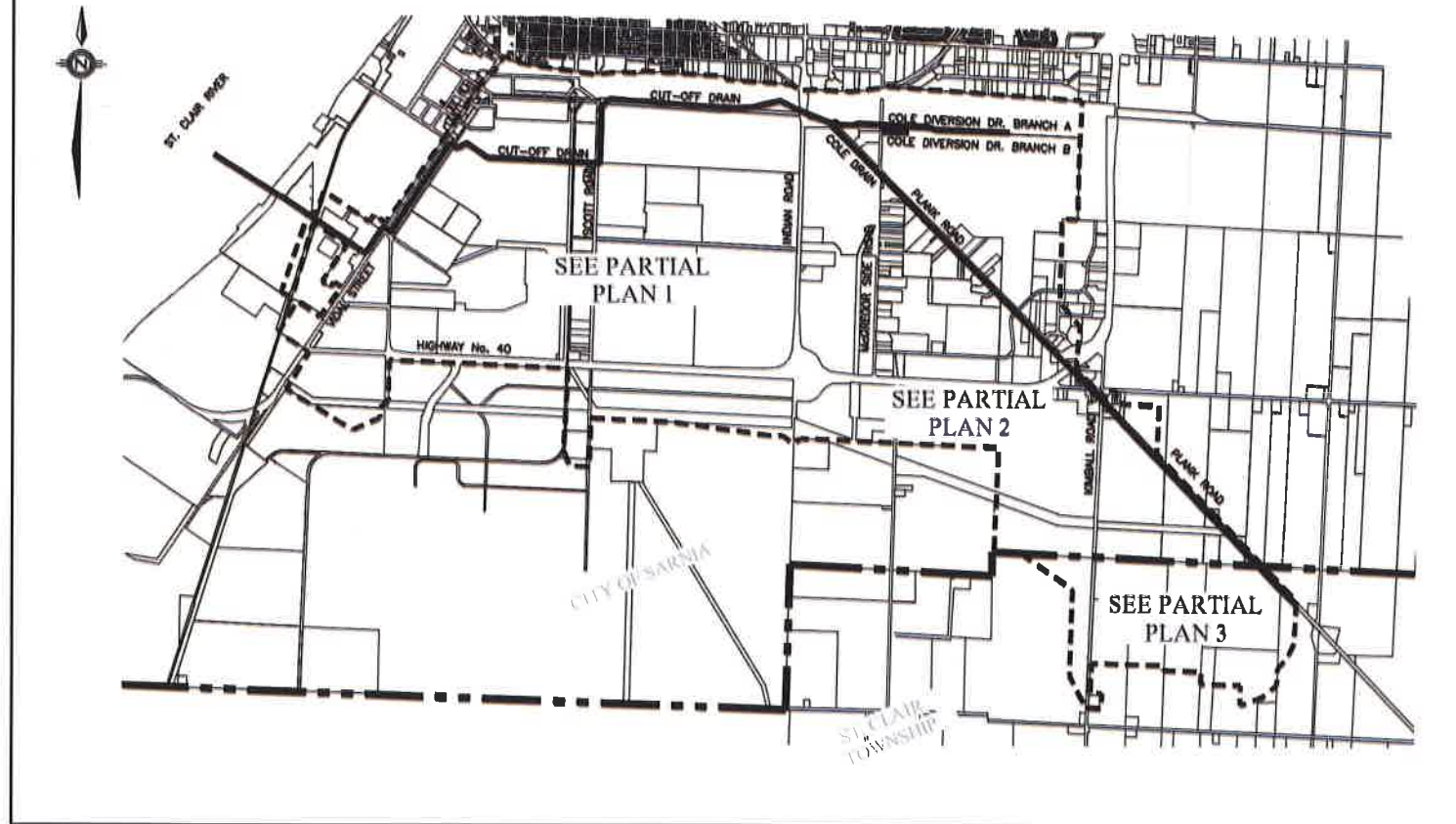


KEY PLAN



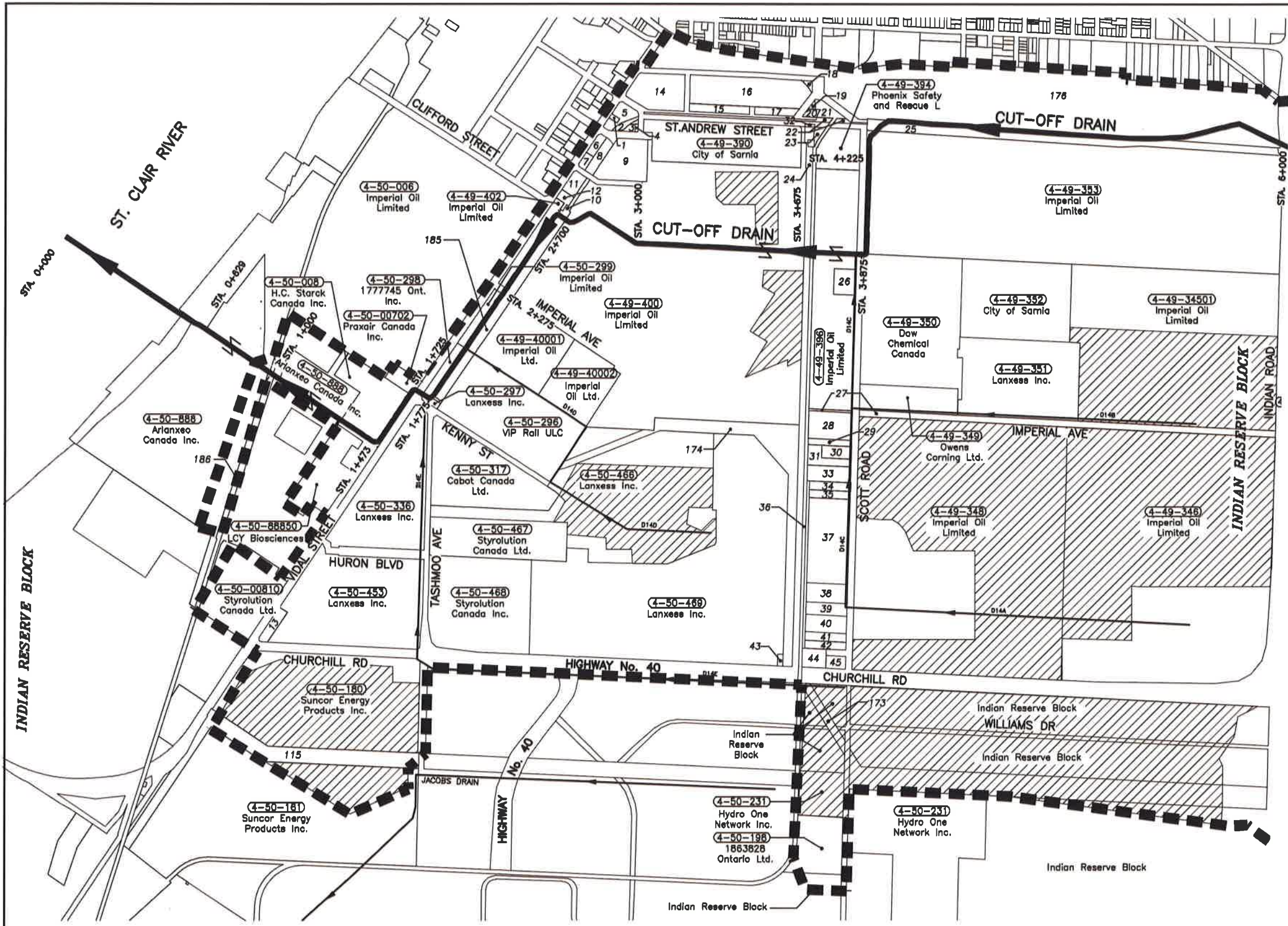
RECONSIDERED REPORT COLE DRAIN, CUT-OFF DRAIN & COLE DIVERSION DRAIN Branches 'A' & 'B' CITY OF SARNIA PROJECT No. 08-8845 JANUARY 2021

SHEET INDEX

SHEET	DESCRIPTION
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02	WATERSHED PARTIAL PLAN 2
03	WATERSHED PARTIAL PLAN 3
04	CUT-OFF DRAIN PLAN AND PROFILE FROM STA. 0+548 TO STA. 0+735
05	CUT-OFF DRAIN PLAN AND PROFILE FROM STA. 0+735 TO STA. 0+980
06	CUT-OFF DRAIN PLAN AND PROFILE FROM STA. 0+980 TO STA. 1+350
07	CUT-OFF DRAIN PLAN AND PROFILE FROM STA. 1+350 TO STA. 1+700
08	CUT-OFF DRAIN PLAN AND PROFILE FROM STA. 1+700 TO STA. 2+050
09	CUT-OFF DRAIN PLAN AND PROFILE FROM STA. 2+050 TO STA. 2+400
10	CUT-OFF DRAIN PLAN AND PROFILE FROM STA. 2+400 TO STA. 2+750
11	CUT-OFF DRAIN PLAN AND PROFILE FROM STA. 2+750 TO STA. 3+100
12	CUT-OFF DRAIN PLAN AND PROFILE FROM STA. 3+100 TO STA. 3+450
13	CUT-OFF DRAIN PLAN AND PROFILE FROM STA. 3+450 TO STA. 3+800
14	CUT-OFF DRAIN PLAN AND PROFILE FROM STA. 3+800 TO STA. 4+150
15	CUT-OFF DRAIN PLAN AND PROFILE FROM STA. 4+150 TO STA. 4+500
16	CUT-OFF DRAIN PLAN AND PROFILE FROM STA. 4+500 TO STA. 4+850
17	CUT-OFF DRAIN PLAN AND PROFILE FROM STA. 4+850 TO STA. 5+200
18	CUT-OFF DRAIN PLAN AND PROFILE FROM STA. 5+200 TO STA. 5+550
19	CUT-OFF DRAIN PLAN AND PROFILE FROM STA. 5+550 TO STA. 5+900
20	CUT-OFF DRAIN PLAN AND PROFILE FROM STA. 5+900 TO STA. 6+200
21	CUT-OFF DRAIN/COLE DRAIN PLAN AND PROFILE FROM STA. 6+200 TO STA. 6+550
22	COLE DRAIN PLAN AND PROFILE FROM STA. 6+550 TO STA. 6+900
23	COLE DRAIN PLAN AND PROFILE FROM STA. 6+900 TO STA. 7+250
24	COLE DRAIN PLAN AND PROFILE FROM STA. 7+250 TO STA. 7+600
25	COLE DRAIN PLAN AND PROFILE FROM STA. 7+600 TO STA. 7+950
26	COLE DRAIN PLAN AND PROFILE FROM STA. 7+950 TO STA. 8+300
27	COLE DRAIN PLAN AND PROFILE FROM STA. 8+300 TO STA. 8+650
28	COLE DRAIN PLAN AND PROFILE FROM STA. 8+650 TO STA. 9+000
29	COLE DRAIN PLAN AND PROFILE FROM STA. 9+000 TO STA. 9+350
30	COLE DRAIN PLAN AND PROFILE FROM STA. 9+350 TO STA. 9+700
31	COLE DRAIN PLAN AND PROFILE FROM STA. 9+700 TO STA. 10+050
32	COLE DRAIN PLAN AND PROFILE FROM STA. 10+050 TO STA. 10+400
33	COLE DRAIN PLAN AND PROFILE FROM STA. 10+400 TO STA. 10+750
34	COLE DRAIN PLAN AND PROFILE FROM STA. 10+750 TO STA. 11+100
35	COLE DRAIN PLAN AND PROFILE FROM STA. 11+100 TO STA. 11+225
36	COLE DIVERSION DRAIN BRANCH A PLAN AND PROFILE FROM STA. 0+000A TO STA. 0+340A
37	COLE DIVERSION DRAIN BRANCH A PLAN AND PROFILE FROM STA. 0+340A TO STA. 0+690A
38	COLE DIVERSION DRAIN BRANCH A PLAN AND PROFILE FROM STA. 0+690A TO STA. 1+040A
39	COLE DIVERSION DRAIN BRANCH A PLAN AND PROFILE FROM STA. 1+040A TO STA. 1+390A
40	COLE DIVERSION DRAIN BRANCH A PLAN AND PROFILE FROM STA. 1+390A TO STA. 1+450A
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50	CONCRETE CANVAS DETAILS

'SCHEDULE G'

DILLON
CONSULTING
Cole Drain, Cut-Off Drain & Cole
Diversion Drain Branches 'A' & 'B'
City of Sarnia
Project No. 08-8845
January 2021



ADDITIONAL OWNERS		
REF. #	ROLL #	OWNER NAMES
1	382940004937900	UNION GAS LIMITED
2	RAILWAY	CANADIAN NATIONAL RAILWAY CORP.
3	382940004937500	MATTHEWS EQUIPMENT LIMITED
4	382940004937400	ALUMA SYSTEMS INC.
5	382940004938000	MATTHEWS EQUIPMENT LIMITED
6	382940004940700	McINTOSH MECHANICAL INC.
7	382940004940600	829814 ONTARIO INC./829815 ONT. INC.
8	RAILWAY	CANADIAN NATIONAL RAILWAY CORP.
9	382940004940800	ALUMA SYSTEMS INC.
10	RAILWAY	CANADIAN NATIONAL RAILWAY CORP.
11	382940004940400	IMPERIAL OIL LIMITED
12	382940004940300	ALUMA SYSTEMS INC.
13	382940005042700	UNITED RENTALS OF CANADA INC.
14	382940004932100	HYDRO ONE NETWORKS INC.
15	PUBLIC UTILITY	HYDRO ONE NETWORKS INC.
16	382940004933200	ST. MARYS CEMENT INC.
17	PUBLIC UTILITY	HYDRO ONE NETWORKS INC.
18	PUBLIC UTILITY	HYDRO ONE NETWORKS INC.
19	382940004933200	ST. MARYS CEMENT INC.
20	PUBLIC UTILITY	HYDRO ONE NETWORKS INC.
21	RAILWAY	CANADIAN NATIONAL RAILWAY CORP.
22	PUBLIC UTILITY	HYDRO ONE NETWORKS INC.
23	382940004939200	PHOENIX SAFETY & RESCUE L.
24	PUBLIC UTILITY	HYDRO ONE NETWORKS INC.
25	PUBLIC UTILITY	HYDRO ONE NETWORKS INC.
26	382940004939501	IMPERIAL OIL LIMITED
27	382940004939502	IMPERIAL OIL LIMITED
28	382940004939600	IMPERIAL OIL LIMITED
29	382940005024400	1974362 ONTARIO LTD.
30	382940005024401	ISTVAN S. FEHER
31	382940005024500	MATRIX SERVICE INC.
32	PUBLIC UTILITY	HYDRO ONE NETWORKS INC.
33	382940005024600	LANXESS INC.
34	382940005024700	ACIER GENDRON LTEE
35	382940005024701	WHM ENTERPRISES (SARNIA) LTD.
36	RAILWAY	CANADIAN NATIONAL RAILWAY CORP.
37	382940005024800	1919443 ONTARIO LTD.
38	382940005024804	VEOLIA ES CANADA INDUSTRIES
39	382940005024805	TOTAL SUPPORT SERVICES LTD.
40	382940005024806	ZBR INVESTMENTS (SARNIA) LTD.
41	382940005024807	1272054 ONTARIO LIMITED
42	382940005024900	1684616 ONTARIO LIMITED
43	382940005025500	BLUEWATER POWER DISTRIBUTION CORPORATION
44	382940005025300	7794703 CANADA INC.
45	382940005025100	CITY OF SARNIA
185	RAILWAY	CANADIAN NATIONAL RAILWAY CORP.
186	RAILWAY	CHESAPEAKE AND OHIO RAILWAY

LEGEND

- COLE DRAIN, CUT-OFF DRAIN & COLE DIVERSION DRAINS
- DIVERSION DRAINS
- DRAINAGE AREA
- COLE DRAIN, CUT-OFF DRAIN & COLE DIVERSION DRAINS
- - - SUBWATERSHED AREA
- ▨ WOODLOT AREAS



NOTE: PROPERTY ROLL NUMBERS IDENTIFIED ON THIS PLAN HAVE BEEN TRUNCATED FOR DISPLAY PURPOSES.

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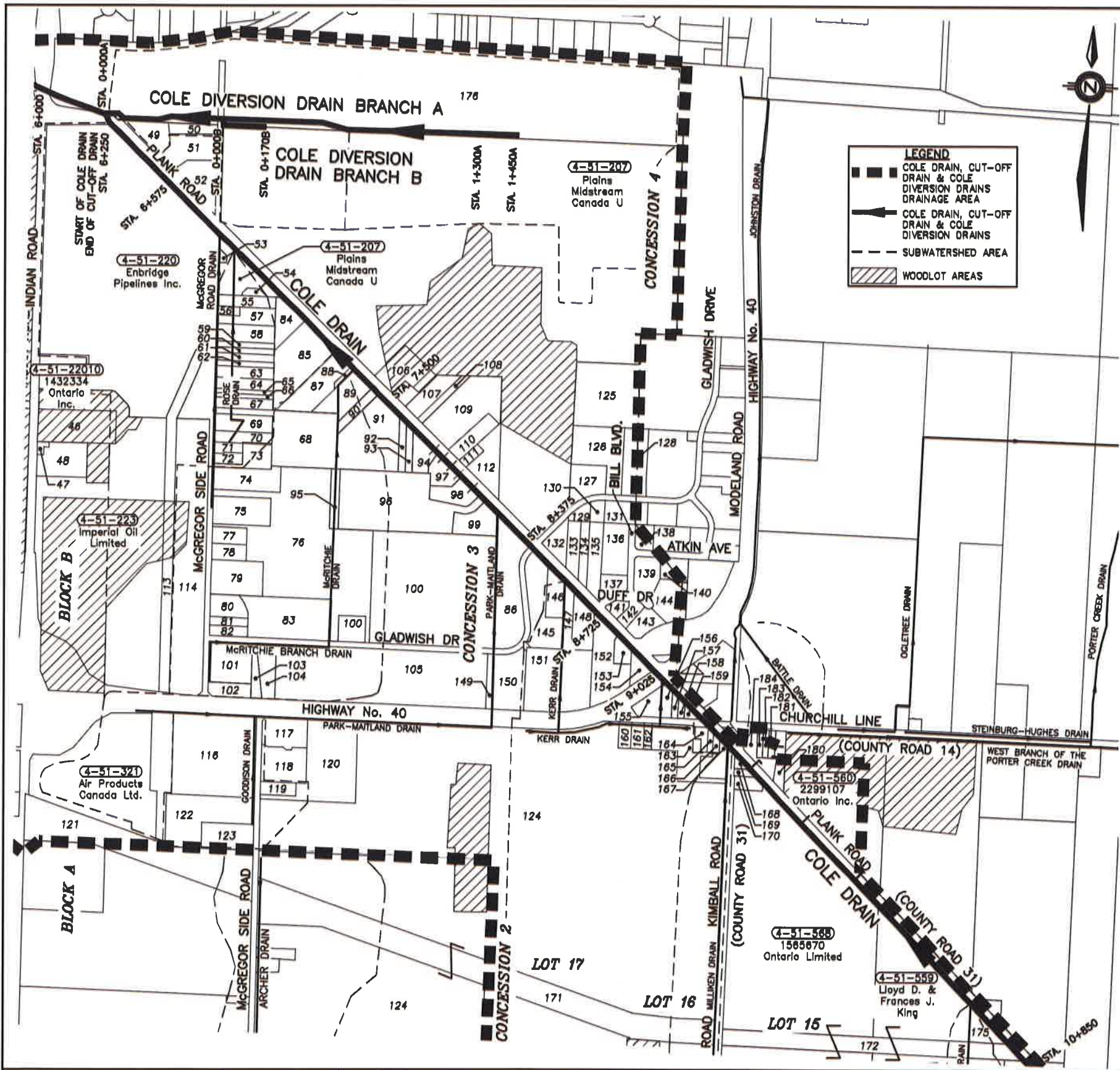
NO.	DESCRIPTION	DATE	BY	FOR
7	FINAL RECONSIDERED REPORT SUBMISSION	15 JAN 21	TRD	
8	RECONSIDERED REPORT SUBMISSION FOR CLIENT REVIEW	15 OCT 20	TRD	
9	FINAL REPORT REVISION	27 JUNE 19	TRD	
4	REVISED FINAL REPORT CLIENT REVIEW	1 MAY 19	TRD	
3	FINAL REPORT CLIENT REVIEW	11 JAN 19	JJT	
2	PRELIMINARY REPORT SUBMISSION	08 DEC 12	JJT	
1	PRELIMINARY REPORT CLIENT REVIEW	30 MAR 12	JJT	

DESIGN: TRO
 CHECKED BY: JMM, TKS
 DATE: January 15, 2021
 SCALE: 1:16,500

Cole Drain, Cut-Off Drain & Cole Diversion Drain Branches 'A' & 'B'
 City of Sarnia (Reconsidered Report)

WATERSHED PARTIAL PLAN 1

PROJECT NO: 08-8845
 SHEET NO: 01 of 50



LEGEND

- ▬ COLE DRAIN, CUT-OFF DRAIN & COLE DIVERSION DRAINS DRAINAGE AREA
- ▬ COLE DRAIN, CUT-OFF DRAIN & COLE DIVERSION DRAINS
- - - SUBWATERSHED AREA
- ▨ WOODLOT AREAS

NOTE: PROPERTY ROLL NUMBERS IDENTIFIED ON THIS PLAN HAVE BEEN TRUNCATED FOR DISPLAY PURPOSES.

ADDITIONAL PROPERTY OWNERS			REF. #	ROLL #	OWNER NAMES
46	382940005122800	ENVIRONMENT & ENERGY MINISTRY	110	382940005120350	TEK HOLDINGS LIMITED
47	382940005122500	IMPERIAL OIL LIMITED	111	382940005120200	AT-TEC HEAVY EQUIPMENT LTD.
48	382940005122400	MARCUS TERMINALS INC.	112	382940005120100	DOROTHY A. Mc ELHONE
49	382940005121300	LAMBTON HOT MIX LTD.	113	382940005122300	HYDRO ONE NETWORKS INC.
50	382940005121200	SANDERCOCK CONSTRUCTION LTD.	114	382940005122300	IMPERIAL OIL LIMITED
51	382940005121100	CMM PROPERTIES INC.	115	382940005129300	HYDRO ONE NETWORKS INC.
52	382940005121000	LENIE N. SEVERIN	116	382940005132300	TRANSCO RECYCLING INC.
53	382940005120701	UNION GAS LIMITED	117	382940005134000	876652 ONTARIO LTD.
54	382940005127700	DEAN R. WILLIAMS	118	382940005134050	121 DUFF DRIVE INC.
55	382940005127800	JEFFERY P. WILLIAMS	119	382940005134101	2506812 ONTARIO LTD.
56	382940005127600	DEAN R. WILLIAMS	120	382940005134100	MAC PUMP DEVELOPMENTS LTD.
57	382940005127500	JEFFERY P. WILLIAMS	121	382940005134100	HYDRO ONE NETWORKS INC.
58	382940005127400	DEAN R. WILLIAMS	122	382940005132400	408980 ONTARIO LTD.
59	382940005127300	DEAN R. WILLIAMS	123	382940005132500	852129 ONTARIO LIMITED
60	382940005127200	JOHN HEALY CARE TRUSTEE	124	382940005137600	DST FARMS INC. AND LMH FARMS INC.
61	382940005127100	2274916 ONTARIO INC.	125	382940005117100	PLAINS MIDSTREAM CANADA U
62	382940005127000	2448514 ONTARIO INC.	126	382940005117650	CAPUCHYNE MANAGEMENT LIMIT
63	382940005126900	469135 ONTARIO LIMITED	127	382940005119300	GREGMILL INVESTMENTS LTD.
64	382940005126800	469135 ONTARIO LIMITED	128	382940005117600	10173189 CANADA LTD.
65	382940005126700	DUO RAY LTD.	129	382940005117715	MODIG PROPERTIES INC.
66	382940005126600	629260 ONTARIO LIMITED/1777705 ONTARIO INC	130	382940005117714	JENRON HOLDINGS LTD.
67	382940005126500	1109662 ONTARIO LTD.	131	382940005117630	2654583 ONTARIO LTD.
68	382940005126400	PD PROPERTIES & RENTALS INC.	132	382940005119200	LINDROSS HOLDINGS (SARNIA) LTD.
69	382940005126300	RICHARD R. LAROCHELLE	133	382940005119100	MARCOTTE DISPOSAL INC.
70	382940005126200	EDWARD A. YOUNG	134	382940005119000	KEL-GOR LIMITED
71	382940005126100	SUSANE LEVESQUE	135	382940005118900	KEL-GOR LIMITED
72	382940005126000	GUY J. & SUSANE LEVESQUE	136	382940005118810	JENRON HOLDINGS LTD.
73	382940005125800	748104 ONTARIO LTD.	137	382940005118801	HELMUT SAUERBECK
74	382940005125500	DUO RAY LTD.	138	382940005118800	JHARC HOLDINGS INC.
75	382940005125400	DUO RAY LTD.	139	382940005118820	1016748 ONTARIO LIMITED
76	382940005125300	DUO RAY LTD.	140	382940005118825	1016748 ONTARIO LIMITED
77	382940005125200	SEVEN STAR INVESTMENTS INC.	141	382940005118800	876652 ONTARIO LIMITED
78	382940005125101	LAMBTON CONSTRUCTION COMPANY LTD.	142	382940005118702	876652 ONTARIO LIMITED
79	382940005125100	451547 ONTARIO LIMITED	143	382940005118700	9056297 CANADA INC.
80	382940005125000	MARIO & ANTONIO B. DeCAROLIS	144	382940005118815	BLATNER INVESTMENTS INC.
81	382940005124800	FRANCO VOZZA	145	382940005129500	BRUCE A. BOND PETROLEUM LTD.
82	382940005124700	612031 ONTARIO LTD.	146	382940005129505	DELGOR SEAWAY INC.
83	382940005124600	GORDON BOUMA	147	382940005129600	KEL-GOR LIMITED
84	382940005124500	1230868 ONTARIO LIMITED	148	382940005129600	KEL-GOR LIMITED
85	382940005124400	PAUL J. BABCOCK	149	382940005129200	IMPERIAL ROOFING (SARNIA) LTD.
86	382940005124300	JOHN R. BERNHARDT	150	382940005129300	CALANIT INC.
87	382940005124200	PLANK ROAD AUTO WRECKERS LTD.	151	382940005130200	JENRON HOLDINGS LTD.
88	382940005124100	RICHARD C. PERDEAUX	152	382940005129900	KEL-GOR LIMITED
89	382940005124000	3769694 ONTARIO LIMITED	153	382940005130000	D S ASHMAN INDUSTRIES INC.
90	382940005123900	3769694 ONTARIO LIMITED	154	382940005130900	TRANSPORTATION MINISTRY
91	382940005123800	612031 ONTARIO LTD.	155	382940005130900	TRANSPORTATION MINISTRY
92	382940005123700	HAROLD MARCUS LIMITED	156	382940005131000	RANDY G. & PATRICIA J. VARSAVA
93	382940005123600	LAMSAR INC.	157	382940005131100	GERALD M. MCAULEY
94	382940005123500	SARNIA AUTO WRECKERS LTD.	158	382940005131200	GERALD M. MCAULEY
95	382940005123400	1230868 ONTARIO LIMITED	159	382940005131300	TRANSPORTATION MINISTRY
96	382940005123300	1230868 ONTARIO LIMITED	160	382940005134400	RANDOLPH A. ELVAGE
97	382940005123200	1230868 ONTARIO LIMITED	161	382940005134500	SARNIA PLUMBING AND MECHA
98	382940005123100	1230868 ONTARIO LIMITED	162	382940005134600	AUJKE & DENISE ZYLSTRA
99	382940005123000	1230868 ONTARIO LIMITED	163	382940005135300	VANDENHEUVEL AUTO SALES LTD.
100	382940005122900	1109606 ONTARIO LIMITED	164	382940005135400	KUKURA CONSTRUCTION LTD.
101	382940005122800	1565885 ONTARIO LIMITED	165	382940005135500	VANDENHEUVEL AUTO SALES LTD.
102	382940005122800	TRANSPORTATION MINISTRY	166	382940005135600	MICHAEL W. KIDD
103	382940005122800	TRANSPORTATION MINISTRY	167	382940005135700	1800850 ONTARIO LIMITED
104	382940005122800	1830370 ONTARIO INC.	168	382940005160800	MARGARET J. NYP
105	382940005122800	CURRAN & HERRIDGE CONSTRUCTION COMPANY LTD	169	382940005160700	VINK NETWORK CABLES INC.
106	382940005120600	HURON ALLOYS INCORPORATED	170	382940005160600	MILLS LAND FARMS INC.
107	382940005120500	1863960 ONTARIO INC.	171	PUBLIC UTILITY	HYDRO ONE NETWORKS INC.
108	382940005120400	1863960 ONTARIO INC.	172	PUBLIC UTILITY	HYDRO ONE NETWORKS INC.
109	382940005120300	SUPERIOR TIRE SERVICES SARNIA INC.	173	PUBLIC UTILITY	HYDRO ONE NETWORKS INC.
			174	PUBLIC UTILITY	HYDRO ONE NETWORKS INC.
			175	382940005157000	DONALD A. & CATHERINE R. CRESSMAN
			176	RAILWAY	CANADIAN NATIONAL RAILWAY CORP.



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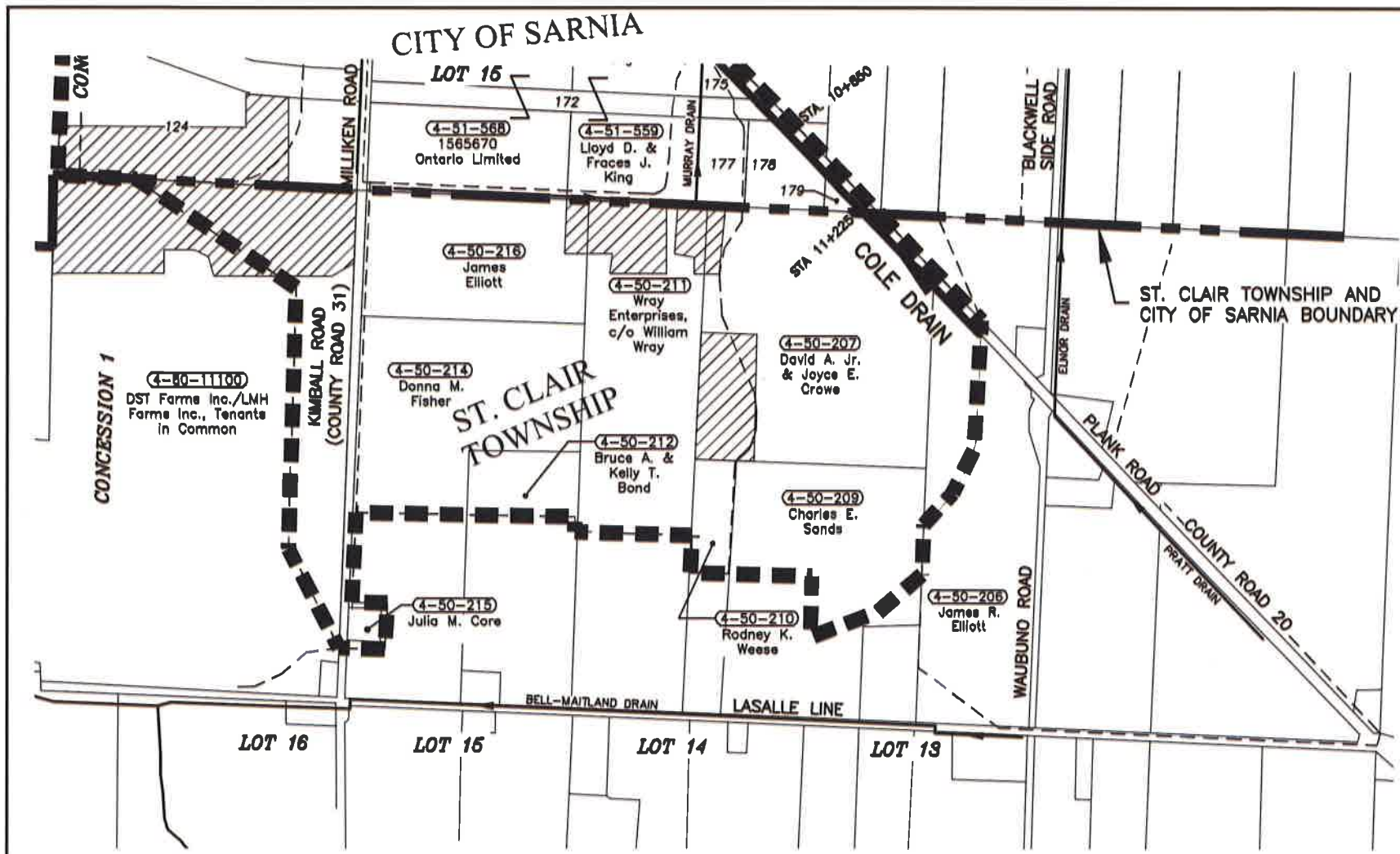
NO.	DESCRIPTION	DATE	BY	FOR
7	FINAL RECONSIDERED REPORT SUBMISSION	15 JAN 21	TRO	JUT
6	RECONSIDERED REPORT SUBMISSION FOR CLIENT REVIEW	13 OCT 20	TRO	FRP
5	FINAL REPORT SUBMISSION	27 JUN 19	TRO	
4	REVISED FINAL REPORT CLIENT REVIEW	1 MAY 19	TRO	045
3	FINAL REPORT CLIENT REVIEW	11 JAN 19	JIT	
2	PRELIMINARY REPORT SUBMISSION	08 DEC 12	JIT	
1	PRELIMINARY REPORT CLIENT REVIEW	19 MAR 12	JIT	141

Cole Drain, Cut-Off Drain & Cole Diversion Drain Branches 'A' & 'B'
 City of Sarnia (Reconsidered Report)

WATERSHED PARTIAL PLAN 2

PROJECT NO: 08-8845
 SHEET NO: 02 of 50

DATE: January 19, 2021
 SCALE: 1:16,500

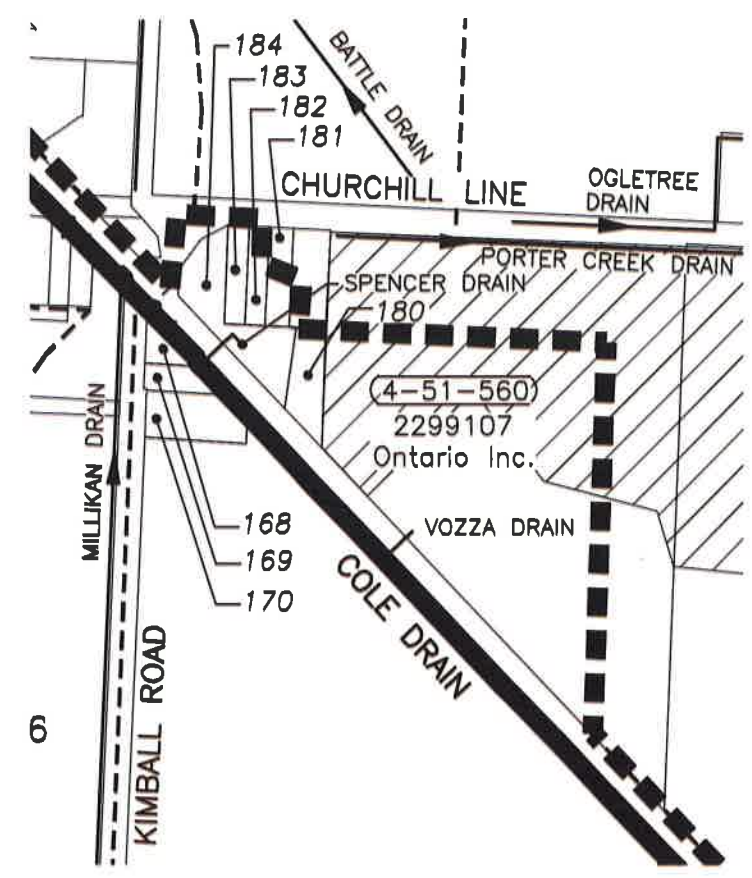


ADDITIONAL PROPERTY OWNERS		
REF. #	ROLL #	OWNER NAMES
177	382940005157000	DONALD A. & CATHERINE R. CRESSMAN
178	382940005157300	DAVID H. PAYNE & ELIZABETH J. PARKINS
179	382940005154600	DAVID A. & JOYCE E. CROWE

NOTE: PROPERTY ROLL NUMBERS IDENTIFIED ON THIS PLAN HAVE BEEN TRUNCATED FOR DISPLAY PURPOSES.

LEGEND

- COLE DRAIN, CUT-OFF DRAIN & COLE DIVERSION DRAIN DRAINAGE AREA
- COLE DRAIN, CUT-OFF DRAIN & COLE DIVERSION DRAINS
- - - SUBWATERSHED AREA
- ▨ WOODLOT AREAS



ADDITIONAL PROPERTY OWNERS		
REF. #	ROLL #	OWNER NAMES
180	382940005156100	2551030 ONTARIO, INC.
181	382940005151400	CAROL A. O'REILLY
182	382940005151300	WILLIAM K. & DIANNE J. SPENCER
183	382940005151200	RENALD I. JOSEPH & BRENDA L. BLYTH
184	382940005151100	COUNTY OF LAMBTON

NOTE: PROPERTY ROLL NUMBERS IDENTIFIED ON THIS PLAN HAVE BEEN TRUNCATED FOR DISPLAY PURPOSES.

