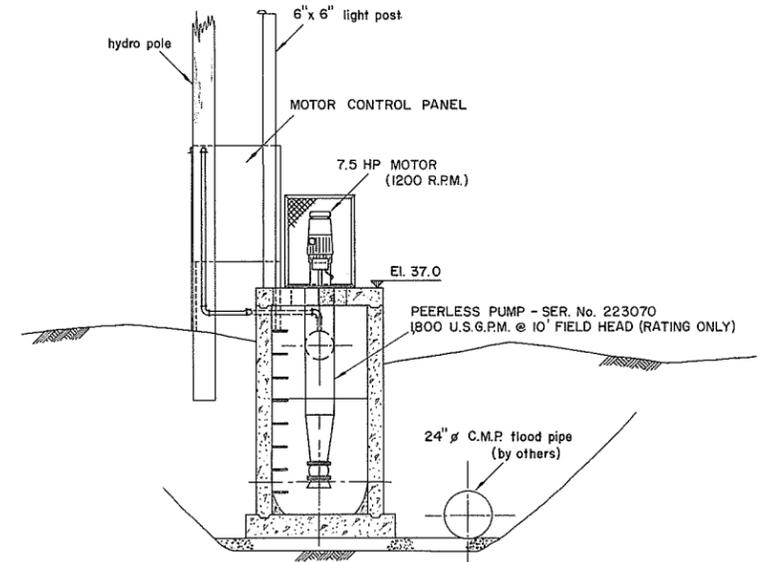
**TIE BAR DETAIL**

N.T.S.



**SECTION A-A**

Scale: 1/4" = 1'-0"

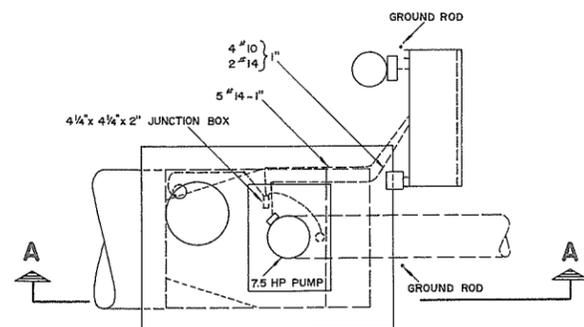


**SECTION B-B**

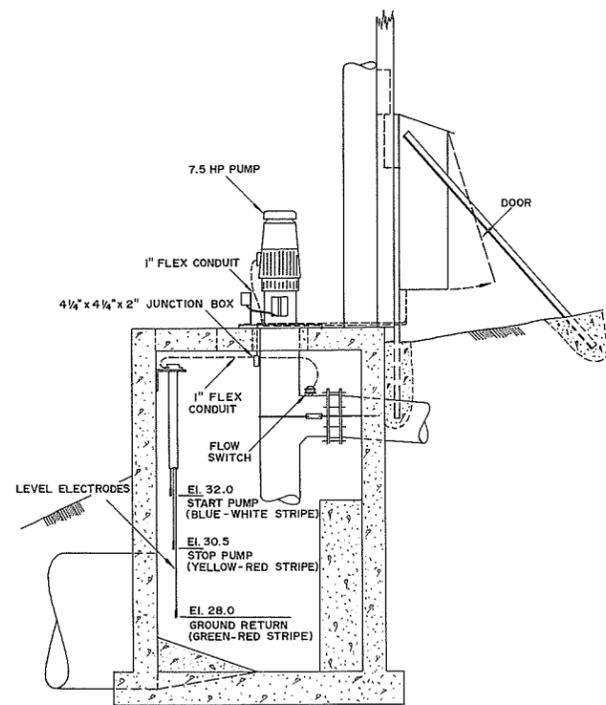
Scale: 1/4" = 1'-0"

**AS CONSTRUCTED**

REFERENCES			APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE:	SURVEYED	BRITISH COLUMBIA DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH CANADA — BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT PROJECT No. 1- DISTRICT OF KENT CONTRACT No. 3- SUPPLY OF PUMPING EQUIPMENT <b>ARRANGEMENT OF PUMPING EQUIPMENT KILBY PUMPSTATION</b>	FILE No.
DWG. No.	DESCRIPTION	DATE	DATE: <i>12 Jan 72</i>	DATE:		0281550 - C7
4758-3-4B	General details of pumphouse	Oct., 1969	APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA: <i>B. Mann</i> DATE: <i>Jan 18, 1972</i>	DESIGNED Willis, Cunliffe, Tait & Co. DRAWN D.B.P. TRACED CHECKED R.A.E., OCT. 14, 1971 DATE OCT., 1971	3920	
					DWG. No. 4758-3-4C	
					SHEET 2 OF 4	
					APPROVED: <i>Alb. Liller</i> SCALE: AS SHOWN	



