

DRAWING LIST

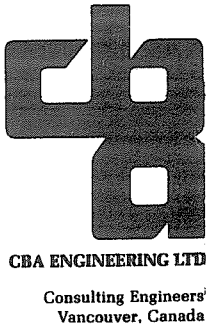
CONTRACT DRAWINGS

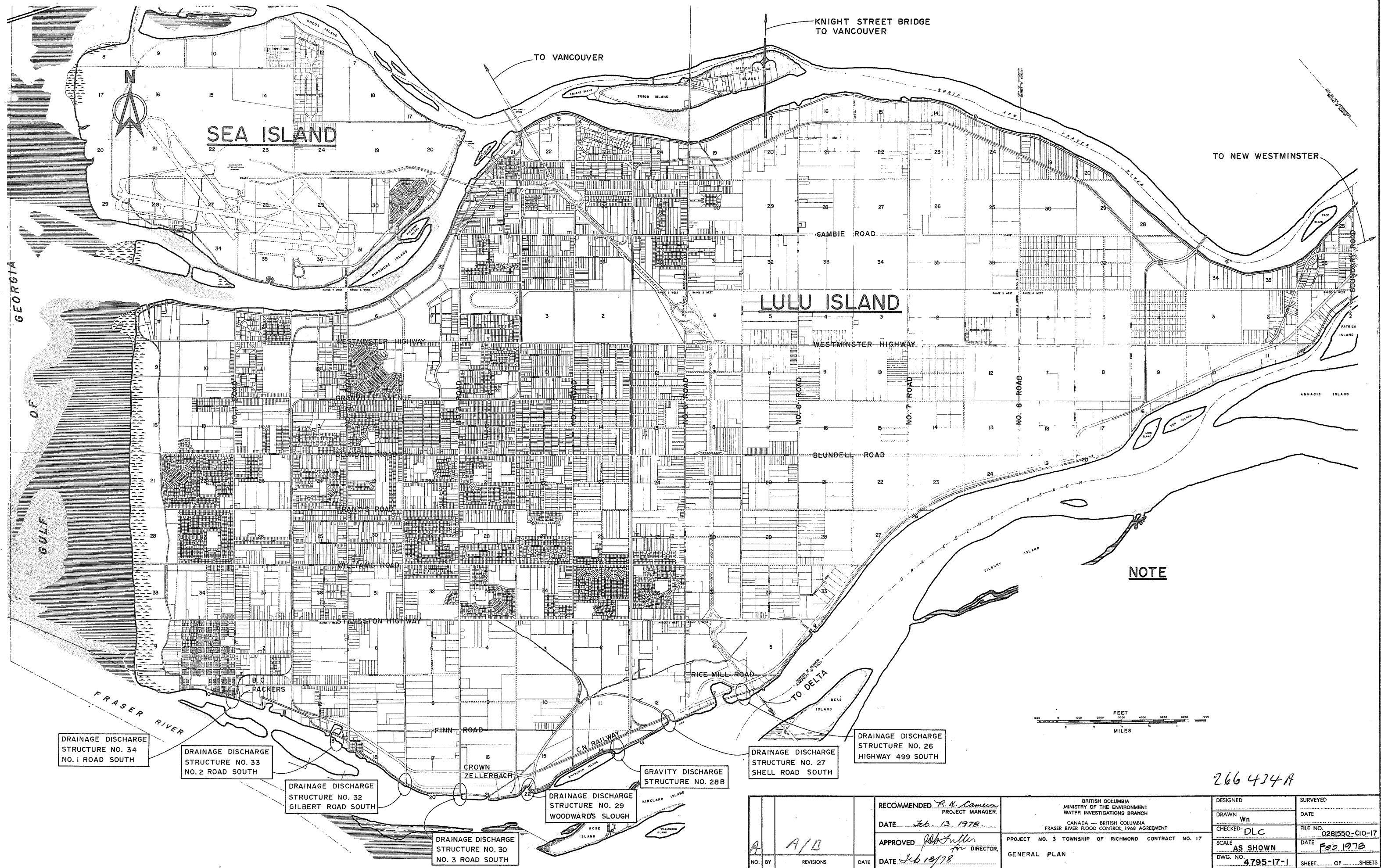
4795-17-1	GENERAL PLAN	4795-17-41	WOODWARD'S SLOUGH - DRAINAGE DISCHARGE STRUCTURE NO. 29 ELECTRICAL LAYOUTS SHEET 1 of 2	4795-17-82	NO. 2 ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 33 ELECTRICAL LAYOUTS
4795-17-2	HIGHWAY 499 SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 26 PLAN SHOWING EXISTING DRAINAGE STRUCTURES TO BE REMOVED AND UTILITIES	4795-17-42	WOODWARD'S SLOUGH - DRAINAGE DISCHARGE STRUCTURE NO. 29 ELECTRICAL LAYOUTS SHEET 2 of 2	4795-17-83	NO. 2 ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 33 ELECTRICAL SCHEMATIC AND WIRING DIAGRAMS
4795-17-3	HIGHWAY 499 SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 26 DETAILS OF EARTHWORKS	4795-17-43	NOT REQUIRED FOR CONTRACT	4795-17-84	NOT REQUIRED FOR CONTRACT
4795-17-4	HIGHWAY 499 SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 26 MAIN STRUCTURE - CONCRETE OUTLINE	4795-17-44	NOT REQUIRED FOR CONTRACT	4795-17-85	NO. 1 ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 34 PLAN SHOWING EXISTING DRAINAGE STRUCTURES TO BE REMOVED AND UTILITIES
4795-17-5	SHELL ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 27 PLAN SHOWING EXISTING DRAINAGE STRUCTURES TO BE REMOVED, PRELOAD FILL AND UTILITIES	4795-17-45	NOT REQUIRED FOR CONTRACT	4795-17-86	NO. 1 ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 34 GENERAL ARRANGEMENT PLAN, POWER SUPPLY AND PROPERTY REQUIREMENTS
4795-17-6	SHELL ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 27 GENERAL ARRANGEMENT PLAN, POWER SUPPLY AND PROPERTY REQUIREMENTS	4795-17-47	WOODWARD'S SLOUGH - DRAINAGE DISCHARGE STRUCTURE NO. 29 ELECTRICAL SCHEMATIC DIAGRAMS SHEET 1 of 3	4795-17-87	NO. 1 ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 34 GENERAL ARRANGEMENT SECTIONS
4795-17-7	SHELL ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 27 GENERAL ARRANGEMENT SECTIONS	4795-17-48	WOODWARD'S SLOUGH - DRAINAGE DISCHARGE STRUCTURE NO. 29 ELECTRICAL SCHEMATIC DIAGRAMS SHEET 2 of 3	4795-17-88	NO. 1 ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 34 DETAILS OF EARTHWORKS
4795-17-8	SHELL ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 27 DETAILS OF EARTHWORKS	4795-17-49	WOODWARD'S SLOUGH - DRAINAGE DISCHARGE STRUCTURE NO. 29 ELECTRICAL SCHEMATIC DIAGRAMS SHEET 3 of 3	4795-17-89	NO. 1 ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 34 MAIN STRUCTURE - CONCRETE OUTLINE
4795-17-9	SHELL ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 27 MAIN STRUCTURE - CONCRETE OUTLINE	4795-17-50	WOODWARD'S SLOUGH - DRAINAGE DISCHARGE STRUCTURE NO. 29 ELECTRICAL WIRING DIAGRAMS SHEET 1 of 4	4795-17-90	NO. 1 ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 34 MAIN STRUCTURE - REINFORCING SHEET 1 of 3
4795-17-10	SHELL ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 27 MAIN STRUCTURE - REINFORCING SHEET 1 of 3	4795-17-51	WOODWARD'S SLOUGH - DRAINAGE DISCHARGE STRUCTURE NO. 29 ELECTRICAL WIRING DIAGRAMS SHEET 2 of 4	4795-17-91	NO. 1 ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 34 MAIN STRUCTURE - REINFORCING SHEET 2 of 3
4795-17-11	SHELL ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 27 MAIN STRUCTURE - REINFORCING SHEET 2 of 3	4795-17-52	WOODWARD'S SLOUGH - DRAINAGE DISCHARGE STRUCTURE NO. 29 ELECTRICAL WIRING DIAGRAMS SHEET 3 of 4	4795-17-92	NO. 1 ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 34 MAIN STRUCTURE - REINFORCING SHEET 3 of 3
4795-17-12	SHELL ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 27 MAIN STRUCTURE - REINFORCING SHEET 3 of 3	4795-17-53	WOODWARD'S SLOUGH - DRAINAGE DISCHARGE STRUCTURE NO. 29 ELECTRICAL WIRING DIAGRAMS SHEET 4 of 4	4795-17-93	NO. 1 ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 34 ENTRY CULVERT CONCRETE OUTLINE AND REINFORCING
4795-17-13	SHELL ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 27 ENTRY CULVERT AND BOX CULVERT CONCRETE OUTLINE AND REINFORCING	4795-17-54	NO. 3 ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 30 PLAN SHOWING EXISTING DRAINAGE STRUCTURES TO BE REMOVED, PRELOAD FILL AND UTILITIES	4795-17-94	NO. 1 ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 34 BOX CULVERT - CONCRETE OUTLINE
4795-17-14	SHELL ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 27 ARCHITECTURAL DETAILS	4795-17-55	NO. 3 ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 30 GENERAL ARRANGEMENT PLAN, POWER SUPPLY AND PROPERTY REQUIREMENTS	4795-17-95	NO. 1 ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 34 BOX CULVERT - REINFORCING
4795-17-15	SHELL ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 27 ELECTRICAL ONE-LINE DIAGRAM	4795-17-56	NO. 3 ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 30 GENERAL ARRANGEMENT SECTIONS	4795-17-96	NO. 1 ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 34 ARCHITECTURAL DETAILS
4795-17-16	SHELL ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 27 ELECTRICAL LAYOUTS SHEET 1 of 2	4795-17-57	NO. 3 ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 30 DETAILS OF EARTHWORKS	4795-17-97	NO. 1 ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 34 ELECTRICAL ONE-LINE DIAGRAM
4795-17-17	SHELL ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 27 ELECTRICAL LAYOUTS SHEET 2 of 2	4795-17-58	NO. 3 ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 30 MAIN STRUCTURE - CONCRETE OUTLINE	4795-17-98	NO. 1 ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 34 ELECTRICAL LAYOUTS SHEET 1 of 2
4795-17-18	NOT REQUIRED FOR CONTRACT	4795-17-59	NO. 3 ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 30 MAIN STRUCTURE - REINFORCING SHEET 1 of 2	4795-17-99	NO. 1 ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 34 ELECTRICAL LAYOUTS SHEET 2 of 2
4795-17-19	NOT REQUIRED FOR CONTRACT	4795-17-60	NO. 3 ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 30 MAIN STRUCTURE - REINFORCING SHEET 2 of 2	4795-17-100	NOT REQUIRED FOR CONTRACT
4795-17-20	SHELL ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 27 ELECTRICAL SCHEMATIC DIAGRAMS SHEET 1 of 2	4795-17-61	NO. 3 ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 30 ENTRY CULVERT AND BOX CULVERT CONCRETE OUTLINE AND REINFORCING	4795-17-101	NOT REQUIRED FOR CONTRACT
4795-17-21	SHELL ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 27 ELECTRICAL SCHEMATIC DIAGRAMS SHEET 2 of 2	4795-17-62	GILBERT ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 32 PLAN SHOWING EXISTING DRAINAGE STRUCTURES TO BE REMOVED, PRELOAD FILL AND UTILITIES	4795-17-102	NO. 1 ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 34 ELECTRICAL SCHEMATIC DIAGRAMS SHEET 1 of 2
4795-17-22	SHELL ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 27 ELECTRICAL WIRING DIAGRAMS SHEET 1 of 2	4795-17-63	GILBERT ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 32 GENERAL ARRANGEMENT PLAN, POWER SUPPLY AND PROPERTY REQUIREMENTS	4795-17-103	NO. 1 ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 34 ELECTRICAL SCHEMATIC DIAGRAMS SHEET 2 of 2
4795-17-23	SHELL ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 27 ELECTRICAL WIRING DIAGRAMS SHEET 2 of 2	4795-17-64	GILBERT ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 32 GENERAL ARRANGEMENT SECTIONS	4795-17-104	NO. 1 ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 34 ELECTRICAL WIRING DIAGRAMS SHEET 1 of 2
4795-17-24	GRAVITY DISCHARGE STRUCTURE NO. 28B REMOVAL OF EXISTING WORKS	4795-17-65	GILBERT ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 32 DETAILS OF EARTHWORKS	4795-17-105	NO. 1 ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 34 ELECTRICAL WIRING DIAGRAMS SHEET 2 of 2
4795-17-25	WOODWARD'S SLOUGH - DRAINAGE DISCHARGE STRUCTURE NO. 29 PLAN SHOWING EXISTING DRAINAGE STRUCTURES TO BE REMOVED, PRELOAD FILL AND UTILITIES	4795-17-66	GILBERT ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 32 MAIN STRUCTURE - CONCRETE OUTLINE	4795-17-106	ELECTRICAL INSTALLATION DETAILS SHEET 1 of 2
4795-17-26	WOODWARD'S SLOUGH - DRAINAGE DISCHARGE STRUCTURE NO. 29 SECTIONS SHOWING EXISTING DRAINAGE STRUCTURES TO BE REMOVED, PRELOAD FILL AND UTILITIES	4795-17-67	GILBERT ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 32 MAIN STRUCTURE - REINFORCING SHEET 1 of 3	4795-17-107	ELECTRICAL INSTALLATION DETAILS SHEET 2 of 2
4795-17-27	WOODWARD'S SLOUGH - DRAINAGE DISCHARGE STRUCTURE NO. 29 GENERAL ARRANGEMENT PLAN, POWER SUPPLY AND PROPERTY REQUIREMENTS	4795-17-68	GILBERT ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 32 MAIN STRUCTURE - REINFORCING SHEET 2 of 3	4795-17-108	MISCELLANEOUS ARCHITECTURAL DETAILS
4795-17-28	WOODWARD'S SLOUGH - DRAINAGE DISCHARGE STRUCTURE NO. 29 GENERAL ARRANGEMENT SECTIONS	4795-17-69	GILBERT ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 32 MAIN STRUCTURE - REINFORCING SHEET 3 of 3	4795-17-109	PUMP SUPPORT, PUMP HOUSE FLOOR AND MAINTENANCE FLOOR - LAYOUTS SHEET 1 of 3
4795-17-29	WOODWARD'S SLOUGH - DRAINAGE DISCHARGE STRUCTURE NO. 29 DETAILS OF EARTHWORKS SHEET 1 of 2	4795-17-70	GILBERT ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 32 ENTRY CULVERT AND BOX CULVERT CONCRETE OUTLINE AND REINFORCING	4795-17-110	PUMP SUPPORT, PUMP HOUSE FLOOR AND MAINTENANCE FLOOR - LAYOUTS SHEET 2 of 3
4795-17-30	WOODWARD'S SLOUGH - DRAINAGE DISCHARGE STRUCTURE NO. 29 DETAILS OF EARTHWORKS SHEET 2 of 2	4795-17-71	GILBERT ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 32 ARCHITECTURAL DETAILS	4795-17-111	PUMP SUPPORT, PUMP HOUSE FLOOR AND MAINTENANCE FLOOR - LAYOUTS SHEET 3 of 3
4795-17-31	WOODWARD'S SLOUGH - DRAINAGE DISCHARGE STRUCTURE NO. 29 MAIN STRUCTURE - CONCRETE OUTLINE SHEET 1 of 2	4795-17-72	GILBERT ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 32 ELECTRICAL ONE-LINE DIAGRAM	4795-17-112	PUMP SUPPORT, PUMP HOUSE FLOOR AND MAINTENANCE FLOOR - DETAILS
4795-17-32	WOODWARD'S SLOUGH - DRAINAGE DISCHARGE STRUCTURE NO. 29 MAIN STRUCTURE - CONCRETE OUTLINE SHEET 2 of 2	4795-17-73	GILBERT ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 32 ELECTRICAL LAYOUTS SHEET 1 of 2	4795-17-113	PUMP DISCHARGE PIPING DETAILS SHEET 1 of 2
4795-17-33	WOODWARD'S SLOUGH - DRAINAGE DISCHARGE STRUCTURE NO. 29 MAIN STRUCTURE - REINFORCING SHEET 1 of 5	4795-17-74	GILBERT ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 32 ELECTRICAL LAYOUTS SHEET 2 of 2	4795-17-114	PUMP DISCHARGE PIPING DETAILS SHEET 2 of 2
4795-17-34	WOODWARD'S SLOUGH - DRAINAGE DISCHARGE STRUCTURE NO. 29 MAIN STRUCTURE - REINFORCING SHEET 2 of 5	4795-17-75	NOT REQUIRED FOR CONTRACT	4795-17-115	MISCELLANEOUS MECHANICAL DETAILS
4795-17-35	WOODWARD'S SLOUGH - DRAINAGE DISCHARGE STRUCTURE NO. 29 MAIN STRUCTURE - REINFORCING SHEET 3 of 5	4795-17-76	NOT REQUIRED FOR CONTRACT	4795-17-116	DETAILS OF 24"Ø PUMP DISCHARGE FLAP GATES
4795-17-36	WOODWARD'S SLOUGH - DRAINAGE DISCHARGE STRUCTURE NO. 29 MAIN STRUCTURE - REINFORCING SHEET 4 of 5	4795-17-77	GILBERT ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 32 ELECTRICAL SCHEMATIC DIAGRAMS SHEET 1 of 2	4795-17-117	ENTRY SCREEN DETAILS SHEET 1 of 2
4795-17-37	WOODWARD'S SLOUGH - DRAINAGE DISCHARGE STRUCTURE NO. 29 MAIN STRUCTURE - REINFORCING SHEET 5 of 5	4795-17-78	GILBERT ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 32 ELECTRICAL SCHEMATIC DIAGRAMS SHEET 2 of 2	4795-17-118	ENTRY SCREEN DETAILS SHEET 2 of 2
4795-17-38	WOODWARD'S SLOUGH - DRAINAGE DISCHARGE STRUCTURE NO. 29 ARCHITECTURAL DETAILS SHEET 1 of 2	4795-17-79	GILBERT ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 32 ELECTRICAL WIRING DIAGRAMS SHEET 1 of 2	4795-17-119	DISCHARGE SCREEN DETAILS
4795-17-39	WOODWARD'S SLOUGH - DRAINAGE DISCHARGE STRUCTURE NO. 29 ARCHITECTURAL DETAILS SHEET 2 of 2	4795-17-80	GILBERT ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 32 ELECTRICAL WIRING DIAGRAMS SHEET 2 of 2	4795-17-120	PUMP HOUSE ROOF CONCRETE OUTLINE AND REINFORCEMENT
4795-17-40	WOODWARD'S SLOUGH - DRAINAGE DISCHARGE STRUCTURE NO. 29 ELECTRICAL ONE-LINE DIAGRAM	4795-17-81	NO. 2 ROAD SOUTH - DRAINAGE DISCHARGE STRUCTURE NO. 33 ARCHITECTURAL DETAILS	4795-17-121	MISCELLANEOUS CONCRETE DETAILS

The Government of the Province of British Columbia
Ministry of the Environment
Water Investigations Branch

Canada – British Columbia
Fraser River Flood Control 1968 Agreement
Project No. 3 The Township of Richmond

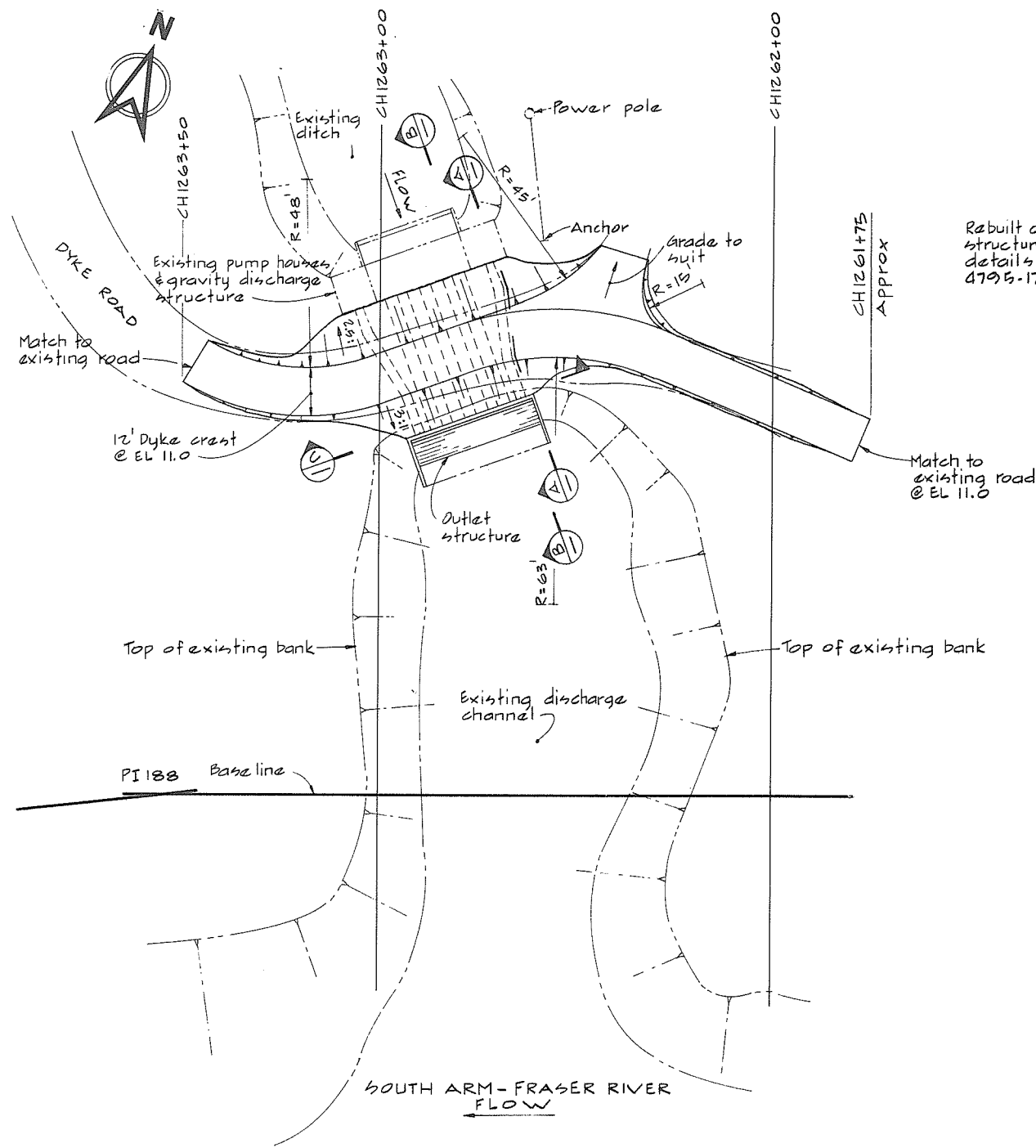
Contract No. 17
South Dyke – West Sector
Drainage Discharge Structures



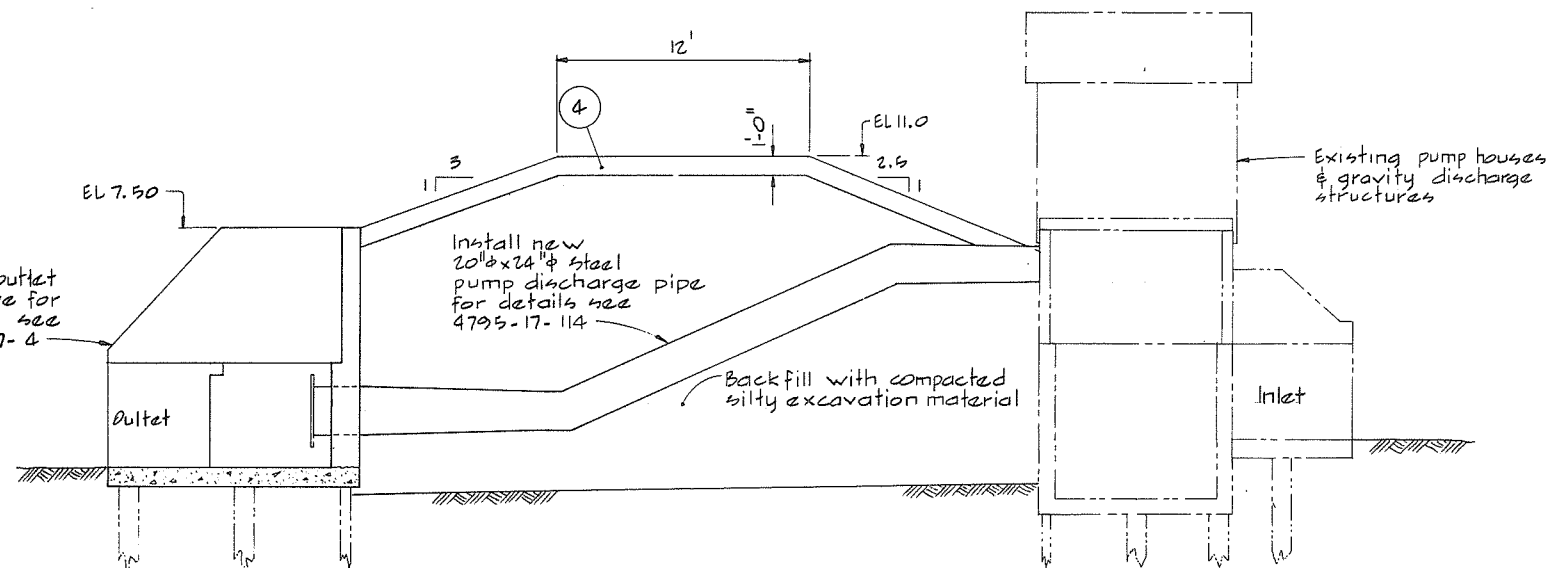


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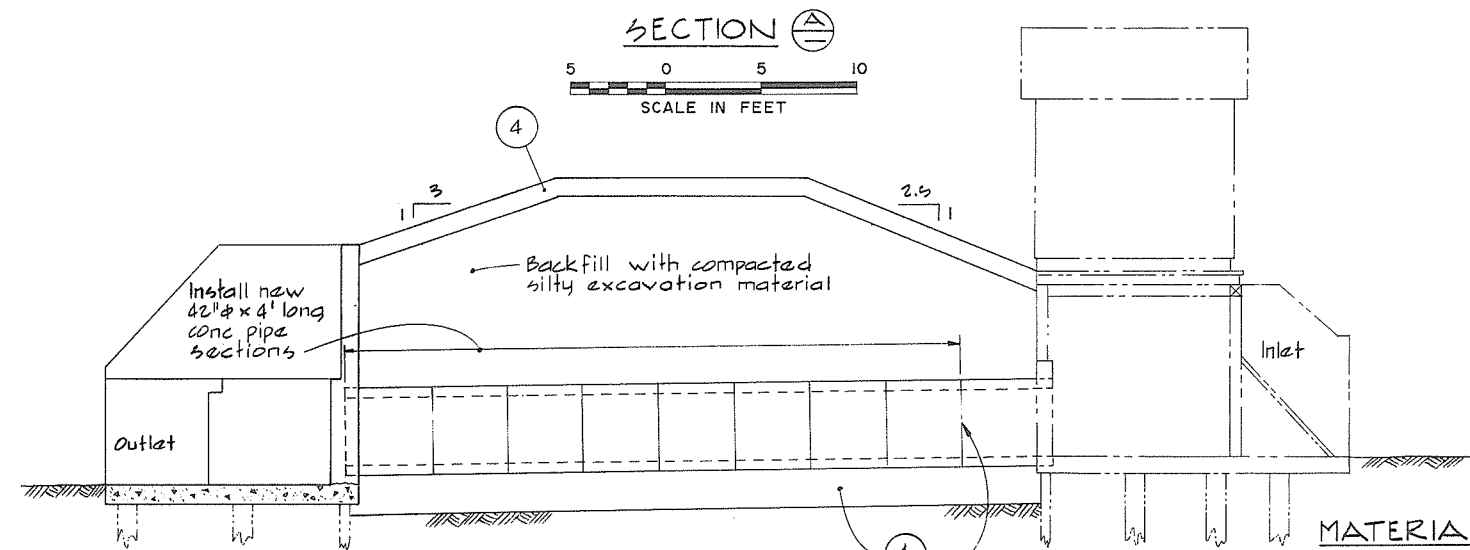
A	A/B			RECOMMENDED <i>P. H. Cameron</i> PROJECT MANAGER.	BRITISH COLUMBIA MINISTRY OF THE ENVIRONMENT WATER INVESTIGATIONS BRANCH CANADA — BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT	DESIGNED _____	SURVEYED _____
				DATE <i>Feb. 13 1978</i>		DRAWN <i>Wn</i>	DATE _____
				APPROVED <i>John Miller</i> <i>for</i> DIRECTOR.	PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17	CHECKED <i>DLC</i>	FILE NO. <i>0281550-C10-17</i>
				DATE <i>Feb 13/78</i>	GENERAL PLAN	SCALE <i>AS SHOWN</i>	DATE <i>Feb 1978</i>
NO.	BY	REVISIONS	DATE	DATE		DWG. NO. <i>4795-17-1</i>	SHEET _____ OF _____ SHEETS



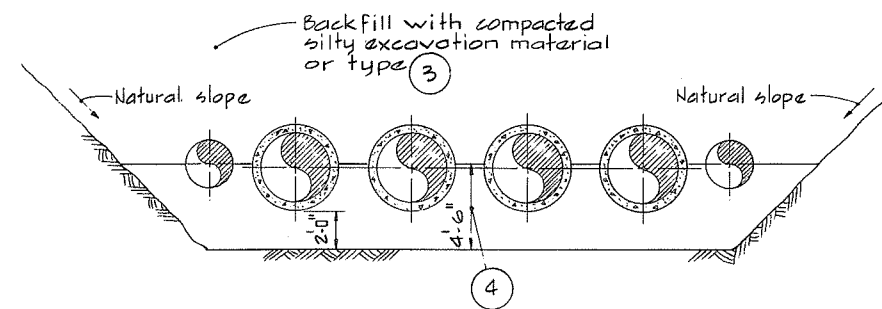
PLAN
SCALE IN FEET
20 10 0 20 40



SECTION A
SCALE IN FEET
5 0 5 10



SECTION B
SCALE IN FEET
5 0 5 10



SECTION C
SCALE IN FEET
5 0 5 10

MATERIAL LEGEND

- ① silt-clay
- ② sand
- ③ sand, gravel, cobbles
- ④ crushed gravel
- ⑤ light rip-rap
- ⑥ rip-rap

LEGEND

- Existing ground surface (section)
- Existing ground & structures (plan)
- Section identification letter
- Dwg No. on which the section is drawn (ie) 4795-17-7
- Detail identification number
- Dwg No. on which the detail is drawn (ie) 4795-17-7

NOTES

- Elevations refer to the Geodetic Survey of Canada.
- Offset distances from baseline to crest line are taken @ EL 11.0.

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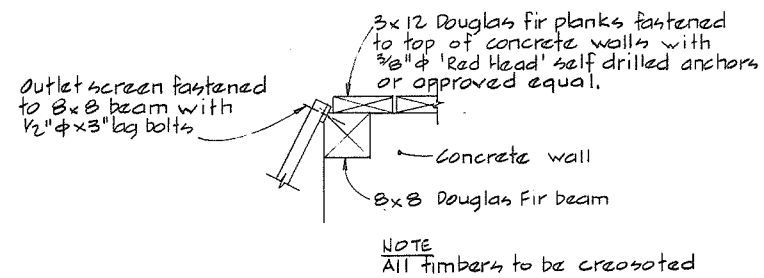
NO. BY REVISIONS DATE

RECOMMENDED *R.H. Prescott*
PROJECT MANAGER
DATE *Feb 13, 1978*
APPROVED *John Fuller*
DIRECTOR
DATE *Feb 13, 1978*

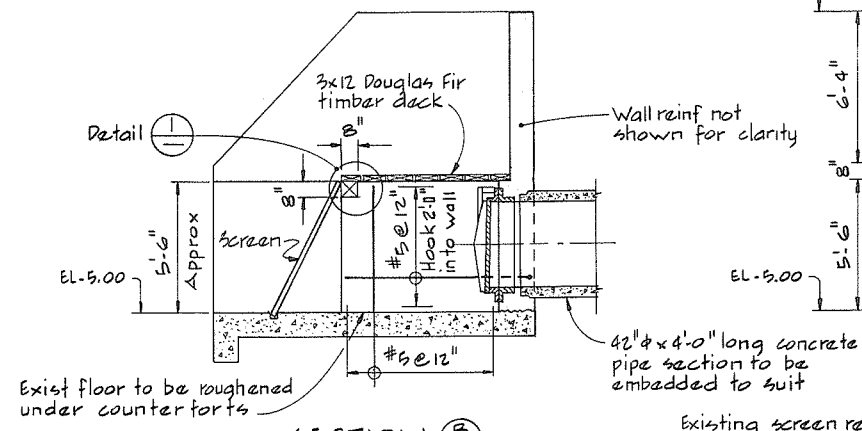
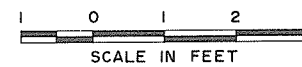
BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA - BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT
PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
HIGHWAY 499 SOUTH-DRAINAGE DISCHARGE STRUCT NO. 26
DETAILS OF EARTHWORKS

DESIGNED *EMH*
DRAWN *AR*
CHECKED *PLC*
SCALE *AS SHOWN*
DWG. NO. *4795-17-3*
SHEET *1* OF *1* SHEETS

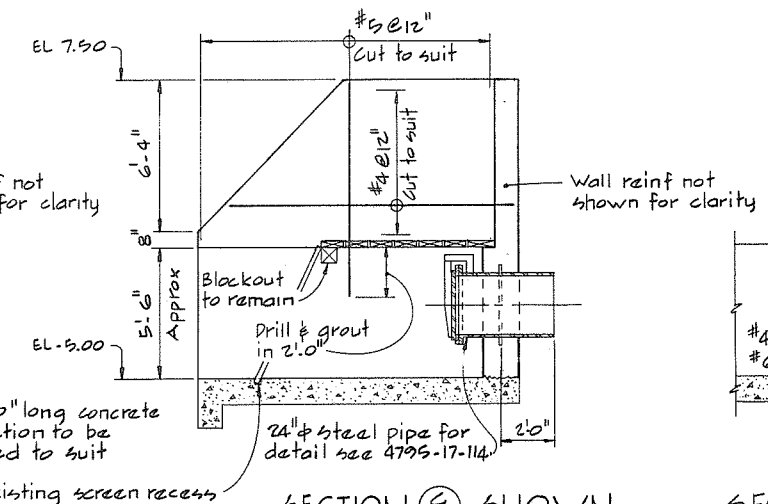
- Design is in accordance with CSA A23.3-1973. Code for the Design of Plain or Reinforced Concrete Structures.
- Construction shall be in accordance with CSA A23.1-1973. Specifications for Structural Concrete for Buildings.
- Specified strength for concrete f_c 4000 psi.
- Reinforcing steel shall be deformed bars conforming to CSA 430.12-1972, Grade 40 or 60.
- Cover over reinforcing steel to be 2" to all faces except 3" for the underside of the footings.
- Reinforcing to be of lengths indicated with construction joints as shown unless otherwise approved by the Engineer.
- CONCRETE FINISHES :-
 - Floors & base slabs - steel trowel
 - Exposed horizontal surfaces - broom
 - Interior, exterior exposed walls and beams - rubbed.
 - See specs for details.
- CHAMFERS - $\frac{3}{4} \times \frac{3}{4}$ for all exposed corners.



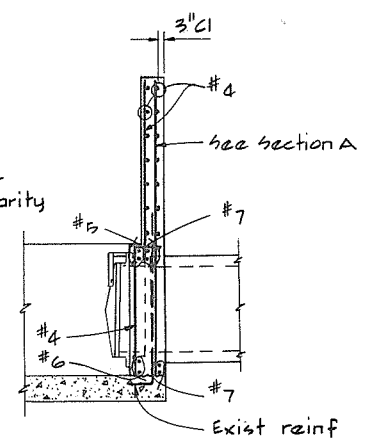
DETAIL 



SECTION (B)



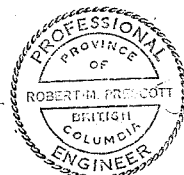
SECTION (C) SHOWN
SECTION (D) SIMILAR
BUT OPP HAND



SECTION $\textcircled{\frac{F}{=}}$

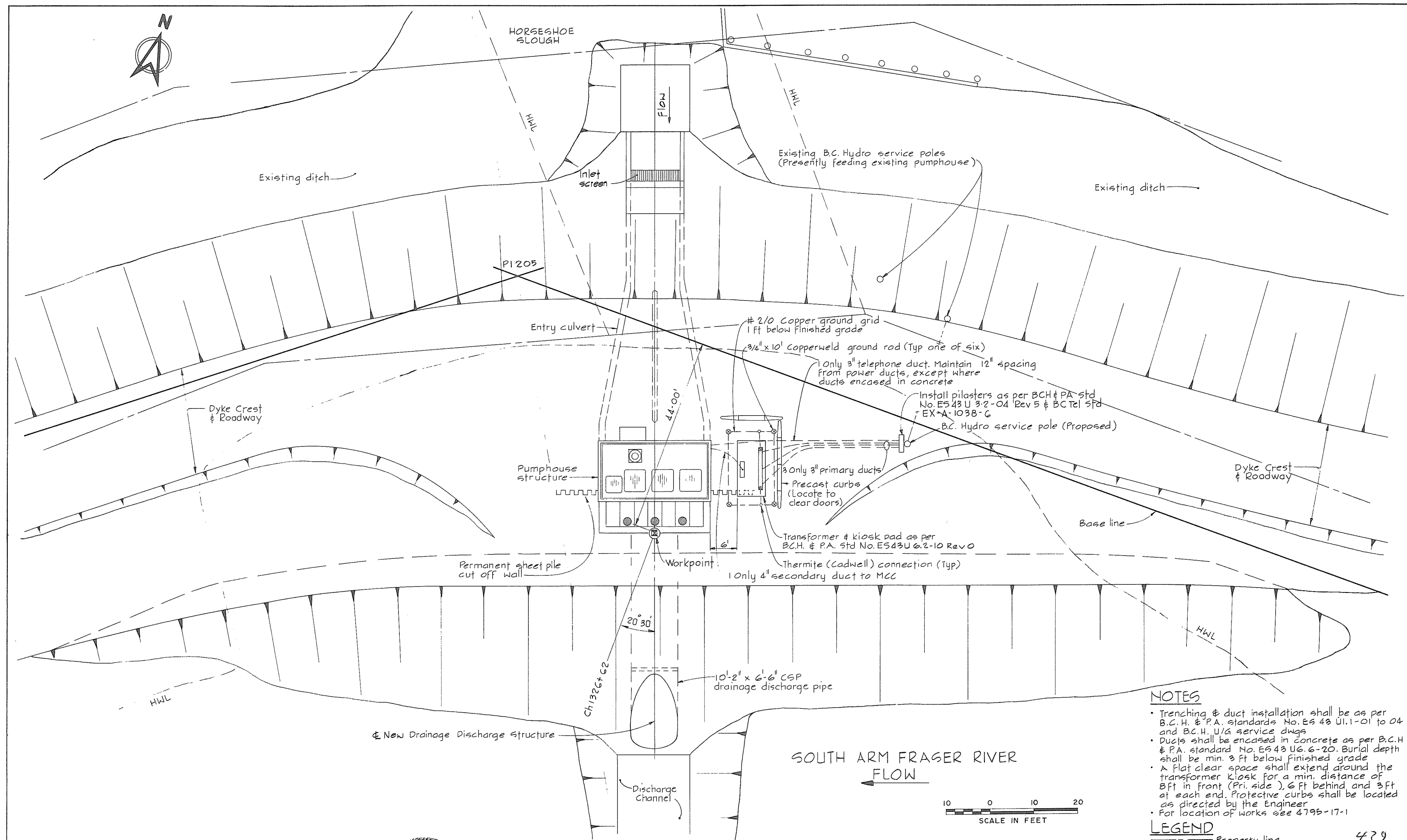


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NO.	BY	REVISIONS	DATE	RECOMMENDED <i>R. A. Cameron</i> PROJECT MANAGER	BRITISH COLUMBIA MINISTRY OF THE ENVIRONMENT WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT	DESIGNED <i>GCW</i>	SURVEYED
				DATE <i>Feb. 13/78</i>		DRAWN <i>AR</i>	DATE
				APPROVED <i>G. B. Fuller</i> DIRECTOR		CHECKED <i>DLG</i>	FILE NO. <i>0281550-CIO-17</i>
				DATE <i>Feb 13/78</i>		SCALE <i>AS SHOWN</i>	DATE <i>Feb 1978</i>
				DATE <i>Feb 13/78</i>	PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17 HIGHWAY 499 SOUTH-DRAINAGE DISCHARGE STRUCT NO. 26 MAIN STRUCTURE - CONCRETE OUTLINE	DWG. NO. <i>4795-17-4</i>	SHEET ____ OF ____ SHEETS



NOTES

- Trenching & duct installation shall be as per B.C.H. & P.A. standards No. ES 43 U1.1-01 to 04 and B.C.H. U/A service dwgs
- Ducts shall be encased in concrete as per B.C.H. & P.A. standard No. ES 43 U6.6-20. Burial depth shall be min. 3 ft below finished grade
- A flat clear space shall extend around the transformer kiosk for a min. distance of 8 ft in front (Pri. side), 6 ft behind and 3 ft at each end. Protective curbs shall be located as directed by the Engineer
- For location of works see 4795-17-1

LEGEND

Property line

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CONSULTING ENGINEERS - VANCOUVER - CANADA

NO. BY REVISIONS DATE

RECOMMENDED *R.W. Prescott*
PROJECT MANAGER

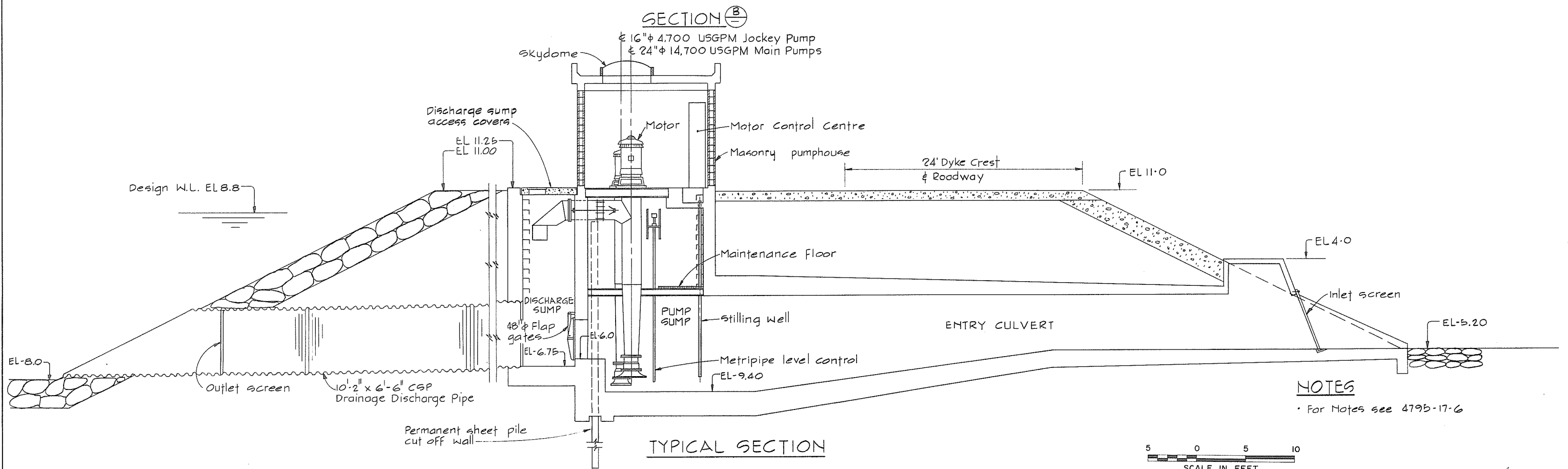
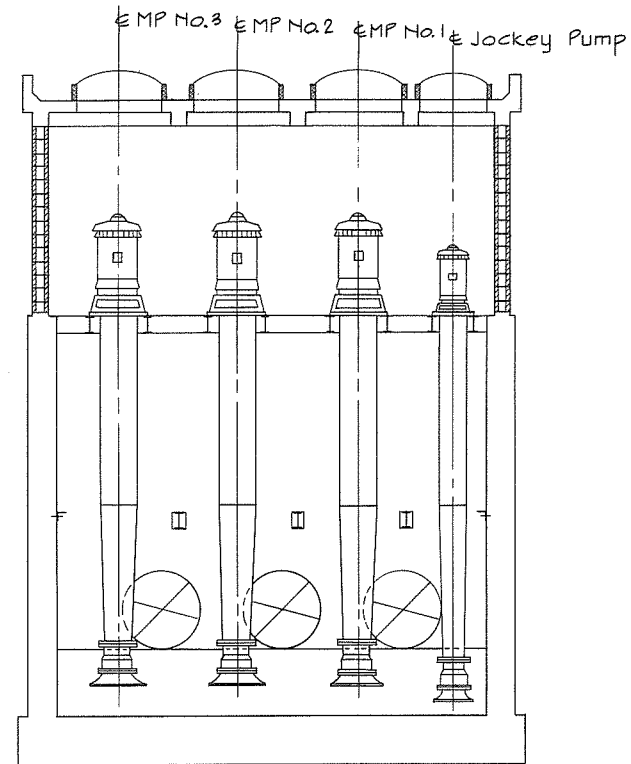
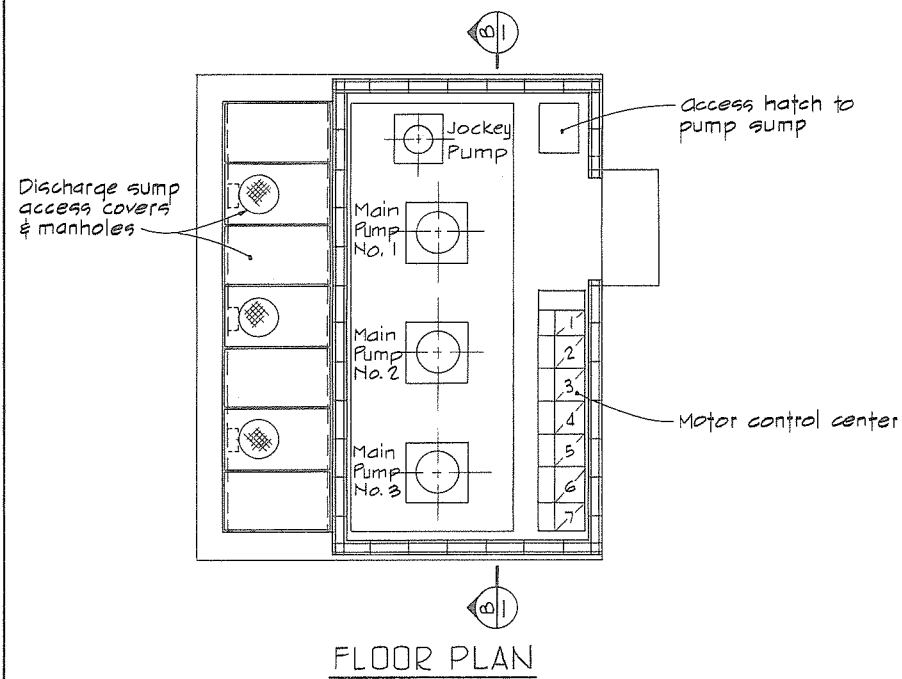
DATE *Feb 13, 1978*

APPROVED *R.W. Prescott*
DIRECTOR

DATE *Feb 13, 1978*

BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA - BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT
PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
SHELL RD SOUTH- DRAINAGE DISCHARGE STRUCT NO. 27
GENERAL ARRANGEMENT PLAN, POWER SUPPLY AND
PROPERTY REQUIREMENTS

DESIGNED NB/DLC	SURVEYED DATE
DRAWN GP	FILE NO. 0281550-C10-17
CHECKED NB/DLC	DATE Feb 1978
SCALE AS SHOWN	DWG. NO. 4795-17-6
SHEET OF SHEETS	



NOTES

For Notes see 4795-17-6

5 0 5 10

SCALE IN FEET

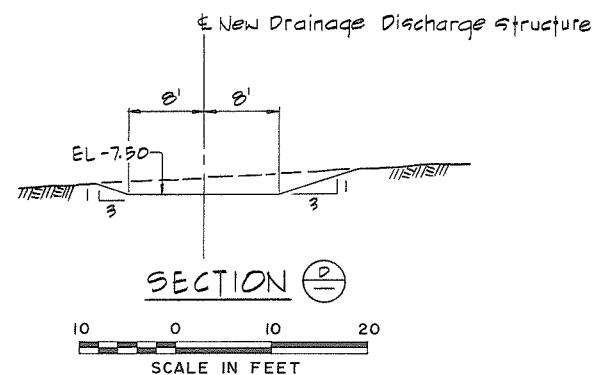
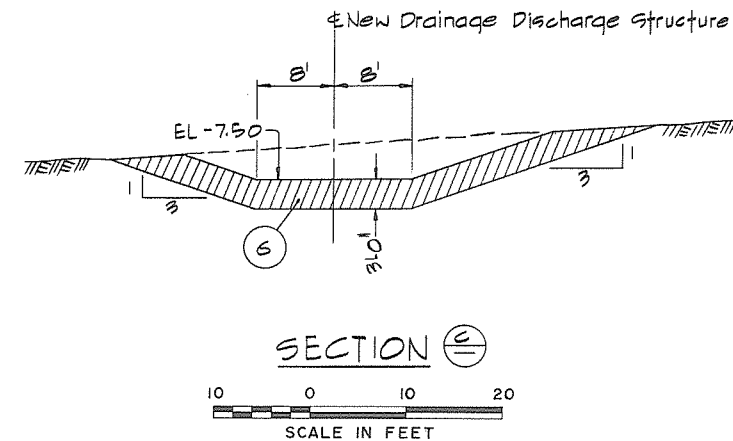
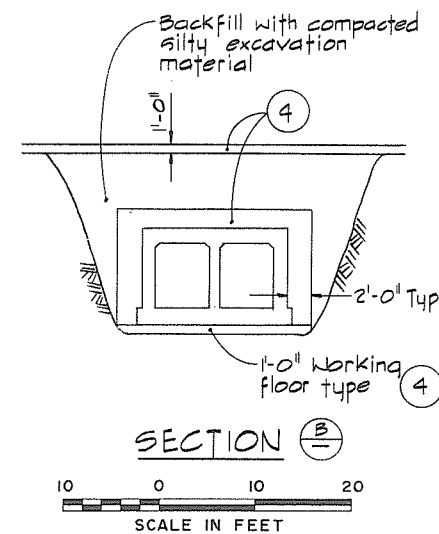
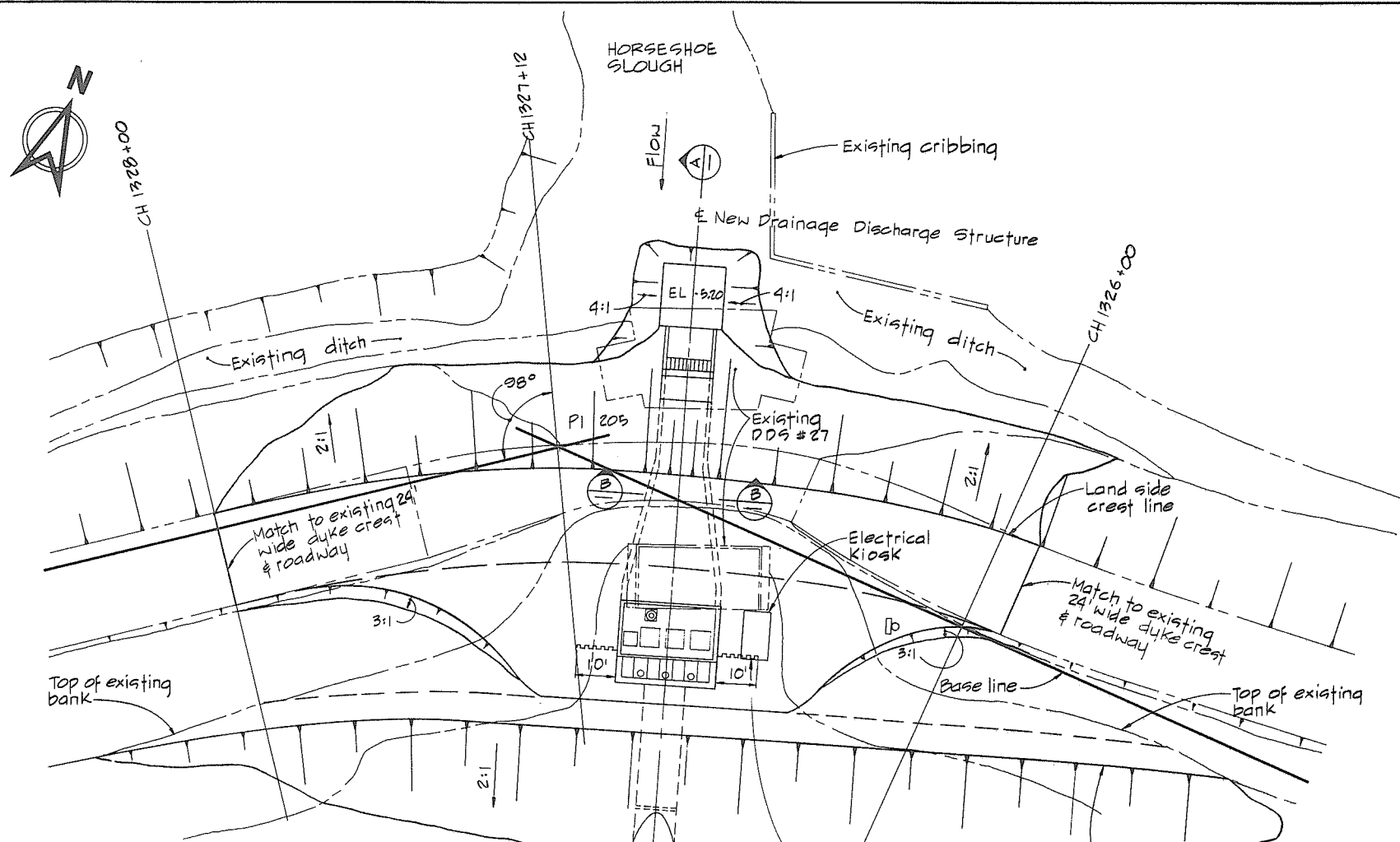


CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

RECOMMENDED <i>R. M. Prescott</i> PROJECT MANAGER	DESIGNED <i>DLC</i>	SURVEYED
DATE <i>Feb. 13, 1978</i>	DRAWN <i>GP</i>	DATE
APPROVED <i>W. J. Fuller</i> DIRECTOR	CHECKED <i>DLC</i>	FILE NO. <i>0281550-C10-17</i>
DATE <i>Feb. 13, 1978</i>	SCALE <i>AS SHOWN</i>	DATE <i>Feb 1978</i>
	DWG. NO. <i>4795-17-7</i>	SHEET <i>440</i> OF <i>440</i> SHEETS

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

PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
SHELL RD SOUTH-DRAINAGE DISCHARGE STRUCT NO. 27
GENERAL ARRANGEMENT SECTIONS



OFFSET DIMENSIONS FROM BASE LINE		
Chainage	Land side crest (feet)	River side crest (feet)
1325 + 50	—	16
1326 + 00	26	34
1326 + 50	16	53
1327 + 12	6	72
1327 + 50	2	62
1328 + 00	4	52

MATERIAL LEGEND

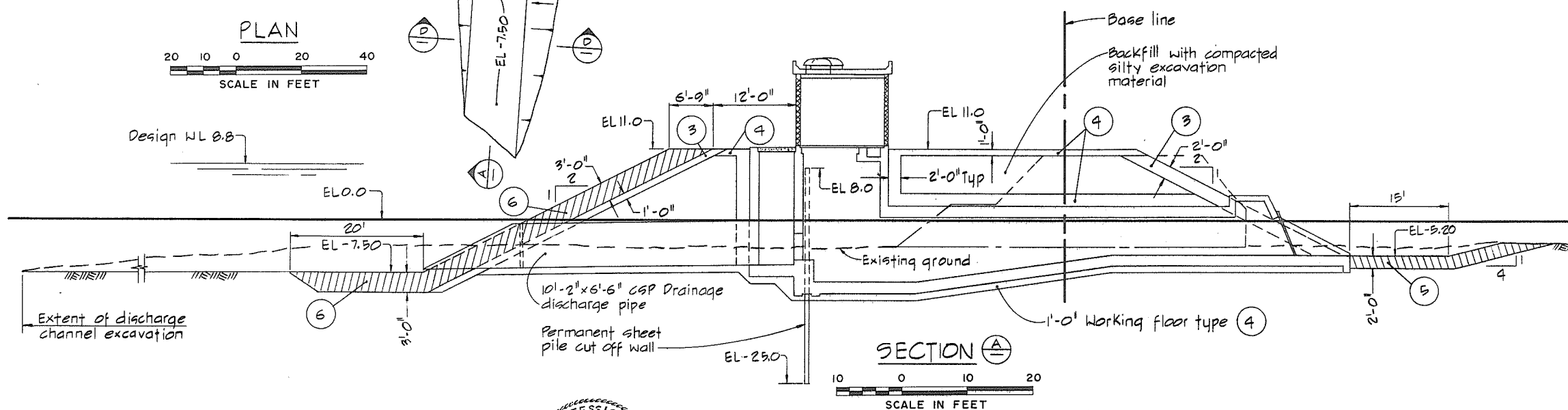
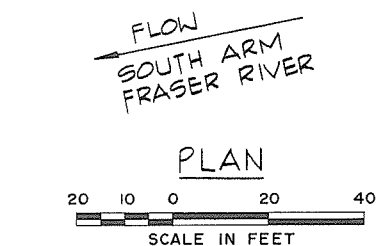
- ① silt - clay
- ② sand
- ③ sand, gravel, cobbles
- ④ crushed gravel
- ⑤ light rip - rap
- ⑥ rip - rap

LEGEND

- Existing ground surface (Section)
- Existing ground & structures (Plan)
- Section identification letter
- Drawing No. on which the section is drawn (ie) 4795-17-[18]
- Detail identification number
- Drawing No. on which the detail is drawn (ie) 4795-17-[18]

NOTES

- Elevations refer to the geodetic survey of Canada.
- A smooth alignment shall be maintained over the entire length of the dyke.
- Offset distances from base to crest lines are taken at the design crest elevation.
- The angle of offset is 90° to base line unless otherwise indicated.
- Terminal parts of the work shall be constructed to blend with the existing ground.

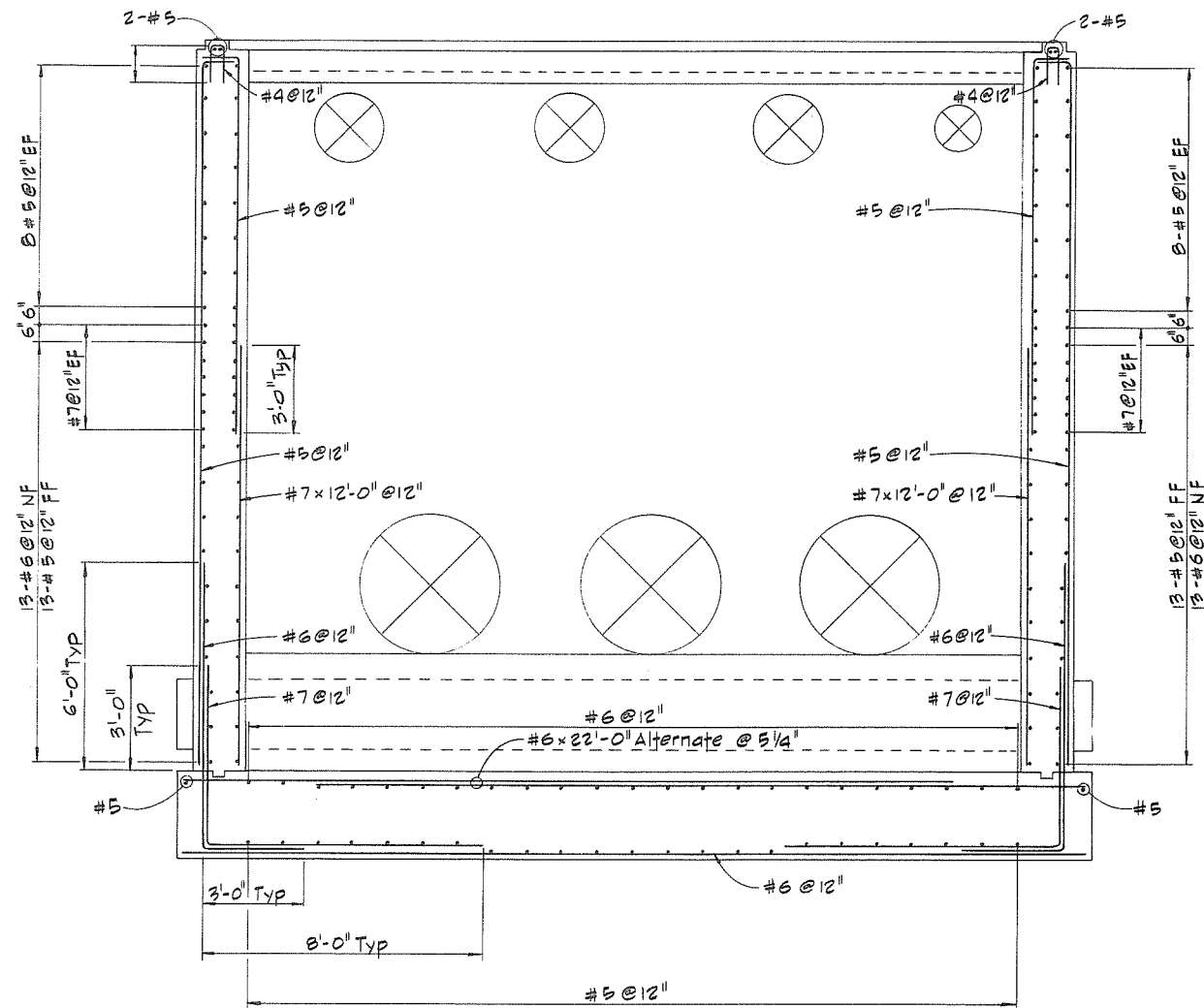


CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

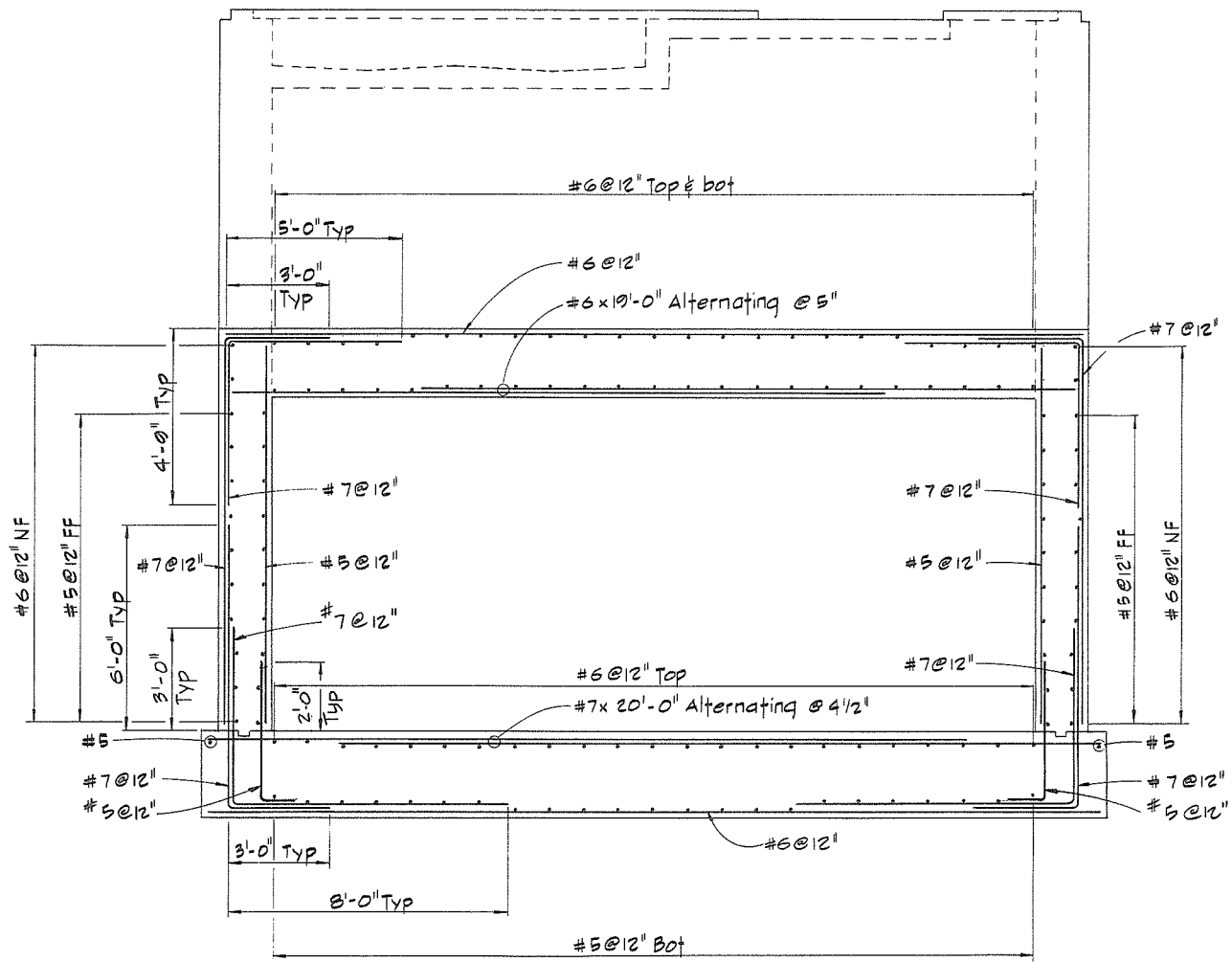
RECOMMENDED *R. H. Cameron*
PROJECT MANAGER
DATE *Feb. 13, 1978*
APPROVED *John Fuller*
DIRECTOR
DATE *Feb 13/78*

BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA - BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT
PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
SHELL RD. SOUTH - DRAINAGE DISCHARGE STRUCT. NO. 27
DETAILS OF EARTHWORKS

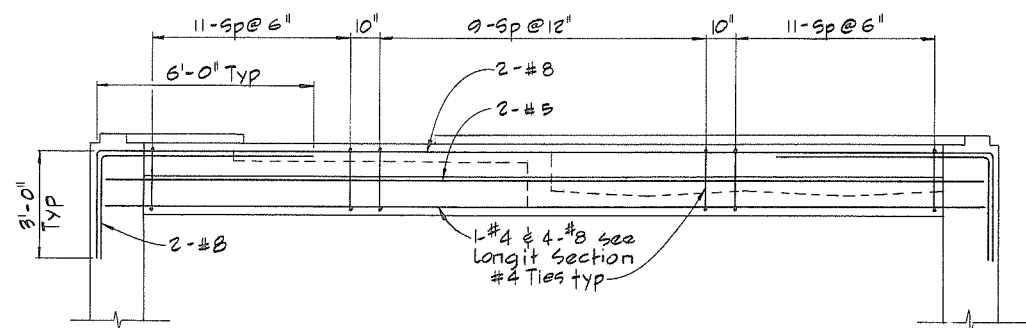
DESIGNED *EMH/DLC*
DRAWN *WN*
CHECKED *DLC*
SCALE *AS SHOWN*
DWG. NO. *4795-17-8*
SURVEYED
DATE
FILE NO. *0281550 - CIO-17*
DATE *Feb 1978*
SHEET *441* OF *441* SHEETS



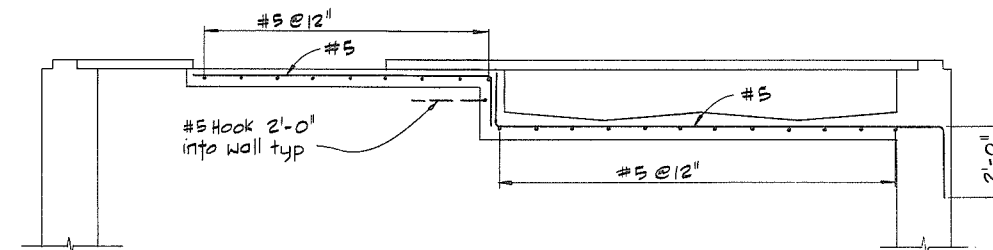
SECTION D-D



SECTION E-E



SECTION F-F



SECTION G-G

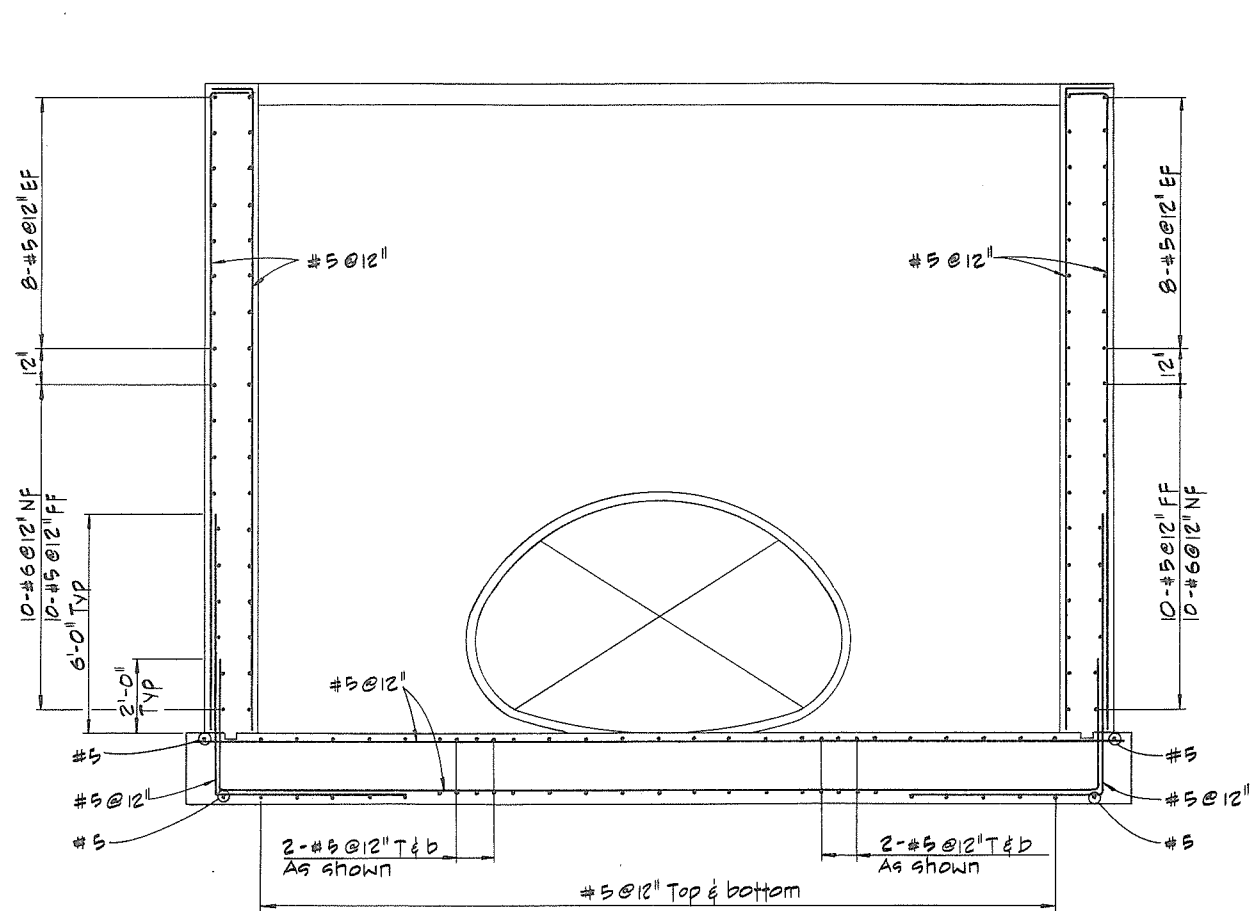
NOTES

For General Notes see 4795-17-9

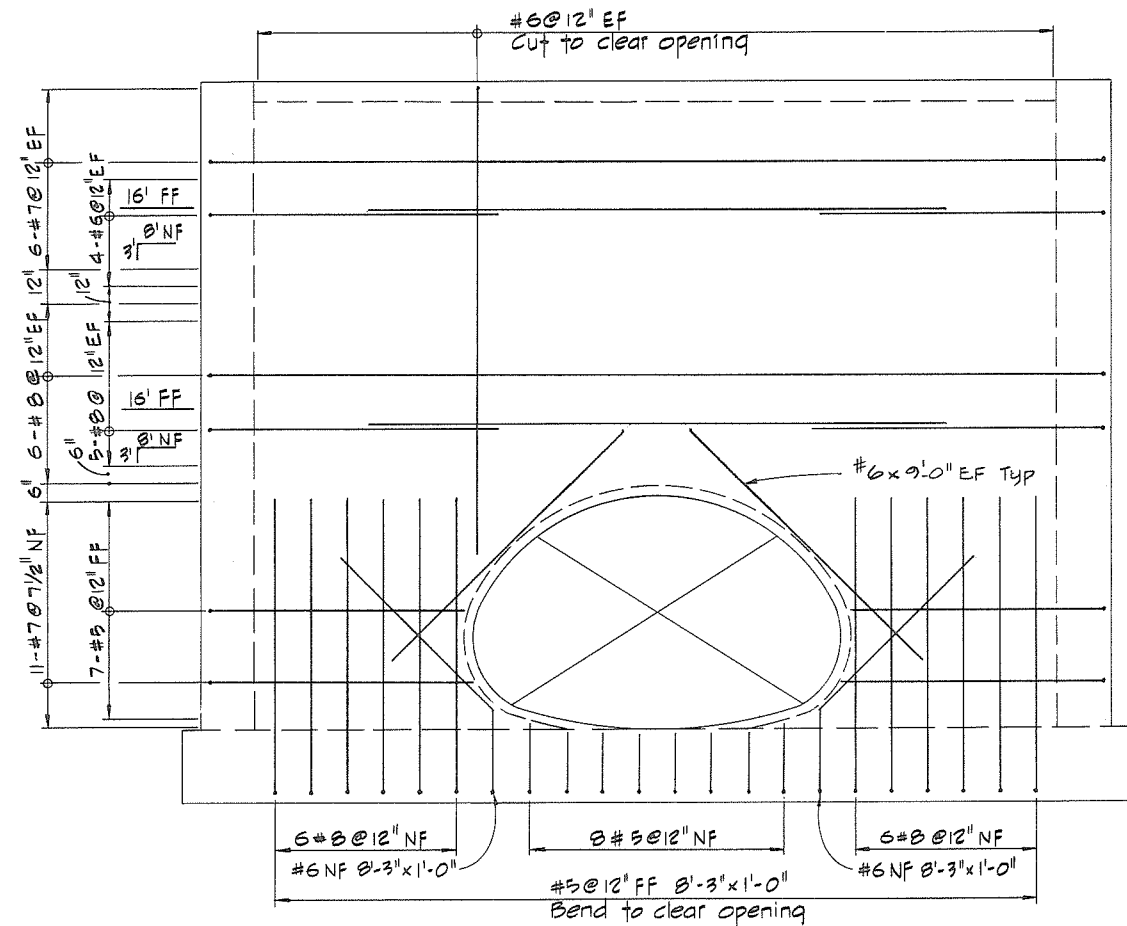


CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

NO.	BY	REVISIONS	DATE	RECOMMENDED <i>R. Cameron</i> PROJECT MANAGER DATE <i>Feb. 13, 1978</i>	APPROVED <i>John Miller</i> DIRECTOR DATE <i>Feb 13/78</i>	BRITISH COLUMBIA MINISTRY OF THE ENVIRONMENT WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1988 AGREEMENT PROJECT NO.3 TOWNSHIP OF RICHMOND CONTRACT NO.17 SHELL RD SOUTH - DRAINAGE DISCHARGE STRUCT NO.27 MAIN STRUCTURE - REINFORCING	DESIGNED <i>GCW</i> DRAWN <i>Wn</i> CHECKED <i>TP</i> SCALE <i>AS SHOWN</i> DWG. NO. <i>4795-17-11</i>	SURVEYED DATE FILE NO. <i>0281550-C10-17</i> DATE <i>Feb 1978</i> SHEET <i>2</i> OF <i>3</i> SHEETS
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SECTION $\frac{H}{10}$

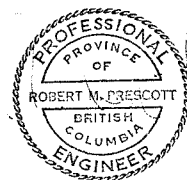
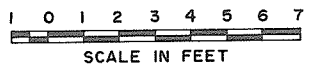


VIEW $\frac{J}{10}$

NOTES

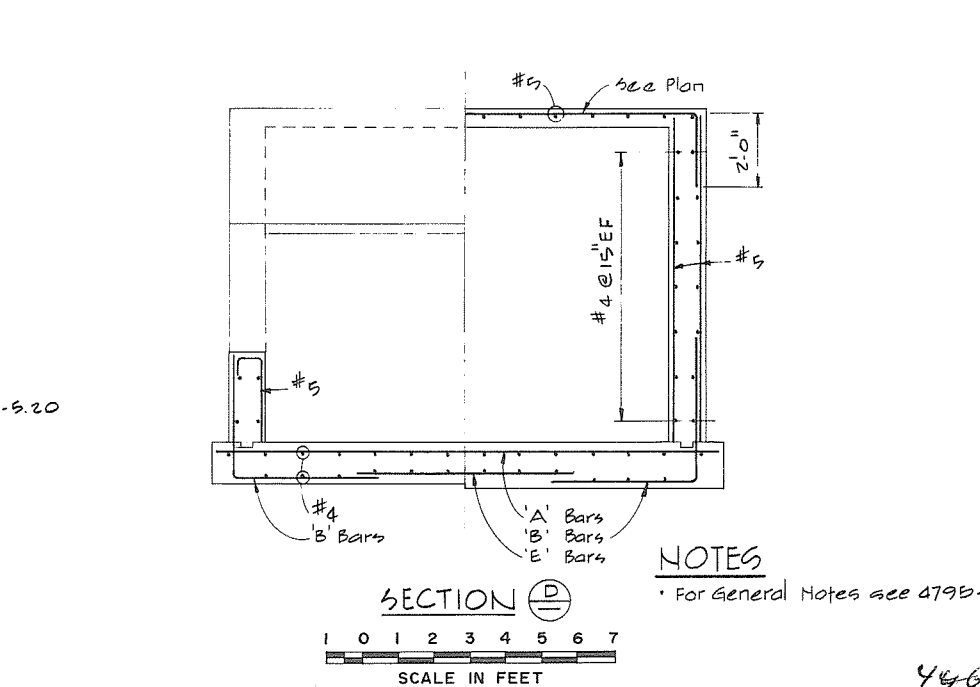
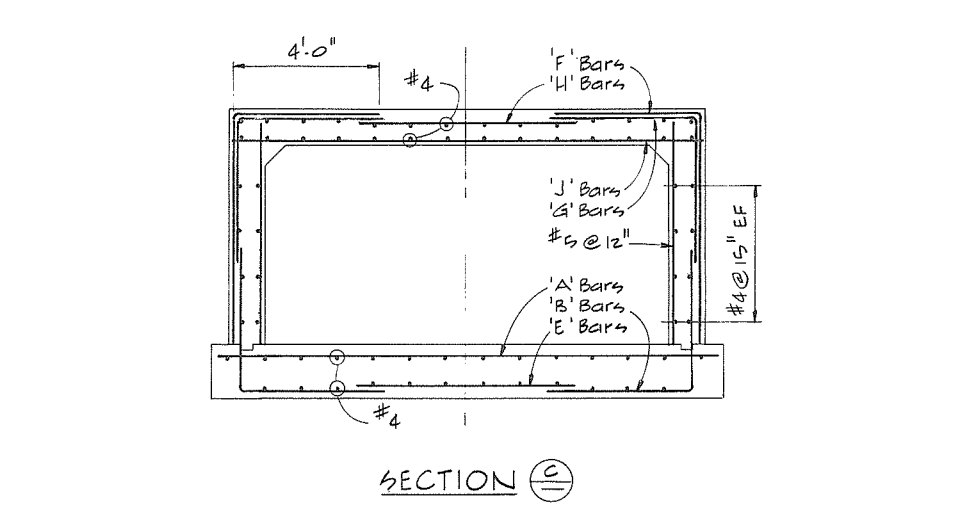
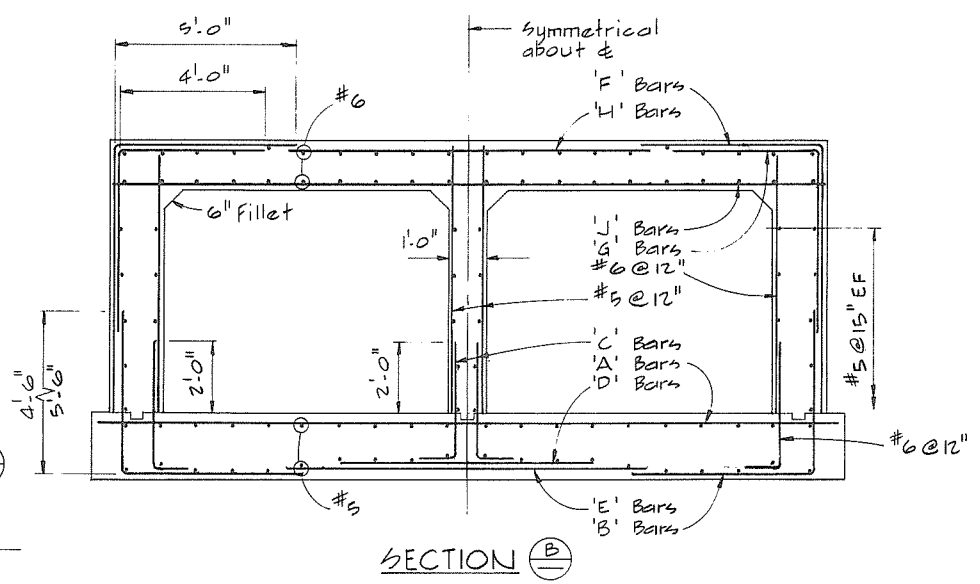
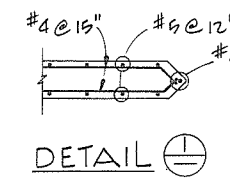
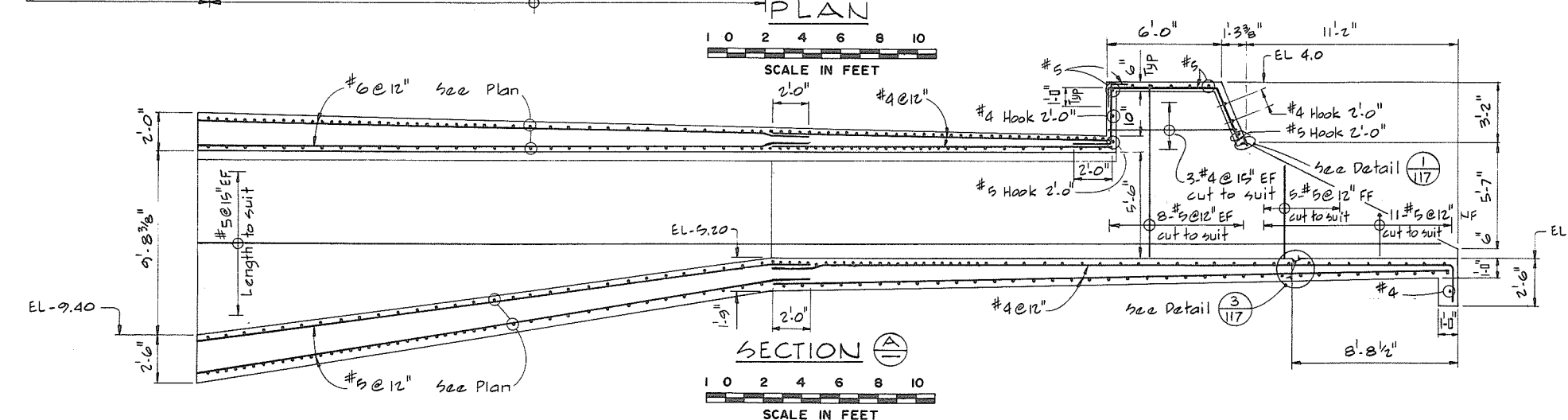
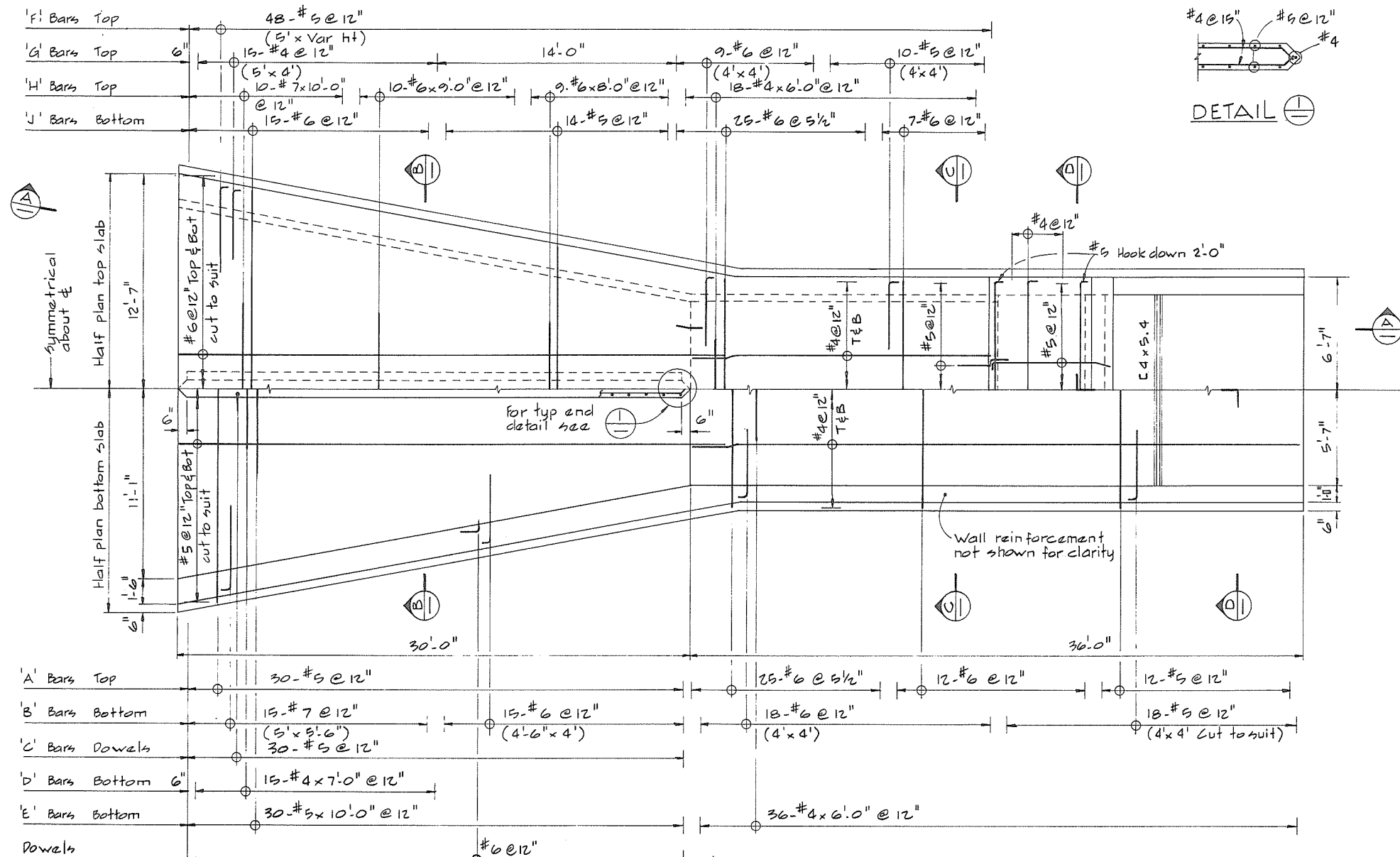
• For General Notes see 4795-17-9

445

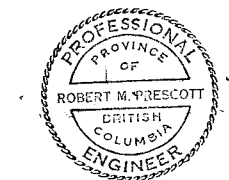


CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

NO.	BY	REVISIONS	DATE	RECOMMENDED <i>R. R. Prescott</i> PROJECT MANAGER	BRITISH COLUMBIA MINISTRY OF THE ENVIRONMENT WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT	DESIGNED <i>GCW</i>	SURVEYED
				DATE <i>Feb. 13, 1978</i>		DRAWN <i>WA</i>	DATE
				APPROVED <i>J. B. Sullivan</i> DIRECTOR	PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17	CHECKED <i>TP</i>	FILE NO. <i>0281550-C10-17</i>
				DATE <i>Feb. 13, 1978</i>	SHELL RD SOUTH - DRAINAGE DISCHARGE STRUCT NO. 27	SCALE <i>AS SHOWN</i>	DATE <i>Feb 1978</i>
					MAIN STRUCTURE - REINFORCING	DWG. NO. <i>4795-17-12</i>	SHEET <i>3</i> OF <i>3</i> SHEETS



NOTES
 * For General Notes see 4795-17-9

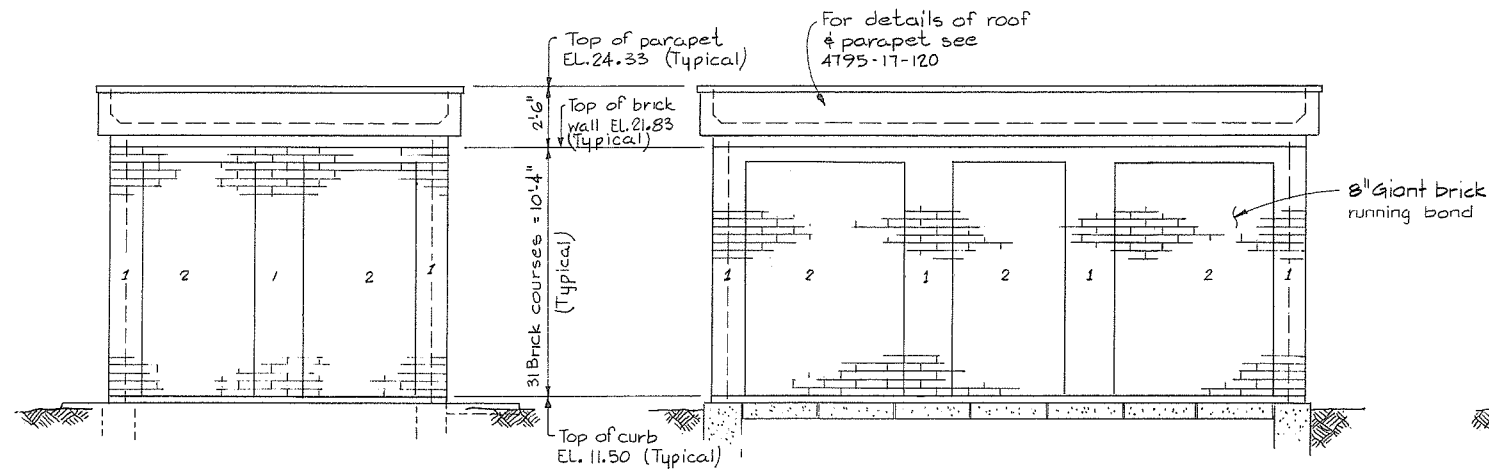


CBA ENGINEERING LTD.
 CONSULTING ENGINEERS - VANCOUVER - CANADA

RECOMMENDED <i>R. H. Cameron</i> PROJECT MANAGER	DESIGNED <i>GPAA/GCW</i>	SURVEYED
DATE <i>Feb. 13, 1978</i>	DRAWN <i>AR</i>	DATE
APPROVED <i>W. J. Fuller</i> DIRECTOR	CHECKED <i>TP/AR</i>	FILE NO. <i>0281550-G10-17</i>
DATE <i>Feb 13/78</i>	SCALE <i>AS SHOWN</i>	DATE <i>Feb 1978</i>
	DWG. NO. <i>4795-17-13</i>	SHEET <i>446</i> OF <i>4</i> SHEETS

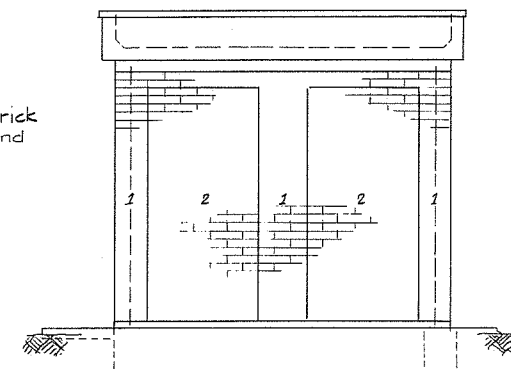
BRITISH COLUMBIA
 MINISTRY OF THE ENVIRONMENT
 WATER INVESTIGATIONS BRANCH
 CANADA - BRITISH COLUMBIA
 FRASER RIVER FLOOD CONTROL 1968 AGREEMENT

PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
 SHELL RD SOUTH - DRAINAGE DISCHARGE STRUCT NO. 27
 ENTRY CULVERT AND BOX CULVERT
 CONCRETE OUTLINE AND REINFORCING

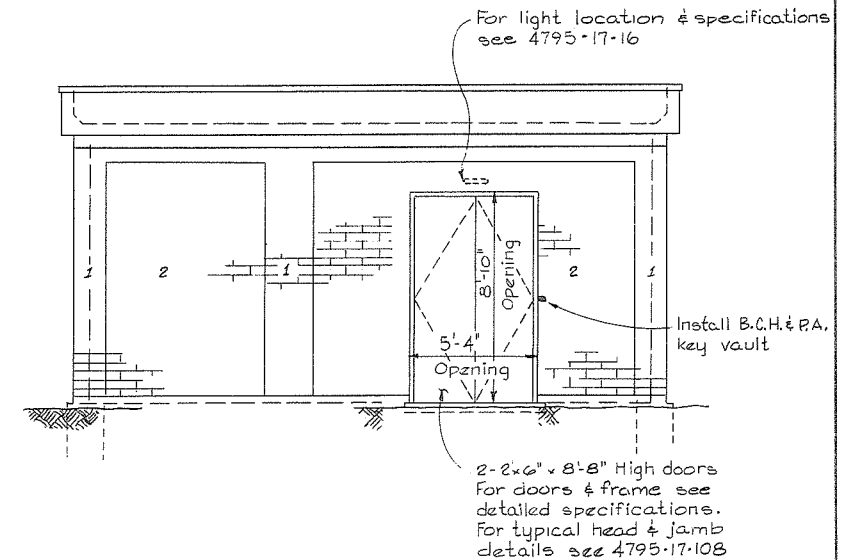


EAST ELEVATION

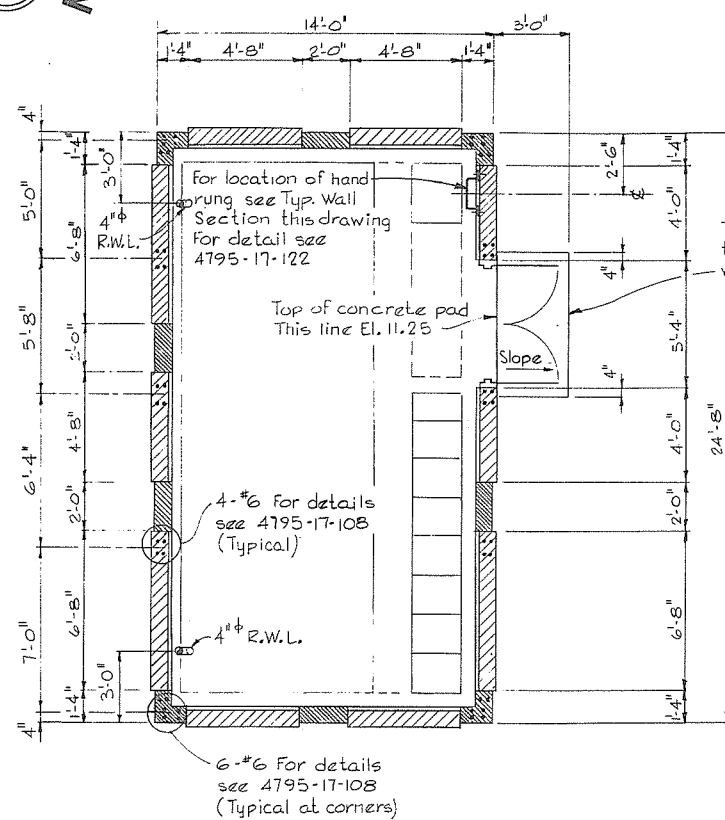
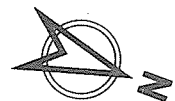
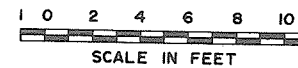
SOUTH ELEVATION



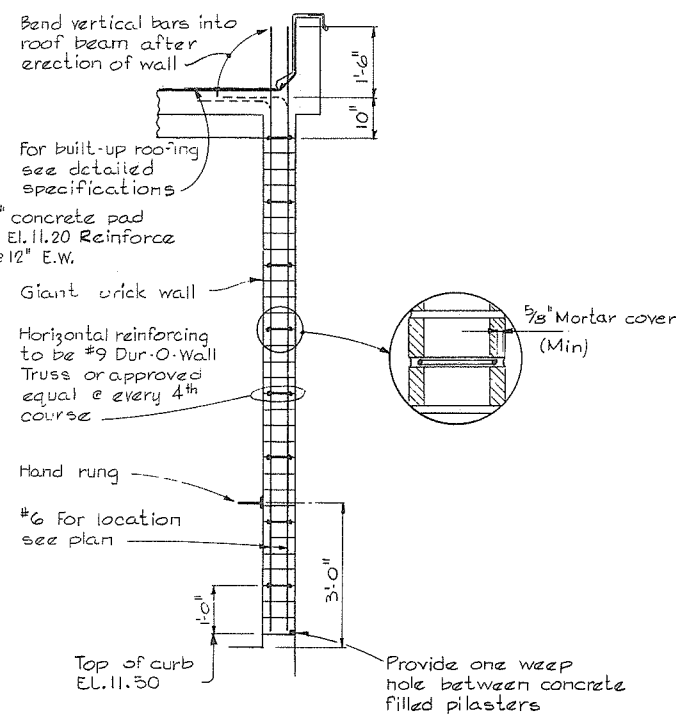
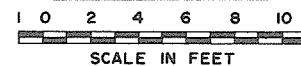
WEST ELEVATION



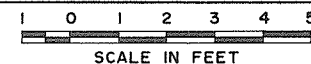
NORTH ELEVATION



FLOOR PLAN



TYPICAL WALL SECTION

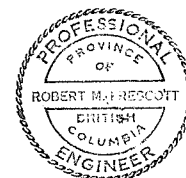


NOTES

- Elevations refer to the Geodetic Survey of Canada
- For General Notes see 4795-17-9
- Cores to be filled with concrete as specified in the detailed specifications

LEGEND

- 1 Denotes Giant Brick Western Buff color
- 2 Denotes Giant Brick Chestnut color



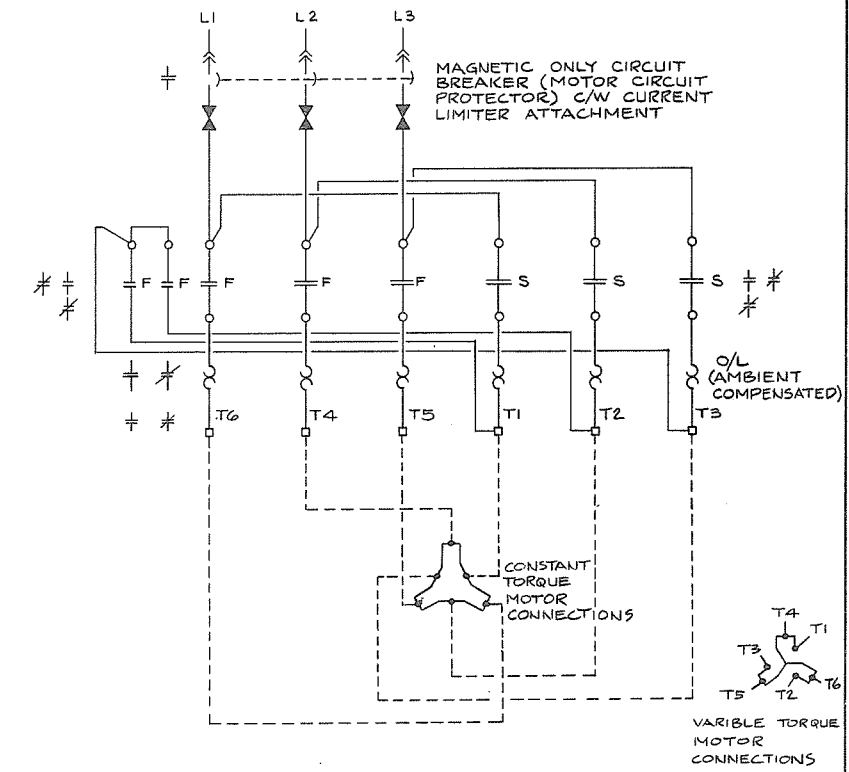
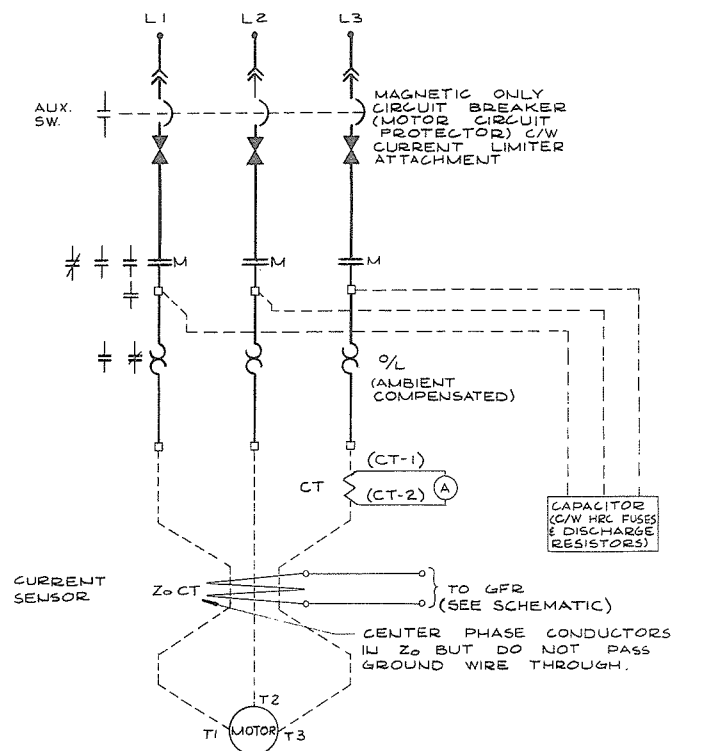
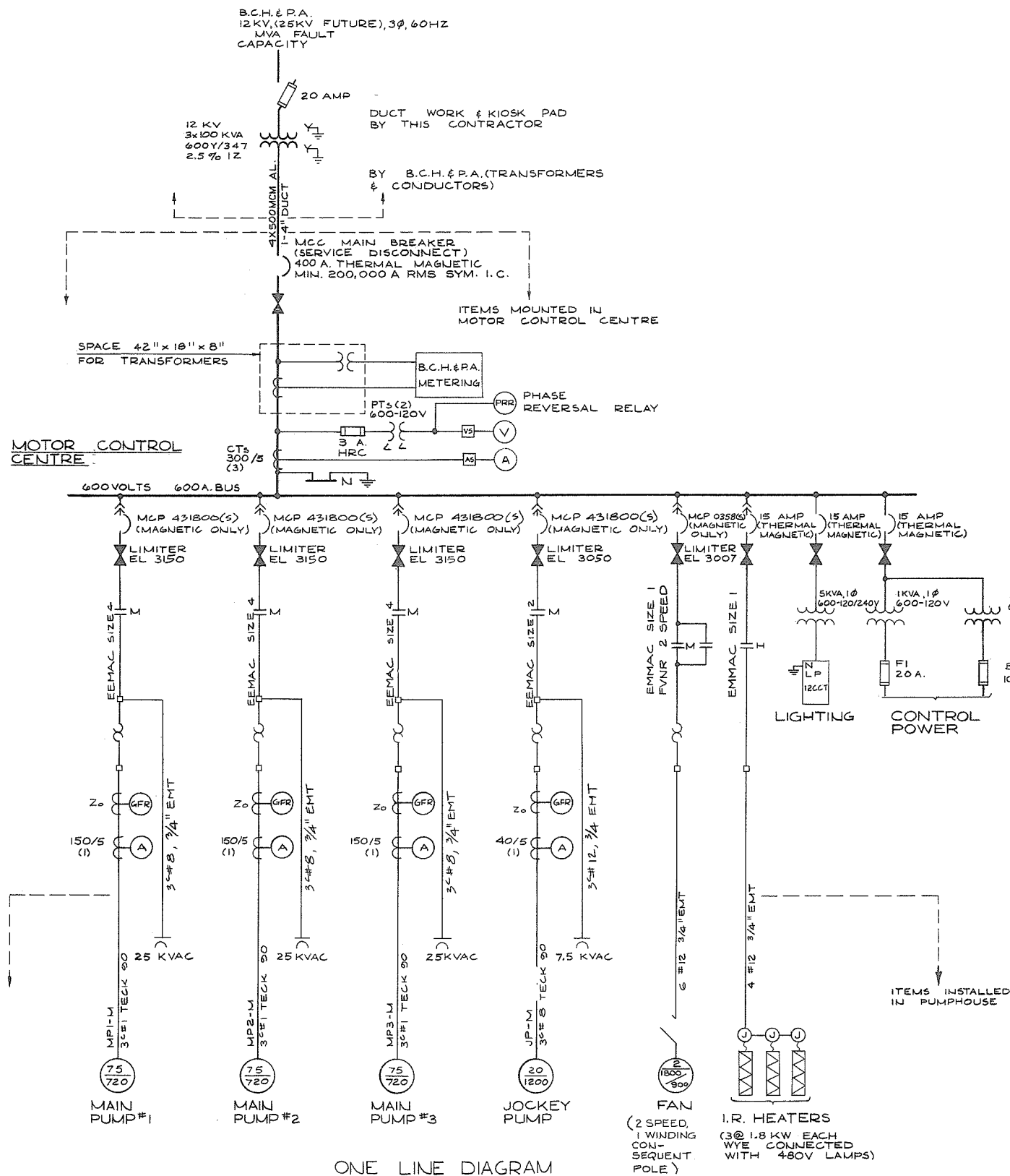
CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

NO. BY REVISIONS DATE

RECOMMENDED *R. N. Cameron*
PROJECT MANAGER
DATE *Feb. 13, 1978*
APPROVED *John Fuller*
DIRECTOR
DATE *Feb 13/78*

BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA - BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT
PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
SHELL RD SOUTH - DRAINAGE DISCHARGE STRUCT NO. 27
ARCHITECTURAL DETAILS

DESIGNED *L. J.*
DRAWN *L. J.*
CHECKED *AR*
SCALE *AS SHOWN*
DWG. NO. *4795-17-14*
SURVEYED
DATE
FILE NO. *0281550-C10-17*
DATE *Feb 1978*
SHEET *447* OF *4* SHEETS



TYPICAL PUMP STARTER CONNECTIONS

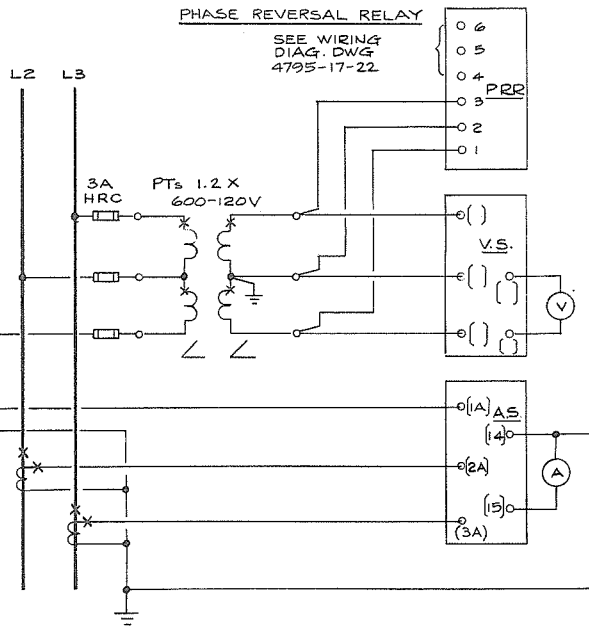
TYPICAL 2 SPEED FAN STARTER CONNECTIONS
(SINGLE WINDING CONSEQUENT POLE)

GENERAL NOTES

- 1) THE ENTIRE ELECTRICAL INSTALLATION SHALL COMPLY WITH THE CANADIAN ELECTRICAL CODE PART I (12TH EDITION) AND THE ELECTRICAL ENERGY INSPECTION ACT OF BRITISH COLUMBIA AS ENFORCED BY THE DEPARTMENT OF HIGHWAY AND PUBLIC WORKS, ELECTRICAL SAFETY BRANCH AND ALL REQUIREMENTS OF LOCAL AUTHORITIES HAVING JURISDICTION.
- 2) ALL ELECTRICAL EQUIPMENT AND MATERIAL SHALL BE NEW AND CSA APPROVED WHERE STANDARDS HAVE BEEN ESTABLISHED BY THAT AGENCY.
- 3) THE ENTIRE INSTALLATION SHALL COMPLY WITH THE CONTRACT DOCUMENTS.
- 4) LOCATION OF BLOCKOUTS IN CONCRETE AND PLACING OF EMBEDDED CONDUIT AND SLEEVES SHALL BE CO-ORDINATED WITH THE OTHER TRADES.

