

CANADA — BRITISH COLUMBIA

FRASER RIVER FLOOD CONTROL 1968 AGREEMENT

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

Water Investigations Branch
Ministry of Environment
Victoria, British Columbia

**CITY OF NEW WESTMINSTER
QUEENSBOROUGH AREA**

**Operation and Maintenance Instructions
Flood Control Works**

**VOLUME 3
AS CONSTRUCTED DRAWINGS**

**CITY OF NEW WESTMINSTER
QUEENSBOROUGH AREA**

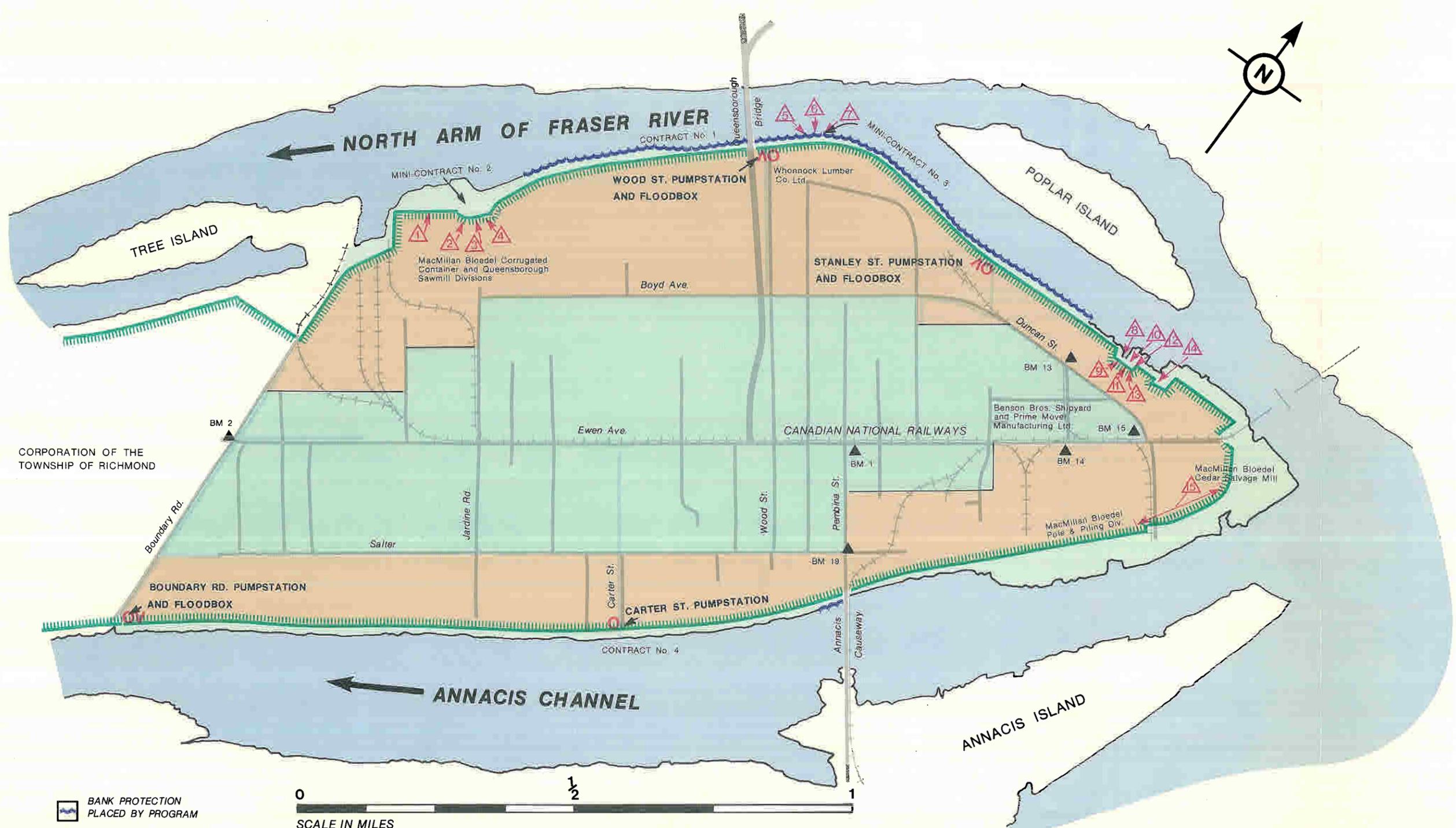
**Operation & Maintenance Instructions
Flood Control Works**

THE MANUAL

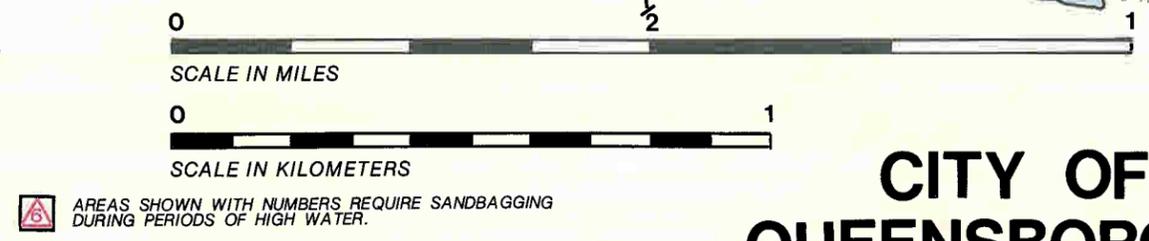
The operation and maintenance instructions for the flood control works for the City of New Westminster, Queensborough Area, are provided in two Volumes.

VOLUME 1 GENERAL INSTRUCTIONS

VOLUME 3 AS CONSTRUCTED DRAWINGS



- RESIDENTIAL
- INDUSTRIAL
- FLOODPLAIN
- BENCHMARK
- BANK PROTECTION PLACED BY PROGRAM
- FLOODBOX
- PUMPSTATION
- DYKE



CITY OF NEW WESTMINSTER

QUEENSBOROUGH AREA LULU ISLAND

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**CITY OF NEW WESTMINSTER
QUEENSBOROUGH AREA**
Operation and Maintenance Instructions
Flood Control Works

**Volume 3
AS CONSTRUCTED DRAWINGS**

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**CITY OF NEW WESTMINSTER – QUEENSBOROUGH AREA
(As Constructed Drawing List Continued)**

**Provincial
105 mm
Negative
Number**

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CONTRACT No. 1

**NORTH DYKE RECONSTRUCTION
QUEENSBOROUGH AREA - LULU ISLAND**

CANADA · BRITISH COLUMBIA

**FRASER RIVER FLOOD CONTROL 1968 AGREEMENT
PROJECT NO. 11, CITY OF NEW WESTMINSTER**

**CONTRACT NO. 1: NORTH DYKES RECONSTRUCTION
QUEENSBOROUGH AREA -
LULU ISLAND**

AS CONSTRUCTED DRAWINGS

AESL

Consulting Engineers

ASSOCIATED ENGINEERING SERVICES LTD.

VANCOUVER B. C.

MATERIAL TYPES

(REFER TO SPECIFICATIONS AND DRAWINGS FOR DETAILS)

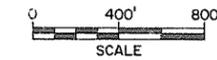
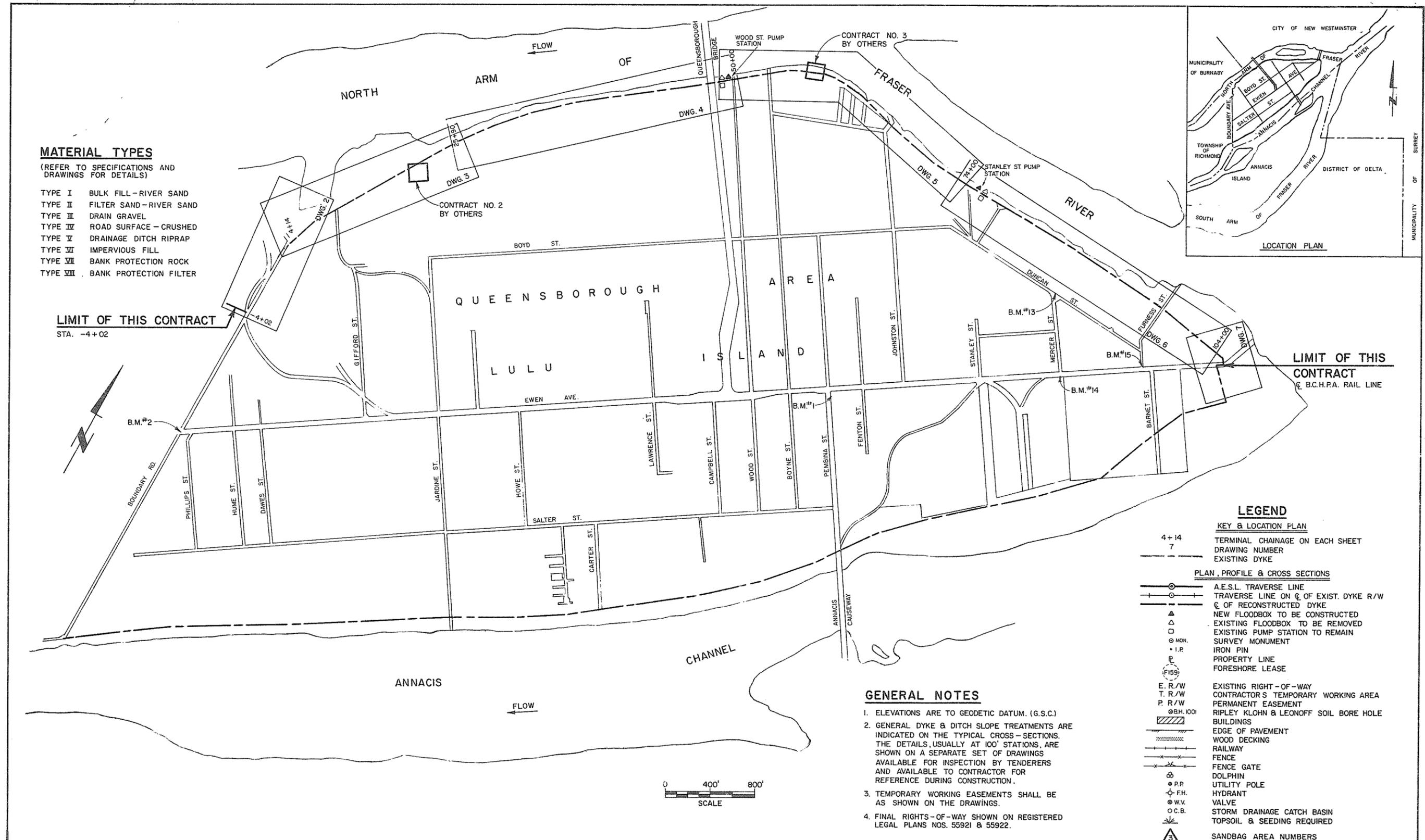
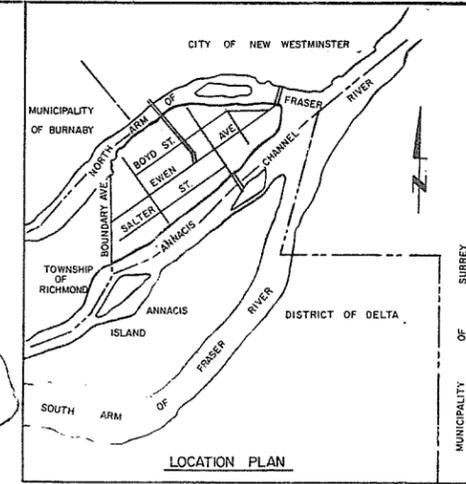
- TYPE I BULK FILL - RIVER SAND
- TYPE II FILTER SAND - RIVER SAND
- TYPE III DRAIN GRAVEL
- TYPE IV ROAD SURFACE - CRUSHED
- TYPE V DRAINAGE DITCH RIPRAP
- TYPE VI IMPERVIOUS FILL
- TYPE VII BANK PROTECTION ROCK
- TYPE VIII BANK PROTECTION FILTER

LIMIT OF THIS CONTRACT

STA. -4+02

LIMIT OF THIS CONTRACT

@ B.C.H.P.A. RAIL LINE



LEGEND

KEY & LOCATION PLAN

- 4+14
7

EXISTING DYKE
- PLAN, PROFILE & CROSS SECTIONS**
- A.E.S.L. TRAVERSE LINE
- TRAVERSE LINE ON C. OF EXIST. DYKE R/W
- C. OF RECONSTRUCTED DYKE
- ▲ NEW FLOODBOX TO BE CONSTRUCTED
- △ EXISTING FLOODBOX TO BE REMOVED
- EXISTING PUMP STATION TO REMAIN
- MON. SURVEY MONUMENT
- I.P. IRON PIN
- PROPERTY LINE
- ⊕ FORESHORE LEASE
- E. R/W EXISTING RIGHT-OF-WAY
- T. R/W CONTRACTOR'S TEMPORARY WORKING AREA
- P. R/W PERMANENT EASEMENT
- ⊙ B.H. 100' RIPLEY KLOHN & LEONOFF SOIL BORE HOLE BUILDINGS
- ▨ EDGE OF PAVEMENT
- ▨ WOOD DECKING
- RAILWAY
- FENCE
- ⊕ FENCE GATE
- ⊕ DOLPHIN
- ⊕ P.P. UTILITY POLE
- ⊕ F.H. HYDRANT
- ⊕ W.V. VALVE
- ⊕ O.C.B. STORM DRAINAGE CATCH BASIN
- ⊕ TOPSOIL & SEEDING REQUIRED
- 3 SANDBAG AREA NUMBERS

GENERAL NOTES

1. ELEVATIONS ARE TO GEODETIC DATUM. (G.S.C.)
2. GENERAL DYKE & DITCH SLOPE TREATMENTS ARE INDICATED ON THE TYPICAL CROSS-SECTIONS. THE DETAILS, USUALLY AT 100' STATIONS, ARE SHOWN ON A SEPARATE SET OF DRAWINGS AVAILABLE FOR INSPECTION BY TENDERERS AND AVAILABLE TO CONTRACTOR FOR REFERENCE DURING CONSTRUCTION.
3. TEMPORARY WORKING EASEMENTS SHALL BE AS SHOWN ON THE DRAWINGS.
4. FINAL RIGHTS-OF-WAY SHOWN ON REGISTERED LEGAL PLANS NOS. 55921 & 55922.



DWH May 26/70

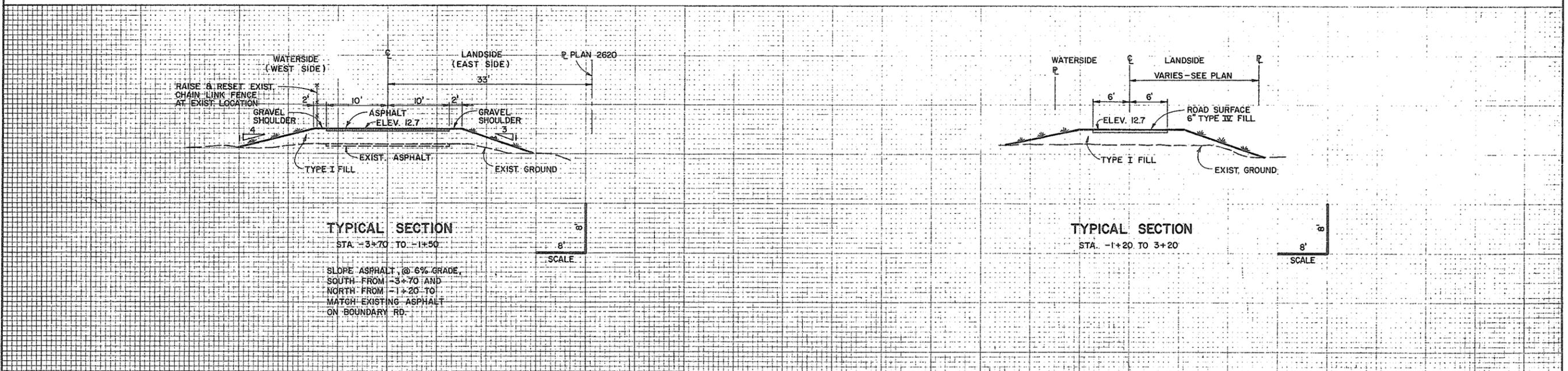
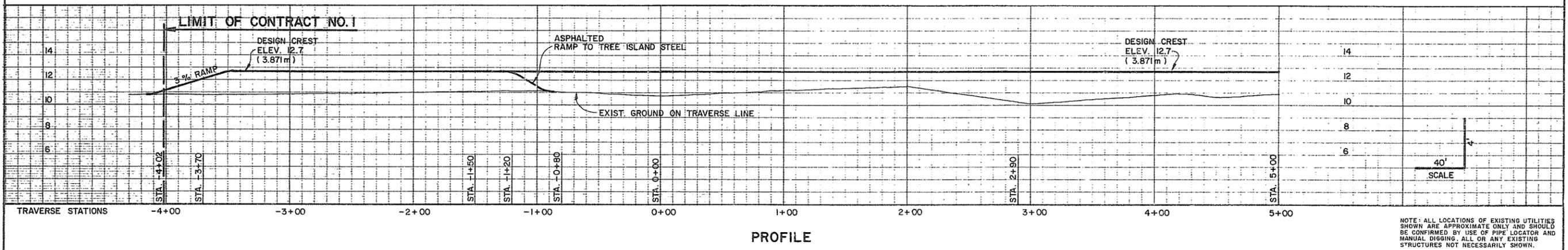
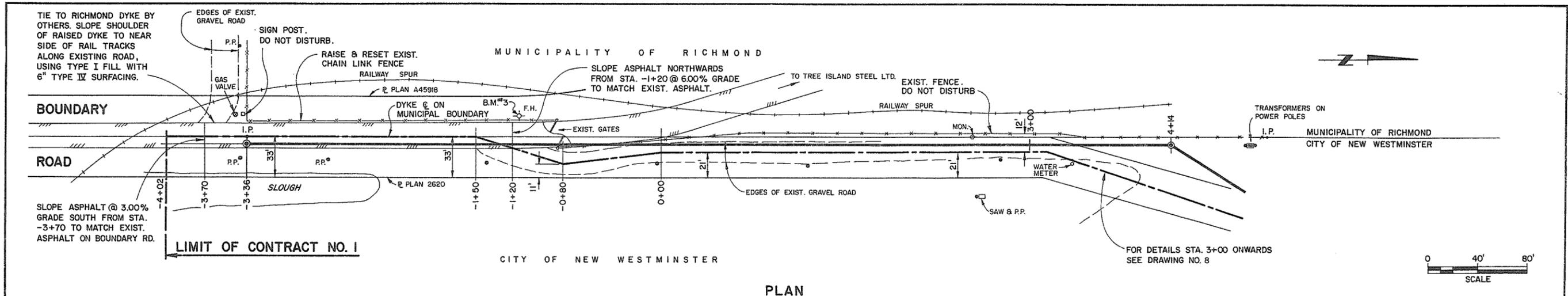
AESL ASSOCIATED ENGINEERING SERVICES LTD. <small>Consulting Engineers</small>	
A.E.S.L. No.	
NO. BY	J.C. AS CONSTRUCTED 15/5/70
REVISIONS	
DATE	DATE <i>May 26/70</i>

RECOMMENDED	<i>M. J. Pinner</i> PROJECT MANAGER
DATE	<i>21 May 1976</i>
APPROVED	<i>W. J. Miller</i> DIRECTOR, WATER INVESTIGATIONS BRANCH
DATE	<i>May 26/70</i>

BRITISH COLUMBIA DEPARTMENT OF ENVIRONMENT WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT	
PROJECT NO. 11	CITY OF NEW WESTMINSTER CONTRACT NO. 1
KEY PLAN	

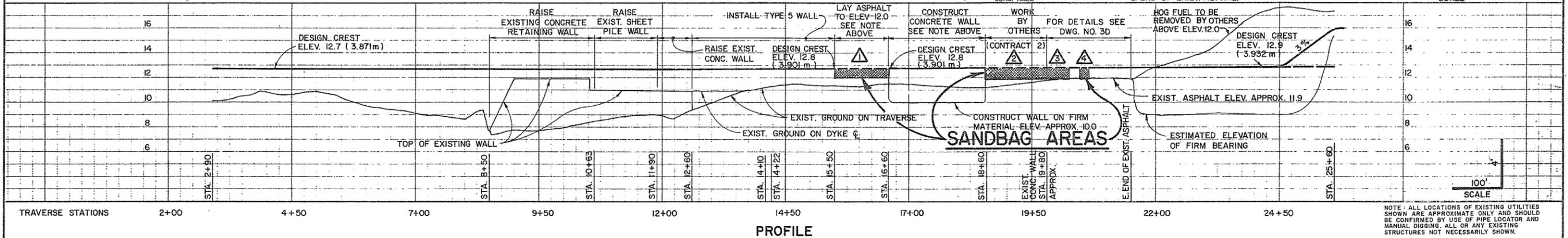
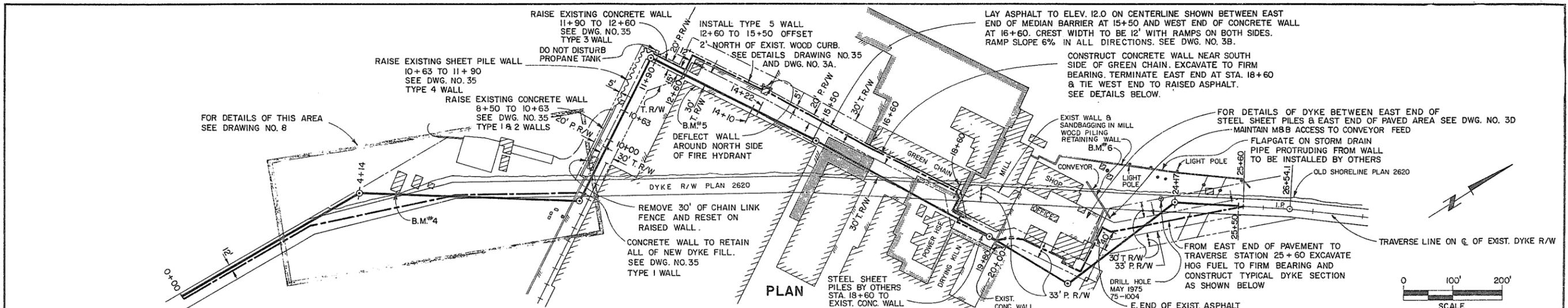
DESIGNED	<i>DWH</i>	SURVEYED	A.E.S.L.
DRAWN	<i>J.C.</i>	DATE	FEB. 1972
CHECKED	<i>DWH</i>	FILE NO.	0281550-C30-1
SCALE	AS SHOWN	DATE	MAY 1976
DWG. NO.	4885-1-1	SHEET	1 OF 45 SHEETS

9162

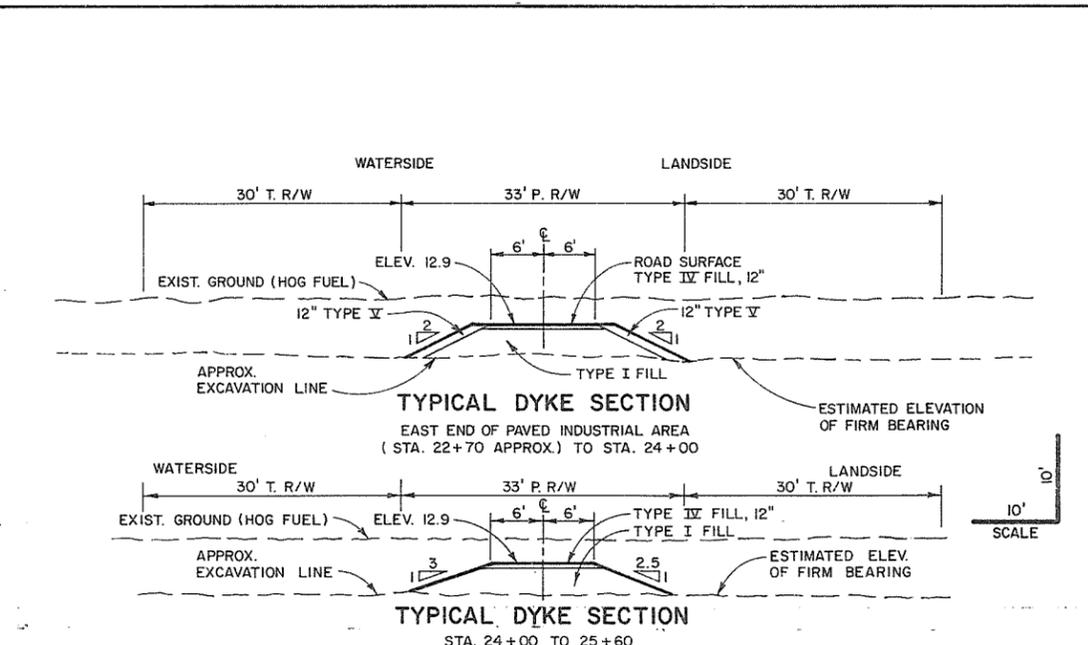
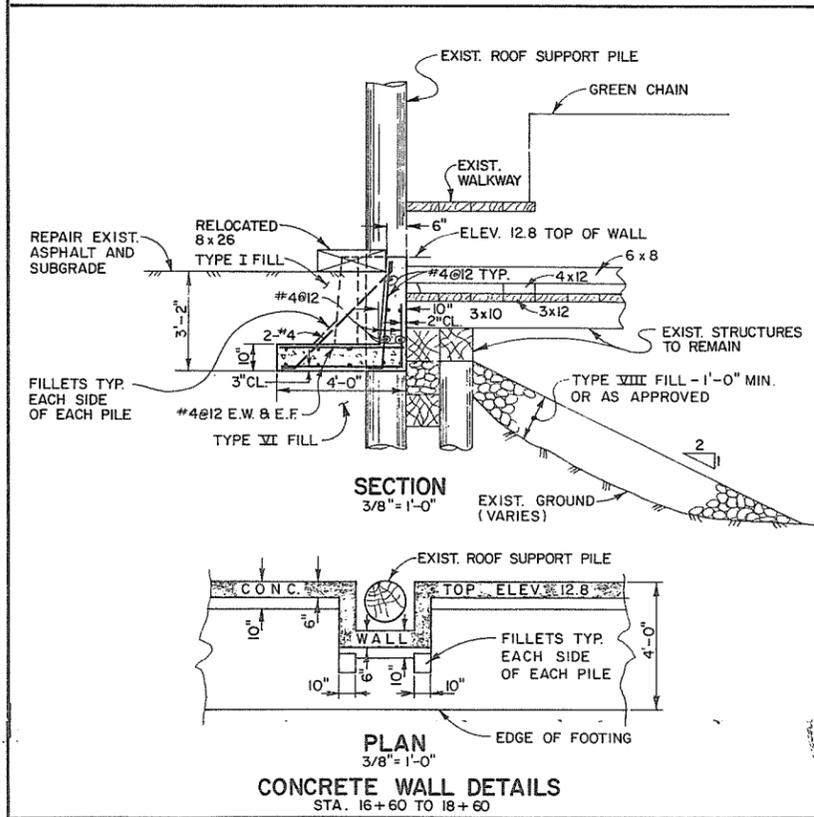


AESL ASSOCIATED ENGINEERING SERVICES LTD. Consulting Engineers	NO. BY J.C. AS CONSTRUCTED	REVISIONS 15/5/76	DATE 15/5/76	RECOMMENDED <i>[Signature]</i> PROJECT MANAGER	BRITISH COLUMBIA DEPARTMENT OF ENVIRONMENT WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT	DESIGNED <i>[Signature]</i>	SURVEYED A.E.S.L.
				DATE 31 May 1976		PROJECT NO. II CITY OF NEW WESTMINSTER CONTRACT NO. 1	DRAWN J.C.
A.E.S.L. No.	NO. BY J.C. AS CONSTRUCTED	REVISIONS 15/5/76	DATE 15/5/76	APPROVED <i>[Signature]</i> DIRECTOR, WATER INVESTIGATIONS BRANCH	PROJECT NO. II CITY OF NEW WESTMINSTER CONTRACT NO. 1	CHECKED DWB	FILE NO. 0281550-C30-1
				DATE May 31/76	PLAN, PROFILE, & SECTIONS DYKE STA. -4+02 TO 4+14	SCALE AS SHOWN	DATE MAY 1976
						DWG. NO. 4885-1-2	SHEET 2 OF 45 SHEETS

9163

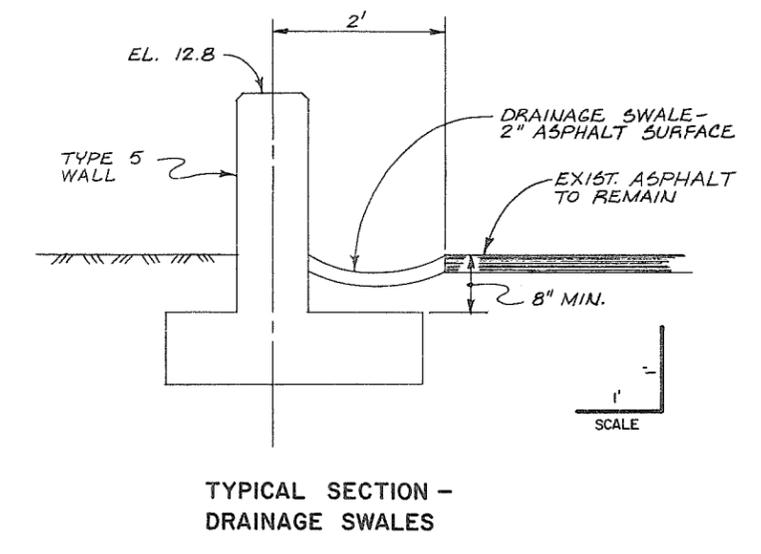
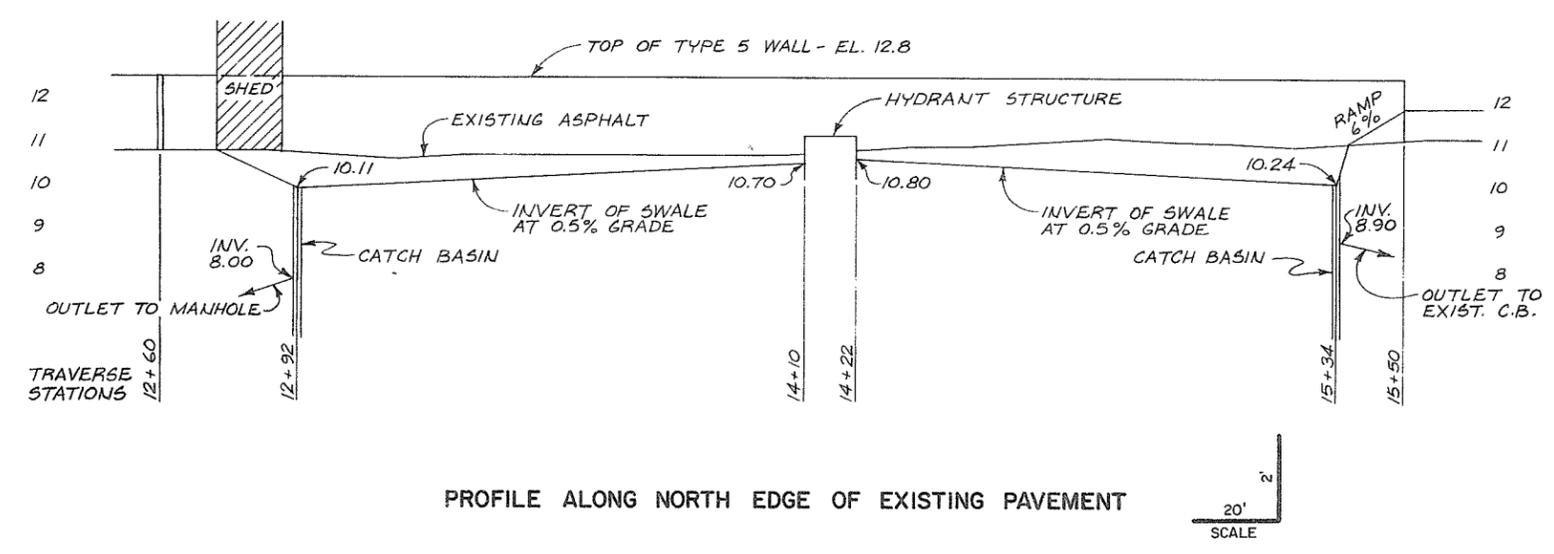
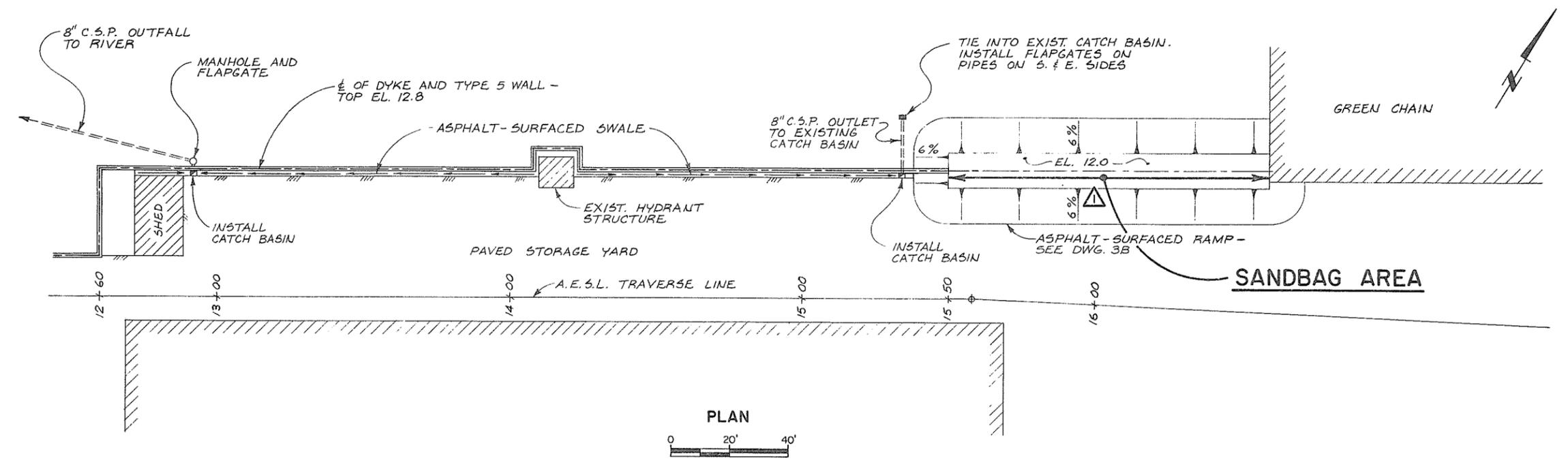


NOTE: ALL LOCATIONS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE ONLY AND SHOULD BE CONFIRMED BY USE OF PIPE LOCATOR AND MANUAL DIGGING. ALL OR ANY EXISTING STRUCTURES NOT NECESSARILY SHOWN.



- NOTES:
1. STA. 12+60 TO 15+50 CONSTRUCT SWALE OR GUTTER ON LANDSIDE OF WALL, INSTALL CATCH BASINS AND PIPING TO EXISTING STORM DRAINAGE SYSTEM AS DIRECTED BY THE ENGINEER. SEE DS-C201.
 2. STA. 15+50 TO 16+60 PAVING TO BE DONE DURING MILL SHUTDOWN PERIOD.
 3. STA. 16+60 TO 18+60 CONCRETE WALL TO BE CONSTRUCTED DURING MILL SHUTDOWN PERIOD, CAST LUGS OR BOLTS AS DIRECTED BY THE ENGINEER SUCH THAT GREEN CHAIN WALKWAY CAN BE EXTENDED TO AND SUPPORTED BY WALL. ALL EXISTING STRUCTURES TO REMAIN.
 4. STA. 18+60 TO E. END OF PAVED INDUSTRIAL AREA NO ACCESS.
 5. E. END OF PAVED INDUSTRIAL AREA TO STA. 24+00 ALLOW MACMILLAN BLOEDEL TO MAINTAIN ACCESS ACROSS SOME PART OF WORKING AREA AT ALL TIMES.
 6. AT ALL INDUSTRIAL SITES STOCKPILING OR MACHINERY PARKING ETC. ONLY AS APPROVED BY THE ENGINEER.
 7. MACMILLAN BLOEDEL WILL ALLOW LIMITED ACCESS VIA GIFFORD JARDINE AND BOYD STREETS.
 8. FOLLOW ALL INDUSTRIAL PLANT RULES AND REGULATIONS INCLUDING NO SMOKING REGULATION.
 9. CONTRACTOR TO LOCATE AND PROTECT SEWER AND WATER LINES WHICH CROSS GREEN CHAIN AREA IN N-S DIRECTION.

AESL ASSOCIATED ENGINEERING SERVICES LTD. Consulting Engineers A.E.S.L. No.	2 J.C. AS CONSTRUCTED. 15/5/78 1 B.M. CONC. WALL DETAILS 7/6/77	RECOMMENDED PROJECT MANAGER DATE 31 May 1976	BRITISH COLUMBIA DEPARTMENT OF ENVIRONMENT WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT PROJECT NO. 11 CITY OF NEW WESTMINSTER CONTRACT NO. 1 PLAN, PROFILE, & SECTIONS DYKE STA. 4+14 TO 25+60	DESIGNED D.W.H. DRAWN J.C. CHECKED D.W.H. SCALE AS SHOWN DWG. NO. 4885-1-3	SURVEYED A.E.S.L. DATE FEB. 1972 FILE NO. 0281550-C30-1 DATE MAY 1976 SHEET 3 OF 45 SHEETS
		APPROVED H.G. Fuller DIRECTOR, WATER INVESTIGATIONS BRANCH DATE May 31/76		9164	



- NOTES:
- CATCH BASINS AS PER DS-C201 OR AS DIRECTED.
 - MANHOLE AS PER DS-C121 EXCEPT SUMP AS PER DS-C201 OR AS DIRECTED.
 - DO NOT USE THIS DRAWING TO INSTALL ASPHALT-SURFACED RAMP EAST OF STA. 15+50.

DAVID W. BENTLEY
BRITISH COLUMBIA
ENGINEER
DWB Nov 3/76

ASSOCIATED ENGINEERING SERVICES LTD. **AESL**

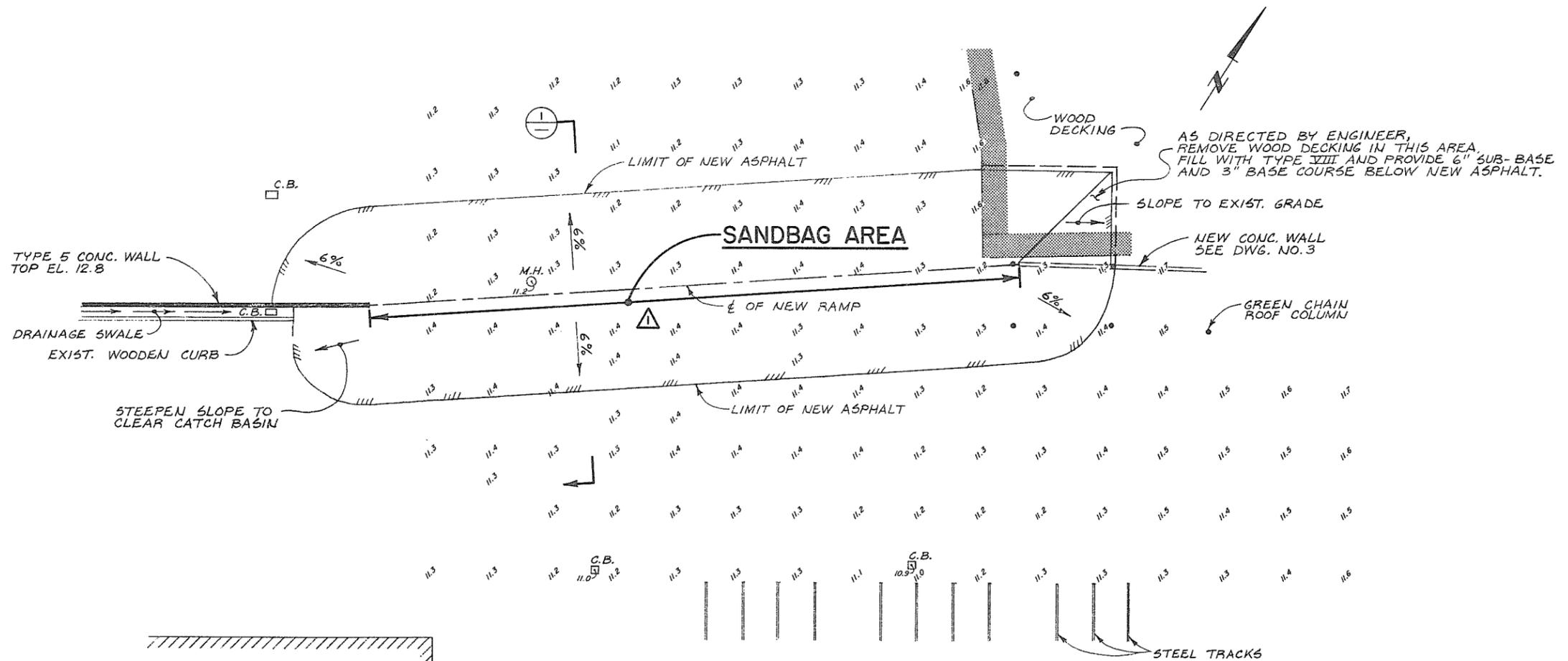
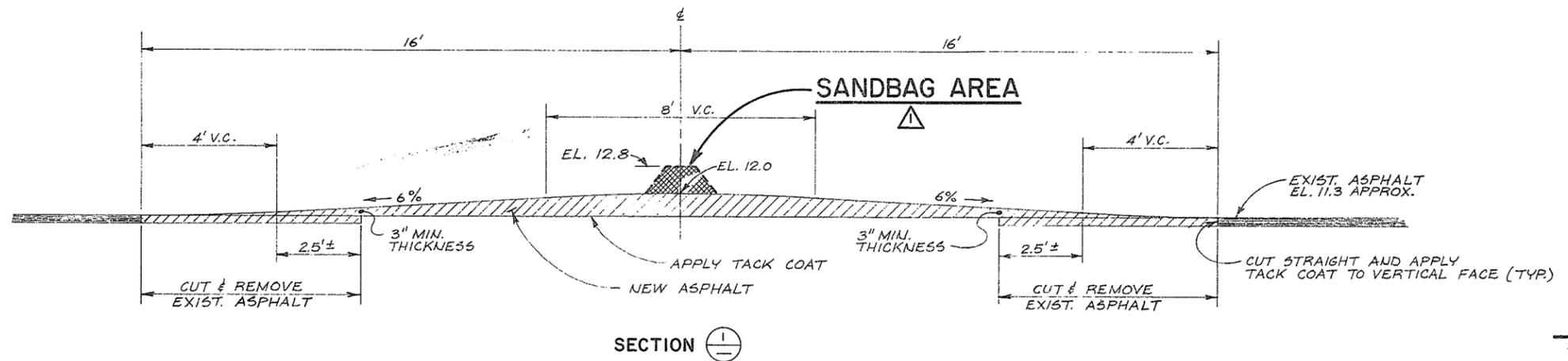
AESL D.V.G. NO.

RECOMMENDED	PROJECT MANAGER
DATE	
APPROVED	DIRECTOR, WATER INVESTIGATIONS BRANCH
DATE	
NO.	BY
REVISIONS	DATE
1	J.C. AS CONSTRUCTED 15/5/76

BRITISH COLUMBIA
DEPARTMENT OF ENVIRONMENT
WATER RESOURCES SERVICE
WATER INVESTIGATIONS BRANCH
CANADA - BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT

PROJECT NO. 11 CITY OF NEW WESTMINSTER CONTRACT NO. 1
DRAINAGE DETAILS
STA. 12+60 TO 15+50

DESIGNED	DWA	SURVEYED	A.E.S.L.
DRAWN	J.C.	DATE	
CHECKED	DWA	FILE NO.	0281550-C30-1
SCALE	AS SHOWN	DATE	NOV. 1976
DWG. NO.	4885-1-3A	SHEET	4 OF 45 SHEETS



PACKAGING PLANT



W.H. June 7/77

ASSOCIATED ENGINEERING SERVICES LTD. **AESL**

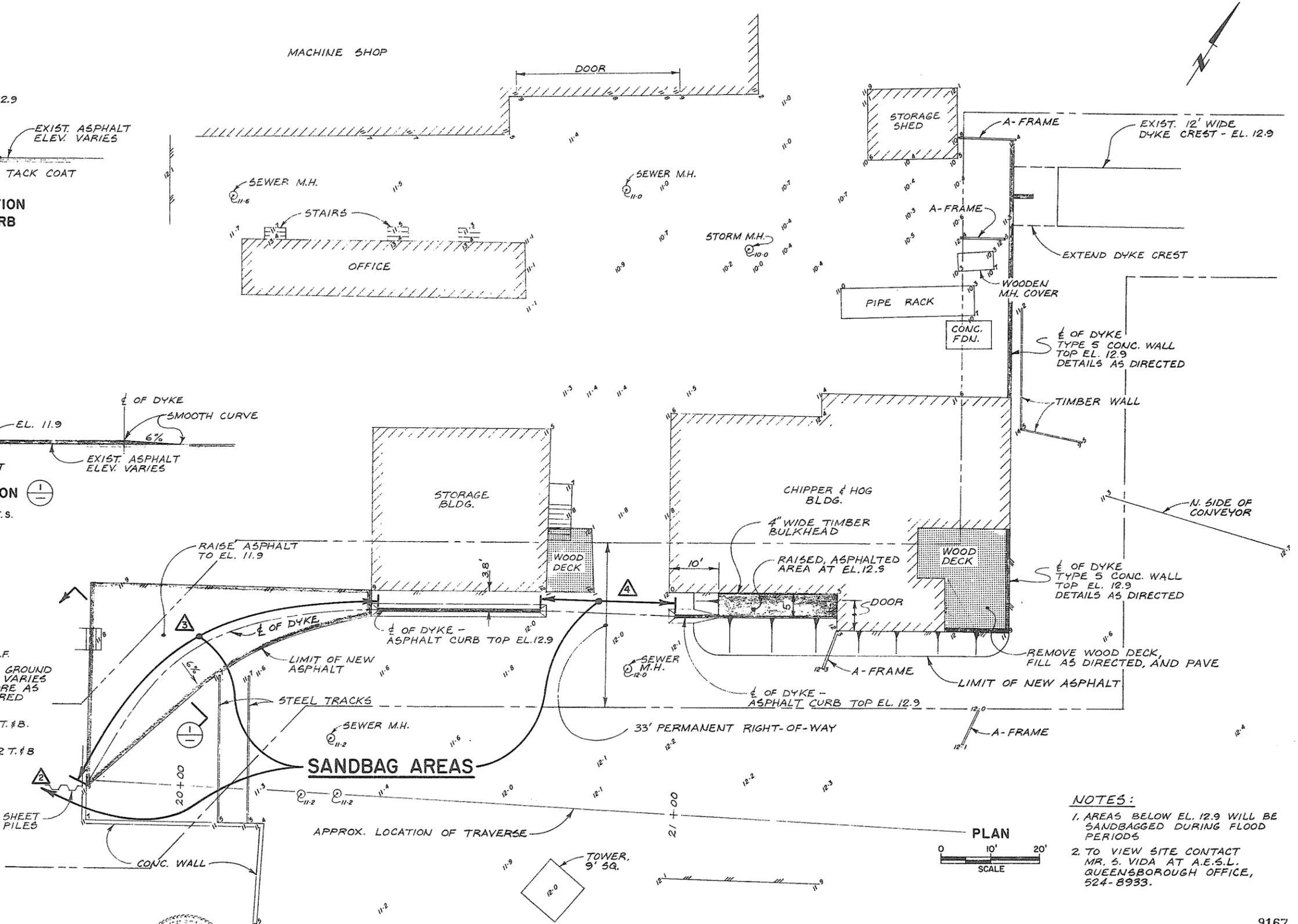
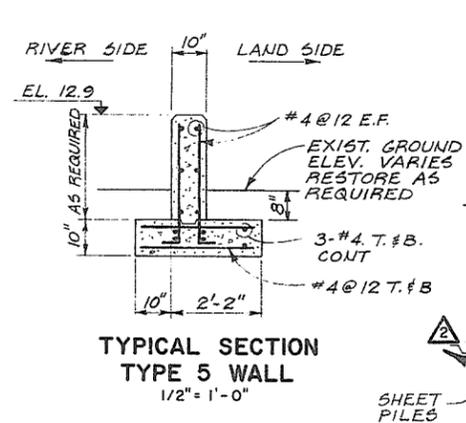
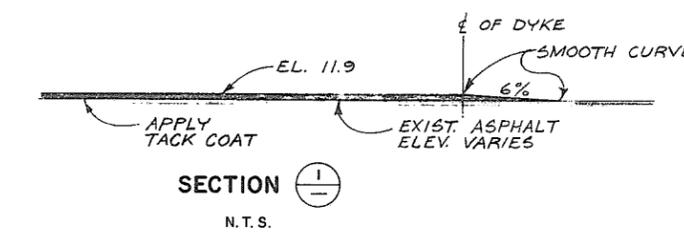
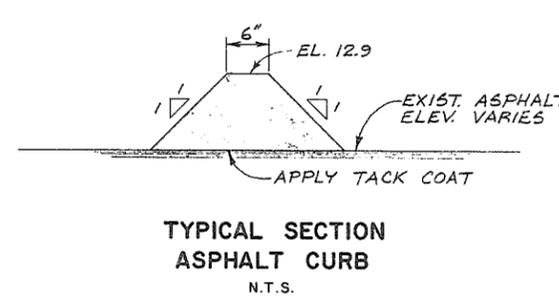
AESL DWG. NO. _____

RECOMMENDED	PROJECT MANAGER
DATE	
APPROVED	DIRECTOR, WATER INVESTIGATIONS BRANCH
DATE	15/5/78

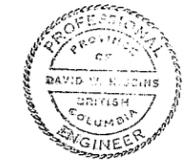
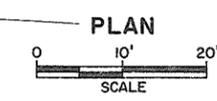
BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA - BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT
PROJECT NO. II CITY OF NEW WESTMINSTER CONTRACT NO. I
ASPHALT RAMP DETAILS
STA. 15+50 TO 16+60

DESIGNED	D.W.H.	SURVEYED	A.E.S.L.
DRAWN	J.C.	DATE	MAY 1977
CHECKED	D.W.H.	FILE NO.	0281550-C30-1
SCALE	AS SHOWN	DATE	MAY 1977
DWG. NO.	4885-1-3B	SHEET	5 OF 45 SHEETS

9166



NOTES:
 1. AREAS BELOW EL. 12.9 WILL BE SANBAGGED DURING FLOOD PERIODS
 2. TO VIEW SITE CONTACT MR. S. VIDA AT A.E.S.L. QUEENSBOROUGH OFFICE, 524-8933.



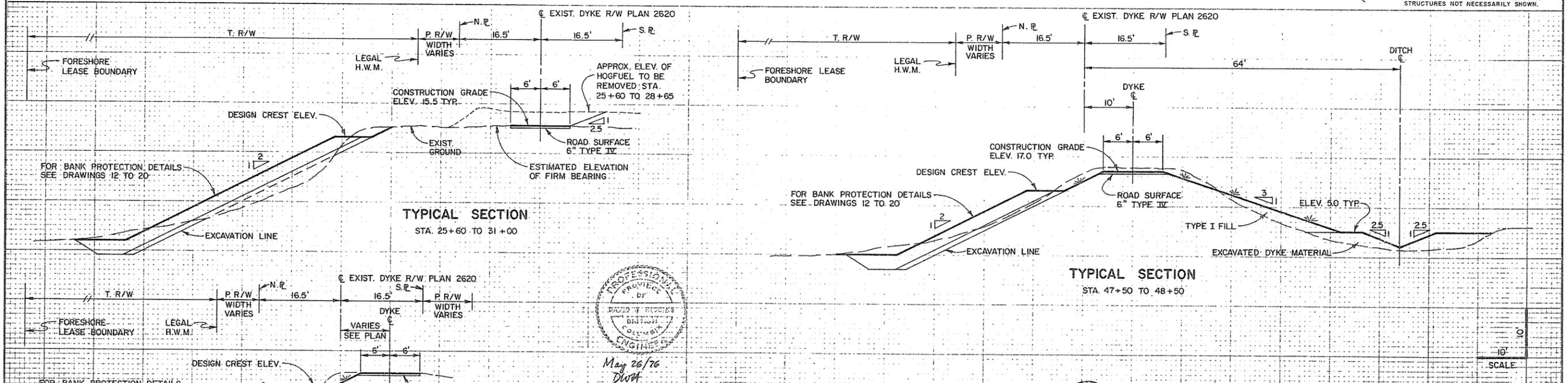
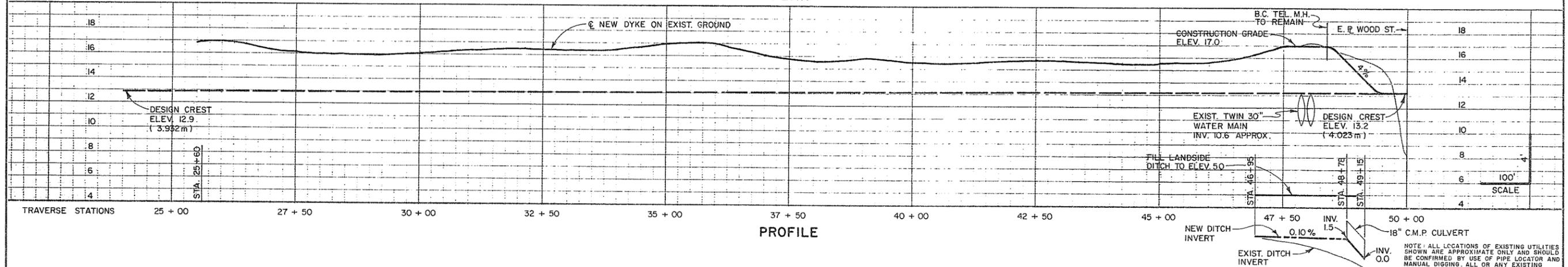
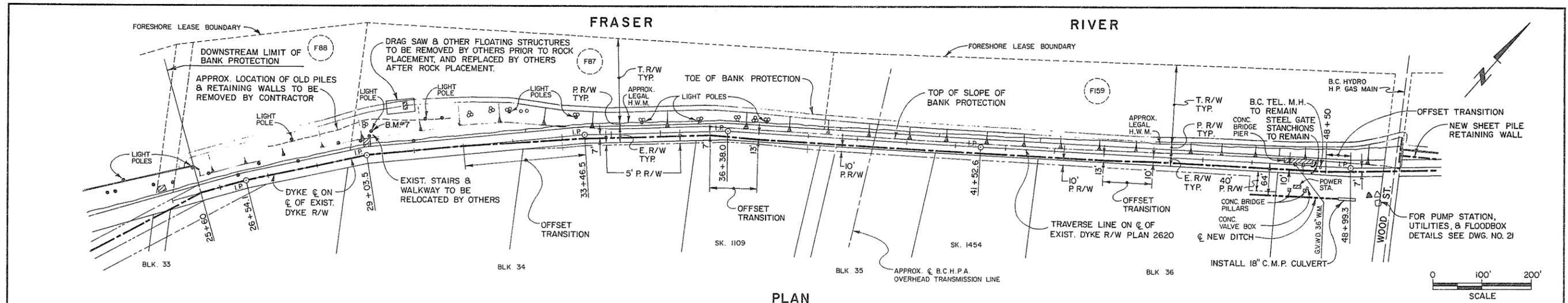
ASSOCIATED ENGINEERING SERVICES LTD
AESL
 AESL DWG. NO.

RECOMMENDED	PROJECT MANAGER
DATE	
APPROVED	DIRECTOR, WATER INVESTIGATIONS BRANCH
DATE	

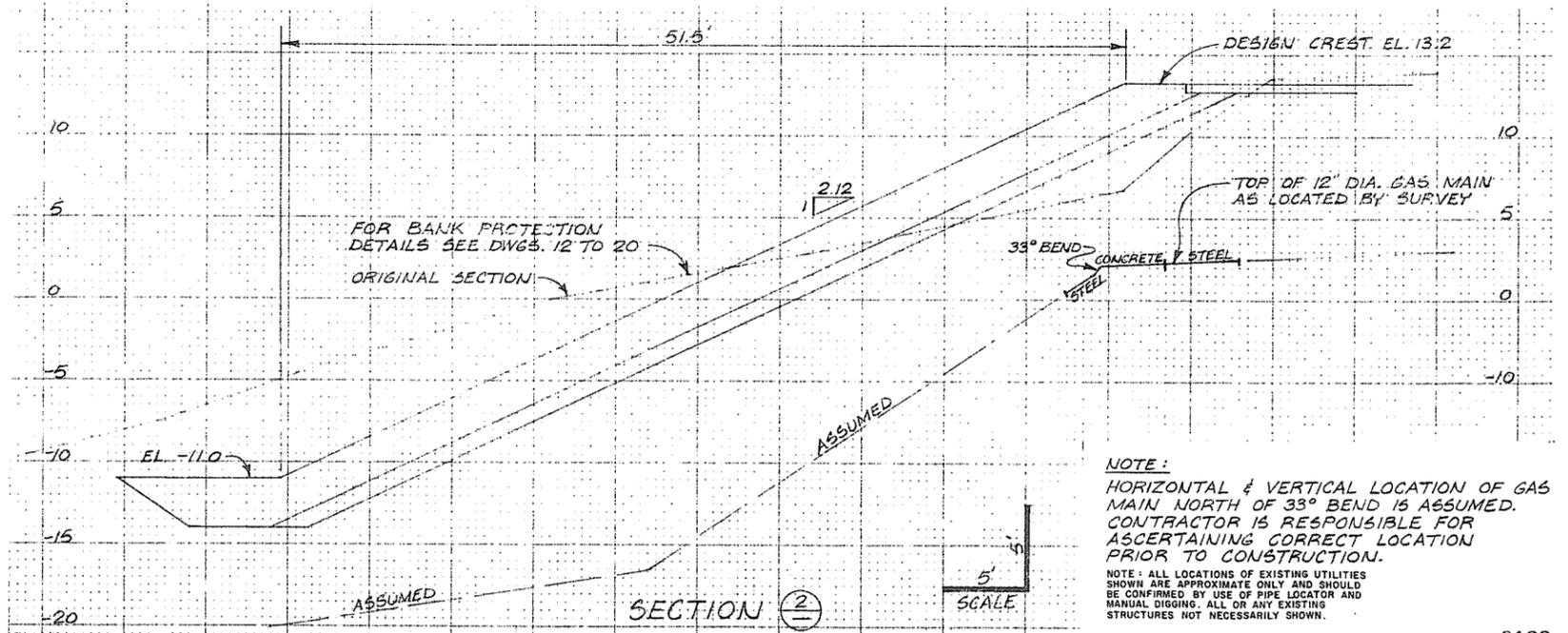
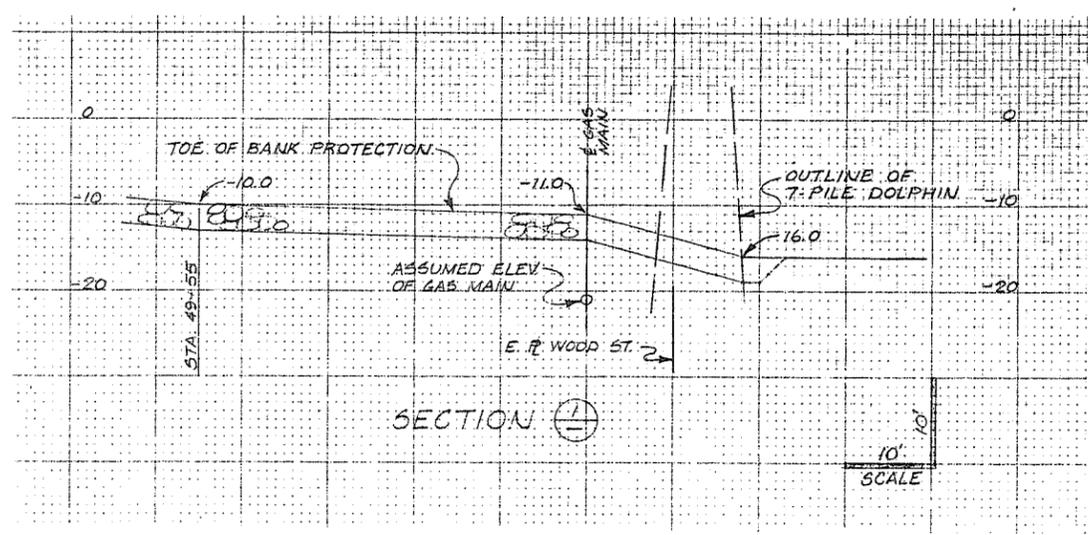
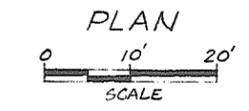
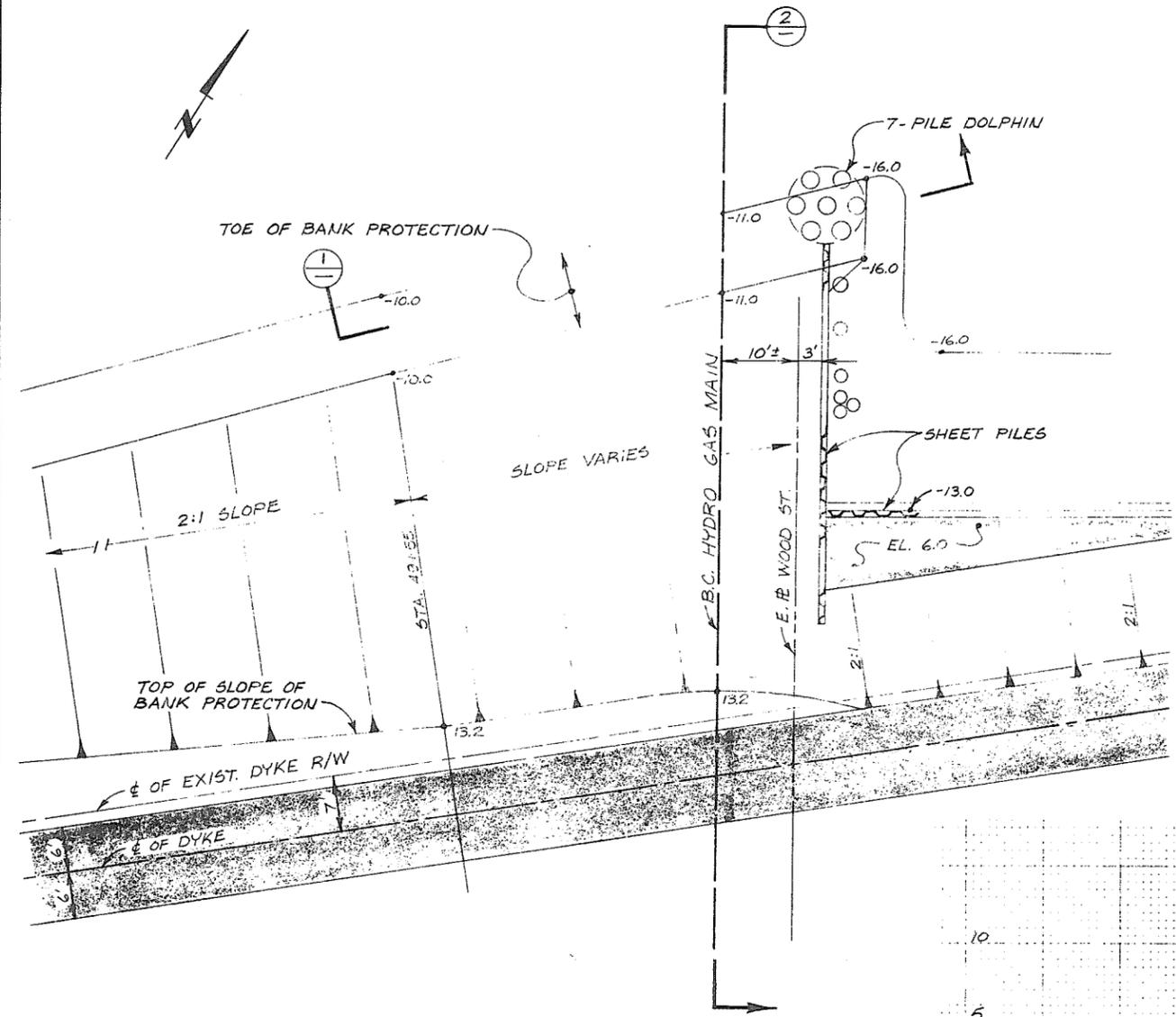
BRITISH COLUMBIA
 MINISTRY OF THE ENVIRONMENT
 WATER INVESTIGATIONS BRANCH
 CANADA - BRITISH COLUMBIA
 FRASER RIVER FLOOD CONTROL 1968 AGREEMENT
 PROJECT NO. 11 CITY OF NEW WESTMINSTER CONTRACT NO. 1
DYKE DETAILS
 EAST SIDE MACMILLAN BLOEDEL MILL

DESIGNED	DWA	SURVEYED	A.E.S.L.
DRAWN	J.C.	DATE	SEPT. 1977
CHECKED	DWA	FILE NO.	0281550-C30-1
SCALE	AS SHOWN	DATE	OCT. 1977
DWG. NO.	4885-1-3D	SHEET	6 OF 45 SHEETS

9167



AESL ASSOCIATED ENGINEERING SERVICES LTD. Consulting Engineers	NO. BY REVISIONS DATE 1 J.C. AS CONSTRUCTED 15/5/76	RECOMMENDED PROJECT MANAGER DATE 31 May 1976	BRITISH COLUMBIA DEPARTMENT OF ENVIRONMENT WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT PROJECT NO. 11 CITY OF NEW WESTMINSTER CONTRACT NO. 1 PLAN, PROFILE, & SECTIONS DYKE STA. 25+60 TO 50+00	DESIGNED DRAWN CHECKED SCALE DWG. NO.	SURVEYED DATE FILE NO. DATE SHEET 7 OF 45 SHEETS
		APPROVED DIRECTOR, WATER INVESTIGATIONS BRANCH DATE May 31/76		J.C. AS SHOWN 4885-1-4	A.E.S.L. / W.I.B. MAR. 1976 0281550-C30-1 MAY 1976



NOTE:
HORIZONTAL & VERTICAL LOCATION OF GAS MAIN NORTH OF 33° BEND IS ASSUMED. CONTRACTOR IS RESPONSIBLE FOR ASCERTAINING CORRECT LOCATION PRIOR TO CONSTRUCTION.
NOTE: ALL LOCATIONS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE ONLY AND SHOULD BE CONFIRMED BY USE OF PIPE LOCATOR AND MANUAL DIGGING. ALL OR ANY EXISTING STRUCTURES NOT NECESSARILY SHOWN.



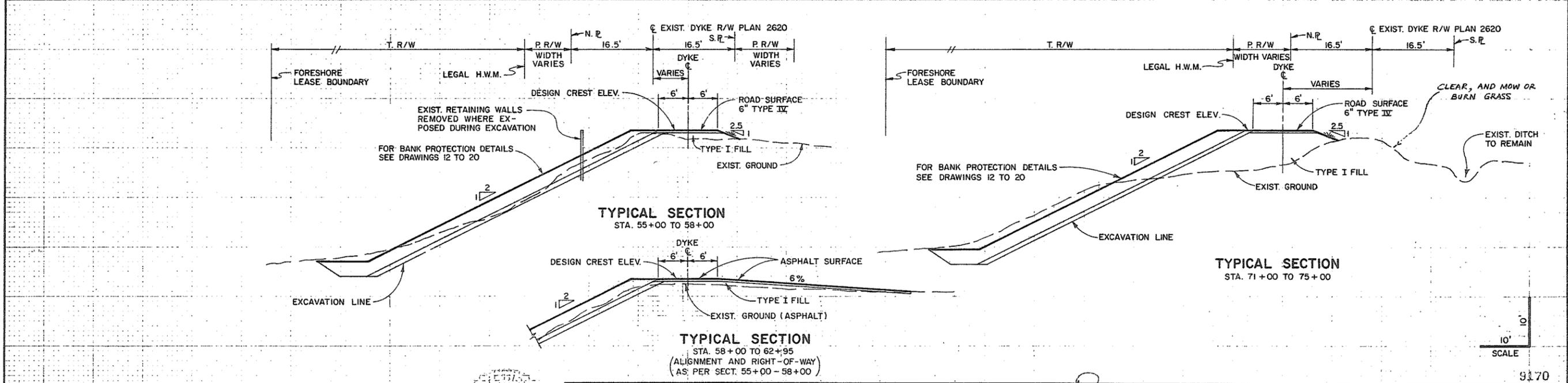
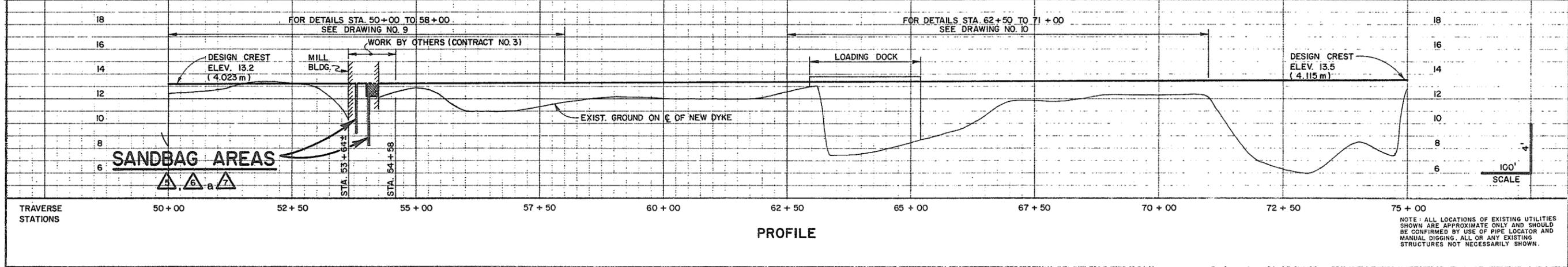
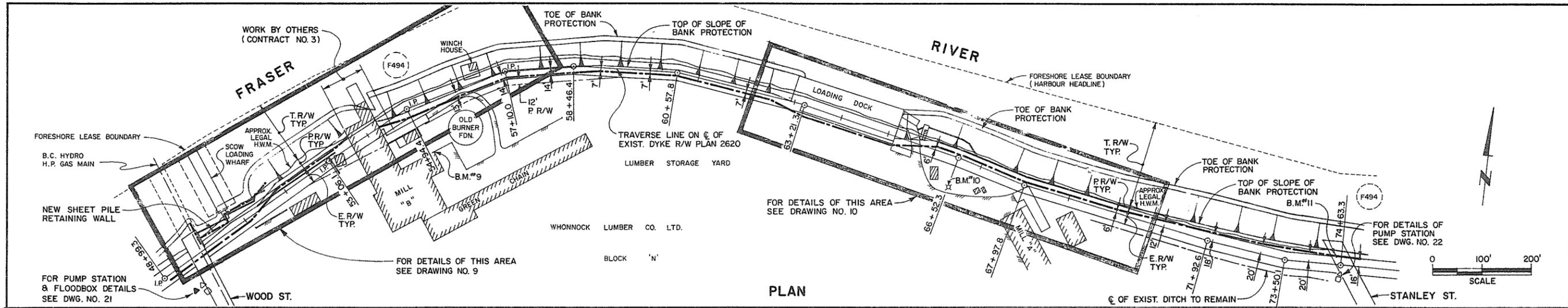
ASSOCIATED ENGINEERING SERVICES LTD. **AESL**
AESL DWG. NO.