**PLAN**  
Scale 3/8" = 1' - 0"



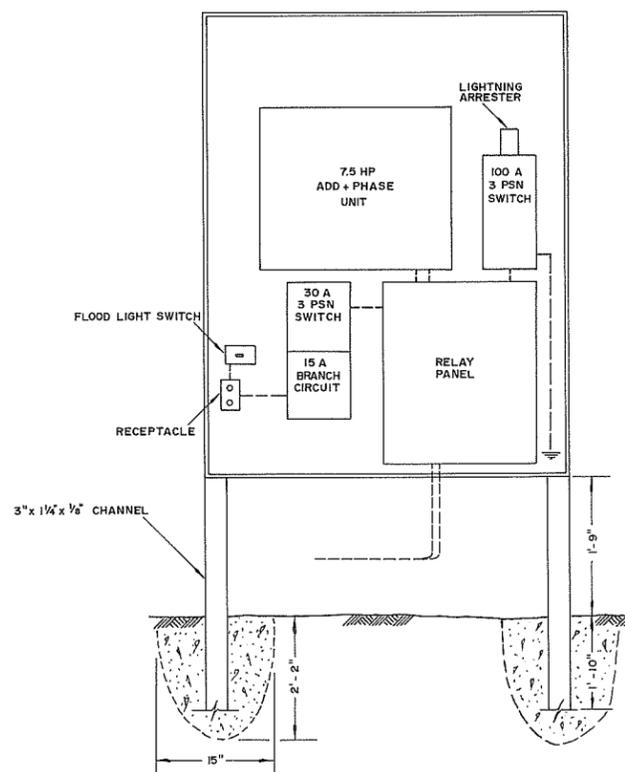
**SECTION A-A**  
Scale: 3/8" = 1' - 0"

**ELECTRICAL COMPONENTS IN PANEL**

Lightning arrester	G.E. 9L15BC BU 02
Add + phase	Model 2HD
Liquid level	B+W Model LH
T1 Transformer	Hammond HJ5J
M Magnetic	West. A200 M2CAC
TD1 Relay	A.B. 849 - Z0D32
TD2 Relay	Agastat 2422AF
Master off	A.H.H. 80600 - 268
Manual reset	A.B. 800T - B6A
Pump	A.B. 800T - J2B

**OPERATING PROCEDURE**

1. BW control closes at high water & pump motor "M" starts.
2. "M" auxiliary contact closes TD1 & TD 2.
3. TD1.1 contact opens & motor sealed in thru M1. After motor has stopped TD 2 stops motor from running for 10 min.(max.)
4. TD1 seals pump motor in for 30 sec. to allow flow switch to close R1 & seal in pump motor.
5. No water flow TD1 seals in & has to be manual reset.
6. If power failure all stop & auto recycle, pump starts in 10 min.(max)