LEGEND

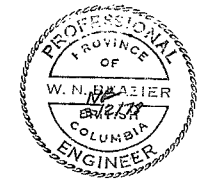
- | | |
|---|--|
| (A) AMMETER | (M) MOTOR STARTER CONTACTOR |
| (V) VOLTMETER | (F) TWO SPEED STARTER 'FAST' CONTACTOR |
| AS AMMETER SWITCH | (S) TWO SPEED STARTER 'SLOW' CONTACTOR |
| VS VOLTMETER SWITCH | MCB MOLDED CASE AIR CIRCUIT BREAKER |
| GFR GROUND FAULT RELAY, FPE TYPE GFR OR EQUAL | |
| PRR PHASE REVERSAL RELAY | |
| CAPACITOR | |
| TRANSFORMER | |
| OVERLOAD | |
| FUSE | |
| CURRENT LIMITER | |



TYPICAL VOLTMETER & AMMETER CONNECTIONS

NOTE:

1. FOR BUILDING DETAILS REFER TO ARCHITECTURAL DWGS. N^o 4795-17-14, 4795-17-108 & 4795-17-120
2. FOR SERVICE DETAILS AND SITE PLAN REFER TO DWG. N^o 4795-17-6.



PREPARED BY:
M.A. THOMAS & ASSOCIATES LTD.
CONSULTING ENGINEERS
VANCOUVER, B.C. — CANADA.

REFERENCE: 1291

CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

RECOMMENDED *P.R. Camm*
CHIEF, PROJECTS DIV.

DATE *Feb. 13/1978*

APPROVED *John J. Blazier*
CHIEF ENGINEER

DATE *Feb. 13/1978*

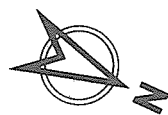
NO. BY REVISIONS DATE

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

PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
SHELL RD SOUTH-DRAINAGE DISCHARGE STRUCT NO. 27

ELECTRICAL ONE LINE DIAGRAM

DESIGNED <i>HO</i>	SURVEYED
DRAWN <i>SEO/TM</i>	DATE
CHECKED <i>NB</i>	FILE NO. <i>0281550-C10-17</i>
SCALE <i>NONE</i>	DATE <i>Feb 1978</i>
DWG. NO. <i>4795-17-15</i>	SHEET <i>448</i> OF <i>448</i> SHEETS



BOND TOGETHER AND GROUND
PUMP DISCHARGE PIPING AND
FLOOR DECKING TO MCC GROUND
BUS AS PER CONTRACT 17
SUBSECTION 4.2.16

METRIPIPE
LEVEL CONTROL
SENSOR SEE DETAIL (1)
106

UP THROUGH WALL
TO SWITCH
C/W EYS SEAL
2 #12, 1/2" CONDUIT
EMBEDDED IN CONCRETE

FOR CABLE SUPPORT
DETAILS
SEE SECTION (A) & DETAIL (1)
(TYP.)

3/4" RIGID STEEL CONDUIT
1 PR SHIELDED CABLE
BELDON #8760 TO R/I
SIGNAL CONVERTER IN MCC
(PROVIDE EYS SEAL @ MCC)

1/2" CONDUIT FOR FUTURE
HEATER SUPPLY FROM MCC
(PROVIDE EYS SEAL @ MCC)

#2/0 CU GND. WIRE UNDER
MAINTENANCE FLOOR CLAMP
TO EVERY WF.

#2/0 CU GND WIRE UNDER
MAIN FLOOR CLAMP TO
EVERY WF.

3/4" RIGID GALV. STEEL
CONDUIT DOWN TO GAS
DETECTOR C/W EYS SEAL
SEE DETAIL (2)

INCANDESCENT
LIGHTS II (4)

STILLING WELL &
BUBBLER TUBE

UP TO MCC GND BUS

3 ONLY 2" RIGID CONDUIT SLEEVES
C/W BUSHING ON 8" CENTRES (TYP.)
SEAL WITH RTV SILICONE

4" RIGID GALV. STEEL CONDUIT UP TO MCC
SERVICE SECTION (C/W EYS SEAL)
SEE DETAIL (1)

SERVICE PULL BOX (17)
SEE DETAIL (1)

FLEXIBAR SUPPORT (TYP.)

BUSHING & LOCKNUTS (TYP.)

TEL. PULL BOX (17)

2" RIGID GALV. STEEL
CONDUIT UP TO MCC
CONTROL & RELAY SECTION
C/W EYS SEAL

SHORT LENGTH OF BURNDY
"FLEXIBAR" 3H SUPPORT CHANNEL
HOT DIP GALVANIZED AFTER
FABRICATION (TYP.)

STAINLESS STEEL PIPE CLAMP

3" PVC JACKETTED RIGID GALV. STEEL
CONDUIT (TELEPHONE)

4" PVC JACKETTED RIGID GALV. STEEL
CONDUIT (SERVICE)

COUPLING

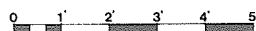
UFER GROUND ELECTRODE
#2/0 BARE COPPER MIN. 40'
LONG WITHIN BOTTOM 2"
OF FOOTINGS

BOND END OF
UFER GROUND
ELECTRODE TO MCC
GROUND BUS

DUCTS MUST BE AT
LEAST 3 FT. BELOW
FINISHED GRADE
SEE NOTE 4
DWG. 4795-17-15

NOTE:
1) PULL BOXES ARE BELOW
CONCRETE WIRING THROUGH

PLAN @ EL 10'-0"



PREPARED BY:
M.A. THOMAS & ASSOCIATES LTD.
CONSULTING ENGINEERS
VANCOUVER, B.C. CANADA



CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

REFERENCE: 1291

NO. BY REVISIONS DATE

RECOMMENDED *R. R. Cameron*
CHIEF, PROJECTS DIV.

DATE: 26. 13. 1975

APPROVED *W. N. Brazier*
CHIEF ENGINEER

DATE: 26. 13. 1975

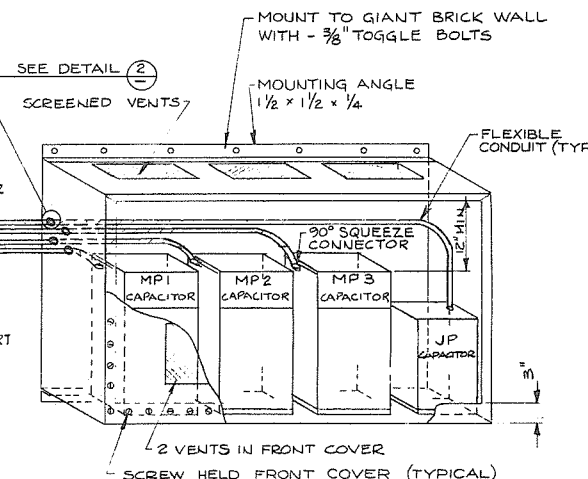
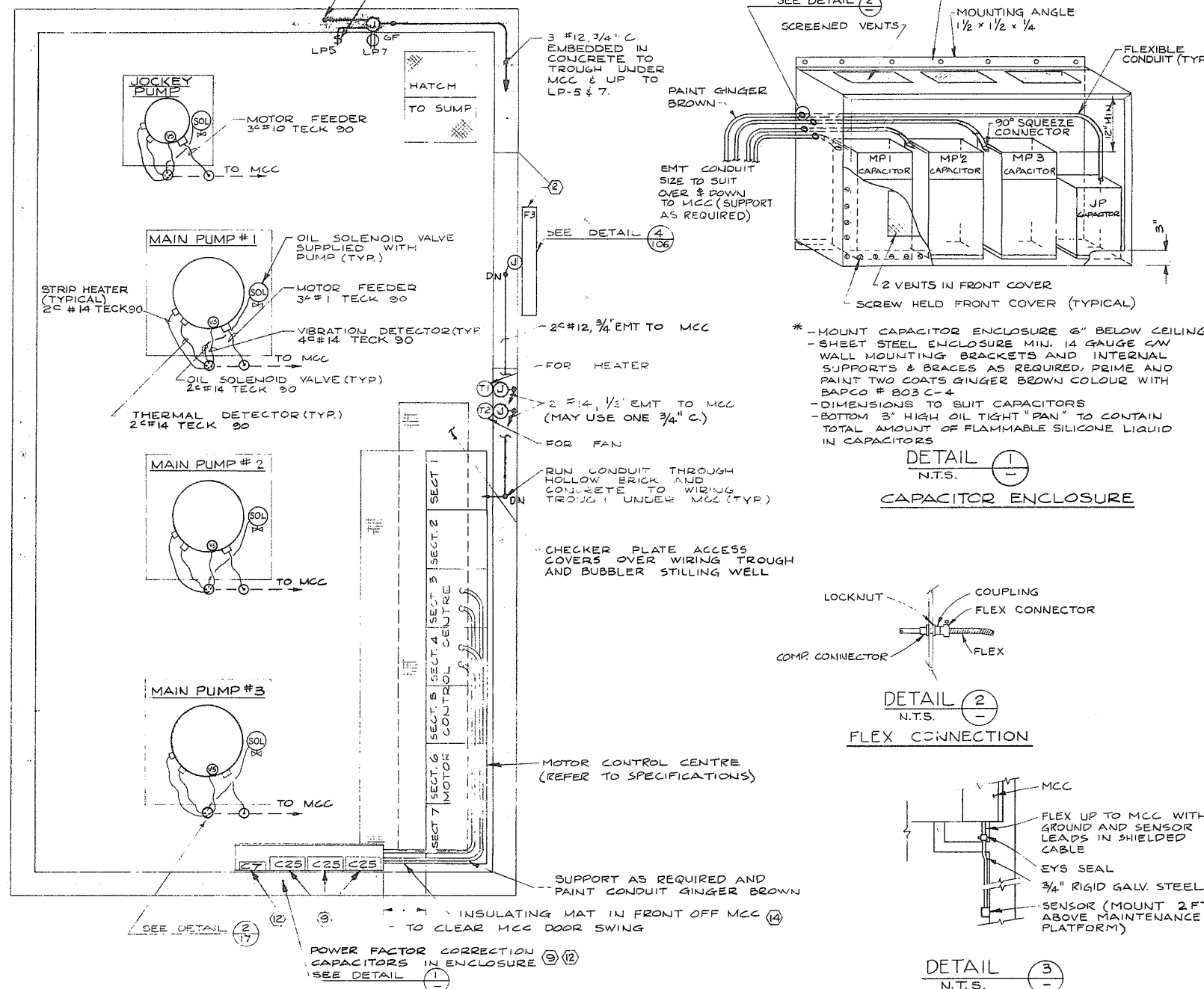
BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA - BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT

PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
SHELL RD SOUTH-DRAINAGE DISCHARGE STRUCT NO. 27
ELECTRICAL LAYOUT

DESIGNED	H.O.	SURVEYED	
DRAWN	SEO/TM	DATE	
CHECKED	NB	FILE NO.	0281550-C10-17
SCALE	AS SHOWN	DATE	Feb 1978
DWG. NO.	4795-17-16	SHEET	1 OF 2 SHEETS

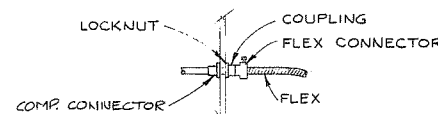
LEGEND

- INDICATES MATERIAL ITEM AS CALLED UP
ON DWG. N= 4795-17-106
- G— 2/0 CU GROUND WIRE
- EMBEDDED CONDUIT

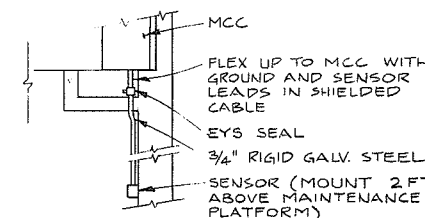


- * MOUNT CAPACITOR ENCLOSURE 6" BELOW CEILING
- SHEET STEEL ENCLOSURE MIN. 14 GAUGE C/W WALL MOUNTING BRACKETS AND INTERNAL SUPPORTS & BRACES AS REQUIRED, PRIME AND PAINT TWO COATS GINGER BROWN COLOUR WITH BAPCO # 803 C-4
- DIMENSIONS TO SUIT CAPACITORS
- BOTTOM 3" HIGH OIL TIGHT "PAN" TO CONTAIN TOTAL AMOUNT OF FLAMMABLE SILICONE LIQUID IN CAPACITORS

DETAIL (1)
N.T.S.
CAPACITOR ENCLOSURE

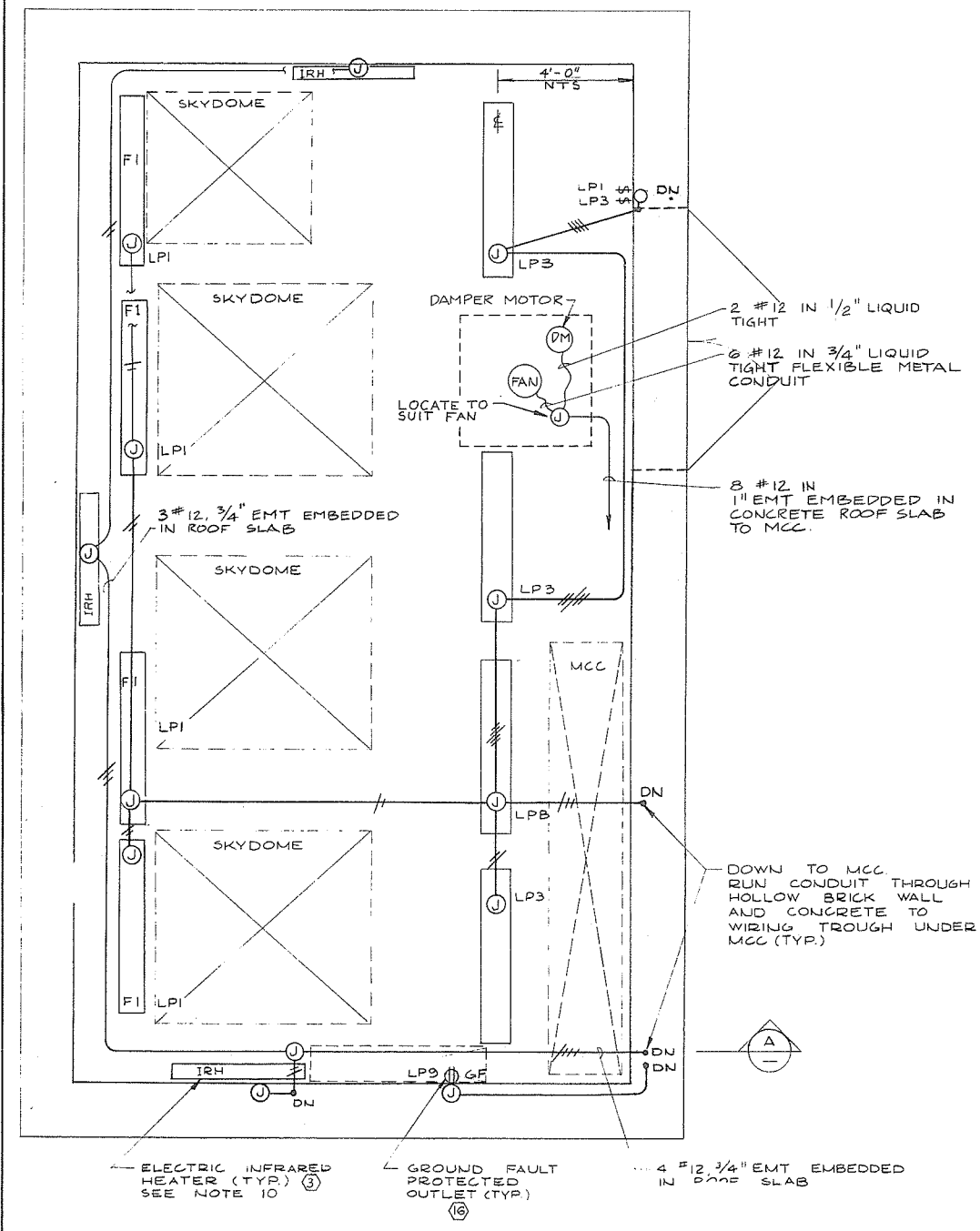
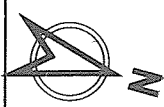


DETAIL (2)
N.T.S.
FLEX CONNECTION

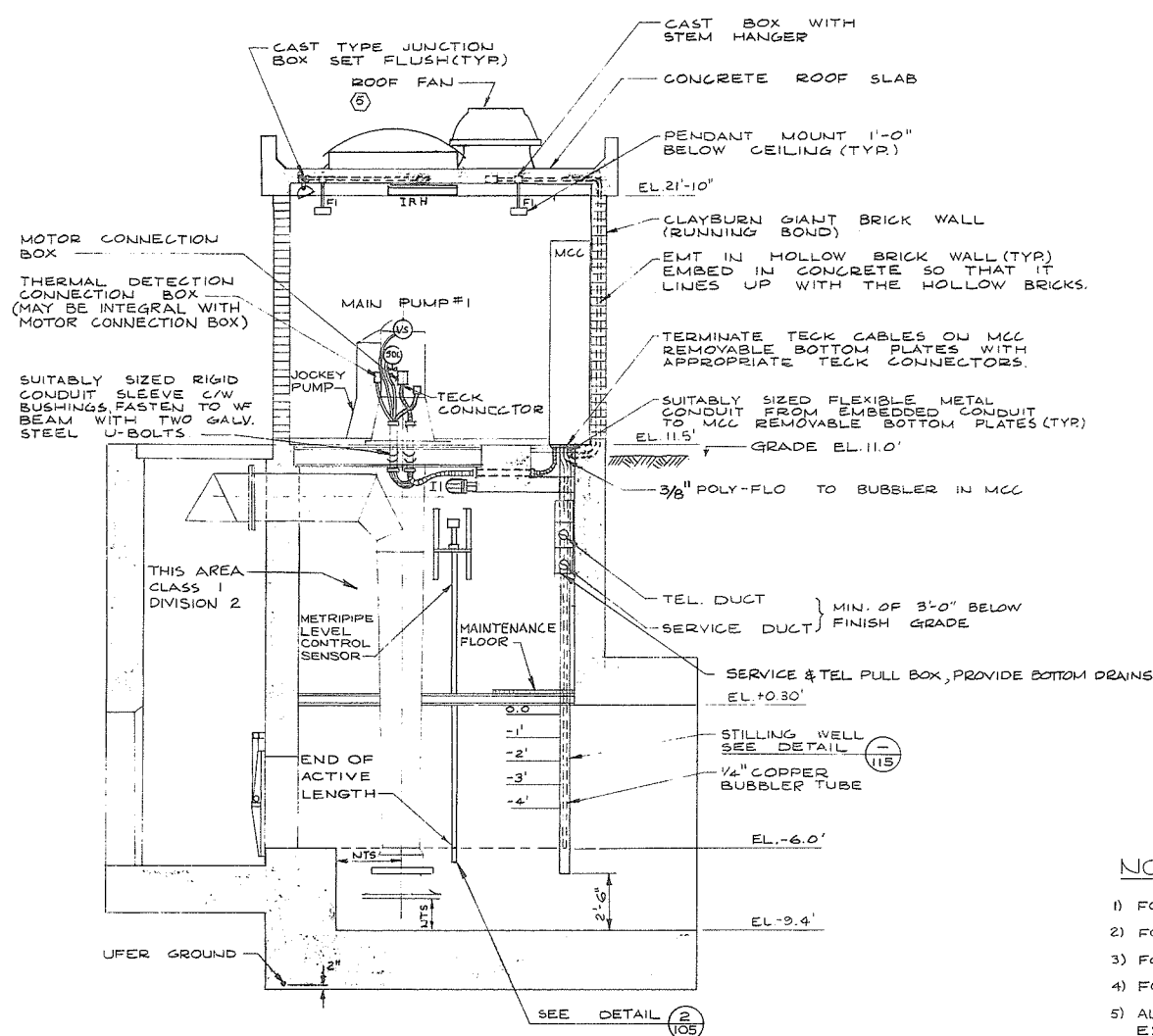


DETAIL (3)
N.T.S.
GAS DETECTOR MONITOR

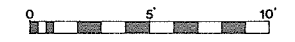
449



REFLECTED CEILING PLAN



SECTION A

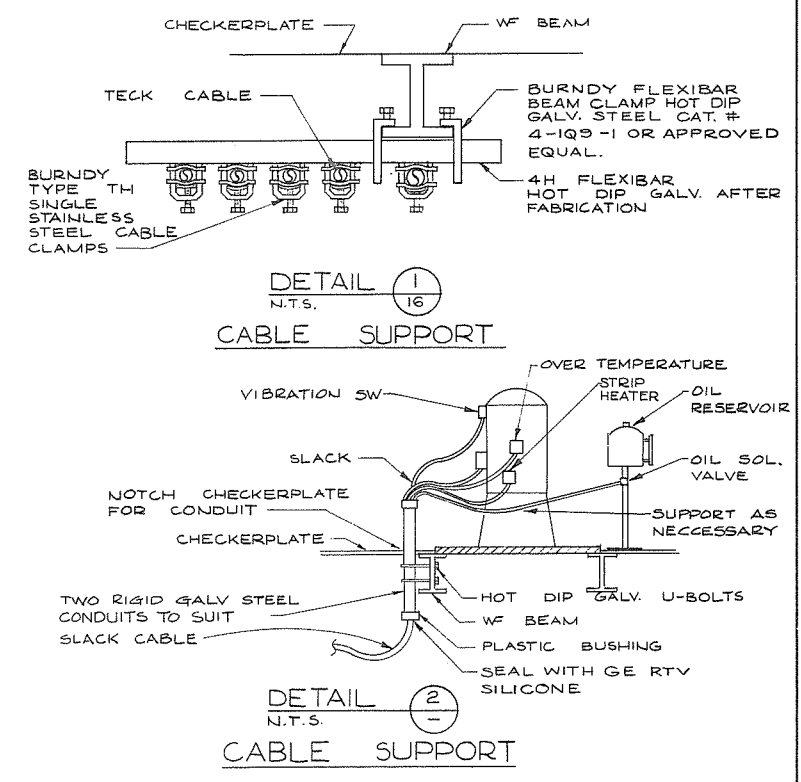


SINGLE PHASE, 3 WIRE, S.W. 120/240 VOLTS					
LOAD (WATTS)	DESCRIPTION	CCT. NO.	S.N.	CCT. NO.	LOAD (WATTS)
400	INTERIOR LIGHTS	1	ISA	2	EXTERIOR LIGHT
400	INTERIOR LIGHTS	3	ISA	4	JP MOTOR STRIP HEATER
600	SUMP LIGHTS	5	ISA	6	MP1
500	REC. ON WEST WALL	7	ISA	8	MP2
500	REC. ON EAST WALL	9	ISA	10	MP3
	SPARE	11	ISA	12	SPARE

MOTOR CONTROL CENTRE LIGHTING PANEL "L.P."

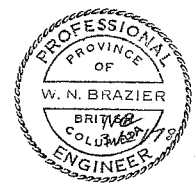
	START	STOP	LOW LEVEL LOCKOUT	HIGH LEVEL ALARM
JOCKEY PUMP	-1.0'	-1.80'	-2.30'	
LEAD PUMP	-0.80'	-1.50'		
CENTRE PUMP	-0.50'	-1.30'		
LAG PUMP	-0.30'	-1.0'		

PUMP OPERATING LEVELS



NOTES:

- 1) FOR GENERAL NOTES REFER TO DWG. N2 4795-17-15
- 2) FOR LEGEND REFER TO DWG. N2 4795-17-15
- 3) FOR KEY TO MATERIAL ITEMS REFER TO DWG. N2 4795-17-106
- 4) FOR SERVICE DETAILS REFER TO "SITE PLAN" DWG. N2 4795-17-6
- 5) ALL WIRING SHALL BE CONCEALED AND ALL BOXES SET FLUSH EXCEPT IN PUMPHOUSE SUMP.
- 6) ALL CONDUITS SHALL HAVE ONE INSULATED, GREEN, GROUND WIRE IN ADDITION TO THE CONDUCTORS SHOWN.
- 7) ALL CABLES AND CONDUITS SHALL ENTER THE MCC FROM THE BOTTOM EXCEPT FOR CAPACITOR CONNECTIONS.
- 8) FOR DETAILED WIRING SPECIFICATIONS REFER TO CONTRACT 17 SPECIFICATIONS.
- 9) EMT SHALL BE USED IN DRY LOCATIONS ONLY AND SHALL BE OF STEEL.
- 10) INSTALL AND ADJUST INFRARED HEATERS SO THAT HEAT OUTPUT IS AIMED DOWNWARDS AND IS NOT DIRECTED TOWARD LIGHTING FIXTURES OR OTHER EQUIPMENT THAT MAY BE DAMAGED BY HEAT.
- 11) FOR SITE PLAN SEE DWG. N2 4795-17-6 FOR CONCRETE OUTLINE SEE DWG. N2 4795-17-9 FOR ARCHITECTURAL DETAILS SEE DWG. N2 4795-17-14 & 108 FOR ROOF PLANS SEE DWG. N2 4795-17-120 FOR FLOOR DETAILS SEE DWG. N2 4795-17-109-110 & 111
- 12) DRILL 3/8" DRAIN HOLE IN BOTTOM OF B.C. HYDRO AND B.C. TELEPHONE SERVICE PULL BOXES.
- 13) B.C. & P.A. & B.C. TEL. SERVICE CONDUITS IN PUMPHOUSE SUMP SHALL BE PVC JACKETED RIGID GALVANIZED STEEL.



PREPARED BY:
M.A. THOMAS & ASSOCIATES LTD.
CONSULTING ENGINEERS
VANCOUVER, B.C. — CANADA.

REFERENCE: [29]



CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

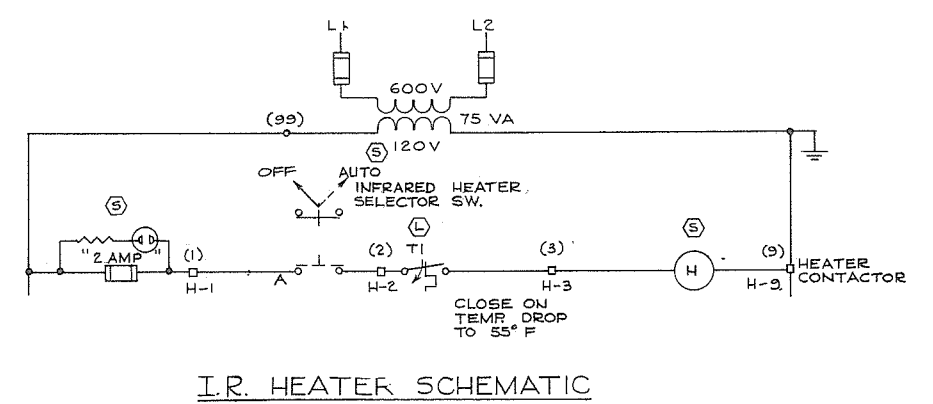
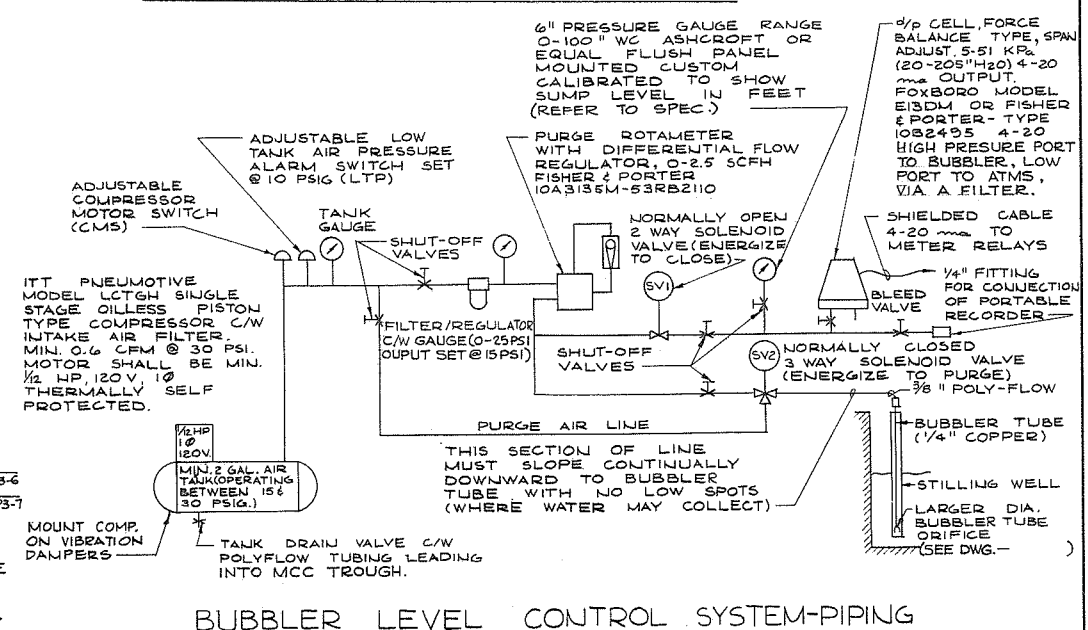
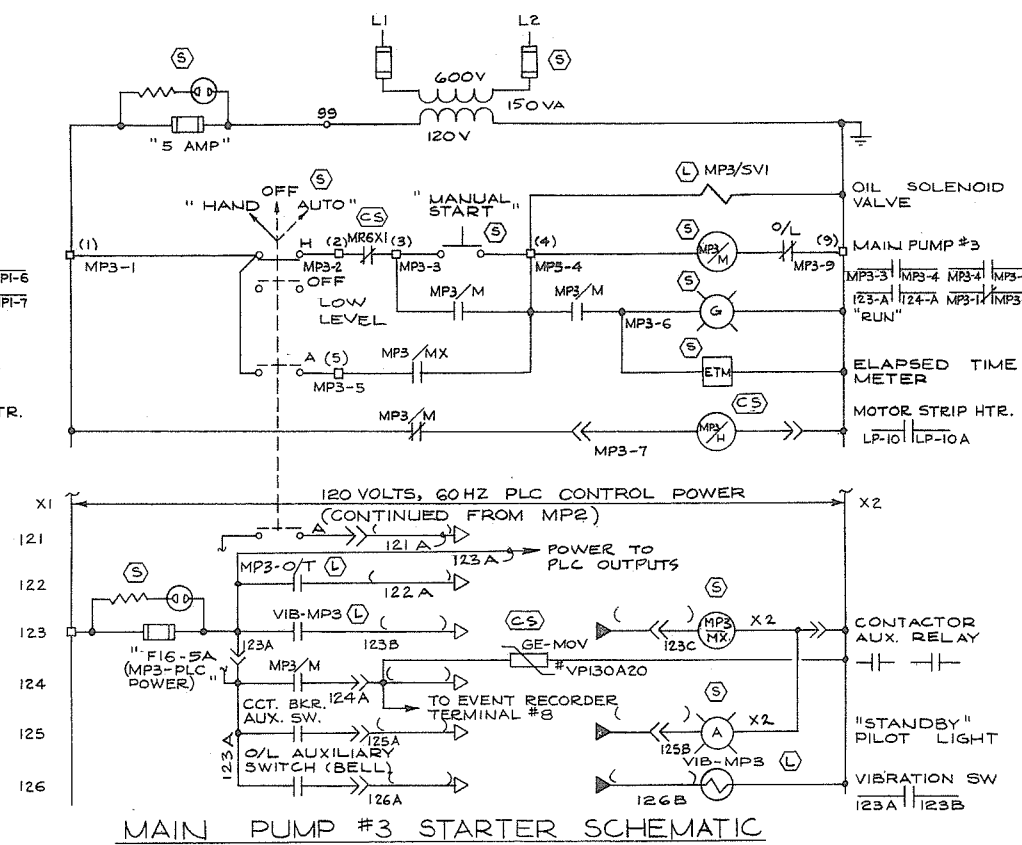
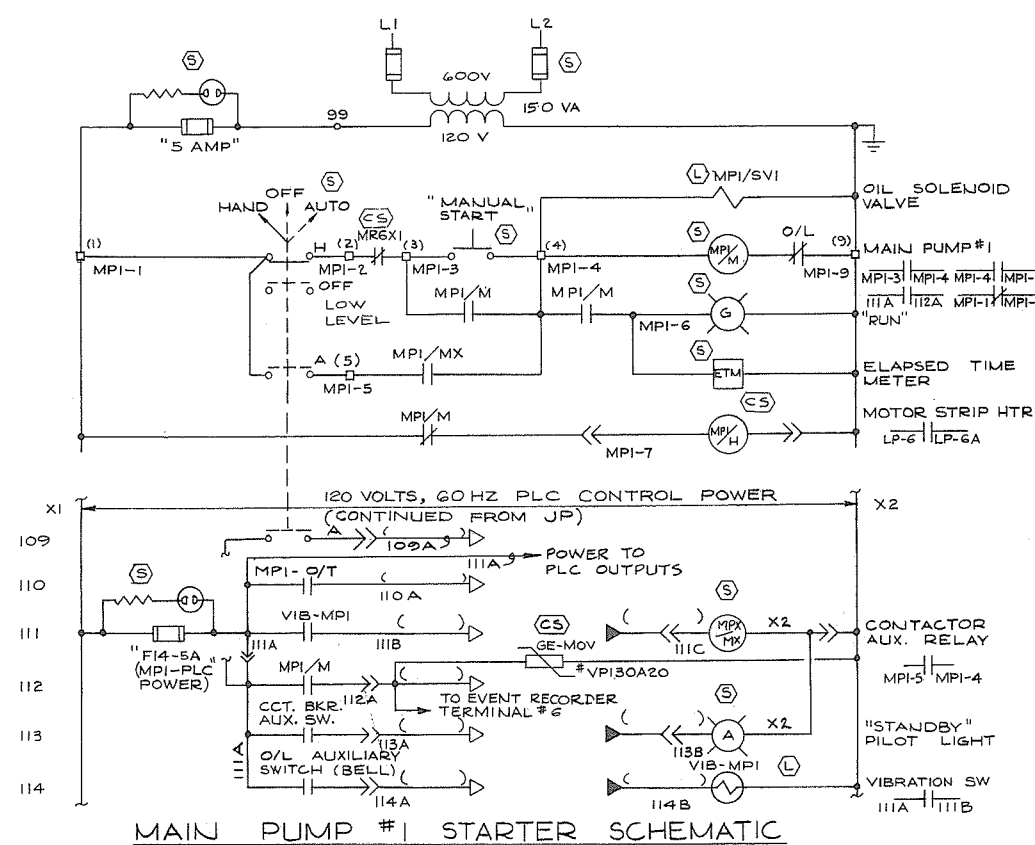
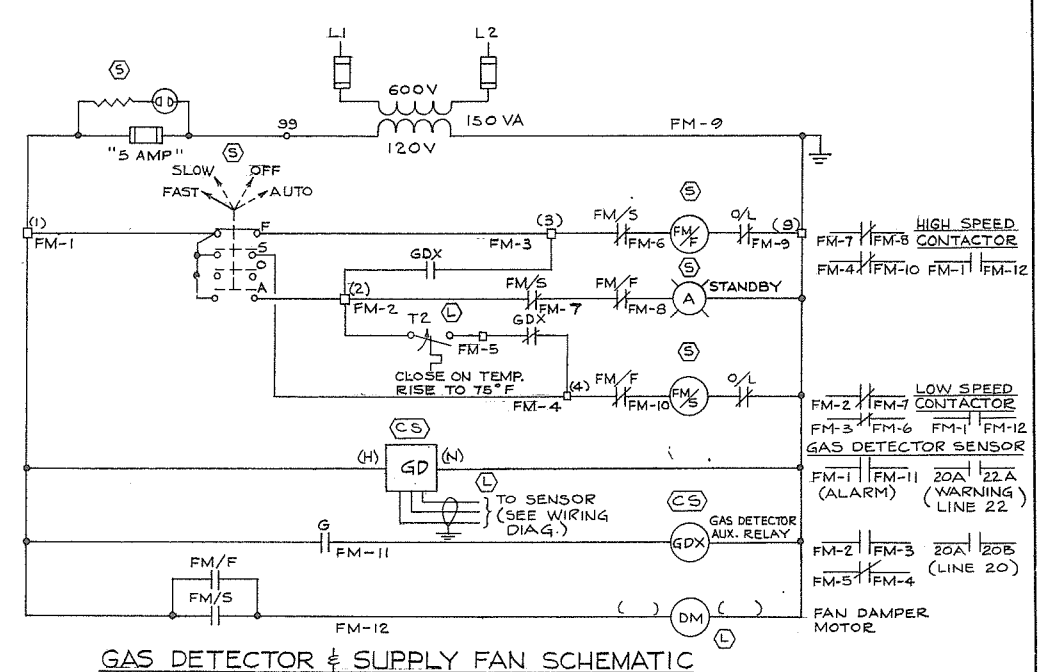
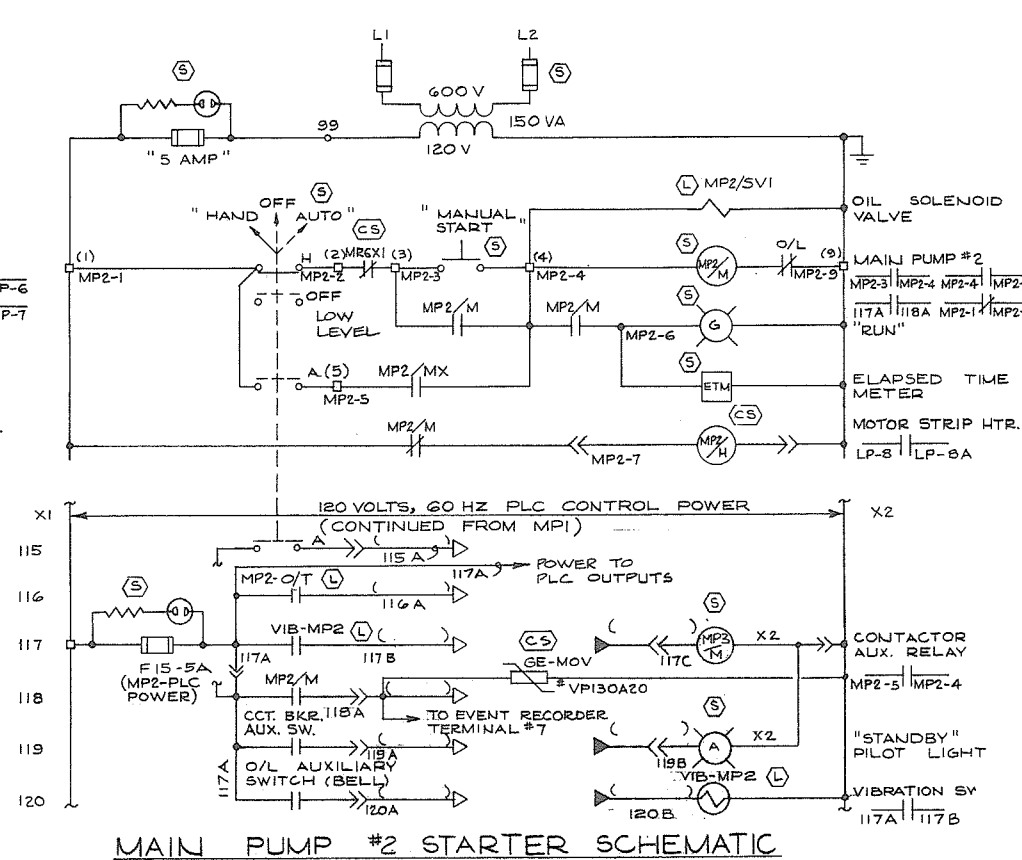
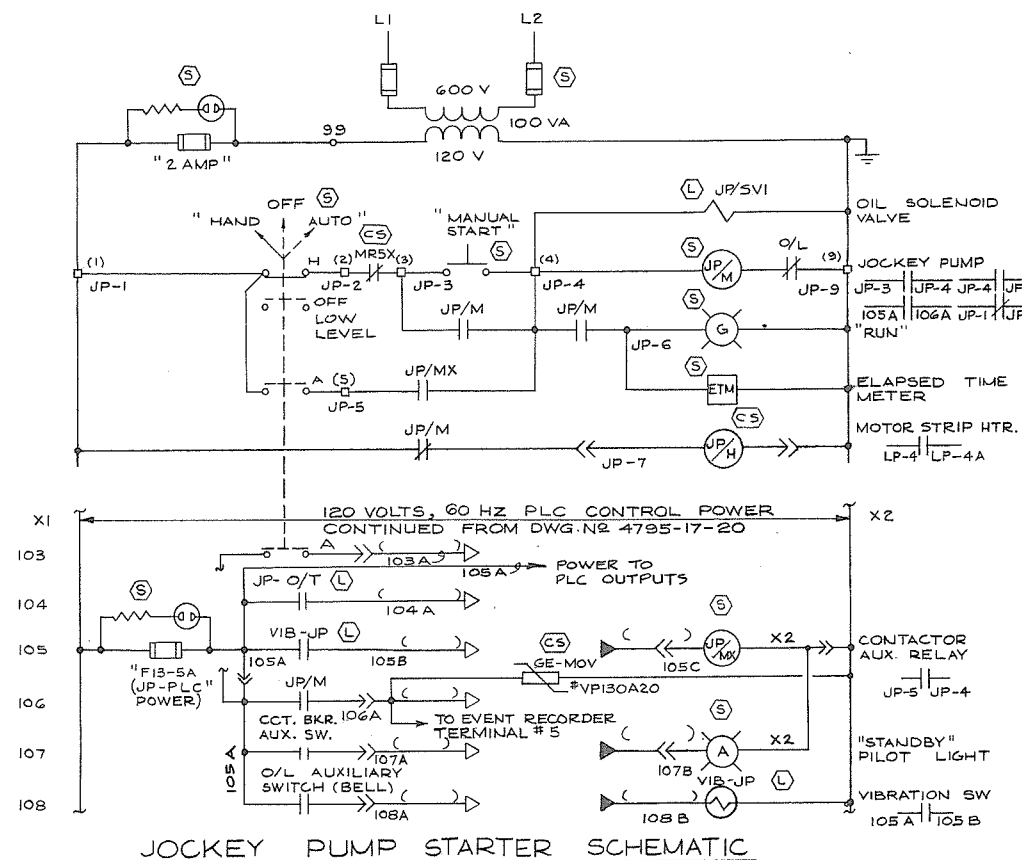
NO.	BY	REVISIONS	DATE
A			

RECOMMENDED *R.A. Cameron*
CHIEF, PROJECTS DIV.
DATE *Feb. 13, 1978*
APPROVED *John Fuller*
CHIEF ENGINEER
DATE *Feb 13/78*

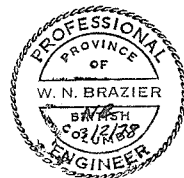
BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA — BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT
PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
SHELL RD SOUTH—DRAINAGE DISCHARGE STRUCT NO. 27
ELECTRICAL LAYOUT

DESIGNED H.O.	SURVEYED
DRAWN S.E.O./TM	DATE
CHECKED NB	FILE NO. 0281550-C10-17
SCALE AS SHOWN	DATE Feb 1978
DWG. NO. 4795-17-17 A	SHEET 2 OF 2 SHEETS





NOTE:
FOR LEGEND SEE DWG. NO.
4795-17-49



PREPARED BY:
M.A. THOMAS & ASSOCIATES LTD.
CONSULTING ENGINEERS
VANCOUVER, B.C. ——— CANADA.



CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

RECOMMENDED R. D. Cameron
PROJECT MANAGER

DATE Feb. 13, 1978

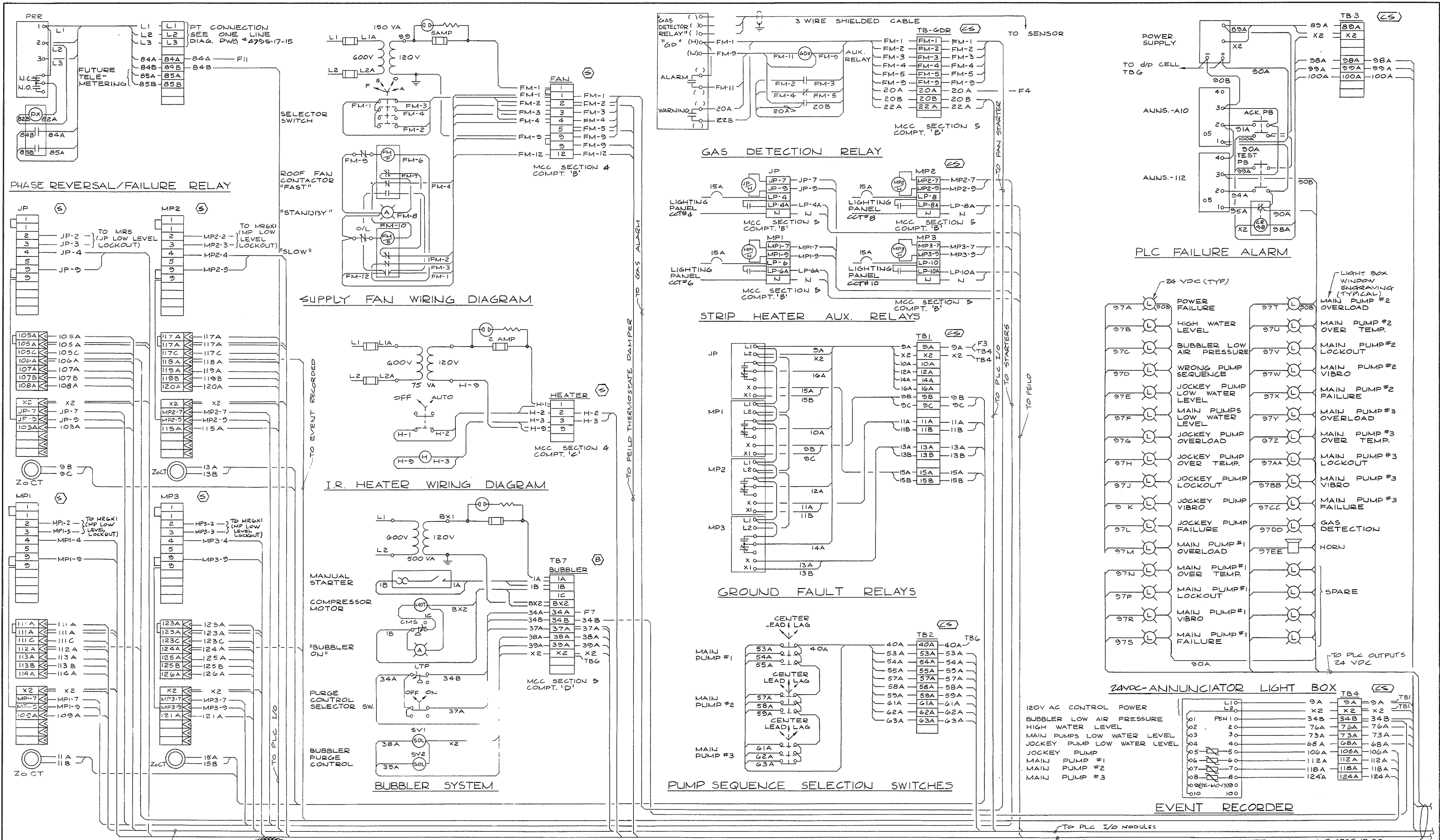
APPROVED J. B. Fuller
SPECIAL AGENT IN CHARGE

DATE Feb 13/78

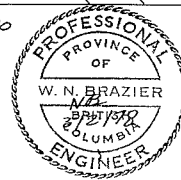
BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA - BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT

PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
SHELL RD SOUTH-DRAINAGE DISCHARGE STRUCT NO.27
ELECTRICAL SCHEMATIC DIAGRAM - STARTERS

DESIGNED H O	SURVEYED
DRAWN SEO/FC/TM	DATE
CHECKED NB	FILE NO. 0281550-C10-17
SCALE NONE	DATE Feb 1978
DWG. NO. 4795-17-21 A	SHEET 2 OF 2 SHEETS



JOCKEY & MAIN PUMPS
(FOR TYPICAL STARTER WIRING
SEE DWG # 4795-17-106)



PREPARED BY:
M.A. THOMAS & ASSOCIATES LTD.
CONSULTING ENGINEERS
VANCOUVER, B.C. — CANADA.
REFERENCE: 1291

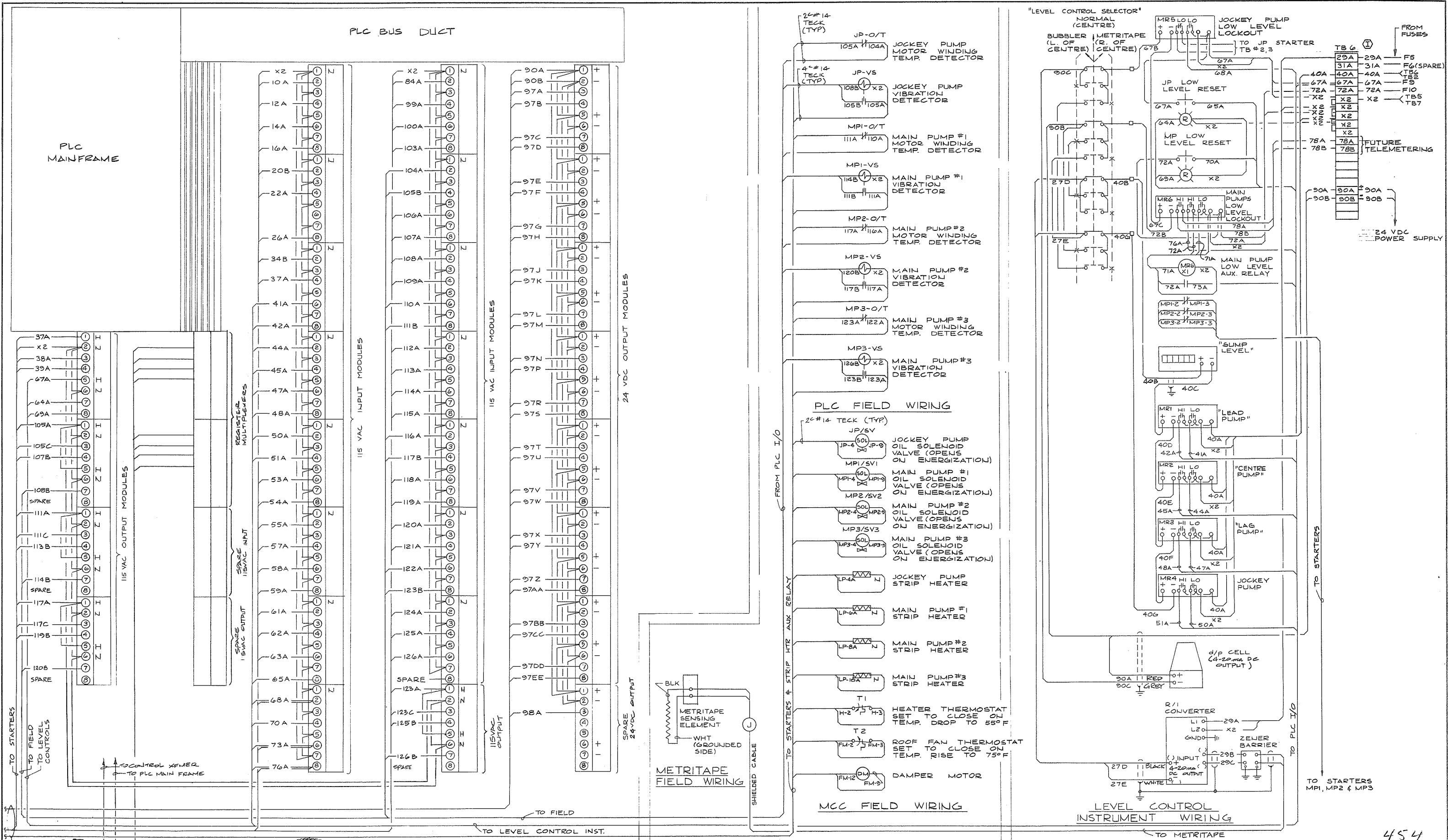
CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

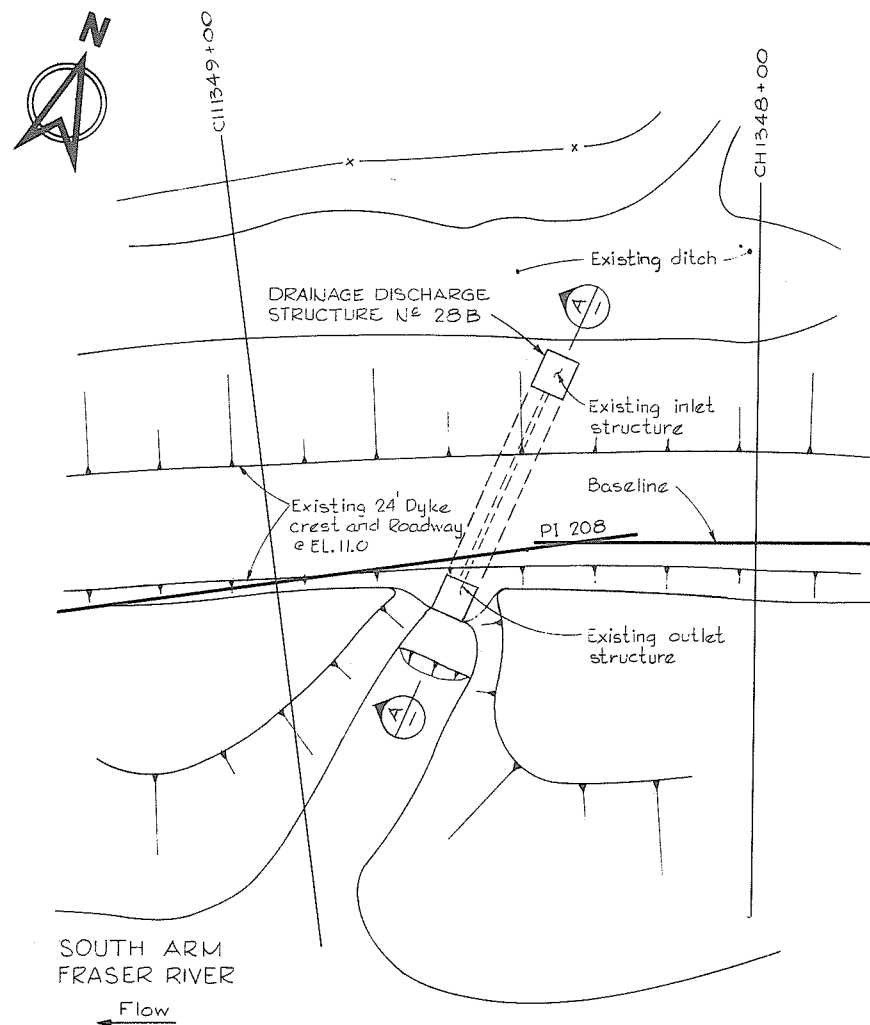
NO.	BY	REVISIONS	DATE
A			

RECOMMENDED *B.A. Camm*
PROJECT MANAGER
DATE *Feb. 13, 1978*
APPROVED *[Signature]*
DIRECTOR
DATE *Feb. 14/78*

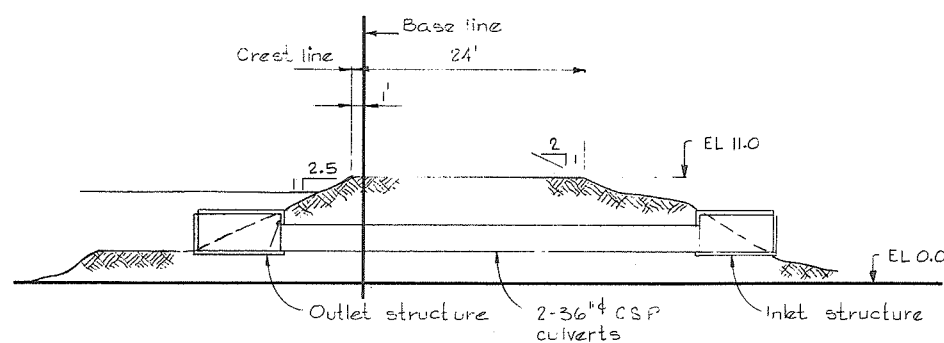
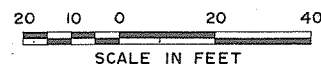
BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA — BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1988 AGREEMENT
PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
SHELL RD SOUTH-DRAINAGE DISCHARGE STRUCT NO. 27
ELECTRICAL WIRING DIAGRAM

DESIGNED	HO	SURVEYED	453
DRAWN	SEO	DATE	
CHECKED	NB	FILE NO.	0281550-C10-17
SCALE	NONE	DATE	Feb 1978
DWG. NO.	4795-17-22A	SHEET	1 OF 2 SHEETS

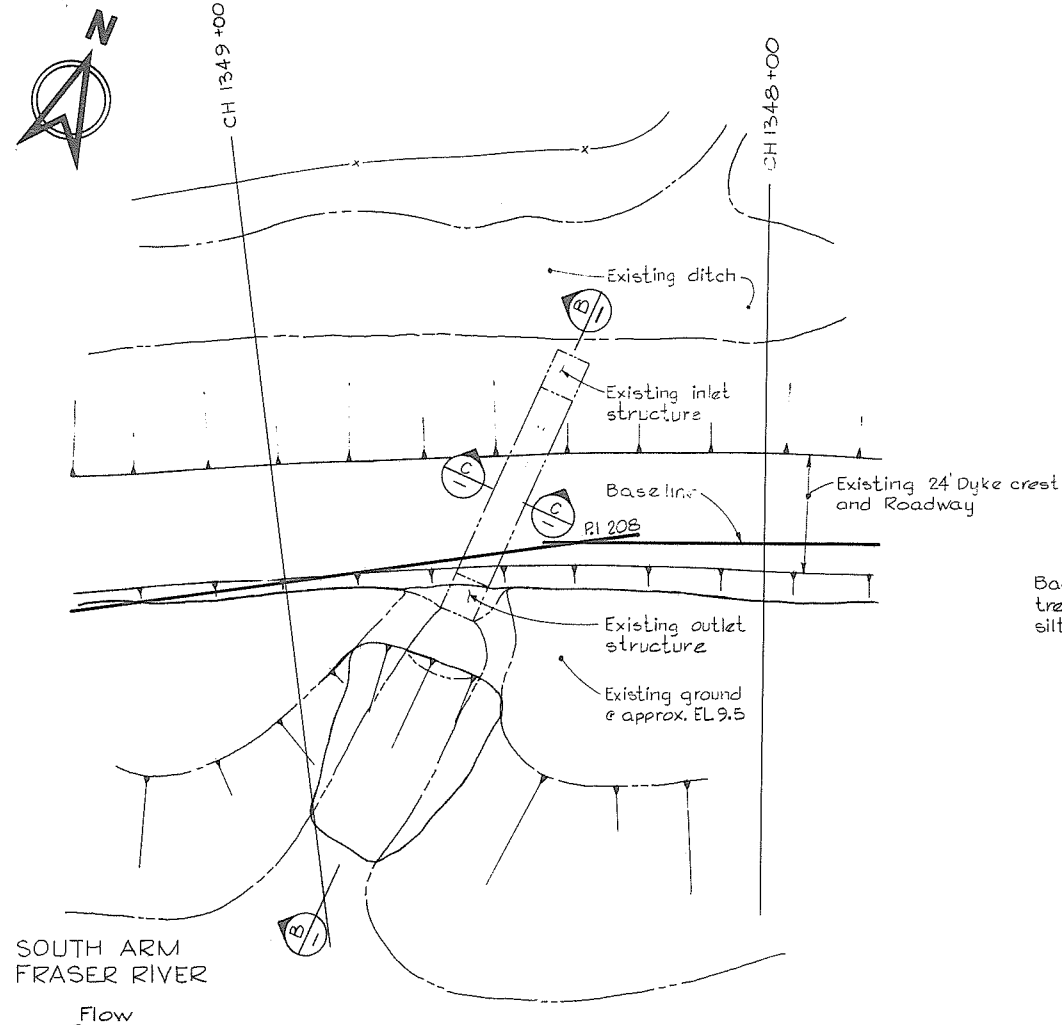




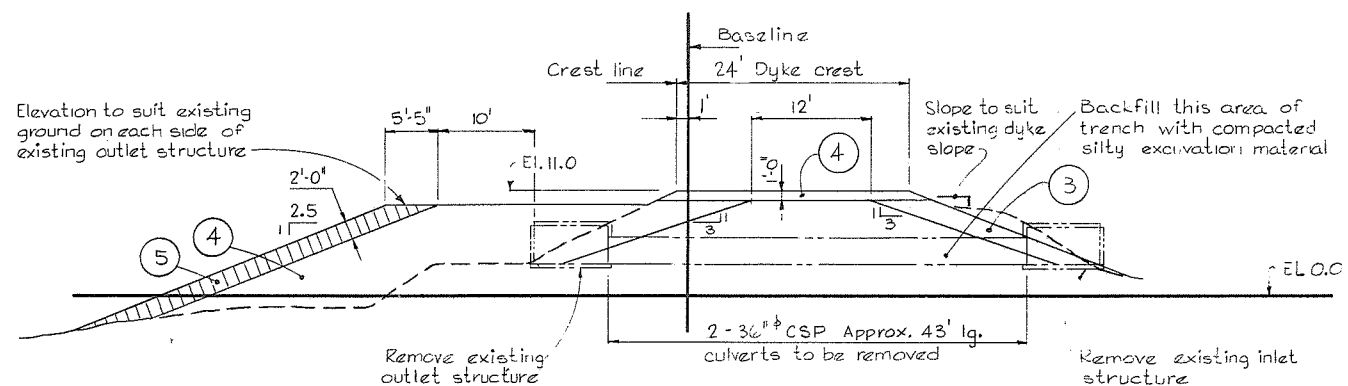
EXISTING DRAINAGE DISCHARGE STRUCTURE N^o 28 B



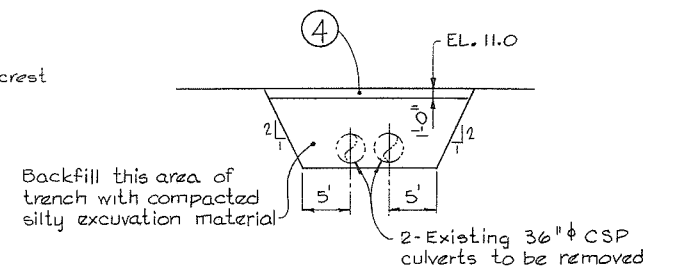
SECTION A



REMOVAL OF DRAINAGE DISCHARGE STRUCTURE N^o 28 B



SECTION B



SECTION C

NOTES

- Elevations refer to the Geodetic Survey of Canada.
- Offset distances from base line to crest line are taken at the design crest elevation.
- Terminal parts of work shall be constructed to blend with the existing bank.

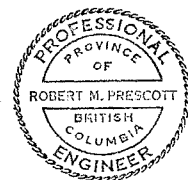
MATERIALS LEGEND

- Silt - Clay
- Sand
- Sand gravel & cobbles
- Crushed gravel
- Light rip-rap
- Rip-rap

LEGEND

- Existing ground
- Section identification letter
- Drawing N^o on which section is located (ie) 4795-17-(3)
- Detail identification number
- Drawing N^o on which detail is located (ie) 4795-17-(9)

455



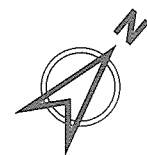
CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

NO. BY REVISIONS DATE

RECOMMENDED *R. A. Camm*
PROJECT MANAGER
DATE *Feb. 13, 1978*
APPROVED *W. J. Fuller*
DIRECTOR
DATE *Feb 13/78*

BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA - BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1988 AGREEMENT
PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
GRAVITY DISCHARGE STRUCT. NO. 28 B
REMOVAL OF EXISTING WORKS

DESIGNED *DLG*
DRAWN *t.y.*
CHECKED *DLG*
SCALE *AS SHOWN*
DWG. NO. *4795-17-24*
SURVEYED
DATE
FILE NO. *0281550-C10-17*
DATE *Feb 1978*
SHEET *455* OF *455* SHEETS

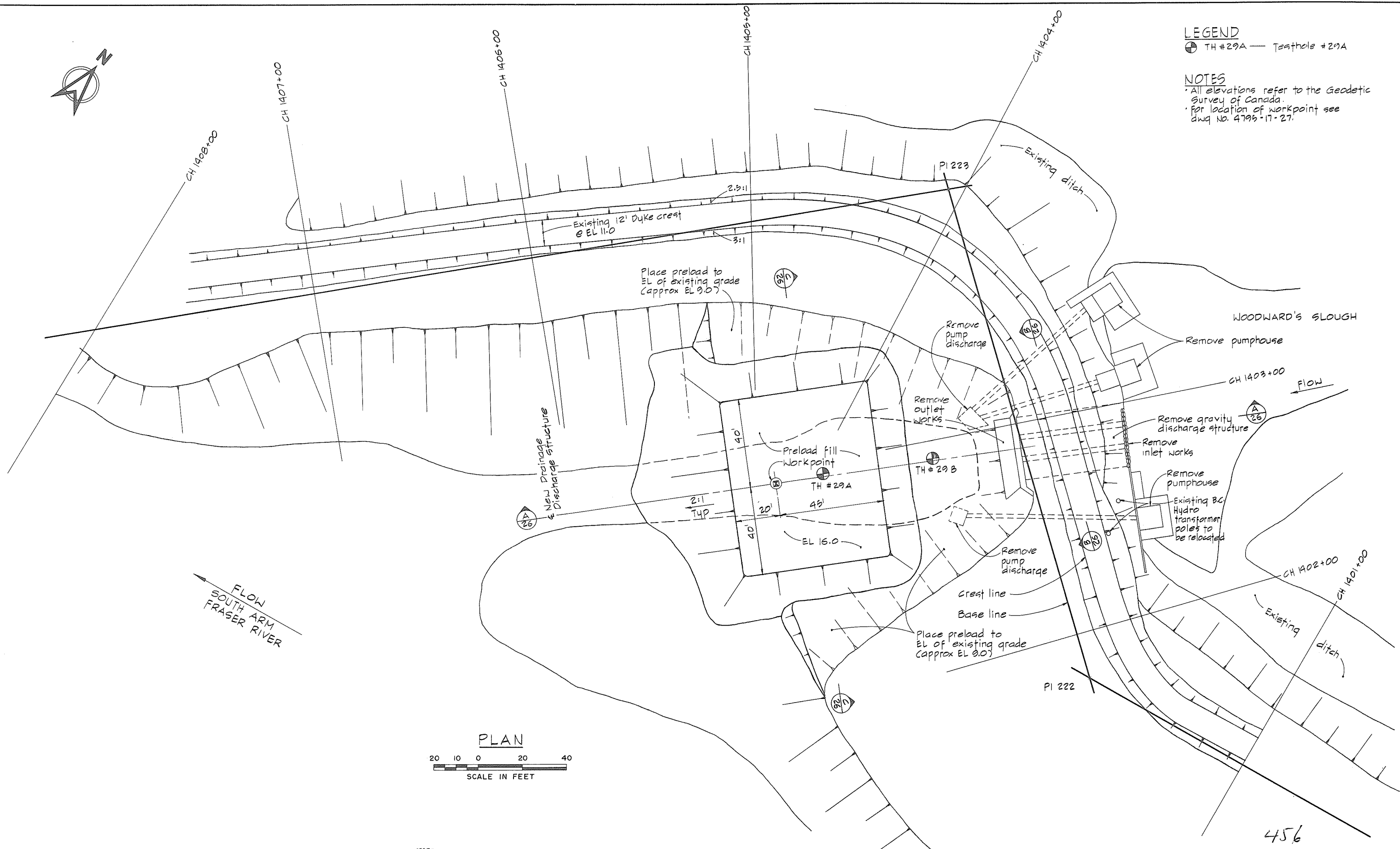


LEGEND

TH #29A — Testhole #29A

NOTES

- All elevations refer to the Geodetic Survey of Canada.
- For location of workpoint see dwg No. 4795-17-27.



PLAN

20 10 0 20 40
SCALE IN FEET



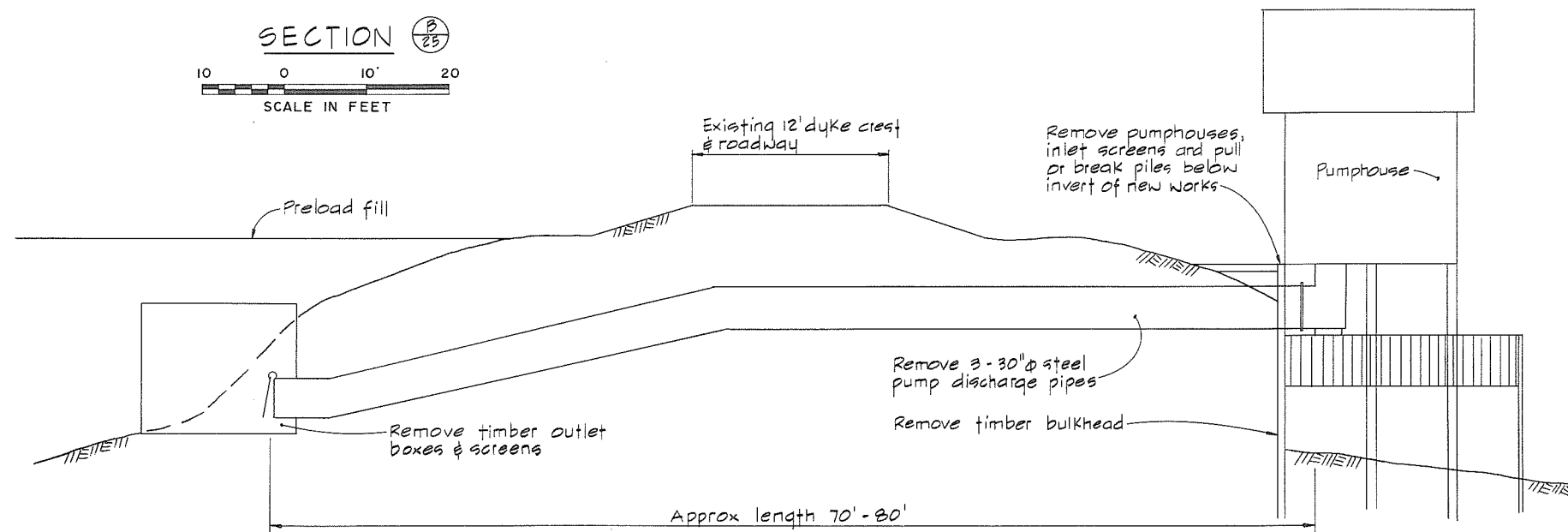
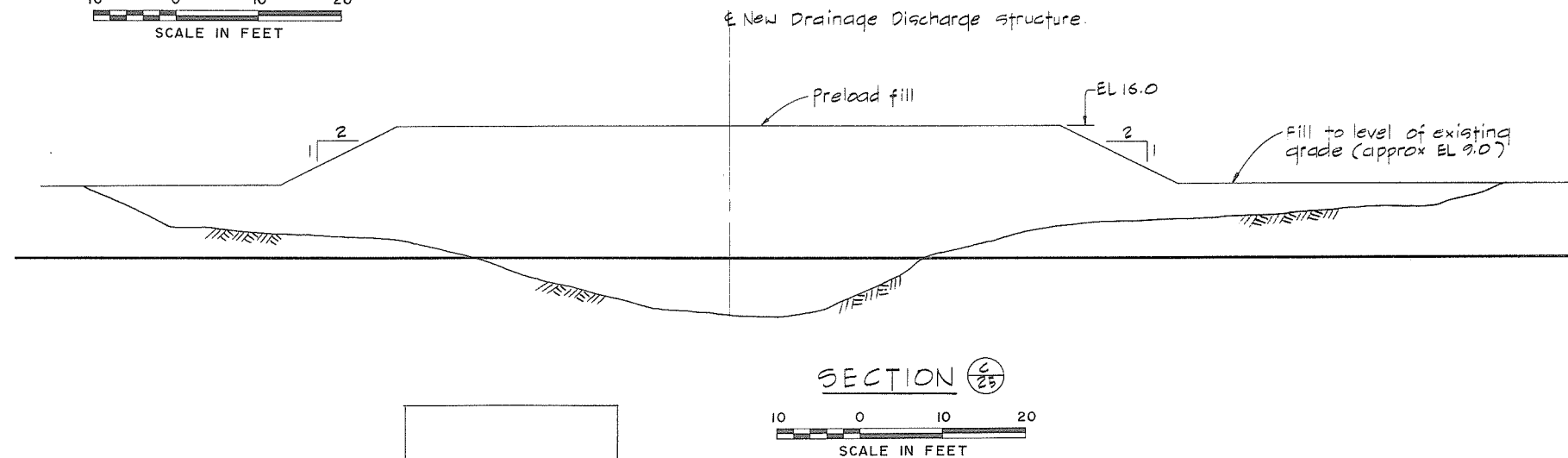
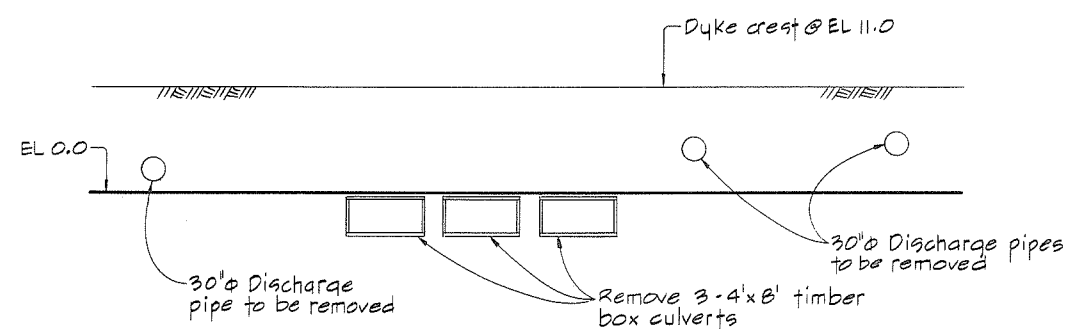
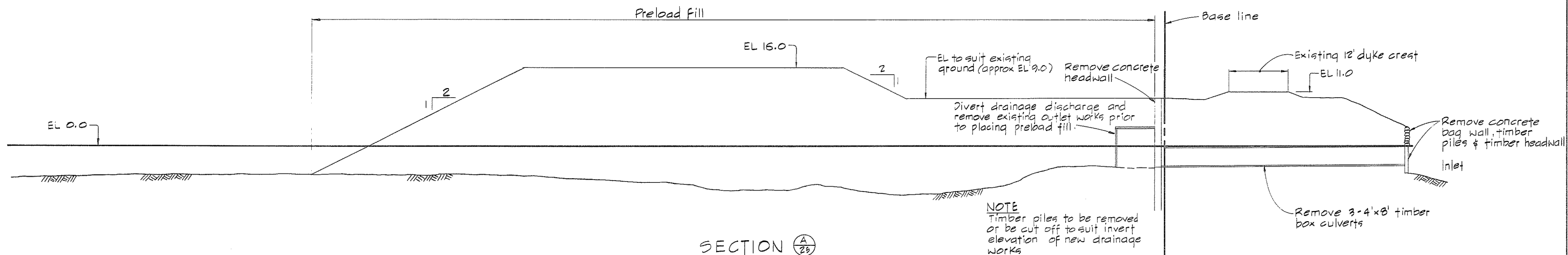
CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

NO. BY REVISIONS DATE

RECOMMENDED *R. H. Cameron*
PROJECT MANAGER
DATE *Feb. 13, 1978*
APPROVED *W. J. Fuller*
for DIRECTOR
DATE *Feb. 27/78*

BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA - BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT
PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
WOODWARD'S SLOUGH - DRAINAGE DISCHARGE STRUCT NO. 29
PLAN SHOWING EXISTING WORKS TO BE REMOVED,
PRELOAD FILL AND UTILITIES

DESIGNED <i>Em H</i>	SURVEYED
DRAWN <i>Wn</i>	DATE
CHECKED <i>DLG</i>	FILE NO. <i>0281550-C10-17</i>
SCALE <i>AS SHOWN</i>	DATE <i>Feb 1978</i>
DWG. NO. <i>4795-17-25</i>	SHEET <i>456</i> OF <i>456</i> SHEETS

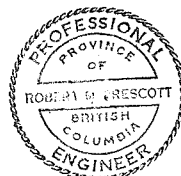


NOTES

For general Notes & Legend see
Dwg. No. 4755-17-35.

457

TYPICAL PUMPHOUSE



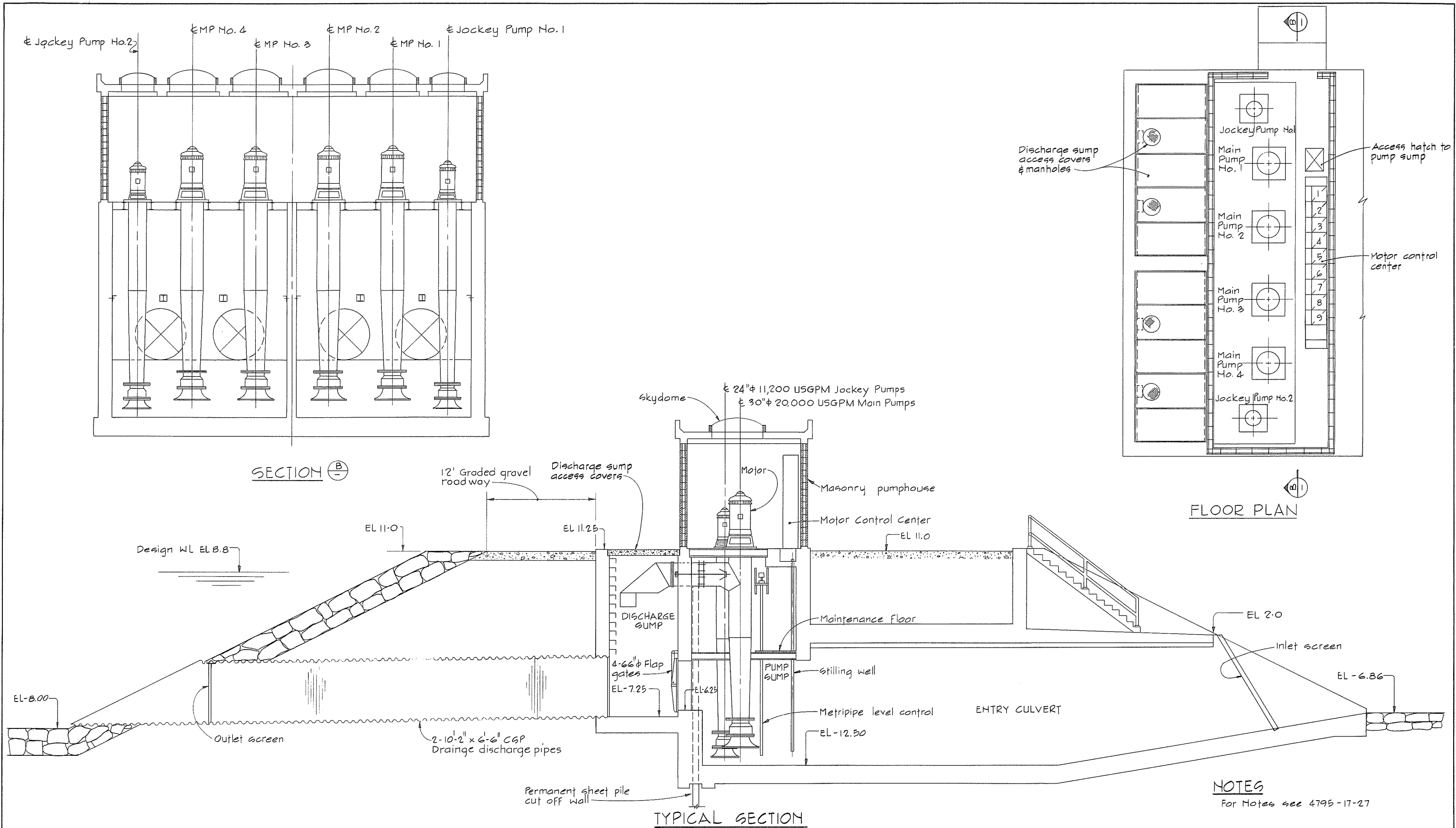
CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

NO.	BY	REVISIONS	DATE
A			

RECOMMENDED <i>R.R. Cameron</i> PROJECT MANAGER	DATE <i>Feb. 13, 1978</i>
APPROVED <i>John Fuller</i> for DIRECTOR	DATE <i>Feb 13/78</i>

BRITISH COLUMBIA MINISTRY OF THE ENVIRONMENT WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1958 AGREEMENT	PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17 WOODWARD'S SLOUGH - DRAINAGE DISCHARGE STRUCT. NO. 29 SECTIONS SHOWING EXISTING DRAINAGE STRUCTURES TO BE REMOVED, PRELOAD FILL AND UTILITIES
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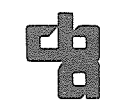
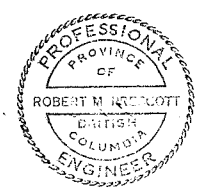
DESIGNED <i>EMH</i>	SURVEYED
DRAWN <i>Wn</i>	DATE
CHECKED <i>DLC</i>	FILE NO. <i>028550-C10-17</i>
SCALE <i>AS SHOWN</i>	DATE <i>Feb 1978</i>
DWG. NO. <i>4795-17-26</i>	SHEET <i>OF</i> SHEETS



NOTES
For Notes see 4795-17-27



459



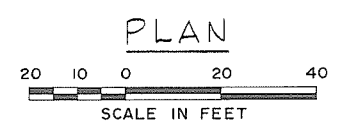
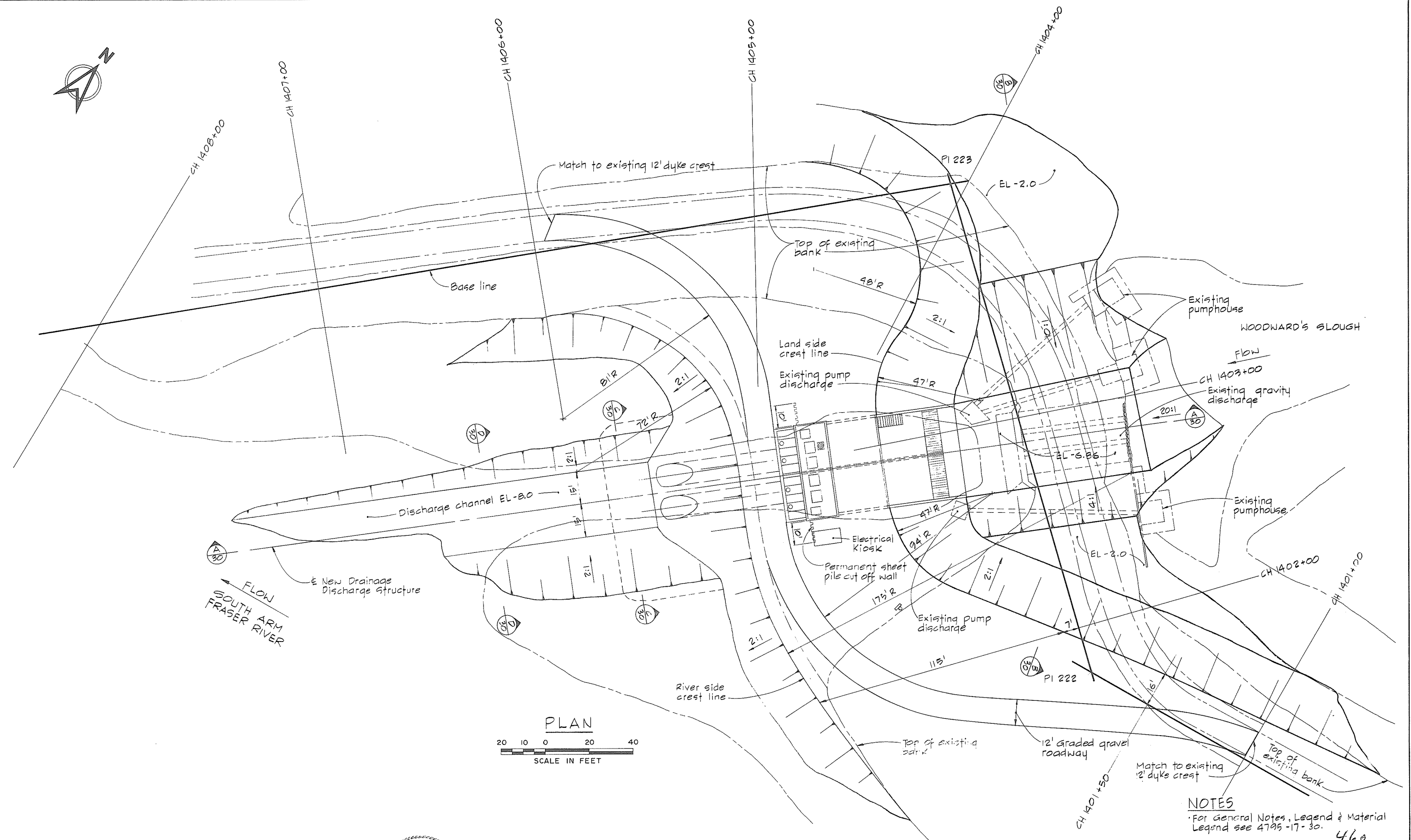
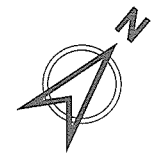
CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

NO.	BY	REVISIONS	DATE
A			

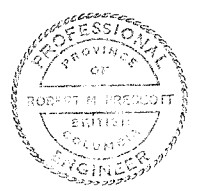
RECOMMENDED <i>B.R. Cameron</i> PROJECT MANAGER
DATE <i>Feb. 13, 1978</i>
APPROVED <i>W. Fuller</i> DIRECTOR
DATE <i>Feb 13/78</i>

BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA - BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1988 AGREEMENT
PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
WOODWARDS SLOUGH - DRAINAGE DISCHARGE STRUCT NO. 29
GENERAL ARRANGEMENT SECTIONS

DESIGNED <i>PLC</i>	SURVEYED
DRAWN <i>SP</i>	DATE
CHECKED <i>PLC</i>	FILE NO. <i>0281550-C10-17</i>
SCALE <i>AS SHOWN</i>	DATE <i>Feb 1978</i>
DWG. NO. <i>4795-17-28</i>	SHEET <i>459</i> OF <i>459</i> SHEETS



NOTES
For General Notes, Legend & Material
Legend see 4795-17-30.



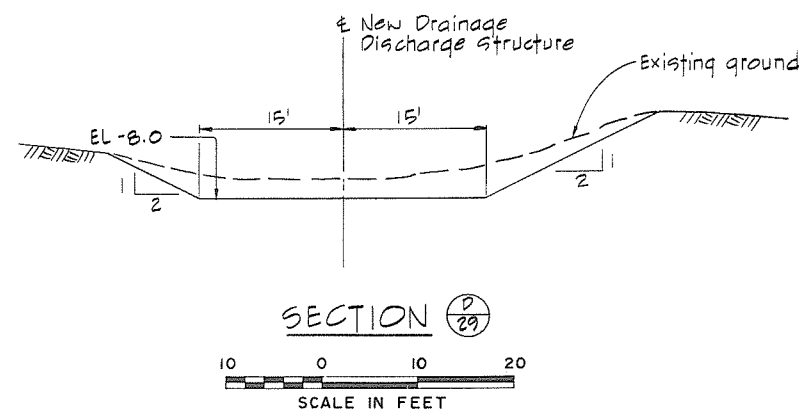
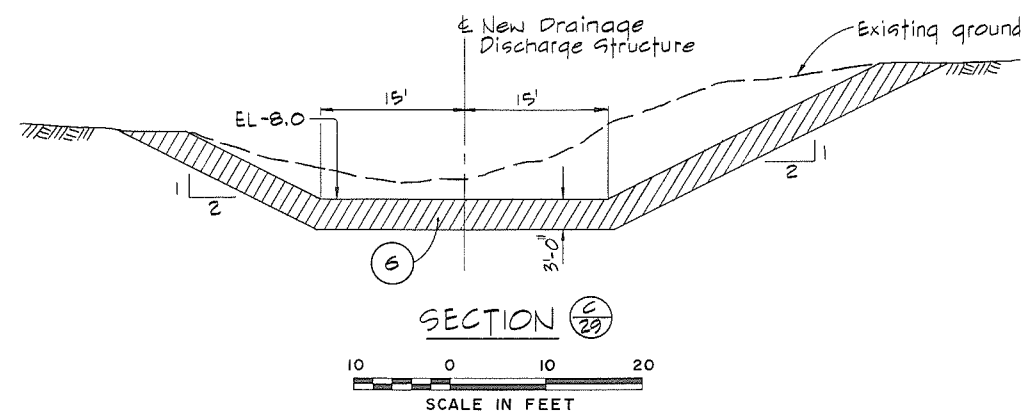
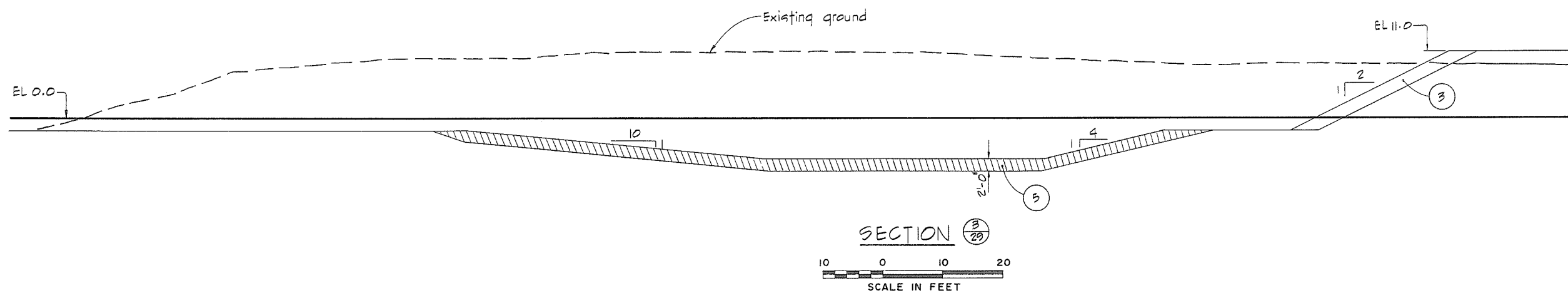
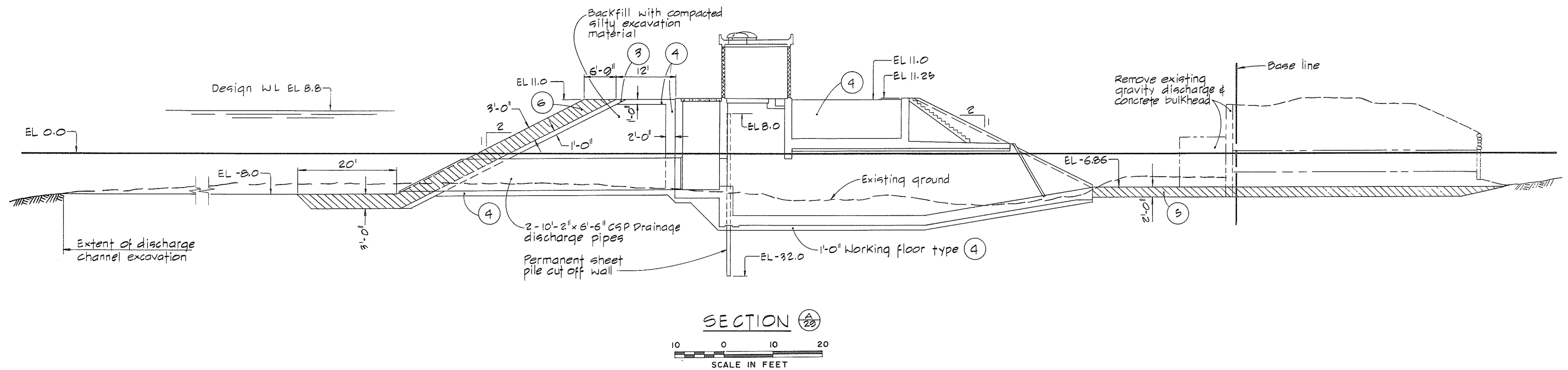
CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

NO.	BY	REVISIONS	DATE
A			

RECOMMENDED *P.R. Cameron*
PROJECT MANAGER
DATE *Feb. 13, 1978*
APPROVED *Robert M. Prescott*
DIRECTOR
DATE *Feb 13/78*

BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA - BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1988 AGREEMENT
PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
WOODWARD'S SLOUGH - DRAINAGE DISCHARGE STRUCT NO.29
DETAILS OF EARTHWORKS

DESIGNED <i>DMH/DLC</i>	SURVEYED
DRAWN <i>Wn</i>	DATE
CHECKED <i>DLC</i>	FILE NO. <i>0281550-C10-17</i>
SCALE <i>AS SHOWN</i>	DATE <i>Feb 1978</i>
DWG. NO. <i>4795-17-29</i>	SHEET <i>1</i> OF <i>2</i> SHEETS



- ## MATERIAL LEGEND

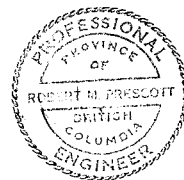
- 1 silt - clay
- 2 sand
- 3 sand, gravel, cobbles
- 4 crushed gravel
- 5 light rip-rap
- 6 rip-rap

- ### LEGEND

- LEGEND
- TTTTTTTT Existing ground surface (Section)
- _____ Existing ground structures (Plan)
- R _____ Section identification letter
- B _____ Drawing No. on which the section is drawn (ie. 4796-17-[18])
- 3 _____ Detail identification number
- B _____ Drawing No. on which the detail is drawn (ie. 4796-17-[18])

NOTES

- Elevations refer to the Geodetic Survey of Canada.
- A smooth alignment shall be maintained over the entire length of the dyke
- Offset distances from base line to crest lines are taken at the design crest elevation.
- The angle of offset is 90° to base line unless otherwise indicated.
- Terminal parts of the work shall be constructed to blend with the existing ground.