NO.	BY	REVISIONS	DATE
1	J.C.	AS CONSTRUCTED	15/5/78

RECOMMENDED PROJECT MANAGER
DATE
APPROVED DIRECTOR, WATER INVESTIGATIONS BRANCH
DATE

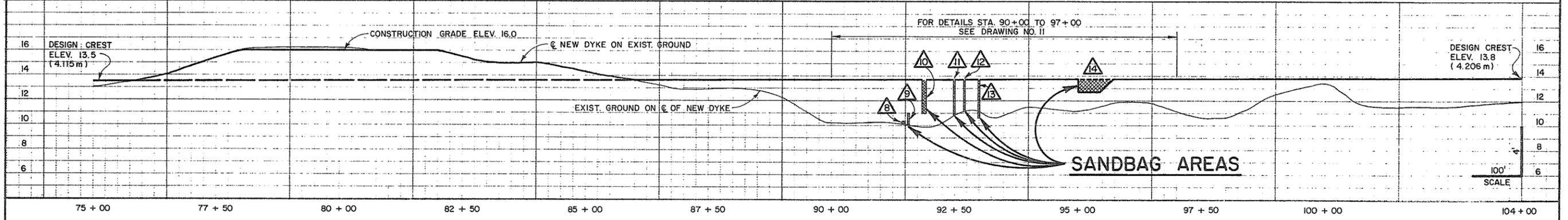
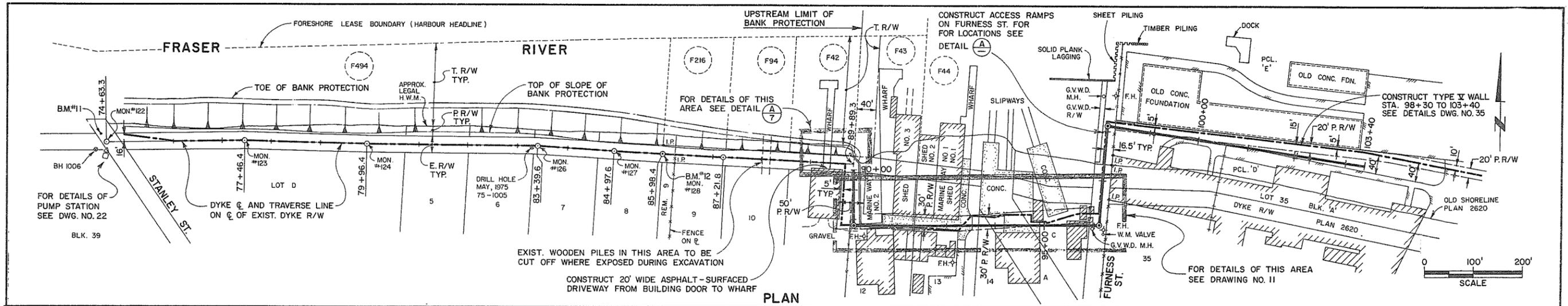
DESIGNED J.C.	SURVEYED A.E.S.L./W.I.B.
DRAWN J.C.	DATE DEC. 1976
CHECKED [Signature]	FILE NO. 0281550-C30-1
SCALE AS SHOWN	DATE MAR. 1977
DWG. NO. 4885-1-4A	SHEET 8 OF 45 SHEETS

9169

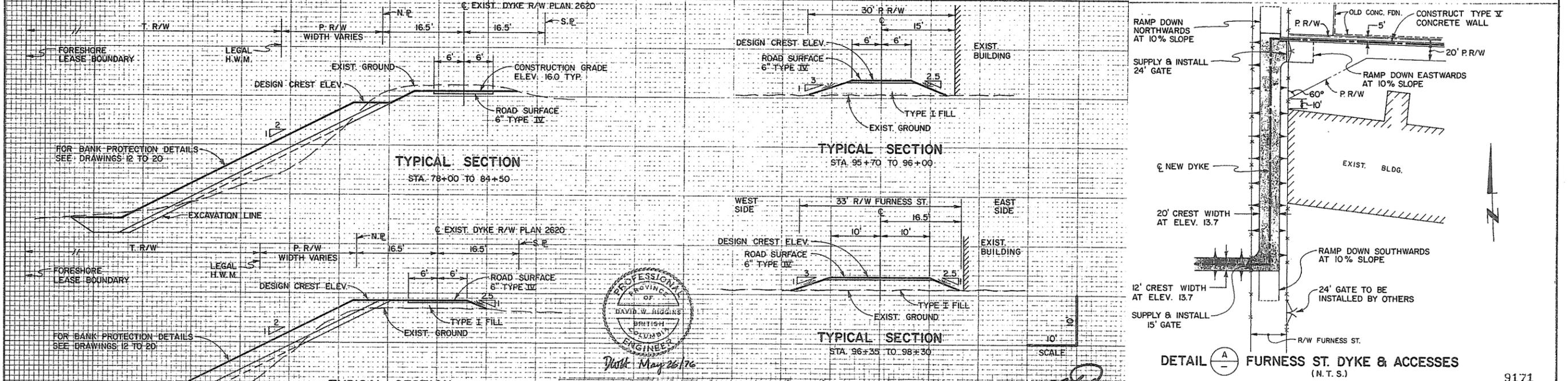


DWH May 26/76

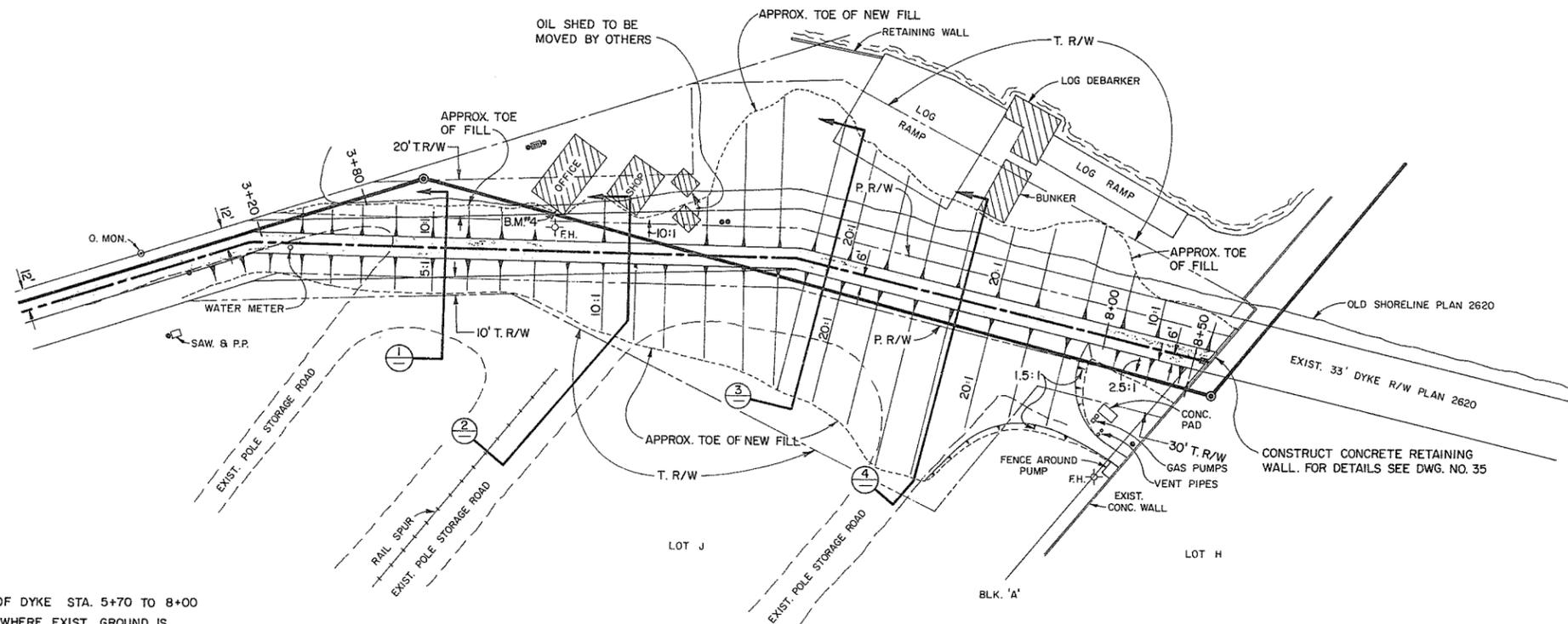
AESL ASSOCIATED ENGINEERING SERVICES LTD. <small>(Consulting Engineers)</small>	2 J.C. AS CONSTRUCTED 15/6/76 1 D.H. NOTE ON STA 71-75 9/8/76	RECOMMENDED <i>[Signature]</i> PROJECT MANAGER DATE 31 MAY 1976	BRITISH COLUMBIA DEPARTMENT OF ENVIRONMENT WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT	DESIGNED <i>[Signature]</i> DRAWN J.C. CHECKED <i>[Signature]</i>	SURVEYED A.E.S.L. / W.I.B. DATE MAR. 1976 FILE NO. 0281550-C30-1
		APPROVED <i>[Signature]</i> DIRECTOR, WATER INVESTIGATIONS BRANCH DATE May 31/76		PROJECT NO. 11 CITY OF NEW WESTMINSTER CONTRACT NO. 1 PLAN, PROFILE, & SECTIONS DYKE STA. 50+00 TO 75+00	SCALE AS SHOWN DWG. NO. 4885-1-5 SHEET 9 OF 45 SHEETS



NOTE: ALL LOCATIONS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE ONLY AND SHOULD BE CONFIRMED BY USE OF PIPE LOCATOR AND MANUAL DIGGING. ALL OR ANY EXISTING STRUCTURES NOT NECESSARILY SHOWN.



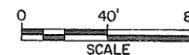
AESL ASSOCIATED ENGINEERING SERVICES LTD. Consulting Engineers	NO. BY REVISIONS DATE	RECOMMENDED <i>[Signature]</i> PROJECT MANAGER DATE 31 May 1972	BRITISH COLUMBIA DEPARTMENT OF ENVIRONMENT WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT	DESIGNED <i>[Signature]</i> DRAWN J.C. CHECKED <i>[Signature]</i> SCALE AS SHOWN DWG. NO. 4885-1-6	SURVEYED A.E.S.L./W.I.B. DATE FEB. '72 & MAR. '76 FILE NO. 0281550-C30-1 DATE MAY 1976 SHEET 10 OF 45 SHEETS
	A.E.S.L. No.	1 J.C. AS CONSTRUCTED 15/6/76	APPROVED <i>[Signature]</i> DIRECTOR, WATER INVESTIGATIONS BRANCH DATE 2 May 31/76	PROJECT NO. 11 CITY OF NEW WESTMINSTER CONTRACT NO. 1 PLAN, PROFILE, & SECTIONS DYKE STA. 75+00 TO 103+40	9171



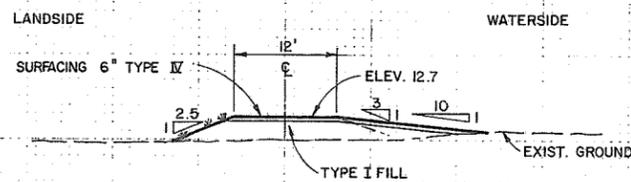
NOTES:

1. 20:1 SLOPE ON NORTH SIDE OF DYKE STA. 5+70 TO 8+00
2. EXCAVATE TO FIRM BEARING WHERE EXIST. GROUND IS COVERED WITH HOG FUEL.

NOTE: ALL LOCATIONS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE ONLY AND SHOULD BE CONFIRMED BY USE OF PIPE LOCATOR AND MANUAL DIGGING. ALL OR ANY EXISTING STRUCTURES NOT NECESSARILY SHOWN.

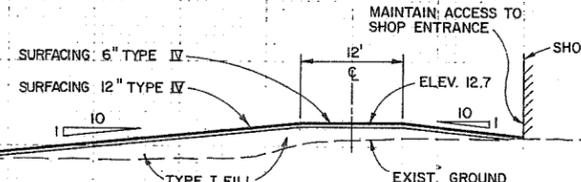


PLAN

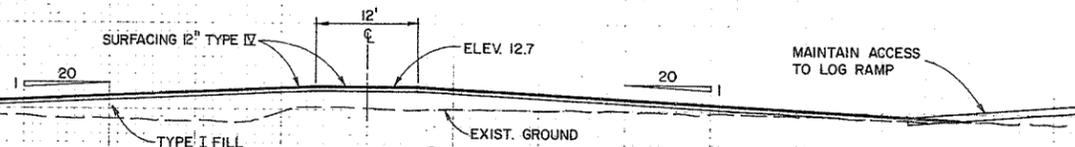


TYPICAL SECTION

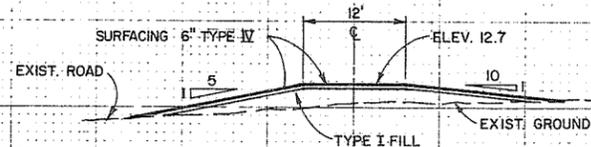
STA. 3+20 TO 3+80
8 7+90 TO 8+50



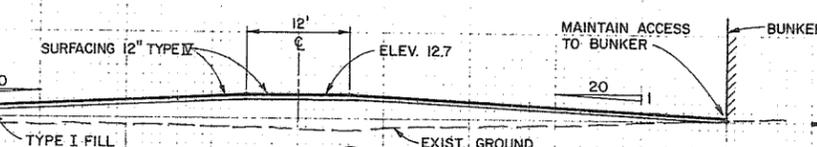
SECTION 2



SECTION 3



SECTION 1



SECTION 4

SCALE

9173



AESL ASSOCIATED ENGINEERING SERVICES LTD.
Consulting Engineers

A.E.S.L. No.

NO. BY REVISIONS DATE
1 J.C. AS CONSTRUCTED 1/5/76

RECOMMENDED PROJECT MANAGER
DATE 3.1.1976

APPROVED DIRECTOR, WATER INVESTIGATIONS BRANCH
DATE May 31/76

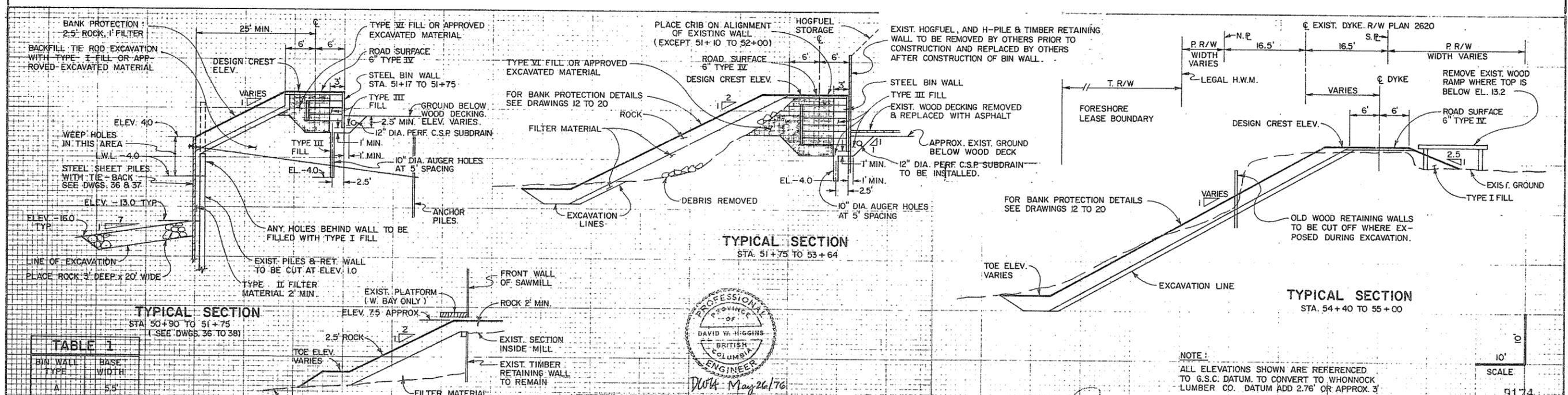
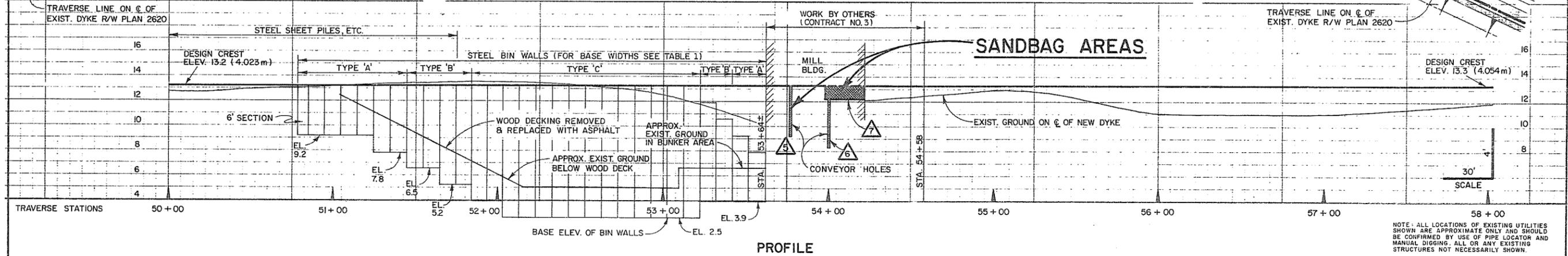
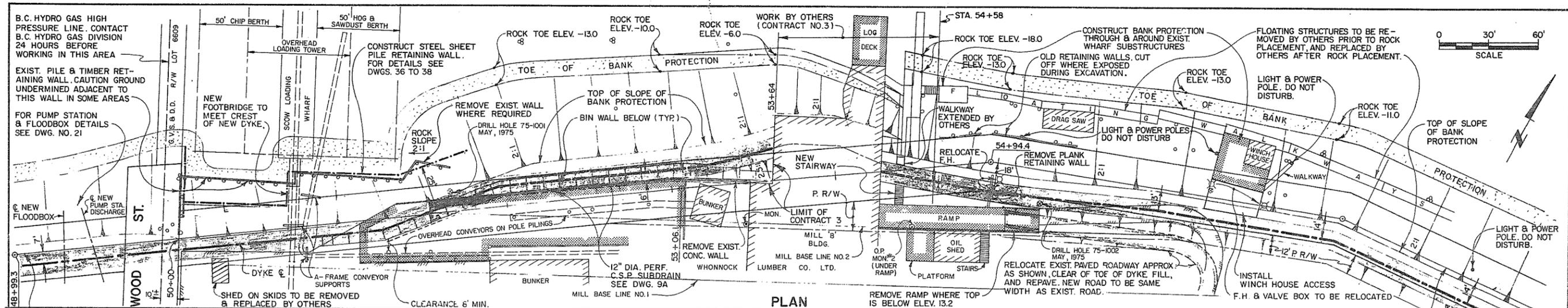
BRITISH COLUMBIA
DEPARTMENT OF ENVIRONMENT
WATER RESOURCES SERVICE
WATER INVESTIGATIONS BRANCH
CANADA — BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT

PROJECT NO. 11 CITY OF NEW WESTMINSTER CONTRACT NO. 1

PLAN AND SECTIONS
DYKE STA. 3+00 TO 8+50

DESIGNED DWB
DRAWN J.C.
CHECKED DWB
SCALE AS SHOWN
DWG. NO. 4885-1-8

SURVEYED A.E.S.L.
DATE FEB '72 & SEPT '74
FILE NO. 0281550-C30-1
DATE MAY 1976
SHEET 12 OF 45 SHEETS



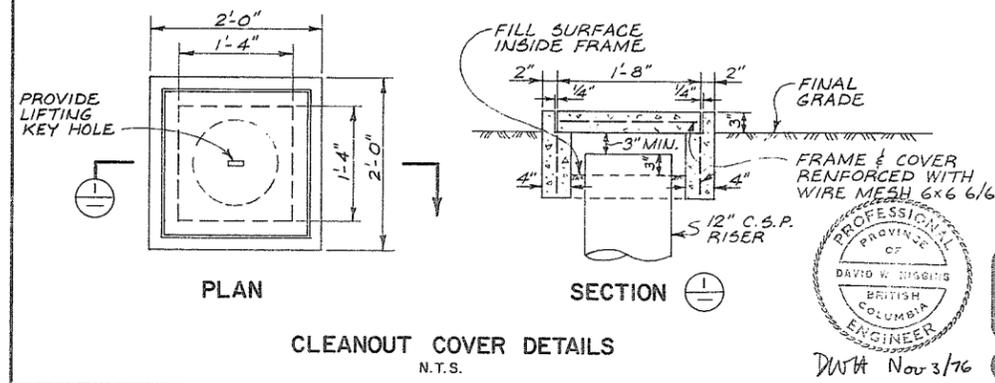
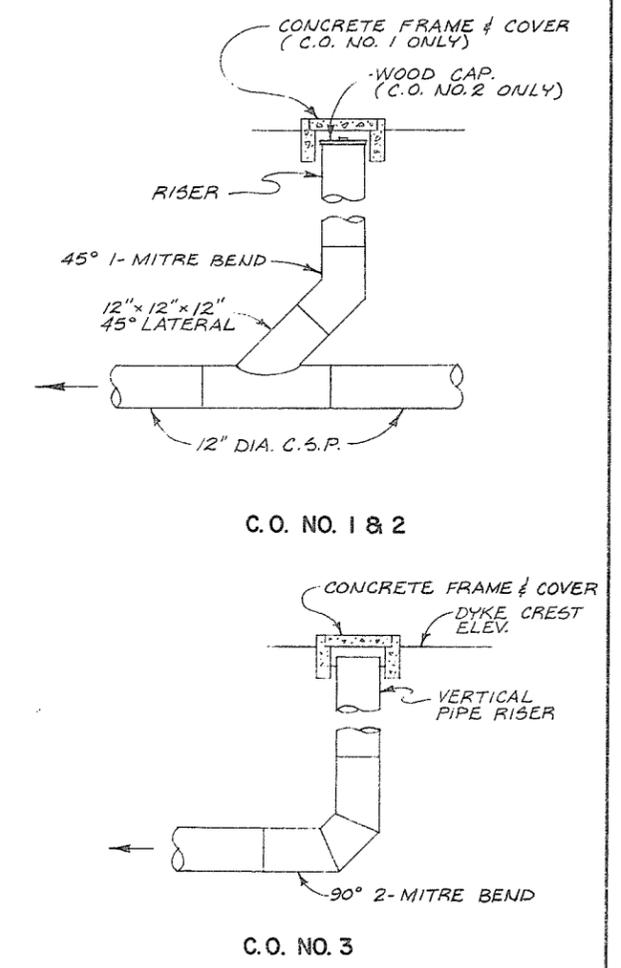
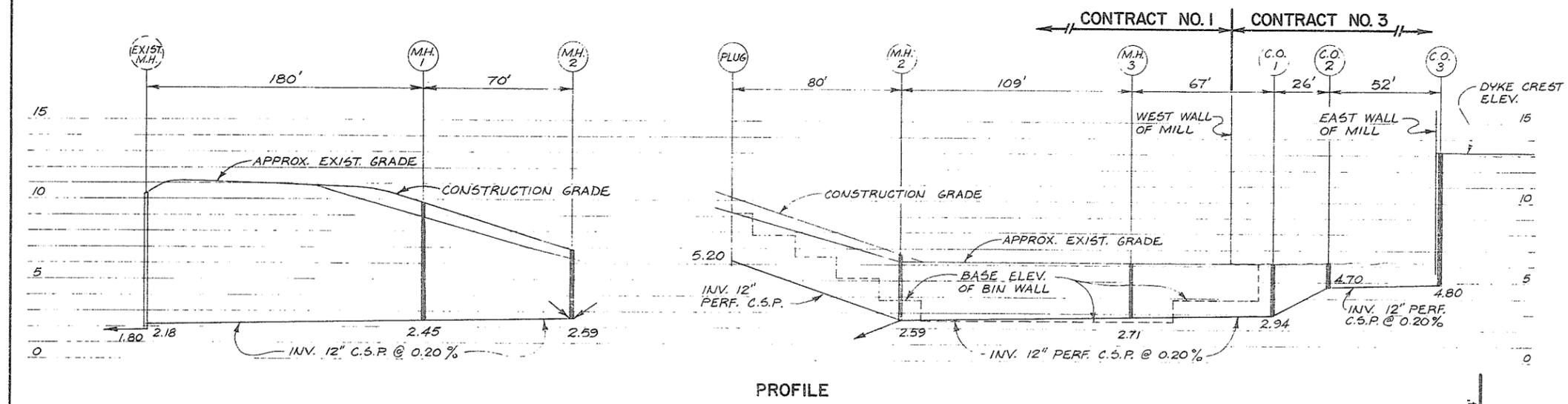
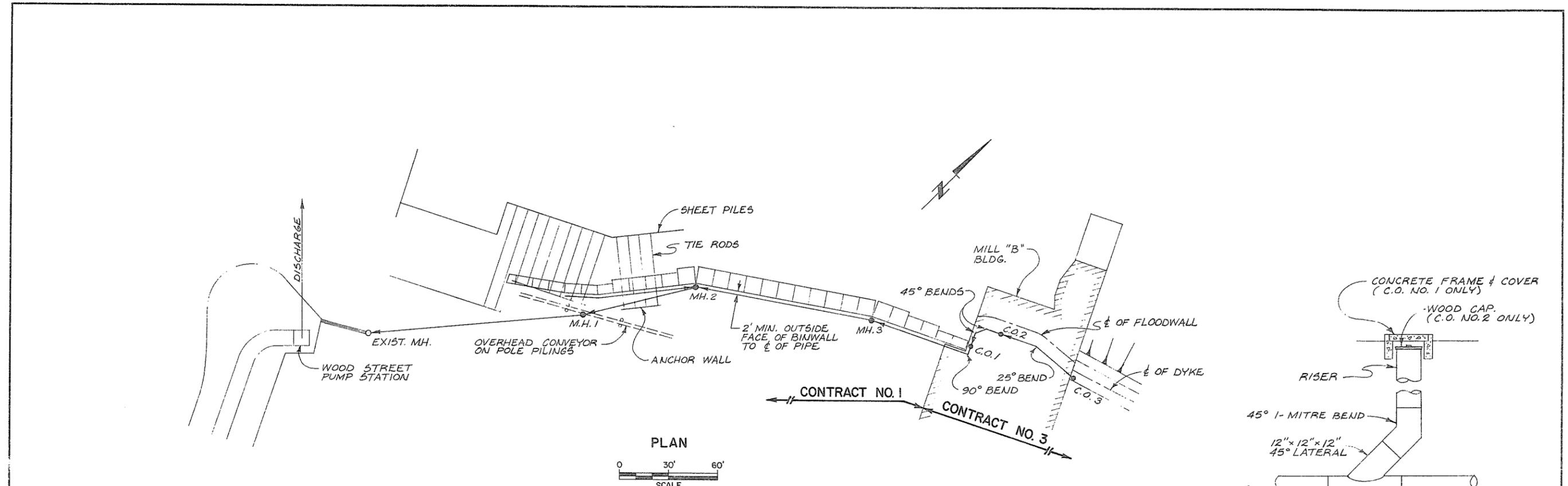
BIN WALL TYPE	BASE WIDTH
A	5'3"
B	7'7"
C	9'3"

AESL ASSOCIATED ENGINEERING SERVICES LTD. Consulting Engineers A.E.S.L. No.	3 J.C. AS CONSTRUCTED 12/5/78 2 D.H. TIERDS BACKFILL TYPE I CONSTRUCT ALT. 2 2/6/78 1 D.H. TYPE III UNDER BINS ALSO BACKFILL TYPE II BELOW 4/1/78	RECOMMENDED PROJECT MANAGER DATE 3/17/78 APPROVED [Signature] DIRECTOR, WATER INVESTIGATIONS BRANCH DATE May 31/78	BRITISH COLUMBIA DEPARTMENT OF ENVIRONMENT WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT PROJECT NO. 11 CITY OF NEW WESTMINSTER CONTRACT NO. 1 PLAN, PROFILE, & SECTIONS DYKE STA. 50+00 TO 58+00	DESIGNED 2.H./S.G./R.C. DRAWN J.C. CHECKED D.W.H. SCALE AS SHOWN DWG. NO. 4885-1-9	SURVEYED A.E.S.L./W.I.B. DATE MAR. 1976 FILE NO. 0281550-C30-1 DATE MAY 1976 SHEET 13 OF 45 SHEETS
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NOTE: ALL LOCATIONS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE ONLY AND SHOULD BE CONFIRMED BY USE OF PIPE LOCATOR AND MANUAL DIGGING. ALL OR ANY EXISTING STRUCTURES NOT NECESSARILY SHOWN.

NOTE: ALL ELEVATIONS SHOWN ARE REFERENCED TO G.S.C. DATUM. TO CONVERT TO WHONNOCK LUMBER CO. DATUM ADD 2.76' OR APPROX. 3'



PROFILE

30' SCALE

CLEANOUT COVER DETAILS
N.T.S.

PROFESSIONAL ENGINEER
DAVID W. DUGGAN
BRITISH COLUMBIA
NOV 3/76

ASSOCIATED ENGINEERING SERVICES LTD.
AESL

- NOTES:**
- FOR MANHOLE DETAILS SEE DS-C121, 123, 124.
 - COMPACT TRENCH BACKFILL TO 95% STD. PROCTOR. RESTORE SURFACE TO CONDITION PRIOR TO CONSTRUCTION
 - CLEANOUT COVERS NOT FOR TRAFFIC AREAS.

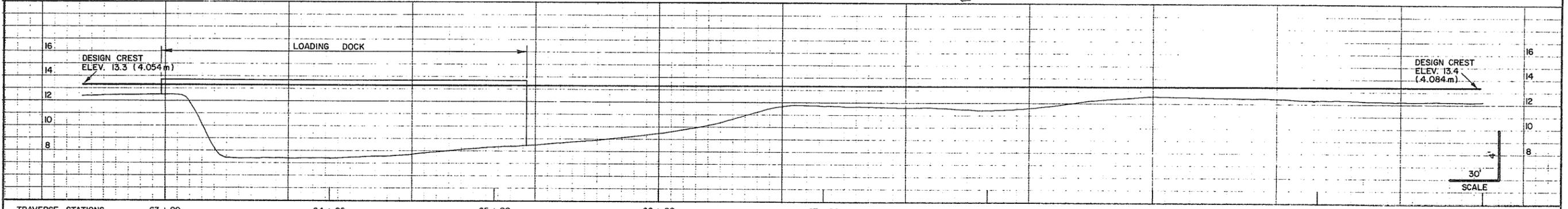
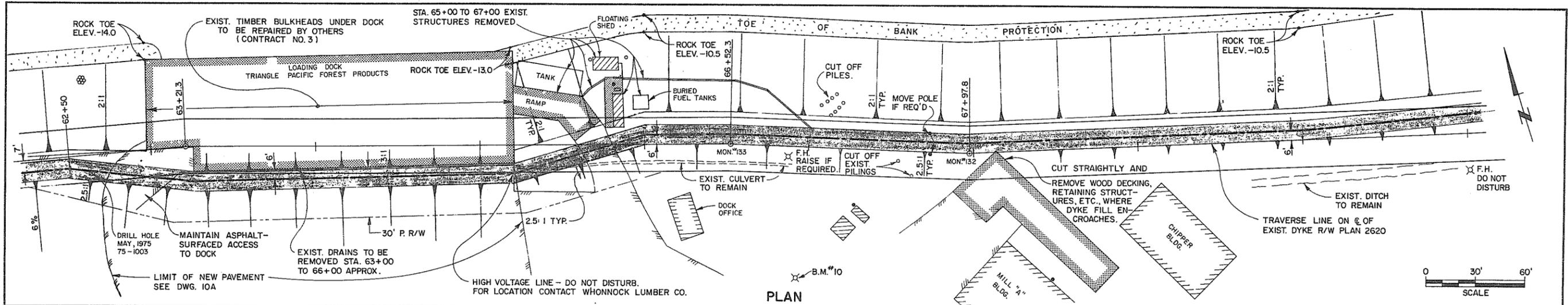
NO. BY REVISIONS DATE	1 J.C. AS CONSTRUCTED 15/5/78	RECOMMENDED _____ PROJECT MANAGER	DATE _____	APPROVED _____ DIRECTOR, WATER INVESTIGATIONS BRANCH	DATE _____	DESIGNED <i>DWA</i>	SURVEYED A.E.S.L.
						DRAWN J.C.	DATE _____
						CHECKED <i>DWA</i>	FILE NO. 0281550-C30-1
						SCALE AS SHOWN	DATE NOV. 1976
						DWG. NO. 4885-1-9A	SHEET 14 OF 45 SHEETS

9175

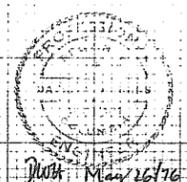
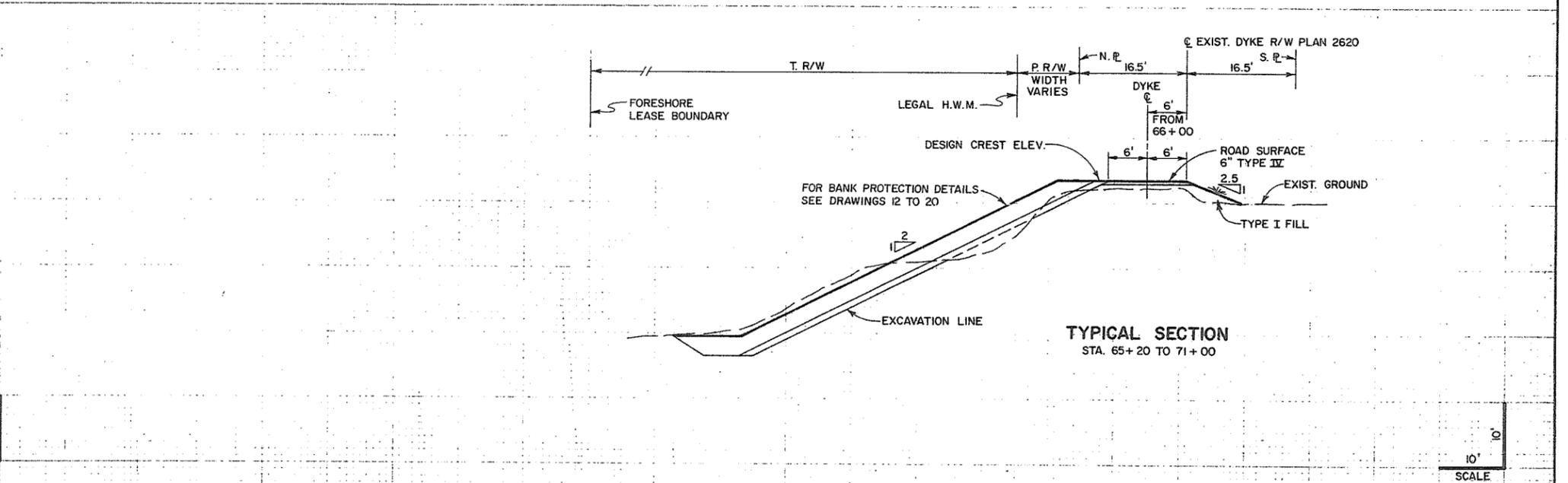
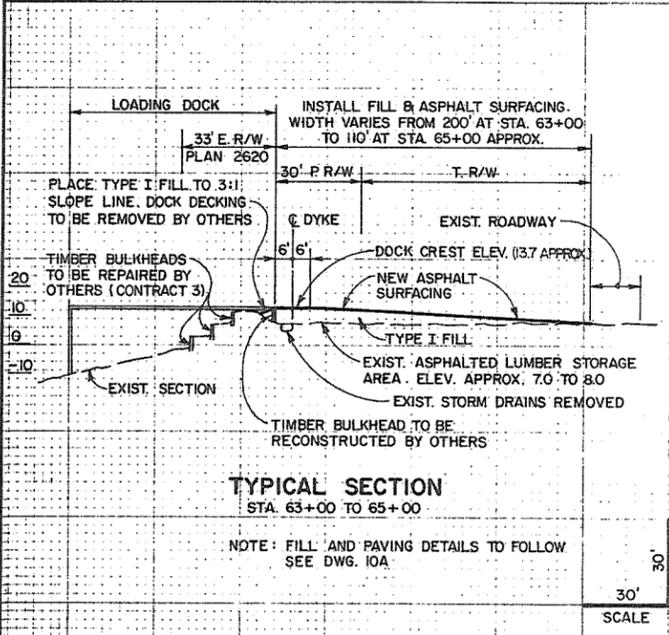
BRITISH COLUMBIA
DEPARTMENT OF ENVIRONMENT
WATER RESOURCES SERVICE
WATER INVESTIGATIONS BRANCH
CANADA - BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT

PROJECT NO. 11 CITY OF NEW WESTMINSTER CONTRACTS 133

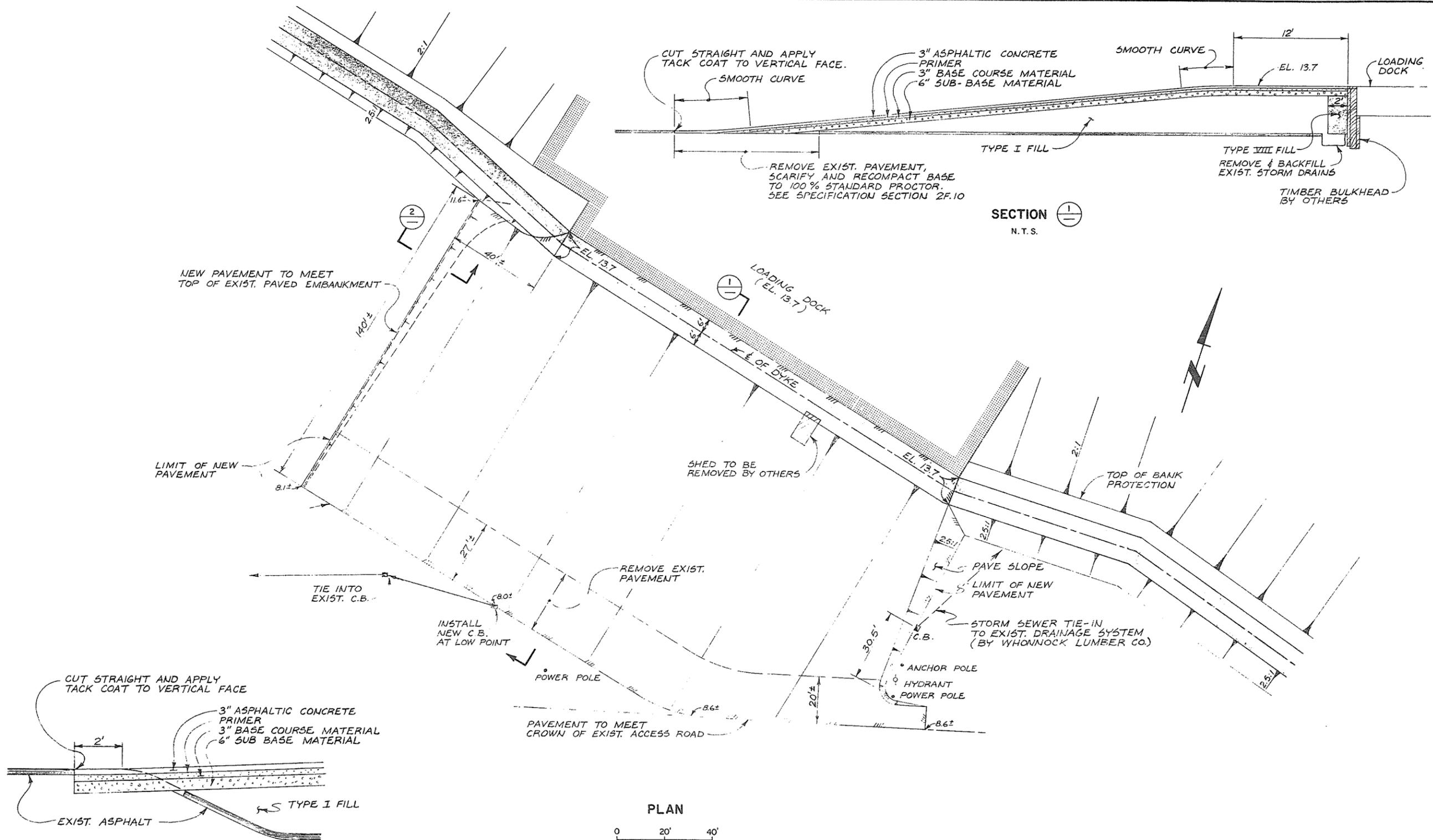
DRAINAGE DETAILS
WHONNOCK MILL "B" AREA



NOTE: ALL LOCATIONS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE ONLY AND SHOULD BE CONFIRMED BY USE OF PIPE LOCATOR AND MANUAL DIGGING. ALL OR ANY EXISTING STRUCTURES NOT NECESSARILY SHOWN.

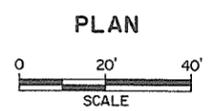


AESL ASSOCIATED ENGINEERING SERVICES LTD. <small>Consulting Engineers</small>	NO. BY REVISIONS DATE 1 J.C. AS CONSTRUCTED 15/5/76	RECOMMENDED [Signature] PROJECT MANAGER DATE 31. MAY 1976	BRITISH COLUMBIA DEPARTMENT OF ENVIRONMENT WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL, 1968 AGREEMENT PROJECT NO. 11 CITY OF NEW WESTMINSTER CONTRACT NO. 1 PLAN, PROFILE, & SECTIONS DYKE STA 62+50 TO 71+00	DESIGNED [Signature] DRAWN J.C. CHECKED [Signature] SCALE AS SHOWN DWG. NO. 4885-1-10	SURVEYED A.E.S.L./W.I.B. DATE MAR. 1976 FILE NO. 0281550-C30-1 DATE MAY 1976 SHEET 15 OF 45 SHEETS
		APPROVED [Signature] DIRECTOR, WATER INVESTIGATIONS BRANCH DATE May 31/76		9176	



SECTION 1
N.T.S.

SECTION 2
N.T.S.



NOTE:
1. SEE SPECIFICATION FOR FILL, COMPACTION, AND PAVING REQUIREMENTS.

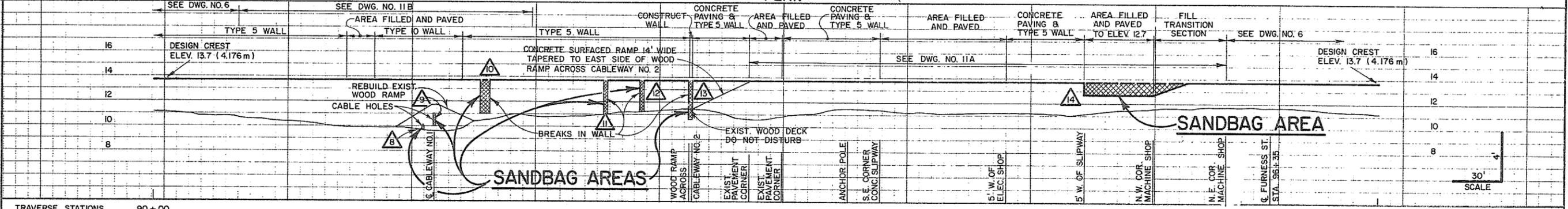
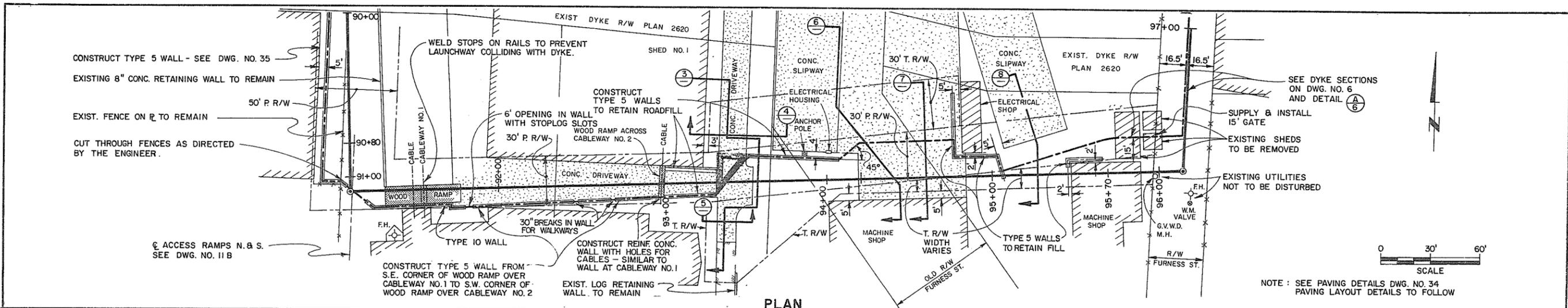


DWHT Nov 3/76

ASSOCIATED ENGINEERING SERVICES LTD. **AESL**
AESL DWG. NO.

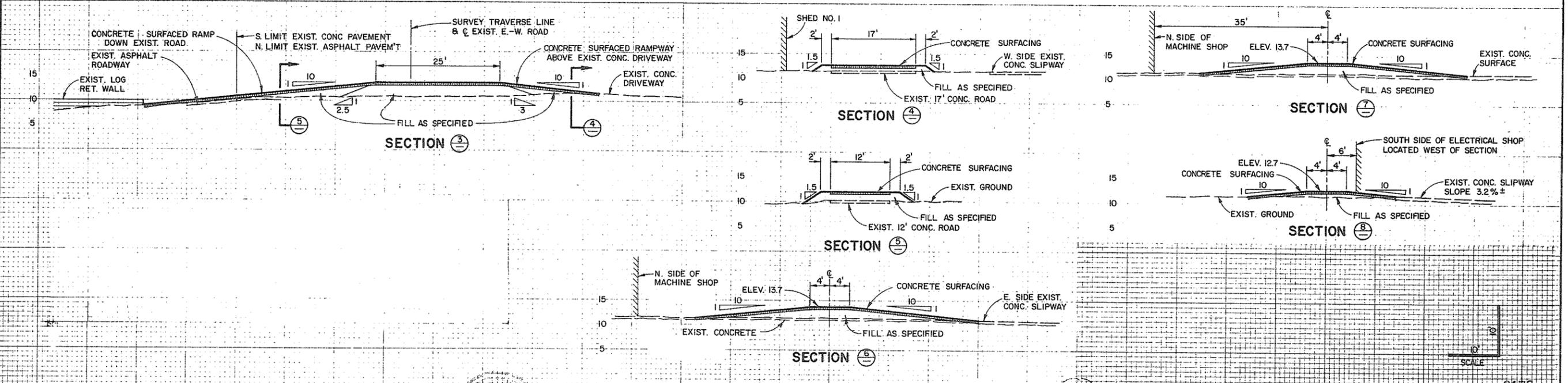
NO. BY 1 J.C.	AS CONSTRUCTED	15/15/78	RECOMMENDED	PROJECT MANAGER	BRITISH COLUMBIA DEPARTMENT OF ENVIRONMENT WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT PROJECT NO. 11 CITY OF NEW WESTMINSTER CONTRACT NO. 1 ASPHALT PAVING PLAN WHONNOCK LOADING DOCK	DESIGNED	DWHT	SURVEYED	A.E.S.L.
	DATE		DATE			DRAWN	J.C.	DATE	OCT. 1976
	APPROVED	DIRECTOR, WATER INVESTIGATIONS BRANCH	DATE			CHECKED	DWHT	FILE NO.	0281550-C30-1
	SCALE	AS SHOWN	DATE	NOV. 1976		DWG. NO.	4885-1-10A	SHEET	16 OF 45 SHEETS

9177



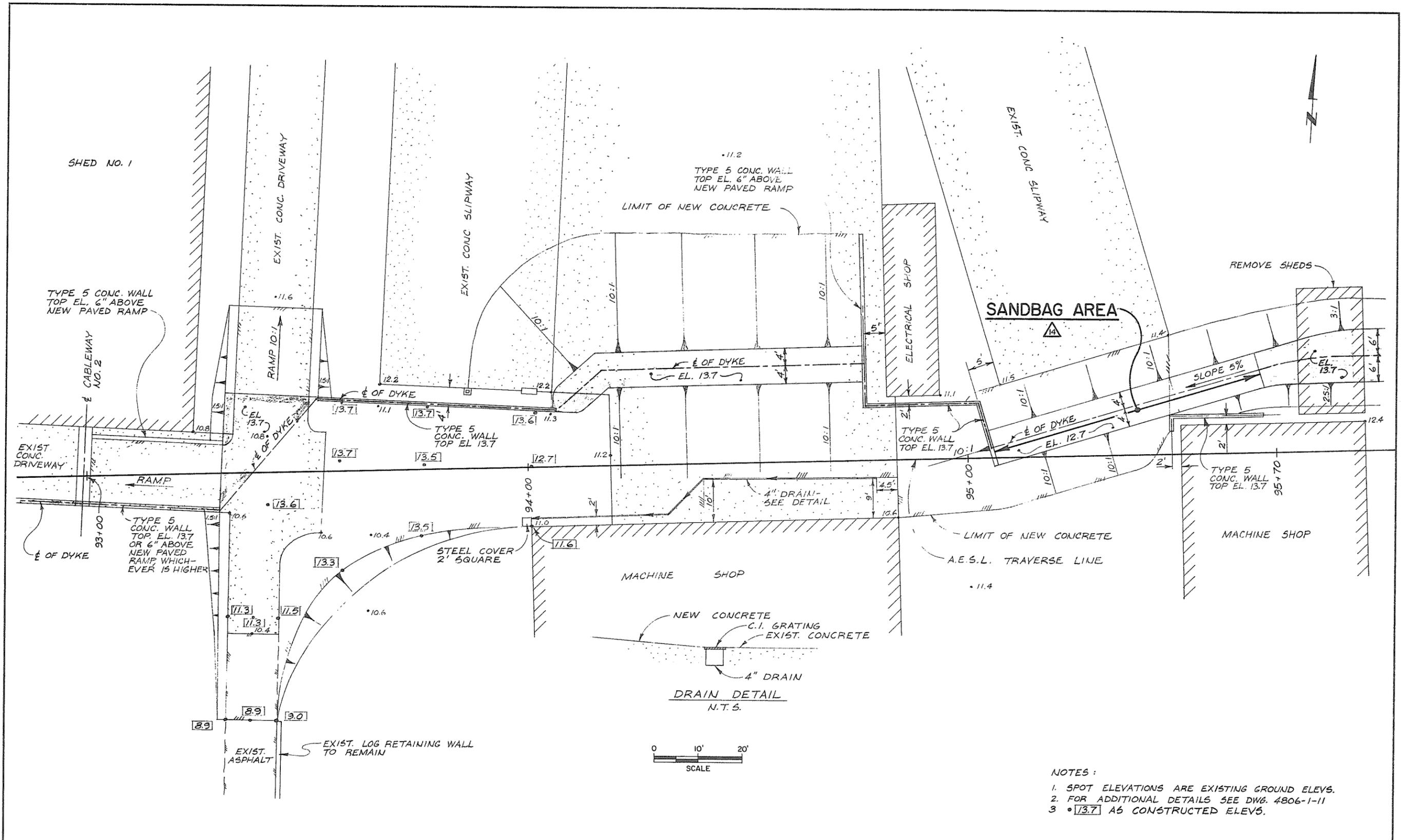
TRaverse STATIONS 90+00 97+00

NOTE: ALL LOCATIONS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE ONLY AND SHOULD BE CONFIRMED BY USE OF PIPE LOCATOR AND MANUAL DIGGING. ALL OR ANY EXISTING STRUCTURES NOT NECESSARILY SHOWN.



Handwritten signature and date: DWK May 26/76

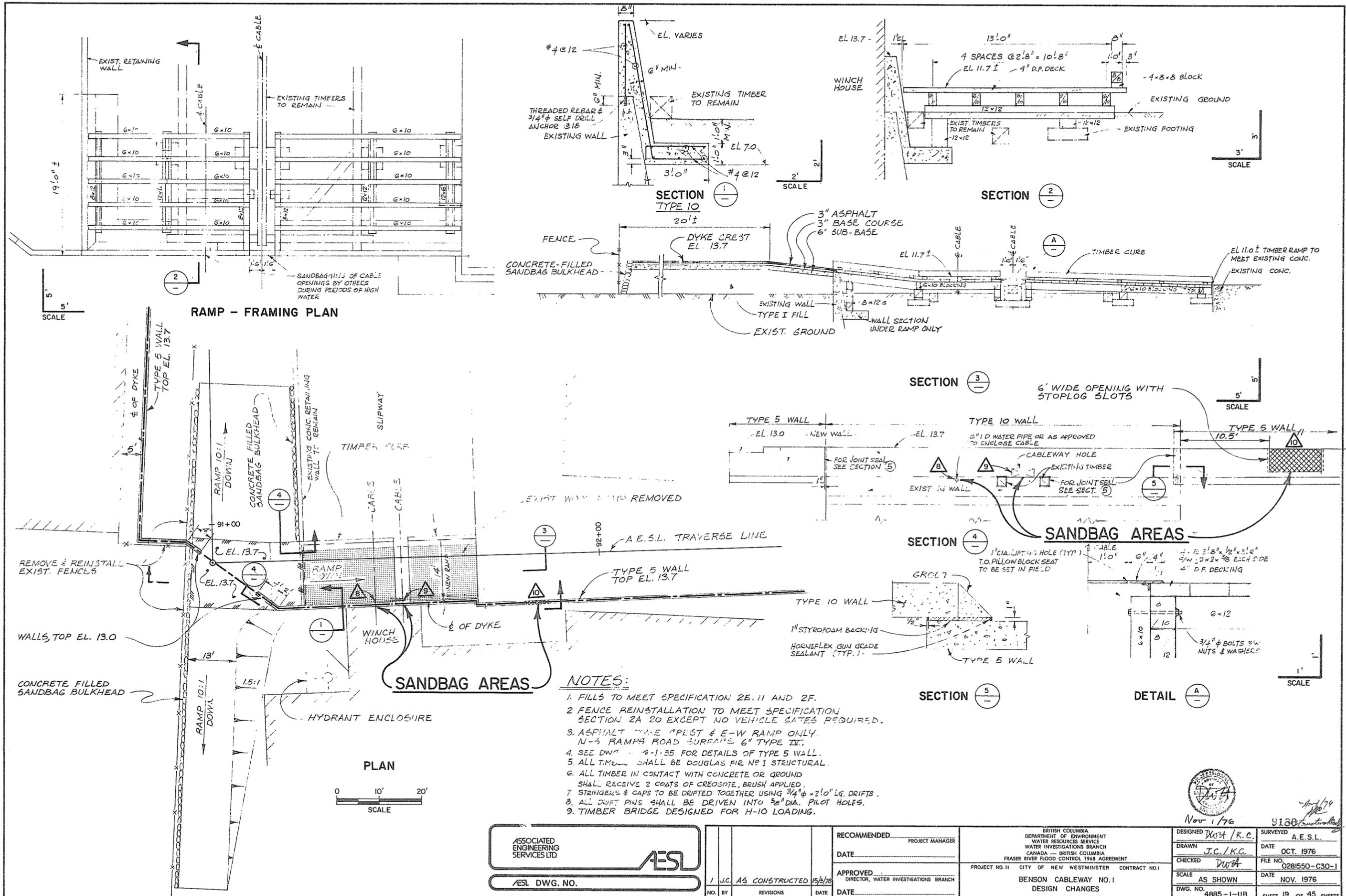
AESL ASSOCIATED ENGINEERING SERVICES LTD. <small>Consulting Engineers</small>	PROJECT MANAGER	RECOMMENDED	BRITISH COLUMBIA DEPARTMENT OF ENVIRONMENT WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT	DESIGNED	SURVEYED
	DATE: 31 MAR 1976	PROJECT NO. 11 CITY OF NEW WESTMINSTER CONTRACT NO. 1		APPROVED	DRAWN
A.E.S.L. No.	NO. BY	REVISIONS	DATE	SCALE	FILE NO.
	1 J.C.	AS CONSTRUCTED	15/5/76	AS SHOWN	0281550-C30-1
				DWG. NO.	DATE
				4885-1-11	MAY 1976
					SHEET 17 OF 45 SHEETS

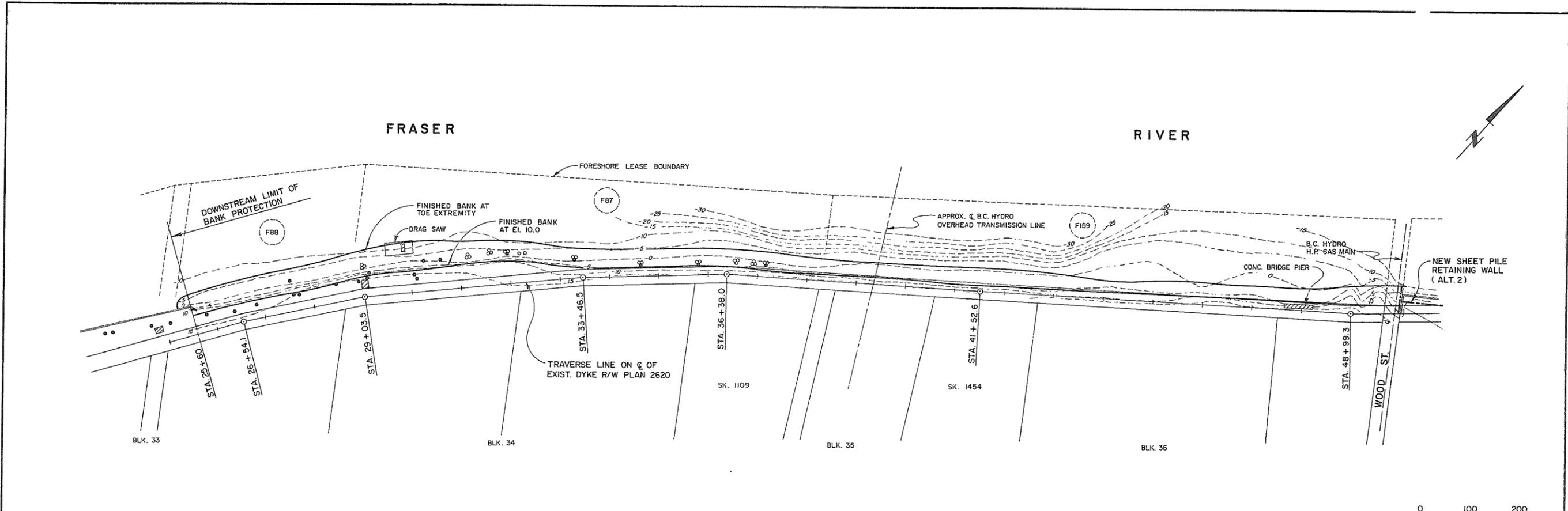


- NOTES:
1. SPOT ELEVATIONS ARE EXISTING GROUND ELVs.
 2. FOR ADDITIONAL DETAILS SEE DWG. 4806-1-11
 3. •13.7 AS CONSTRUCTED ELEVs.

AESL ASSOCIATED ENGINEERING SERVICES LTD. <small>Consulting Engineers</small>	NO. BY J.C. AS CONSTRUCTED	REVISIONS 15/5/78	DATE 15/5/78	RECOMMENDED PROJECT MANAGER	BRITISH COLUMBIA DEPARTMENT OF ENVIRONMENT WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT	DESIGNED J.C.	SURVEYED A.E.S.L.
				DATE		DRAWN J.C.	DATE FEB. '72 & AUG. '74
A.E.S.L. No.	NO. BY	REVISIONS	DATE	APPROVED DIRECTOR, WATER INVESTIGATIONS BRANCH	PROJECT NO. 11 CITY OF NEW WESTMINSTER CONTRACT NO. 1	CHECKED J.C.	FILE NO. 0281550-C30-1
				DATE	CONCRETE PAVING PLAN STA. 93+00 TO 95+70	SCALE AS SHOWN	DATE SEPT. 1976
						DWG. NO. 4885-1-11A	SHEET 18 OF 45 SHEETS

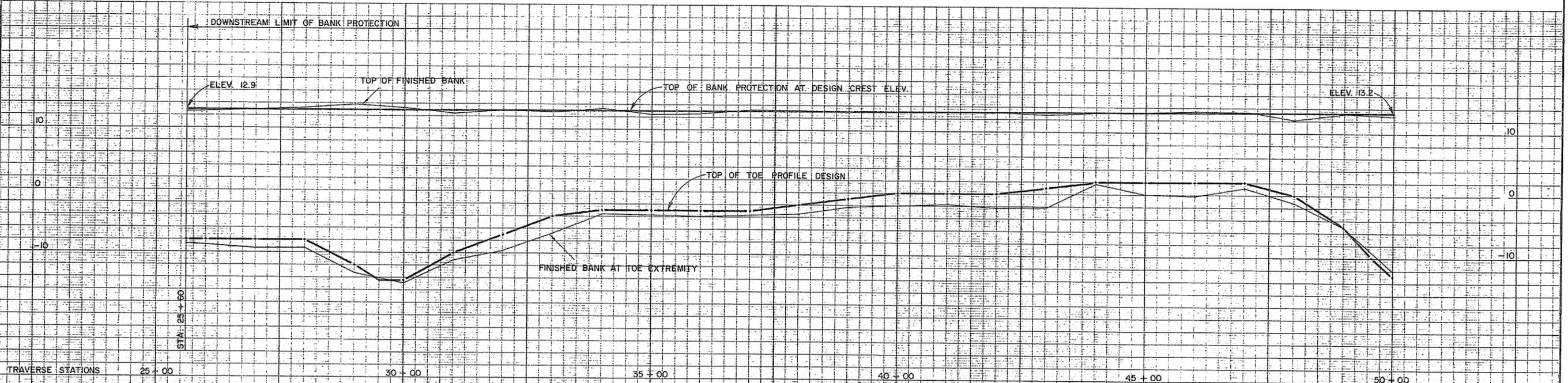
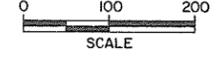
9179





PLAN

NOTE :
SEE BANK PROTECTION NOTES ON DWG. NO. 15



PROFILE

AS CONSTRUCTED

9181



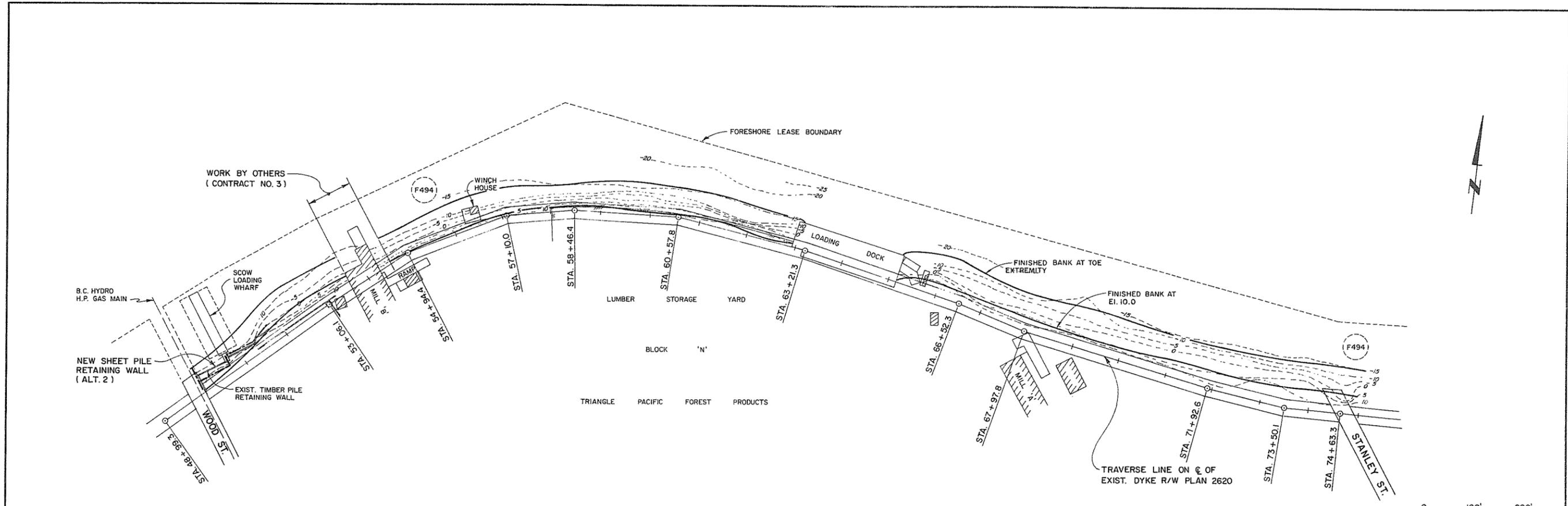
AESL ASSOCIATED ENGINEERING SERVICES LTD.
Consulting Engineers
A.E.S.L. No.