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NO.	DESCRIPTION	DATE	BY	FOR
7	FINAL RECONSIDERED REPORT SUBMISSION	10 JAN 21	TRO	JJT
6	RECONSIDERED REPORT SUBMISSION FOR CLIENT REVIEW	13 OCT 20	TRO	PRP
5	FINAL REPORT RE SUBMISSION	27 JUNE 19	TRO	PRP
4	REVISED FINAL REPORT CLIENT REVIEW	1 MAY 19	TRO	PRP
3	FINAL REPORT CLIENT REVIEW	11 JAN 19	JJT	PRP
2	PRELIMINARY REPORT SUBMISSION	08 DEC 18	JJT	PRP
1	PRELIMINARY REPORT CLIENT REVIEW	30 MAR 17	JJT	PRP

DATE: January 15, 2021
 SCALE: 1:10,000

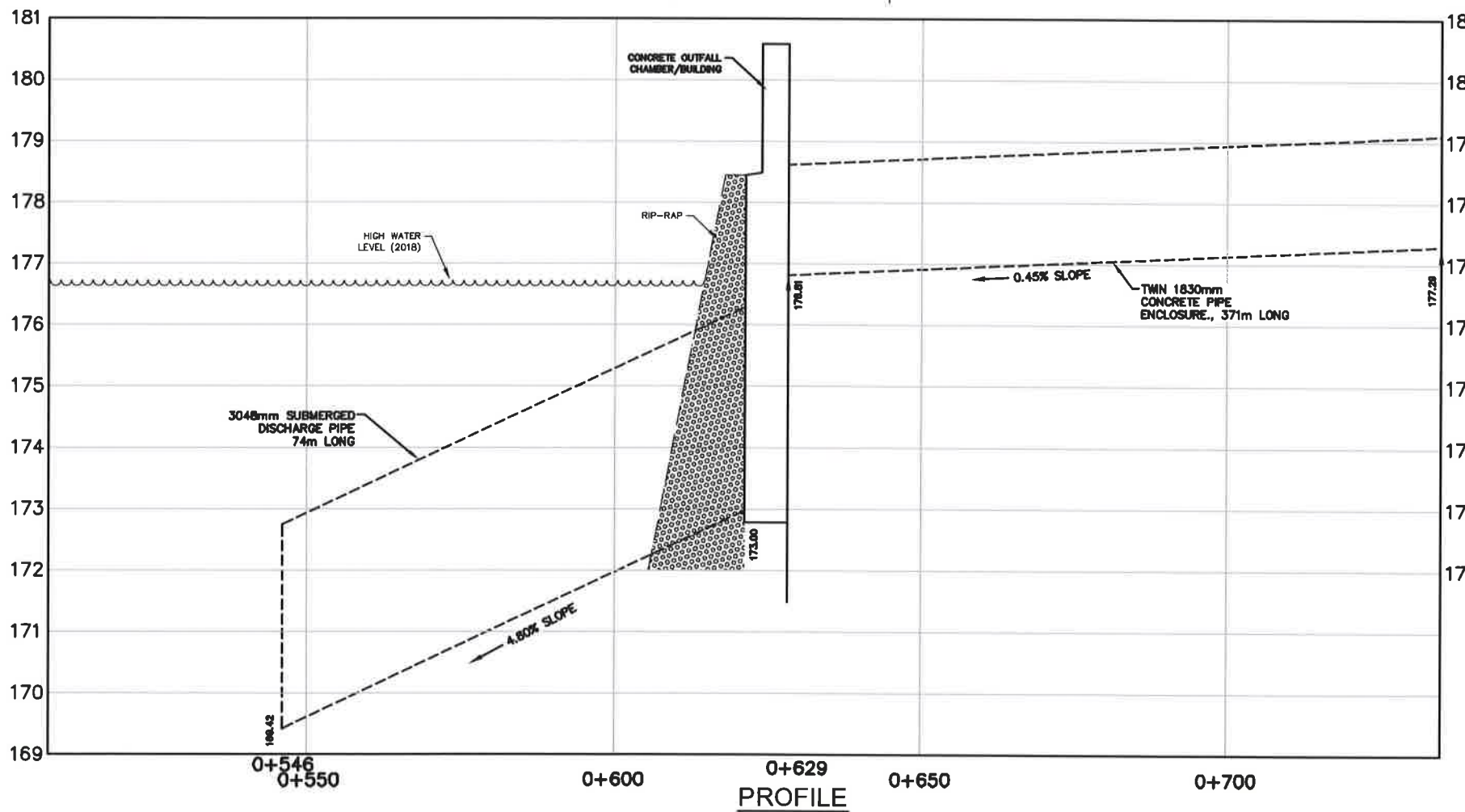
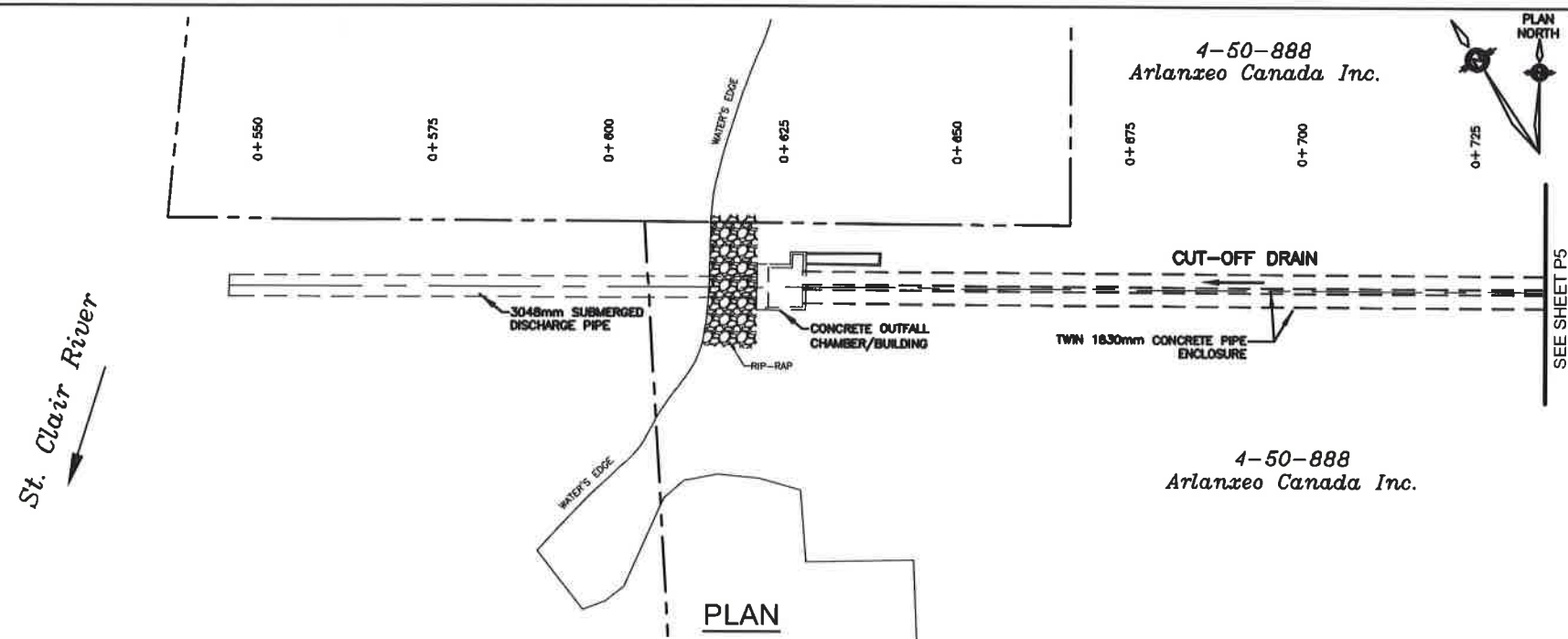
Cole Drain, Cut-Off Drain & Cole Diversion Drain Branches 'A' & 'B'
 City of Sarnia (Reconsidered Report)

WATERSHED PARTIAL PLAN 3

PROJECT NO: 08-8845
 SHEET NO: 03 of 50

DILLON CONSULTING LIMITED, 10 FIFTH STREET SOUTH, CHATHAM, ONTARIO, N7M 4V4, PHONE (519) 354-7802, FAX (519) 354-2050

File Name: \\c:\working\chatham\chatham\10-546-0735\10-546-0735.dwg



SITE BENCHMARKS (BM)	
1. TOP SOUTH CORNER OF CONCRETE HEADWALL. STATION 1+000. ELEVATION 181.20m	12. TOP OF CONCRETE HEADWALL. STATION 6+250. ELEVATION 186.84m
2. NORTH CORNER OF CONCRETE PAD STATION 1+425. ELEVATION 183.06m	13. TOP OF CONCRETE HEADWALL. STATION 6+475. ELEVATION 186.97m
3. TOP SOUTH CORNER OF CONCRETE HEADWALL. STATION 1+750. ELEVATION 183.62m	14. TOP WEST SIDE OF CONCRETE HEADWALL. STATION 6+825. ELEVATION 187.43m
4. TOP EAST CORNER OF CONCRETE HEADWALL. STATION 2+360. ELEVATION 184.40m	15. TOP OF FIRE HYDRANT. STATION 7+465. ELEVATION 188.70m
5. TOP CENTER OF CONCRETE HEADWALL. STATION 2+715. ELEVATION 184.36m	16. TOP EAST SIDE OF STEEL HEADWALL. STATION 7+800. ELEVATION 188.10m
6. TOP CENTER OF CONCRETE HEADWALL. STATION 2+985. ELEVATION 183.61m	17. TOP OF FIRE HYDRANT. STATION 8+185. ELEVATION 189.70m
7. TOP CENTER OF CONCRETE HEADWALL. STATION 3+260. ELEVATION 185.92m	18. TOP OF FIRE HYDRANT. STATION 8+490. ELEVATION 190.23m
8. TOP SOUTH CORNER OF CONCRETE HEADWALL. STATION 3+860. ELEVATION 186.95m	19. GEODETIC BENCHMARK: 69U714. STATION 9+050. ELEVATION 189.93m
9. TOP OF CONCRETE HEADWALL. STATION 4+225. ELEVATION 184.76m	20. TOP NORTH SIDE OF CONCRETE HEADWALL. STATION 9+510. ELEVATION 190.80m
10. CORNER OF CONCRETE PAD. STATION 4+520. ELEVATION 186.35m	21. TOP OF FIRE HYDRANT. STATION 9+870. ELEVATION 192.12m
11. TOP OF CSP ARCH CULVERT EAST END. STATION 5+980. ELEVATION 187.00m	22. TOP OF FIRE HYDRANT. STATION 10+470. ELEVATION 193.32m
	23. TOP OF FIRE HYDRANT. STATION 11+040. ELEVATION 194.08m
	24. SIB SOUTH OF COLE DIVERSION DRAIN BR. A. STATION 0+425A. ELEVATION 186.22m
	25. TOP OF UPSTREAM END OF 600mm CSP CULVERT. STATION 1+075A. ELEVATION 186.02m

LEGEND

— mm CUT FROM EXISTING BOTTOM

SCALES

0 10m 0 1m

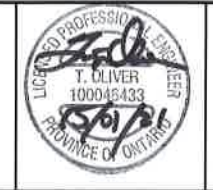
HORIZONTAL 1:500 (22x34) 1:50 (22x34)
VERTICAL 1:1000 (11x17) 1:100 (11x17)

Conditions of Use

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NO	ISSUED FOR	DATE	BY	SCALE
7	FINAL RECONSIDERED REPORT SUBMISSION	15 JAN 21	TRO	
8	RECONSIDERED REPORT SUBMISSION	15 OCT 20	TRO	
5	FINAL REPORT RE-SUBMISSION	27 JUNE 19	JMM, TKS	FRF
4	REVISED FINAL REPORT CLIENT REVIEW	1 MAY 19	TRO	
3	FINAL REPORT CLIENT REVIEW	11 JAN 16	JJT	January 15, 2021
2	PRELIMINARY REPORT SUBMISSION	06 DEC 12	JJT	
1	PRELIMINARY REPORT CLIENT REVIEW	30 MAR 12	JJT	

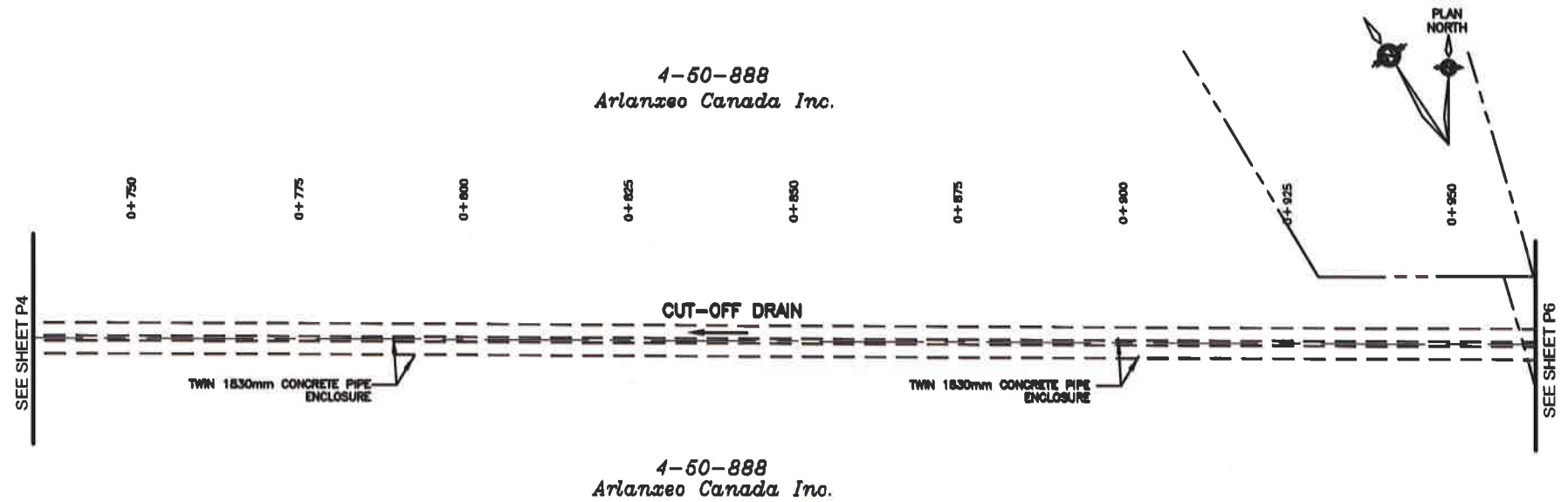
Cole Drain, Cut-Off Drain & Cole Diversion Drain Branches 'A' & 'B'
City of Sarnia (Reconsidered Report)

**CUT-OFF DRAIN
PLAN AND PROFILE
FROM STA. 0+546 TO STA. 0+735**

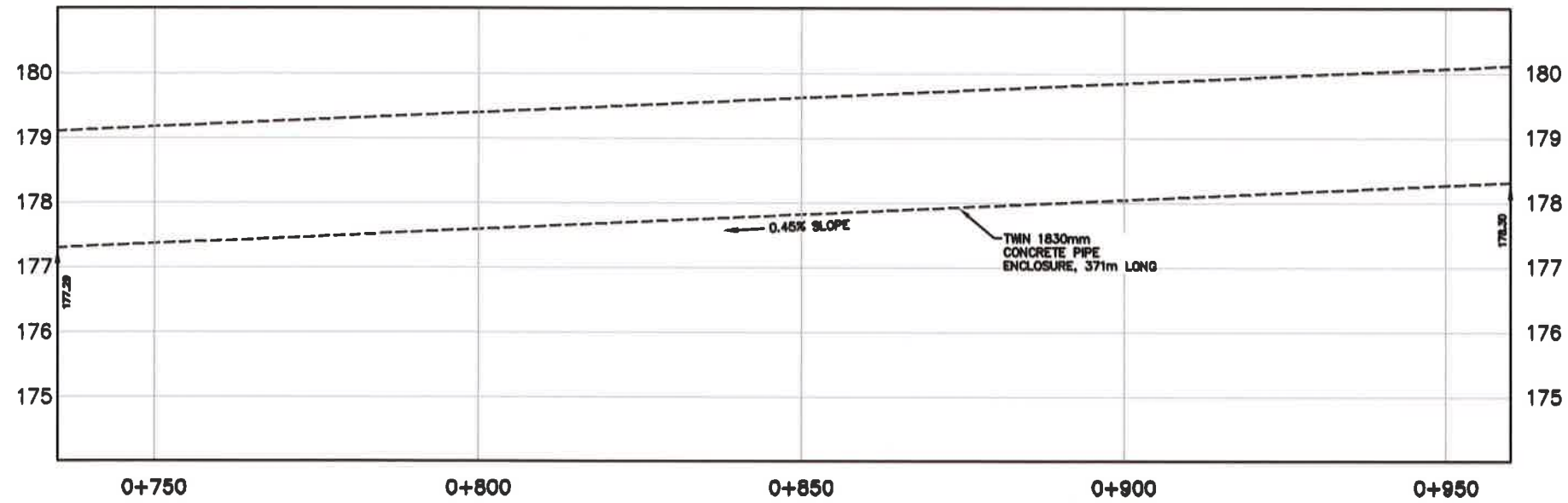
PROJECT NO: 08-8845

SHEET NO: 04 of 50

DILLON CONSULTING LIMITED, 40 FIFTH STREET SOUTH, CHATHAM, ONTARIO, CANADA, M7M 4M4, PHONE (519) 354-7862, FAX (519) 354-2859



PLAN



PROFILE

LEGEND

— mm CUT FROM EXISTING BOTTOM

SCALES

0 10m	0 1m
HORIZONTAL	VERTICAL
1:500 (22x34)	1:80 (22x34)
1:1000 (11x17)	1:100 (11x17)

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NO.	REVISION	DATE	BY	SCALE
7	FINAL RECONSIDERED REPORT SUBMISSION	15 JAN 21	TRO	JJT
6	RECONSIDERED REPORT SUBMISSION	16 OCT 20	JMM, TKS	FRF
5	FINAL REPORT RE-SUBMISSION	27 JUNE 19		
4	REVISED FINAL REPORT CLIENT REVIEW	1 MAY 19		
3	FINAL REPORT CLIENT REVIEW	11 JAN 19		January 15, 2021
2	PRELIMINARY REPORT SUBMISSION	08 DEC 12		
1	PRELIMINARY REPORT CLIENT REVIEW	30 MAR 12		
01	ISSUED FOR	DATE	BY	AS SHOWN

Cole Drain, Cut-Off Drain & Cole Diversion Drain Branches 'A' & 'B'
City of Sarnia (Reconsidered Report)

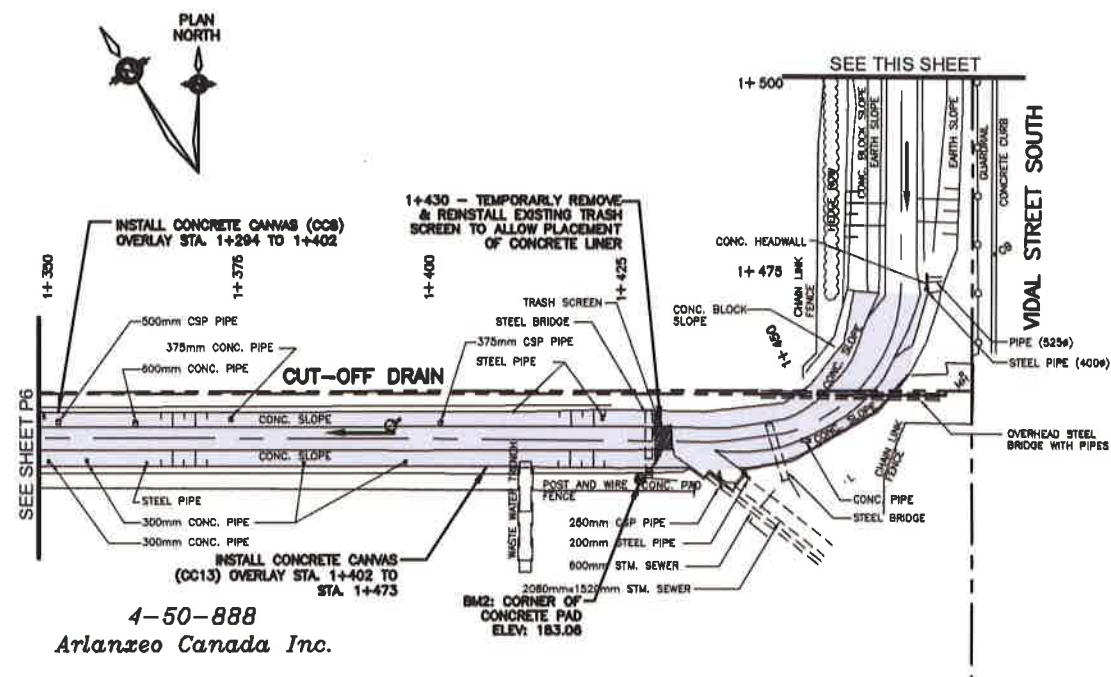
PROJECT NO
08-8845

**CUT-OFF DRAIN
PLAN AND PROFILE
FROM STA. 0+735 TO STA. 0+960**

SHEET NO
05 of 50

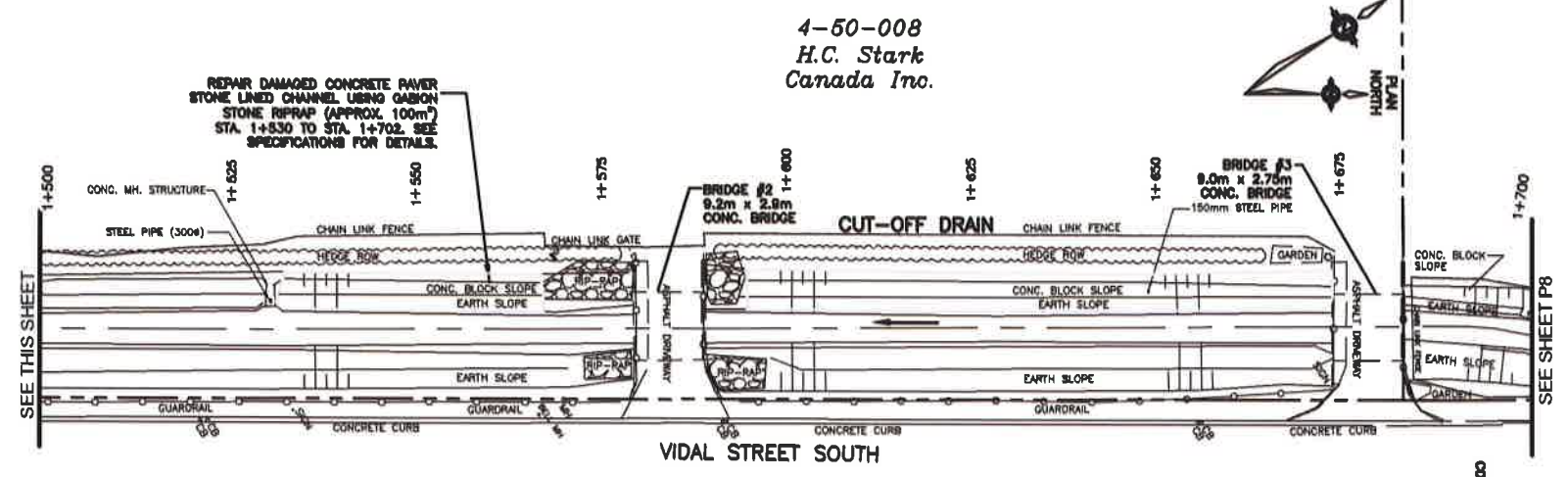
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4-50-888
Arlanxco Canada Inc.

PLAN



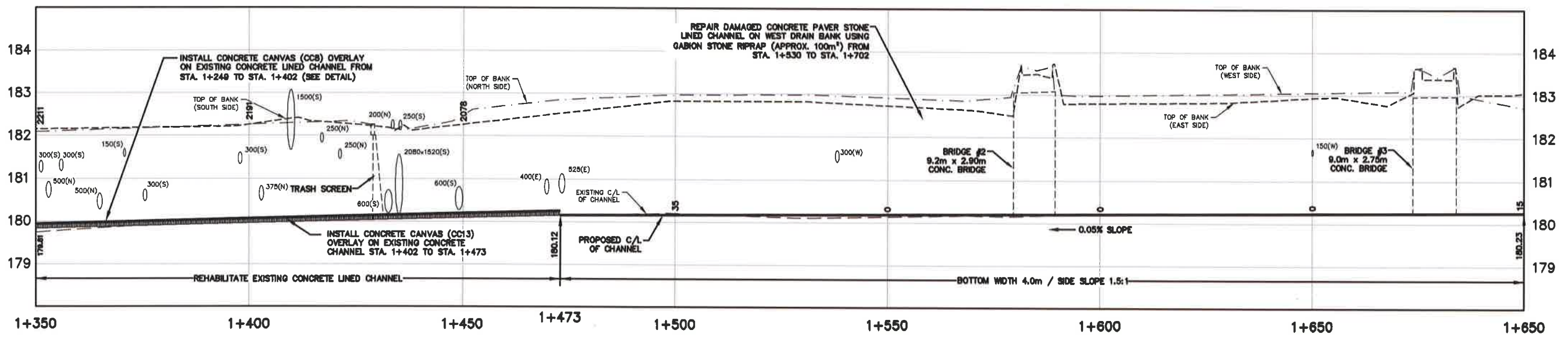
4-50-008
H.C. Stark
Canada Inc.

PLAN

LEGEND
1/2" - mm CUT FROM EXISTING BOTTOM

SCALES

0	10m	0	1m
HORIZONTAL		VERTICAL	
1:500 (22x34)		1:50 (22x34)	
1:1000 (11x17)		1:100 (11x17)	

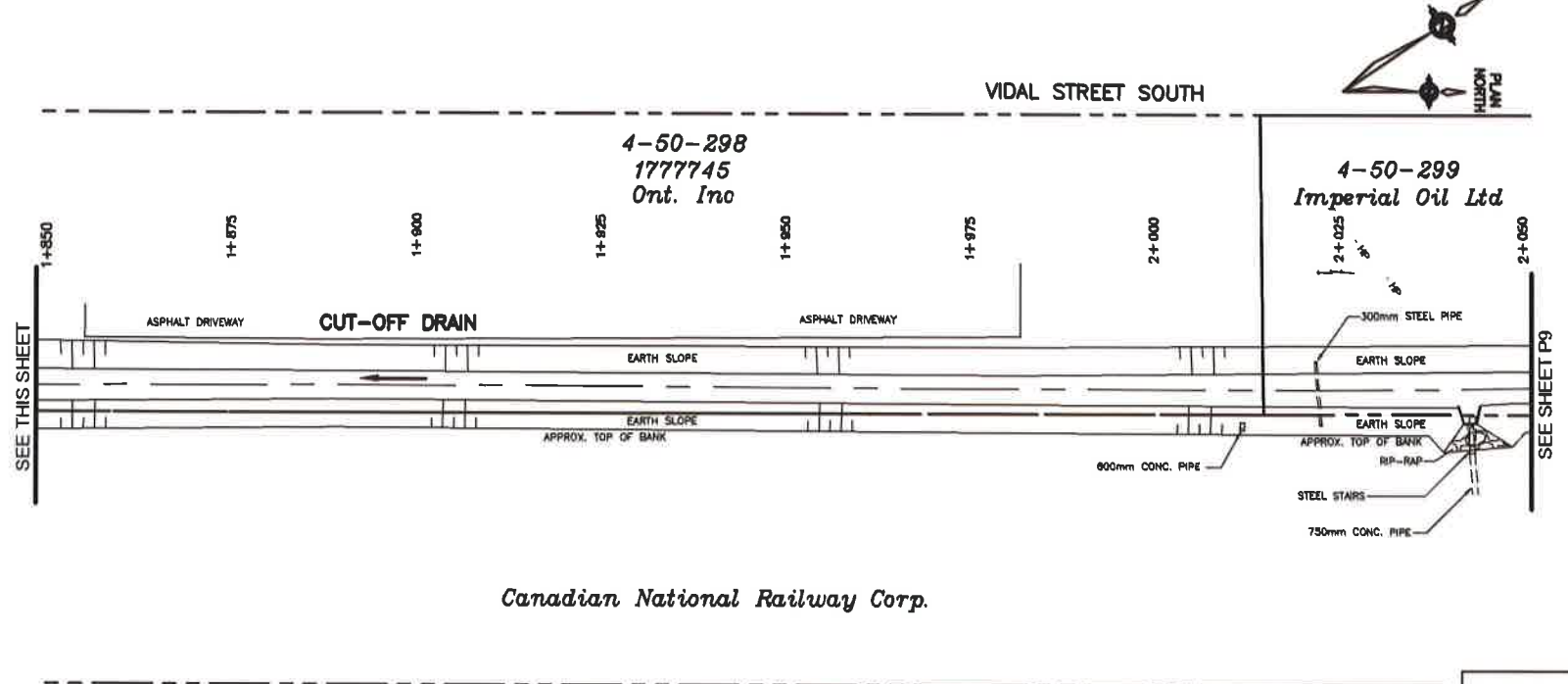
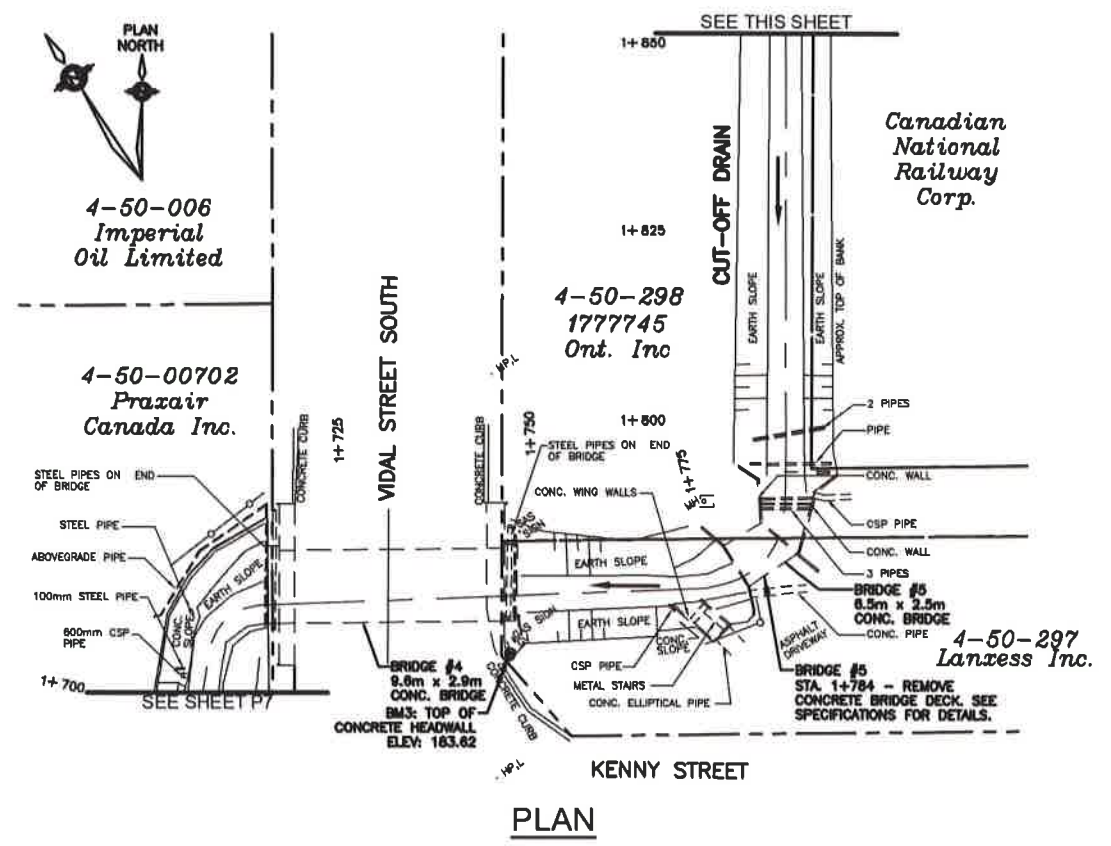


PROFILE

<p>Conditions of Use</p> <p>Verify elevations and/or dimensions on drawing prior to use. Report any discrepancies to Dillon Consulting Limited.</p> <p>Do not scale dimensions from drawing.</p> <p>Do not modify drawing, re-use it, or use it for purposes other than those intended at the time of its preparation without prior written permission from Dillon Consulting Limited.</p>			<table border="1"> <tr> <th>NO.</th> <th>DESCRIPTION</th> <th>DATE</th> <th>BY</th> </tr> <tr> <td>7</td> <td>FINAL RECONSIDERED REPORT SUBMISSION</td> <td>15 JAN 21</td> <td>TRG</td> </tr> <tr> <td>6</td> <td>RECONSIDERED REPORT SUBMISSION</td> <td>15 OCT 20</td> <td>TRG</td> </tr> <tr> <td>5</td> <td>FINAL REPORT SUBMISSION</td> <td>27 JUN 19</td> <td>TRG</td> </tr> <tr> <td>4</td> <td>REVISED FINAL REPORT CLIENT REVIEW</td> <td>1 MAY 19</td> <td>TRG</td> </tr> <tr> <td>3</td> <td>FINAL REPORT CLIENT REVIEW</td> <td>11 JAN 19</td> <td>JJT</td> </tr> <tr> <td>2</td> <td>PRELIMINARY REPORT SUBMISSION</td> <td>08 DEC 12</td> <td>JJT</td> </tr> <tr> <td>1</td> <td>PRELIMINARY REPORT CLIENT REVIEW</td> <td>30 MAR 12</td> <td>JJT</td> </tr> </table>	NO.	DESCRIPTION	DATE	BY	7	FINAL RECONSIDERED REPORT SUBMISSION	15 JAN 21	TRG	6	RECONSIDERED REPORT SUBMISSION	15 OCT 20	TRG	5	FINAL REPORT SUBMISSION	27 JUN 19	TRG	4	REVISED FINAL REPORT CLIENT REVIEW	1 MAY 19	TRG	3	FINAL REPORT CLIENT REVIEW	11 JAN 19	JJT	2	PRELIMINARY REPORT SUBMISSION	08 DEC 12	JJT	1	PRELIMINARY REPORT CLIENT REVIEW	30 MAR 12	JJT	<table border="1"> <tr> <th>DESIGN</th> <th>REVIEWED BY</th> </tr> <tr> <td>TRG</td> <td>JJT</td> </tr> <tr> <th>DRAWN</th> <th>CHECKED BY</th> </tr> <tr> <td>JMM, TKS</td> <td>FRF</td> </tr> <tr> <th>DATE</th> <th>DATE</th> </tr> <tr> <td>January 15, 2021</td> <td></td> </tr> <tr> <th>SCALE</th> <td>AS SHOWN</td> </tr> </table>	DESIGN	REVIEWED BY	TRG	JJT	DRAWN	CHECKED BY	JMM, TKS	FRF	DATE	DATE	January 15, 2021		SCALE	AS SHOWN	<p>Cole Drain, Cut-Off Drain & Cole Diversion Drain Branches 'A' & 'B' City of Sarnia (Reconsidered Report)</p> <p>CUT-OFF DRAIN PLAN AND PROFILE FROM STA. 1+350 TO STA. 1+700</p>	<p>PROJECT NO 08-8845</p> <p>SHEET NO 07 of 50</p>
			NO.	DESCRIPTION	DATE	BY																																														
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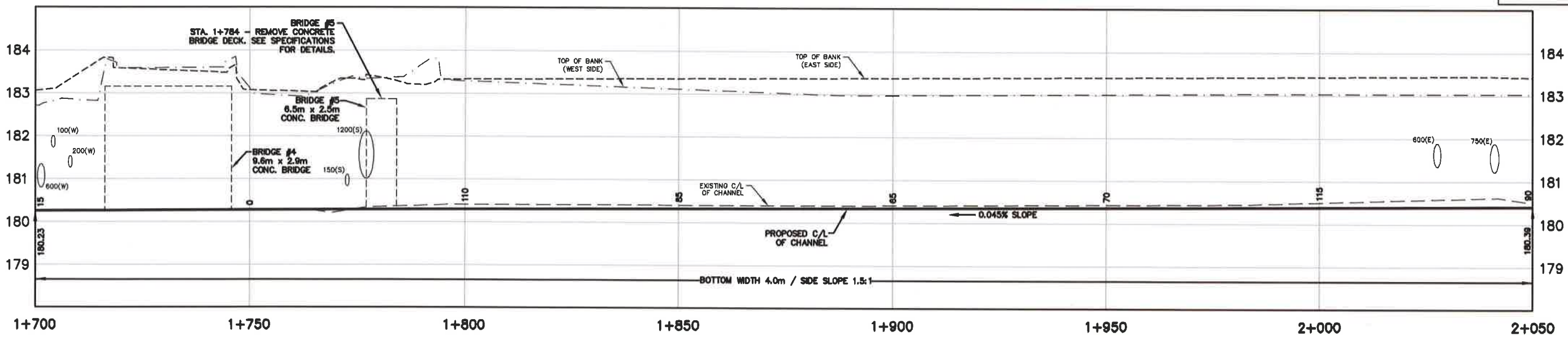


LEGEND

∅ - mm CUT FROM EXISTING BOTTOM

SCALES

0	10m	0	1m
HORIZONTAL		VERTICAL	
1:500 (22x34)		1:50 (22x34)	
1:1000 (11x17)		1:100 (11x17)	