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CONSULTING ENGINEERS - VANCOUVER - CANADA

RECOMMENDED *R.R. Camm*
PROJECT MANAGER

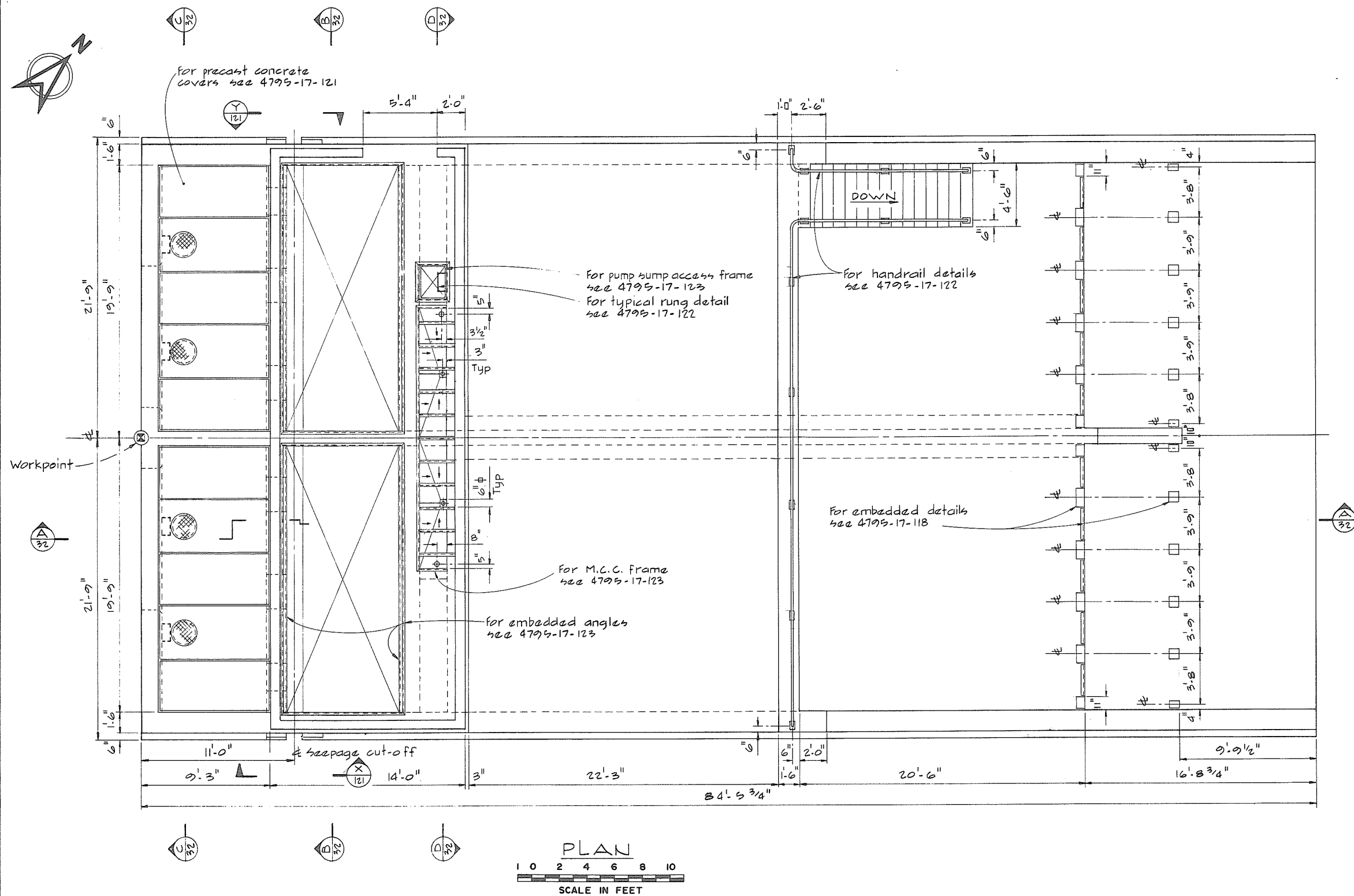
DATE *Feb. 13, 1978*

APPROVED *John L. Lullen*
for DIRECTOR

DATE *Feb 13/78*

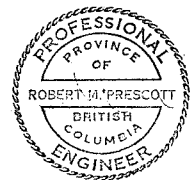
BRITISH COLUMBIA MINISTRY OF THE ENVIRONMENT WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1988 AGREEMENT	
PROJECT NO.3	TOWNSHIP OF RICHMOND CONTRACT NO. 17
WOODWARD'S SLOUGH - DRAINAGE DISCHARGE STRUCT. NO.29	
DETAILS OF EARTHWORKS	

DESIGNED	EMH/DLC	SURVEYED	
DRAWN	Wn	DATE	
CHECKED	DLC	FILE NO.	0281550 - CIO-17
SCALE	AS SHOWN	DATE	Feb 1978
DWG. NO.	4795-17-30	SHEET	2 OF 2 SHEETS



GENERAL NOTES-STRUCTURAL

- Design is in accordance with CSA A23.3-1973, Code for the Design of Plain or Reinforced concrete structures.
- Construction shall be in accordance with CSA A23.1-1973, Specifications for Structural Concrete for Buildings.
- Specified strength of concrete f'_c 4000 psi.
- Reinforcing steel shall be deformed bars conforming to CSA G30.12-1972, Grade 40 or 60.
- Cover over reinforcing steel to be 2" to all faces 3" for the underside of the footings.
- Reinforcing to be of lengths indicated with construction joints as shown unless otherwise approved by the Engineer.
- CONCRETE FINISHES :-
- Floors and base slabs - steel trowel.
- Exposed horizontal surfaces - broom.
- Interior, exterior exposed walls and beams - rubbed.
- See specs for details.
- CHAMFERS - $\frac{3}{4} \times \frac{3}{4}$ for all exposed corners.
- For location of workpoint see 4795-17-27



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CONSULTING ENGINEERS - VANCOUVER - CANADA

NO. BY
A

REVISIONS

DATE

RECOMMENDED *R. A. Camm*
PROJECT MANAGER

DATE Feb. 13, 1978

APPROVED *McFadden*
DIRECTOR

DATE Feb 13/78

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

PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
WOODWARDS SLOUGH - DRAINAGE DISCHARGE STRUCT NO. 29

MAIN STRUCTURE - CONCRETE OUTLINE

DESIGNED *G.D.A.*

DRAWN *AR*

CHECKED *DLC*

SCALE AS SHOWN
DWG. NO. 4795-17-31

SURVEYED

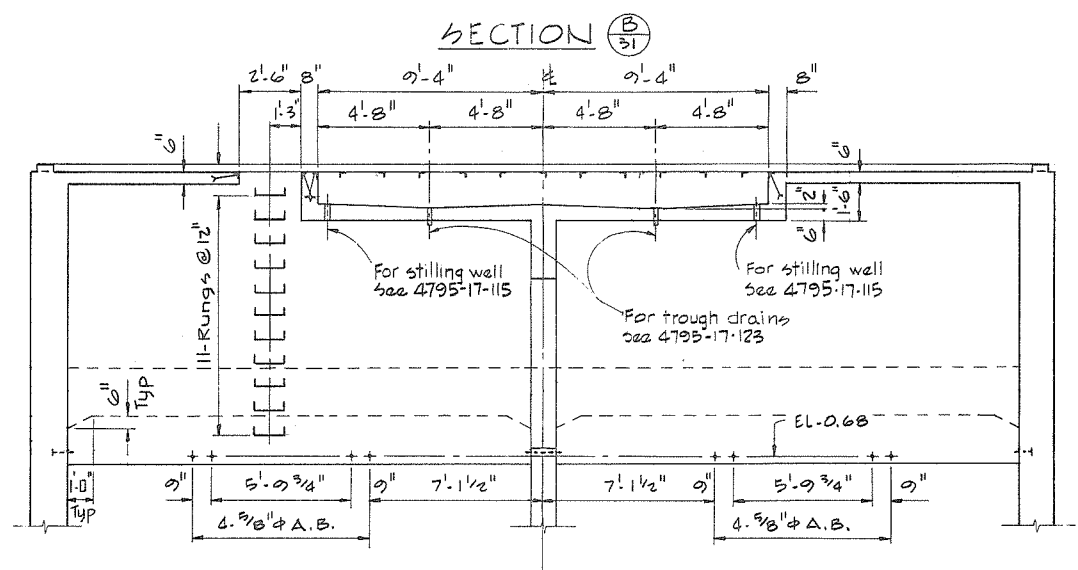
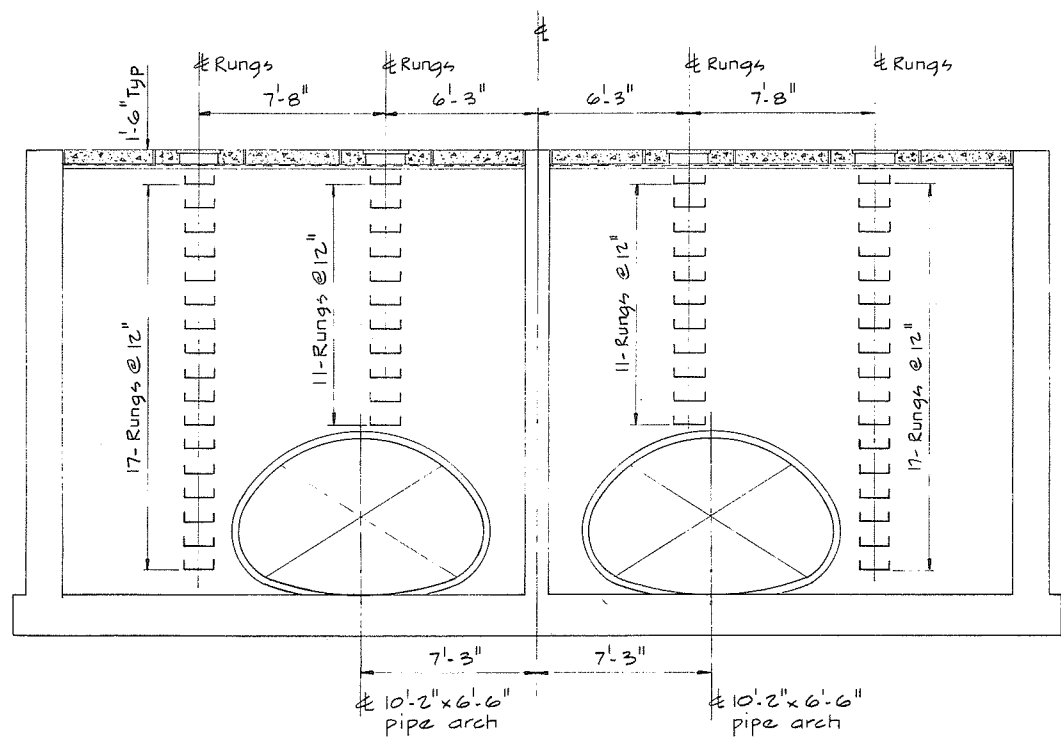
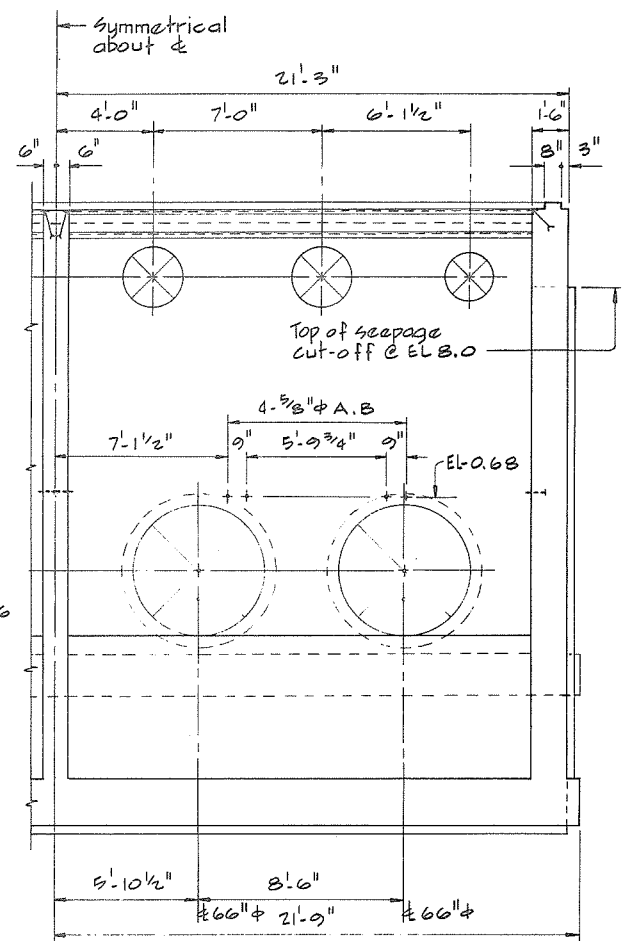
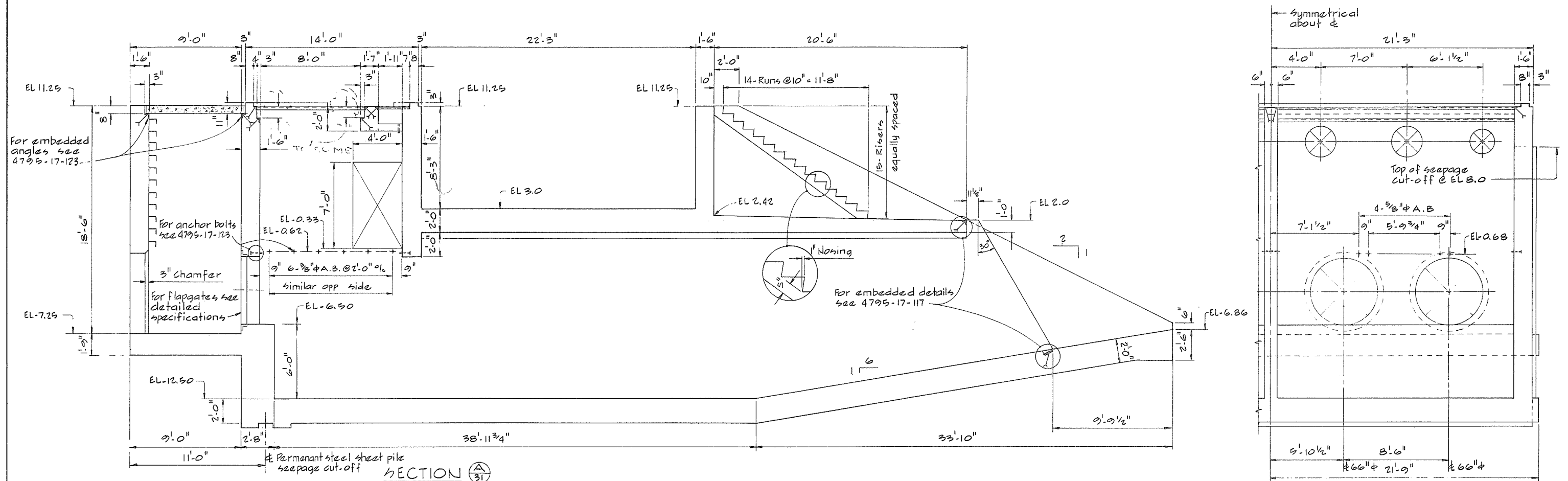
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FILE NO. 0281550-C10-17

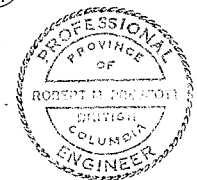
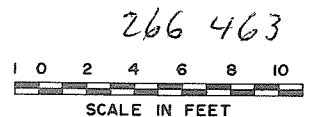
DATE Feb 1978

SHEET 1 OF 2 SHEETS

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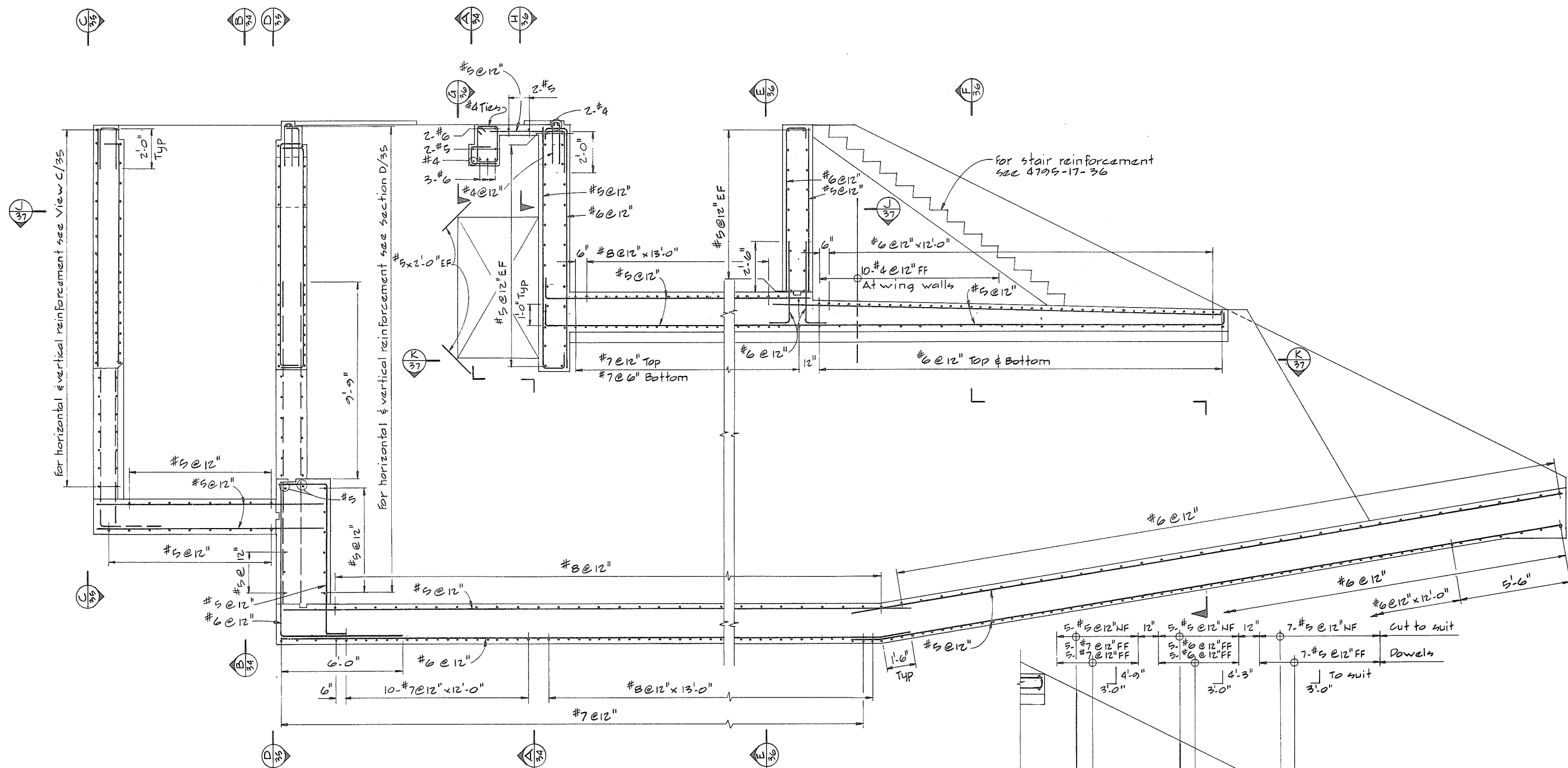


NOTES
 • For General Notes see 4795-17-31

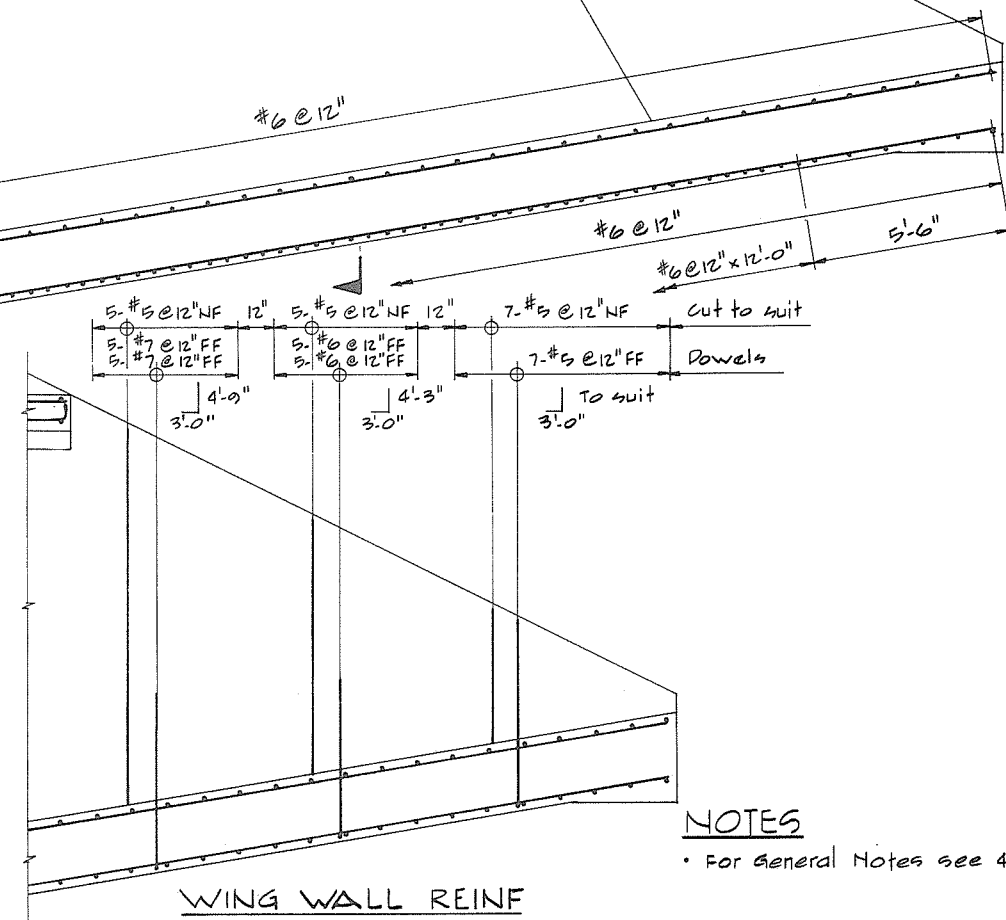


CBA ENGINEERING LTD.
 CONSULTING ENGINEERS - VANCOUVER - CANADA

A				RECOMMENDED <i>R. H. Cameron</i> PROJECT MANAGER	BRITISH COLUMBIA MINISTRY OF THE ENVIRONMENT WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1988 AGREEMENT	DESIGNED <i>GDAA</i>	SURVEYED
				DATE <i>Feb. 13, 1978</i>		DRAWN <i>AR</i>	DATE
				APPROVED <i>W. H. Sullivan</i> for DIRECTOR	PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17 WOODWARDS SLOUGH - DRAINAGE DISCHARGE STRUCT NO. 29 MAIN STRUCTURE - CONCRETE OUTLINE	CHECKED <i>DLC</i>	FILE NO. <i>0281550-C10-17</i>
				DATE <i>Feb 13/78</i>		SCALE <i>AS SHOWN</i>	DATE <i>Feb 1978</i>
NO.	BY	REVISIONS	DATE			DWG. NO. <i>4795-17-32</i>	SHEET <i>2</i> OF <i>2</i> SHEETS



LONGITUDINAL SECTION
 1 0 1 2 3 4 5 6 7
 SCALE IN FEET



NOTES
 • For General Notes see 4795-17-31



CBA ENGINEERING LTD.
 CONSULTING ENGINEERS - VANCOUVER - CANADA

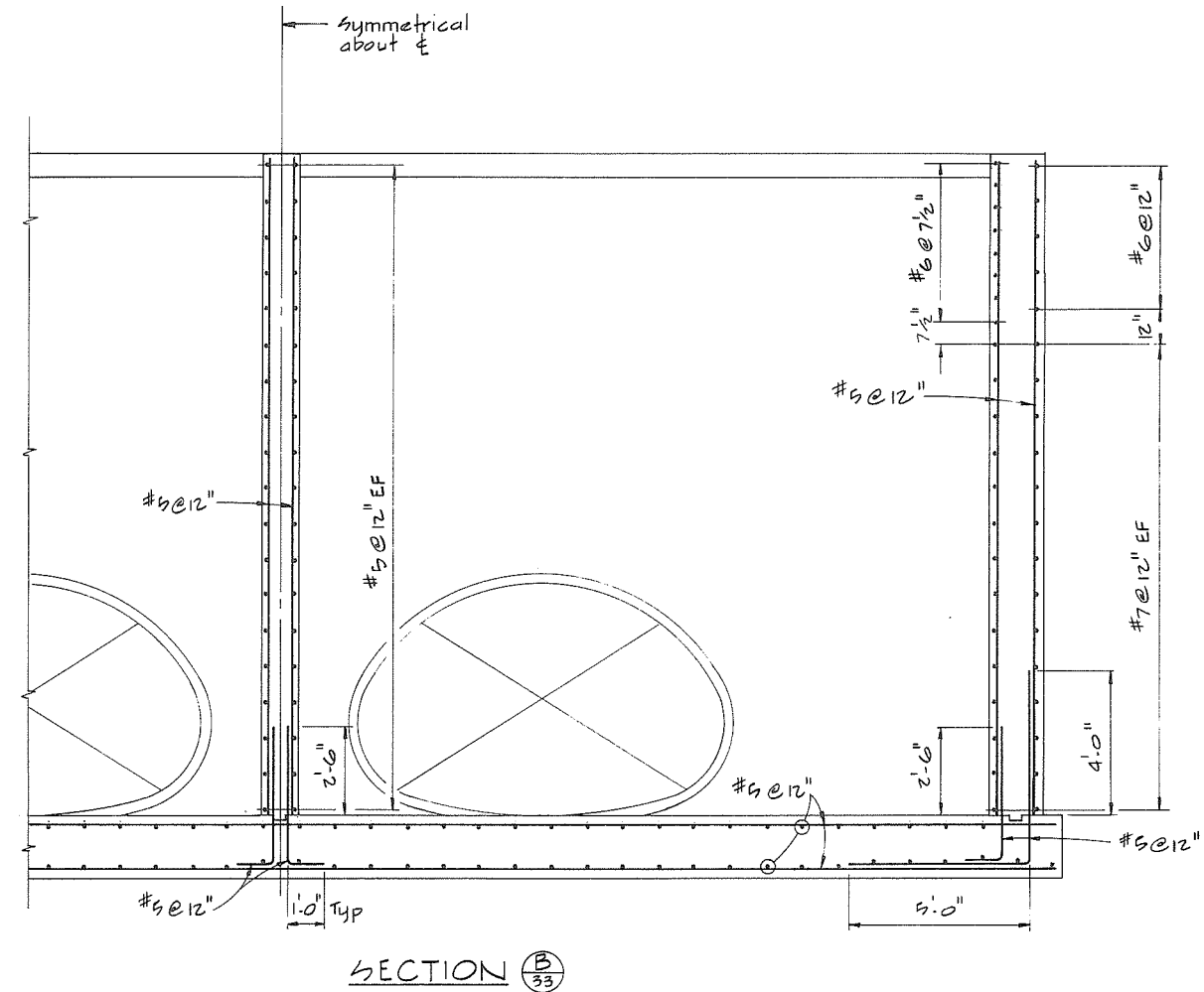
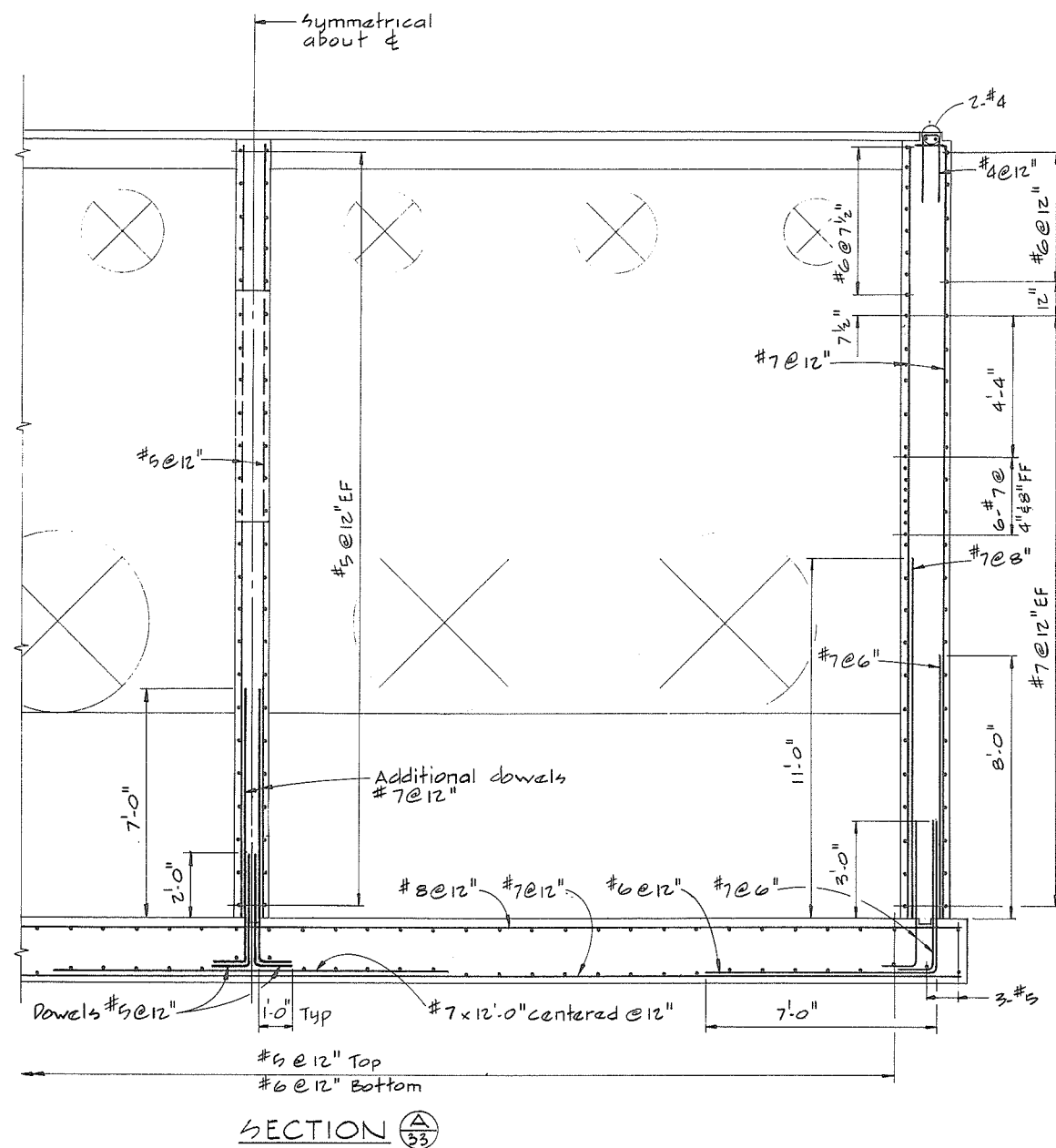
NO.	BY	REVISIONS	DATE
1	AR		

RECOMMENDED *P. R. Cameron*
 PROJECT MANAGER
 DATE *Feb. 13, 1978*
 APPROVED *for* DIRECTOR
 DATE *Feb 13/78*

BRITISH COLUMBIA
 MINISTRY OF THE ENVIRONMENT
 WATER INVESTIGATIONS BRANCH
 CANADA - BRITISH COLUMBIA
 FRASER RIVER FLOOD CONTROL 1968 AGREEMENT
 PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
 WOODWARDS SLOUGH - DRAINAGE DISCHARGE STRUCT NO. 29
 MAIN STRUCTURE - REINFORCING

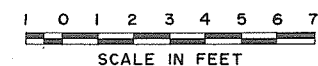
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DRAWN <i>AR</i>	DATE
CHECKED <i>TP</i>	FILE NO. <i>0281550-C10-17</i>
SCALE <i>AS SHOWN</i>	DATE <i>Feb 1978</i>
DWG. NO. <i>4795-17-33</i>	SHEET <i>1</i> OF <i>5</i> SHEETS

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NOTES

- For General Notes see 4795-17-31

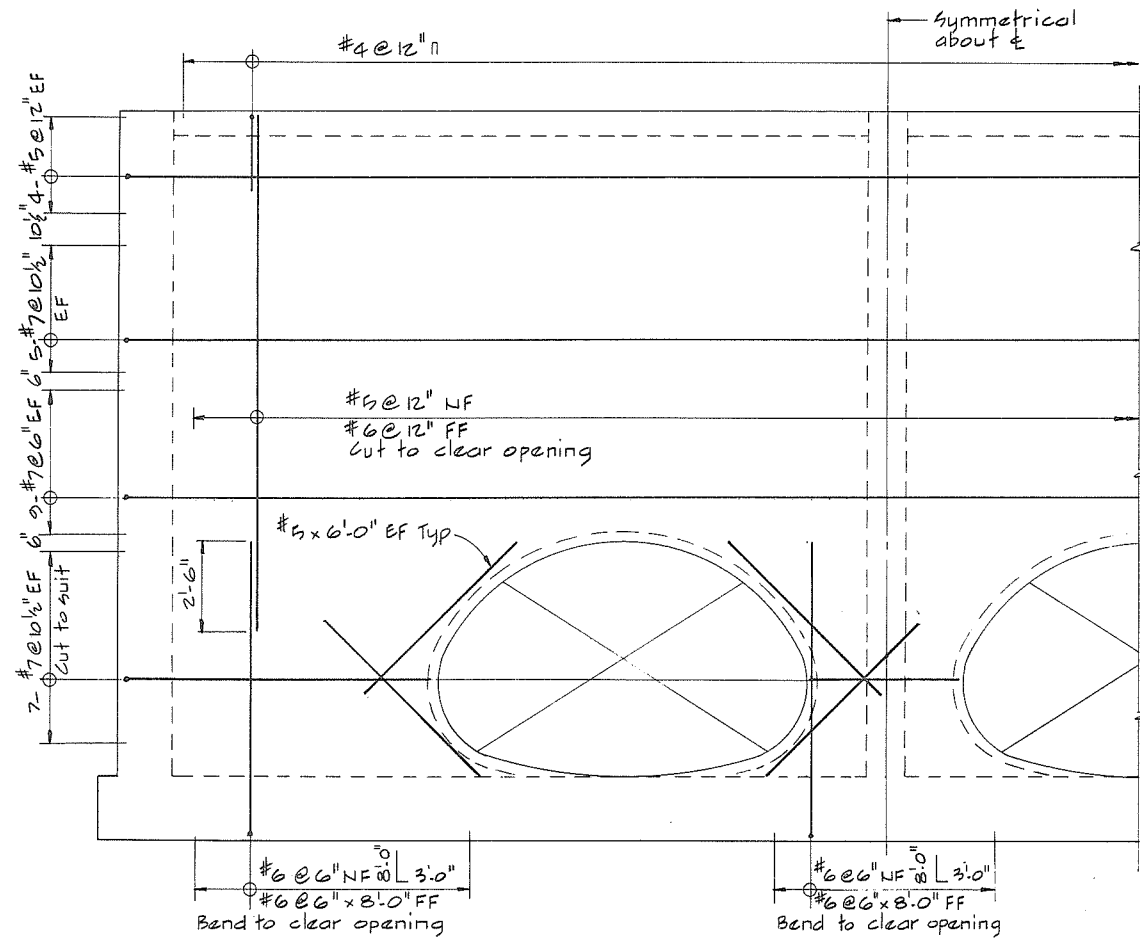


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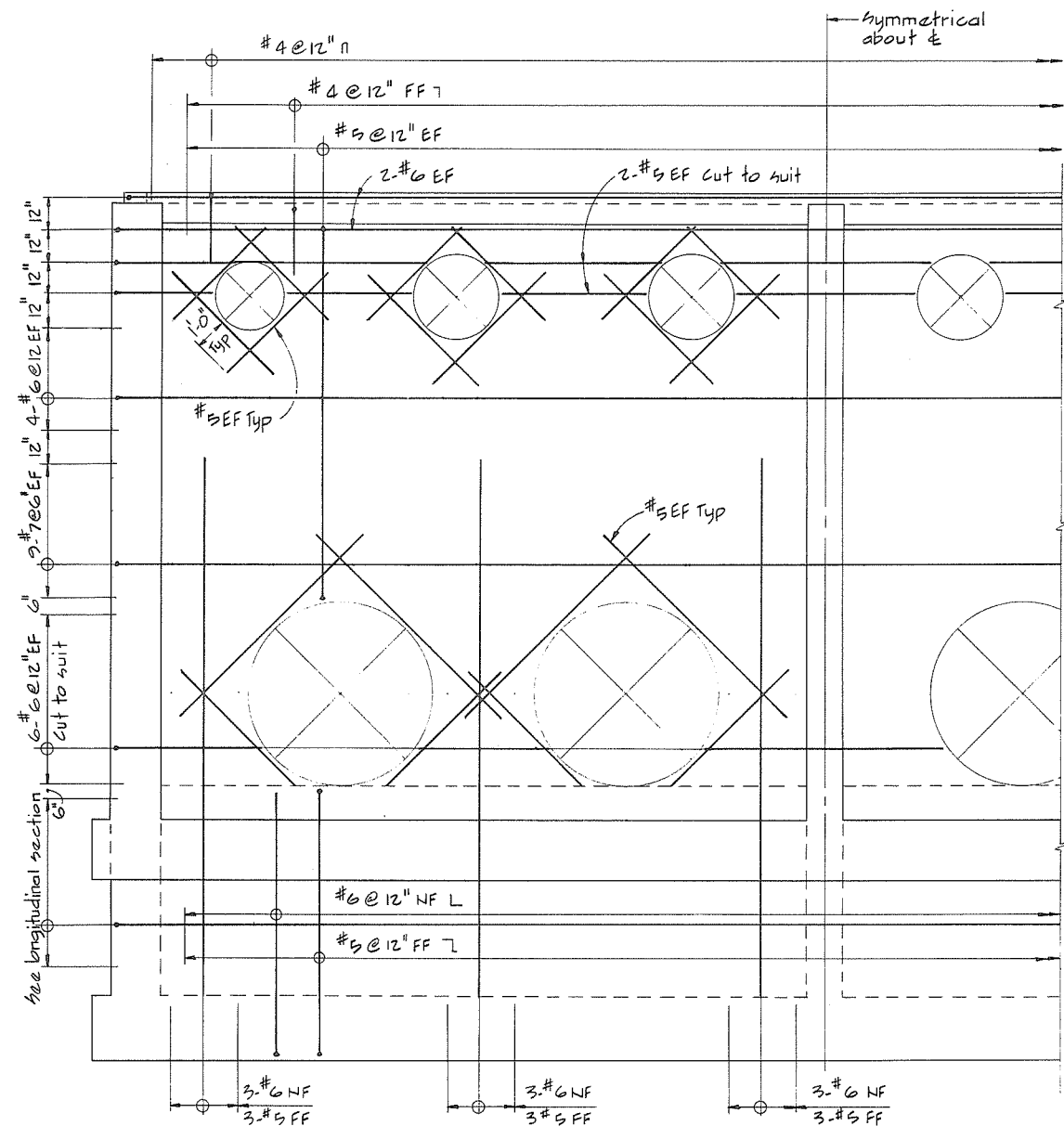


CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

B A				RECOMMENDED <u>A.R. Cameron</u> PROJECT MANAGER	BRITISH COLUMBIA MINISTRY OF THE ENVIRONMENT WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1985 AGREEMENT	DESIGNED <u>GCW</u> DRAWN <u>AR</u> CHECKED <u>TP</u> SCALE <u>AS SHOWN</u> DWG. NO. <u>4795-17-34</u>	SURVEYED DATE FILE NO. <u>0281550-C10-17</u> DATE <u>Feb 1978</u>
				DATE <u>Feb 13, 1978</u>			
				APPROVED <u>[Signature]</u> for DIRECTOR	PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17 WOODWARDS SLOUGH - DRAINAGE DISCHARGE STRUCT NO. 29 MAIN STRUCTURE - REINFORCING		
				DATE <u>Feb 13/78</u>			
NO.	BY	REVISIONS	DATE				



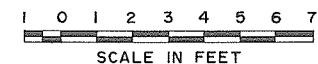
VIEW C
33



SECTION D
33

NOTES -

* For General Notes see 4795-17-31



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CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

NO. BY

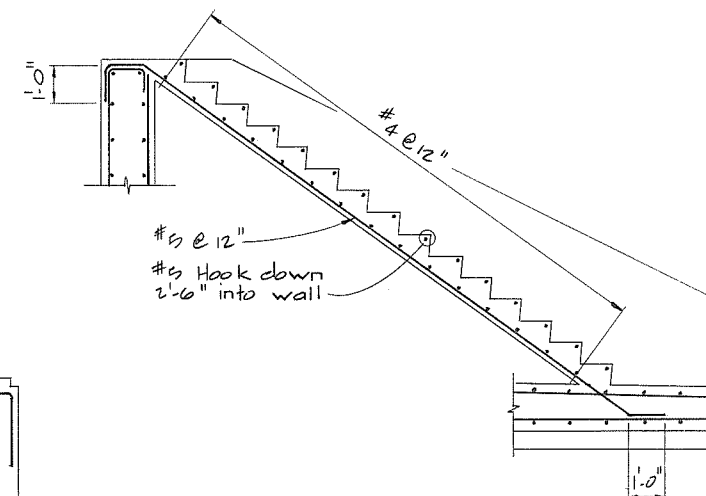
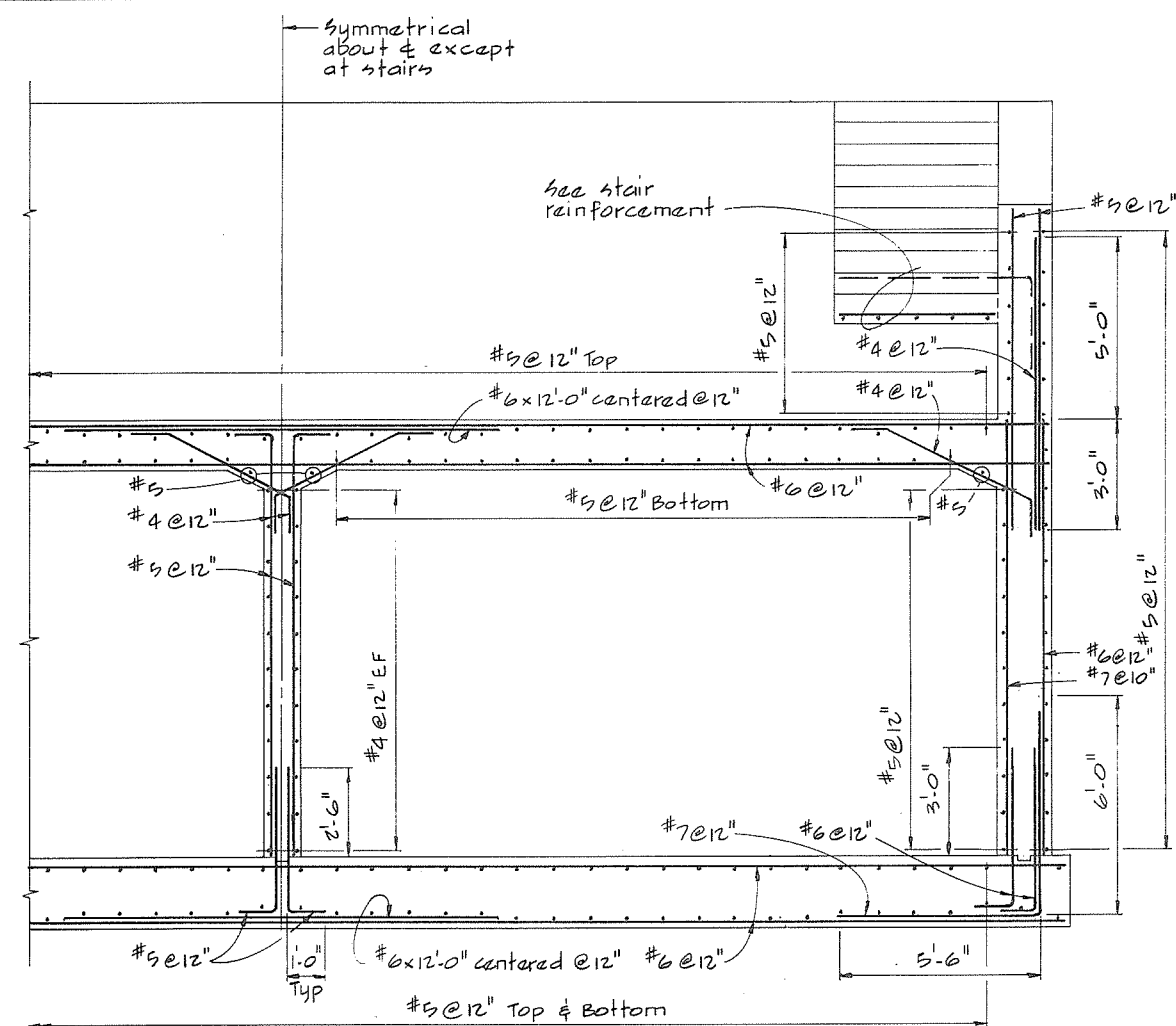
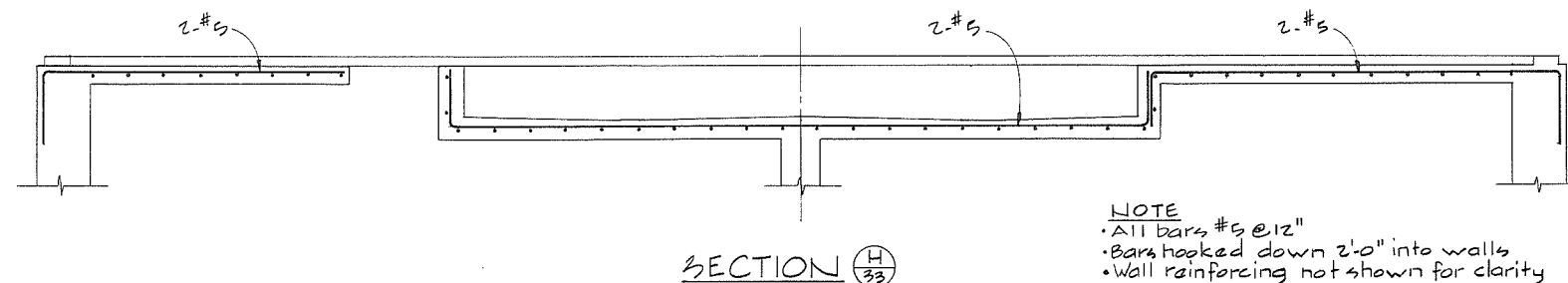
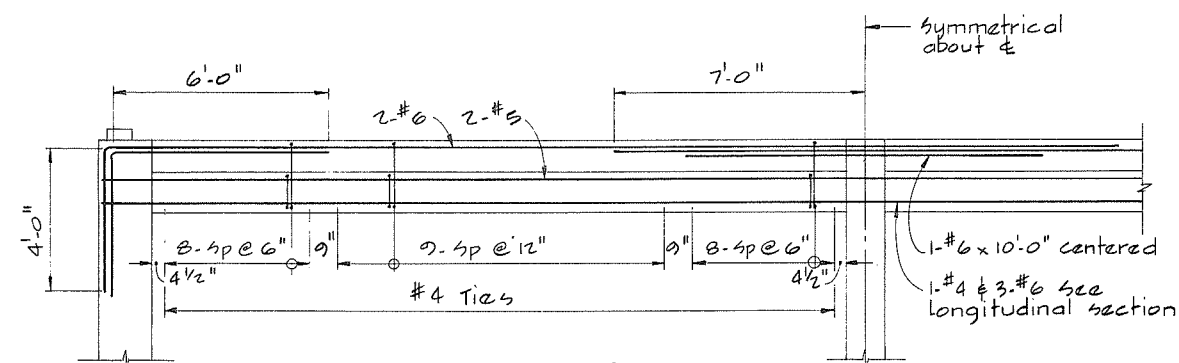
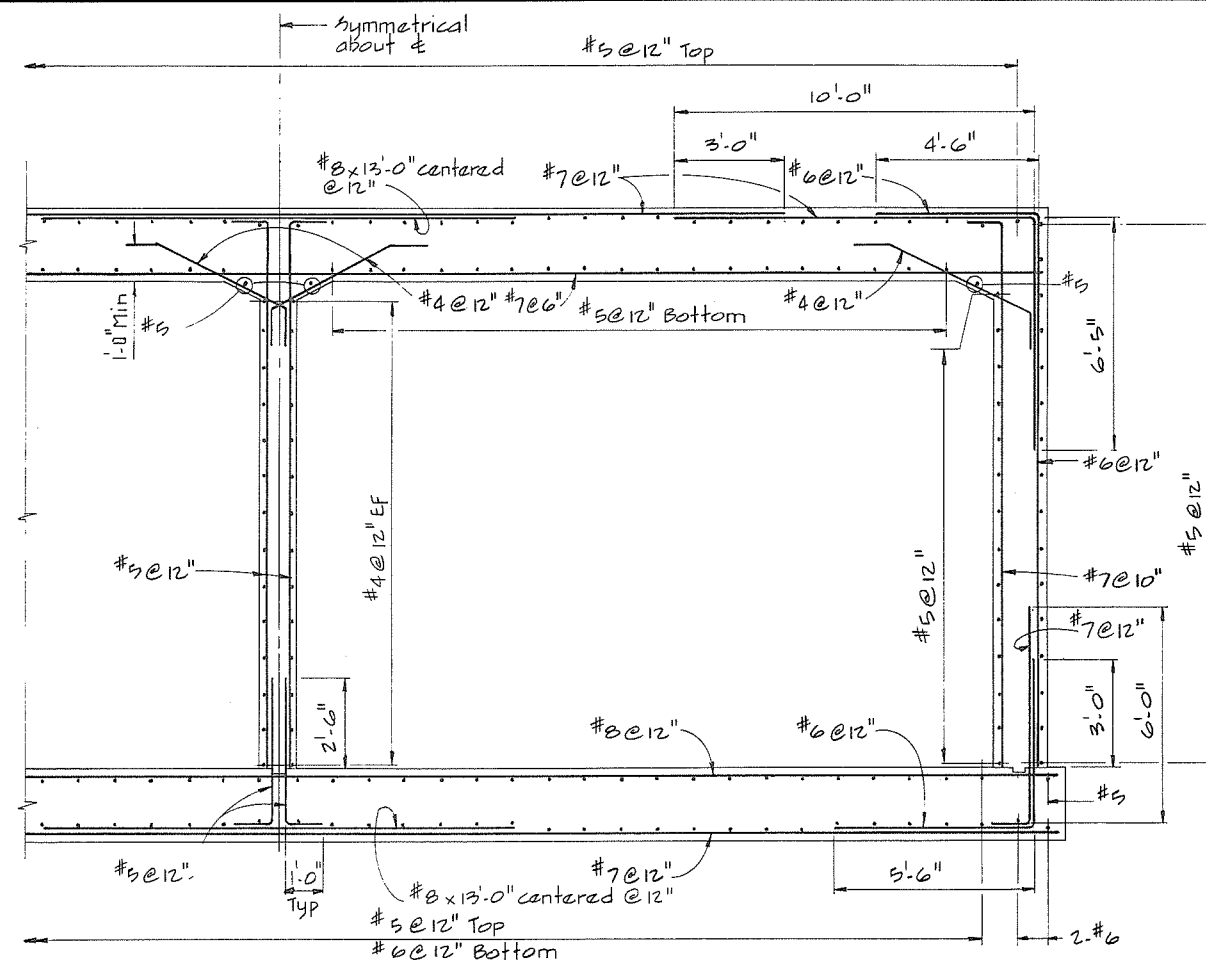
REVISIONS

DATE

RECOMMENDED *R.N. Cameron*
PROJECT MANAGER
DATE *Feb. 13, 1978*
APPROVED *[Signature]*
DIRECTOR
DATE *Feb 13/78*

BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA - BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1988 AGREEMENT
PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
WOODWARDS SLOUGH - DRAINAGE DISCHARGE STRUCT NO. 29
MAIN STRUCTURE - REINFORCING

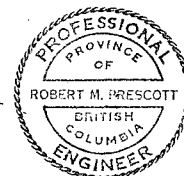
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DRAWN <i>AR</i>	DATE
CHECKED <i>TP</i>	FILE NO. <i>0281550-CIO-17</i>
SCALE <i>AS SHOWN</i>	DATE <i>Feb 1978</i>
DWG. NO. <i>4795-17-35A</i>	SHEET <i>3</i> OF <i>5</i> SHEETS



NOTES
For General Notes see 4795-17-31

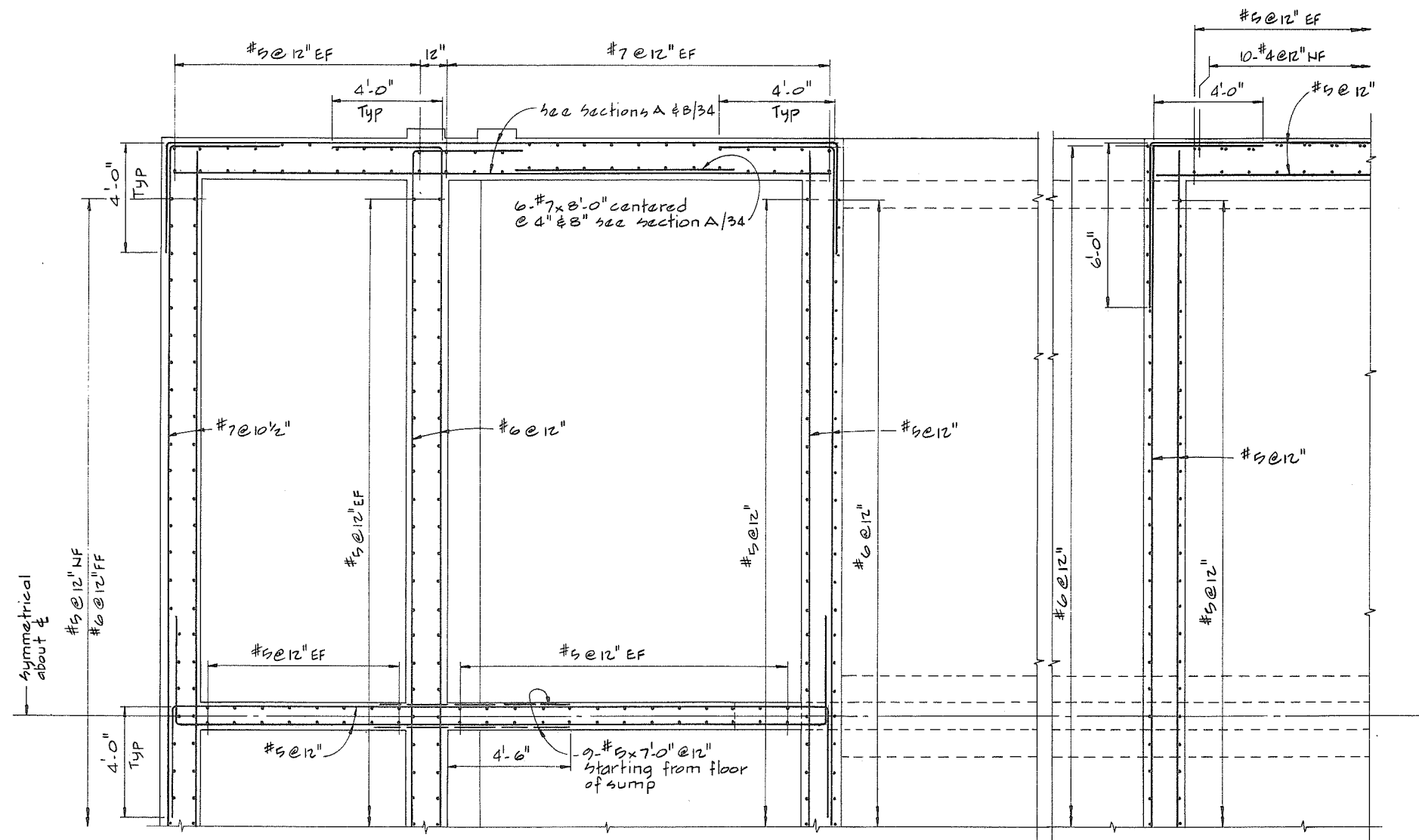
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467

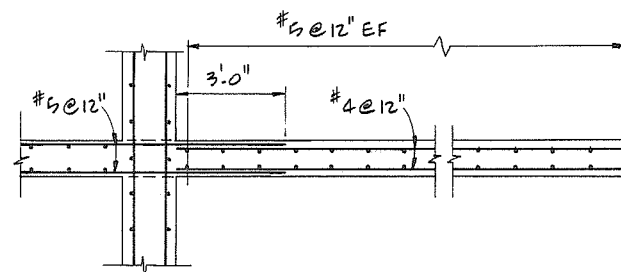


CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

A				RECOMMENDED <u>R. R. Camm</u> PROJECT MANAGER	BRITISH COLUMBIA MINISTRY OF THE ENVIRONMENT WATER INVESTIGATIONS BRANCH	DESIGNED <u>GCW</u>	SURVEYED _____
				DATE <u>Feb 13, 1978</u>	CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT	DRAWN <u>AR</u>	DATE _____
				APPROVED <u>Rob Fuller</u> for DIRECTOR	PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17 WOODWARDS SLOUGH-DRAINAGE DISCHARGE STRUCT NO. 29 MAIN STRUCTURE - REINFORCING	CHECKED <u>TP</u>	FILE NO. <u>0281550-C10-17</u>
	NO.	BY	REVISIONS	DATE		SCALE <u>AS SHOWN</u>	DATE <u>Feb 1978</u>
				DATE <u>Feb 13/78</u>		DWG. NO. <u>4795-17-36</u>	SHEET <u>4</u> OF <u>5</u> SHEETS



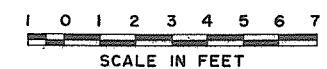
SECTION J/33



SECTION K/33

NOTES

• For General Notes see 4795-17-31



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CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

NO. BY

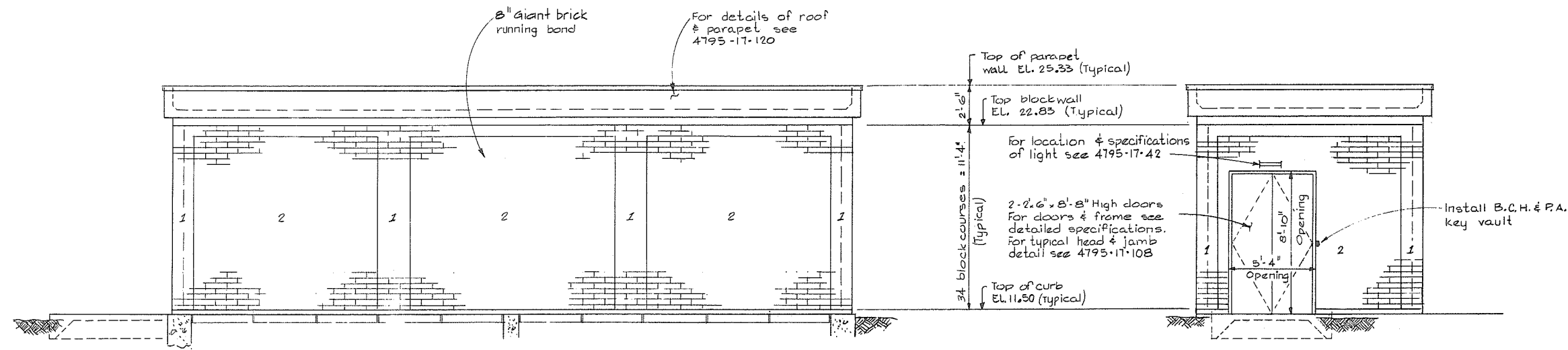
REVISIONS

DATE

RECOMMENDED *B. N. Cameron*
PROJECT MANAGER
DATE *Feb. 13, 1978*
APPROVED *[Signature]*
DIRECTOR
DATE *Feb 13/78*

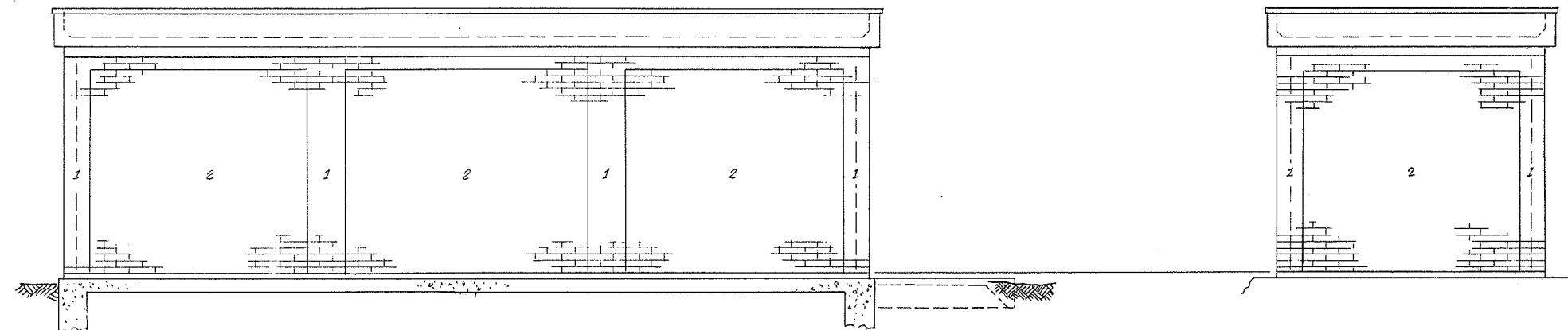
BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA - BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT
PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
WOODWARDS SLOUGH - DRAINAGE DISCHARGE STRUCT NO. 29
MAIN STRUCTURE - REINFORCING

DESIGNED <i>GCW</i>	SURVEYED
DRAWN <i>AR</i>	DATE
CHECKED <i>TP</i>	FILE NO. <i>0281550-C10-17</i>
SCALE <i>AS SHOWN</i>	DATE <i>Feb 1978</i>
DWG. NO. <i>4795-17-37A</i>	SHEET <i>5</i> OF <i>5</i> SHEETS



SOUTH ELEVATION

WEST ELEVATION



NORTH ELEVATION

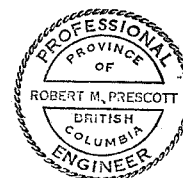
EAST ELEVATION

NOTES

- Elevations refer to the Geodetic Survey of Canada
- For General Notes see 4795-17-31
- Cores to be filled with concrete as specified in the detailed specifications

LEGEND

- 1 Denotes Giant Brick Western Buff color
- 2 Denotes Giant Brick Chestnut color



CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

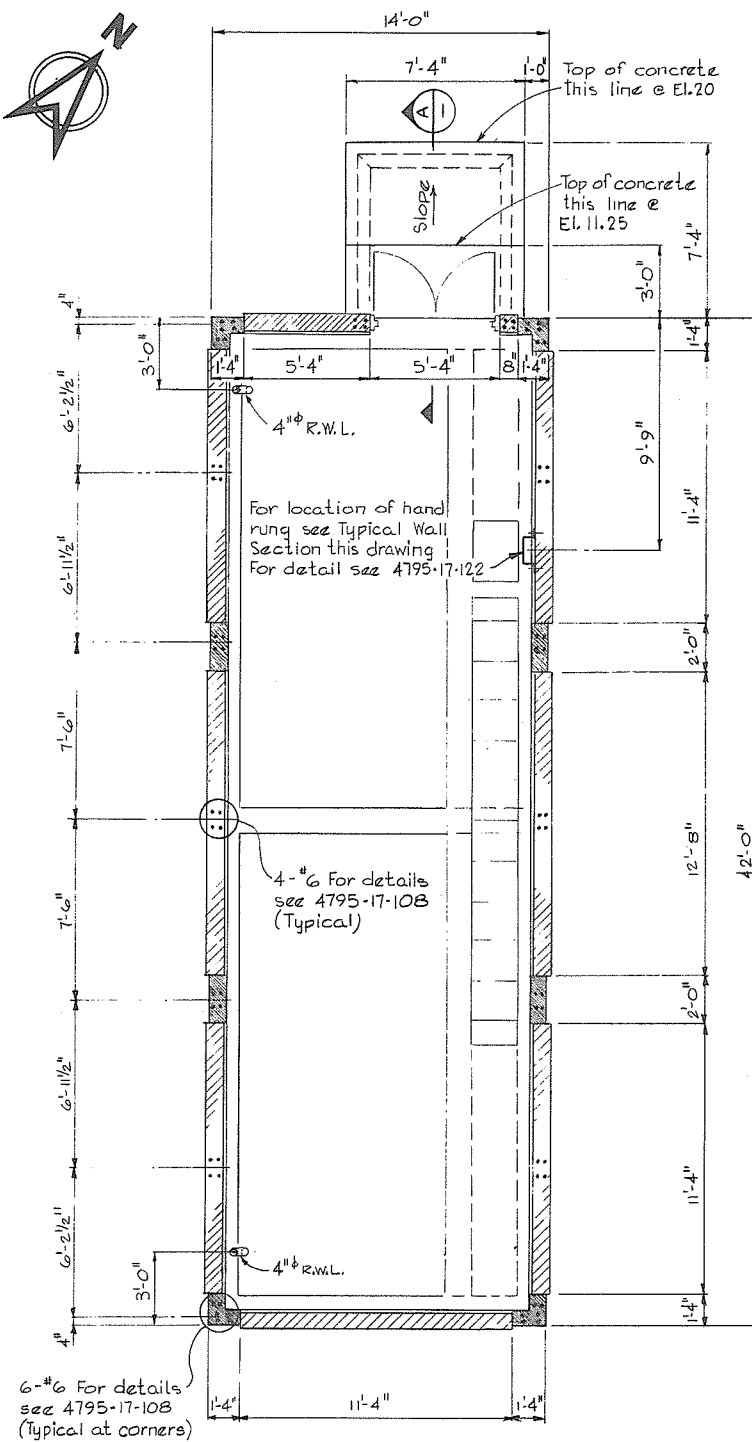
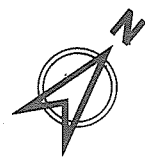
NO. BY REVISIONS DATE

RECOMMENDED *B.R. Cameron*
PROJECT MANAGER
DATE *Feb. 13, 1978*
APPROVED *John Fuller*
for DIRECTOR
DATE *Feb 13/78*

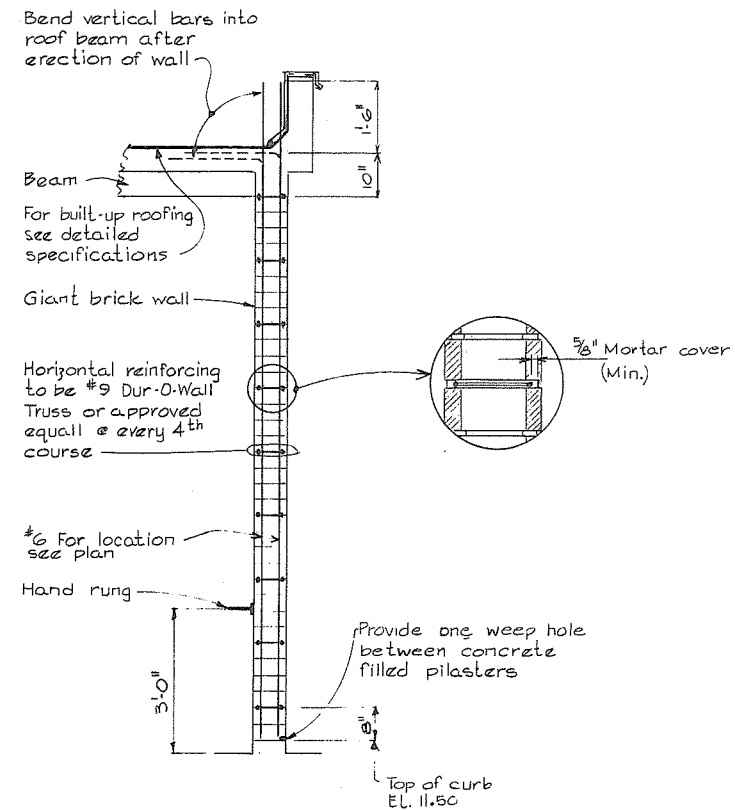
BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA - BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT
PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
WOODWARDS SLOUGH - DRAINAGE DISCHARGE STRUCT NO. 29
ARCHITECTURAL DETAILS

DESIGNED <i>t.y.</i>	SURVEYED
DRAWN <i>t.y.</i>	DATE
CHECKED <i>AR</i>	FILE NO. <i>0281550-C10-17</i>
SCALE <i>AS SHOWN</i>	DATE <i>Feb 1978</i>
DWG. NO. <i>4795-17-38A</i>	SHEET <i>1</i> OF <i>2</i> SHEETS

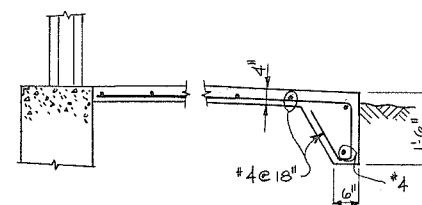
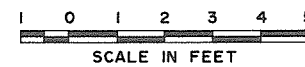
469



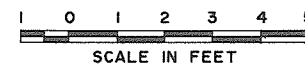
FLOOR PLAN



TYPICAL WALL SECTION



SECTION A-A



NOTES

* For notes see 4795-17-38



CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

NO. BY

REVISIONS

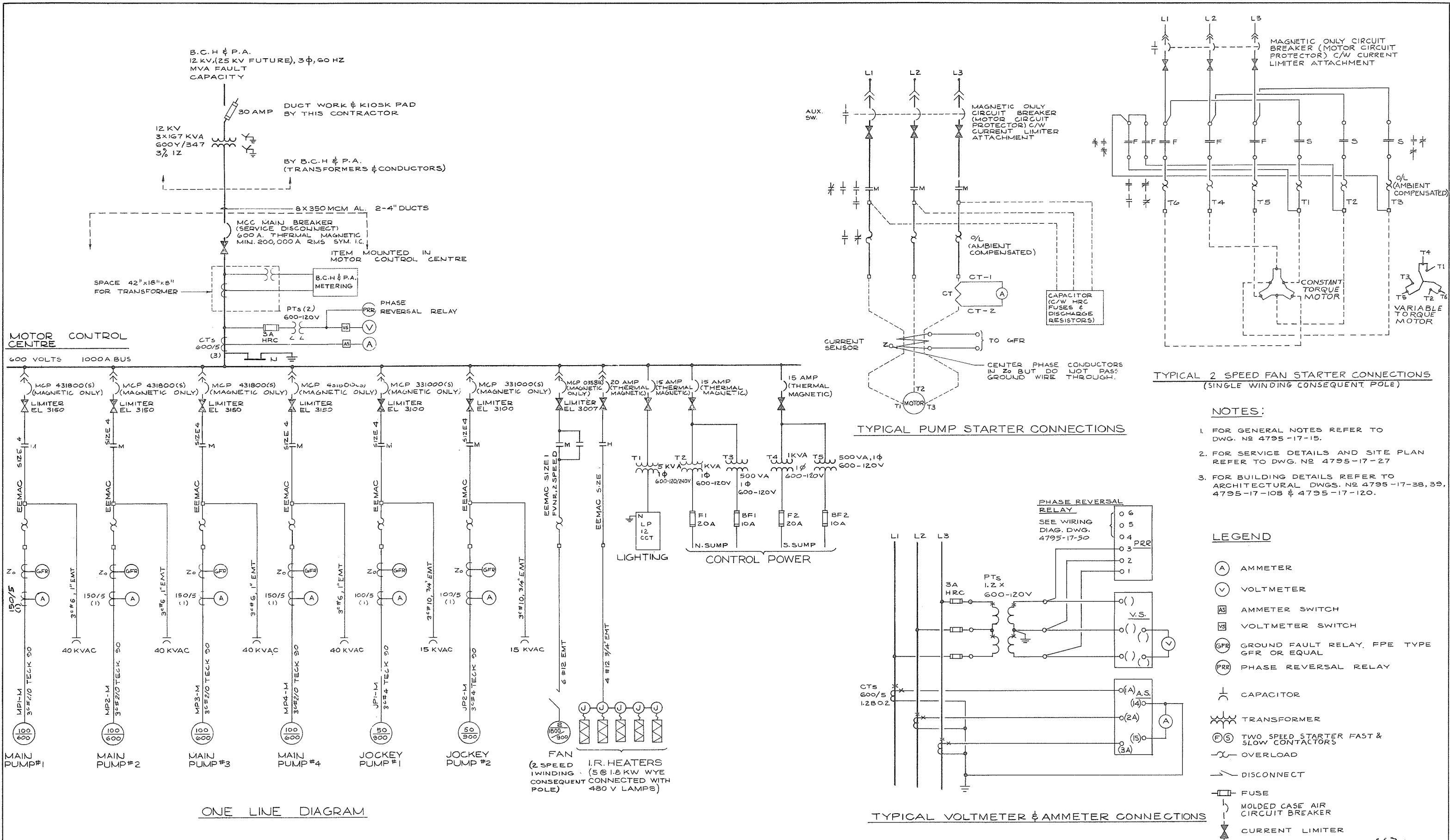
DATE

RECOMMENDED *R. N. Cameron*
PROJECT MANAGER
DATE *Feb. 13, 1978*
APPROVED *John Fuller*
DIRECTOR
DATE *Feb 13/78*

BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA - BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT
PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
WOODWARDS SLOUGH - DRAINAGE DISCHARGE STRUCT NO. 29
ARCHITECTURAL DETAILS

DESIGNED <i>L. J.</i>	SURVEYED
DRAWN <i>L. J.</i>	DATE
CHECKED <i>AR</i>	FILE NO. <i>0281550-C10-17</i>
SCALE <i>AS SHOWN</i>	DATE <i>Feb 1978</i>
DWG. NO. <i>4795-17-39A</i>	SHEET <i>2</i> OF <i>2</i> SHEETS

266 470



ONE LINE DIAGRAM

TYPICAL PUMP STARTER CONNECTIONS

TYPICAL VOLTMETER & AMMETER CONNECTIONS

TYPICAL 2 SPEED FAN STARTER CONNECTIONS (SINGLE WINDING CONSEQUENT POLE)

- NOTES:
- 1. FOR GENERAL NOTES REFER TO DWG. NO 4795-17-15.
 - 2. FOR SERVICE DETAILS AND SITE PLAN REFER TO DWG. NO 4795-17-27
 - 3. FOR BUILDING DETAILS REFER TO ARCHITECTURAL DWGS. NO 4795-17-38, 39, 4795-17-108 & 4795-17-120.

- LEGEND
- (A) AMMETER
 - (V) VOLTMETER
 - AS AMMETER SWITCH
 - VS VOLTMETER SWITCH
 - GFR GROUND FAULT RELAY, FPE TYPE GFR OR EQUAL
 - PRR PHASE REVERSAL RELAY
 - ⊥ CAPACITOR
 - ⚡ TRANSFORMER
 - (FS) TWO SPEED STARTER FAST & SLOW CONTACTORS
 - X— OVERLOAD
 - DISCONNECT
 - FUSE
 - MOLDED CASE AIR CIRCUIT BREAKER
 - CURRENT LIMITER



PREPARED BY:
M.A. THOMAS & ASSOCIATES LTD.
CONSULTING ENGINEERS
VANCOUVER, B.C. — CANADA.

REFERENCE: 1231



CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

NO.	BY	REVISIONS	DATE
A			

RECOMMENDED
DATE: Feb 13 1978
APPROVED: [Signature]
DATE: Feb 13/78

BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA — BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT
PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
WOODWARDS SLOUGH-DRAINAGE DISCHARGE STRUCT NO.29
ELECTRICAL ONE LINE DIAGRAM

DESIGNED	HO	SURVEYED	
DRAWN	AS/SEO/TM	DATE	
CHECKED	NB	FILE NO.	0281550-C10-17
SCALE	NONE	DATE	Feb 1978
DWG. NO.	4795-17-40A	SHEET	OF SHEETS

BOND TOGETHER AND GROUND PUMP DISCHARGE PIPING AND FLOOR DECKING TO MCC GROUND BUS AS PER CONTRACT 17 SUBSECTION 4.2.16

METRIPIPE LEVEL CONTROL SENSOR SEE DETAIL 106



FOR CABLE SUPPORT DETAILS SEE SECTION A 42 & DETAIL 142

3/4" RIGID GALV. STEEL CONDUIT DOWN TO GAS DETECTOR SENSOR (C/W EYS SEAL) SEE DETAIL 106

#2/0 CU. GND WIRE UNDER MAIN FLOOR CLAMP TO EVERY WF

#2/0 CU. GND WIRE UNDER MAINTENANCE FLOOR CLAMP TO EVERY WF

UPPER GROUND ELECTRODE #5/0 BARE COPPER MIN. 30' LONG WITHIN BOTTOM 2' OF FOOTINGS.

4" PVC JACKETED RIGID GALV. STEEL CONDUITS 4" POWER DUCTS

FOR SERVICE DETAILS SEE SITE PLAN DWG. NO. 4795-17-27

3/4" RIGID STEEL CONDUIT 1 PR. SHIELDED CABLE BELDON #8760 TO R/I SIGNAL CONVERTER IN MCC PROVIDE EYS SEAL @ MCC

1/2" CONDUIT FOR FUTURE METRIPIPE HEATER SUPPLY FROM MCC (PROVIDE EYS SEAL @ MCC)

2#12 1/2" C EMBEDDED IN CONCRETE (TYP.)

UP THROUGH WALL TO JUNCTION BOX

3#12, 3/4" C EMBEDDED IN CONCRETE

INCANDESCENT LIGHT (4)

STILLING WELL & BUBBLER TUBE

UP TO MCC GROUND BUS

3 ONLY 2" RIGID CONDUIT SLEEVES C/W BUSHING, SEAL WITH RTV SILICONE, INSTALL ON 8" CENTRES. (TYPICAL)

4" RIGID GALV. STEEL CONDUIT UP TO MCC SERVICE SECT. C/W EYS SEAL

SERVICE PULL BOX (10) SEE DETAIL 107

SPACER (TYP)

BUSHING & LOCKNUTS (TYP)

2-4" PVC JACKETED RIGID GALV. STEEL CONDUIT, SHORT LENGTH OF BURNDY "FLEXIBAR" 3H SUPPORT CHANNEL HOT DIP GALV. AFTER FABRICATION (TYP)

3#12, 3/4" C EMBEDDED IN CONCRETE

3/4" RIGID STEEL CONDUIT 1 PR. SHIELDED CABLE BELDON #8760 TO R/I SIGNAL CONVERTER IN MCC

1/2" CONDUIT FOR FUTURE METRIPIPE HEATER SUPPLY FROM MCC (PROVIDE EYS SEAL @ MCC)

METRIPIPE LEVEL CONTROL SENSOR SEE DETAIL 106

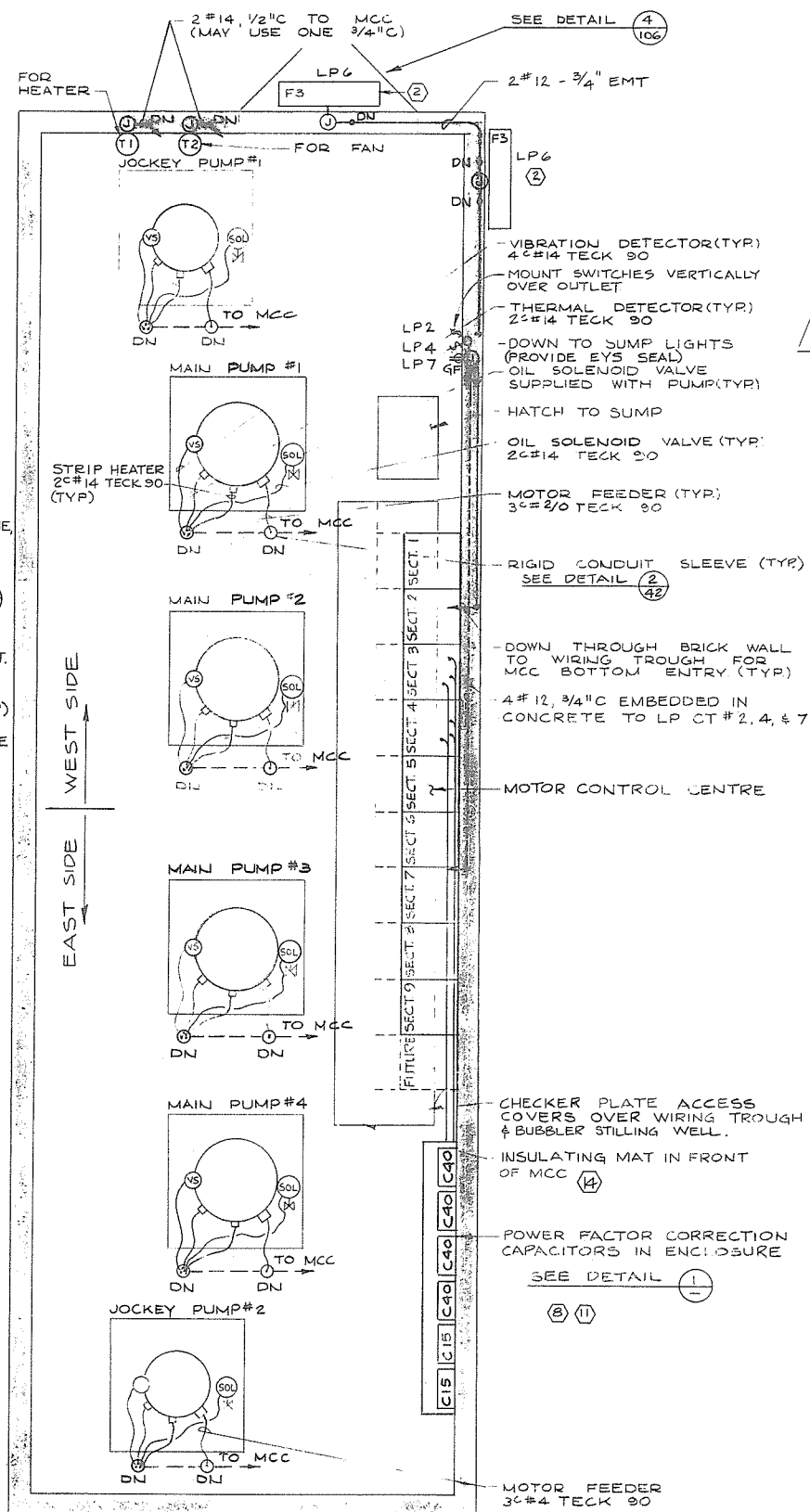
2" RIGID GALV. STEEL CONDUIT UP TO MCC CONTROL & RELAY SECTION C/W EYS SEAL

TELEPHONE PULL BOX (11)

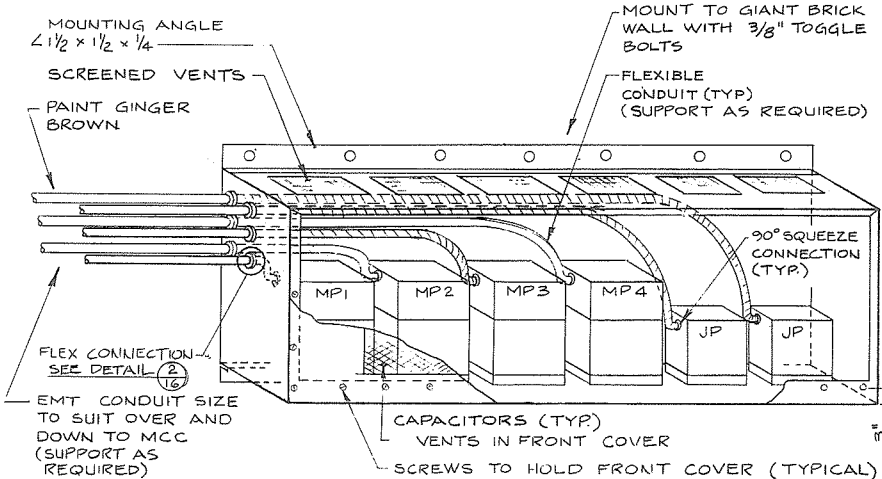
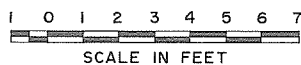
BOND END OF UPPER GROUND ELECTRODE TO MCC GROUND BUS

STILLING WELL & BUBBLER TUBE

NOTE - PULL BOXES ARE BELOW CONCRETE WIRING TROUGH



PLAN @ EL. 18'-0"



DETAIL 1 NTS

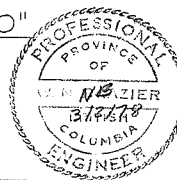
CAPACITOR ENCLOSURE

- MOUNT CAPACITOR ENCLOSURE 6" BELOW CEILING
- SHEET STEEL ENCLOSURE MIN. 14 GAUGE C/W WALL MOUNTING BRACKETS AND INTERNAL SUPPORTS AND BRACES AS REQUIRED, PRIME AND PAINT TWO COATS GINGER BROWN COLOUR WITH BAPCO #803 C-4
- DIMENSIONS TO SUIT CAPACITORS
- BOTTOM 3" HIGH OIL TIGHT "PAN" TO CONTAIN TOTAL AMOUNT OF FLAMMABLE SILICONE LIQUID IN CAPACITORS

NOTES:

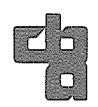
- 1) FOR GENERAL NOTES REFER TO DWG. NO. 4795-17-15
- 2) FOR LEGEND REFER TO DWG. NO. 4795-17-16 & 4795-17-40
- 3) FOR KEY TO MATERIAL ITEMS REFER TO DWG. NO. 4795-17-106
- 4) FOR SERVICE DETAILS REFER TO "SITE PLAN" DWG. NO. 4795-17-27
- 5) ALL WIRING SHALL BE CONCEALED AND ALL BOXES SET FLUSH EXCEPT IN PUMPHOUSE SUMP.
- 6) ALL CONDUITS SHALL HAVE ONE INSULATED, GREEN, GROUND WIRE IN ADDITION TO THE CONDUCTORS SHOWN
- 7) ALL CABLES AND CONDUITS SHALL ENTER THE MCC FROM THE BOTTOM EXCEPT FOR CONNECTIONS TO CAPACITORS.
- 8) FOR DETAILED WIRING INSTRUCTIONS REFER TO CONTRACT 17 SPECIFICATIONS.
- 9) EMT SHALL BE USED IN DRY LOCATIONS ONLY AND SHALL BE OF STEEL.
- 10) INSTALL AND ADJUST INFRARED HEATERS SO THAT HEAT OUTPUT IS AIMED DOWNWARDS AND IS NOT DIRECTED TOWARDS LIGHTING FIXTURES OR OTHER EQUIPMENT THAT MAY BE DAMAGED BY HIGH TEMPERATURES.
- 11) FOR SITE PLAN SEE DWG. NO. 4795-17-27 FOR CONCRETE OUTLINE SEE DWG. NO. 4795-17-31 & 32 FOR ARCHITECTURAL DETAILS SEE DWG. NO. 4795-17-38 & 39 FOR ROOF PLANS SEE DWG. NO. 4795-17-120 FOR FLOOR DETAILS SEE DWG. NO. 4795-17-109, 110 & 111
- 12) DRILL 3/8" DRAIN HOLE IN BOTTOM OF B.C. HYDRO AND B.C. TELEPHONE CO. SERVICE PULL BOXES.
- 13) BCH & PA & B.C. TEL SERVICE CONDUITS IN PUMPHOUSE SUMP SHALL BE PVC JACKETED RIGID GALVANIZED STEEL.

PLAN @ EL. 11'-0"



PREPARED BY:
M.A. THOMAS & ASSOCIATES LTD.
CONSULTING ENGINEERS
VANCOUVER, B.C. CANADA.

REFERENCE: 1291



CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

NO. BY

REVISIONS

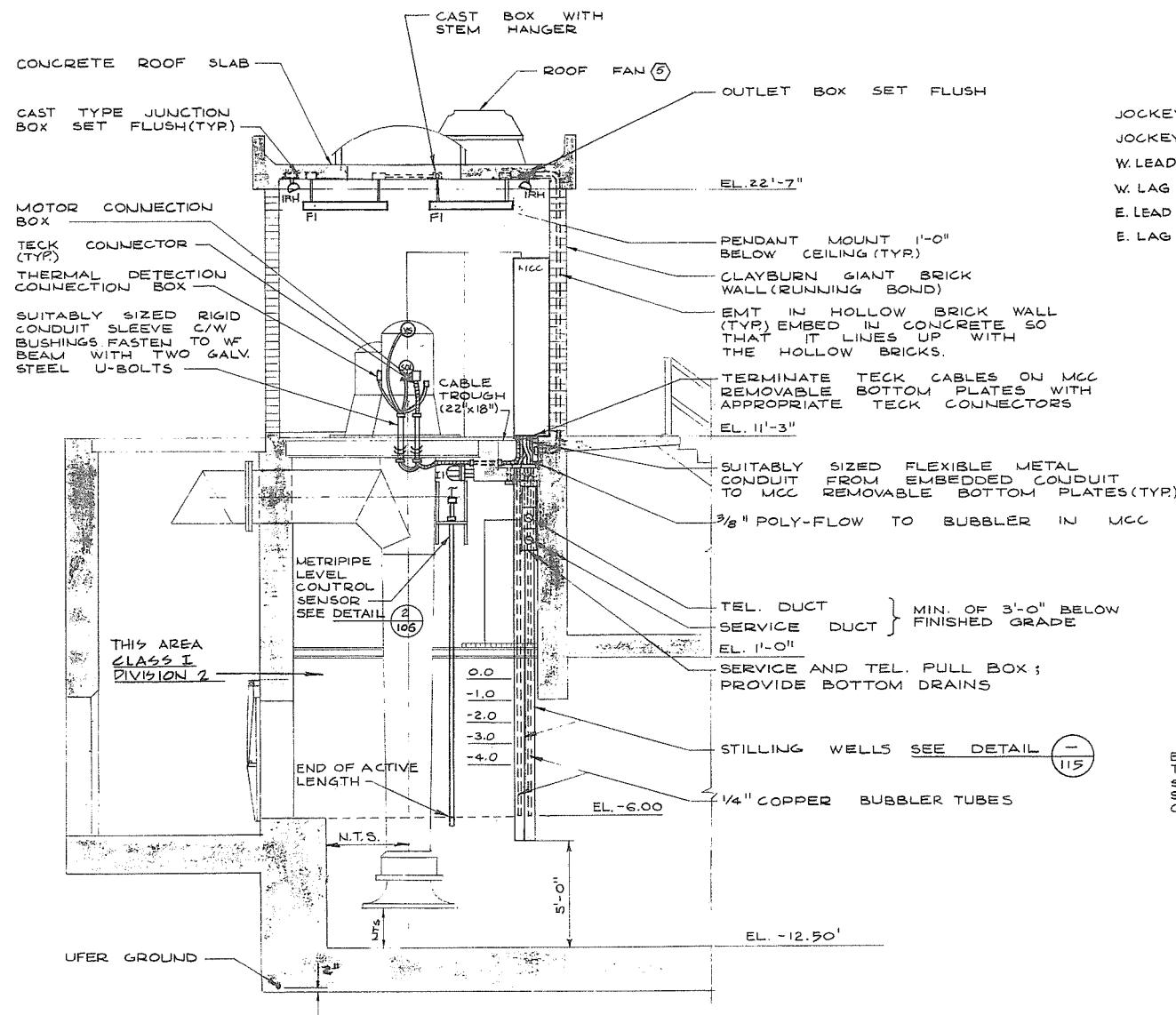
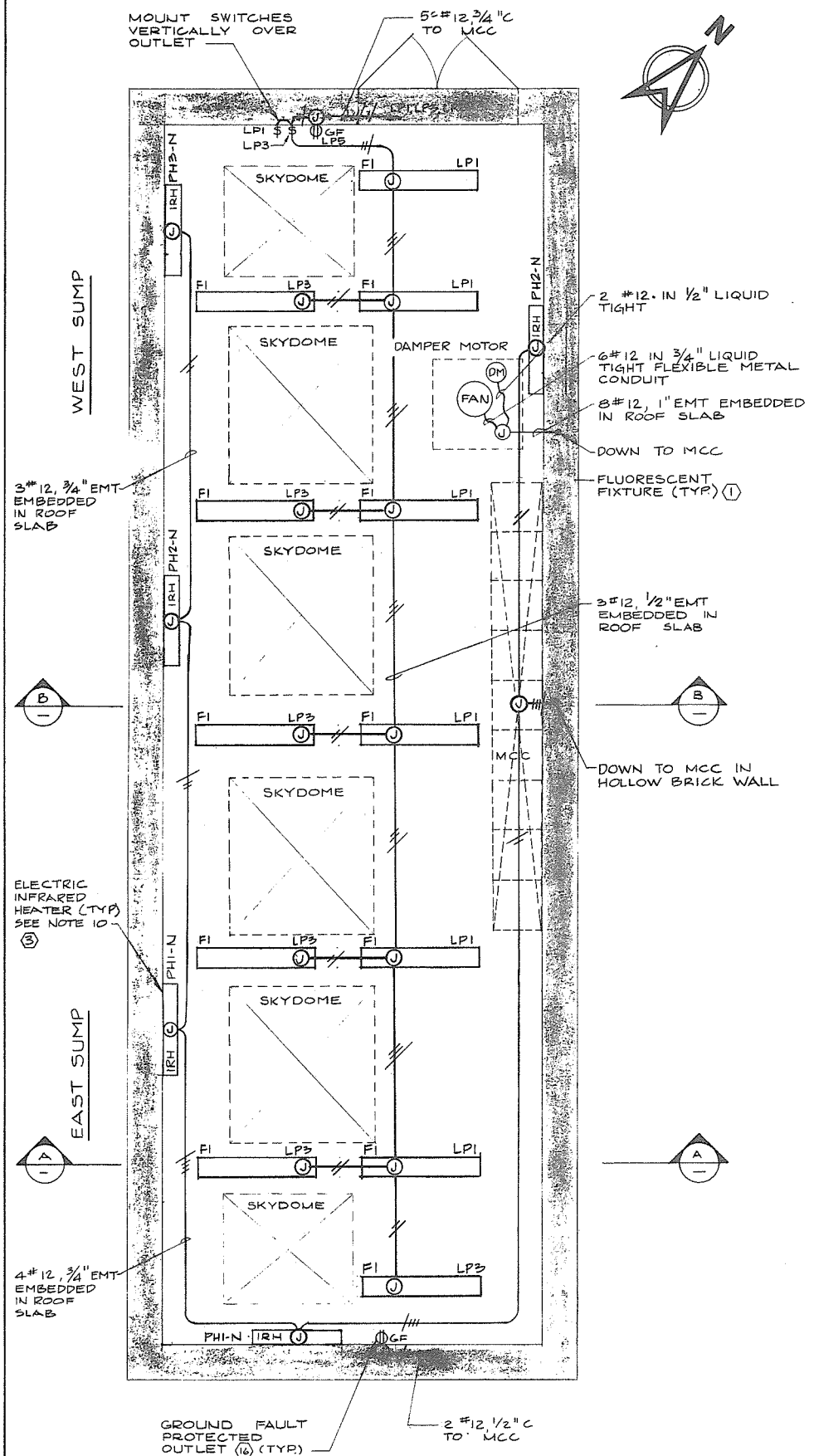
DATE

RECOMMENDED *R. Cameron*
PROJECT MANAGER
DATE *Feb 13, 1978*
APPROVED *W. Sullivan*
DIRECTOR
DATE *Feb 13, 1978*

BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA - BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT
PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
WOODWARDS SLOUGH - DRAINAGE DISCHARGE STRUCT NO. 29
ELECTRICAL LAYOUT

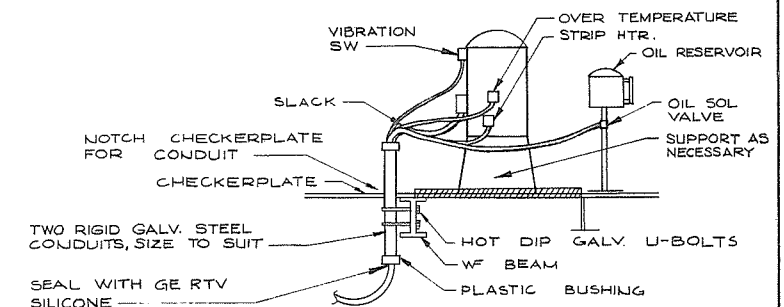
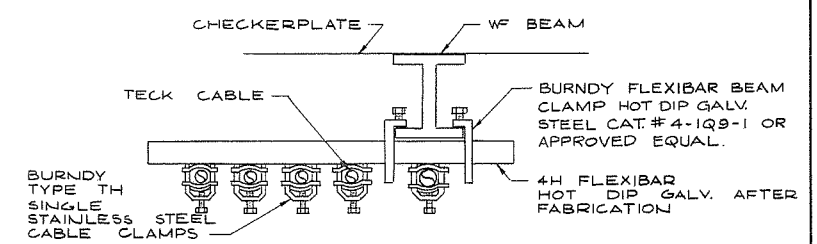
DESIGNED <i>HO</i>	SURVEYED
DRAWN <i>SEO/TM/FC</i>	DATE
CHECKED <i>WB</i>	FILE NO. <i>0281550-C10-17</i>
SCALE <i>AS SHOWN</i>	DATE <i>Feb 1978</i>
DWG. NO. <i>4795-17-41 A</i>	SHEET <i>1</i> OF <i>2</i> SHEETS

472



	<u>START</u>	<u>STOP</u>	<u>LOW LEVEL LOCKOUT</u>	<u>HIGH LEVEL ALARM</u>
JOCKEY PUMP #1 :	-2.75	-3.50	} -4.00	} -1.00
JOCKEY PUMP #2 :	-2.50	-3.25		
W. LEAD PUMP :	-1.50	-2.25	} -3.50	
W. LAG PUMP :	-2.00	-2.75		
E. LEAD PUMP :	-1.75	-2.50		
E. LAG PUMP :	-2.25	-3.00		

PUMP OPERATING LEVELS

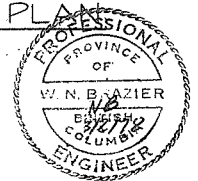


SINGLE PHASE, 3 WIRE, S.N. 120/240 VOLTS						
LOAD (WATTS)	DESCRIPTION	CCT. NO.	S.N.	CCT. NO.	DESCRIPTION	LOAD (WATTS)
750	INTERIOR FLUORESCENT LIGHTS	1	15A	15A	2 SUMP LIGHTS (WEST)	600
750	INTERIOR FLUORESCENT LIGHTS	3	15A	15A	4 SUMP LIGHTS (EAST)	600
500	RECEPT. ON WEST WALL	5	15A	15A	6 EXTERIOR LIGHTS	150
500	RECEPT. ON NORTH WALL	7	15A	15A	8 JPI MOTOR STRIP HEATER	
500	RECEPT. ON EAST WALL	9	15A	15A	10 JP2 " " " "	
	SPARE	11	15A	15A	12 MP1 " " " "	
	SPARE	13	15A	15A	14 MP2 " " " "	
	SPARE	15	15A	15A	16 MP3 " " " "	
	SPARE	17	15A	15A	18 MP4 " " " "	

MOTOR CONTROL CENTRE LIGHTING PANEL "LP"

1 0 1 2 3 4 5 6 7

SCALE IN FEET



PREPARED BY:

M.A. THOMAS & ASSOCIATES LTD.

CONSULTING ENGINEERS

VANCOUVER, B.C. - CANADA.

REFERENCE: 1291

CBA ENGINEERING LTD.

CONSULTING ENGINEERS - VANCOUVER - CANADA

NO. BY REVISIONS DATE

RECOMMENDED *R. A. Cameron*

PROJECT MANAGER

DATE *Feb. 13, 1978*

APPROVED *John Fuller*

DIRECTOR

DATE *Feb 13/78*

BRITISH COLUMBIA

MINISTRY OF THE ENVIRONMENT

WATER INVESTIGATIONS BRANCH

CANADA - BRITISH COLUMBIA

FRASER RIVER FLOOD CONTROL 1968 AGREEMENT

PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17

WOODWARDS SLOUGH - DRAINAGE DISCHARGE STRUCT NO. 29

ELECTRICAL LAYOUT

DESIGNED HO

DRAWN SED/FC/TM

CHECKED N.B.

SCALE AS SHOWN

DWG. NO. 4795-17-42

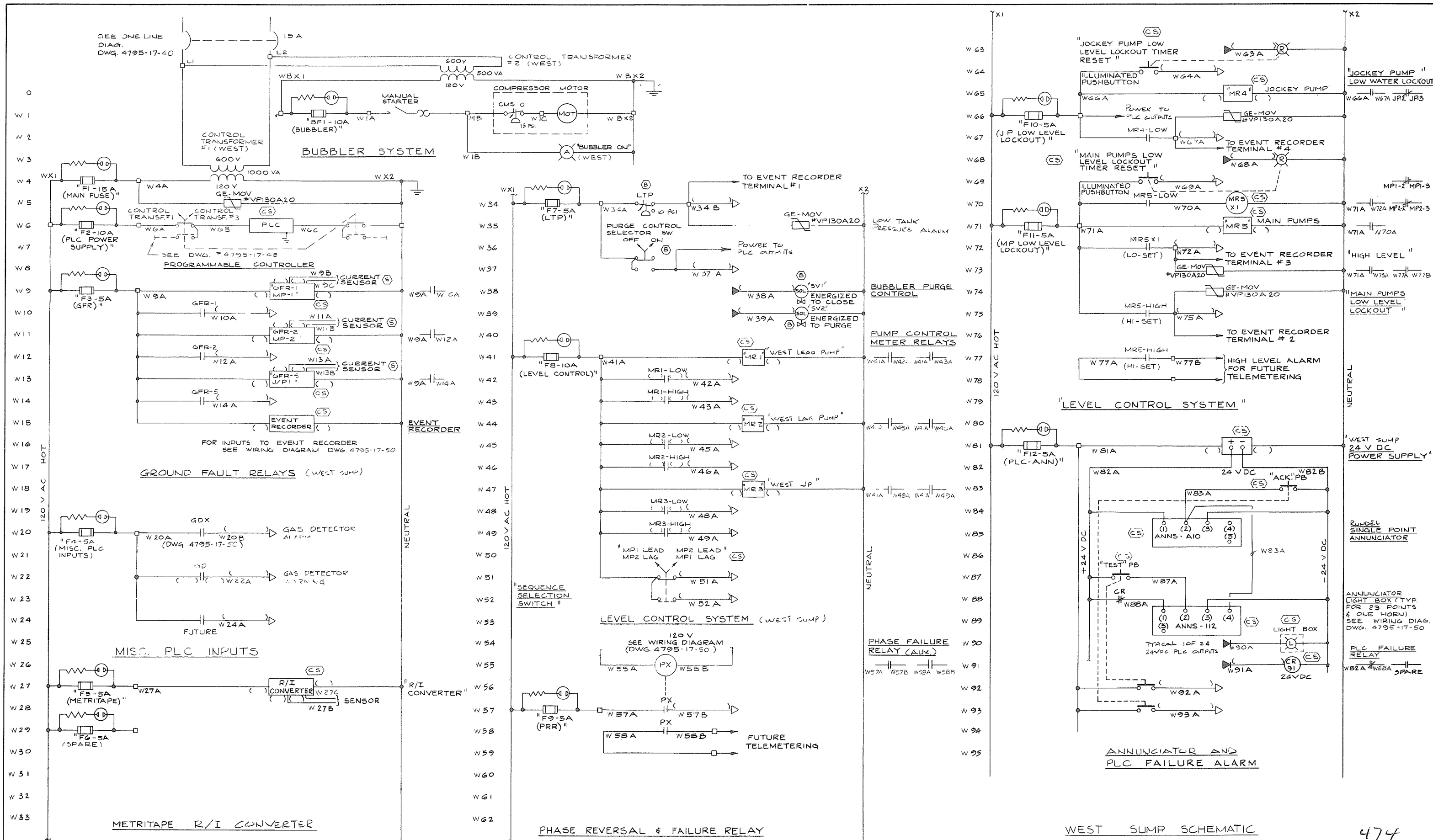
SHEET 2 OF 2 SHEETS

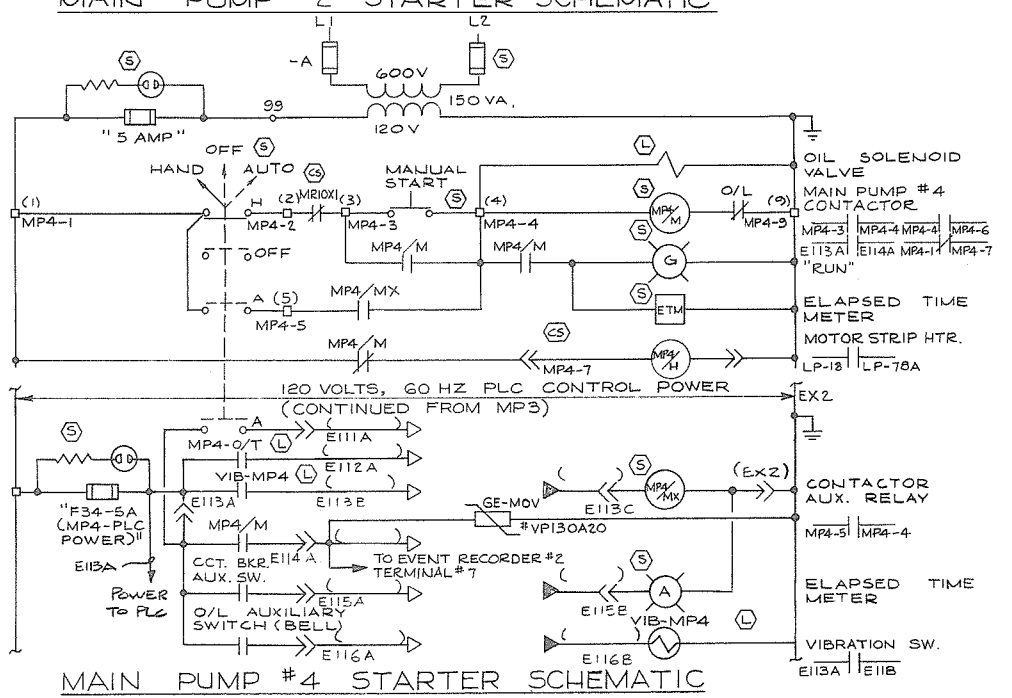
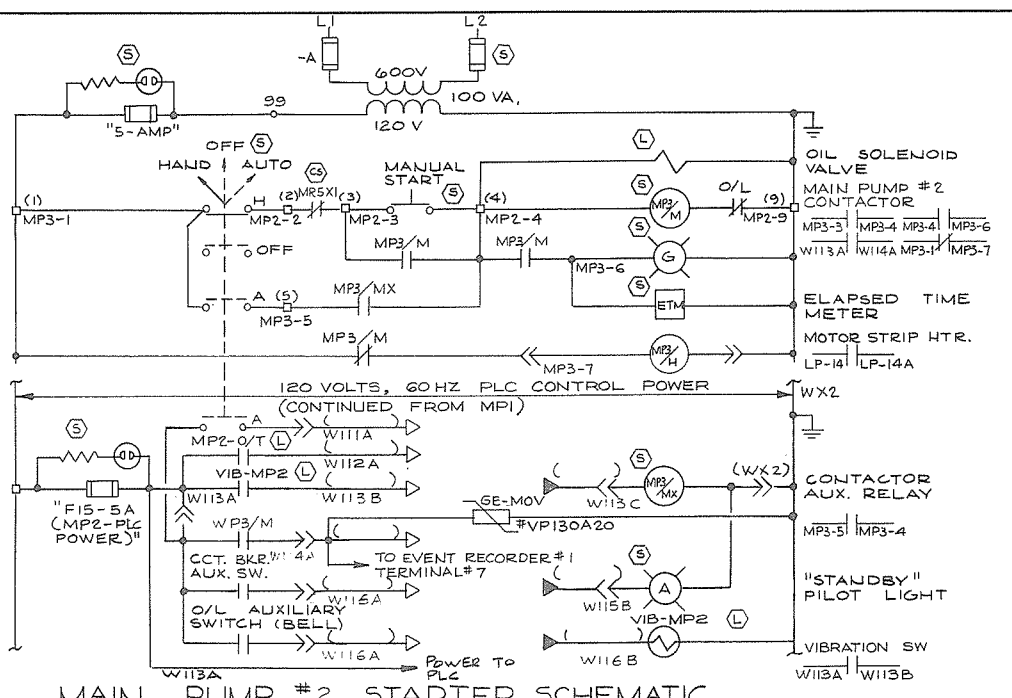
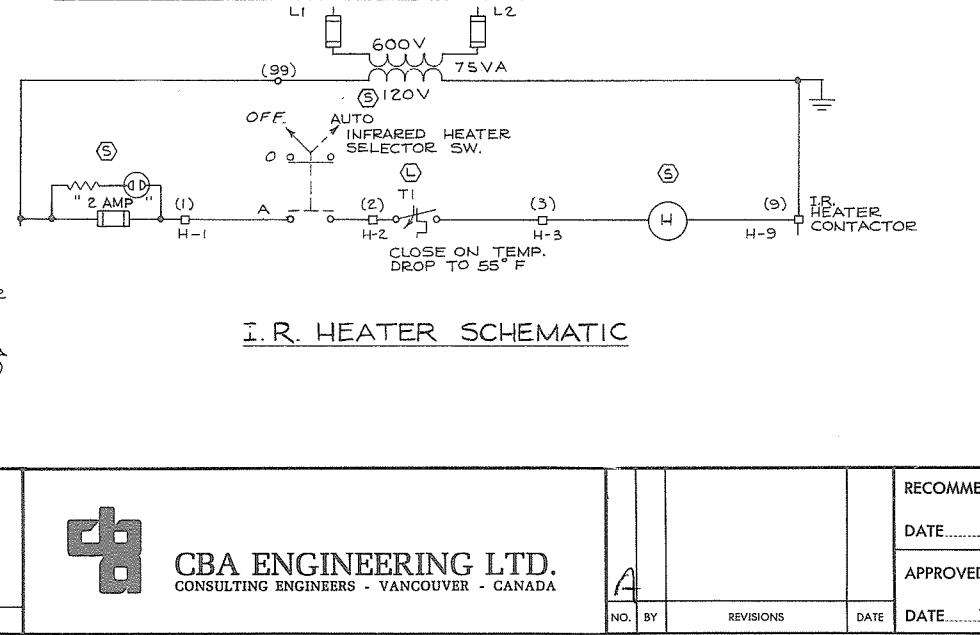
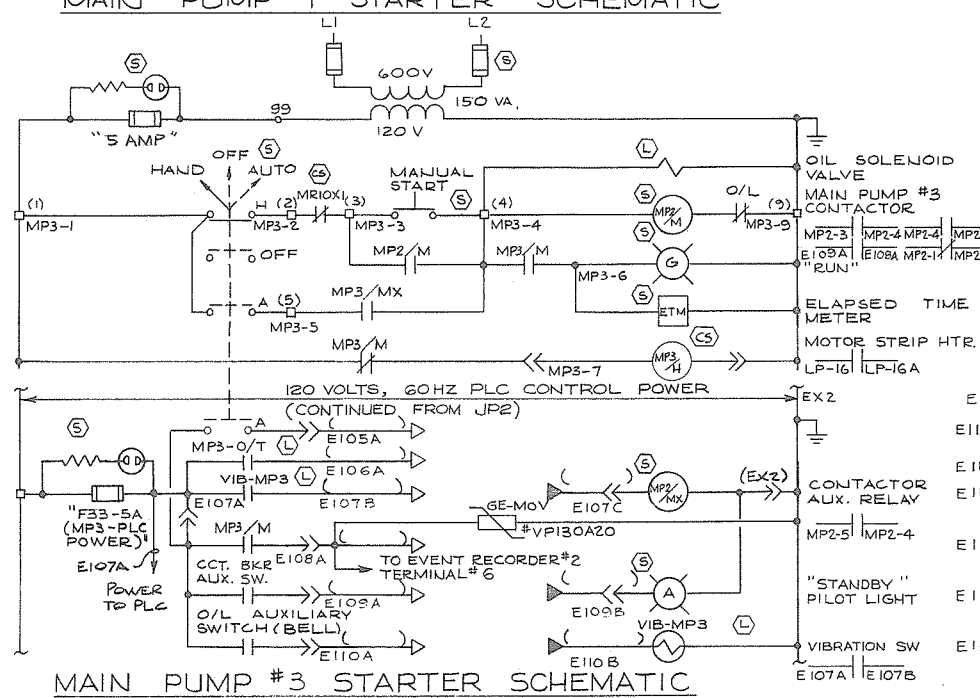
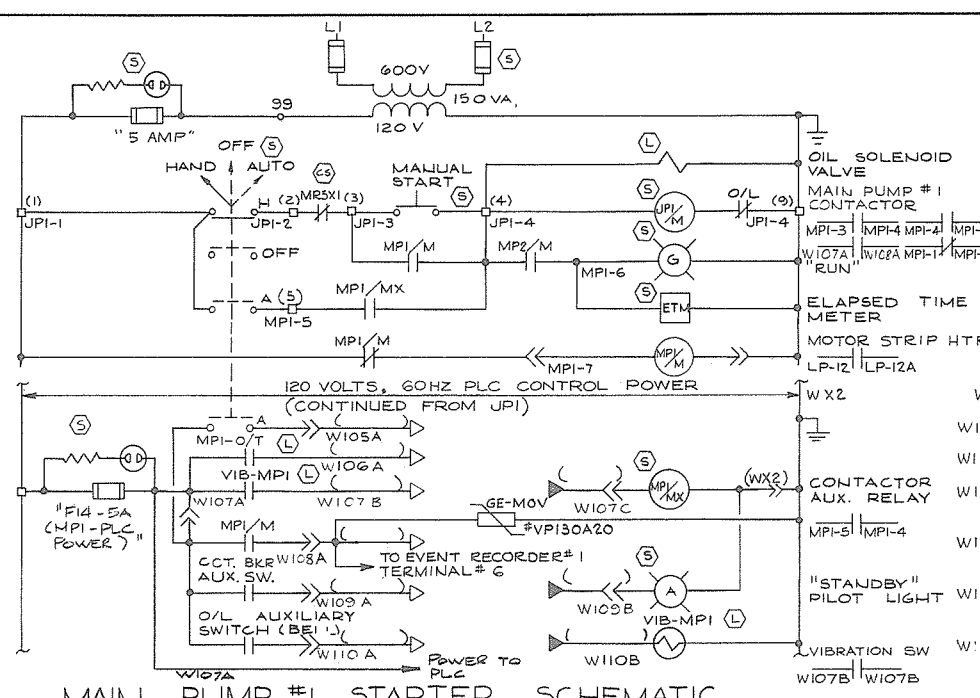
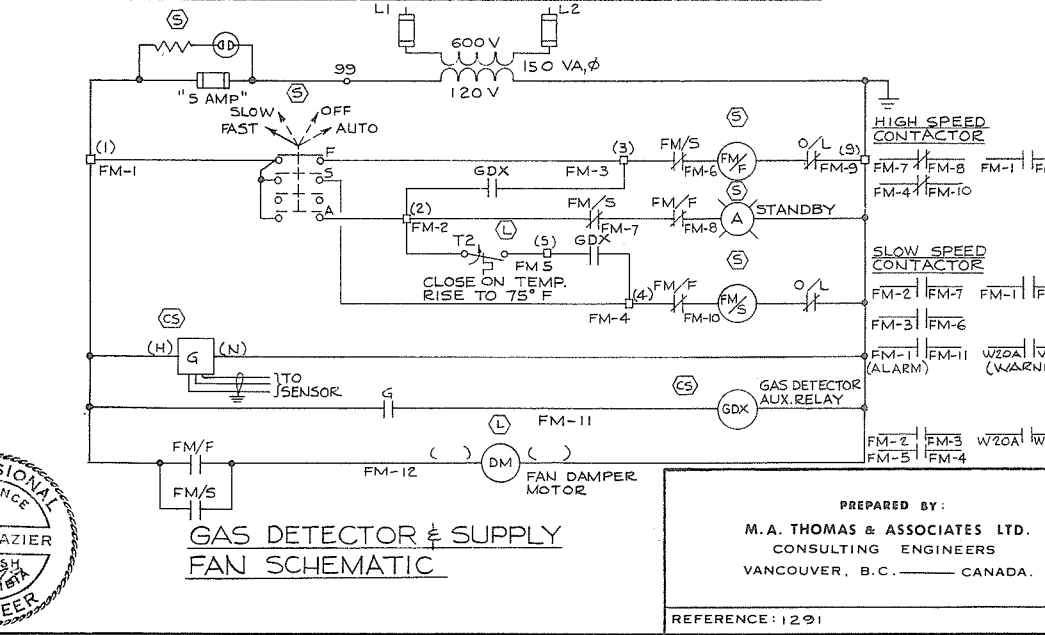
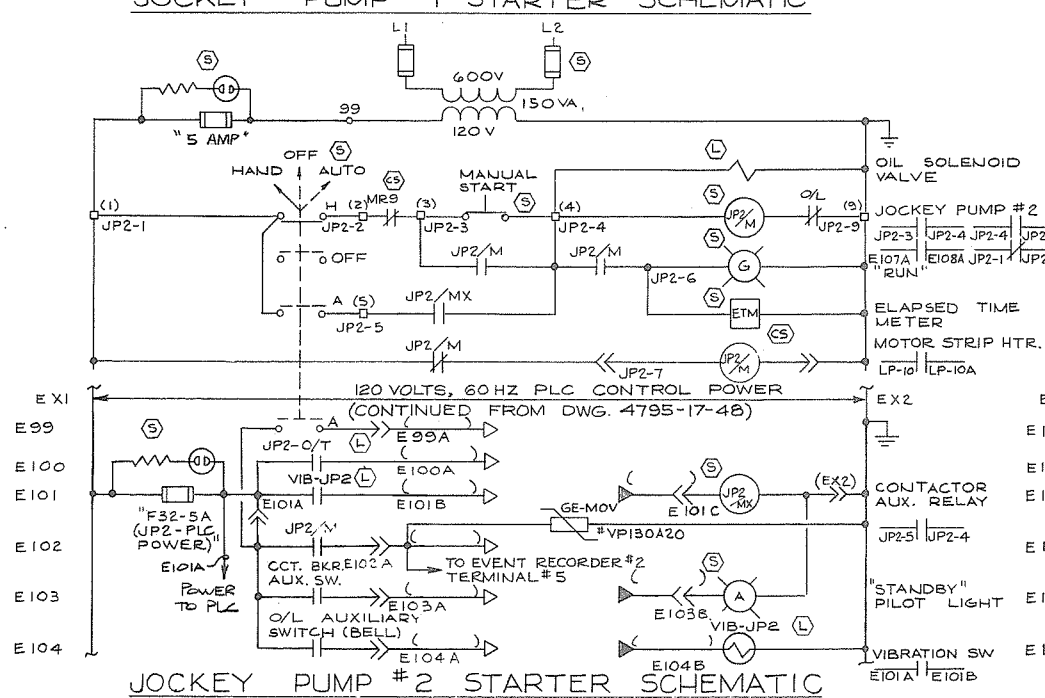
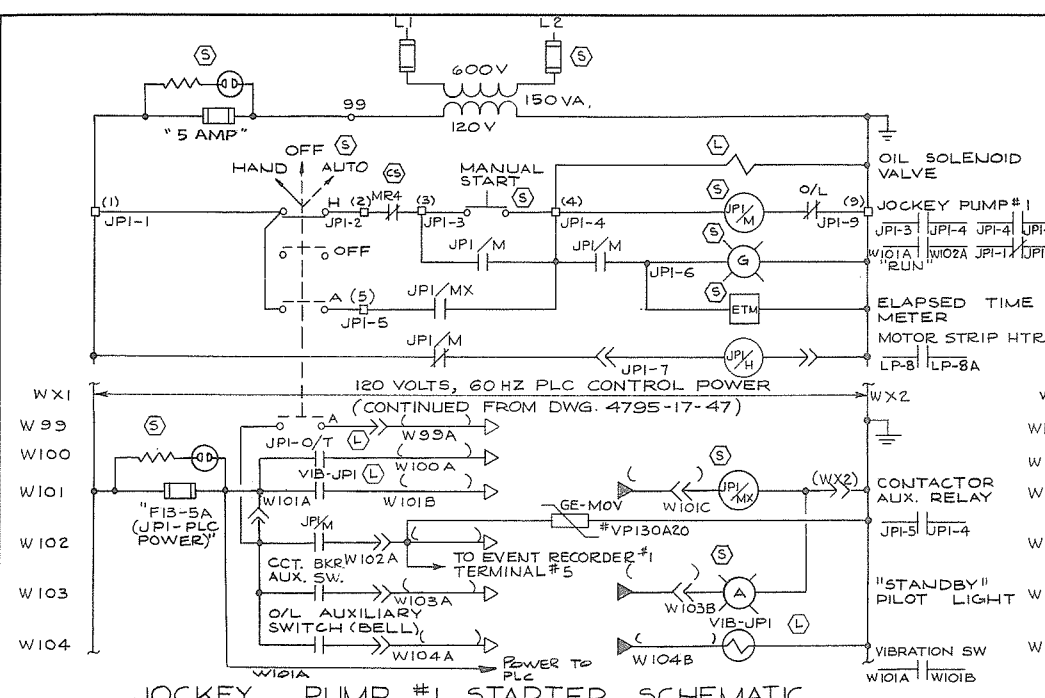
SURVEYED

DATE

FILE NO. 0281550-C10-17

DATE Feb 1978





LEGEND

- (S) MOUNTED IN MCC STARTER CUBICLE
- (I) MOUNTED IN MCC INSTRUMENT SECTION
- (CS) MOUNTED IN MCC CONTROL SECTION
- (B) MOUNTED IN MCC BUBBLER SECTION
- (L) LOCALLY (FIELD) MOUNTED
- (MS) LOCATED IN MCC METERING & SERVICE SECTIONS
- (P) PLUG-IN TYPE TERMINAL BLOCK (MCC STARTER)
- (P) PLC INPUT (115VAC)
- (P) PLC OUTPUT (115VAC)
- (P) PLC OUTPUT (24VDC)
- (S) SURGE ARRESTER
- (ETM) ELAPSED TIME METER
- (MR) METER RELAY
- (GFR) GROUND FAULT RELAY
- (J/P) JOCKEY PUMP
- (MPI) MAIN PUMP #1, ETC.,
- (O/T) TEMP. SENSOR (ROD & TUBE SWITCH) IN MOTOR
- (O/L) THERMAL OVERLOAD (3 POLE)
- (P) PLUG-IN TYPE TERMINAL BLOCK
- (S) SLOW BLOW CONTROL FUSE IN INDICATING HOLDER



PREPARED BY:
M.A. THOMAS & ASSOCIATES LTD.
CONSULTING ENGINEERS
VANCOUVER, B.C. CANADA.