A	B.P.	As constructed information added.	June, 1978
RECOMMENDED		<i>[Signature]</i> PROJECT MANAGER	
DATE		31 MAY 1978	
APPROVED		<i>[Signature]</i> DIRECTOR, WATER INVESTIGATIONS BRANCH	
DATE		May 31/76	

BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
ENVIRONMENTAL AND ENGINEERING SERVICES
WATER INVESTIGATIONS BRANCH
CANADA - BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT

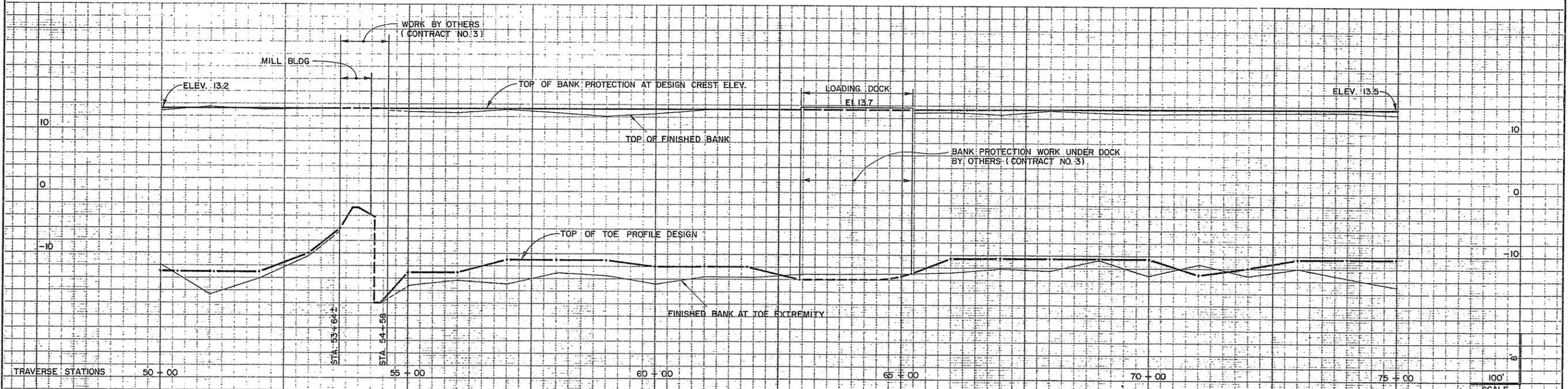
PROJECT NO. 11 CITY OF NEW WESTMINSTER CONTRACT NO. 1
BANK PROTECTION - PLAN AND PROFILE
STA. 25 + 60 TO 50 + 00

DESIGNED AESL/RKL/BPWG	SURVEYED A.E.S.L./W.I.B.
DRAWN J.C. D.B.P.	DATE MARCH 1976
CHECKED DWH	FILE NO. 0281550-C30-1
SCALE AS SHOWN	DATE JUNE, 1978
DWG. NO. 4885-1-12	SHEET 20 OF 45 SHEETS



PLAN

NOTE:
SEE BANK PROTECTION NOTES ON DRAWING NO. 15



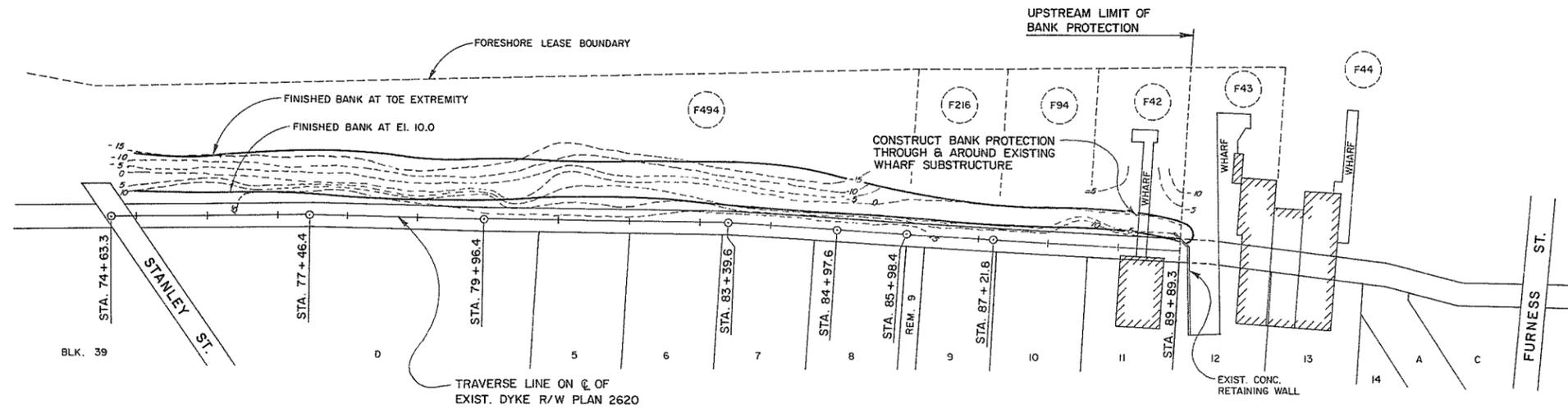
PROFILE

AS CONSTRUCTED

9182

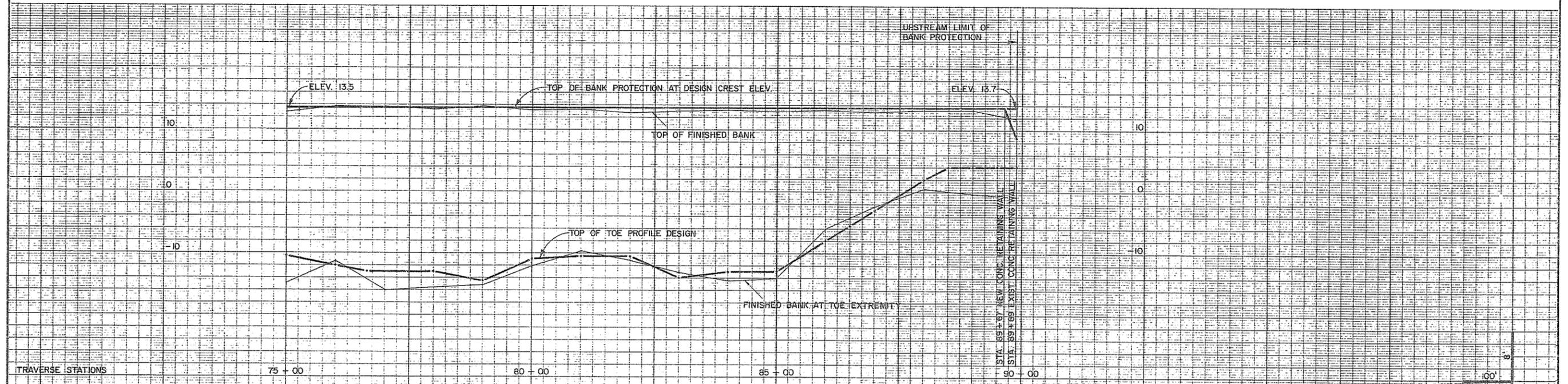
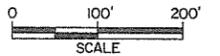


AESL ASSOCIATED ENGINEERING SERVICES LTD. Consulting Engineers	A B.P. As constructed information added.	June, 1978	RECOMMENDED <i>[Signature]</i> PROJECT MANAGER	BRITISH COLUMBIA MINISTRY OF THE ENVIRONMENT ENVIRONMENTAL AND ENGINEERING SERVICES WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT	DESIGNED <i>[Signature]</i> AESL/RKL/BPNG	SURVEYED A.E.S.L./W.I.B.
			DATE <i>3/1/78</i>		DRAWN J.C. D.B.P.	DATE MARCH 1978
A.E.S.L. No.	NO. BY REVISIONS	DATE	APPROVED <i>[Signature]</i> DIRECTOR, WATER INVESTIGATIONS BRANCH	PROJECT NO. 11 CITY OF NEW WESTMINSTER CONTRACT NO. 1	CHECKED <i>[Signature]</i>	FILE NO. 0281550-C30-1
			DATE <i>May 21/76</i>	BANK PROTECTION - PLAN AND PROFILE STA. 50+00 TO 75+00	SCALE AS SHOWN	DATE JUNE, 1978
					DWG. NO. 4885-1-13	SHEET 21 OF 45 SHEETS



PLAN

NOTE:
SEE BANK PROTECTION NOTES ON DWG. NO. 15



PROFILE

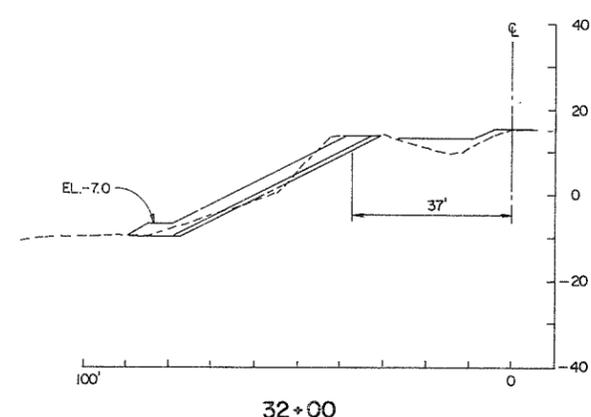
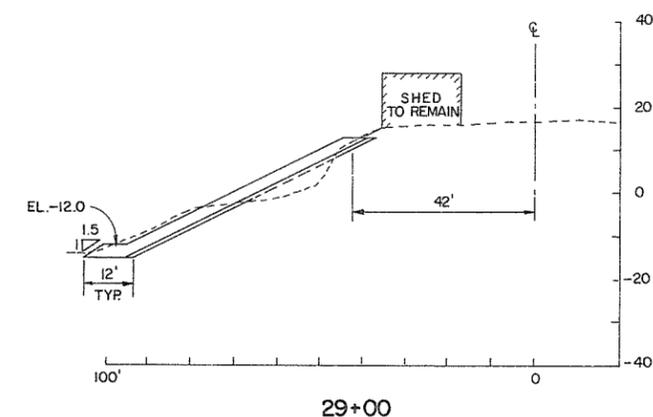
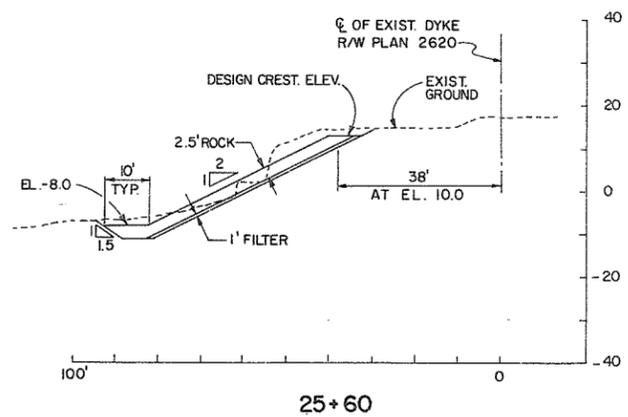
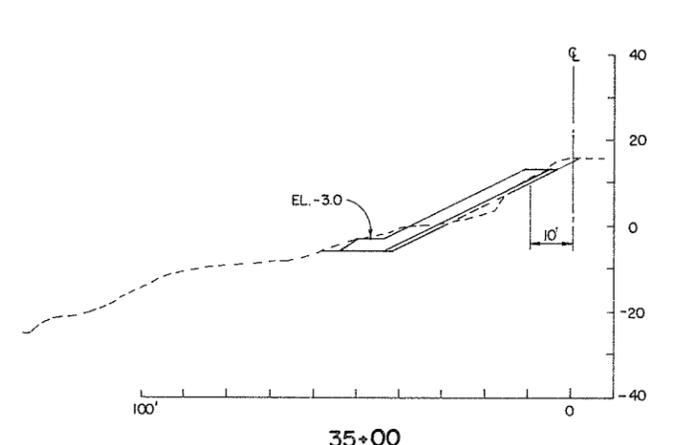
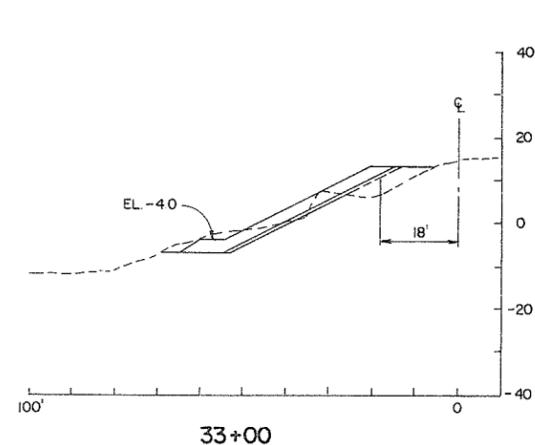
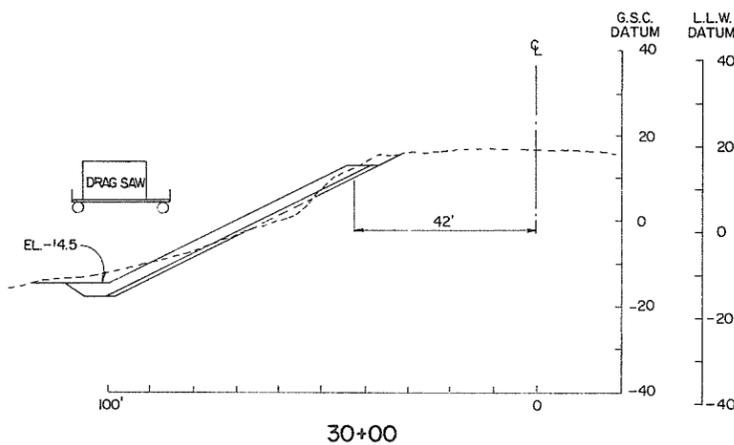
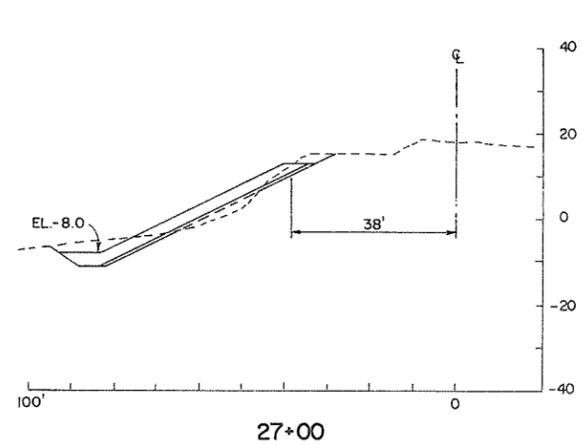
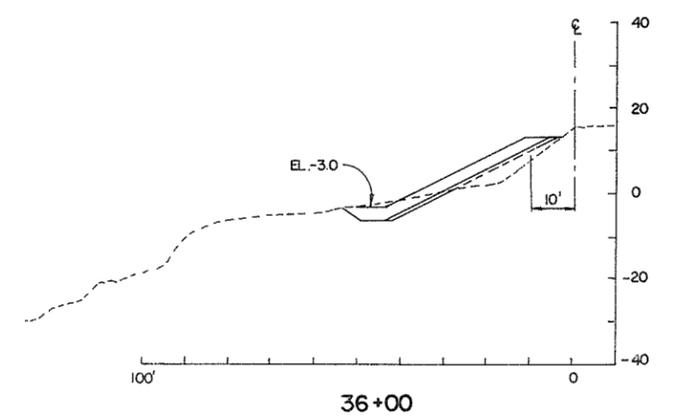
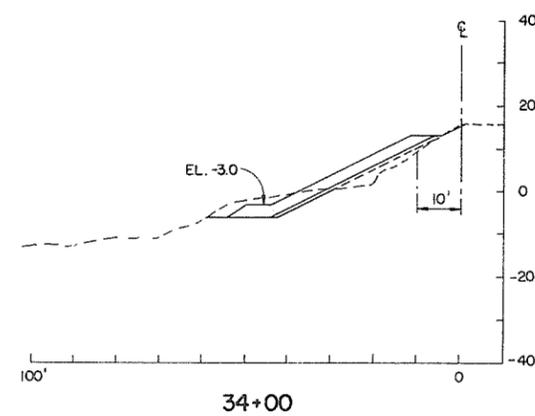
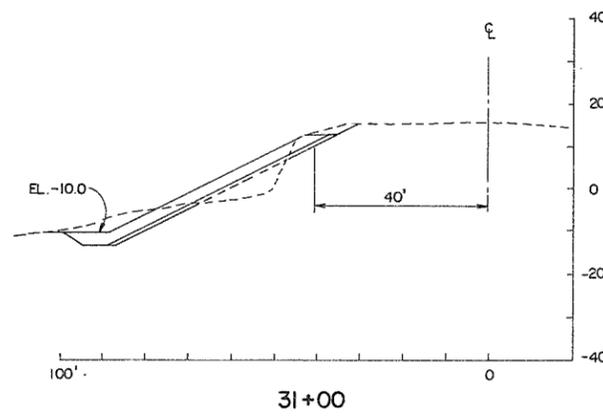
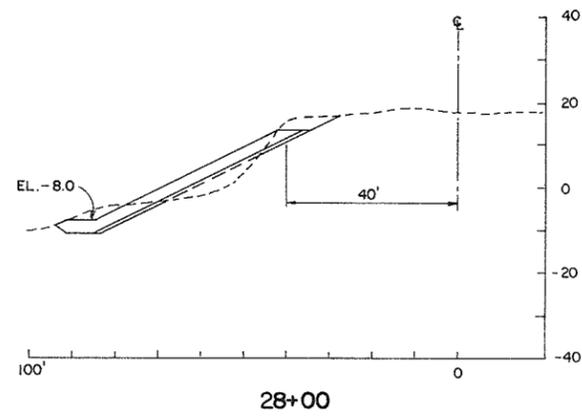
AS CONSTRUCTED

51183



DWH May 26/78

AESL ASSOCIATED ENGINEERING SERVICES LTD. <small>Consulting Engineers</small>	A B.P. As constructed information added. June, 1978	RECOMMENDED <i>[Signature]</i> PROJECT MANAGER	DESIGNED AESL/RKL/BDNG DRAWN J.C. D.B.P. CHECKED DWH SCALE AS SHOWN DWG. NO. 4885-1-14	SURVEYED A.E.S.L./W.I.B. DATE MARCH 1976 FILE NO. 0281550-C30-1 DATE JUNE, 1978
		APPROVED <i>[Signature]</i> DIRECTOR, WATER INVESTIGATIONS BRANCH DATE <i>May 31/78</i>		
A.E.S.L. No.	NO. BY REVISIONS DATE	SHEET 22 OF 45 SHEETS		



- NOTES**
- ELEVATIONS TO GEODETIC DATUM, EXCEPT AS NOTED.
 - ELEV. 0.0 L.L.W. (LOCAL LOW WATER) DATUM IS ELEV. -2.54 G.S.C.
 - CROSS SECTIONS PERPENDICULAR TO BASE LINE UNLESS OTHERWISE NOTED.
 - EXISTING SECTIONS ARE FROM SURVEYS OF MARCH 1976. DUE TO CONSTANT SHIFTING OF THE RIVERBED, VARIATIONS MAY BE FOUND DURING CONSTRUCTION, AND THE DESIGN WILL BE ADJUSTED ACCORDINGLY AT THAT TIME.
 - BANK PROTECTION WORK IS TO BE COMPLETED PRIOR TO COMMENCEMENT OF WORK ON ADJACENT DYKE, EXCEPT STA. 49+00 TO 54+00 AND STA. 74+00 TO 75+00.
 - BANK PROTECTION TO BE PLACED ADJACENT TO EXISTING LIGHT POLES, PILES, DOLPHINS, ETC. AND UNDER WHARVES, FLOATS, ETC. WITHOUT CAUSING DAMAGE OR MOVEMENT, UNLESS OTHERWISE NOTED.

NOTE:
THIS DRAWING SHOWS DESIGN ONLY. SEE DWG. 15A FOR AS CONSTRUCTED. IF RECONSTRUCTION REQUIRED, RECONSTRUCT FROM DESIGN DRAWINGS, EXCEPT STA. 25+60 TO 31+00

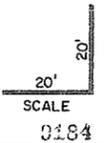


AESL ASSOCIATED ENGINEERING SERVICES LTD. <small>Consulting Engineers</small>	NO. BY	REVISIONS	DATE
A.E.S.L. No.			

RECOMMENDED <i>[Signature]</i> PROJECT MANAGER
DATE <i>3/26/76</i>
APPROVED <i>[Signature]</i> DIRECTOR, WATER INVESTIGATIONS BRANCH
DATE <i>May 31/76</i>

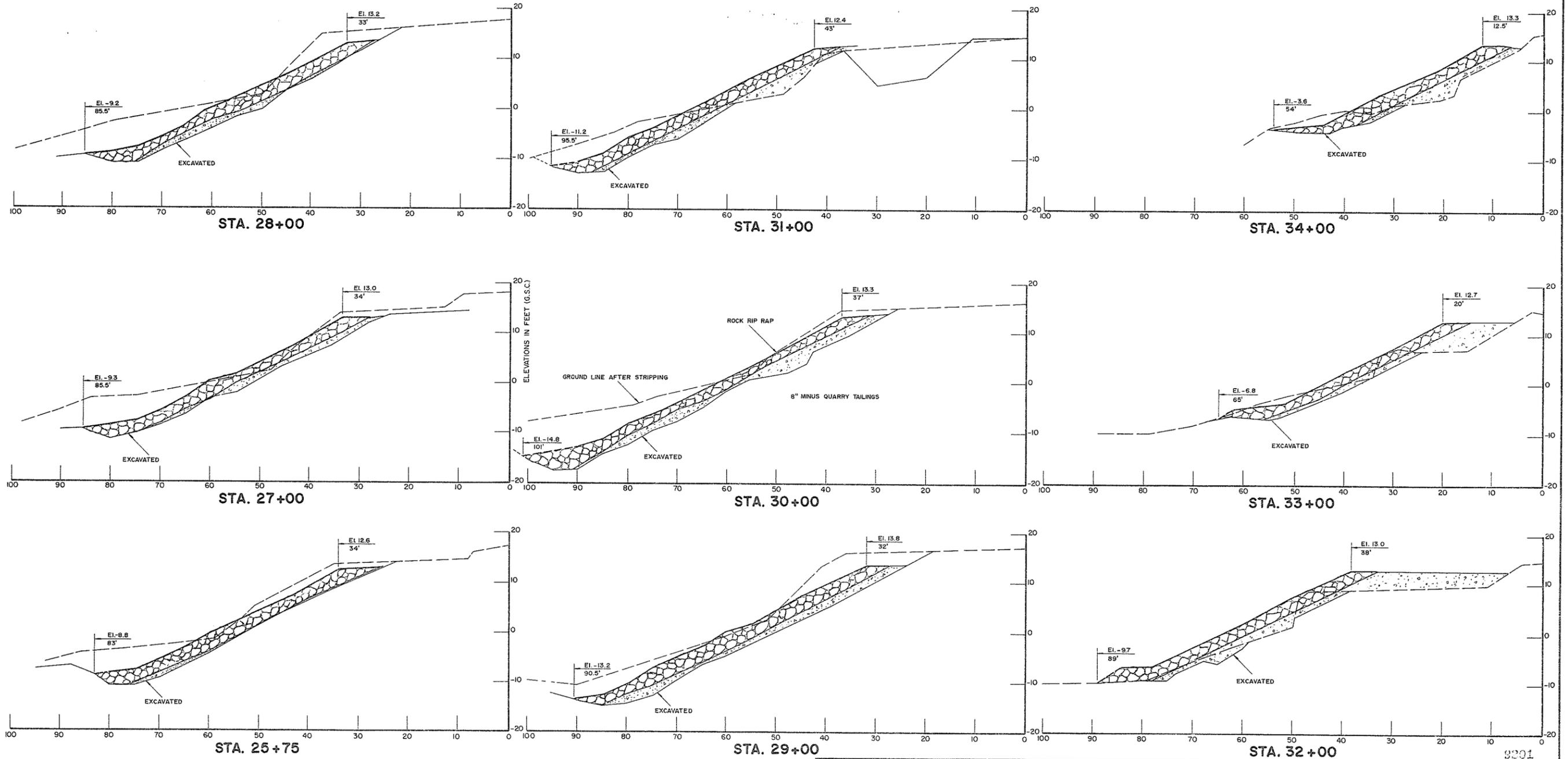
BRITISH COLUMBIA DEPARTMENT OF ENVIRONMENT WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT
PROJECT NO. II CITY OF NEW WESTMINSTER CONTRACT NO. I
BANK PROTECTION CROSS SECTIONS STA. 25+60 TO 36+00

DESIGNED <i>[Signature]</i> A.E.S.L./R.K.L./B.P.W.G.	SURVEYED A.E.S.L./W.I.B.
DRAWN <i>[Signature]</i>	DATE MARCH 1976
CHECKED <i>[Signature]</i>	FILE NO. 0281550-C30-1
SCALE 1" = 20'	DATE MAY 1976
DWG. NO. 4885-1-15	SHEET 23 OF 45 SHEETS



NOTES:

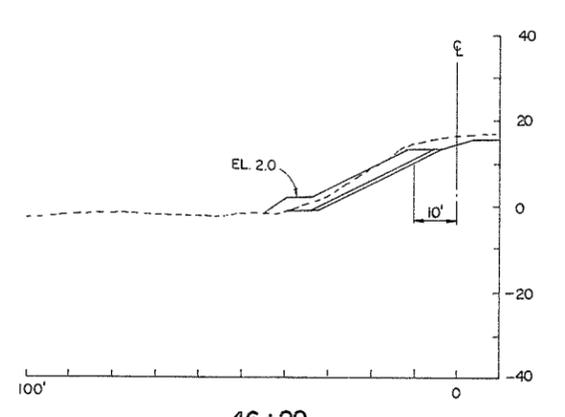
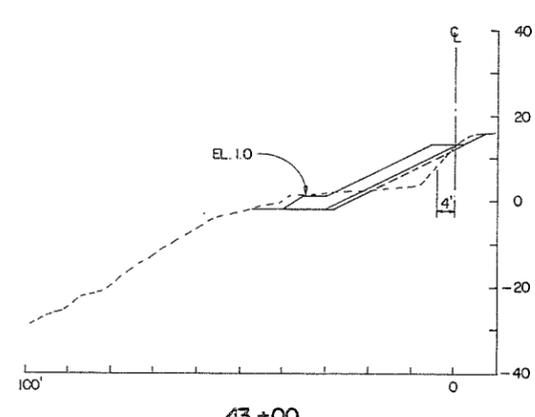
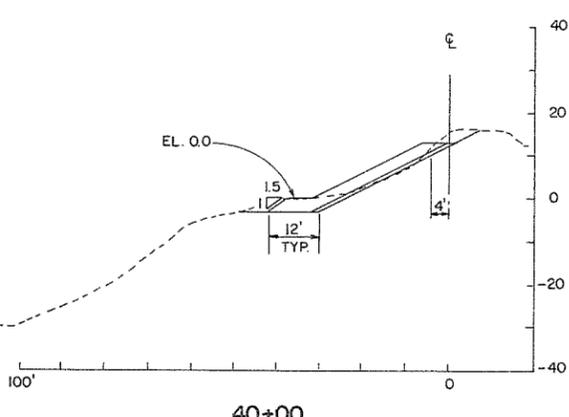
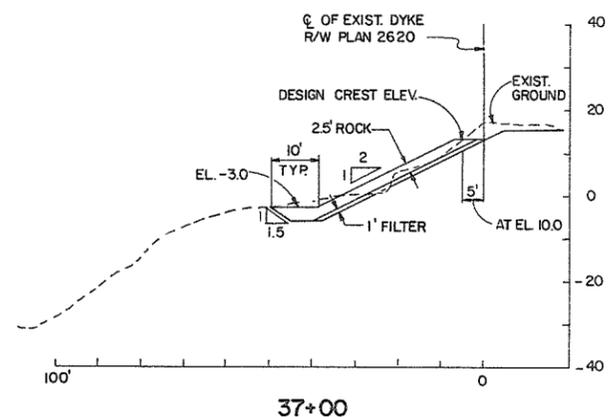
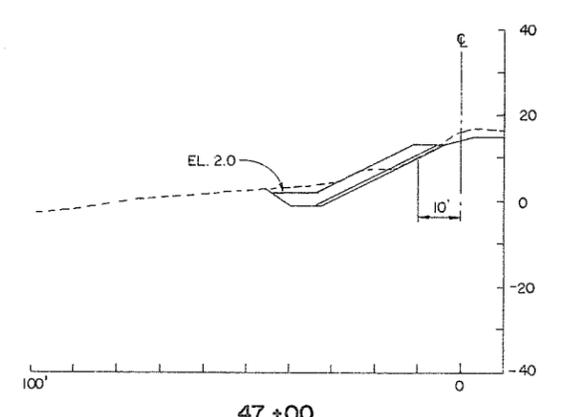
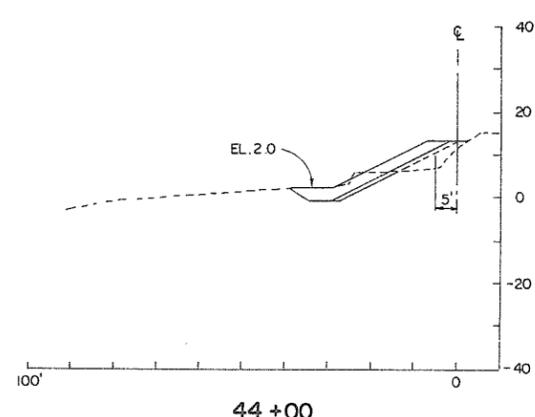
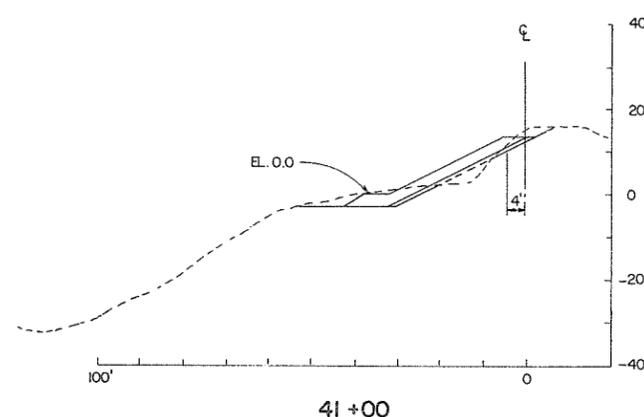
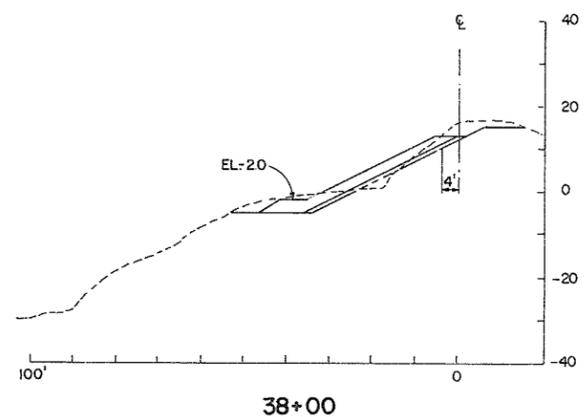
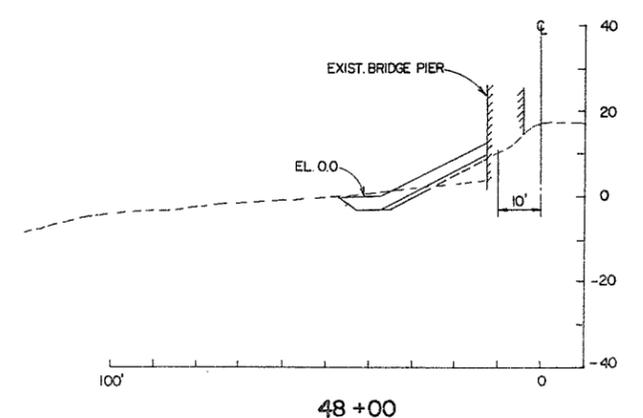
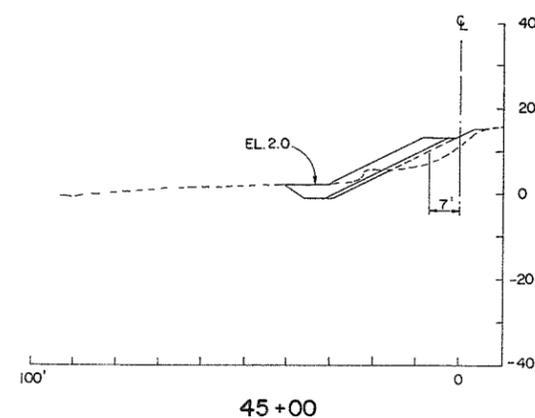
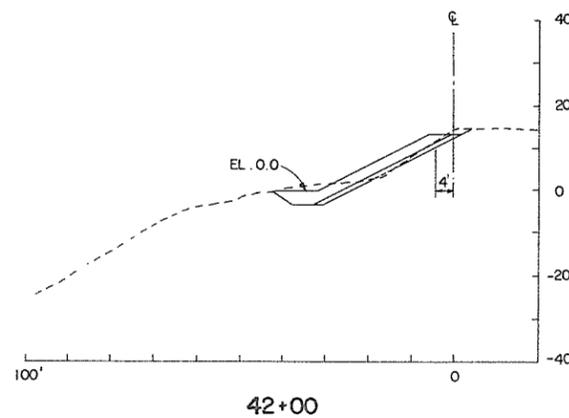
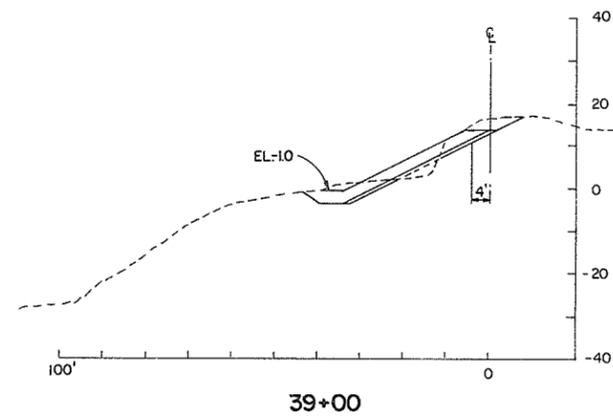
1. Construction dates - Nov., 1976 to July, 1977.
2. Elevations - A.E.S.L. bench marks used. (G.S.C.).
3. Source of materials.
 - (a) 8" minus quarry tailings - Pitt River Quarry Ltd.
 - (b) 1000 lb. rock rip rap - Pitt River Quarry Ltd.
4. All sections at right angles to baseline unless otherwise shown.
5. Plans redrawn.



AS CONSTRUCTED

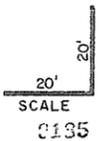
A B.P. As constructed information added. B.P. Sta's 25+60, 35+00 & 36+00 deleted. B.P. Sta. 25+75 added.	May 1978	RECOMMENDED _____ PROJECT MANAGER	BRITISH COLUMBIA MINISTRY OF THE ENVIRONMENT ENVIRONMENTAL AND ENGINEERING SERVICES WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT	DESIGNED A.E.S.L.	SURVEYED A.E.S.L. & W.L.B.	
		DATE _____		DRAWN B.S. & D.B.P.	DATE MAR./76-	
		APPROVED _____ DIRECTOR		Project No. 11 CITY OF NEW WESTMINSTER Contract No. 1	CHECKED <i>[Signature]</i>	FILE NO. 0281550-C30-1
		DATE _____		BANK PROTECTION CROSS SECTIONS STA. 25+75 TO STA. 34+00	SCALE AS SHOWN	DATE MAY, 1978
NO. BY REVISIONS DATE				DWG. NO. 4806-1-15A	SHEET 24 OF 45 SHEETS	

9201

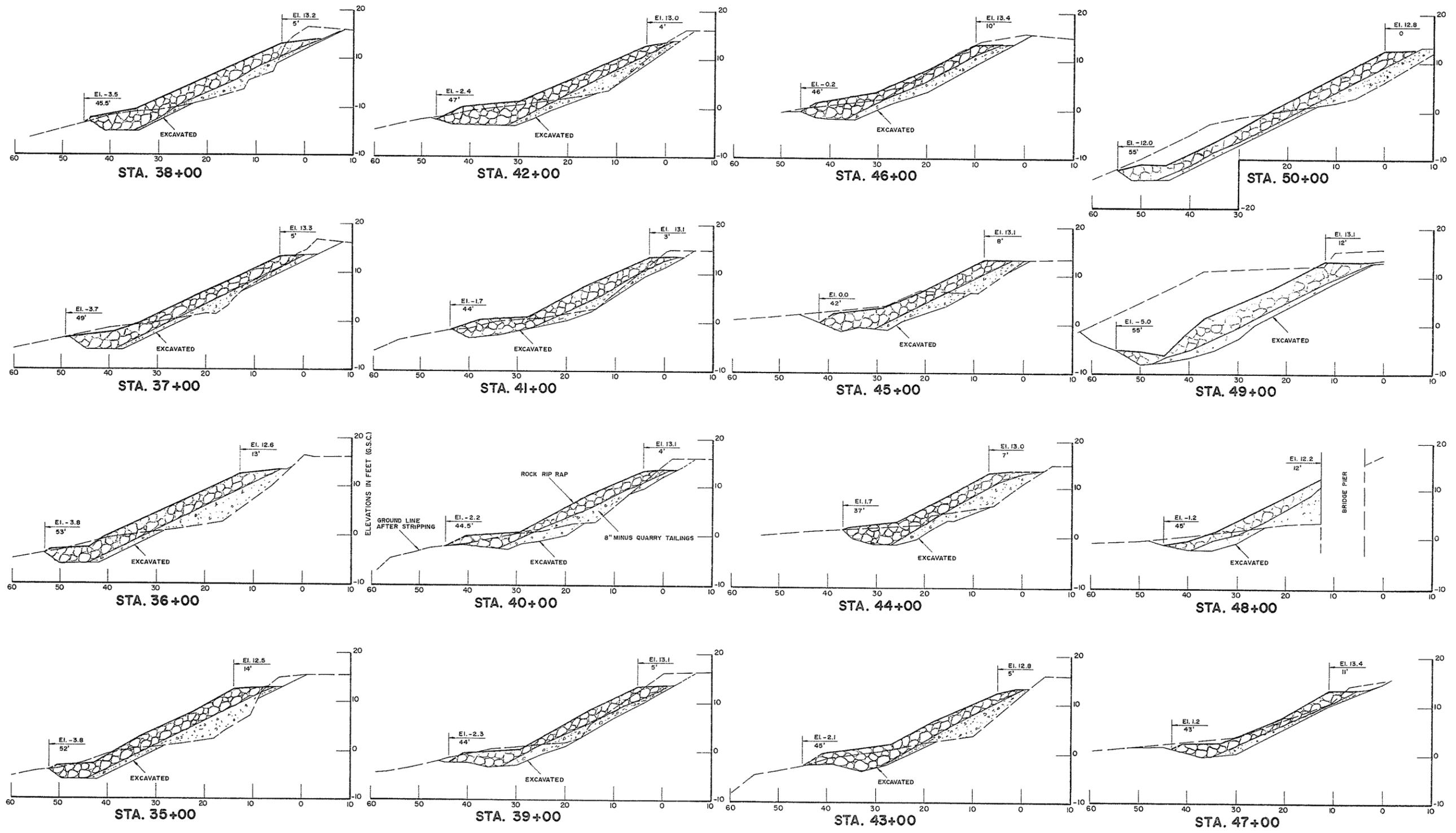


NOTE:
THIS DRAWING SHOWS DESIGN ONLY. SEE DWG. 16A FOR AS CONSTRUCTED.
IF RECONSTRUCTION REQUIRED, RECONSTRUCT FROM DESIGN DRAWINGS.

NOTE:
SEE BANK PROTECTION NOTES ON DWG. NO. 15

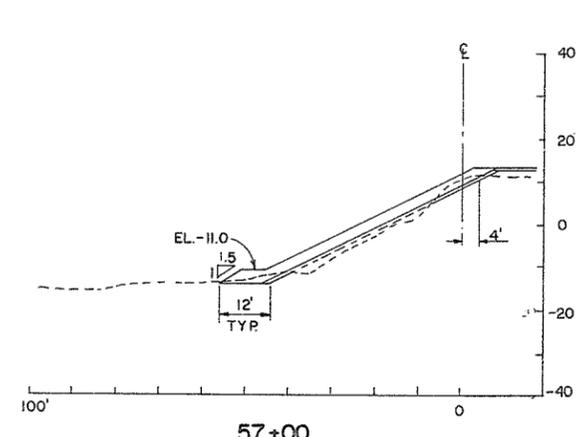
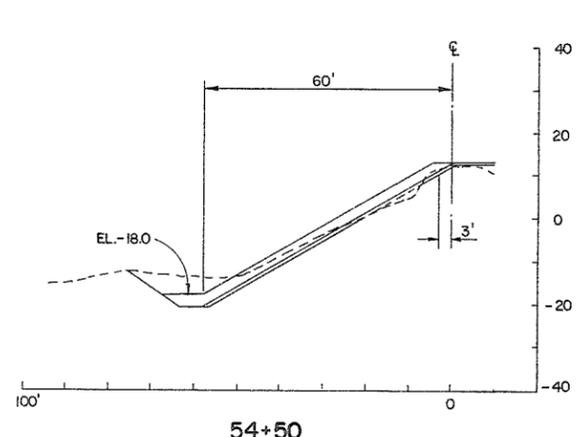
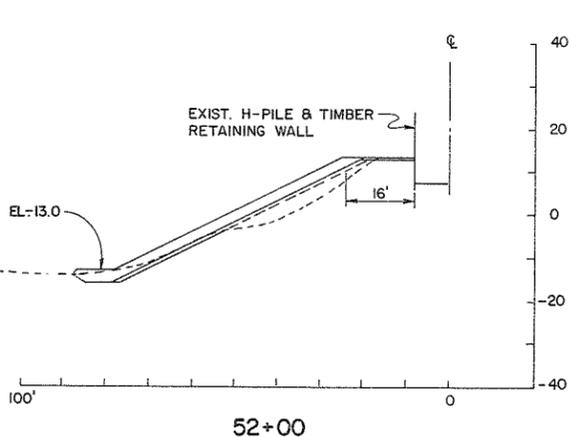
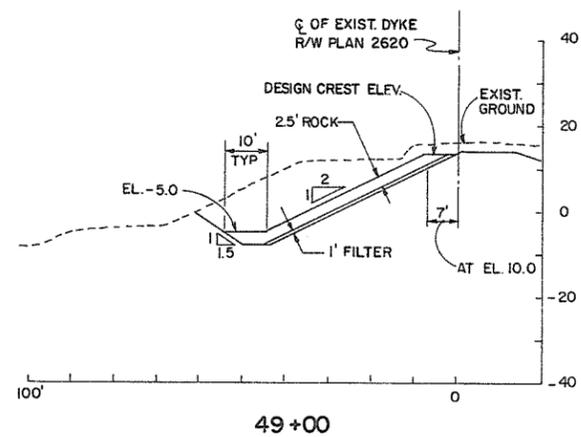
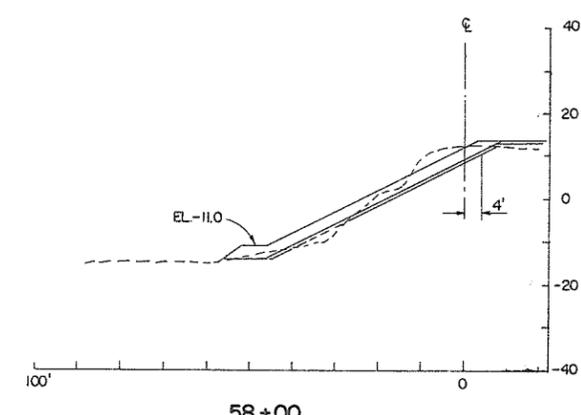
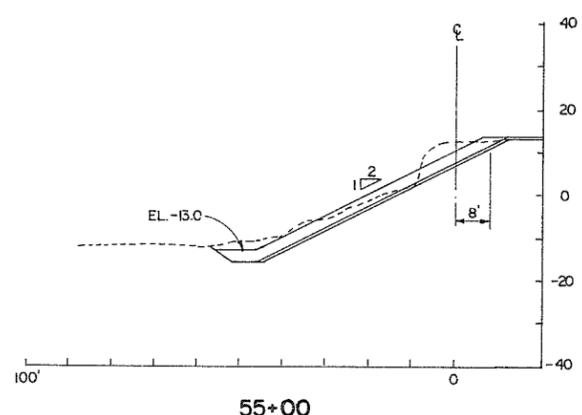
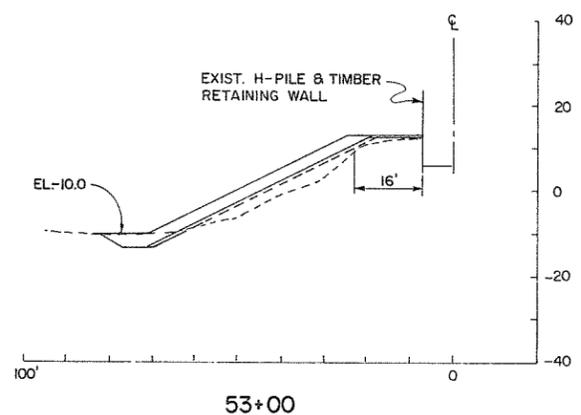
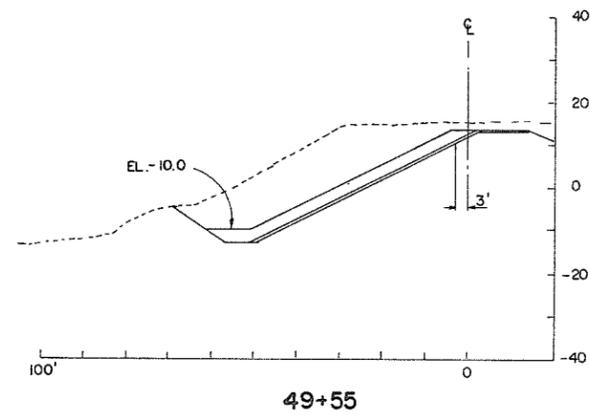
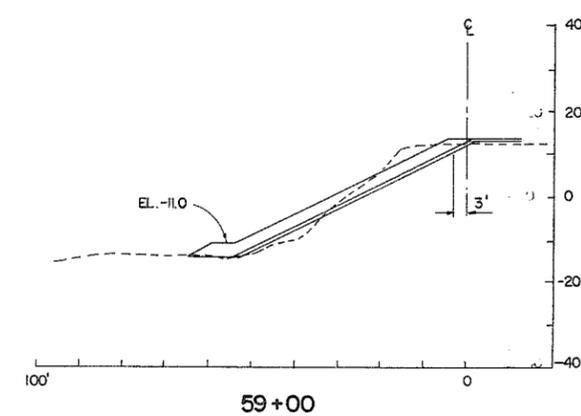
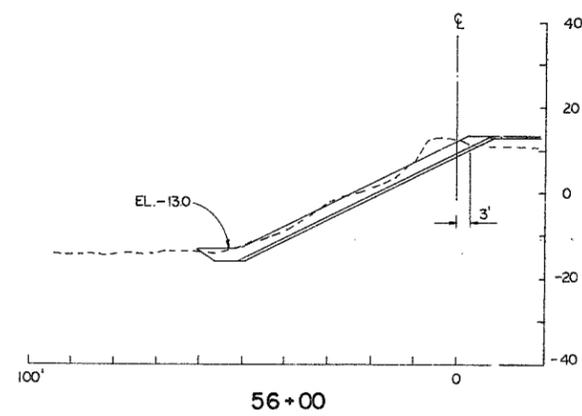
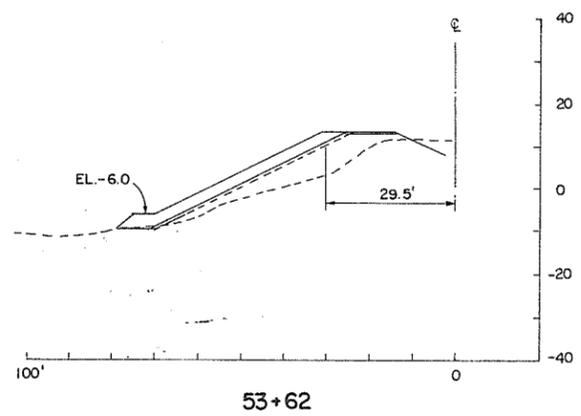
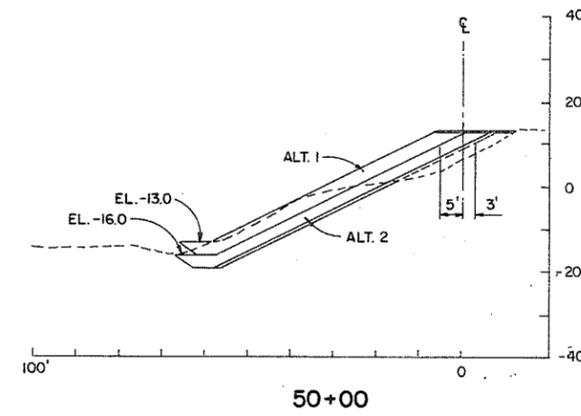


AESL ASSOCIATED ENGINEERING SERVICES LTD. <small>Consulting Engineers</small>		RECOMMENDED DATE <i>May 31/76</i> PROJECT MANAGER	BRITISH COLUMBIA DEPARTMENT OF ENVIRONMENT WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH CANADA — BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT	DESIGNED <i>AESL/RKL/BPWG</i> DRAWN <i>W.L.</i> CHECKED <i>D.W.H.</i> SCALE 1" = 20' DWG. NO. 4885-1-16	SURVEYED A.E.S.L./W.I.B. DATE MARCH 1976 FILE NO. 0281550-C30-1 DATE MAY 1976 SHEET 25 OF 45 SHEETS
PROJECT NO. 11 CITY OF NEW WESTMINSTER CONTRACT NO. 1	BANK PROTECTION CROSS SECTIONS STA. 37+00 TO 48+00				
A.E.S.L. No. _____ NO. BY _____ REVISIONS _____ DATE _____	APPROVED <i>John Fuller</i> DIRECTOR, WATER INVESTIGATIONS BRANCH DATE <i>May 31/76</i>				



AS CONSTRUCTED

A	B.P.	As constructed information added. Sta.'s 35+00, 36+00, 49+00 & 50+00 added.	May, 1978	RECOMMENDED..... PROJECT MANAGER	BRITISH COLUMBIA MINISTRY OF THE ENVIRONMENT AND ENGINEERING SERVICES WATER INVESTIGATIONS BRANCH CANADA — BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT	DESIGNED A.E.S.L.	SURVEYED A.E.S.L. & W.I.B.
				DATE.....		DRAWN B.S. & D.B.P.	DATE MAR./78
				APPROVED..... DIRECTOR	Project No. II CITY OF NEW WESTMINSTER Contract No. I	CHECKED <i>[Signature]</i>	FILE NO. 0281550-C30-1
				DATE.....	BANK PROTECTION CROSS SECTIONS STA. 35+00 TO STA. 50+00	SCALE AS SHOWN	DATE MAY, 1978
NO.	BY	REVISIONS	DATE			DWG. NO. 4806-1-16A	SHEET 26 OF 45 SHEETS



NOTE: SLOPE STEEPER THAN OTHER SECTIONS AND TRANSITIONS FROM 2:1 FROM STA. 54+50 TO 55+00

NOTE: SEE BANK PROTECTION NOTES ON DWG. NO. 15

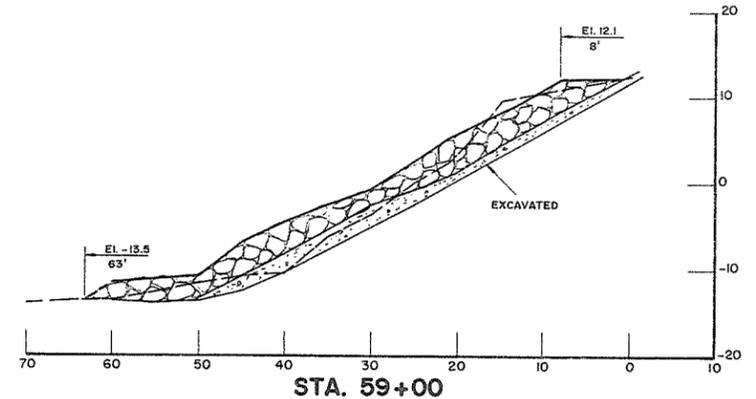
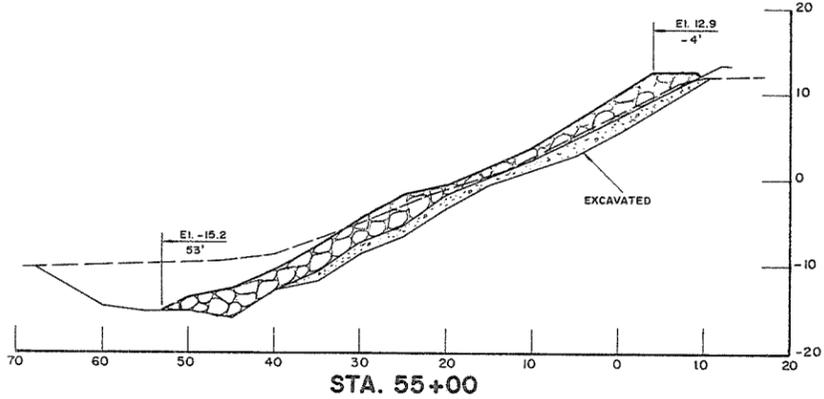
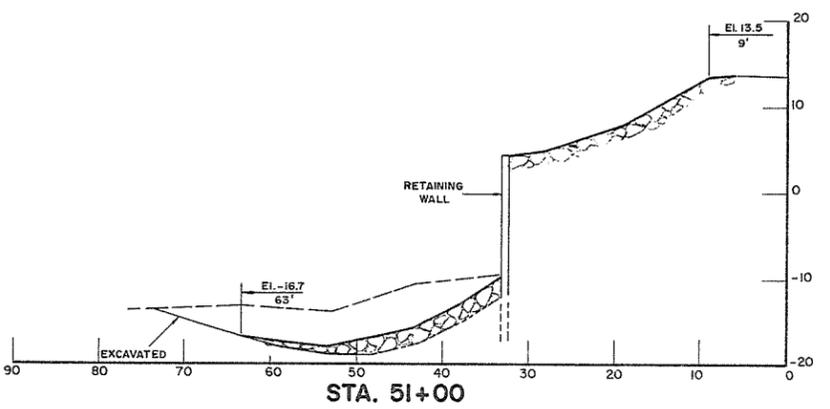
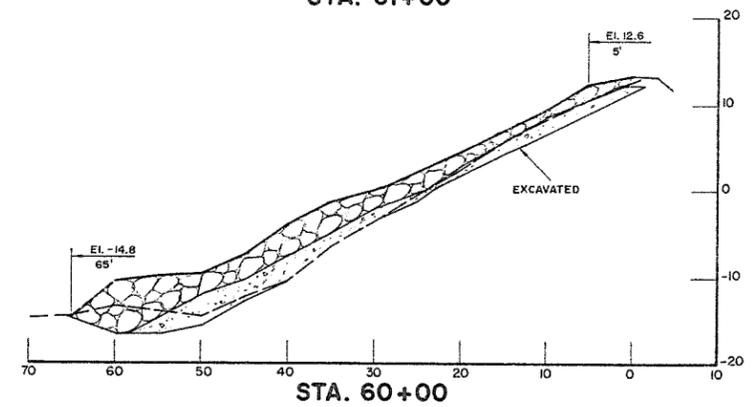
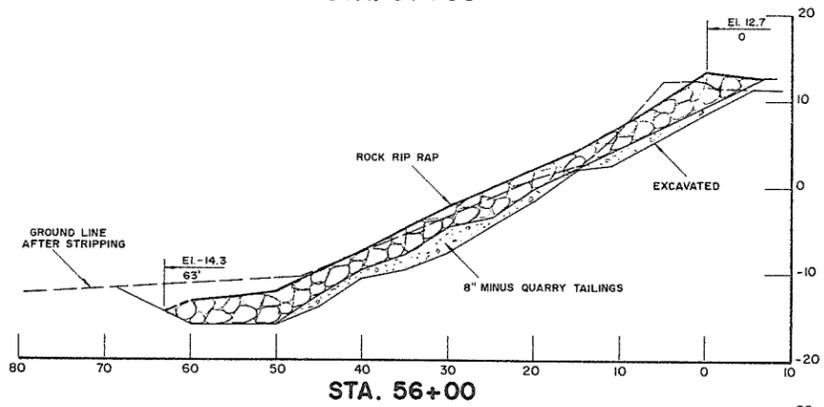
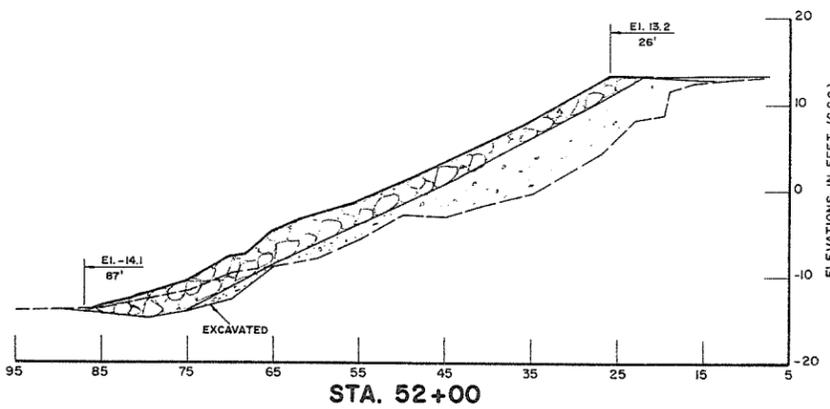
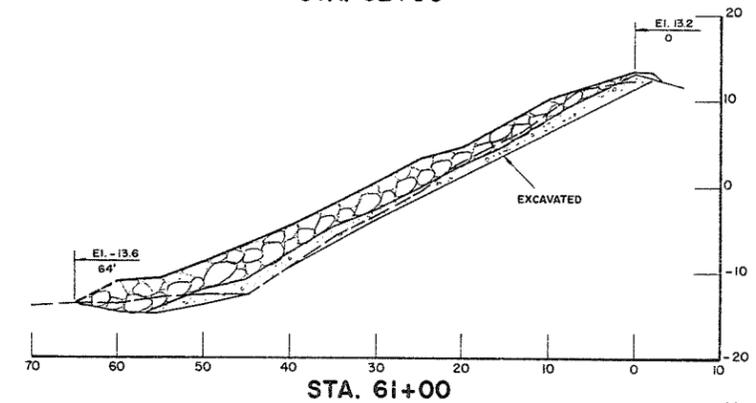
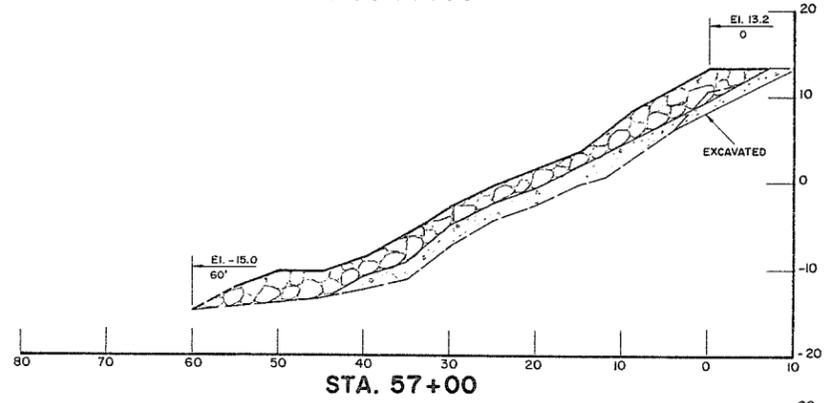
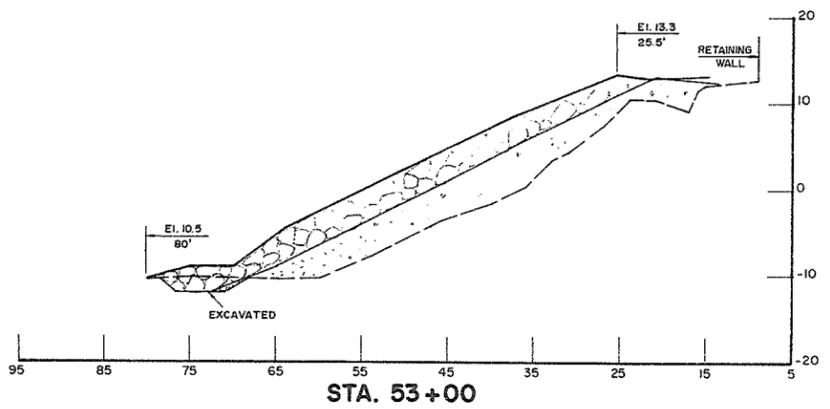
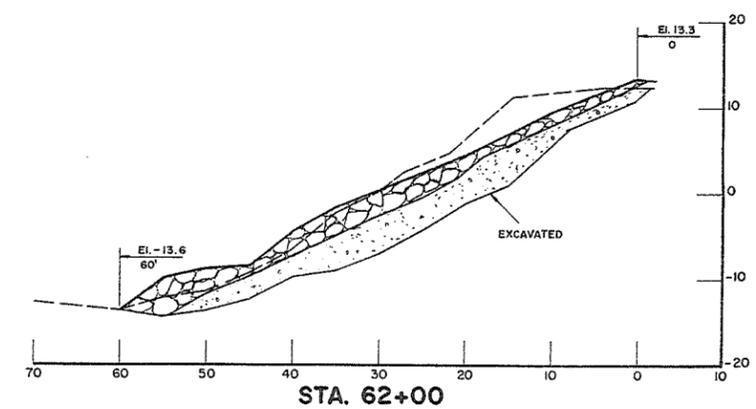
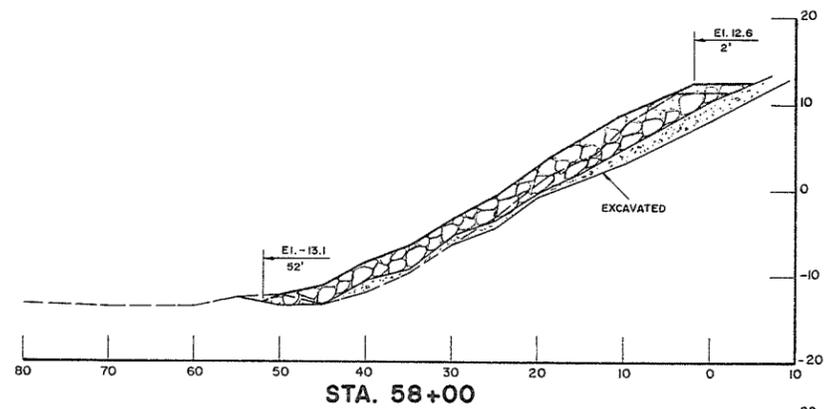
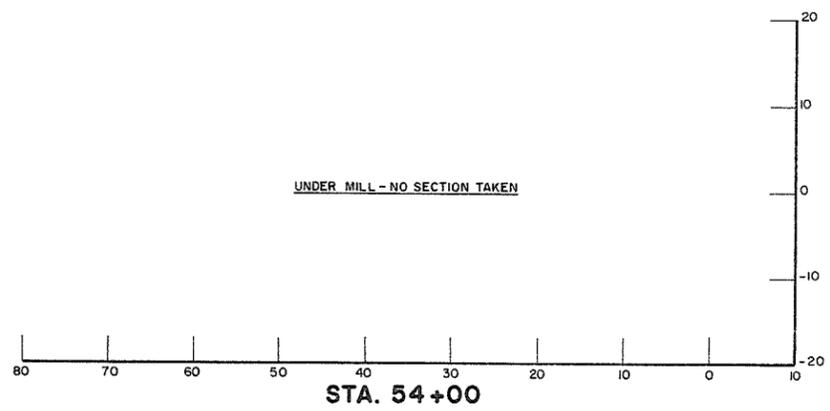
NOTE: THIS DRAWING SHOWS DESIGN ONLY. SEE DWG. 17A FOR AS CONSTRUCTED. IF RECONSTRUCTION REQUIRED, RECONSTRUCT FROM DESIGN DRAWINGS.

20'
SCALE



DWH May 26 1976

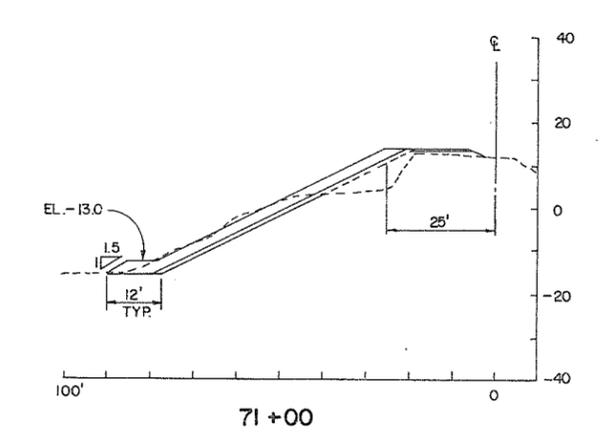
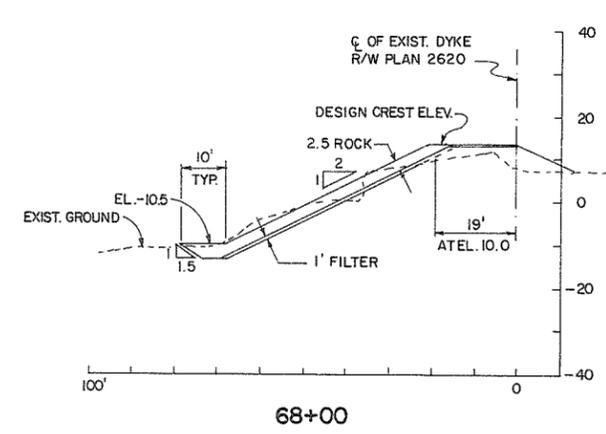
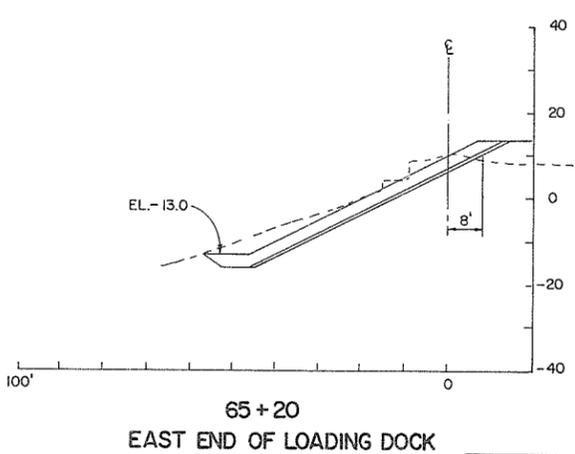
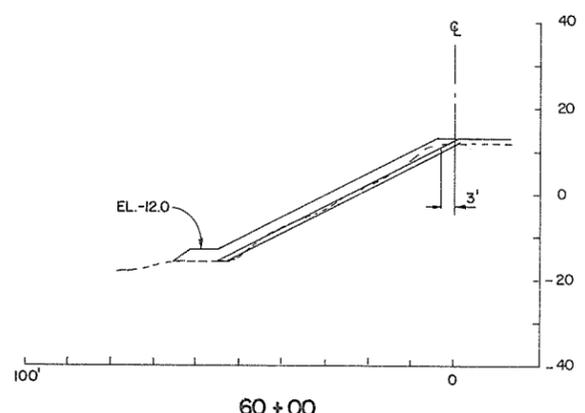
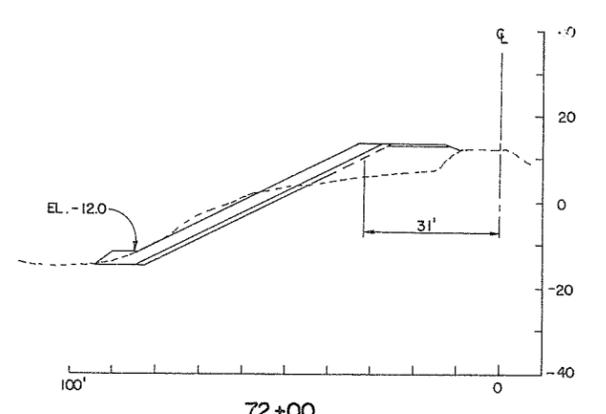
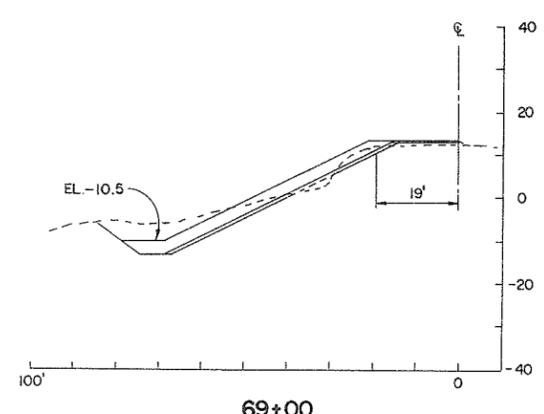
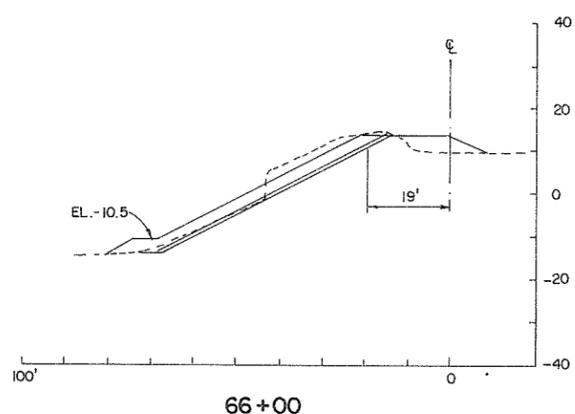
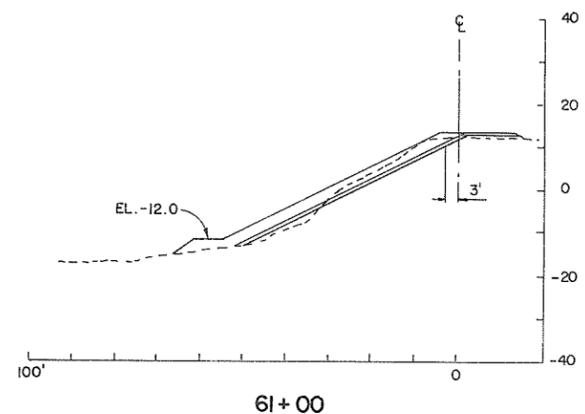
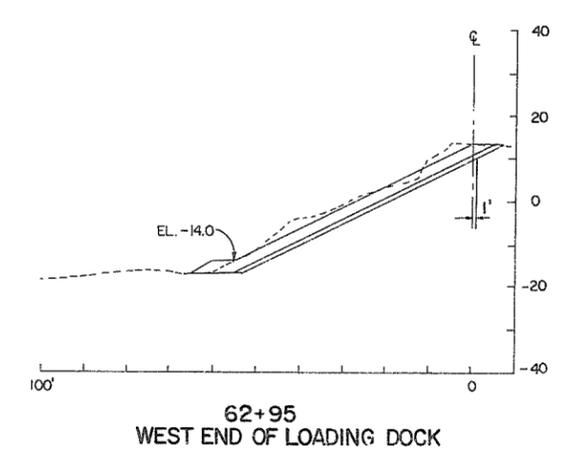
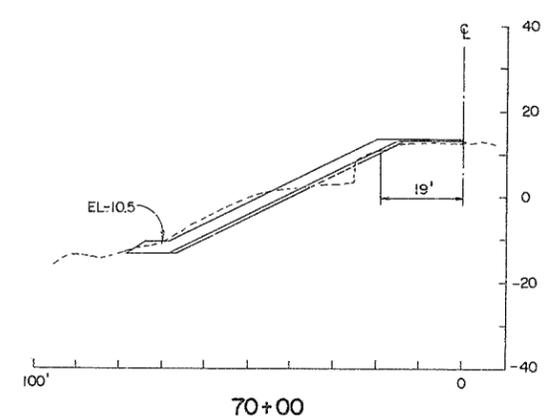
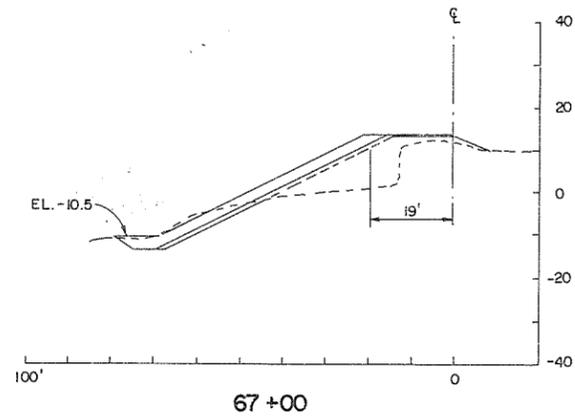
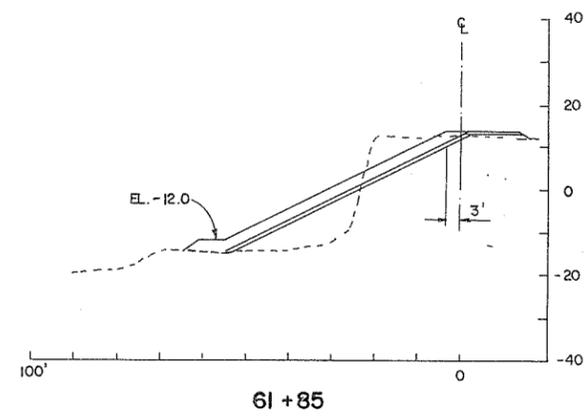
AESL ASSOCIATED ENGINEERING SERVICES LTD. <small>Consulting Engineers</small>		RECOMMENDED: [Signature] PROJECT MANAGER DATE: 3/24/76	BRITISH COLUMBIA DEPARTMENT OF ENVIRONMENT WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1948 AGREEMENT	DESIGNED: AESL/RKL/BPWG DRAWN: [Signature] CHECKED: [Signature]	SURVEYED: A.E.S.L./W.I.B. DATE: MARCH 1976 FILE NO: 0281550-C30-1 DATE: MAY 1976
PROJECT NO. 11 CITY OF NEW WESTMINSTER CONTRACT NO. 1 BANK PROTECTION CROSS SECTIONS STA. 49+00 TO 59+00		APPROVED: [Signature] DIRECTOR, WATER INVESTIGATIONS BRANCH DATE: May 31/76	PROJECT NO. 11 CITY OF NEW WESTMINSTER CONTRACT NO. 1 BANK PROTECTION CROSS SECTIONS STA. 49+00 TO 59+00	SCALE: 1" = 20' DWG. NO.: 4885-1-17	SHEET: 27 OF 45 SHEETS



AS CONSTRUCTED

A	B.P.	As constructed information added.	RECOMMENDED.....	PROJECT MANAGER	DESIGNED A.E.S.L.	SURVEYED A.E.S.L. & W.I.B.		
	B.P.	Sts. 49+00, 49+55 & 50+00 deleted.	DATE.....				DRAWN B.S. & D.B.P.	DATE MAR./76
	B.P.	Sts. 60+00, 61+00 & 62+00 added.	APPROVED.....	DIRECTOR			CHECKED <i>[Signature]</i>	FILE NO. 0281550-C30-1
	NO.	BY	REVISIONS	DATE			SCALE AS SHOWN	DATE MAY, 1978
			DATE.....		DWG. NO. 4806-1-17A	SHEET 28 OF 45 SHEETS		

Project No. 11 CITY OF NEW WESTMINSTER Contract No. 1
BANK PROTECTION CROSS SECTIONS
STA. 51+00 TO STA. 62+00



NOTE:
THIS DRAWING SHOWS DESIGN ONLY. SEE DWG. 18A FOR AS CONSTRUCTED.
IF RECONSTRUCTION REQUIRED, RECONSTRUCT FROM DESIGN DRAWINGS.