PROFILE

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NO.	REVISION FOR	DATE	BY	DESIGN	REVIEWED BY
1	PRELIMINARY REPORT CLIENT REVIEW	30 MAR 12	JJT	TRO	JJT
2	PRELIMINARY REPORT SUBMISSION	06 DEC 12	JJT	JMM, TKS	FRF
3	FINAL REPORT CLIENT REVIEW	11 JAN 15	JJT		January 15, 2021
4	REVISED FINAL REPORT CLIENT REVIEW	1 MAY 15	TRO		
5	FINAL REPORT RESUBMISSION	27 JUNE 15	TRO		
6	FINAL REPORT RESUBMISSION	18 OCT 20	TRO		
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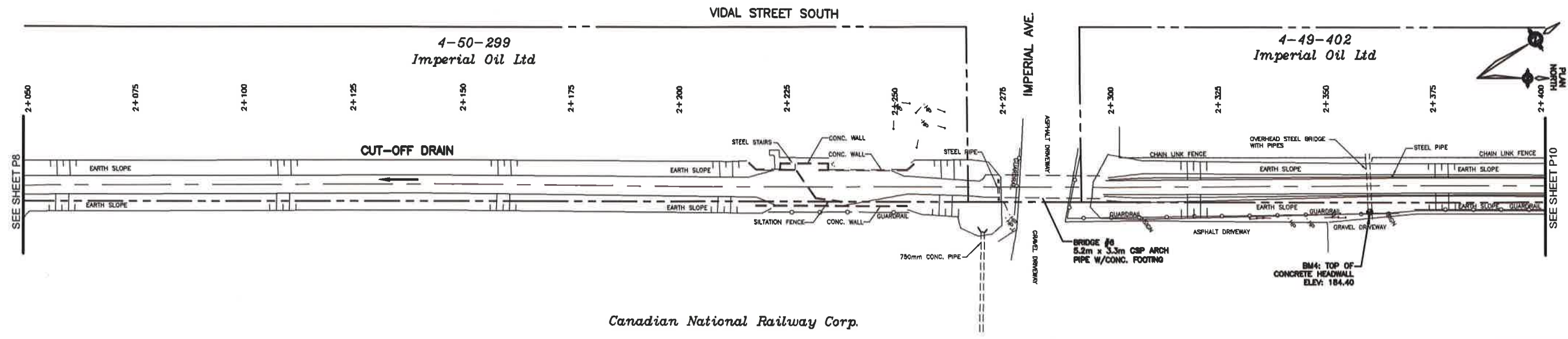
Cole Drain, Cut-Off Drain & Cole Diversion Drain Branches 'A' & 'B'
City of Sarnia (Reconsidered Report)

**CUT-OFF DRAIN
PLAN AND PROFILE
FROM STA. 1+700 TO STA. 2+050**

PROJECT NO: 08-8845
SHEET NO: 08 of 50

DILLON CONSULTING LIMITED, 16 FIFTH STREET SOUTH, CHATHAM, ONTARIO, CANADA, PHONE (519) 354-7862, FAX (519) 354-2959

Dillon Consulting Ltd. 2021-01-15 10:00 AM

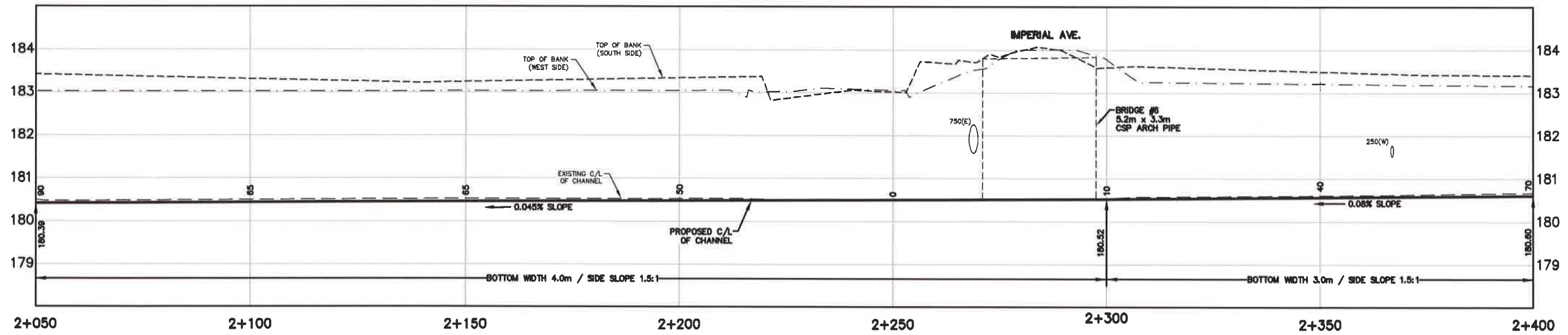


PLAN

LEGEND
 12 - mm CUT FROM EXISTING BOTTOM

SCALES

0 10m 0 1m
 HORIZONTAL VERTICAL
 1:500 (22x34) 1:50 (22x34)
 1:1000 (11x17) 1:100 (11x17)



PROFILE

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NO.	DESCRIPTION	DATE	BY
7	FINAL RECONSIDERED REPORT SUBMISSION	15 JAN 21	TRO
8	RECONSIDERED REPORT SUBMISSION	15 OCT 20	JMM, TKS
9	FINAL REPORT RE-SUBMISSION	27 JUN 19	FRF
4	REVISED FINAL REPORT CLIENT REVIEW	1 MAY 19	JJT
3	FINAL REPORT CLIENT REVIEW	11 JAN 18	JJT
2	PRELIMINARY REPORT SUBMISSION	08 DEC 12	JJT
1	PRELIMINARY REPORT CLIENT REVIEW	30 MAR 12	JJT

DESIGN: TRO
 CHECKED BY: FRF
 DATE: January 15, 2021
 SCALE: AS SHOWN

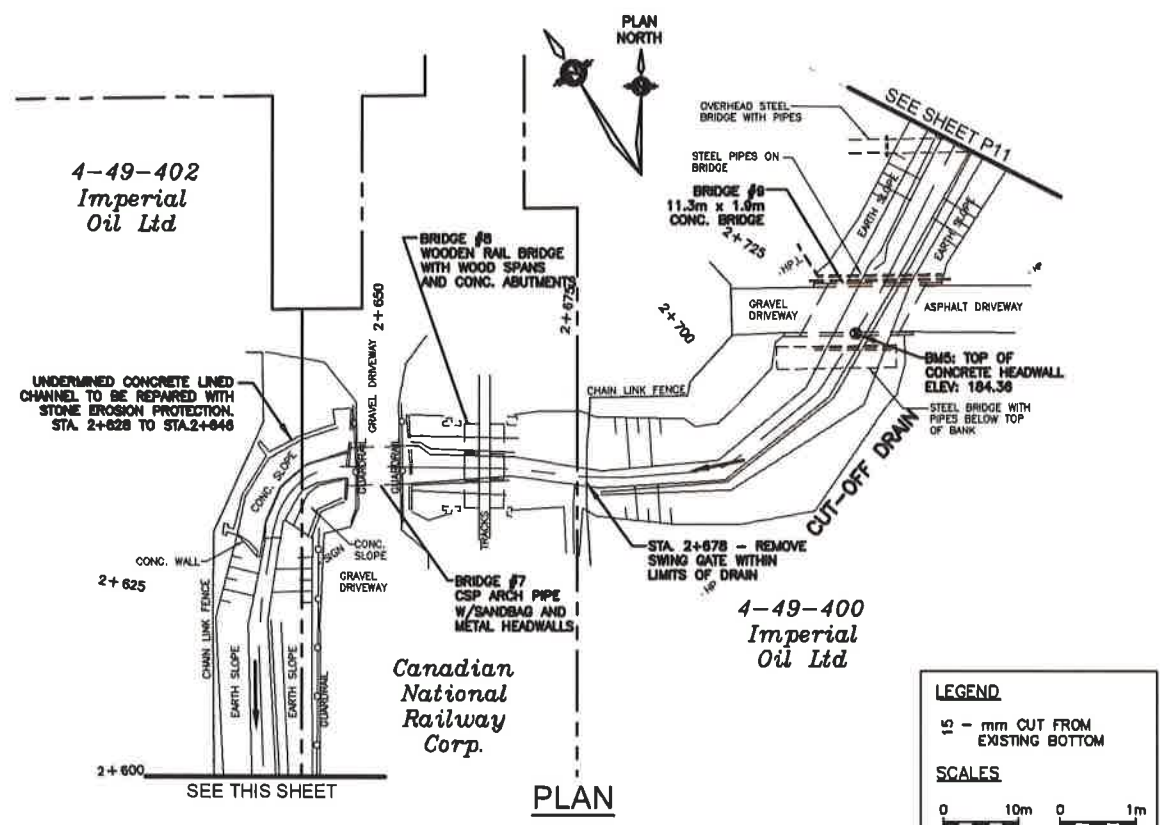
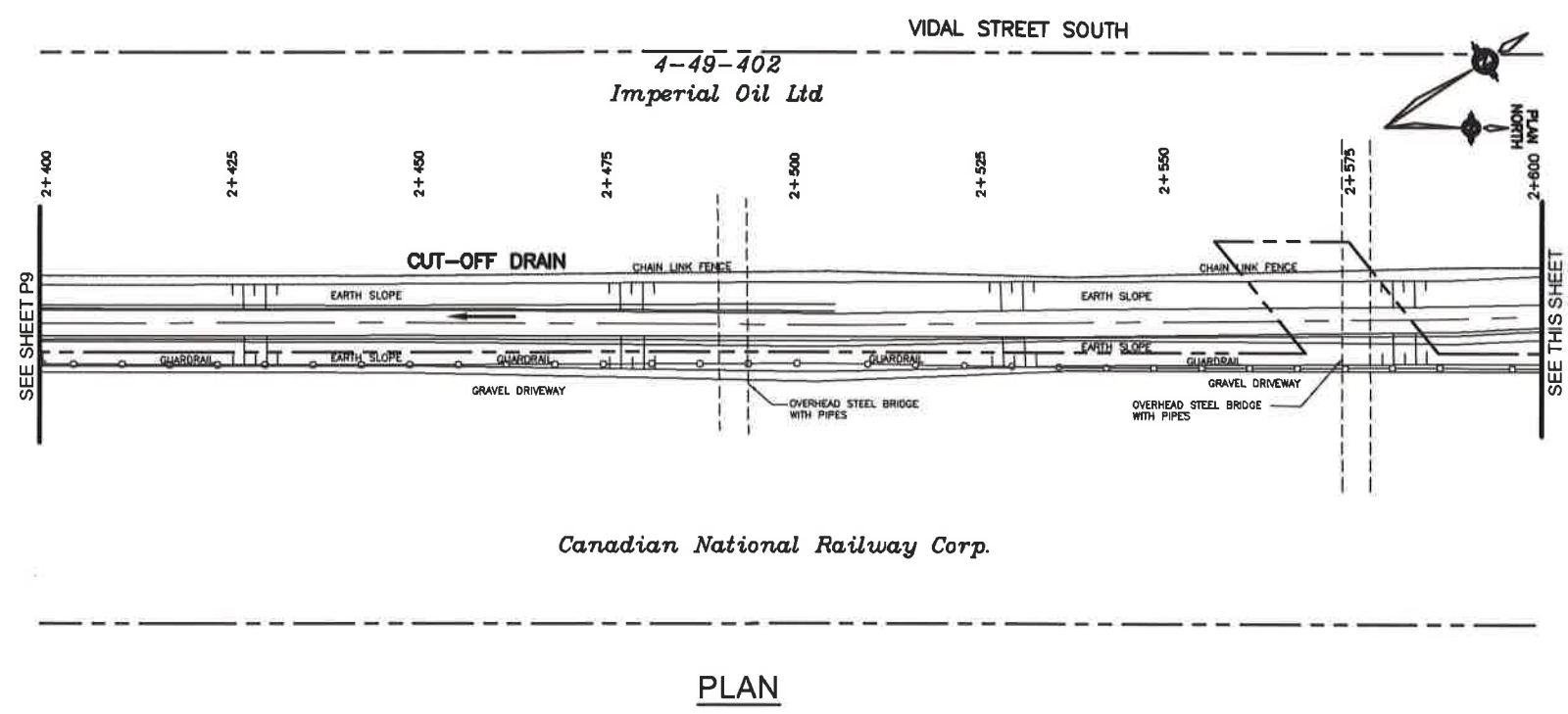
Cole Drain, Cut-Off Drain & Cole Diversion Drain Branches 'A' & 'B'
 City of Sarnia (Reconsidered Report)

**CUT-OFF DRAIN
 PLAN AND PROFILE
 FROM STA. 2+050 TO STA. 2+400**

PROJECT NO: 08-8845
 SHEET NO: 09 of 50

DILLON CONSULTING LIMITED, 10 FIFTH STREET SOUTH, CHATHAM, ONTARIO, N7M 4W4, PHONE (519) 354-7802, FAX (519) 354-2050

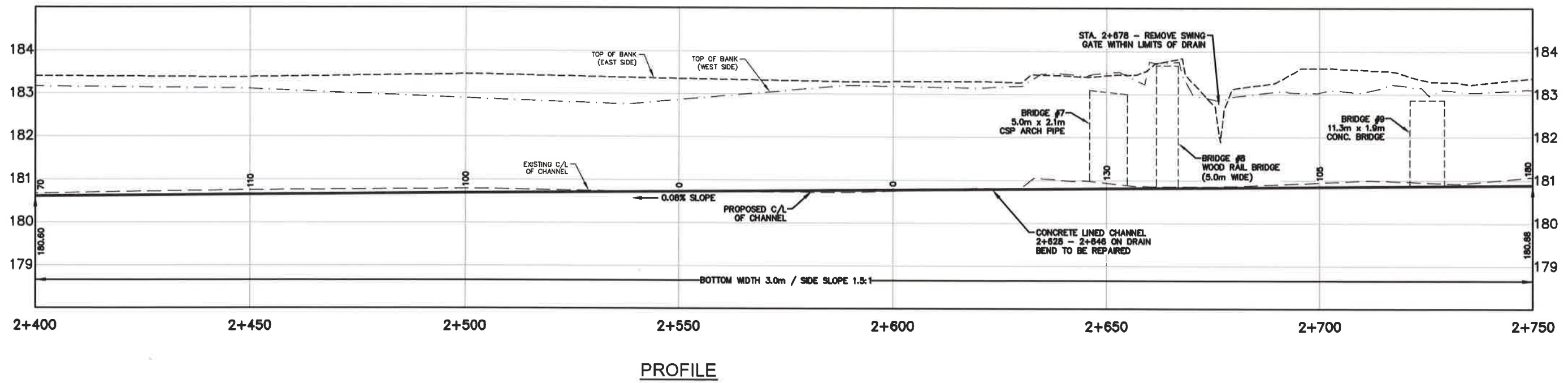
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LEGEND
 □ - mm CUT FROM EXISTING BOTTOM

SCALES

0 10m	0 1m
HORIZONTAL 1:500 (22x34)	VERTICAL 1:50 (22x34)
1:1000 (11x17)	1:100 (11x17)



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NO.	REVISION	DATE	BY	SCALE
7	FINAL RECONSIDERED REPORT SUBMISSION	15 JAN 21	TRO	
6	RECONSIDERED REPORT SUBMISSION	15 OCT 20	TRO	
5	FINAL REPORT RE-SUBMISSION	27 JUN 19	TRO	
4	REVISED FINAL REPORT CLIENT REVIEW	1 MAY 19	TRO	
3	FINAL REPORT CLIENT REVIEW	11 JAN 18	JJT	
2	PRELIMINARY REPORT SUBMISSION	05 DEC 12	JJT	
1	PRELIMINARY REPORT CLIENT REVIEW	30 MAR 12	JJT	

DESIGN: TRO
 REVISION: JJT
 DRAWN: JMM, TKS
 CHECKED BY: FRF
 DATE: January 15, 2021
 SCALE: AS SHOWN

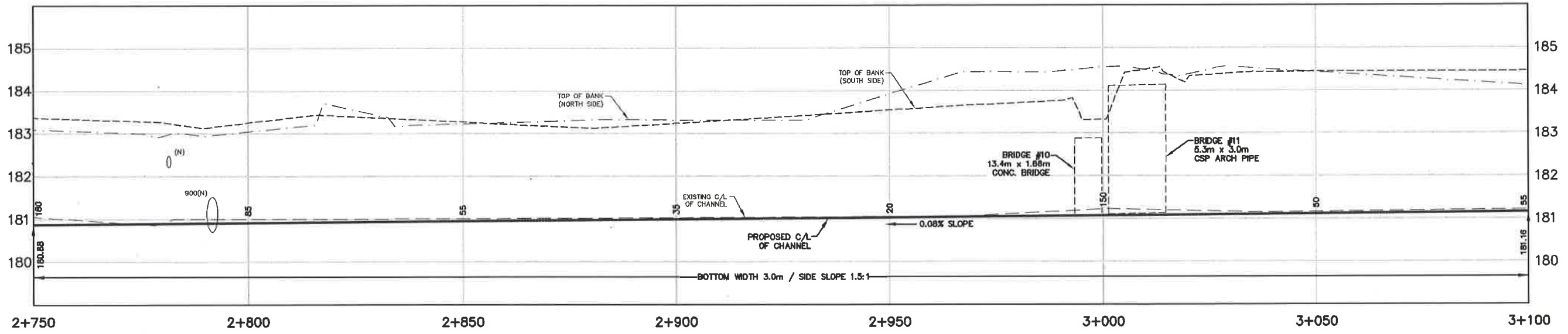
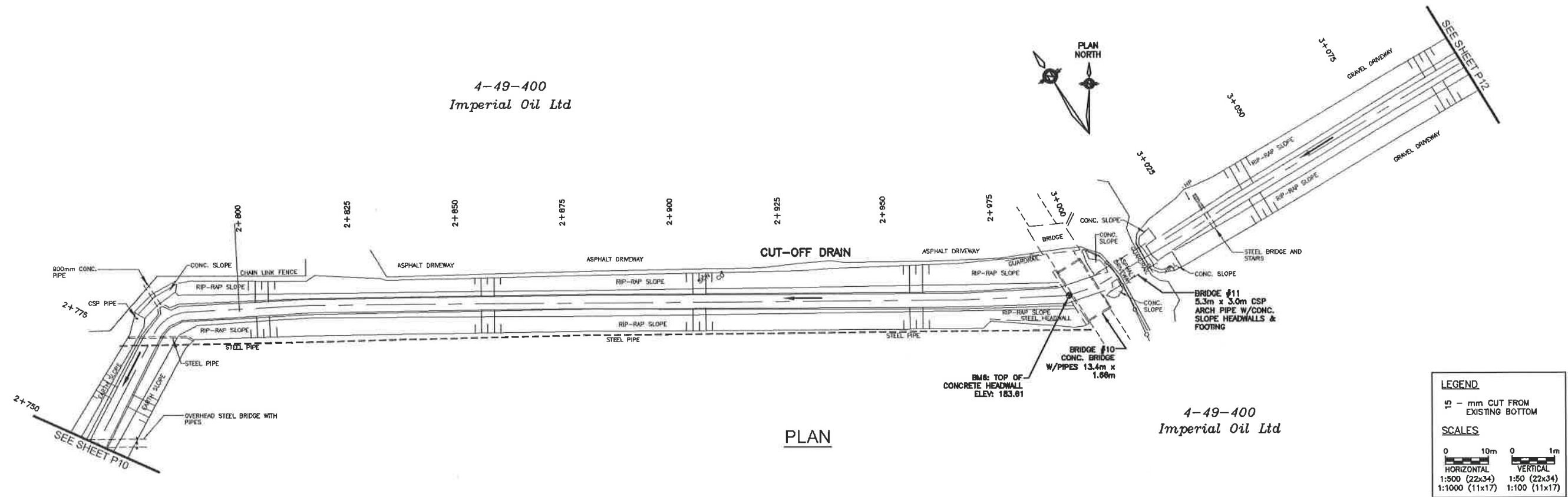
Cole Drain, Cut-Off Drain & Cole Diversion Drain Branches 'A' & 'B'
 City of Sarnia (Reconsidered Report)

**CUT-OFF DRAIN
 PLAN AND PROFILE
 FROM STA. 2+400 TO STA. 2+750**

PROJECT NO: 08-8845
 SHEET NO: 10 of 50

DILLON CONSULTING LIMITED, 16 FIFTH STREET SOUTH, CHATHAM, ONTARIO, N7M 4V4, PHONE (519) 354-7062, FAX (519) 354-2050

FILED AND THE WORKING DRAWINGS BY THE CITY OF SARNIA, ONTARIO, CANADA

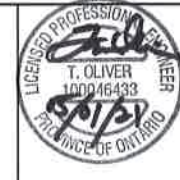


LEGEND
 □ - mm CUT FROM EXISTING BOTTOM

SCALES

0 10m 0 1m
 HORIZONTAL VERTICAL
 1:500 (22x34) 1:50 (22x34)
 1:1000 (11x17) 1:100 (11x17)

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NO.	DESCRIPTION	DATE	BY	DESIGN	REVIEWER
1	PRELIMINARY REPORT SUBMISSION	06 DEC 12	JT	TRO	JJT
2	PRELIMINARY REPORT CLIENT REVIEW	30 MAR 13	JT		FRF
3	REVISIONS TO PRELIMINARY REPORT	1 MAY 13	JT		
4	FINAL REPORT CLIENT REVIEW	11 JAN 14	JT		
5	FINAL REPORT SUBMISSION	27 FEB 14	JT		
6	DISCONSIDERED REPORT SUBMISSION	15 OCT 20	TRO		
7	FINAL REPORT SUBMISSION	15 JAN 21	TRO		

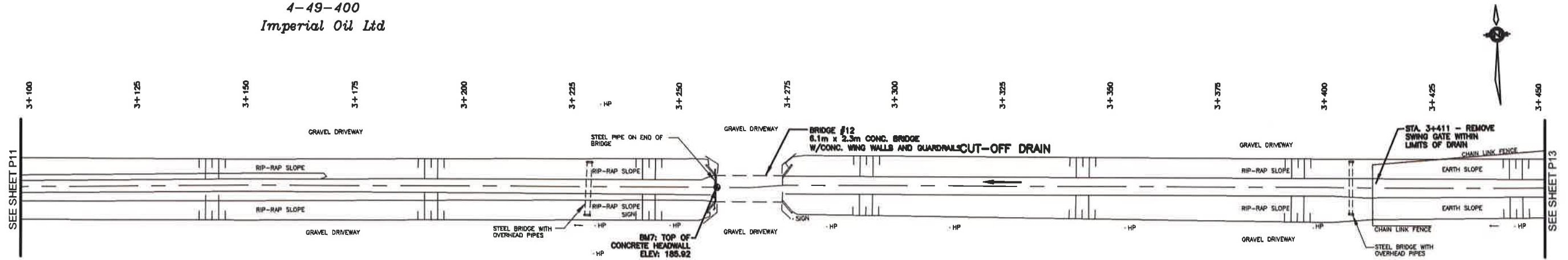
DESIGN: TRO, REVIEWER: JJT
 DRAWN: JMM, TKS, CHECKED: FRF
 DATE: January 15 2021
 SCALE: AS SHOWN

Cole Drain, Cut-Off Drain & Cole Diversion Drain Branches 'A' & 'B'
 City of Sarnia (Reconsidered Report)

**CUT-OFF DRAIN
 PLAN AND PROFILE
 FROM STA. 2+750 TO STA. 3+100**

PROJECT NO. 08-8845
 SHEET NO. 11 of 50

4-49-400
Imperial Oil Ltd



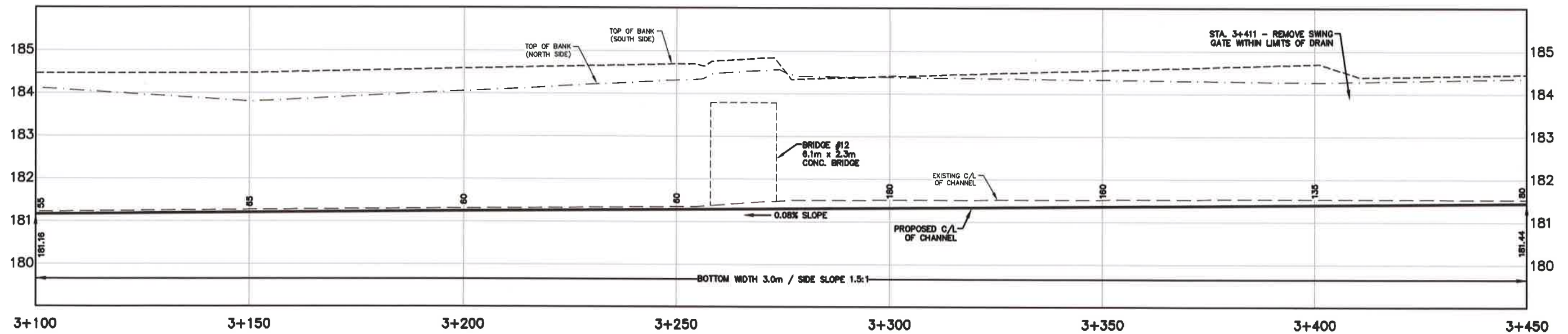
PLAN

4-49-400
Imperial Oil Ltd

LEGEND
 □ - mm CUT FROM EXISTING BOTTOM

SCALES

0	10m	0	1m
HORIZONTAL		VERTICAL	
1:500 (22x34)		1:50 (22x34)	
1:1000 (11x17)		1:100 (11x17)	



PROFILE

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3	FINAL REPORT CLIENT REVIEW	11 JAN 18	JJT	January 15, 2021
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1	PRELIMINARY REPORT CLIENT REVIEW	30 MAR 12	JJT	AS SHOWN

Cole Drain, Cut-Off Drain & Cole Diversion Drain Branches 'A' & 'B'
City of Sarnia (Reconsidered Report)

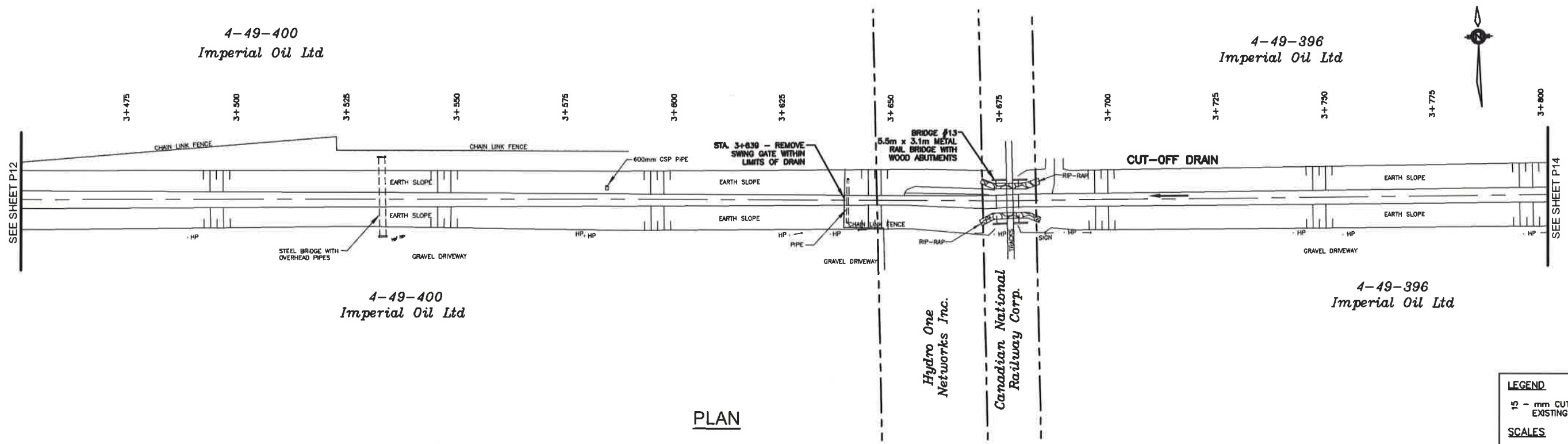
**CUT-OFF DRAIN
PLAN AND PROFILE
FROM STA. 3+100 TO STA. 3+450**

PROJECT NO
08-8845

SHEET NO
12 of 50

DILLON CONSULTING LIMITED, 10 FIFTH STREET SOUTH, CHATHAM, ONTARIO, N7M 4W4, PHONE (519) 354-7862, FAX (519) 354-9280

Professional Engineer Registration No. 20120, License No. 100046433, P. Eng. T. Gliver

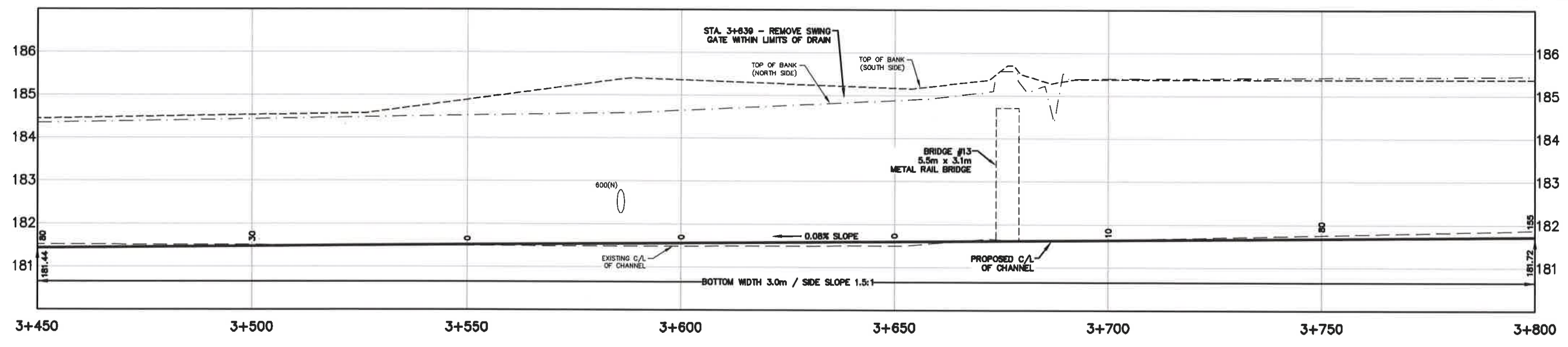


PLAN

LEGEND
 12 - mm CUT FROM EXISTING BOTTOM

SCALES

0	10m	0	1m
HORIZONTAL		VERTICAL	
1:500 (22x34)		1:50 (22x34)	
1:1000 (11x17)		1:100 (11x17)	



PROFILE

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2	PRELIMINARY REPORT SUBMISSION	06 DEC 12	JJT
1	PRELIMINARY REPORT CLIENT REVIEW	30 MAR 12	JJT

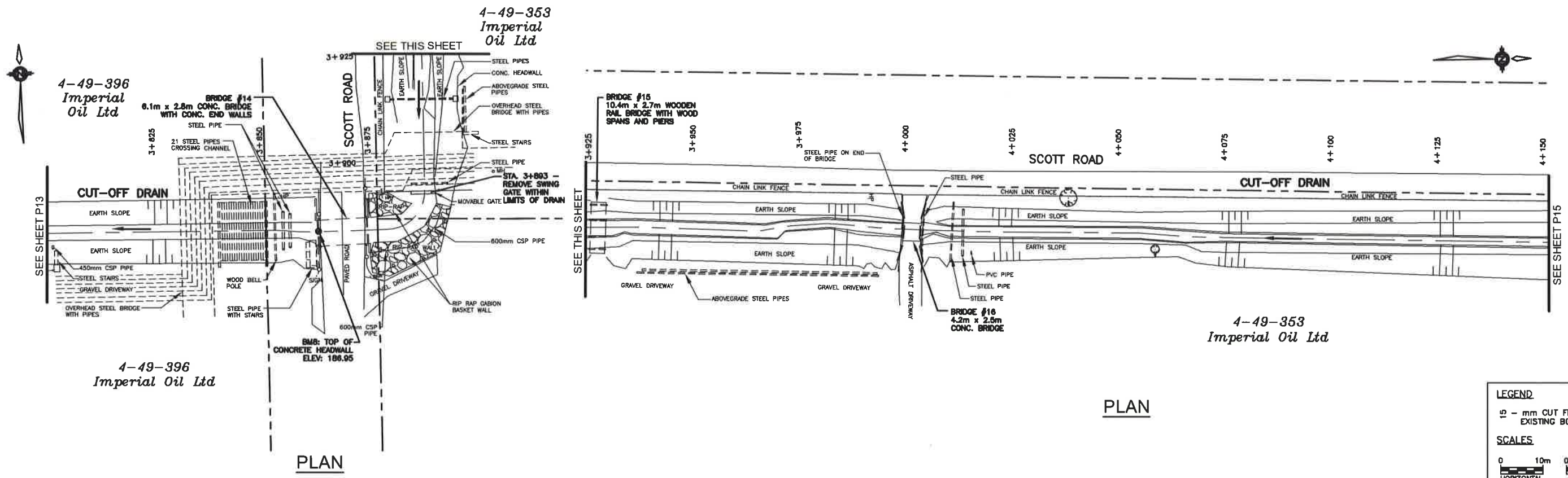
DESIGN	TRO	REVIEWED BY	JJT
DRAWN	JMM, TKS	CHECKED BY	FRF
DATE	January 15, 2021		
SCALE	AS SHOWN		

Cole Drain, Cut-Off Drain & Cole Diversion Drain Branches 'A' & 'B'
 City of Sarnia (Reconsidered Report)

**CUT-OFF DRAIN
 PLAN AND PROFILE
 FROM STA. 3+450 TO STA. 3+800**

PROJECT NO: 08-8845
 SHEET NO: 13 of 50

DILLON CONSULTING LIMITED, 10 FIFTH STREET SOUTH, CHATHAM, ONTARIO, CANADA, N7M 4W4, PHONE (519) 354-7802, FAX (519) 354-2850



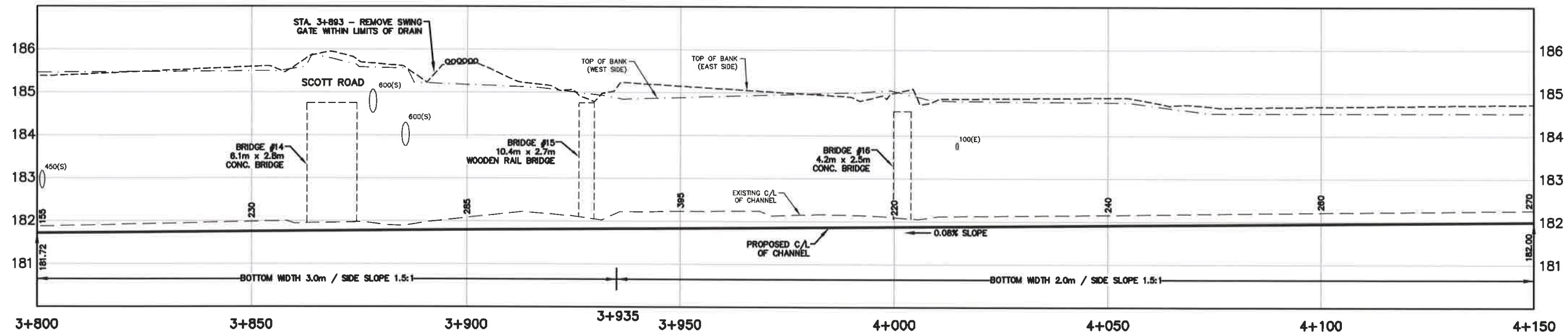
PLAN

PLAN

LEGEND
 Ⓢ - mm CUT FROM EXISTING BOTTOM

SCALES

0 10m 0	0 1m
HORIZONTAL	VERTICAL
1:500 (22x34)	1:50 (22x34)
1:1000 (11x17)	1:100 (11x17)



PROFILE

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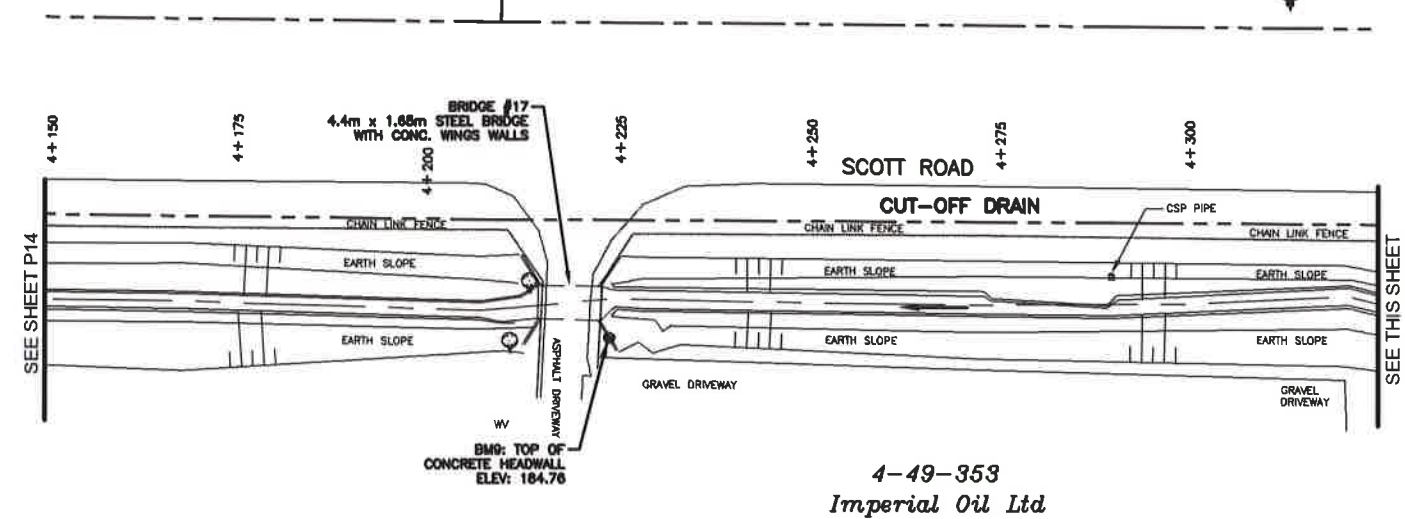
NO.	ISSUED FOR	DATE	BY	DESIGN	REVIEWED BY
7	FINAL RECONSIDERED REPORT SUBMISSION	15 JAN 21	TRO	TRO	JJT
6	RECONSIDERED REPORT SUBMISSION	15 OCT 20	TRO	JMM, TKS	FRF
5	FINAL REPORT FOR SUBMISSION	27 JUN 19	TRO		
4	REVISED FINAL REPORT CLIENT REVIEW	1 MAY 19	TRO		
3	FINAL REPORT CLIENT REVIEW	11 JAN 19	JJT		
2	PRELIMINARY REPORT SUBMISSION	08 DEC 12	JJT		
1	PRELIMINARY REPORT CLIENT REVIEW	30 MAR 12	JJT		
NO.	ISSUED FOR	DATE	BY	SCALE	AS SHOWN

Cole Drain, Cut-Off Drain & Cole Diversion Drain Branches 'A' & 'B'
 City of Sarnia (Reconsidered Report)