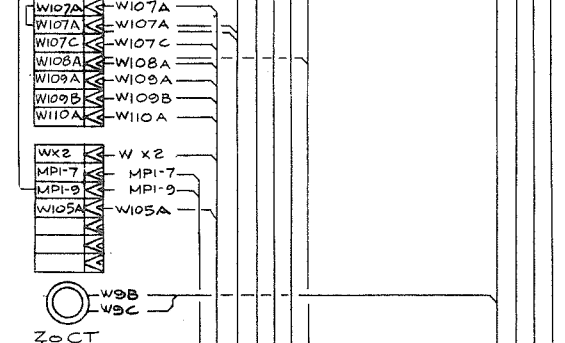
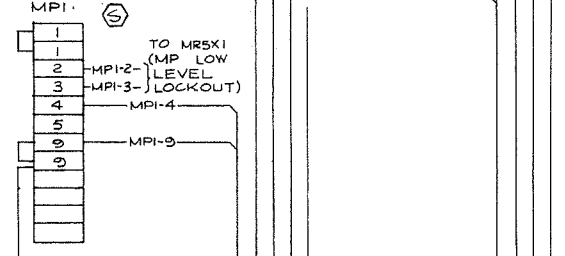
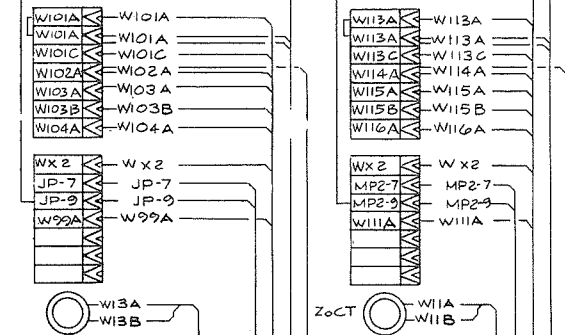
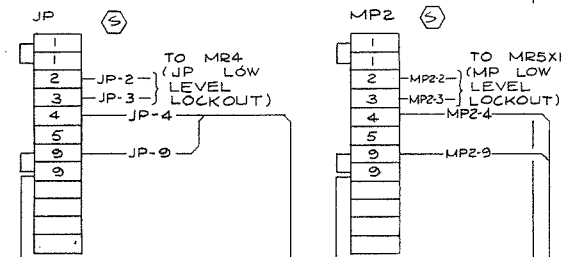
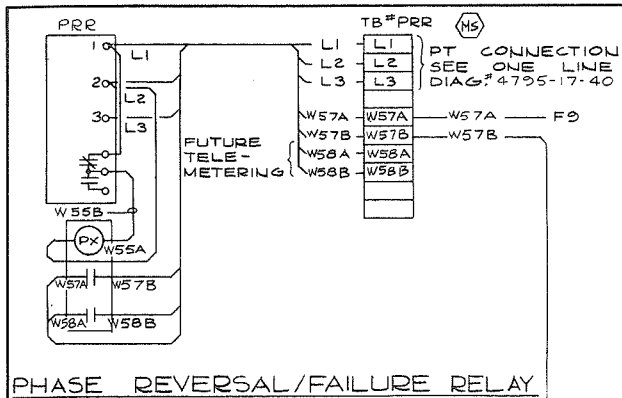
CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

NO. BY REVISIONS DATE

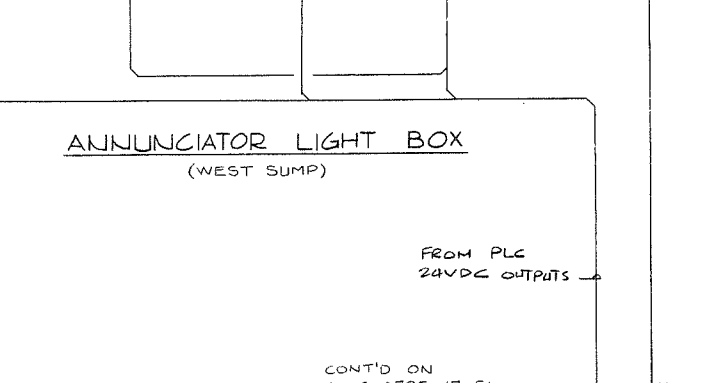
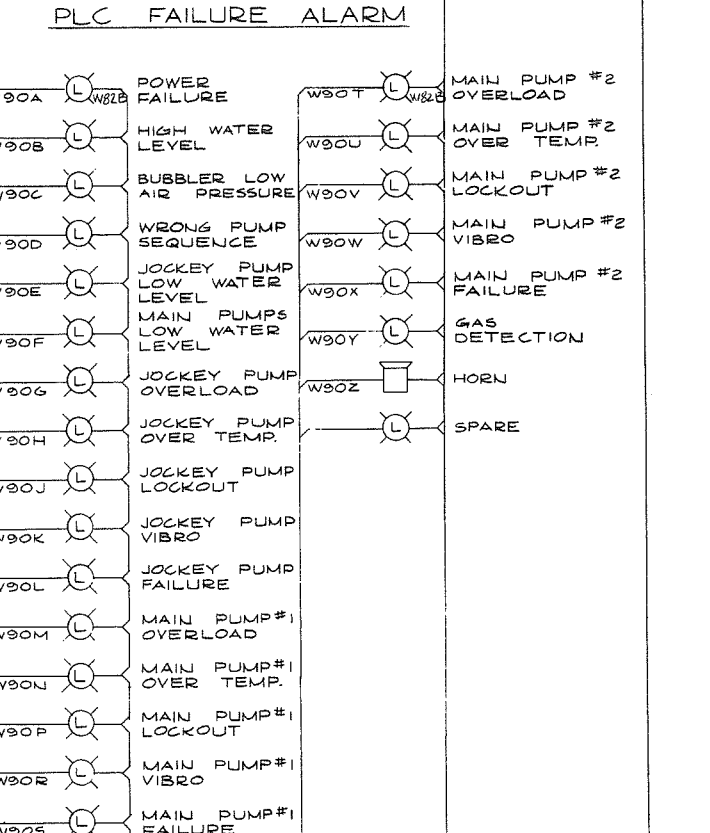
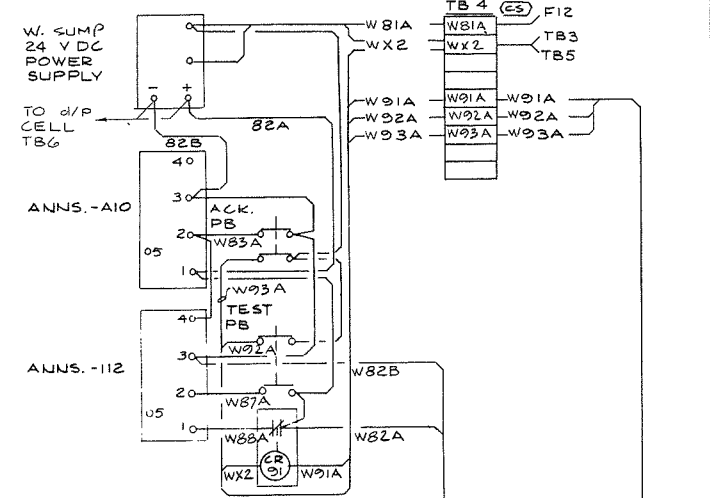
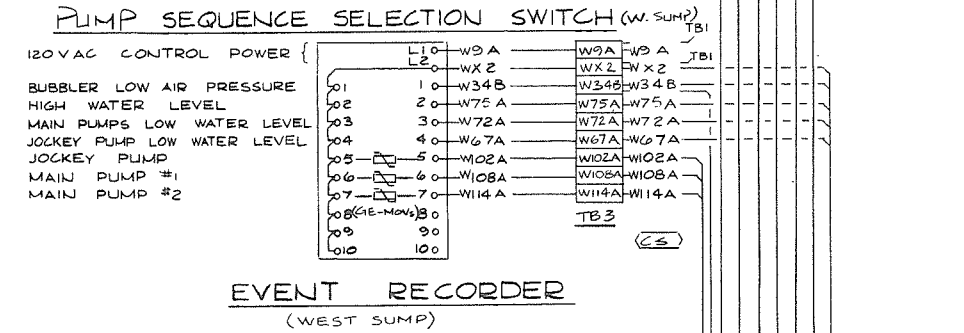
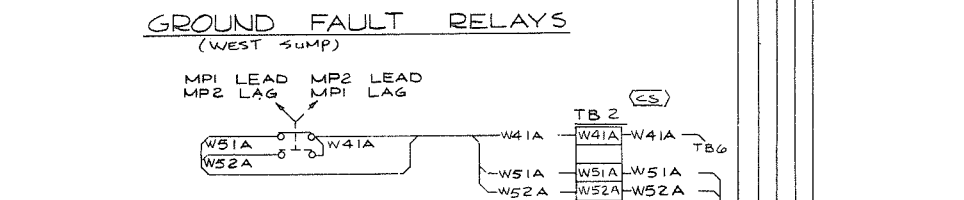
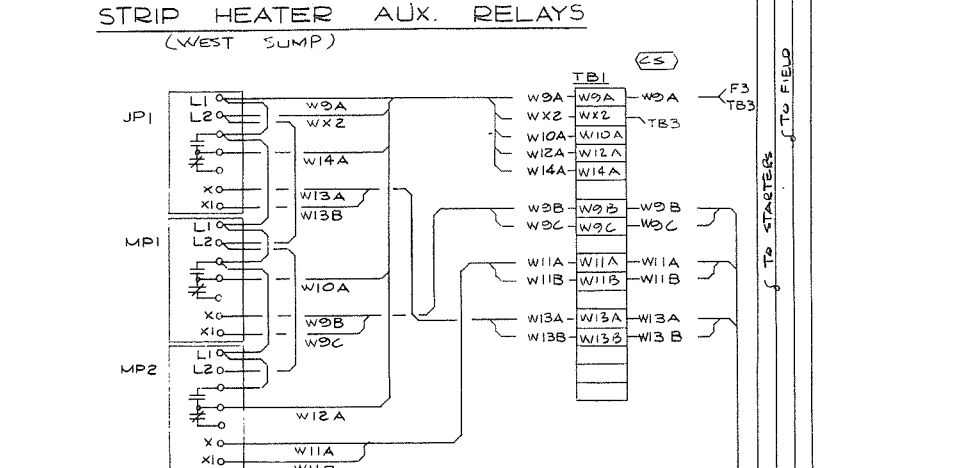
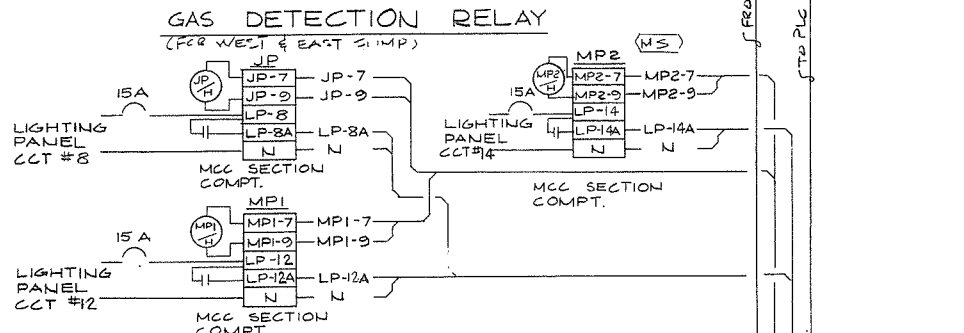
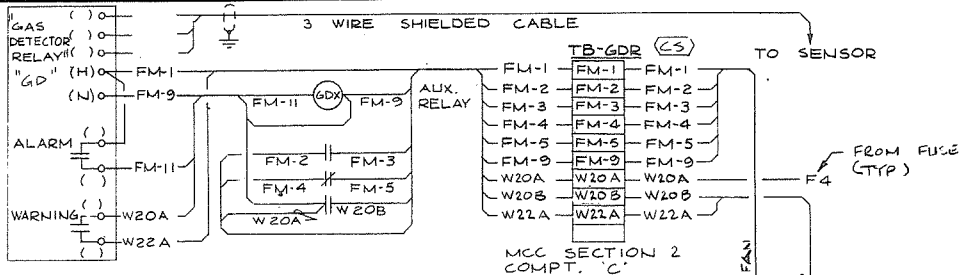
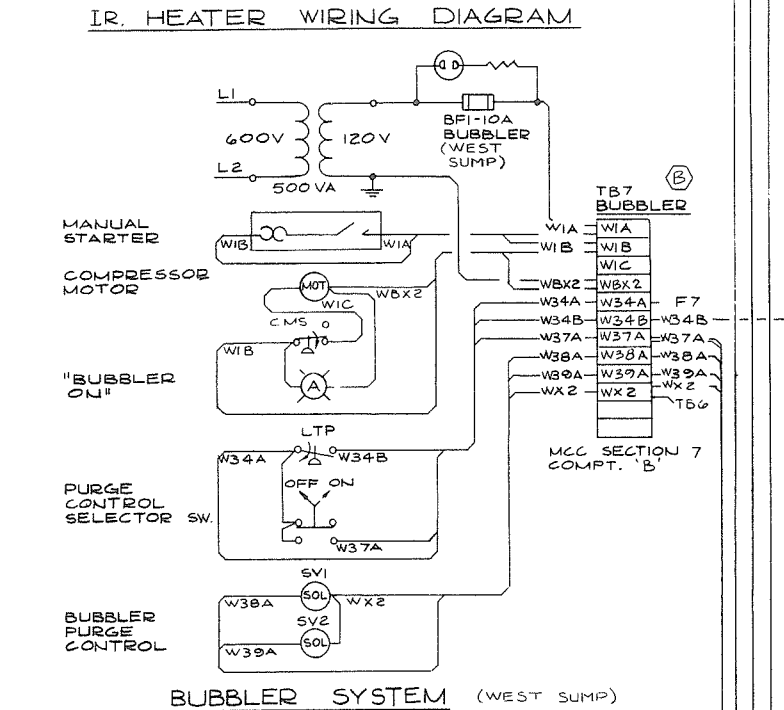
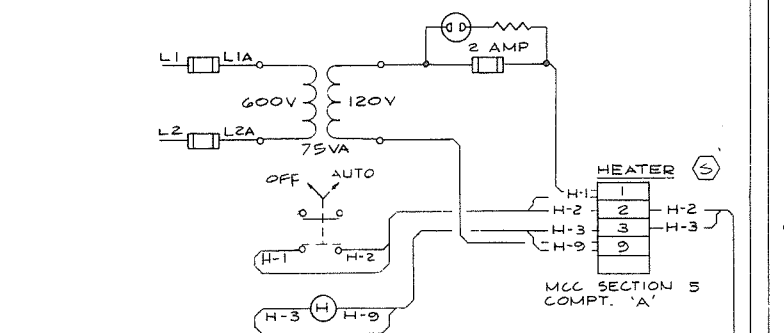
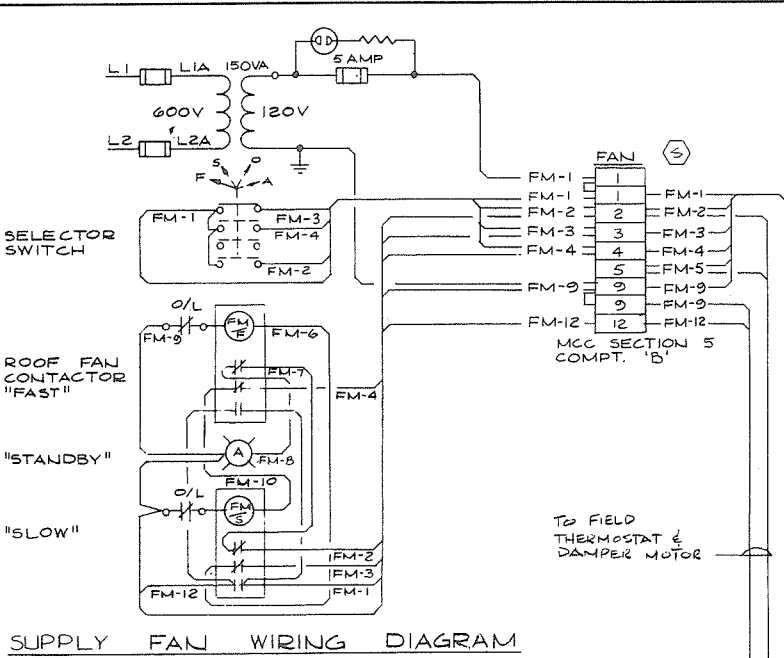
RECOMMENDED
DATE
APPROVED
DATE

BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA - BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1988 AGREEMENT
PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
WOODWARDS SLOUGH - DRAINAGE DISCHARGE STRUCT NO. 29
ELECTRICAL SCHEMATIC DIAGRAM - STARTERS

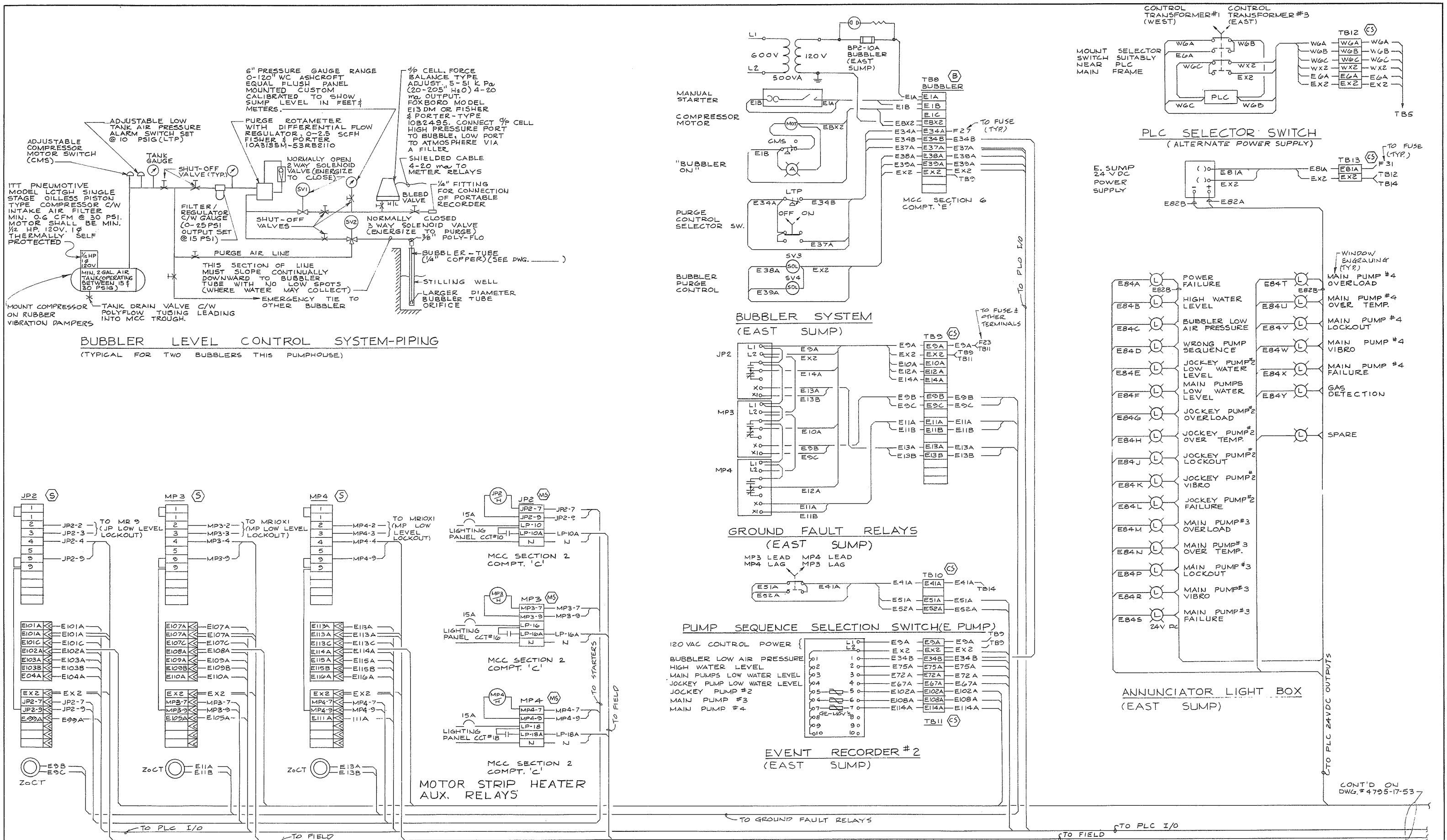
DESIGNED
DRAWN
CHECKED
SCALE
DWG. NO.
SHEET 3 OF 3 SHEETS



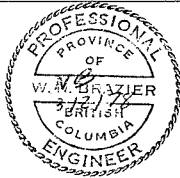
JOCKEY & MAIN PUMPS (W. SUMP)
(FOR TYPICAL STARTER WIRING SEE DWG. 4795-17-106)



PREPARED BY: M.A. THOMAS & ASSOCIATES LTD. CONSULTING ENGINEERS VANCOUVER, B.C. — CANADA.	CBA ENGINEERING LTD. CONSULTING ENGINEERS - VANCOUVER - CANADA	RECOMMENDED: CHIEF, PROJECTS DIV. DATE: _____ APPROVED: CHIEF ENGINEER DATE: _____	BRITISH COLUMBIA MINISTRY OF THE ENVIRONMENT WATER INVESTIGATIONS BRANCH CANADA — BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17 WOODWARDS SLOUGH - DRAINAGE DISCHARGE STRUCT. NO. 29 ELECTRICAL WIRING DIAGRAM	DESIGNED: HO DRAWN: SEO CHECKED: NB SCALE: NONE DWG. NO. 4795-17-50A	SURVEYED: 477 DATE: _____ FILE NO. 0281550-C10-17 DATE: Feb 1978 SHEET 1 OF 4 SHEETS
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EAST SUMP JOCKEY & MAIN PUMPS
(FOR STARTER WIRING SEE DWG. #4795-17-106)



CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

A

NO. BY REVISIONS DATE

RECOMMENDED *B. N. Camm*
PROJECT MANAGER
DATE *Feb 13, 1978*
APPROVED *W. A. Frazier*
DIRECTOR
DATE *Feb 13, 1978*

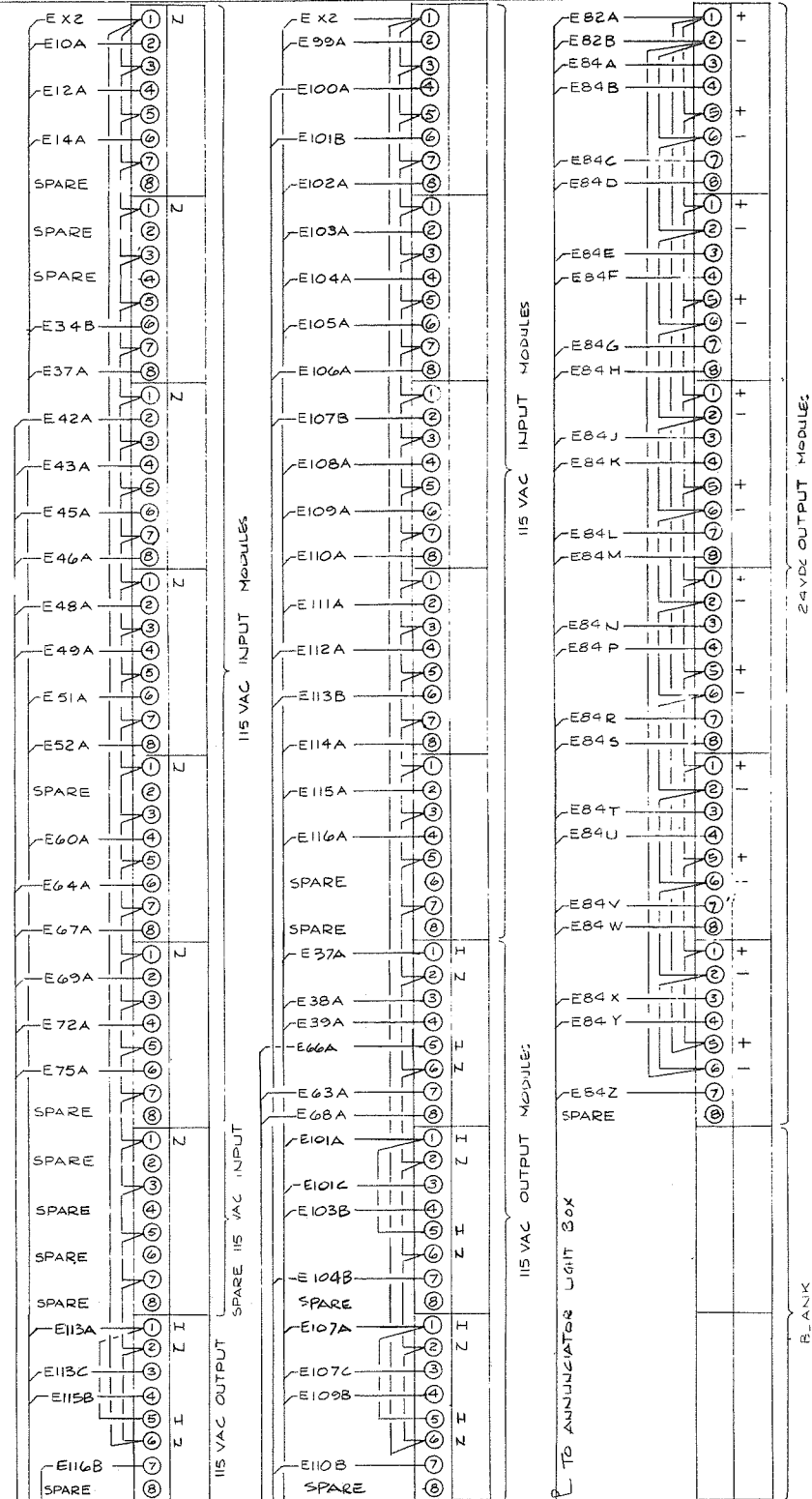
BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA - BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT
PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
WOODWARDS SLOUGH - DRAINAGE DISCHARGE STRUCT NO. 29
ELECTRICAL WIRING DIAGRAM

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

4795-17-52 A

CONT'D FROM
DWG. # 4795-17-52

(PLC BUS DUCT)
EAST SUMP I/O



TO LEVEL CONTROL
INSTRUMENTS

TO FIELD

24VDC OUTPUT MODULE

BLANK

TO ANNUNCIATOR LIGHT BOX

FROM LIGHT BOX

FROM STARTERS & CONTROLS

CONT'D FROM DWG #4795-17-52

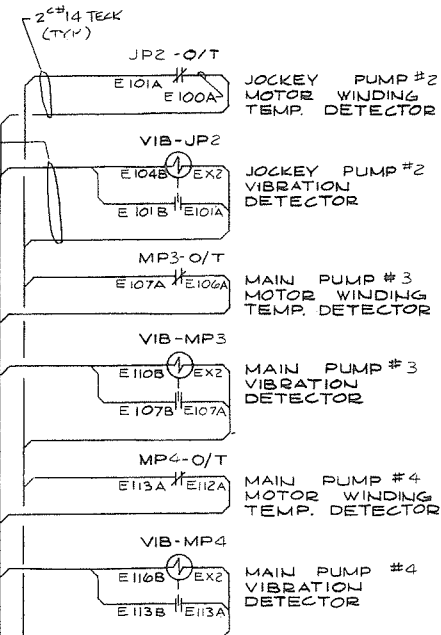
3/2/79
N.B.

PREPARED BY:
M.A. THOMAS & ASSOCIATES LTD.
CONSULTING ENGINEERS
VANCOUVER, B.C. CANADA.

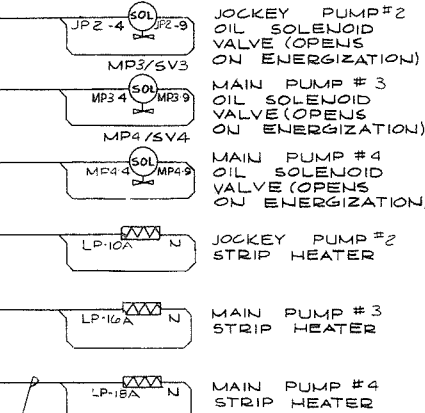


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CONSULTING ENGINEERS - VANCOUVER - CANADA

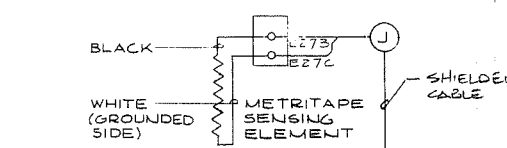
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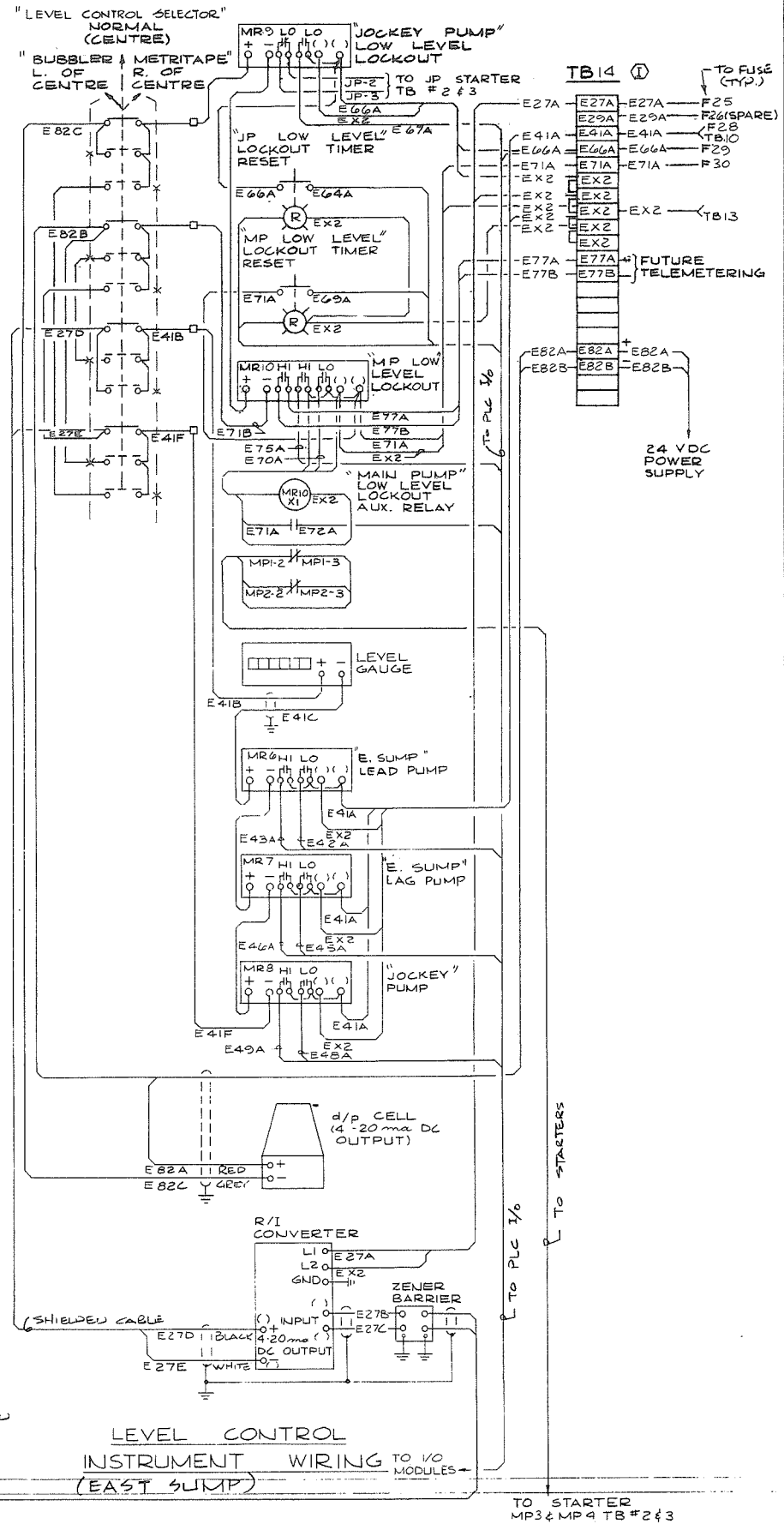
PLC & MCC FIELD WIRING
(EAST SUMP)



MCC FIELD WIRING
(EAST SUMP)



METRITAPE FIELD WIRING
(EAST SUMP)



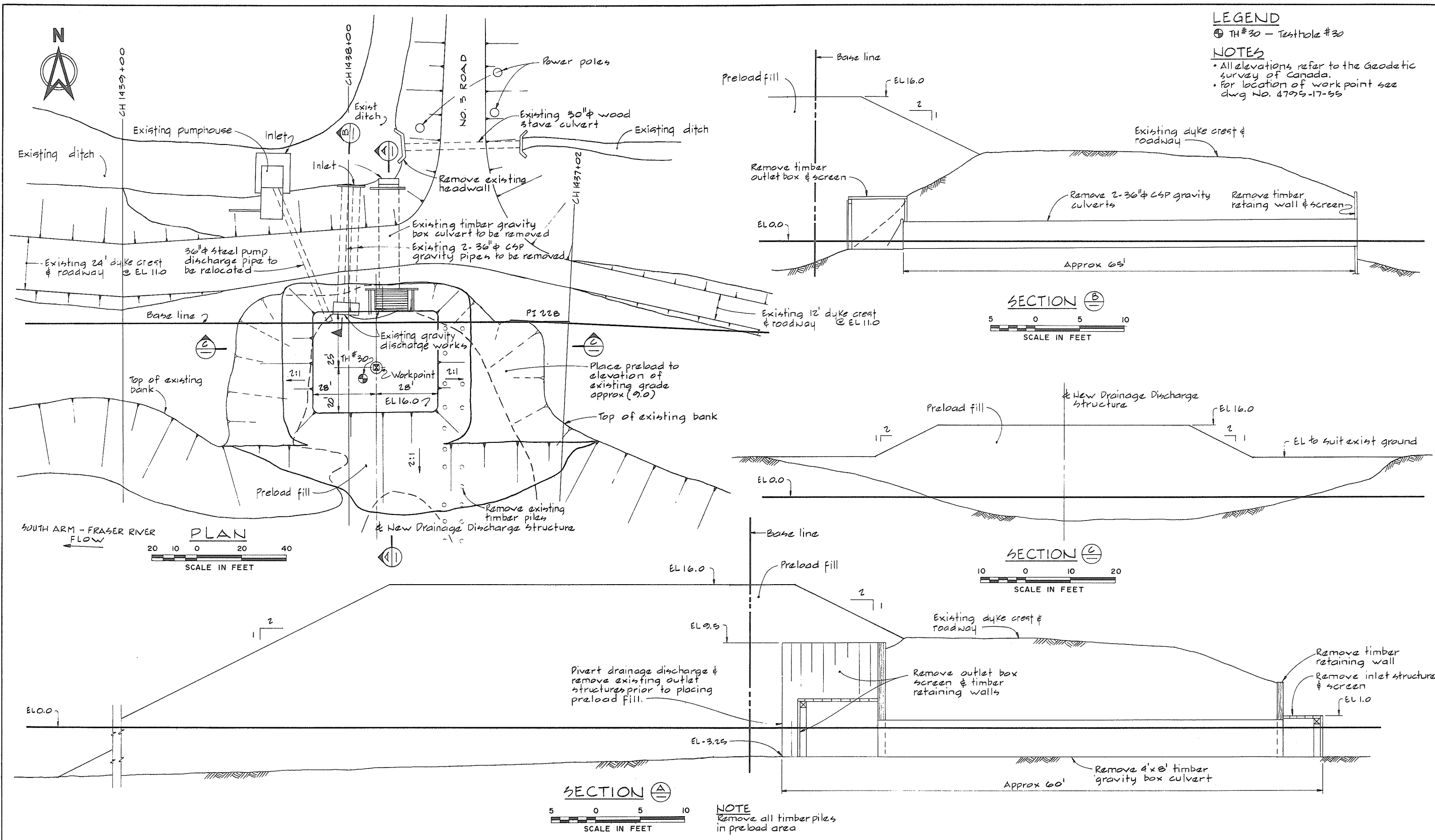
LEVEL CONTROL
INSTRUMENT WIRING
(EAST SUMP)

266 480

RECOMMENDED
DATE
APPROVED
DATE

BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA - BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1988 AGREEMENT
PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
WOODWARDS SLOUGH - DRAINAGE DISCHARGE STRUCT NO. 29
ELECTRICAL WIRING DIAGRAM

DESIGNED
DRAWN
CHECKED
SCALE
DWG. NO.
SHEET 4 OF 4 SHEETS



LEGEND
 ⊕ TH #30 - Testhole #30

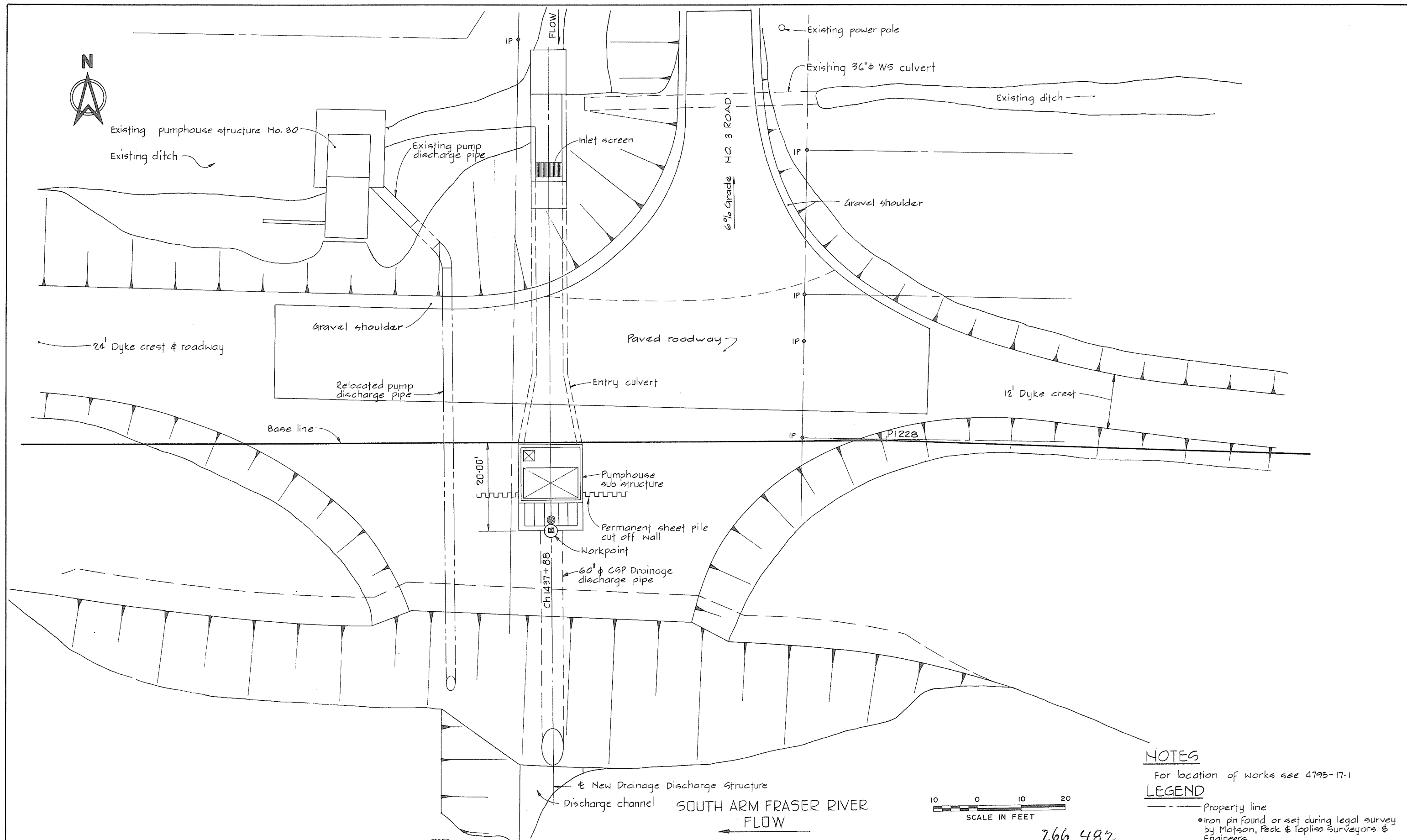
NOTES
 • All elevations refer to the Geodetic survey of Canada.
 • For location of work point see dwg No. 4795-17-55

266 481



CBA ENGINEERING LTD.
 CONSULTING ENGINEERS - VANCOUVER - CANADA

NO.	BY	REVISIONS	DATE	RECOMMENDED	BRITISH COLUMBIA MINISTRY OF THE ENVIRONMENT WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1988 AGREEMENT	DESIGNED	SURVEYED
				DATE	PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17 NO. 3 ROAD SOUTH - DRAINAGE DISCHARGE STRUCT. NO. 30 PLAN SHOWING EXISTING DRAINAGE STRUCTURES TO BE REMOVED, PRELOAD FILL AND UTILITIES	DRAWN	DATE
				APPROVED		CHECKED	FILE NO.
				DATE		SCALE	DATE



NOTES

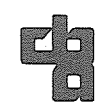
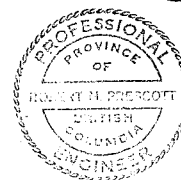
For location of works see 4795-17-1

LEGEND

- Property line
- Iron pin found or set during legal survey by Matson, Peck & Topliss Surveyors & Engineers



266 482



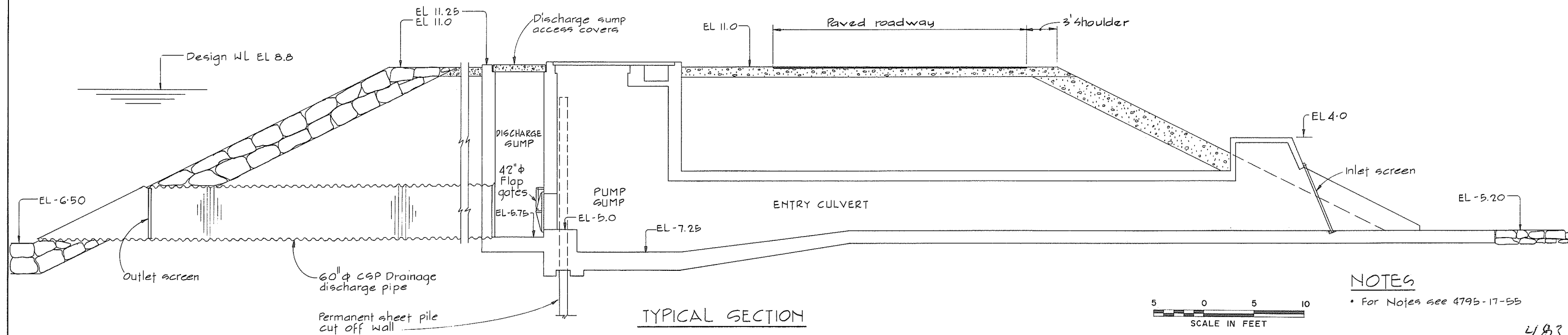
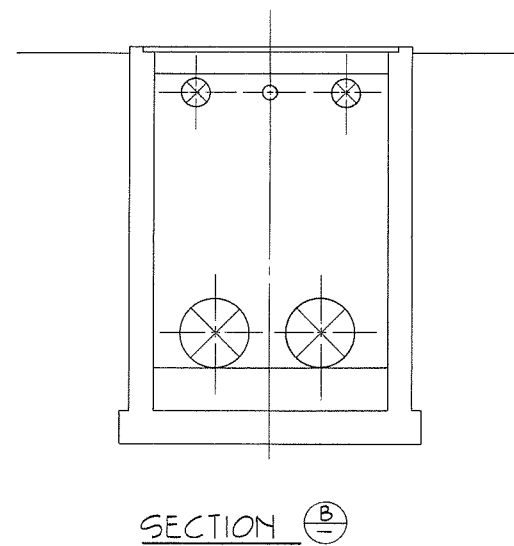
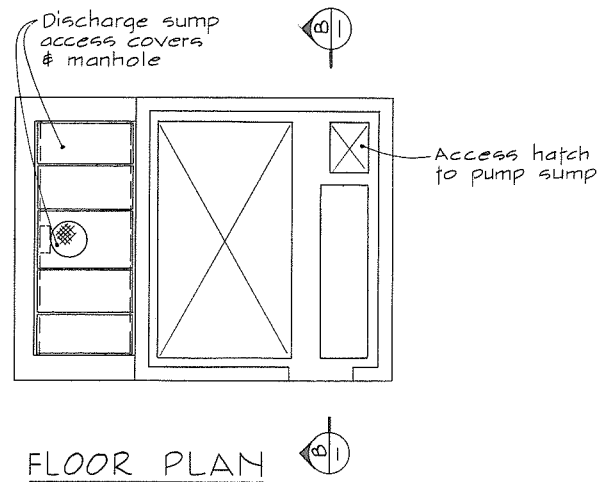
CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

NO.	BY	REVISIONS	DATE
A			

RECOMMENDED	<i>B. R. Cameron</i>
DATE	Feb. 13, 1978
APPROVED	<i>W. H. Fuller</i>
DATE	Feb 13/78

BRITISH COLUMBIA MINISTRY OF THE ENVIRONMENT WATER INVESTIGATIONS BRANCH CANADA-BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT
PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17 NO. 3 RD SOUTH - DRAINAGE DISCHARGE STRUCT NO. 30 GENERAL ARRANGEMENT PLAN, POWER SUPPLY AND PROPERTY REQUIREMENTS

DESIGNED	DLC	SURVEYED	
DRAWN	GP	DATE	
CHECKED	DLC	FILE NO.	0281550-C10-17
SCALE	AS SHOWN	DATE	Feb 1978
DWG. NO.	4795-17-55	SHEET	OF SHEETS

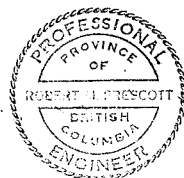


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SCALE IN FEET

NOTES

• For Notes see 4795-17-55

483



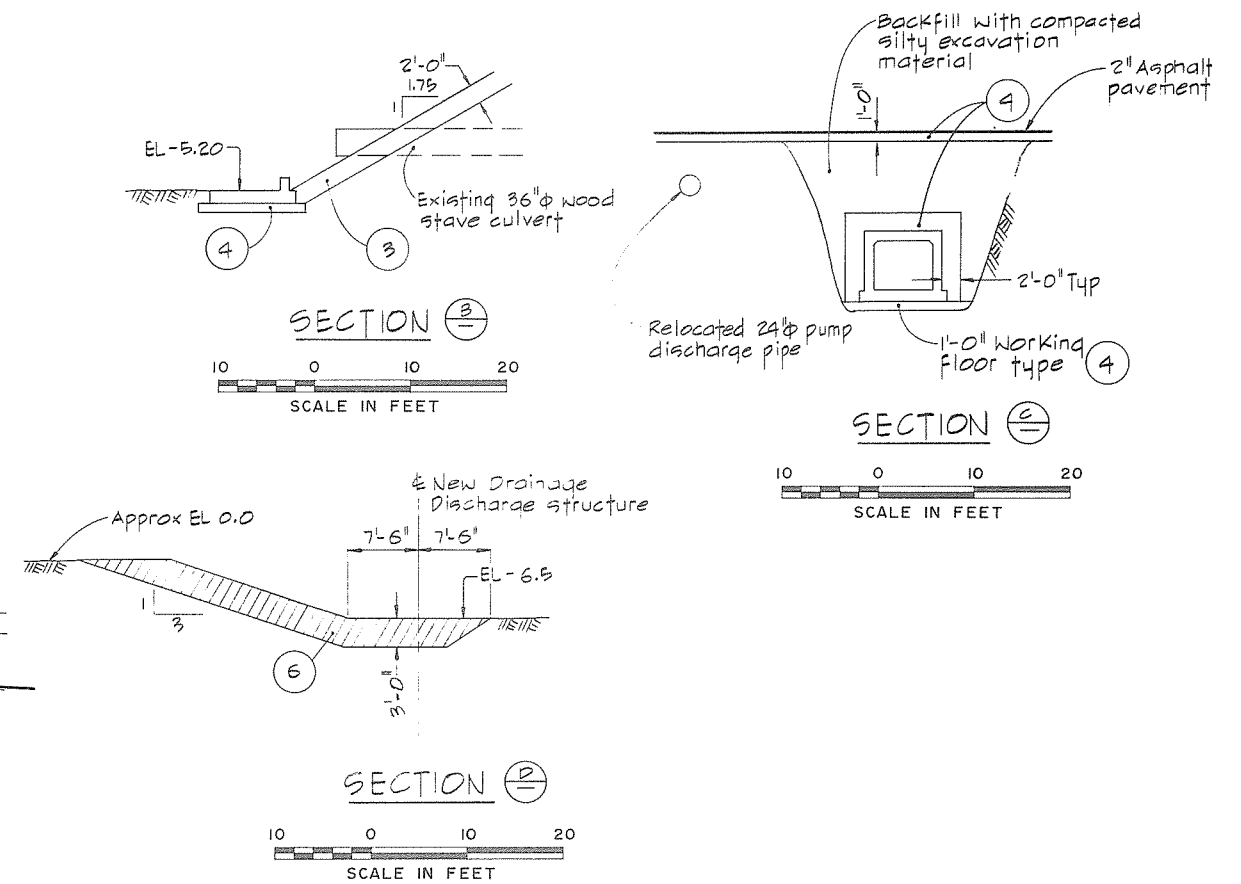
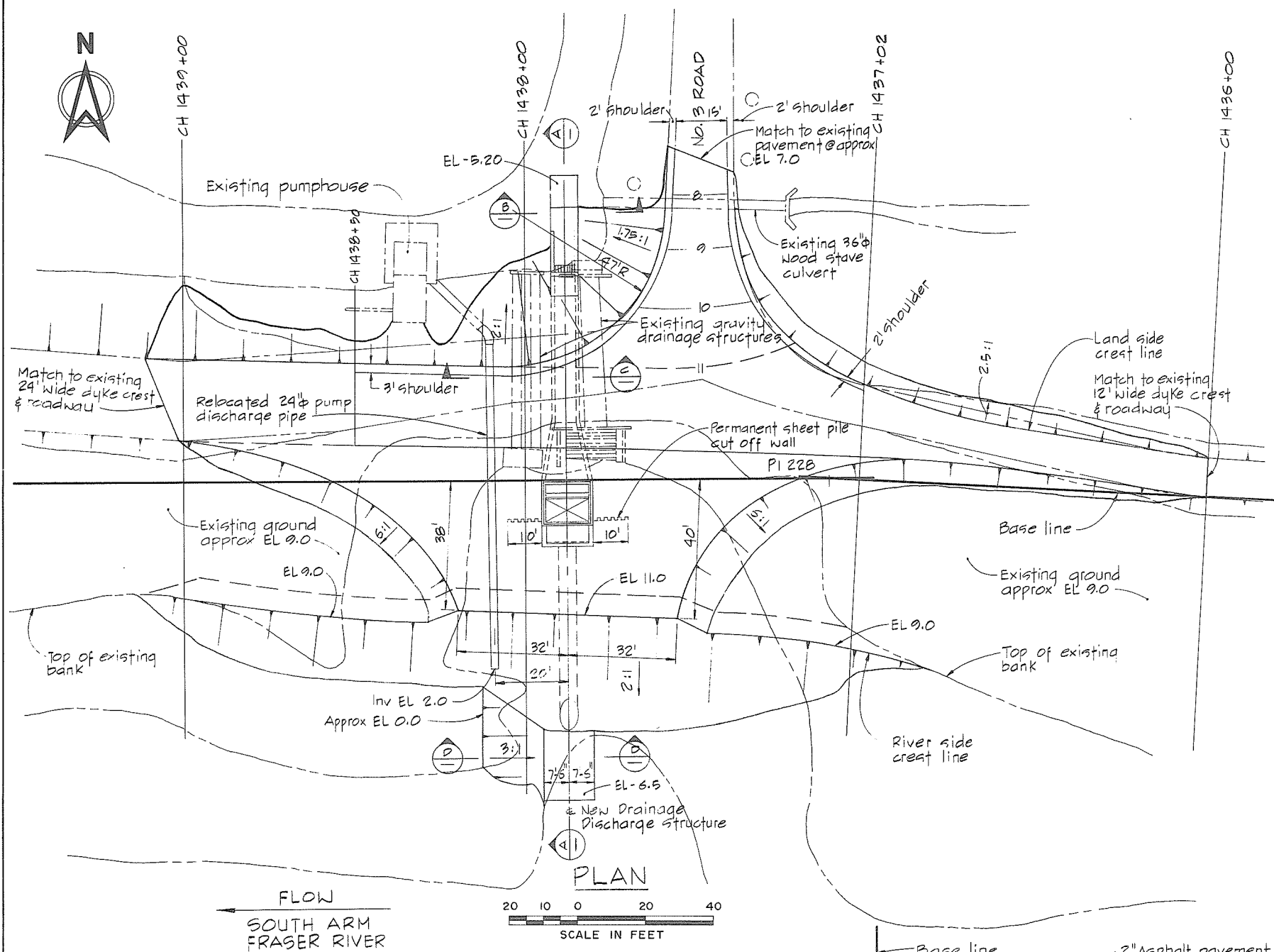
CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

NO. BY REVISIONS DATE

RECOMMENDED *R. N. Camm*
PROJECT MANAGER
DATE *Feb. 13, 1978*
APPROVED *John Fuller*
for DIRECTOR
DATE *Feb 13/78*

BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA - BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT
PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
NO. 3 RD SOUTH - DRAINAGE DISCHARGE STRUCT NO. 30
GENERAL ARRANGEMENT SECTIONS

DESIGNED <i>PLC</i>	SURVEYED
DRAWN <i>GP</i>	DATE
CHECKED <i>PLC</i>	FILE NO. <i>0281550-C10-17</i>
SCALE <i>AS SHOWN</i>	DATE <i>Feb 1978</i>
DWG. NO. <i>4795-17-56</i>	SHEET <i>483</i> OF <i>483</i> SHEETS



OFFSET DIMENSIONS FROM BASE LINE		
Chainage	Land side crest (feet)	River side crest (feet)
1436 + 00	12	0
1436 + 50	17	5
1437 + 02	20	4
1437 + 50	—	25
1438 + 00	34	39
1438 + 50	35	4
1439 + 00	36	12

MATERIAL LEGEND

- ① silt - clay
- ② sand
- ③ sand, gravel, cobbles
- ④ crushed gravel
- ⑤ light rip-rap
- ⑥ rip-rap

LEGEND

- Existing ground surface (contour)
- Existing ground & structures (Plan)
- Section identification letter
- Drawing No. on which the section is drawn (ie) 4795-17-[18]
- Detail identification number
- Drawing No. on which the detail is drawn (ie) 4795-17-[18]

NOTES

- Elevations refer to the Geodetic Survey of Canada.
- A smooth alignment shall be maintained over the entire length of the dyke.
- Offset distances from base line to crest lines are taken at the design crest elevation.
- The angle of offset is 90° to base line unless otherwise indicated.
- Terminal parts of the work shall be constructed to blend with the existing ground.

484



CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

NO. BY

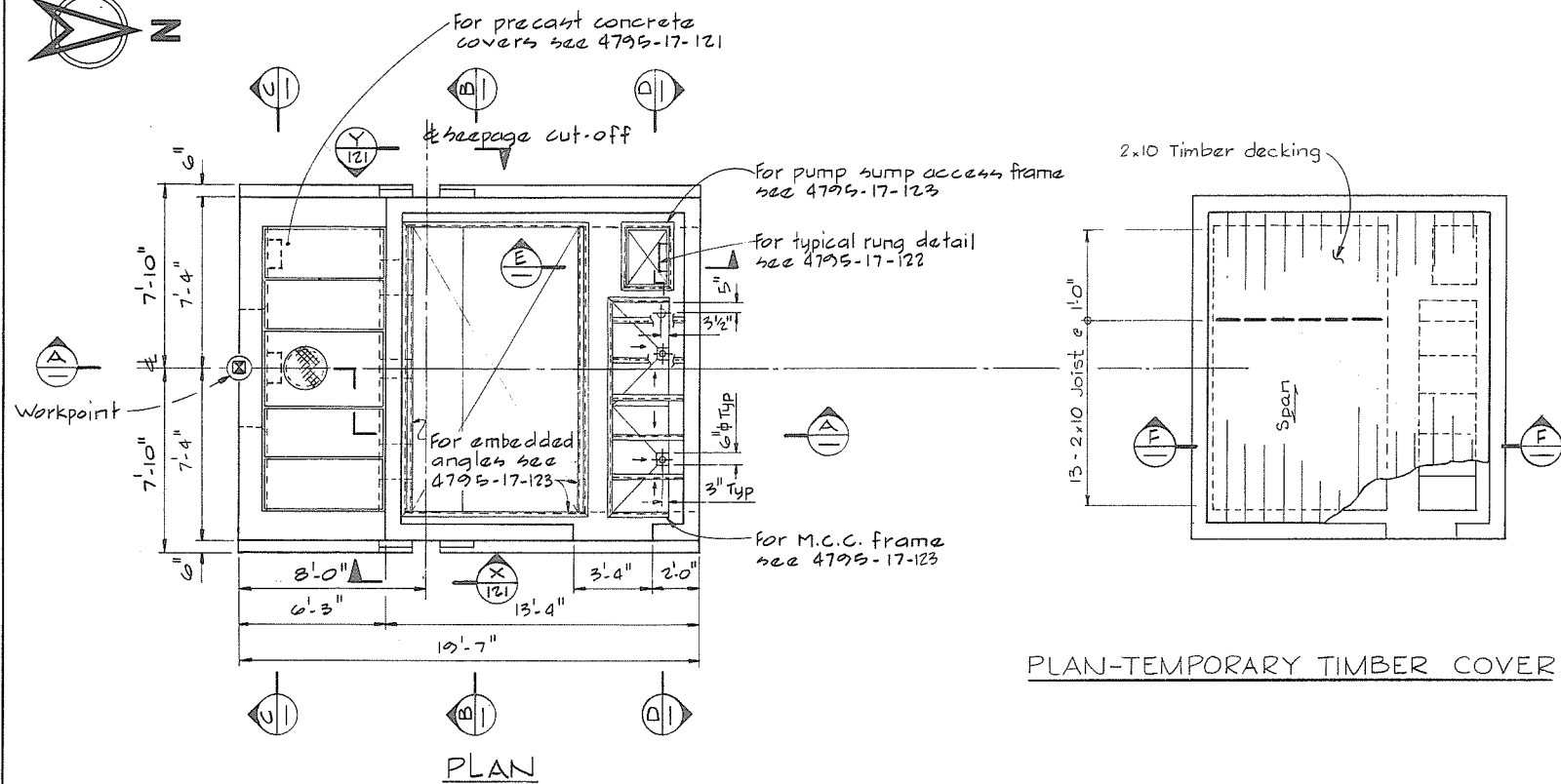
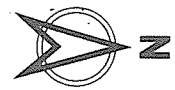
REVISIONS

DATE

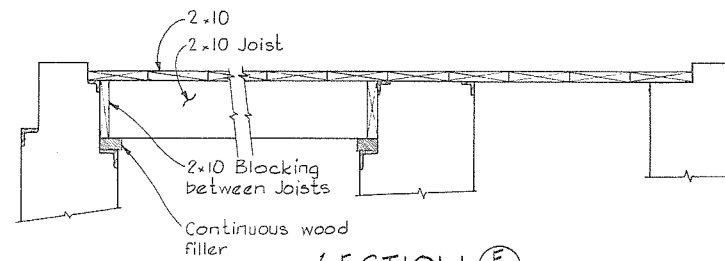
RECOMMENDED *P. D. Cameron*
PROJECT MANAGER
DATE *Feb 13, 1978*
APPROVED *[Signature]*
for DIRECTOR
DATE *Feb 13/78*

BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA - BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1988 AGREEMENT
PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
NO. 3 ROAD SOUTH - DRAINAGE DISCHARGE STRUCT. NO. 30
DETAILS OF EARTHWORKS

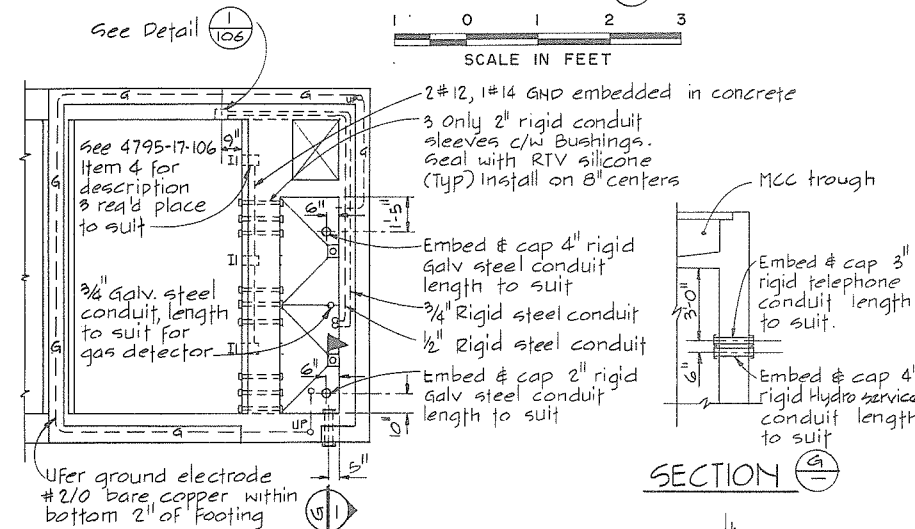
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DRAWN *Wn*
CHECKED *DLC*
SCALE *AS SHOWN*
DWG. NO. *4795-17-57A*
SURVEYED
DATE
FILE NO. *0281550-C10-17*
DATE *Feb 1978*
SHEET *1* OF *1* SHEETS



PLAN-TIMBER COVER



SECTION F



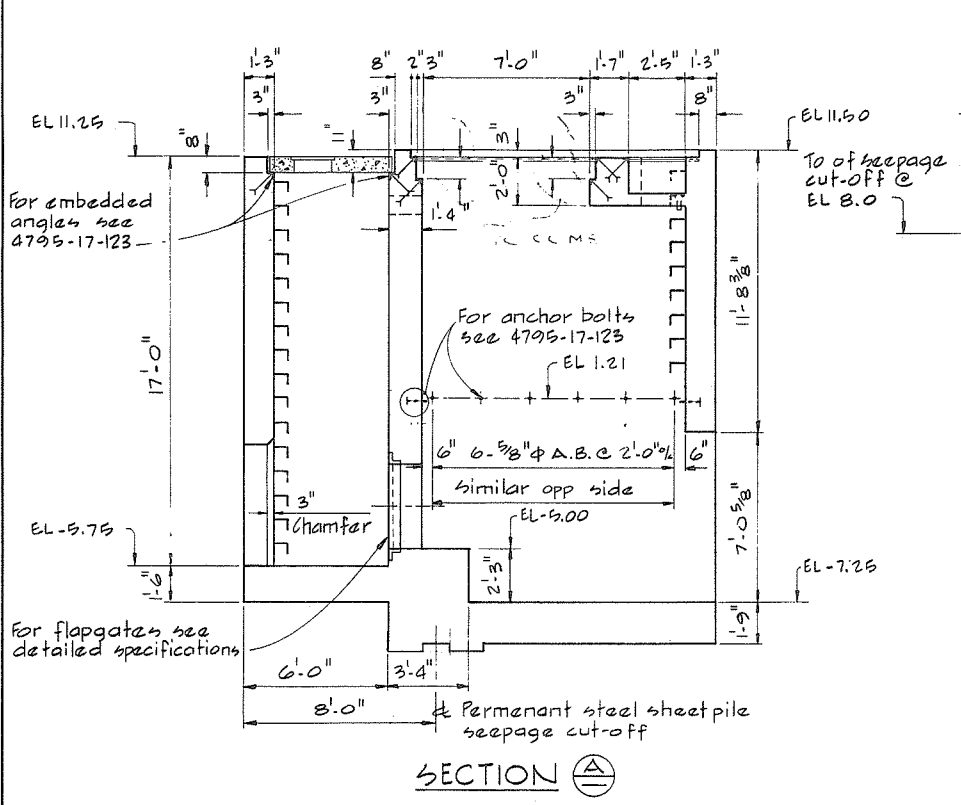
PLAN-CONDUIT LAYOUT

GENERAL NOTES-STRUCTURAL

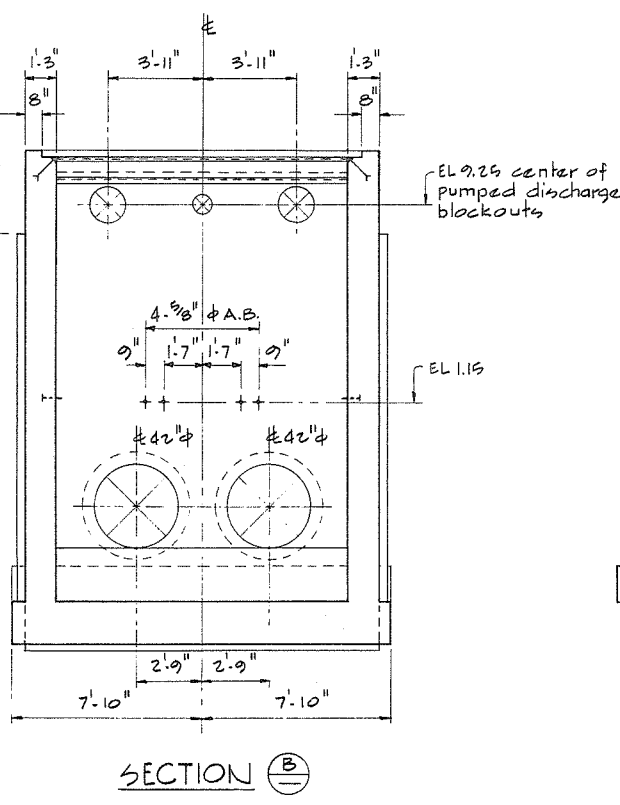
- Design is in accordance with CSA A23.3-1973. Code For the Design of Plain or Reinforced Concrete Structures.
- Construction shall be in accordance with CSA A23.1-1973. Specifications for Structural Concrete for Buildings.
- Specified strength of concrete f'_c 4000 psi.
- Reinforcing steel shall be deformed bars conforming to CSA G30.12-1972. Grade 40 or 60.
- Cover over reinforcing steel to be 2" to all faces, except 3" for the underside of the footings.
- Reinforcing to be of lengths indicated with construction joints as shown unless otherwise approved by the Engineer.
- CONCRETE FINISHES:-
 - Floors and base slabs - steel trowel
 - Exposed horizontal surfaces - broom
 - Interior, exterior exposed walls and beams - rubbed
 - See specs for details.
- CHAMFER - 3/4 x 3/4 for all exposed corners.

NOTES

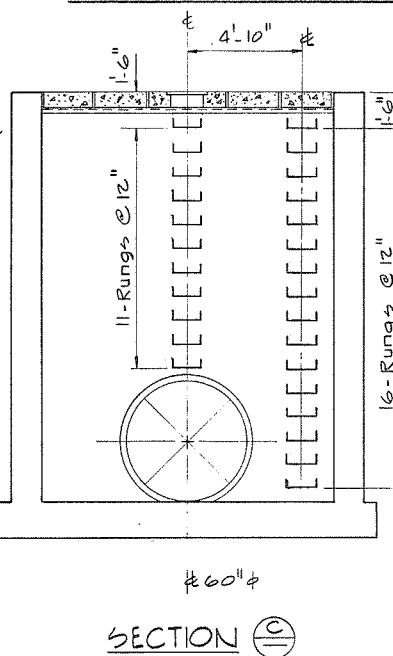
- Install ufer ground electrode, and leave both ends in MCC trough for future connection.
- Miscellaneous other embedded conduit feeds from the MCC wiring trough for conduits in the future hollow brick walls & roof shall be generally installed as shown on 4795-17-98 & 4795-17-99 the No.1 Road South Drainage Discharge Structure.
- For location of workpoint see 4795-17-55.



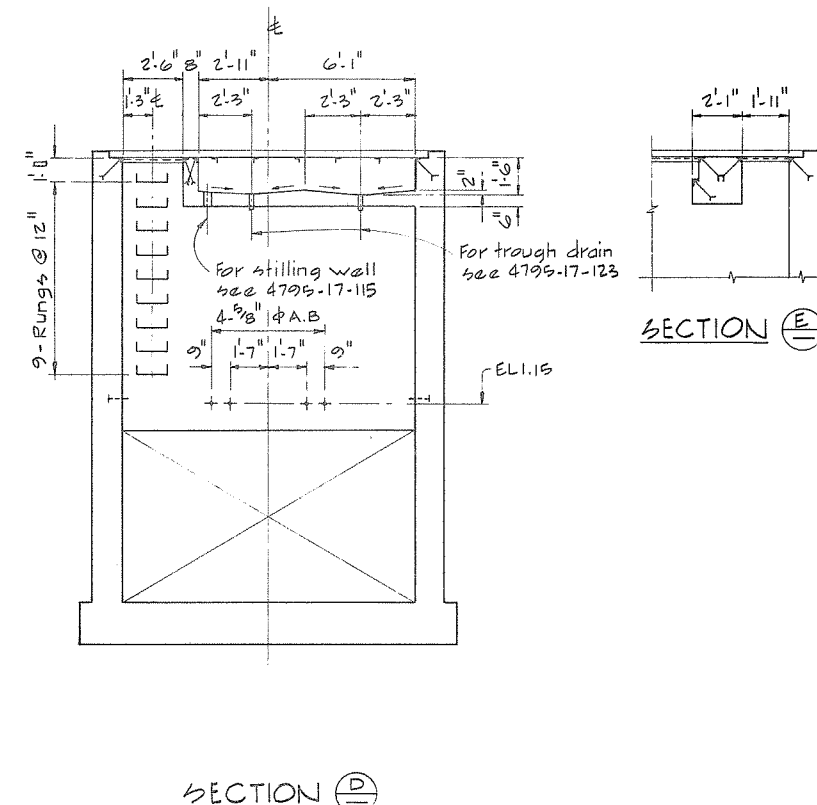
SECTION A



SECTION B

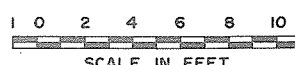


SECTION C



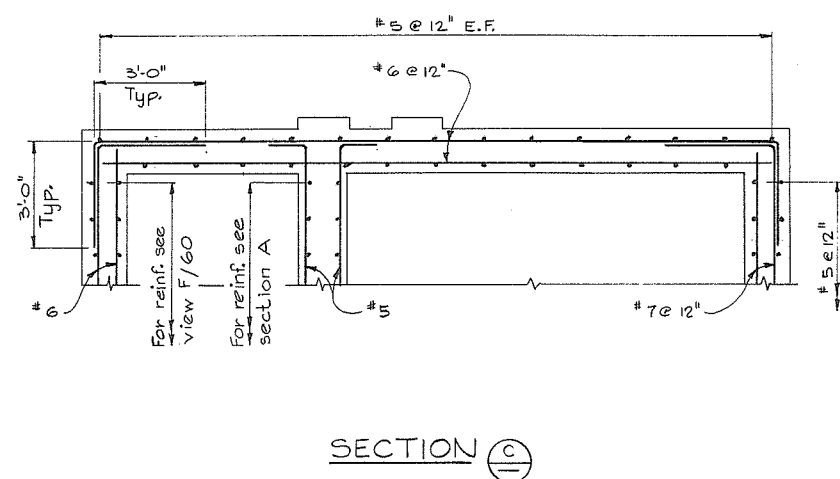
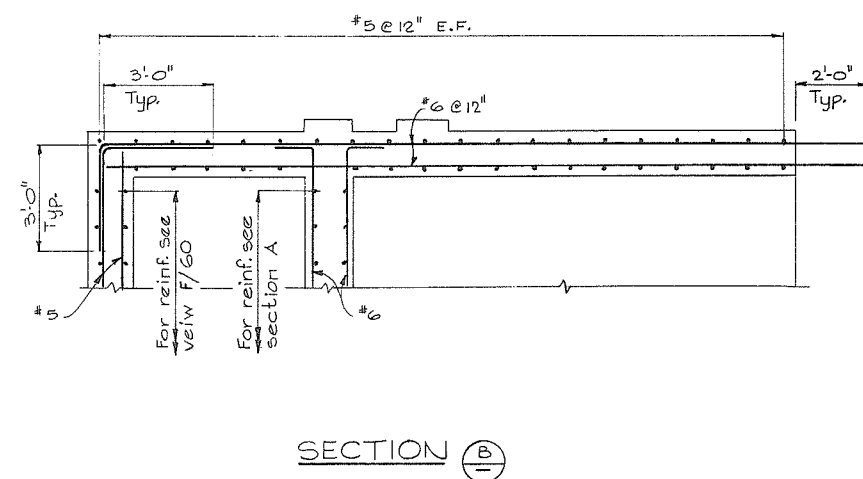
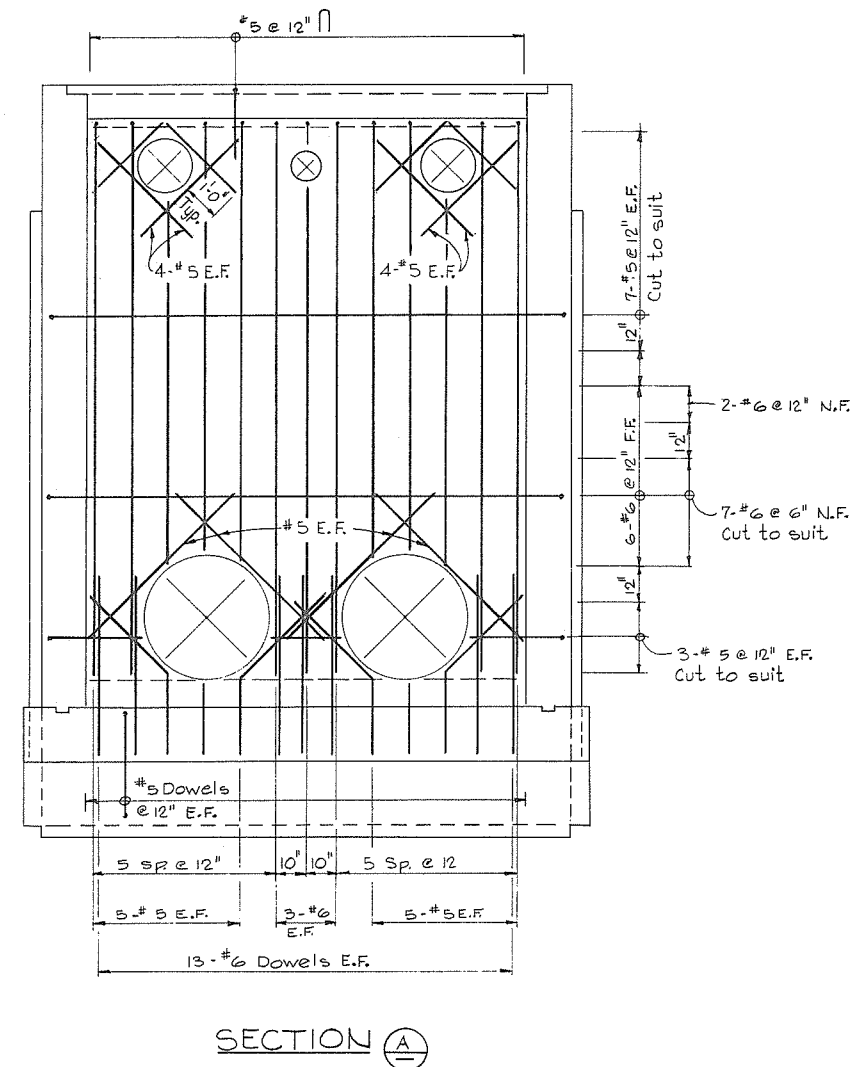
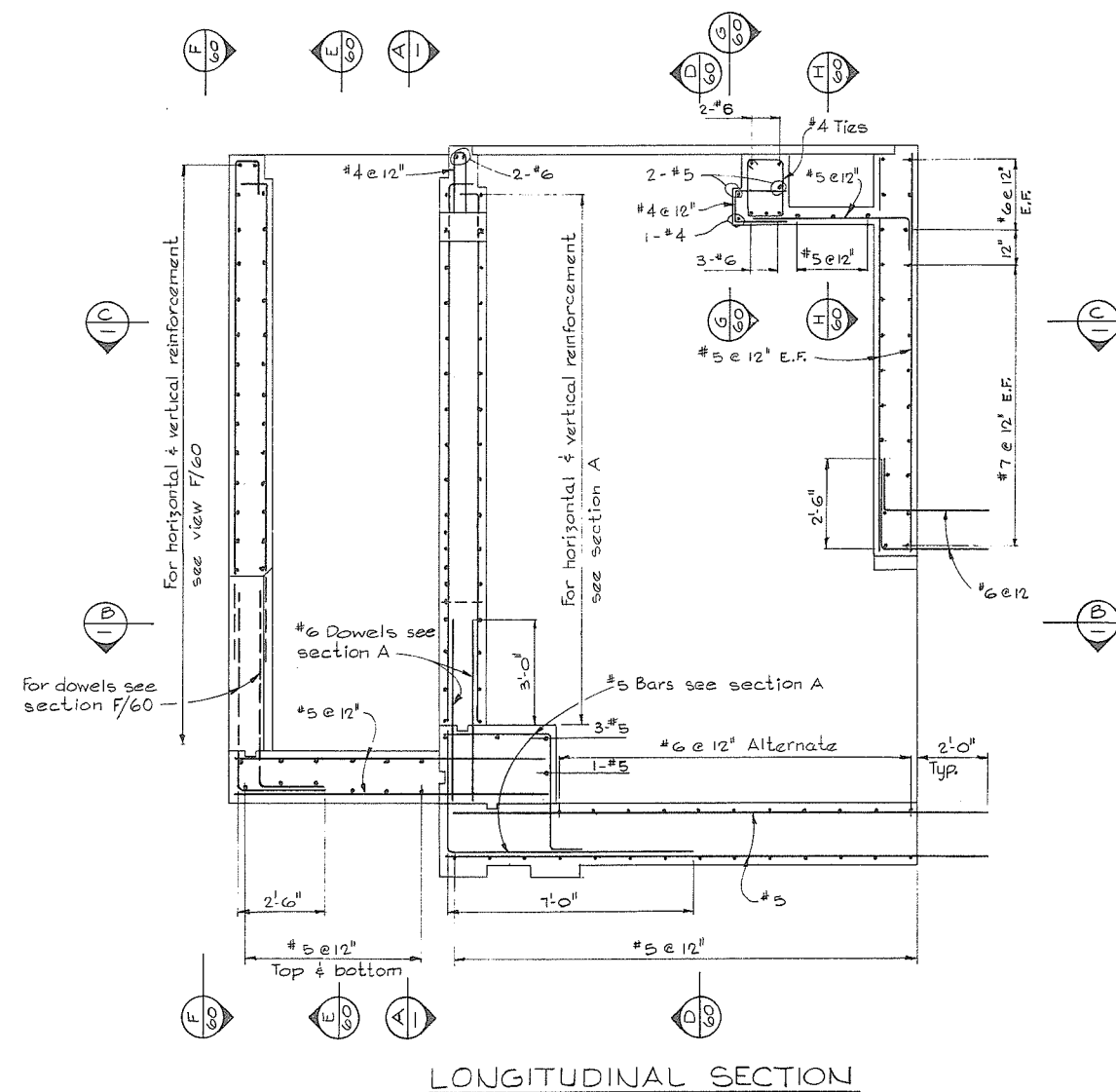
SECTION D

SECTION E



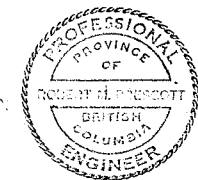
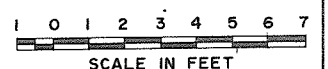
CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

C B A	NO.	BY	REVISIONS	DATE	RECOMMENDED <i>F.R. Cameron</i> PROJECT MANAGER	BRITISH COLUMBIA MINISTRY OF THE ENVIRONMENT WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1958 AGREEMENT	DESIGNED <i>G.D.A.</i> DRAWN <i>AR</i> CHECKED <i>D.L.C.</i> SCALE AS SHOWN DWG. NO. 4795-17-58	SURVEYED DATE FILE NO. 0281550-C10-17 DATE Feb 1978 SHEET OF SHEETS
					DATE Feb 13, 1978 APPROVED <i>W.B. Fuller</i> DIRECTOR DATE Feb 13/78	PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17 NO. 3 ROAD SOUTH - DRAINAGE DISCHARGE STRUCT. NO. 30 MAIN STRUCTURE - CONCRETE OUTLINE		



NOTES

For general Notes see 4795-17-58



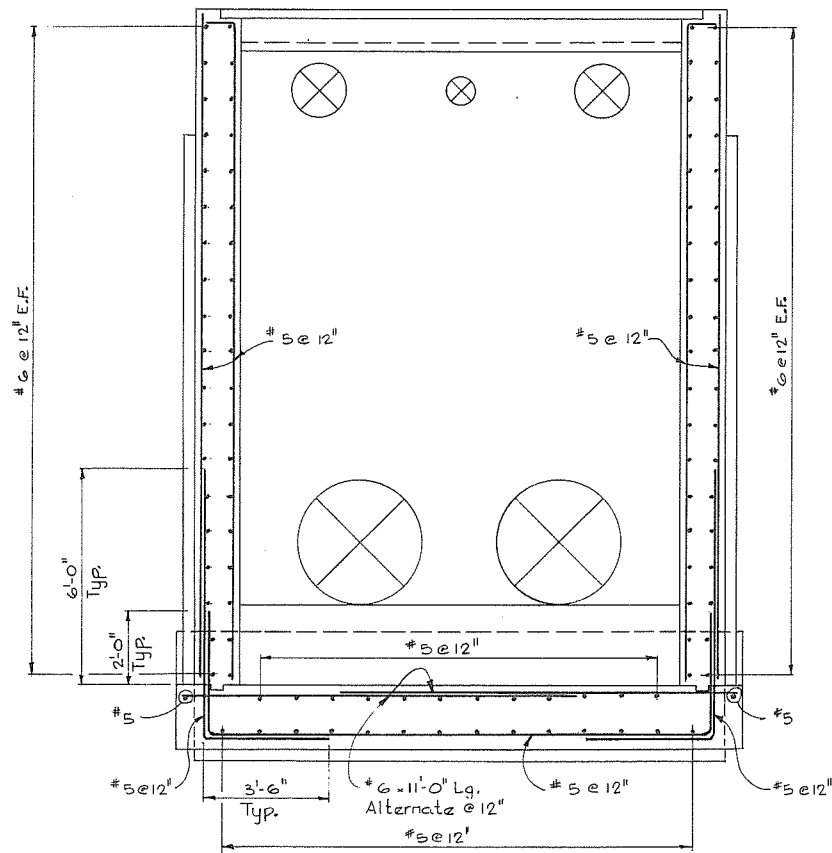
CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

NO.	BY	REVISIONS	DATE
A			

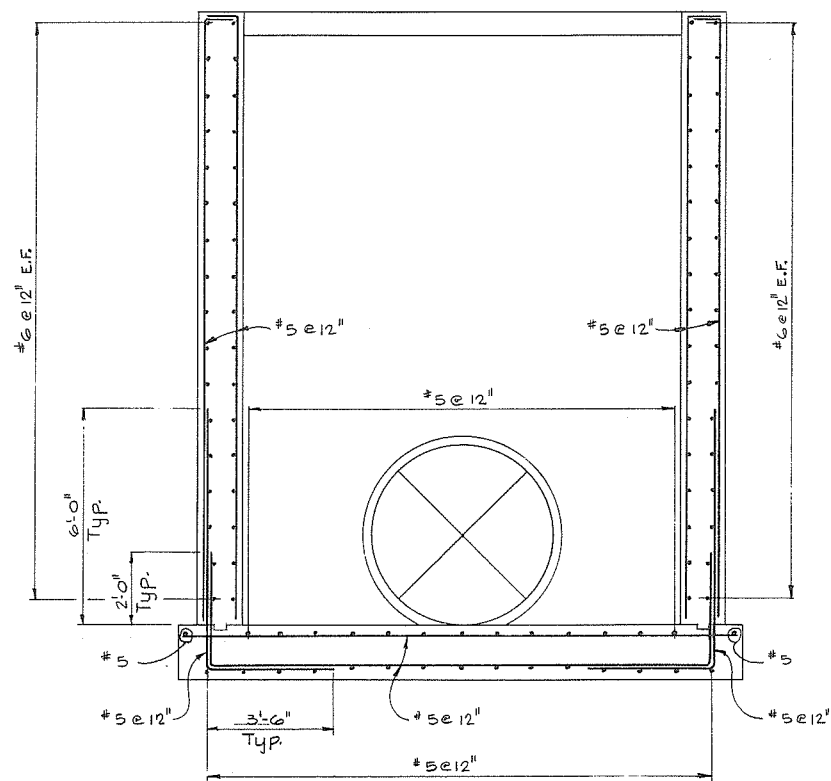
RECOMMENDED <i>R. R. Prescott</i> PROJECT MANAGER	DATE <i>Feb. 13, 1978</i>
APPROVED <i>John S. Miller</i> for DIRECTOR	DATE <i>Feb. 13/78</i>

BRITISH COLUMBIA MINISTRY OF THE ENVIRONMENT WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT	PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17 NO. 3 ROAD SOUTH - DRAINAGE DISCHARGE STRUCT. NO. 30 MAIN STRUCTURE - REINFORCING
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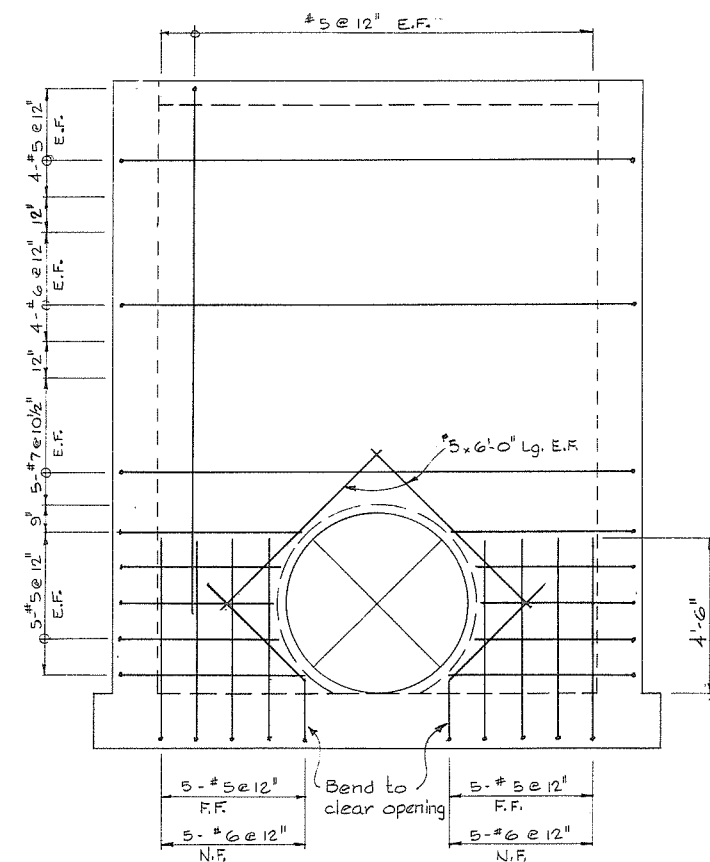
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DRAWN <i>ty.</i>	DATE
CHECKED <i>TP</i>	FILE NO. <i>0281550-C10-17</i>
SCALE <i>AS SHOWN</i>	DATE <i>Feb 1978</i>
DWG. NO. <i>4795-17-59A</i>	SHEET <i>1</i> OF <i>2</i> SHEETS



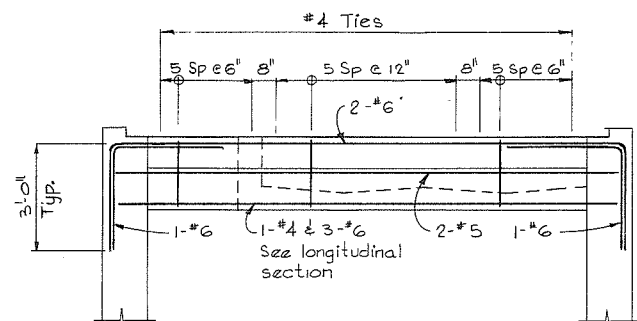
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59



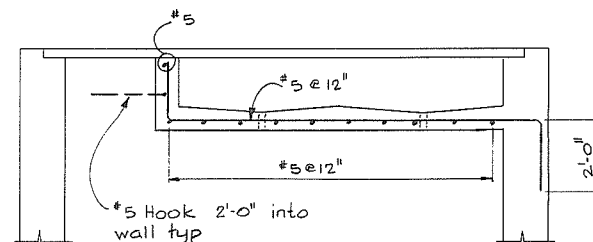
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VIEW F
59



SECTION G
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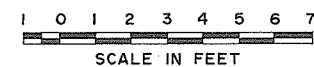


SECTION H
59

NOTES

• For General Notes see 4795-17-5B

487



CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

NO. BY

REVISIONS

DATE

RECOMMENDED *R. A. Cameron*
PROJECT MANAGER

DATE Feb. 13, 1978

APPROVED *for* DIRECTOR

DATE Feb. 13/78

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

PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
NO. 3 ROAD SOUTH - DRAINAGE DISCHARGE STRUCT. NO. 30
MAIN STRUCTURE - REINFORCING

DESIGNED *GCW*

DRAWN *LU*

CHECKED *TP*

SCALE AS SHOWN

DWG. NO. 4795-17-60

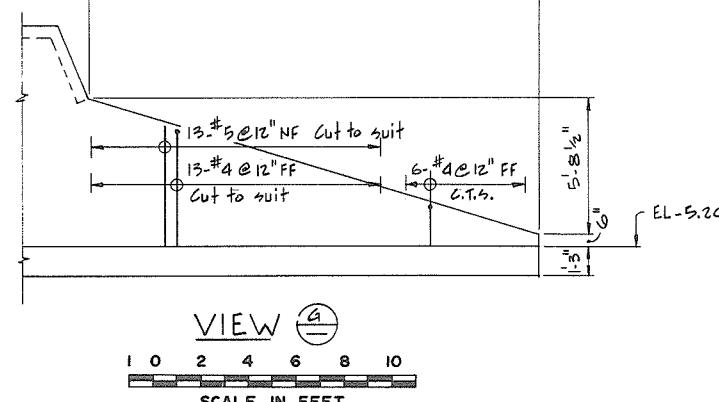
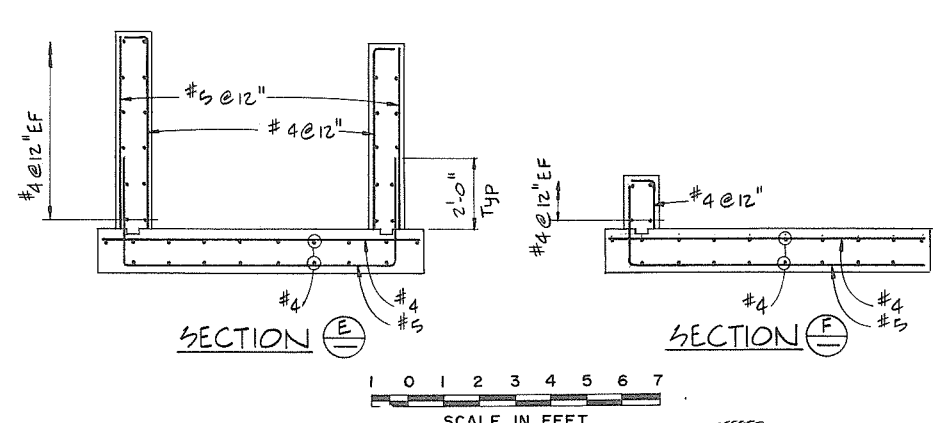
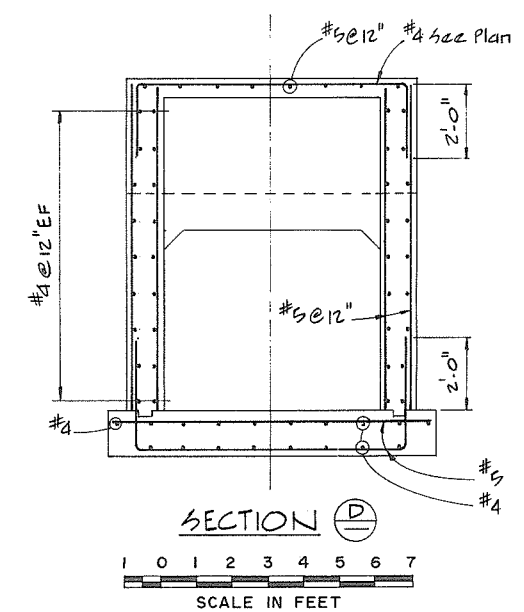
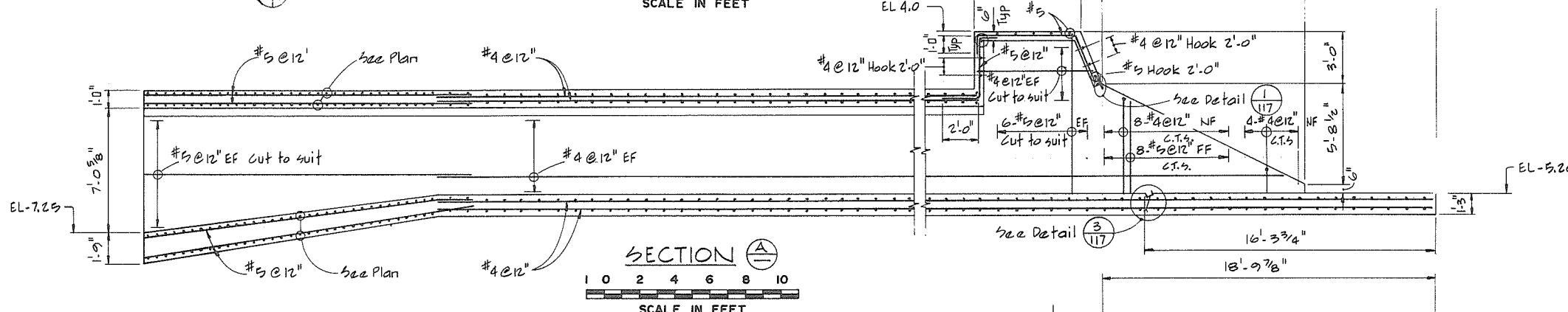
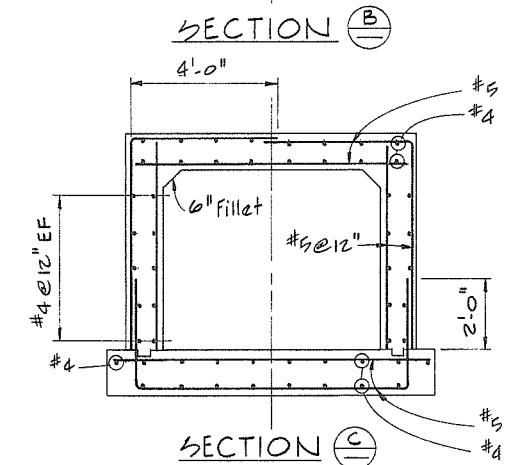
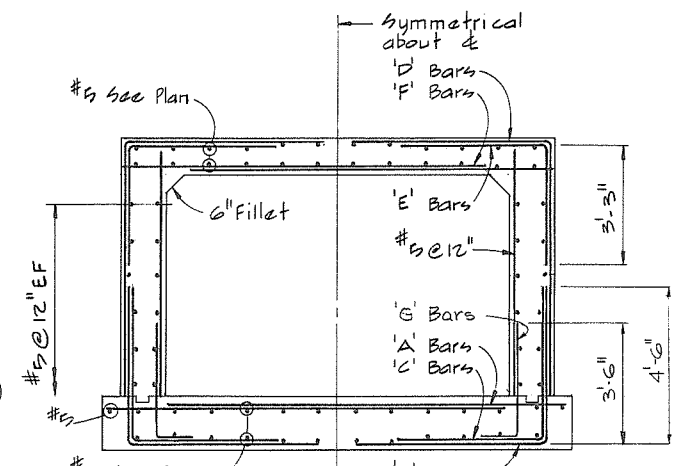
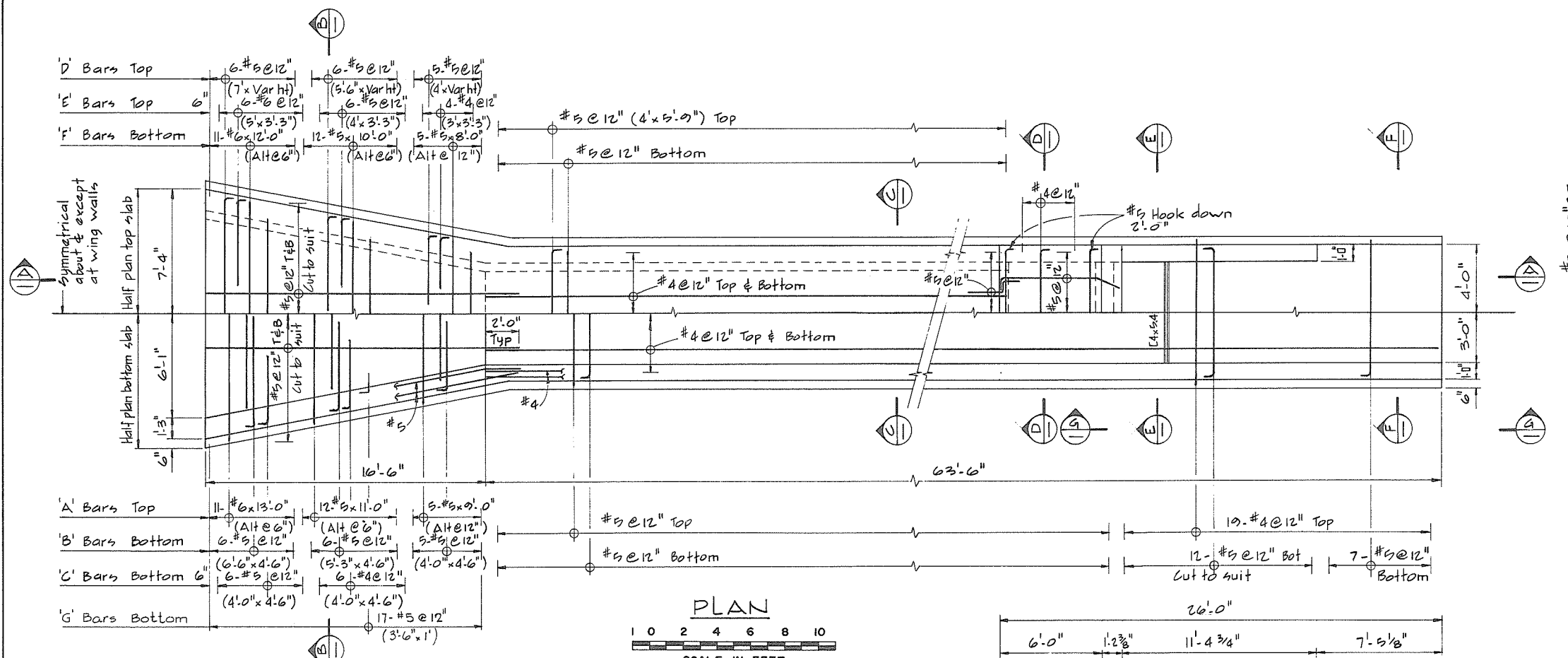
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DATE