NOTE: SEE BANK PROTECTION NOTES ON DWG. NO. 15

20'
SCALE



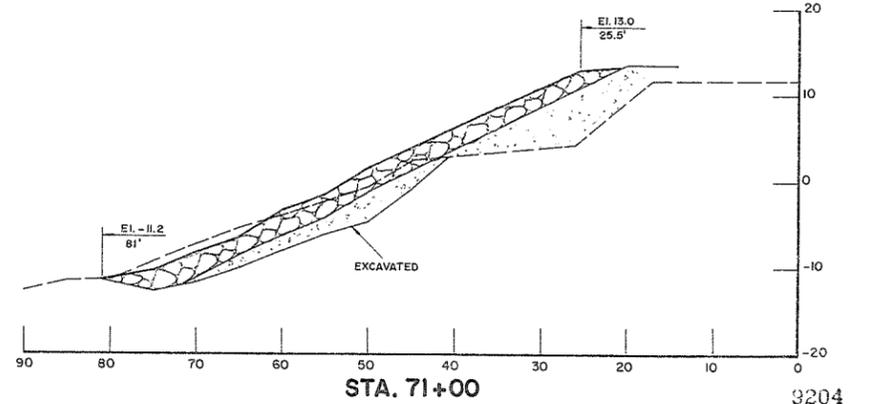
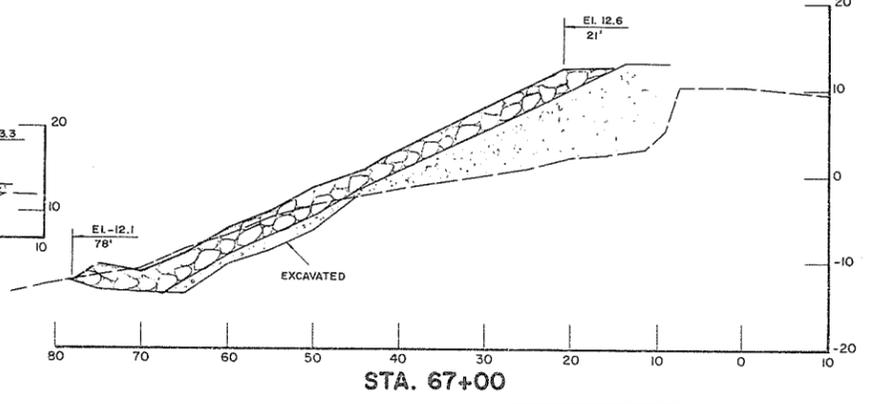
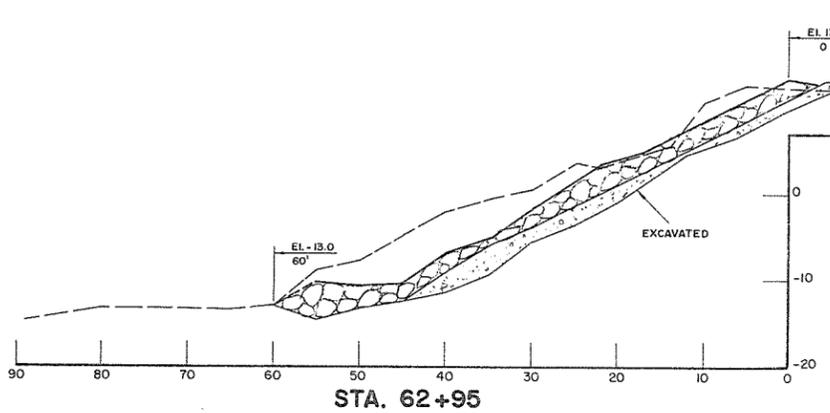
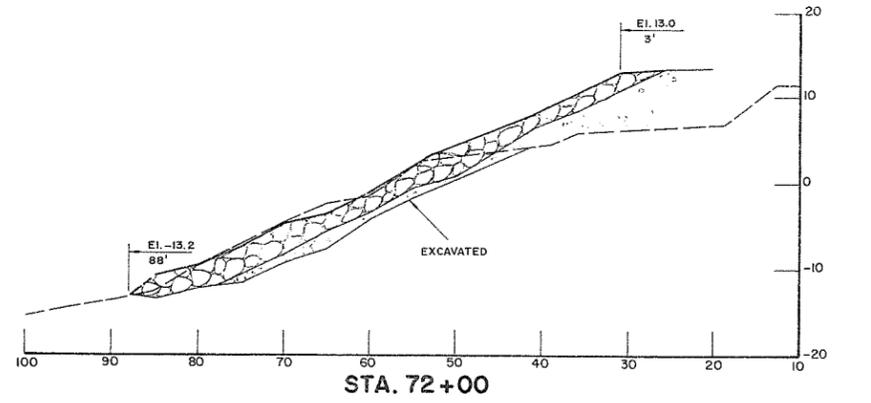
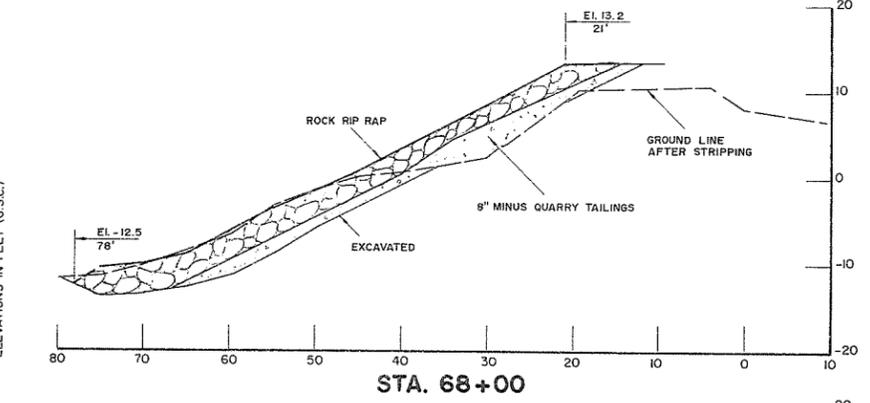
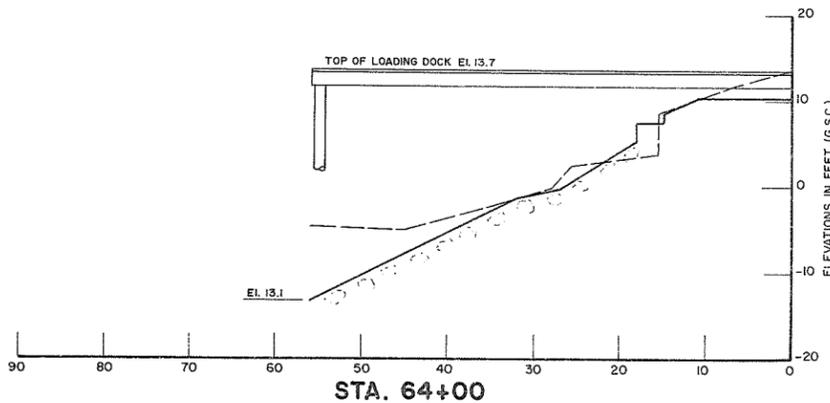
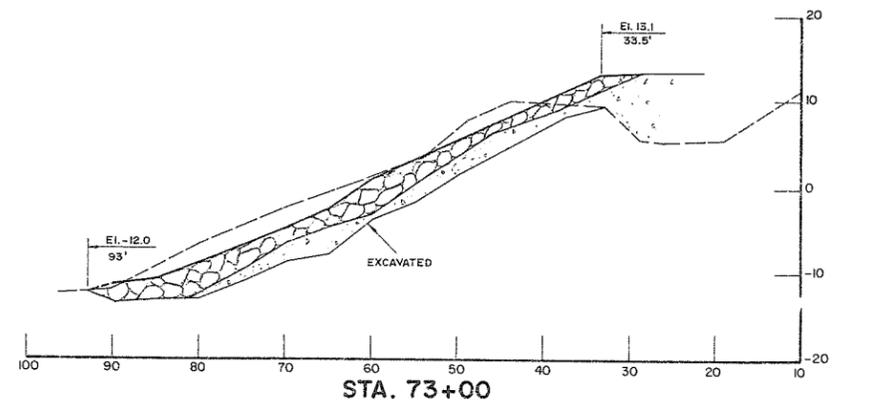
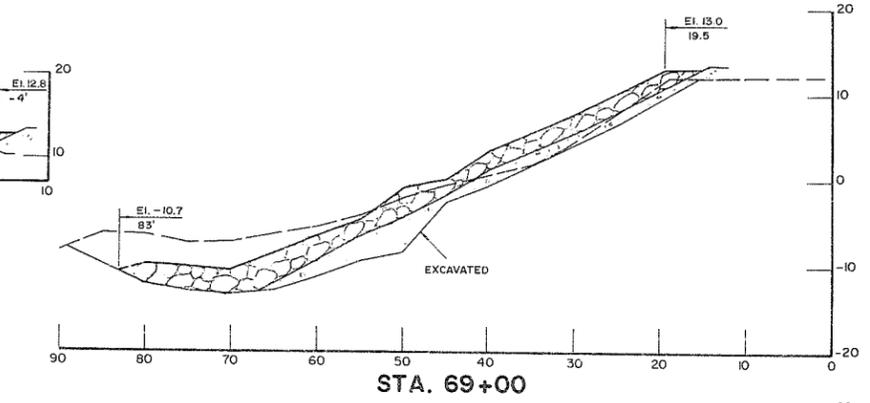
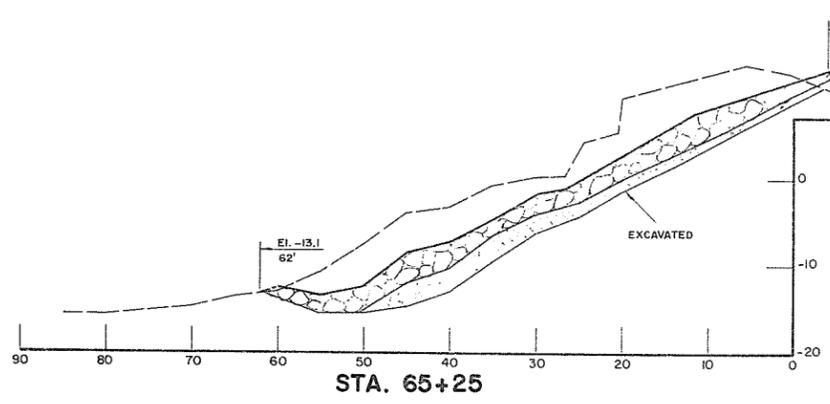
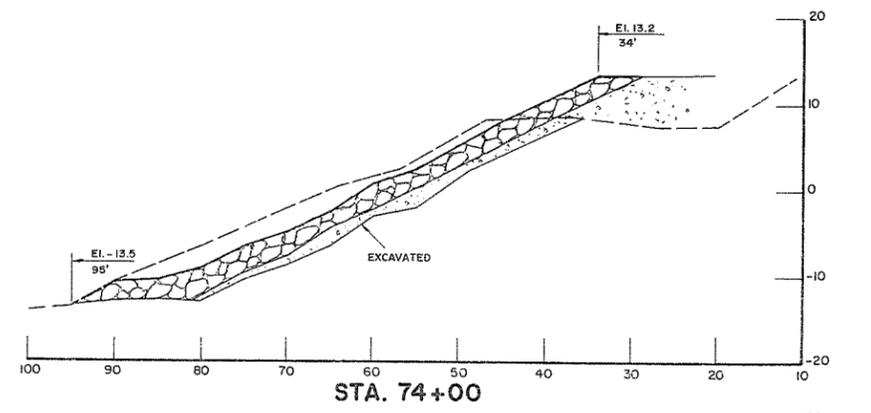
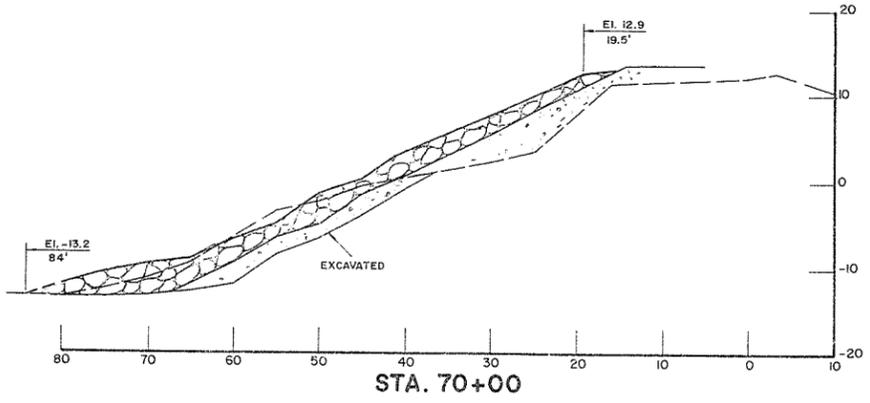
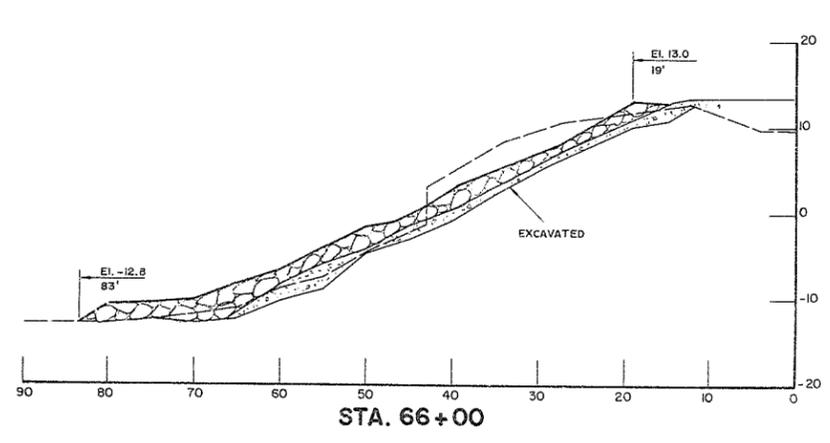
DWH May 26/76

AESL ASSOCIATED ENGINEERING SERVICES LTD. <small>(Consulting Engineers)</small>	
A.E.S.L. No.	
NO.	
BY	
REVISIONS	
DATE	

RECOMMENDED	<i>[Signature]</i> PROJECT MANAGER
DATE	31 May 1976
APPROVED	<i>[Signature]</i> DIRECTOR, WATER INVESTIGATIONS BRANCH
DATE	May 31/76

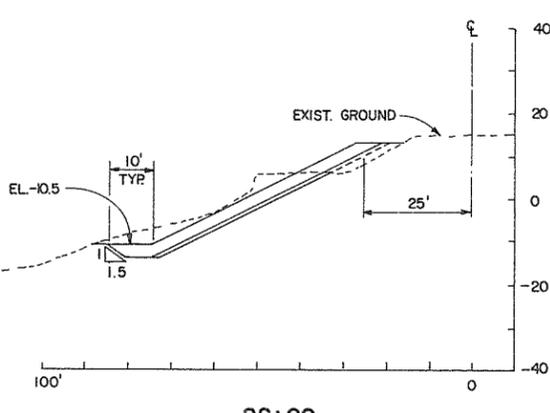
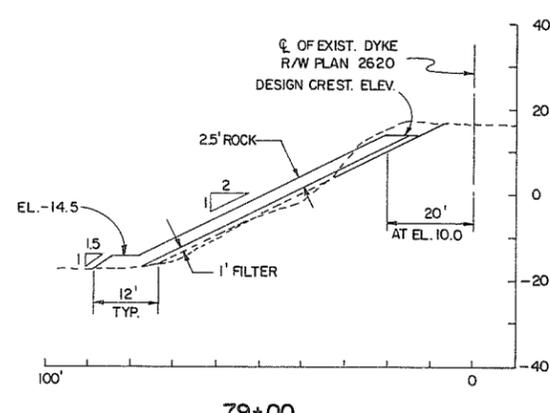
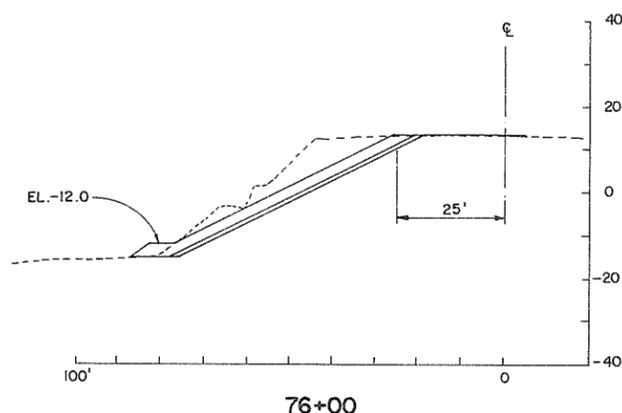
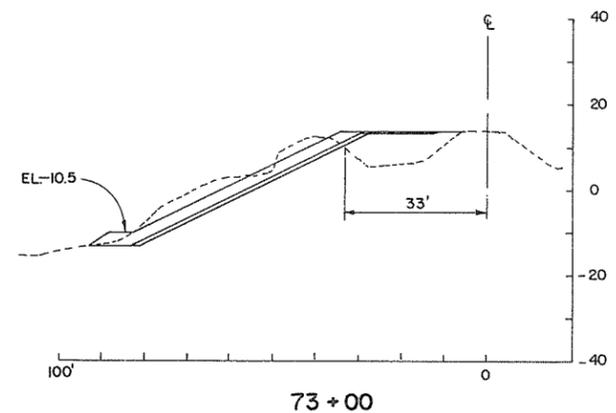
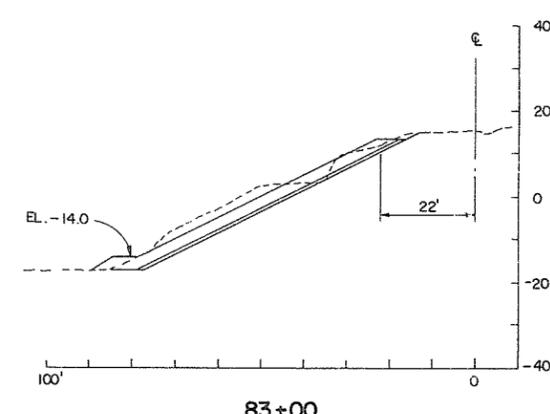
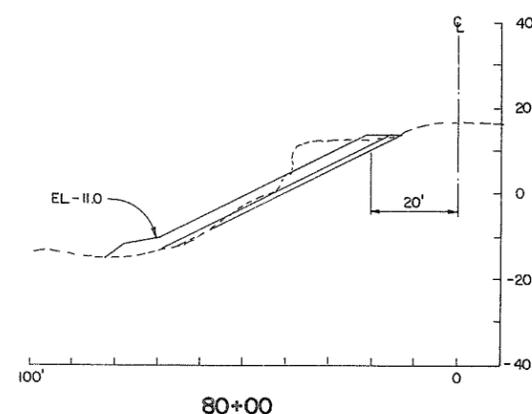
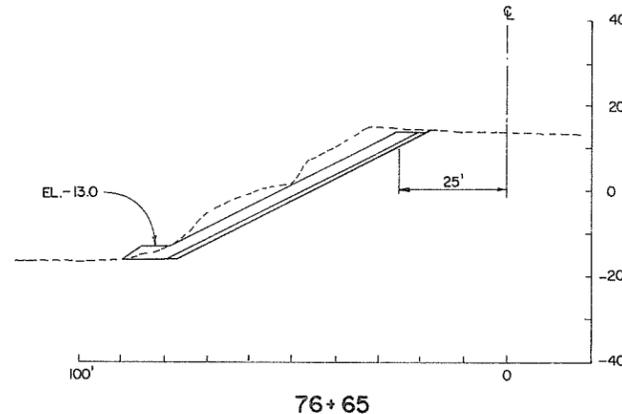
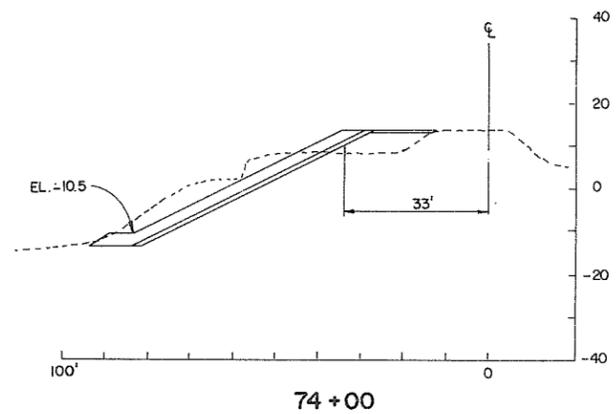
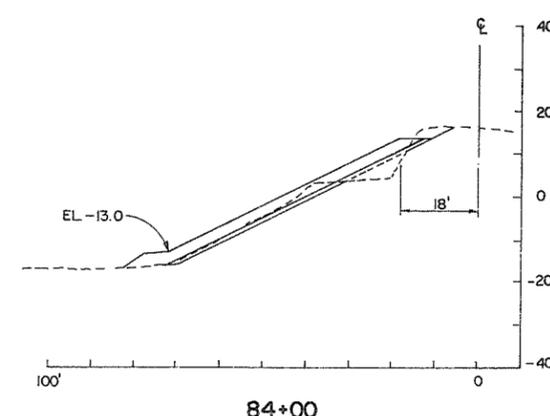
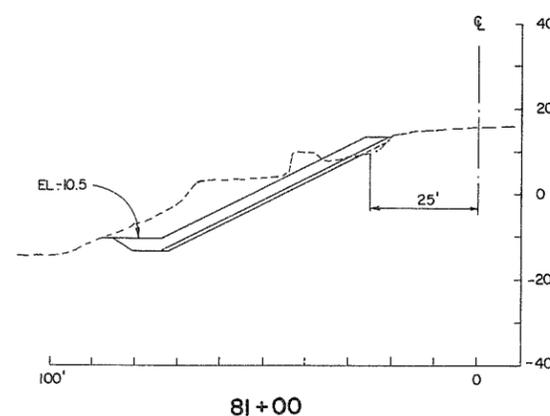
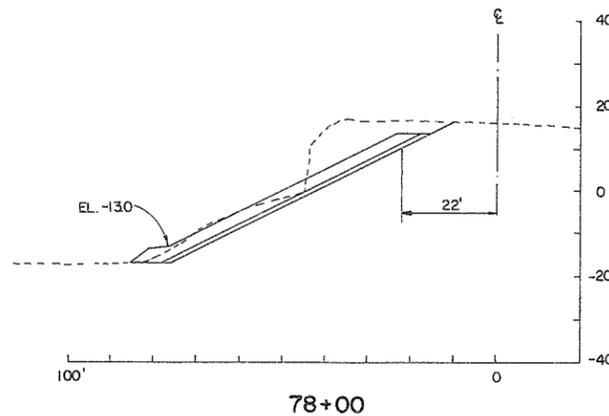
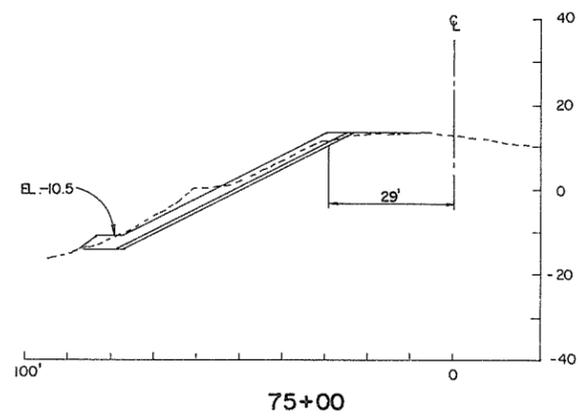
BRITISH COLUMBIA DEPARTMENT OF ENVIRONMENT WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT	
PROJECT NO. II CITY OF NEW WESTMINSTER CONTRACT NO. 1	
BANK PROTECTION CROSS SECTIONS STA. 60+00 TO 72+00	

DESIGNED	AESL/RKL/SPWG	SURVEYED	A.E.S.L./W.I.B.
DRAWN	<i>[Signature]</i>	DATE	MARCH 1976
CHECKED	DWA	FILE NO.	0281550-C30-1
SCALE	1" = 20'	DATE	MAY 1976
DWG. NO.	4885-1-18	SHEET	29 OF 45 SHEETS



AS CONSTRUCTED

A	B.P.	As constructed information added.	RECOMMENDED	PROJECT MANAGER	BRITISH COLUMBIA MINISTRY OF THE ENVIRONMENT ENVIRONMENTAL AND ENGINEERING SERVICES WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT	DESIGNED	A.E.S.L.	SURVEYED	A.E.S.L. & W.I.B.
	B.P.	Sta's 60+00, 61+00, 61+85, 62+95 & 65+20 deleted.	DATE			DRAWN	B.S. & D.B.P.	DATE	MAR. 76-
B.P.	Sta's 62+95, 64+00, 65+25, 73+00 & 74+00 added.	May 1978	APPROVED	DIRECTOR	Project No. 11 CITY OF NEW WESTMINSTER Contract No. 1	CHECKED	[Signature]	FILE NO.	0281550-C30-1
NO.	BY	REVISIONS	DATE	DATE	BANK PROTECTION CROSS SECTIONS STA. 63+00 TO STA. 74+00	SCALE	AS SHOWN	DATE	MAY, 1978
						DWG. NO.	4806-1-18A	SHEET	30 OF 45 SHEETS



NOTE:
THIS DRAWING SHOWS DESIGN ONLY. SEE DWG. 19A FOR AS CONSTRUCTED.
IF RECONSTRUCTION REQUIRED, RECONSTRUCT FROM DESIGN DRAWINGS.

NOTE:
SEE BANK PROTECTION NOTES ON DWG. NO. 15

20'
SCALE
9188

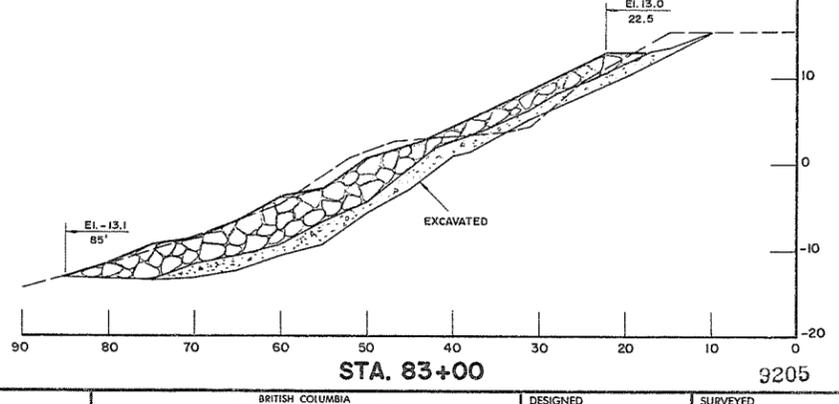
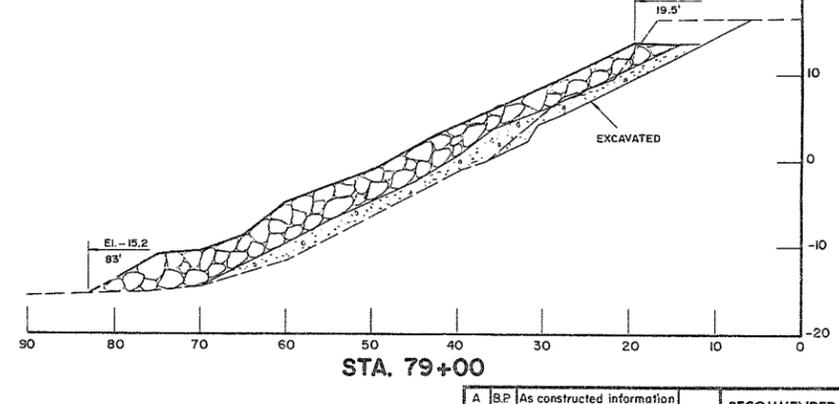
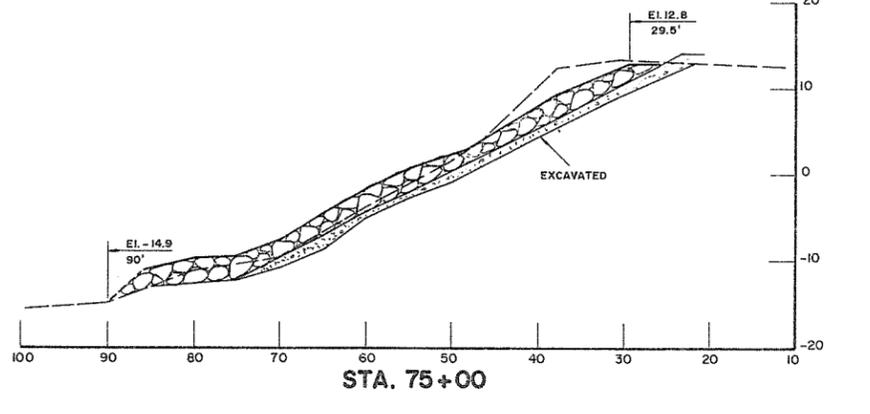
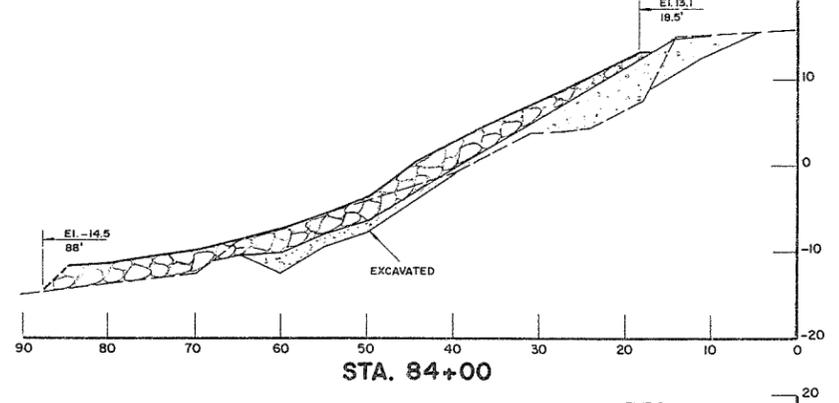
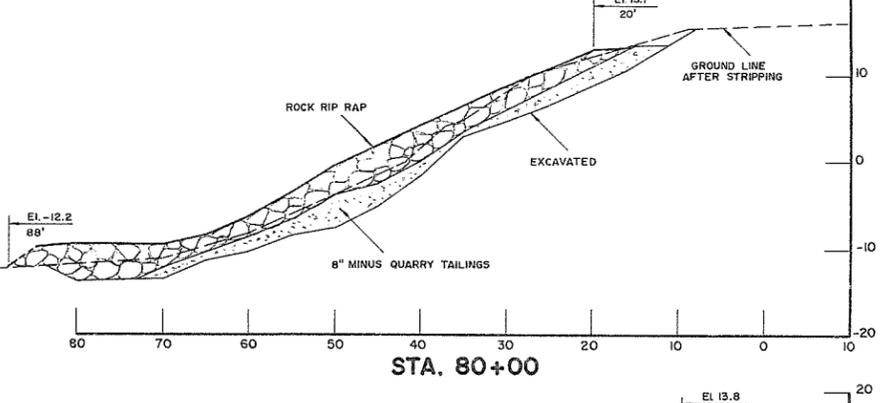
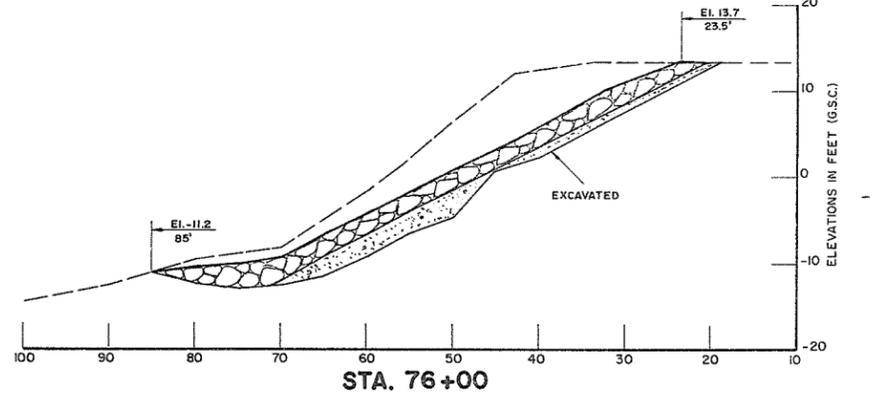
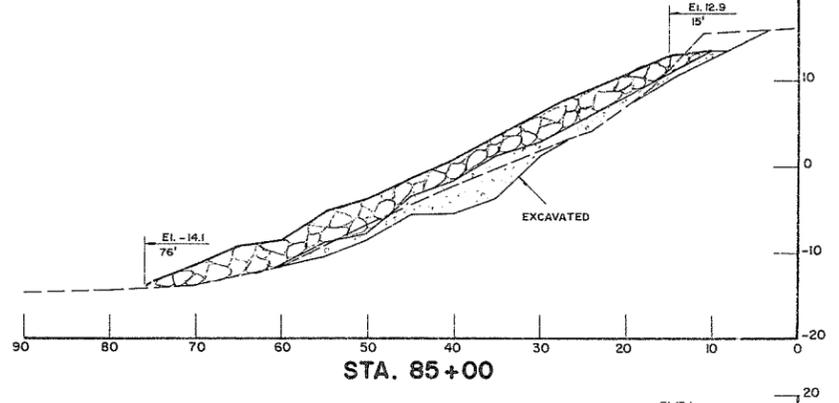
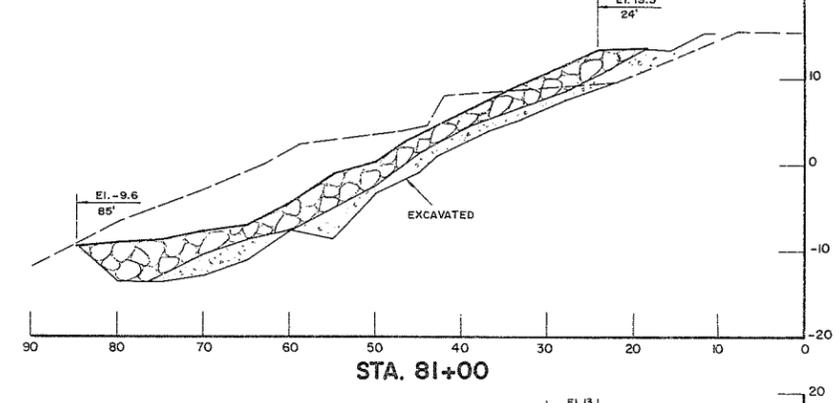
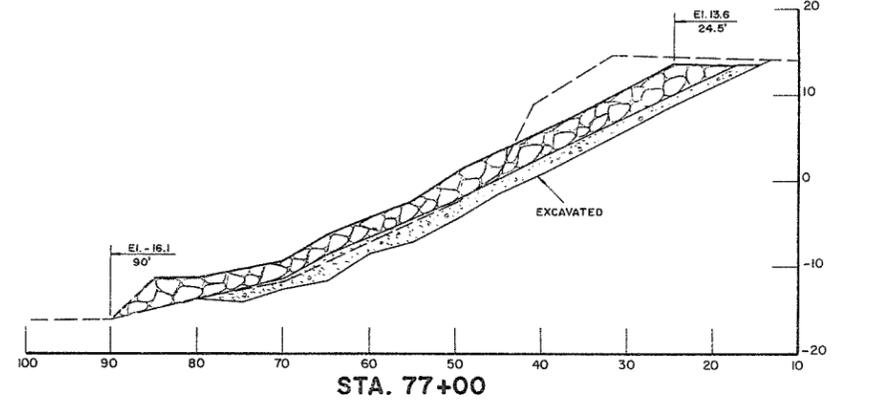
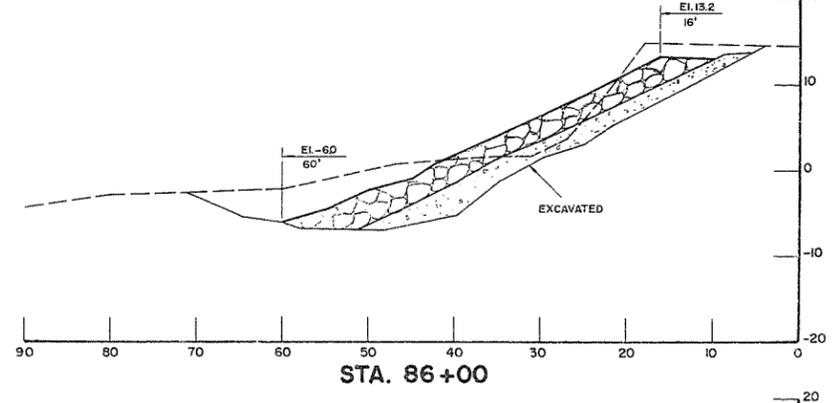
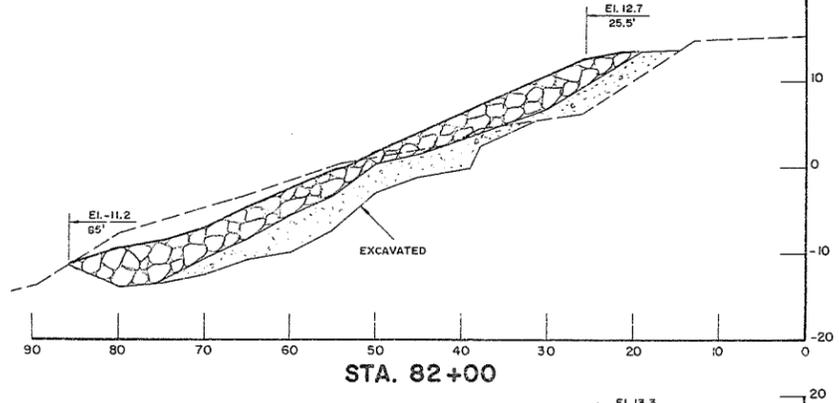
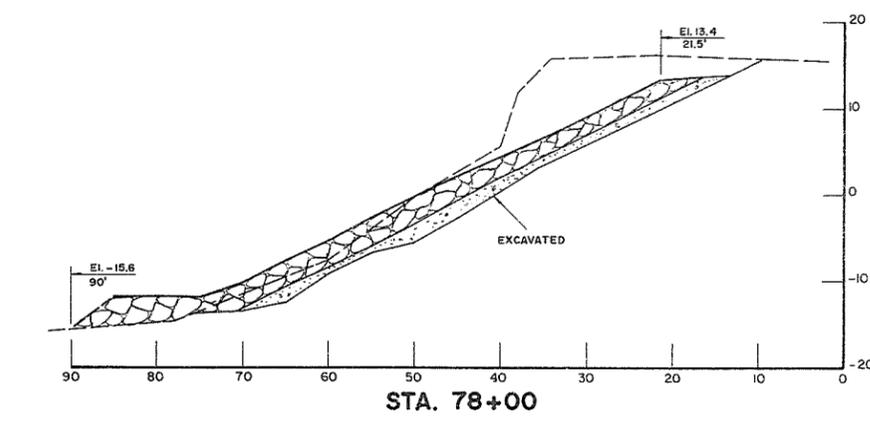


AESL ASSOCIATED ENGINEERING SERVICES LTD. <small>Consulting Engineers</small>		NO.	BY	REVISIONS	DATE
A.E.S.L. No.					

RECOMMENDED	<i>[Signature]</i> PROJECT MANAGER
DATE	31 May 1976
APPROVED	<i>[Signature]</i> DIRECTOR, WATER INVESTIGATIONS BRANCH
DATE	May 31/76

BRITISH COLUMBIA DEPARTMENT OF ENVIRONMENT WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT	
PROJECT NO. II	CITY OF NEW WESTMINSTER CONTRACT NO. 1
BANK PROTECTION CROSS SECTIONS STA. 73+00 TO 84+00	

DESIGNED	AESL/RKL/OPWG	SURVEYED	A.E.S.L./W.L.B.
DRAWN	<i>[Signature]</i>	DATE	MARCH 1976
CHECKED	DWA	FILE NO.	0281550-C30-1
SCALE	1" = 20'	DATE	MAY 1976
DWG. NO.	4885-1-19	SHEET	31 OF 45 SHEETS



ELEVATIONS IN FEET (G.S.C.)

AS CONSTRUCTED

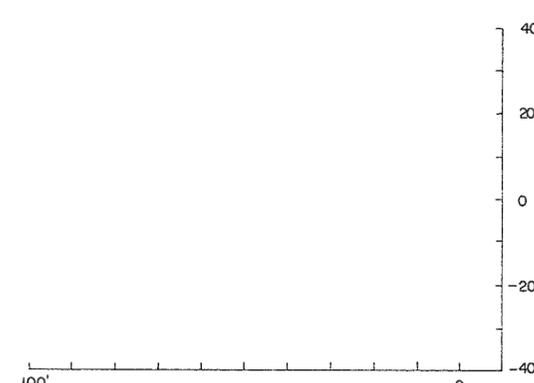
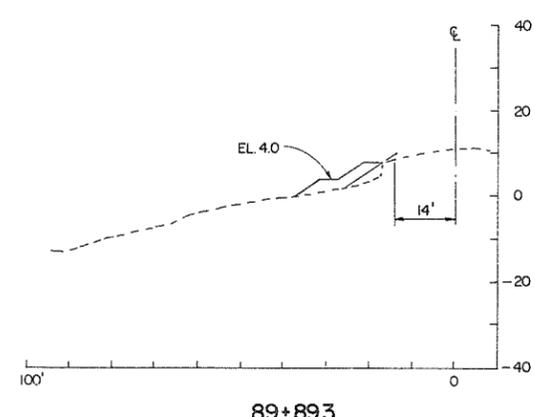
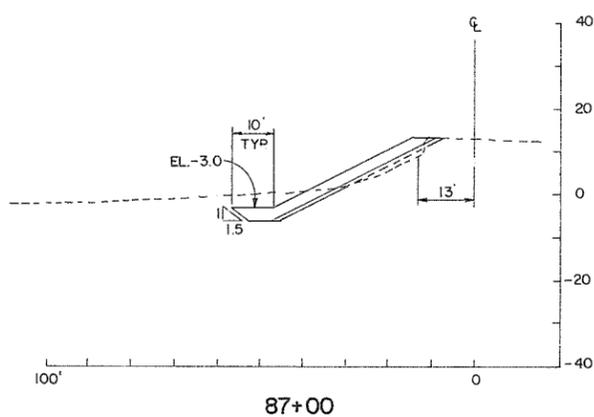
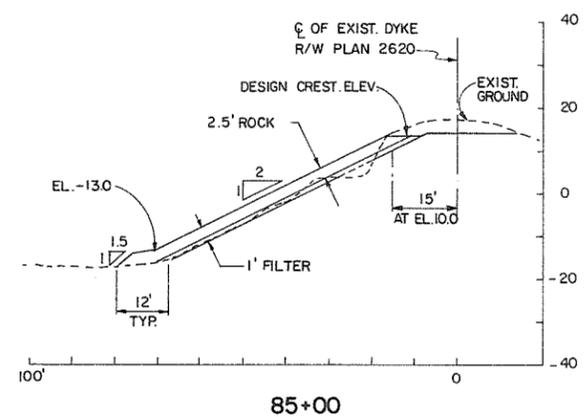
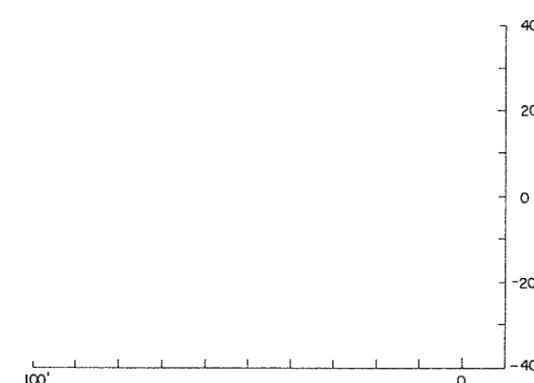
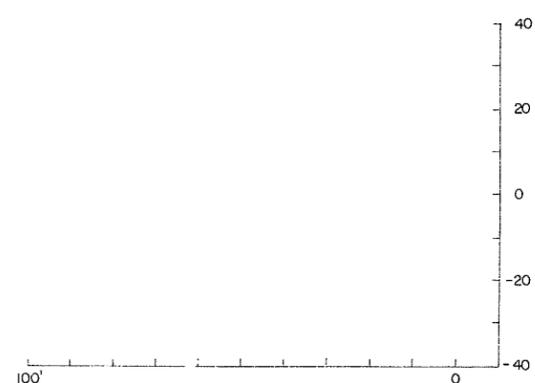
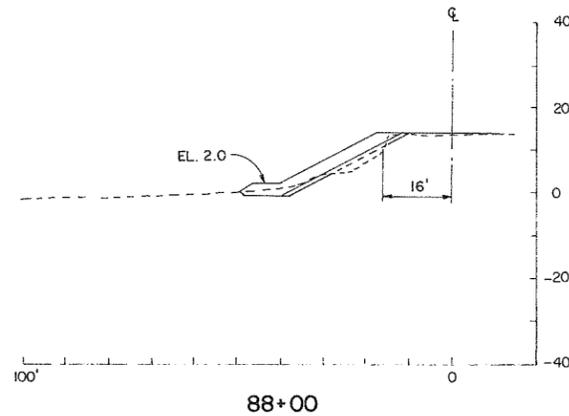
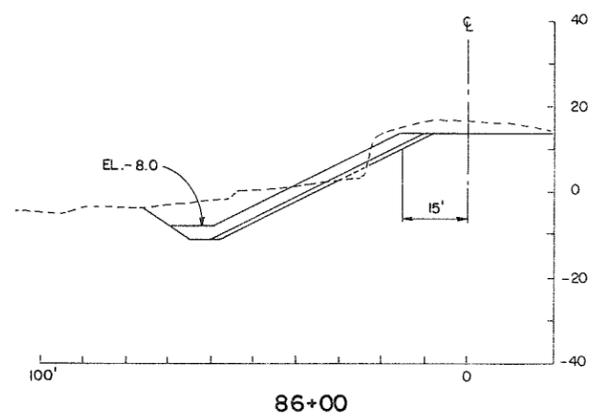
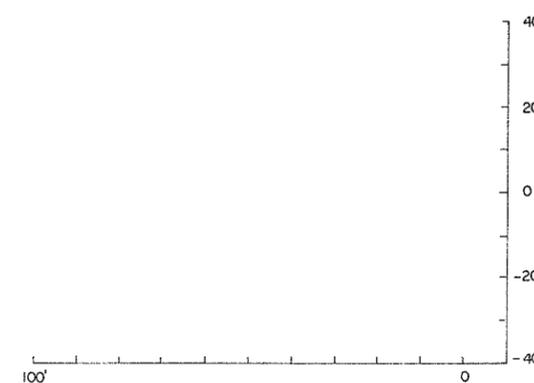
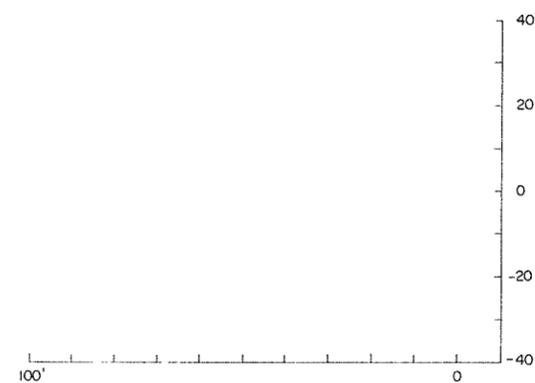
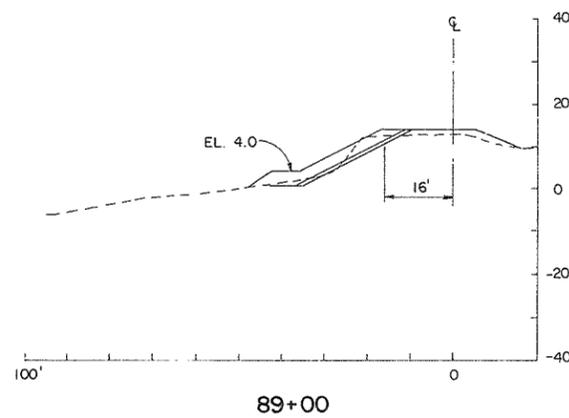
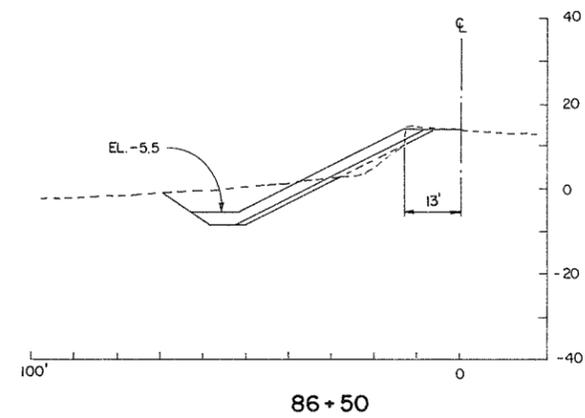
A	B.P.	As constructed information added.	DATE	May, 1978
	B.P.	Sta's 73+00, 74+00 & 76+65 deleted.		
	B.P.	Sta's 77+00, 85+00 & 86+00 added.		
NO.	BY	REVISIONS	DATE	

RECOMMENDED	PROJECT MANAGER
DATE	
APPROVED	DIRECTOR
DATE	

BRITISH COLUMBIA
 MINISTRY OF THE ENVIRONMENT
 ENVIRONMENTAL AND ENGINEERING SERVICES
 WATER INVESTIGATIONS BRANCH
 CANADA — BRITISH COLUMBIA
 FRASER RIVER FLOOD CONTROL 1968 AGREEMENT

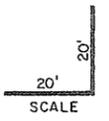
Project No. II CITY OF NEW WESTMINSTER Contract No. I
 BANK PROTECTION CROSS SECTIONS
 STA. 75+00 TO STA. 86+00

DESIGNED	A.E.S.L.	SURVEYED	A.E.S.L. & W.L.B.
DRAWN	B.S. & D.B.P.	DATE	MAR. /76-
CHECKED	<i>[Signature]</i>	FILE NO.	0281550-C30-1
SCALE	AS SHOWN	DATE	MAY, 1978
DWG. NO.	4806-1-19A	SHEET	32 OF 45 SHEETS



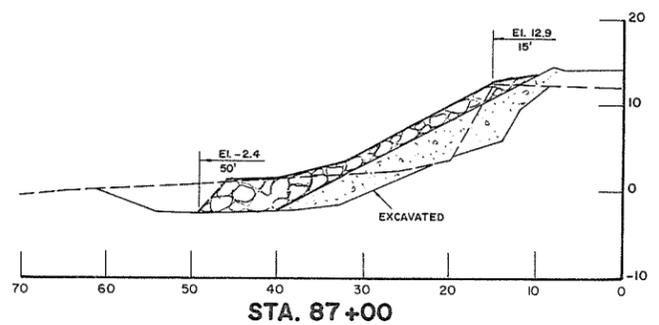
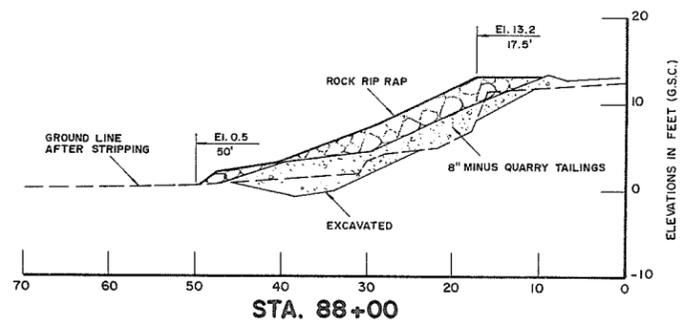
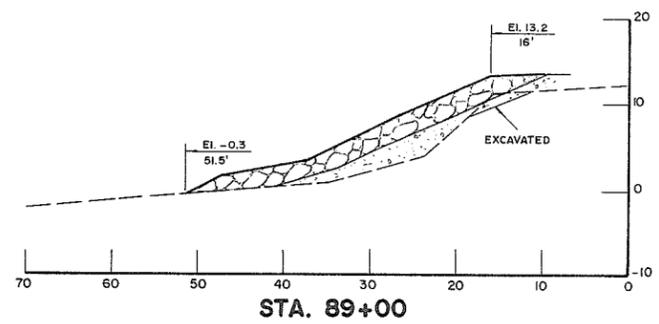
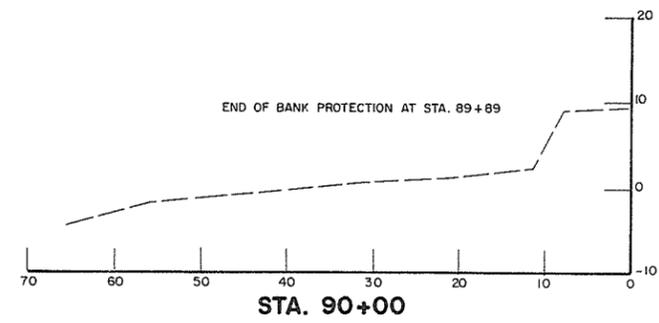
NOTE:
THIS DRAWING SHOWS DESIGN ONLY. SEE DWG. 20A FOR AS CONSTRUCTED.
IF RECONSTRUCTION REQUIRED, RECONSTRUCT FROM DESIGN DRAWINGS

NOTE:
SEE BANK PROTECTION NOTES ON DWG. NO. 15



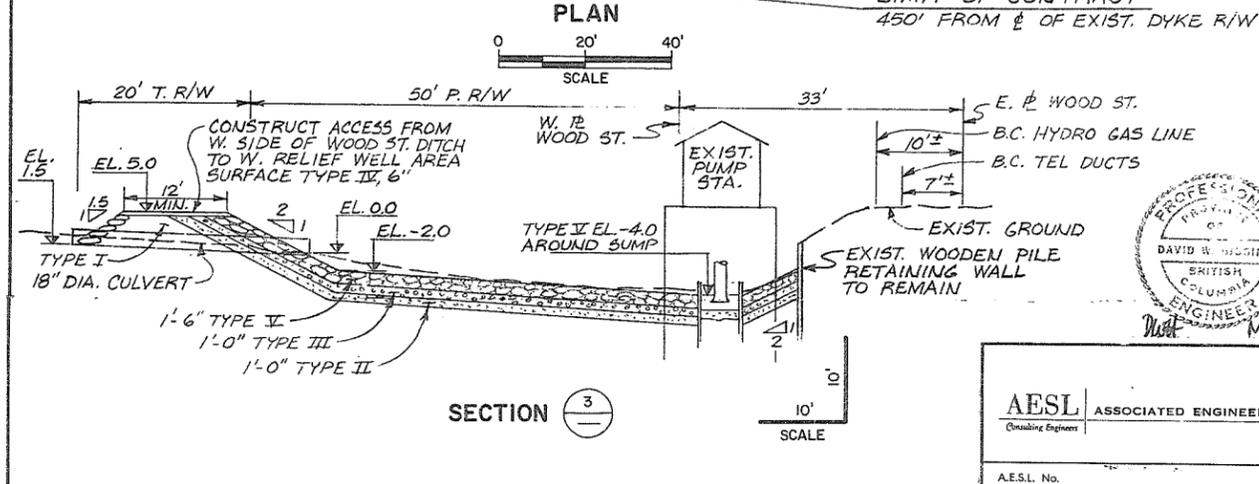
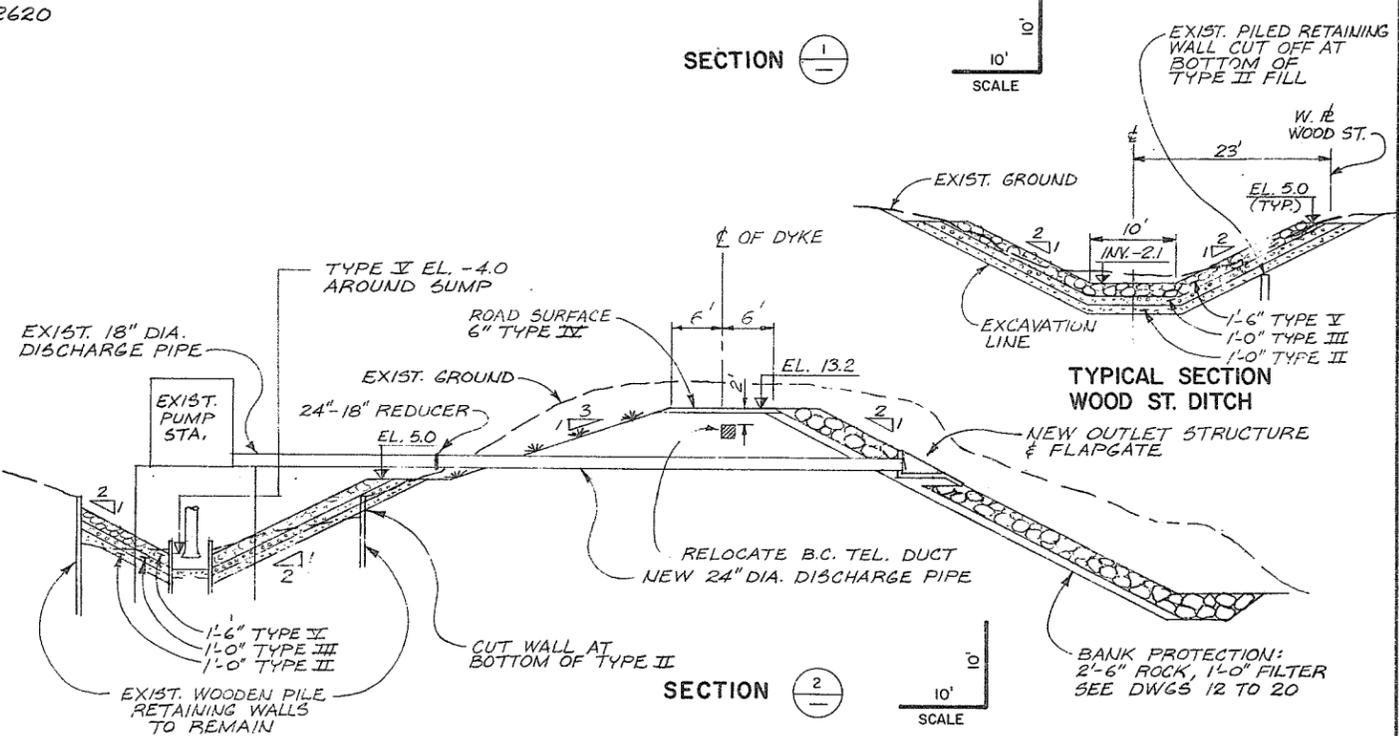
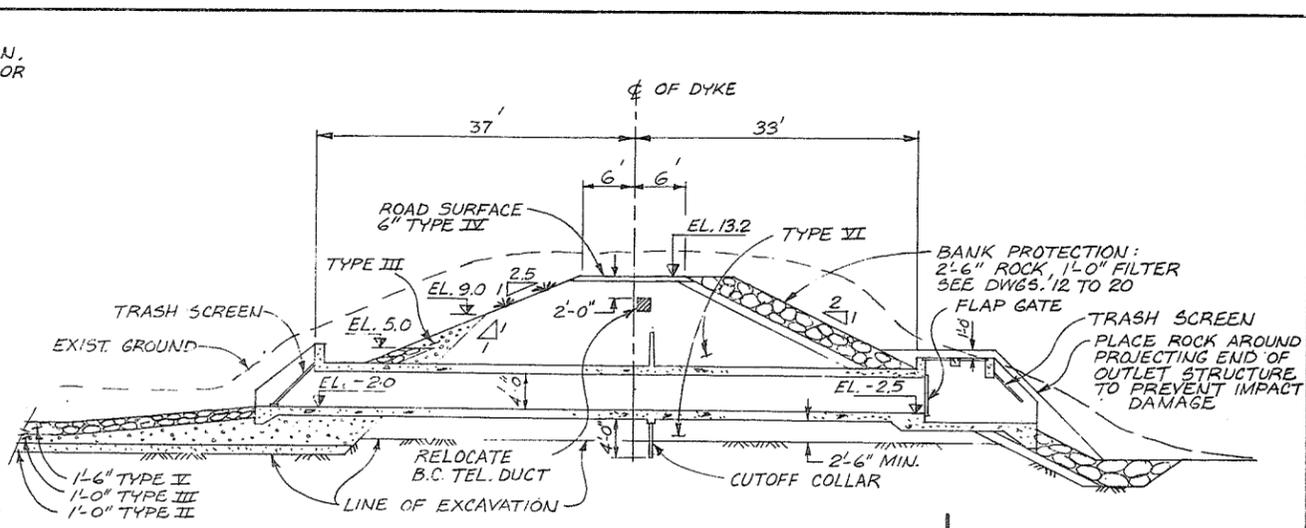
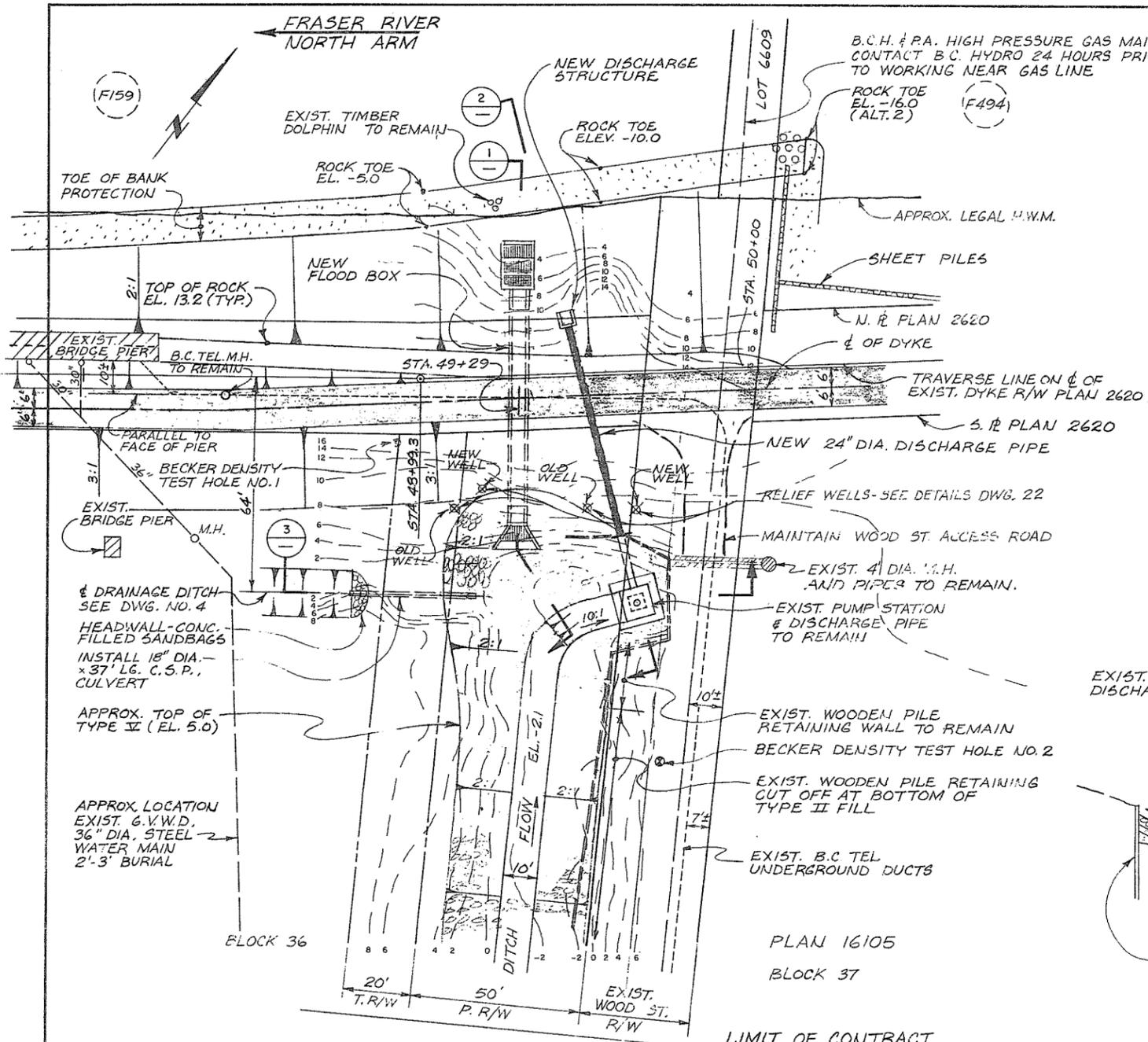
Wsk May 26/76

AESL ASSOCIATED ENGINEERING SERVICES LTD. <small>Consulting Engineers</small>		RECOMMENDED PROJECT MANAGER DATE	BRITISH COLUMBIA DEPARTMENT OF ENVIRONMENT WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT PROJECT NO. II CITY OF NEW WESTMINSTER CONTRACT NO. 1	DESIGNED AESL/RKL/BPNG DRAWN CHECKED SCALE 1" = 20' DWG. NO. 4885-1-20	SURVEYED A.E.S.L./W.I.B. DATE MARCH 1976 FILE NO. 0281550-C30-1 DATE MAY 1976 SHEET 33 OF 45 SHEETS
A.E.S.L. No.	NO. BY	REVISIONS	DATE	APPROVED: [Signature] DIRECTOR, WATER INVESTIGATIONS BRANCH DATE: May 31/76	BANK PROTECTION CROSS SECTIONS STA 85+00 TO 89+89.3



AS CONSTRUCTED

A		As constructed information added Sta's 85+00, 86+00, 86+50 & 89+89.3 deleted. Sta. 90+00 added.	May, 1978	RECOMMENDED.....	BRITISH COLUMBIA MINISTRY OF THE ENVIRONMENT ENVIRONMENTAL AND ENGINEERING SERVICES WATER INVESTIGATIONS BRANCH CANADA — BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT	DESIGNED A.E.S.L.	SURVEYED A.E.S.L. & W.I.B.
B.P.				PROJECT MANAGER		DRAWN B.S. & D.B.P.	DATE MAR/76 -
NO.				DATE		CHECKED <i>[Signature]</i>	FILE NO. 0281550-C30-1
BY		REVISIONS	DATE	APPROVED.....	Project No. II CITY OF NEW WESTMINSTER Contract No. 1	SCALE AS SHOWN	DATE MAY, 1978
				DATE	BANK PROTECTION CROSS SECTIONS STA. 87+00 TO STA. 90+00	DWG. NO. 4806 -1- 20A	SHEET 34 OF 45 SHEETS



NOTE: ALL LOCATIONS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE ONLY AND SHOULD BE CONFIRMED BY USE OF PIPE LOCATOR & MANUAL DIGGING. ALL OR ANY EXISTING STRUCTURES NOT NECESSARILY SHOWN.