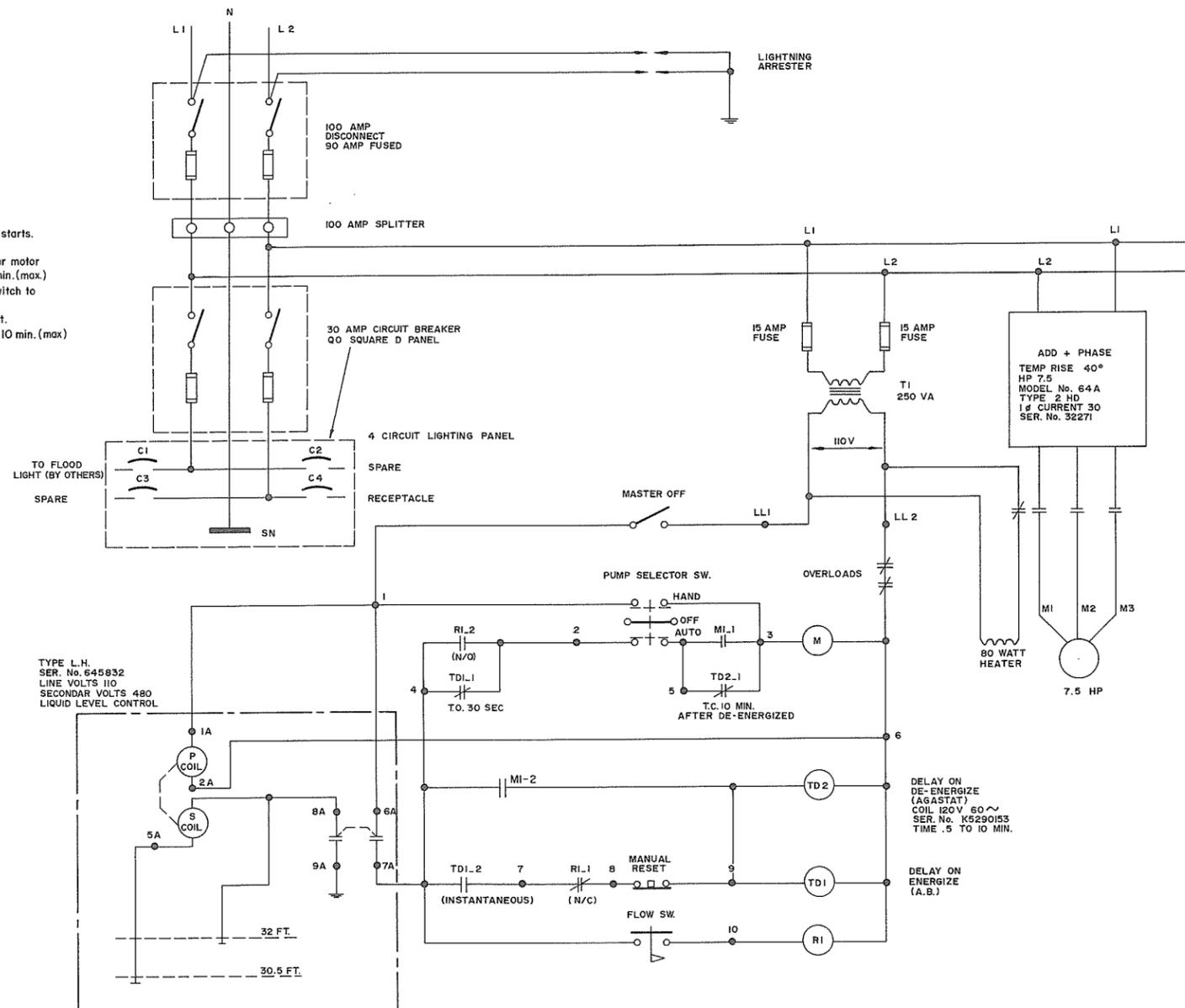


**SCHEMATIC ELEVATION VIEW OF W.P. CABINET-DOOR REMOVED**

N.T.S.

**NOTES:**

1. Motor control panel manufactured by Ross Morrison Electrical Ltd.
2. Level electrodes set to elevations requested by District of Kent.
3. Conduit not cast in concrete structure.
4. Date of installation - April 29, May 3 & May 4, 1971.
5. Plan redrawn.

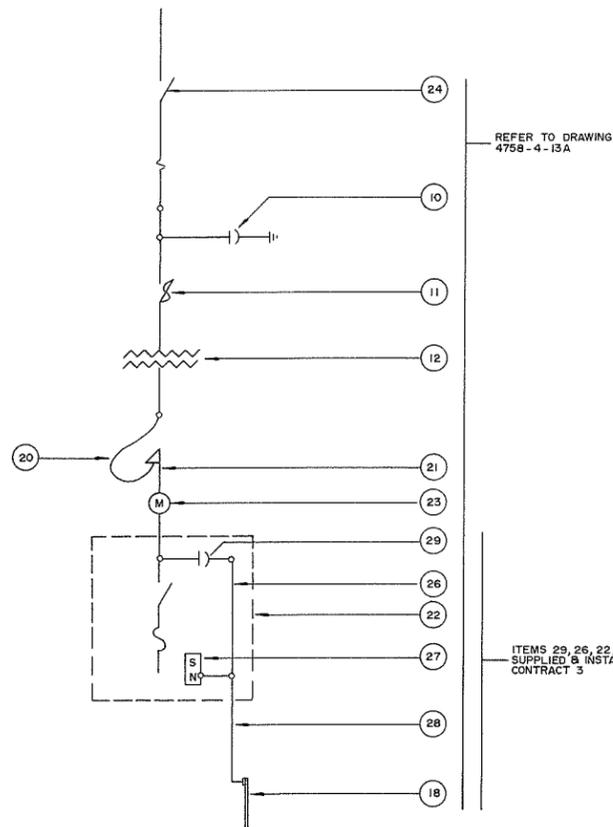


**SCHEMATIC SINGLE LINE DIAGRAM**

N.T.S.