FILE NO. 0281550-C10-17

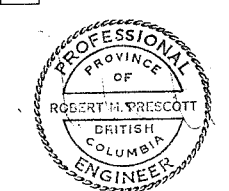
DATE Feb 1978

SHEET 2 OF 2 SHEETS



NOTES
For General Notes see 4795-17-58

488

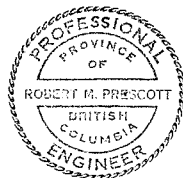
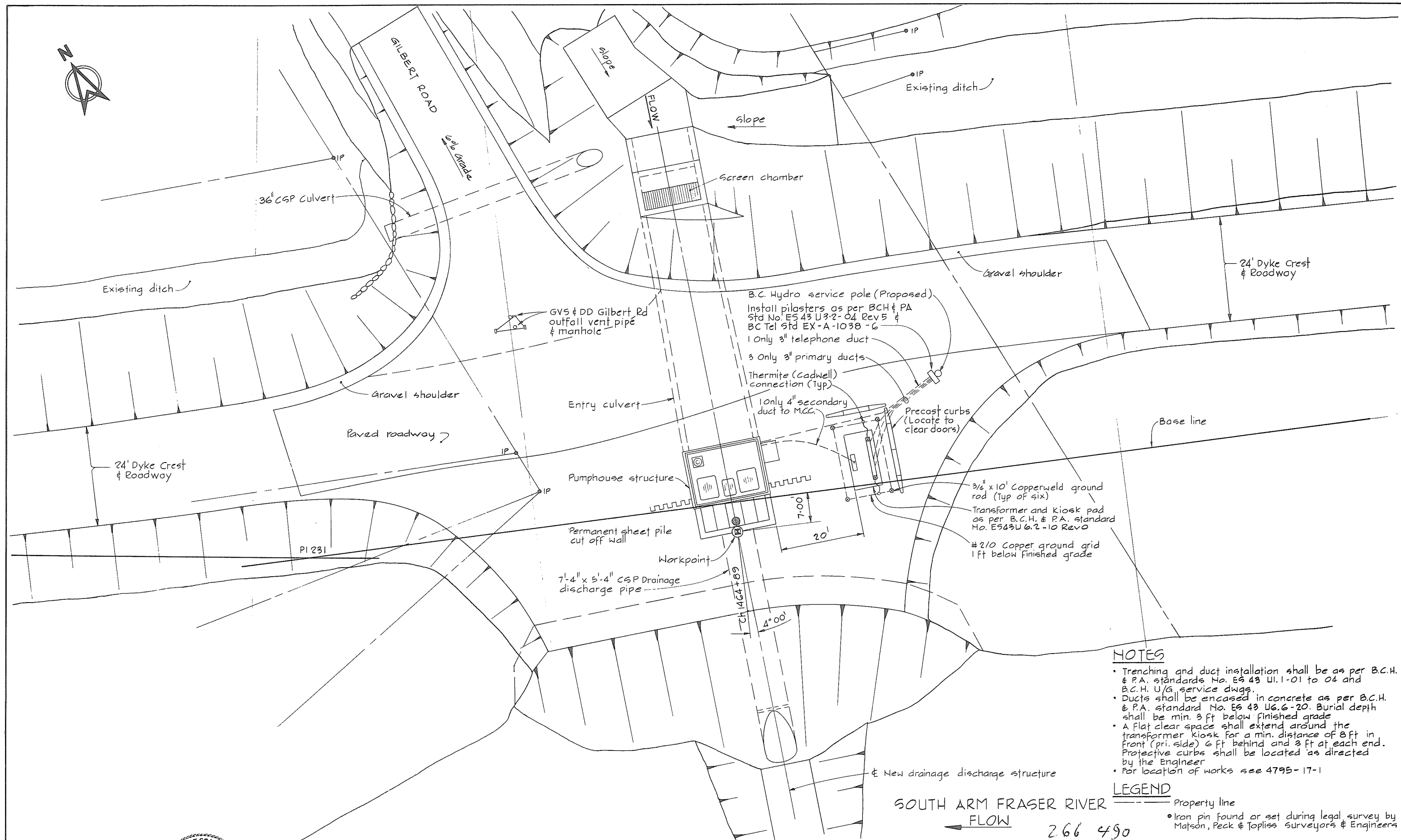


CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

RECOMMENDED <i>R.R. Cameron</i> PROJECT MANAGER	DESIGNED <i>G.D.A.A./G.W.</i>	SURVEYED
DATE <i>Feb. 13, 1978</i>	DRAWN <i>AR</i>	DATE
APPROVED <i>W.D. Fuller</i> DIRECTOR	CHECKED <i>TP</i>	FILE NO. <i>0281550 - C10-17</i>
DATE <i>Feb 13/78</i>	SCALE <i>AS SHOWN</i>	DATE <i>Feb 1978</i>
	DWG. NO. <i>4795-17-61</i>	SHEET <i>OF</i> SHEETS

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

PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
NO. 3 ROAD SOUTH - DRAINAGE DISCHARGE STRUCT. NO. 3 O
ENTRY CULVERT AND BOX CULVERT
CONCRETE OUTLINE AND REINFORCING



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SCALE IN FEET



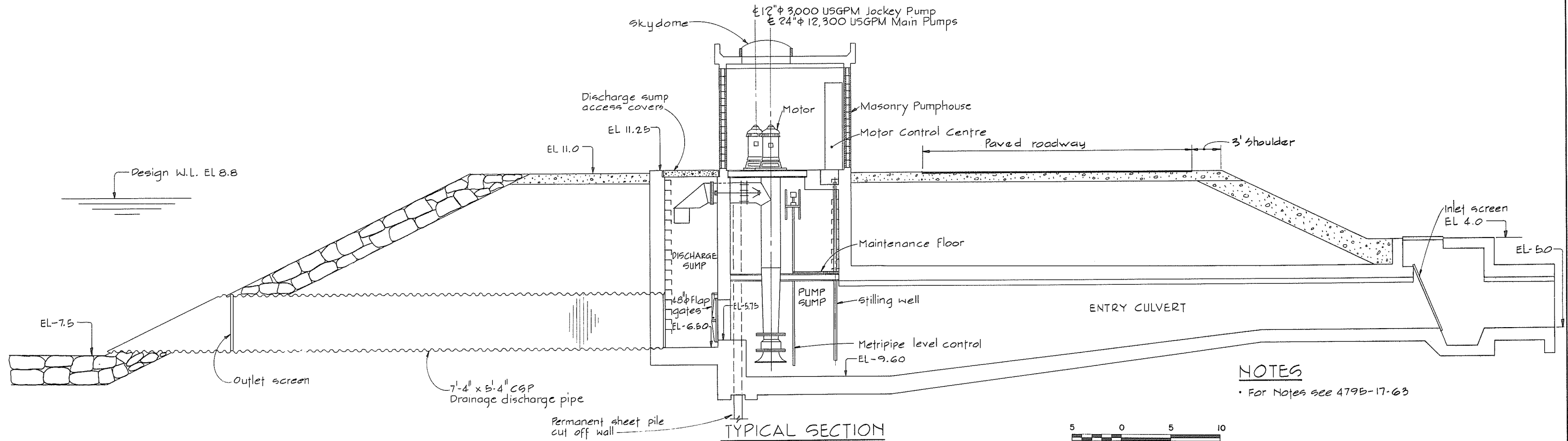
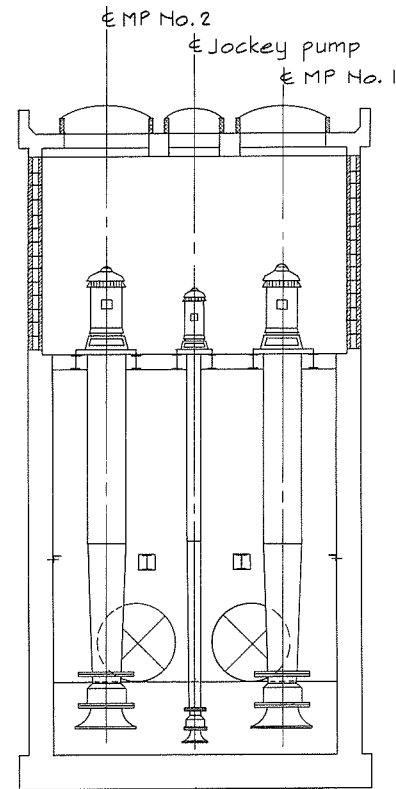
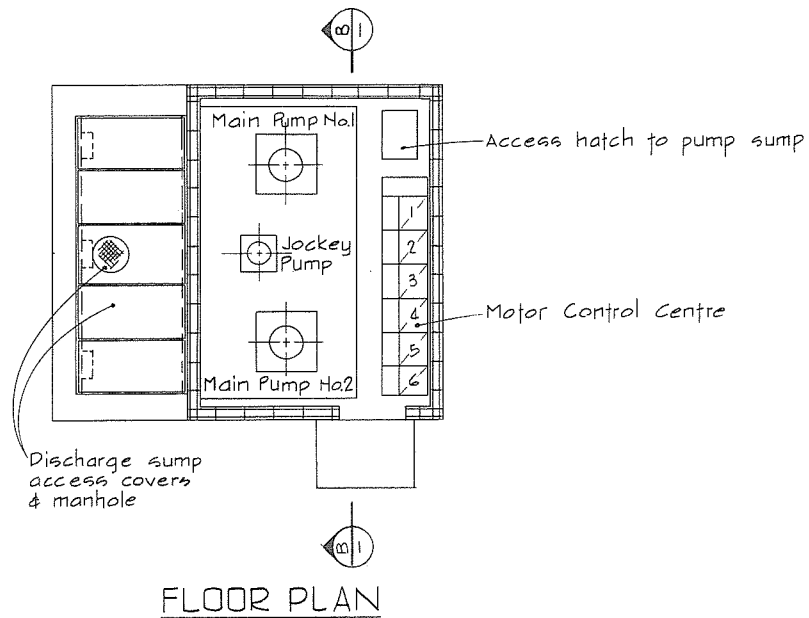
CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

NO.	BY	REVISIONS	DATE
1	A		

RECOMMENDED	<i>R. A. Cameron</i>
DATE	Feb. 13, 1978
APPROVED	<i>John Fuller</i>
DATE	Feb 13/78

BRITISH COLUMBIA MINISTRY OF THE ENVIRONMENT WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT
PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17 GILBERT RD SOUTH-DRAINAGE DISCHARGE STRUCT NO. 32 GENERAL ARRANGEMENT PLAN, POWER SUPPLY AND PROPERTY REQUIREMENTS

DESIGNED	NB/DLC	SURVEYED	
DRAWN	GP	DATE	
CHECKED	NB/DLC	FILE NO.	0281550-C10-17
SCALE	AS SHOWN	DATE	Feb 1978
DWG. NO.	4795-17-63	SHEET	OF SHEETS



NOTES
• For Notes see 479B-17-63

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SCALE IN FEET



CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

A

NO. BY REVISIONS DATE

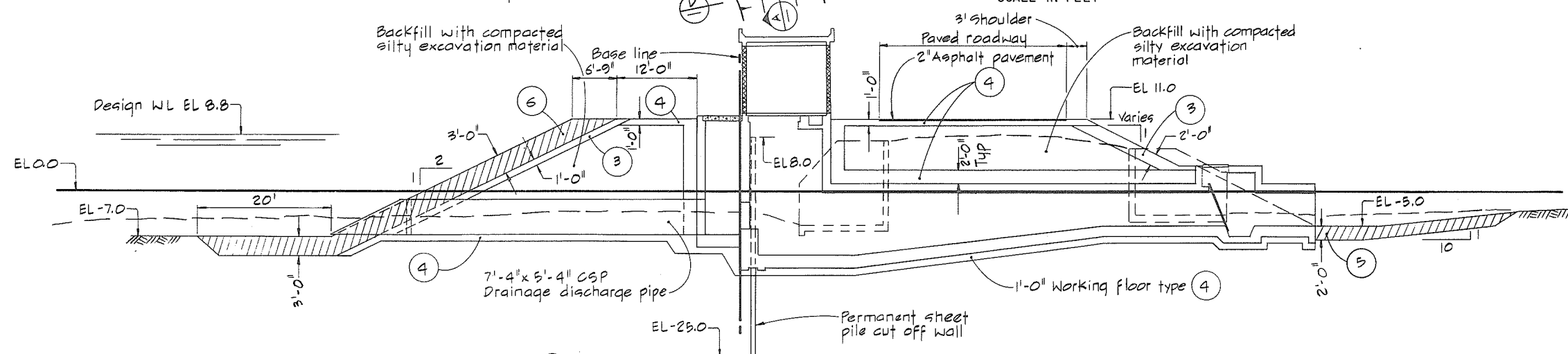
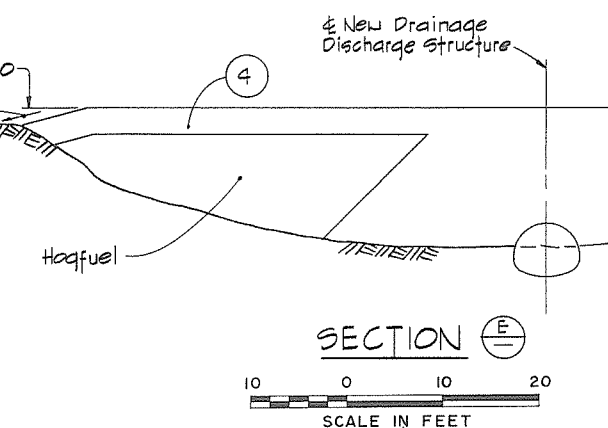
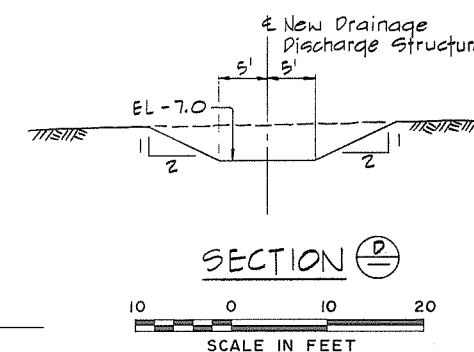
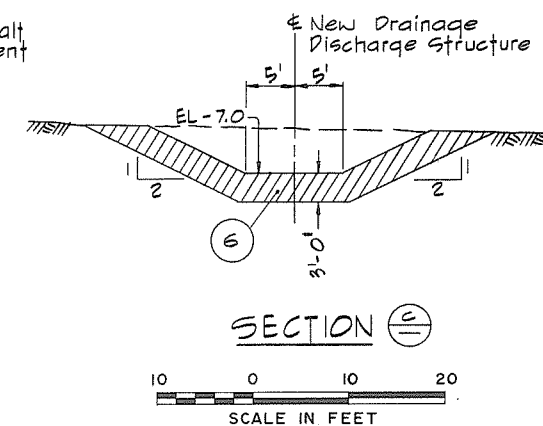
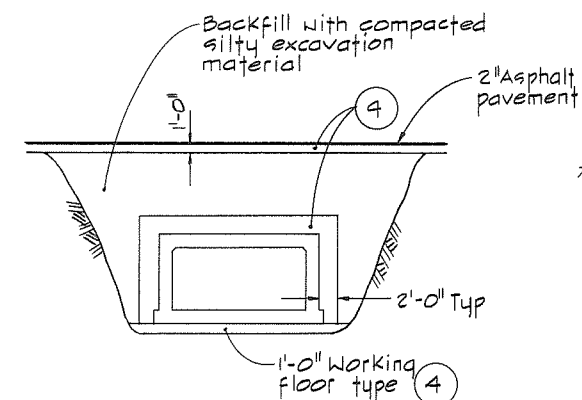
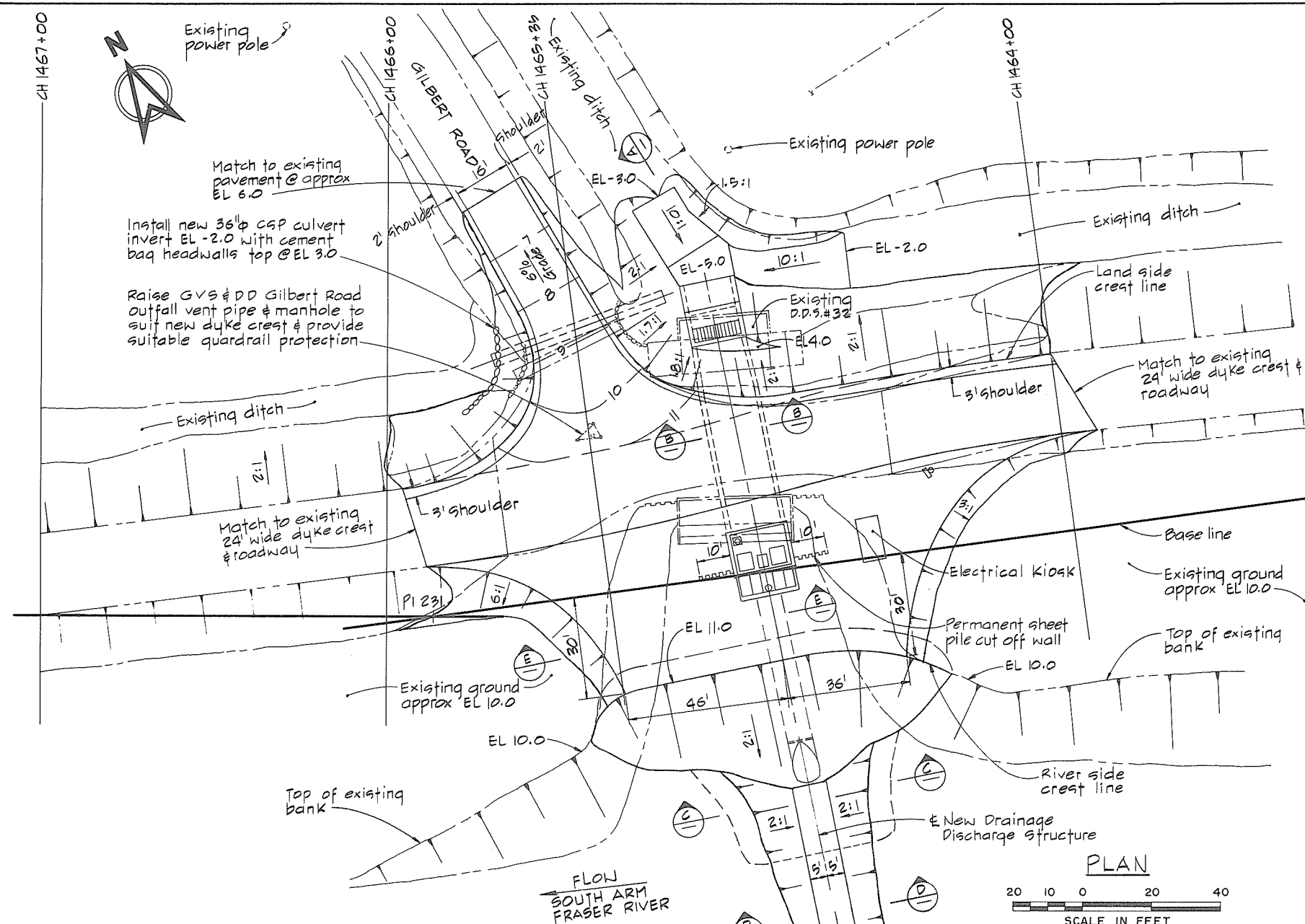
RECOMMENDED *B. W. Cameron*
PROJECT MANAGER
DATE *Feb. 13, 1978*
APPROVED *John Fuller*
DIRECTOR
DATE *Feb. 13/78*

BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA - BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT
PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
GILBERT RD SOUTH - DRAINAGE DISCHARGE STRUCT NO. 32
GENERAL ARRANGEMENT SECTIONS

DESIGNED <i>DLC</i>	SURVEYED
DRAWN <i>GP</i>	DATE
CHECKED <i>DLC</i>	FILE NO. <i>0281550-C10-17</i>
SCALE <i>AS SHOWN</i>	DATE <i>Feb 1978</i>
DWG. NO. <i>4795-17-64</i>	SHEET <i>OF</i> SHEETS

266 491

A



MATERIAL LEGEND

- 1 Silt - clay
- 2 Sand
- 3 Sand, gravel, cobbles
- 4 Crushed gravel
- 5 Light rip-rap
- 6 Rip-rap

LEGEND

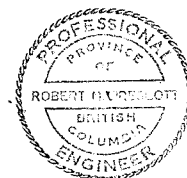
EXISTING Existing ground surface (Section)
 ----- Existing ground & structures (Plan)

(2)
 (B) Section identification letter
 Drawing No. on which the section
 is drawn (ie) 4795-17-[18]

(3)
 (B) Detail identification number
 Drawing No. on which the detail
 is drawn (ie) 4795-17-[18]

NOTES

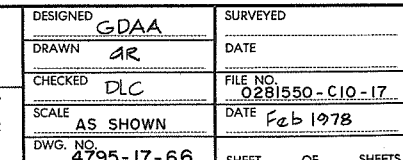
- Elevations refer to the Geodetic Survey of Canada.
- A smooth alignment shall be maintained over the entire length of the dyke.
- Offset distances from base line to crest lines are taken at the design crest elevation.
- The angle of offset is 90° to base line unless other indicated.
- Terminal parts of the work shall be constructed to blend with the existing ground.

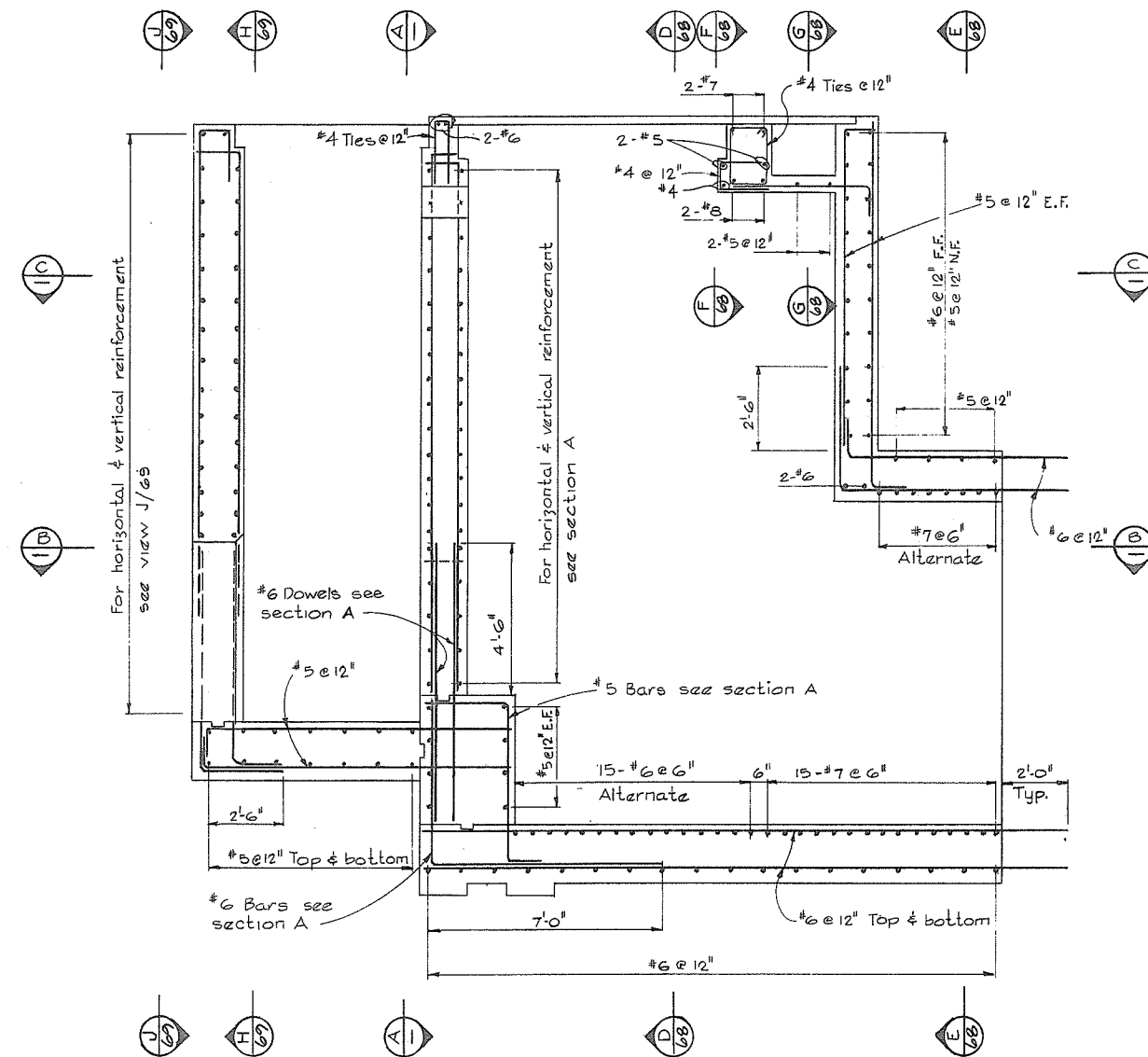


CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

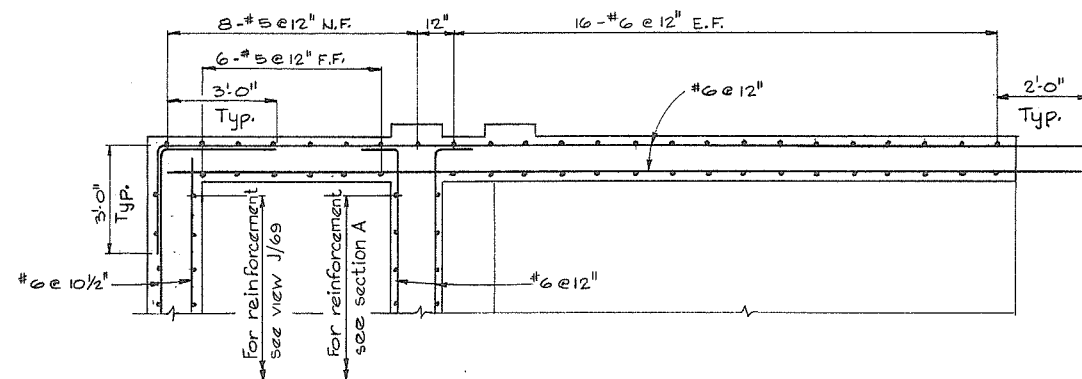
	BY	REVISIONS	DATE	RECOMMENDED <i>R. H. Cameron</i> PROJECT MANAGER	BRITISH COLUMBIA MINISTRY OF THE ENVIRONMENT WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT	DESIGNED <i>EMH / DCL</i>	SURVEYED
				DATE <i>Feb. 13 1978</i>	PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17 GILBERT ROAD SOUTH - DRAINAGE DISCHARGE STRUCT. NO. 32 DETAILS OF EARTHWORKS	DRAWN <i>WN</i>	DATE
				APPROVED <i>J. G. Sullivan</i> DIRECTOR		CHECKED <i>DLC</i>	FILE NO. <i>0281550 - C10 - 17</i>
				DATE <i>Feb 13/78</i>		SCALE <i>AS SHOWN</i>	DATE <i>Feb 1978</i>
NO.	BY	REVISIONS	DATE	DATE <i>Feb 13/78</i>	DWG. NO. <i>4795 - 17 - 65</i>	SHEET _____ OF _____ SHEETS	

- Design is in accordance with CSA A 23.3-1973, Code for the Design of Plain or Reinforced Concrete Structures.
- Construction shall be in accordance with CSA A 23.1-1973, Specifications for Structural Concrete For Buildings.
- Specified strength of concrete f_c 4000 psi.
- Reinforcing steel shall be deformed bars conforming to CSA G 30.12-1972, Grade 40 or 60.
- Cover over reinforcing steel to be 2" to all faces except 3" for the underside of the Footings.
- Reinforcing to be of lengths indicated with construction joints as shown unless otherwise approved by the Engineer.
- CONCRETE FINISHES:
 - Floors and base slabs - steel trowel
 - Exposed horizontal surfaces - broom
 - Interior, exterior exposed walls and beams - rubbed
 - See specs for details
- CHAMFERS - $\frac{3}{4} \times \frac{3}{4}$ for all exposed walls corners.
- for location of workpoint see 4795-17-63

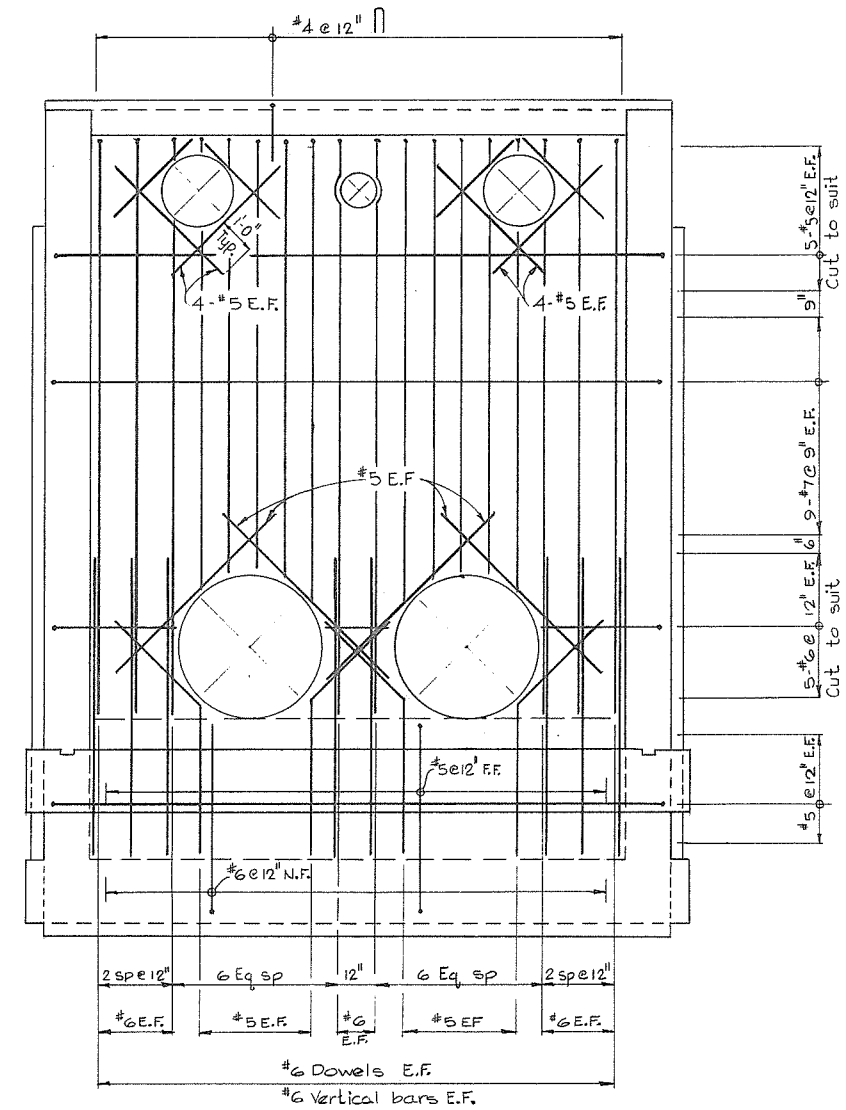




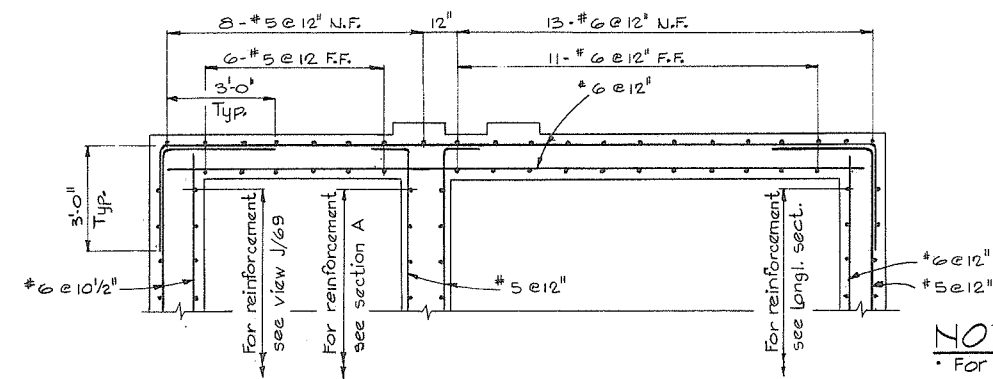
LONGITUDINAL SECTION



SECTION B



SECTION A



SECTION C

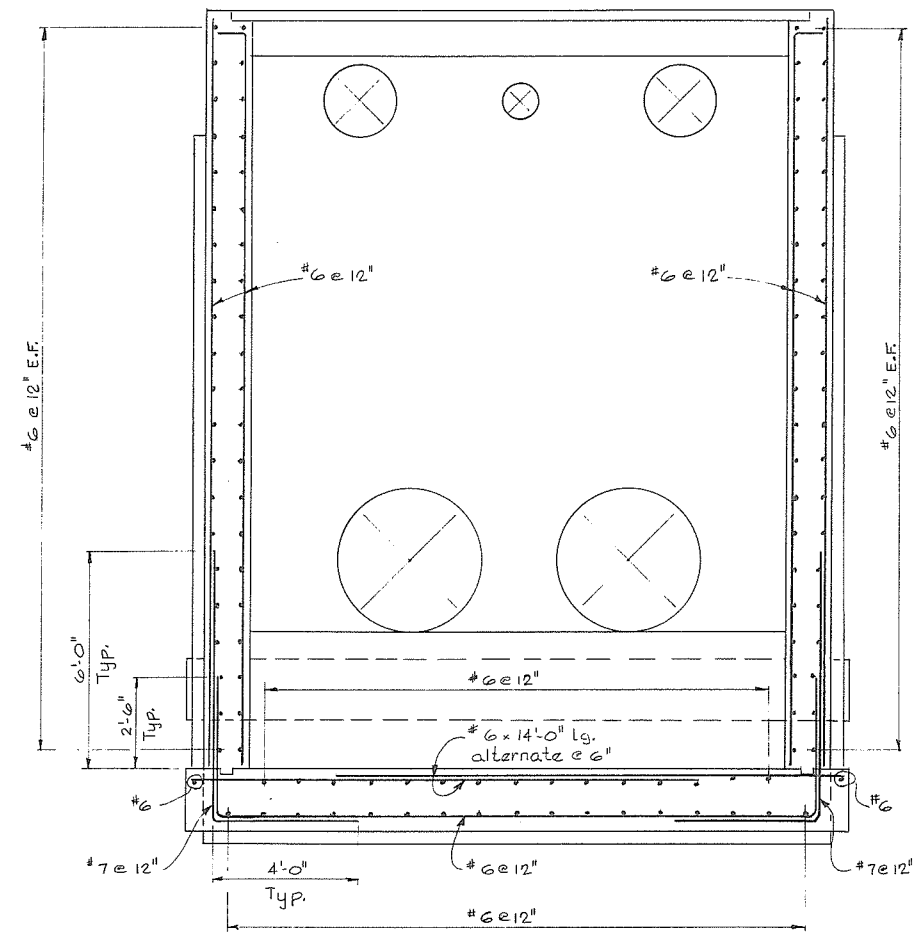
NOTES
• For General Notes see 4795-17-66

494
SCALE IN FEET
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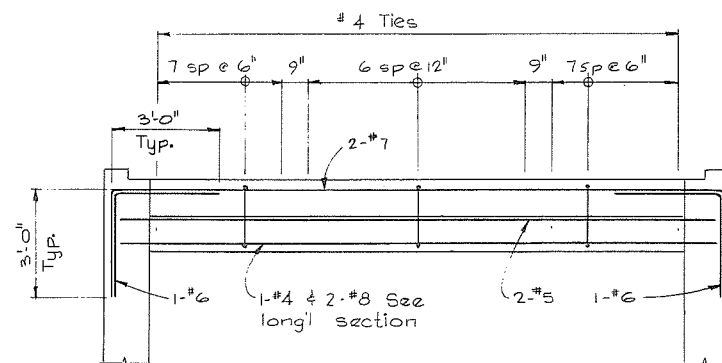


CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

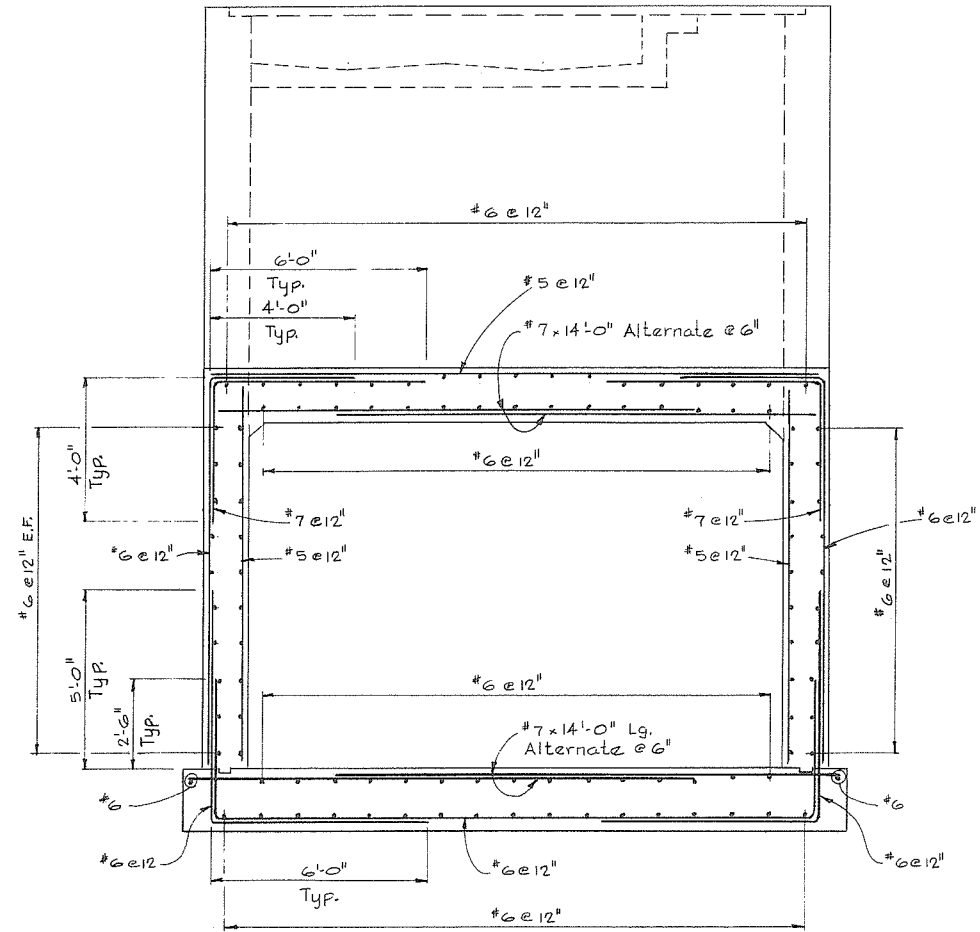
NO.	BY	REVISIONS	DATE	RECOMMENDED <i>R.A. Camm</i> PROJECT MANAGER	BRITISH COLUMBIA MINISTRY OF THE ENVIRONMENT WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1988 AGREEMENT	DESIGNED <i>GCW</i>	SURVEYED
			DATE <i>Feb. 13, 1978</i>			DRAWN <i>TL</i>	DATE
			APPROVED <i>[Signature]</i> DIRECTOR		PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17 GILBERT RD SOUTH - DRAINAGE DISCHARGE STRUCT NO. 32 MAIN STRUCTURE - REINFORCING	CHECKED <i>TP</i>	FILE NO. <i>0281550-CIO-17</i>
			DATE <i>Feb 13/78</i>			SCALE <i>A5 SHOWN</i>	DATE <i>Feb 1978</i>
						DWG. NO. <i>4795-17-67</i>	SHEET <i>1</i> OF <i>3</i> SHEETS



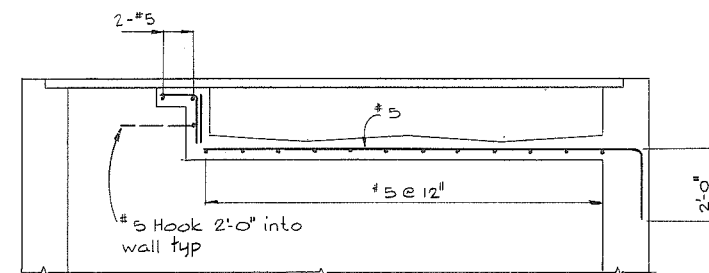
SECTION D
67



SECTION F
67



SECTION E
67

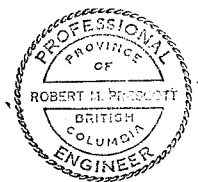


SECTION G
67

NOTES

For General Notes see 4795-17-66

495
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SCALE IN FEET



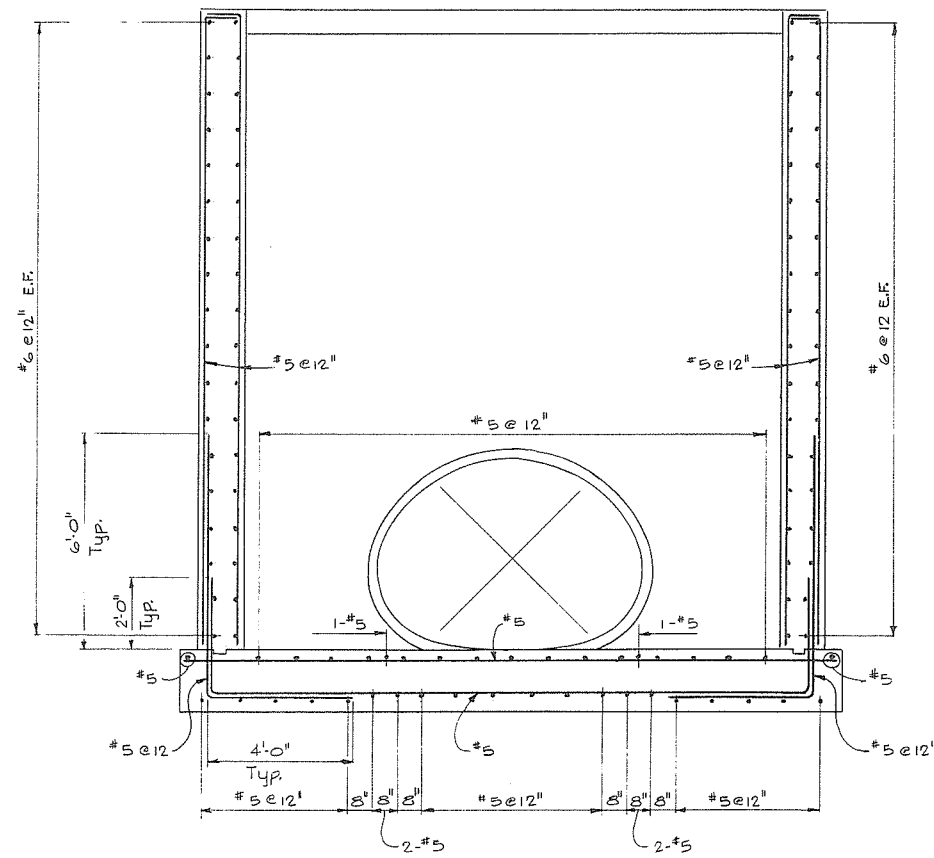
CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

NO. BY REVISIONS DATE

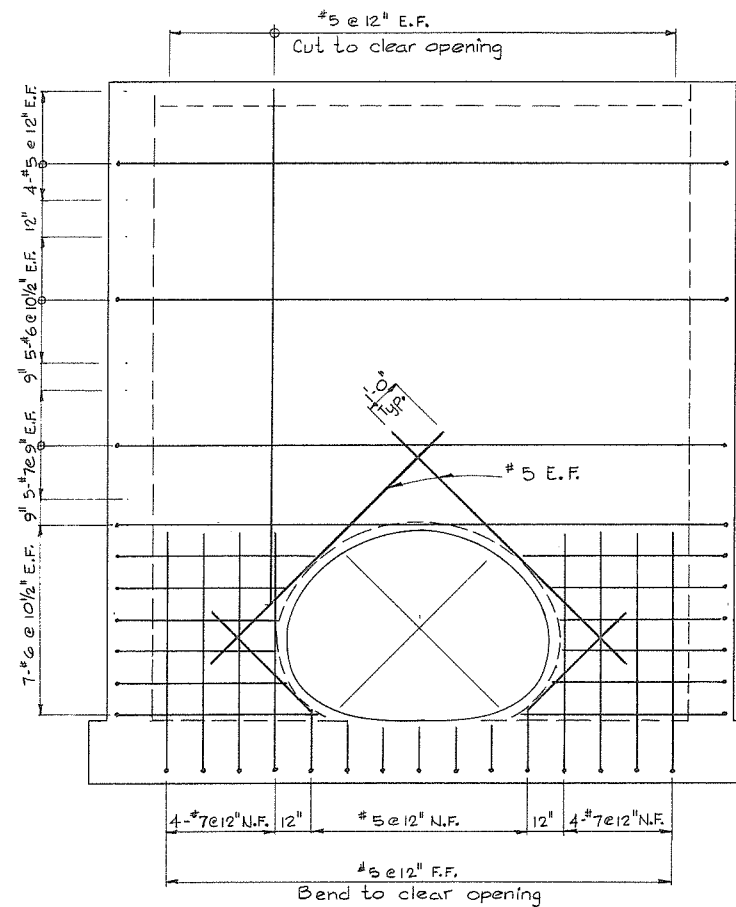
RECOMMENDED *R. H. Cameron*
PROJECT MANAGER
DATE *Feb. 13, 1978*
APPROVED *John G. Sullivan*
DIRECTOR
DATE *Feb 13/78*

BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA - BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT
PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
GILBERT RD SOUTH - DRAINAGE DISCHARGE STRUCT NO. 32
MAIN STRUCTURE - REINFORCING

DESIGNED *GCW*
DRAWN *L.H.*
CHECKED *TP*
SCALE *AS SHOWN*
DWG. NO. *4795-17-68*
SURVEYED
DATE
FILE NO. *0281550-C10-17*
DATE *Feb 1978*
SHEET *2* OF *3* SHEETS



SECTION H 67

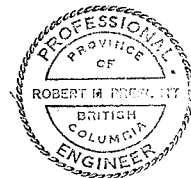
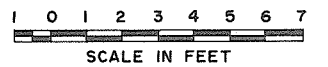


VIEW J 67

NOTES

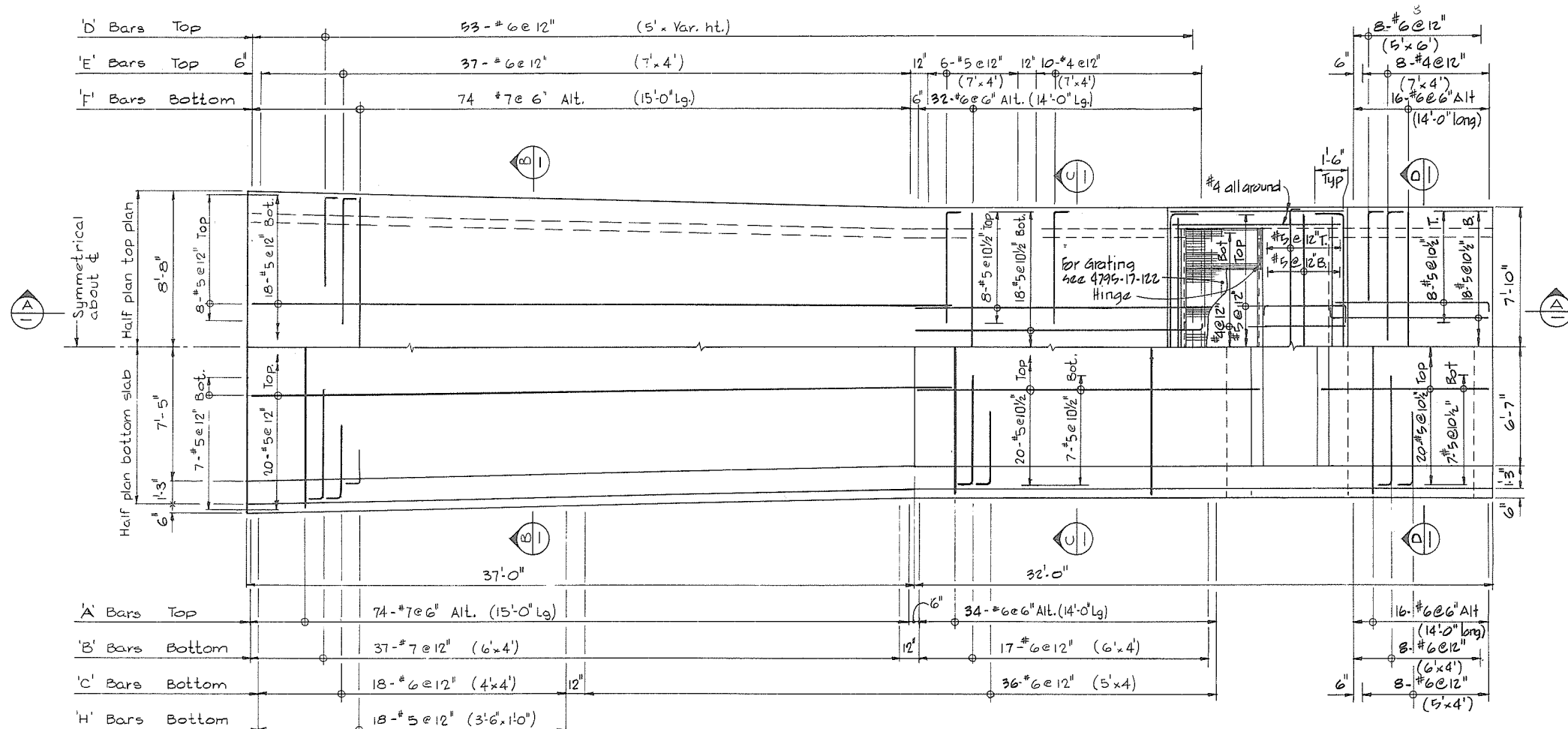
• For General Notes see 4795-17-66

266 496

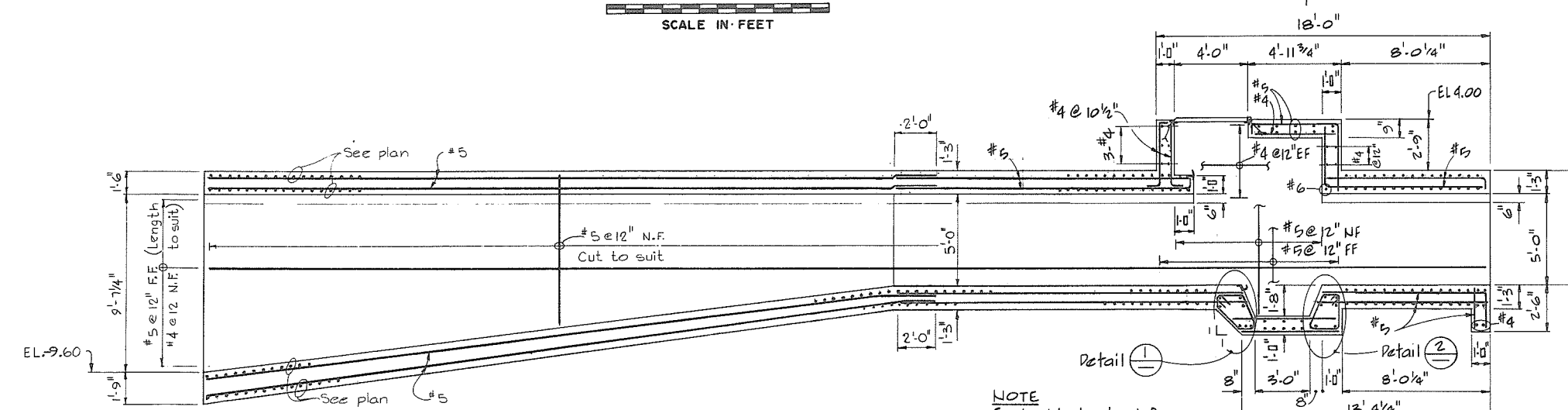


CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

A					RECOMMENDED <i>B.R. Cameron</i> PROJECT MANAGER	BRITISH COLUMBIA MINISTRY OF THE ENVIRONMENT WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT	DESIGNED <i>GCW</i>	SURVEYED
				DATE <i>Feb. 13, 1978</i>	DRAWN <i>L.H.</i>		DATE	
				APPROVED <i>[Signature]</i> <i>for</i> DIRECTOR	CHECKED <i>TP</i>		FILE NO. <i>0281550-C10-17</i>	
				DATE <i>Feb 13/78</i>	SCALE <i>AS SHOWN</i>		DATE <i>Feb 1978</i>	
NO.	BY	REVISIONS	DATE	DATE <i>Feb 13/78</i>	- PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17 - GILBERT RD SOUTH-DRAINAGE DISCHARGE STRUCT NO. 32 - MAIN STRUCTURE - REINFORCING	DWG. NO. <i>4795-17-69</i>	SHEET <i>3</i> OF <i>3</i> SHEETS	



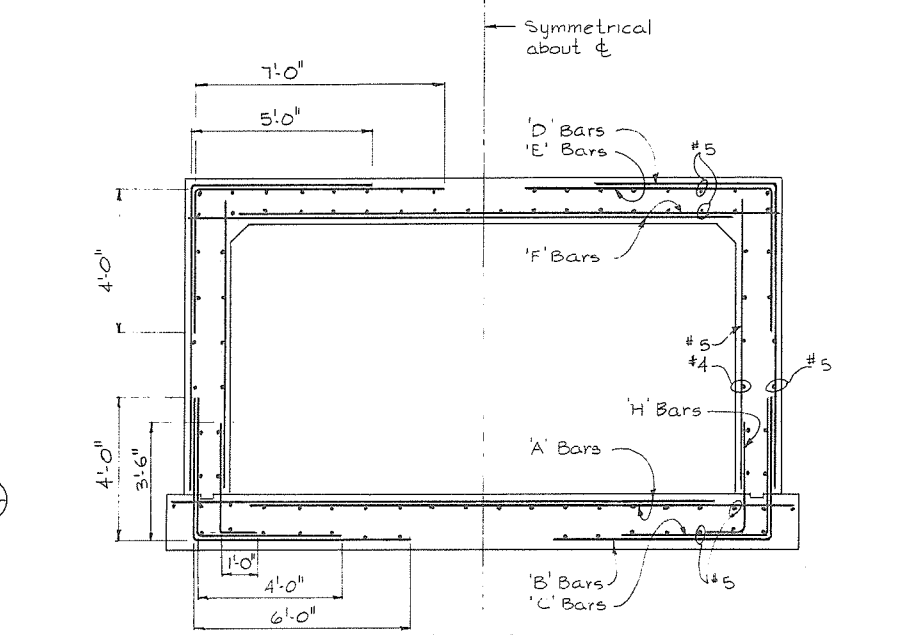
PLAN
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SCALE IN FEET



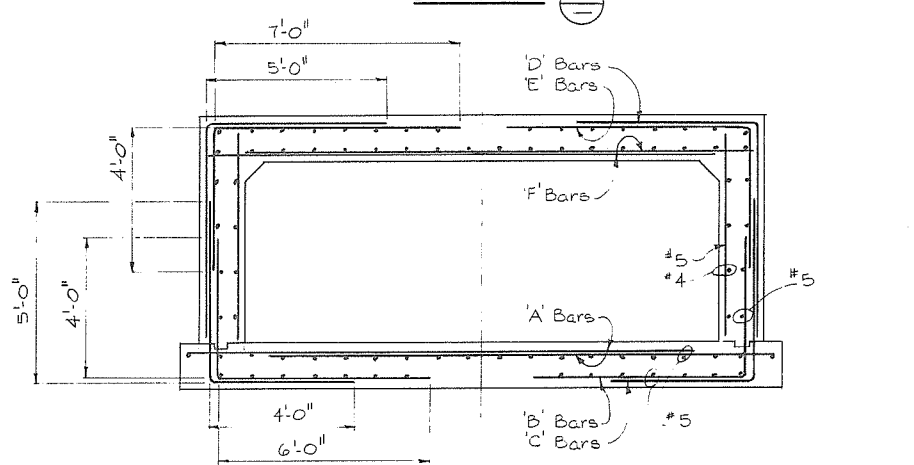
SECTION A-A
1 0 2 4 6 8 10
SCALE IN FEET

NOTE
Embedded steel for
screens see
4795-17-117

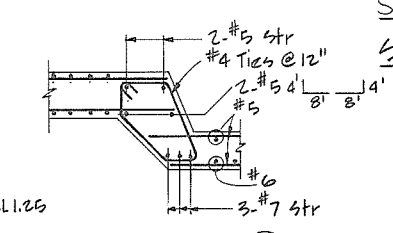
NOTES
• For General Notes see 4795-17-66



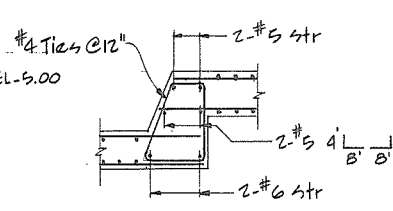
SECTION B-B



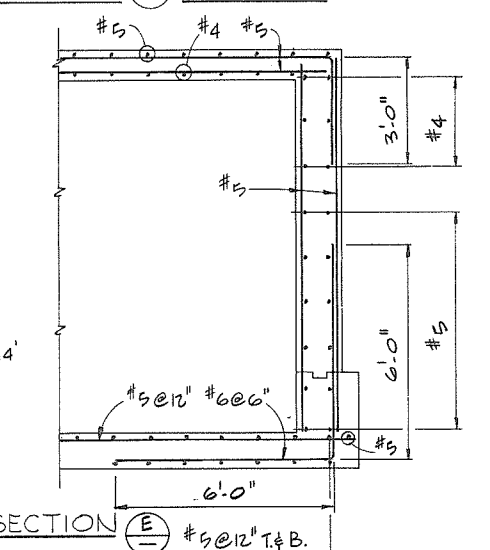
**SECTION C-C SHOWN
SECTION D-D SIMILAR**



DETAIL 1



DETAIL 2



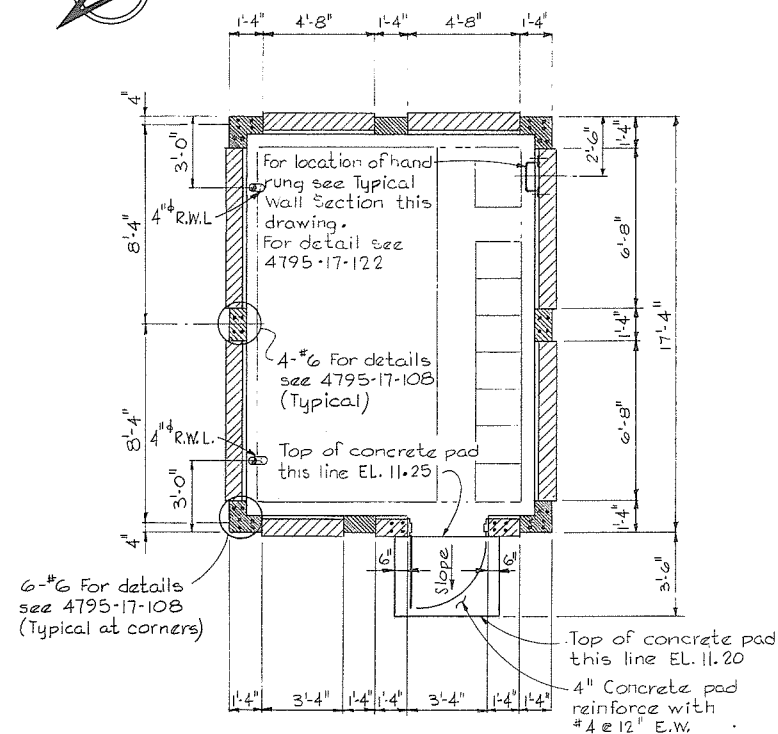
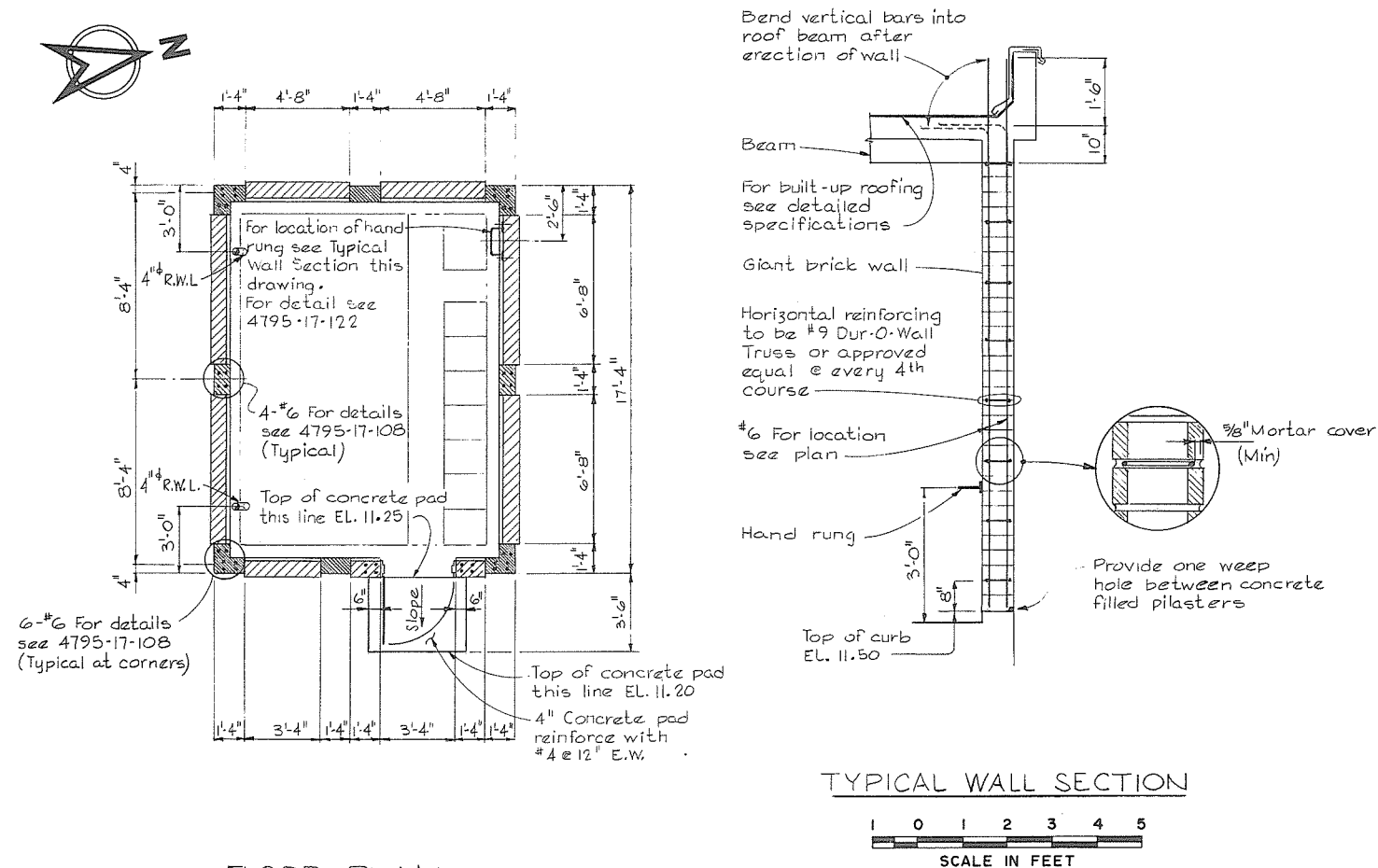
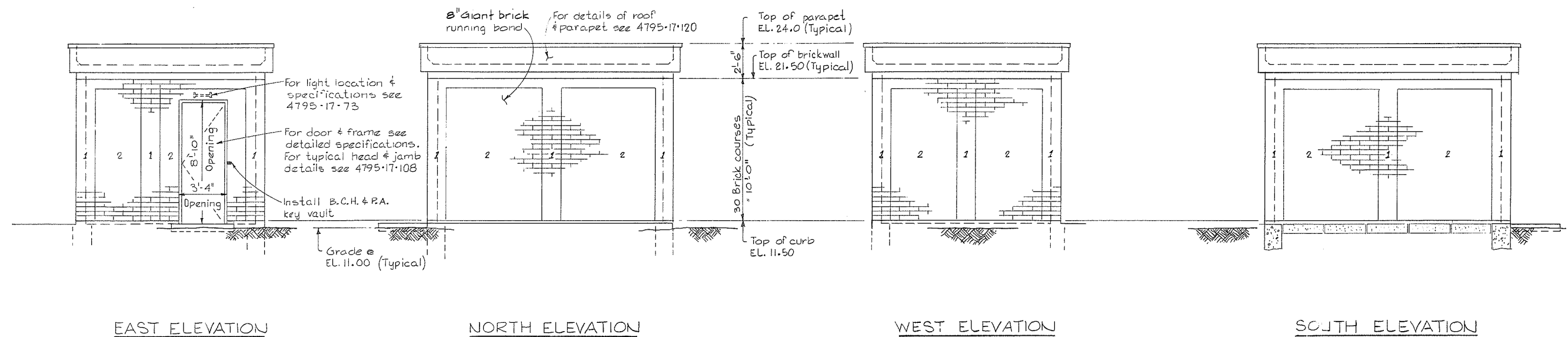
SECTION E-E

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SCALE IN FEET



CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

A					RECOMMENDED <i>B. N. Coman</i> PROJECT MANAGER		BRITISH COLUMBIA MINISTRY OF THE ENVIRONMENT WATER INVESTIGATIONS BRANCH		DESIGNED <i>G.DAA/GCW</i>		SURVEYED	
					DATE <i>Feb 13, 1978</i>		CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT		DRAWN <i>LJ</i>		DATE	
					APPROVED <i>[Signature]</i> fr DIRECTOR		PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17 GILBERT RD SOUTH-DRAINAGE DISCHARGE STRUCT NO. 32 ENTRY CULVERT AND BOX CULVERT CONCRETE OUTLINE AND REINFORCING		CHECKED <i>TP</i>		FILE NO. <i>0281550-CIO-</i>	
					DATE <i>Feb 13/78</i>				SCALE <i>AS SHOWN</i>		DATE <i>Feb 1978</i>	
	NO. BY		REVISIONS		DATE				DWG. NO. <i>4795-17-70</i>		SHEET <i>4</i> OF <i>4</i> SHEETS	

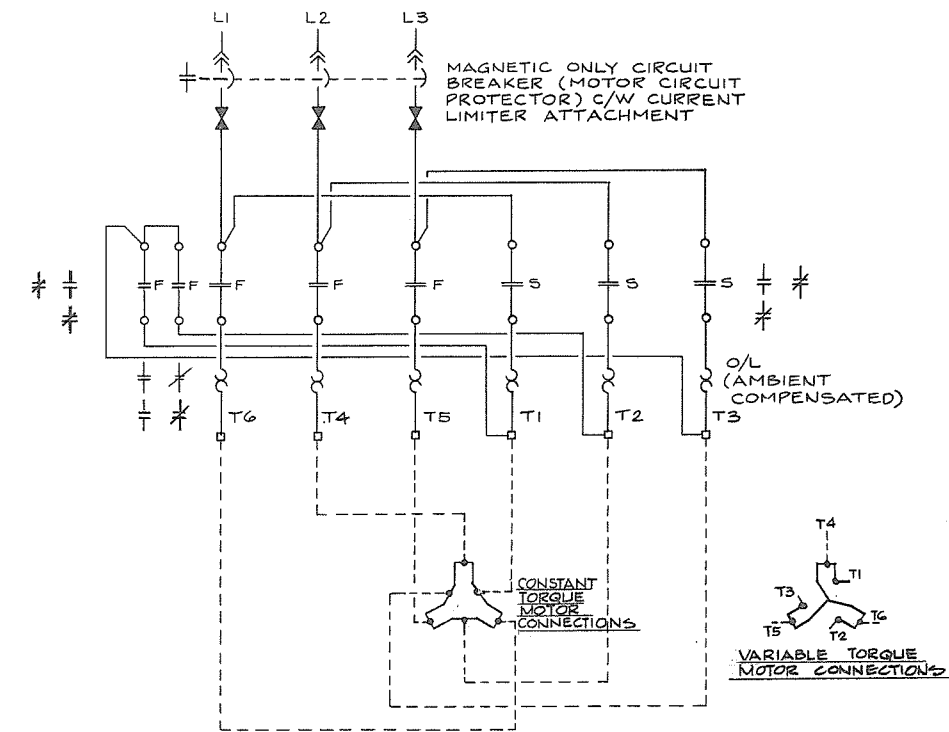
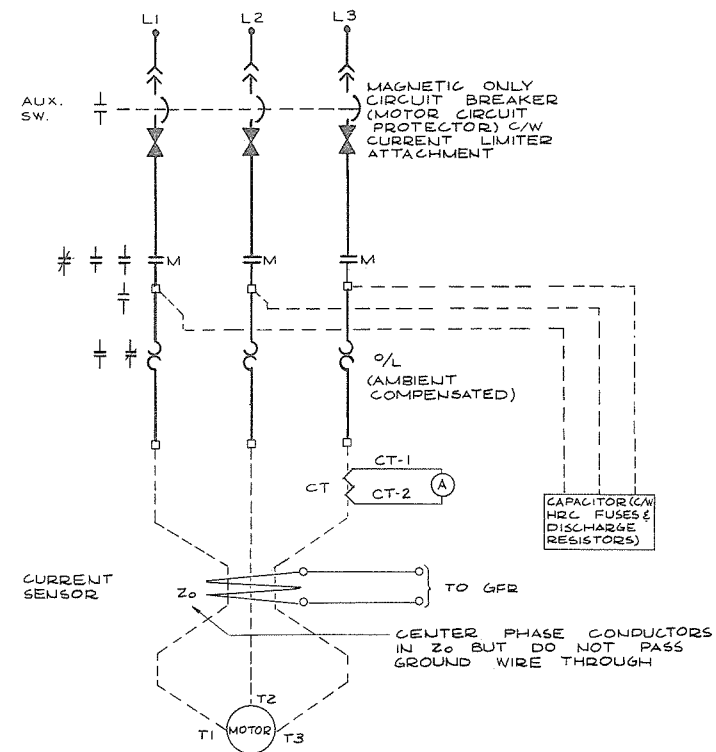
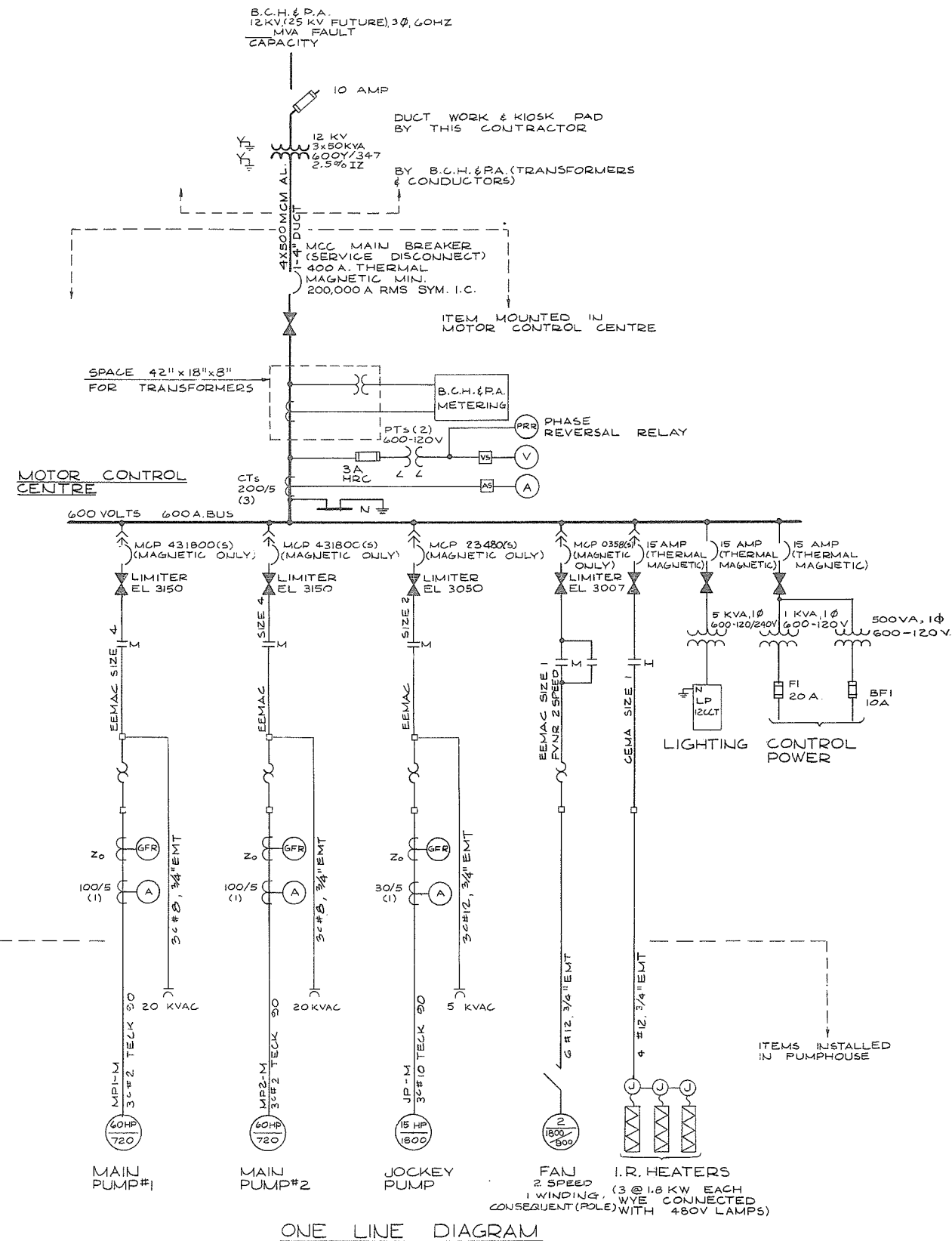


- NOTES

- Elevations refer to the Geodetic Survey of Canada
- For General Notes see 4195-17-66
- Cores to be filled with concrete as specified in detailed specifications

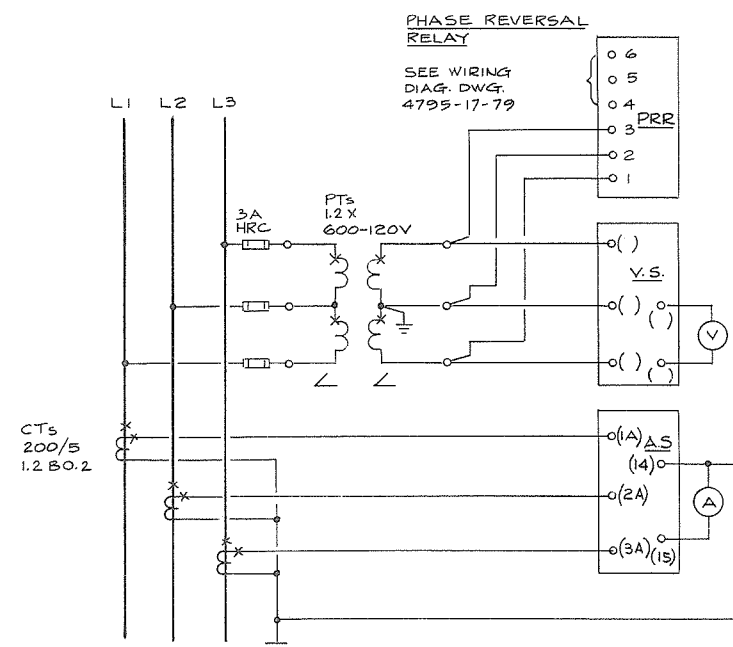
LEGEND

1	Denotes Giant Brick Western Buff color
2	Denotes Giant Brick Chestnut color



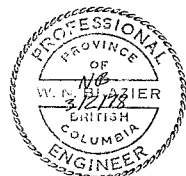
NOTES

- 1) FOR GENERAL NOTES REFER TO DWG. NO 4795-17-15
2) FOR SERVICE DETAILS AND SITE PLAN REFER TO DWG. NO 4795-17-63
3) FOR BUILDING DETAILS REFER TO ARCHITECTURAL DWG. NO 4795-17-71,
4795-17-108 & 4795-17-120.



LEGEND

- | | | | |
|---|--|---|---------------------------------------|
|  | AMMETER |  | MOTOR STARTER CONTACTOR |
|  | VOLTMETER |  | TWO SPEED STARTER
"FAST" CONTACTOR |
|  | AMMETER SWITCH |  | TWO SPEED STARTER
"SLOW" CONTACTOR |
|  | VOLTMETER SWITCH |  | MOLDED CASE AIR
CIRCUIT BREAKER |
|  | GROUND FAULT RELAY,
FPE TYPE GFA OR EQUAL | | |
|  | PHASE REVERSAL RELAY | | |
|  | CAPACITOR | | |
|  | TRANSFORMER | | |
|  | OVERLOAD | | |
|  | FUSE | | |
|  | CURRENT LIMITER | | |



PREPARED BY:
M.A. THOMAS & ASSOCIATES LTD.
CONSULTING ENGINEERS
VANCOUVER, B.C. ——— CANADA.

REFERENCE: 1291



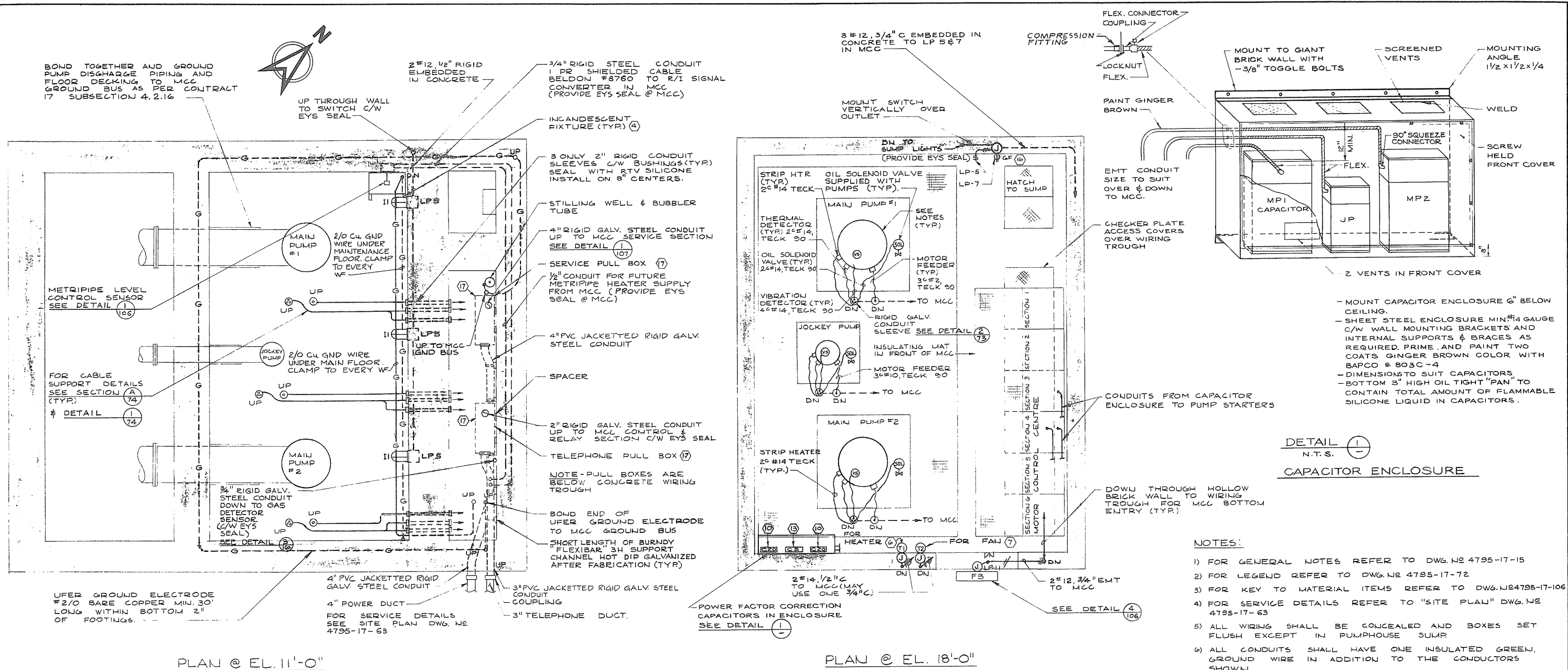
CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

NO.	BY	REVISIONS	DATE
-----	----	-----------	------

RECOMMENDED	<i>B. R. Cameron</i> PROJECT MANAGER
DATE	<i>Feb 13, 1978</i>
APPROVED	<i>J. W. Miller</i> for DIRECTOR
DATE	<i>Feb 13/78</i>

BRITISH COLUMBIA MINISTRY OF THE ENVIRONMENT WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1988 AGREEMENT	
PROJECT NO. 3	TOWNSHIP OF RICHMOND
CONTRACT NO. 17	
GILBERT RD SOUTH - DRAINAGE DISCHARGE STRUCT NO. 32	
ELECTRICAL ONE LINE DIAGRAM	

DESIGNED HO	SURVEYED
DRAWN SEO/TM	DATE
CHECKED NB	FILE NO. 0281550-C10-17
SCALE NONE	DATE Feb 1978
DWG. NO. 4795-17-724	SHEETS OF SHEETS



PREPARED BY:
M.A. THOMAS & ASSOCIATES LTD.
CONSULTING ENGINEERS
VANCOUVER, B.C. CANADA.

REFERENCE: 12%



CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

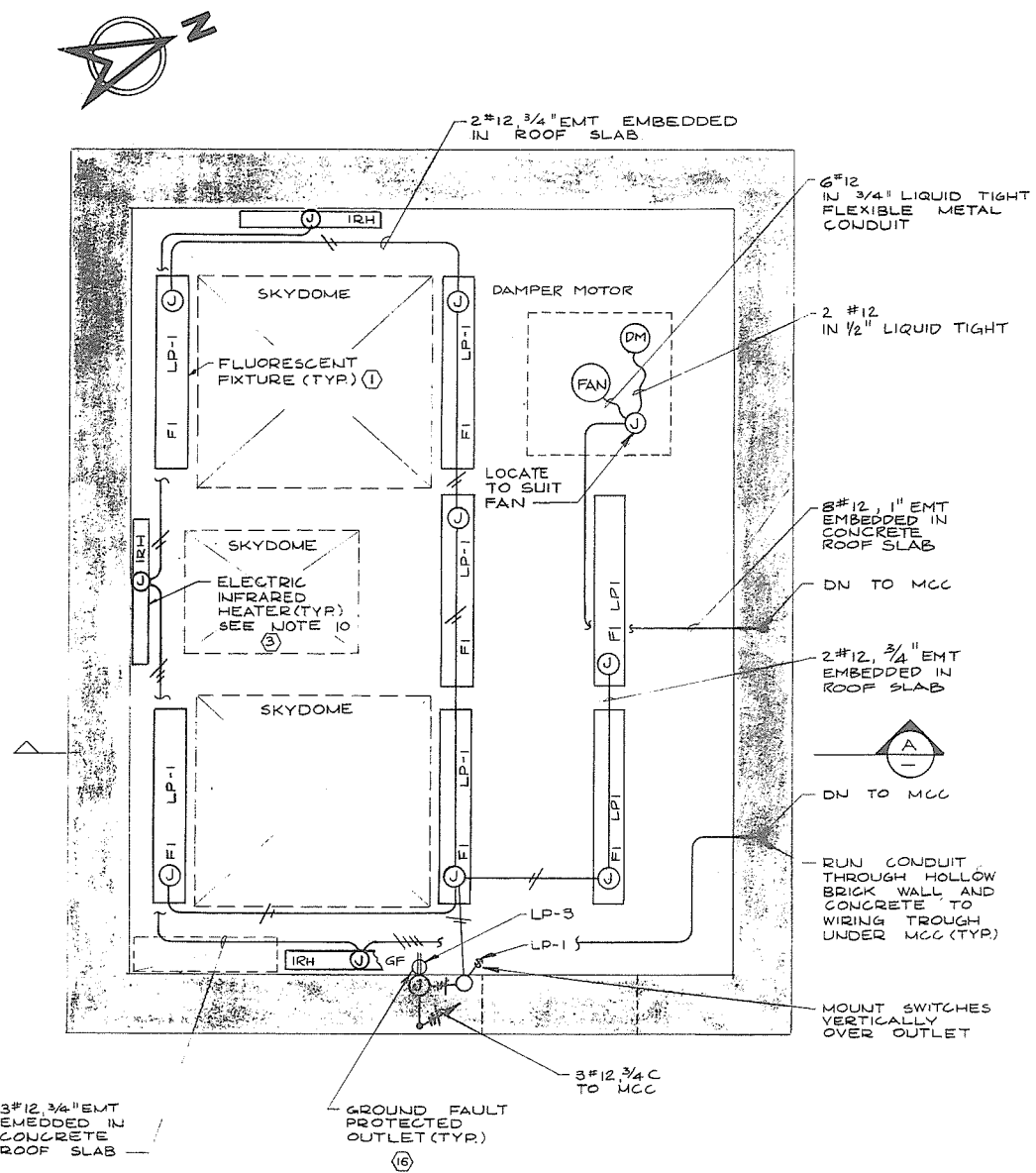
A

NO. BY REVISIONS DATE

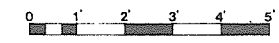
RECOMMENDED *P. R. Camm*
PROJECT MANAGER
DATE *Feb 13, 1978*
APPROVED *John F. Sullivan*
DIRECTOR
DATE *Feb 13/78*

BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA - BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1988 AGREEMENT
PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
GILBERT RD SOUTH-DRAINAGE DISCHARGE STRUCT NO. 32
ELECTRICAL LAYOUT

DESIGNED *HO*
DRAWN *SEO/TM*
CHECKED *NB*
SCALE *AS SHOWN*
DWG. NO. *4795-17-73 F*
SHEET 1 OF 2 SHEETS

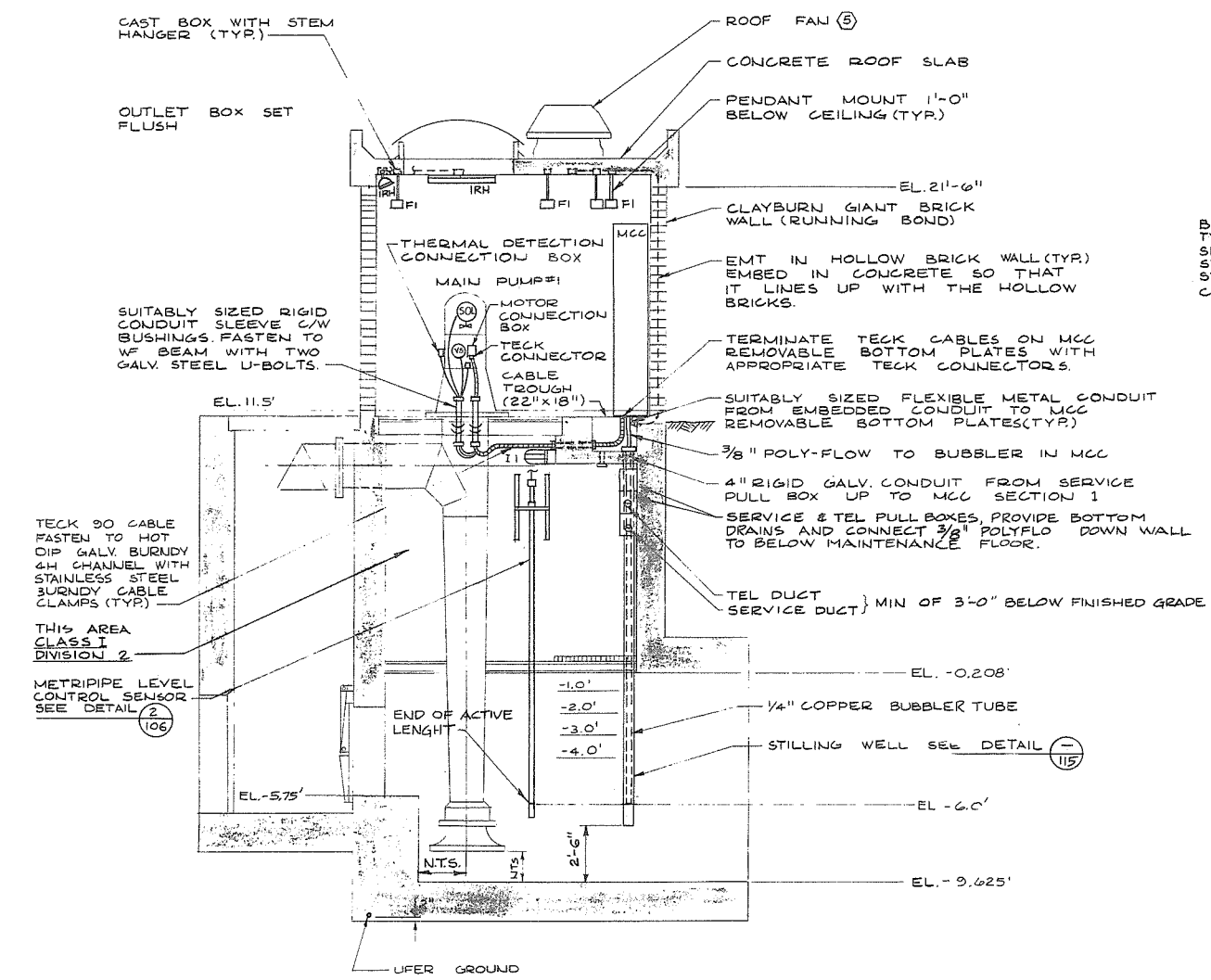


REFLECTED CEILING PLAN

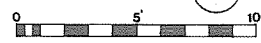


	START	STOP	LOW LEVEL LOCKOUT	HIGH LEVEL ALARM
JOCKEY PUMP:	-1.25	-2.00	-2.50	
LEAD PUMP :	-1.00	-1.75	} -2.25	} 0.00
LAG PUMP :	-0.75	-1.50		

PUMP OPERATING LEVELS

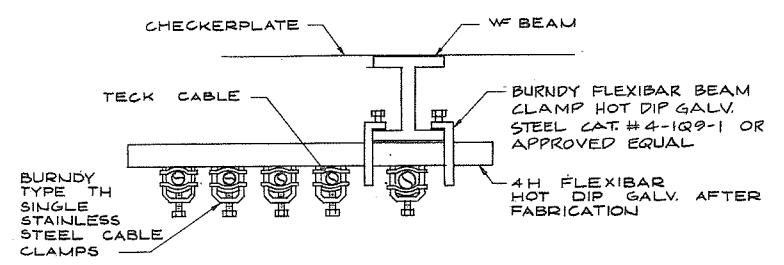


SECTION A-A

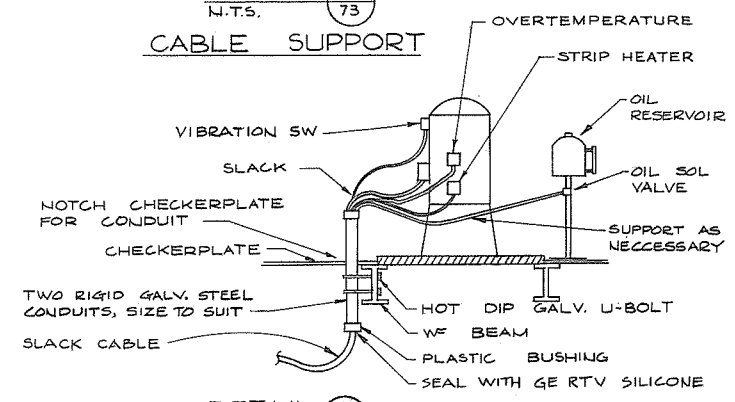


SINGLE PHASE, 3 WIRE, S.N. 120/240 VOLTS						
LOAD (WATTS)	DESCRIPTION	CCT NO.	S.N.	CCT NO.	DESCRIPTION	LOAD (WATTS)
750	INTERIOR FLUORESCENT LIGHTS	1	15A	2	JP MOTOR STRIP HEATER	
500	RECEPTACLE ON E. WALL	3	15A	4	MP1	
600	SUMP LIGHTS	5	15A	6	MP2	
500	RECEPTACLE ON W. WALL	7	15A	8	SPARE BKR	
	SPARE	9	15A	10	SPARE BKR	
75	EXTERIOR FLUORESCENT LIGHT	11	15A	12	SPARE BKR	

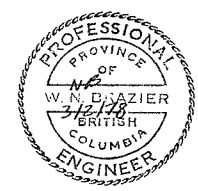
MOTOR CONTROL CENTRE LIGHTING PANEL "LP"



DETAIL 1
N.T.S.
CABLE SUPPORT



DETAIL 2
N.T.S.
CABLE SUPPORT



PREPARED BY:
M.A. THOMAS & ASSOCIATES LTD.
CONSULTING ENGINEERS
VANCOUVER, B.C. — CANADA.
REFERENCE: 1291



CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

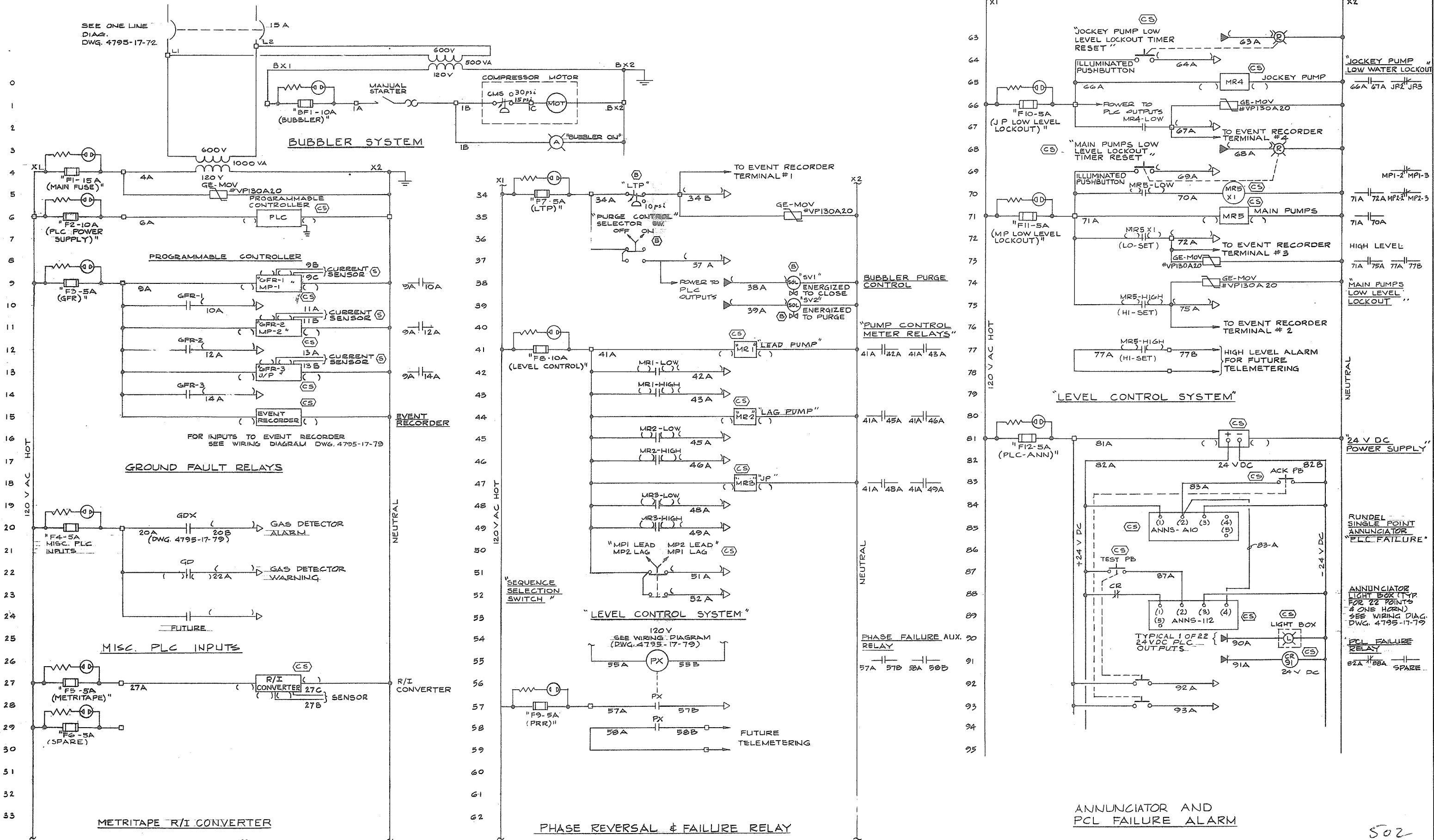
NO.	BY	REVISIONS	DATE
1	A		

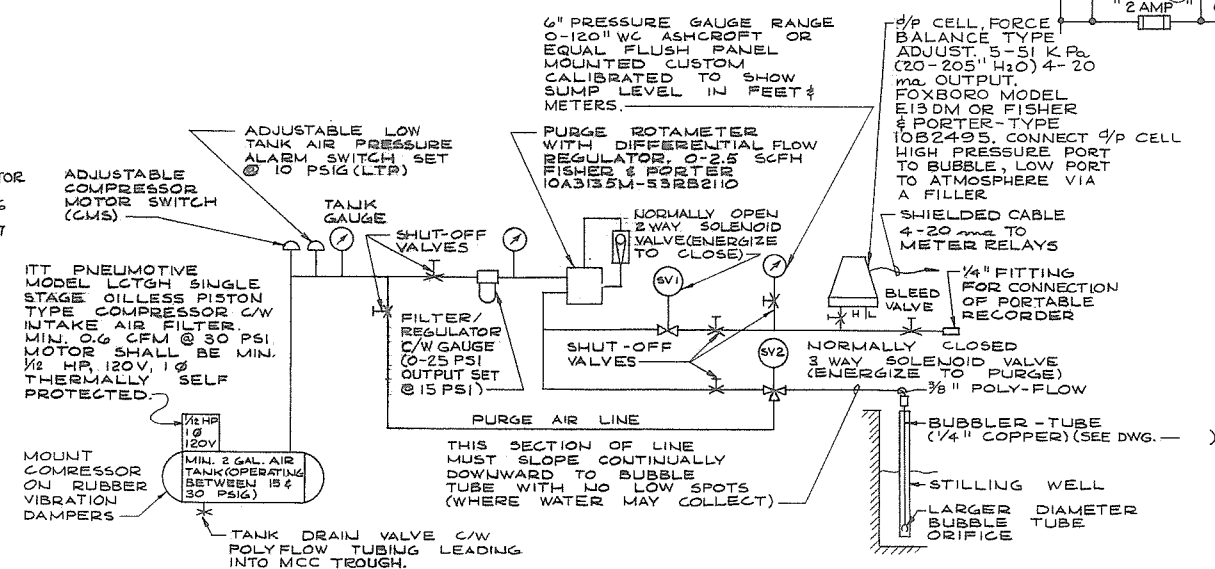
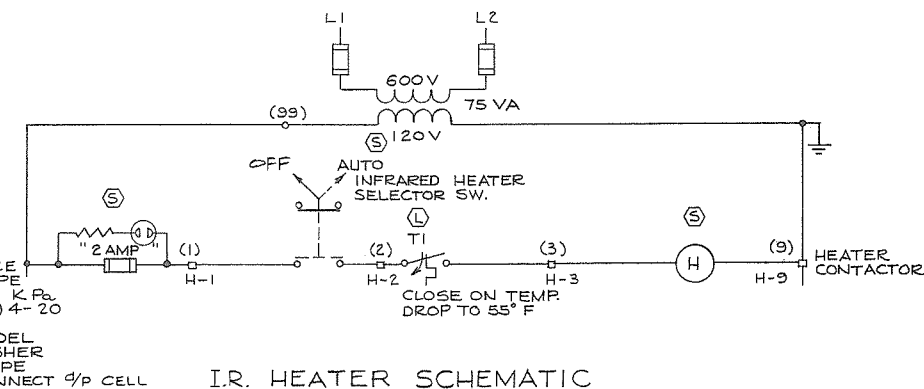
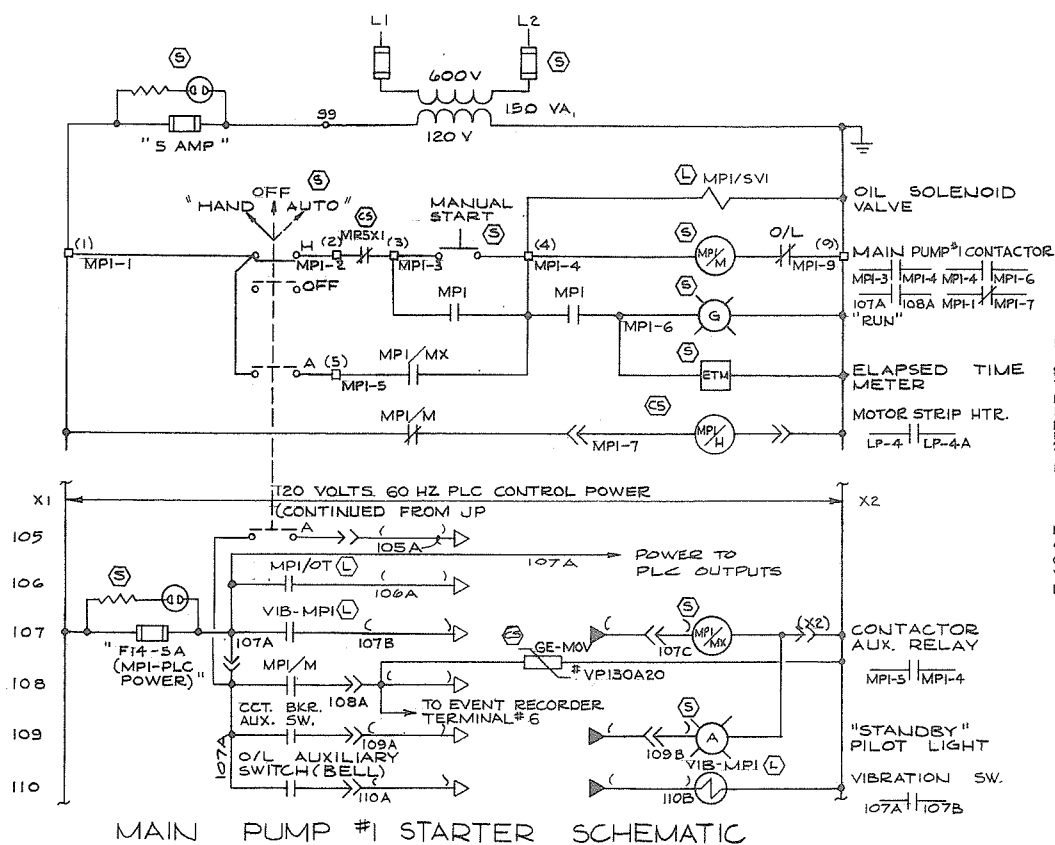
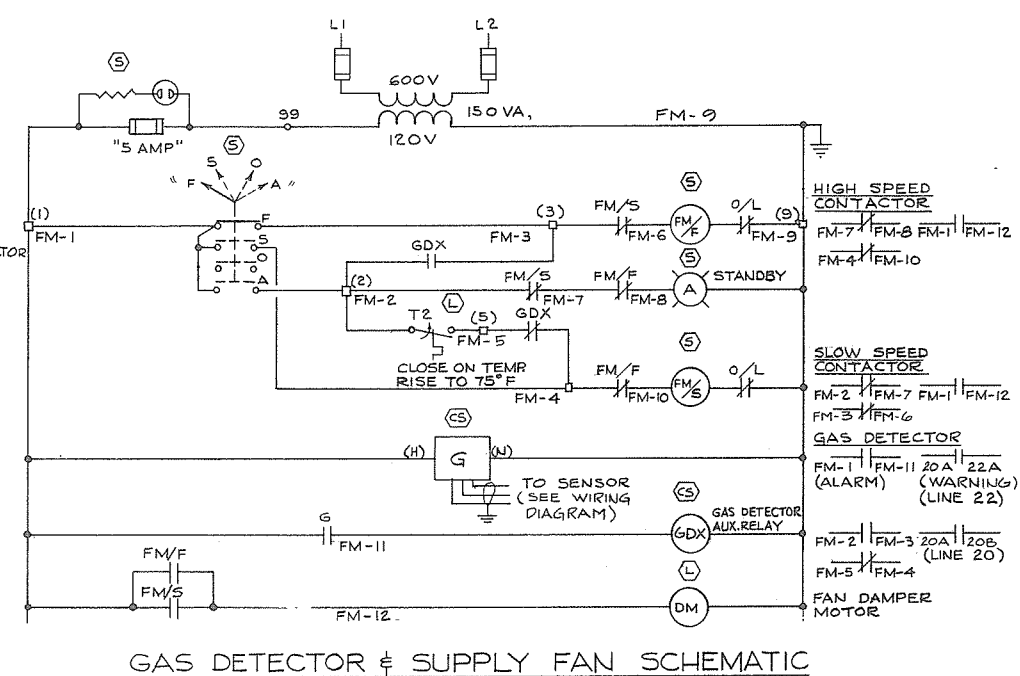
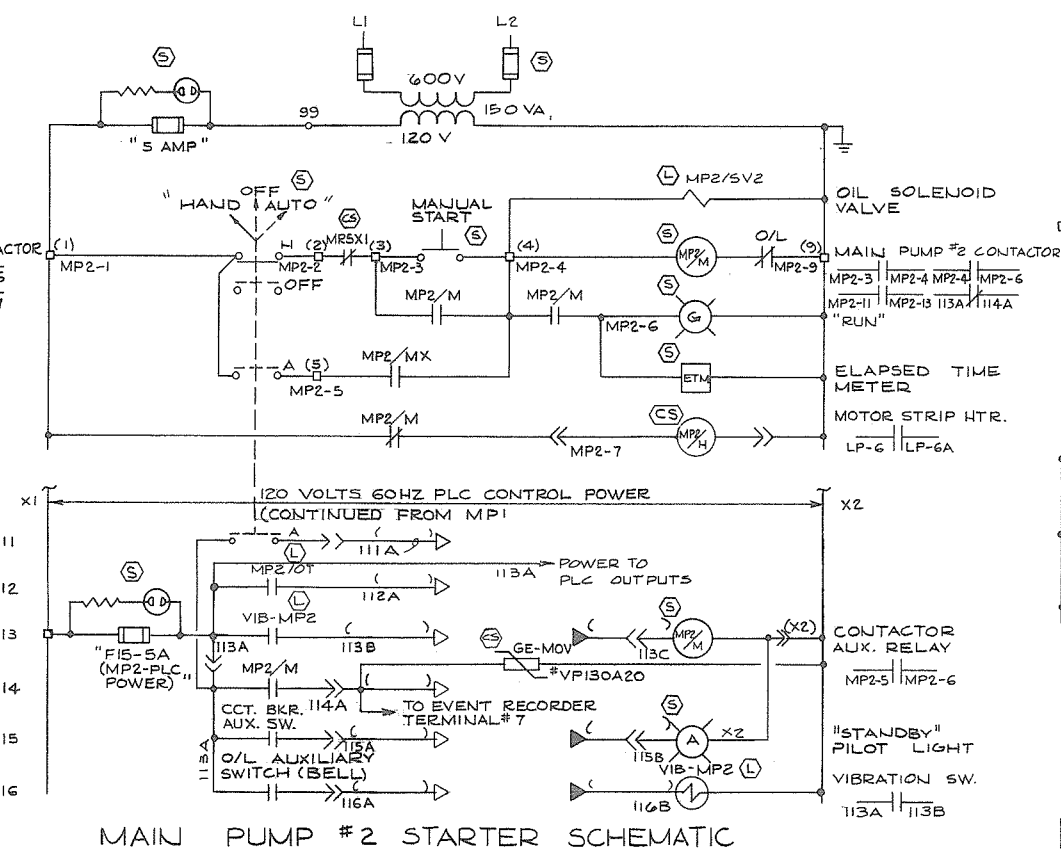
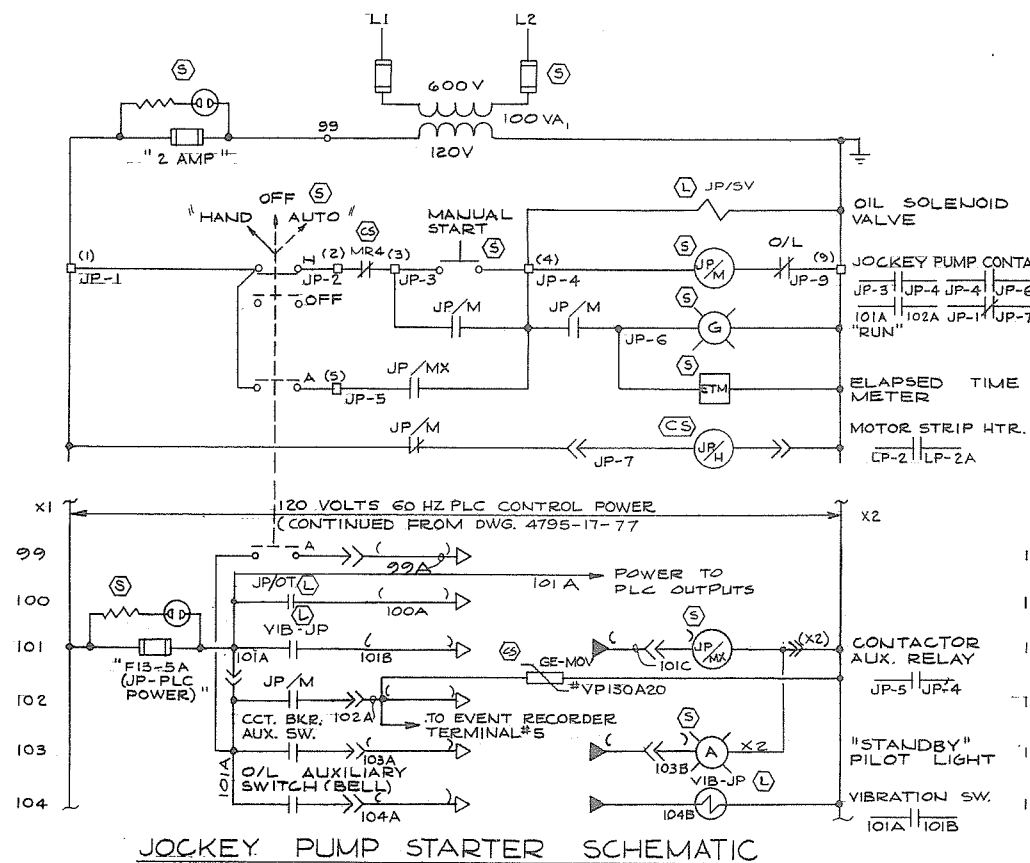
RECOMMENDED: *R. G. Cameron*
PROJECT MANAGER
DATE: Feb. 13, 1978
APPROVED: *W. G. Fuller*
DIRECTOR
DATE: Feb 13/78

BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA — BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT
PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
GILBERT RD SOUTH-DRAINAGE DISCHARGE STRUCT NO. 32
ELECTRICAL LAYOUT

DESIGNED: HO	SURVEYED:
DRAWN: SEO/FC/TM	DATE:
CHECKED: W.B.	FILE NO. 0281550-C10-17
SCALE: AS SHOWN	DATE: Feb 1978
DWG. NO. 4795-17-74 A	SHEET 2 OF 2 SHEETS

266 501





- ## LEGEND
- | | |
|---|--|
|  | MOUNTED IN MCC STARTER CUBICLE |
|  | MOUNTED IN MCC INSTRUMENT SECTION |
|  | MOUNTED IN MCC CONTROL SECTION |
|  | MOUNTED IN MCC BUBBLER SECTION |
|  | LOCALLY (FIELD) MOUNTED |
|  | LOCATED IN MCC METERING & SERVICE SECTIONS |
|  | PLUG-IN TYPE TERMINAL BLOCK (MCC STARTERS) |
|  | PLC INPUT (115 VAC) |
|  | PLC OUTPUT (115 VAC) |
|  | PLC OUTPUT (24 VDC) |
|  | SURGE ARRESTOR |
|  | ELAPSE TIME METER |
| MR | METER RELAY |
| GFR | GROUND FAULT RELAY |
| J/P | JOCKEY PUMP |
| MPI | MAIN PUMP #1, ETC., |
| O/T | TEMP. SENSOR (ROD & TUBE SWITCH) IN MOTOR. |
| O/L | THERMAL OVERLOAD (3 POLE) |
|  | PLUG-IN TYPE TERMINAL BLOCK |
|  | SLOW BLOW CONTROL FUSE IN INDICATING HOLDER. |
- 



PREPARED BY:
M.A. THOMAS & ASSOCIATES LTD.
CONSULTING ENGINEERS
VANCOUVER, B.C. ——— CANADA.