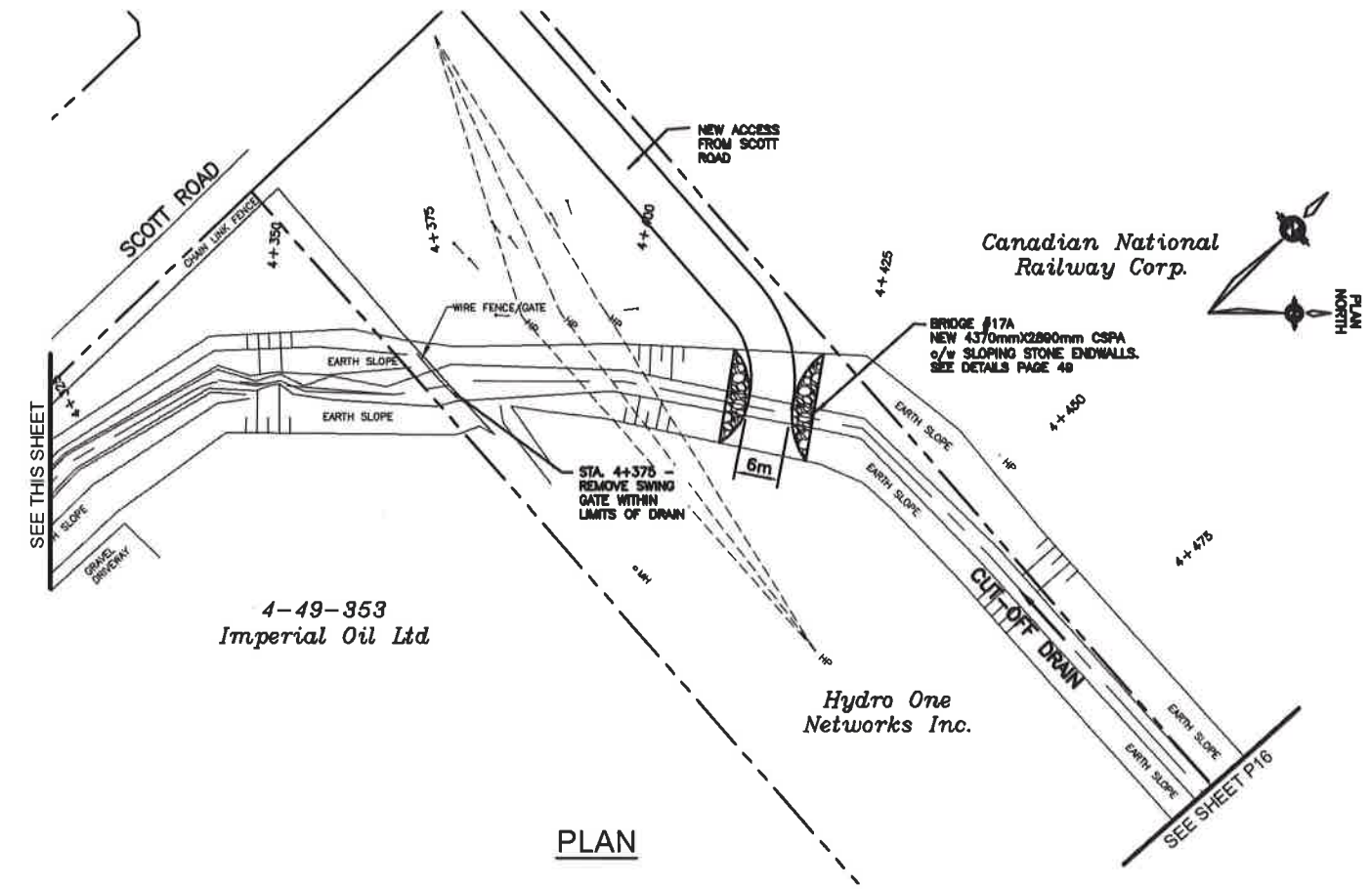
**CUT-OFF DRAIN
 PLAN AND PROFILE
 FROM STA. 3+800 TO STA. 4+150**

PROJECT NO: 08-8845
 SHEET NO: 14 of 50

DILLON CONSULTING LIMITED, 10 FIFTH STREET SOUTH, CHATHAM, ONTARIO, N7M 4V4, PHONE (519) 354-7002, FAX (519) 354-2856



PLAN

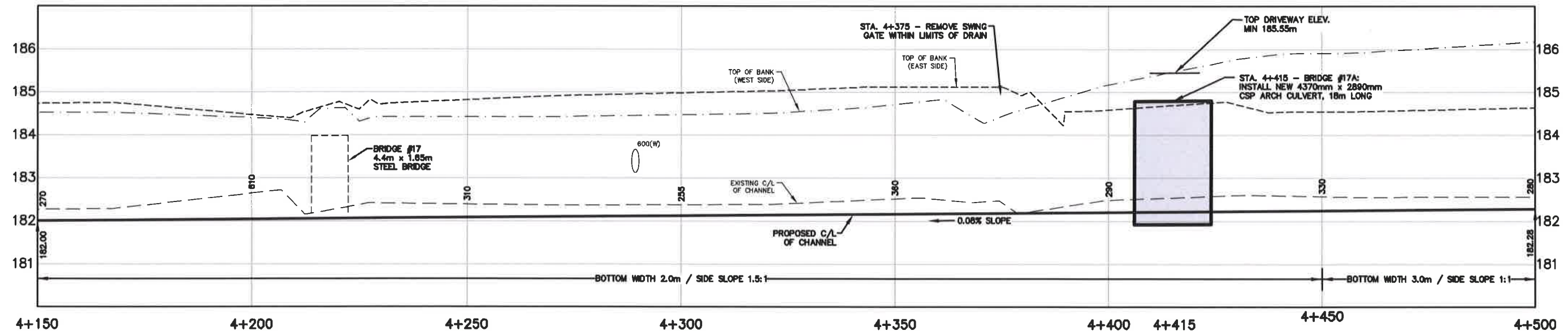


PLAN

LEGEND
 15 - mm CUT FROM EXISTING BOTTOM

SCALES

0 10m	0 1m
HORIZONTAL	VERTICAL
1:500 (22x34)	1:50 (22x34)
1:1000 (11x17)	1:100 (11x17)



PROFILE

Conditions of Use
 Verify elevations and/or dimensions on drawing prior to use. Report any discrepancies to Dillon Consulting Limited.
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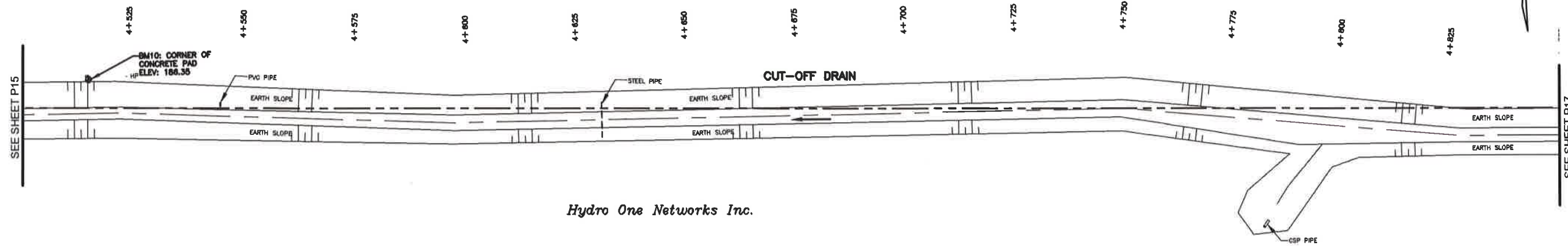
NO.	DESCRIPTION	DATE	BY	SCALE
7	FINAL RECONSIDERED REPORT SUBMISSION	15 JAN 21	TRO	
8	RECONSIDERED REPORT SUBMISSION	25 OCT 20	TRO	
5	FINAL REPORT SUBMISSION	27 JUN 19	TRO	
4	REVISED FINAL REPORT CLIENT REVIEW	1 MAY 19	TRO	
3	FINAL REPORT CLIENT REVIEW	11 JAN 18	JJT	January 15, 2021
2	PRELIMINARY REPORT SUBMISSION	06 DEC 12	JJT	
1	PRELIMINARY REPORT CLIENT REVIEW	30 MAR 12	JJT	
01	ISSUED FOR			AS SHOWN

DESIGNER: TRO	REVIEWER: JJT	PROJECT: Cole Drain, Cut-Off Drain & Cole Diversion Drain Branches 'A' & 'B' City of Sarnia (Reconsidered Report)	PROJECT NO: 08-8845
DRAWN: JMM, TKS	CHECKED: FRF		
CUT-OFF DRAIN PLAN AND PROFILE FROM STA. 4+150 TO STA. 4+500		SHEET NO: 15 of 50	

DILLON CONSULTING LIMITED, 10 FIFTH STREET SOUTH, CHATHAM, ONTARIO, N7M 4V4, PHONE (519) 354-7802, FAX (519) 354-2650

Canadian National Railway Corp.

Hydro One Networks Inc.

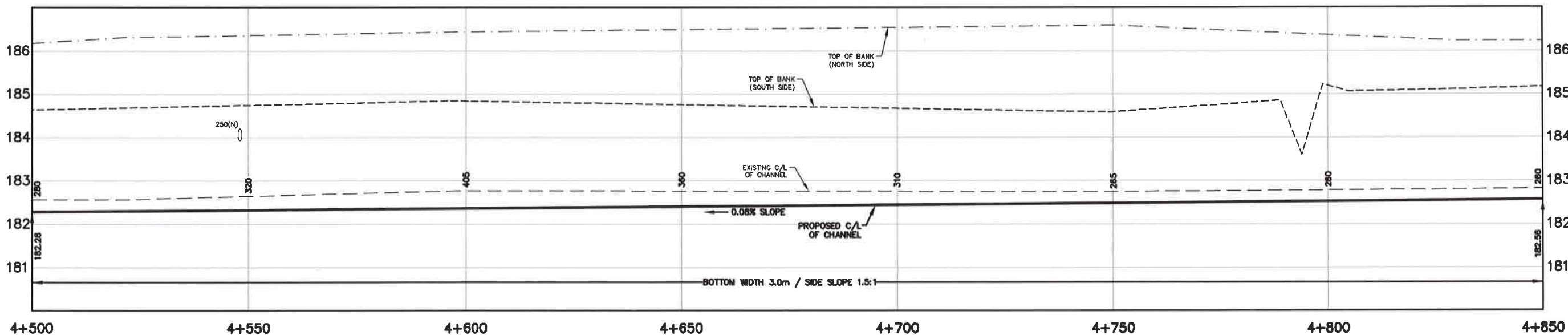


PLAN

LEGEND
 1/2 - mm CUT FROM EXISTING BOTTOM

SCALES

0 10m 0 1m
 HORIZONTAL VERTICAL
 1:500 (22x34) 1:50 (22x34)
 1:1000 (11x17) 1:100 (11x17)



PROFILE

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NO	ISSUED FOR	DATE	BY	DESIGN	REVIEWED BY
7	FINAL RECONSIDERED REPORT SUBMISSION	15 JAN 21	TRO	TRO	JJT
8	RECONSIDERED REPORT SUBMISSION	15 OCT 20	TRO	JMM, TKS	FRF
5	FINAL REPORT SUBMISSION	27 APR 19	TRO		
4	REVISED FINAL REPORT CLIENT REVIEW	1 MAY 19	TRO		
3	FINAL REPORT CLIENT REVIEW	11 JAN 18	JJT		January 15, 2021
2	PRELIMINARY REPORT SUBMISSION	08 DEC 12	JJT		
1	PRELIMINARY REPORT CLIENT REVIEW	20 MAR 12	JJT		
	ISSUED FOR	DATE	BY	SCALE	AS SHOWN

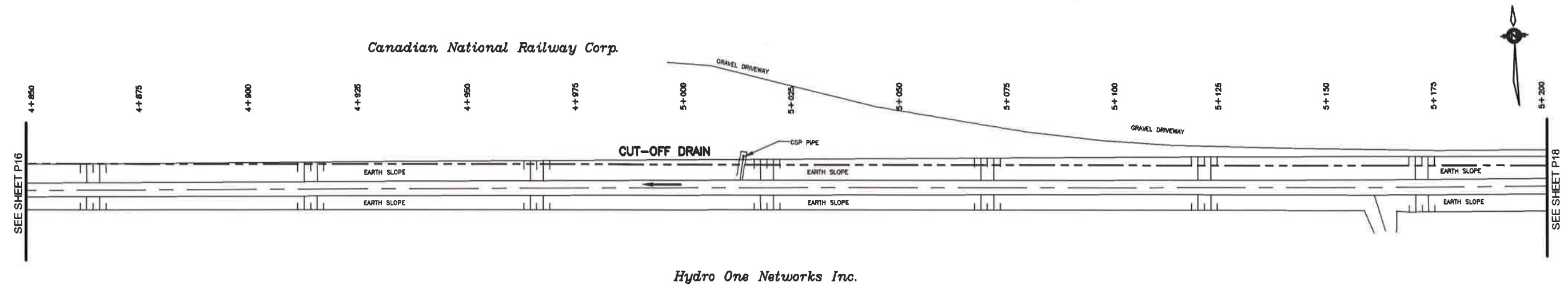
Cole Drain, Cut-Off Drain & Cole Diversion Drain Branches 'A' & 'B'
 City of Sarnia (Reconsidered Report)

**CUT-OFF DRAIN
 PLAN AND PROFILE
 FROM STA. 4+500 TO STA. 4+850**

PROJECT NO: 08-8845
 SHEET NO: 16 of 50

DILLON CONSULTING LIMITED, 10 FIFTH STREET SOUTH, CHATHAM, ONTARIO, N7M 4V4, PHONE (519) 354-7800, FAX (519) 354-2050

Professional Engineer Registration No. 20177, T. Oliver, 100066433, 15/01/21

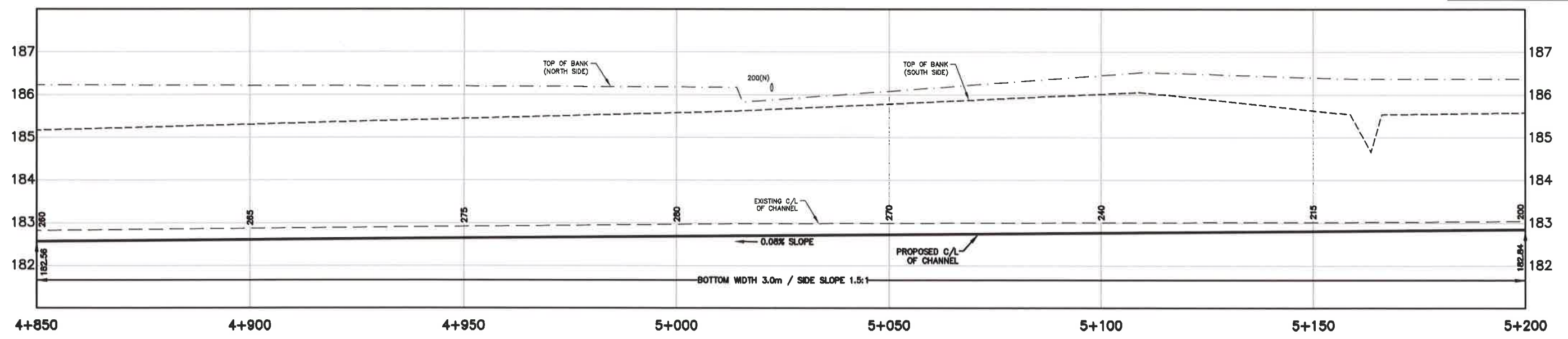


PLAN

LEGEND
 15 - mm CUT FROM EXISTING BOTTOM

SCALES

0	10m	0	1m
HORIZONTAL		VERTICAL	
1:800 (22x34)	1:50 (22x34)	1:100 (11x17)	1:100 (11x17)



PROFILE

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 Verify elevations and/or dimensions on drawing prior to use. Report any discrepancies to Dillon Consulting Limited.
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No.	DESCRIPTION	DATE	BY
7	FINAL RECONSIDERED REPORT SUBMISSION	15 JAN 21	TRO
6	RECONSIDERED REPORT SUBMISSION	15 OCT 20	TRO
5	FINAL REPORT RE-SUBMISSION	27 JUN 19	TRO
4	REVISED FINAL REPORT CLIENT REVIEW	1 MAY 19	TRO
3	FINAL REPORT CLIENT REVIEW	11 JAN 18	JJT
2	PRELIMINARY REPORT SUBMISSION	06 DEC 12	JJT
1	PRELIMINARY REPORT CLIENT REVIEW	20 MAR 12	JJT

DESIGN	TRO	REVIEWED BY	JJT
DRAWN	JMM, TKS	CHECKED BY	FRF
DATE	January 15, 2021		
SCALE	AS SHOWN		

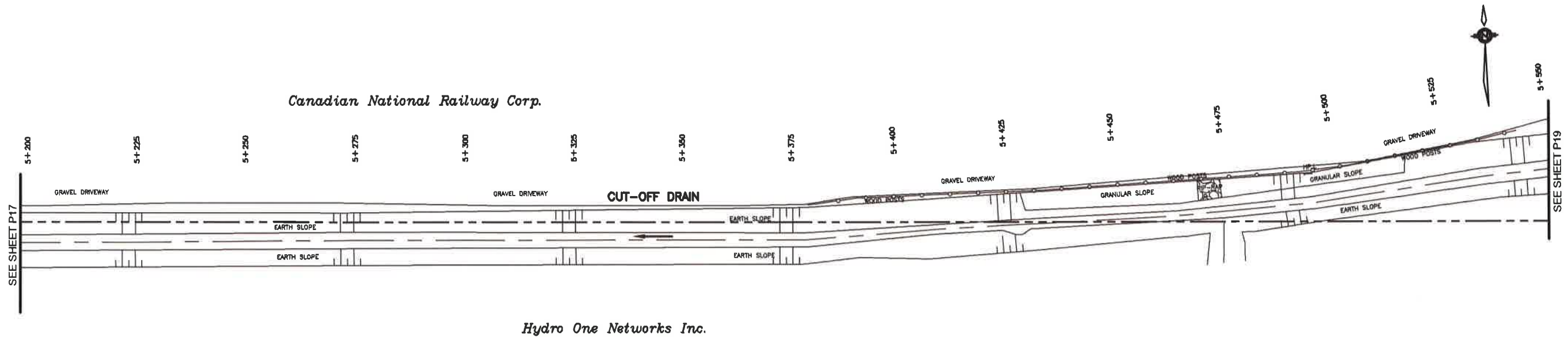
Cole Drain, Cut-Off Drain & Cole Diversion Drain Branches 'A' & 'B'
 City of Sarnia (Reconsidered Report)

**CUT-OFF DRAIN
 PLAN AND PROFILE
 FROM STA. 4+850 TO STA. 5+200**

PROJECT NO: 08-8845
 SHEET NO: 17 of 50

DILLON CONSULTING LIMITED, 10 FIFTH STREET SOUTH, CHATHAM, ONTARIO, N7M 4Y4, PHONE (519) 354-7882, FAX (519) 354-2559

Dillon Consulting Limited, 10 Fifth Street South, Chatham, Ontario, N7M 4Y4, Phone (519) 354-7882, Fax (519) 354-2559



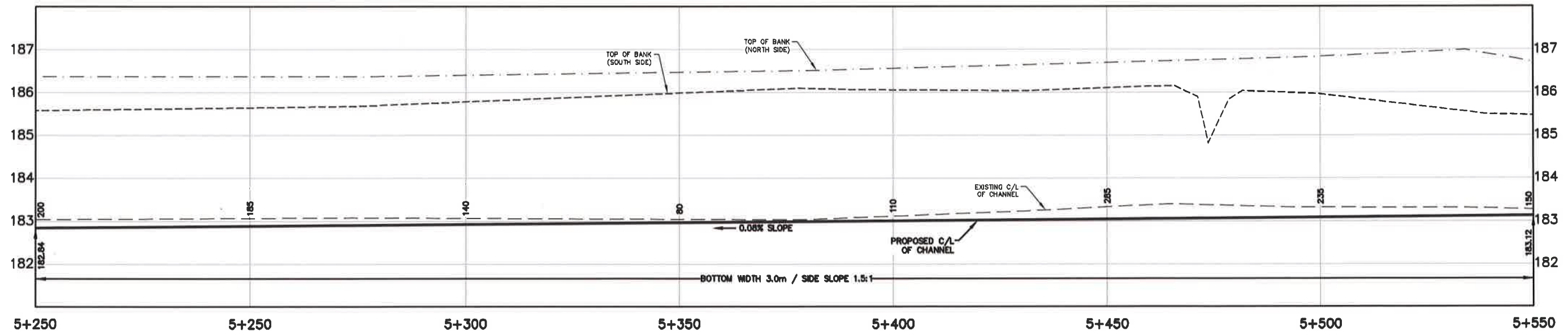
Hydro One Networks Inc.

PLAN

LEGEND
 15 - mm CUT FROM EXISTING BOTTOM

SCALES

HORIZONTAL: 1:500 (22x34), 1:1000 (11x17)
 VERTICAL: 1:50 (22x34), 1:100 (11x17)



PROFILE

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NO	ISSUED FOR	DATE	BY	DESIGN	REVIEWED BY
1	PRELIMINARY REPORT CLIENT REVIEW	30 MAR 12	JJT	TRO	JJT
2	PRELIMINARY REPORT SUBMISSION	06 DEC 12	JJT	JMM, TKS	FRF
3	FINAL REPORT CLIENT REVIEW	11 JAN 16	JJT		
4	REVISED FINAL REPORT CLIENT REVIEW	1 MAY 19	TRO		
5	FINAL REPORT RE SUBMISSION	27 APR 19	TRO		
6	RECONSIDERED REPORT SUBMISSION	15 OCT 20	TRO		
7	FINAL RECONSIDERED REPORT SUBMISSION	13 JAN 21	TRO		

DATE: January 15, 2021
 SCALE: AS SHOWN

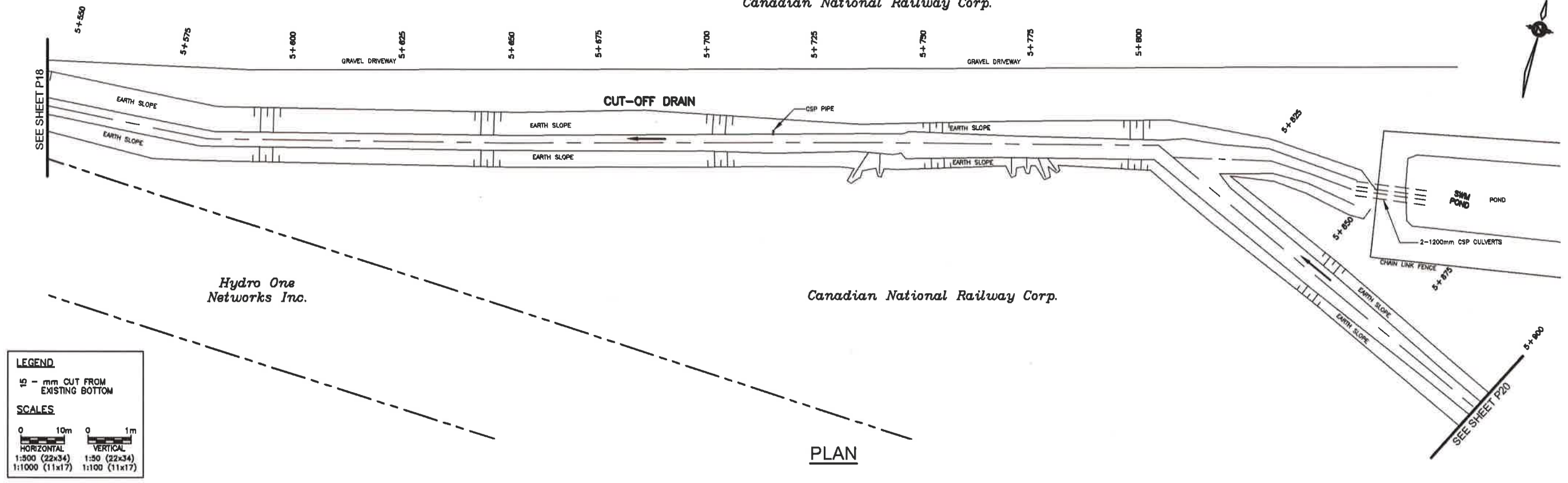
Cole Drain, Cut-Off Drain & Cole Diversion Drain Branches 'A' & 'B'
 City of Sarnia (Reconsidered Report)

**CUT-OFF DRAIN
 PLAN AND PROFILE
 FROM STA. 5+200 TO STA. 5+550**

PROJECT NO: 08-8845
 SHEET NO: 18 of 50

DILLON CONSULTING LIMITED, 40 FIFTH STREET SOUTH, CHATHAM, ONTARIO, CANADA N7M 4Y4. PHONE (519) 354-7862, FAX (519) 354-2859

Canadian National Railway Corp.

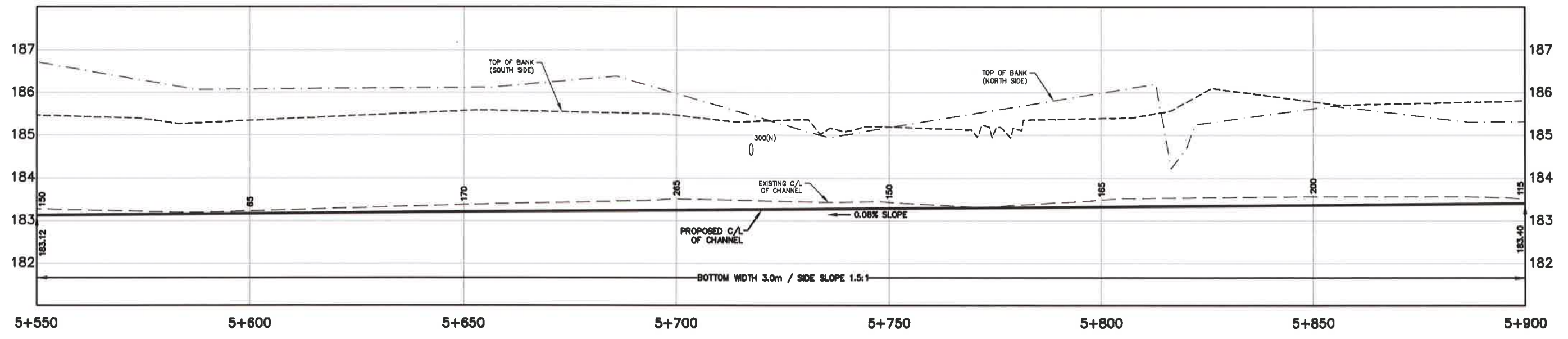


LEGEND
 15 - mm CUT FROM EXISTING BOTTOM

SCALES

0 10m	0 1m
HORIZONTAL	VERTICAL
1:500 (22x34)	1:50 (22x34)
1:1000 (11x17)	1:100 (11x17)

PLAN



PROFILE

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NO.	ISSUED FOR	DATE	BY
7	FINAL RECONSIDERED REPORT SUBMISSION	15 JAN 21	TRO
6	RECONSIDERED REPORT SUBMISSION	25 OCT 20	TRO
5	FINAL REPORT SUBMISSION	27 JUNE 19	TRO
4	REVISED FINAL REPORT CLIENT REVIEW	1 MAY 19	TRO
3	FINAL REPORT CLIENT REVIEW	11 JAN 18	JJT
2	PRELIMINARY REPORT SUBMISSION	06 DEC 12	JJT
1	PRELIMINARY REPORT CLIENT REVIEW	30 MAR 12	JJT

DESIGN	TRO	REVIEWED BY	JJT
DRAWN	JMM, TKS	CHECKED BY	FRF
DATE	January 15, 2021		
SCALE	AS SHOWN		

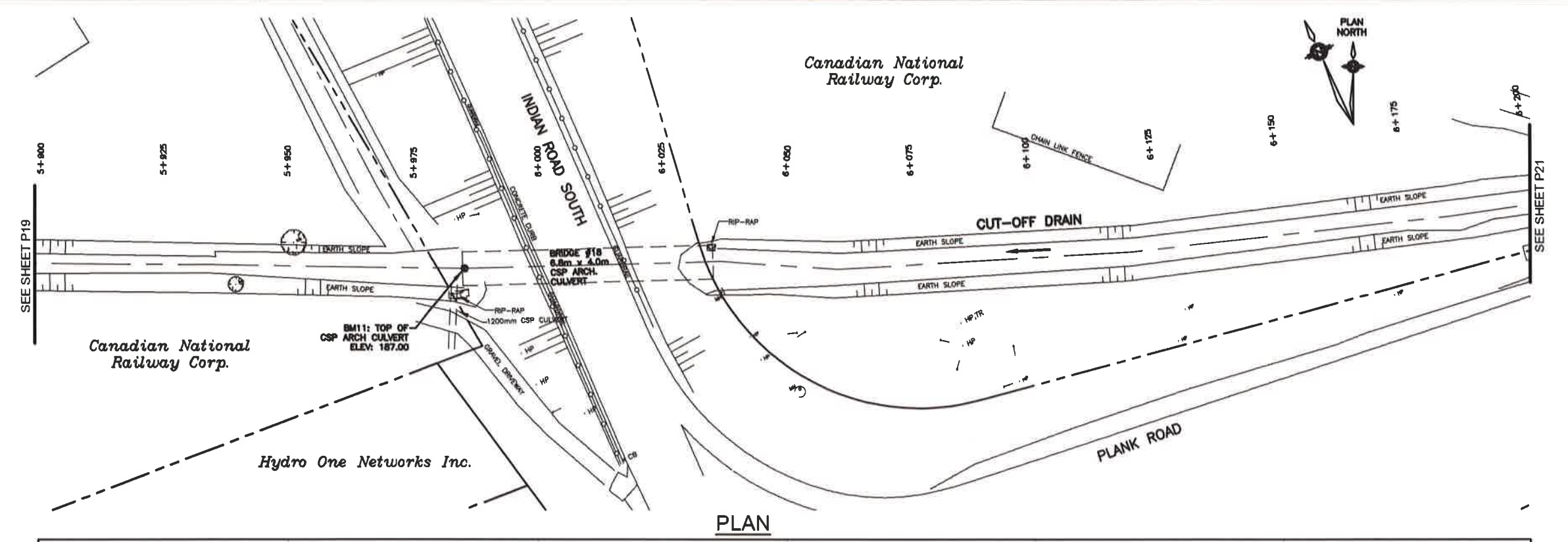
Cole Drain, Cut-Off Drain & Cole Diversion Drain Branches 'A' & 'B'
 City of Sarnia (Reconsidered Report)

**CUT-OFF DRAIN
 PLAN AND PROFILE
 FROM STA. 5+550 TO STA. 5+900**

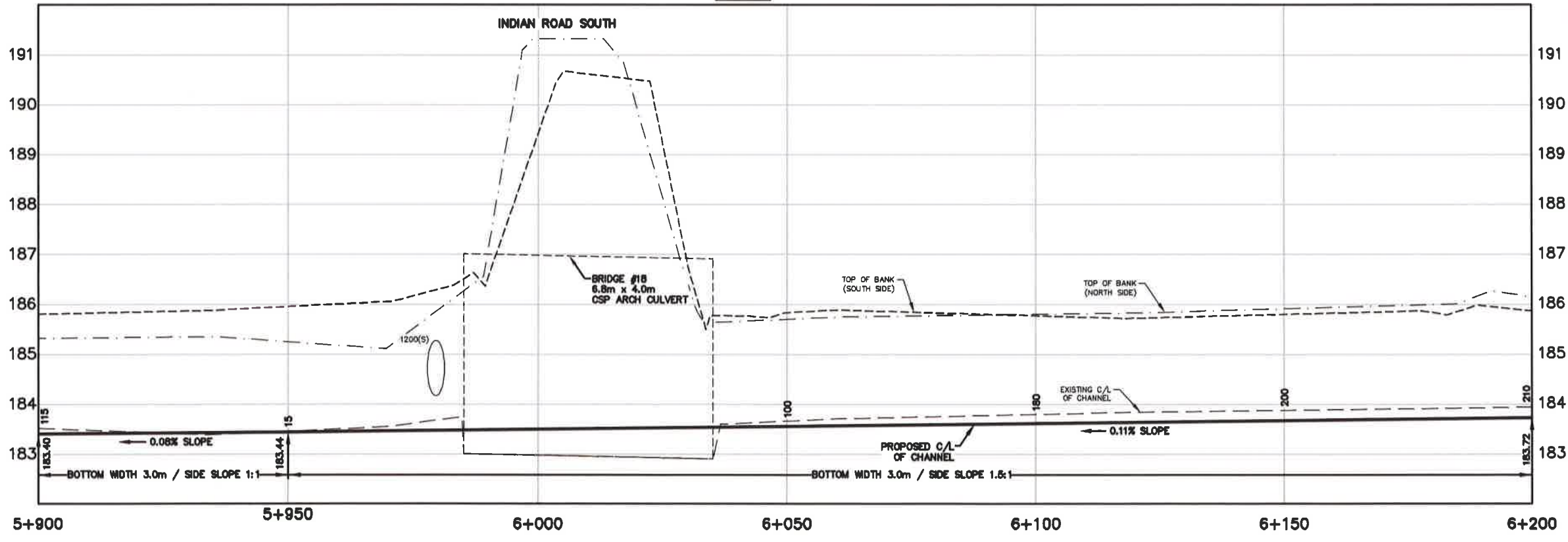
PROJECT NO: 08-8845
 SHEET NO: 19 of 50

DILLON CONSULTING LIMITED, 10 FIFTH STREET SOUTH, CHATHAM, ONTARIO, N7M 4M4, PHONE (519) 354-7802, FAX (519) 354-2059

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PLAN



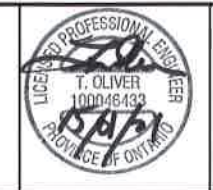
PROFILE

LEGEND
 15 - mm CUT FROM EXISTING BOTTOM

SCALES

0	10m	0	1m
HORIZONTAL		VERTICAL	
1:500 (22x34)		1:50 (22x34)	
1:1000 (11x17)		1:100 (11x17)	

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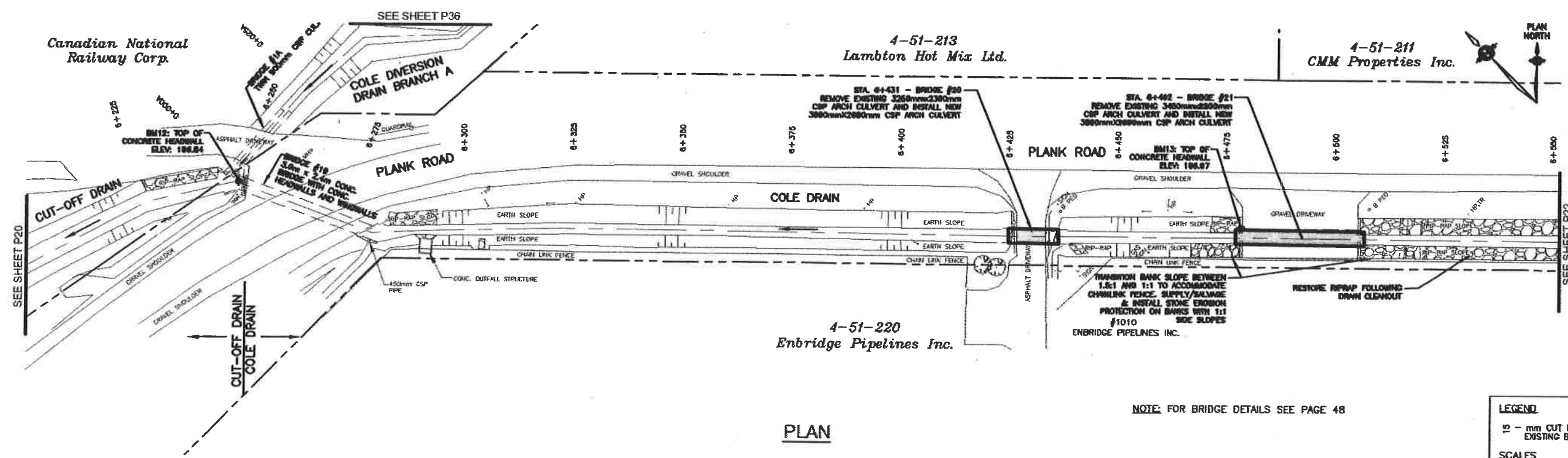
NO.	REVISION	DATE	BY	CHKD.	DATE	BY
7	FINAL RECONSIDERED REPORT SUBMISSION	15 JAN 21	TRO	JJT		
6	RECONSIDERED REPORT SUBMISSION	15 OCT 20	TRO	JJT		
5	FINAL REPORT RESUBMISSION	27 JUNE 19	TRO	JJT		
4	REVISED FINAL REPORT CLIENT REVIEW	1 MAY 19	TRO	JJT		
3	FINAL REPORT CLIENT REVIEW	31 JAN 19	JJT			
2	PRELIMINARY REPORT SUBMISSION	06 DEC 12	JJT			
1	PRELIMINARY REPORT CLIENT REVIEW	20 MAR 12	JJT			

DESIGN: TRO
 DRAWN: JMM, TKS
 CHECKED BY: FRF
 DATE: January 15, 2021
 SCALE: AS SHOWN

Cole Drain, Cut-Off Drain & Cole Diversion Drain Branches 'A' & 'B'
 City of Sarnia (Reconsidered Report)