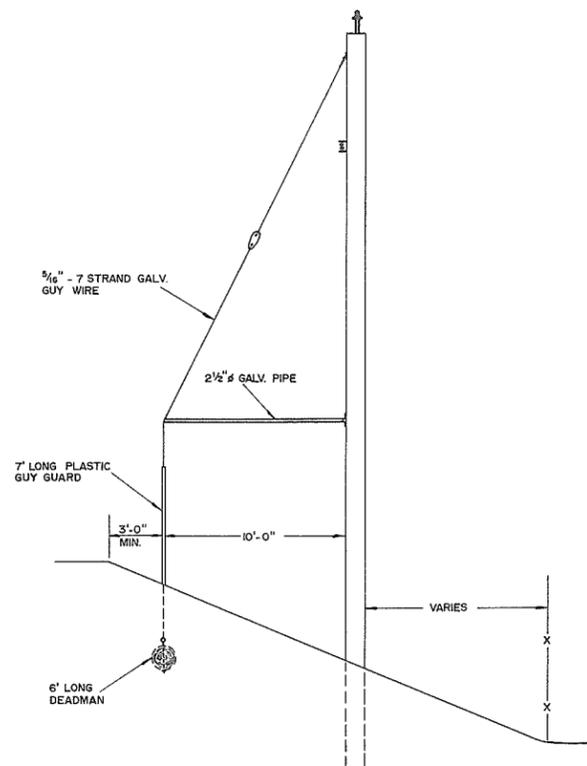
**AS CONSTRUCTED**

REFERENCES			APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE:		SURVEYED		BRITISH COLUMBIA DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH		FILE No.
DWG. No.	DESCRIPTION	DATE	DATE: <i>12 Jan 72</i>		DATE	CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT		0281550 - C7	
4758-3-6	Kilby pumpstation elec. facilities contract no. 3	Feb., 1970	APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA: <i>Boyd</i>		DESIGNED Spratt & assoc. Willis, Cunliffe, Tait & Co.	PROJECT No.1-DISTRICT OF KENT CONTRACT No. 3-SUPPLY OF PUMPING EQUIPMENT		2922	
70C002-B	Flood control schematic diagram (Ross-Morrison Electrical Ltd.)	Feb, 1971	DATE: <i>Jan 13, 1972</i>		DRAWN D.B.P.	<b>ELECTRICAL DETAILS KILBY PUMPSTATION</b>		DWG. No. 4758-3-6A	
					TRACED	APPROVED: <i>John Fuller</i>		SHEET 4 OF 4	
					CHECKED R.A.E. OCT. 14, 1971	SCALE: AS SHOWN			
					DATE OCT., 1971				



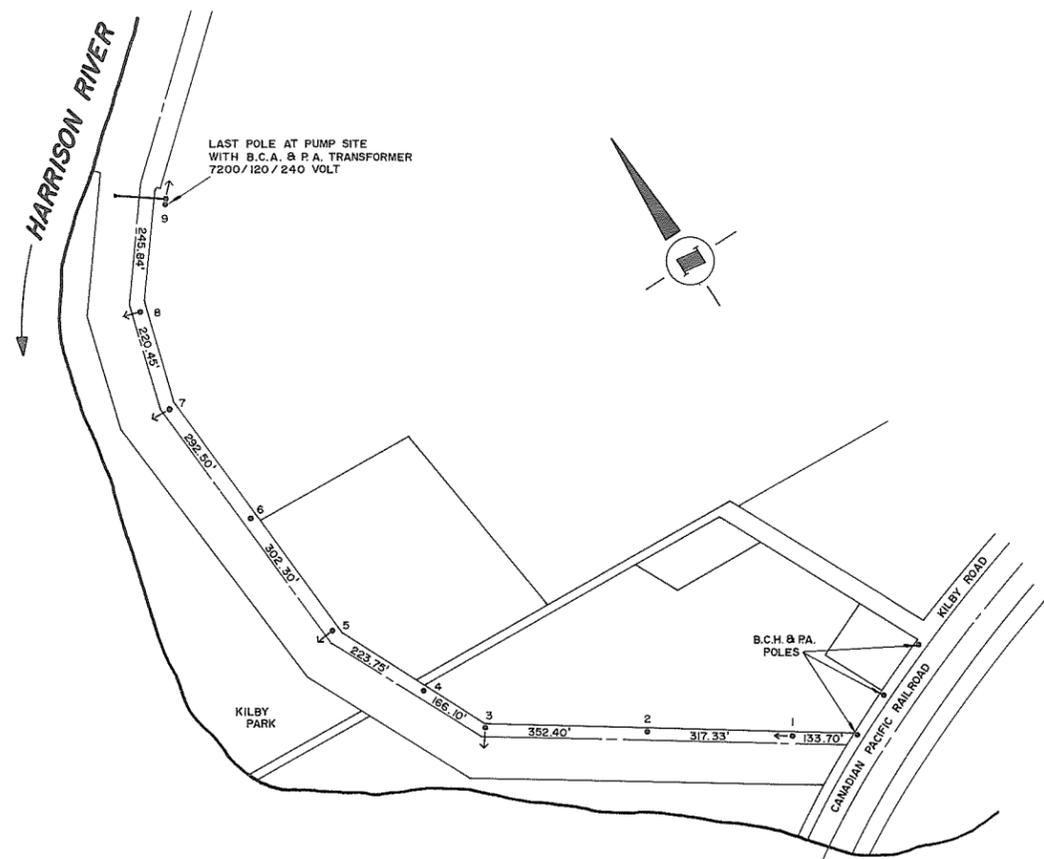
**PART SINGLE LINE - SCHEMATIC DRAWING**

Scale: N.T.S.



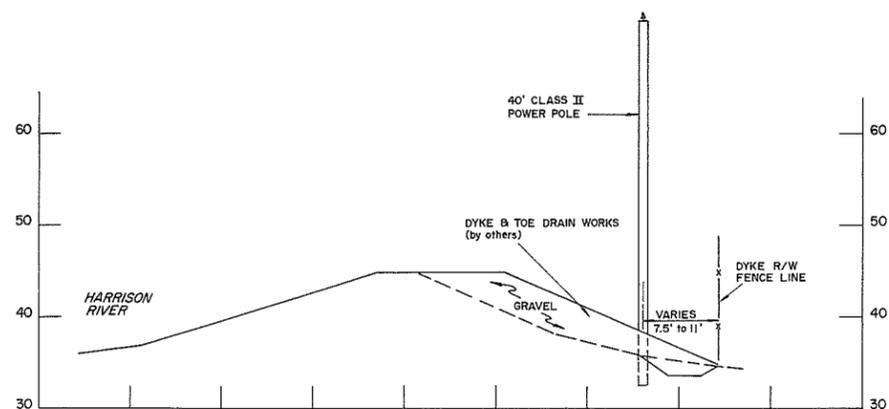
**ANCHOR DETAIL FOR POLES 3,5,7 & 8**

Scale: 1" = 5'-0"