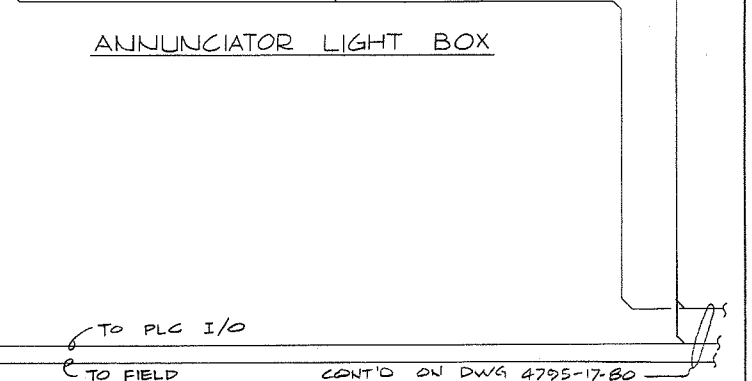
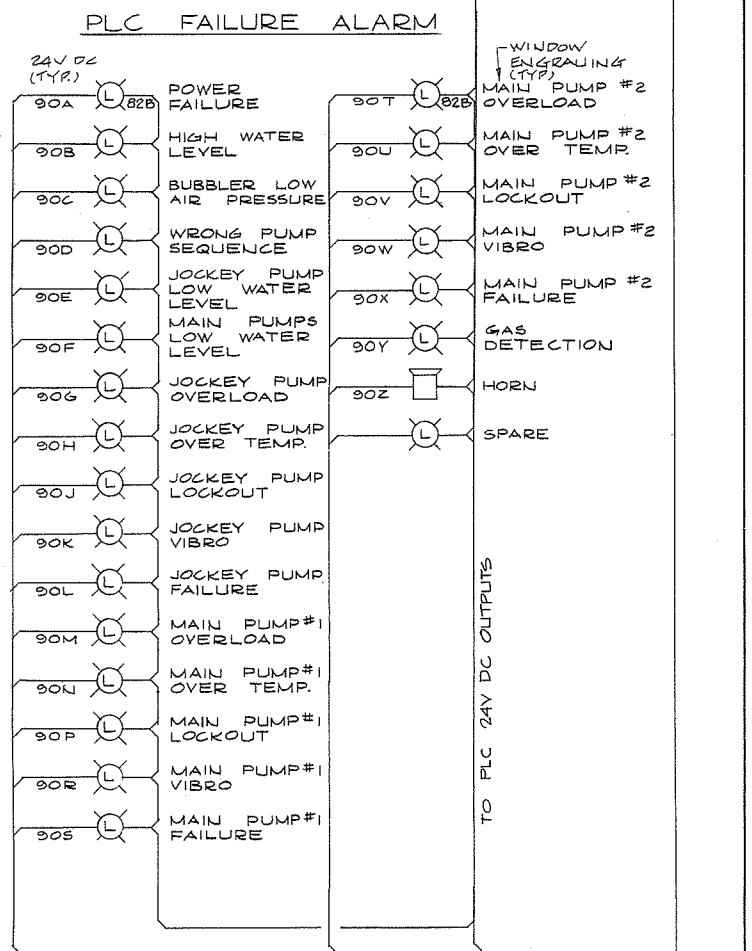
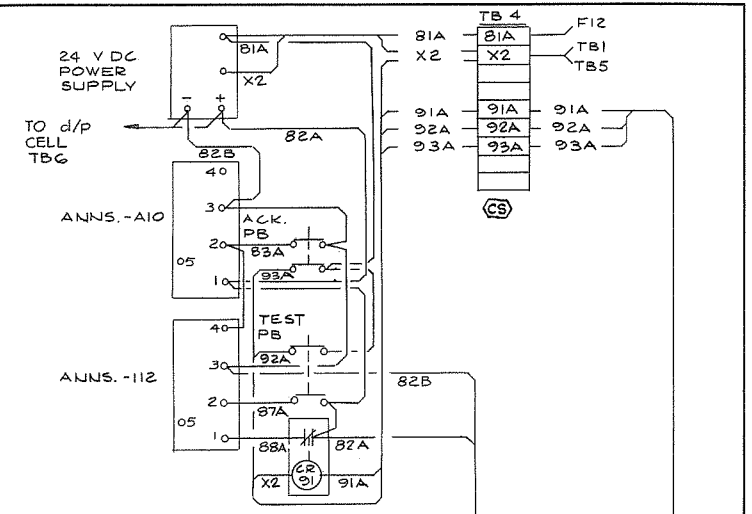
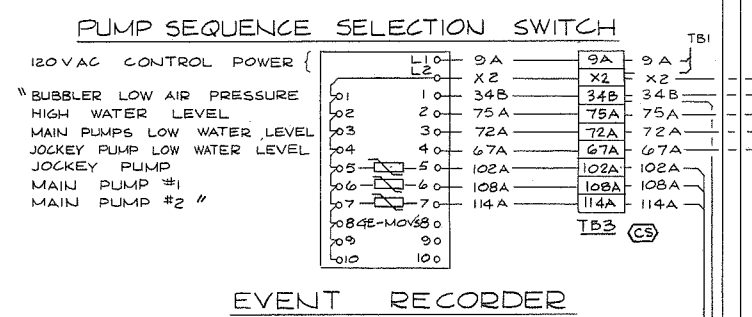
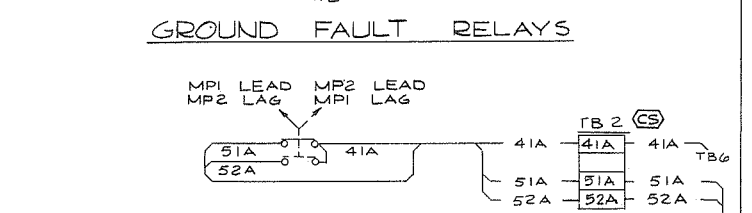
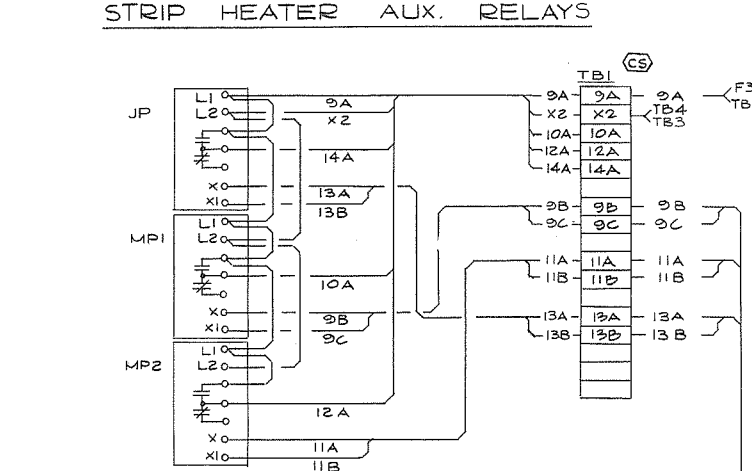
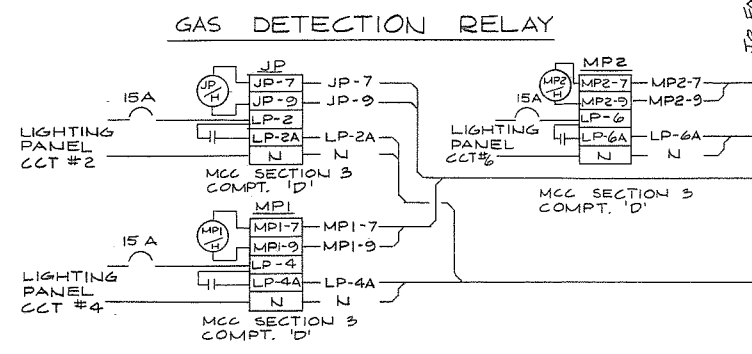
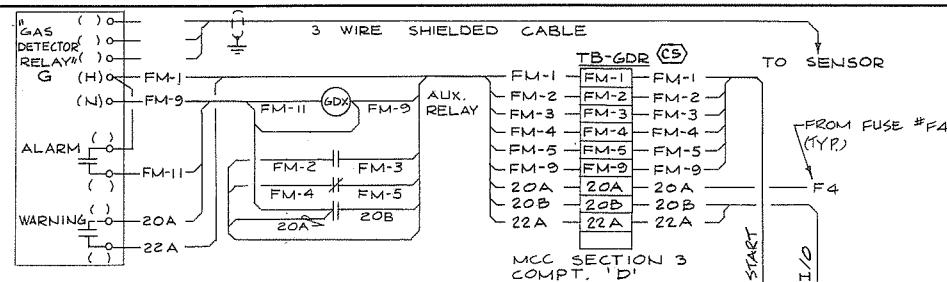
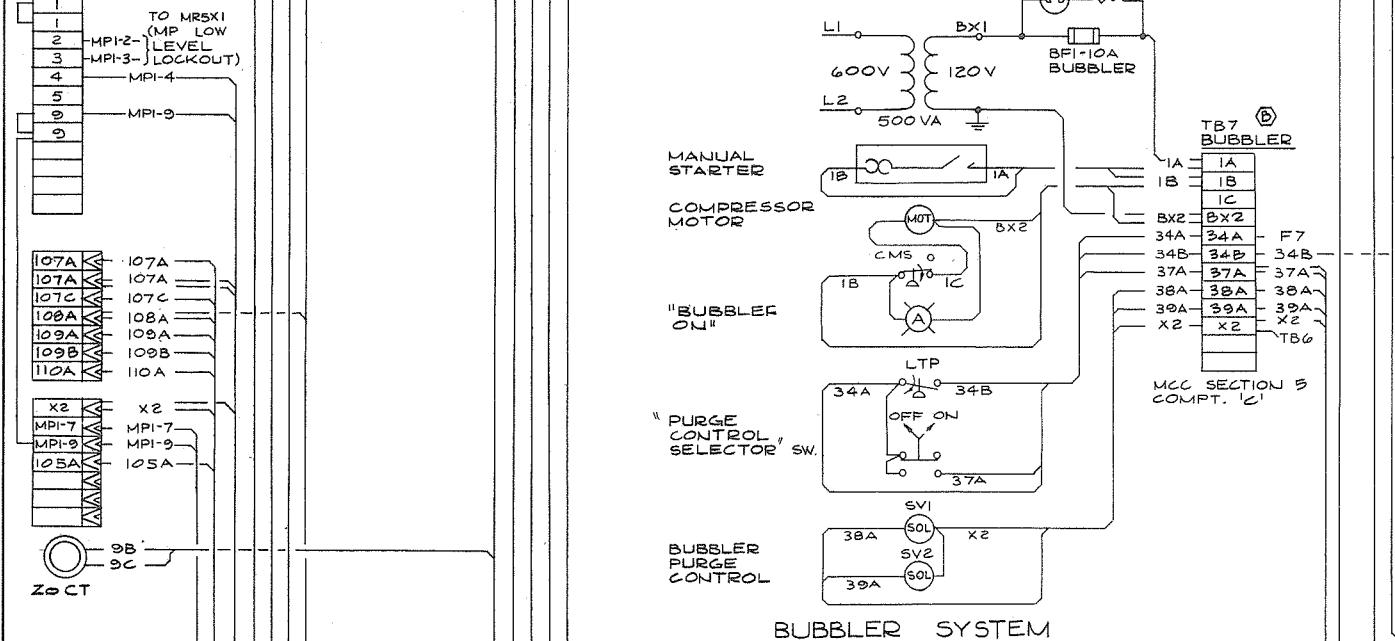
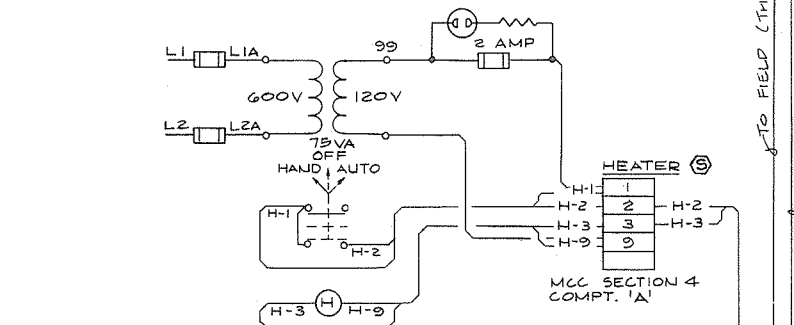
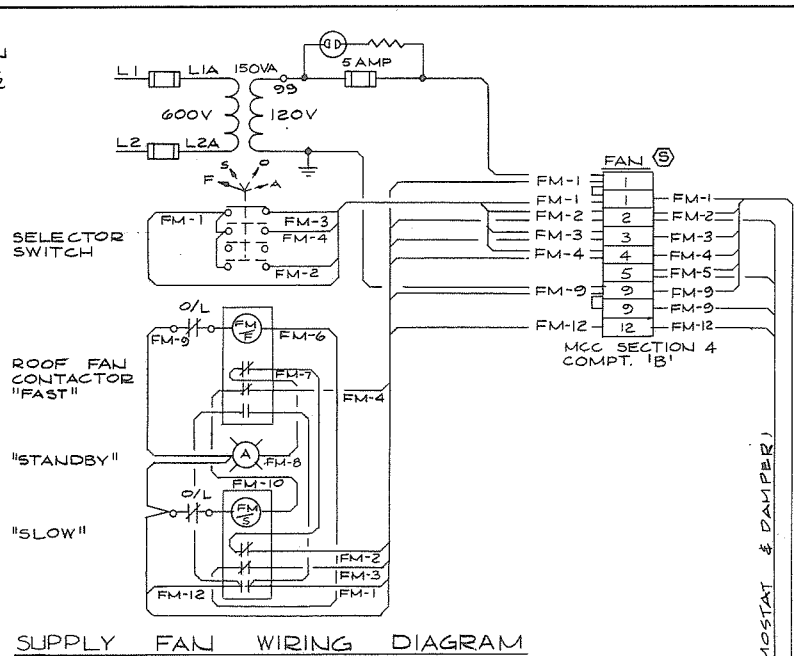


CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

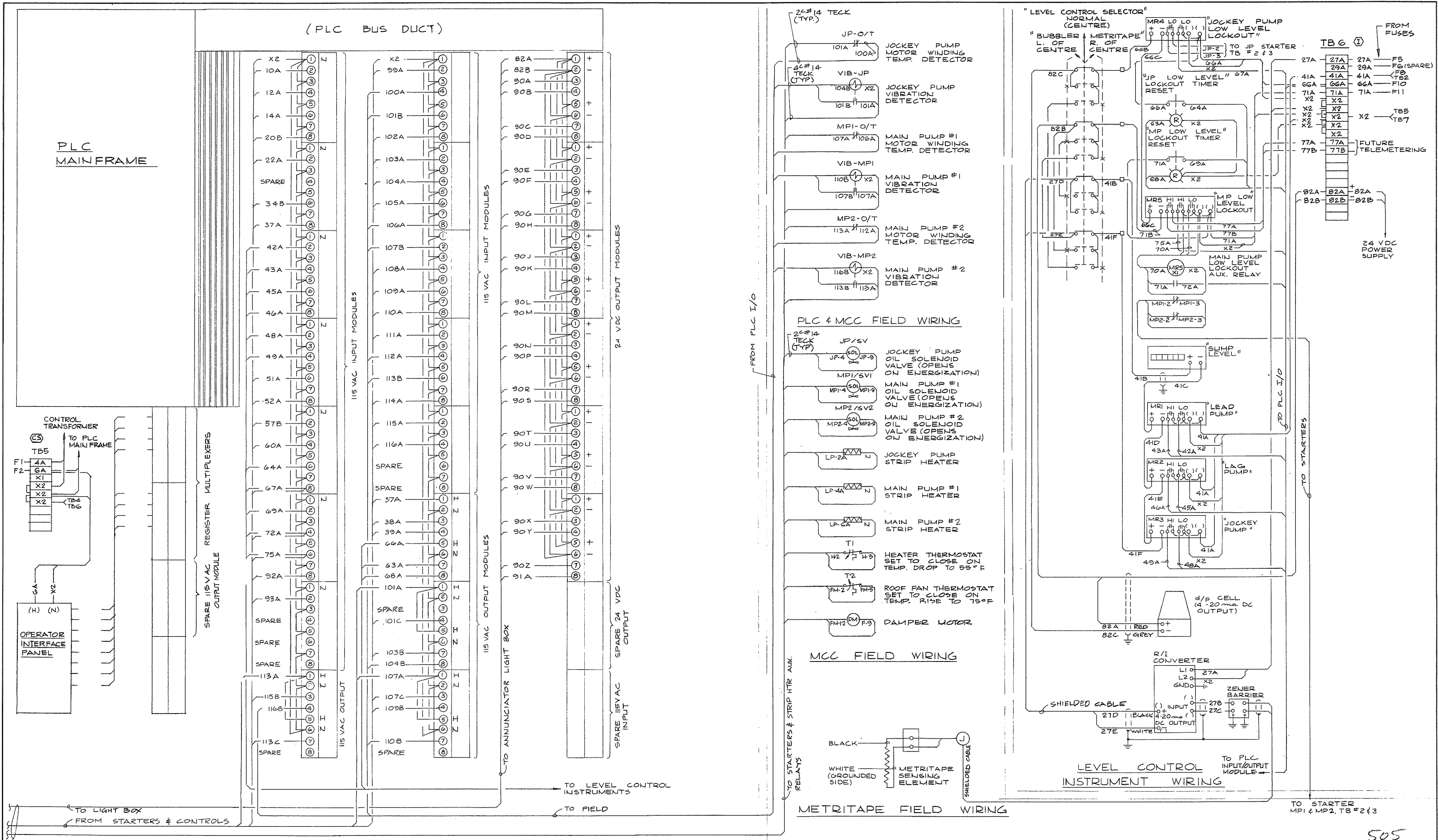
RECOMMENDED	<i>R. R. Cameron</i> PROJECT MANAGER
DATE	<i>Feb. 13, 1978</i>
APPROVED	<i>J. B. Hall</i> for DIRECTOR
DATE	<i>Feb. 13/78</i>

BRITISH COLUMBIA MINISTRY OF THE ENVIRONMENT WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT	
PROJECT NO. 3	TOWNSHIP OF RICHMOND CONTRACT NO. 17
GILBERT RD SOUTH - DRAINAGE DISCHARGE STRUCT NO. 32 ELECTRICAL SCHEMATIC DIAGRAM - STARTERS	

DESIGNED	HO	SURVEYED	
DRAWN	SEO/FC/MT	DATE	
CHECKED	WB	FILE NO.	0281550-C10-17
SCALE	NONE	DATE	Feb 1978
DWG. NO.	4795-17-78A	SHEET	2 OF 2 SHEETS



DESIGNED	HO	SURVEYED	
DRAWN	SEO	DATE	504
CHECKED	NB	FILE NO.	0281550-C10-17
SCALE	NONE	DATE	Feb 1978
DWG. NO.	4795-17-79 A	SHEET	1 OF 2 SHEETS



CONT'D FROM DWG 4795-17-79



PREPARED BY:
M.A. THOMAS & ASSOCIATES LTD
CONSULTING ENGINEERS
VANCOUVER, B.C. CANADA.

REFERENCE: 1291



CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

NO.

BY

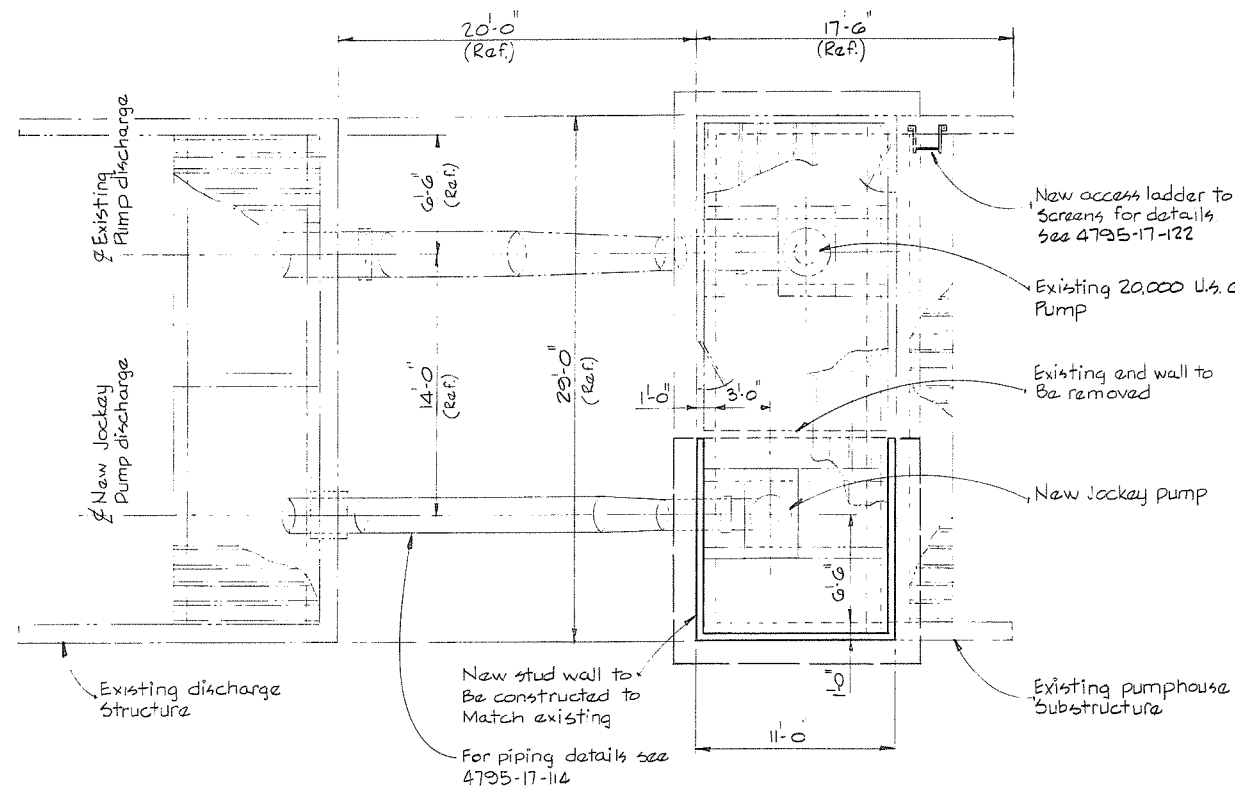
REVISIONS

DATE

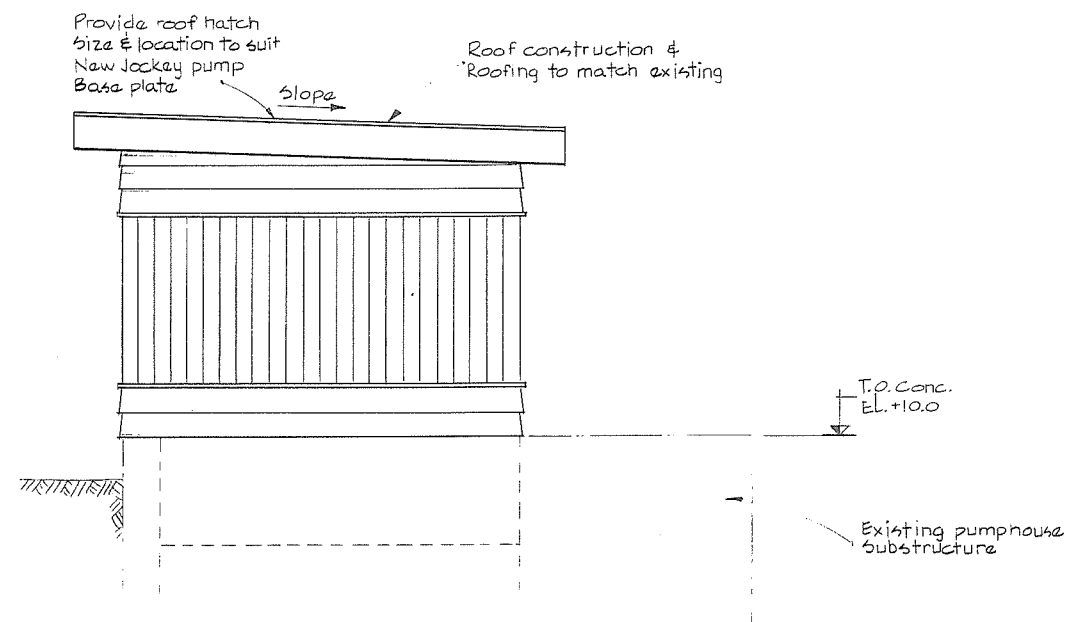
RECOMMENDED: R. A. Cameron
CHIEF, PROJECTS DIV.
DATE: Feb. 13, 1978
APPROVED: [Signature]
CHIEF ENGINEER
DATE: Feb 13/78

BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA - BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT
PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
GILBERT RD SOUTH-DRAINAGE DISCHARGE STRUCT NO. 32
ELECTRICAL WIRING DIAGRAM

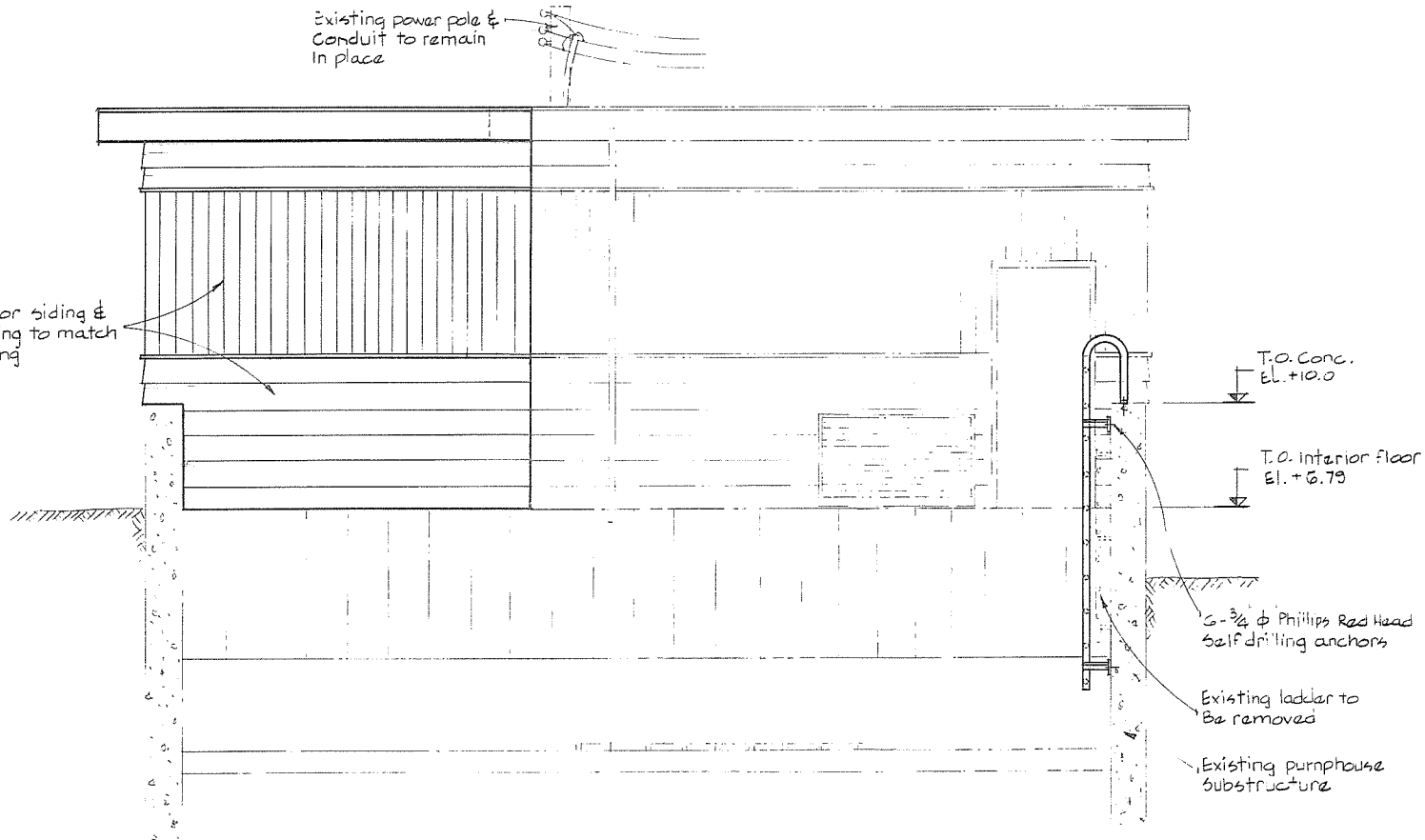
DESIGNED: HO	SURVEYED:
DRAWN: SEO	DATE:
CHECKED: NP	FILE NO. 0281550-CIO-17
SCALE: NONE	DATE: Feb 1978
DWG. NO. 4795-17-80	SHEET 2 OF 2 SHEETS



PLAN
2 1 0 2 4 6 8 10 12 14
SCALE IN FEET



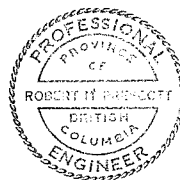
SOUTH ELEVATION
1 0 1 2 3 4 5 6 7
SCALE IN FEET



EAST ELEVATION
1 0 1 2 3 4 5 6 7
SCALE IN FEET

NOTES

• All elevations refer to the Goodspeed Survey of Canada



CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

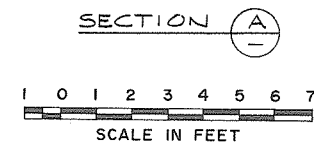
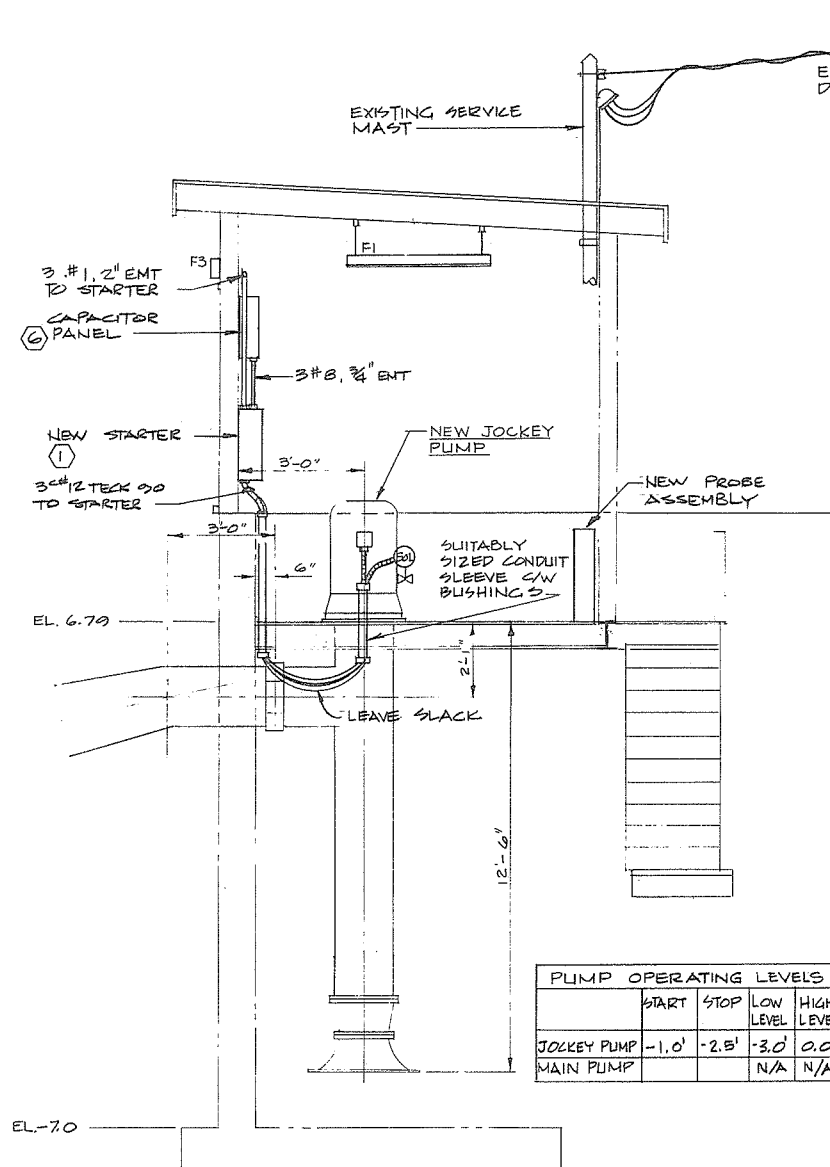
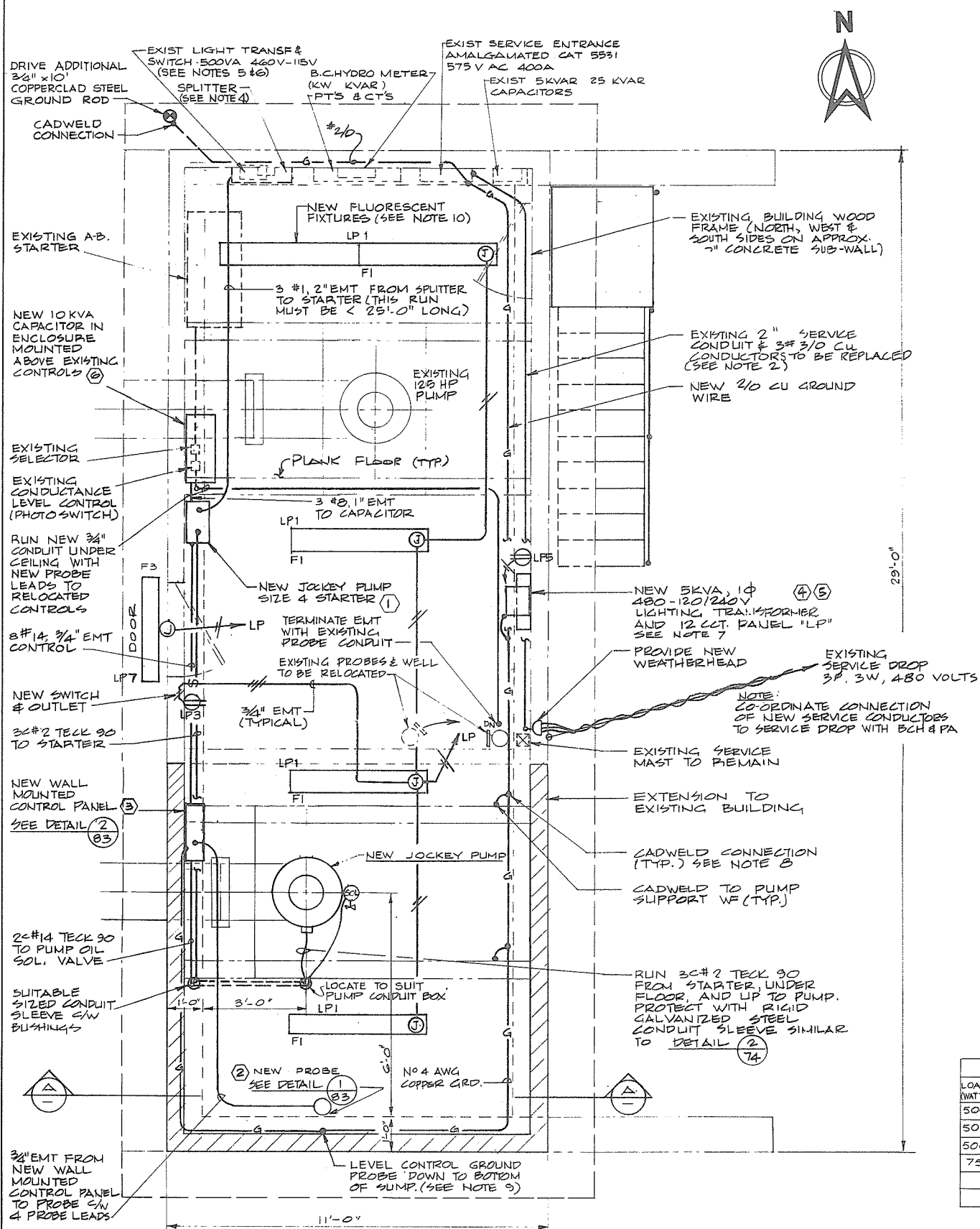
NO.	BY	REVISIONS	DATE
A			

RECOMMENDED <i>B. V. Cameron</i> PROJECT MANAGER
DATE <i>Feb. 13, 1978</i>
APPROVED <i>John J. Miller</i> DIRECTOR
DATE <i>Feb 15/78</i>

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

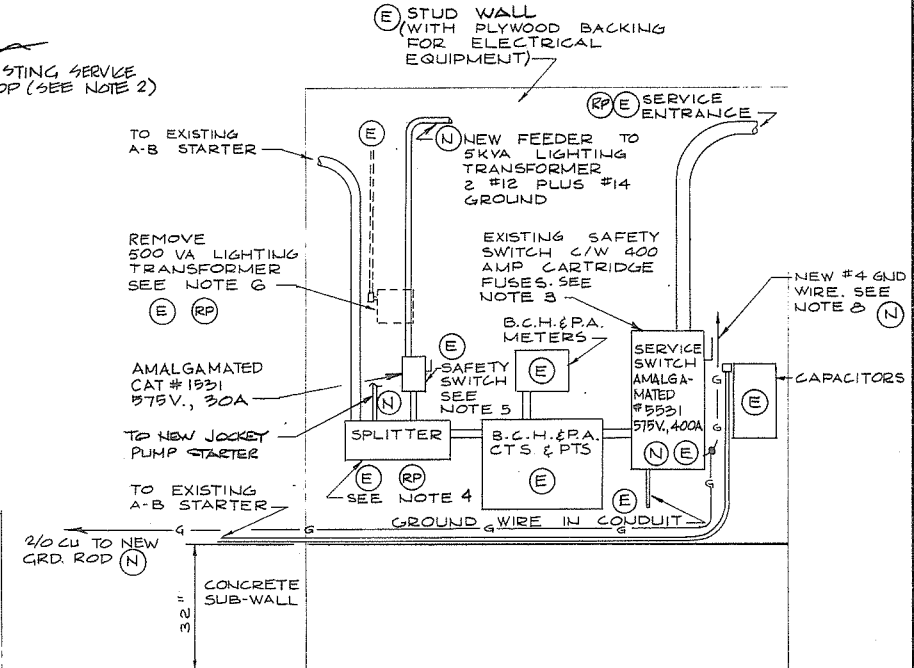
PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
NO. 2 RD SOUTH - DRAINAGE DISCHARGE STRUCT NO. 33
ARCHITECTURAL DETAILS

DESIGNED	SURVEYED
DRAWN <i>DD</i>	DATE
CHECKED <i>DLC</i>	FILE NO. <i>Q2B1550-C10-17</i>
SCALE <i>AS SHOWN</i>	DATE <i>Feb 1978</i>
DWG. NO. <i>4795-17-81</i>	SHEET <i>506</i> OF <i>506</i> SHEETS



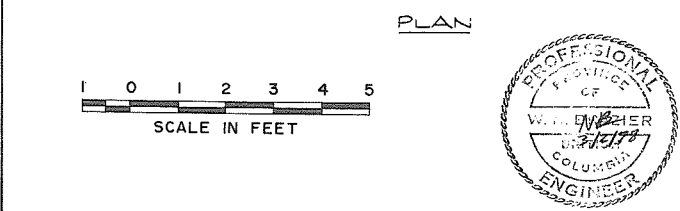
SINGLE PHASE, 3 WIRE, S.W. 120/240 VOLTS									
LOAD (WATTS)	DESCRIPTION	CCT. N°	15A	30 AMP MAIN	CCT. N°	DESCRIPTION	LOAD (WATTS)		
500	INTERIOR FLUORESCENT LIGHTS	1	15A		2	SPACE			
500	RECEPTACLE @ DOOR	3	15A		4	"			
500	RECEPTACLE @ PANEL	5	15A		6	"			
75	EXTERIOR DOOR LIGHT	7	15A		8	"			
	SPARE	9	15A		10	"			
	SPARE	11	15A		12	"			

LIGHTING PANEL "LP" SCHEDULE



- LEGEND**
- EXISTING EQUIPMENT
 - EQUIPMENT TO BE REPLACED
 - NEW EQUIPMENT OR RACEWAY AND WIRING
 - NEW ITEMS CALLED UP ON MATERIAL LIST
 - GROUND WIRE

- NOTES**
- REFER TO SPECIFICATIONS FOR GENERAL REQUIREMENTS.
 - REPLACE EXISTING SERVICE CONDUCTORS WITH 300 MCM CU RW90 IN NEW 3" CONDUIT (RIGID GALVANIZED STEEL ABOVE ROOF, EMT MAY BE USED IN PUMPHOUSE) PATCH ROOF AS REQUIRED. CO-ORDINATE WORK WITH B.C.H. & P.A.
 - REPLACE 400 AMP CARTRIDGE FUSES IN EXISTING SERVICE SWITCH WITH 400A, FORM 1, CLASS H, HRC, DUAL ELEMENT TIME DELAY TYPE, BUSSMANN "LOW PEAK" OR APPROVED EQUIVALENT. LEAVE 3 SPARE FUSES IN SWITCH.
 - REPLACE EXISTING SPLITTER WITH NEW 600 VOLT, 400 AMP, 3 WIRE UNIT WITH MAINS AND BRANCHES TO SUIT. NEW FEEDER FROM SPLITTER TO Jockey PUMP STARTER SHALL NOT BE LONGER THAN 25 FT. REPLACE CONDUCTORS FROM SERVICE SWITCH TO B.C.H. & P.A. METERS AND FROM METERS TO SPLITTER WITH 3X300 MCM CU RW90. PROVIDE CONDUIT TO SUIT.
 - REPLACE FUSES IN EXISTING LIGHTING TRANSFORMER FEEDER SWITCH WITH HRC, FORM 1, CLASS H, DUAL ELEMENT TIME DELAY UNITS, BUSSMANN OR APPROVED EQUIVALENT. LEAVE 2 SPARE FUSES IN SWITCH.
 - REMOVE EXISTING 500VA LIGHTING TRANSFORMER AND RETURN TO RICHMOND. RUN 3/4" EMT WITH 2 NO. 12 AWG PLUS A NO. 12 GROUND TO NEW 5 KVA LIGHTING TRANSFORMER ON EAST WALL.
 - MOUNT NEW (ITEM #4) 4 KVA LIGHTING TRANSFORMER AND PANEL (ITEM #5) ON EAST PUMPHOUSE WALL. MOUNT TRANSFORMER ON SUITABLE "FLEXIBAR" FRAMEWORK.
 - RUN A NEW NO. 2/0 AWG CU GROUND WIRE FROM SERVICE ENTRANCE SWITCH TO NEW Jockey PUMP SUPPORT W/F BEAMS AND "CADWELD" TO SAME TAP OFF WITH NO. 4 AWG GROUND WIRE AND BOND TO NEW LIGHTING TRANSFORMER SECONDARY NEUTRAL. CADWELD ALL SPLICES AND CONNECTIONS TO BEAMS.
 - INSTALL A NO. 4 AWG CU GROUND WIRE DOWN SUMP WALL ADJACENT TO THE NEW Jockey PUMP LEVEL CONTROL PROBES. RUN TO BOTTOM OF SUMP AND CLAMP TO CONCRETE WITH PLATED MALLEABLE IRON ONE HOLE STRAPS. BOND THIS WIRE TO PUMP GROUND WIRE SPECIFIED IN NOTE 8 ABOVE AND CONTINUE ON TO NEW WALL MOUNTED Jockey PUMP CONTROL PANEL. CADWELD ALL SPLICES.
 - INSTALL NEW STEM MOUNTED FLUORESCENT FIXTURES IN PUMPHOUSE EXTENSION AND EXISTING ROOM.
 - INSTALL NEW EXTERIOR FLUORESCENT FIXTURE OVER DOOR.
 - FOR KEY TO MATERIAL SEE DRAWING NO. 4795-17-83.
 - FOR FIXTURE SCHEDULE SEE DRAWING NO. 4795-17-106.



PREPARED BY:
M.A. THOMAS & ASSOCIATES LTD.
CONSULTING ENGINEERS
VANCOUVER, B.C. — CANADA.

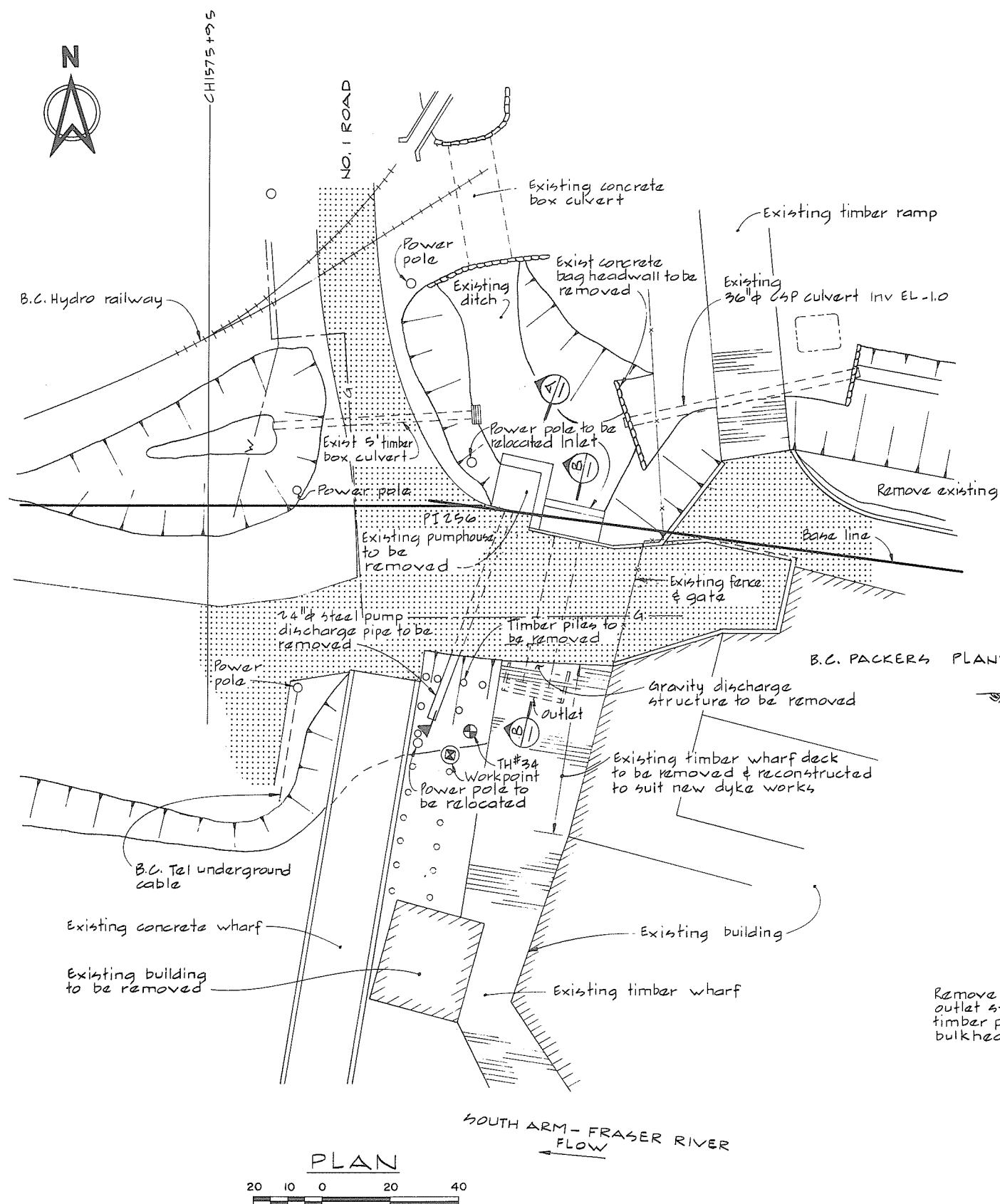
CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

RECOMMENDED *B.R. Cameron*
PROJECT MANAGER
DATE *Feb. 13, 1978*
APPROVED *W.A. Thomas*
DIRECTOR
DATE *Feb 13/78*

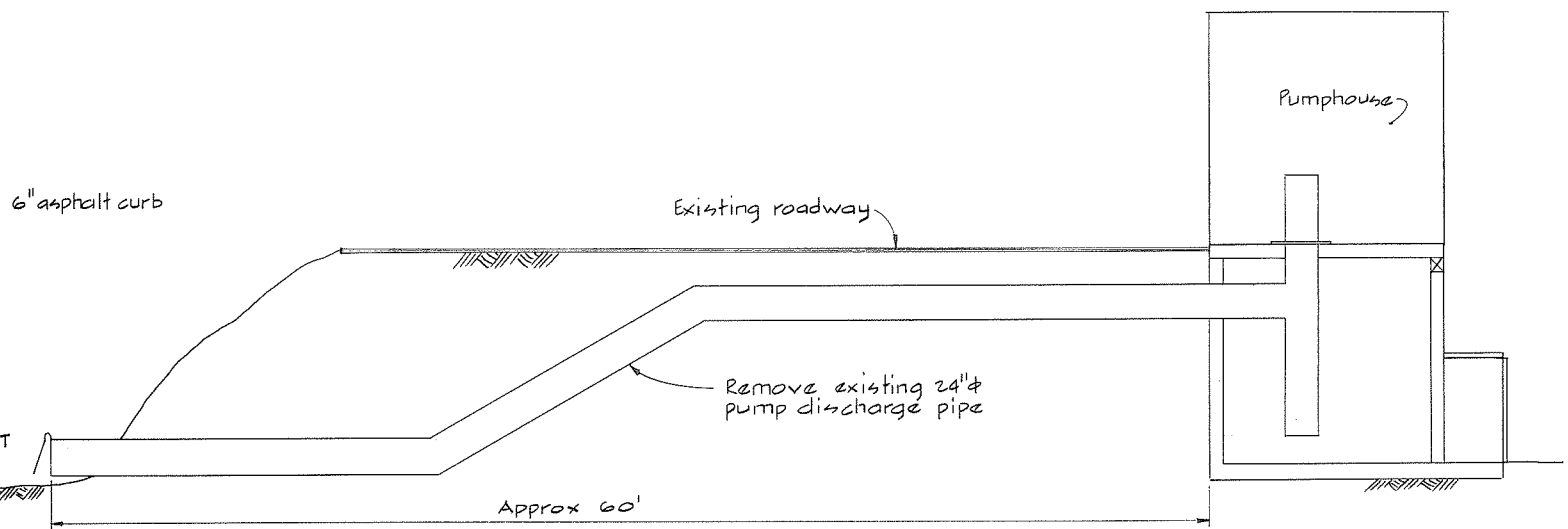
BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA — BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1983 AGREEMENT
PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
NO. 2 RD SOUTH-DRAINAGE DISCHARGE STRUCT NO. 33
ELECTRICAL LAYOUT

DESIGNED *HO/NB*
DRAWN *JT/SEO*
CHECKED *NB*
SCALE *AS SHOWN*
DWG. NO. *4795-17-82 A*
SHEET *OF* SHEETS

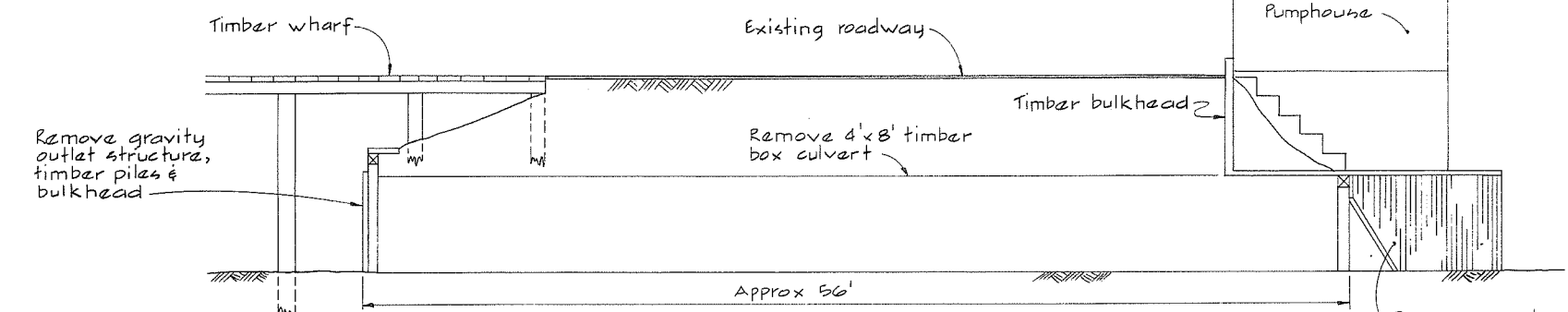
266507



PLAN
SCALE IN FEET
20 10 0 20 40



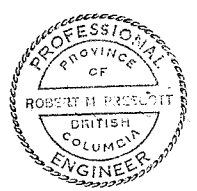
SECTION A
SCALE IN FEET
5 0 5 10



SECTION B
SCALE IN FEET
5 0 5 10

LEGEND
 [Pattern] - Denotes existing asphalt pavement
 ⊕ TH#34 - Test Hole #34
NOTES
 • All elevations refer to the Geodetic Survey of Canada
 • For location of work point see dwg No. 4795-17-86

266 509



CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

NO.	BY	REVISIONS	DATE
1	A		

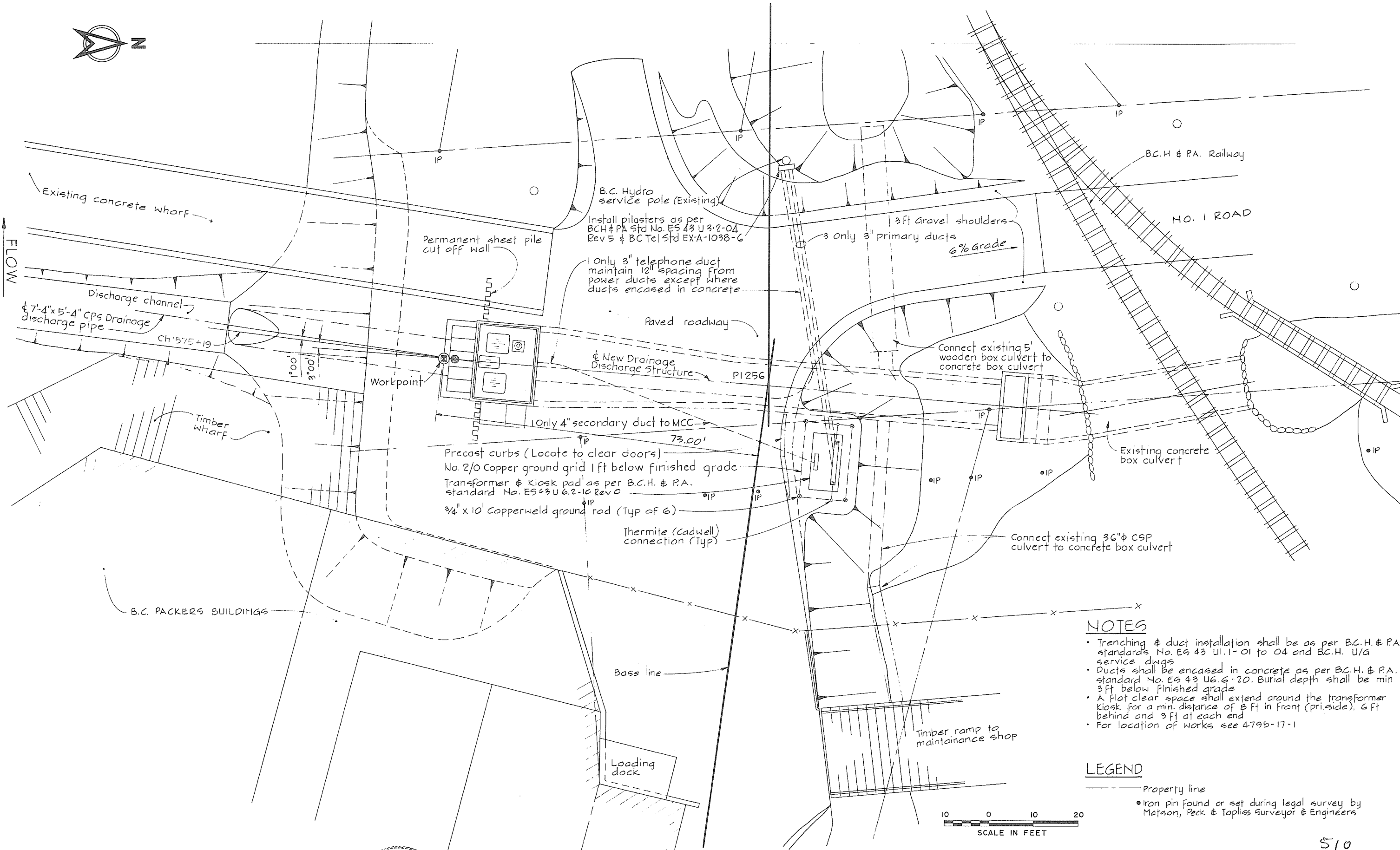
RECOMMENDED	<i>B. R. Cameron</i>
PROJECT MANAGER	
DATE	Feb. 13, 1978
APPROVED	<i>W. H. Buller</i>
DIRECTOR	
DATE	Feb 13/78

BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA - BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT
PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
NO. 1 RD SOUTH - DRAINAGE DISCHARGE STRUCT NO. 34
PLAN SHOWING EXISTING DRAINAGE STRUCTURES TO BE REMOVED AND UTILITIES

DESIGNED	DLC	SURVEYED	
DRAWN	AR	DATE	
CHECKED	DLC	FILE NO.	0281550-C10-17
SCALE	AS SHOWN	DATE	Feb 1978
DWG. NO.	4795-17-85A	SHEET	OF SHEETS



SOUTH ARM FRASER RIVER

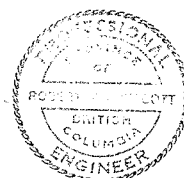


NOTES

- Trenching & duct installation shall be as per B.C.H. & P.A. standards No. ES 43 U1.1-01 to 04 and B.C.H. U/G service dwgs
- Ducts shall be encased in concrete as per B.C.H. & P.A. standard No. ES 43 U6.6-20. Burial depth shall be min 3 ft below finished grade
- A flat clear space shall extend around the transformer kiosk for a min. distance of 8 ft in front (pri. side), 6 ft behind and 3 ft at each end
- For location of works see 4795-17-1

LEGEND

- Property line
- Iron pin found or set during legal survey by Matson, Peck & Toplis Surveyor & Engineers



CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

NO. BY

REVISIONS

DATE

RECOMMENDED *R.N. Cameron*
PROJECT MANAGER

DATE Feb. 13, 1978

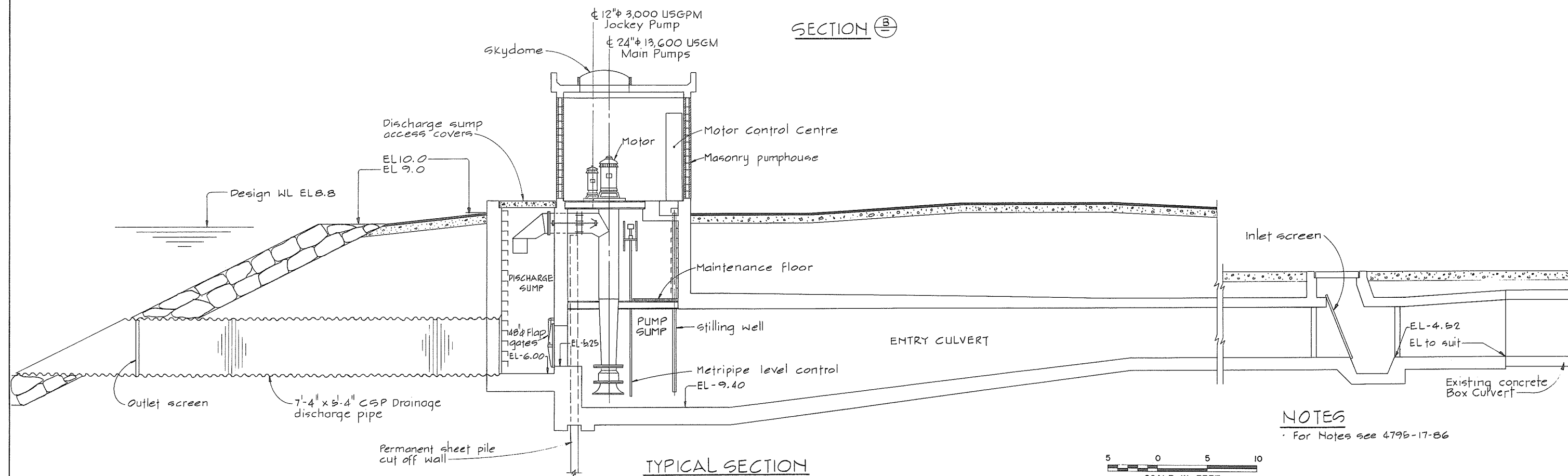
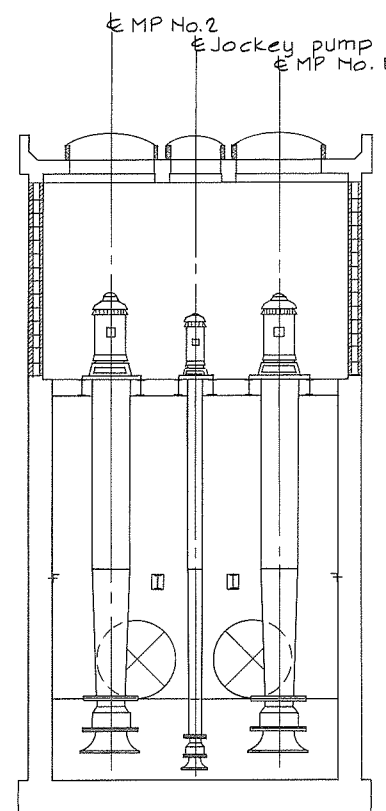
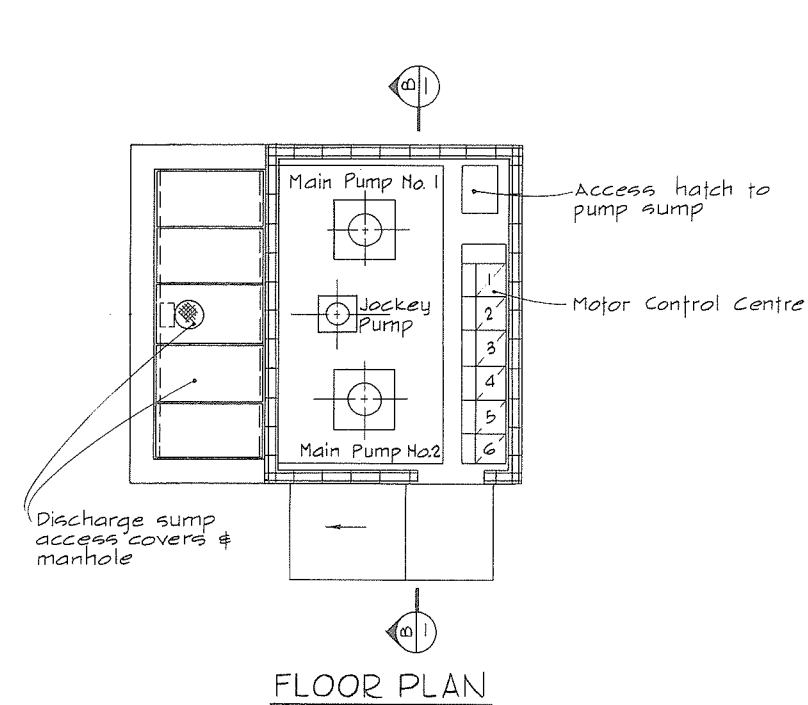
APPROVED *W.B. Miller*
DIRECTOR

DATE Feb 13/78

BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA - BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT
PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
NO. 1 RD SOUTH - DRAINAGE DISCHARGE STRUCT NO. 34
GENERAL ARRANGEMENT PLAN, POWER SUPPLY AND
PROPERTY REQUIREMENTS

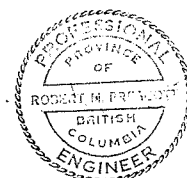
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DRAWN GP	DATE
CHECKED NB/DLC	FILE NO. 0281550-CIO-17
SCALE AS SHOWN	DATE Feb 1978
DWG. NO. 4795-17-86	SHEET OF SHEETS

510



NOTES
For Notes see 4795-17-86

5 0 5 10
SCALE IN FEET



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CONSULTING ENGINEERS - VANCOUVER - CANADA

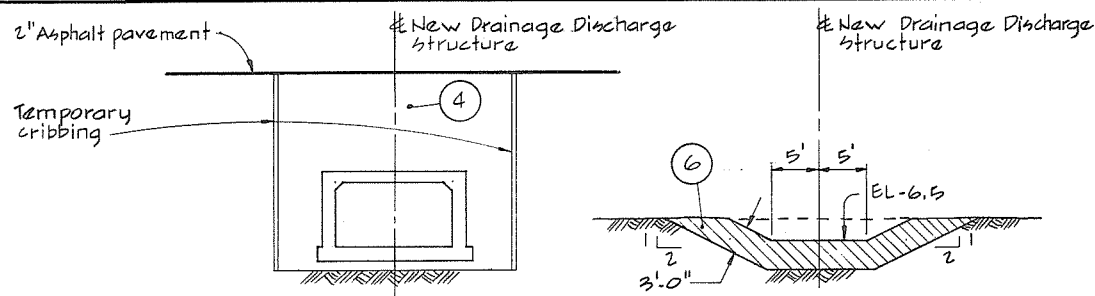
NO.	BY	REVISIONS	DATE
1	A		

RECOMMENDED *R.M. Brown*
PROJECT MANAGER
DATE *Feb. 13, 1978*
APPROVED *John Stiller*
DIRECTOR
DATE *Feb 13/78*

BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA - BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1988 AGREEMENT
PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
NO. 1 RD SOUTH - DRAINAGE DISCHARGE STRUCT. NO. 34
GENERAL ARRANGEMENT SECTIONS

DESIGNED <i>DLC</i>	SURVEYED
DRAWN <i>GP</i>	DATE
CHECKED <i>DLC</i>	FILE NO. <i>0281550-C10-17</i>
SCALE <i>AS SHOWN</i>	DATE <i>Feb 1978</i>
DWG. NO. <i>4795-17-87</i>	SHEET <i>1</i> OF <i>1</i> SHEETS

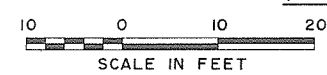
266 511



SECTION (B)

SECTION

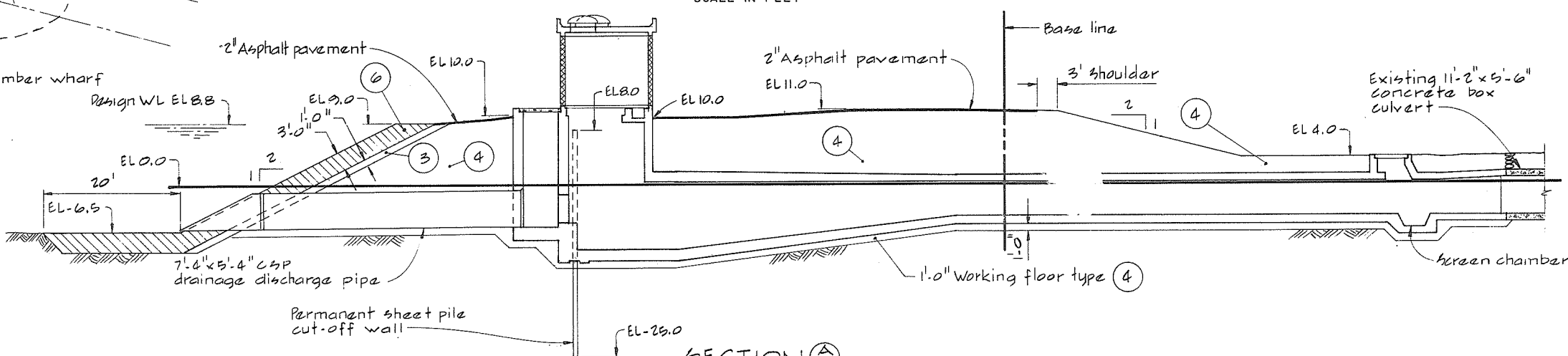
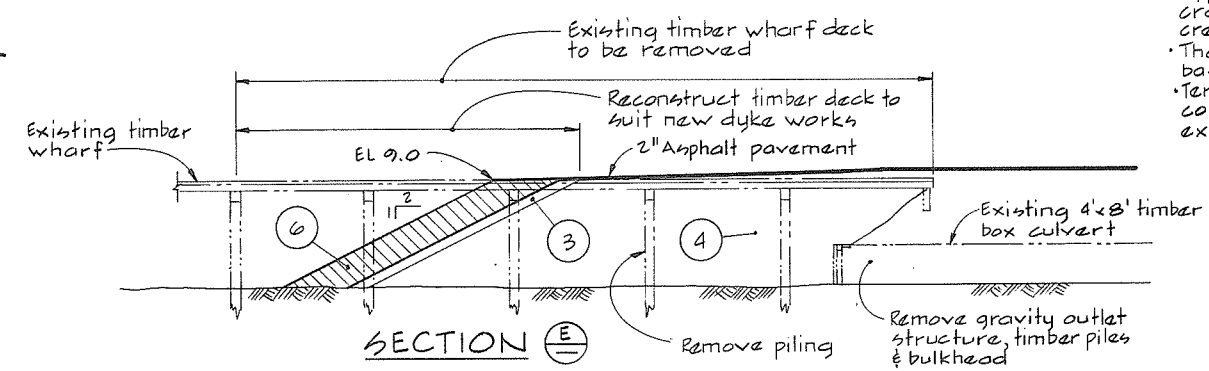
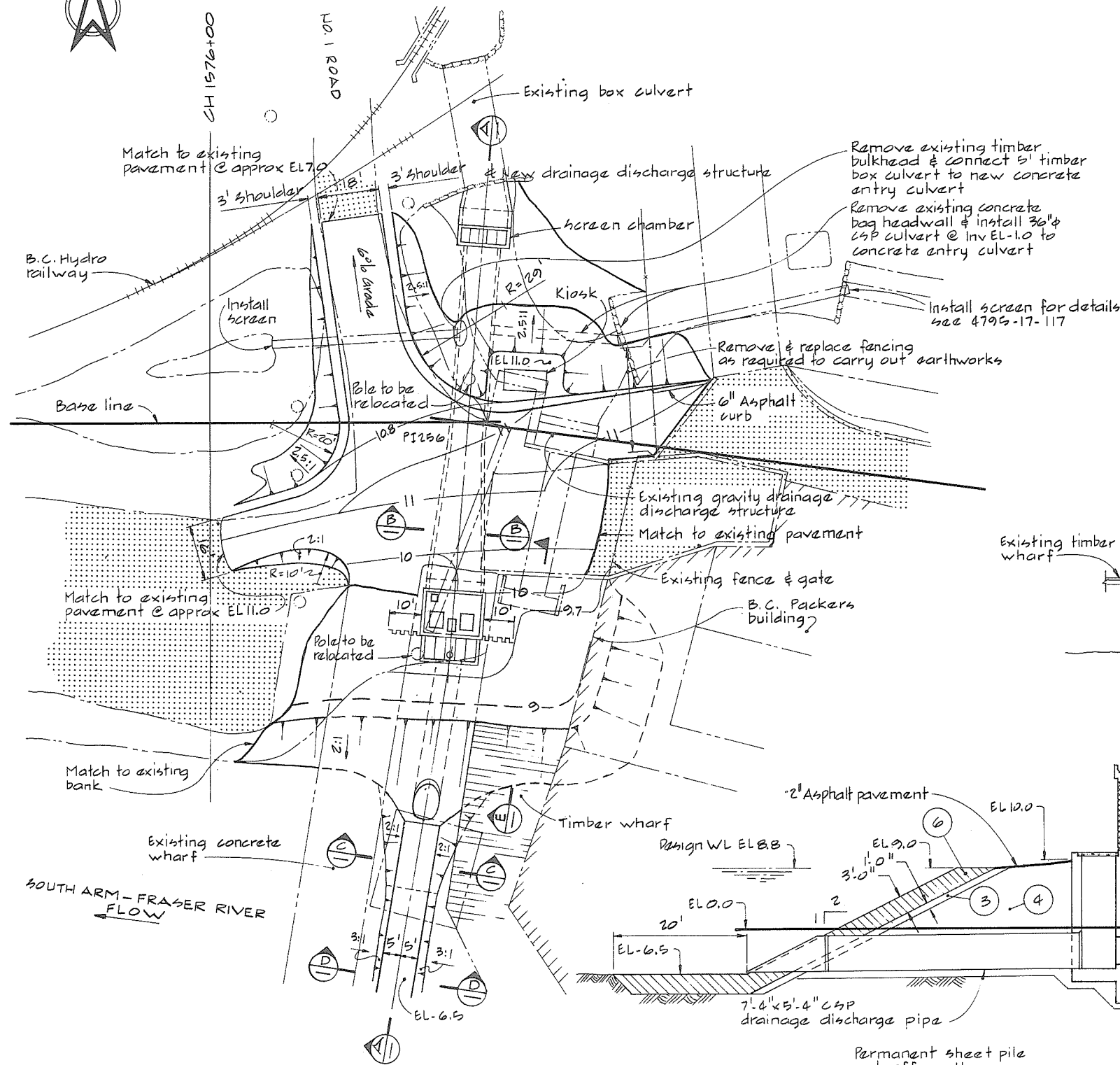
SECTION $\textcircled{\text{D}}$



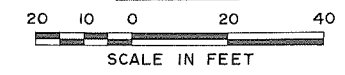
- 1 silt - clay
- 2 sand
- 3 sand, gravel, cobbles
- 4 crushed gravel
- 5 light rip-rap
- 6 rip-rap

 Existing ground surface (section)
 Existing ground & structures (plan)
 Existing asphalt pavement
 New asphalt pavement
 Section identification letter
 Dwg No. on which the section is drawn (ie) 4795-17-18
 Detail identification number
 Dwg No. on which the detail is drawn (ie) 4795-17-18

- Elevations refer to the Geodetic Survey of Canada.
- A smooth alignment shall be maintained over the entire length of the dyke.
- Offset distances from baseline to crestline are taken at the design crest elevation.
- The angle of offset is 90° to the baseline unless otherwise indicated.
- Terminal parts of the work shall be constructed to blend with the existing ground.

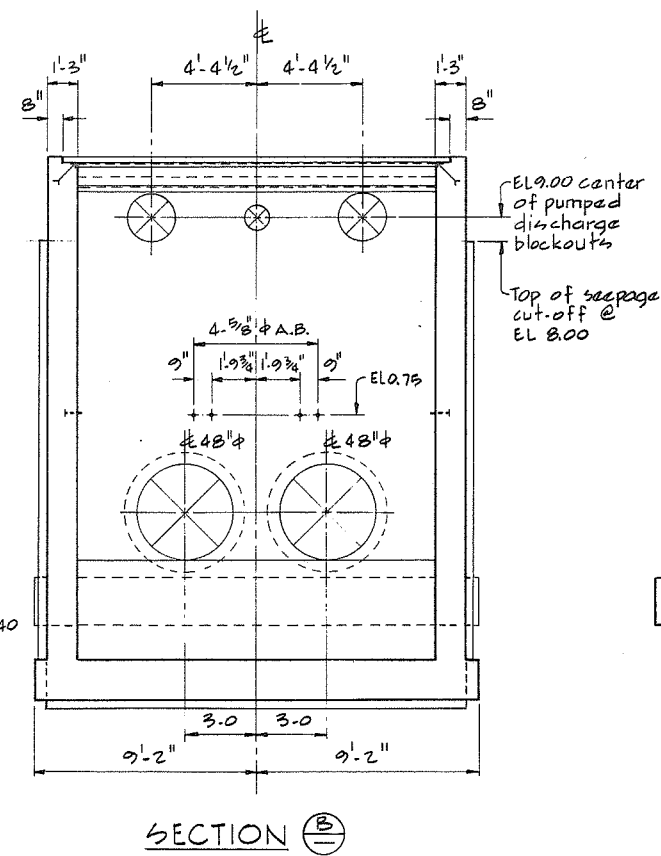
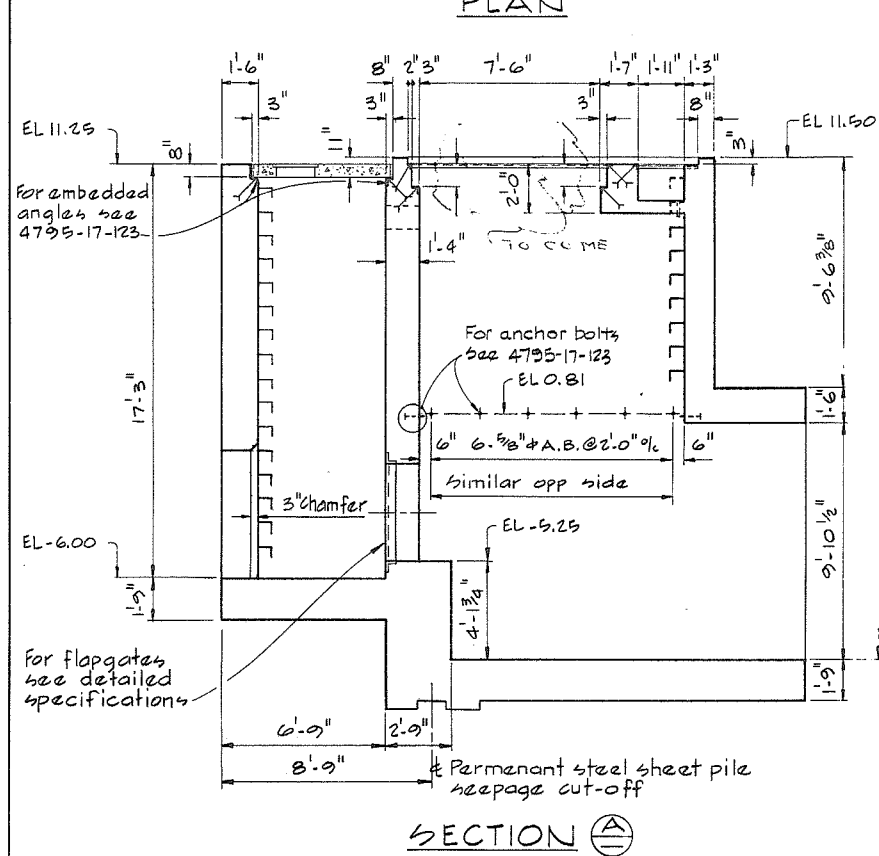


PLAN



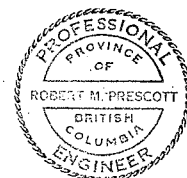
CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

C			DATE	RECOMMENDED <u>P. R. Cameron</u> PROJECT MANAGER	BRITISH COLUMBIA MINISTRY OF THE ENVIRONMENT WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT	DESIGNED <u>EMH/DLC</u>	SURVEYED
				DATE <u>Feb. 13, 1978</u>		DRAWN <u>AR</u>	DATE
				APPROVED <u>J. G. Fuller</u> for DIRECTOR		CHECKED <u>DLC</u>	FILE NO. <u>0281550-110-17</u>
				DATE <u>Feb 13/78</u>		SCALE <u>AS SHOWN</u>	DATE <u>Feb 1978</u>
NO. BY	REVISIONS	DATE	DATE	DETAILS OF EARTHWORKS	DWG. NO. <u>4795-17-88</u>	SHEET _____ OF _____ SHEETS	



A horizontal scale bar with markings at 0, 2, 4, 6, 8, and 10 feet. The bar is divided into segments, with the first segment (0 to 2 feet) being shaded. Below the bar, the text "SCALE IN FEET" is printed.

513



C			
D			
A			
NO.	BY	REVISIONS	DATE

RECOMMENDED *R. A. Cameron*
PROJECT MANAGER

DATE *Feb. 13, 1978*

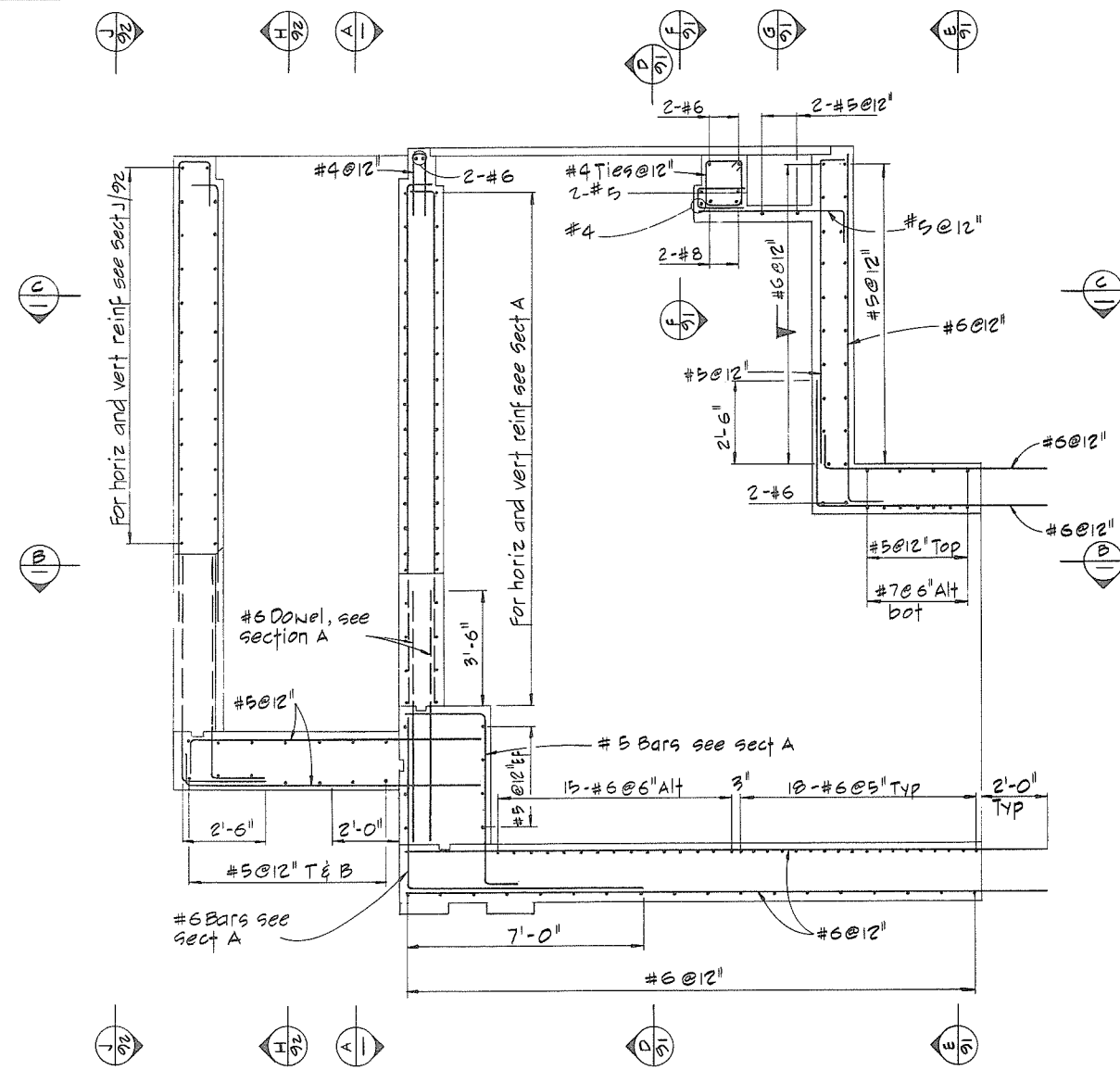
APPROVED *W. B. Fuller*
for DIRECTOR

DATE *Feb 13/78*

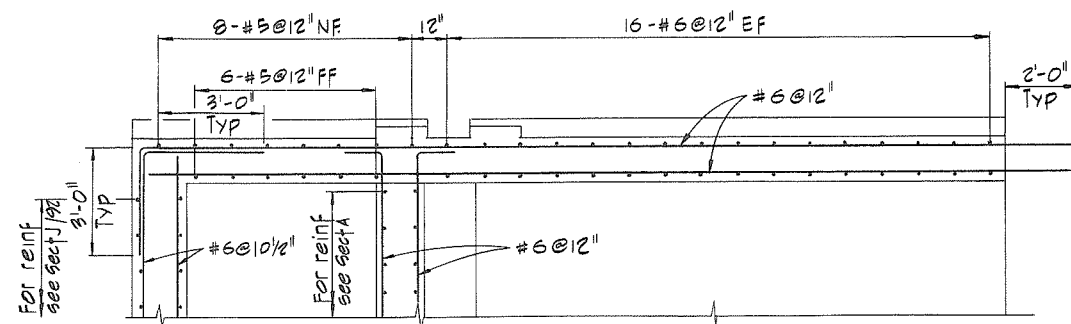
BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA - BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT

PROJECT NO. 3	TOWNSHIP OF RICHMOND	CONTRACT NO. 17
NO. 1 RD SOUTH - DRAINAGE	DISCHARGE STRUCT	NO. 34
MAIN STRUCTURE - CONCRETE OUTLINE		

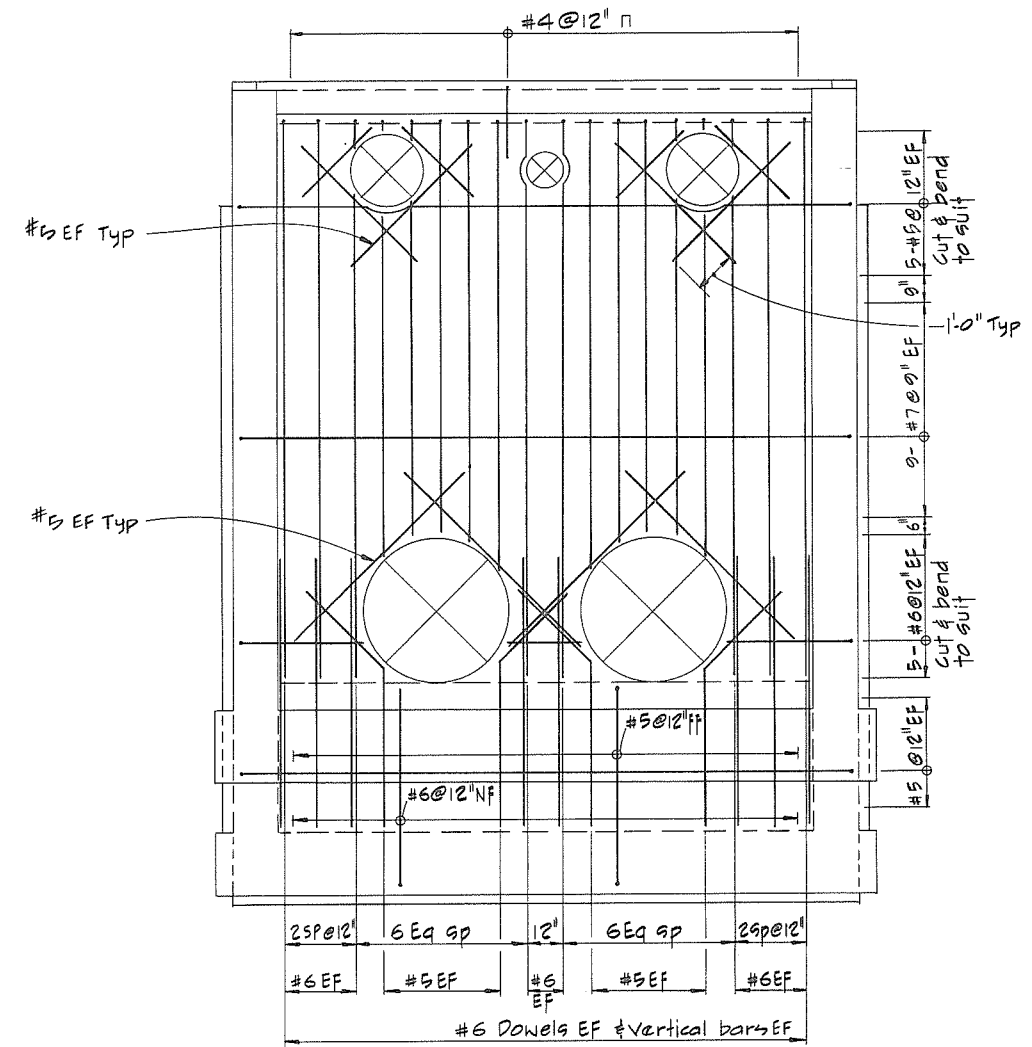
DESIGNED <i>GDA</i>	SURVEYED
DRAWN <i>AR</i>	DATE
CHECKED <i>DL</i>	FILE NO. <i>0281550-C10-17</i>
SCALE <i>AS SHOWN</i>	DATE <i>Feb 1978</i>
DWG. NO. <i>4795-17-89</i>	SHEET <i>05</i> OF <i>SHEETS</i>



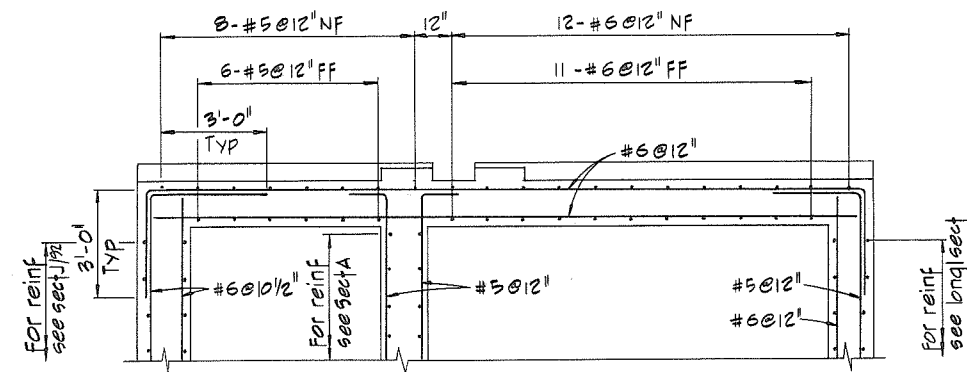
LONGITUDINAL SECTION



SECTION B



SECTION A

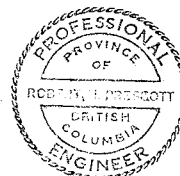


SECTION C

NOTES

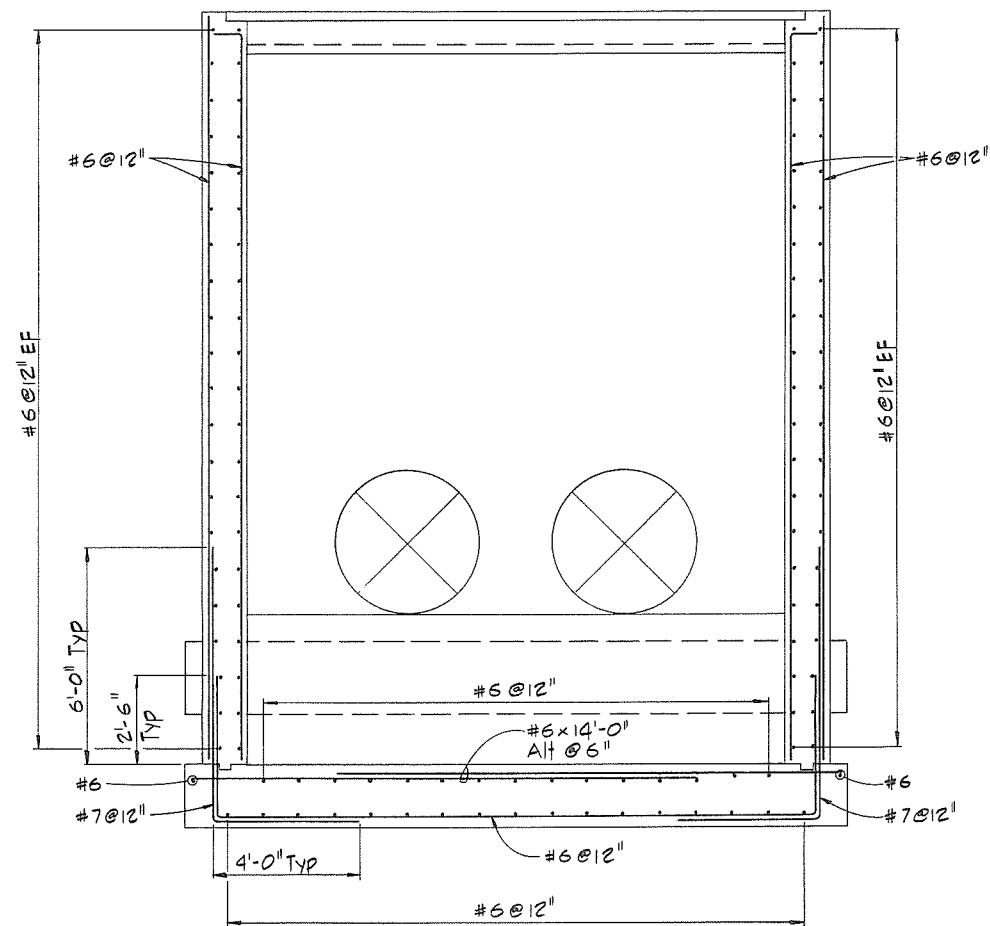
For General Notes see 4795-17-89

SCALE IN FEET 1 0 1 2 3 4 5 6 7

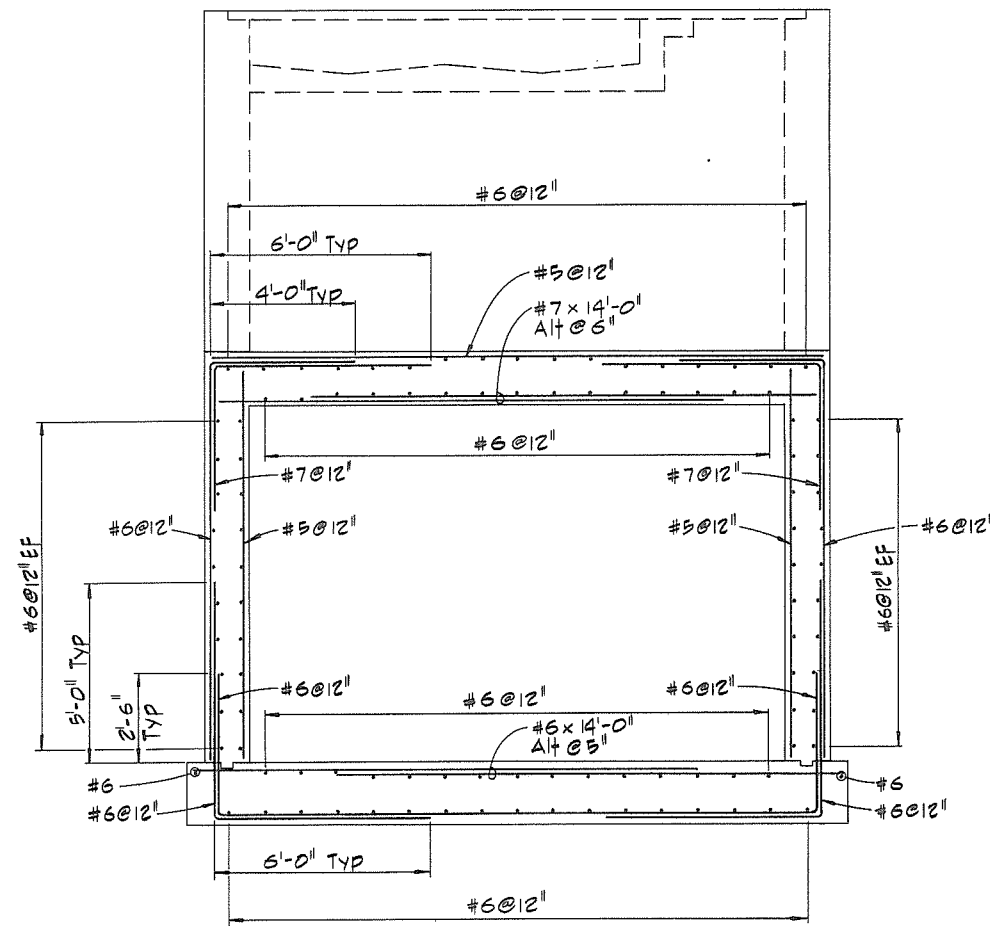


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CONSULTING ENGINEERS - VANCOUVER - CANADA

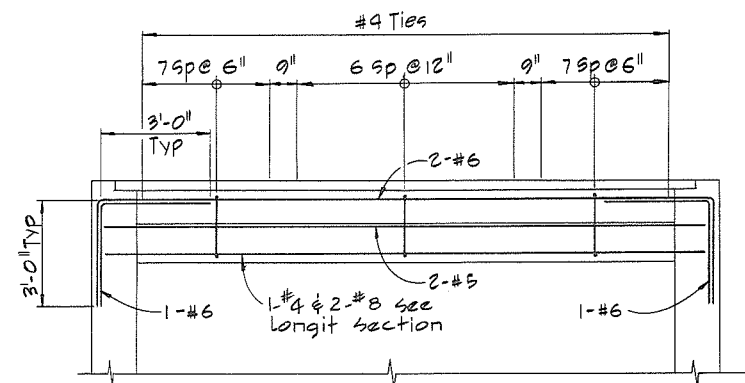
RECOMMENDED <i>R.N. Camma</i> PROJECT MANAGER	BRITISH COLUMBIA MINISTRY OF THE ENVIRONMENT WATER INVESTIGATIONS BRANCH	DESIGNED <i>G.C.W.</i>	SURVEYED
DATE <i>Feb. 13, 1978</i>	CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT	DRAWN <i>Wn</i>	DATE
APPROVED <i>W. Fuller</i> DIRECTOR	PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17	CHECKED <i>TP</i>	FILE NO. <i>0281550-C10-17</i>
DATE <i>Feb 13/78</i>	NO. 1 RD SOUTH-DRAINAGE DISCHARGE STRUCT NO. 34	SCALE <i>AS SHOWN</i>	DATE <i>Feb 1978</i>
	MAIN STRUCTURE - REINFORCING	DWG. NO. <i>4795-17-90</i>	SHEET <i>1</i> OF <i>3</i> SHEETS