**CUT-OFF DRAIN
 PLAN AND PROFILE
 FROM STA. 5+900 TO STA. 6+200**

PROJECT NO: 08-8845
 SHEET NO: 20 of 50



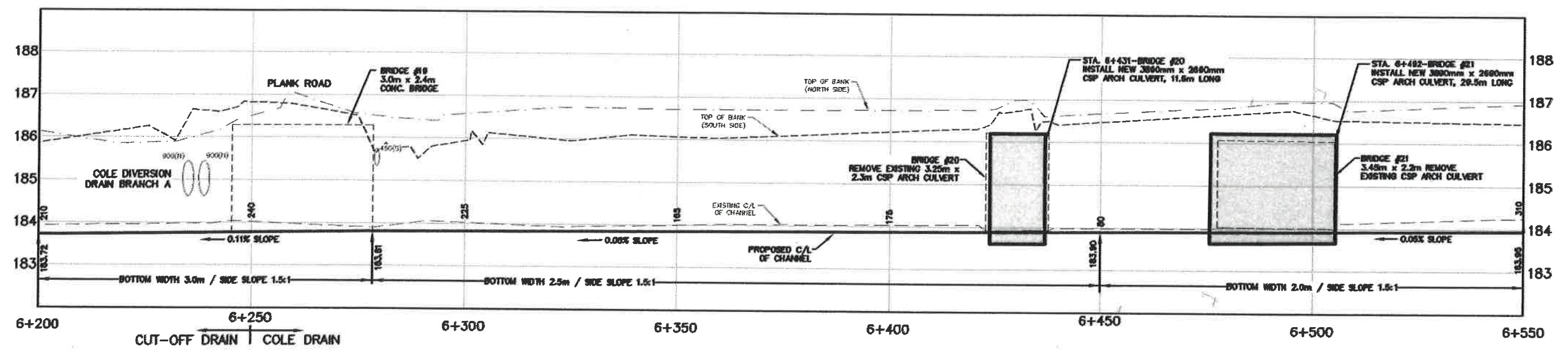
PLAN

NOTE: FOR BRIDGE DETAILS SEE PAGE 48

LEGEND
 1" = mm CUT FROM EXISTING BOTTOM

SCALES

0 10m 0 1km	0 1m
HORIZONTAL	VERTICAL
1:500 (22x34)	1:50 (22x34)
1:1000 (11x17)	1:100 (11x17)

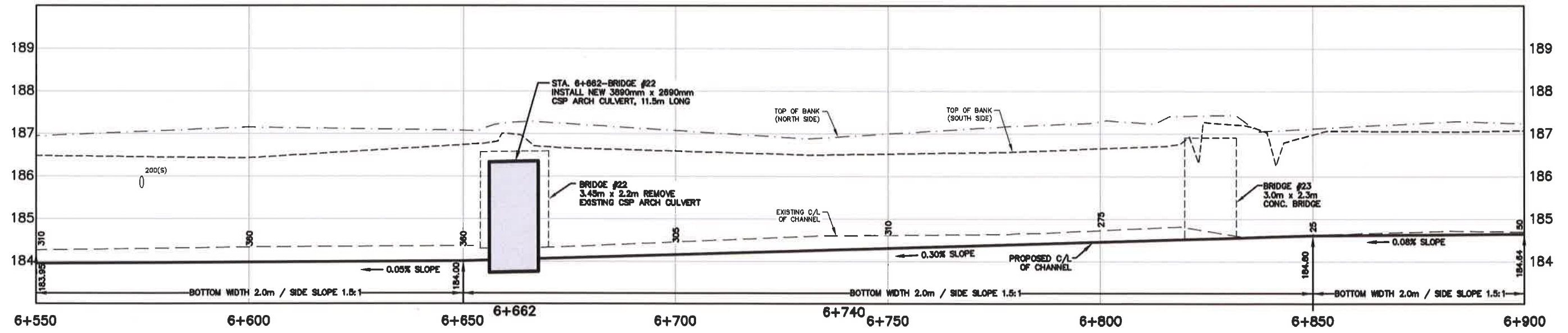
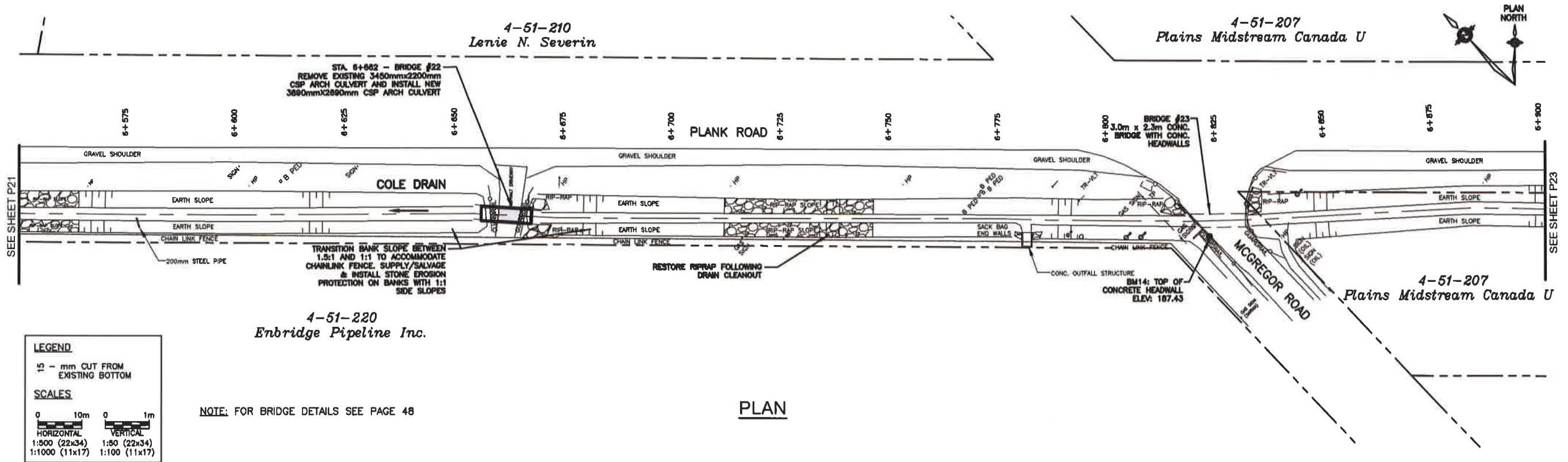


PROFILE

DILLON CONSULTING LIMITED, 10 FIFTH STREET SOUTH, CHATHAM, ONTARIO, N7M 4Y4, PHONE (519) 354-7802, FAX (519) 354-2050

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			NO.	DESCRIPTION	DATE	BY	CHECKED BY																																																				
1	FINAL RECONSIDERED REPORT SUBMISSION	15 JAN 21	TRC	JIT																																																							
2	RECONSIDERED REPORT SUBMISSION	15 OCT 20	TRC	JIT																																																							
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5	FINAL REPORT CLIENT REVIEW	11 JAN 19	JIT	JIT																																																							
6	PRELIMINARY REPORT SUBMISSION	08 DEC 17	JIT	JIT																																																							
7	PRELIMINARY REPORT CLIENT REVIEW	25 MAR 17	JIT	JIT																																																							
8	REPORT	04 FEB 17	JIT	JIT																																																							
DESIGN	TRC																																																										
CLIENT REVIEW	JIT																																																										
DATE	January 15, 2021																																																										
BY	AS SHOWN																																																										

DILLON CONSULTING LIMITED, 10 FIFTH STREET SOUTH, CHATHAM, ONTARIO, CANADA, PHONE (519) 354-7862, FAX (519) 354-2050



PROFILE

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NO.	DESCRIPTION	DATE	BY	REVIEWED BY
7	FINAL RECONSIDERED REPORT SUBMISSION	15 JAN 21	TRO	JJT
6	RECONSIDERED REPORT SUBMISSION	15 OCT 20	TRO	JJM, TKS
5	FINAL REPORT RE-SUBMISSION	27 JUNE 19	TRO	FRF
4	REVISED FINAL REPORT CLIENT REVIEW	11 MAY 19	TRO	
3	FINAL REPORT CLIENT REVIEW	11 JAN 19	JJT	January 15, 2021
2	PRELIMINARY REPORT SUBMISSION	08 DEC 12	JJT	
1	PRELIMINARY REPORT CLIENT REVIEW	30 MAR 12	JJT	

Cole Drain, Cut-Off Drain & Cole Diversion Drain Branches 'A' & 'B'
 City of Sarnia (Reconsidered Report)

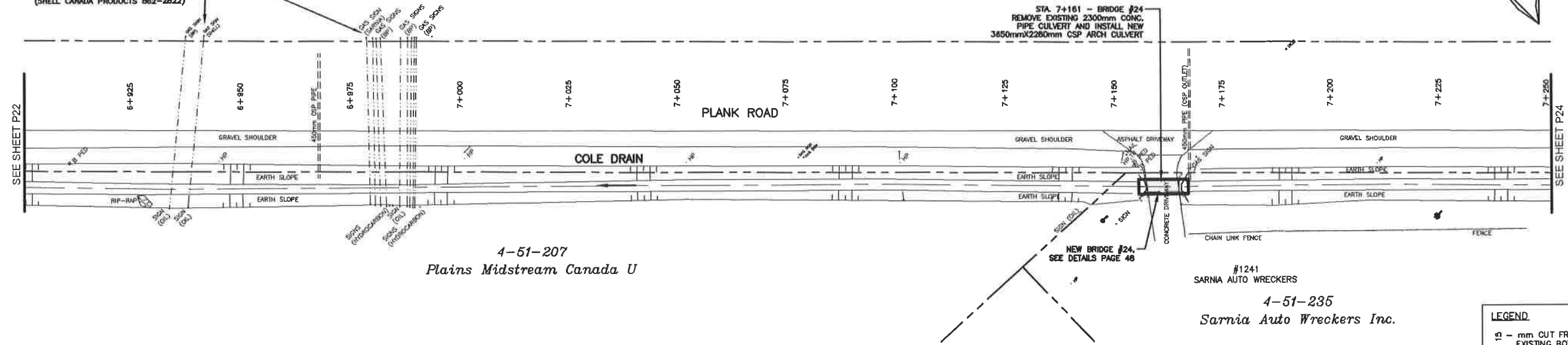
**COLE DRAIN
 PLAN AND PROFILE
 FROM STA. 6+550 TO STA. 6+900**

PROJECT NO: 08-8845
 SHEET NO: 22 of 50

DILLON CONSULTING LIMITED, 10 FIFTH STREET SOUTH, CHATHAM, ONTARIO, N7M 4V4, PHONE (519) 354-7862, FAX (519) 354-2656

EXISTING UTILITY LINES. LOCATE PRIOR TO WORKING IN THIS AREA.
(BP CANADA 1-800-265-1423)
(SARNIA PRODUCTS 1-800-372-8697)
(SHELL CANADA PRODUCTS 862-2822)

4-51-207
Plains Midstream Canada U



4-51-207
Plains Midstream Canada U

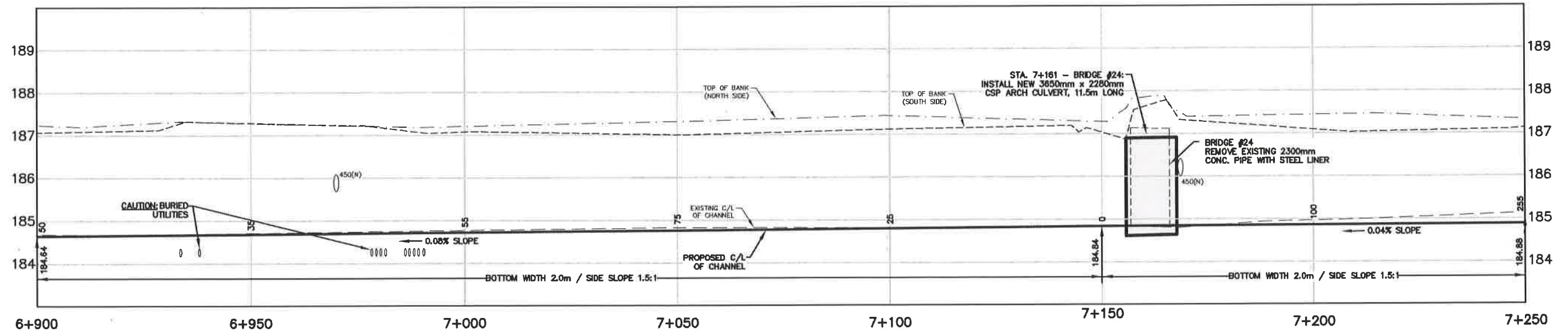
PLAN

NOTE: FOR BRIDGE DETAILS SEE PAGE 48

LEGEND
 - mm CUT FROM EXISTING BOTTOM

SCALES

0 10m	0 1m
HORIZONTAL 1:500 (22x34)	VERTICAL 1:50 (22x34)
1:1000 (11x17)	1:100 (11x17)



PROFILE

Conditions of Use

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NO.	DESCRIPTION	DATE	BY	CHKD.	SCALE
1	PRELIMINARY REPORT SUBMISSION	13 JAN 21	JKJ		
2	FINAL REPORT SUBMISSION	15 OCT 20	JKJ		
3	FINAL REPORT SUBMISSION	27 MAR 18	JKJ		
4	REVISED FINAL REPORT CLIENT REVIEW	13 MAY 18	JKJ		
5	FINAL REPORT CLIENT REVIEW	11 JAN 18	JKJ		
6	PRELIMINARY REPORT SUBMISSION	16 DEC 12	JKJ		
7	PRELIMINARY REPORT CLIENT REVIEW	30 MAR 12	JKJ		
8	PRELIMINARY REPORT SUBMISSION	18 OCT 11	JKJ		

Cole Drain, Cut-Off Drain & Cole Diversion Drain Branches 'A' & 'B'
City of Sarnia (Reconsidered Report)

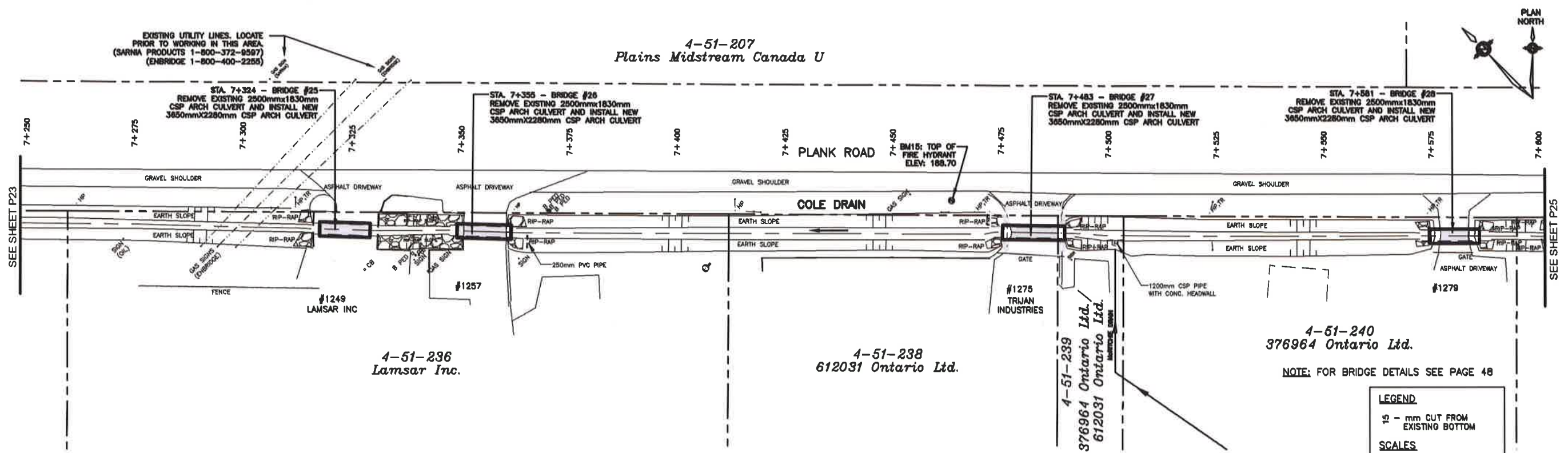
PROJECT NO:
08-8845

**COLE DRAIN
PLAN AND PROFILE
FROM STA. 6+900 TO STA. 7+250**

SHEET NO:
23 of 50

DILLON CONSULTING LIMITED, 10 FIFTH STREET SOUTH, CHATHAM, ONTARIO, N7M 4V4, PHONE (519) 354-7802, FAX (519) 354-2059

4-51-207
Plains Midstream Canada U

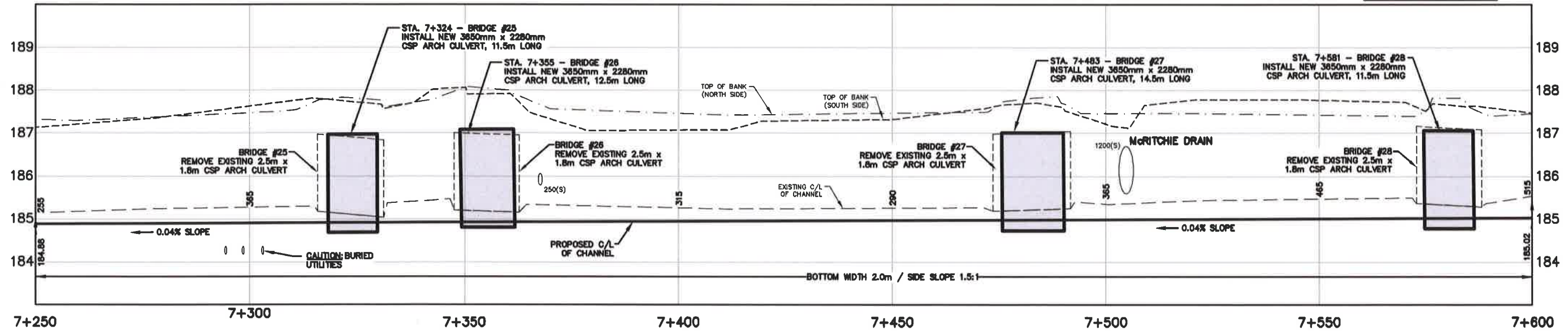


PLAN

LEGEND
15 - mm CUT FROM EXISTING BOTTOM

SCALES

0 10m 0 1m	0 1m 0 1m
HORIZONTAL	VERTICAL
1:500 (22x34)	1:50 (22x34)
1:1000 (11x17)	1:100 (11x17)



PROFILE

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NO.	REVISION	DATE	BY
7	FINAL RECONSIDERED REPORT SUBMISSION	15 JAN 21	TRO
6	RECONSIDERED REPORT SUBMISSION	15 OCT 20	TRO
5	FINAL REPORT RE SUBMISSION	27 APR 19	TRO
4	REVISED FINAL REPORT CLIENT REVIEW	1 MAY 19	TRO
3	FINAL REPORT CLIENT REVIEW	11 JAN 19	JJT
2	PRELIMINARY REPORT SUBMISSION	08 DEC 12	JJT
1	PRELIMINARY REPORT CLIENT REVIEW	30 MAR 12	JJT

DATE: January 15, 2021
SCALE: AS SHOWN

Cole Drain, Cut-Off Drain & Cole Diversion Drain Branches 'A' & 'B'
City of Sarnia (Reconsidered Report)

**COLE DRAIN
PLAN AND PROFILE
FROM STA. 7+250 TO STA. 7+600**

PROJECT NO: 08-8845
SHEET NO: 24 of 50

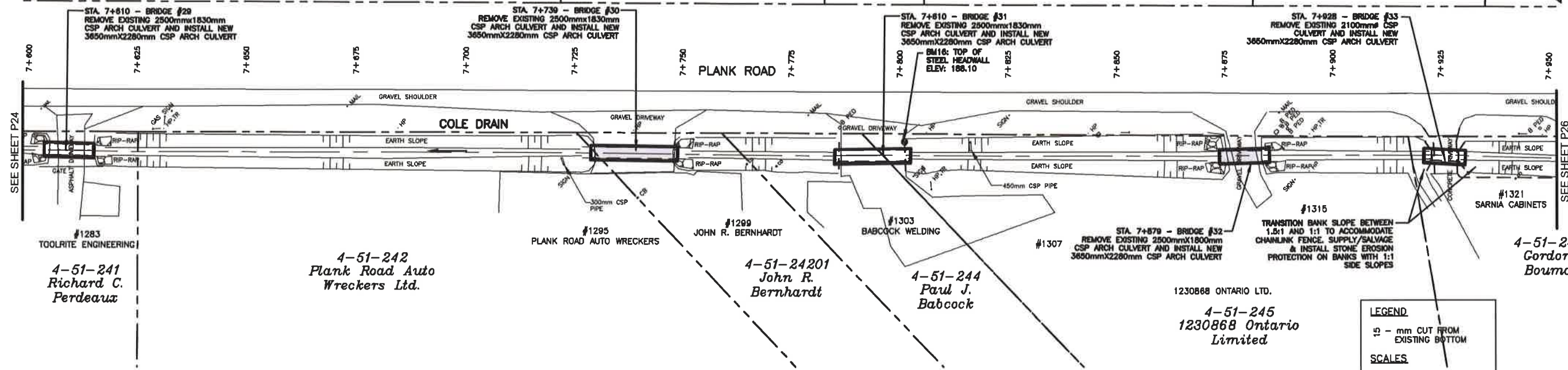
4-51-207
Plains Midstream
Canada U

4-51-206
Huron Alloys
Incorporated

4-51-205
1863960
Ontario Inc.

4-51-204
1863960
Ontario Inc.

4-51-203
Superior Tire
Services Sarnia Inc.



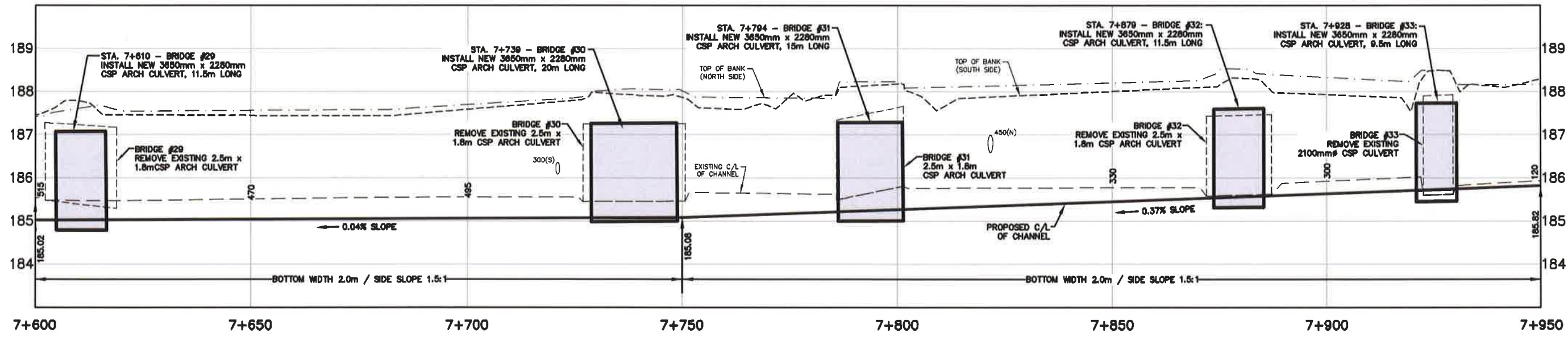
PLAN

LEGEND
 25 - mm CUT FROM EXISTING BOTTOM

SCALES

0 10m 0 1m
 HORIZONTAL VERTICAL
 1:500 (22x34) 1:50 (22x34)
 1:1000 (11x17) 1:100 (11x17)

NOTE: FOR BRIDGE DETAILS SEE PAGE 48



PROFILE

DILLON CONSULTING LIMITED, 18 FIFTH STREET SOUTH, CHATHAM, ONTARIO, N7M 4V4, PHONE (519) 354-7802, FAX (519) 354-2859

Professional Engineer License No. 12017, T. OLIVER, 1000 1/2 St. Clair St. Sarnia, ON N7S 1A5

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NO.	ISSUED FOR	DATE	BY	DESIGN	REVIEWER
7	FINAL RECONSIDERED REPORT SUBMISSION	15 JAN 21	TRO	TRO	JJT
6	RECONSIDERED REPORT SUBMISSION	16 OCT 20	TRO	JJM, TKS	FRF
5	FINAL REPORT RE-SUBMISSION	27 JUN 19	TRO		
4	REVISED FINAL REPORT CLIENT REVIEW	1 MAY 19	TRO		
3	FINAL REPORT CLIENT REVIEW	11 JAN 18	JJT		January 15, 2021
2	PRELIMINARY REPORT SUBMISSION	08 DEC 12	JJT		
1	PRELIMINARY REPORT CLIENT REVIEW	30 MAR 12	JJT		

Cole Drain, Cut-Off Drain & Cole Diversion Drain Branches 'A' & 'B'
 City of Sarnia (Reconsidered Report)

**COLE DRAIN
 PLAN AND PROFILE
 FROM STA. 7+600 TO STA. 7+950**

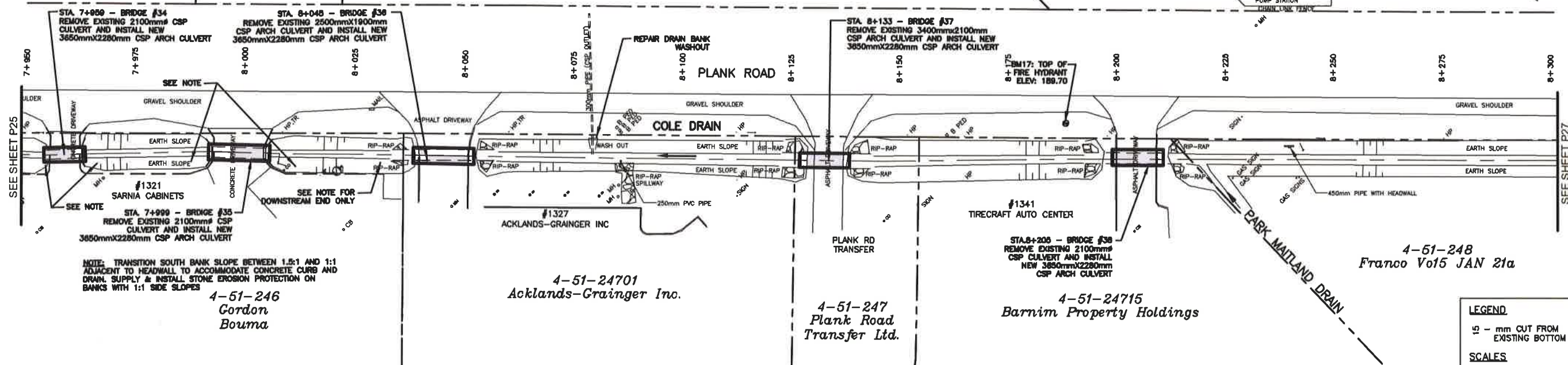
PROJECT NO: 08-8845
 SHEET NO: 25 of 50

4-51-20350
Tek Holdings
Limited

4-51-202
At-Tec Heavy
Equipment Ltd.

4-51-201
Dorothy A. McElhone

4-51-207
Plains Midstream Canada U



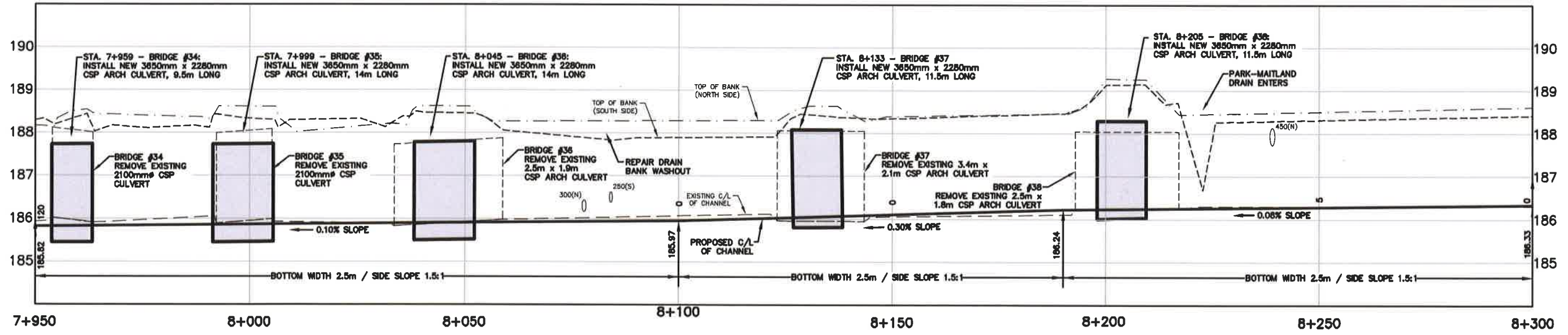
PLAN

LEGEND
 □ - mm CUT FROM EXISTING BOTTOM

SCALES

0 10m 0	0 1m
HORIZONTAL	VERTICAL
1:500 (22x34)	1:50 (22x34)
1:1000 (11x17)	1:100 (11x17)

NOTE: FOR BRIDGE DETAILS SEE PAGE 48



PROFILE

DILLON CONSULTING LIMITED, 10 PFFTH STREET SOUTH, CHATHAM, ONTARIO, N7M 4V4, PHONE (519) 354-7802, FAX (519) 354-0300

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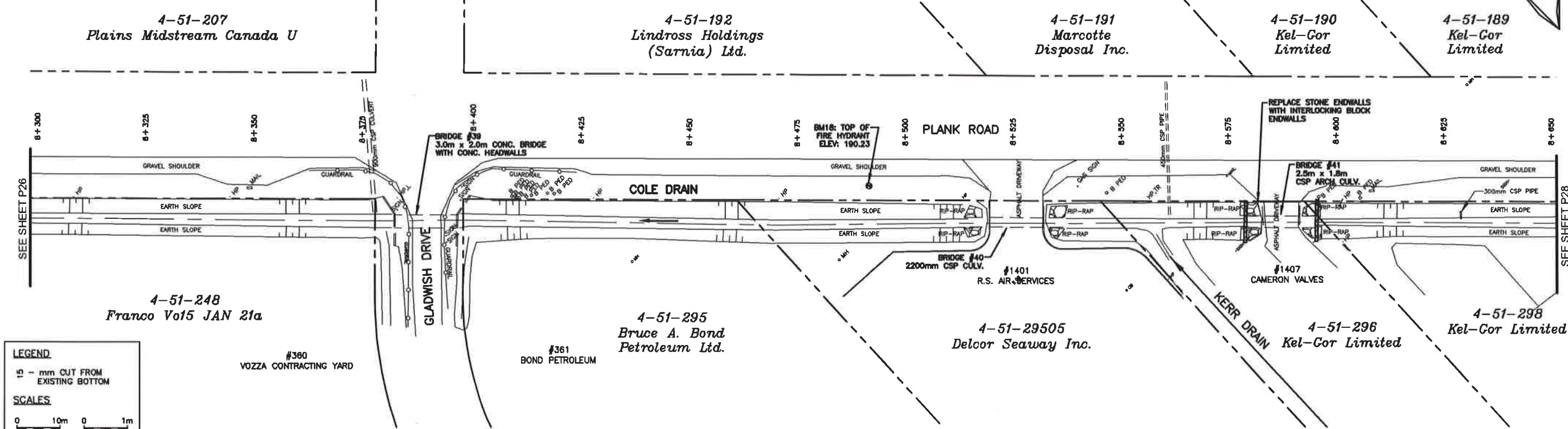
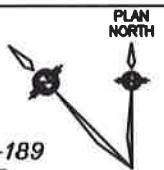
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6	RECONSIDERED REPORT SUBMISSION	15 OCT 20	TRO	
5	FINAL REPORT RE-SUBMISSION	27 APR 18	TRO	
4	REVISED FINAL REPORT CLIENT REVIEW	1 MAY 18	TRO	
3	FINAL REPORT CLIENT REVIEW	11 JAN 18	JJT	January 15, 2021
2	PRELIMINARY REPORT SUBMISSION	08 DEC 12	JJT	
1	PRELIMINARY REPORT CLIENT REVIEW	30 MAR 12	JJT	

Cole Drain, Cut-Off Drain & Cole Diversion Drain Branches 'A' & 'B'
 City of Sarnia (Reconsidered Report)

**COLE DRAIN
 PLAN AND PROFILE
 FROM STA. 7+950 TO STA. 8+300**

PROJECT NO: 08-8845
 SHEET NO: 26 of 50

DILLON CONSULTING LIMITED, 10 FIFTH STREET SOUTH, CHATHAM, ONTARIO, N7M 4W4, PHONE (519) 354-7862, FAX (519) 354-2069

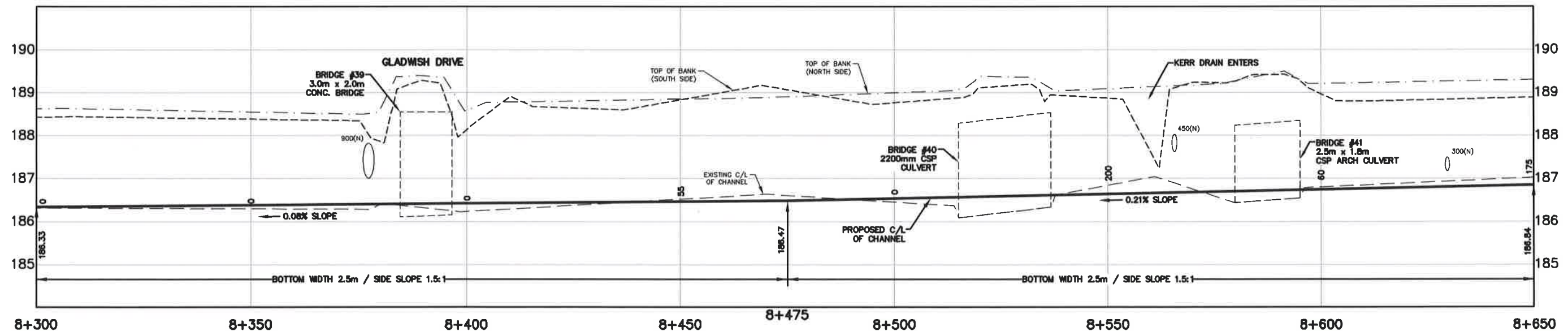


LEGEND
 15 - mm CUT FROM EXISTING BOTTOM

SCALES

0 10m 0 1m
 HORIZONTAL VERTICAL
 1:500 (22x34) 1:50 (22x34)
 1:1000 (11x17) 1:100 (11x17)

PLAN



PROFILE

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NO.	DESCRIPTION	DATE	BY	DESIGN	REVISION BY
7	FINAL RECONSIDERED REPORT SUBMISSION	15 JAN 21	TRO	TRO	JJT
6	RECONSIDERED REPORT SUBMISSION	15 OCT 20	TRO	JMM, TKS	FRF
5	FINAL REPORT SUBMISSION	27 JUN 19	TRO		
4	REVISED FINAL REPORT CLIENT REVIEW	11 MAY 19	TRO		
3	FINAL REPORT CLIENT REVIEW	11 JAN 19	JJT		
2	PRELIMINARY REPORT SUBMISSION	08 DEC 12	JJT		
1	PRELIMINARY REPORT CLIENT REVIEW	30 MAR 12	JJT		

DATE: January 15, 2021
 SCALE: AS SHOWN

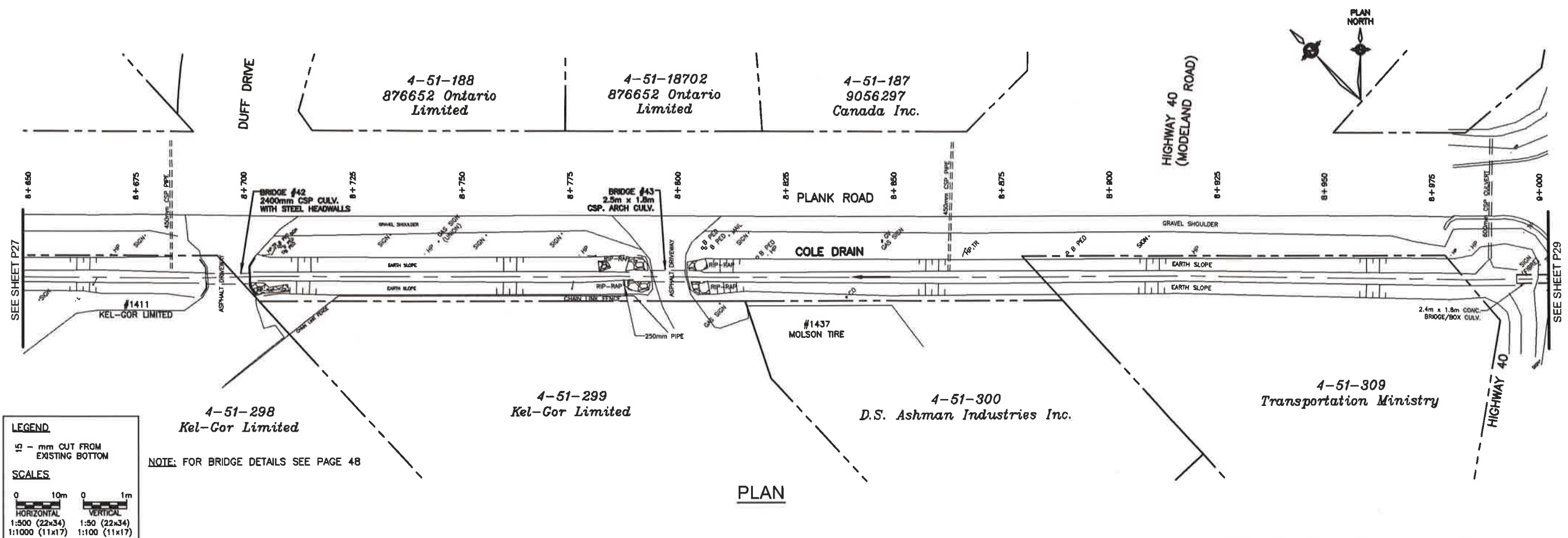
Cole Drain, Cut-Off Drain & Cole Diversion Drain Branches 'A' & 'B'
 City of Sarnia (Reconsidered Report)