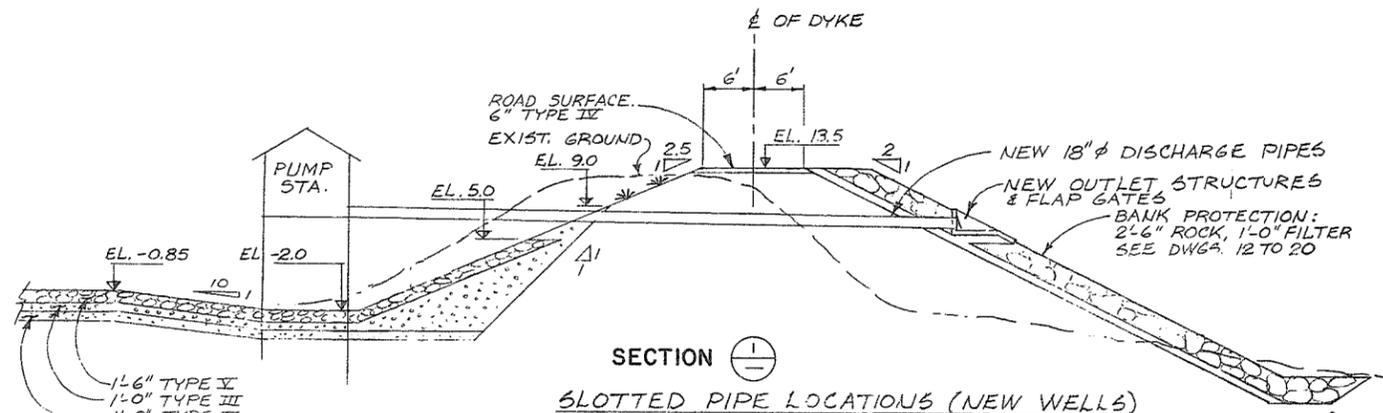
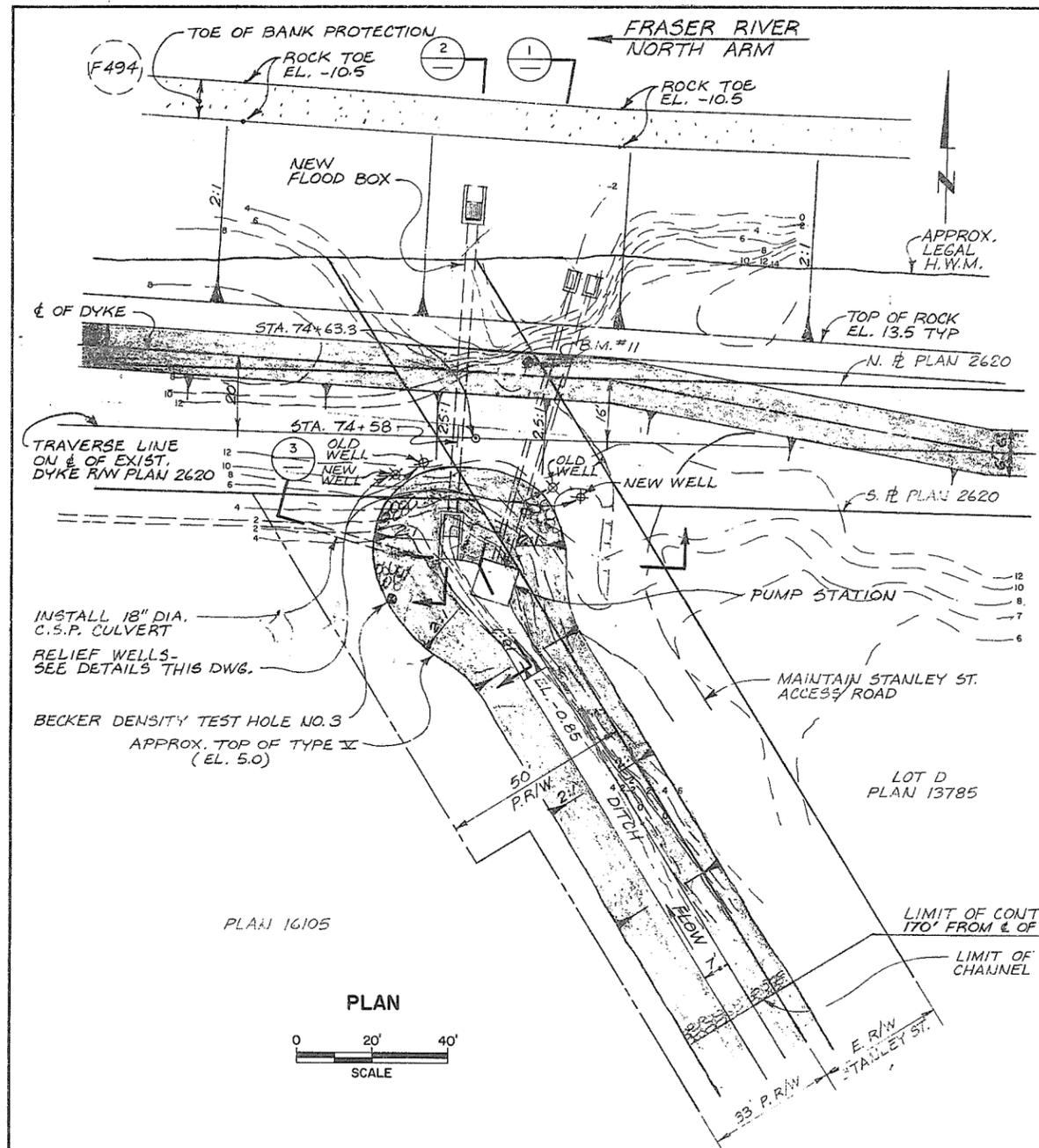
NOTES

- FOR LOCATION SEE DWG. 4806-1-1
- FOR FILL TYPES SEE DWG. 4806-1-23
- FOR DETAILS OF FLOODBOX SEE DWGS. 31 TO 33
- ALL ELEVATIONS REFERENCED TO G.S.C. DATUM.



AESL ASSOCIATED ENGINEERING SERVICES LTD. <small>Consulting Engineers</small>		RECOMMENDED: <i>[Signature]</i> PROJECT MANAGER DATE: 31 MAR 1976	DESIGNED: <i>[Signature]</i> SURVEYED: A.E.S.L./W.I.B.
2. J.C. AS CONSTRUCTED 15/5/76 1. PUMP SUMP SECT. 243 3/2/77		APPROVED: <i>[Signature]</i> DIRECTOR, WATER INVESTIGATIONS BRANCH DATE: May 21/76	DRAWN: J.C. DATE: FEB. '72 & MAR. '76 CHECKED: <i>[Signature]</i> FILE NO.: 0281550-C30-1 SCALE: AS SHOWN DATE: MAY 1976 DWG. NO.: 4885-1-21 SHEET 35 OF 45 SHEETS
PROJECT NO. 11 CITY OF NEW WESTMINSTER CONTRACT NO. 1 WOOD STREET PUMP STATION & FLOOD BOX GENERAL ARRANGEMENT			

9190

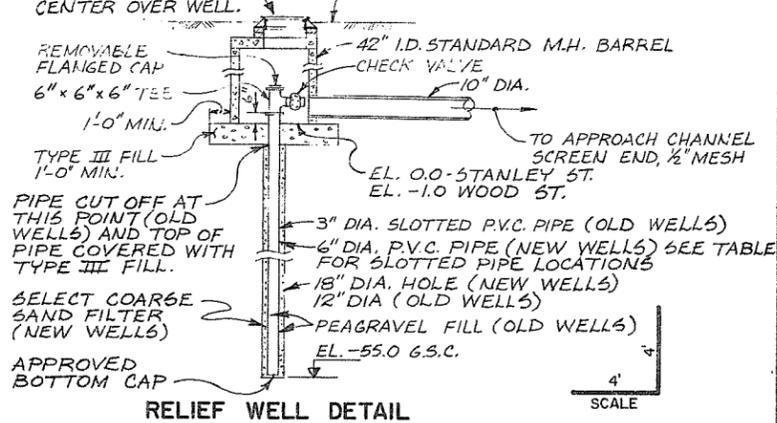
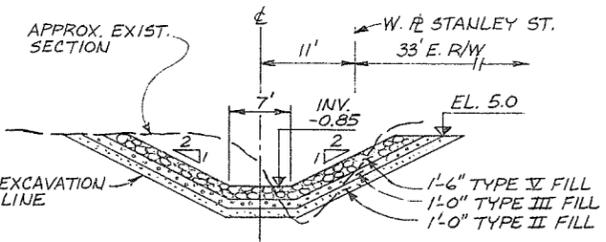


SECTION 1

SLOTTED PIPE LOCATIONS (NEW WELLS)

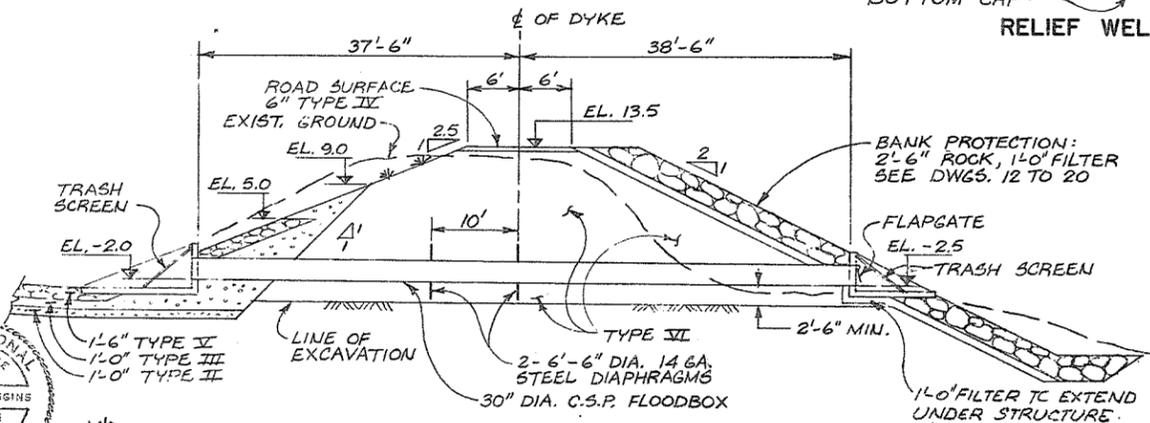
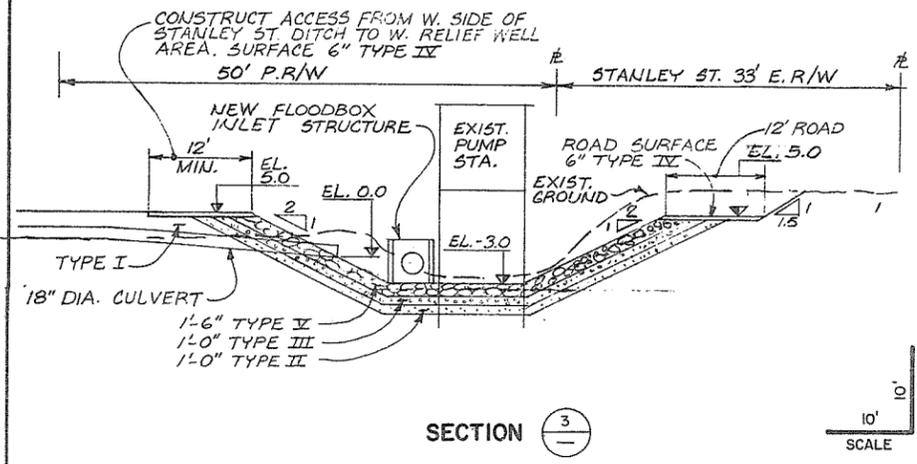
NEW WELLS	ELEV. OF SLOTTED PIPE (TO G.S.C. DATUM)
WOOD ST. WEST	-55 TO -14
EAST	-55 TO -17
STANLEY ST. WEST	-50 TO -50 & -45 TO -25
EAST	-55 TO -42

NOTE:
DETAILED TEST HOLE LOGS FOR NEW WELLS ARE ON FILE WITH KLOHN-LEONOFF LETTER OF MAY 19, 1978.



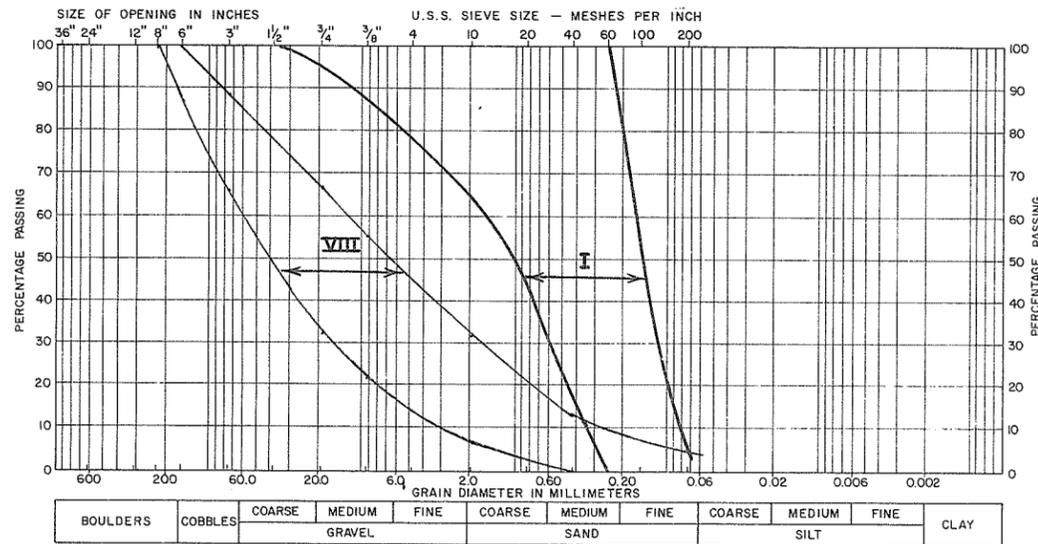
- NOTES
- FOR LOCATION SEE DWG. 4806-1-1
 - FOR FILL TYPES SEE DWG. 4806-1-23
 - ALL ELEVATIONS REFERENCED TO G.S.C. DATUM
 - FOR DETAILS OF FLOODBOX SEE DWGS. 31 TO 33.

NOTE: ALL LOCATIONS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE ONLY AND SHOULD BE CONFIRMED BY USE OF PIPE LOCATOR AND MANUAL DIGGING. ALL OR ANY EXISTING STRUCTURES NOT NECESSARILY SHOWN

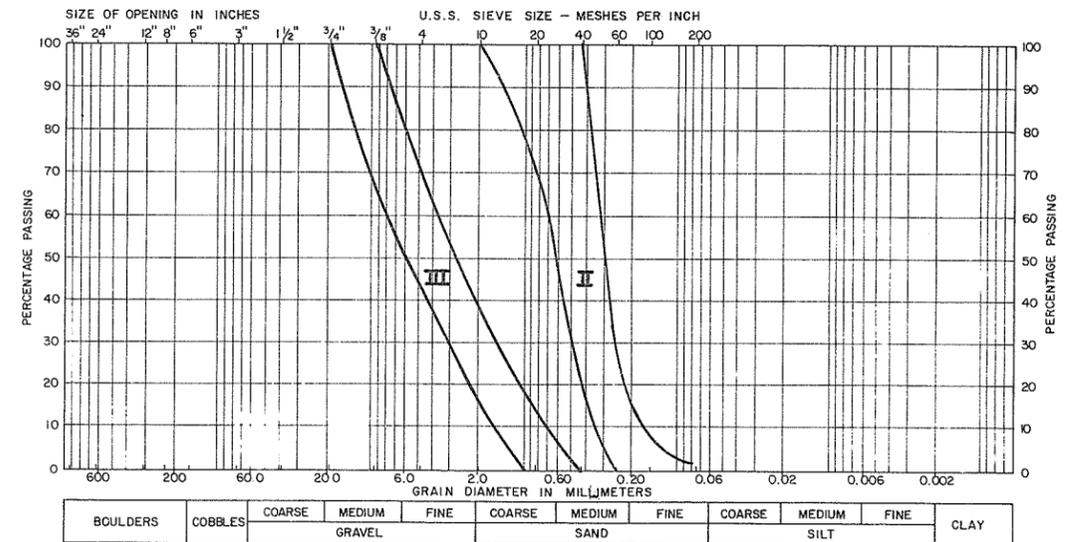


AESL ASSOCIATED ENGINEERING SERVICES LTD. Consulting Engineers A.E.S.L. No. 1	2 J.C. AS CONSTRUCTED 15/4/76	RECOMMENDED PROJECT MANAGER DATE 31 MAY 1976	BRITISH COLUMBIA DEPARTMENT OF ENVIRONMENT WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT PROJECT NO. 11 CITY OF NEW WESTMINSTER CONTRACT NO. 1 STANLEY STREET PUMP STATION & FLOOD BOX GENERAL ARRANGEMENT	DESIGNED WWH DRAWN J.C. CHECKED WWH	SURVEYED A.E.S.L./W.L.B. DATE FEB. 72 & MAR. 76 FILE NO. 0281550-C30- DATE MAY 1976
	1 DH SLOTTED PIPE 3" DIA. 14/1/76	APPROVED WWH DIRECTOR, WATER INVESTIGATIONS BRANCH DATE MAY 21/76		SCALE AS SHOWN DWG. NO. 4885-1-22	SHEET 36 OF 45 SHEETS

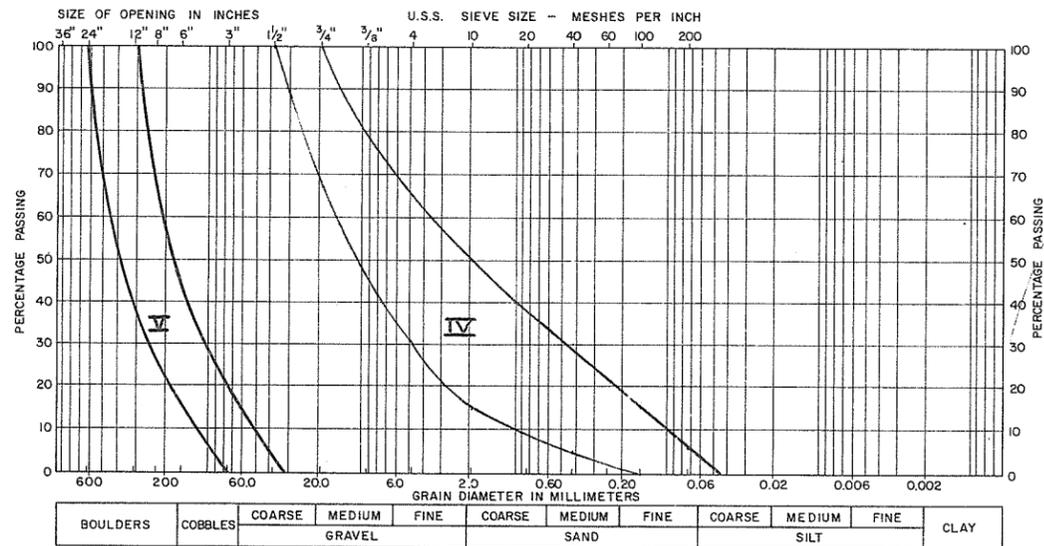
9191



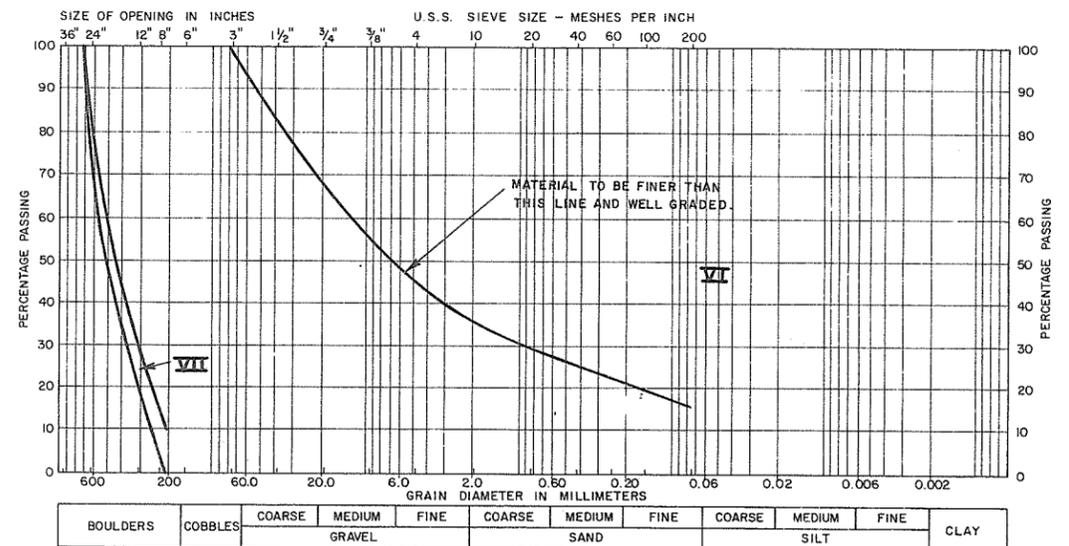
TYPE I - BULK FILL MATERIAL
TYPE VIII - BANK PROTECTION FILTER



TYPE II - FILTER SAND
TYPE III - DRAIN GRAVEL



TYPE IV - ROAD SURFACE MATERIAL
TYPE V - DRAINAGE DITCH RIP-RAP



TYPE VI - CONDUIT RIVERSIDE BACKFILL
TYPE VII - BANK PROTECTION ROCK



AESL ASSOCIATED ENGINEERING SERVICES LTD.
Consulting Engineers

A.E.S.L. No. _____

NO.	BY	REVISIONS	DATE
2	J.C.	AS CONSTRUCTED	15/6/76
1	D.H.	TYPES IV AND VIII	14/1/76

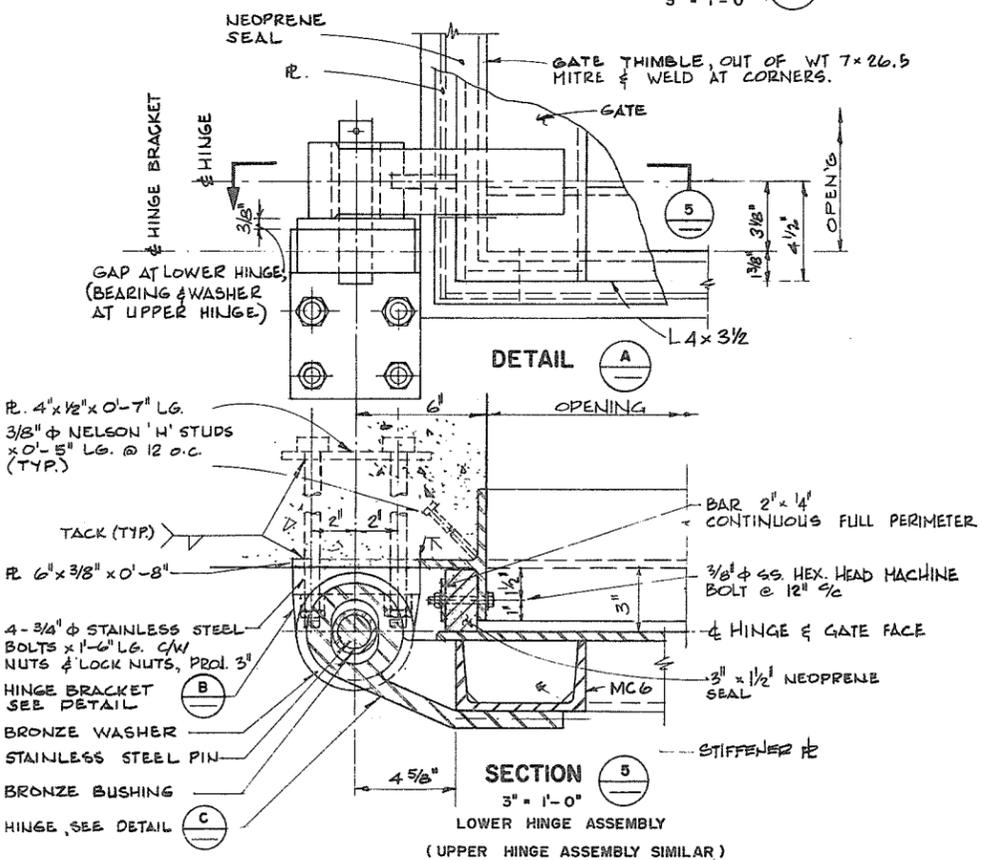
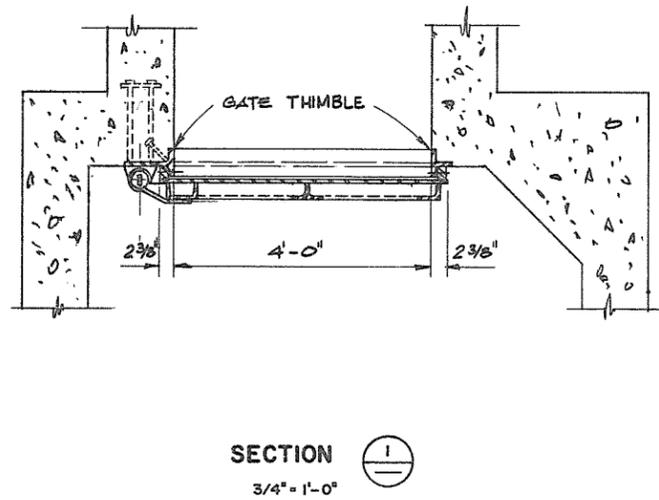
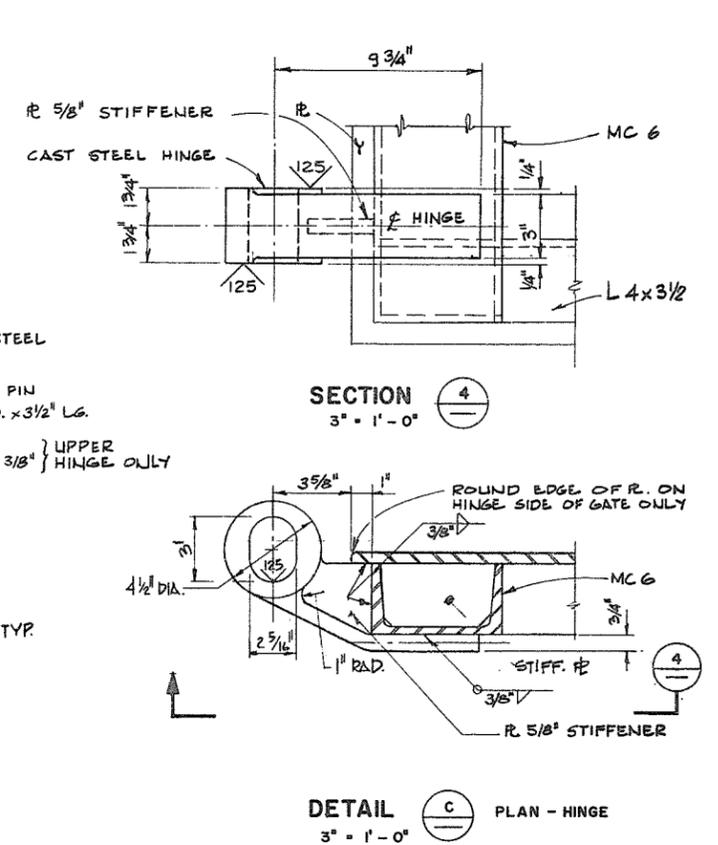
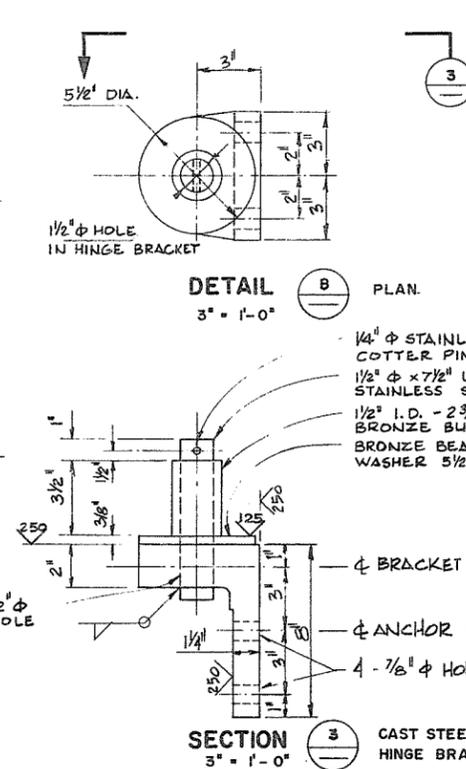
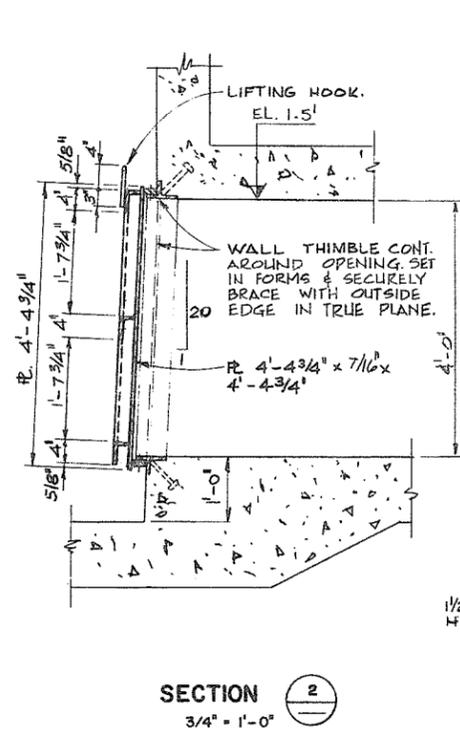
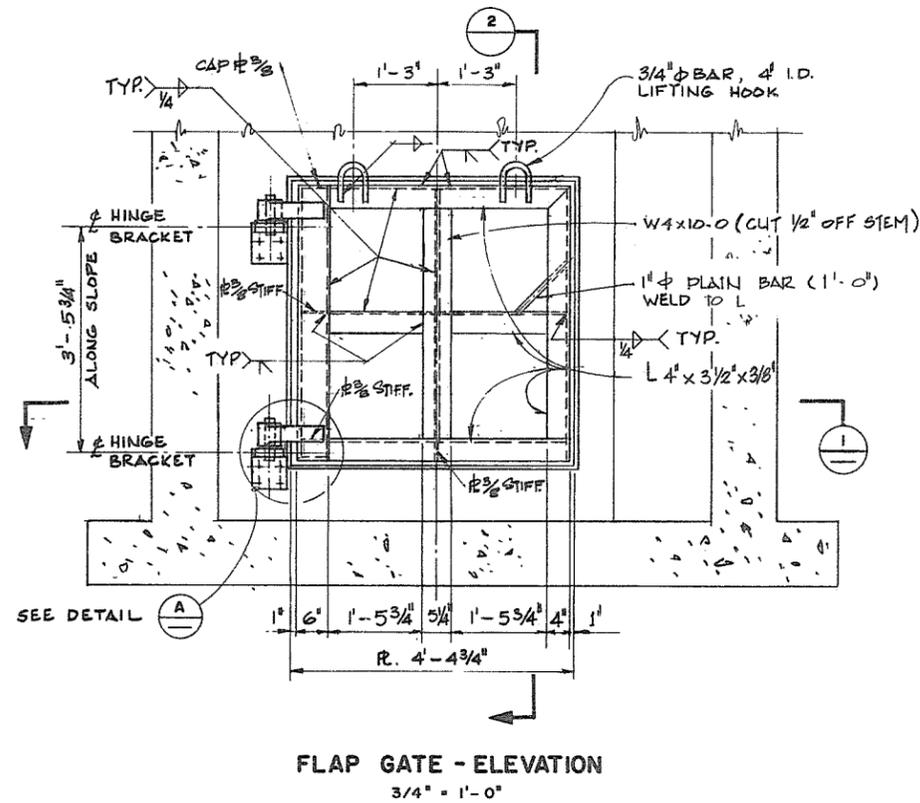
RECOMMENDED: _____ PROJECT MANAGER
DATE: 31/1/76
APPROVED: _____ DIRECTOR, WATER INVESTIGATIONS BRANCH
DATE: May 21/76

BRITISH COLUMBIA
DEPARTMENT OF ENVIRONMENT
WATER RESOURCES SERVICE
WATER INVESTIGATIONS BRANCH
CANADA - BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT

PROJECT NO. 11 CITY OF NEW WESTMINSTER CONTRACT NO. 1

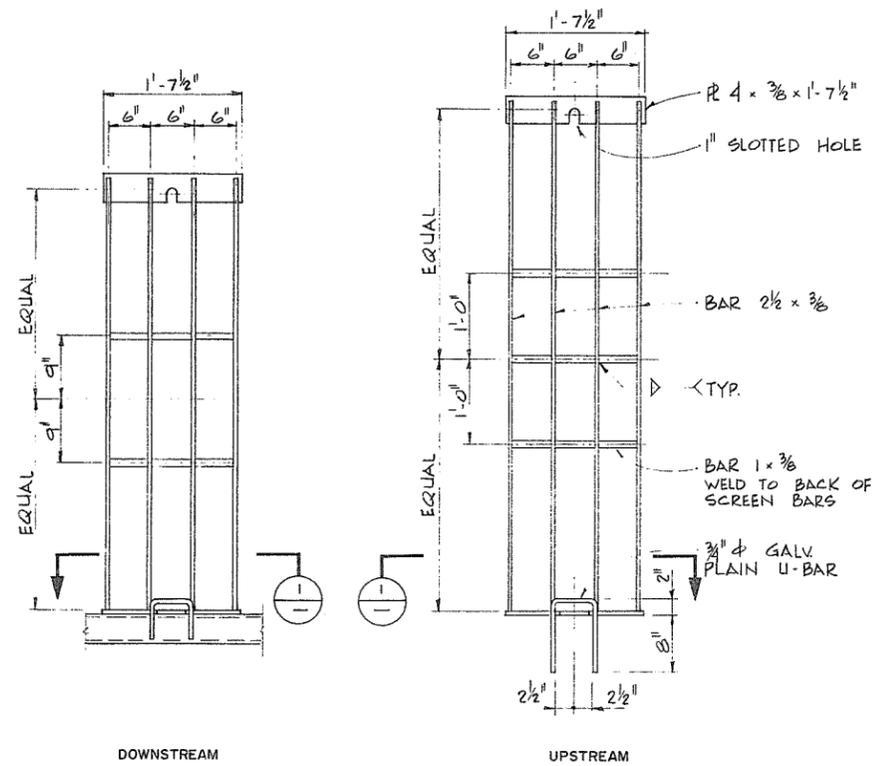
GRADING LIMITS OF
CONSTRUCTION MATERIALS

DESIGNED	R.K.L./W.I.B.	SURVEYED	—
DRAWN	E.W.S./J.C.	DATE	—
CHECKED	D.H.	FILE NO.	0281550-C30-1
SCALE	—	DATE	MAY 1976
DWG. NO.	4885-1-23	SHEET	37 OF 45 SHEETS



- NOTES:**
- FOR GENERAL NOTES SEE DWG. 4806-1-31
 - ALL GATE WELDING SHALL BE CONTINUOUS & WATER TIGHT. PROVIDE VENT HOLES AS REQD FOR GALV. AFTER GALV. PLUG WELD HOLES & COAT WITH GALVA-FROD
 - ALL PARTS OF HINGE ASSEMBLY IN CONTACT WITH BRONZE BUSHING & BEARING PIECES SHALL BE GROUND TO THE STIPULATED SMOOTHNESS TOLERANCES. BRONZE BUSHING & BEARING WASHER SHALL BE SIMILARLY GROUND AND REAMED AS REQUIRED TO JUST SLIP EASILY ON THE STAINLESS STEEL PIN. STAINLESS STEEL PIN SHALL BE SMOOTH & FREE OF UPSETS OR BURRS.
 - NEOPRENE SEAL TO BE MITRED & VULCANIZED AT CORNERS TO BE WATERTIGHT. EXPOSED EDGE OF FOUR SIDES TO FORM A TRUE PLANE FOR SEATING OF GATE.
 - GATE FACE TO BE TRULY FLAT AFTER FABRICATION.

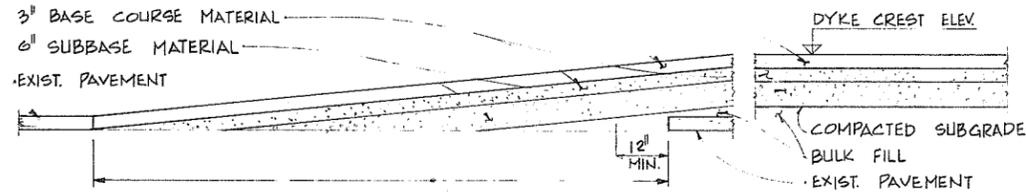
<p>AESL ASSOCIATED ENGINEERING SERVICES LTD. Consulting Engineers</p>	<p>J.C. AS CONSTRUCTED 15/5/78</p>	<p>RECOMMENDED PROJECT MANAGER</p> <p>DATE 31 MAY 1976</p>	<p>BRITISH COLUMBIA DEPARTMENT OF ENVIRONMENT WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT</p> <p>PROJECT NO. 11 CITY OF NEW WESTMINSTER CONTRACT NO. 1</p> <p>WOOD STREET FLOOD BOX FLOOD GATE DETAILS.</p>	<p>DESIGNED L.C.</p> <p>DRAWN A.L.A.</p> <p>CHECKED J.H.</p> <p>SCALE AS NOTED.</p> <p>DWG. NO. 4885-1-32</p>	<p>SURVEYED</p> <p>DATE</p> <p>FILE NO. 0281550-C30-1</p> <p>DATE MAY 1976</p> <p>SHEET 39 OF 45 SHEETS</p>
		<p>A.E.S.L. No. 15/5/78</p> <p>NO. BY REVISIONS DATE</p> <p>DATE May 31/76</p>		<p>PROJECT NO. 11 CITY OF NEW WESTMINSTER CONTRACT NO. 1</p>	



STEEL TRASH SCREEN UNITS

1" = 1'-0"

9" CONC. OR 3" ASPHALTIC CONC.
 3" BASE COURSE MATERIAL
 6" SUBBASE MATERIAL
 EXIST. PAVEMENT

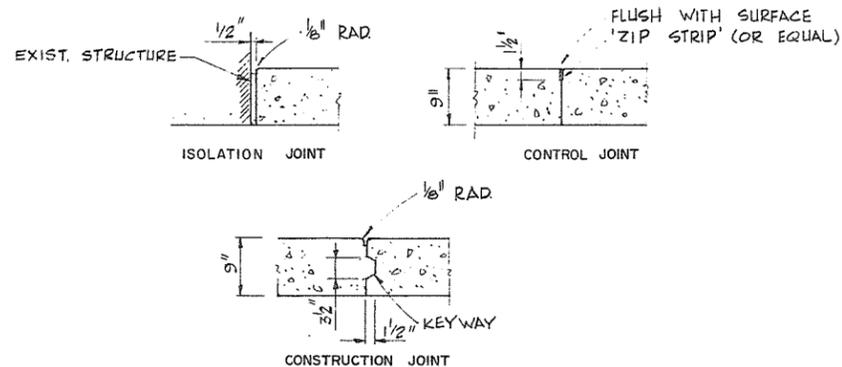


TYP. DETAIL OF CONNECTION TO EXIST. PAVEMENT

TYP. PAVING SECTION

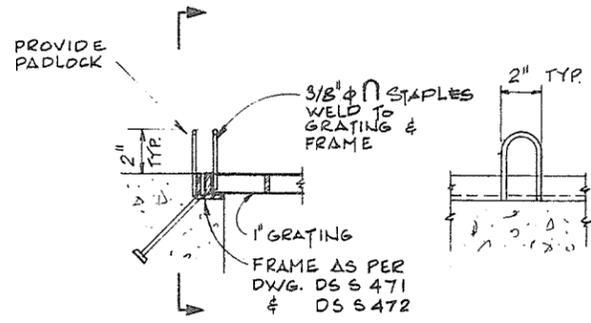
PAVEMENT DETAILS

N.T.S.

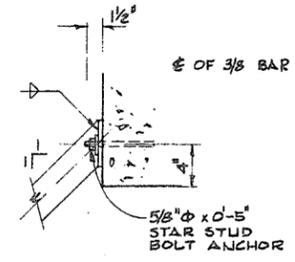


**CONCRETE PAVEMENT
TYP. JOINT DETAILS**

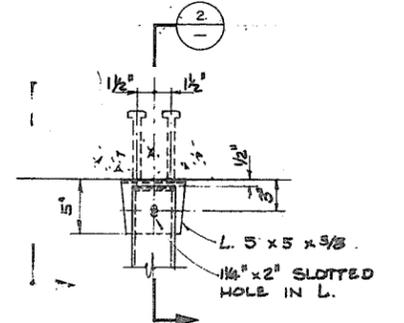
1" = 1'-0"



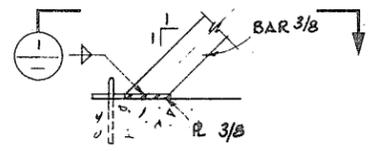
DETAIL F
3" = 1'-0"



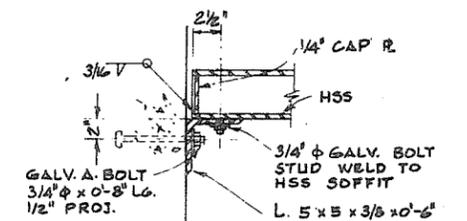
DETAIL A
1 1/2" = 1'-0"



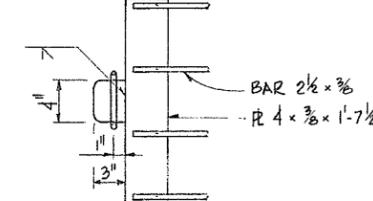
DETAIL D
1 1/2" = 1'-0"



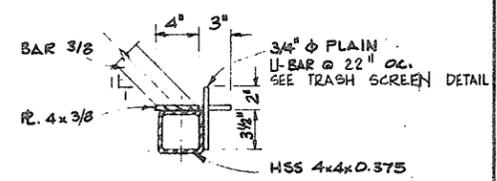
DETAIL B
1 1/2" = 1'-0"



SECTION 2
1 1/2" = 1'-0"



SECTION 1
1 1/2" = 1'-0"



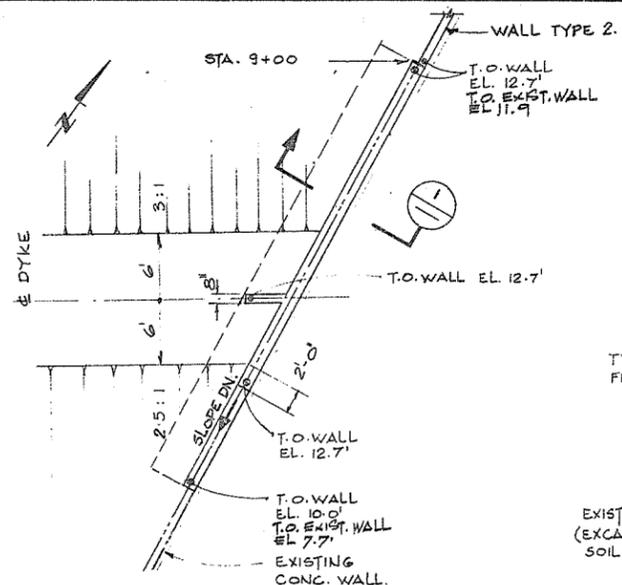
DETAIL E
1 1/2" = 1'-0"



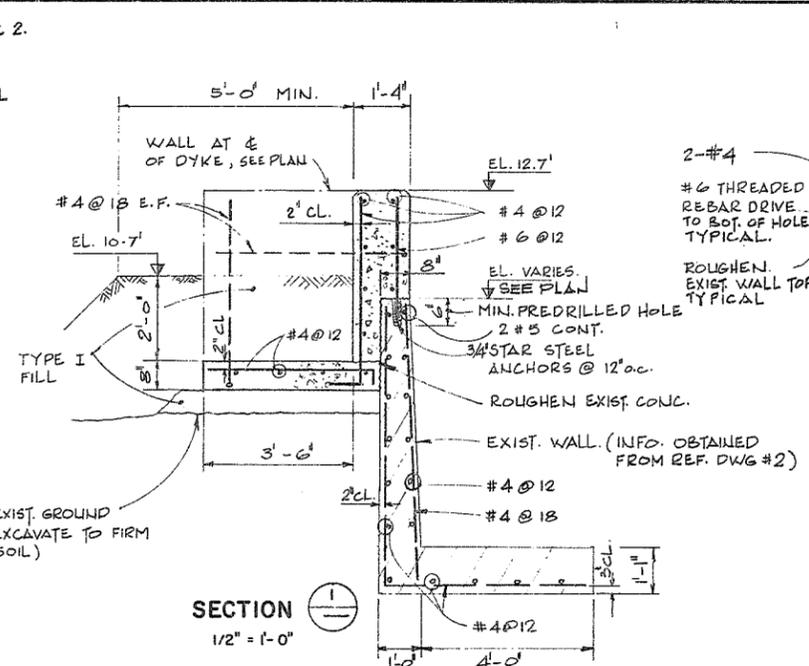
Dwt May 26/76

AESL ASSOCIATED ENGINEERING SERVICES LTD. <small>Consulting Engineers</small>	NO. BY REVISIONS DATE 1 J.C. AS CONSTRUCTED 12/5/76	RECOMMENDED <i>[Signature]</i> DATE 31 MAY 1976	BRITISH COLUMBIA DEPARTMENT OF ENVIRONMENT WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT	DESIGNED L. CHOW / L. CARR DRAWN A.L.A. / J.H.	SURVEYED DATE
		APPROVED <i>[Signature]</i> DATE MAY 31/76	PROJECT NO. 11 CITY OF NEW WESTMINSTER CONTRACT NO. 1 PAVING DETAILS AND WOOD STREET FLOOD BOX MISC. STEEL DETAILS	CHECKED <i>[Signature]</i> / J.H. SCALE AS SHOWN DWG. NO. 4885-1-34	FILE NO. 0281550-C30-1 DATE MAY 1976 SHEET 41 OF 45 SHEETS

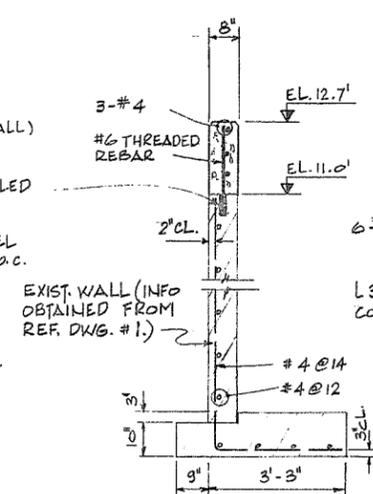
9196



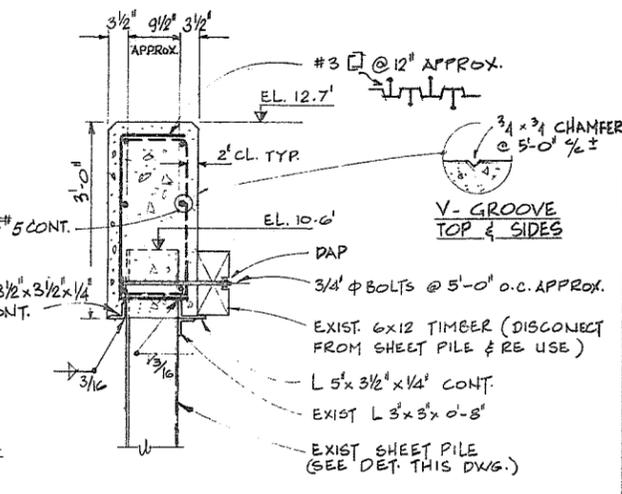
PLAN - RETAINING WALL TYPE 1.
APPROX. STA. 8+50 TO 9+00



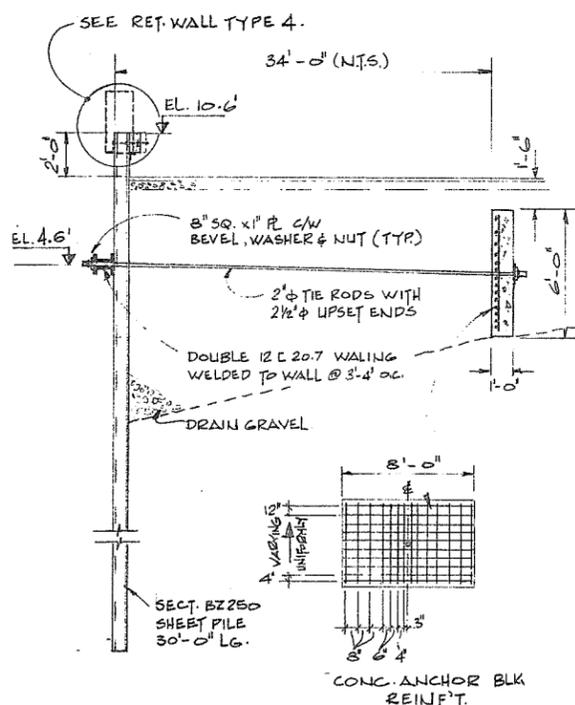
RET. WALL TYPE 2.
APPROX. STA. 9+00 TO 10+63
1/2" = 1'-0"



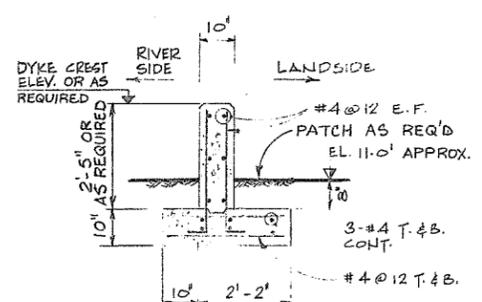
RET. WALL TYPE 3.
APPROX. STA. 11+90 TO 12+60
1/2" = 1'-0"



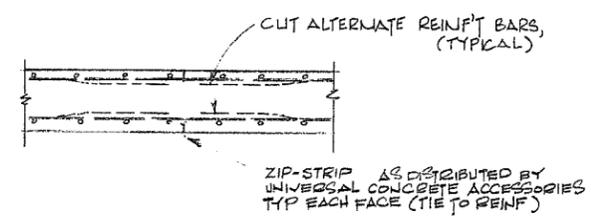
RET. WALL TYPE 4.
APPROX. STA. 10+63 TO 11+90
3/4" = 1'-0"



EXIST. RET. SHEET PILE WALL [FOR INFO ONLY]
STA. 10+63 TO 11+90
(INFORMATION OBTAINED FROM REF DWG. NO. 1.)



RET. WALL TYPE 5
1/2" = 1'-0"
APPROX. STA. 12+60 TO 15+50
89+80 TO 91+00
91+80 TO 93+30
93+60 TO 94+20
94+70 TO 95+00
95+45 TO 95+65
98+30 TO 103+40



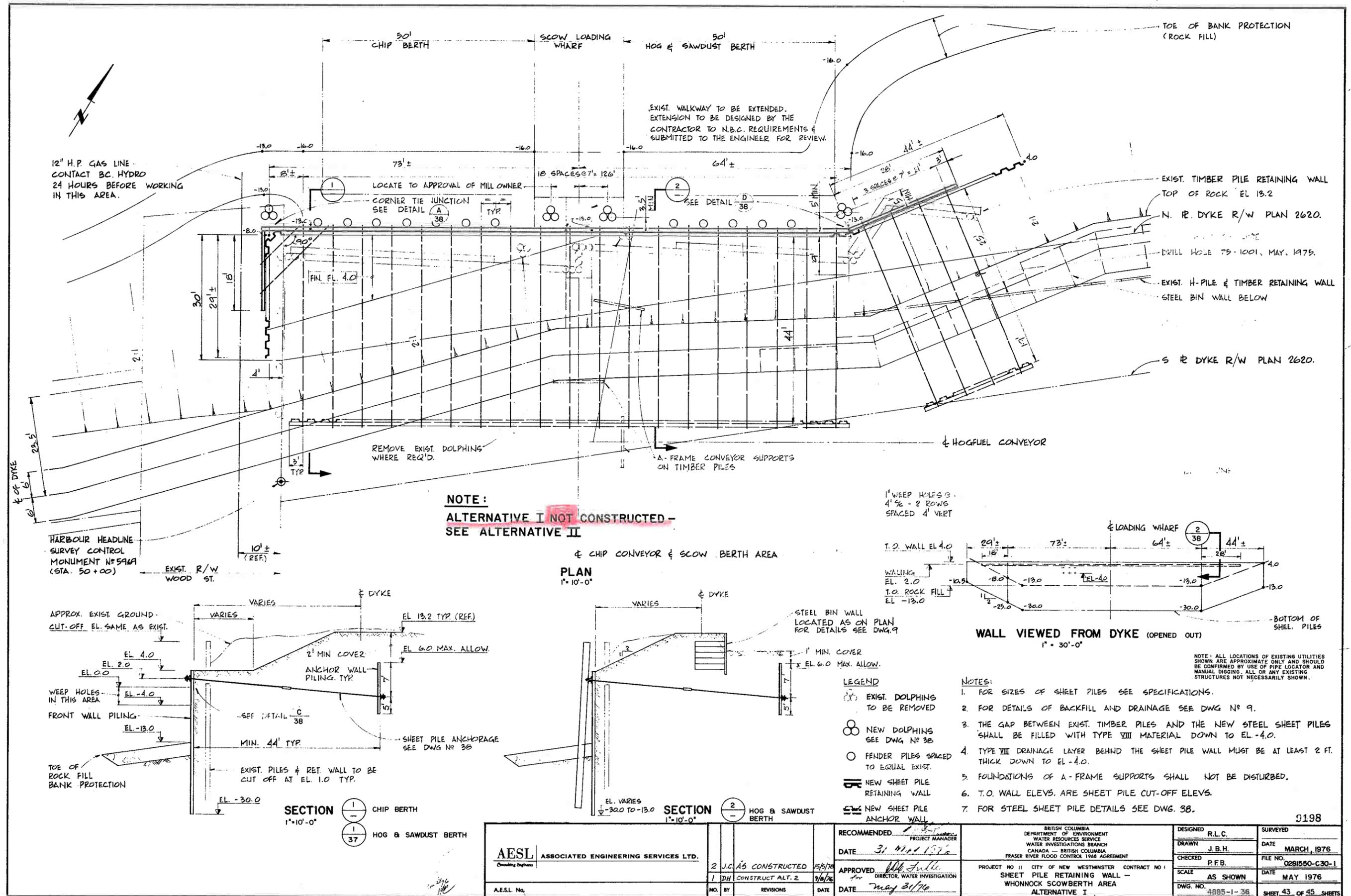
TYPICAL CONTROL JOINT
N.T.S.
REQUIRED AT 25 FT. (MAX.) INTERVALS
IN ALL NEW CONCRETE WALLS

REFERENCE DRAWINGS			
NO.	DRAWING NO.	TITLE	PREPARED BY
1.	140-2 REV.3	MACMILLAN BLOEDEL LTD. 1970 CORRUGATED CONTAINER DIV. TRUCK LOADING AREA EXT'N.	HANSED ALLOTT & ASSOCIATES LTD. 1969
2.	022200	MARTIN PAPER, NEW WESTMINSTER 1957 EXPANSION MANUFACTURING & SHIPPING FOUNDATIONS SHEET #2	READ JONES CHRISTOFFERSON 1957

- NOTES:**
- FOR GENERAL NOTES SEE DWG. 4806-1-31.
 - STEEL ANCHORS SHALL BE CORROSION RESISTANT STAR PLUG TYPE 3455-00800.
 - THE CONTRACTOR SHALL VERIFY DIMENSIONS & ELEVATIONS OF ALL EXISTING STRUCTURES AFFECTING NEW WORK.
 - ALL EXPOSED STEEL (ANGLES, ANCHOR BOLTS, ETC.) SHALL BE GALVANIZED.



AESL ASSOCIATED ENGINEERING SERVICES LTD. Consulting Engineers	PROJECT MANAGER DATE <u>31 May 1976</u>	BRITISH COLUMBIA DEPARTMENT OF ENVIRONMENT WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT	DESIGNED <u>L.C./DWH</u>	SURVEYED _____
			DRAWN <u>A.L.A.</u>	DATE _____
A.E.S.L. No. _____	NO. BY _____	PROJECT NO. 11 CITY OF NEW WESTMINSTER CONTRACT NO. 1	CHECKED <u>J.H.</u>	FILE NO. <u>0281550-C30-1</u>
			SCALE <u>AS NOTED</u>	DATE <u>MAY 1976</u>
A.E.S.L. No. _____	NO. BY _____	PROJECT NO. 11 CITY OF NEW WESTMINSTER CONTRACT NO. 1	DWG. NO. <u>4885-1-35</u>	SHEET <u>42</u> OF <u>45</u> SHEETS



12" H.P. GAS LINE - CONTACT BC. HYDRO 24 HOURS BEFORE WORKING IN THIS AREA.

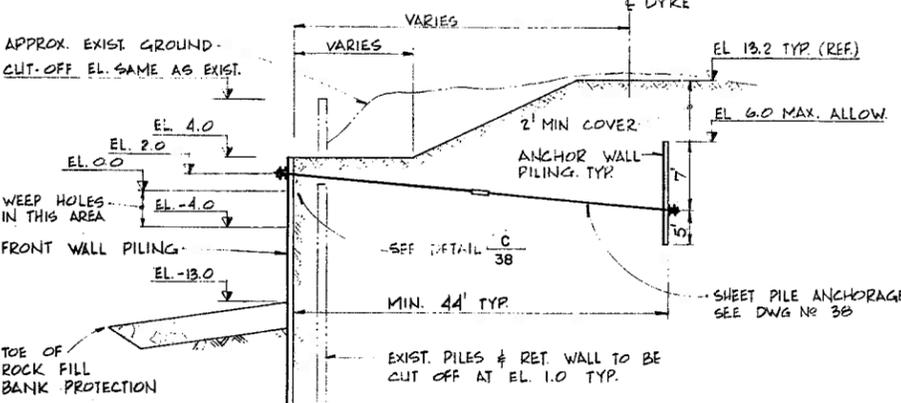
EXIST. WALKWAY TO BE EXTENDED. EXTENSION TO BE DESIGNED BY THE CONTRACTOR TO N.B.C. REQUIREMENTS & SUBMITTED TO THE ENGINEER FOR REVIEW.

NOTE:
ALTERNATIVE I NOT CONSTRUCTED - SEE ALTERNATIVE II

1" WEEP HOLES @ 4' 1/2" - 2 ROWS SPACED 4' VERT

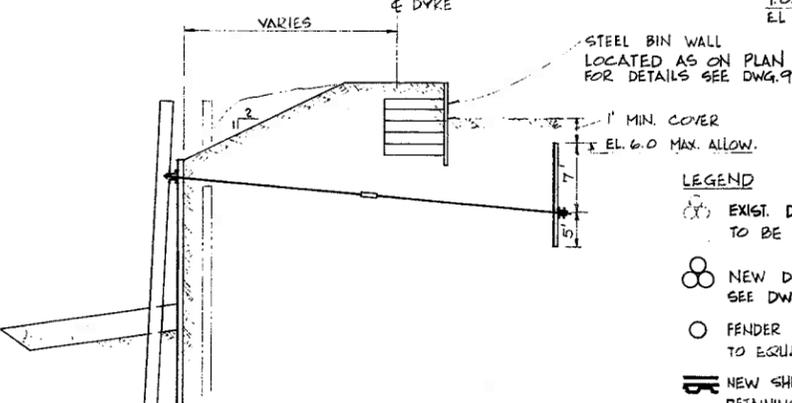
PLAN 1" = 10'-0"

WALL VIEWED FROM DYKE (OPENED OUT) 1" = 30'-0"



SECTION 1" = 10'-0"

- 1 CHIP BERTH
- 2 HOG & SAWDUST BERTH

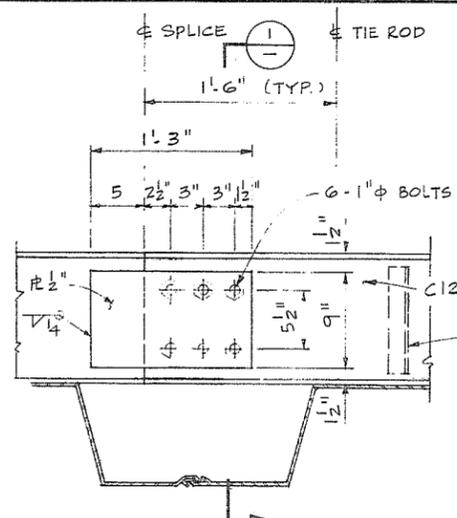


SECTION 1" = 10'-0"

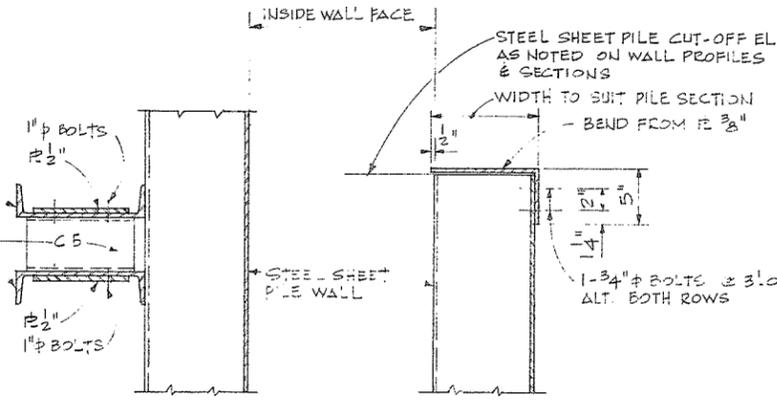
- LEGEND**
- EXIST. DOLPHINGS TO BE REMOVED
 - NEW DOLPHING SEE DWG NO 38
 - FENDER PILES SPACED TO EQUAL EXIST.
 - NEW SHEET PILE RETAINING WALL
 - NEW SHEET PILE ANCHOR WALL

- NOTES:**
1. FOR SIZES OF SHEET PILES SEE SPECIFICATIONS.
 2. FOR DETAILS OF BACKFILL AND DRAINAGE SEE DWG NO 9.
 3. THE GAP BETWEEN EXIST. TIMBER PILES AND THE NEW STEEL SHEET PILES SHALL BE FILLED WITH TYPE VIII MATERIAL DOWN TO EL. -4.0.
 4. TYPE VIII DRAINAGE LAYER BEHIND THE SHEET PILE WALL MUST BE AT LEAST 2 FT. THICK DOWN TO EL. -4.0.
 5. FOUNDATIONS OF A-FRAME SUPPORTS SHALL NOT BE DISTURBED.
 6. T.O. WALL ELEV. ARE SHEET PILE CUT-OFF ELEV.
 7. FOR STEEL SHEET PILE DETAILS SEE DWG. 38.

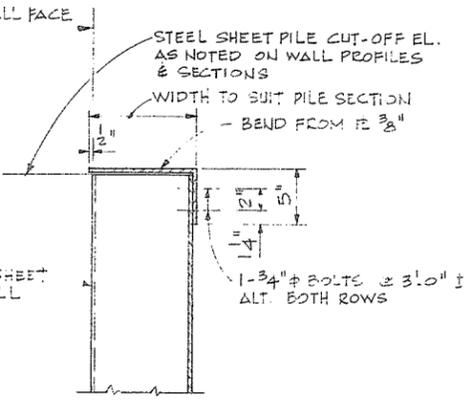
AESL ASSOCIATED ENGINEERING SERVICES LTD. <small>Chartered Engineers</small>	2 J.C. AS CONSTRUCTED 15/5/76 1 D.H. CONSTRUCT ALT. 2 9/6/76	RECOMMENDED: [Signature] PROJECT MANAGER DATE: 31 May 1976	BRITISH COLUMBIA DEPARTMENT OF ENVIRONMENT WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT	DESIGNED: R.L.C. DRAWN: J.B.H. CHECKED: P.F.B.	SURVEYED: [Signature] DATE: MARCH, 1976 FILE NO: 0281550-C30-1
		APPROVED: [Signature] DIRECTOR, WATER INVESTIGATION DATE: May 31/76		PROJECT NO 11 CITY OF NEW WESTMINSTER CONTRACT NO 1 SHEET PILE RETAINING WALL - WHONNOCK SCOWBERTH AREA ALTERNATIVE I	SCALE: AS SHOWN DWG. NO. 4885-1-36



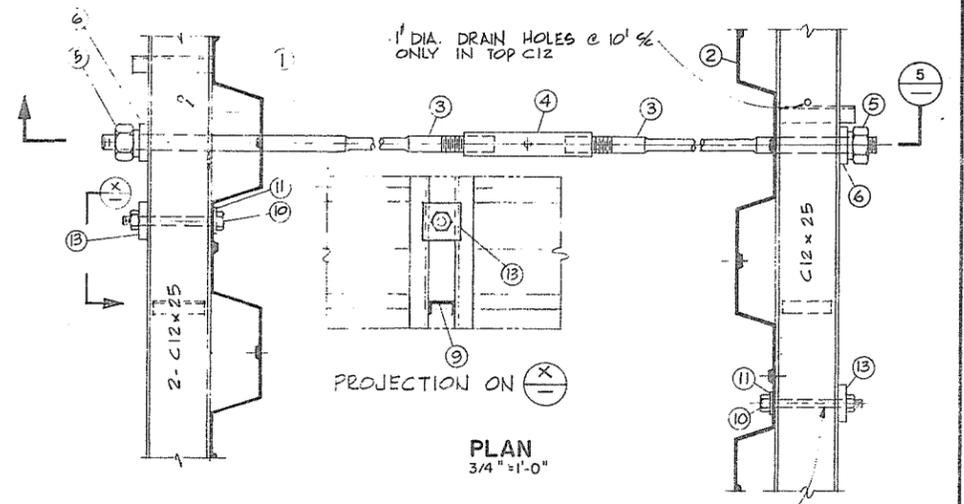
TYP. WALER SPLICE
1 1/2" = 1'-0"



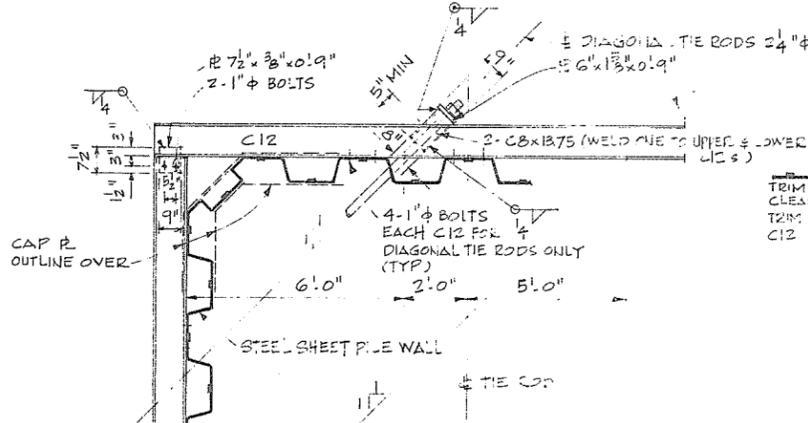
SECTION 1 1/2" = 1'-0"



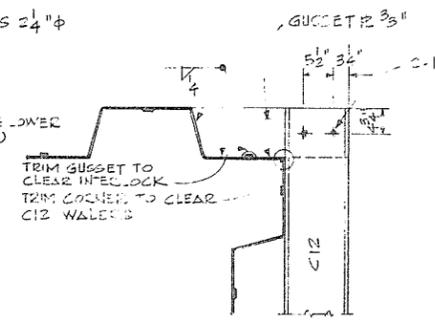
SECTION 2/36 2/37
1 1/2" = 1'-0"



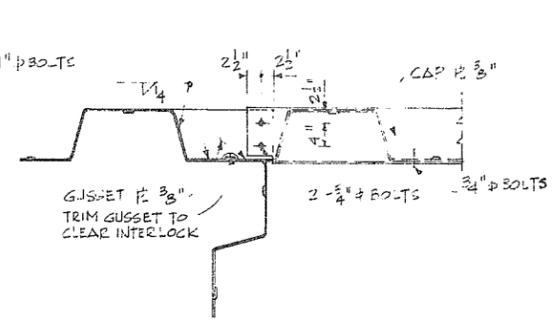
PLAN 3/4" = 1'-0"



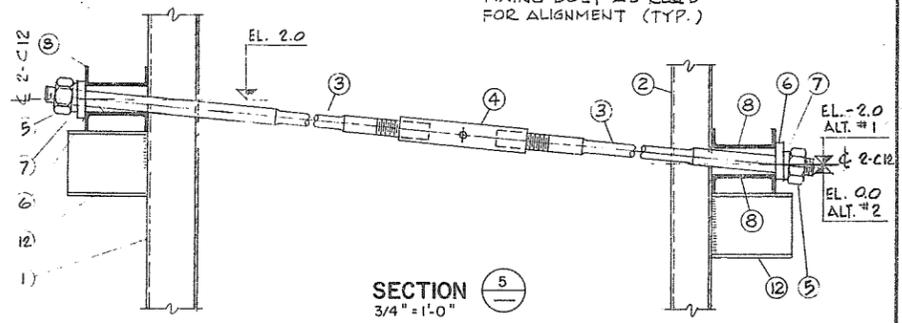
TYP. CORNER TIE JUNCTION
3/8" = 1'-0"



SECTION 3/37
3/4" = 1'-0"



SECTION 4/37
3/4" = 1'-0"



SECTION 5/37
3/4" = 1'-0"

SHEET PILE ANCHORAGE DETAILS

- KEY TO NUMBERED PARTS:
- FRONT WALL PILING - Z PILES TO ASTM A328, YIELD POINT 36,000 PSI MIN.
 - ANCHOR WALL PILING - DO
 - TIE RODS - 2 1/4" DIA WITH 'UPSET ENDS' AT 7'-0" O/C MAX; STEEL GRADE ASTM A588, YIELD POINT 50,000 P.S.I. MIN.
 - TURNBUCKLE - 3 5/8" DIA. x MIN. 1'-6" LONG - ASTM A588 INSIDE THREAD TO MATCH THE ROD UPSET ENDS.
 - NUTS TO SUIT UPSET ENDS - ASTM A328.
 - BEARING PLATES - 7" x 1 1/2" x 0.7" x 2-4 3/4" LG. STOPS - ASTM A328.
 - TAPER WASHER TO SUIT THE SLOPE OF TIE ROD - ASTM A328.
 - WALINGS - C12 x 25 MIN. OR EQUIVALENT - ASTM A328.
 - SPACER CHANNELS - C5 x 9 MIN. 10" LONG AT 5' TACK WELD TO WALER - ASTM A328.
 - FIXING BOLTS - 1" φ - ASTM A328.
 - WASHERS - MIN. 3" x 1/4" x 0.5" - ASTM A328.
 - SUPPORTING CHANNELS - C12 x 25 MIN. 15" LONG AT 10' TACK WELD TO WALER - ASTM A328.
 - FIXING PLATES - 4 3/4" x 3/4" x 0.7" x 2-4 3/4" LG. STOPS - ASTM A328.