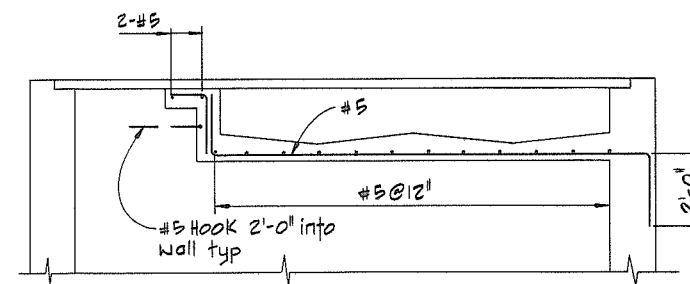
SECTION D-D



SECTION E-E



SECTION F-F



SECTION G-G

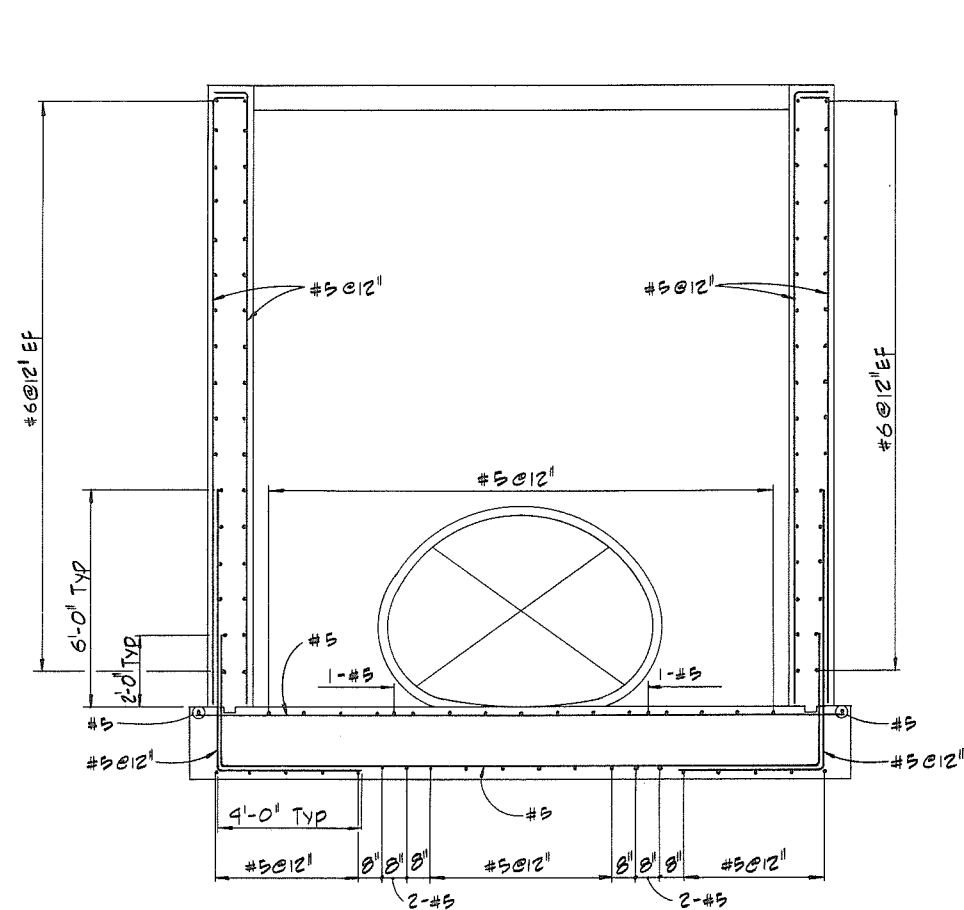
NOTES

For General Notes see 4795-17-89

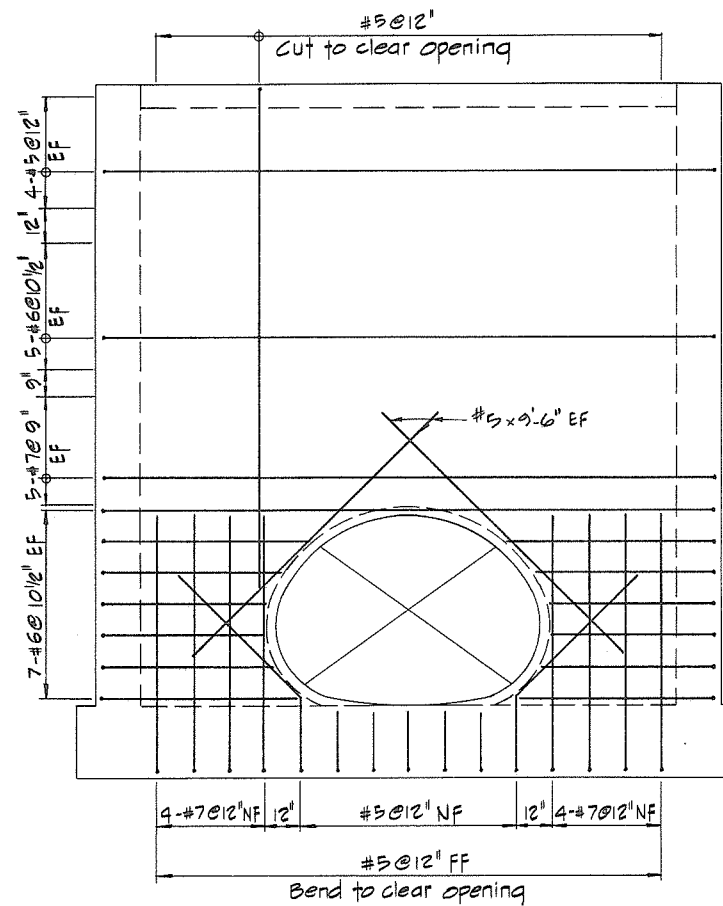


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CONSULTING ENGINEERS - VANCOUVER - CANADA

RECOMMENDED <i>R.M. Prescott</i> PROJECT MANAGER	BRITISH COLUMBIA MINISTRY OF THE ENVIRONMENT WATER INVESTIGATIONS BRANCH	DESIGNED <i>GCW</i>	SURVEYED
DATE <i>Feb 13, 1978</i>	CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT	DRAWN <i>Wn</i>	DATE
APPROVED <i>W. J. Fuller</i> DIRECTOR	PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17	CHECKED <i>TP</i>	FILE NO. <i>0281550-CIO-17</i>
DATE <i>Feb 13/78</i>	NO. 1 RD SOUTH-DRAINAGE DISCHARGE STRUCT NO. 34	SCALE <i>AS SHOWN</i>	DATE <i>Feb 1978</i>
	MAIN STRUCTURE - REINFORCING	DWG. NO. <i>4795-17-91A</i>	SHEET <i>2</i> OF <i>3</i> SHEETS



SECTION $\frac{H}{90}$

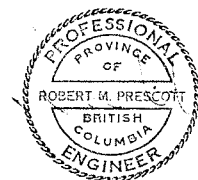


VIEW $\frac{J}{90}$

NOTES

For General Notes see 4795-17-89

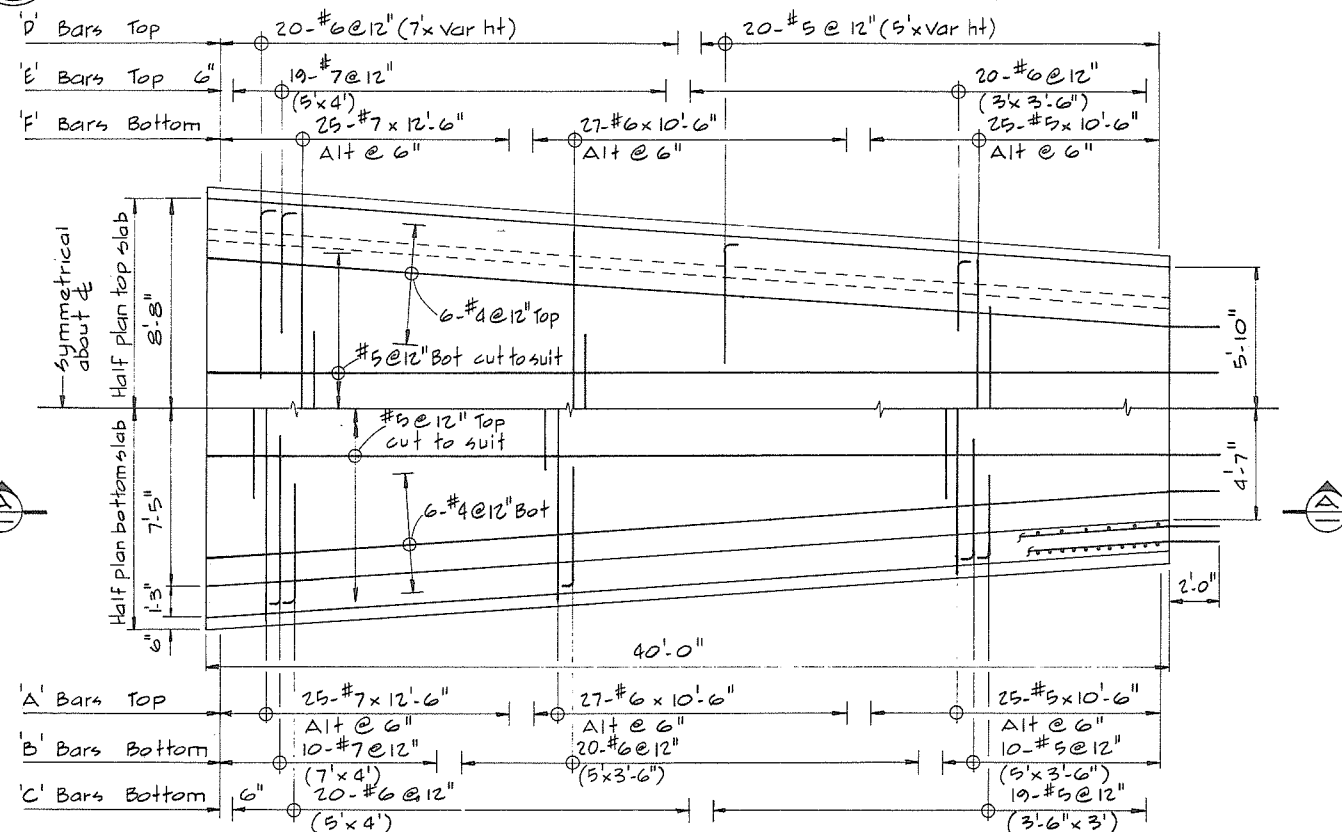
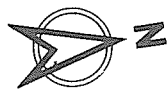
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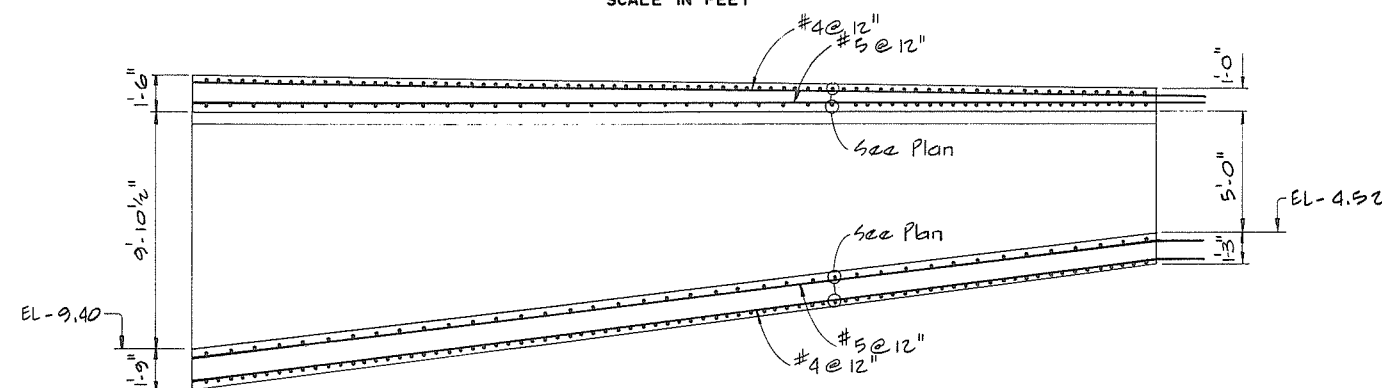
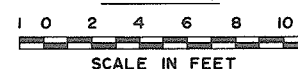
CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

NO.	BY	REVISIONS	DATE	RECOMMENDED <i>R.B. Camm</i> PROJECT MANAGER	DESIGNED <i>GCW</i>	SURVEYED
				DATE <i>Feb. 13, 1978</i>	DRAWN <i>Wn</i>	DATE
				APPROVED <i>Rob. J. L. L.</i> DIRECTOR	CHECKED <i>TP</i>	FILE NO. <i>0281550-C10-17</i>
				DATE <i>Feb 13/78</i>	SCALE <i>AS SHOWN</i>	DATE <i>Feb 1978</i>
					DWG. NO. <i>4795-17-92</i>	SHEET <i>3</i> OF <i>3</i> SHEETS

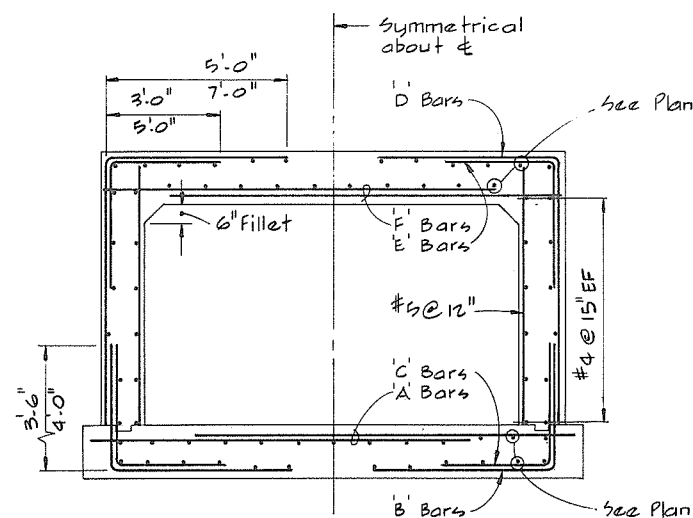
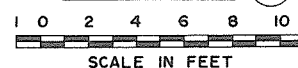
BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA - BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT
PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
NO. 1 RD SOUTH - DRAINAGE DISCHARGE STRUCT NO. 34
MAIN STRUCTURE - REINFORCING



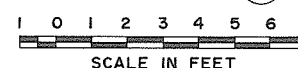
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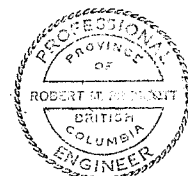
SECTION A



SECTION B



NOTES
For General Notes see 4795-17-B9



CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

NO. BY
A. P. DULCI

REVISIONS

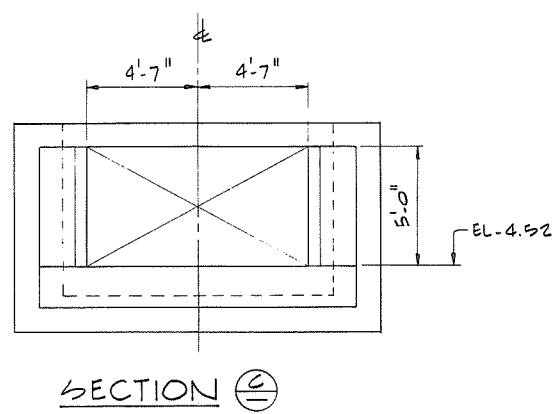
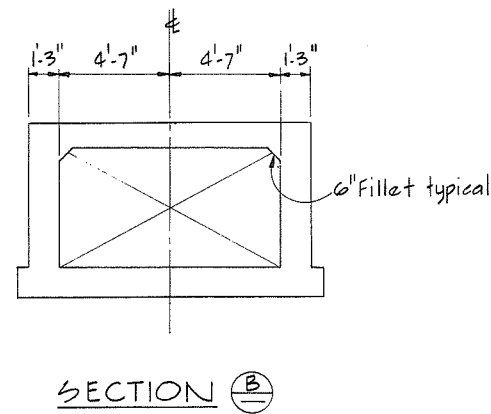
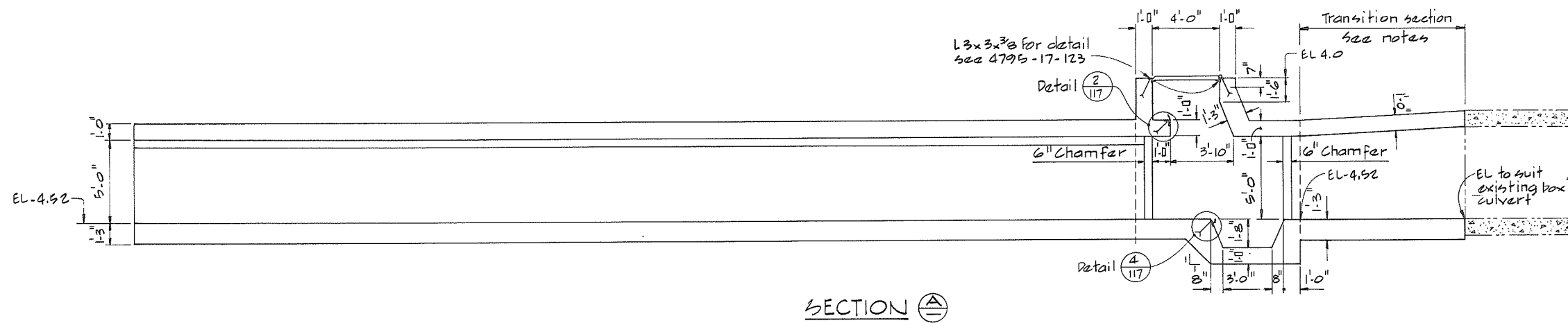
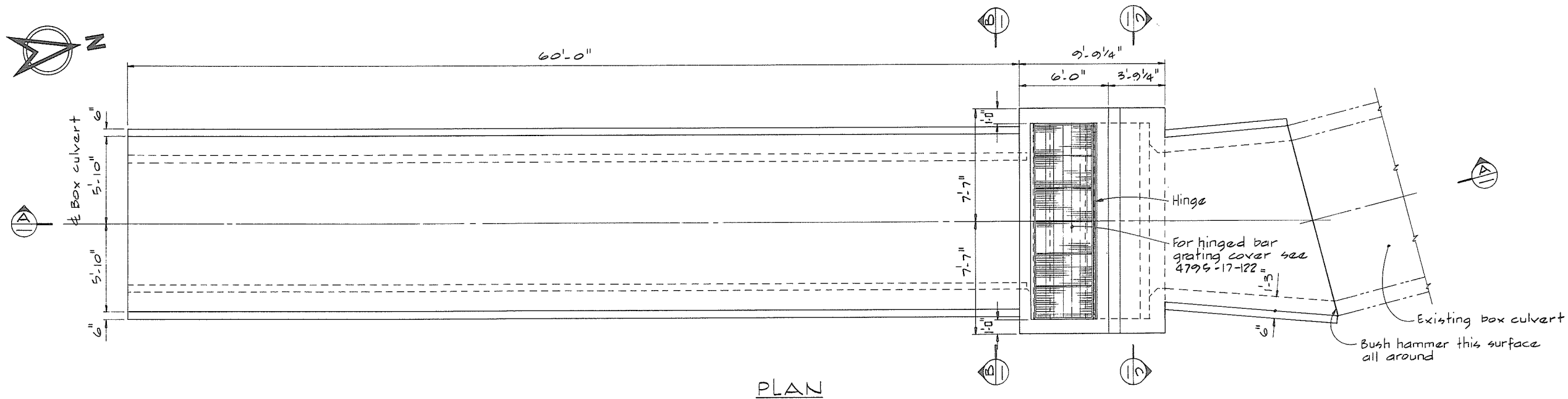
DATE

RECOMMENDED *B. A. Camm*
PROJECT MANAGER
DATE *Feb. 13, 1978*
APPROVED *W. B. Fuller*
for DIRECTOR
DATE *Feb 13/78*

BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA - BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT
PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
NO. 1 RD SOUTH DRAINAGE DISCHARGE STRUCT. NO. 34
ENTRY CULVERT CONCRETE
OUTLINE AND REINFORCING

DESIGNED *GDAAG/GCW*
DRAWN *AR*
CHECKED *TP/DLC*
SCALE *AS SHOWN*
DWG. NO. *4795-17-93*

SURVEYED
DATE
FILE NO. *0281550-C10-17*
DATE *Feb 1978*
SHEET *517* OF *517* SHEETS



NOTES

- Dimensions of transition section between entry box culvert and existing box culvert to be determined in the field.
- For General Notes see 4795-17-89

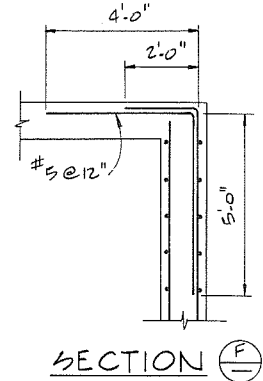
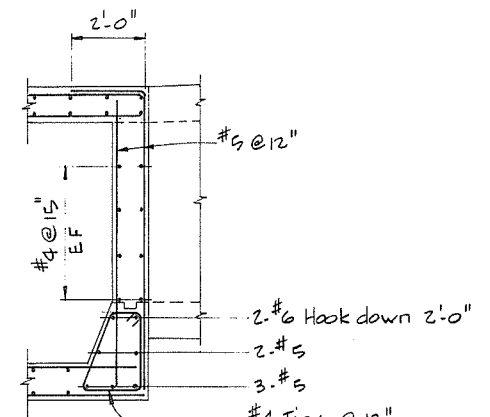
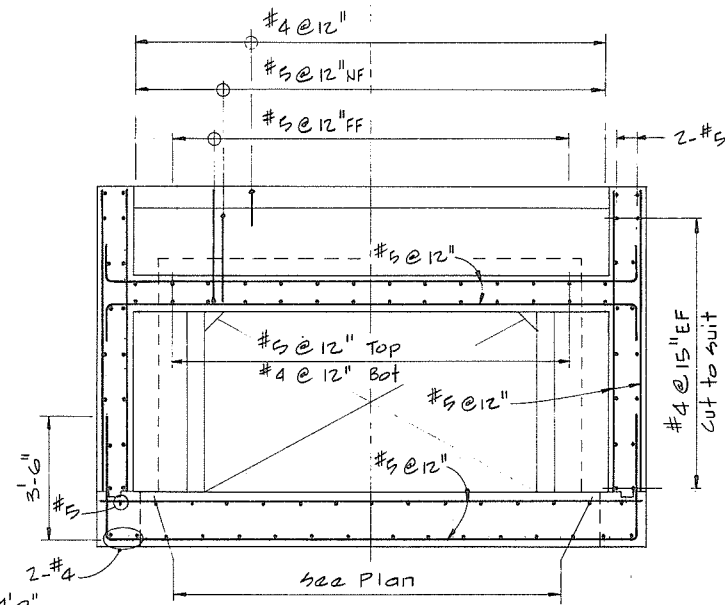
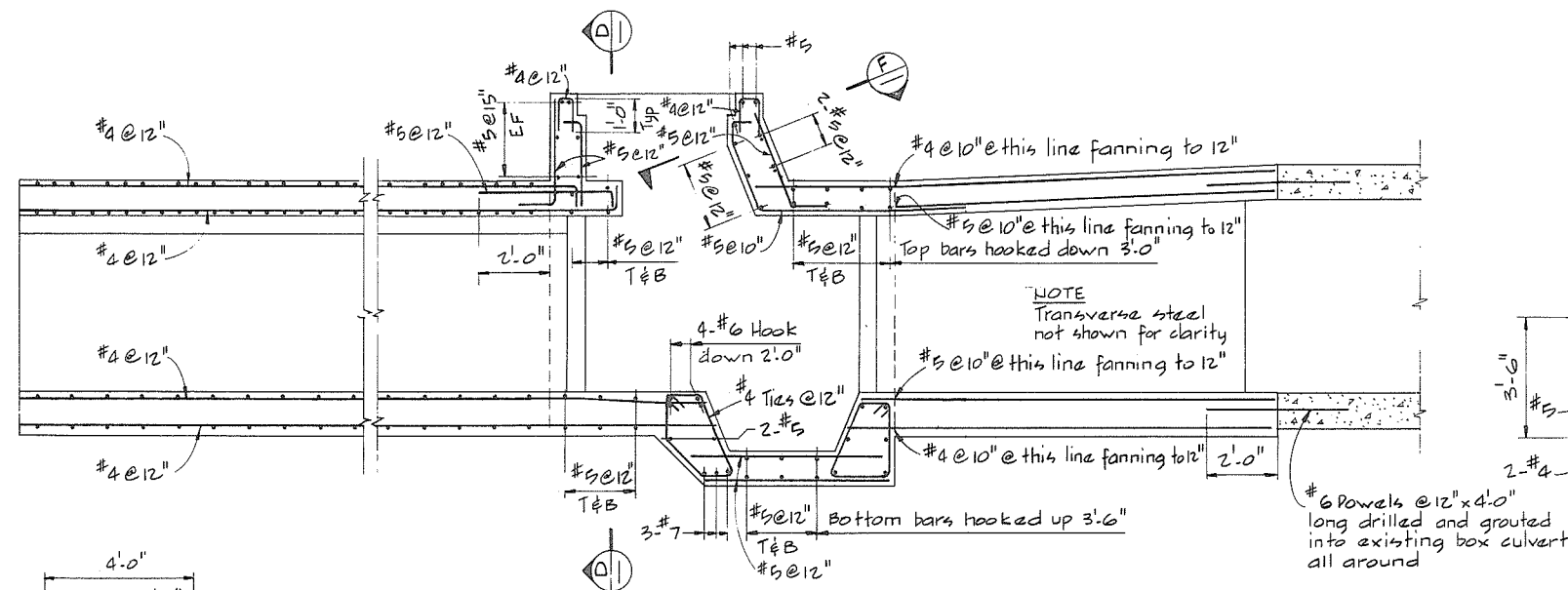
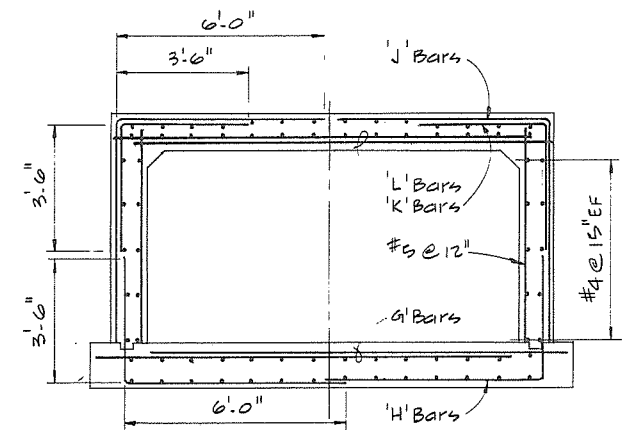
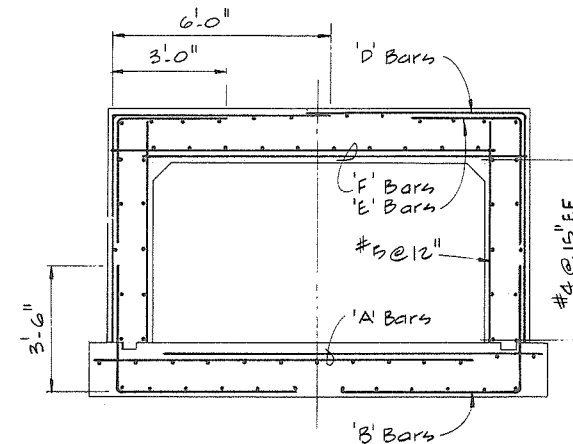
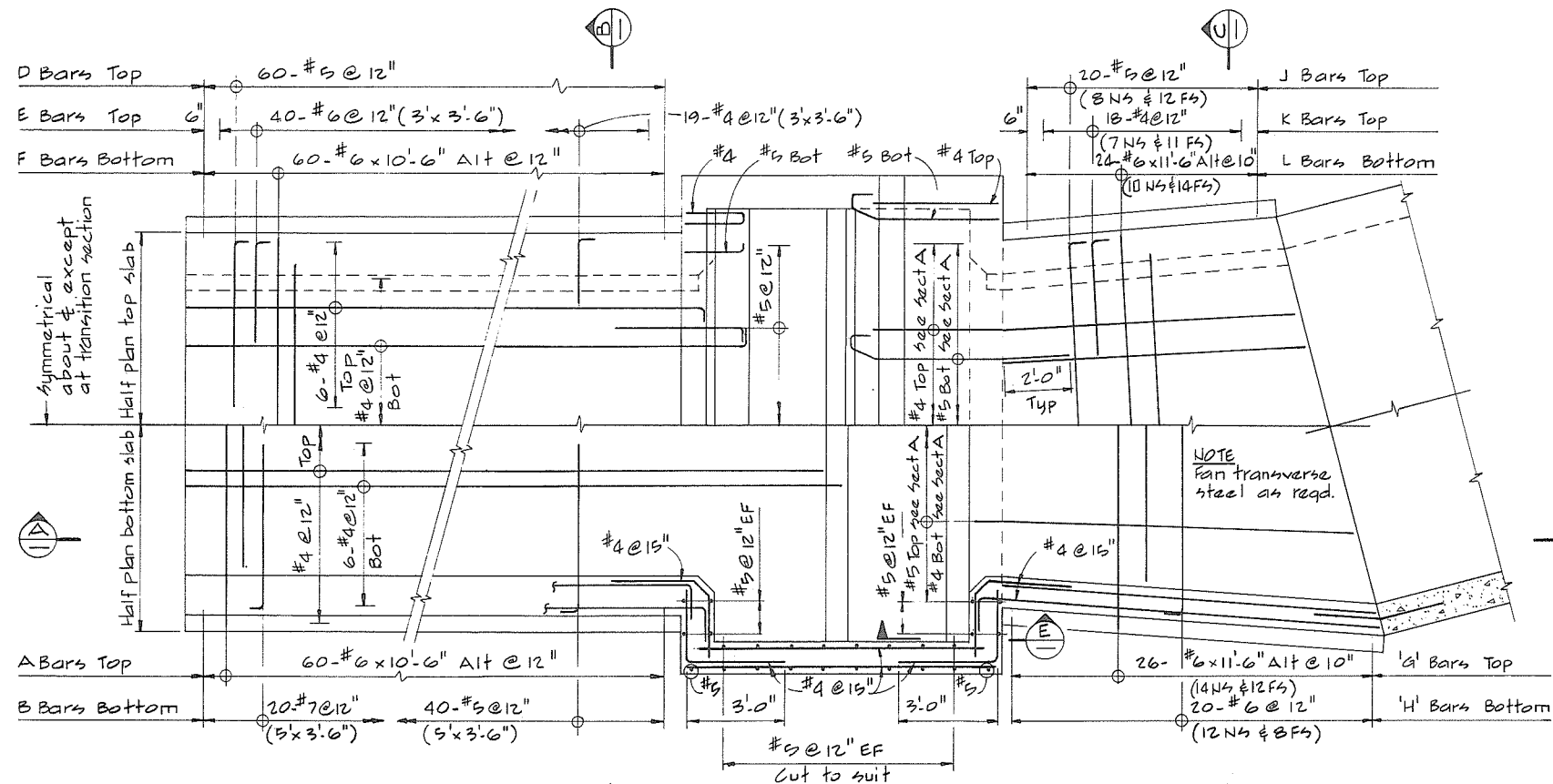


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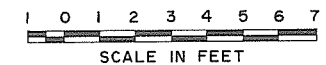


CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

A					RECOMMENDED <i>B. R. Lantieri</i> PROJECT MANAGER	BRITISH COLUMBIA MINISTRY OF THE ENVIRONMENT WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1988 AGREEMENT	DESIGNED <i>GDAAG/CW</i>	SURVEYED
					DATE <i>Feb. 13, 1978</i>		DRAWN <i>AR</i>	DATE
					APPROVED <i>W. J. Fuller</i> DIRECTOR	PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17 NO. 1 RD SOUTH - DRAINAGE DISCHARGE STRUCT NO. 34 BOX CULVERT - CONCRETE OUTLINE	CHECKED <i>TP</i>	FILE NO. <i>0281550 - C10-17</i>
					DATE <i>Feb 13/78</i>		SCALE <i>AS SHOWN</i>	DATE <i>Feb 1978</i>
NO.	BY	REVISIONS	DATE				DWG. NO. <i>4795-17-94</i>	SHEET <i>A</i> OF <i>1</i> SHEETS



NOTES
For General Notes see 4795-17-39



266 519



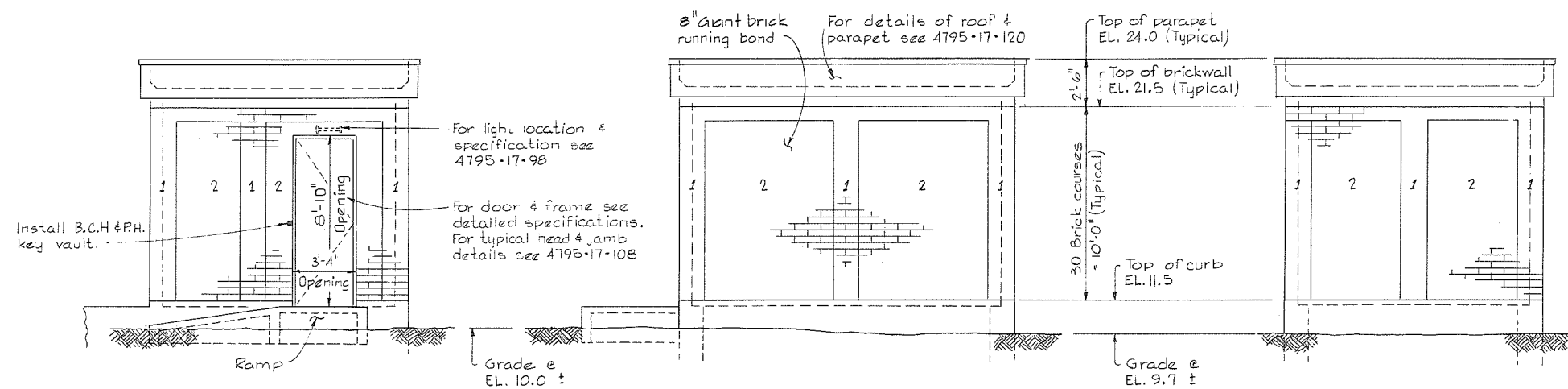
CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

NO.	BY	REVISIONS	DATE
1	A		

RECOMMENDED	R.N. Cameron
PROJECT MANAGER	
DATE	Feb. 13, 1978
APPROVED	J.P. Fuller
DIRECTOR	
DATE	Feb. 14, 1978

BRITISH COLUMBIA	PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
MINISTRY OF THE ENVIRONMENT	NO. 1 RD SOUTH - DRAINAGE DISCHARGE STRUCT NO. 34
WATER INVESTIGATIONS BRANCH	BOX CULVERT - REINFORCING
CANADA - BRITISH COLUMBIA	
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT	

DESIGNED	GCW	SURVEYED	
DRAWN	AR	DATE	
CHECKED	TP	FILE NO.	0281550-C10-17
SCALE	AS SHOWN	DATE	Feb 1978
DWG. NO.	4795-17-95A	SHEET	OF SHEETS

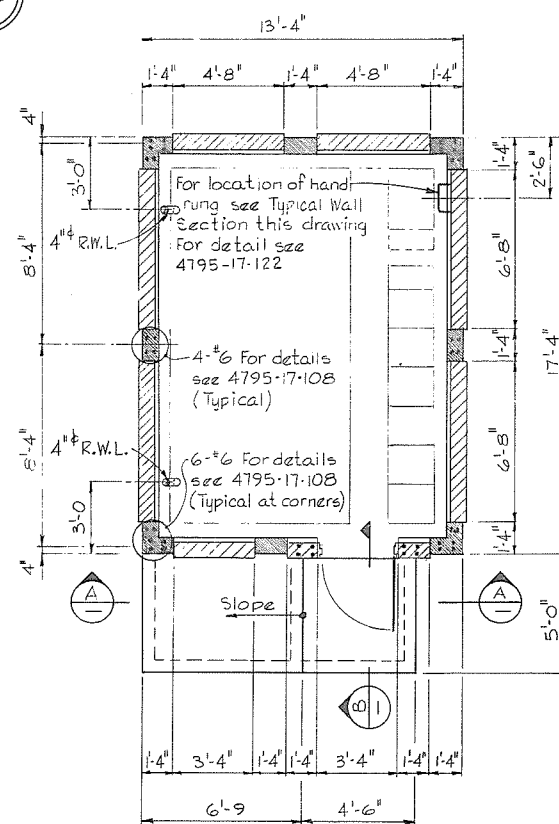
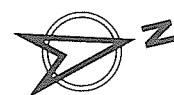
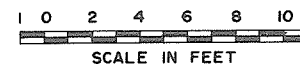


EAST ELEVATION

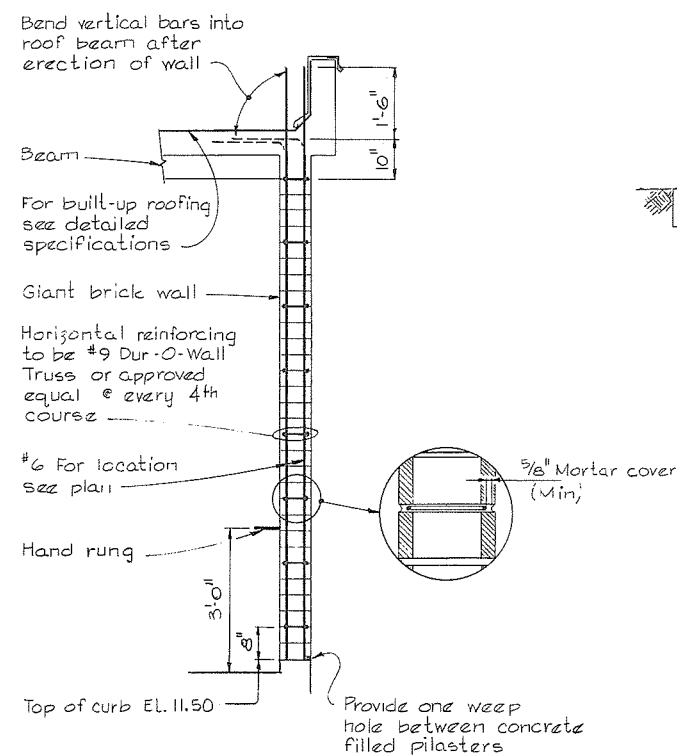
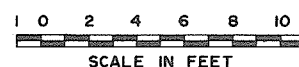
NORTH ELEVATION

WEST ELEVATION

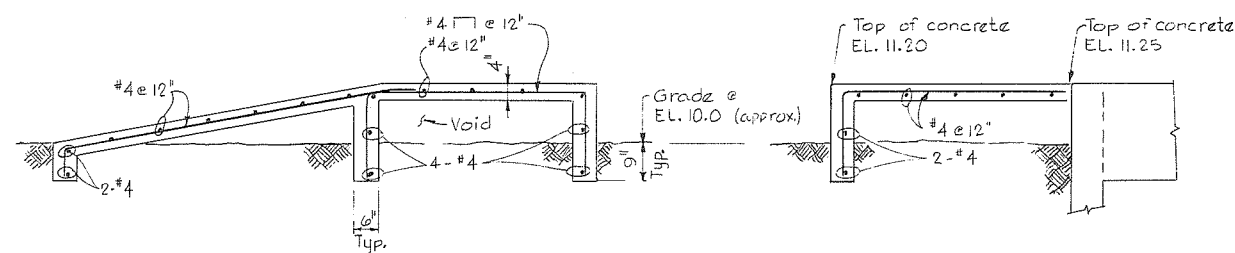
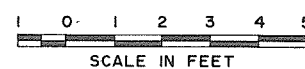
SOUTH ELEVATION



FLOOR PLAN

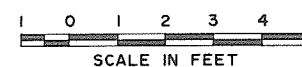


TYPICAL WALL SECTION



SECTION A

SECTION B

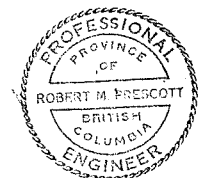


NOTES

- Elevations refer to the Geodetic Survey of Canada.
- For General Notes see 4795-17-89.
- Cores to be filled with concrete as specified in the detailed specifications.

LEGEND

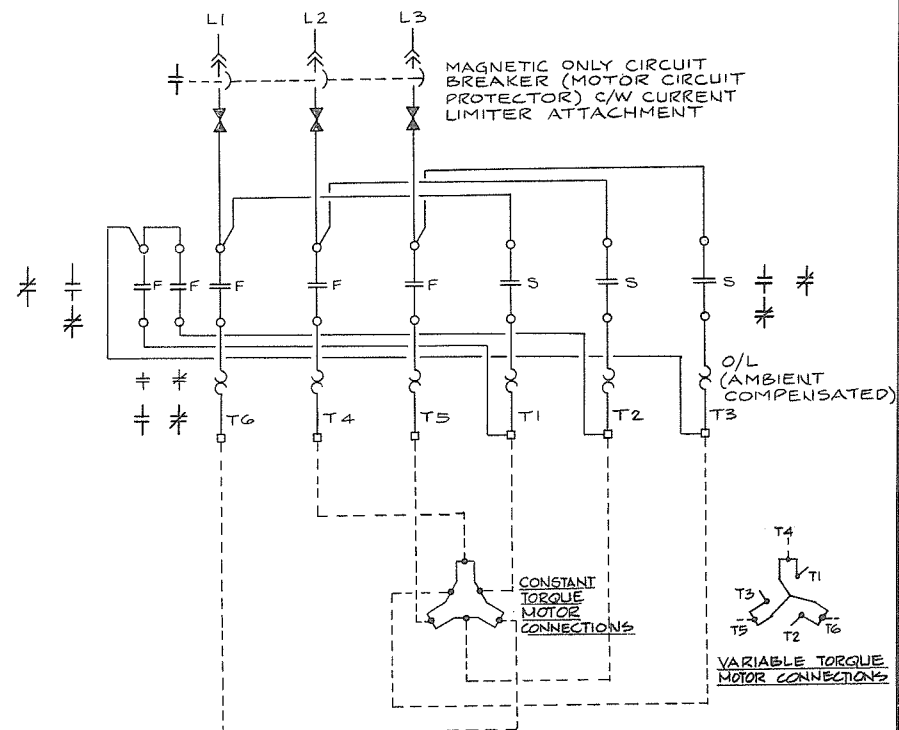
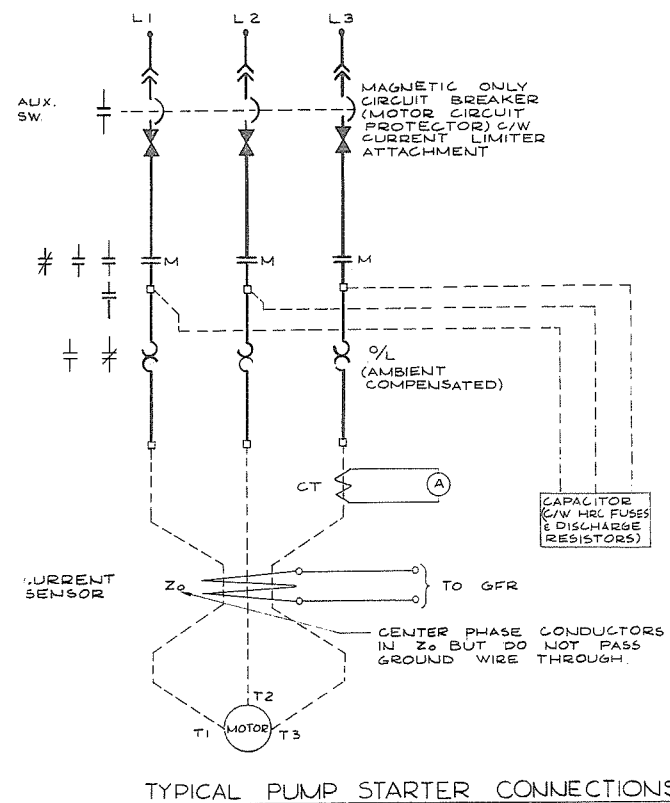
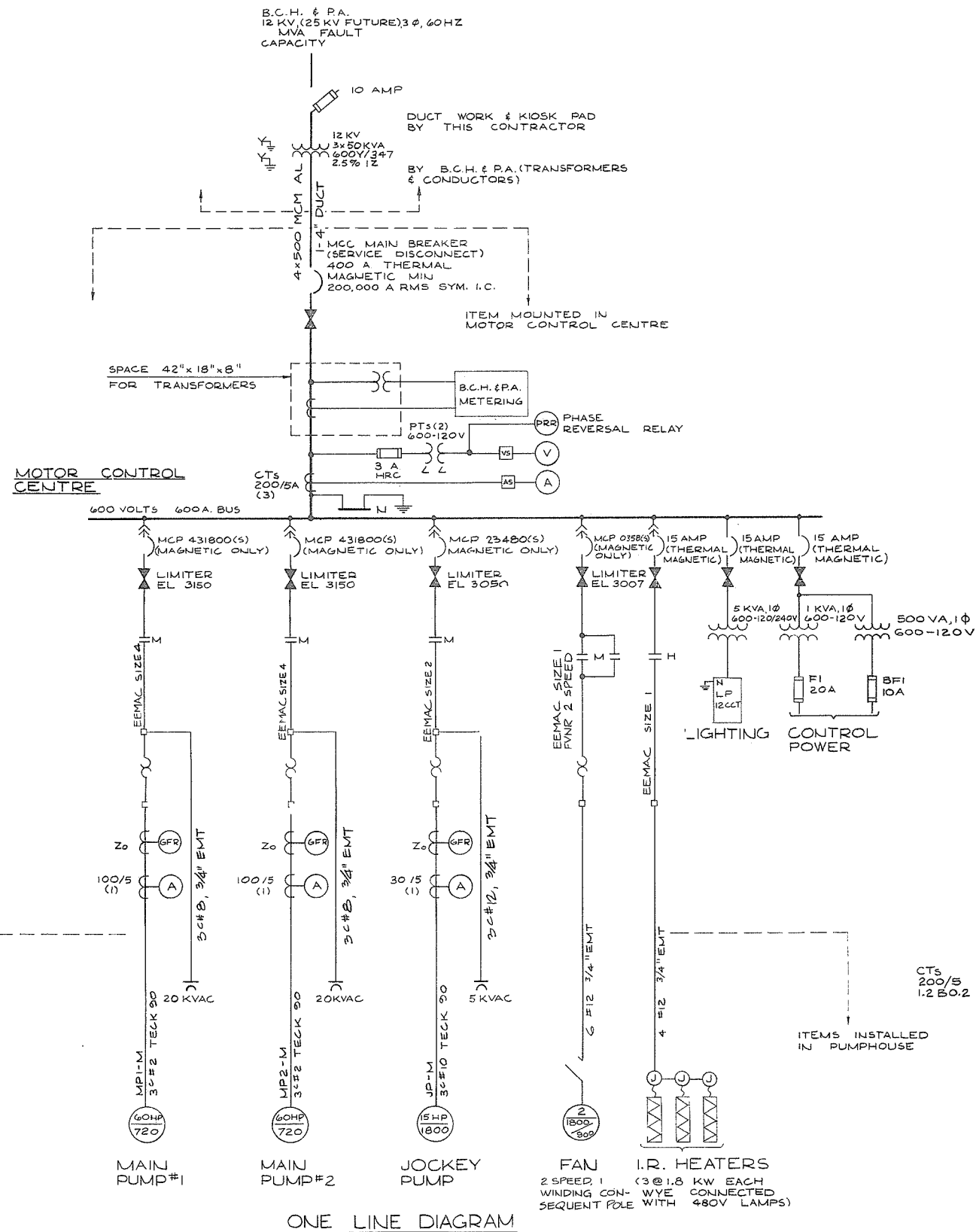
- 1 Denotes Giant Brick Western Buff color.
- 2 Denotes Giant Brick Chestnut color.



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CONSULTING ENGINEERS - VANCOUVER - CANADA

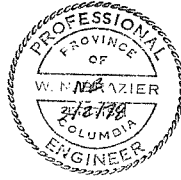
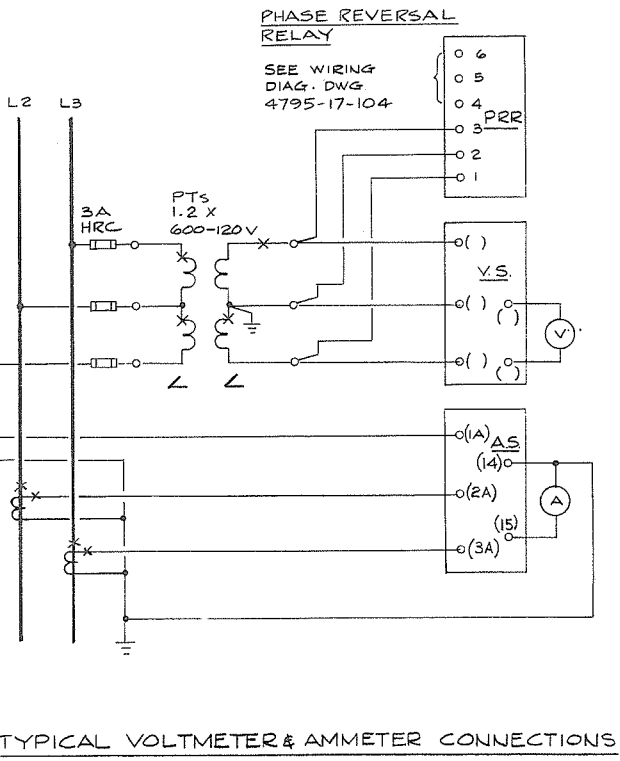
NO.	BY	REVISIONS	DATE	RECOMMENDED <i>R. R. Cameron</i> PROJECT MANAGER DATE <i>Feb. 13, 1978</i>	BRITISH COLUMBIA MINISTRY OF THE ENVIRONMENT WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1988 AGREEMENT PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17 NO. 1 RD SOUTH - DRAINAGE DISCHARGE STRUCT NO. 34 ARCHITECTURAL DETAILS	DESIGNED <i>L. J.</i> DRAWN <i>L. J.</i> CHECKED <i>AR</i> SCALE <i>AS SHOWN</i> DWG. NO. <i>4795-17-96</i>	SURVEYED DATE FILE NO. <i>0281550-C10-17</i> DATE <i>Feb 1978</i> SHEET <i>1</i> OF <i>1</i> SHEETS
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266 520



- NOTES:**
- 1) FOR GENERAL NOTES REFER TO DWG. NO 4795-17-15
 - 2) FOR SERVICE DETAILS AND SITE PLAN REFER TO DWG. NO 4795-17-86
 - 3) FOR BUILDING DETAILS REFER TO ARCHITECTURAL DWG. NO 4795-17-96, 4795-17-108 & 4795-17-120.

- LEGEND**
- | | |
|---|--|
| (A) AMMETER | (M) MOTOR STARTER CONTACTOR |
| (V) VOLTMETER | (F) TWO SPEED STARTER "FAST" CONTACTOR |
| (AS) AMMETER SWITCH | (S) TWO SPEED STARTER "SLOW" CONTACTOR |
| (VS) VOLTMETER SWITCH | () MOLDED CASE AIR CIRCUIT BREAKER |
| (GFR) GROUND FAULT RELAY, FPE TYPE GFR OR EQUAL | |
| (PRR) PHASE REVERSAL RELAY | |
| (C) CAPACITOR | |
| (T) TRANSFORMER | |
| (O) OVERLOAD | |
| (F) FUSE | |
| (L) CURRENT LIMITER | |



PREPARED BY:
M. A. THOMAS & ASSOCIATES LTD.
CONSULTING ENGINEERS
VANCOUVER, B.C. CANADA.

REFERENCE: 1291

CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

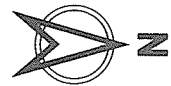
NO. BY REVISIONS DATE

RECOMMENDED *R. K. Camm*
CHIEF, PROJECTS DIV.
DATE *Feb 13, 1978*
APPROVED *[Signature]*
CHIEF ENGINEER
DATE *Feb 14/78*

BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA - BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT
PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
NO. 1 RD SOUTH-DRAINAGE DISCHARGE STRUCT NO. 34
ELECTRICAL ONE LINE DIAGRAM

DESIGNED *H.O.*
DRAWN *SEO/TM*
CHECKED *NB*
SCALE *NONE*
DWG. NO. *4795-17-97A*

SURVEYED
DATE
FILE NO. *0281550-C10-17*
DATE *Feb 1978*
SHEET *1* OF *1* SHEETS



BOND TOGETHER AND GROUND
PUMP DISCHARGE PIPING AND
FLOOR DECKING TO MCC GROUND
BUS AS PER CONTRACT IT
SUBSECTION 4.2.16

UP THROUGH
WALL TO SWITCH
C/W EYS SEAL

2 #12, 1/2" RIGID
IN CONCRETE

INCANDESCENT
FIXTURE (TYP.)

3/4" RIGID STEEL CONDUIT
1 PR. SHIELDED CABLE
BELDON #8760 TO R/I SIGNAL
CONVERTER IN MCC
(PROVIDE EYS SEAL @ MCC)

1/2" CONDUIT FOR FUTURE
METRIPIPE HEATER SUPPLY FROM
MCC (PROVIDE EYS SEAL @ MCC)

3 ONLY 2" RIGID CONDUIT
SLEEVES C/W BUSHING SEAL
WITH RTV SILICONE (TYP.)

STILLING WELL &
BUBBLER TUBE

SERVICE PULL BOX (B)

4" RIGID GALV. STEEL CONDUIT UP
TO MCC SERVICE SECTION C/W EYS SEAL

BUSHING & LOCKNUT (TYP.)

4" PVC JACKETED RIGID GALV. STEEL
CONDUIT
COUPLING

4" POWER DUCT

DUCT MUST BE AT LEAST 3 FT
BELOW FINISHED GRADE (SEE NOTE 4)

3" TELEPHONE DUCT

3" PVC JACKETED RIGID GALV. STEEL
CONDUIT

2" RIGID GALV. STEEL CONDUIT UP
TO MCC CONTROL & RELAY SECTION
C/W EYS SEAL

TELEPHONE PULL BOX (B)

NOTE - PULL BOXES ARE BELOW
CONCRETE WIRING TROUGH

BOND END OF
UPPER GROUND ELECTRODE
TO MCC GROUND BUS

3/4" RIGID GALV. STEEL CONDUIT
DOWN TO GAS DETECTOR SENSOR
C/W EYS SEAL. MOUNT CONDUIT
CONTAINING SENSOR 2 FT ABOVE
MAINTENANCE PLATFORM.
SEE DETAIL (3)

2 #12, 1/2" C
TO MCC (MAX
USE ONE 3/4" C)

2 #12, 3/4" EMT
TO MCC.

2 #14, 1/2" C
TO MCC (MAX
USE ONE 3/4" C)

2 #12, 3/4" EMT
TO MCC.

2 #14, 1/2" C
TO MCC (MAX
USE ONE 3/4" C)

2 #12, 3/4" EMT
TO MCC.

2 #14, 1/2" C
TO MCC (MAX
USE ONE 3/4" C)

2 #12, 3/4" EMT
TO MCC.

2 #14, 1/2" C
TO MCC (MAX
USE ONE 3/4" C)

2 #12, 3/4" EMT
TO MCC.

2 #14, 1/2" C
TO MCC (MAX
USE ONE 3/4" C)

2 #12, 3/4" EMT
TO MCC.

2 #14, 1/2" C
TO MCC (MAX
USE ONE 3/4" C)

2 #12, 3/4" EMT
TO MCC.

2 #14, 1/2" C
TO MCC (MAX
USE ONE 3/4" C)

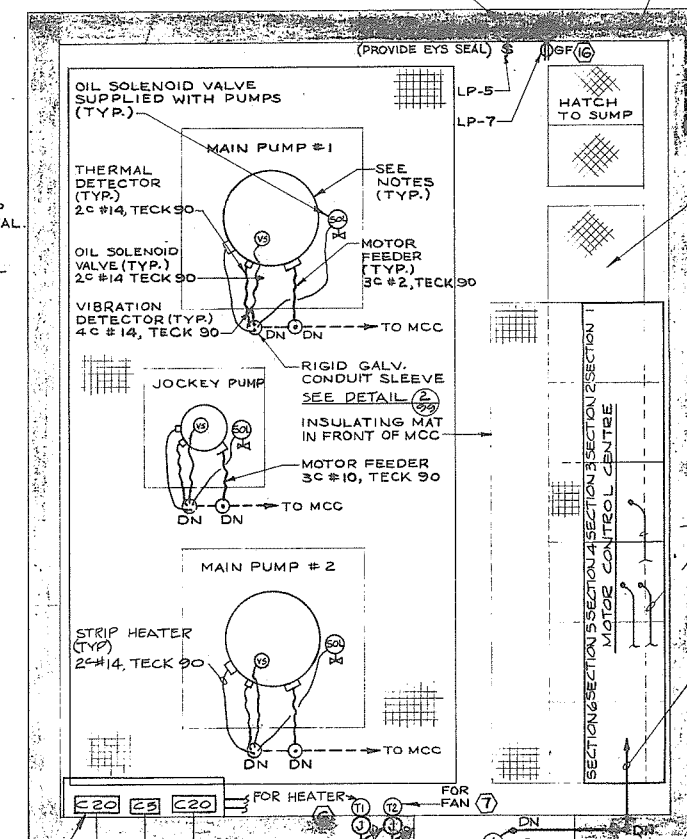
2 #12, 3/4" EMT
TO MCC.

2 #14, 1/2" C
TO MCC (MAX
USE ONE 3/4" C)

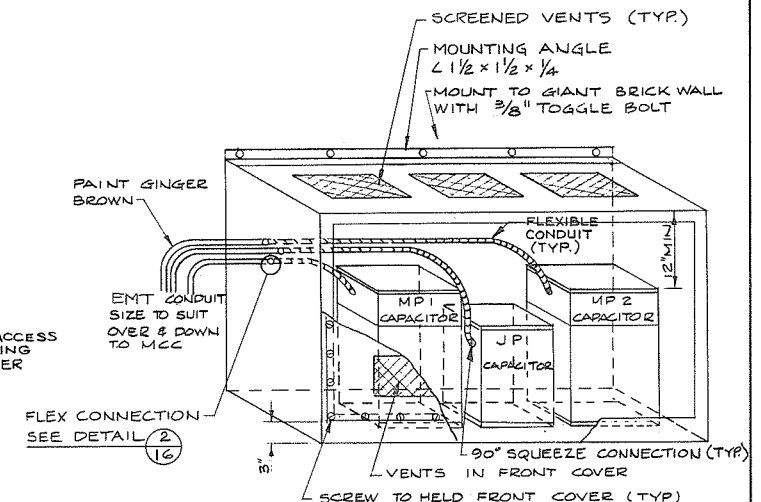
2 #12, 3/4" EMT
TO MCC.

2 #14, 1/2" C
TO MCC (MAX
USE ONE 3/4" C)

2 #12, 3/4" EMT
TO MCC.



PLAN @ EL 18'-0"



- * - MOUNT CAPACITOR ENCLOSURE 6" BELOW CEILING
- SHEET STEEL ENCLOSURE MIN. 14 GAUGE C/W WALL MOUNTING BRACKETS AND INTERNAL SUPPORTS & BRACES AS REQUIRED, PRIME AND PAINT TWO COATS GINGER BROWN COLOUR WITH BAPCO # 803 C-4.
- DIMENSIONS TO SUIT CAPACITORS
- BOTTOM 3" HIGH OIL TIGHT "PAN" TO CONTAIN TOTAL AMOUNT OF FLAMMABLE SILICONE LIQUID IN CAPACITORS.

DETAIL (1)
N.T.S.
CAPACITOR ENCLOSURE

NOTES:

- FOR GENERAL NOTES REFER TO DWG. NO 4795-17-15.
- FOR LEGEND REFER TO DWG. NO 4795-17-99.
- FOR KEY TO MATERIAL ITEMS REFER TO DWG. NO 4795-17-106.
- FOR SERVICE DETAILS REFER TO "SITE PLAN" DWG. NO 4795-17-86.
- ALL WIRING SHALL BE CONCEALED AND ALL BOXES SET FLUSH EXCEPT IN SUMP.
- ALL CONDUITS SHALL HAVE ONE INSULATED, GREEN, GROUND WIRE IN ADDITION TO THE CONDUCTORS SHOWN.
- ALL CABLES AND CONDUITS SHALL ENTER THE MCC FROM THE BOTTOM EXCEPT FOR CONNECTIONS TO CAPACITORS.
- FOR DETAILED WIRING INSTRUCTIONS REFER TO CONTRACT 17 SPECIFICATIONS.
- EMT SHALL BE USED IN DRY LOCATIONS ONLY AND SHALL BE OF STEEL.
- INSTALL AND ADJUST INFRARED HEATERS SO THAT HEAT OUTPUT IS AIMED DOWNWARDS AND IS NOT DIRECTED TOWARDS LIGHTING FIXTURES OR OTHER EQUIPMENT THAT MAY BE DAMAGED BY HIGH TEMPERATURES.
- FOR SITE PLAN SEE DWG. NO 4795-17-86 FOR CONCRETE OUTLINE SEE DWG. NO 4795-17-89 FOR ARCHITECTURAL DETAILS SEE DWG. NO 4795-17-96 FOR ROOF PLANS SEE DWG. NO 4795-17-120 FOR FLOOR DETAILS SEE DWG. NO 4795-17-109, 110, 111.
- DILL 3/8" DRAIN HOLE IN BOTTOM OF B.C. HYDRO AND B.C. TELEPHONE CO. SERVICE PULL BOXES.
- B.C.H. & P.A. & B.C. TEL. SERVICE CONDUITS IN PUMPHOUSE SUMP SHALL BE PVC JACKETED RIGID GALVANIZED STEEL.

522



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M.A. THOMAS & ASSOCIATES LTD.
CONSULTING ENGINEERS
VANCOUVER, B.C. CANADA.



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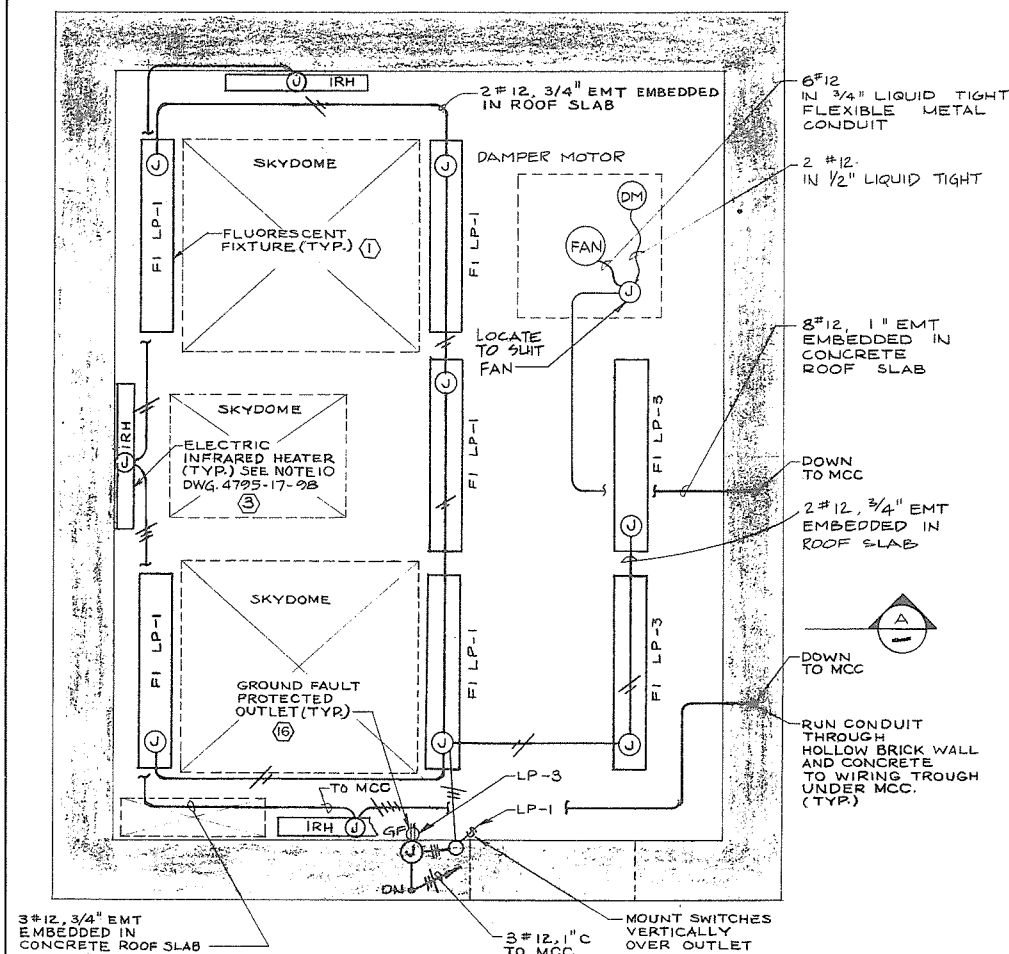
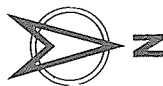
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NO. BY REVISIONS DATE

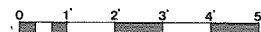
RECOMMENDED *B. A. Cameron*
CHIEF, PROJECTS DIV.
DATE *Feb. 13, 1978*
APPROVED *W. M. A. Thomas*
CHIEF ENGINEER
DATE *Feb. 14, 1978*

BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA - BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT
PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
NO. 1 RD SOUTH-DRAINAGE DISCHARGE STRUCT NO. 34
ELECTRICAL LAYOUT

DESIGNED H.O.
DRAWN A.S./SEO
CHECKED NB
SCALE AS SHOWN
DWG. NO. 4795-17-98 A
SHEET...1... OF 2... SHEETS

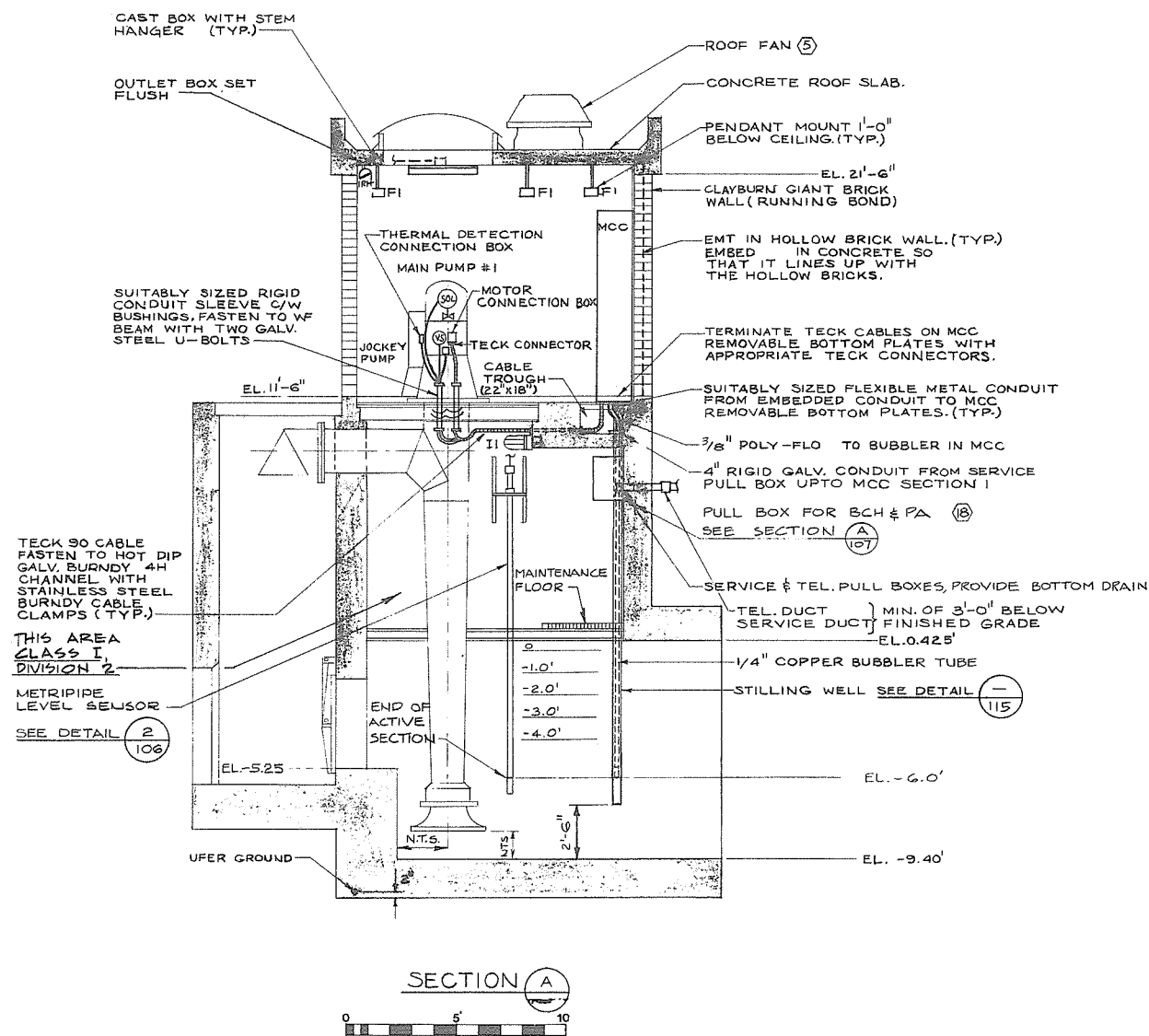


REFLECTED CEILING PLAN

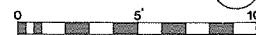


	START	STOP	LOW LEVEL LOCKOUT	HIGH LEVEL ALARM
JOCKEY PUMP :	-1.10	-2.90	-3.00	
LEAD PUMP :	-0.90	-2.00		
LAG PUMP :	-0.60	-1.45		

PUMP OPERATING LEVELS

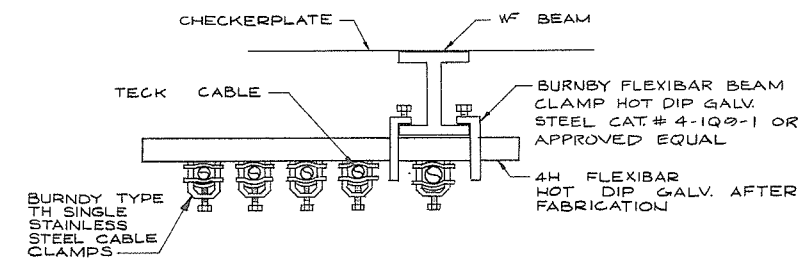


SECTION A

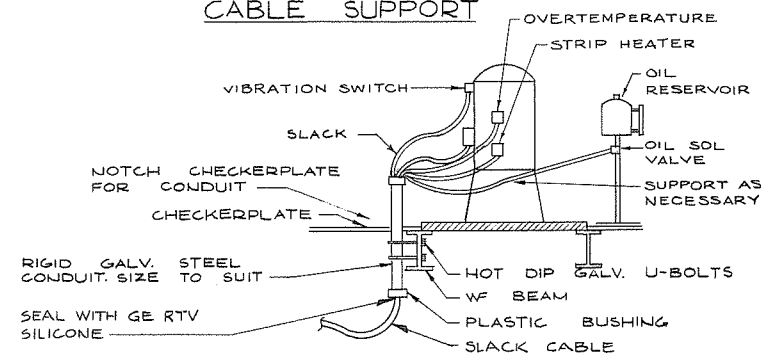


SINGLE PHASE, 3 WIRE, S.N. 120/240 VOLTS					
LOAD (WATTS)	DESCRIPTION	CCT. NO.	S.N.	CCT. NO.	DESCRIPTION
750	INTERIOR FLUORESCENT LIGHTS	1	15A	2	JP MOTOR STRIP HEATER
500	RECEPTACLE ON E. WALL	3	15A	4	MPI " " "
600	SUMP LIGHTS	5	15A	6	MPZ " " "
500	RECEPTACLE ON W. WALL	7	15A	8	SPARE BKR.
	SPARE	9	15A	10	SPARE BKR.
75	EXTERIOR FLUORESCENT LIGHT	11	15A	12	SPARE BKR.

MOTOR CONTROL CENTRE LIGHTING PANEL "LP"



DETAIL 1
N.T.S.
CABLE SUPPORT



DETAIL 2
N.T.S.
CABLE SUPPORT

LEGEND:

- INDICATES ITEM AS CALLED UP ON DWG. # 4795-17-106
- G— GROUND WIRE
- EMBEDDED CONDUIT



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REFERENCE: 1291



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A

NO. BY

REVISIONS

DATE

RECOMMENDED *R. A. Cameron*
CHIEF, PROJECTS DIV.

DATE *Feb 13, 1978*

APPROVED *W. J. Fuller*
CHIEF ENGINEER

DATE *Feb 14/78*

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

PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
NO. 1 RD SOUTH-DRAINAGE DISCHARGE STRUCT NO. 34
ELECTRICAL LAYOUT

DESIGNED H.O.

DRAWN TH/A.S./SEO

CHECKED NB

SCALE AS SHOWN

DWG. NO. 4795-17-99A

SURVEYED

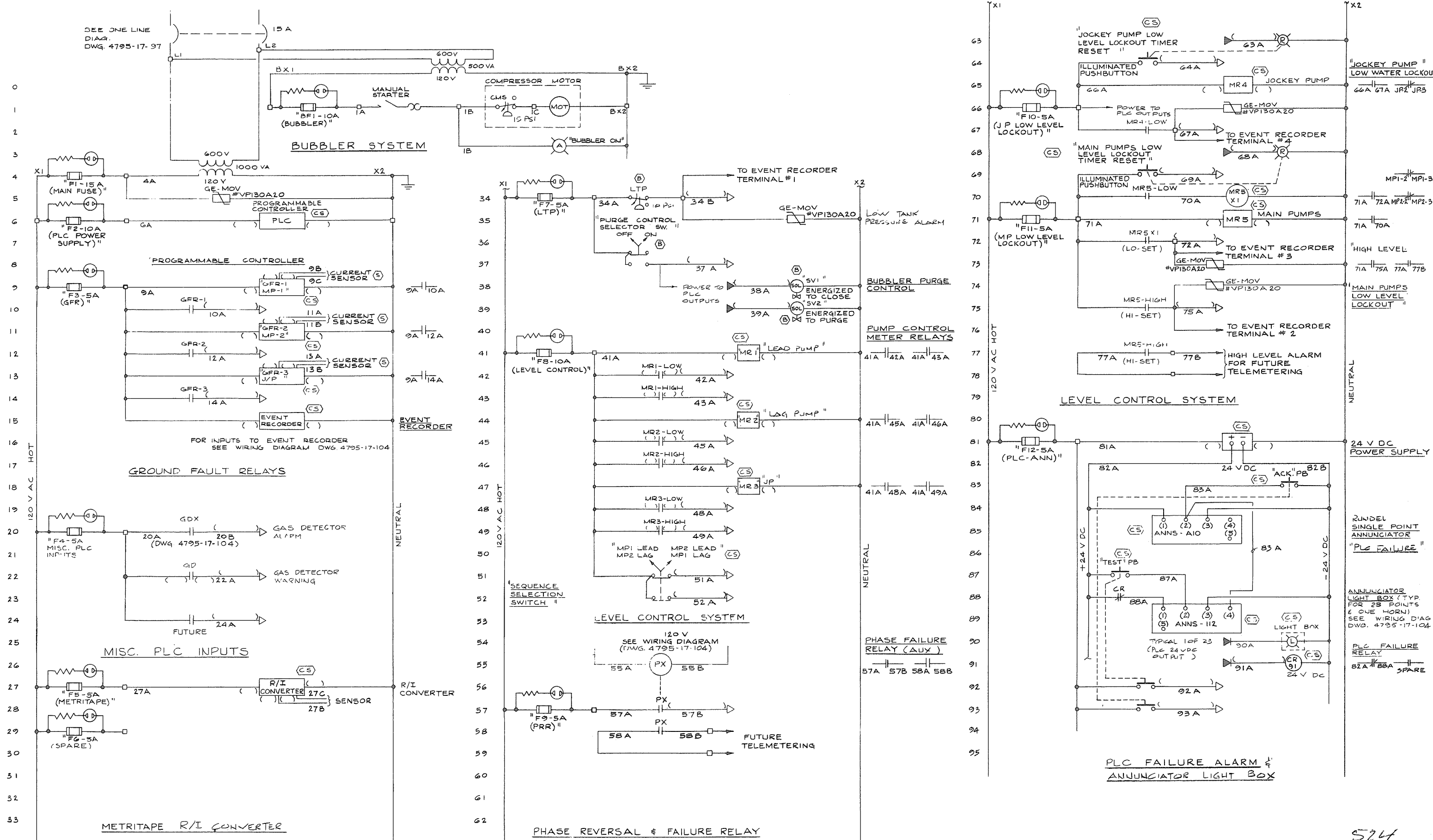
DATE

FILE NO. 0281550-C10-17

DATE Feb 1978

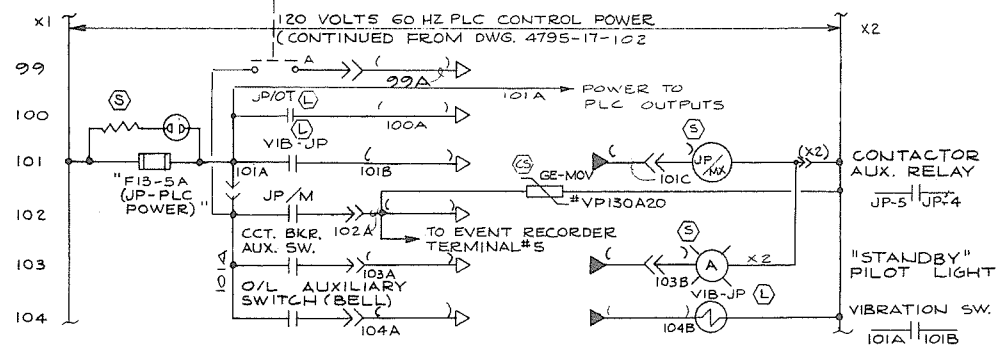
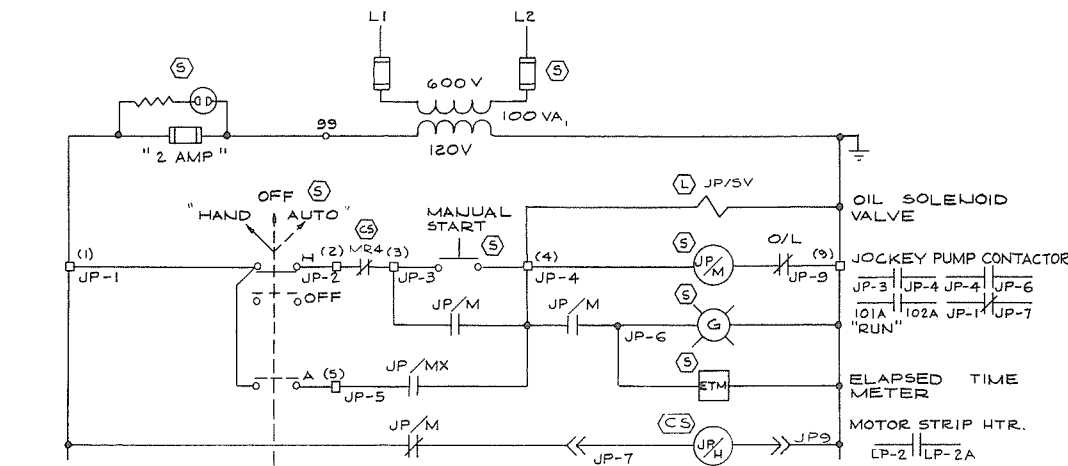
SHEET 2 OF 2 SHEETS

523

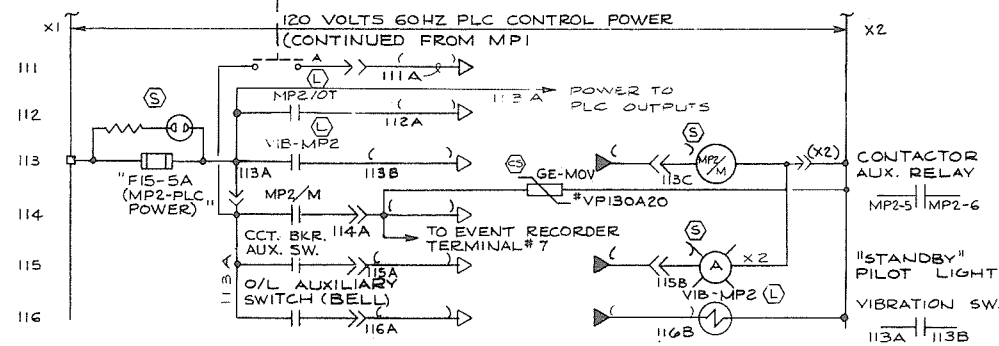
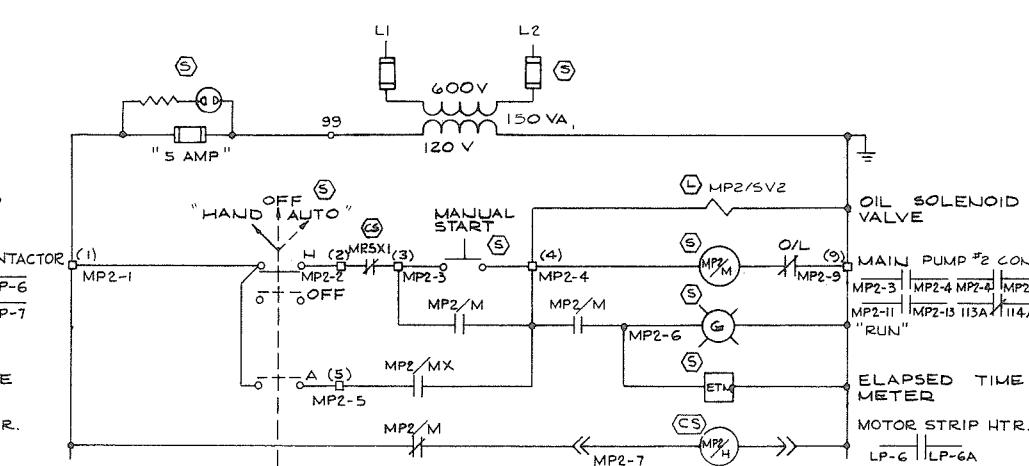


NB
3/2/78

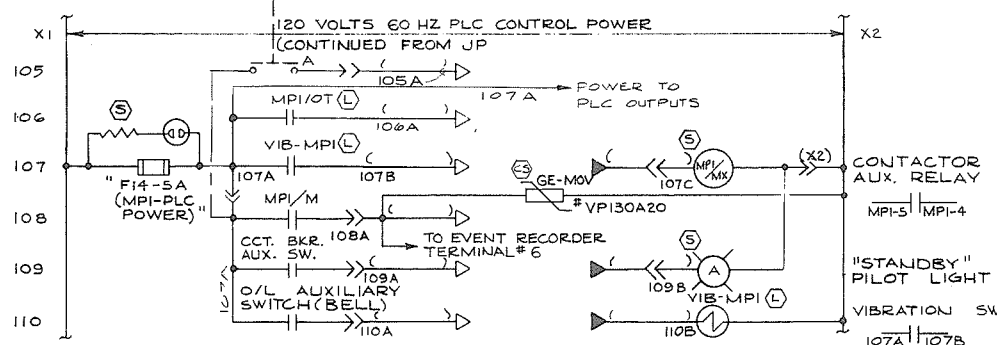
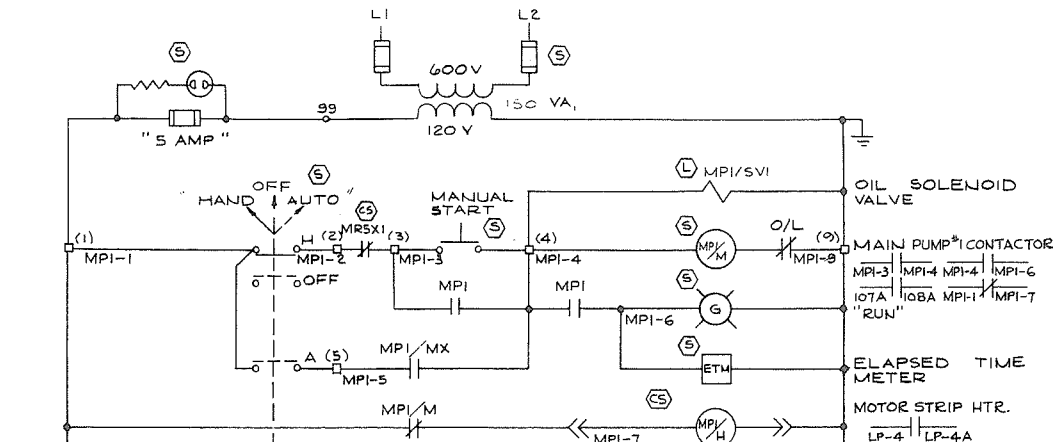
PREPARED BY: M.A. THOMAS & ASSOCIATES LTD. CONSULTING ENGINEERS VANCOUVER, B.C. CANADA.	 CBA ENGINEERING LTD. CONSULTING ENGINEERS - VANCOUVER - CANADA	A	NO. BY REVISIONS DATE	RECOMMENDED.....	BRITISH COLUMBIA MINISTRY OF THE ENVIRONMENT WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1988 AGREEMENT	DESIGNED <u>H0</u>	SURVEYED
				DATE.....		DRAWN <u>SEO/TM</u>	DATE
				APPROVED.....		CHECKED <u>N3</u>	FILE NO. <u>0281550-C10-17</u>
				DIRECTOR		SCALE <u>NONE</u>	DATE <u>Feb 1978</u>
				DATE.....		DWG. NO. <u>4795-17-102</u>	SHEET <u>1</u> OF <u>2</u> SHEETS
PROJECT MANAGER PROJECT NO 3 TOWNSHIP OF RICHMOND CONTRACT NO 17 NO.1 RD SOUTH -DRAINAGE DISCHARGE STRUCT NO.34 ELECTRICAL SCHEMATIC DIAGRAM							
REFERENCE: 1291							



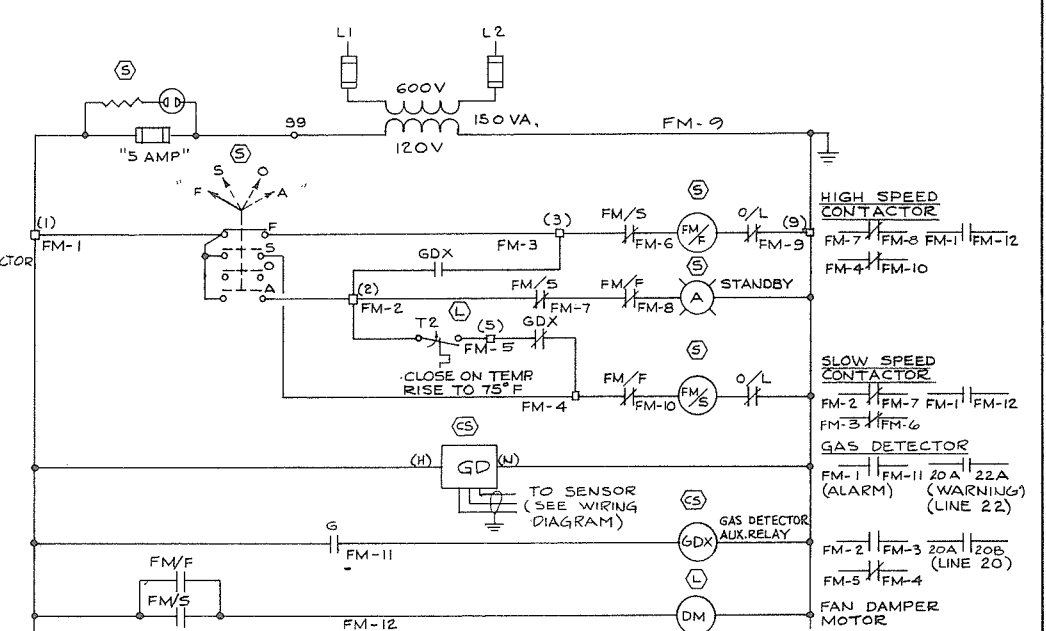
JOCKEY PUMP STARTER SCHEMATIC



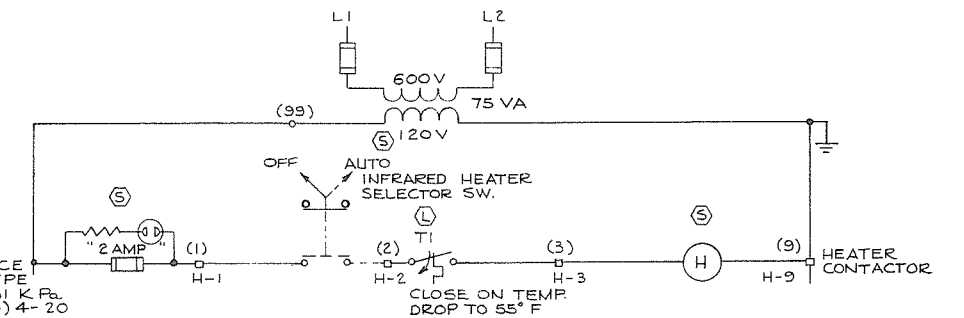
MAIN PUMP #2 STARTER SCHEMATIC



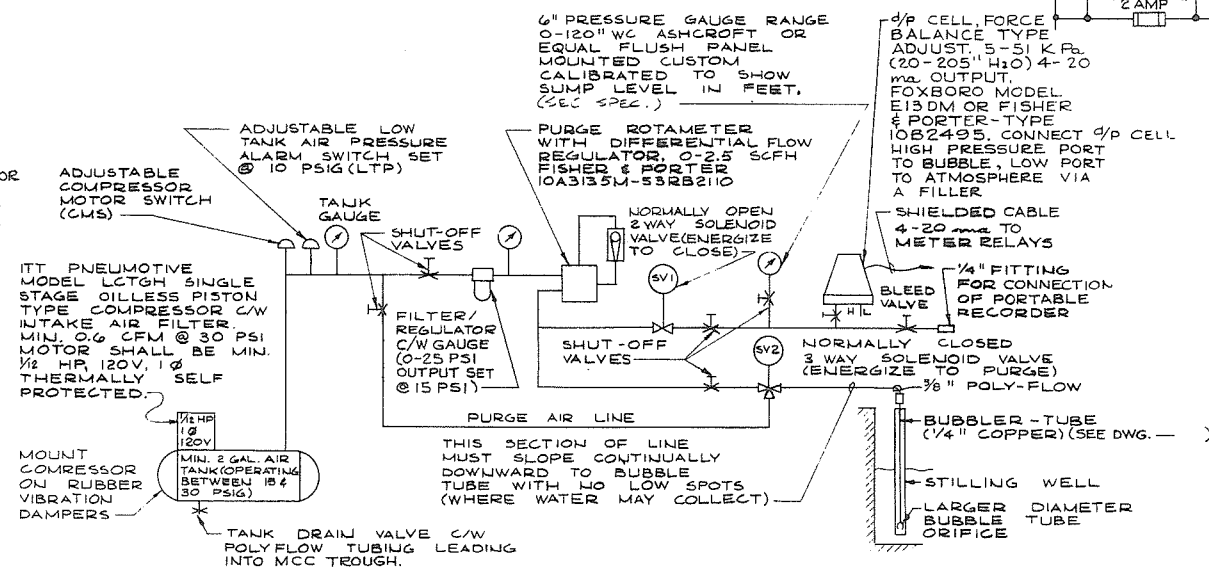
MAIN PUMP #1 STARTER SCHEMATIC



GAS DETECTOR & SUPPLY FAN SCHEMATIC



I.R. HEATER SCHEMATIC



BUBBLER LEVEL CONTROL SYSTEM-PIPING

NB
3/2/78

PREPARED BY: M.A. THOMAS & ASSOCIATES LTD. CONSULTING ENGINEERS VANCOUVER, B.C. CANADA.	REFERENCE: 1291
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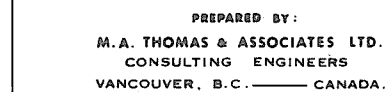
NO.	BY	REVISIONS	DATE

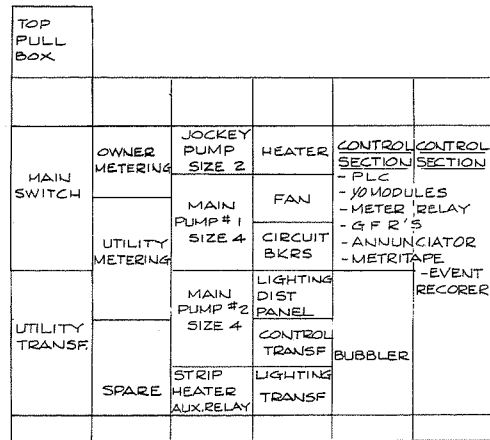
RECOMMENDED	PROJECT MANAGER
DATE	
APPROVED	DIRECTOR
DATE	

BRITISH COLUMBIA MINISTRY OF THE ENVIRONMENT WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1988 AGREEMENT PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17 NO. 1 RD SOUTH - DRAINAGE DISCHARGE STRUCT NO. 34 ELECTRICAL SCHEMATIC DIAGRAM - STARTERS	DWG. NO. 4795-17-103A
--	----------------------------------

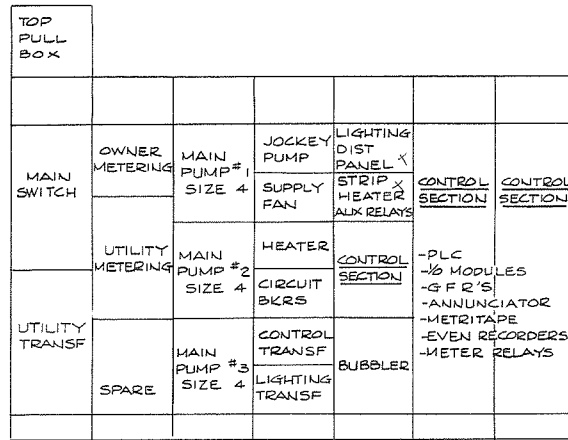
DESIGNED	HO	SURVEYED	
DRAWN	SEO/FC/TM	DATE	
CHECKED	NB	FILE NO.	028/550-C10-17
SCALE	NONE	DATE	Feb 1978
SHEET	2	OF	2 SHEETS

525

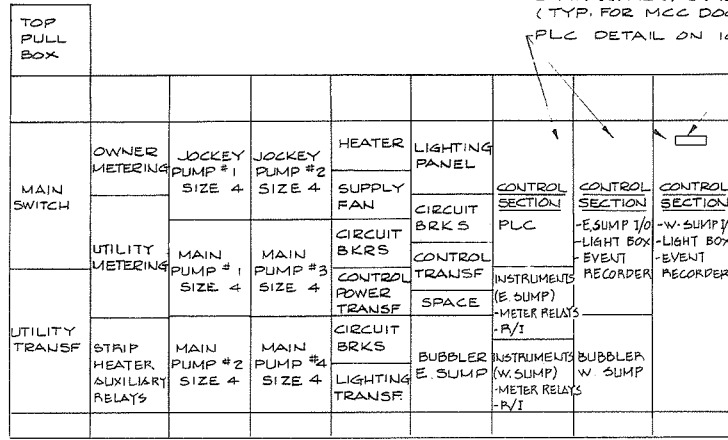




GILBERT & N.1 ROAD MCC
SCALE: 1/8"=1'-0"

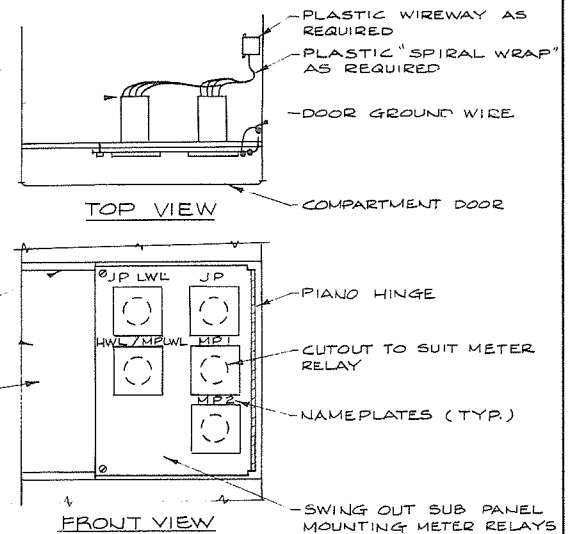


SHELL ROAD MCC
SCALE: 1/8"=1'-0"



WOODWARD'S SLOUGH MCC
SCALE: 1/8"=1'-0"

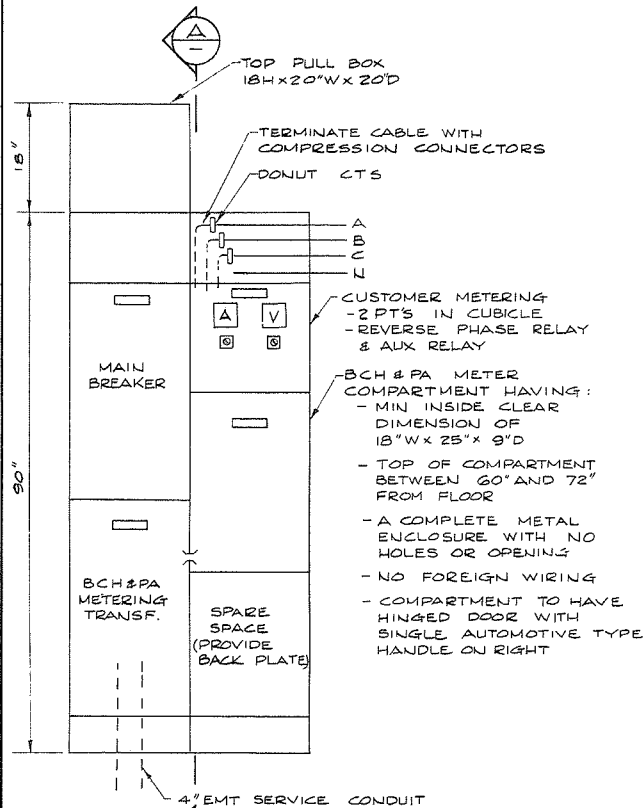
MOUNT SO METER RELAYS DO NOT INTERFERE WITH OTHER EQUIP. WHEN PANEL IS SWING OPEN



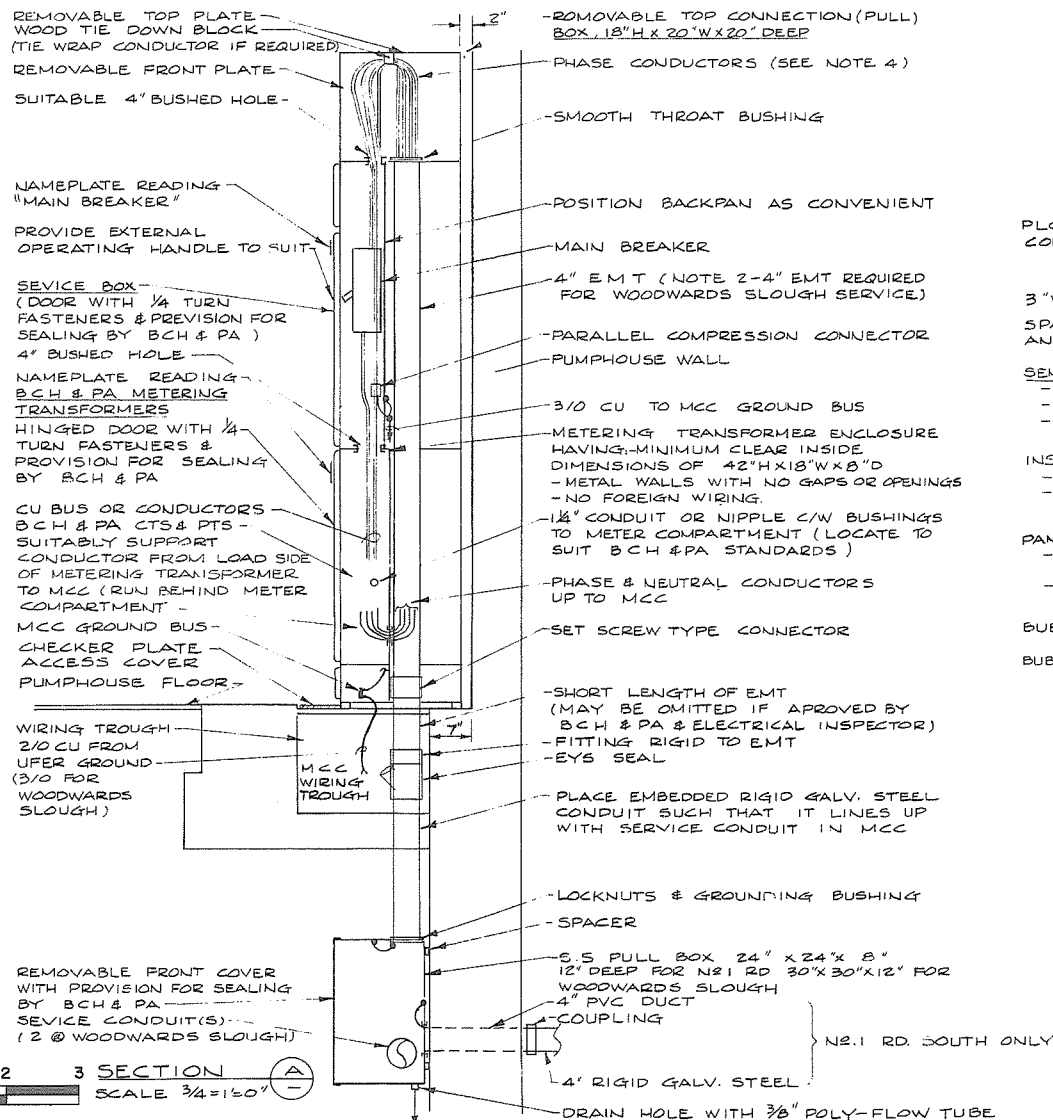
NOTES

- 1) N.1 RD SOUTH & GILBERT RD SOUTH MCC SECTION 5 INSTRUMENT COMPARTMENT, METER RELAY MOUNTING AS SHOWN ABOVE
- 2) METER RELAY MOUNTING FOR SHELL ROAD SOUTH SIMILAR EXCEPT INSTALL A TOTAL OF 6 METER RELAYS FOR: MP1, MP2 AND MP3 START/STOP ON RIGHT AND JP START/STOP, JP LWL AND HWL/MP/LWL
- 3) WOODWARD'S SLOUGH SHALL HAVE TWO METER RELAY INSTALLATIONS, ONE SET FOR THE WEST SUMPS AND ONE SET FOR EAST SUMPS EACH SIMILAR TO N.1 ROAD SOUTH.

DETAIL (3)
N.T.S.



MCC SERVICE ENTRANCE SECTION
SCALE: 3/4"=1'-0"



PLC MAINFRAME COMPARTMENT

3"X4" H PANDUIT WIREWAY
SPACE FOR PLC AUXILIARIES AND FUTURE I/O

SEMI FLASH PANEL MOUNT
-PLC INTERFACE PANEL
-ELECTRIC LEVEL METER
-6" PRESSURE GAUGE
-LEVEL METER

INSTRUMENT COMPARTMENT
-METRITAPE R/I CONVERTER
-D/P CELL METRE RELAYS

PANEL MOUNT
-PUMP SEQUENCE SELECTION
-SWITCHES
-LOW WATER LEVEL LOCKOUT
-RESET P.B.S

BUBBLER FLOW METERING ETC.
BUBBLER COMPRESSOR

DETAIL (2)
SCALE: 3/8"=1'-0"

MCC CONTROL SECTIONS
(TYP. FOR N.1 RD, GILBERT RD)
SHELL RD SOUTH SIMILAR EXCEPT
ADDITIONAL 16 PT I/O HOUSING
(UTO UNDER PLC MAIN FRAME)

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

TOP HORIZONTAL WIREWAY
SUITABLY SIZE HOLE IN WALL
FOR PLC BUS DUCT
-PLC BUS DUCT, LENGTH TO SUIT

ONE OF 3 PLC, 32 POINT I/O
HOUSINGS C/W BUILD-IN
WIREWAY & TERMINALS

-PLC I/O COMPARTMENT

3"X4" H PLASTIC WIREWAY

4"X4" H PLASTIC WIREWAY

PLC AUX. TERMINAL BLOCKS AS
REQUIRED

SEMI-FLASH MOUNT ON FRONT OF
SECTION 6 DOOR THE FOLLOWING:
-ANNUNCIATOR LIGHT BOX
& PLC FAILURE ALARM
-EVENT RECORDER
-GFR GROUND FAULT RELAYS
-GAS DETECTOR RELAY

-24 VOLT D.C. POWER SUPPLY
-PLASTIC WIREWAY AS REQUIRED &
OTHER TERMINAL BLOCK AS SHOWN
ON THE DWGS

NOTES:

- 1) REFER TO ONE LINE DIAGRAMS & THE DETAILED SPECIFICATIONS FOR COMPLETE DESIGN DATA.
- 2) THE METERING TRANSFORMER COMPARTMENT AND THE METER COMPARTMENT SHALL BE IN ACCORDANCE WITH BCH & PA "GUIDE FOR SECONDARY METERING" SPECIFICATIONS FOR 3 PHASE, 4W, 347/600 VOLT WYE SERVICES.
- 3) MCC SECTIONS I & II SHALL MEET ALL ELECTRICAL CODE REQUIREMENTS FOR SERVICE ENTRANCES



PREPARED BY:
M.A. THOMAS & ASSOCIATES LTD.
CONSULTING ENGINEERS
VANCOUVER, B.C. - CANADA.

REFERENCE: 1291



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CONSULTING ENGINEERS - VANCOUVER - CANADA

A

NO. BY REVISIONS DATE

RECOMMENDED: P. A. Camm PROJECT MANAGER
DATE: Feb 13, 1978
APPROVED: J. M. Fuller DIRECTOR
DATE: Feb 14, 1978

BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA - BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1988 AGREEMENT
PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
DRAINAGE DISCHARGE STRUCTURES
ELECTRICAL INSTALLATION DETAILS

DESIGNED: NB/HO
DRAWN: FW
CHECKED: NB
SCALE: AS SHOWN
DWG. NO: 4795-17-107 A
SHEET 2 OF 2 SHEETS

529

For flashing see detailed specifications

Roof drains to be Josam Type #464 & galvanized as manufactured by Josam Products Ltd. or approved equal.

#15 roofing felts mopped on roof & curb

For built-up roofing see detailed specifications

For detail of parapet see 4795-17-120

2'-0" N.T.S.

R.W.L. to be 4" C.I. as manufactured by Anthes Imperial Ltd. or approved equal

Giant brick wall

For pipe support see detail ①

3'-0" N.T.S.

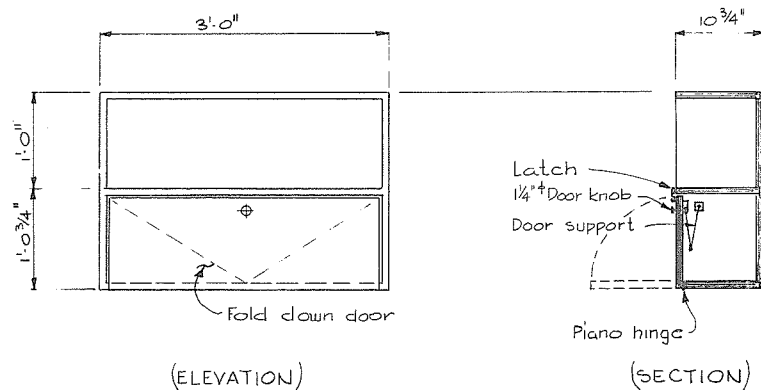
T.O. Floor ϕ .

Note

For location of roof drains see 4795-17-120

TYPICAL DRAIN DETAIL

SCALE IN FEET



(ELEVATION)

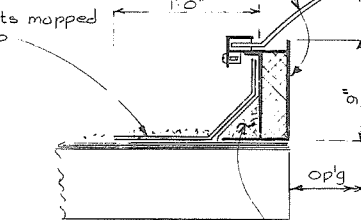
(SECTION)

Shelving shall be made from 3/4" Fir plywood. All exposed surfaces shall be covered with laminated Arborite (color N° 822). Shelving shall be field located.