**COLE DRAIN
 PLAN AND PROFILE
 FROM STA. 8+300 TO STA. 8+650**

PROJECT NO: 08-8845
 SHEET NO: 27 of 50

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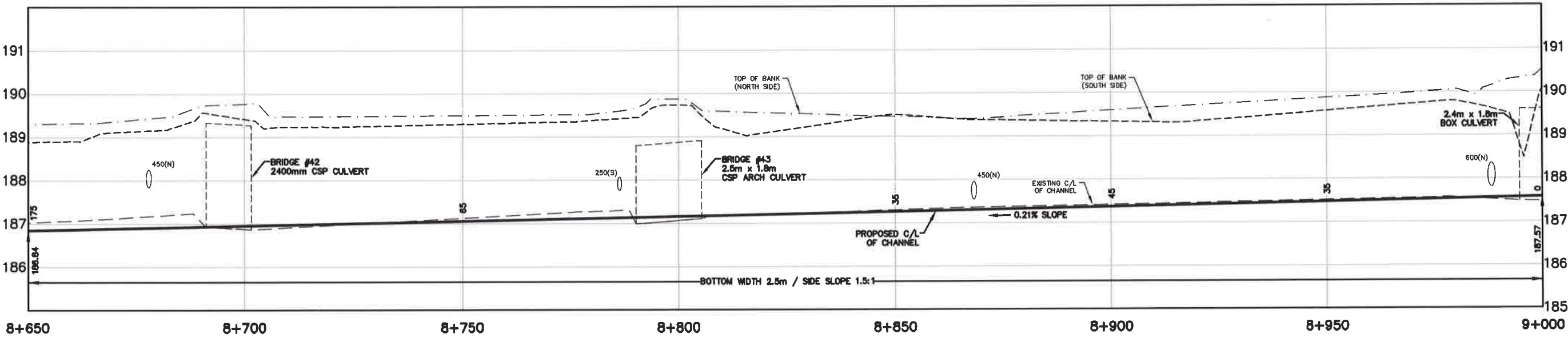
PLAN

LEGEND
 15 - mm CUT FROM EXISTING BOTTOM

SCALES

0 10m	0 1m
HORIZONTAL	VERTICAL
1:500 (22x34)	1:50 (22x34)
1:1000 (11x17)	1:100 (11x17)

NOTE: FOR BRIDGE DETAILS SEE PAGE 48



PROFILE

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NO	ISSUED FOR	DATE	BY	DESIGN	REVIEWED BY
7	FINAL RECONSIDERED REPORT SUBMISSION	15 JAN 21	TRO	TRO	JJT
6	RECONSIDERED REPORT SUBMISSION	15 OCT 20	TRO	JMM, TKS	FRF
5	FINAL REPORT RESUBMISSION	27 JUN 19	TRO		
4	REVISED FINAL REPORT CLIENT REVIEW	1 MAY 19	TRO		
3	FINAL REPORT CLIENT REVIEW	11 JAN 18	JJT		
2	PRELIMINARY REPORT SUBMISSION	06 DEC 12	JJT		
1	PRELIMINARY REPORT CLIENT REVIEW	30 MAR 12	JJT		

DATE: January 15, 2021
 SCALE: AS SHOWN

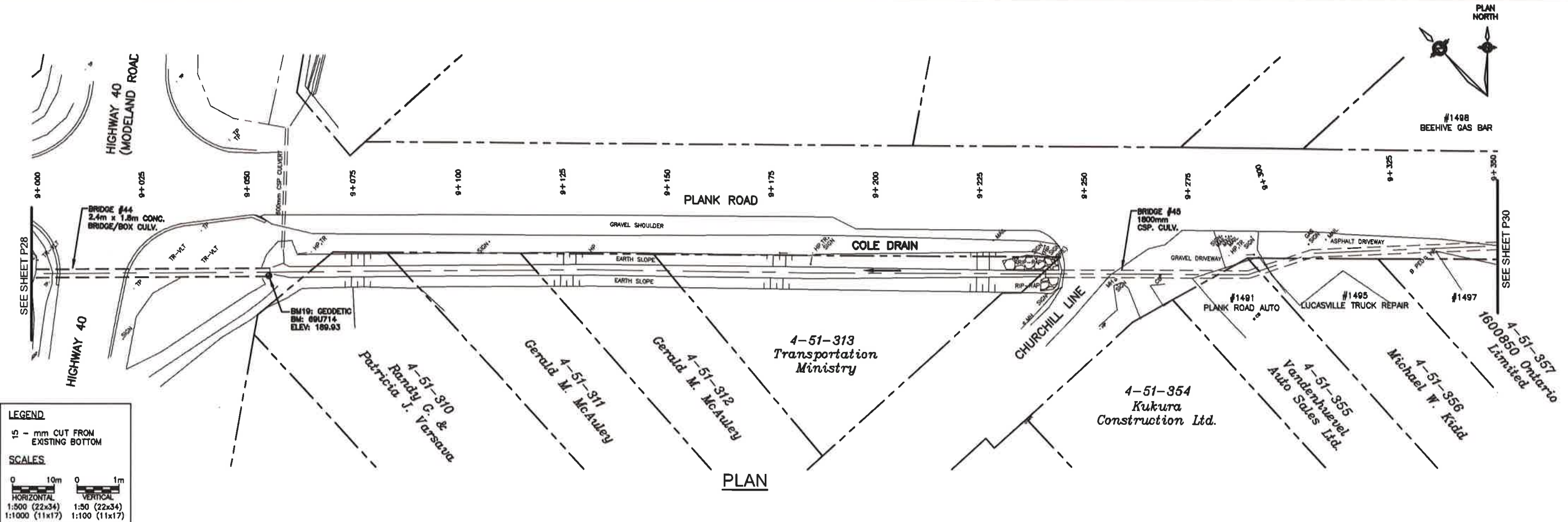
Cole Drain, Cut-Off Drain & Cole Diversion Drain Branches 'A' & 'B'
 City of Sarnia (Reconsidered Report)

**COLE DRAIN
 PLAN AND PROFILE
 FROM STA. 8+650 TO STA. 9+000**

PROJECT NO: 08-8845
 SHEET NO: 28 of 50

DILLON CONSULTING LIMITED, 18 FIFTH STREET SOUTH, CHATHAM, ONTARIO, M7M 4W4, PHONE (519) 354-7862, FAX (519) 354-2050

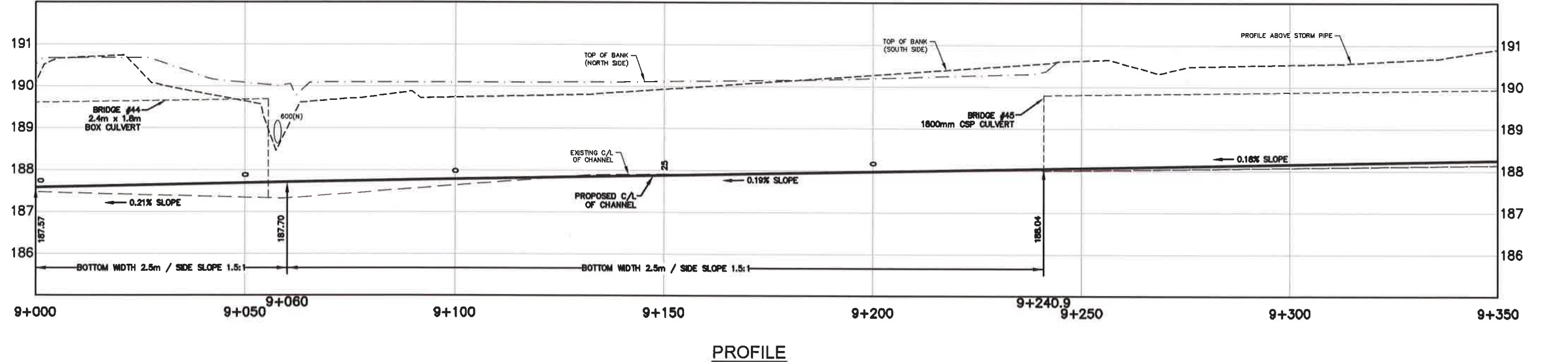
This drawing is a working drawing prepared in accordance with the provisions of the Professional Engineers Act, R.S.O. 1990, Chapter 1927, and the Professional Engineers Act, R.S.O. 1990, Chapter 1927, and the Professional Engineers Act, R.S.O. 1990, Chapter 1927.



LEGEND
 15 - mm CUT FROM EXISTING BOTTOM

SCALES

0 10m 1m
 HORIZONTAL VERTICAL
 1:500 (22x34) 1:50 (22x34)
 1:1000 (11x17) 1:100 (11x17)



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NO.	DESCRIPTION	DATE	BY
7	FINAL RECONSIDERED REPORT SUBMISSION	15 JAN 21	TRO
6	RECONSIDERED REPORT SUBMISSION	15 OCT 20	TRO
5	FINAL REPORT SUBMISSION	27 JUN 19	TRO
4	REVISED FINAL REPORT CLIENT REVIEW	1 MAY 19	TRO
3	FINAL REPORT CLIENT REVIEW	11 JAN 19	JJT
2	PRELIMINARY REPORT SUBMISSION	06 DEC 12	JJT
1	PRELIMINARY REPORT CLIENT REVIEW	30 MAR 12	JJT

DESIGN: TRO, REVIEW: JJT
 DRAWN: JMM, TKS, CHECKED BY: FRF
 DATE: January 15, 2021
 SCALE: AS SHOWN

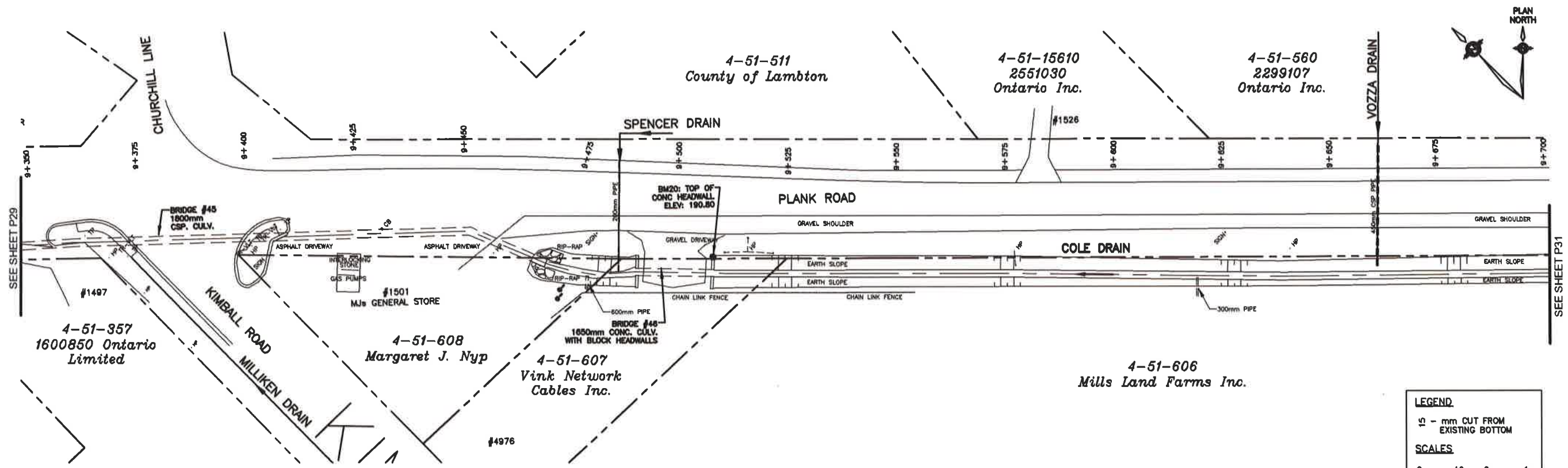
Cole Drain, Cut-Off Drain & Cole Diversion Drain Branches 'A' & 'B'
 City of Sarnia (Reconsidered Report)

**COLE DRAIN
 PLAN AND PROFILE
 FROM STA. 9+000 TO STA. 9+350**

PROJECT NO: 08-8845
 SHEET NO: 29 of 50

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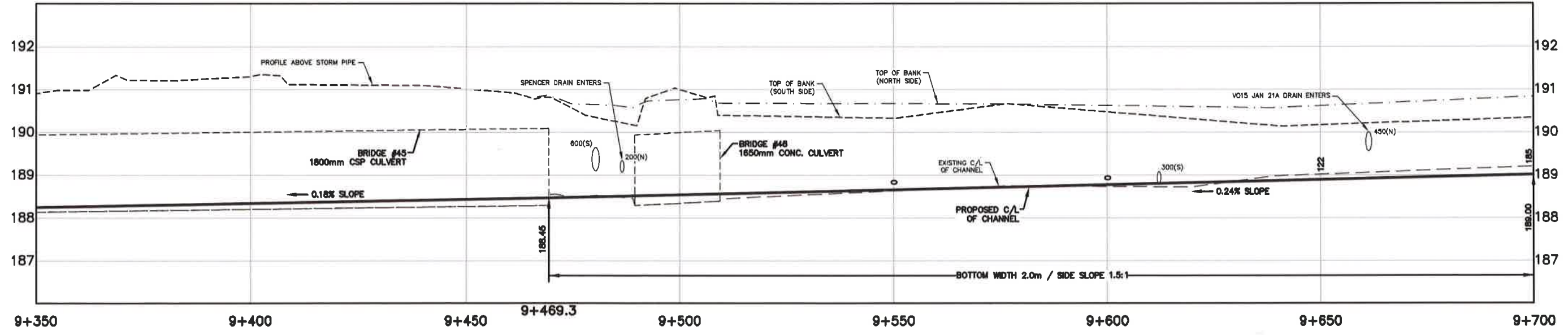


PLAN

LEGEND
 - - - mm CUT FROM EXISTING BOTTOM

SCALES

0 10m	0 1m
HORIZONTAL	VERTICAL
1:500 (22x34)	1:50 (22x34)
1:1000 (11x17)	1:100 (11x17)



PROFILE

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NO.	DESCRIPTION	DATE	BY
7	FINAL RECONSIDERED REPORT SUBMISSION	15 JAN 21	TRO
6	RECONSIDERED REPORT SUBMISSION	15 OCT 20	TRO
5	FINAL REPORT RE SUBMISSION	27 JUN 19	TRO
4	REVISED FINAL REPORT CLIENT REVIEW	1 MAY 19	TRO
3	FINAL REPORT CLIENT REVIEW	11 JAN 18	JJT
2	PRELIMINARY REPORT SUBMISSION	06 DEC 12	JJT
1	PRELIMINARY REPORT CLIENT REVIEW	30 MAR 12	JJT

DESIGN: TRO
 REVISIONS: JJT
 DRAWN: JMM, TKS
 CHECKED BY: FRF
 DATE: January 15, 2021
 SCALE: AS SHOWN

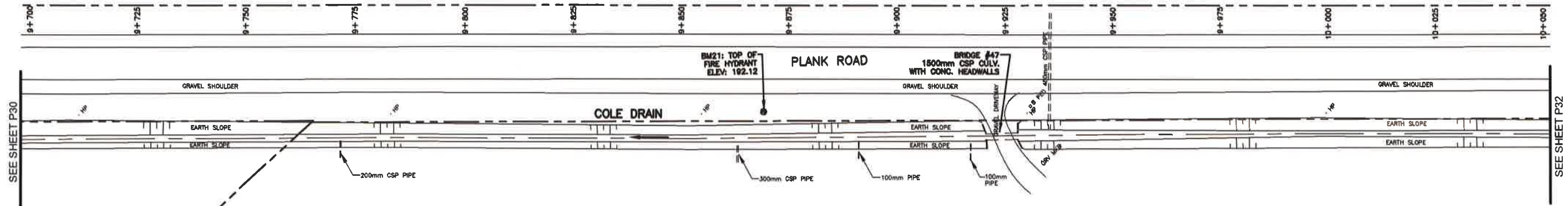
Cole Drain, Cut-Off Drain & Cole Diversion Drain Branches 'A' & 'B'
 City of Sarnia (Reconsidered Report)

**COLE DRAIN
 PLAN AND PROFILE
 FROM STA. 9+350 TO STA. 9+700**

PROJECT NO: 08-8845
 SHEET NO: 30 of 50

DILLON CONSULTING LIMITED, 10 FIFTH STREET SOUTH, CHATHAM, ONTARIO, M7M 4V4, PHONE (519) 354-7862, FAX (519) 354-2659

4-51-560
2299107 Ontario Inc.



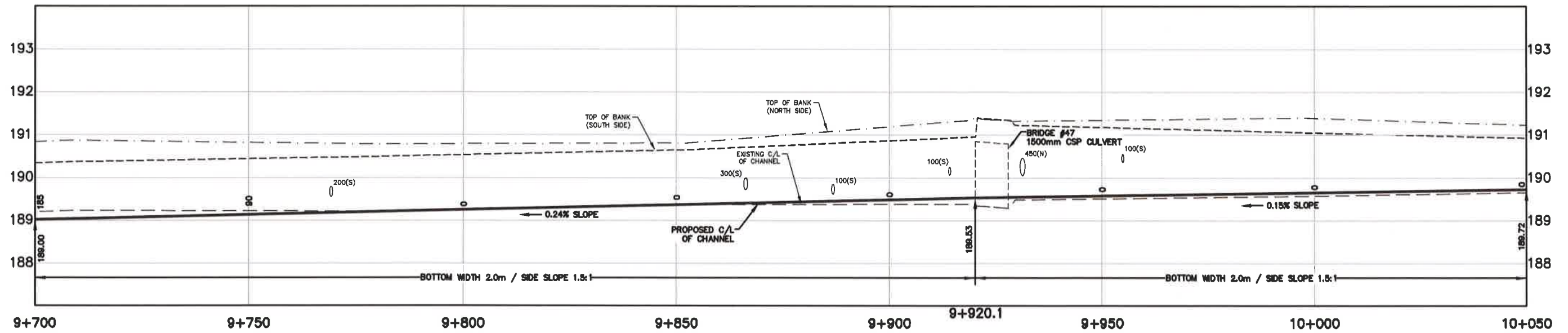
4-51-568
1565670 Ontario Limited

PLAN

LEGEND
15 - mm CUT FROM EXISTING BOTTOM

SCALES

0 10m 0 1m
HORIZONTAL 1:500 (22x34) VERTICAL 1:80 (22x34)
1:1000 (11x17) 1:100 (11x17)



PROFILE

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NO	REVISION	DATE	BY	SCALE
7	FINAL RECONSIDERED REPORT SUBMISSION	15 JAN 21	TRO	
8	RECONSIDERED REPORT SUBMISSION	15 OCT 20	TRO	
5	FINAL REPORT SUBMISSION	27 JUNE 19	TRO	
4	REVISED FINAL REPORT CLIENT REPORT	1 MAY 19	TRO	
3	FINAL REPORT CLIENT REVIEW	11 JAN 18	JJT	
2	PRELIMINARY REPORT SUBMISSION	06 DEC 12	JJT	
1	PRELIMINARY REPORT CLIENT REVIEW	30 MAR 12	JJT	

DESIGN	TRO	REVIEWED BY	JJT
DRAWN	JMM, TKS	CHECKED BY	FRF
DATE	January 15, 2021		
SCALE	AS SHOWN		

Cole Drain, Cut-Off Drain & Cole Diversion Drain Branches 'A' & 'B'
City of Sarnia (Reconsidered Report)

PROJECT NO
08-8845

**COLE DRAIN
PLAN AND PROFILE
FROM STA. 9+700 TO STA. 10+050**

SHEET NO
31 of 50

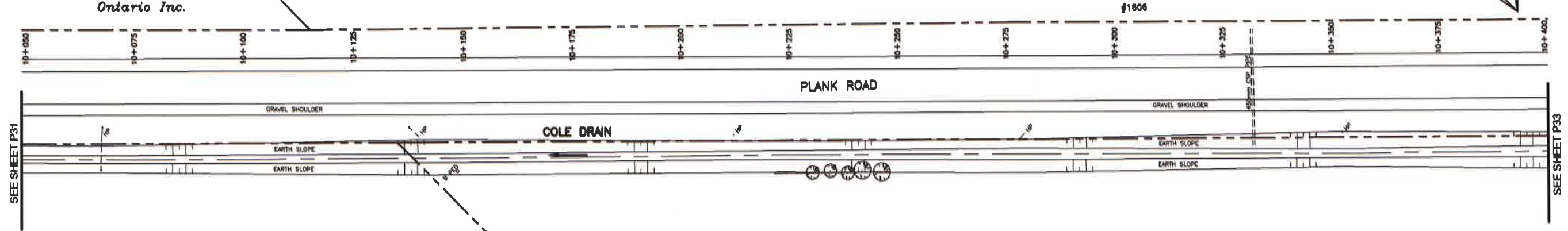
DILLON CONSULTING LIMITED, 38 FIFTH STREET SOUTH, CHATHAM, ONTARIO, CANADA, N4M 4M4, PHONE (519) 354-1782, FAX (519) 354-2829

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4-51-560
2299107
Ontario Inc.

4-51-568
1565670 Ontario Limited

4-51-559
Floyd D. & Frances J. King

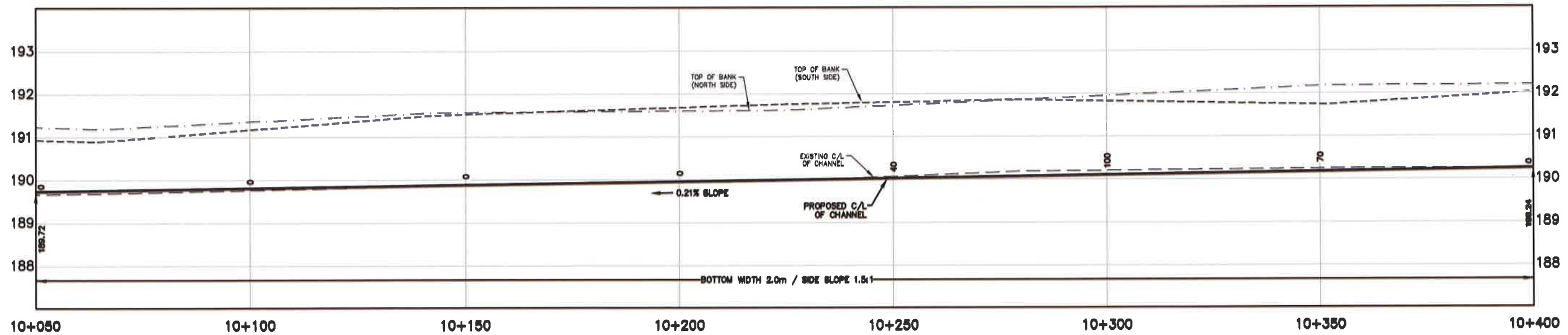


PLAN

LEGEND
 12 - mm CUT FROM EXISTING BOTTOM

SCALES

0	10m	0	1m
HORIZONTAL		VERTICAL	
1:800 (22x34)		1:80 (22x34)	
1:1000 (11x17)		1:100 (11x17)	



PROFILE

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NO.	DESCRIPTION	DATE	BY	CHECKED BY
7	FINAL RECONSIDERED REPORT SUBMISSION	15 JAN 21	TRC	JJT
6	RECONSIDERED REPORT SUBMISSION	15 OCT 20	JMM, TKS	FRF
5	FINAL REPORT RE SUBMISSION	27 JUN 19		
4	REVISED FINAL REPORT CLIENT REVIEW	1 MAY 19		
3	FINAL REPORT CLIENT REVIEW	11 JAN 19		
2	PRELIMINARY REPORT SUBMISSION	06 DEC 18		
1	PRELIMINARY REPORT CLIENT REVIEW	30 MAR 18		
10	REVISION	DATE	BY	

DATE: January 15, 2021
 SCALE: AS SHOWN

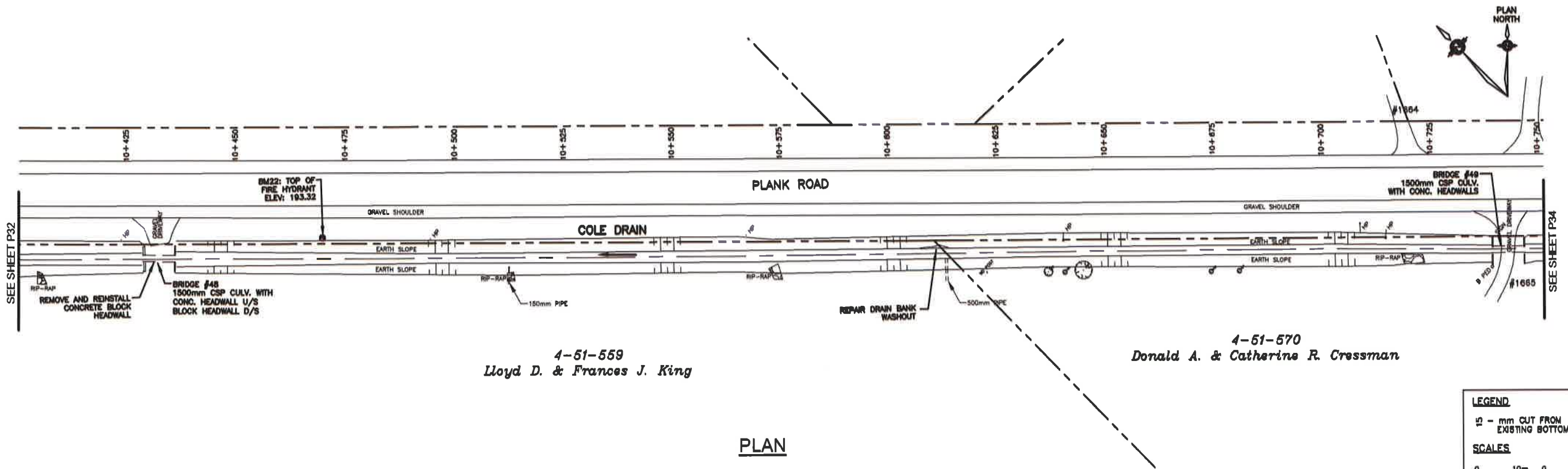
Cole Drain, Cut-Off Drain & Cole Diversion Drain Branches 'A' & 'B'
 City of Barrie (Reconsidered Report)

**COLE DRAIN
 PLAN AND PROFILE
 FROM STA. 10+050 TO STA. 10+400**

Project No: 08-8845
 Sheet No: 32 of 50

DILLON CONSULTING LIMITED, 96 FETTER STREET SOUTH, CHATHAM, ONTARIO, N7M 4M4. PHONE (519) 354-7882, FAX (519) 354-2659

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4-51-559
Lloyd D. & Frances J. King

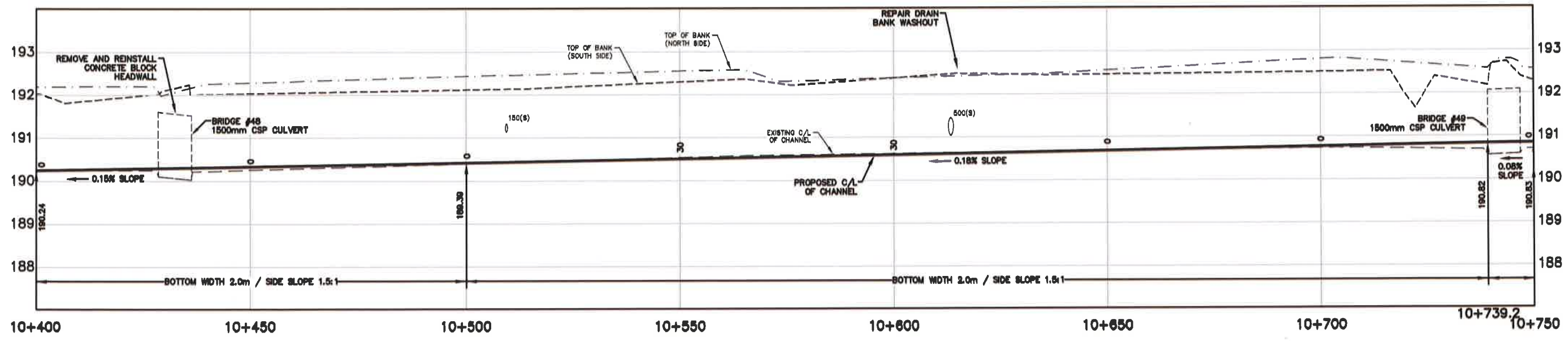
4-51-570
Donald A. & Catherine R. Cressman

PLAN

LEGEND
 12 - mm CUT FROM EXISTING BOTTOM

SCALES

0 10m 0 1m
 HORIZONTAL VERTICAL
 1:500 (22x34) 1:50 (22x34)
 1:1000 (11x17) 1:100 (11x17)



PROFILE

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NO.	REVISION	DATE	BY
1	PRELIMINARY REPORT CLIENT REVIEW	30 MAR 12	JJT
2	PRELIMINARY REPORT SUBMISSION	06 DEC 12	JJT
3	FINAL REPORT CLIENT REVIEW	11 JAN 15	JJT
4	REVISED FINAL REPORT CLIENT REVIEW	1 MAY 15	JJT
5	FINAL REPORT SUBMISSION	27 JUN 15	JJT
6	RECONSIDERED REPORT SUBMISSION	15 OCT 20	JJT
7	FINAL RECONSIDERED REPORT SUBMISSION	15 JAN 21	JJT

DESIGN: TRC REVIEW: JJT
 DRAWN: JMM, TKS CHECKED BY: PRP
 DATE: January 15, 2021
 SCALE: AS SHOWN

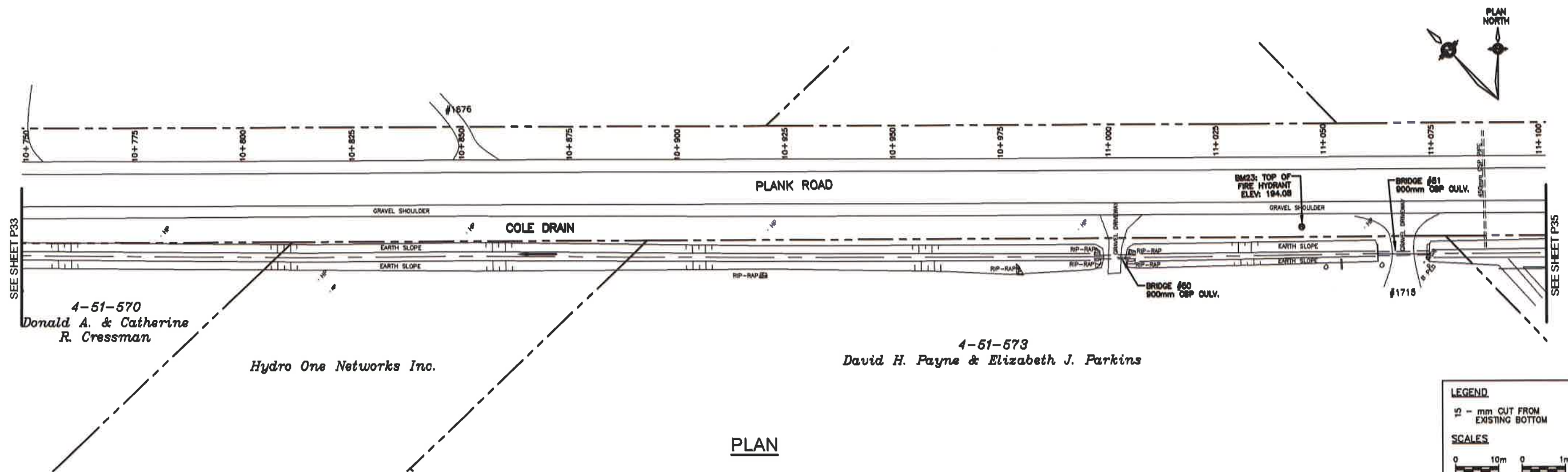
Cole Drain, Cut-Off Drain & Cole Diversion Drain Branches 'A' & 'B'
 City of Sarnia (Reconsidered Report)

**COLE DRAIN
 PLAN AND PROFILE
 FROM STA. 10+400 TO STA. 10+750**

PROJECT NO: 08-8845
 SHEET NO: 33 of 50

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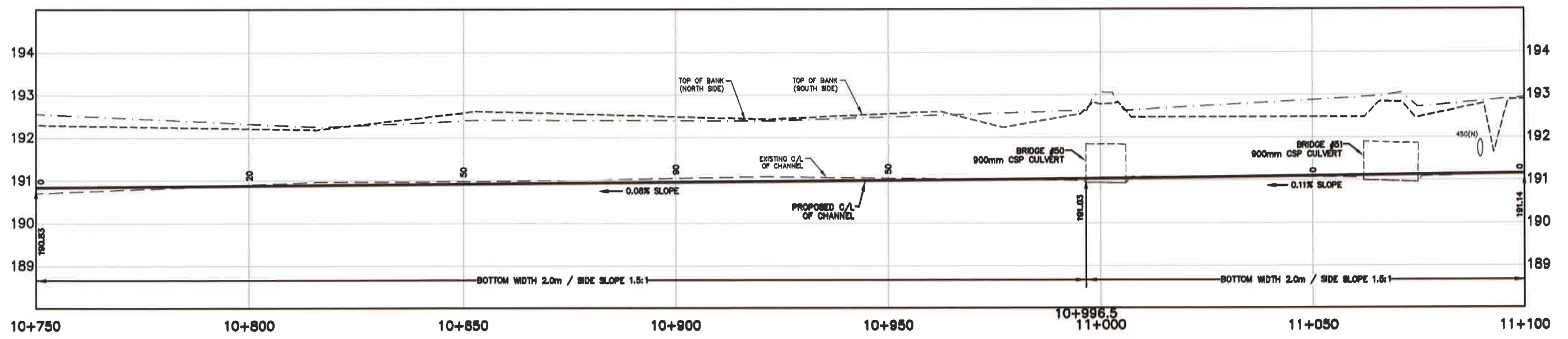


PLAN

LEGEND
 1/2" = mm CUT FROM EXISTING BOTTOM

SCALES

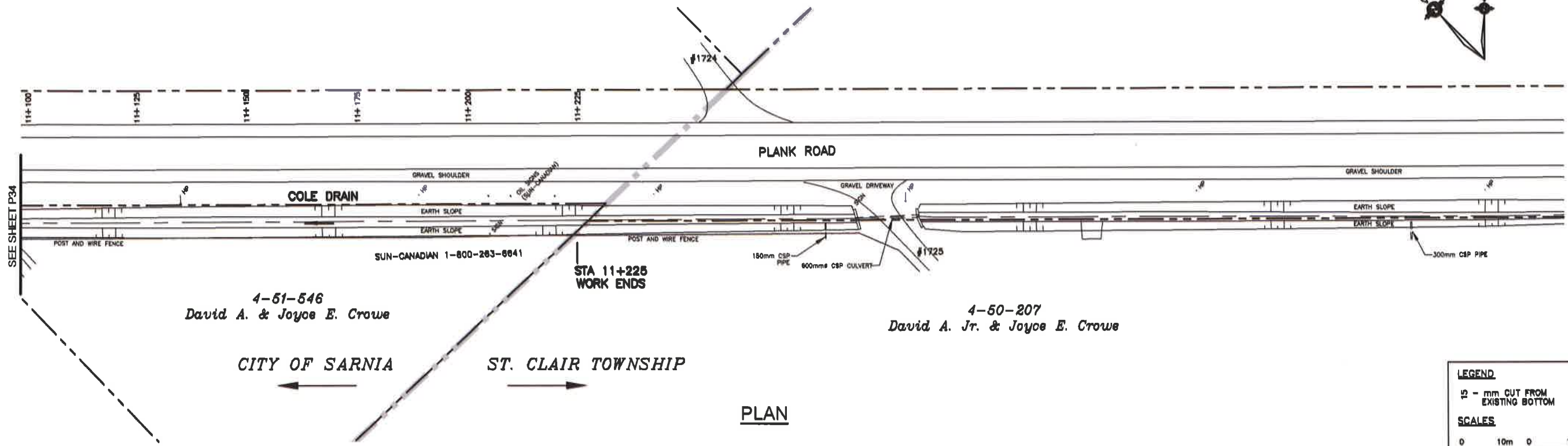
0	10m	0	1m
HORIZONTAL		VERTICAL	
1:800 (22x34)	1:80 (22x34)	1:100 (11x17)	1:100 (11x17)



PROFILE

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			NO.	DESCRIPTION	DATE	BY																																																
7	FINAL RECONSIDERED REPORT SUBMISSION	18 JAN 21	TRO																																																			
6	RECONSIDERED REPORT SUBMISSION	15 OCT 20	END																																																			
5	FINAL REPORT SUBMISSION	27 JUN 19	END																																																			
4	REVISED FINAL CLIENT REVIEW	1 MAY 19	END																																																			
3	FINAL REPORT CLIENT REVIEW	11 JAN 19	JJT																																																			
2	PRELIMINARY REPORT SUBMISSION	08 DEC 12	JJT																																																			
1	PRELIMINARY REPORT CLIENT REVIEW	30 MAR 12	JJT																																																			
DESIGN	TRO	REVIEWER	JJT																																																			
DRAWN	JMM, TKS	CHECKED BY	FRF																																																			
DATE	January 18, 2021																																																					
SCALE	AS SHOWN																																																					

DILLON CONSULTING LIMITED, 41 FIFTH STREET SOUTH, CHATHAM, ONTARIO, CANADA, N7B 4K4, PHONE (519) 354-7182, FAX (519) 354-2839



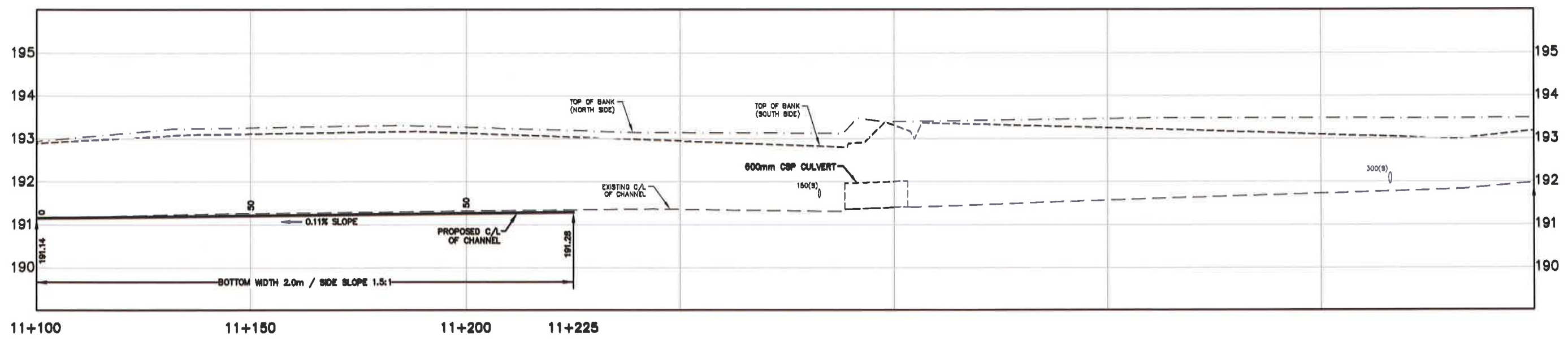
PLAN

LEGEND
 1/2" - mm CUT FROM EXISTING BOTTOM

SCALES

HORIZONTAL
 1:500 (22x34)
 1:1000 (11x17)