SECTION 6 6/37
3/4" = 1'-0"

DETAIL B 36 B 37
1" = 10"

DETAIL C 36 C 37
3/4" = 1'-0"

DETAIL D 36 D 37
3/4" = 1'-0"

AESL ASSOCIATED ENGINEERING SERVICES LTD. <small>Consulting Engineers</small>		RECOMMENDED <i>[Signature]</i> DATE <u>31/1/76</u>		BRITISH COLUMBIA DEPARTMENT OF ENVIRONMENT WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT PROJECT NO. 11 CITY OF NEW WESTMINSTER CONTRACT NO. 1		DESIGNED R.I.C.	SURVEYED DATE MARCH, 1976
A.E.S.L. No.		NO. BY REVISIONS DATE		APPROVED <i>[Signature]</i> for DIRECTOR, WATER INVESTIGATIONS BRANCH DATE <u>May 31/76</u>		DRAWN J.C. K.C.	FILE NO. 0281550-C30-1
TYP. 3-PILE DOLPHIN		1 J.C. AS CONSTRUCTED 15/5/76		SHEET PILE RETAINING WALL - WHONNOCK SCOWBERTH AREA STEEL SHEET PILE DETAILS		CHECKED PFB	DATE MAY 1976
4885-1-38		DATE		SCALE AS SHOWN		DWG. NO.	SHEET 45 OF 45 SHEETS

CONTRACT No. 2
CONSTRUCTION OF FLOODWALL AT MacMILLAN BLOEDEL
NEW WESTMINSTER SAWMILL DIVISION

CANADA · BRITISH COLUMBIA

**FRASER RIVER FLOOD CONTROL 1968 AGREEMENT
PROJECT NO. 11, CITY OF NEW WESTMINSTER**

**CONTRACT NO. 2: CONSTRUCTION OF FLOODWALL
AT MACMILLAN BLOEDEL NEW WESTMINSTER
SAWMILL DIVISION**

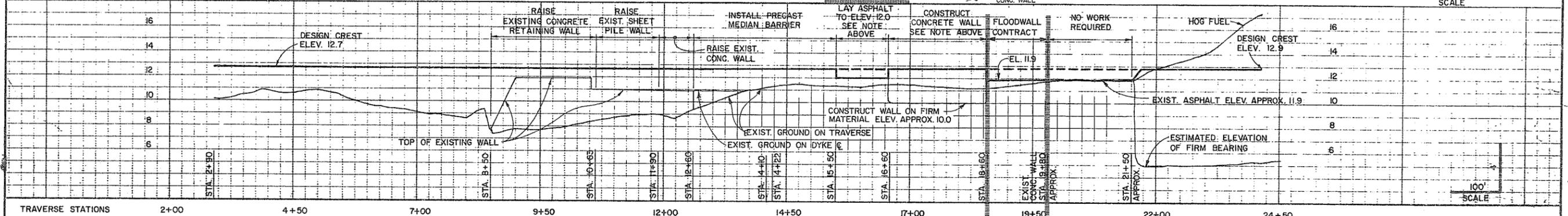
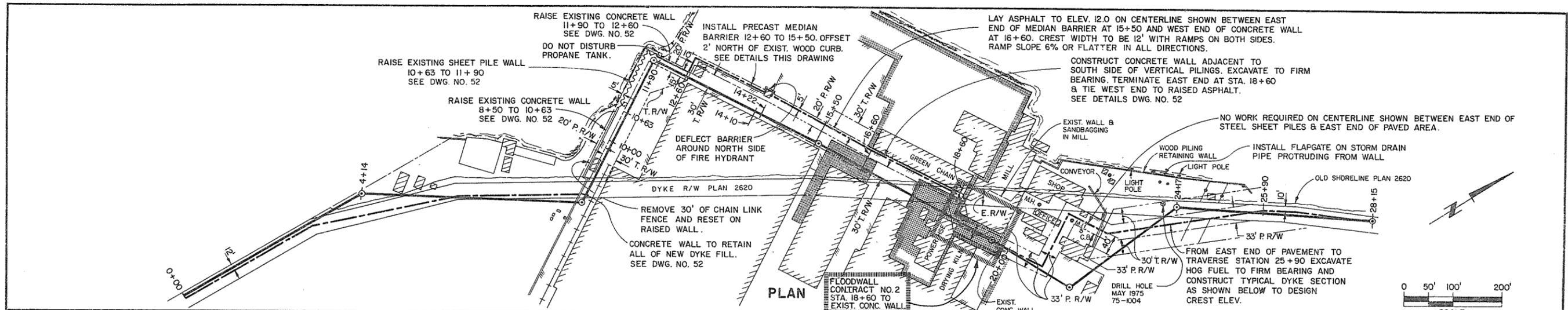
AS CONSTRUCTED DRAWINGS

AESL

Consulting Engineers

ASSOCIATED ENGINEERING SERVICES LTD.

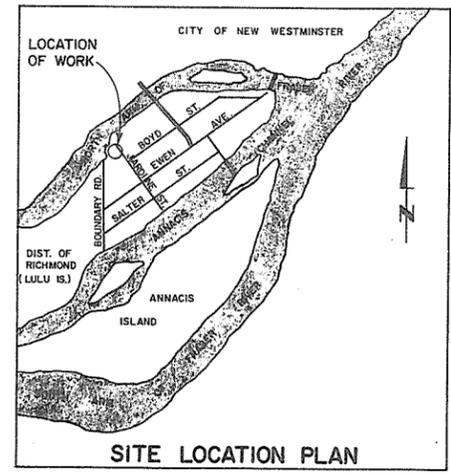
VANCOUVER B. C.



TRaverse STATIONS: 2+00, 4+50, 7+00, 9+50, 12+00, 14+50, 17+00, 19+50, 22+00, 24+50

WORK BY OTHERS: ← (2+00 to 18+60) | AREA OF THIS CONTRACT (18+60 to 19+50) | → (19+50 to 24+50)

NOTE: ALL LOCATIONS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE ONLY AND SHOULD BE CONFIRMED BY USE OF PIPE LOCATOR AND MANUAL DIGGING. ALL OR ANY EXISTING STRUCTURES NOT NECESSARILY SHOWN.

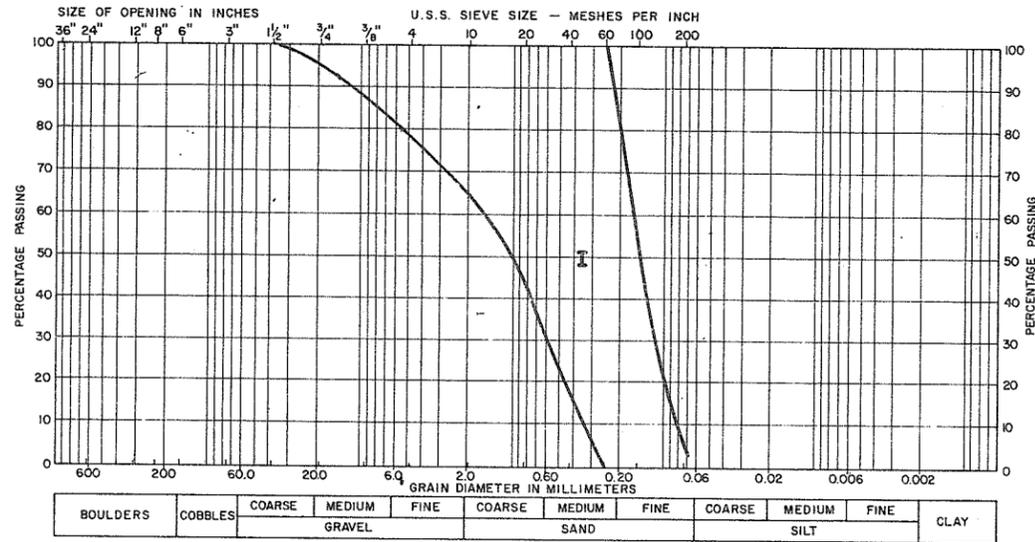


- NOTES:**
- THIS DRAWING SHALL BE USED ONLY AS A LOCATION PLAN FOR CONSTRUCTION OF FLOODWALL APPROX. STA. 18+60 TO STA. 19+80.
 - WORK OUTSIDE OF THESE APPROXIMATE LIMITS IS INCLUDED IN SEPARATE CONTRACTS - FOR DETAILS SEE QUEENSBOROUGH CONTRACT NO. 1
 - FINAL RIGHTS-OF-WAY SHOWN ON REGISTERED LEGAL PLAN NO. 55922.

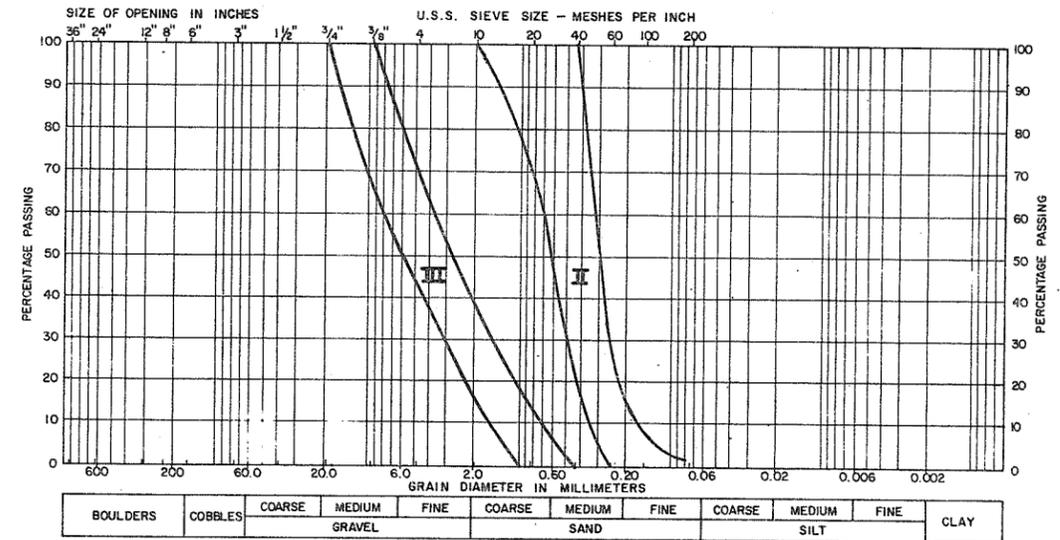
- LEGEND:**
- A.E.S.L. TRAVERSE LINE
 - — — CENTERLINE OF RECONSTRUCTED DYKE
 - ▨ BUILDINGS
 - ⊗ F.H. FIRE HYDRANT
 - ⊙ B.H. SOIL BOREHOLE
 - — — EDGE OF PAVEMENT
 - ▨ WOOD DECKING
 - C.B. STORM DRAINAGE CATCH BASIN
 - POLE
 - PILING AND DOLPHINS
 - ⊞ PROPERTY LINE
 - E. R/W EXISTING RIGHT-OF-WAY
 - P. R/W PERMANENT EASEMENT
 - T. R/W CONTRACTOR'S TEMPORARY WORKING AREA
 - ⊙ VALVE
 - △ SANDBAG AREA NUMBER



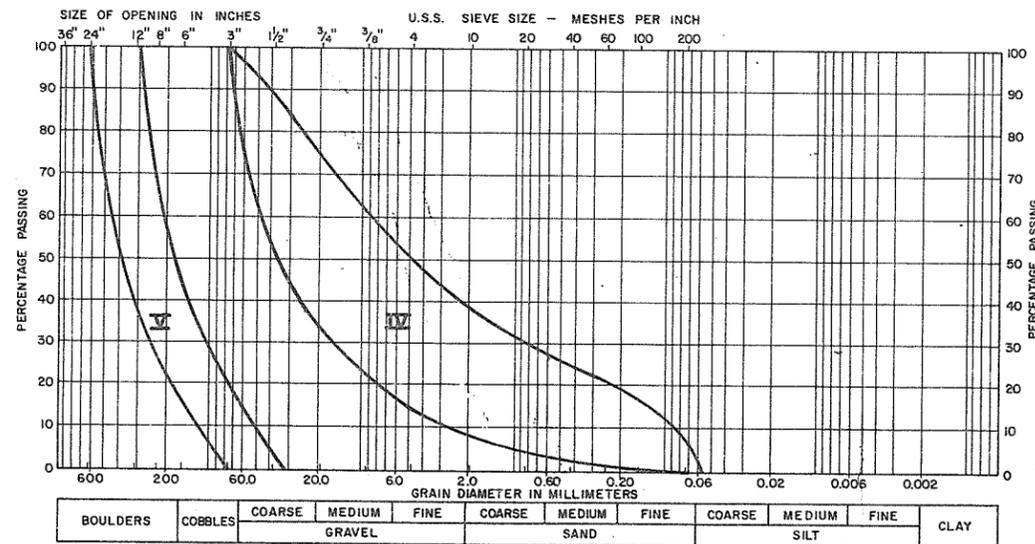
AESL ASSOCIATED ENGINEERING SERVICES LTD. Consulting Engineers	RECOMMENDED <i>[Signature]</i> PROJECT MANAGER DATE: 3 November 1975	DESIGNED <i>[Signature]</i> DRAWN <i>[Signature]</i> CHECKED <i>[Signature]</i> SCALE AS SHOWN DWG. NO. 4885-2-1	BRITISH COLUMBIA DEPARTMENT OF LANDS, FORESTS AND WATER RESOURCES WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH CANADA — BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT PROJECT NO. 11 CITY OF NEW WESTMINSTER CONTRACT NO. 2 LOCATION	SURVEYED A.E.S.L. DATE FEB. 72 & NOV. 74 FILE NO. 0281550-C30-2 DATE OCT. 1975 SHEET 1 OF 3 SHEETS
	A.E.S.L. No. _____ BY J.C. AS CONSTRUCTED 15/8/78 REVISIONS _____ DATE _____	APPROVED <i>[Signature]</i> DIRECTOR, WATER INVESTIGATIONS DATE: Dec 5/75	9208	



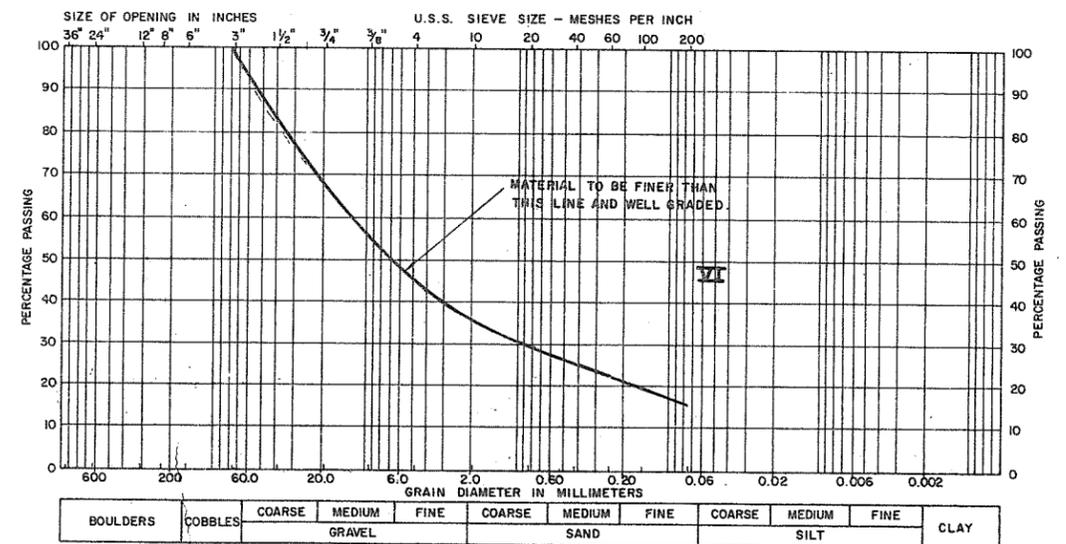
TYPE I
BULK FILL MATERIAL



TYPE II - FILTER SAND
TYPE III - DRAIN GRAVEL



TYPE IV - ROAD SURFACE MATERIAL
TYPE V - DRAINAGE DITCH RIP-RAP



TYPE VI - CONDUIT RIVERSIDE BACKFILL



AESL ASSOCIATED ENGINEERING SERVICES LTD. <small>Chartered Engineers</small>	NO. BY	REVISIONS	DATE	RECOMMENDED <i>[Signature]</i> PROJECT MANAGER DATE <i>3 December 1975</i>	BRITISH COLUMBIA DEPARTMENT OF LANDS, FORESTS AND WATER RESOURCES WATER RESOURCES SERVICE WATER INVESTIGATION'S BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT PROJECT NO. 11 CITY OF NEW WESTMINSTER CONTRACT NO. 2	DESIGNED <i>R.K.L.</i>	SURVEYED
	A.E.S.L. No.			APPROVED <i>[Signature]</i> DIRECTOR, WATER INVESTIGATIONS DATE <i>Dec 5/75</i>		DRAWN <i>E.W.S.</i> CHECKED <i>[Signature]</i> SCALE DWG. NO. 4885-2-3	FILE NO. 0281550-C30-2 DATE OCT. 1975 SHEET 3 OF 3 SHEETS

CONTRACT No. 3

**CONSTRUCTION OF FLOODWALL AT
WHONNOCK LUMBER COMPANY**

CANADA · BRITISH COLUMBIA

**FRASER RIVER FLOOD CONTROL 1968 AGREEMENT
PROJECT NO. 11, CITY OF NEW WESTMINSTER**

**CONTRACT NO. 3, CONSTRUCTION OF FLOODWALL
AT WHONNOCK LUMBER CO. LTD.**

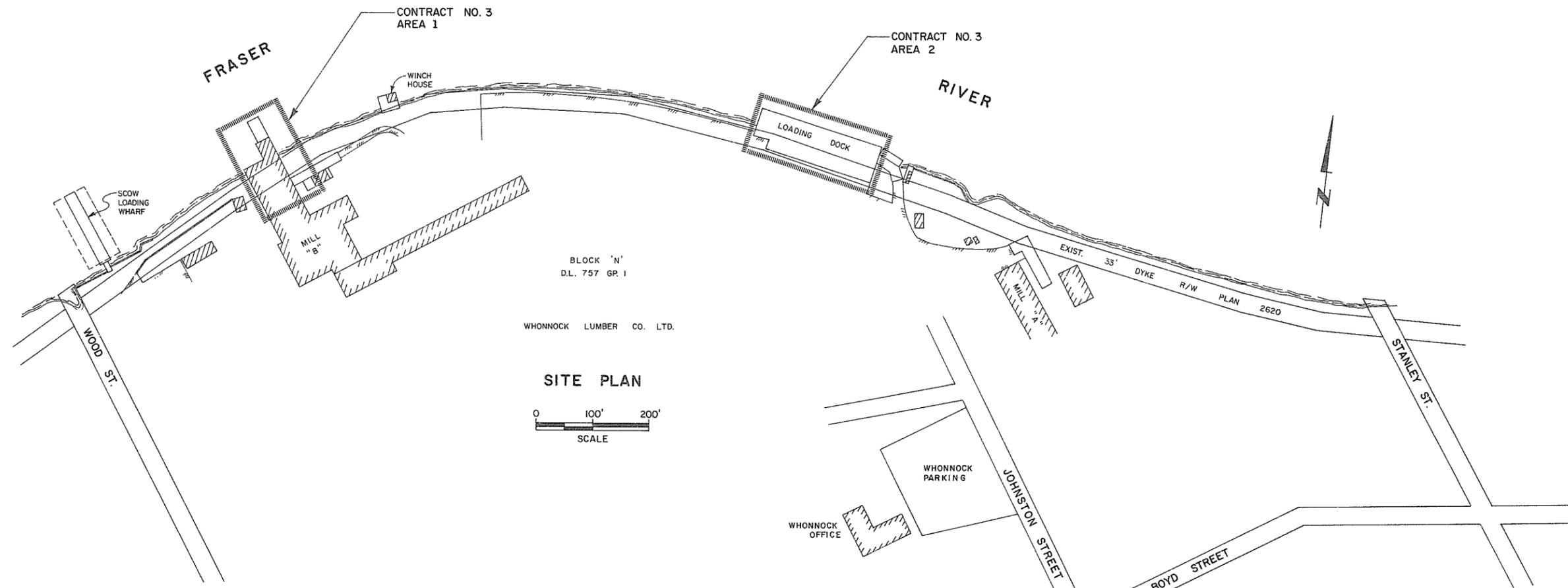
AS CONSTRUCTED DRAWINGS

AESL

Consulting Engineers

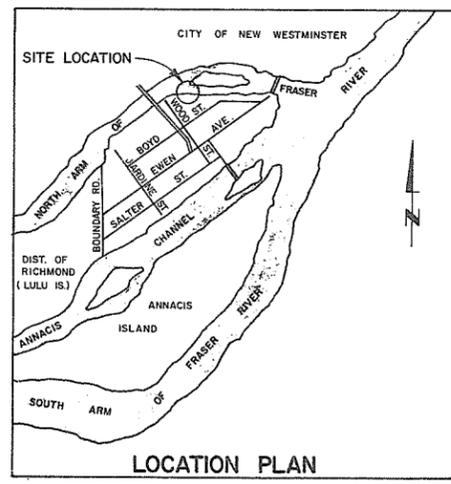
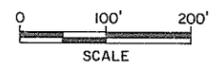
ASSOCIATED ENGINEERING SERVICES LTD.

VANCOUVER B. C.



BLOCK 'N'
D.L. 757 GR 1
WHONNOCK LUMBER CO. LTD.

SITE PLAN



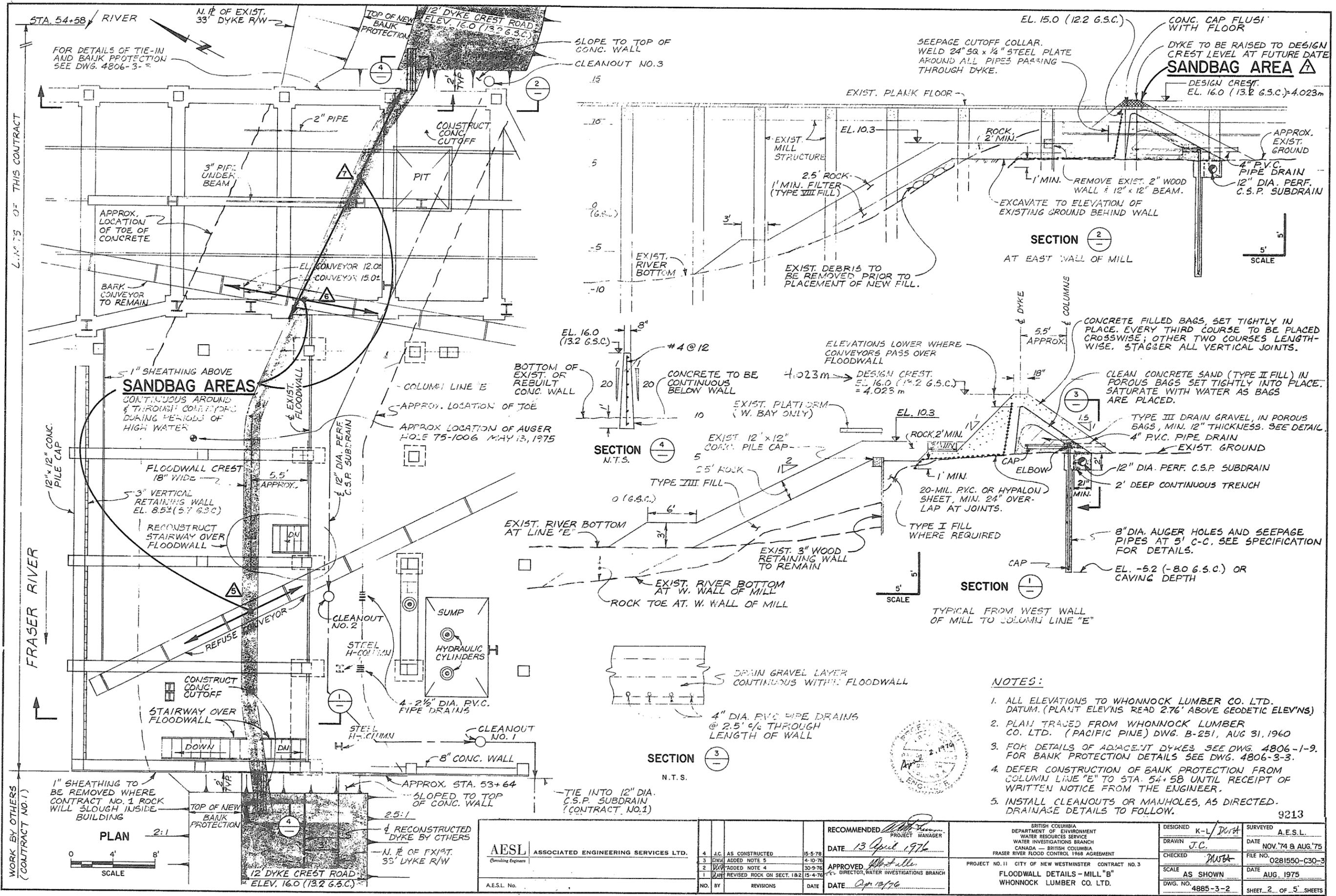
- LEGEND:**
- BUILDINGS
 - EDGE OF PAVEMENT
 - SANDBAG AREA NUMBERS - SEE DWG. NO. 2 FOR LOCATIONS

NOTE:
FINAL RIGHTS - OF - WAY SHOWN ON REGISTERED LEGAL PLAN NO. 55921.



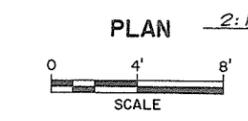
AESL ASSOCIATED ENGINEERING SERVICES LTD. <i>Consulting Engineers</i>	1 J.C. AS CONSTRUCTED 15-5-78 NO. BY REVISIONS DATE	RECOMMENDED <i>[Signature]</i> PROJECT MANAGER DATE 13 April 1976	BRITISH COLUMBIA DEPARTMENT OF ENVIRONMENT WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT PROJECT NO. 11 CITY OF NEW WESTMINSTER CONTRACT NO. 3	DESIGNED <i>DWH</i> SURVEYED A.E.S.L.
		APPROVED <i>[Signature]</i> DIRECTOR, WATER INVESTIGATIONS BRANCH DATE Apr 13/76		DRAWN J.C. CHECKED <i>DWH</i> SCALE AS SHOWN DWG. NO. 4885-3-1

9212



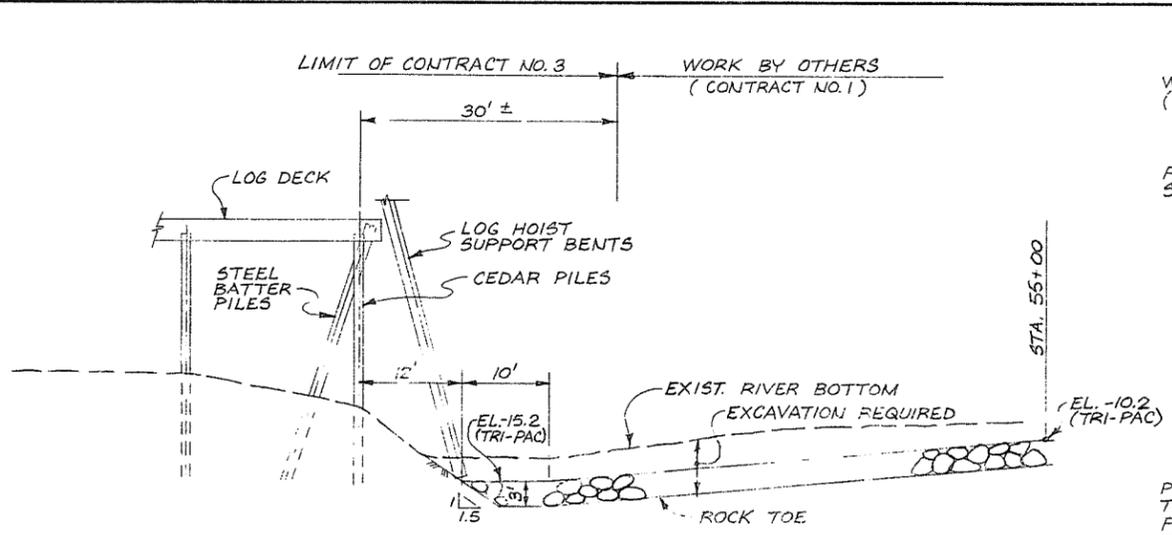
L.M. 75 OF THIS CONTRACT

WORK BY OTHERS (CONTRACT NO. 1)

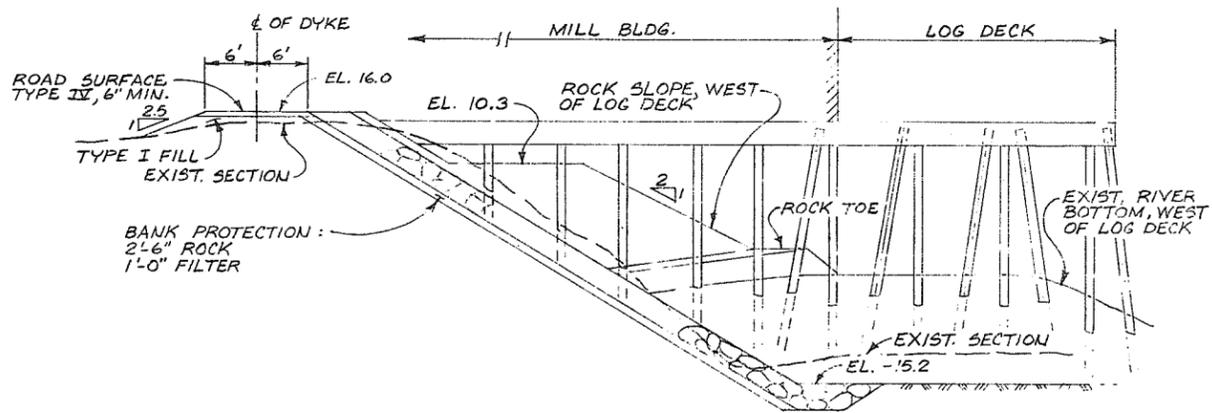
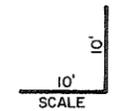


- NOTES:**
1. ALL ELEVATIONS TO WHONNOCK LUMBER CO. LTD. DATUM. (PLANT ELEV'NS READ 2.76' ABOVE GEODETIC ELEV'NS)
 2. PLAN TRACED FROM WHONNOCK LUMBER CO. LTD. (PACIFIC PINE) DWG. B-251, AUG 31, 1960
 3. FOR DETAILS OF ADJACENT DYKES SEE DWG. 4806-1-9. FOR BANK PROTECTION DETAILS SEE DWG. 4806-3-3.
 4. DEFER CONSTRUCTION OF BANK PROTECTION FROM COLUMN LINE "E" TO STA. 54+58 UNTIL RECEIPT OF WRITTEN NOTICE FROM THE ENGINEER.
 5. INSTALL CLEANOUTS OR MANHOLES, AS DIRECTED. DRAINAGE DETAILS TO FOLLOW.

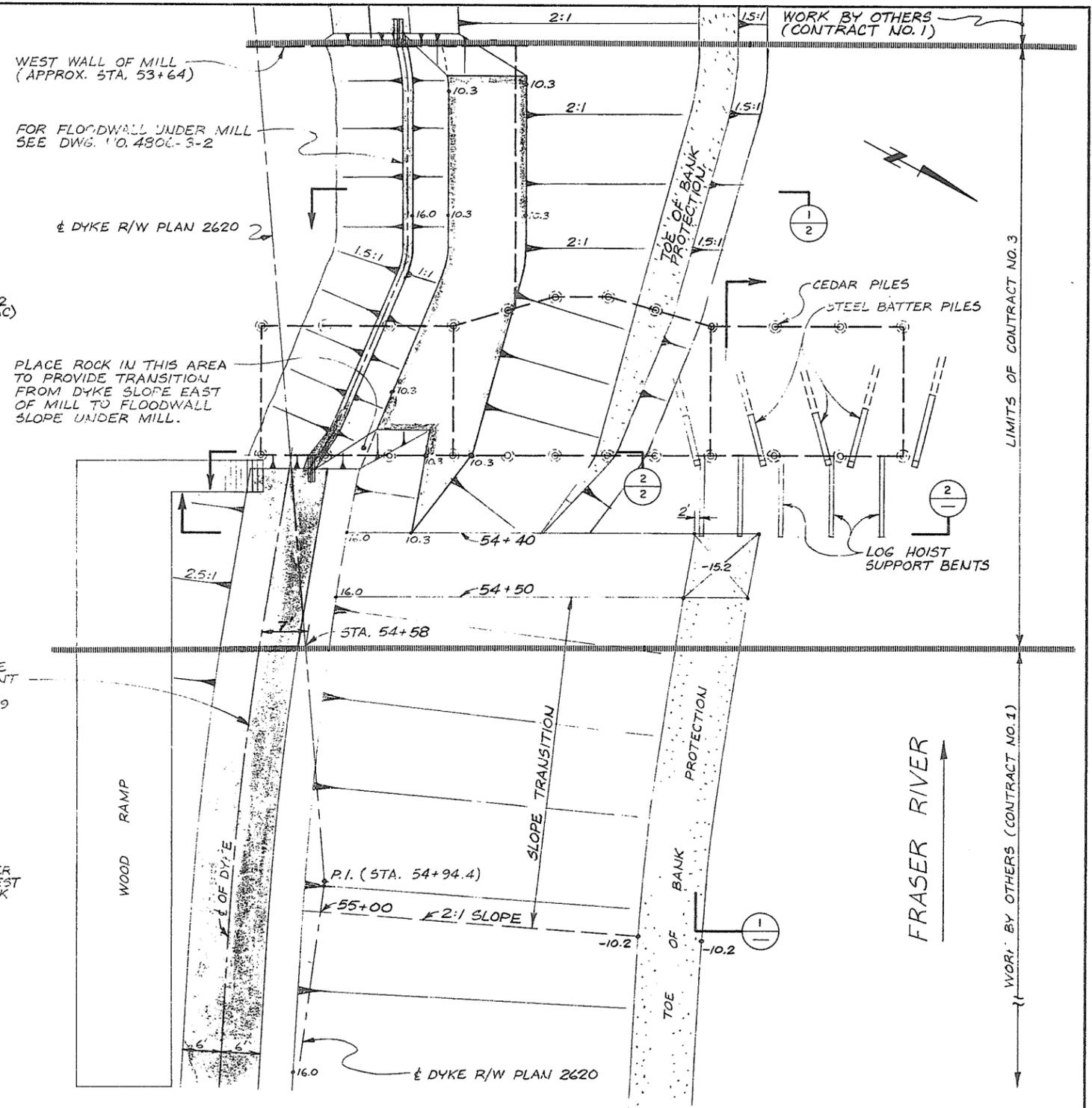
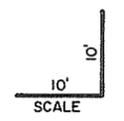
AESL ASSOCIATED ENGINEERING SERVICES LTD. <small>Consulting Engineers</small>		4 J.C. AS CONSTRUCTED 15-5-78 3 D.W. ADDED NOTE 5 4-10-78 2 D.W. ADDED NOTE 4 30-9-78 1 D.W. REVISED ROCK ON SECT. 1B2 15-4-78	RECOMMENDED <i>[Signature]</i> PROJECT MANAGER DATE 13 April 1976	BRITISH COLUMBIA DEPARTMENT OF ENVIRONMENT WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT	DESIGNED K-L/DWA DRAWN J.C. CHECKED DWA SCALE AS SHOWN DWG. NO. 4885-3-2	SURVEYED A.E.S.L. DATE NOV. 74 & AUG. 75 FILE NO. 0281550-C30-3 DATE AUG. 1975 SHEET 2 OF 5 SHEETS
A.E.S.L. No.		NO. BY REVISIONS DATE	APPROVED <i>[Signature]</i> DIRECTOR, WATER INVESTIGATIONS BRANCH DATE Apr 13/76	PROJECT NO. 11 CITY OF NEW WESTMINSTER CONTRACT NO. 3 FLOODWALL DETAILS - MILL "B" WHONNOCK LUMBER CO. LTD.		9213



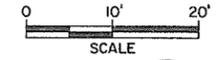
PROFILE 1



SECTION 2



PLAN



- ALL ELEVATIONS SHOWN ARE REFERENCED TO WHONNOCK LUMBER CO. LTD. DATUM (PLANT ELEVATIONS READ 2.76' HIGHER THAN GEODETIC.)
- DEFER CONSTRUCTION OF BANK PROTECTION FROM COLUMN LINE "E" TO STA. 54+58 UNTIL RECEIPT OF WRITTEN NOTICE FROM THE ENGINEER.

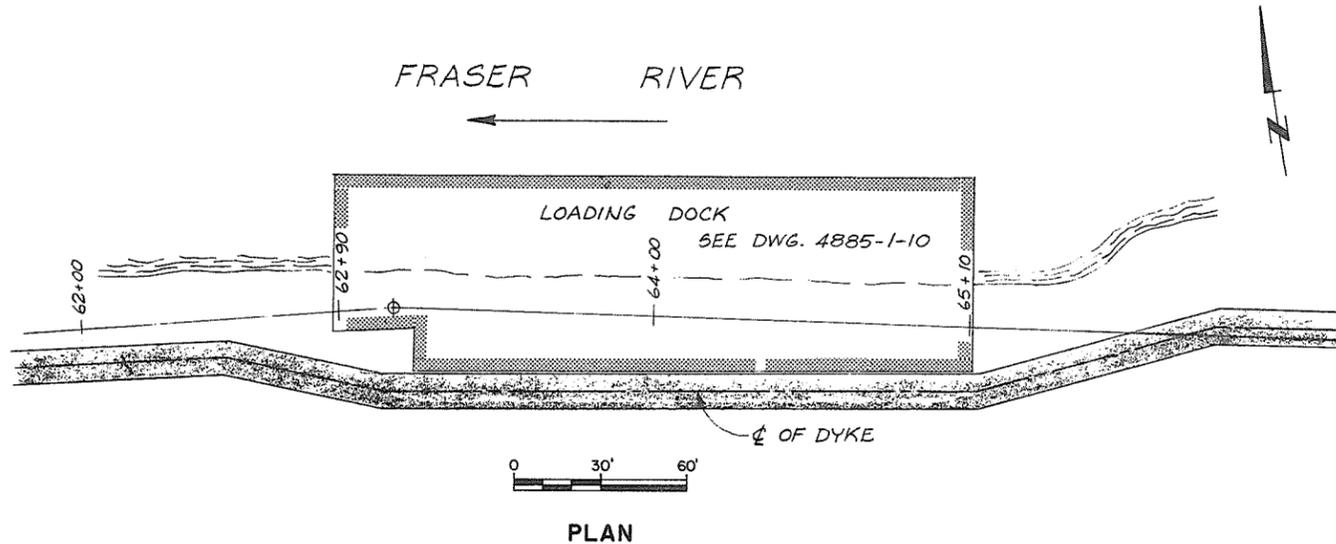


AESL ASSOCIATED ENGINEERING SERVICES LTD. <small>Consulting Engineers</small>		REVISIONS NO. BY DATE	
3	J.C.	AS CONSTRUCTED	15-5-78
2	J.C.	REVISED STATION LOCATIONS ADDED NOTE 2	30-9-76
1	J.C.	REVISED ROCK TOE STA. 53+62 TO 54+75 AND 54+45 TO 55+00	15-4-76

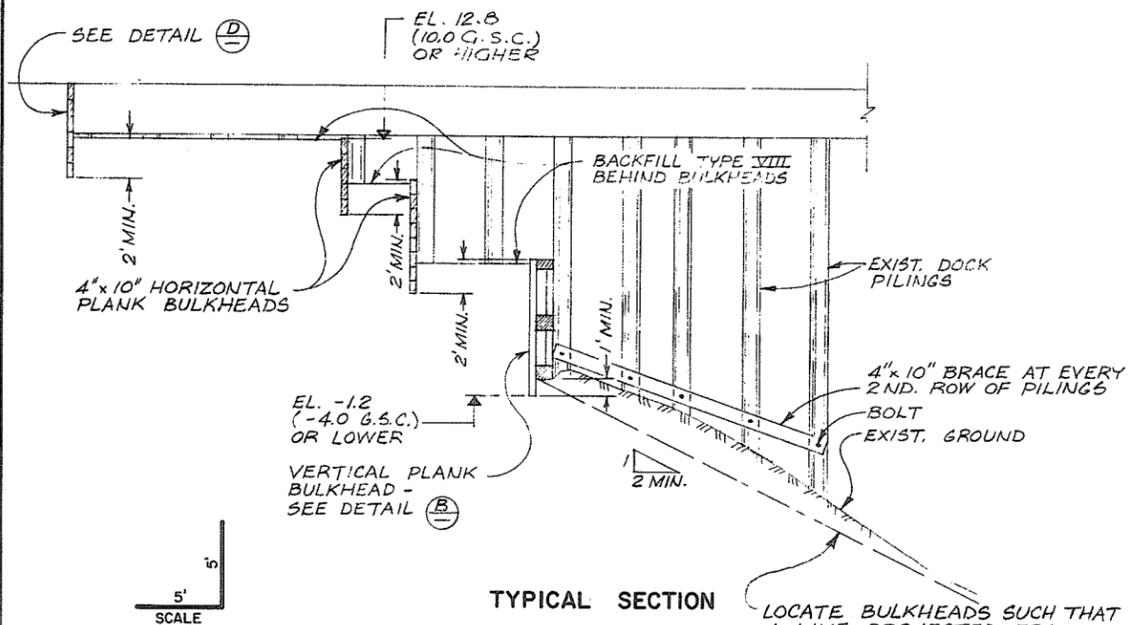
RECOMMENDED DATE 13 April 1976 PROJECT MANAGER	APPROVED DATE Apr 18 1976 DIRECTOR, WATER INVESTIGATIONS BRANCH
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BRITISH COLUMBIA DEPARTMENT OF ENVIRONMENT WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT	PROJECT NO. 11 CITY OF NEW WESTMINSTER CONTRACT NO. 3 BANK PROTECTION DETAILS
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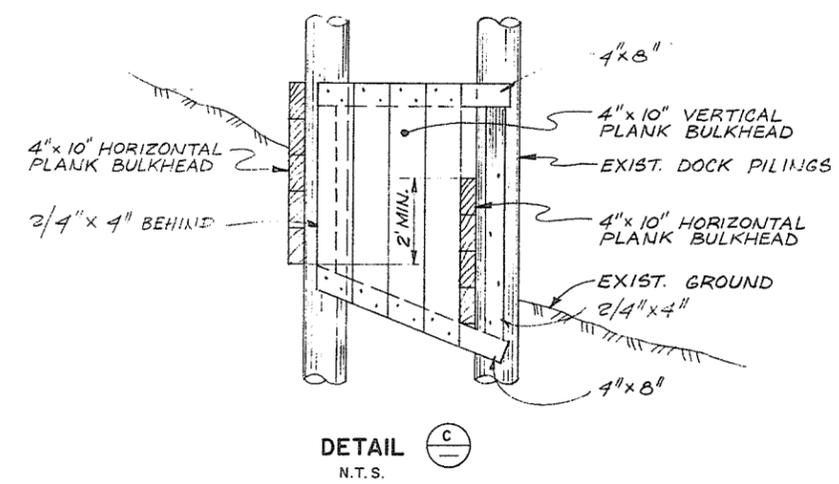
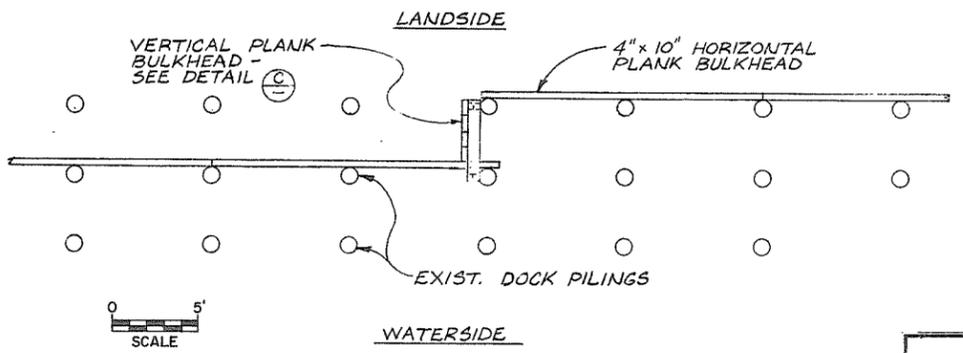
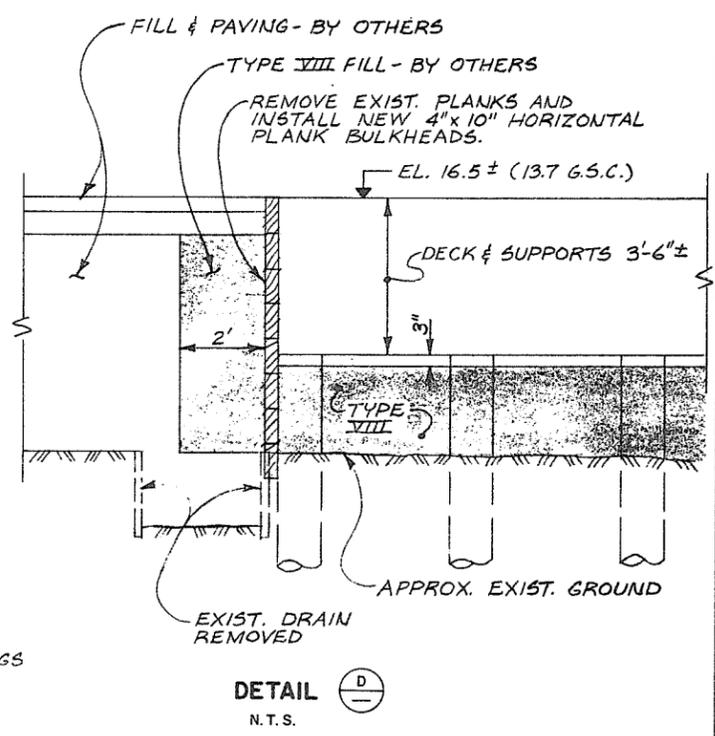
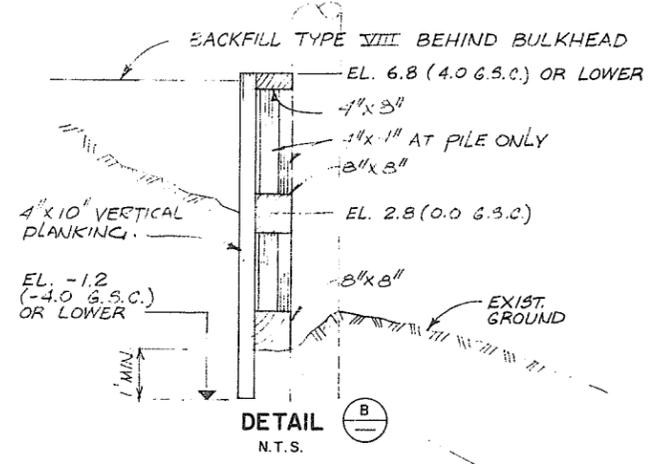
DESIGNED DRAWN CHECKED SCALE DWG. NO.	SURVEYED DATE FILE NO. DATE SHEET 3 OF 5 SHEETS
J.C. J.C. J.C. AS SHOWN 4885-3-3	A.E.S.L. NOV. '74 & AUG. '75 0281550-C30-3 OCT. 1975 SHEET 3 OF 5 SHEETS



NOTES:
 1) USE 8" GALVANIZED SPIKES THROUGHOUT.
 2) BULKHEAD PLANK WIDTHS MAY BE LESSER OR GREATER THAN SHOWN. I.E. 4"x8" OR 4"x12"

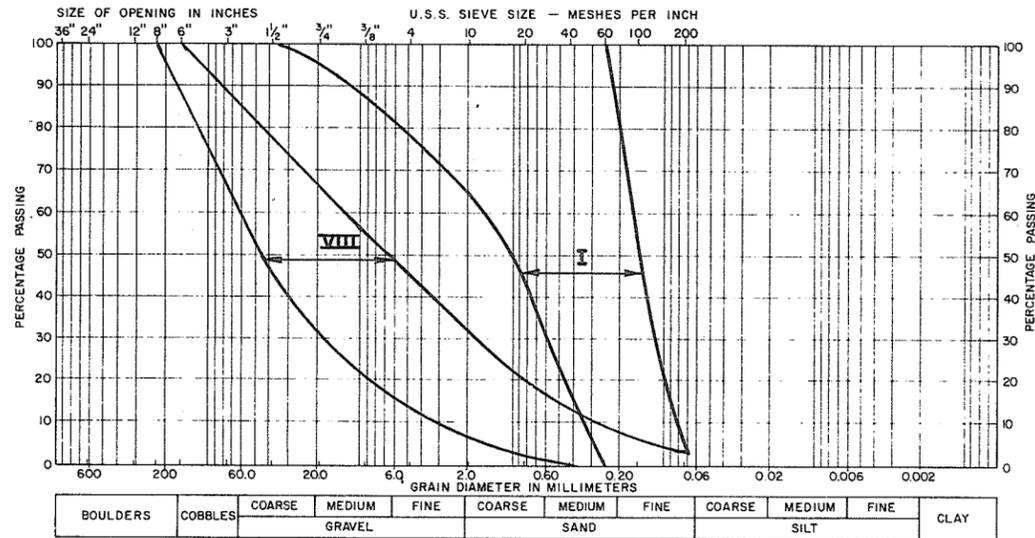


LOCATE BULKHEADS SUCH THAT A LINE PROJECTED FROM ELEV. -3.0 G.S.C. AS SHOWN DOES NOT INTERSECT RIVER CHANNEL.

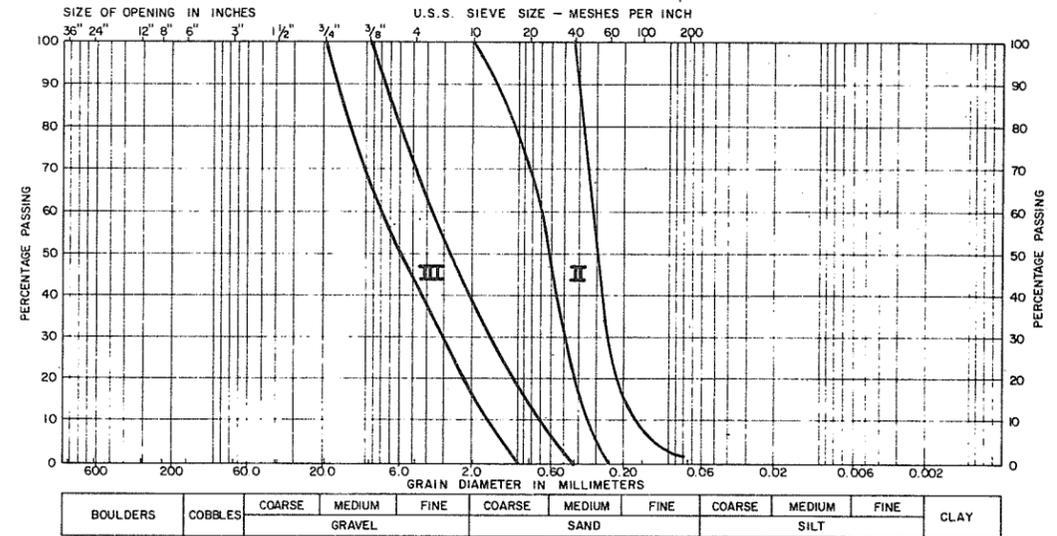


AESL ASSOCIATED ENGINEERING SERVICES LTD. <small>Consulting Engineers</small>	2	J.C. AS CONSTRUCTED	15-5-78	RECOMMENDED	<i>[Signature]</i> PROJECT MANAGER	BRITISH COLUMBIA DEPARTMENT OF ENVIRONMENT WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT	DESIGNED	A.E.S.L.	SURVEYED	A.E.S.L.
	1	ADDED LANDSIDE BULKHEAD	30-9-76	DATE	13 April 1976		DRAWN	J.C.	DATE	MAY, 1975
A.E.S.L. No.	NO.	BY	REVISIONS	DATE	APPROVED	LOADING DOCK - BULKHEAD DETAILS	CHECKED	P.F.B.	FILE NO.	0281550-C30
					<i>[Signature]</i> DIRECTOR, WATER INVESTIGATIONS BRANCH		SCALE	AS SHOWN	DATE	
					DATE		DWG. NO.	4885-3-4	SHEET	4 OF 5 SHEETS

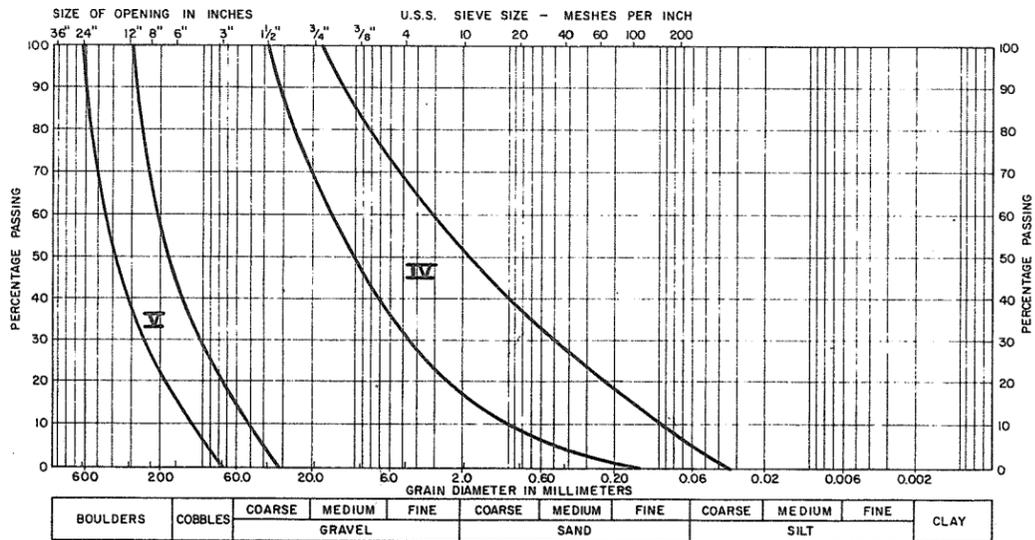
9215



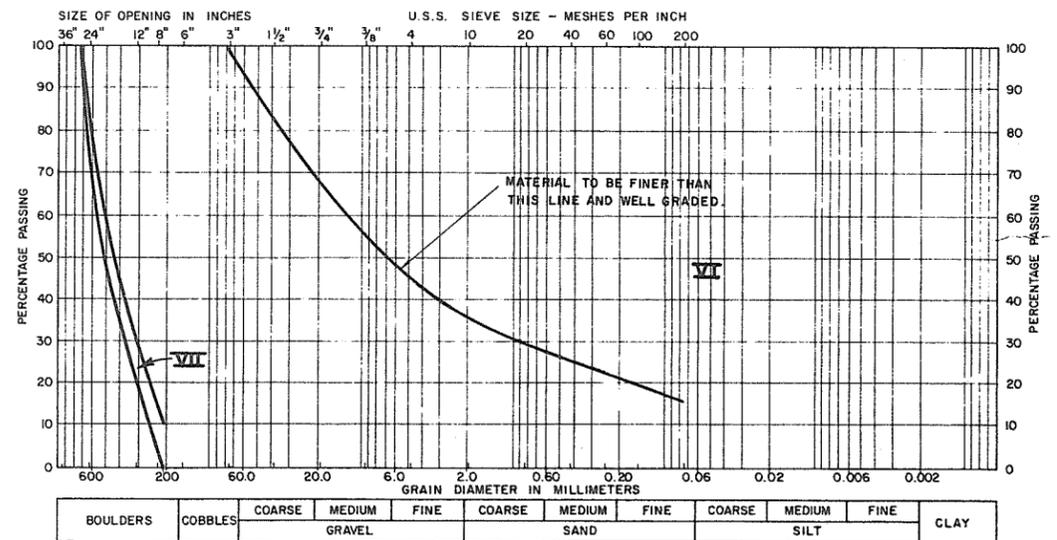
TYPE I - BULK FILL MATERIAL
TYPE VIII - BANK PROTECTION FILTER



TYPE II - FILTER SAND
TYPE III - DRAIN GRAVEL



TYPE IV - ROAD SURFACE MATERIAL
TYPE V - DRAINAGE DITCH RIP-RAP



TYPE VI - CONDUIT RIVERSIDE BACKFILL
TYPE VII - BANK PROTECTION ROCK



AESL ASSOCIATED ENGINEERING SERVICES LTD.
Civil Engineering

A.E.S.L. No. _____

RECOMMENDED: *[Signature]*
PROJECT MANAGER
DATE: 13 April 1976

APPROVED: *[Signature]*
DIRECTOR, WATER INVESTIGATIONS BRANCH
DATE: Apr 13/76

BRITISH COLUMBIA
DEPARTMENT OF ENVIRONMENT
WATER RESOURCES SERVICE
WATER INVESTIGATIONS BRANCH
CANADA - BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT

PROJECT NO. 11 CITY OF NEW WESTMINSTER CONTRACT NO. 3

GRADING LIMITS OF
CONSTRUCTION MATERIALS

DESIGNED: R.K.L./W.L.B.	SURVEYED: _____
DRAWN: E.W.S./J.C.	DATE: _____
CHECKED: <i>[Signature]</i>	FILE NO.: 0281550-C30-3
SCALE: _____	DATE: OCT. 1975
DWG. NO. 4885-3-5	SHEET 5 OF 5 SHEETS

CONTRACT No. 4

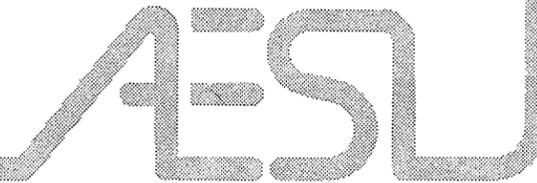
**SOUTH DYKE RECONSTRUCTION
QUEENSBOROUGH AREA - LULU ISLAND**

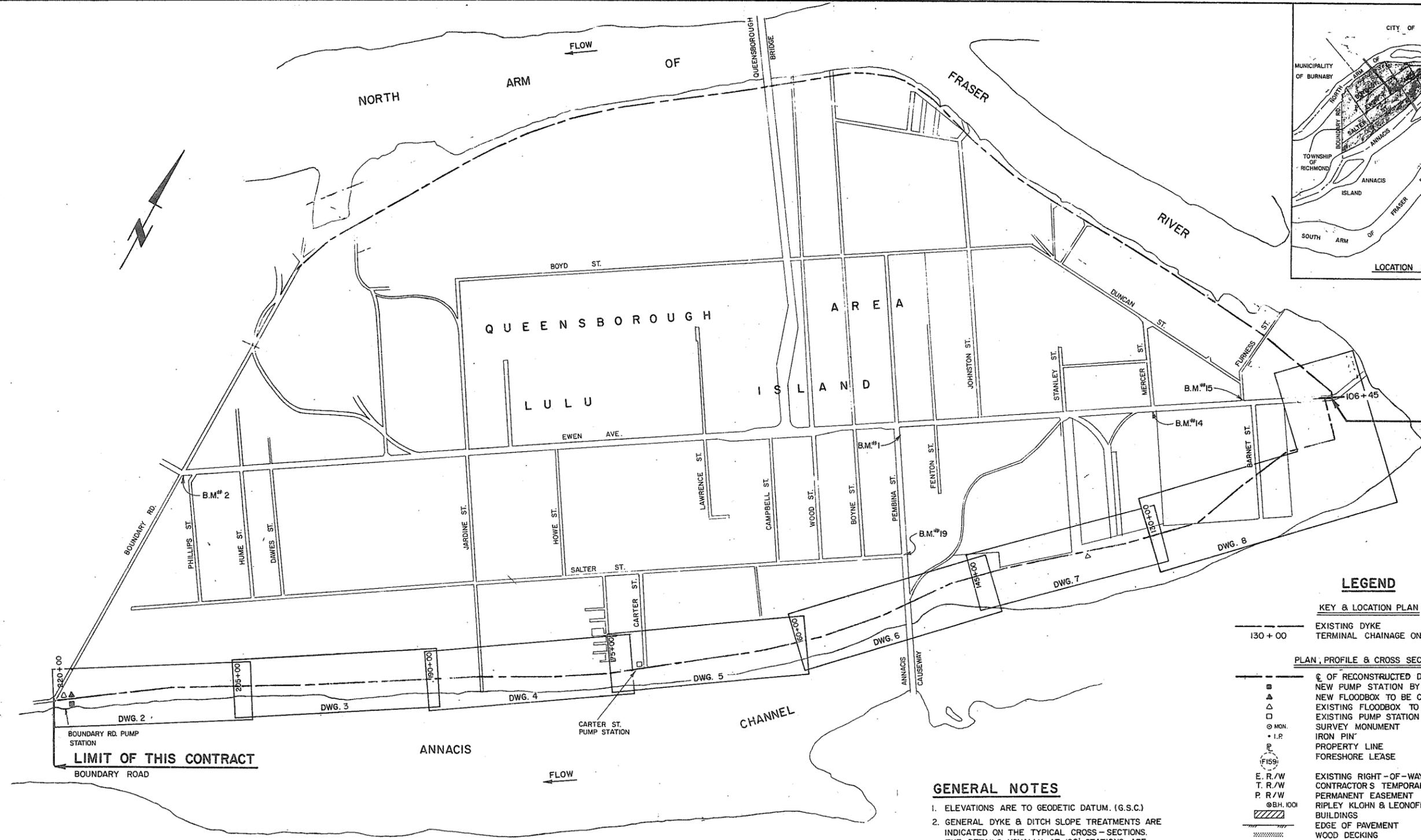
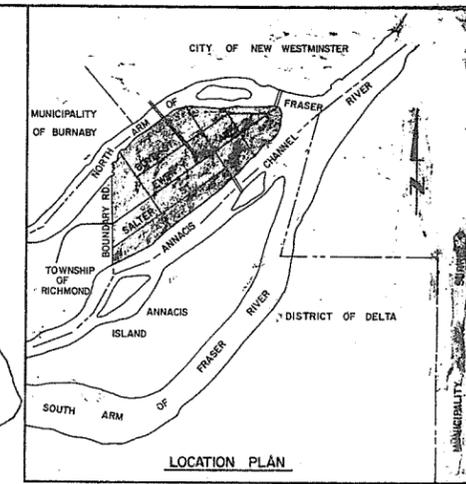
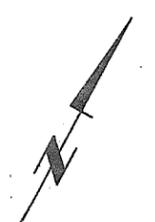
**CANADA - BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT
PROJECT NO. 11, CITY OF NEW WESTMINSTER**

**CONTRACT NO. 4
SOUTH DYKES RECONSTRUCTION
QUEENSBOROUGH AREA - LULU ISLAND**

AS CONSTRUCTED DRAWINGS

**ASSOCIATED
ENGINEERING
SERVICES LTD.**





LIMIT OF THIS CONTRACT
@ B.C.H.P.A. RAIL LINE

LIMIT OF THIS CONTRACT
BOUNDARY ROAD

MATERIAL TYPES

- (REFER TO SPECIFICATIONS AND DRAWINGS FOR DETAILS)
- TYPE I BULK FILL - RIVER SAND
 - TYPE II FILTER SAND - RIVER SAND
 - TYPE III DRAIN GRAVEL
 - TYPE IV ROAD SURFACE - CRUSHED
 - TYPE V IMPERVIOUS FILL



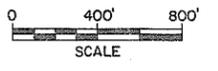
DWH April 15/77

ASSOCIATED ENGINEERING SERVICES LTD. **AESL**

NO. BY REVISIONS DATE

1 J.C. AS CONSTRUCTED 3/4/79

AESL DWG. NO.



GENERAL NOTES

1. ELEVATIONS ARE TO GEODETIC DATUM. (G.S.C.)
2. GENERAL DYKE & DITCH SLOPE TREATMENTS ARE INDICATED ON THE TYPICAL CROSS-SECTIONS. THE DETAILS, USUALLY AT 100' STATIONS, ARE SHOWN ON A SEPARATE SET OF DRAWINGS AVAILABLE FOR INSPECTION BY TENDERERS AND AVAILABLE TO CONTRACTOR FOR REFERENCE DURING CONSTRUCTION.
3. TEMPORARY WORKING EASEMENTS SHALL BE AS SHOWN ON THE DRAWINGS.
4. FINAL RIGHTS-OF-WAY SHOWN ON "LEGAL PLANS" REGISTERED IN 1979.

LEGEND

- KEY & LOCATION PLAN**
- 130+00 EXISTING DYKE
 - 130+00 TERMINAL CHAINAGE ON EACH SHEET

PLAN, PROFILE & CROSS SECTIONS

 - OF RECONSTRUCTED DYKE
 - NEW PUMP STATION BY OTHERS
 - ▲ NEW FLOODBOX TO BE CONSTRUCTED
 - △ EXISTING FLOODBOX TO BE REMOVED
 - EXISTING PUMP STATION TO REMAIN
 - SURVEY MONUMENT
 - I.P. IRON PIN
 - PROPERTY LINE
 - FORESHORE LEASE
 - (F159) EXISTING RIGHT-OF-WAY
 - T.R./W CONTRACTOR'S TEMPORARY WORKING AREA
 - P.R./W PERMANENT EASEMENT
 - (BH. 100) RIPLEY KLOHN & LEONOFF SOIL BORE HOLE
 - /// BUILDINGS
 - /// EDGE OF PAVEMENT
 - /// WOOD DECKING
 - /// RAILWAY
 - /// FENCE
 - /// FENCE GATE
 - SANDPAG AREA NUMBER
 - DOLPHIN
 - UTILITY POLE
 - HYDRANT
 - VALVE
 - STORM DRAINAGE CATCH BASIN
 - TOPSOIL & SEEDING REQUIRED
 - STAIRWAY

9218

DESIGNED <i>DWH</i>	SURVEYED A.E.S.L.
DRAWN J.C.	DATE FEB. 1972
CHECKED <i>DWH</i>	FILE NO. 0201550-C30-4
SCALE AS SHOWN	DATE APRIL, 1977
DWG. NO. 4885-4-1	SHEET 1 OF 21 SHEETS

BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA - BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT

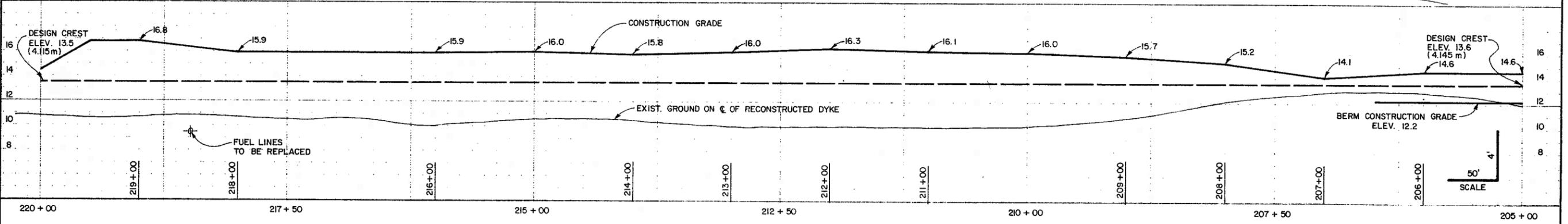
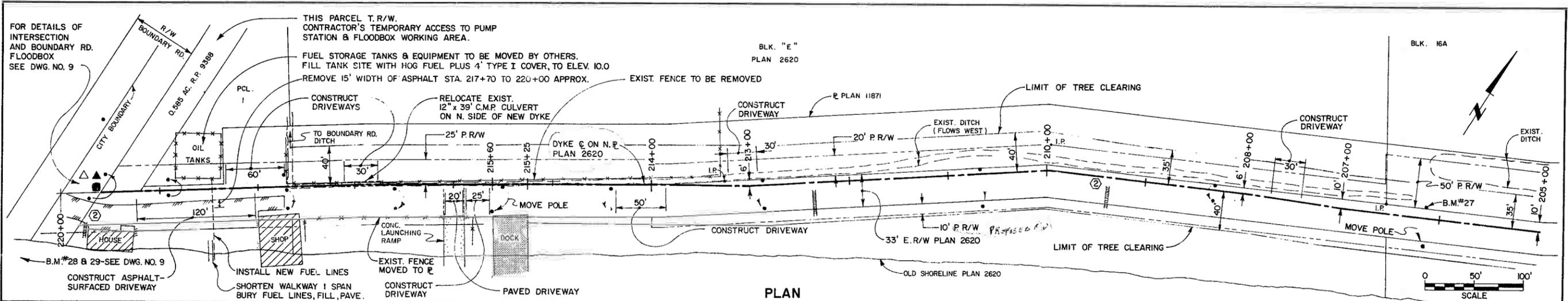
PROJECT NO. 11 CITY OF NEW WESTMINSTER CONTRACT NO. 4
KEY PLAN

RECOMMENDED *[Signature]*
PROJECT MANAGER

DATE 12 April 77

APPROVED *[Signature]*
DIRECTOR, WATER INVESTIGATIONS BRANCH

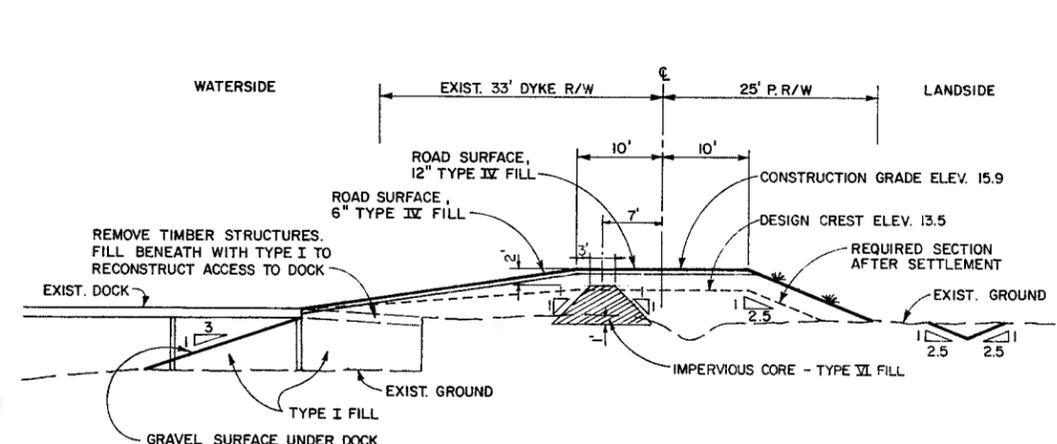
DATE April 18/77



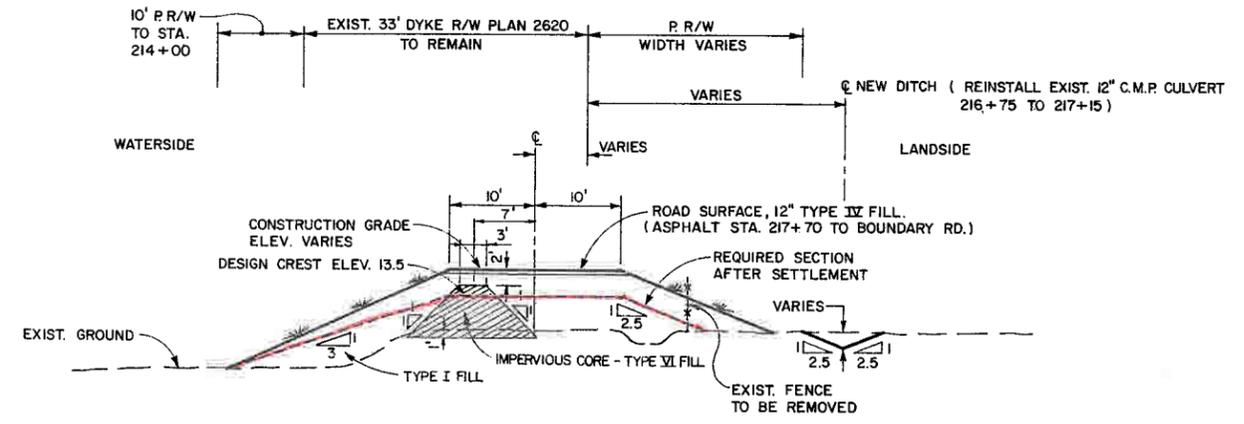
TRaverse STATIONS: 220+00, 219+00, 218+00, 217+50, 217+00, 216+00, 215+00, 214+00, 213+00, 212+50, 212+00, 211+00, 210+00, 209+00, 208+00, 207+50, 207+00, 206+00, 205+00

PROFILE

NOTE: ALL LOCATIONS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE ONLY AND SHOULD BE CONFIRMED BY USE OF PIPE LOCATOR AND MANUAL DIGGING. ALL OR ANY EXISTING STRUCTURES NOT NECESSARILY SHOWN.