**PLAN SHOWING POLE LOCATIONS**

Scale: 1" = 200'



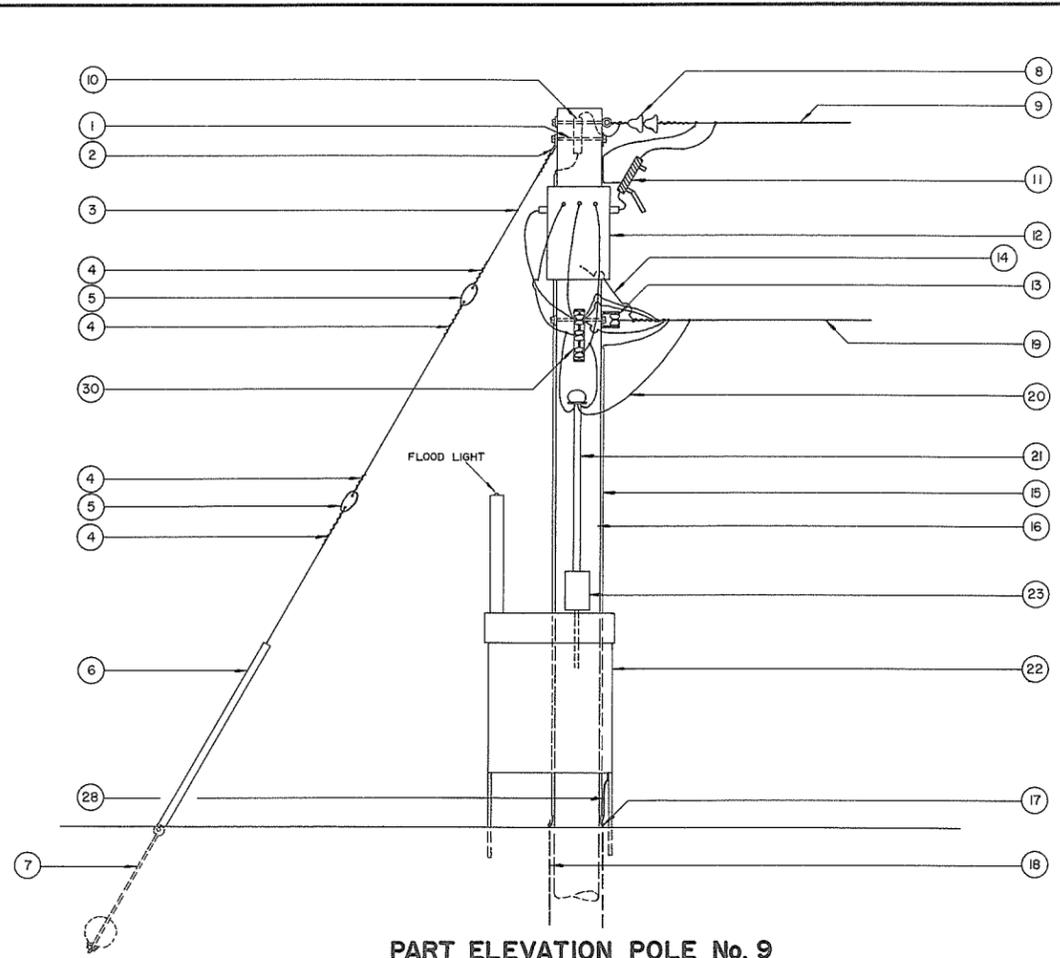
**POLE LOCATION DETAIL**

Scale: 1" = 10'-0"