VERTICAL
 1:50 (22x34)
 1:100 (11x17)



PROFILE

Conditions of Use
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NO	DESCRIPTION	DATE	BY	SCALE
7	FINAL RECONSIDERED REPORT SUBMISSION	15 JAN 21	TRC	
6	RECONSIDERED REPORT SUBMISSION	13 OCT 20	END	
5	FINAL REPORT SUBMISSION	27 JUN 19	END	
4	REVISED FINAL REPORT CLIENT REVIEW	4 MAY 19	END	
3	FINAL REPORT CLIENT REVIEW	11 JAN 19	JJT	January 15, 2021
2	PRELIMINARY REPORT SUBMISSION	08 DEC 12	JJT	
1	PRELIMINARY REPORT CLIENT REVIEW	30 MAR 12	JJT	

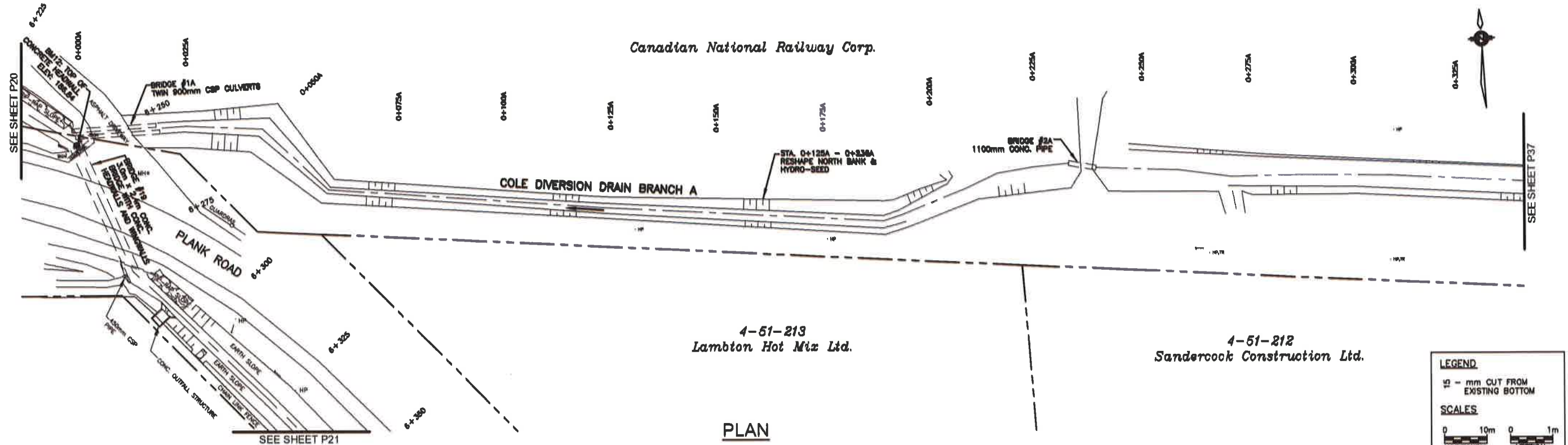
DESIGN: TRO REVIEWER: JJT
 DRAWN: JMM, TKS CHECKED BY: FRF
 DATE: January 15, 2021
 SCALE: AS SHOWN

Cole Drain, Cut-Off Drain & Cole Diversion Drain Branches 'A' & 'B'
 City of Sarnia (Reconsidered Report)

**COLE DRAIN
 PLAN AND PROFILE
 FROM STA. 11+100 TO STA. 11+225**

PROJECT NO: 08-8845
 SHEET NO: 35 of 50

DILLON CONSULTING LIMITED, 88 FIFTH STREET SOUTH, CHATHAM, ONTARIO, M7B 4M4, PHONE (519) 354-7862, FAX (519) 354-3559

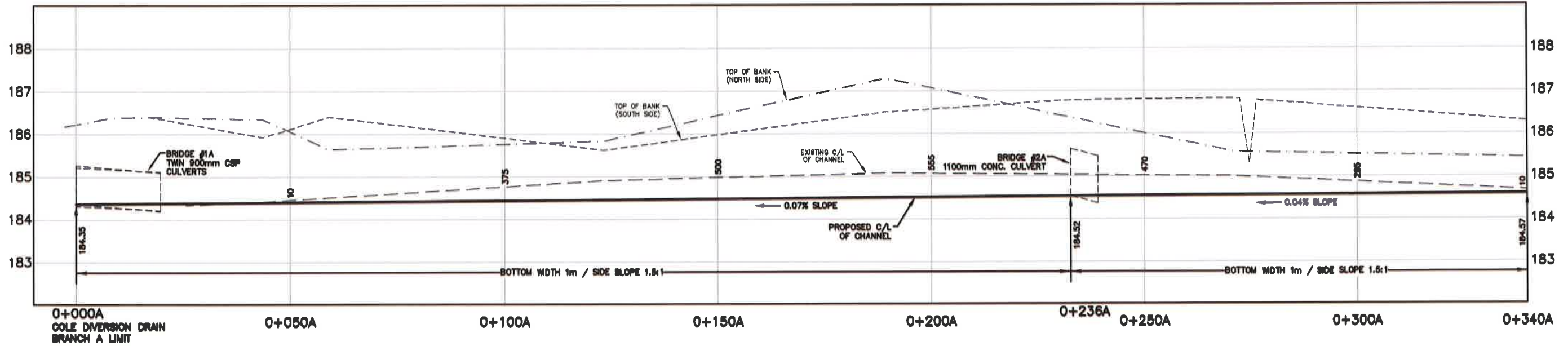


LEGEND
 - - - mm CUT FROM EXISTING BOTTOM

SCALES

0 10m 0 1m	0 1m 0 1m
HORIZONTAL	VERTICAL
1:500 (22x34)	1:50 (22x34)
1:1000 (11x17)	1:100 (11x17)

PLAN



PROFILE

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NO.	DESCRIPTION	DATE	BY	REVISION
1	PRELIMINARY REPORT CLIENT REVIEW	20 MAR 12	JJT	
2	PRELIMINARY REPORT SUBMISSION	20 DEC 12	JJT	
3	FINAL REPORT CLIENT REVIEW	11 JAN 16	JJT	
4	REVISED FINAL REPORT CLIENT REVIEW	1 MAY 16	JJT	
5	FINAL REPORT SUBMISSION	27 JUN 16	TRO	
6	RECONSIDERED REPORT SUBMISSION	15 OCT 20	TRO	
7	FINAL RECONSIDERED REPORT SUBMISSION	13 JAN 21	TRO	

DESIGN: TRO
 CHECKED BY: JJT
 DATE: January 16, 2021
 SCALE: AS SHOWN

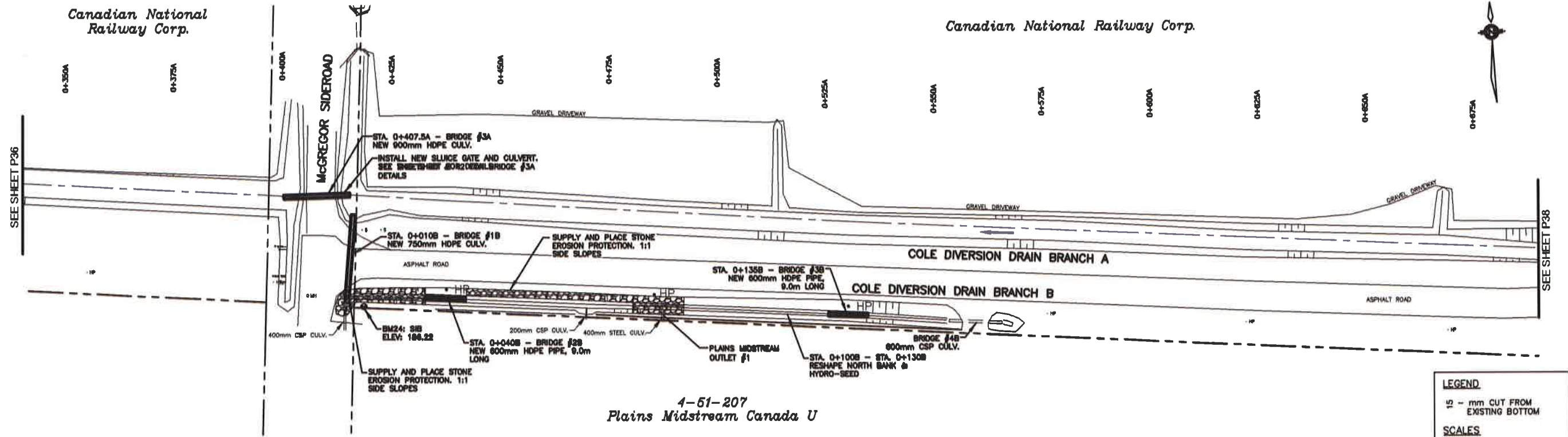
Cole Drain, Cut-Off Drain & Cole Diversion Drain Branches 'A' & 'B'
 City of Barrie (Reconsidered Report)

**COLE DIVERSION DRAIN BRANCH 'A'
 PLAN AND PROFILE
 FROM STA. 0+000A TO STA. 0+340A**

PROJECT NO: 08-8845
 SHEET NO: 36 of 50

Canadian National
Railway Corp.

Canadian National Railway Corp.



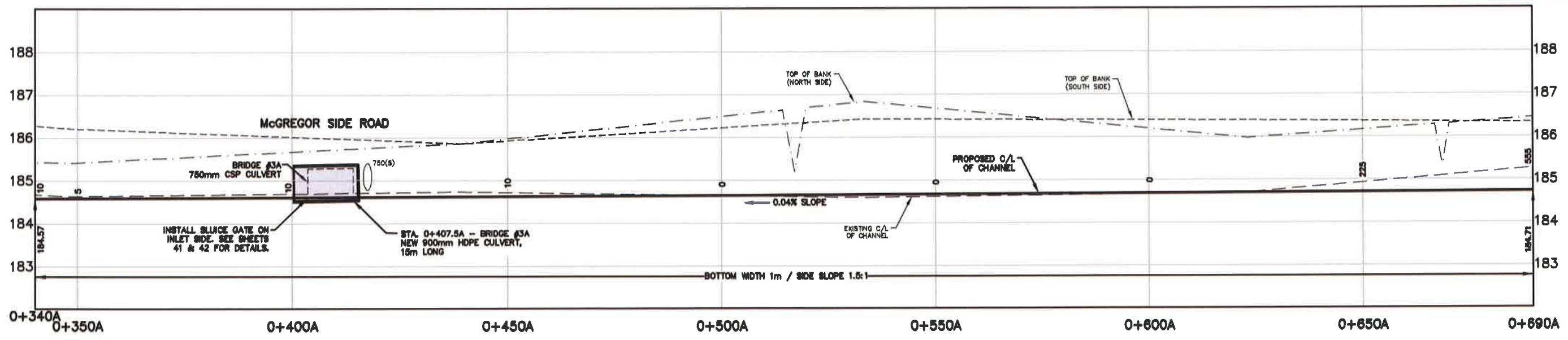
PLAN

LEGEND

1/2 - mm CUT FROM
EXISTING BOTTOM

SCALES

0 10m 0 1m
HORIZONTAL VERTICAL
1:500 (22x34) 1:50 (22x34)
1:1000 (11x17) 1:100 (11x17)



PROFILE

DILLON CONSULTING LIMITED, 40 FIFTH STREET SOUTH, CHATHAM, ONTARIO, M7B 4K4, PHONE (519) 354-7862, FAX (519) 354-3539

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NO.	DESCRIPTION	DATE	BY
7	FINAL RECONSIDERED REPORT SUBMISSION	15 JAN 21	TRO
6	RECONSIDERED REPORT SUBMISSION	15 OCT 20	TRO
5	FINAL REPORT FOR SUBMISSION	27 JUN 19	TRO
4	REVISED FINAL REPORT CLIENT REVIEW	4 MAY 19	TRO
3	FINAL REPORT CLIENT REVIEW	11 JAN 19	JT
2	PRELIMINARY REPORT SUBMISSION	06 DEC 12	JT
1	PRELIMINARY REPORT CLIENT REVIEW	30 MAR 12	JT

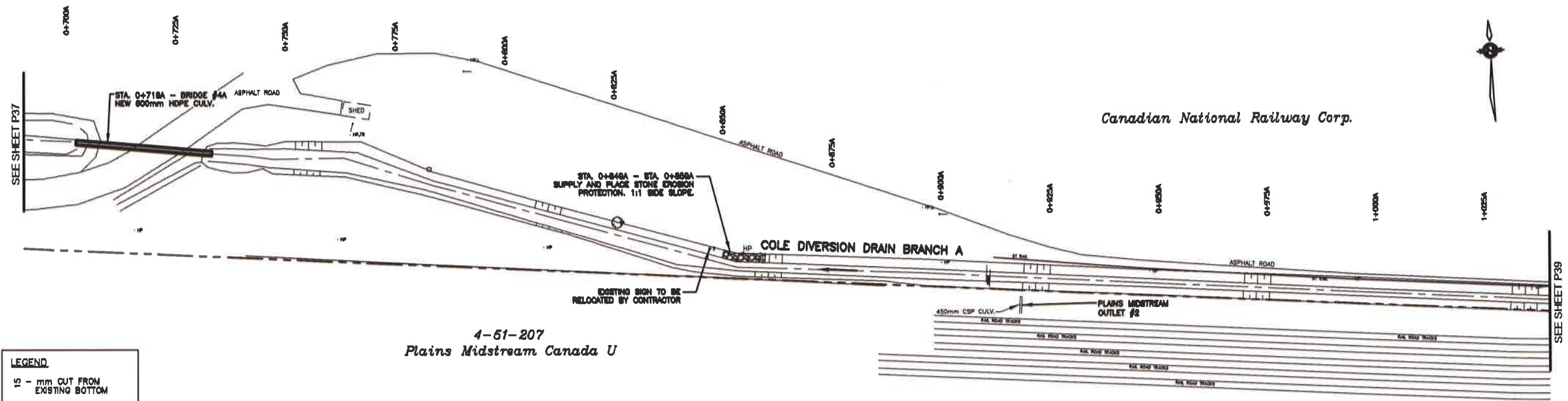
Cole Drain, Cut-Off Drain & Cole Diversion Drain Branches 'A' & 'B'
City of Sarnia (Reconsidered Report)

PROJECT NO. 08-8845

COLE DIVERSION DRAIN BRANCH 'A'
PLAN AND PROFILE
FROM STA. 0+340A TO STA. 0+690A

SHEET NO. 37 of 50

DILLON CONSULTING LIMITED, 10 FIFTH STREET SOUTH, CHATHAM, ONTARIO, N7M 4M4, PHONE (519) 354-7862, FAX (519) 354-9939



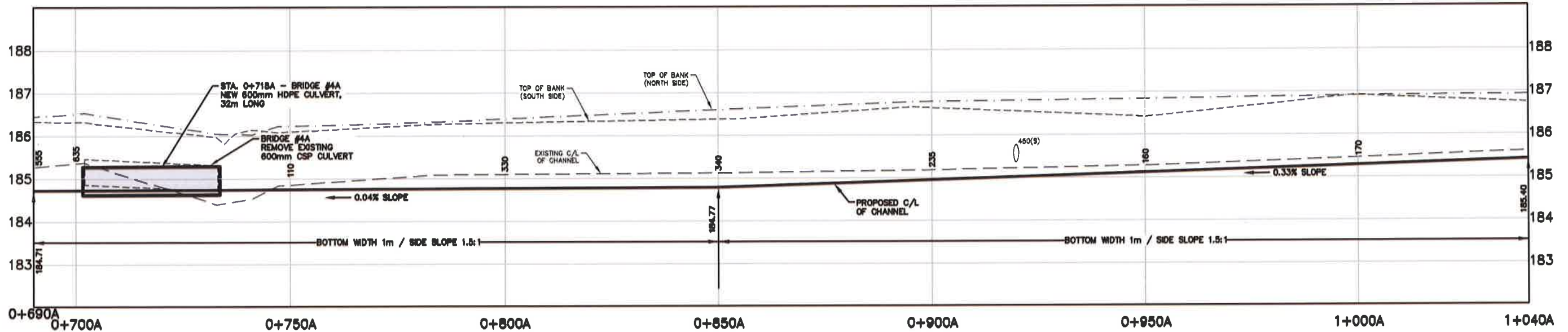
4-51-207
Plains Midstream Canada U

LEGEND
15 - mm CUT FROM EXISTING BOTTOM

SCALES

0 10m	0 1m
HORIZONTAL	VERTICAL
1:500 (22x34)	1:50 (22x34)
1:1000 (11x17)	1:100 (11x17)

PLAN



PROFILE

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NO.	REVISION	DATE	BY	CHKD.	APP'D.
7	FINAL RECONSIDERED REPORT SUBMISSION	15 JAN 21	TRO		
6	RECONSIDERED REPORT SUBMISSION	15 OCT 20	TRO		
5	FINAL REPORT RESUBMISSION	27 JUNE 18	TRO	JMM, TKS	PRF
4	REVISED FINAL REPORT CLIENT REVIEW	1 MAY 18	TRO		
3	FINAL REPORT CLIENT REVIEW	11 JAN 18	JJT		
2	PRELIMINARY REPORT SUBMISSION	08 DEC 17	JJT		
1	PRELIMINARY REPORT CLIENT REVIEW	30 MAR 17	JJT		
0	ISSUE FOR BIDDING	04 DEC 16	JJT		

DESIGN: TRO, REVIEWED: JJT
DRAWN: JMM, TKS, CHECKED BY: PRF
DATE: January 15, 2021
SCALE: AS SHOWN

Cole Drain, Cut-Off Drain & Cole Diversion Drain Branches 'A' & 'B'
City of Sarnia (Reconsidered Report)

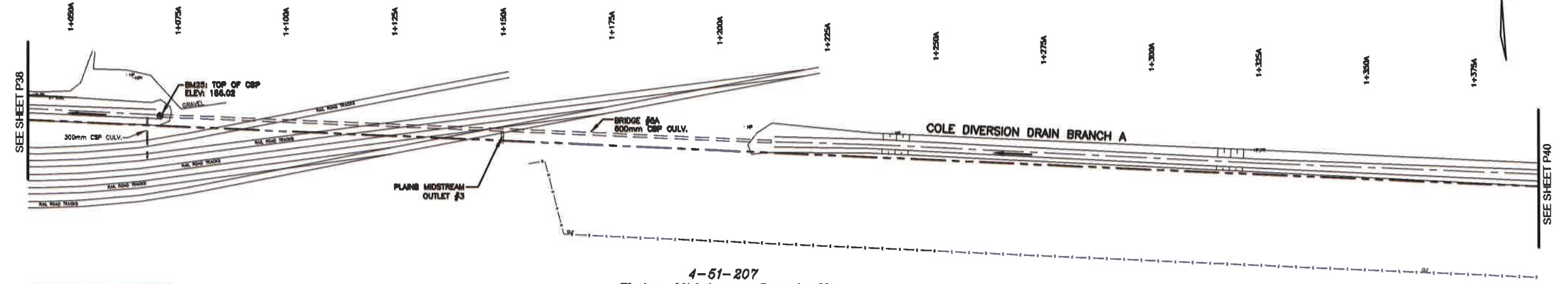
PROJECT NO: 08-8845

**COLE DIVERSION DRAIN BRANCH 'A'
PLAN AND PROFILE
FROM STA. 0+690A TO STA. 1+040A**

SHEET NO: 38 of 50

DILLON CONSULTING LIMITED, 40 FIFTH STREET SOUTH, CHATHAM, ONTARIO, M7B 4M4, PHONE (519) 354-7862, FAX (519) 354-2869

Canadian National Railway Corp.



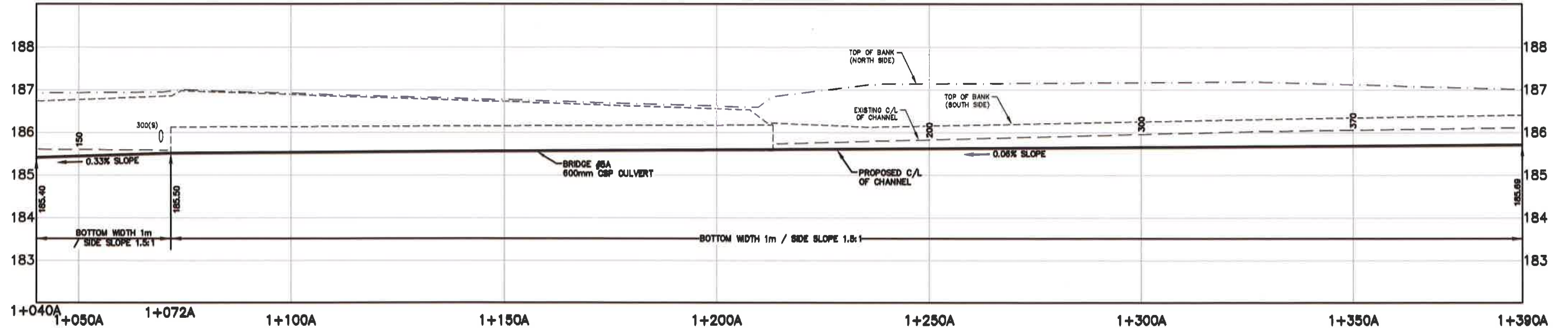
4-51-207
Plains Midstream Canada U

LEGEND
15 - mm CUT FROM EXISTING BOTTOM

SCALES

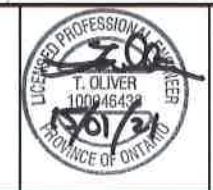
0 10m	0 1m
HORIZONTAL	VERTICAL
1:500 (22x34)	1:50 (22x34)
1:1000 (11x17)	1:100 (11x17)

PLAN



PROFILE

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NO.	REVISION	DATE	BY	SCALE
7	FINAL RECONSIDERED REPORT SUBMISSION	15 JAN 21	TRO	JJT
6	RECONSIDERED REPORT SUBMISSION	15 OCT 20	TRO	JJT
5	FINAL REPORT RE SUBMISSION	27 JUNE 19	JMM, TKS	FRF
4	REVISED FINAL REPORT CLIENT REVIEW	1 MAY 19	TRO	JJT
3	FINAL REPORT CLIENT REVIEW	11 JAN 19	JJT	January 18, 2021
2	PRELIMINARY REPORT SUBMISSION	08 DEC 12	JJT	
1	PRELIMINARY REPORT CLIENT REVIEW	30 MAR 12	JJT	

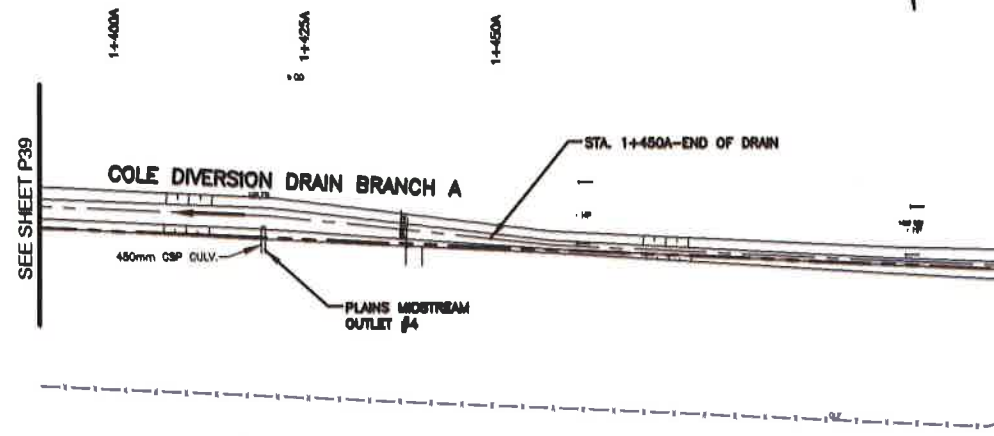
Cole Drain, Cut-Off Drain & Cole Diversion Drain Branches 'A' & 'B'
City of Sarnia (Reconsidered Report)

**COLE DIVERSION DRAIN BRANCH 'A'
PLAN AND PROFILE
FROM STA. 1+040A TO STA. 1+390A**

PROJECT NO: 08-8845
SHEET NO: 39 of 50

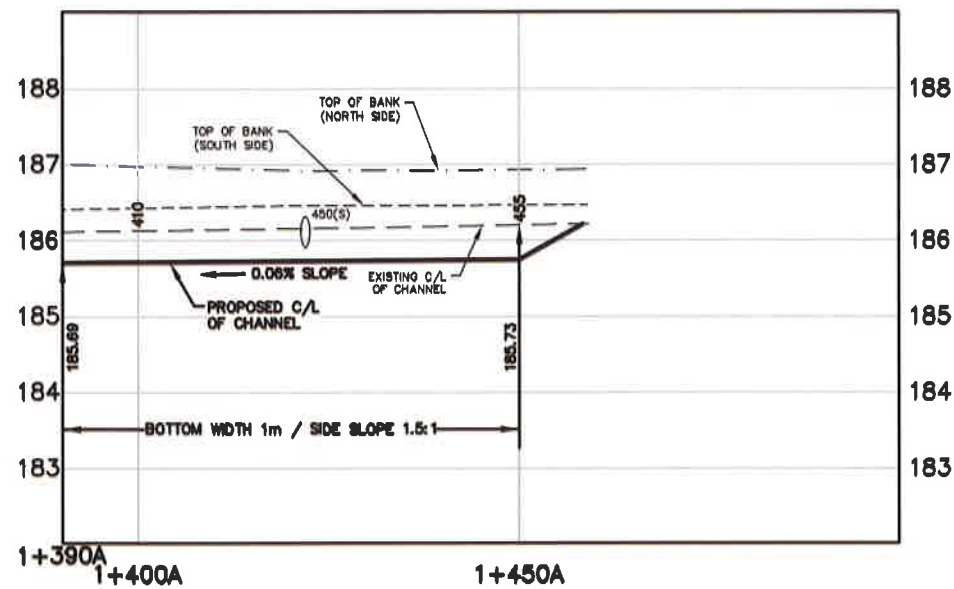
DILLON CONSULTING LIMITED, 40 FIFTH STREET SOUTH, CHATHAM, ONTARIO, CANADA, N4M 4M4, PHONE (519) 354-1700, FAX (519) 354-2500

Canadian National Railway Corp.



4-51-207
Plains Midstream Canada U

PLAN

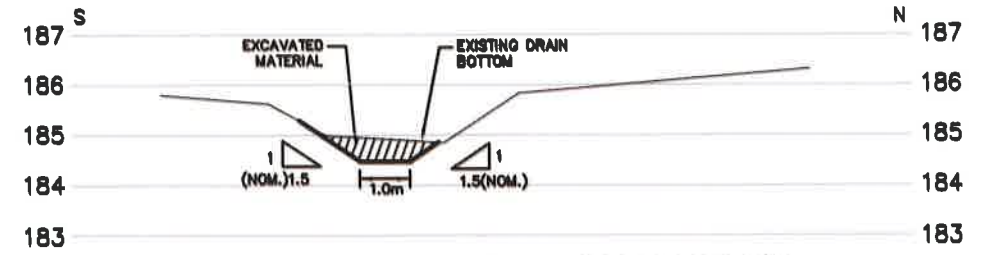


PROFILE

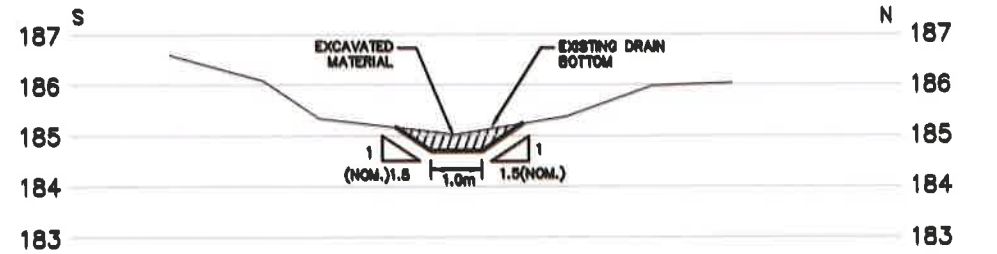
LEGEND
 - mm CUT FROM EXISTING BOTTOM

SCALES

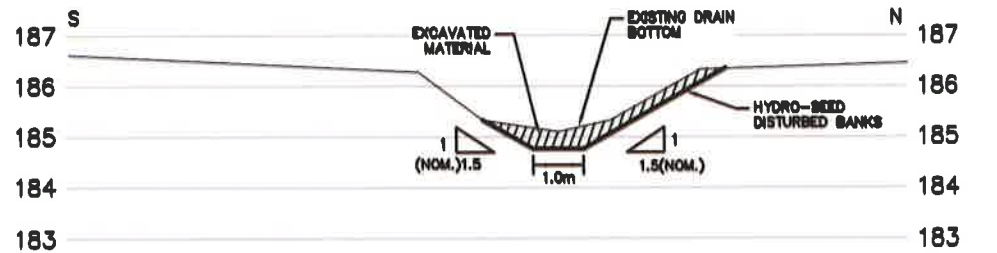
HORIZONTAL 1:500 (22x34)	VERTICAL 1:80 (22x34)
1:1000 (11x17)	1:100 (11x17)



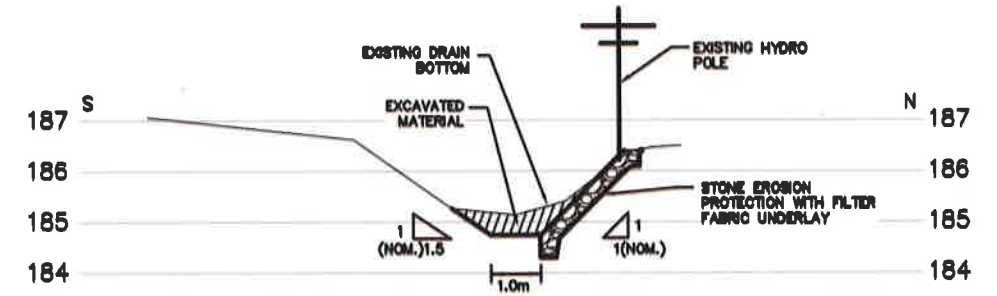
CROSS SECTION @ 0+125A LOOKING DOWNSTREAM



CROSS SECTION @ 0+675A LOOKING DOWNSTREAM



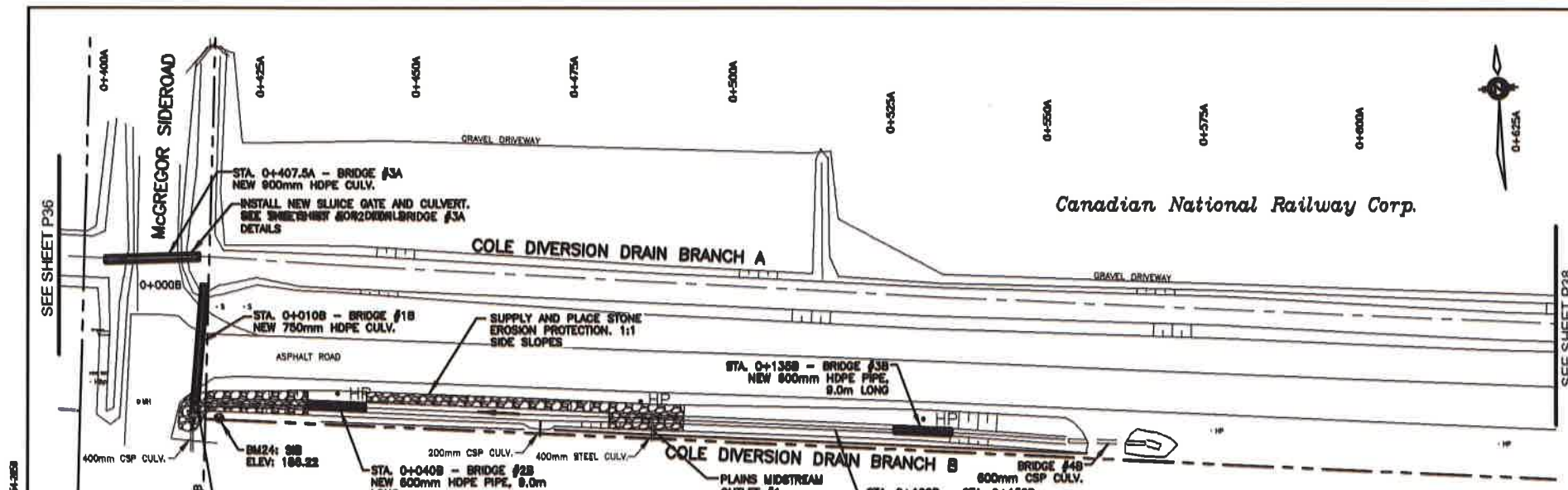
CROSS SECTION @ 0+785A LOOKING DOWNSTREAM



CROSS SECTION @ 0+850A LOOKING DOWNSTREAM

**TYPICAL SECTIONS FOR
COLE DIVERSION DRAIN BRANCH A**

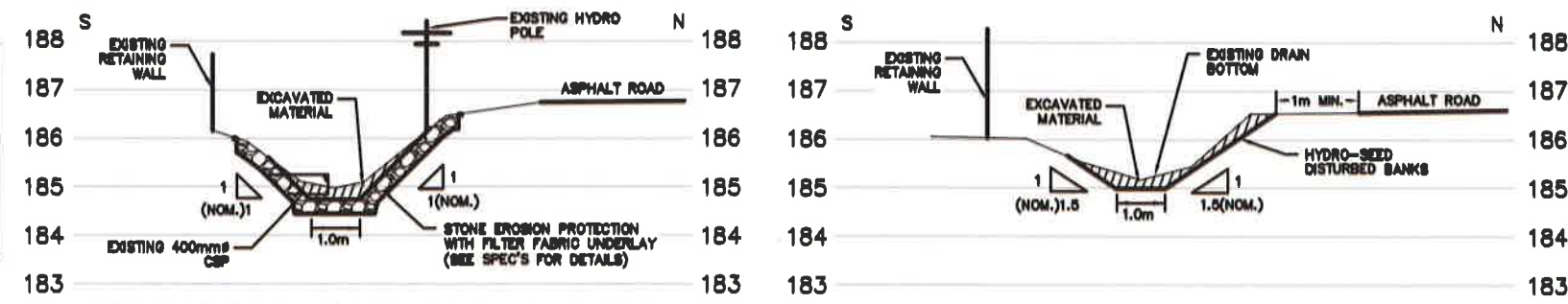
<p>Conditions of Use</p> <p>Verify elevations and/or dimensions on drawing prior to use. Report any discrepancies to Dillon Consulting Limited.</p> <p>Do not scale dimensions from drawing.</p> <p>Do not modify drawing, re-use it, or use it for purposes other than those intended at the time of its preparation without prior written permission from Dillon Consulting Limited.</p>			<p>DESIGN: TRO</p> <p>REVISED BY: JJT</p> <p>DRAWN: JMM, TKS</p> <p>CHECKED BY: PRF</p> <p>DATE: January 15, 2021</p> <p>SCALE: AS SHOWN</p>	<p>Cole Drain, Cut-Off Drain & Cole Diversion Drain Branches 'A' & 'B'</p> <p>City of Sarnia (Reconsidered Report)</p>	<p>PROJECT NO: 08-8845</p>
			<p>NO. 1</p> <p>DATE: 30 MAR 12</p> <p>BY: JJT</p>	<p>7 FINAL RECONSIDERED REPORT SUBMISSION 19 JAN 21 TRO</p> <p>8 RECONSIDERED REPORT SUBMISSION 15 OCT 20 TRO</p> <p>5 FINAL REPORT RE SUBMISSION 27 APR 19 TRO</p> <p>4 REVISED FINAL REPORT CLIENT REVIEW 1 MAY 18 TRO</p> <p>3 FINAL REPORT CLIENT REVIEW 11 JAN 18 JJT</p> <p>2 PRELIMINARY REPORT SUBMISSION 06 DEC 12 JJT</p> <p>1 PRELIMINARY REPORT CLIENT REVIEW 30 MAR 12 JJT</p>	<p>COLE DIVERSION DRAIN BRANCH 'A'</p> <p>PLAN AND PROFILE</p> <p>FROM STA. 1+390A TO STA. 1+450A</p>



Canadian National Railway Corp.