SHELVING DETAIL

SCALE IN FEET

For skydome & aluminum curb see detailed specifications



Note

For location of skydome see 4795-17-120

TYPICAL SKYDOME DETAIL

#15 roofing felts mopped on roof & extend up the sides of the curb

Curb to be placed on caulking bead

Note

For location of roof fan see 4795-17-120

TYPICAL ROOF FAN DETAIL

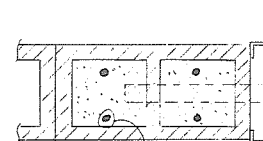
SCALE IN FEET

Concrete filled bond beam reinf with 2-#6x4'-4" Lg for 3'-0" Door 2-#6x6'-4" Lg for 5'-0" Door

Steel lintel

For fan & clamper see detailed specifications

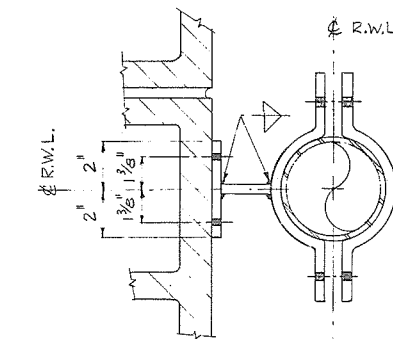
Head



#6 Vertical in concrete filled cavities

Jamb

TYPICAL JAMB & HEAD DETAIL



PLAN

Bar 1 1/2" x 3/8" x 2 3/4"

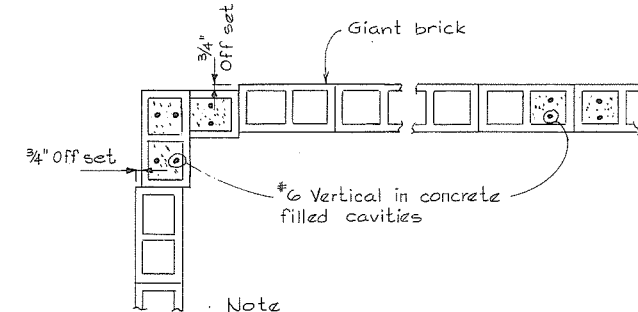
Bar 1 1/2" x 3/8" x 4" with 2-7/16" ϕ Holes For 2-3/8" ϕ x 4" Taggle bolts

VIEW

DETAIL ①

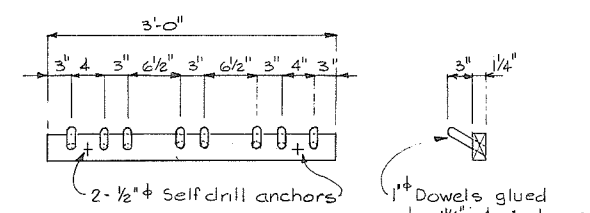
2 Required for each R.W.L.

SCALE IN FEET



TYPICAL WALL REINFORCEMENT

SCALE IN FEET



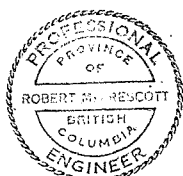
(ELEVATION)

(SECTION)

Dowels & base cut from oak wood. Tool & coat hooks to be field located

TOOL & COAT HOOK DETAILS

SCALE IN FEET



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CONSULTING ENGINEERS - VANCOUVER - CANADA

NO.	BY	REVISIONS	DATE
A			

RECOMMENDED	<i>R. H. Camm</i> PROJECT MANAGER
DATE	<i>Feb. 13, 1978</i>
APPROVED	<i>John L. Liller</i> DIRECTOR
DATE	<i>Feb. 14/78</i>

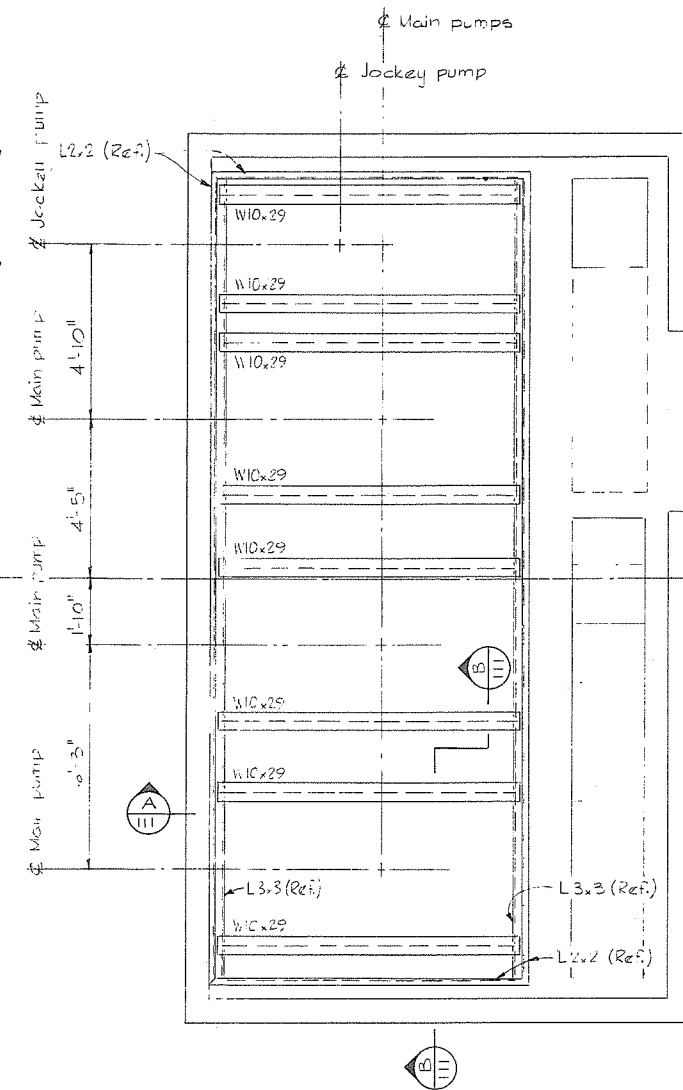
BRITISH COLUMBIA MINISTRY OF THE ENVIRONMENT WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT
PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
MISCELLANEOUS ARCHITECTURAL DETAILS

DESIGNED	<i>t.y.</i>	SURVEYED	
DRAWN	<i>t.y.</i>	DATE	
CHECKED	<i>AR</i>	FILE NO.	0281550 - CIO - 17
SCALE	AS SHOWN	DATE	Feb 1978
DWG. NO.	4795-17-108	SHEET	OF SHEETS

266 530



SHELL ROAD SOUTH Drainage discharge structure N° 27

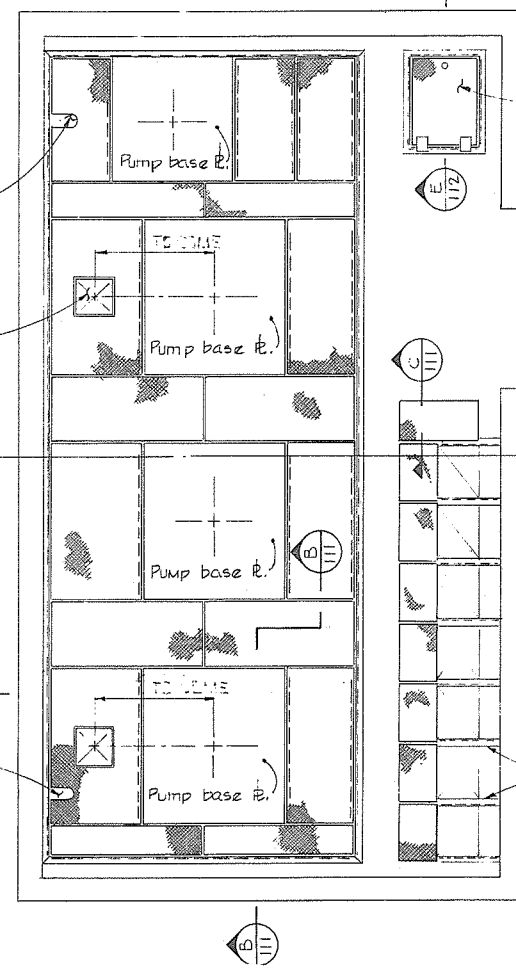


PLAN
PUMP SUPPORT STEEL

Field cut opening in floor R's for R.W.L.

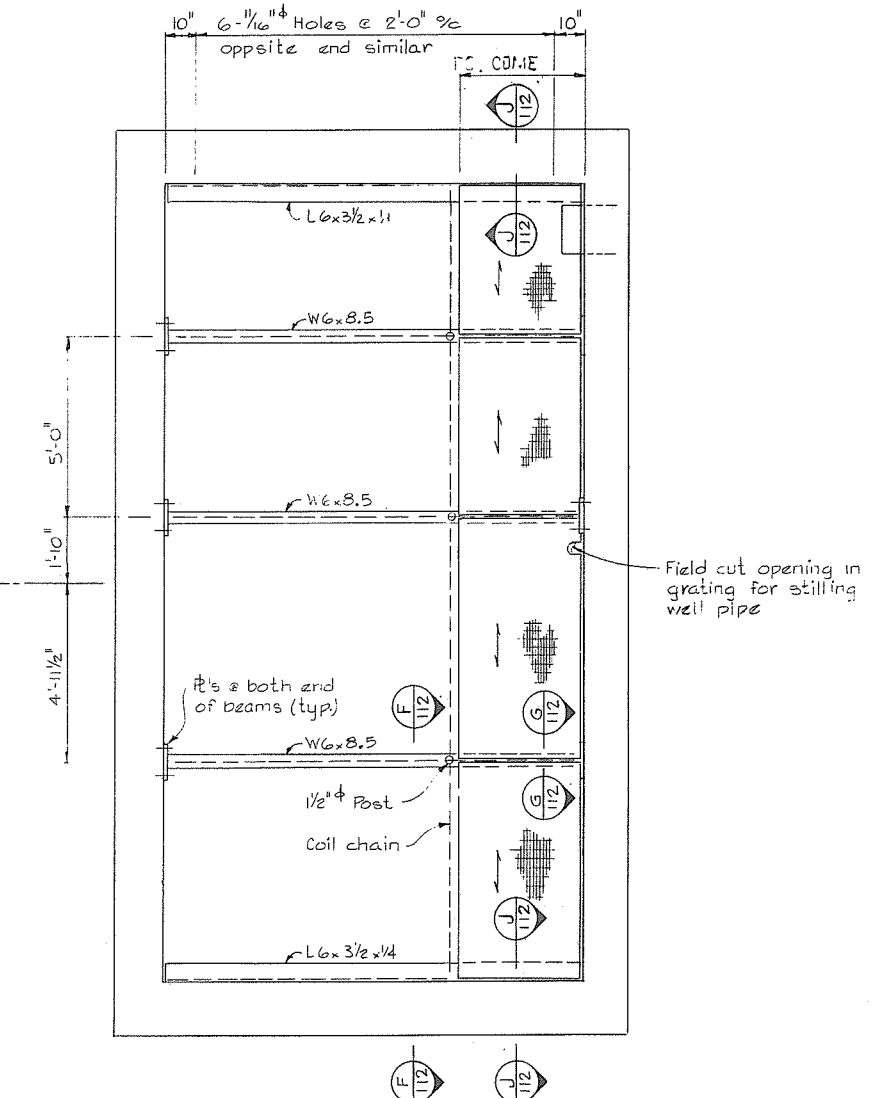
For damper opening
see detail (6) (11)

Field cut opening in floor R's for R.W.L.



PLAN
PUMP HOUSE FLOOR

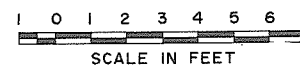
SHELL ROAD SOUTH Drainage discharge structure N° 27



PLAN
MAINTENANCE FLOOR

NOTES

- Pump base plates and cross support beams are to be located and sized by the contractor to suit the type and model of pump being supplied.
- Minimum dimensions pertain as shown, elsewhere all dimensions must be checked for clearances and clearly noted on shop drawings.
- For General Notes see 4795-17-9



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NO. BY
A

REVISIONS

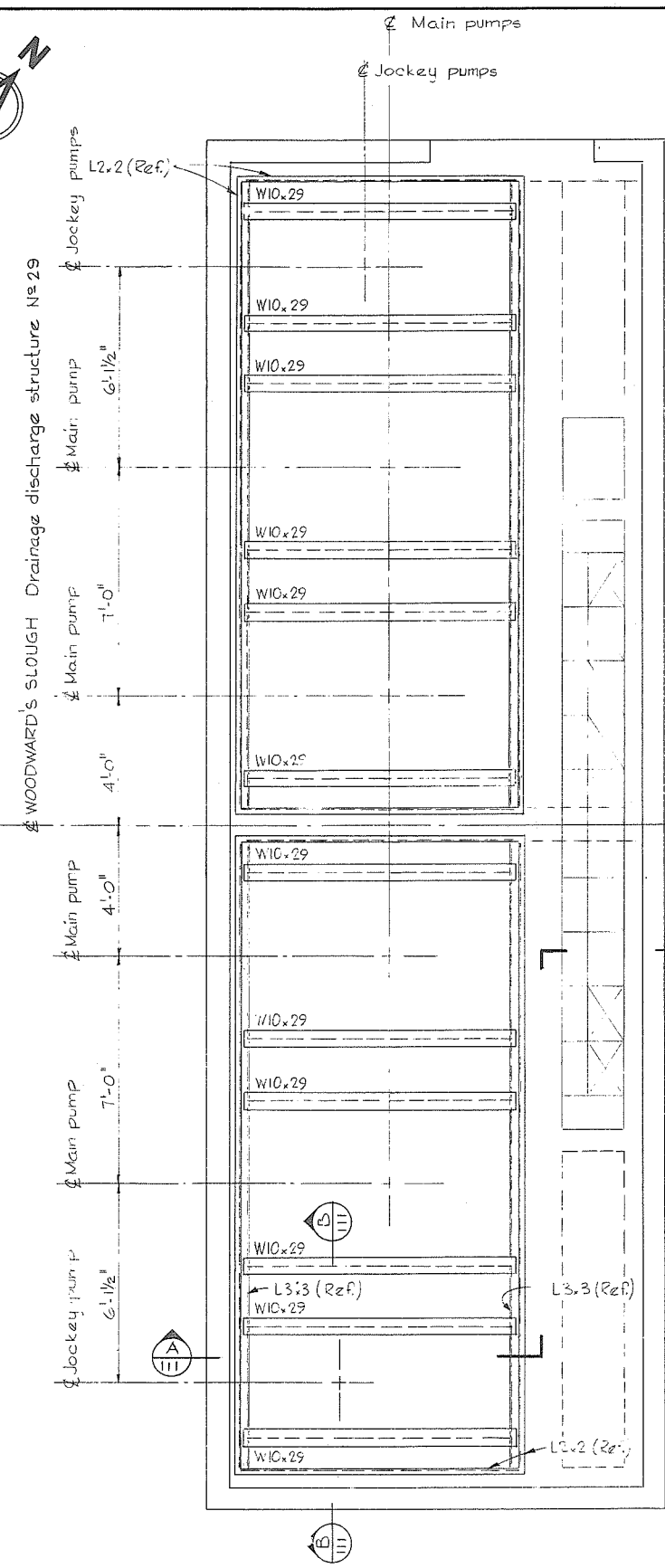
DATE

RECOMMENDED *B.K. Cameron*
PROJECT MANAGER
DATE *5-13-78*
APPROVED *[Signature]*
DIRECTOR
DATE *5-14-78*

BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA - BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1969 AGREEMENT
PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
PUMP SUPPORT, PUMP HOUSE FLOOR
AND MAINTENANCE FLOOR - LAYOUT

DESIGNED <i>GCW</i>	SURVEYED
DRAWN <i>L.H.</i>	DATE
CHECKED <i>AK</i>	FILE NO. <i>0281550 - C10 - 17</i>
SCALE <i>AS SHOWN</i>	DATE <i>Feb 1978</i>
DWG. NO. <i>4795-17-109</i>	SHEET <i>1</i> OF <i>3</i> SHEETS

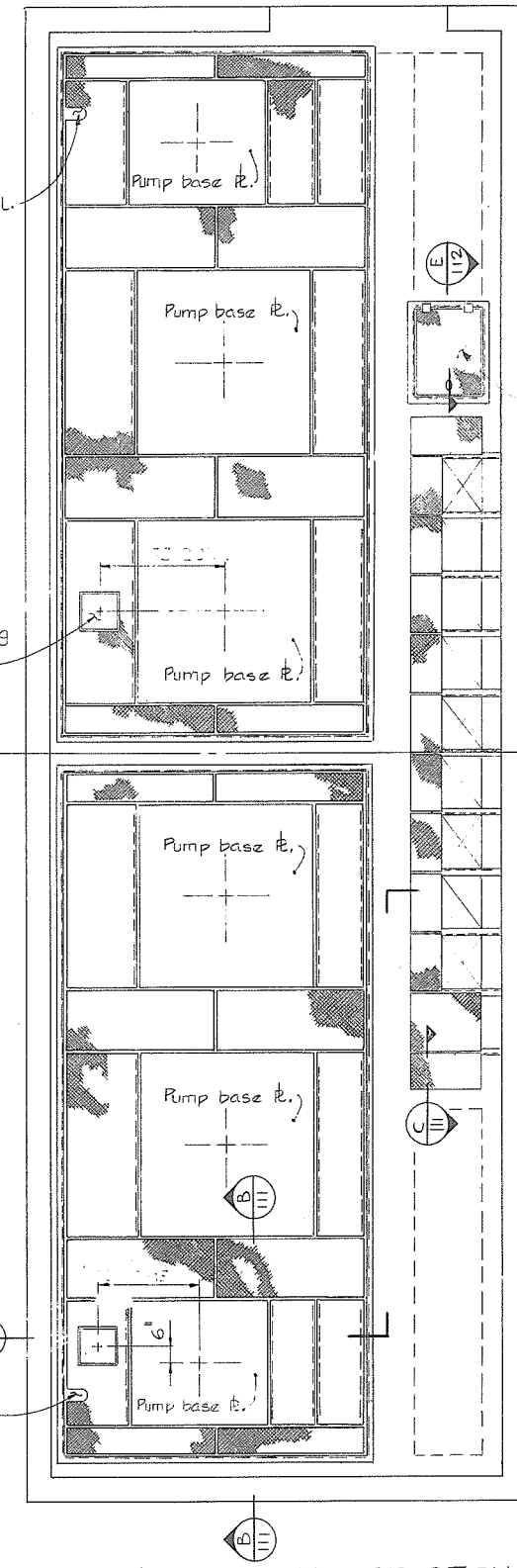
531



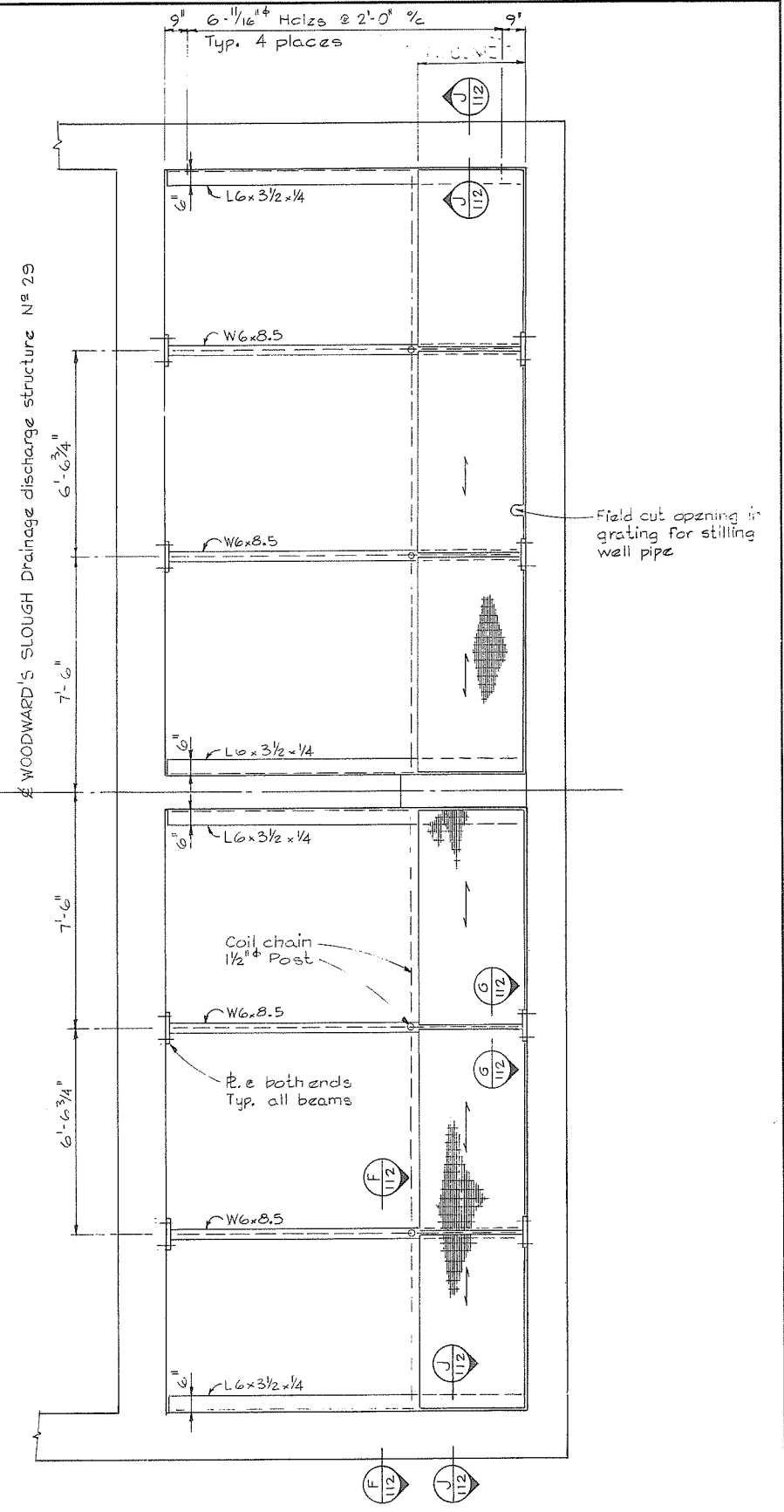
Field cut opening in floor R. for R.W.L.

For damper opening see detail (Typ. 2 places)

Field cut opening in floor R. for R.W.L.



Hinged pump sump access cover



Field cut opening in grating for stilling well pipe

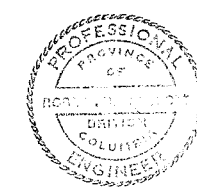
WOODWARD'S SLOUGH DRAINAGE DISCHARGE STRUCTURE No 29

PLAN PUMP HOUSE FLOOR

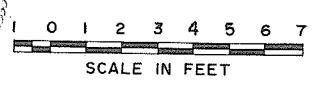
NOTES

- For General Notes see 4795-17-31
- For notes see 4795-17-109

PLAN MAINTENANCE FLOOR



PLAN PUMP SUPPORT STEEL



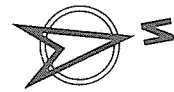
CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

NO.	BY	REVISIONS	DATE
1	B		
2	A		

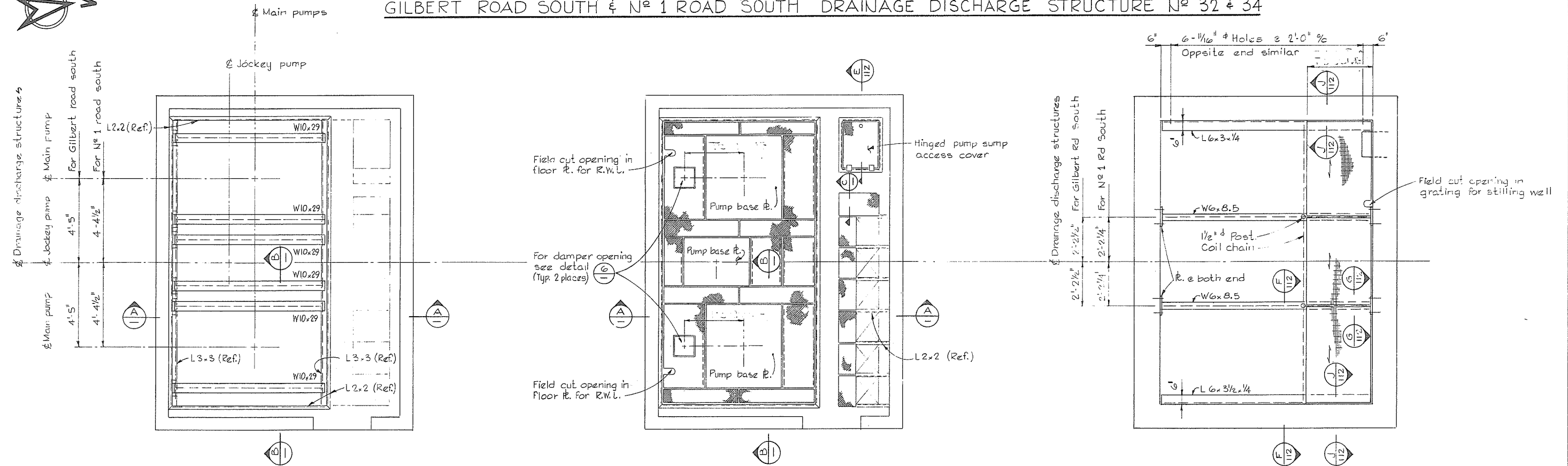
RECOMMENDED	<i>R. d. Camm</i>
DATE	Feb. 13, 1978
APPROVED	<i>W. J. Fuller</i>
DATE	Feb. 14, 1978

BRITISH COLUMBIA MINISTRY OF THE ENVIRONMENT WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1988 AGREEMENT	PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17 PUMP SUPPORT, PUMP HOUSE FLOOR AND MAINTENANCE FLOOR - LAYOUTS
--	---

DESIGNED	G.C.W.	SURVEYED	
DRAWN	L.Y.	DATE	
CHECKED	A.R.	FILE NO.	0281550 - C10-17
SCALE	AS SHOWN	DATE	Feb 1978
DWG. NO.	4795-17-110	SHEET	2 OF 3 SHEETS



GILBERT ROAD SOUTH & N° 1 ROAD SOUTH DRAINAGE DISCHARGE STRUCTURE N° 32 & 34



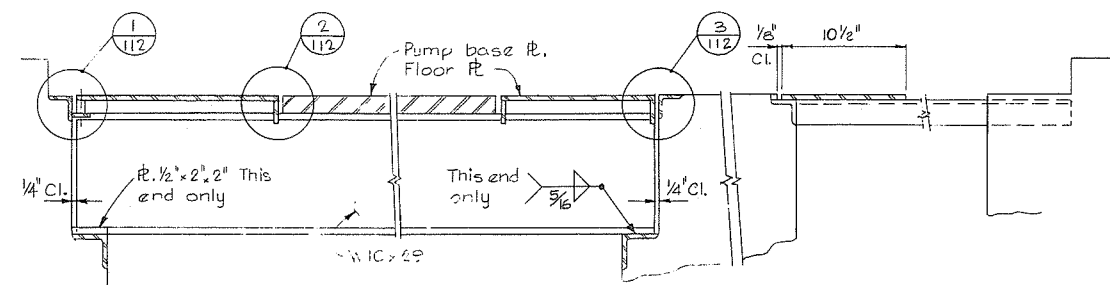
PLAN -
PUMP SUPPORT STEEL

1 0 1 2 3 4 5 6 7
SCALE IN FEET

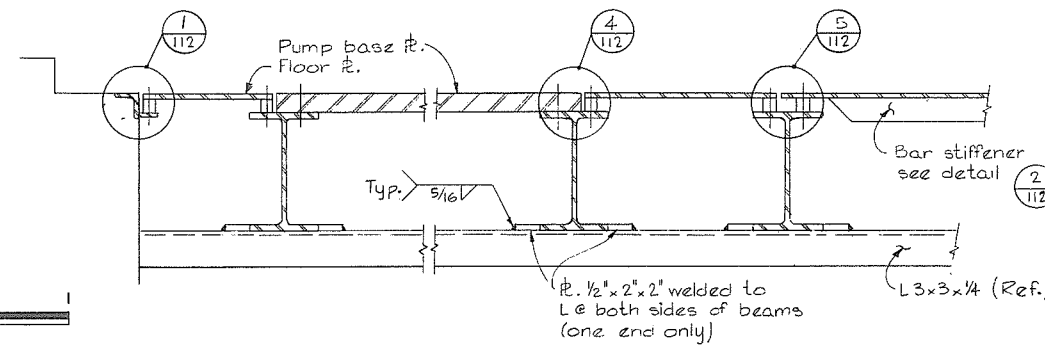
PLAN
PUMP HOUSE FLOOR

1 0 1 2 3 4 5 6 7
SCALE IN FEET

PLAN
MAINTENANCE FLOOR

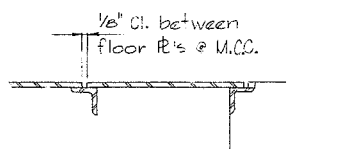


1 0 1
SCALE IN FEET



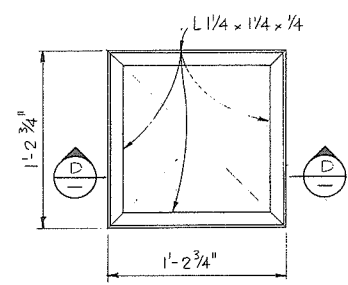
SECTION B-B

SECTION A-A



SECTION C-C

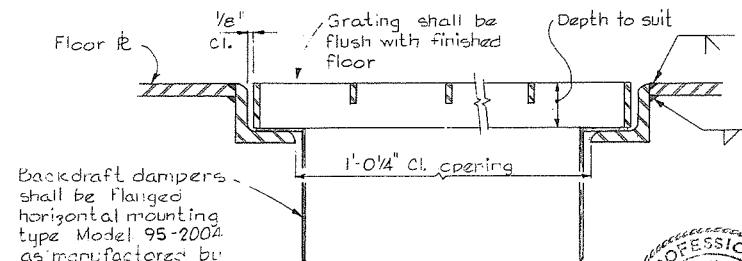
1 0 1
SCALE IN FEET



DAMPER FRAME

DETAIL 6-6-6

1 0 1
SCALE IN FEET



SECTION D-D

1 0 1
SCALE IN FEET

Backdraft dampers shall be flanged horizontal mounting type Model 95-2002 as manufactured by Canadian Advanced Air Ltd. or approved equal, w/ adjustable spring for positive closure. Adjust as per specification.



CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

NO. BY
REVISIONS
DATE

RECOMMENDED *B. R. Cameron*
PROJECT MANAGER
DATE *Feb. 13, 1978*
APPROVED *[Signature]*
DIRECTOR
DATE *Feb. 14/78*

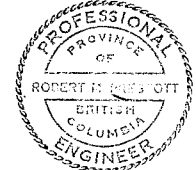
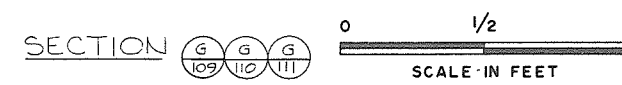
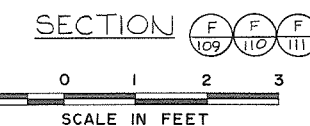
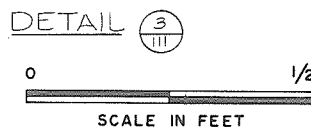
BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA - BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT
PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
PUMP SUPPORT, PUMP HOUSE FLOOR
AND MAINTENANCE FLOOR - LAYOUT

DESIGNED *GCW*
DRAWN *[Signature]*
CHECKED *[Signature]*
SCALE AS SHOWN
DWG. NO. 4795-17-III B
SHEET 3 OF 3 SHEETS

NOTES

- For General Notes see 4795-17-66 & 89
- For Notes see 4795-17-109

266 533



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CONSULTING ENGINEERS - VANCOUVER - CANADA

B
A

NO.	BY	REVISIONS	D.
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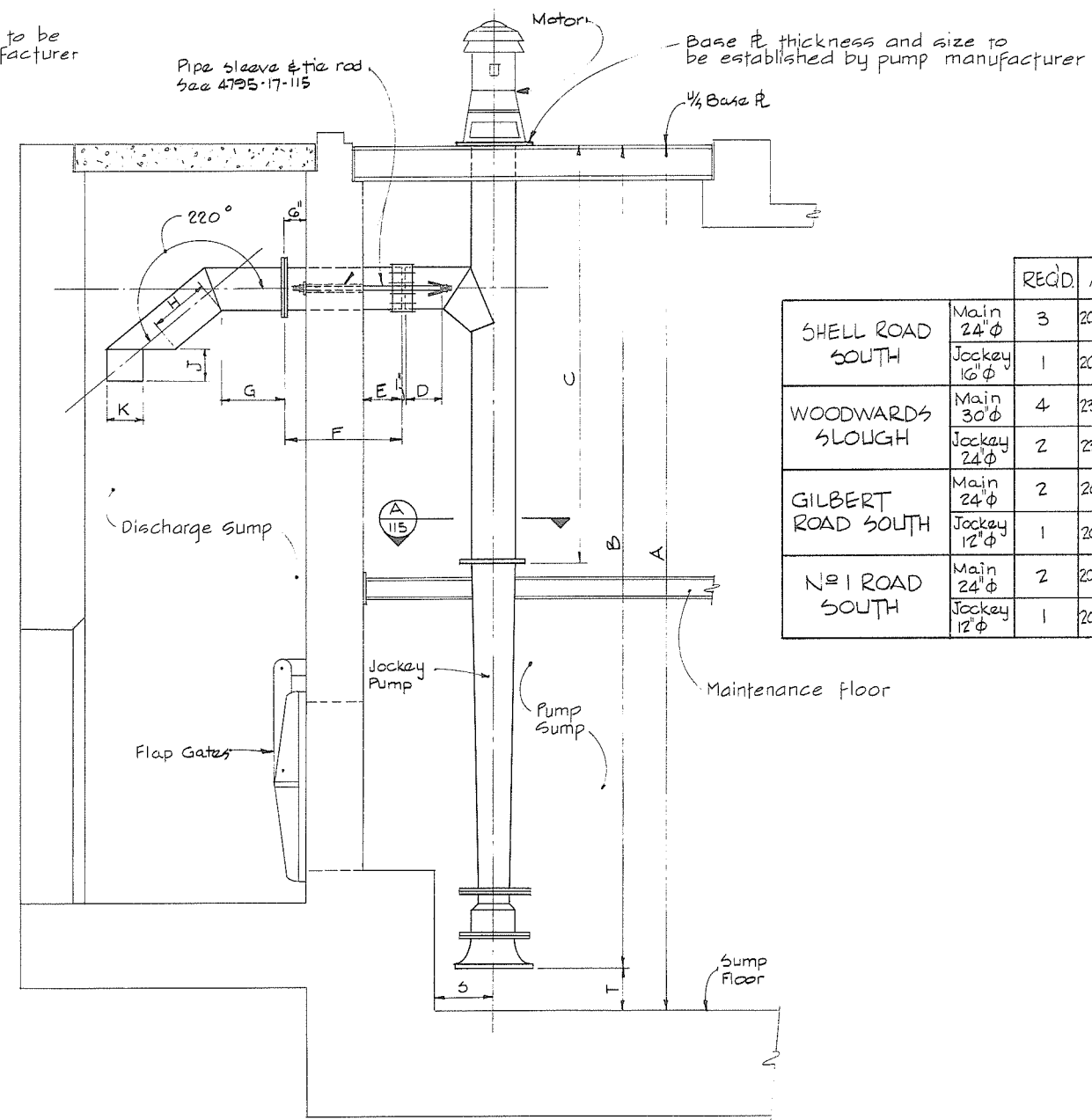
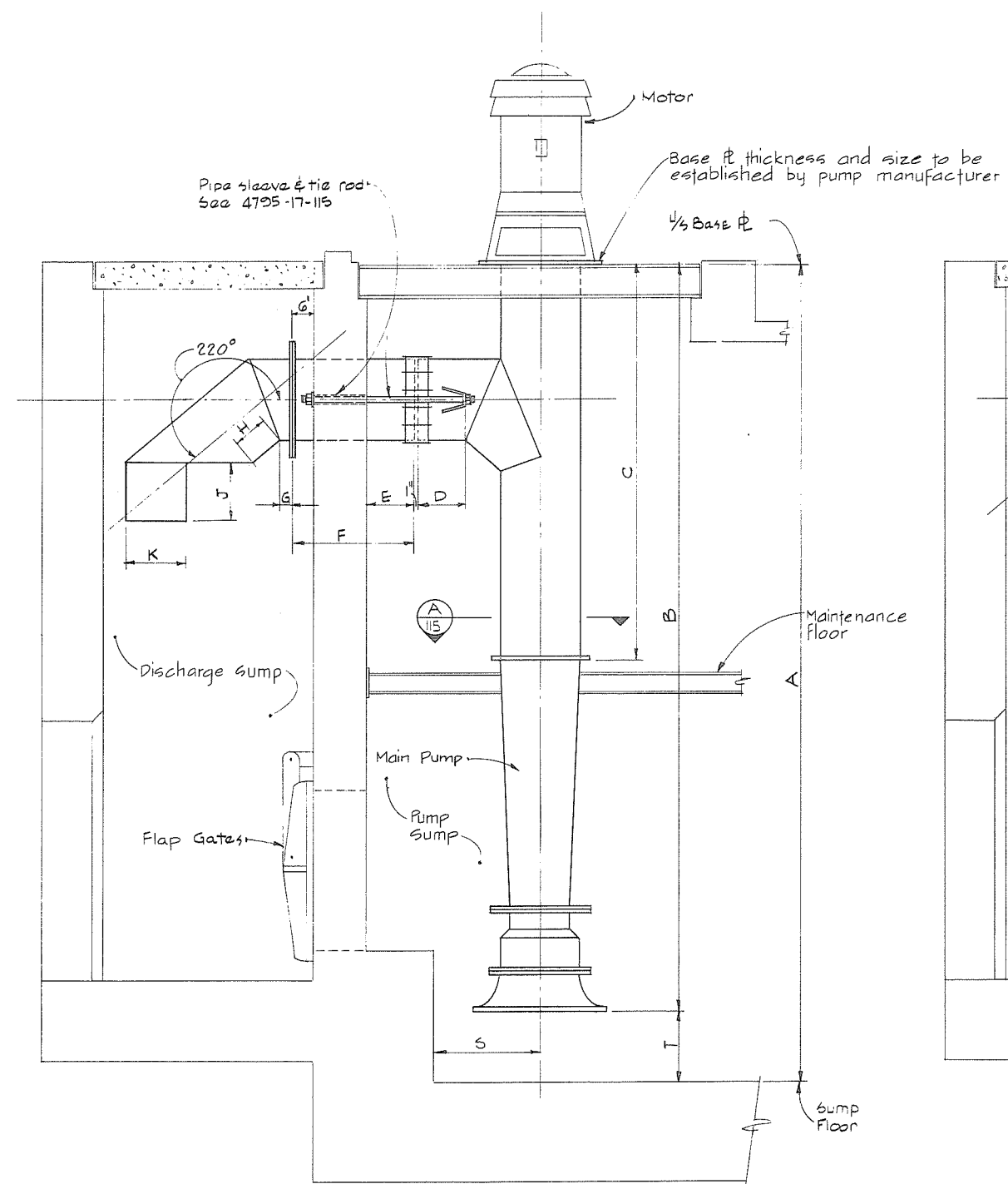
RECOMMENDED	<i>B. A. Cameron</i> PROJECT MANAGER
DATE	<i>Feb. 13, 1978</i>
APPROVED	<i>J. B. Sullivan</i> for DIRECTOR
DATE	<i>Feb 14/78</i>

BRITISH COLUMBIA MINISTRY OF THE ENVIRONMENT WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT	
PROJECT NO.3	TOWNSHIP OF RICHMOND
CONTRACT NO. 17	
PUMP SUPPORT, PUMP HOUSE FLOOR	
AND MAINTENANCE FLOOR - DETAILS	

DESIGNED	GCV	SURVEYED	
DRAWN	llj	DATE	
CHECKED	dr	FILE NO.	028550 - CIO - 17
SCALE	AS SHOWN	DATE	Feb 1978
DWG. NO.	4795-17-112	SHEET	OF SHEETS

266 534

75



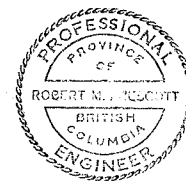
		REGD.	A	B	C	D	E	F	G	H	J	K
SHELL ROAD SOUTH	Main 24" ϕ	3	20'-6 $\frac{3}{4}$ "	19'-5 $\frac{1}{2}$ "	9'-6 $\frac{1}{2}$ "	1'-1 $\frac{1}{2}$ "	1'-2"	3'-0"	3"	1'-0"	1'-6"	1'-6"
	Jockey 16" ϕ	1	20'-6 $\frac{3}{4}$ "	19'-9 $\frac{3}{4}$ "	5'-11"	1'-8"	11"	2'-9"	1'-0"	1'-0"	3"	1'-0"
WOODWARDS SLOUGH	Main 30" ϕ	4	23'-8"	22'-4 $\frac{1}{2}$ "	10'-8"	1'-2 $\frac{1}{2}$ "	1'-2"	3'-2"	3"	1'-3 $\frac{11}{16}$ "	1'-6"	1'-10"
	Jockey 24" ϕ	2	23'-8"	22'-6 $\frac{3}{4}$ "	10'-10 $\frac{3}{4}$ "	1'-1 $\frac{1}{2}$ "	1'-2"	3'-2"	3"	1'-3 $\frac{11}{16}$ "	1'-3"	1'-6"
GILBERT ROAD SOUTH	Main 24" ϕ	2	20'-9"	19'-5 $\frac{1}{2}$ "	9'-E $\frac{3}{4}$ "	1'-1 $\frac{1}{2}$ "	1'-2"	3'-0"	3"	1'-0"	1'-6"	1'-6"
	Jockey 12" ϕ	1	20'-9"	20'-2"	10'-1"	10'-8"	11"	2'-9"	1'-6"	1'-5"	3"	10"
Nº 1 ROAD SOUTH	Main 24" ϕ	2	20'-6 $\frac{3}{4}$ "	19'-3"	9'-1 $\frac{1}{2}$ "	1'-1 $\frac{1}{2}$ "	1'-2"	3'-0"	3"	1'-0"	1'-6"	1'-6"
	Jockey 12" ϕ	1	20'-6 $\frac{3}{4}$ "	19'-1 $\frac{1}{2}$ "	9'-9 $\frac{3}{4}$ "	10'-8"	11"	2'-9"	1'-6"	1'-5"	3"	10"

NOTES

- Roof hatches are designed to allow withdrawal of pump columns and elbows with approx 1" minimum clearance all around
- Dimensions "S" and "T" to be supplied by the pump manufacturer, "S" will determine location of each pump center line, "T" will determine required pump column length
- All clearances will be verified on receipt of drainage pump external dimensions
- For Structural Details of Drainage Discharge Structures see appropriate Contract drawings

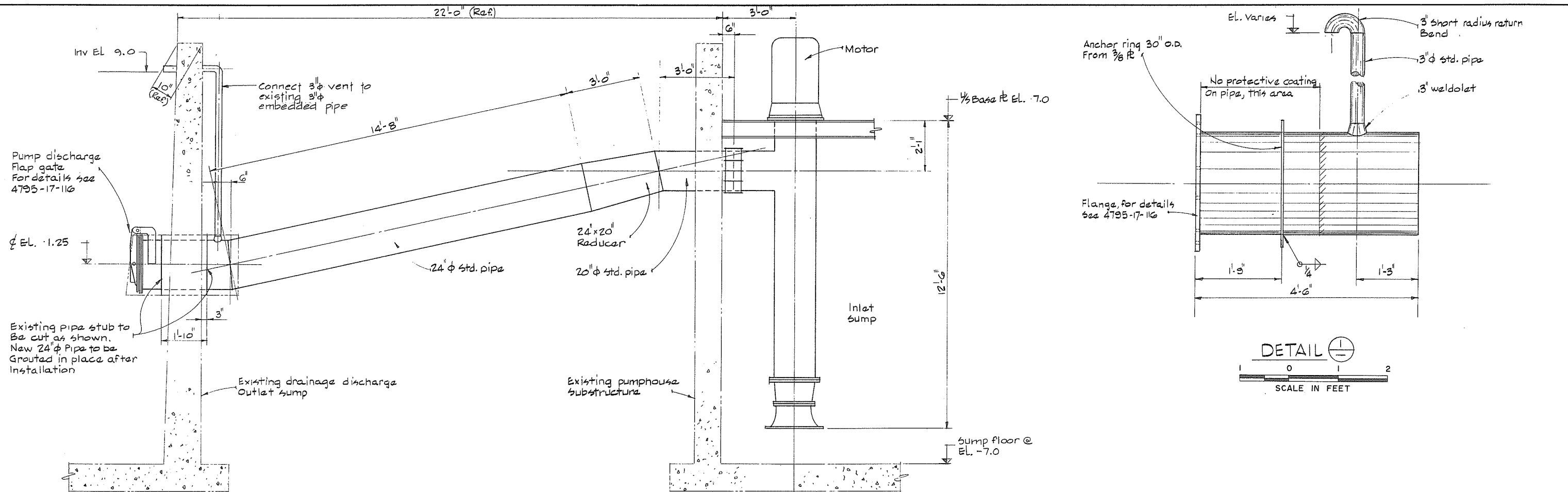
MAIN PUMP
NTS

JOCKEY PUMP
NTS

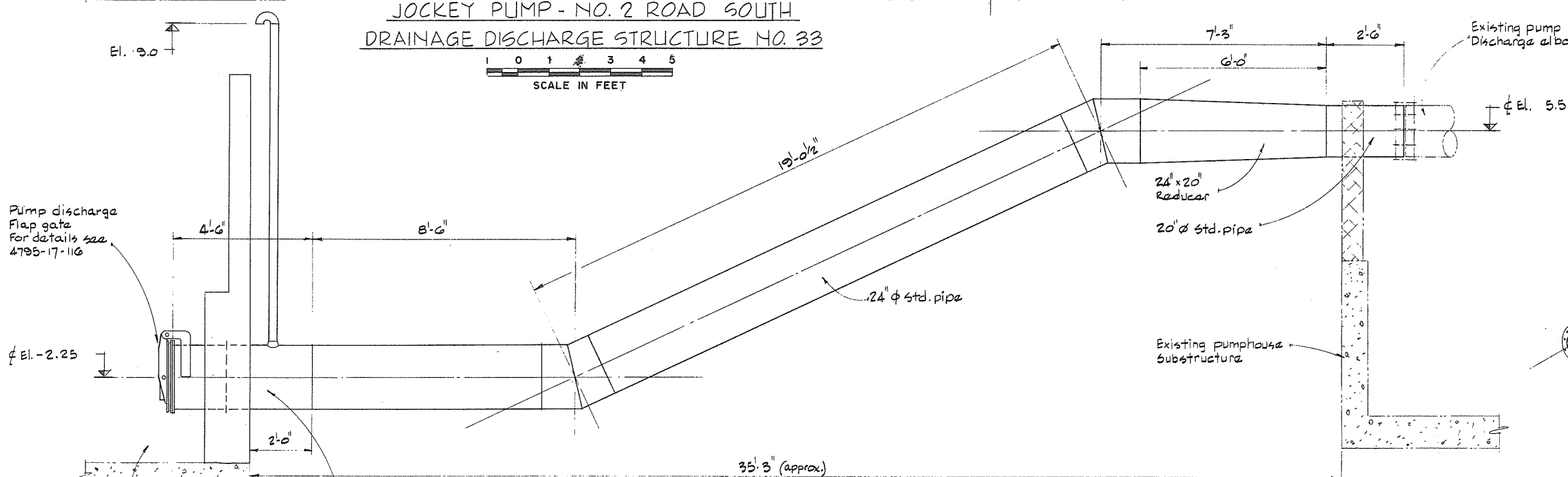


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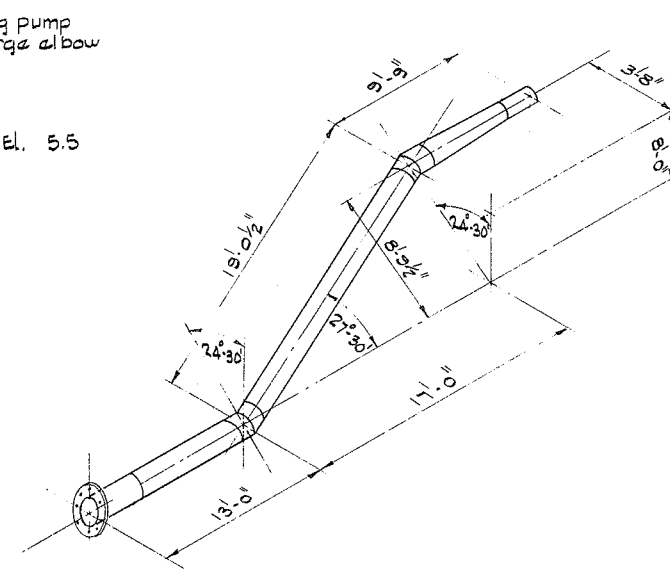
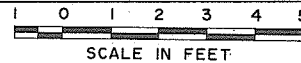
B A				RECOMMENDED <u>R.P. Cameron</u> PROJECT MANAGER	BRITISH COLUMBIA MINISTRY OF THE ENVIRONMENT WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT	DESIGNED <u>1, T</u> DRAWN <u>D.D.</u> CHECKED <u>1, T</u> SCALE <u>AS SHOWN</u> DWG. NO. <u>4795-17-113</u>	SURVEYED DATE FILE NO. <u>02B1550-C10-17</u> DATE <u>Feb-1978</u> SHEET <u>1</u> OF <u>2</u> SHEETS
				DATE <u>Feb. 13, 1978</u>			
				APPROVED <u>[Signature]</u> for DIRECTOR	PROJECT NO.3 TOWNSHIP OF RICHMOND CONTRACT NO. 17		
	NO. BY	REVISIONS	DATE	DATE <u>Feb 14 / 78</u>	PUMP DISCHARGE PIPING DETAILS		



JOCKEY PUMP - NO. 2 ROAD SOUTH
DRAINAGE DISCHARGE STRUCTURE NO. 33



DISCHARGE PIPING - HWY NO. 499 SOUTH
DRAINAGE DISCHARGE STRUCTURE NO. 26



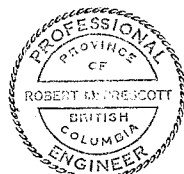
DIAGRAMATIC VIEW OF
ROLLING OFFSET - HWY. NO. 99 SOUTH
1 - REQ'D AS DRAWN - L.H.
1 - REQ'D - R.H.

NTS

NOTES

- All elevations refer to the Geodetic Survey of Canada
- For details of Drainage Discharge Structure No. 26 see 4795-17-4
- For details of Drainage Discharge Structure No. 33 see 4795-17-81

536



CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

NO. BY
A

REVISIONS

DATE

RECOMMENDED *B. D. Cameron*
PROJECT MANAGER

DATE *Feb. 13 1978*

APPROVED *John Fuller*
DIRECTOR

DATE *Feb 14 1978*

BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA - BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT
PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
PUMP DISCHARGE PIPING DETAILS

DESIGNED *GDAA*

DRAWN *D.D.*

CHECKED *DLG*

SCALE *AS SHOWN*

DWG. NO. *4795-17-114*

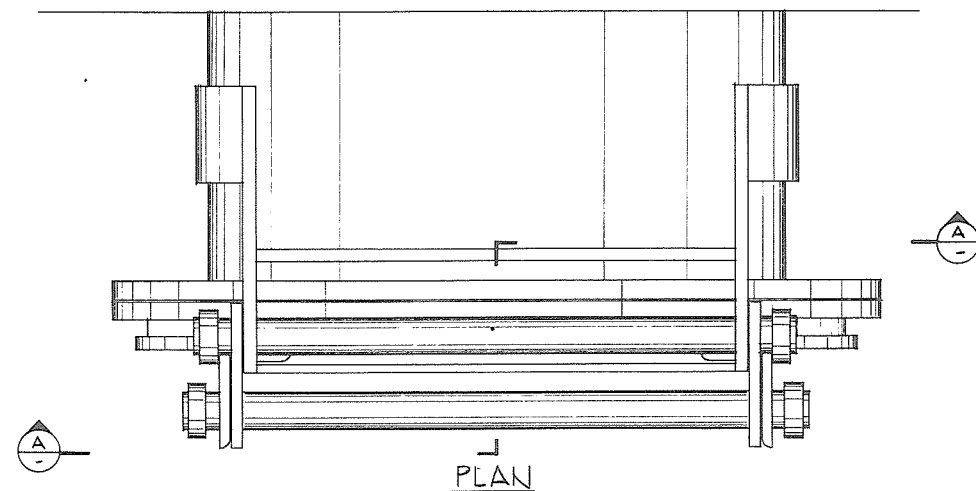
SURVEYED

DATE

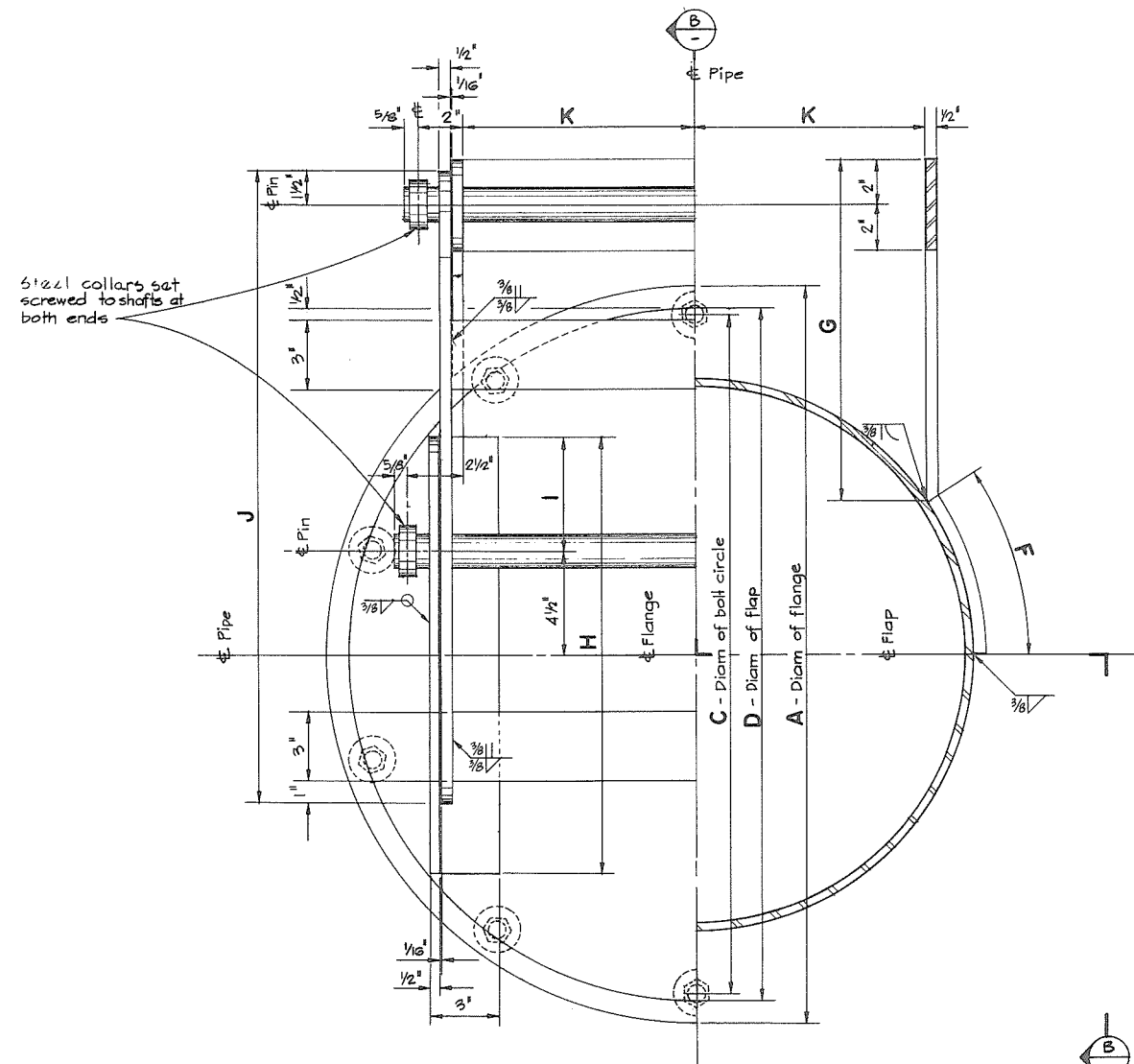
FILE NO. *0281550-C10-17*

DATE *Feb 1978*

SHEET *2* OF *2* SHEETS



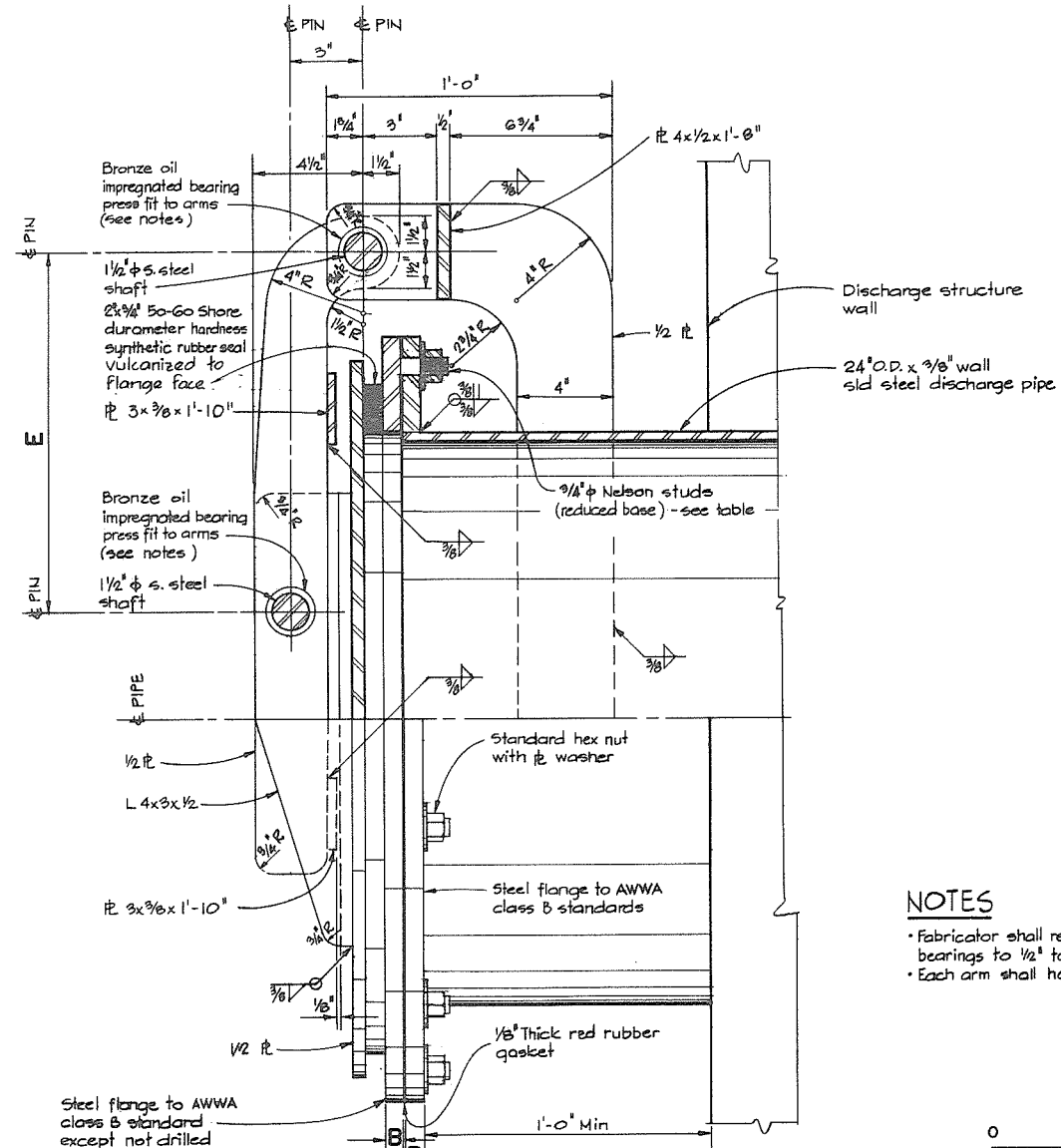
PLAN



ELEVATION - SECTION A-A

NOMINAL PIPE SIZE	A	B	C	D	E	F	G	H	I	J	K
24"	2' - 0"	3/4"	2' - 5 1/2"	2' - 0"	1' - 3"	7 1/4"	1' - 2 3/4"	1' - 7"	5"	2' - 3 1/2"	10"

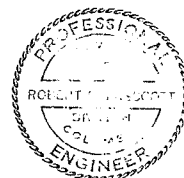
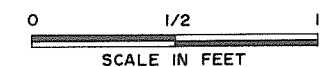
NELSON STUDS - reduced base	
Diameter	3/8"
Length	2"
Thread	3/4-10NC-2
Length of thread	1 1/8"
Number of studs per flange	10



ELEVATION - SECTION B-B

NOTES

- Fabricator shall reduce length of bronze oil impregnated bearings to 1/2" to suit thickness of arms.
- Each arm shall have separate bearing.



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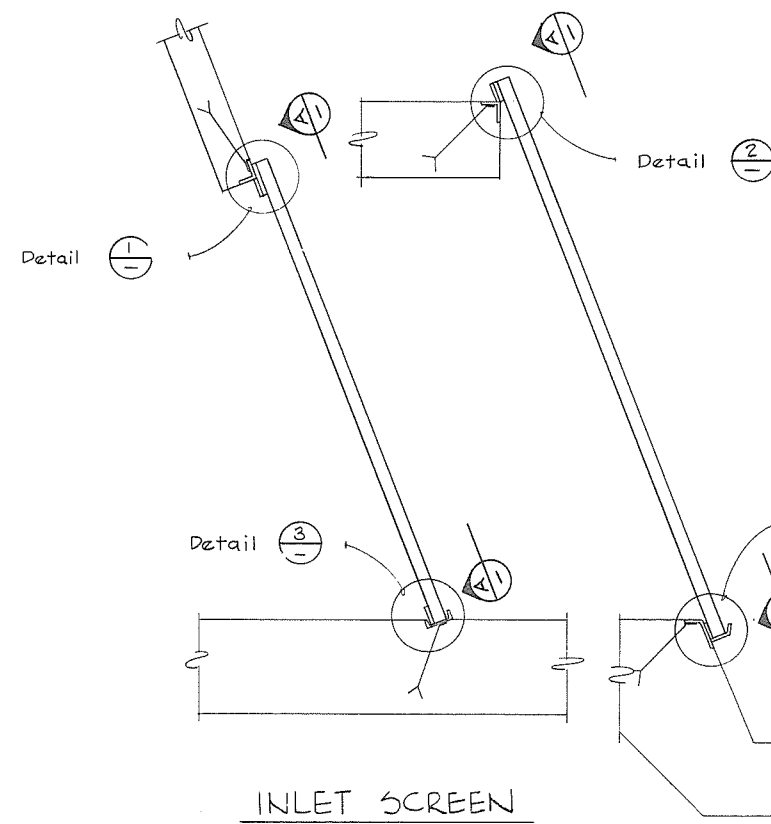
NO. BY REVISIONS DATE

RECOMMENDED *R. J. Macdonald*
PROJECT MANAGER
DATE *Feb. 13, 1978*
APPROVED *[Signature]*
DIRECTOR
DATE *Feb. 14, 1978*

BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA - BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT
PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
DETAIL OF 24" DIA. PUMP DISCHARGE FLAP GATES

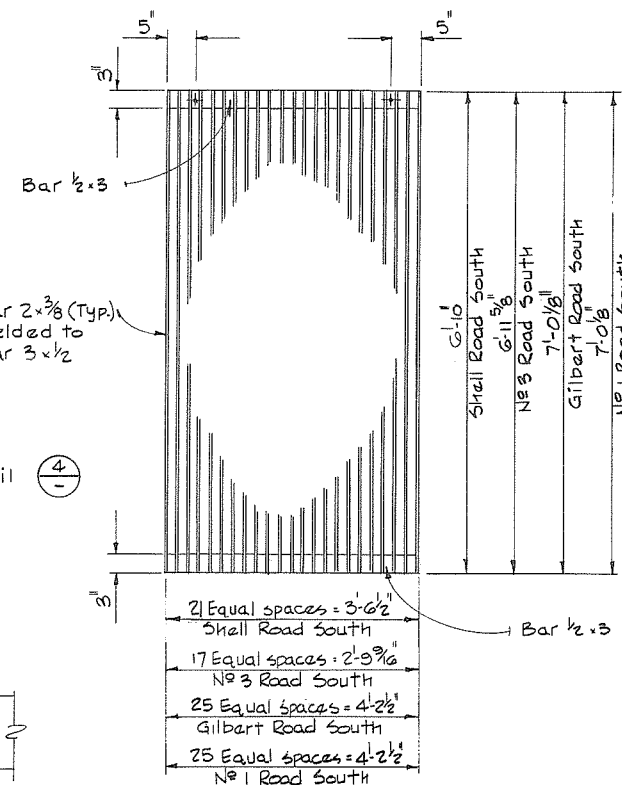
DESIGNED *RHEF*
DRAWN *SH*
CHECKED *RHEF*
SCALE *AS SHOWN*
DWG. NO. *4795-17-116*
SURVEYED
DATE
FILE NO. *0281550-C10-17*
DATE *Feb 1978*
SHEET *1* OF *1* SHEETS

266 538



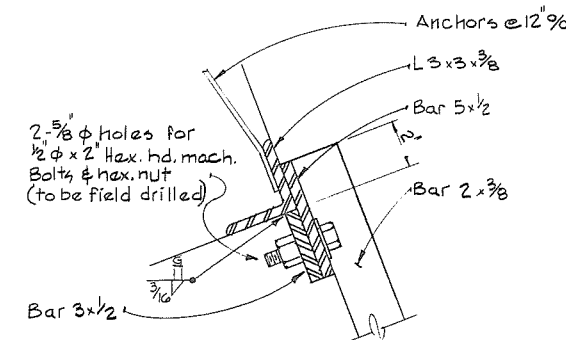
INLET SCREEN
SHELL ROAD SOUTH
Nº 3 ROAD SOUTH

INLET SCREEN
Nº 1 ROAD SOUTH
GILBERT ROAD SOUTH

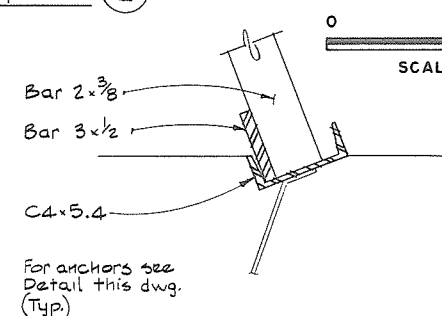


VIEW A

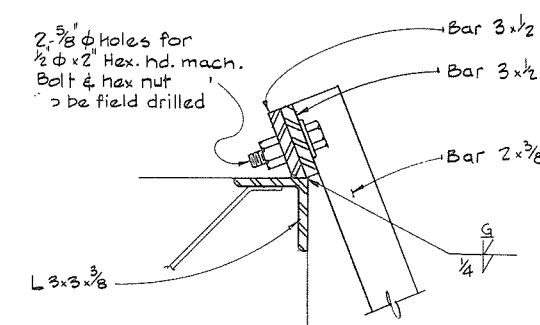
3 REQ'D @ SHELL ROAD SOUTH
2 REQ'D @ Nº 3 ROAD SOUTH
3 REQ'D @ GILBERT ROAD SOUTH
3 REQ'D @ Nº 1 ROAD SOUTH



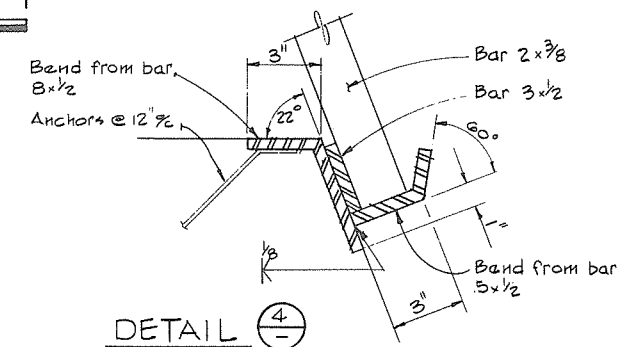
DETAIL 1



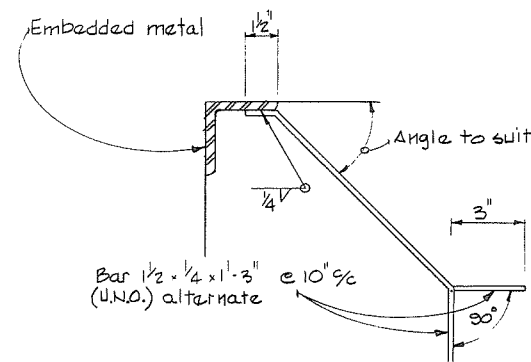
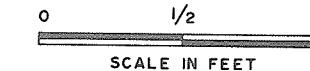
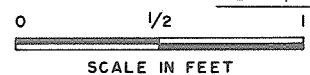
DETAIL 3



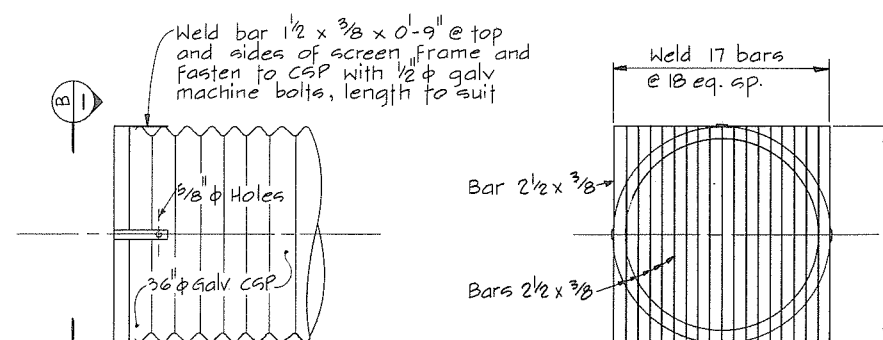
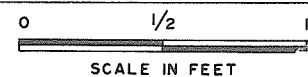
DETAIL 2



DETAIL 4



TYPICAL ANCHOR DETAIL



PLAN

BAR SCREEN

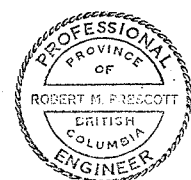
VIEW B



NOTES

For structural details of Drainage Discharge Structures see appropriate contract drawings

266 539



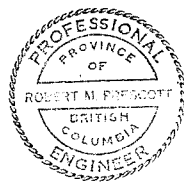
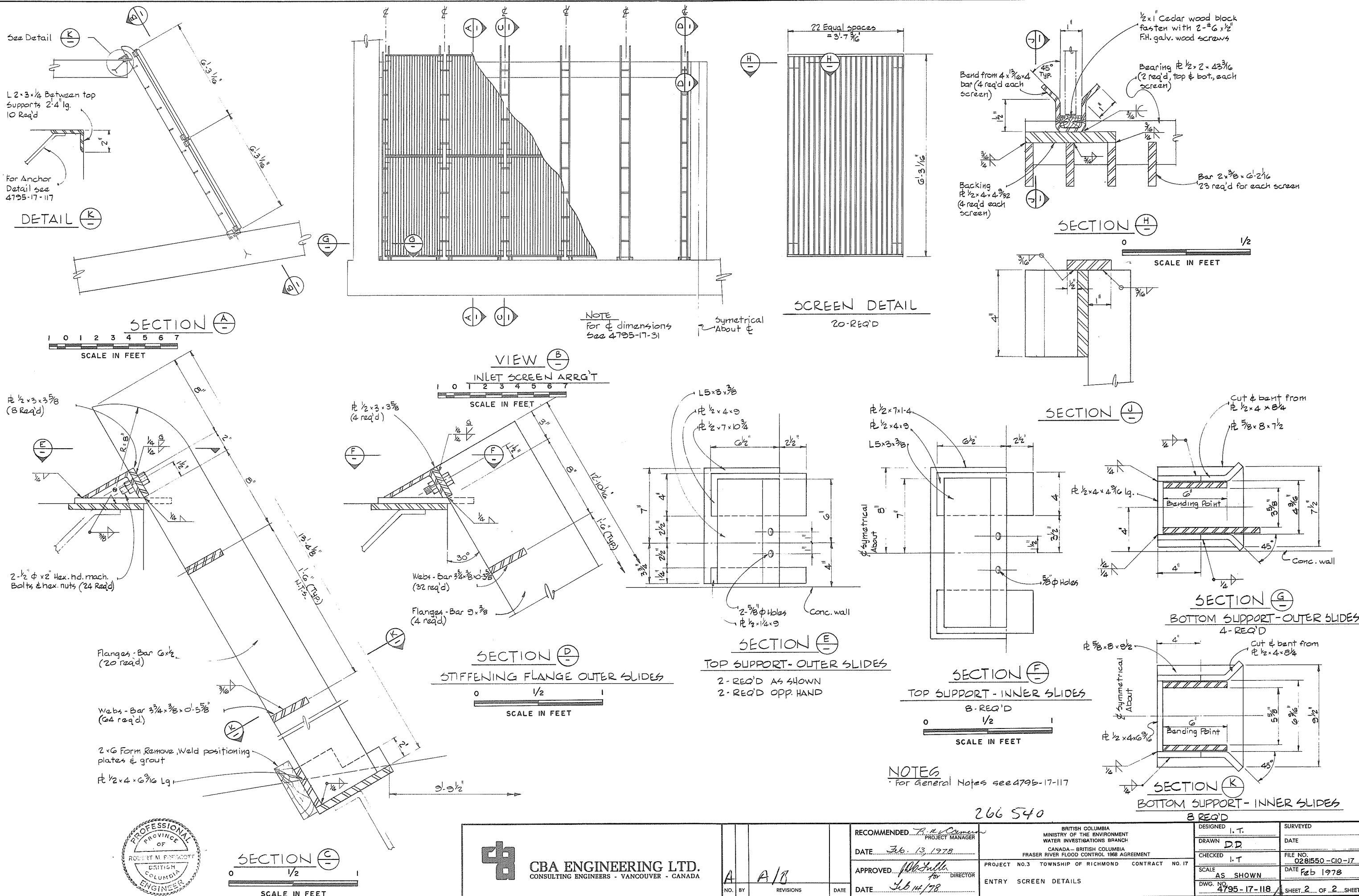
CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

NO.	BY	REVISIONS	DATE
A	A/T		

RECOMMENDED	<i>R. M. Prescott</i> PROJECT MANAGER
DATE	Feb. 13, 1978
APPROVED	<i>John Bullen</i> DIRECTOR
DATE	Feb 14/78

BRITISH COLUMBIA MINISTRY OF THE ENVIRONMENT WATER INVESTIGATIONS BRANCH FRASER RIVER FLOOD CONTROL 1968 AGREEMENT
PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
ENTRY SCREEN DETAILS

DESIGNED	I.T.	SURVEYED	
DRAWN	D.D.	DATE	
CHECKED	I.T.	FILE NO.	0281550-C10-17
SCALE	AS SHOWN	DATE	Feb 1978
DWG. NO.	4795-17-117	SHEET	1 OF 2 SHEETS



CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

NO. BY

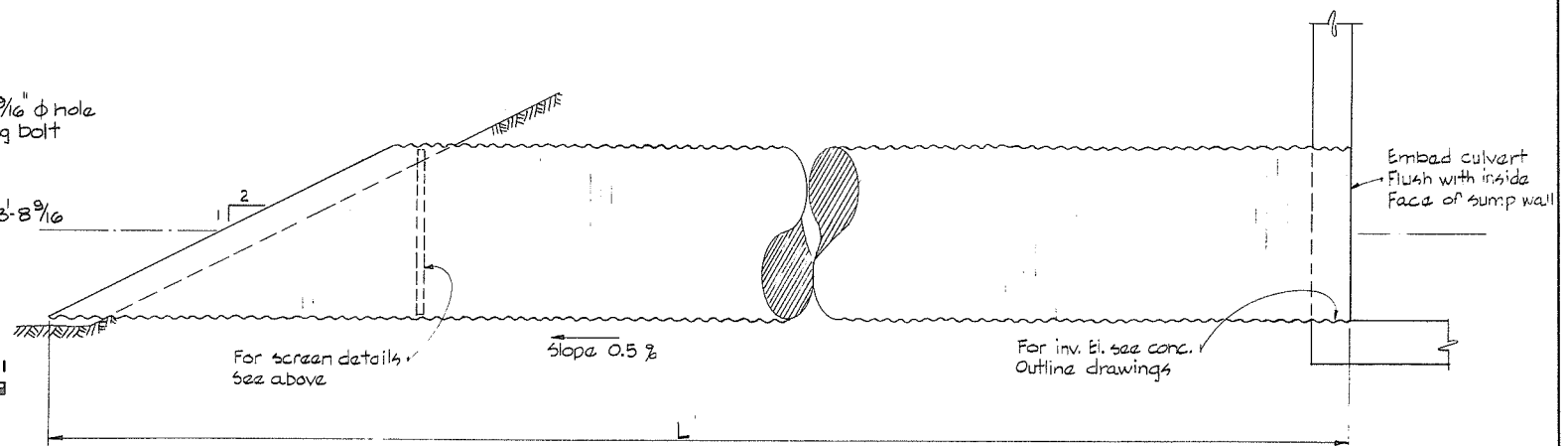
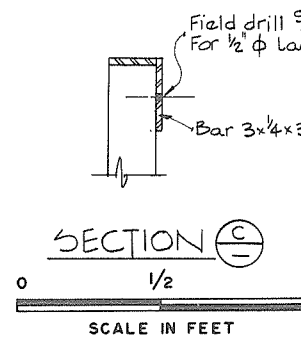
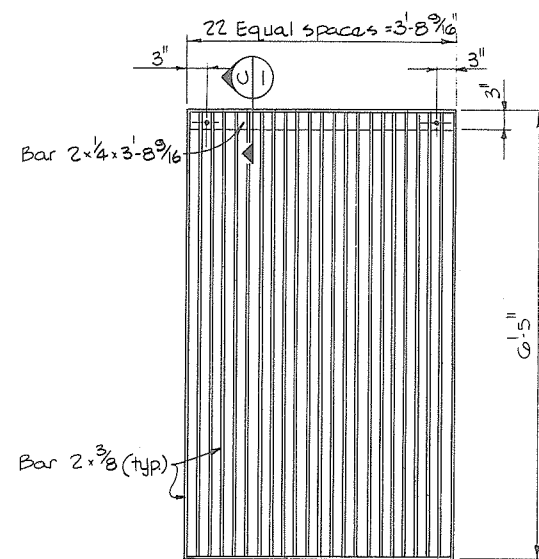
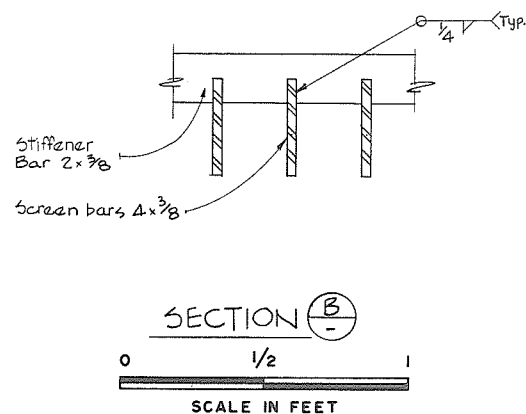
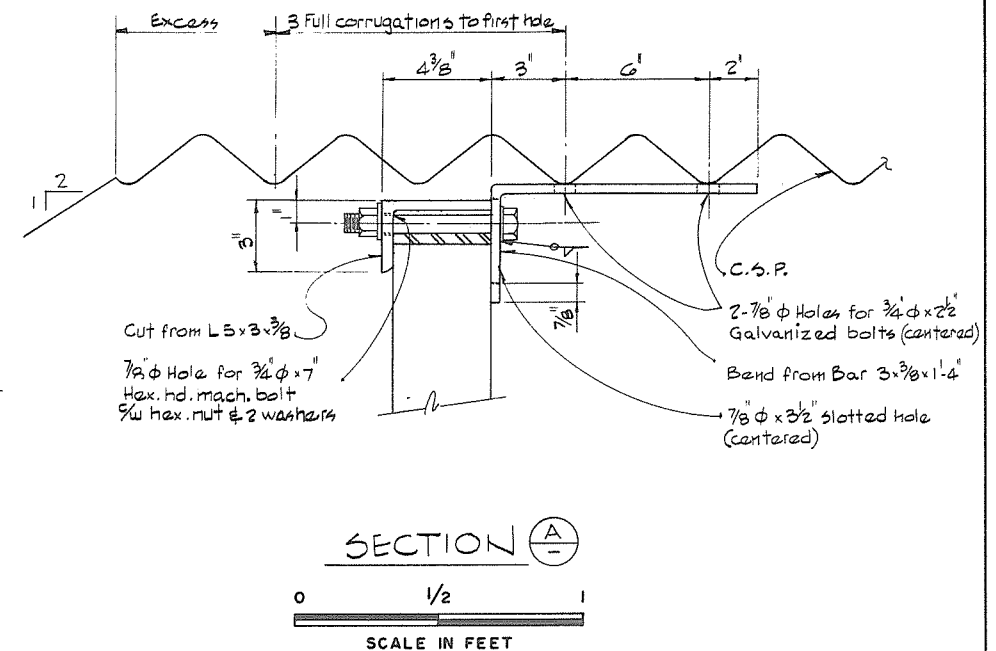
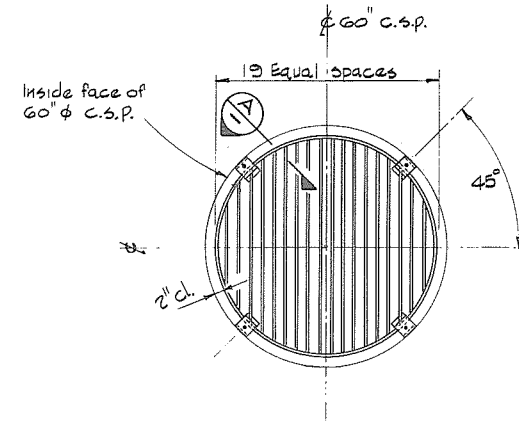
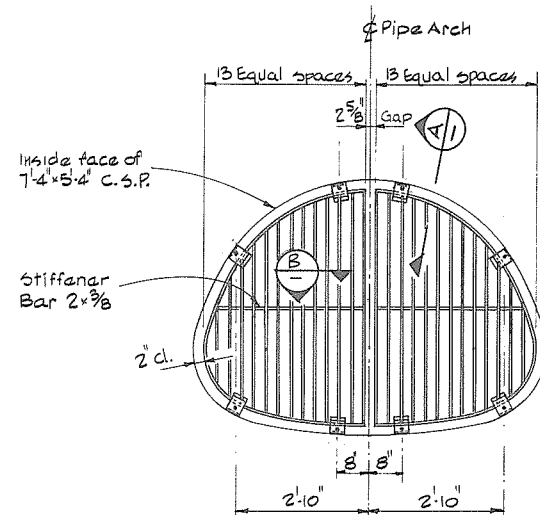
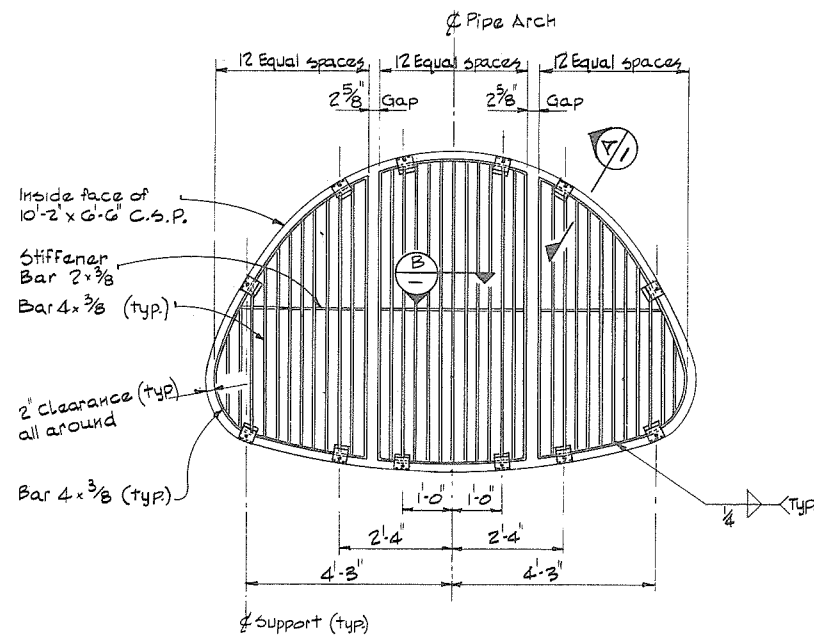
REVISIONS

DATE

RECOMMENDED *R. A. J. Curran*
PROJECT MANAGER
DATE *Feb. 13, 1978*
APPROVED *John S. Hall*
DIRECTOR
DATE *Feb. 14, 1978*

BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA - BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT
PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
ENTRY SCREEN DETAILS

DESIGNED I. T.	SURVEYED
DRAWN D. D.	DATE
CHECKED I. T.	FILE NO. 0281550-C10-17
SCALE AS SHOWN	DATE Feb 1978
DWG. NO. 4795-17-118	SHEET 2 OF 2 SHEETS



LOCATION	N° REQ'D & SIZE	U.S. GA.	LENGTH 'L'
SHELL ROAD SOUTH	1-10-2 x 6-6	8	52'-0"
WOODWARD'S SLOUGH	2-10-2 x 6-6	8	60'-0"
N° 3 ROAD SOUTH	1-60" φ	10	50'-0"
GILBERT ROAD SOUTH	1-7-4 x 5-4	10	58'-0"
N° 1 ROAD SOUTH	1-7-4 x 5-4	10	50'-0"



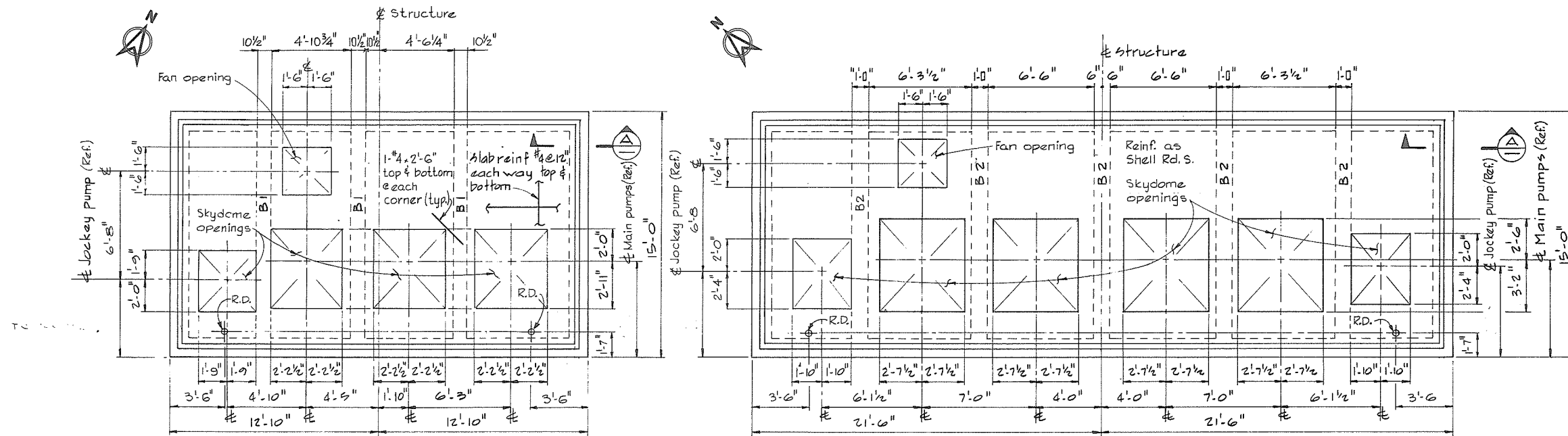
CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

NO.	BY	REVISIONS	DATE
1	A	10	10/13/78

RECOMMENDED	PROJECT MANAGER
DATE	Feb. 13, 1978
APPROVED	DIRECTOR
DATE	Feb 14/78

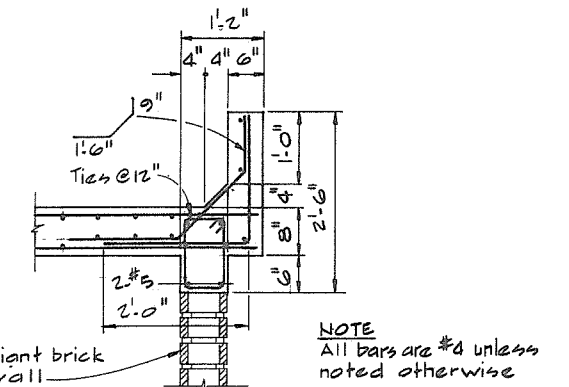
DESIGNED	I.T./GDAA	SURVEYED	
DRAWN	D.D.	DATE	
CHECKED	I.T./DLG	FILE NO.	0281550-C10-17
SCALE	AS SHOWN	DATE	Feb 1978
DWG. NO.	4795-17-119	SHEET	OF SHEETS

266 541

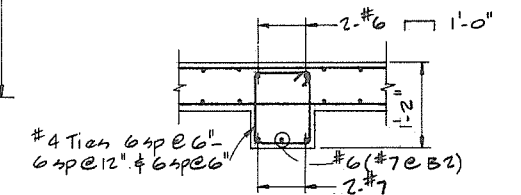


PLAN-SHELL ROAD S.

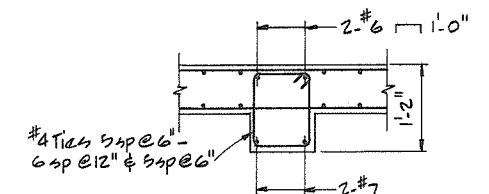
PLAN-WOODWARD SLOUGH



SECTION A-TYP PARAPET & REINF



B1-SHOWN
B2-SIMILAR EXCEPT AS NOTED



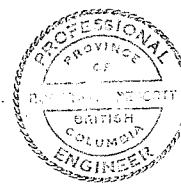
B3-SHOWN
B4-SIMILAR



NOTES

- For General Notes, see 4795-17-89
- R.D. - Denotes roof drain, for typical detail see 4795-17-108

266 542



CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

NO. BY

REVISIONS

DATE

RECOMMENDED *R.D. Cameron*
PROJECT MANAGER

DATE *Feb. 13, 1978*

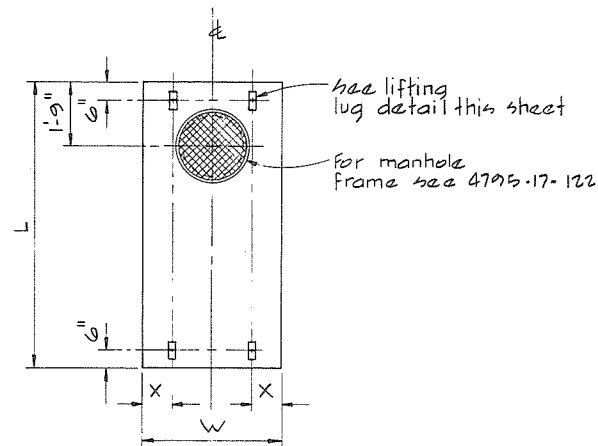
APPROVED *John J. J. J.*
DIRECTOR

DATE *Feb 14/78*

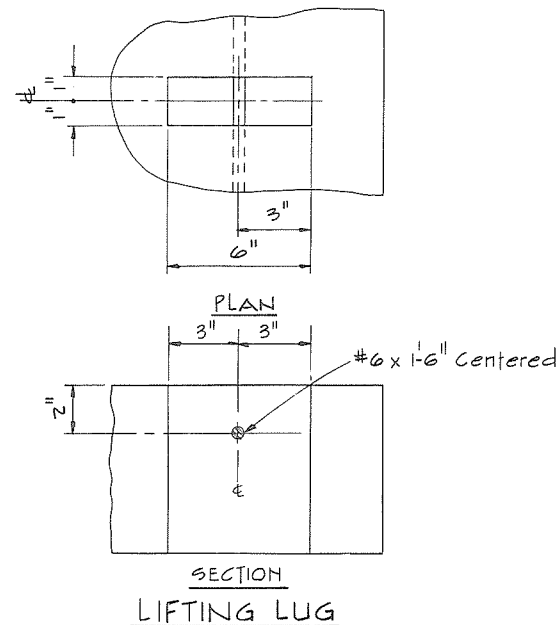
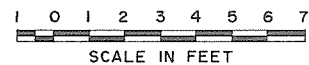
BRITISH COLUMBIA
MINISTRY OF THE ENVIRONMENT
WATER INVESTIGATIONS BRANCH
CANADA - BRITISH COLUMBIA
FRASER RIVER FLOOD CONTROL 1968 AGREEMENT
PROJECT NO. 3 TOWNSHIP OF RICHMOND CONTRACT NO. 17
PUMP HOUSE ROOF
CONCRETE OUTLINE AND REINFORCING

DESIGNED *AR/ACW*
DRAWN *AR*
CHECKED *TP*
SCALE *AS SHOWN*
DWG. NO. *4795-17-120*

SURVEYED
DATE
FILE NO. *0281550-C10-17*
DATE *Feb 1978*
SHEET *OF* SHEETS

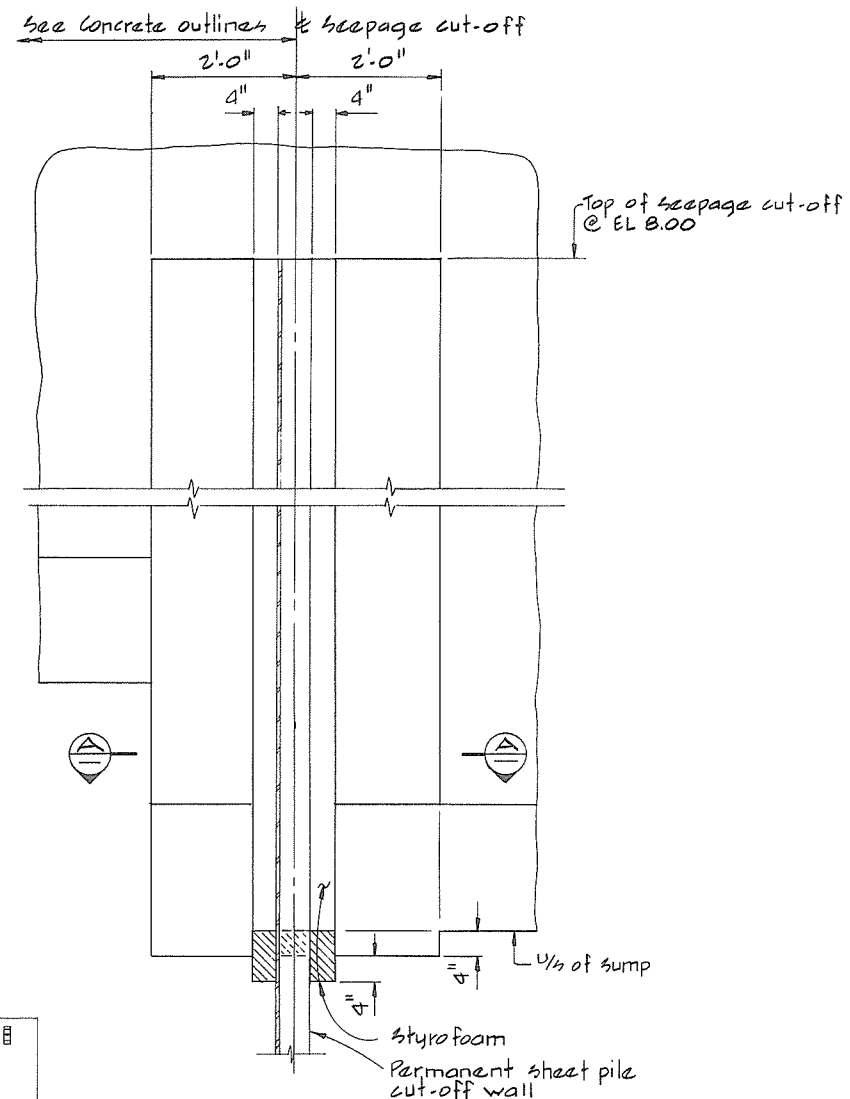


PRECAST CONCRETE COVER

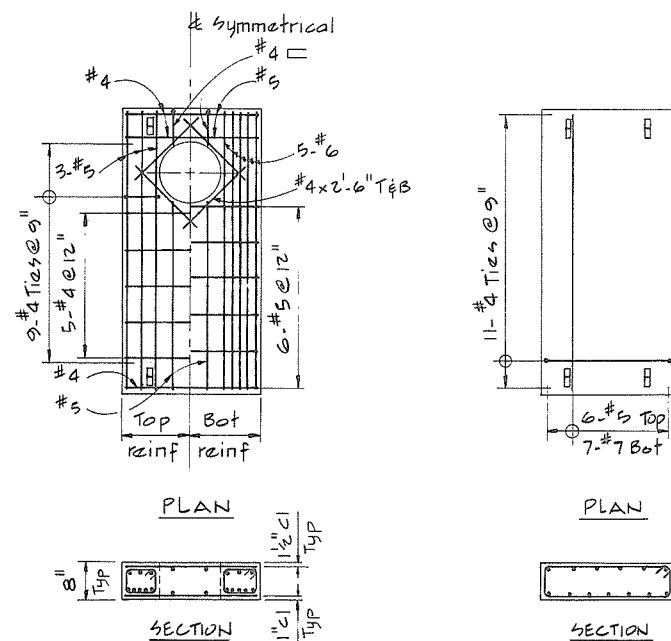


SECTION
LIFTING LUG
SCALE IN FEET

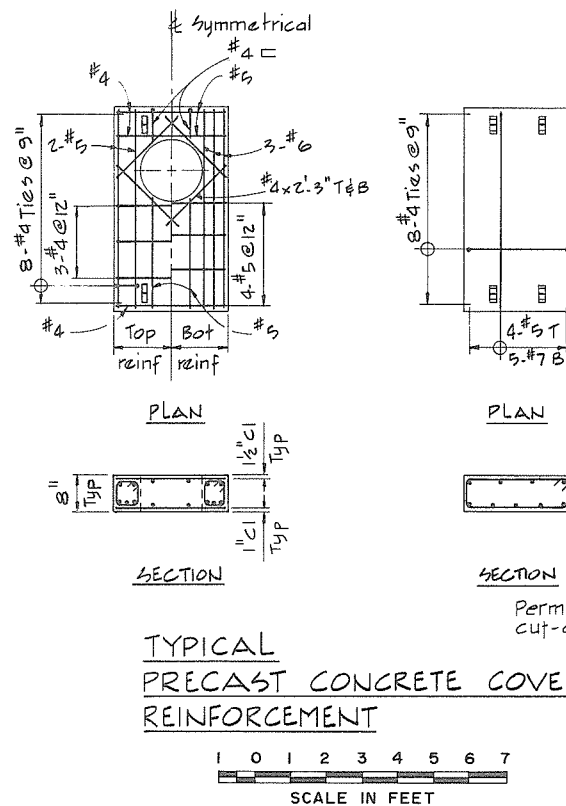
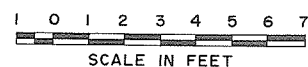
PRECAST CONCRETE COVERS									
DRAINAGE DISCHARGE STRUCTURE	WITH MANHOLE			No. REQD	W/O MANHOLE			No. REQD	
	L	W	X		L	W	X		
Shell Road South	5'-8"	3'-2"	10"	3	5'-8"	3'-0"	10"	4	
Woodwards Slough	7'-11"	3'-10 1/2"	9"	4	7'-11"	3'-8 1/2"	9"	6	
No. 3 Road South	5'-2"	3'-2"	10"	1	5'-2"	2'-1 1/2"	10"	4	
Gilbert Road South	5'-8"	3'-2"	10"	1	5'-8"	2'-9 1/2"	10"	4	
No. 1 Road South	5'-0"	3'-2"	10"	1	5'-0"	2'-9 1/2"	10"	4	



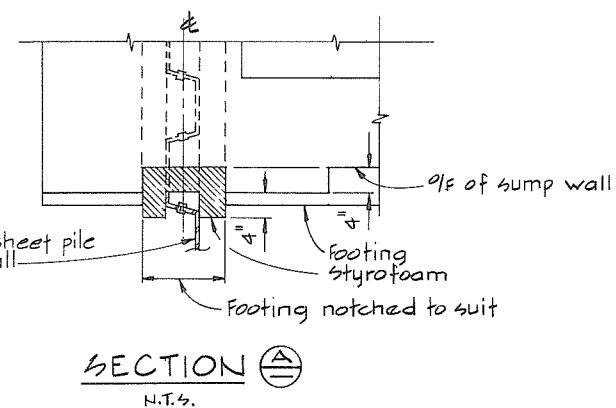
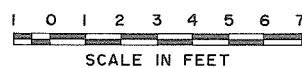
VIEW (X) (X) (X) (X) (X) SHOWN
VIEW (Y) (Y) (Y) (Y) (Y) SIMILAR
BUT OPP HAND
N.T.S.



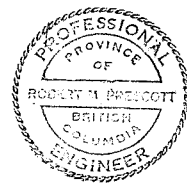
WOODWARDS SLOUGH
PRECAST CONCRETE COVER
REINFORCEMENT



TYPICAL
PRECAST CONCRETE COVER
REINFORCEMENT



SECTION (A)
N.T.S.

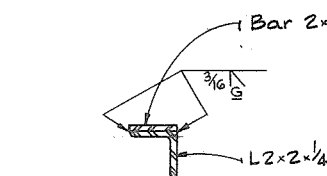
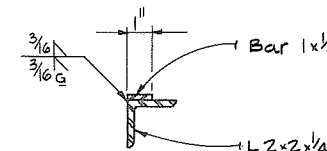


CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

B A	A/B			RECOMMENDED <i>P.R. Carson</i> PROJECT MANAGER	BRITISH COLUMBIA MINISTRY OF THE ENVIRONMENT WATER INVESTIGATIONS BRANCH CANADA - BRITISH COLUMBIA FRASER RIVER FLOOD CONTROL 1968 AGREEMENT PROJECT NO.3 TOWNSHIP OF RICHMOND CONTRACT NO.17 MISCELLANEOUS CONCRETE DETAILS	DESIGNED <i>GCW</i>	SURVEYED
				DATE <i>Feb. 13, 1978</i>		DRAWN <i>AR</i>	DATE
				APPROVED <i>W.B. Fuller</i> DIRECTOR		CHECKED <i>TP</i>	FILE NO. <i>0281550 - C10-17</i>
				DATE <i>Feb 14/78</i>		SCALE <i>AS SHOWN</i>	DATE <i>Feb 1978</i>
NO. BY	REVISIONS	DATE	DATE			DWG. NO. <i>4795-17-121</i>	SHEET _____ OF _____ SHEETS

266 543

DESIGNED	SURVEYED
DRAWN <i>D.D.</i>	DATE
CHECKED <i>AR</i>	FILE NO. <i>0281550-CIQ-17</i>
SCALE <i>AS SHOWN</i>	DATE <i>Feb 1978</i>
DWG. NO. <i>4795-17-122</i>	SHEET <i>1</i> OF <i>2</i> SHEETS

SECTION $\frac{B}{-}$ 

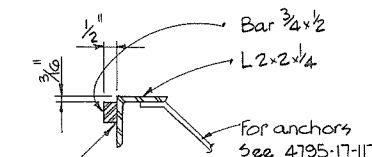
SECTION $\frac{C}{-}$ SHOWN
SECTION $\frac{D}{-}$ SIMILAR

0 $\frac{1}{2}$

SCALE IN FEET

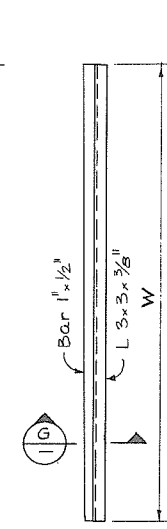
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SCALE IN FEET

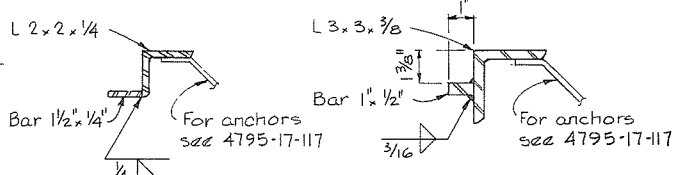


0 1/2

SCALE IN FEET

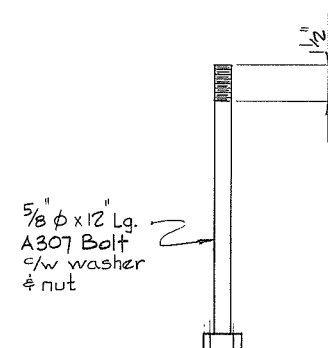
SECTION

G
1



PUMP SUMP
ACCESS FRAME

SCALE IN FEET



6-REQ'D C. WOODWARDS SLOUGH

NOTES

• For notes see 4795-17-122

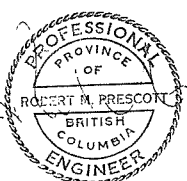
	W	REQ'D
GILBERT ROAD SOUTH BOX CULVERT	13'-2"	2
N ^o 1 ROAD SOUTH BOX CULVERT	13'-2"	2

L2.2x1/4 FRAME			L3x3x3/8		
X	Z	REQ'D	Z	REQ'D	
8'-6"	22'-2"	1	22'-2"	4	
8'-6"	19'-3"	2	19'-3"	8	
7'-6"	12'-2"	1	12'-2"	4	
8'-0"	14'-10"	1	14'-10"	4	
8'-0"	14'-10"	1	14'-10"	4	

L3x3x3/8	
W	REQ'D
13'-2"	2
13'-2"	2

0 $\frac{1}{2}$

SCALE IN FEET



CBA ENGINEERING LTD.
CONSULTING ENGINEERS - VANCOUVER - CANADA

K
A
NO

A/E

REVISIONS:

RECOMMENDED *R. M. Cameron*

PROJECT MANAGER
DATE 76 13 1976

DATE Feb. 13, 1918.

APPROVED W. J. Sullivan
DIRECTOR

DATE Feb 14/78

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

PROJECT NO.3 TOWNSHIP OF RICHMOND CONTRACT NO. 1

MISCELLANEOUS STEEL DETAILS

DESIGNED	SURVEYED
DRAWN <u>D.D.</u>	DATE
CHECKED <u>AR</u>	FILE NO. <u>0281550-C10-17</u>
SCALE <u>AS SHOWN</u>	DATE <u>Feb 1978</u>
DWG. NO. <u>895-17-123</u>	SHEET <u>2</u> OF <u>2</u> SHEETS

266 545