DOCK DETAIL
STA. 215+25 TO 215+60



TYPICAL SECTION
STA. 207+00 TO 219+50

NOTE:
FOR DETAILS OF STAIRWAYS, DRIVEWAYS, & PARKING AREAS, SEE DWG. NO. 12

DWt April 15/77

ASSOCIATED ENGINEERING SERVICES LTD. **AESL**

AESL DWG. NO.

NO.	BY	REVISIONS	DATE
2	J.C.	AS CONSTRUCTED	3/4/77
1	DWt	Added imperv. core	1/5/77

RECOMMENDED: *[Signature]*
PROJECT MANAGER

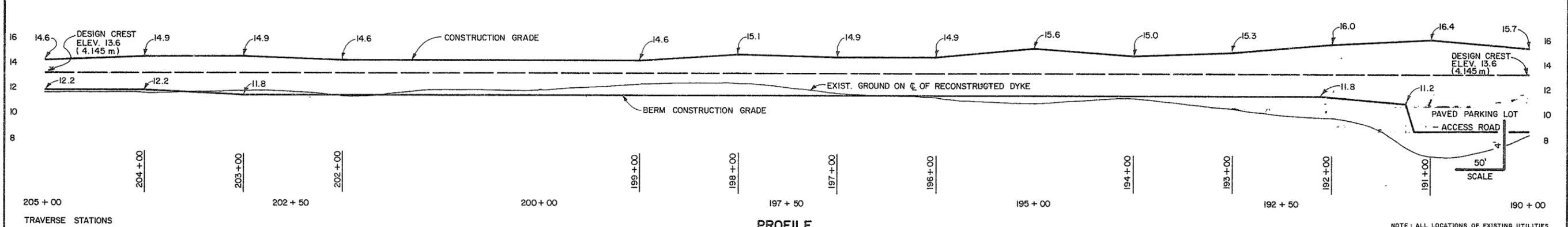
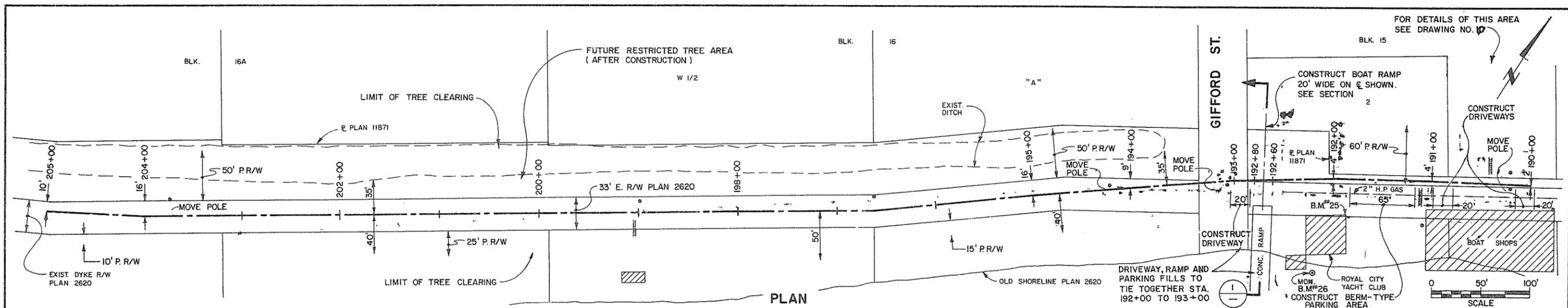
DATE: *15 Jan 1977*

APPROVED: *[Signature]*
DIRECTOR, WATER INVESTIGATIONS BRANCH

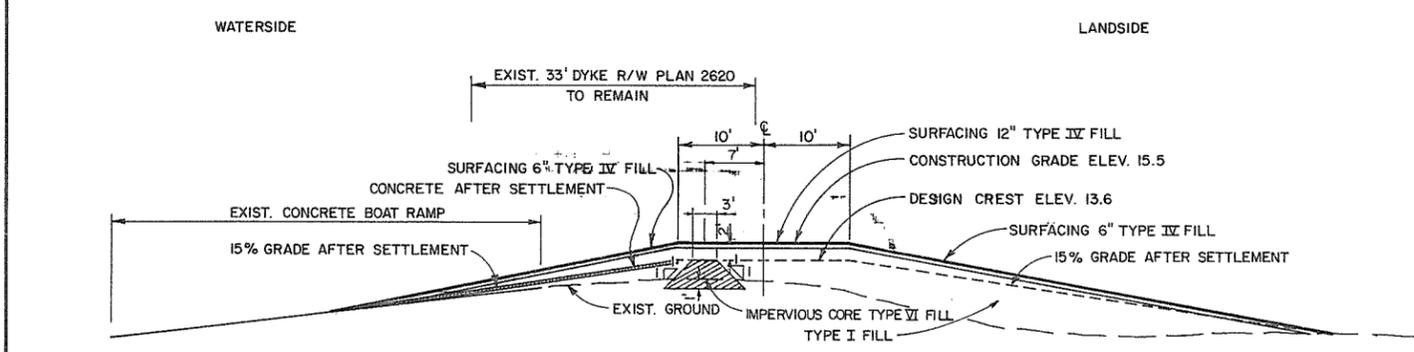
DATE: *15 Jan 1977*

DESIGNED: <i>RKL/hw</i>	SURVEYED: A. E. S. L.
DRAWN: <i>J.C.</i>	DATE: FEB. 1972
CHECKED: <i>DWt</i>	FILE NO. 0281550-C30-4
SCALE: AS SHOWN	DATE: APRIL 1977
DWG. NO. 4885-4-2	SHEET 2 OF 21 SHEETS

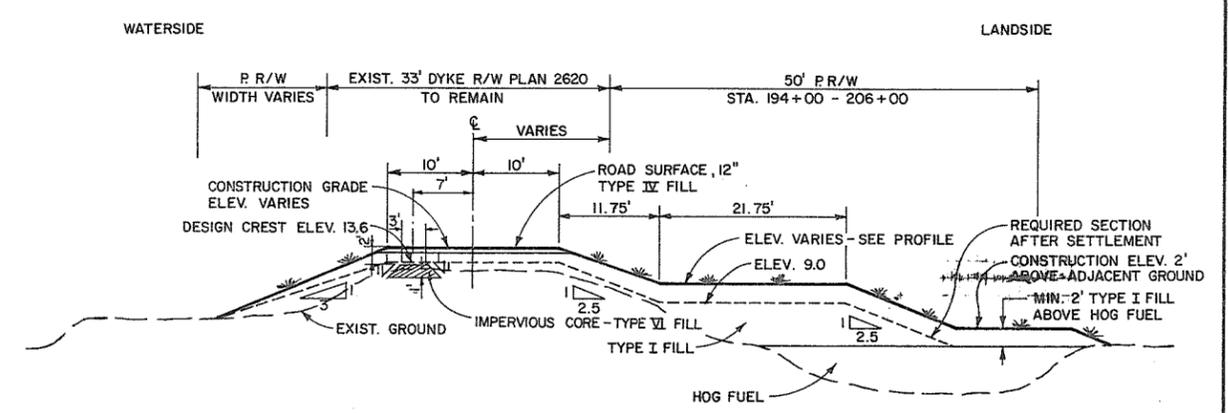
3219



NOTE: ALL LOCATIONS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE ONLY AND SHOULD BE CONFIRMED BY USE OF PIPE LOCATOR AND MANUAL DIGGING. ALL OR ANY EXISTING STRUCTURES NOT NECESSARILY SHOWN.



SECTION 1-1
ROYAL CITY YACHT CLUB
BOAT LAUNCHING RAMP
STA. 192+60 TO 192+80



TYPICAL SECTION
STA. 193+00 TO 206+00

NOTE:
FOR DETAILS OF STAIRWAYS, DRIVEWAYS,
& PARKING AREAS, SEE DWG. NO. 4885-4-3

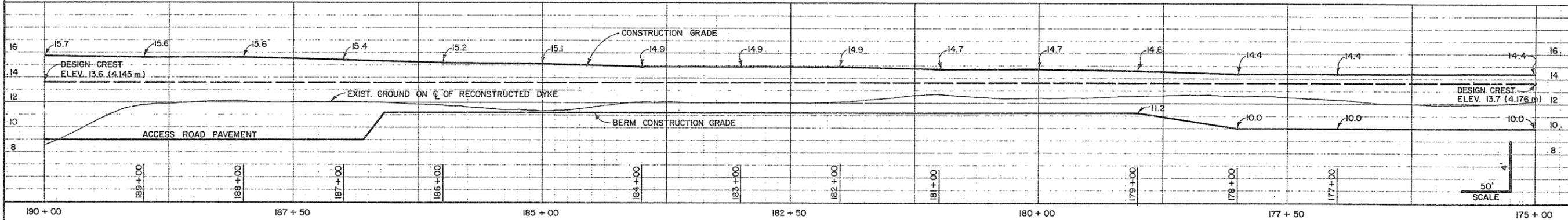
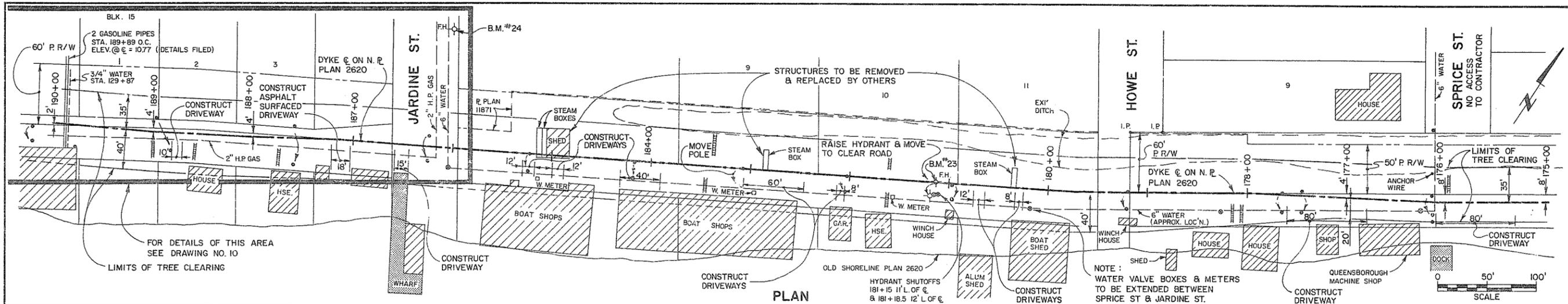
PROFESSIONAL ENGINEER
APRIL 15/77

ASSOCIATED ENGINEERING SERVICES LTD. **AESL**
AESL DWG. NO.

NO.	BY	REVISIONS	DATE
2	J.C.	AS CONSTRUCTED	3/4/79
1	RWA	Added imperv. core	12/5/77

RECOMMENDED	DATE
APPROVED	DATE

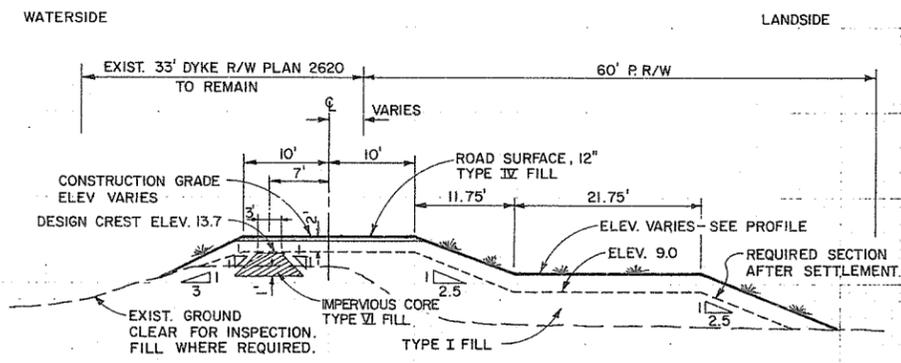
DESIGNED	SURVEYED
DRAWN	DATE
CHECKED	FILE NO.
SCALE	DATE
DWG. NO.	SHEET



TRaverse STATIONS: 190 + 00, 187 + 50, 185 + 00, 182 + 50, 180 + 00, 177 + 50, 175 + 00

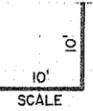
PROFILE

NOTE: ALL LOCATIONS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE ONLY AND SHOULD BE CONFIRMED BY USE OF PIPE LOCATOR AND MANUAL DIGGING. ALL OR ANY EXISTING STRUCTURES NOT NECESSARILY SHOWN.



TYPICAL SECTION
STA. 185+00 TO JARDINE ST.

- NOTE:
- FOR DETAILS OF STAIRWAYS, DRIVEWAYS, & PARKING AREAS, SEE DWG. NO. 12
 - TYPE IX SURFACING 6" STA. 185+00 EAST AND 12" STA. 185+00 WEST.



DWA April 15/77

ASSOCIATED ENGINEERING SERVICES LTD. **AESL**

AESL DWG. NO.

NO.	BY	REVISIONS	DATE
2	J.C.	AS CONSTRUCTED	3/11/77
1	DWA	Added imperv core	12/5/77

RECOMMENDED: [Signature]
DATE: 18 Apr 77

APPROVED: [Signature]
DIRECTOR, WATER INVESTIGATIONS BRANCH
DATE: Apr 18/77

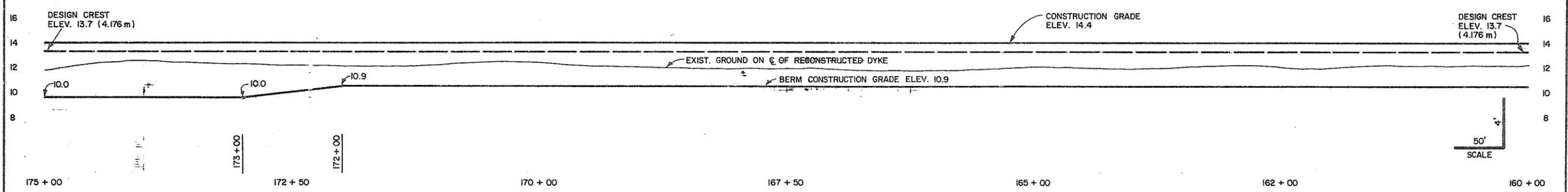
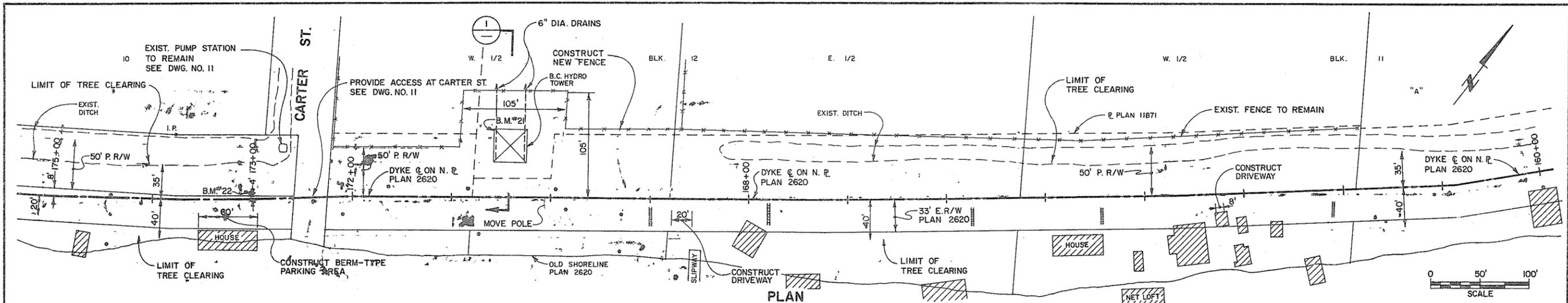
BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA — BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT

PROJECT NO. 11 CITY OF NEW WESTMINSTER CONTRACT NO. 4

PLAN, PROFILE, & SECTIONS
DYKE STA. 175+00 TO 190+00

DESIGNED: RKL/fwl	SURVEYED: A.E.S.L.
DRAWN: J.C.	DATE: FEB. 1972
CHECKED: DWA	FILE NO.: 0281550-C30-4
SCALE: AS SHOWN	DATE: APRIL 1977
DWG. NO.: 4885-4-4	SHEET: 4 OF 21 SHEETS

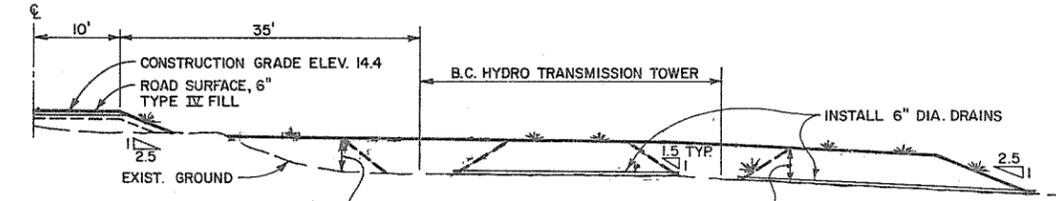
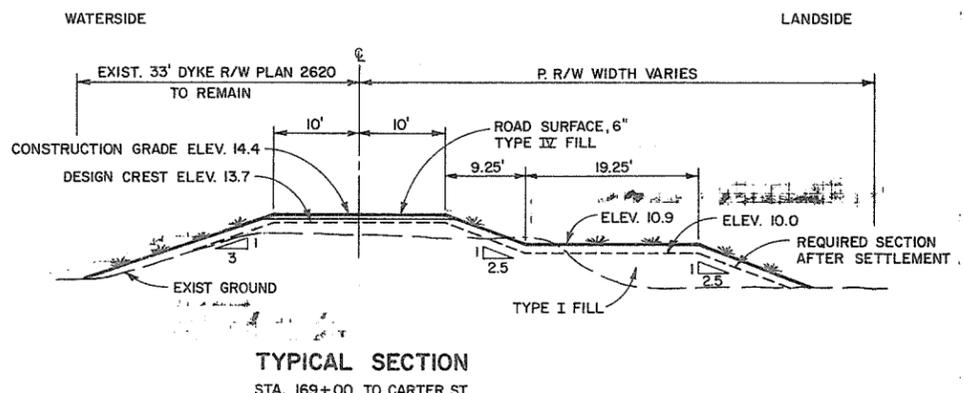
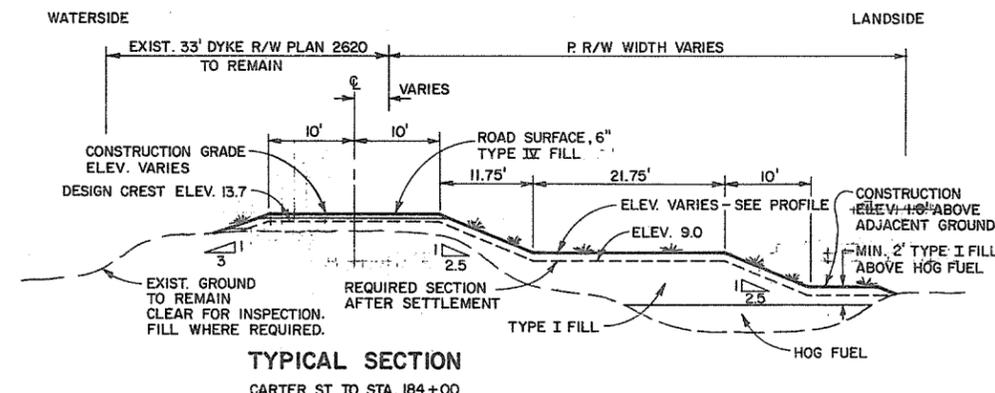
9221



TRAVERSE STATIONS: 175 + 00, 172 + 50, 170 + 00, 167 + 50, 165 + 00, 162 + 00, 160 + 00

PROFILE

NOTE: ALL LOCATIONS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE ONLY AND SHOULD BE CONFIRMED BY USE OF PIPE LOCATOR AND MANUAL DIGGING. ALL OR ANY EXISTING STRUCTURES NOT NECESSARILY SHOWN.



DWH April 18/77

NOTE: FOR DETAILS OF STAIRWAYS, DRIVEWAYS, & PARKING AREAS SEE DWG. NO. 4885-4-5

NOTE: FENCING STA. 168+70 TO CARTER ST. TO BE RELOCATED CLEAR OF CONSTRUCTION AREA DURING CONSTRUCTION PERIOD. AFTER TOPSOIL & SEEDING, CONSTRUCT NEW FENCE AS ON SECTION.

ASSOCIATED ENGINEERING SERVICES LTD. **AESL**

AESL DWG. NO.

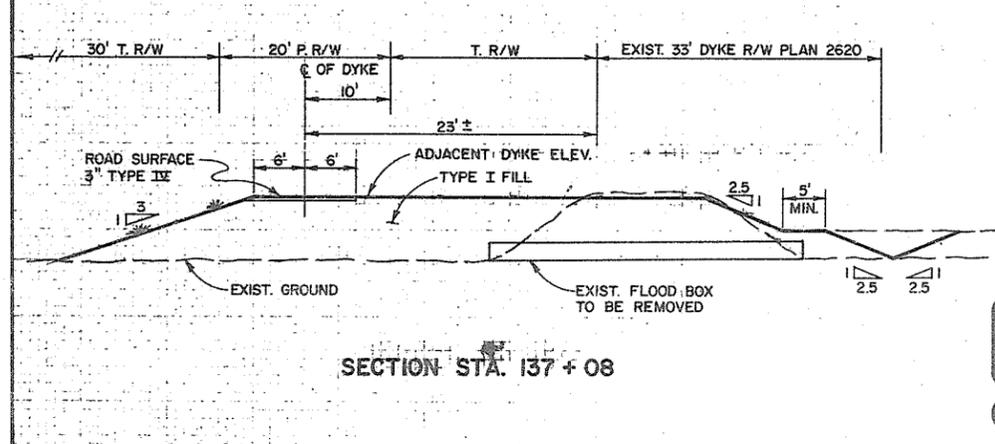
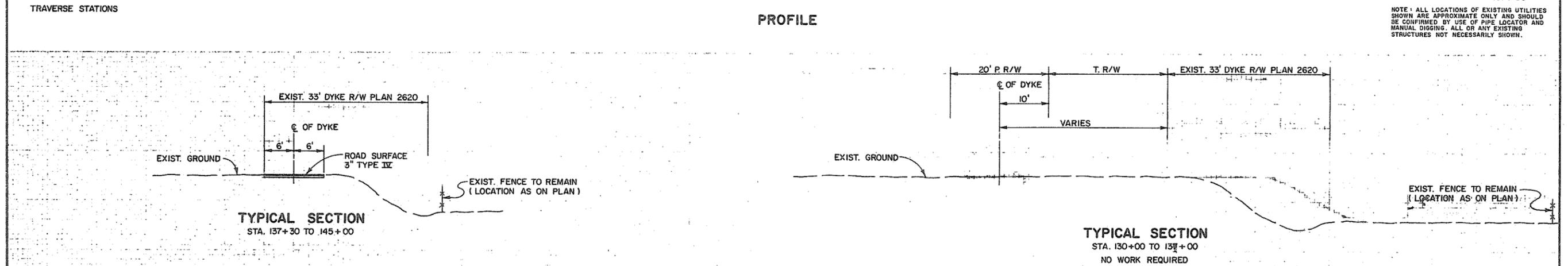
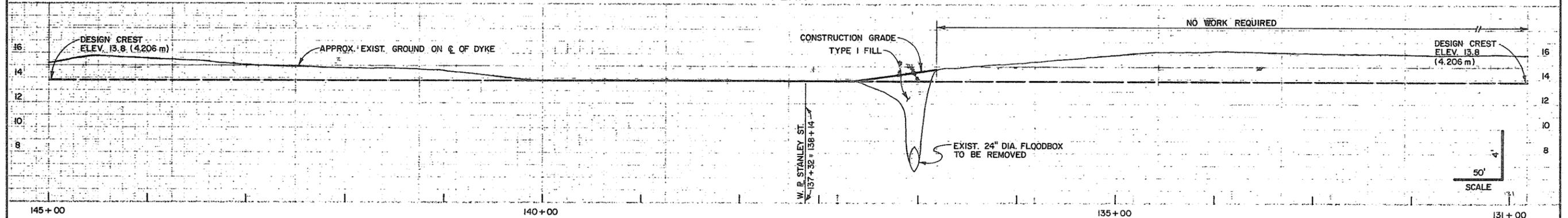
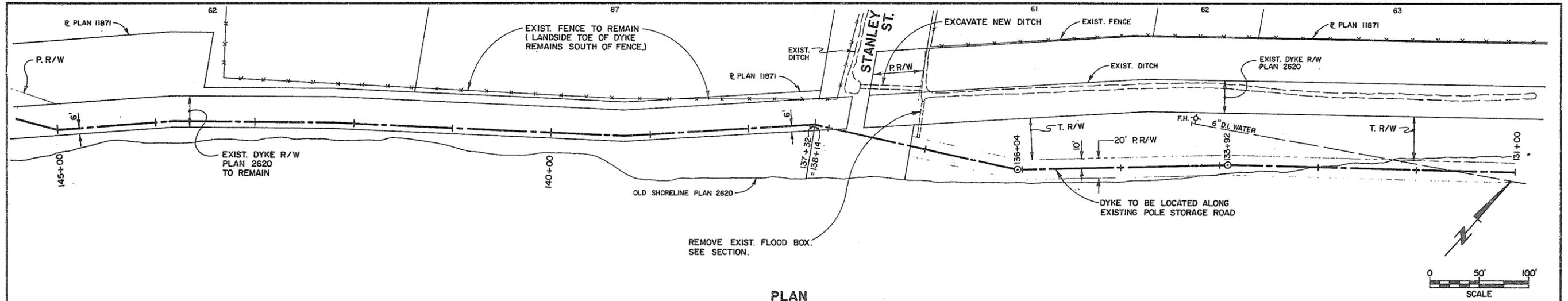
NO. BY	REVISIONS	DATE
1	J.C. AS CONSTRUCTED	3/4/77
APPROVED: <i>[Signature]</i> DIRECTOR, WATER INVESTIGATIONS BRANCH		
DATE	Apr 18/77	

BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA — BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT

PROJECT NO. 11 CITY OF NEW WESTMINSTER CONTRACT NO. 4
PLAN, PROFILE, & SECTIONS
DYKE STA. 160+00 TO 175+00

DESIGNED: <i>RKL/RW</i>	SURVEYED: A.E.S.L.
DRAWN: J.C.	DATE: FEB. 1972
CHECKED: <i>[Signature]</i>	FILE NO.: 0281550-C30-4
SCALE: AS SHOWN	DATE: APRIL 1977
DWG. NO.: 4885-4-5	SHEET 5 OF 21 SHEETS

9222



Dwg April 15/77

ASSOCIATED ENGINEERING SERVICES LTD. **AESL**
AESL DWG. NO.

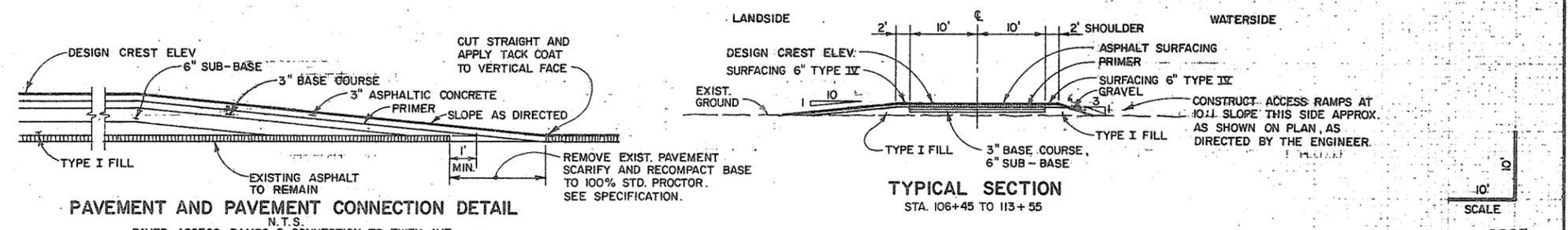
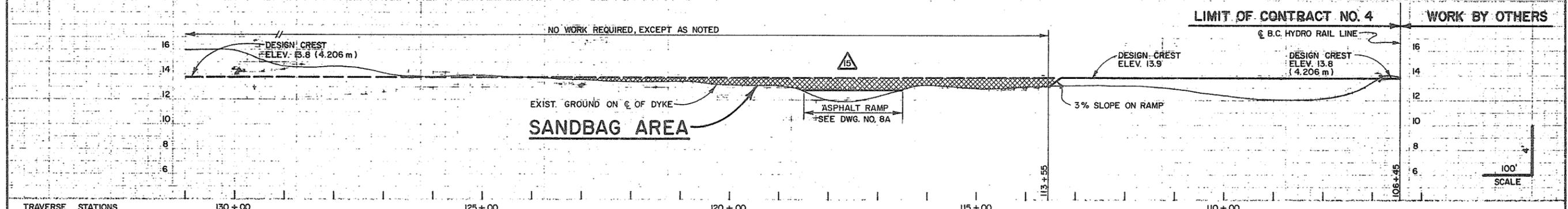
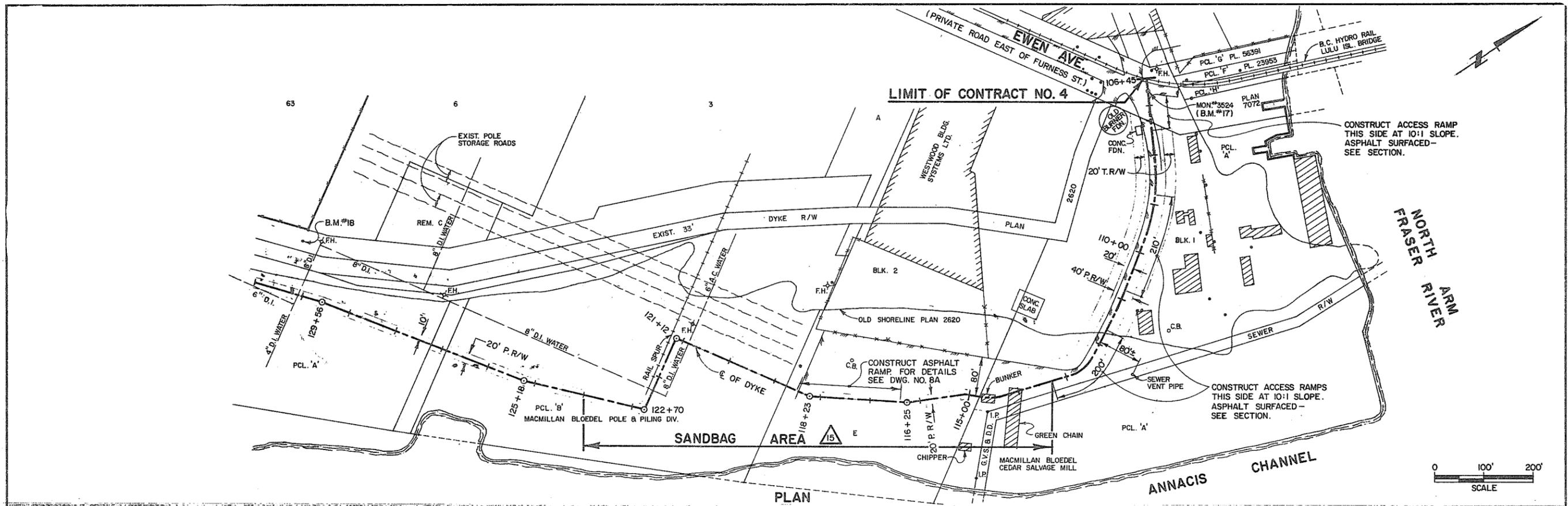
NO.	BY	REVISIONS	DATE
1	J.C.	AS CONSTRUCTED	3/4/79

RECOMMENDED *[Signature]*
PROJECT MANAGER
DATE 18 Apr 77
APPROVED *[Signature]*
DIRECTOR, WATER INVESTIGATIONS BRANCH
DATE 2 Apr 1977

DESIGNED	DWA	SURVEYED	A.E.S.L.
DRAWN	J.C.	DATE	AUG. 1974
CHECKED	DWA	FILE NO.	0281550-C30-4
SCALE	AS SHOWN	DATE	APRIL 1977
DWG. NO.	4885-4-7	SHEET	7 OF 21 SHEETS

NOTE: ALL LOCATIONS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE ONLY AND SHOULD BE CONFIRMED BY USE OF PIPE LOCATOR AND MANUAL DIGGING. ALL OR ANY EXISTING STRUCTURES NOT NECESSARILY SHOWN.

9224



DWH April 15/77

ASSOCIATED ENGINEERING SERVICES LTD. **AESL**

AESL DWG. NO. _____

NO.	BY	REVISIONS	DATE
1	J.C.	REVISED E.OF DYKE STA. 115+00 TO 130+00	9-9-78
2	J.C.	AS CONSTRUCTED	3/4/79

RECOMMENDED PROJECT MANAGER
DATE 18 Apr 77

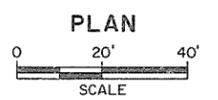
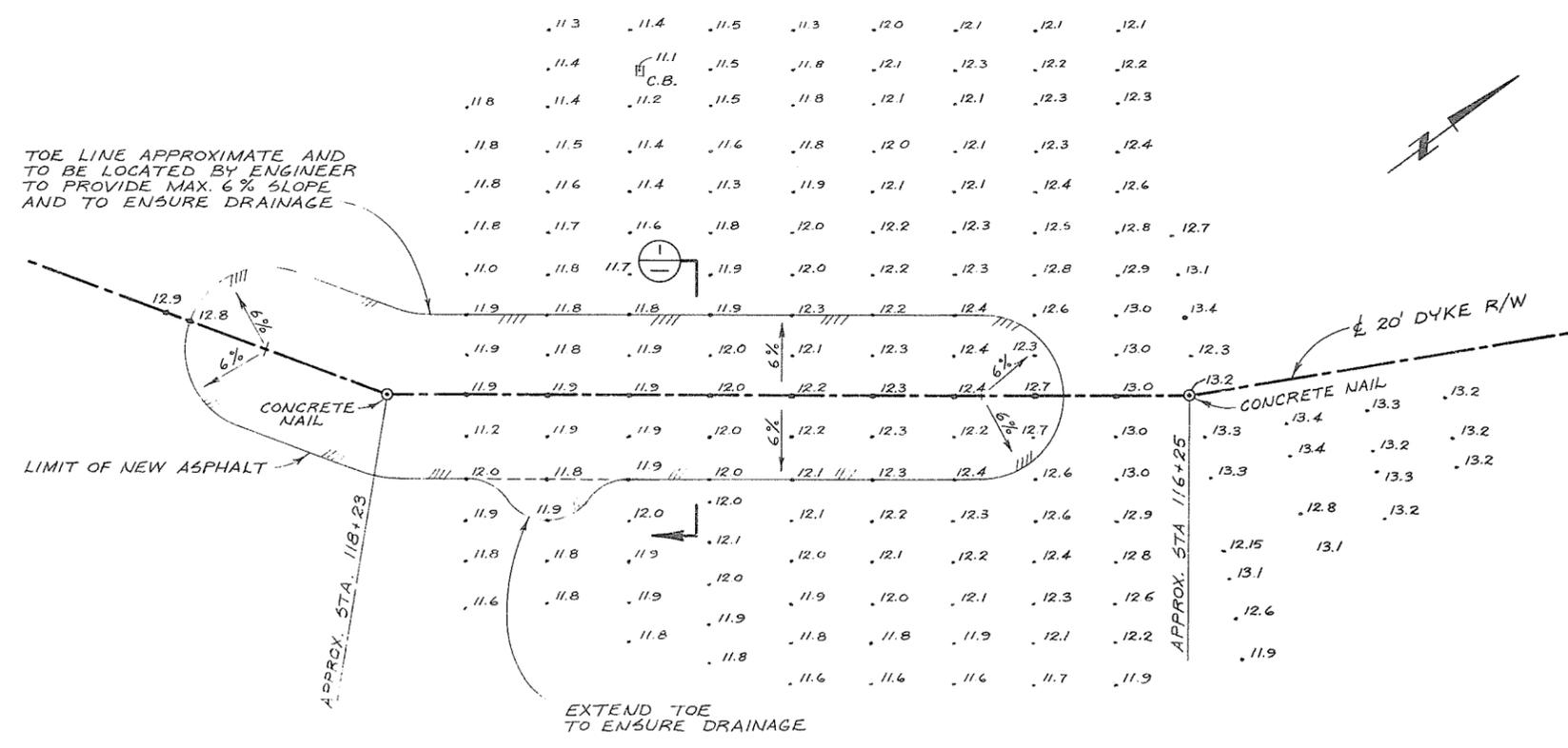
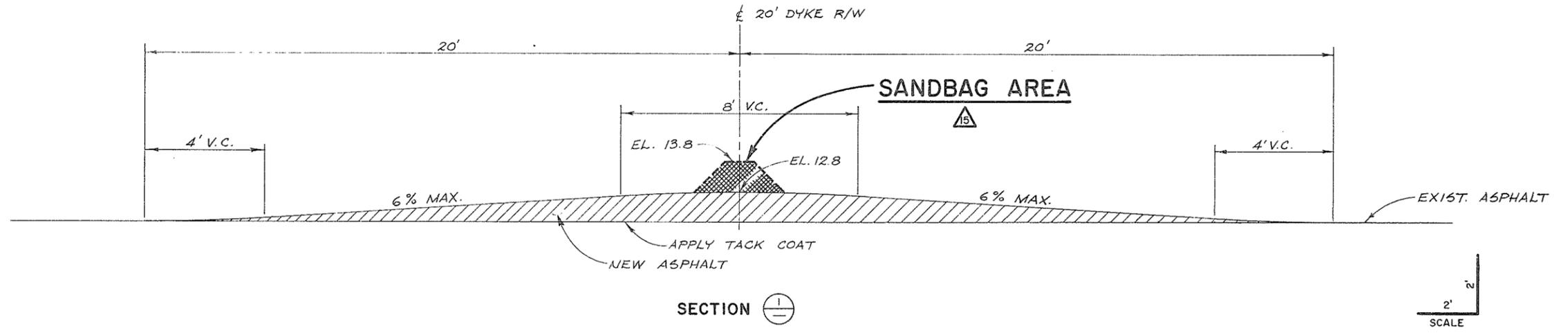
APPROVED DIRECTOR, WATER INVESTIGATIONS BRANCH
DATE Apr 1977

BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA - BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT

PROJECT NO. 11 CITY OF NEW WESTMINSTER CONTRACT NO. 4
PLAN, PROFILE, & SECTIONS
DYKE STA. 106+45 TO 131+00

DESIGNED	DWH	SURVEYED	A.E.S.L.
DRAWN	J.C.	DATE	AUG. 1974
CHECKED	DWH	FILE NO.	0281550-C30-4
SCALE	AS SHOWN	DATE	APRIL 1977
DWG. NO.	4885-4-8	SHEET	8 OF 21 SHEETS

9225



ASSOCIATED ENGINEERING SERVICES LTD. **AESL**

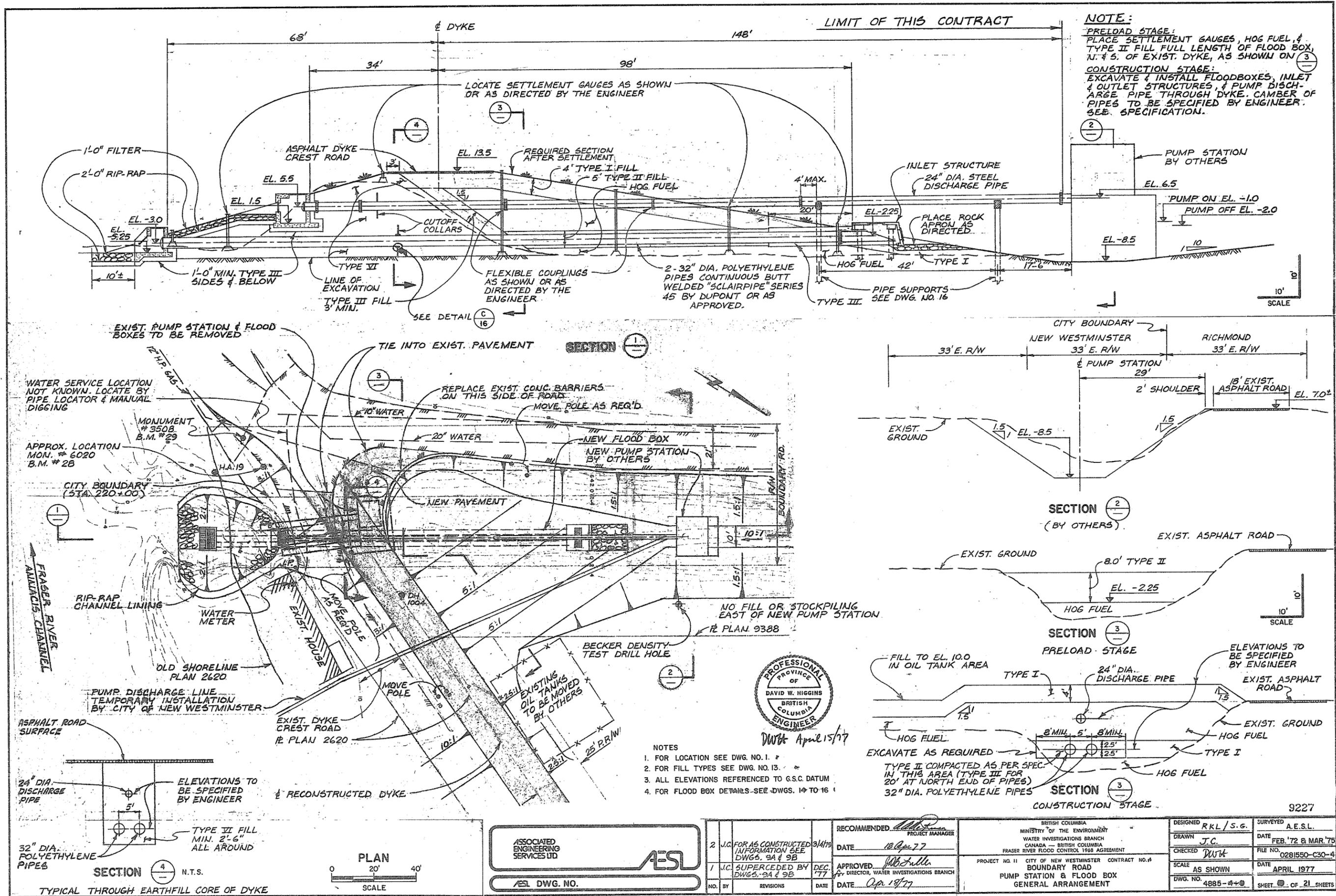
AESL DWG. NO. _____

RECOMMENDED	PROJECT MANAGER
DATE	
APPROVED	DIRECTOR, WATER INVESTIGATIONS BRANCH
DATE	

BRITISH COLUMBIA
 MINISTRY OF THE ENVIRONMENT
 WATER INVESTIGATIONS BRANCH
 CANADA - BRITISH COLUMBIA
 FRASER RIVER FLOOD CONTROL 1968 AGREEMENT
 PROJECT NO. 11 CITY OF NEW WESTMINSTER CONTRACT NO. 4
 ASPHALT RAMP DETAILS
 STA. 116 + 40 TO 118 + 50

DESIGNED	DWT	SURVEYED	A.E.S.L.
DRAWN	J.C.	DATE	JULY 1978
CHECKED	DWT	FILE NO.	0281550-C30-4
SCALE	AS SHOWN	DATE	AUG. 1978
DWG. NO.	4885-4-8A	SHEET	9 OF 21 SHEETS

9226



NOTE:
PRELOAD STAGE:
 PLACE SETTLEMENT GAUGES, HOG FUEL, & TYPE II FILL FULL LENGTH OF FLOOD BOX, N. & S. OF EXIST. DYKE, AS SHOWN ON (3)
CONSTRUCTION STAGE:
 EXCAVATE & INSTALL FLOODBOXES, INLET & OUTLET STRUCTURES, & PUMP DISCHARGE PIPE THROUGH DYKE. CAMBER OF PIPES TO BE SPECIFIED BY ENGINEER. SEE SPECIFICATION.

- NOTES
- FOR LOCATION SEE DWG. NO. 1
 - FOR FILL TYPES SEE DWG. NO. 13
 - ALL ELEVATIONS REFERENCED TO G.S.C. DATUM
 - FOR FLOOD BOX DETAILS - SEE DWGS. 14 TO 16



DWH April 15/77

ASSOCIATED ENGINEERING SERVICES LTD. **AESL**

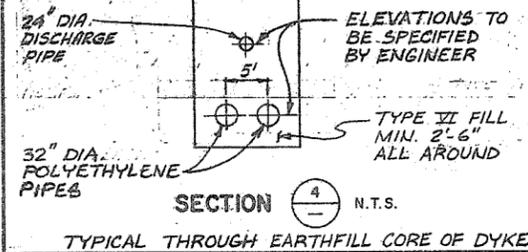
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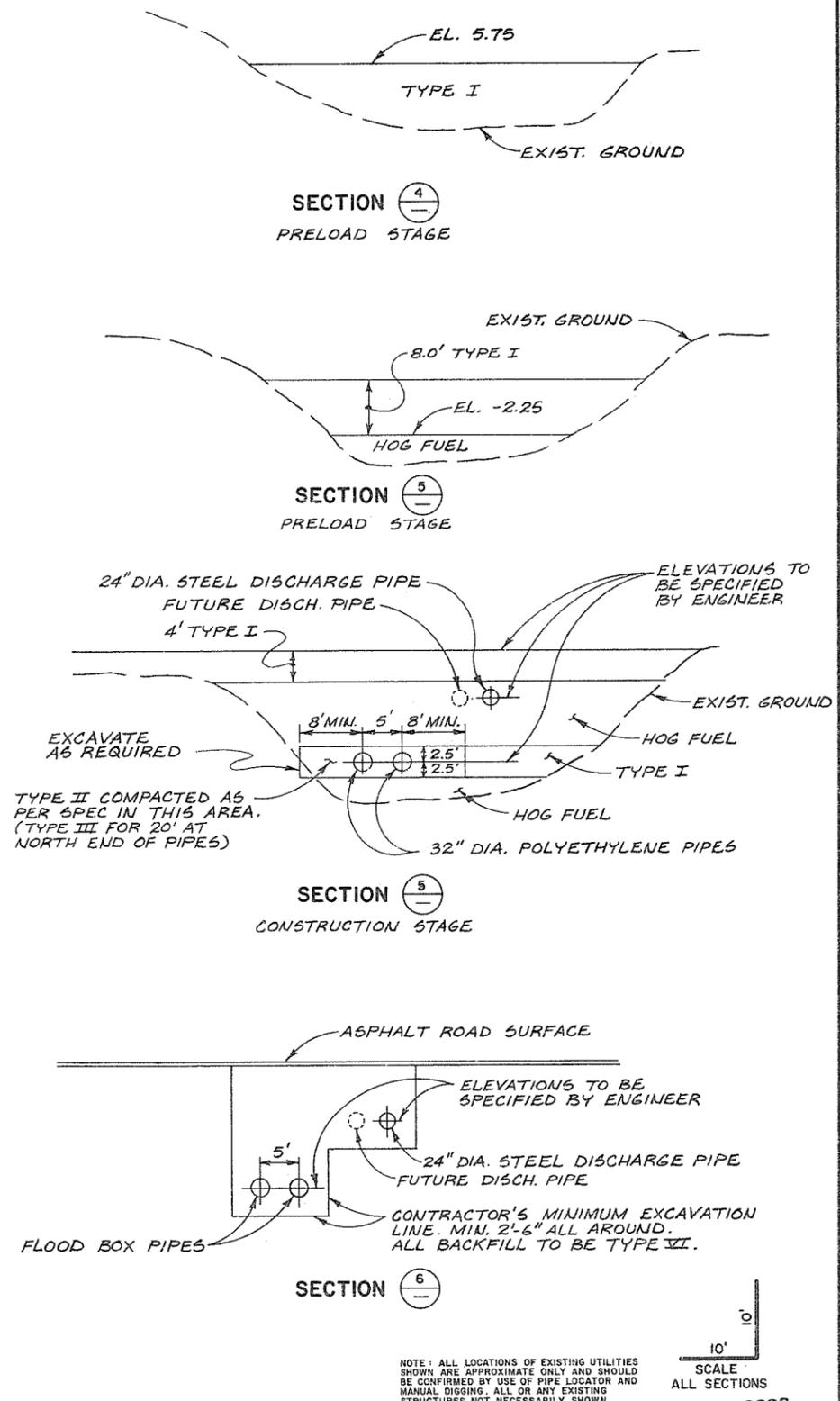
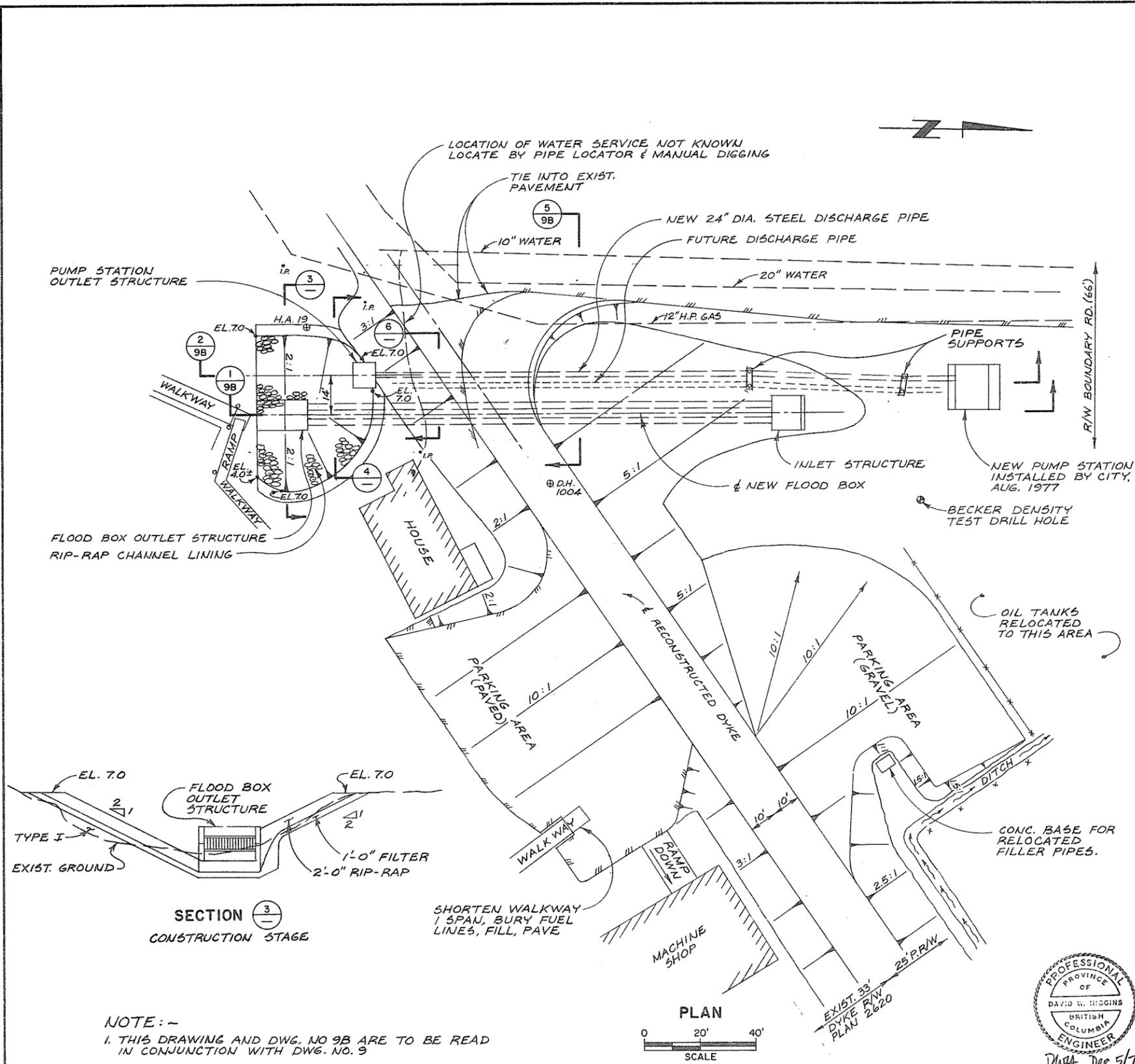
NO.	BY	REVISIONS	DATE
2	J.C.	FOR AS CONSTRUCTED INFORMATION SEE DWGS. 9A & 9B	3/14/77
1	J.C.	SUPERCEDED BY DWGS. 9A & 9B	DEC. 77

RECOMMENDED PROJECT MANAGER
 DATE 12 Apr 77

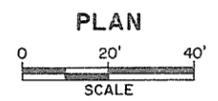
APPROVED BY DIRECTOR, WATER INVESTIGATIONS BRANCH
 DATE Apr 19/77

DESIGNED RKL/S.G.	SURVEYED A.E.S.L.
DRAWN J.C.	DATE FEB. '72 & MAR. '75
CHECKED DWH	FILE NO. 0281550-C30-4
SCALE AS SHOWN	DATE APRIL 1977
DWG. NO. 4885-2+3	SHEET 21 OF 21 SHEETS





NOTE: -
 1. THIS DRAWING AND DWG. NO 9B ARE TO BE READ
 IN CONJUNCTION WITH DWG. NO. 9



ASSOCIATED ENGINEERING SERVICES LTD. **AESL**

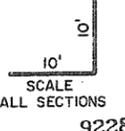
AESL DWG. NO.

NO.	BY	REVISIONS	DATE
2	J.C.	AS CONSTRUCTED	3/4/75
1	J.C.	ADDED P.S. DISCHARGE PIPE SUPPORTS	3/4/78

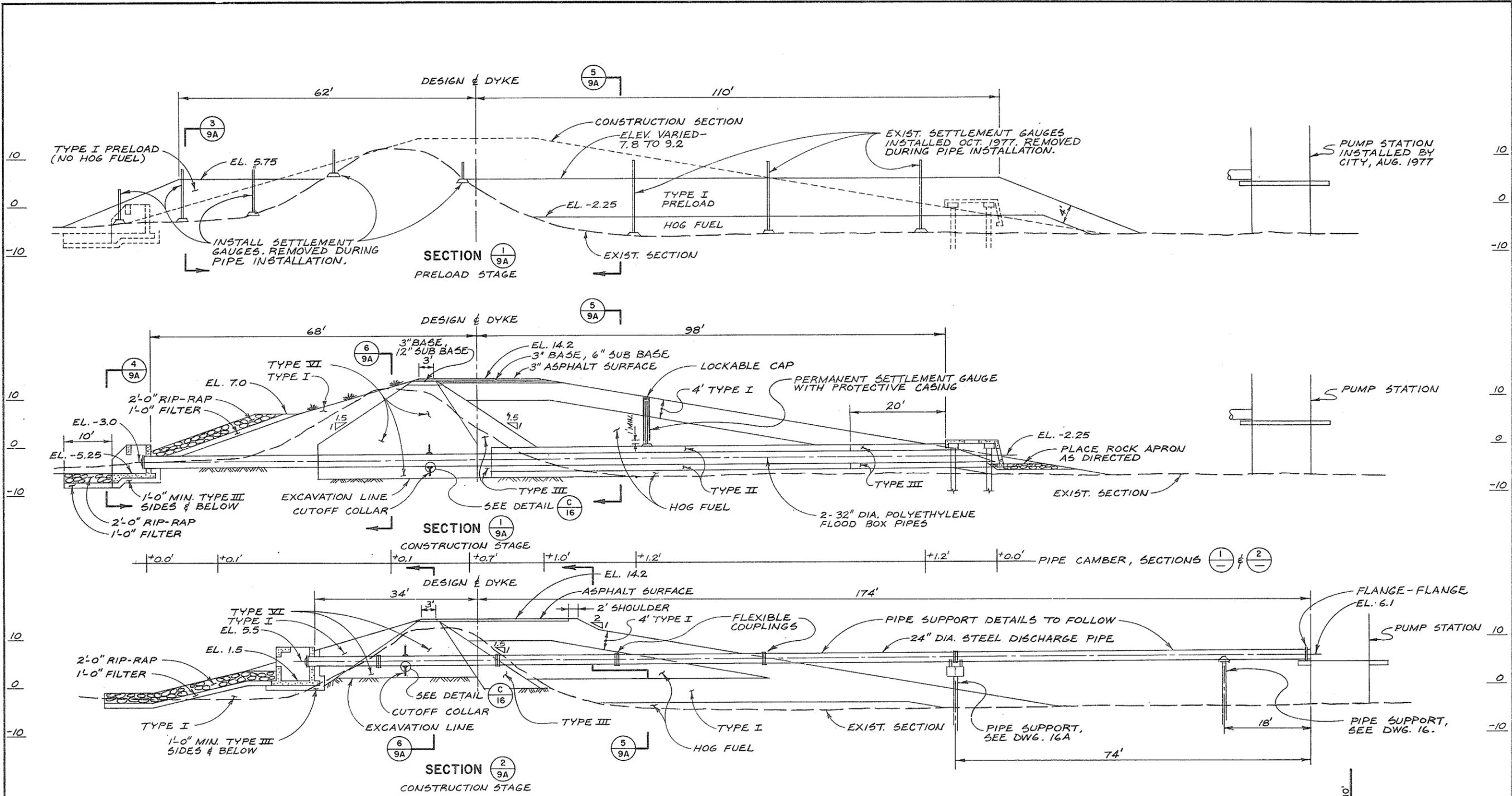
RECOMMENDED PROJECT MANAGER
 DATE
 APPROVED DIRECTOR, WATER INVESTIGATIONS BRANCH
 DATE

DESIGNED <i>DWH</i>	SURVEYED A.E.S.L.
DRAWN J.C.	DATE FEB. '72 & MAR. '75
CHECKED <i>DWH</i>	FILE NO. 0281550-C30-4
SCALE AS SHOWN	DATE DEC. 1977
DWG. NO. 4885-4-9A	SHEET 11 OF 21 SHEETS

NOTE: ALL LOCATIONS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE ONLY AND SHOULD BE CONFIRMED BY USE OF PIPE LOCATOR AND MANUAL DIGGING. ALL OR ANY EXISTING STRUCTURES NOT NECESSARILY SHOWN.



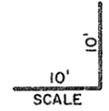
9228



NOTE:-
LOCATE FLEXIBLE COUPLINGS ON
STEEL PIPE AS SHOWN.



With Dec 1/77



NOTE: ALL LOCATIONS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE ONLY AND SHOULD BE CONFIRMED BY USE OF PIPE LOCATOR AND MANUAL DIGGING. ALL OR ANY EXISTING STRUCTURES NOT NECESSARILY SHOWN.

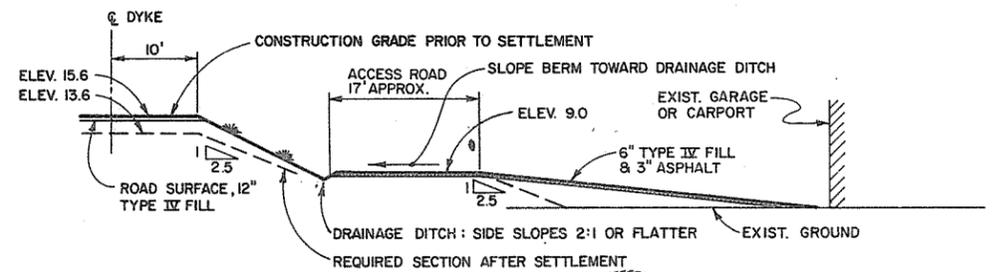
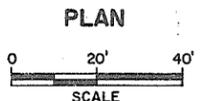
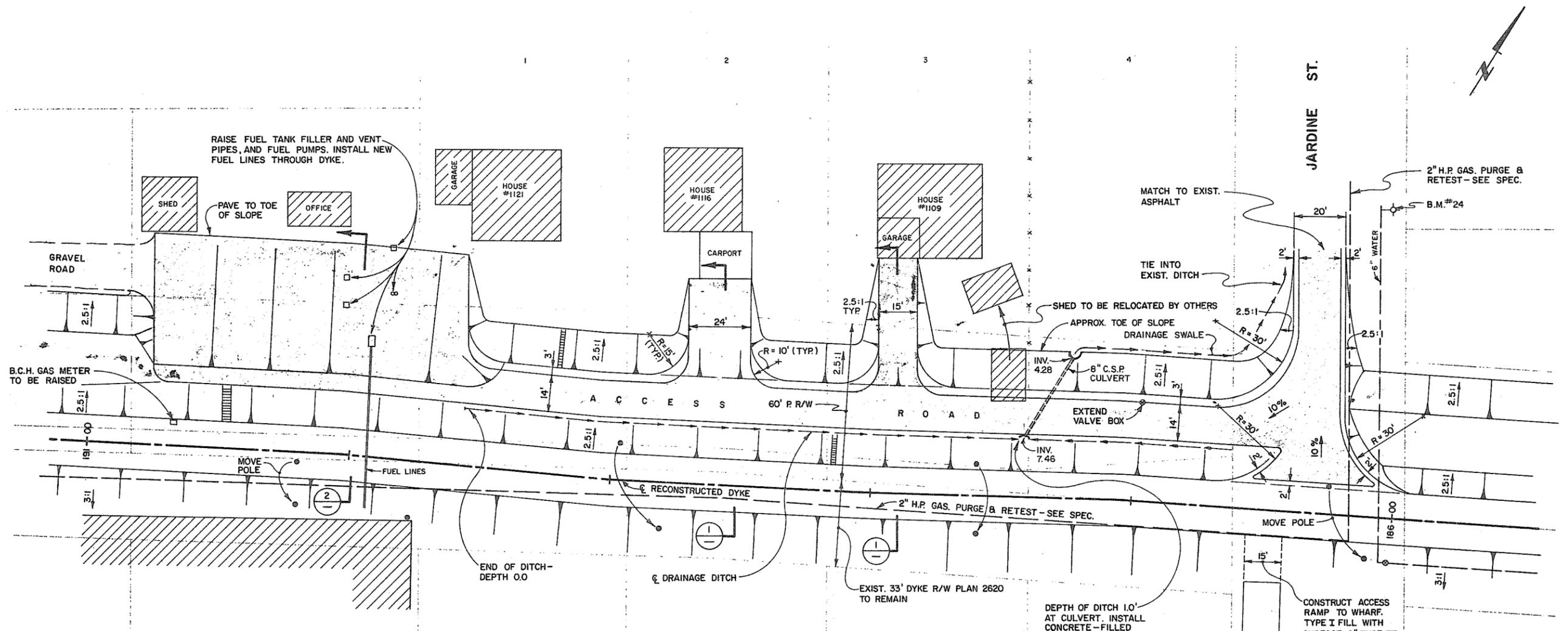
9229

ASSOCIATED ENGINEERING SERVICES LTD
AESL
AESL DWG. NO.

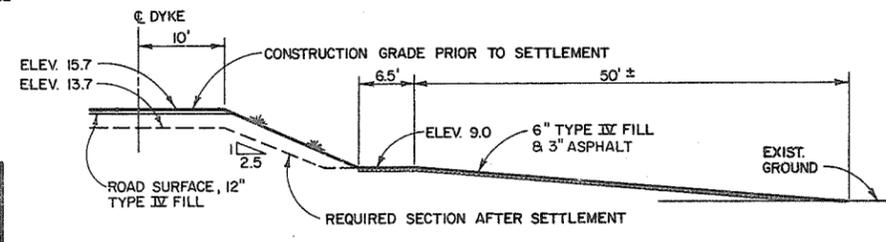
RECOMMENDED..... PROJECT MANAGER	DATE.....	
APPROVED..... DIRECTOR, WATER INVESTIGATIONS BRANCH	DATE.....	
NO. BY	REVISIONS	DATE

BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA - BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT
PROJECT NO. 11 CITY OF NEW WESTMINSTER CONTRACT NO. 4
BOUNDARY ROAD
PUMP STATION & FLOOD BOX
SECTIONS

DESIGNED <i>DWH</i>	SURVEYED A.E.S.L.
DRAWN <i>J.C.</i>	DATE FEB '72 & MAR '75
CHECKED <i>DWH</i>	FILE NO. 0281550-C30-4
SCALE AS SHOWN	DATE DEC. 1977
DWG. NO. 4885-4-9B	SHEET 12 OF 21 SHEETS



SECTION 1



SECTION 2

- NOTES:**
- PAVEMENT TO BE PLACED AFTER SETTLEMENT SUBSTANTIALLY COMPLETE.
 - REPAIR ANY WATER MAINS AND SERVICES DAMAGED. APPROXIMATE LOCATIONS OF WATER SERVICES IN THIS AREA SHOWS ON CITY OF NEW WESTMINSTER SKETCH DATED JUNE 10, 1959, AVAILABLE TO TENDERERS FOR INSPECTION.



ASSOCIATED ENGINEERING SERVICES LTD. **AESL**

AESL DWG. NO.

RECOMMENDED	<i>[Signature]</i>
DATE	18 Apr 77
APPROVED	<i>[Signature]</i>
DATE	Apr 18 1977

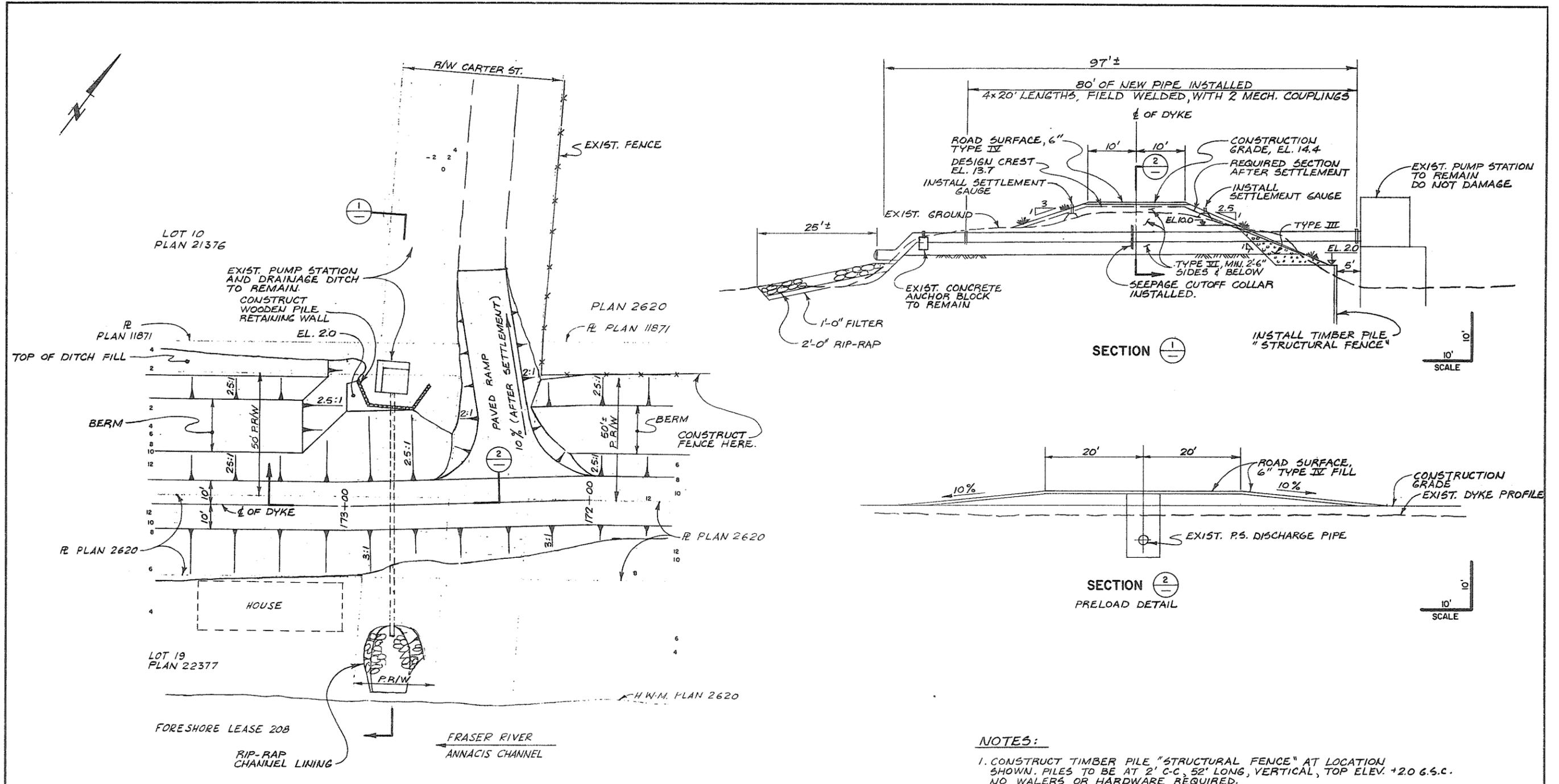
BRITISH COLUMBIA
 MINISTRY OF THE ENVIRONMENT
 WATER INVESTIGATIONS BRANCH
 CANADA - BRITISH COLUMBIA
 FRASER RIVER FLOOD CONTROL 1969 AGREEMENT

PROJECT NO. 11 CITY OF NEW WESTMINSTER CONTRACT NO. 4

ACCESS ROAD DETAILS
 STA. 186+00 TO 191+00

DESIGNED	<i>[Signature]</i>	SURVEYED	A.E.S.L.
DRAWN	J.C.	DATE	FEB. 1975
CHECKED	<i>[Signature]</i>	FILE NO.	0281550-C30-4
SCALE	AS SHOWN	DATE	APRIL 1977
DWG. NO.	4885-4-10	SHEET	13 OF 21 SHEETS

9230



- NOTES:**
1. CONSTRUCT TIMBER PILE "STRUCTURAL FENCE" AT LOCATION SHOWN. PILES TO BE AT 2' C-C, 52' LONG, VERTICAL, TOP ELEV. +2.0 G.S.C. NO WALERS OR HARDWARE REQUIRED.
 2. AFTER CONSTRUCTION OF "STRUCTURAL FENCE", PRELOAD PIPE AREA FOR ONE MONTH, OR AS DIRECTED. PRELOAD TO CONSIST OF SPECIFIED DYKE FILL, PLUS AN EXTRA 3-FOOT DEPTH OF BULK FILL OVER THE 20-FOOT WIDTH OF THE DYKE CREST AND EXTENDING A MINIMUM 20-FOOT DISTANCE TO EITHER SIDE OF THE PIPE CROSSING LOCATION. SURFACE WITH 6" TYPE IV, AND MAINTAIN TRAFFIC THROUGH SITE.
 3. AFTER REMOVAL OF PRELOAD, THE ENGINEER WILL INSPECT THE EXISTING PUMP STATION DISCHARGE PIPE AND SPECIFY WHETHER IT IS TO BE REPLACED OR REPAIRED.
 4. FOR FILING NOTES SEE DWG NO 14.