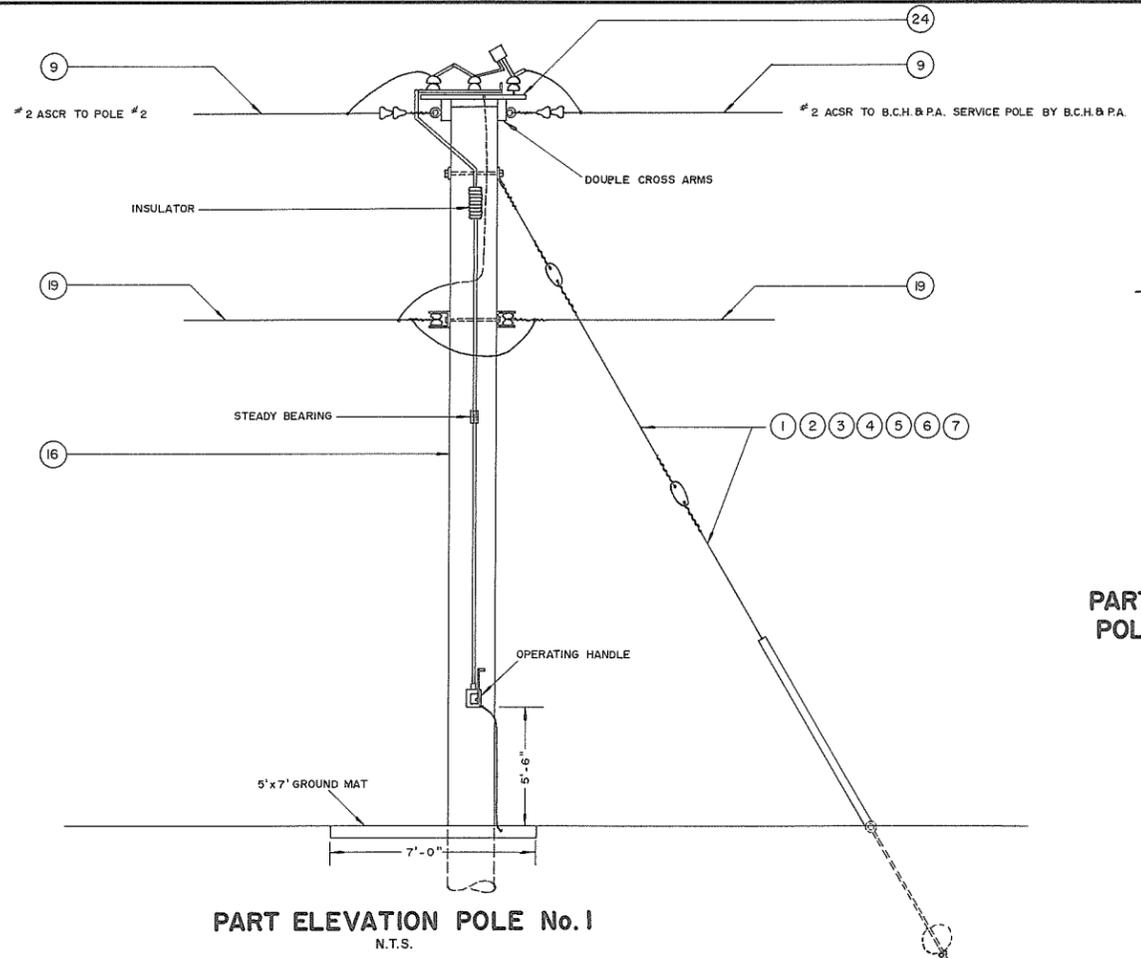
**NOTES**

- Dates of construction - October 16, 1970 to July 31, 1971
- Plan redrawn.

REFERENCES			AS CONSTRUCTED	
DWG. No.	DESCRIPTION	DATE	DESIGNED	FILE No.
4758-4-12	Electrical facilities	Mar., 1970	Spratt & Assoc. / W.C.T.	0281550 - C7
APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE:			DATE: 15 Oct 72	
APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA:			DESIGNED	
CHIEF ENGINEER, WATER INVESTIGATIONS BRANCH			DRAWN	
DATE: Nov 14 72			D.B.P.	
			TRACED	
			CHECKED	
			R.A.E.	
			DATE	
			SEPT., 1972	
			APPROVED	
			SCALE: AS SHOWN	
				11 OF 12



**PART ELEVATION POLE No. 9**  
N.T.S.



**PART ELEVATION POLE No. 1**  
N.T.S.

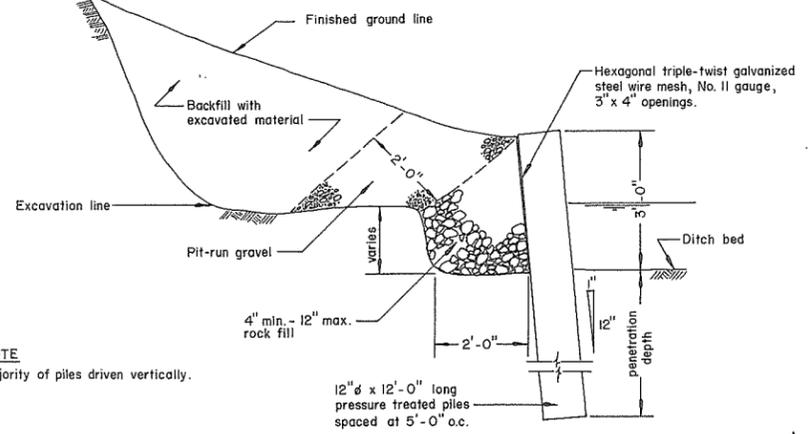
**PART ELEVATION POLES 3, 5, 7 & 8**  
N.T.S.

**LEGEND**

- ① — 5/8" GUY BOLT
- ② — 30° ANGLE THIMBLE EYE
- ③ — 1/4"-7 STRAND GALVANIZED GUY WIRE
- ④ — LOOPED STRAND DEAD ENDING
- ⑤ — STRAIN INSULATOR
- ⑥ — 7' LONG, ROUND PLASTIC GUY GUARD
- ⑦ — 1/2" Ø ROD, 12" Ø x 6' LONG DEADMAN
- ⑧ — 15 KV SUSPENSION TYPE DEAD END STRAIN INSULATOR WITH DEAD ENDING CLAMP FOR #2 ACSR
- ⑨ — #2 AWG STRANDED ACSR CONDUCTOR
- ⑩ — 15 KV MAGNA VALVE PRIMARY LIGHTNING ARRESTER WITH POLE MOUNTING BRACKET
- ⑪ — 15 KV - 100 AMP OPEN TYPE FUSE CUTOUT WITH POLE MOUNTING BRACKET. FUSE LINK SIZED TO SUIT B.C.H. & P.A. REQUIREMENTS
- ⑫ — B.C.H. & P.A. TRANSFORMER 7.2 KV/120/240 V WITH PRIMARY & SECONDARY LEADS
- ⑬ — NEUTRAL DEAD END CLEVIS WITH SPOOL INSULATOR
- ⑭ — #6 STRANDED CONDUCTOR. BOND TRANSFORMER TO GROUND CONDUCTOR
- ⑮ — PLASTIC GROUND CONDUCTOR MOULDING
- ⑯ — 40' CLASS II TREATED POLE
- ⑰ — #2 AWG STRANDED GROUND CONDUCTOR - BRAZE TO GROUND ROD
- ⑱ — 3/4" Ø - 10' LONG COPPER CLAD GROUND ROD
- ⑲ — #2 AWG STRANDED INSULATED NEUTRAL CONDUCTOR
- ⑳ — 3-#6 RW 90 CONDUCTORS FROM SERVICE SWITCH - CONNECTED TO TRANSFORMER SECONDARY CONDUCTORS
- ㉑ — 1" RIGID STEEL GALVANIZED CONDUIT, INSULATE TOP 10'. BOND "F" HEAD TO GROUND CONDUCTOR
- ㉒ — WEATHER PROOF CABINET BY CONTRACT No. 3 — REF. TO DRAWING 4758-4-12A
- ㉓ — B.C.H. & P.A. 200 A SELF CONTAINED METER ON HEAVY DUTY METER TROUGH
- ㉔ — 15 KV, POLE TOP, 200 AMP, SINGLE POLE, OUTDOOR, HORIZONTALLY MOUNTED LOAD BREAK SWITCH COMPLETE WITH PIPE INSULATOR, OPERATING PIPE, STEADY BEARING AND OPERATING HANDLE WITH HEAVY DUTY BRONZE NON RUSTING TYPE PAD LOCK
- ㉕ — 24" LONG POLE TOP PIN & PIN INSULATOR
- ㉖ — STRANDED INSULATED GROUND CONDUCTOR PROVIDED BY CONTRACT No. 3
- ㉗ — NEUTRAL BAR IN SERVICE SWITCH PROVIDED AND CONNECTED TO #26 BY BRAZING BY CONTRACT No. 3 — REF. TO DRAWING 4758-4-12A
- ㉘ — GROUND CONDUCTOR IN CONDUIT. BRAZED TO GROUND ROD BY CONTRACT No. 3
- ㉙ — LIGHTNING ARRESTER PROVIDED BY CONTRACT No. 3
- ㉚ — 3 SPOOL - MEDIUM DUTY SECONDARY RACK