DWH April 15/77

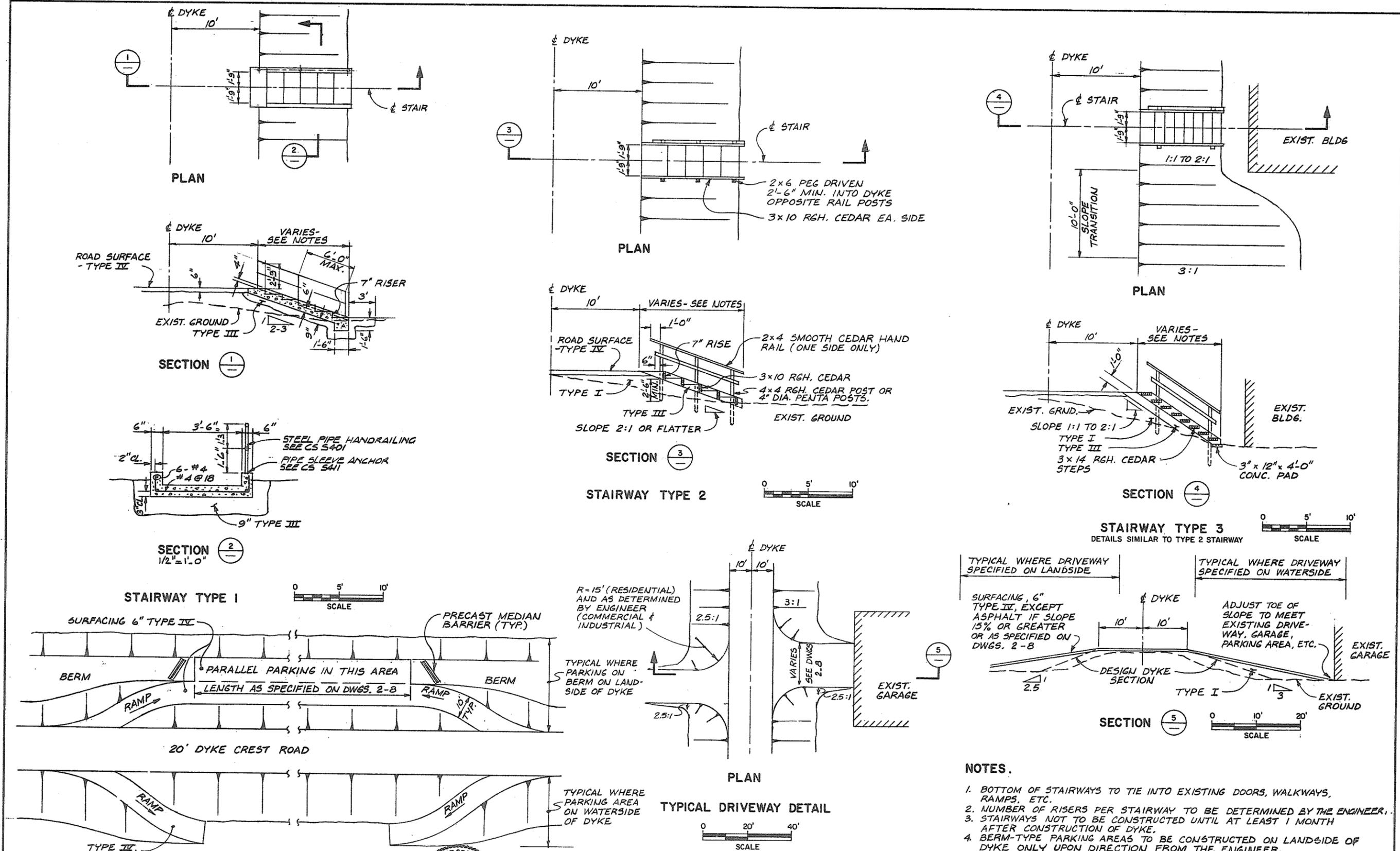
ASSOCIATED ENGINEERING SERVICES LTD. **AESL**
 AESL DWG. NO.

NO.	BY	REVISIONS	DATE
2	J.C.	AS CONSTRUCTED	3/4/78
1	DWH	Note 4 added	12/5/77

RECOMMENDED	<i>[Signature]</i> PROJECT MANAGER
DATE	12 Apr 77
APPROVED	<i>[Signature]</i> DIRECTOR, WATER INVESTIGATIONS BRANCH
DATE	24 1977

DESIGNED	RRL/Dwh	SURVEYED	A.E.S.L.
DRAWN	J.C.	DATE	FEB. 1972
CHECKED	DWH	FILE NO.	0281550-C30-4
SCALE	AS SHOWN	DATE	APRIL 1977
DWG. NO.	4885-4-11	SHEET	14 OF 21 SHEETS

9231



- NOTES.**
1. BOTTOM OF STAIRWAYS TO TIE INTO EXISTING DOORS, WALKWAYS, RAMPS, ETC.
 2. NUMBER OF RISERS PER STAIRWAY TO BE DETERMINED BY THE ENGINEER.
 3. STAIRWAYS NOT TO BE CONSTRUCTED UNTIL AT LEAST 1 MONTH AFTER CONSTRUCTION OF DYKE.
 4. BERM-TYPE PARKING AREAS TO BE CONSTRUCTED ON LANDSIDE OF DYKE ONLY UPON DIRECTION FROM THE ENGINEER.



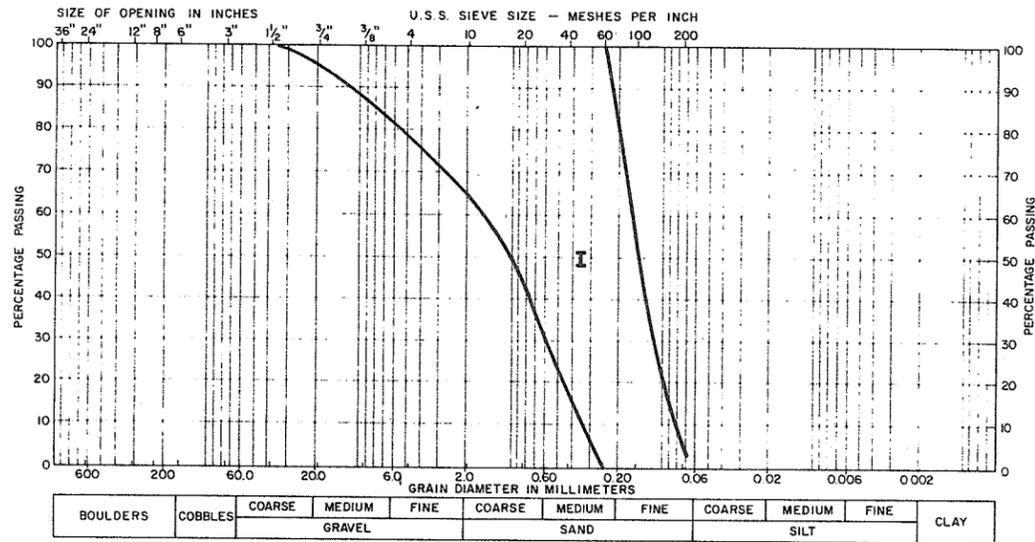
ASSOCIATED ENGINEERING SERVICES LTD
AESL
AESL DWG. NO.

NO.	BY	REVISIONS	DATE
1	J.C.	AS CONSTRUCTED	3/4/77
RECOMMENDED		PROJECT MANAGER	DATE 18 Apr 77
APPROVED		DIRECTOR, WATER INVESTIGATIONS BRANCH	DATE Apr 1977

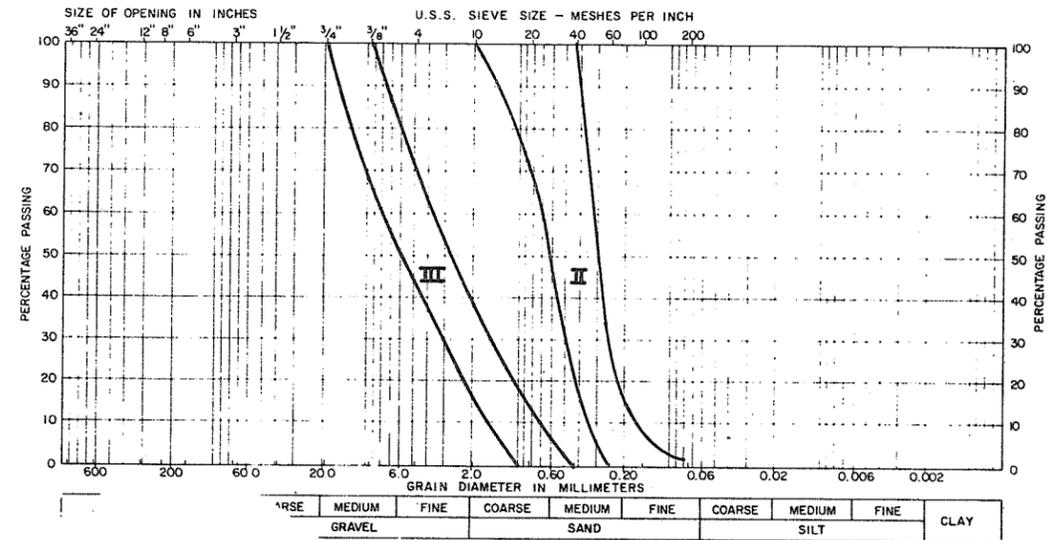
BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA - BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT
PROJECT NO. 11 CITY OF NEW WESTMINSTER CONTRACT NO. 4
STAIRWAY, DRIVEWAY, & PARKING AREA DETAILS

DESIGNED	D.W.H.	SURVEYED	A.E.S.L.
DRAWN	J.C.	DATE	FEB. 1972
CHECKED	D.W.H.	FILE NO.	0281550-C30-4
SCALE	AS SHOWN	DATE	APRIL 1977
DWG. NO.	4885-4-12	SHEET	21 OF 21 SHEETS

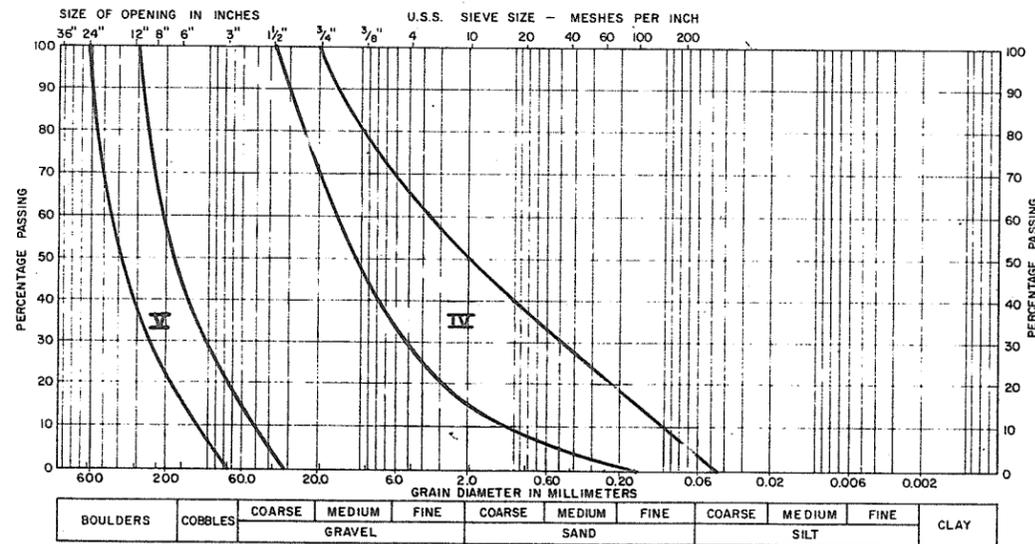
9232



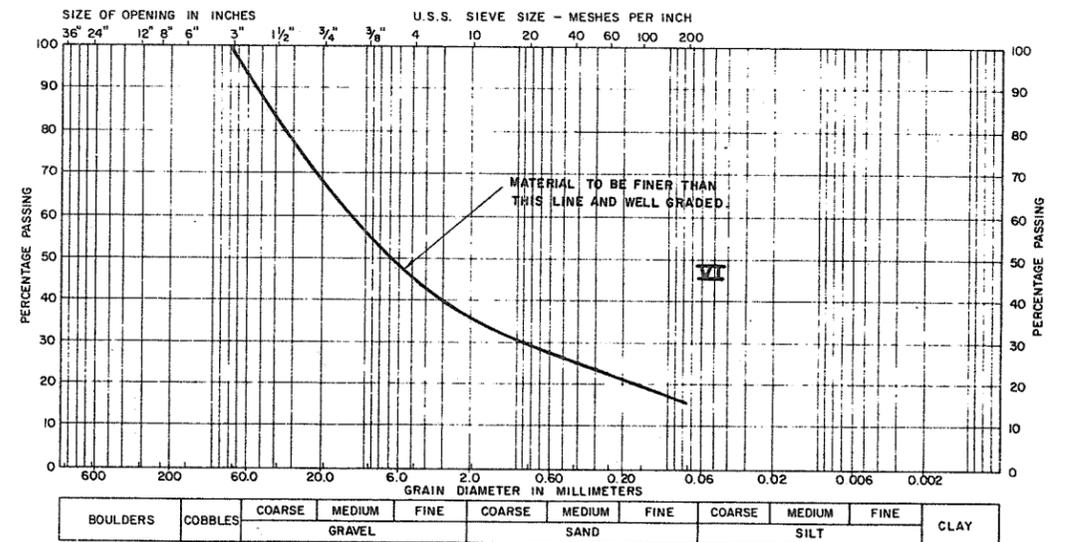
**TYPE I
BULK FILL MATERIAL**



**TYPE II - FILTER SAND
TYPE III - DRAIN GRAVEL**



**TYPE IV - ROAD SURFACE MATERIAL
TYPE V - DRAINAGE DITCH RIP-RAP**



TYPE VI - CONDUIT RIVERSIDE BACKFILL



With April 15/77

ASSOCIATED ENGINEERING SERVICES LTD. **AESL**

AESL DWG. NO.

RECOMMENDED *David W. Higgins*
PROJECT MANAGER

DATE *Apr 77*

APPROVED *Bob Sellen*
BY DIRECTOR, WATER INVESTIGATIONS BRANCH

DATE *Apr 1977*

BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA - BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT

PROJECT NO. 11 CITY OF NEW WESTMINSTER CONTRACT NO. 4

GRADING LIMITS OF CONSTRUCTION MATERIALS

DESIGNED *R. K. L.*

DRAWN *E. W. S.*

CHECKED *[Signature]*

SCALE

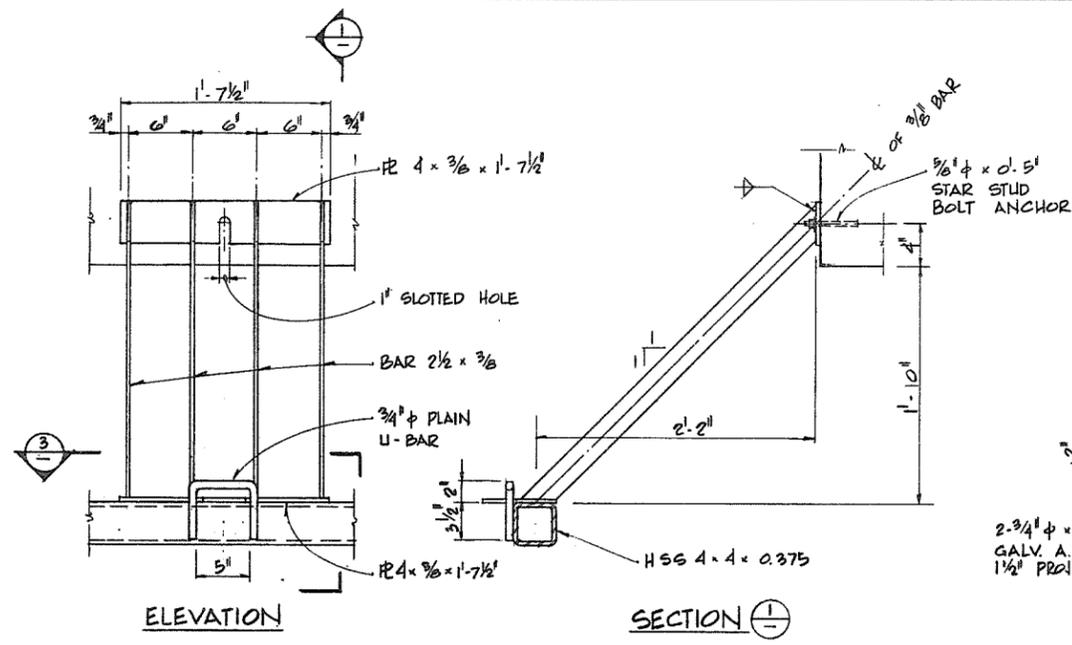
DWG. NO. 4885-4-13

SURVEYED DATE

FILE NO. 0281550-C30-4

DATE APRIL 1977

SHEET 16 OF 21 SHEETS

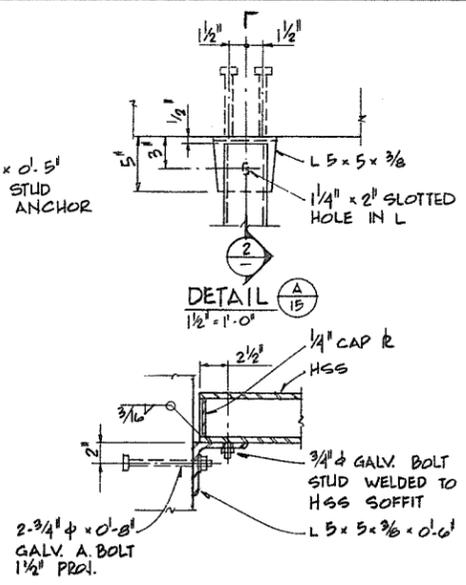


ELEVATION

SECTION 1

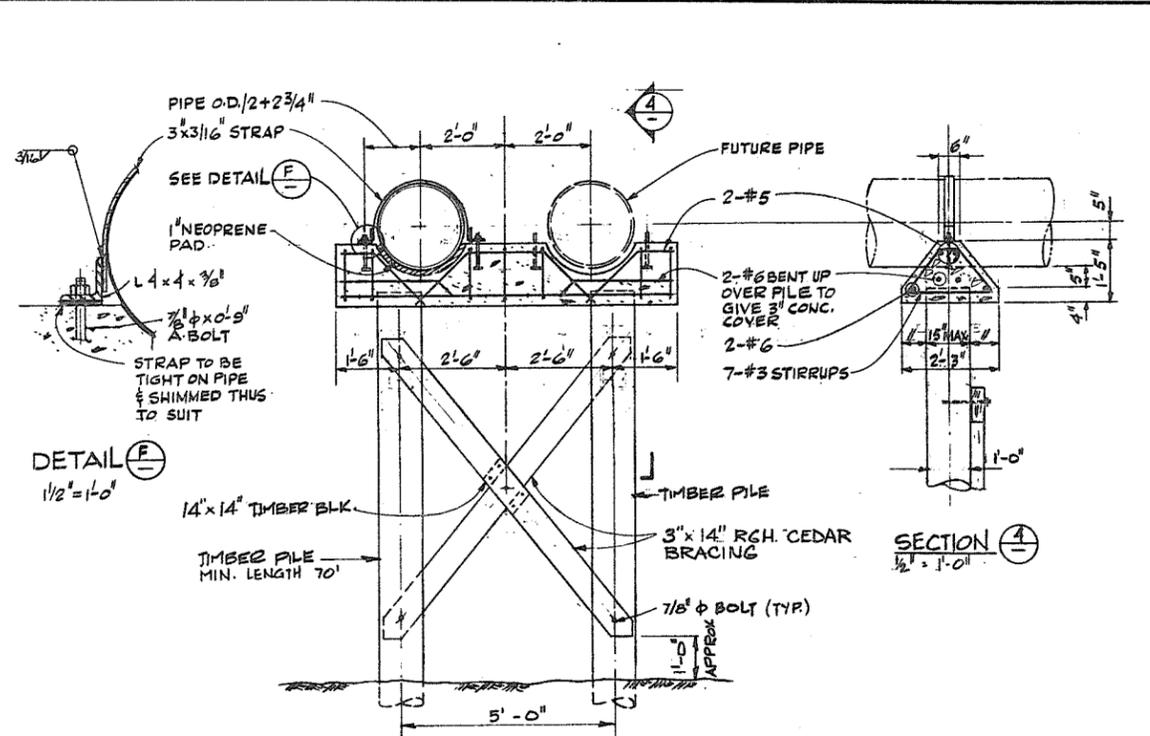
DOWNSTREAM - STEEL TRASH SCREEN UNITS

1 1/2" = 1'-0"
 NOTE:
 INSTALL 3 UNITS WITH 4 VERTICAL BARS (AS SHOWN)
 AND 2 - - - 3 - - -



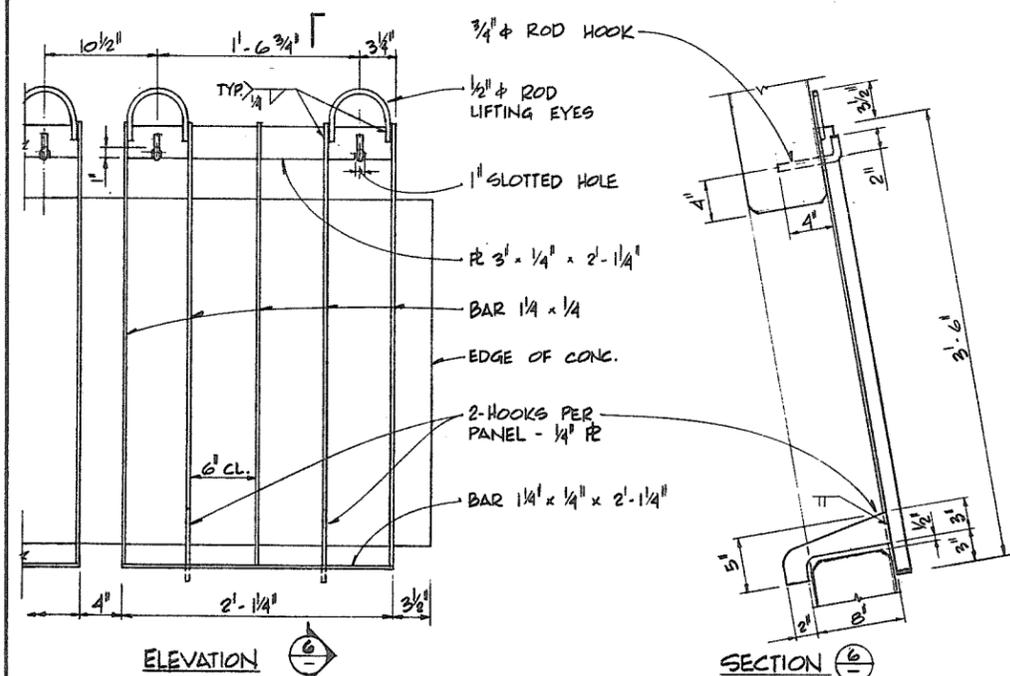
DETAIL A

SECTION 2



TYPICAL PUMP DISCHARGE

PIPE SUPPORT

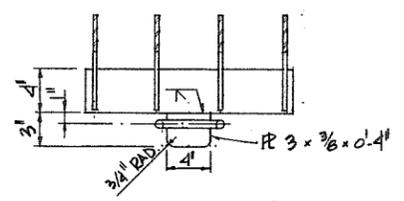


ELEVATION

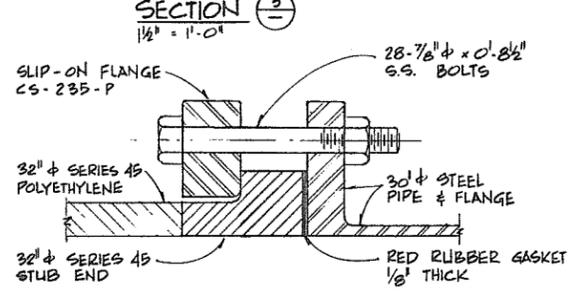
SECTION 6

INTAKE - STEEL TRASH SCREEN UNITS

1 1/2" = 1'-0"
 4 UNITS REQ'D.

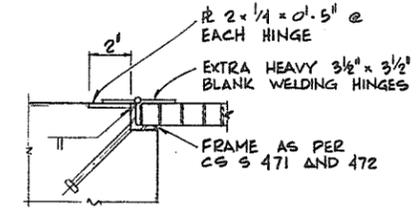


SECTION 3



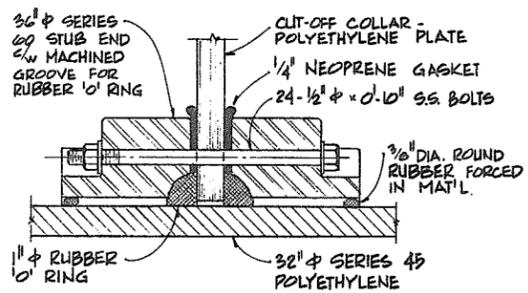
DETAIL B

N.T.S.



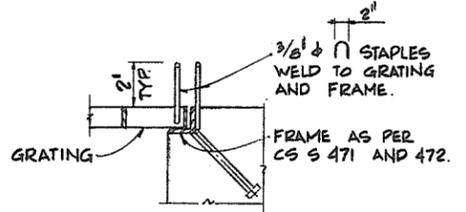
DETAIL D E

3" = 1'-0"



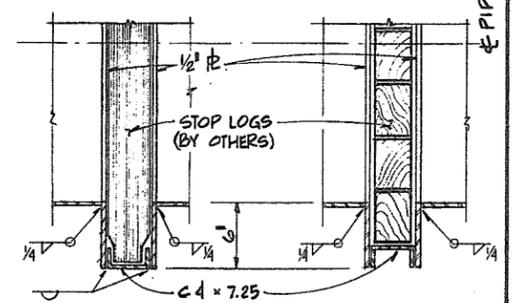
DETAIL C

N.T.S.



DETAIL F G

3" = 1'-0"



SECTION 7

SECTION 8

NOTES:
 1. FOR PILING NOTES SEE DWG. 14.

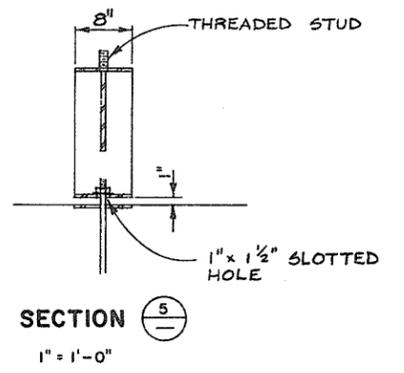
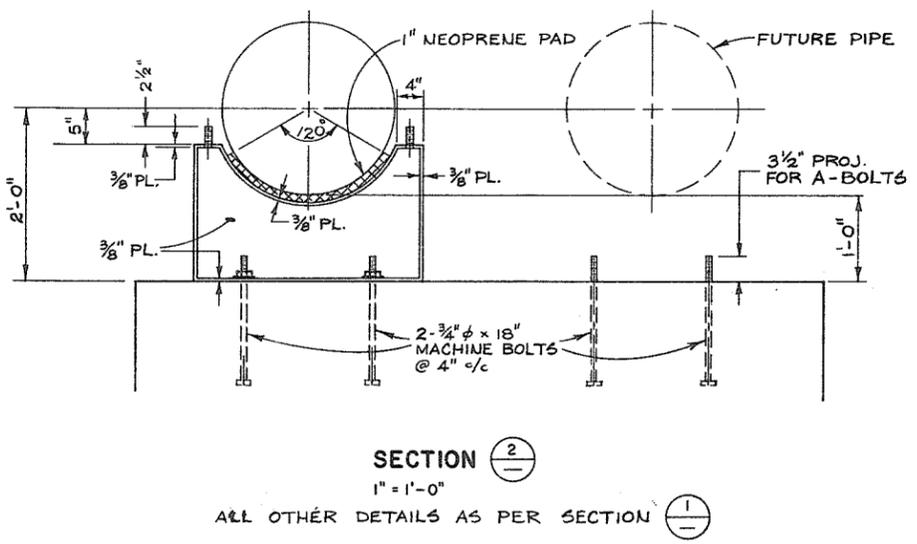
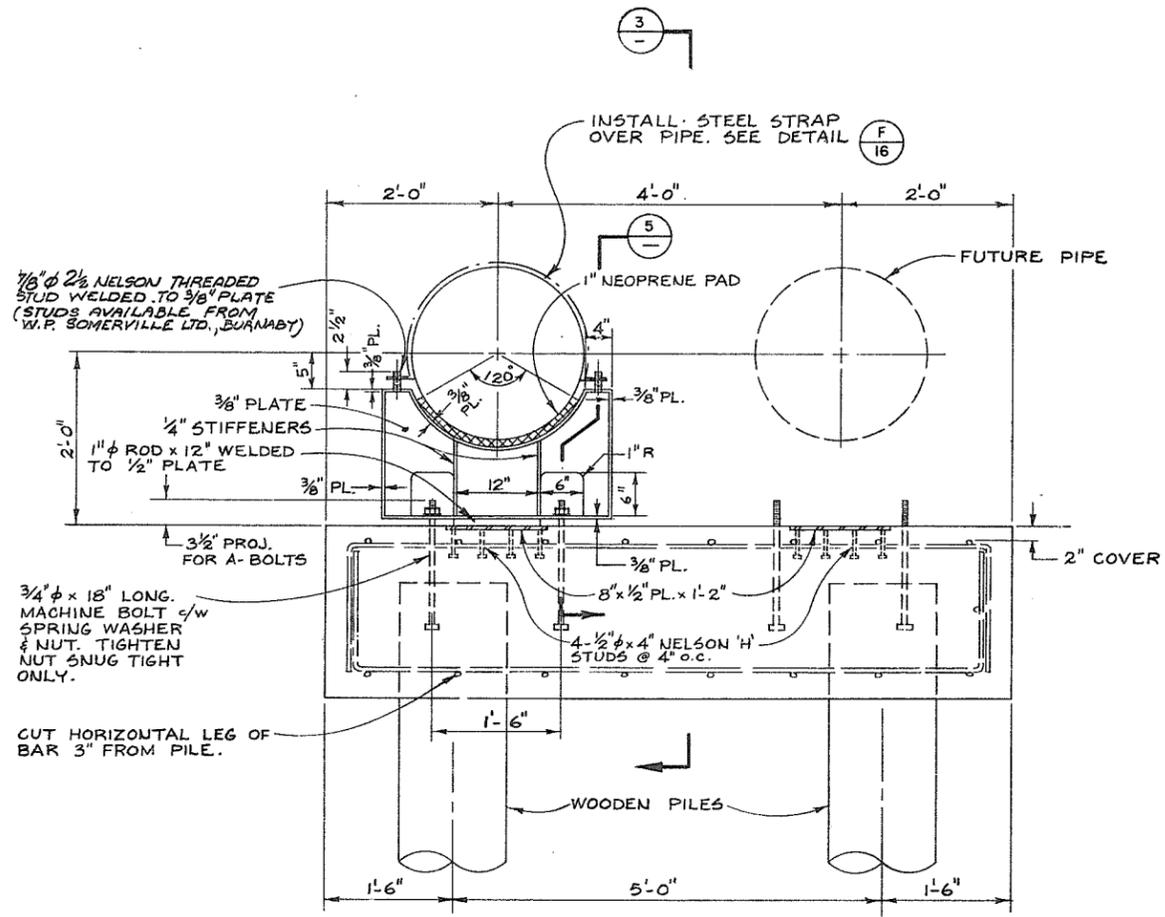
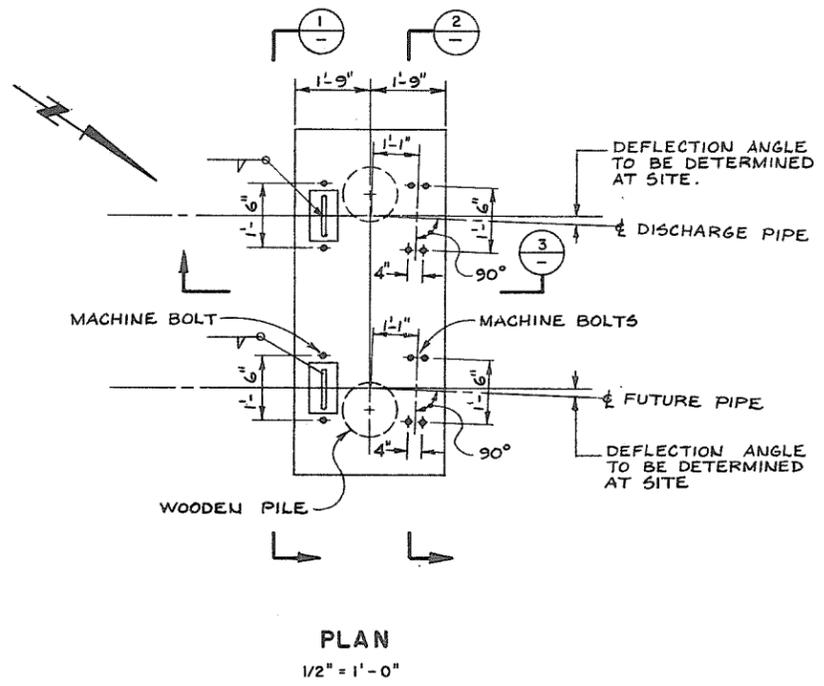
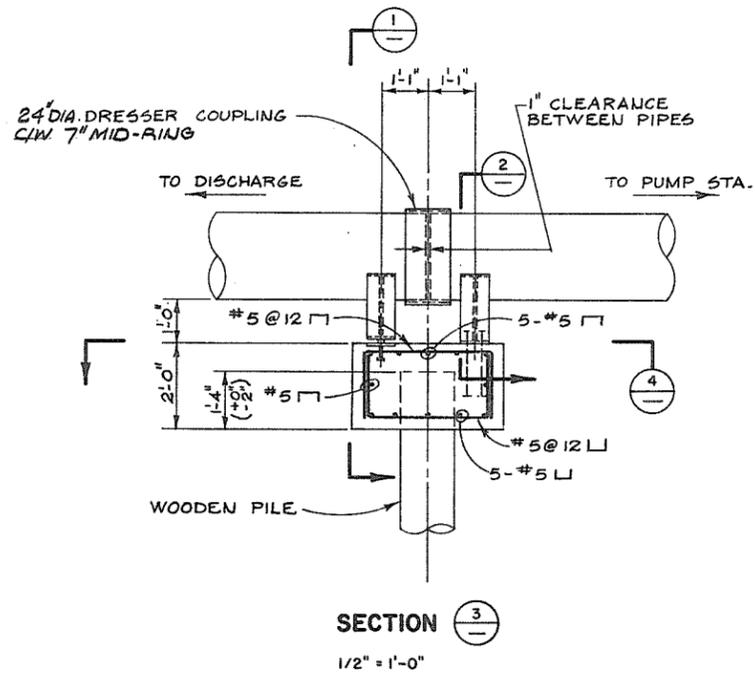
ASSOCIATED ENGINEERING SERVICES LTD
AESL
 DWG. NO.

2	J.C. AS CONSTRUCTED	3/4/73
1	DBG PIPE SUPPORT PILE CAP	4/5/77
	REVISED	

RECOMMENDED	<i>[Signature]</i> PROJECT MANAGER
DATE	19 Apr 77
APPROVED	<i>[Signature]</i> DIRECTOR, WATER INVESTIGATIONS BRANCH
DATE	Apr 1977

DESIGNED	GDB-G	SURVEYED	
DRAWN	JBH	DATE	
CHECKED	GDB-G	FILE NO.	02B1550-C 30-4
SCALE	AS SHOWN	DATE	APRIL 1977
DWG. NO.	4885-4-16	SHEET	19 OF 21 SHEETS





- NOTES:**
- (THESE NOTES SHALL BE READ IN CONJUNCTION WITH THE SPECIFICATIONS)
1. ALL STRUCTURAL STEEL SHALL BE CSA G40.21-44W. AND HOT-DIP GALVANIZED.
 2. ALL BOLTS, NUTS, & WASHERS SHALL CONFORM TO ASTM A307.
 3. CONCRETE SHALL HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH AT 28 DAYS OF 25 MPa.
 4. REINFORCEMENT SHALL CONFORM TO CSA G30.12 GRADE 40.
 5. COVER TO REINFORCING SHALL BE 3" UNLESS OTHERWISE NOTED.
 6. ALL WELDS SHALL BE 3/16" FILLET.



ASSOCIATED ENGINEERING SERVICES LTD

AESL

AESL DWG. NO.

NO.	BY	REVISIONS	DATE
1	J.C.	AS CONSTRUCTED	3/4/78

RECOMMENDED	PROJECT MANAGER
DATE	
APPROVED	DIRECTOR, WATER INVESTIGATIONS BRANCH
DATE	

DESIGNED	M.P. Vanspall	SURVEYED	
DRAWN	J.C.	DATE	
CHECKED	M.P.	FILE NO.	02B1550-C30-4
SCALE	AS SHOWN	DATE	APR. 1978
DWG. NO.	4885-4-16A	SHEET	20 OF 21 SHEETS

**1972 EMERGENCY
BANK PROTECTION**

CONSTRUCTION FOR AREA ON SOUTH DYKES IMMEDIATELY
WEST OF ANNACIS CAUSEWAY

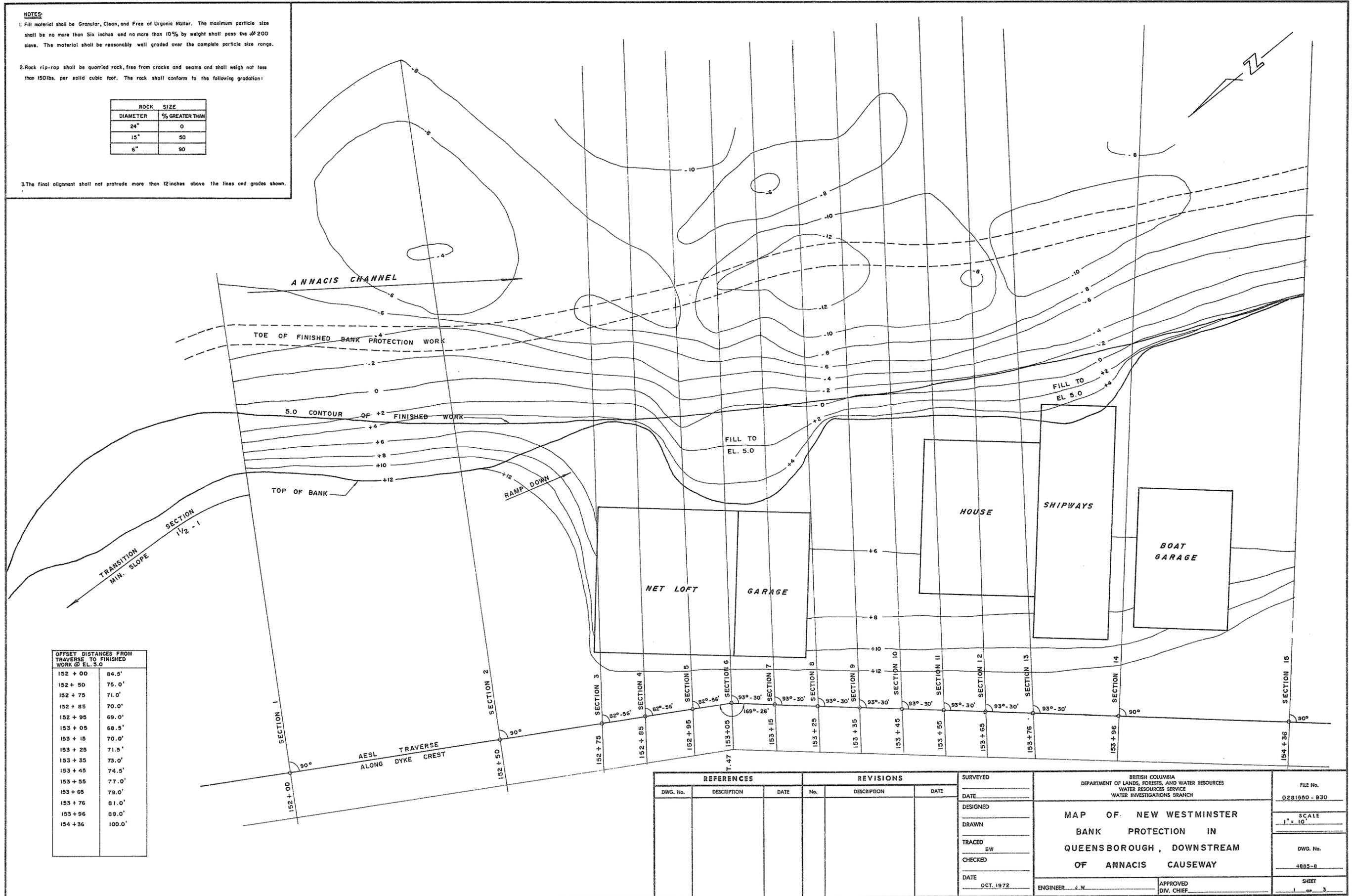
NOTES:

1. Fill material shall be Granular, Clean, and Free of Organic Matter. The maximum particle size shall be no more than Six inches and no more than 10% by weight shall pass the #200 sieve. The material shall be reasonably well graded over the complete particle size range.

2. Rock rip-rap shall be quarried rock, free from cracks and seams and shall weigh not less than 150lbs. per solid cubic foot. The rock shall conform to the following gradation:

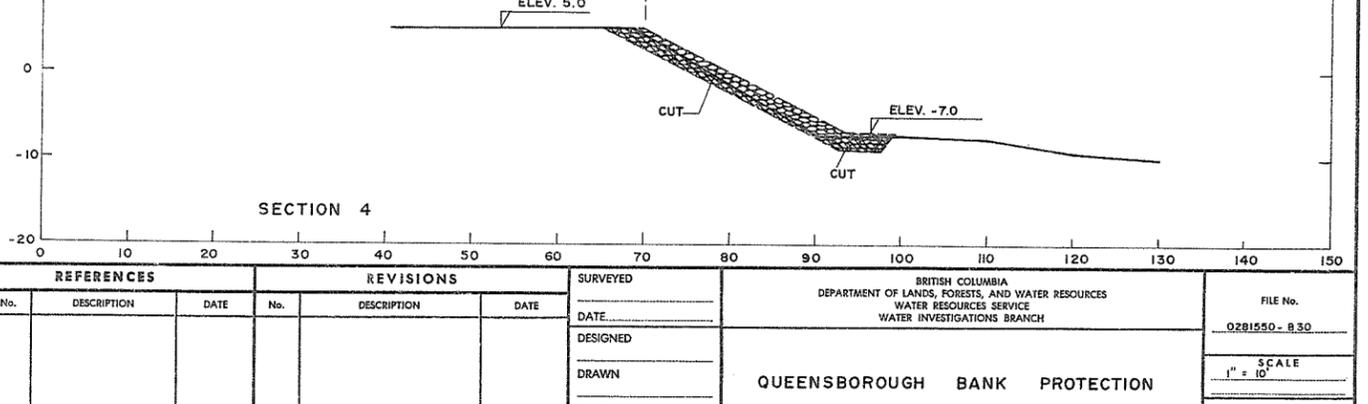
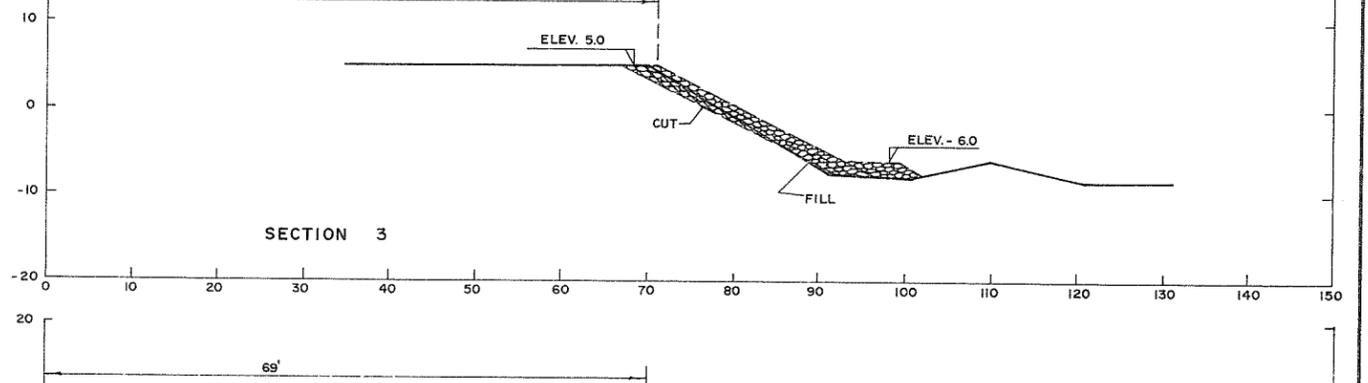
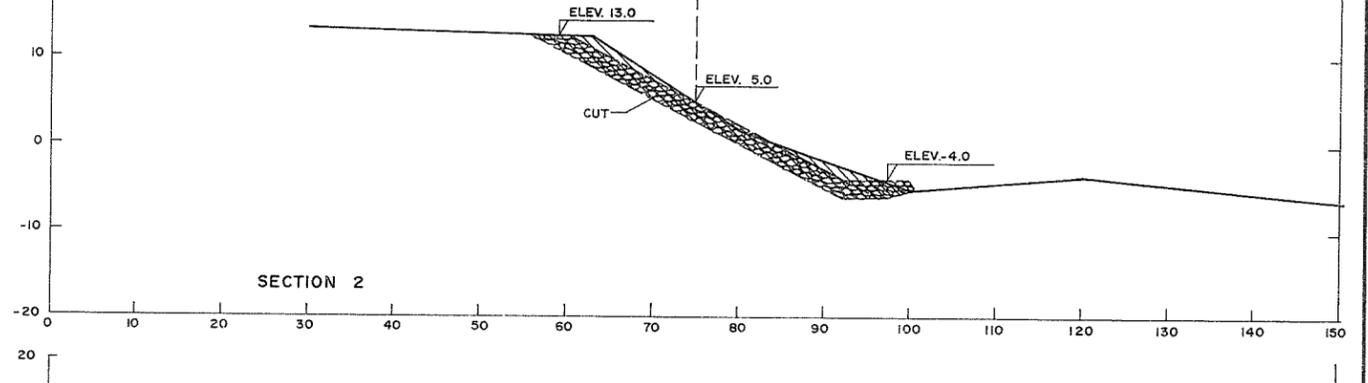
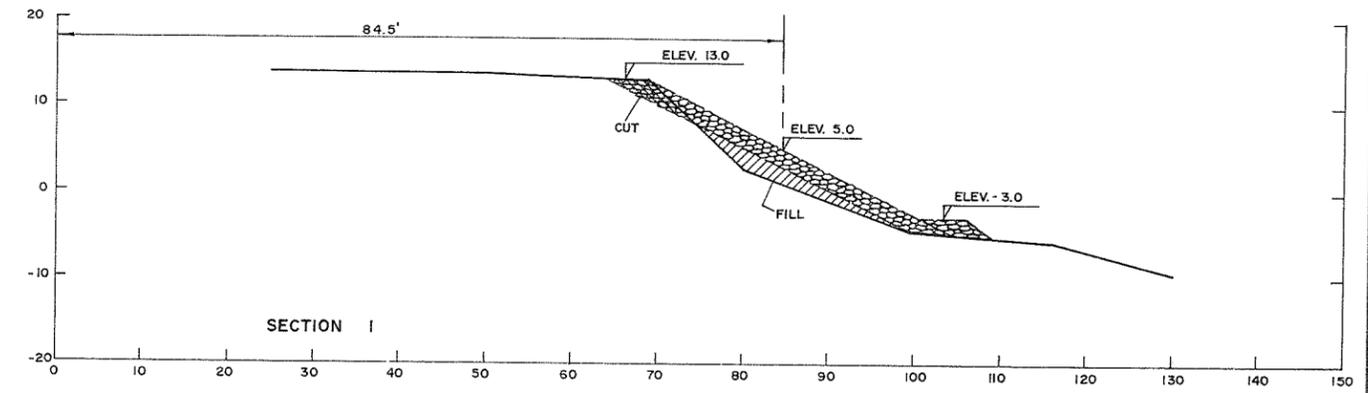
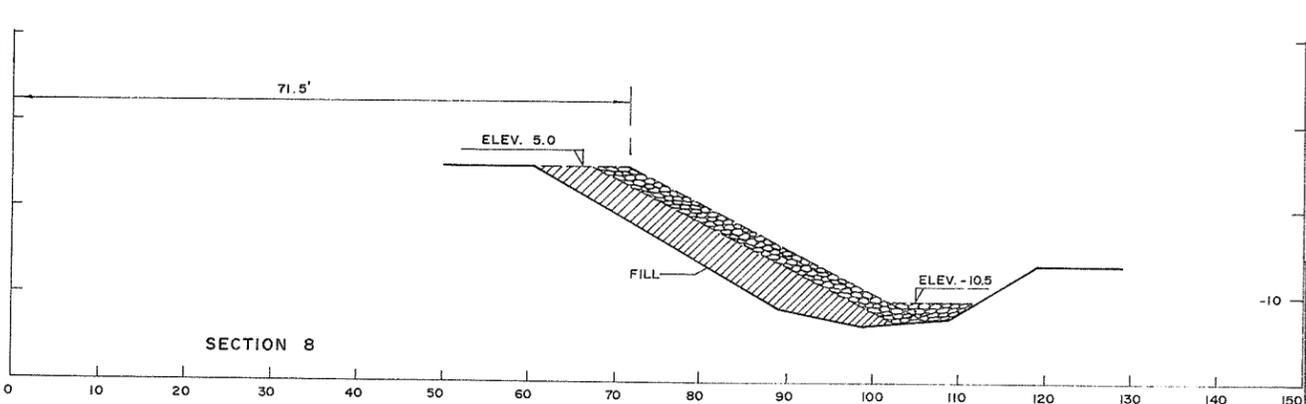
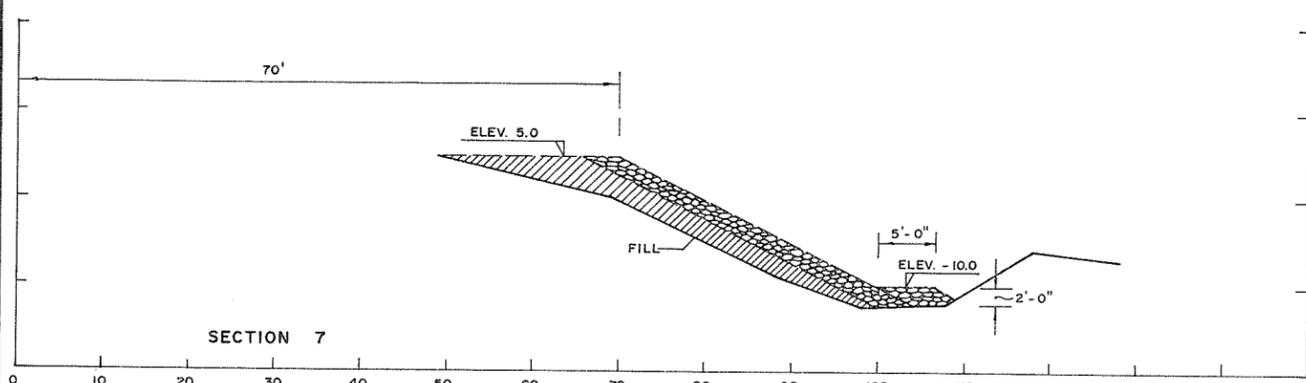
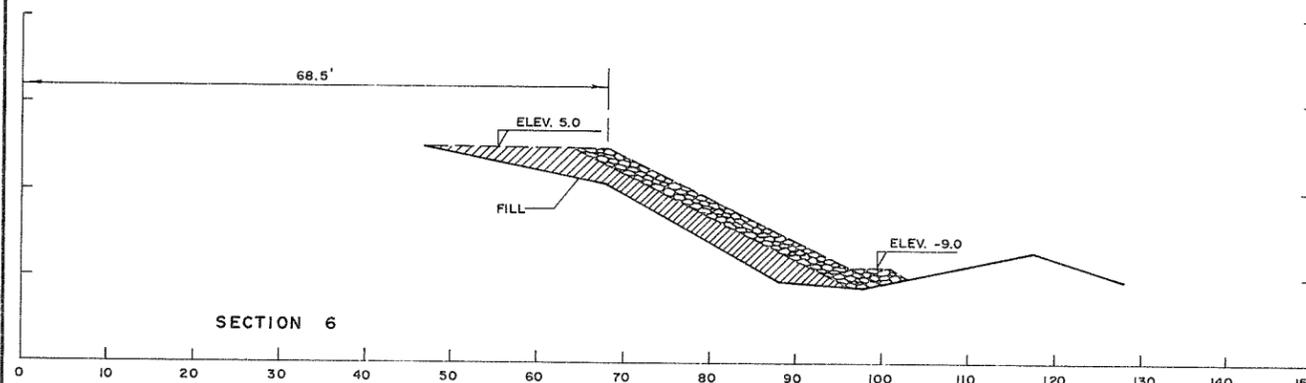
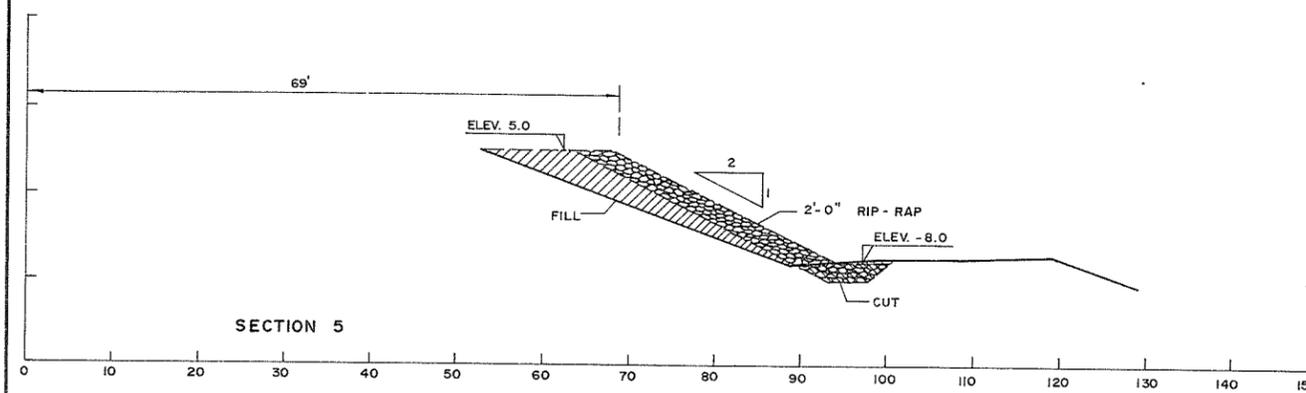
ROCK SIZE	
DIAMETER	% GREATER THAN
24"	0
15"	50
6"	90

3. The final alignment shall not protrude more than 12 inches above the lines and grades shown.



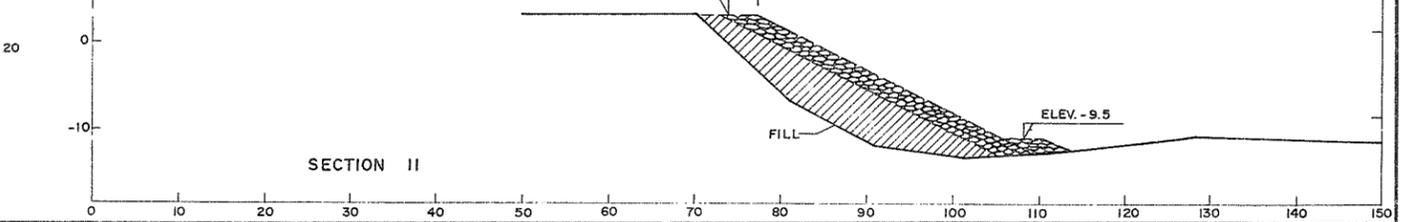
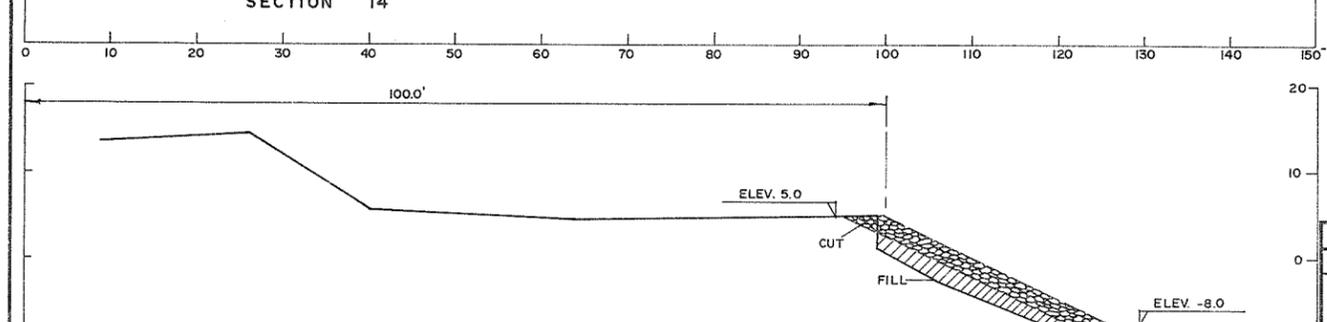
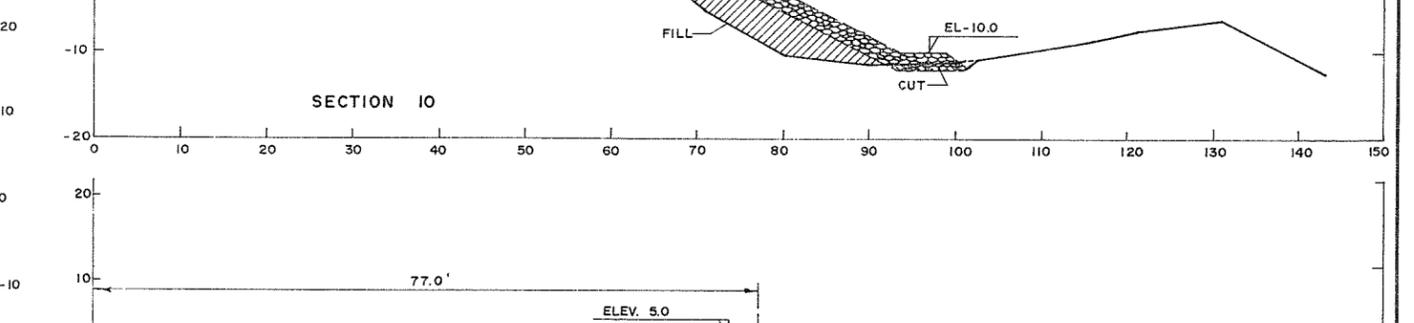
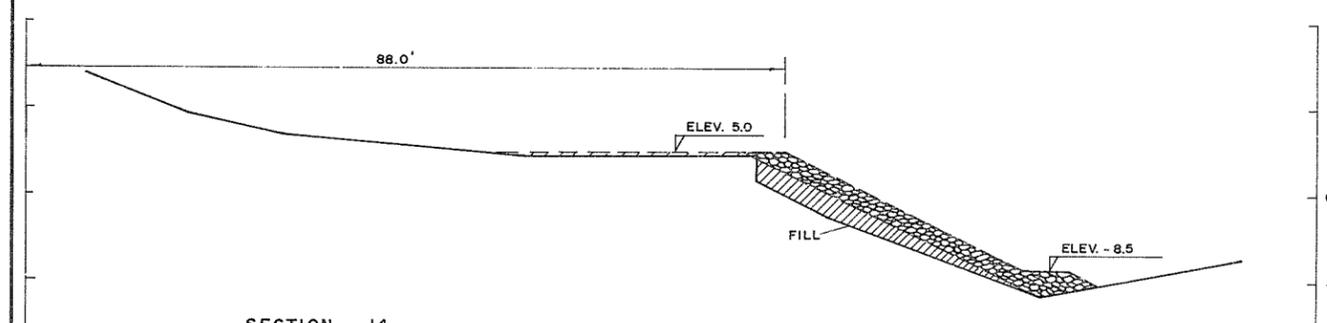
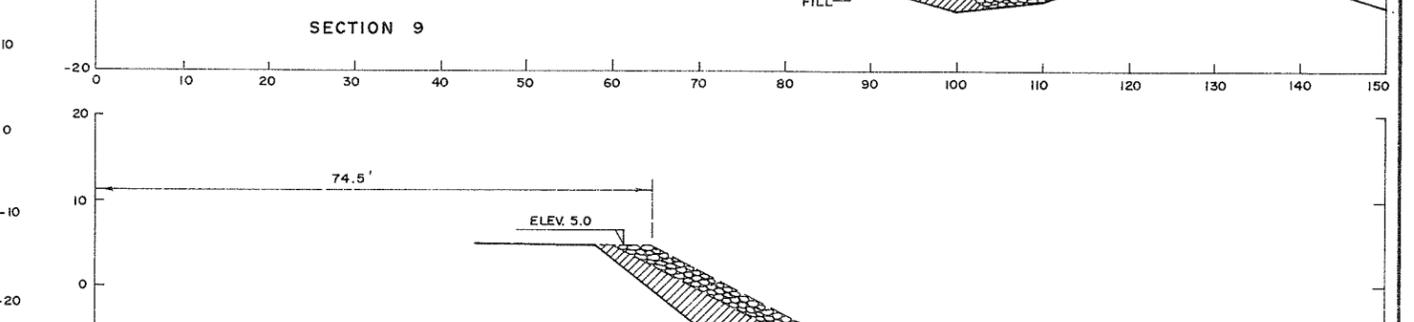
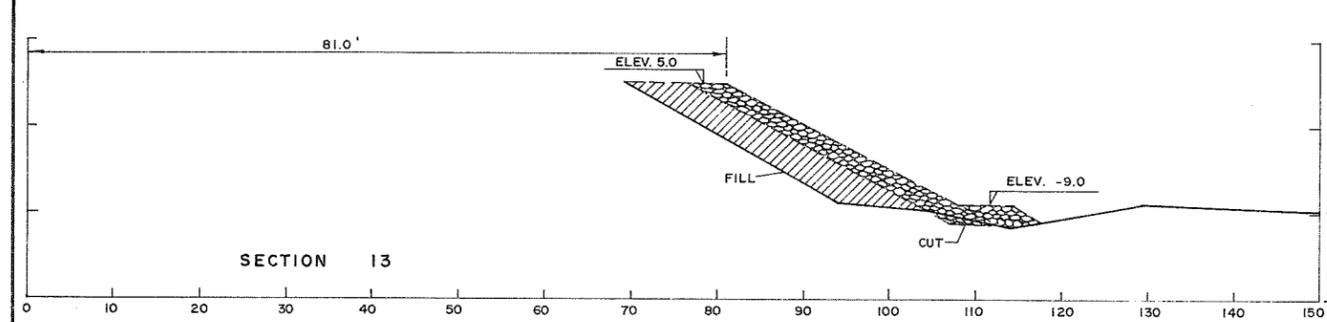
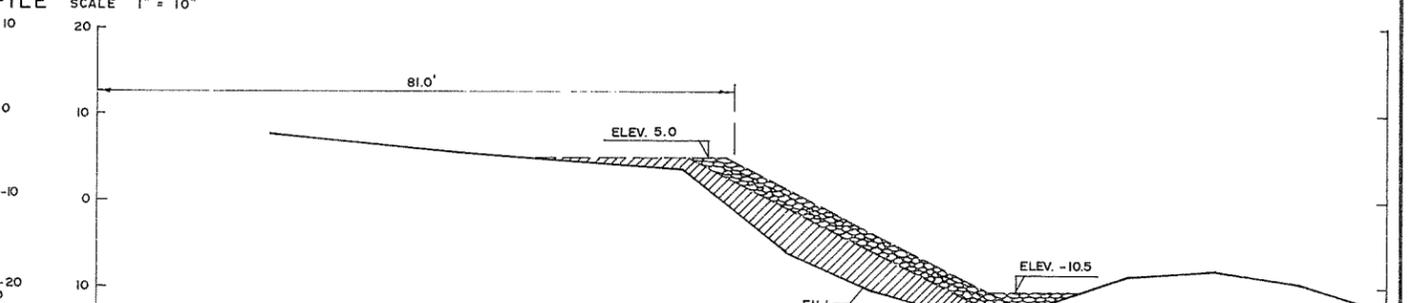
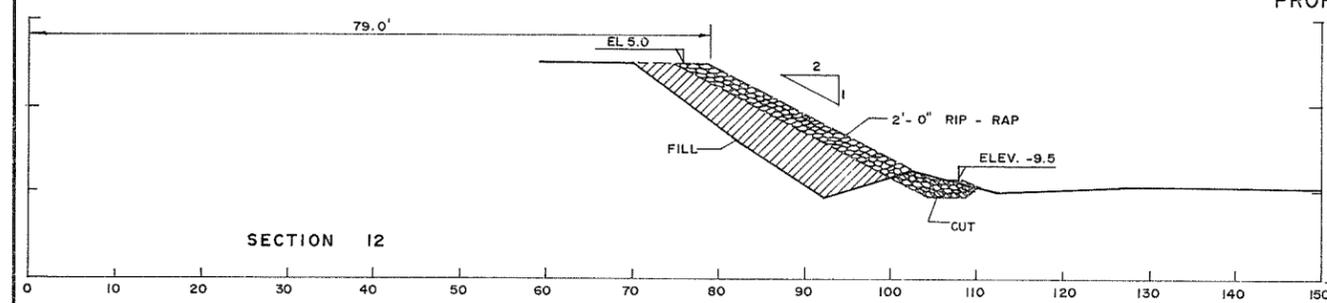
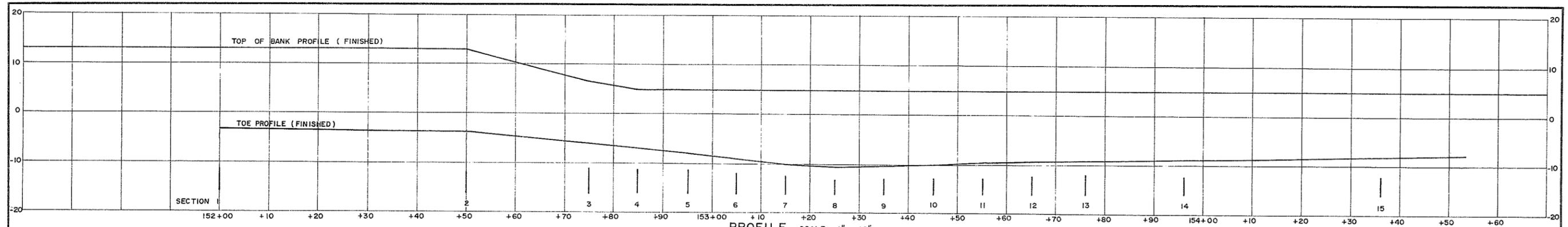
OFFSET DISTANCES FROM TRVERSE TO FINISHED WORK @ EL. 5.0	
152 + 00	84.5'
152 + 50	75.0'
152 + 75	71.0'
152 + 85	70.0'
152 + 95	69.0'
153 + 05	68.5'
153 + 15	70.0'
153 + 25	71.5'
153 + 35	73.0'
153 + 45	74.5'
153 + 55	77.0'
153 + 65	79.0'
153 + 76	81.0'
153 + 96	88.0'
154 + 36	100.0'

REFERENCES			REVISIONS			SURVEYED		BRITISH COLUMBIA DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH		FILE No.
DWG. No.	DESCRIPTION	DATE	No.	DESCRIPTION	DATE	DATE	DESIGNED	MAP OF NEW WESTMINSTER BANK PROTECTION IN QUEENSBOROUGH, DOWNSTREAM OF ANNACIS CAUSEWAY		Q281550 - B30
							DRAWN			SCALE
							TRACED BW			1" = 10'
							CHECKED			DWG. No.
							DATE			4885-8
							OCT. 1972	ENGINEER J.W.		SHEET
								APPROVED DIV. CHIEF		1 OF 3



REFERENCES			REVISIONS			SURVEYED	DESIGNED	DRAWN	TRACED	CHECKED	DATE	BRITISH COLUMBIA DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH		FILE No.
DWG. No.	DESCRIPTION	DATE	No.	DESCRIPTION	DATE							DATE	SCALE	DWG. No.
						OCT, 1972							0281550 - B.30	
													1" = 10'	
													4885 - 9	
													SHEET	
													2 of 3	

QUEENSBOROUGH BANK PROTECTION
SECTIONS 1 - 8



REFERENCES			REVISIONS			SURVEYED		BRITISH COLUMBIA DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES WATER RESOURCES SERVICE WATER INVESTIGATIONS BRANCH		FILE No.
DWG. No.	DESCRIPTION	DATE	No.	DESCRIPTION	DATE	DATE	DESIGNED	QUEENSBOROUGH BANK PROTECTION		0281550 - B30
							DRAWN	PROFILE		SCALE 1" = 10'
							TRACED BW	SECTIONS 11 - 15		DWG. No. 4885-10
							CHECKED	ENGINEER J.W.		SHEET 3 of 3
							DATE OCT., 1972	APPROVED DIV. CHIEF		