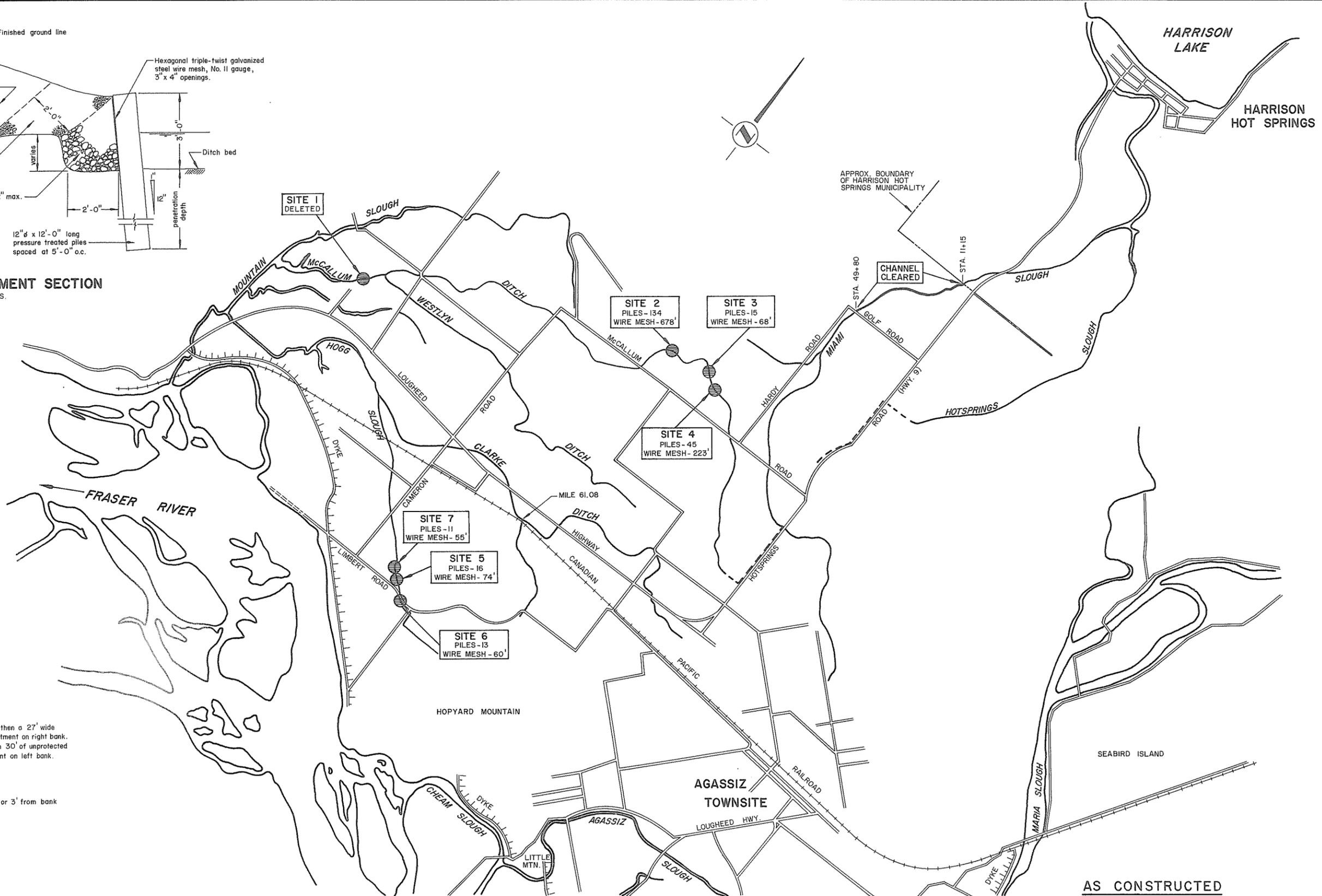
- NOTES**
1. Dates of construction - October 16, 1970 to July 31, 1971.
  2. Plan redrawn.

REFERENCES			AS CONSTRUCTED	
DWG. No.	DESCRIPTION	DATE	APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE:	DESIGNED
4758-4-13	Electrical facilities	Mar., 1970	<i>[Signature]</i> DATE: <i>Sept 72</i>	Spratt & Assoc./W.C.T.
			APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA: <i>[Signature]</i> CHIEF ENGINEER, WATER INVESTIGATIONS BRANCH DATE: <i>Nov 1972</i>	D.B.P.
				TRACED
				CHECKED R.A.E.
				DATE SEPT., 1972
			APPROVED <i>[Signature]</i>	SCALE: AS SHOWN
			BRITISH COLUMBIA DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH CANADA — BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT <b>PROJECT No. 1 - DISTRICT OF KENT</b> <b>CONTRACT No. 4 - CONSTRUCTION OF PUMPHOUSES</b> <b>ELECTRICAL FACILITIES</b> <b>KILBY PUMPSTATION</b>	
			FILE No. 0281550 - C7	104597 DWG. No.
				4758-4-13A
			SHEET 12 of 12	



NOTE  
Majority of piles driven vertically.

TYPICAL REVETMENT SECTION  
N.T.S.



- NOTES
1. SITE 1 - Deleted.
  2. SITE 2 - 216' of revetment on right bank, then a 27' wide farmers bridge, then 462' of revetment on right bank.
  3. SITE 3 - 6' of revetment on left bank, then 30' of unprotected bank followed by 62' of revetment on left bank.
  4. SITE 4 - 223' of revetment on left bank.
  5. SITE 5 - 74' of revetment on left bank.
  6. SITE 6 - 60' of revetment on left bank.
  7. SITE 7 - 55' of revetment on left bank.
  8. MIAMI SLOUGH - Bank cleared to H.W.M. or 3' from bank where terrain is flat.

AS CONSTRUCTED

APPROVED FOR THE FRASER RIVER JOINT PROGRAM COMMITTEE.  DATE: 12 June 72	<b>REFERENCES</b>			<b>REVISIONS</b>			SURVEYED DATE DESIGNED DRAWN TRACED D.B.P. CHECKED DATE JAN. / 71	BRITISH COLUMBIA DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT <b>PROJECT No. 1-DISTRICT OF KENT</b> <b>INTERNAL DRAINAGE</b> <b>SITE PLAN</b>	FILE No. 0281550-C7
	APPROVED FOR THE PROVINCE OF BRITISH COLUMBIA.  DATE: 18 June 1972	DWG. No.   DESCRIPTION   DATE 4758-5-1A   Internal Drainage, Site Pl.   Mar., 1970 4758-5-2   Culvert Installation of M1. 61.08 - C.P.R.   Mar., 1970 4758-5-3   Internal Drainage, Miami   Mar. 1970 4758-5-4   Int. Drainage - Details   Jul. 1970	No.   DESCRIPTION   DATE	CONTRACT No. 5X APPROVED:	DWG. No. 4758-5X-1B				

SCALE: 1" = 1500'

SHEET 1 OF 1