4-51-207
Plains Midstream Canada U

PLAN

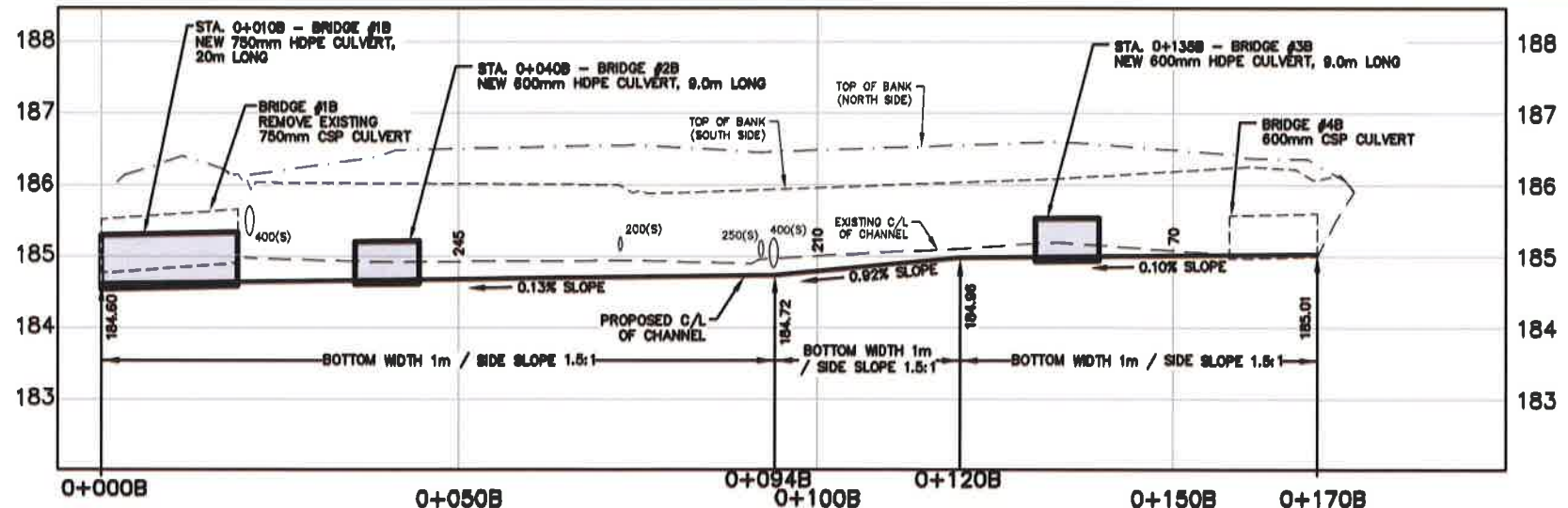


CROSS SECTION @ 0+094B LOOKING DOWNSTREAM

CROSS SECTION @ 0+125B LOOKING DOWNSTREAM

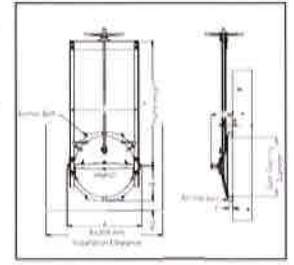
LEGEND
15 - mm CUT FROM EXISTING BOTTOM

SCALES
HORIZONTAL: 1:800 (22x34), 1:1000 (11x17)
VERTICAL: 1:80 (22x34), 1:100 (11x17)



PROFILE (COLE DIVERSION DRAIN BRANCH B)

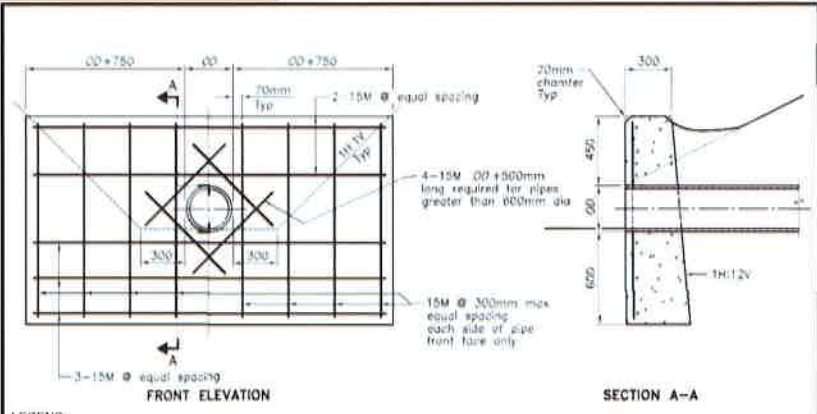
Standard Configurations and Sizes
The Engineering Table below summarizes the available gate diameters and dimensional data for each size of gate. These gates are stocked in standard frame heights as listed, but custom fabricated configurations are available.
Various lift extensions are available, as shown on Page 5. Contact an Amtec Sales Representative for more information.



Dimension Data

Gate Diameter mm	A mm	B mm	C mm	D mm	E mm	F mm	Stem Diameter mm	Lift Type	Stock Frame Height mm	Anchor Bolt Diameter mm	Bolt Circle Diameter mm
205	324	146	288	124	73	14	22.2	UV-14	914	12.7	292
254	387	171	340	150	73	19	22.2	UV-14	1000	12.7	358
305	463	241	400	137	73	19	22.2	UV-14	1000	12.7	413
405	565	292	492	165	73	16	22.2	UV-14	1000	12.7	533
457	622	278	541	190	96	19	28.6	UV-14	1500	15.9	584
508	696	311	622	203	96	19	28.6	UV-14	1500	15.9	649
610	800	368	733	244	102	21	28.6	UV-14	1500	15.9	762
762	997	491	911	383	117	22	38.1	UV-24	1930	19.1	952
914	1149	633	1064	524	124	25	38.1	UV-24	2000	19.1	1105
1067	1346	872	1216	668	141	32	38.1	UV-24	2000	19.1	1257

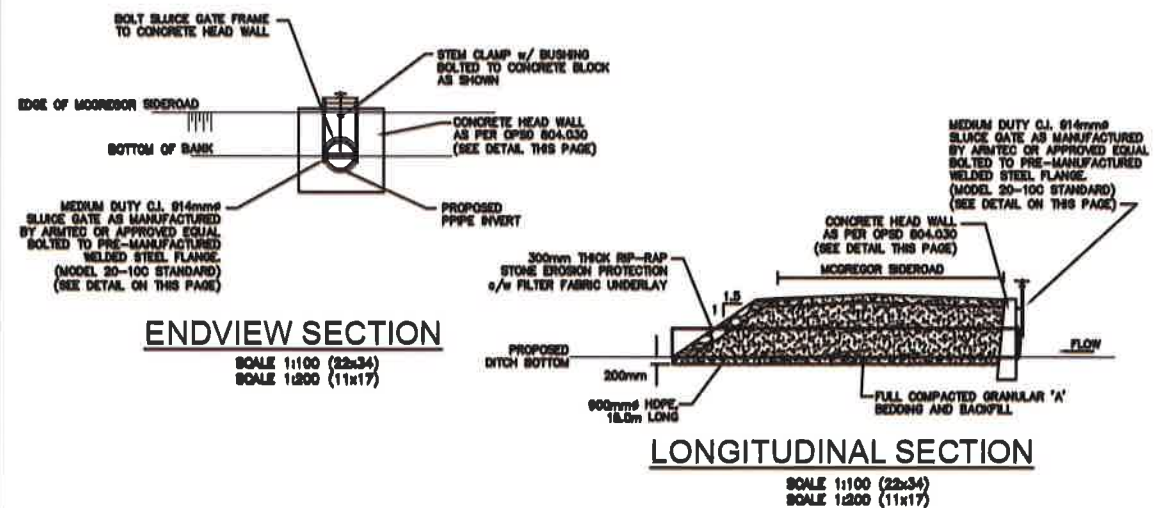
SLUICE GATE CONTROL INLET SIDE (STA. 0+405A)



LEGEND:
Ø - Outside diameter of pipe

NOTES:
A. Use OPSD 804.030 in conjunction with OPSD 8940.150.
B. If a steel gate is required, refer to OPSD 804.05.
C. Class of concrete: 30MPa.
D. Cover to reinforcing bars: 75mm x 20mm.
E. All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING
CONCRETE HEADWALL
FOR PIPE LESS THAN 900mm DIAMETER
OPSD 804.030



ENDVIEW SECTION

SCALE 1:100 (22x34)
SCALE 1:200 (11x17)

LONGITUDINAL SECTION

SCALE 1:100 (22x34)
SCALE 1:200 (11x17)

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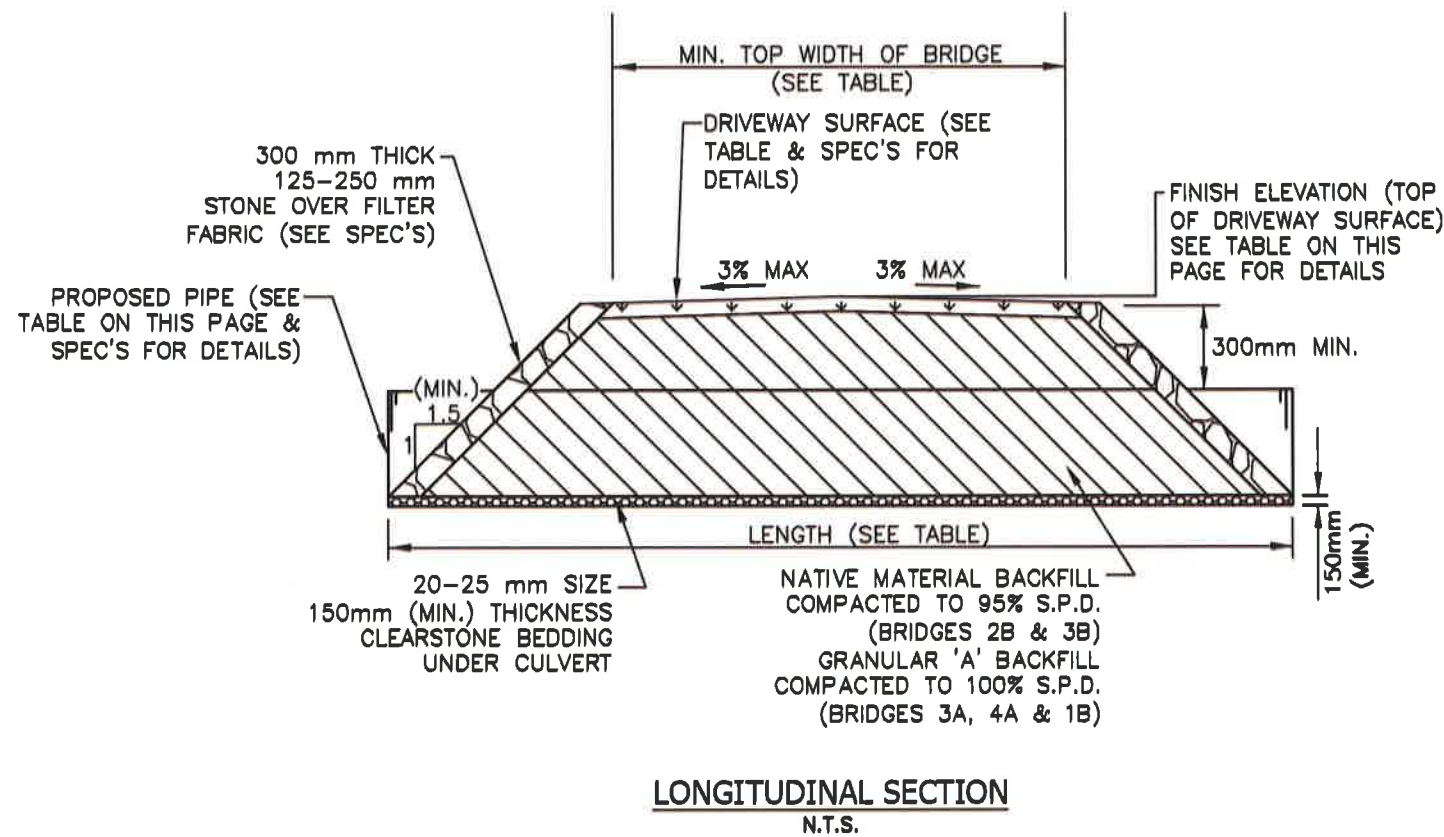
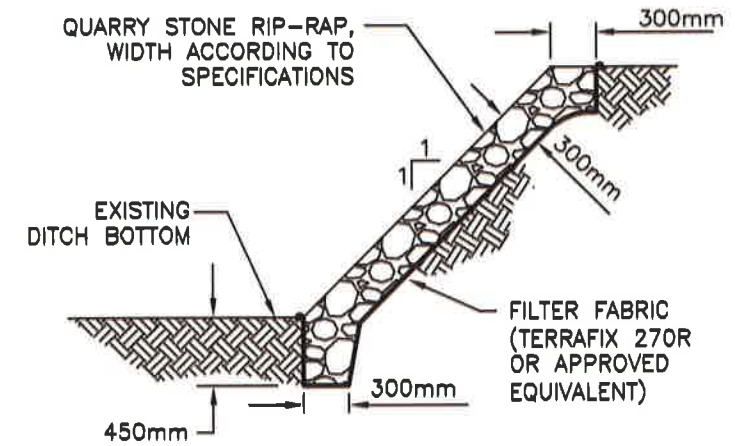
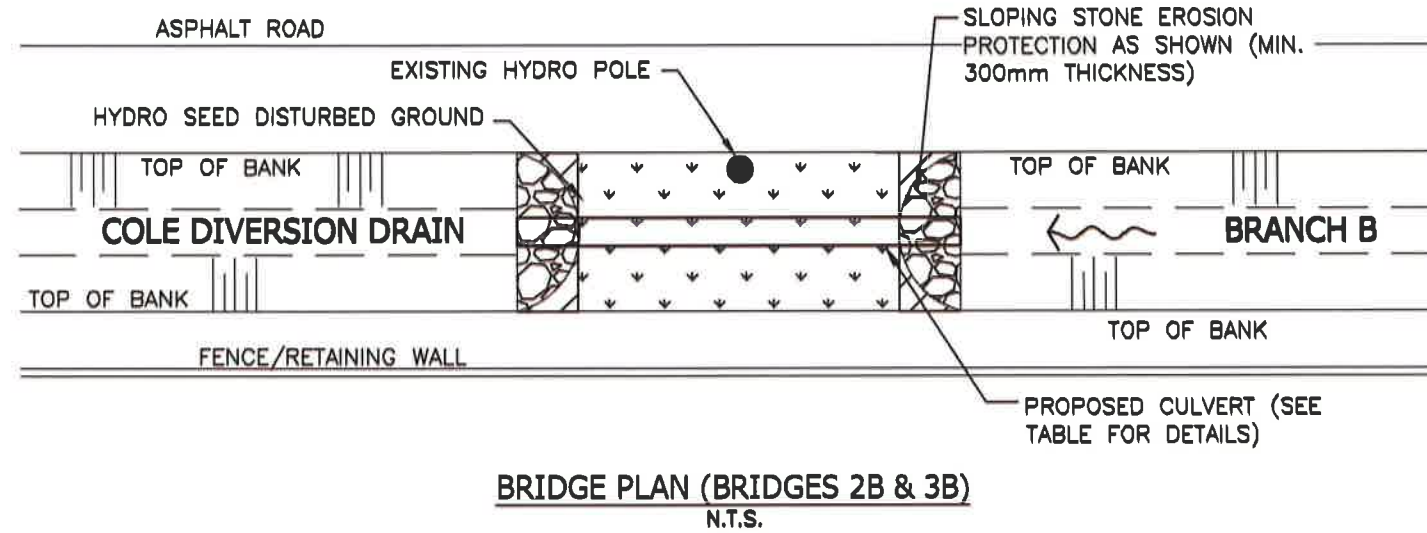


NO.	DESCRIPTION	DATE	BY	SCALE
7	FINAL RECONSIDERED REPORT SUBMISSION	15 JAN 21	TRO	
6	RECONSIDERED REPORT SUBMISSION	15 OCT 20		
5	FINAL REPORT SUBMISSION	27 JUN 19	JMM, TKS	
4	REVISED FINAL REPORT CLIENT REVIEW	1 MAY 19		
3	FINAL REPORT CLIENT REVIEW	11 JAN 19	JJT	January 15, 2021
2	PRELIMINARY REPORT SUBMISSION	08 DEC 18	JJT	
1	PRELIMINARY REPORT CLIENT REVIEW	20 MAR 12	JJT	AS SHOWN

Cole Drain, Cut-Off Drain & Cole Diversion Drain Branches 'A' & 'B'
City of Sarnia (Reconsidered Report)

**COLE DIVERSION DRAIN BRANCH 'B'
PLAN AND PROFILE
FROM STA. 0+000B TO STA. 0+170B**

PROJECT NO: 08-8645
SHEET NO: 41 of 50



COLE DIVERSION DRAIN BRANCH A & B ACCESS BRIDGES DESIGN INFORMATION TABLE					
DESCRIPTION	BRIDGE No. 3A	BRIDGE No. 4A	BRIDGE No. 1B	BRIDGE No. 2B	BRIDGE No. 3B
BRIDGE LOCATION (STA.)	0+407.5A	0+718A	0+010B	0+040B	0+135B
PIPE INVERT ELEV. U/S SIDE(m)	184.51	184.67	184.54	184.68	184.92
PIPE INVERT ELEV. D/S SIDE(m)	184.50	184.65	184.52	184.67	184.91
TOP OF CENTERLINE DRIVEWAY SURFACE ELEVATION (m)	186.10	186.72	186.40	186.24	186.23
DRAIN BOTTOM (m) (DESIGN) (AT CENTERLINE OF CULVERT)	184.59	184.72	184.60	184.72	184.98
MIN. TOP WIDTH OF DRIVEWAY(m)	8.0	22.0	13.0	3.0	3.0
DRIVEWAY SURFACE MATERIAL	GRAVEL	ASPH.	ASPH.	GRASS	GRASS
MIN. CULVERT GRADE (%)	0.10	0.10	0.10	0.10	0.10
CULVERT TYPE	BOSS 2000	BOSS 2000	BOSS 2000	BOSS 2000	BOSS 2000
PIPE SIZE (mm)	900	600	750	600	600
CULVERT LENGTH (m)	15.0	32.0	20.0	9.0	9.0
CULVERT MATERIAL	H.D.P.E.	H.D.P.E.	H.D.P.E.	H.D.P.E.	H.D.P.E.
CULVERT ENDWALL TYPE	SLOPING/ BLOCK	SLOPING	SLOPING	SLOPING	SLOPING

NOTE: BRIDGES 4A & 1B HAVE ASPHALT ROADWAY SURFACES TO BE RESTORED WITH TWO LIFTS OF HOT MIX ASPHALT. 50mm THICKNESS HL4 BASE COURSE. 50mm THICKNESS HL3 SURFACE COURSE.

DILLON CONSULTING LIMITED, 11 FIFTH STREET SOUTH, CHATHAM, ONTARIO, M7M 0M4, PHONE (905) 354-7882, FAX (905) 354-3839

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NO.	DESCRIPTION	DATE	BY	SCALE
7	FINAL RECONSIDERED REPORT SUBMISSION	15 JAN 21	TRC	
6	RECONSIDERED REPORT SUBMISSION	16 OCT 20	TRC	
5	FINAL REPORT SUBMISSION	27 JUN 19	JMW, TKS	
4	REVISED FINAL REPORT CLIENT REVIEW	1 MAY 19	TRC	
3	FINAL REPORT CLIENT REVIEW	11 JAN 18	JJT	
2	PRELIMINARY REPORT SUBMISSION	08 DEC 12	JJT	
1	PRELIMINARY REPORT CLIENT REVIEW	30 MAR 12	JJT	
NO.	NO. & FOR	DATE	BY	SCALE

DATE: January 15, 2021
SCALE: N.T.S.

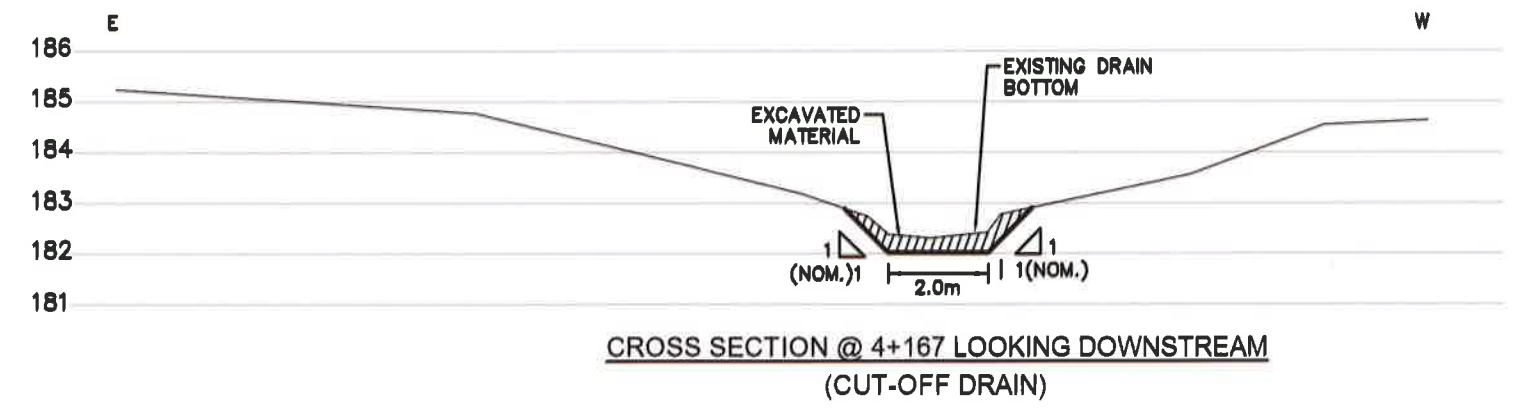
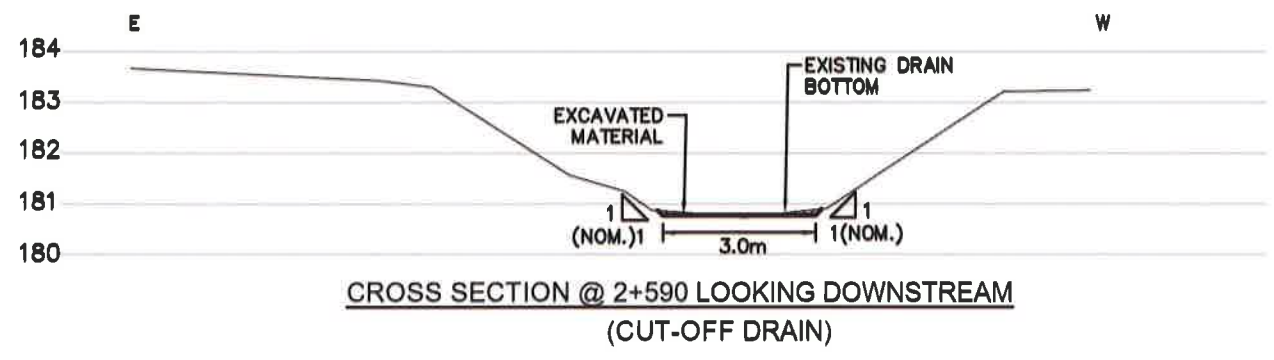
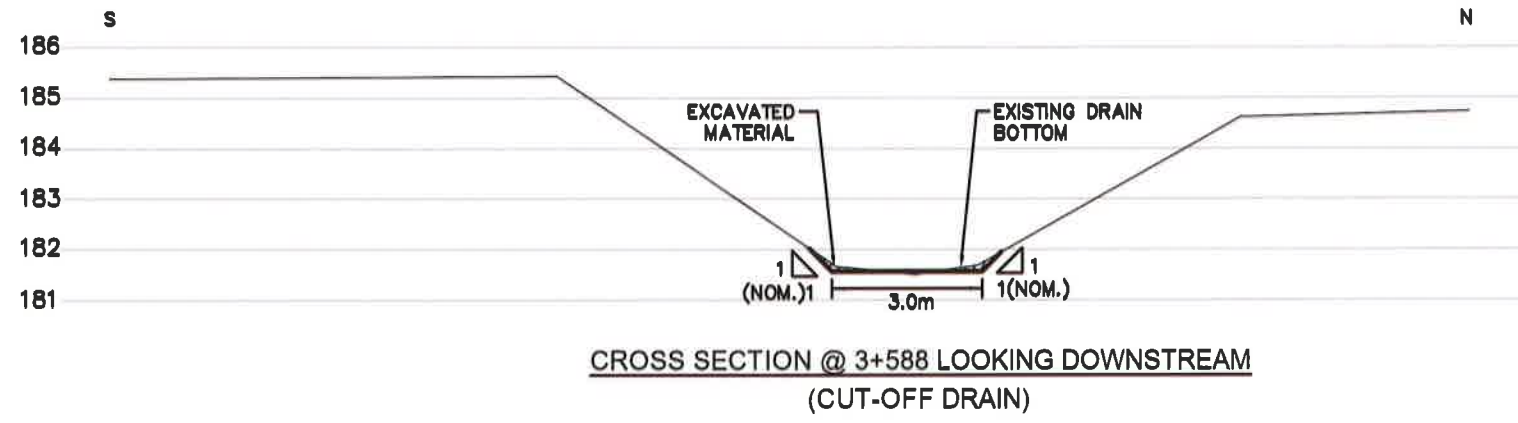
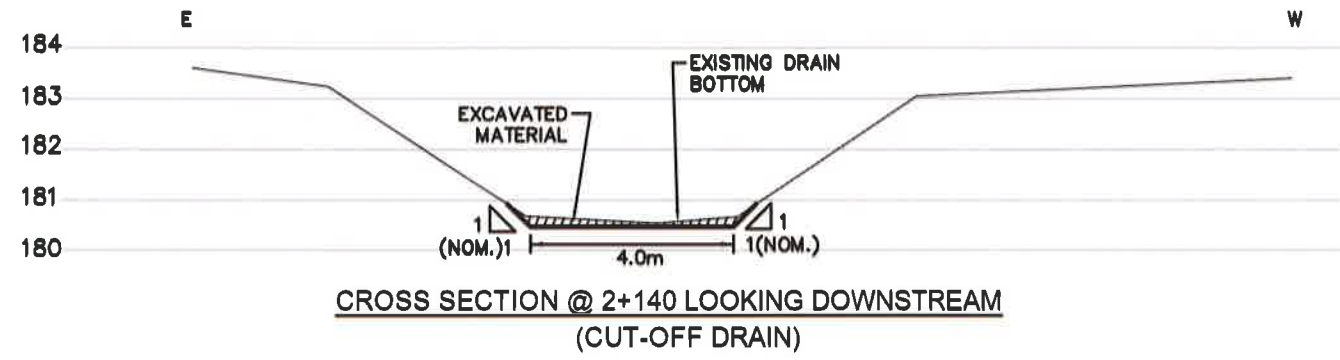
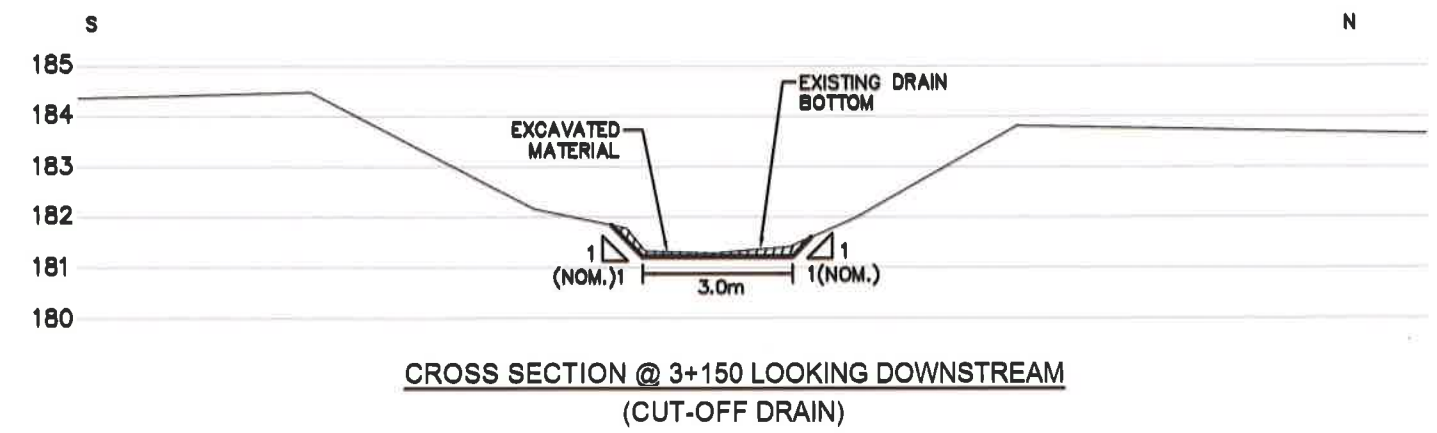
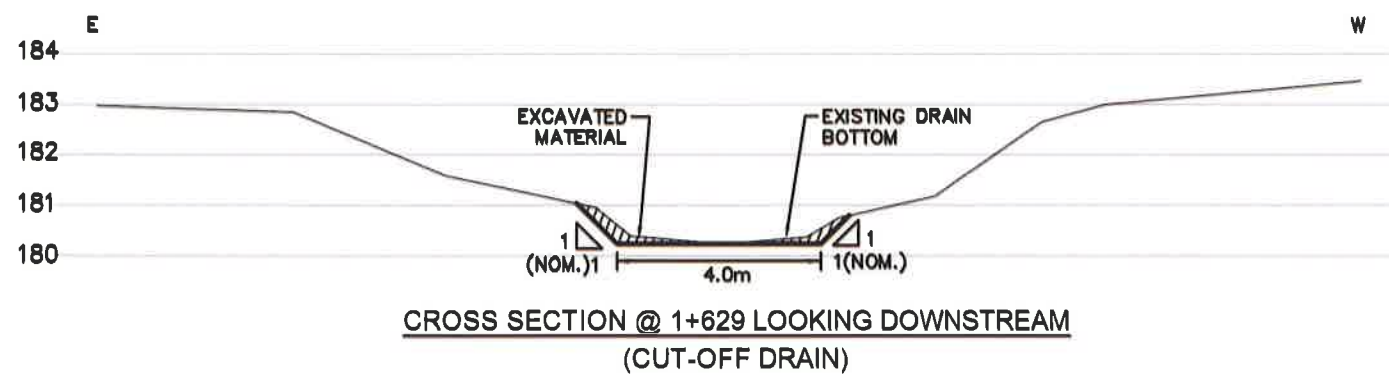
Cole Drain, Cut-Off Drain & Cole Diversion Drain Branches 'A' & 'B'
City of Barrie (Reconsidered Report)

PROJECT NO. 08-8845

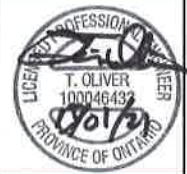
**COLE DIVERSION DRAIN BRANCH 'A' AND 'B'
BRIDGE DETAILS**

SHEET NO. 42 of 50

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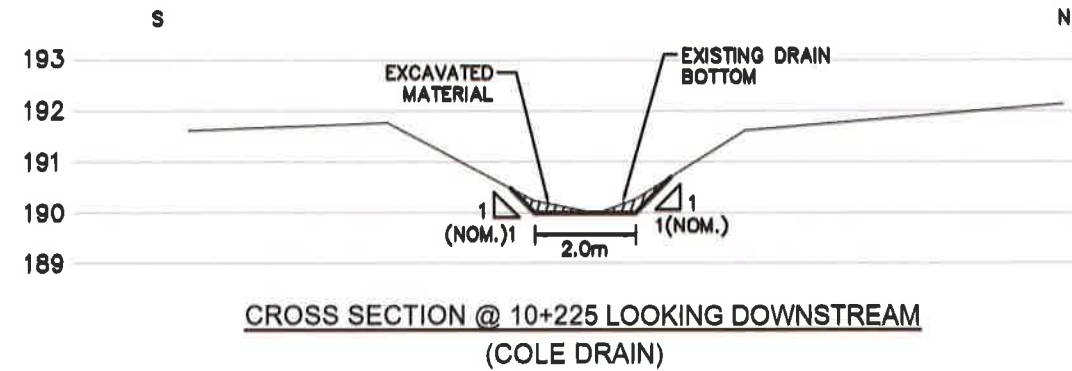
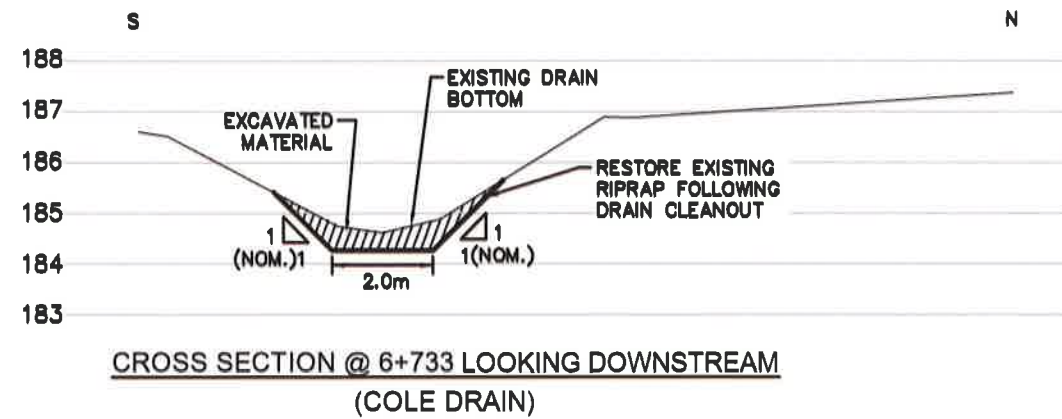
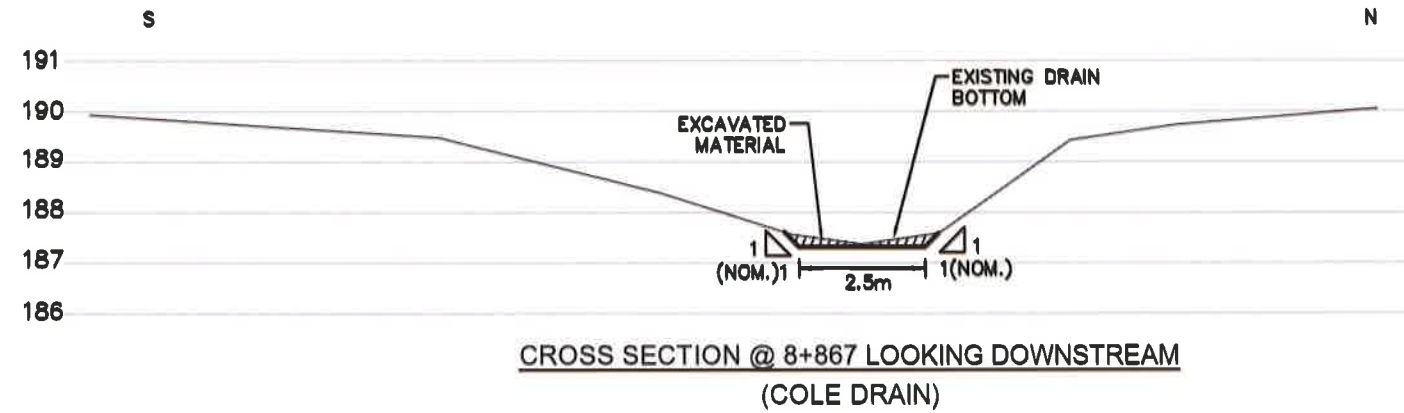
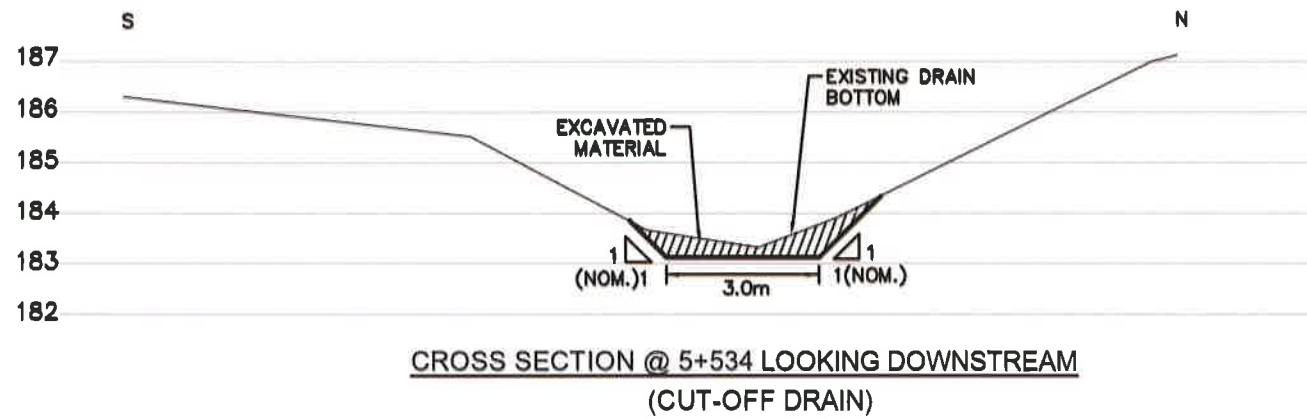
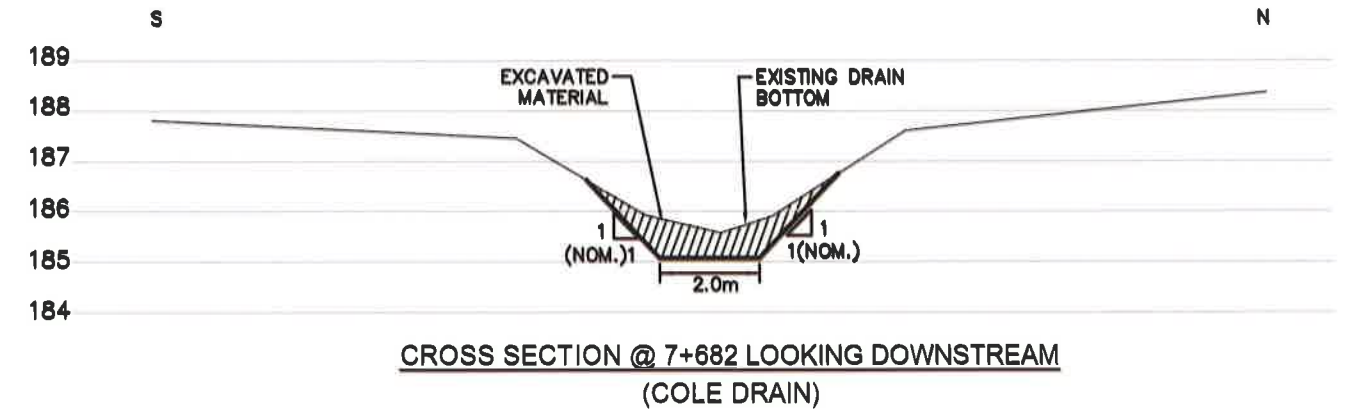
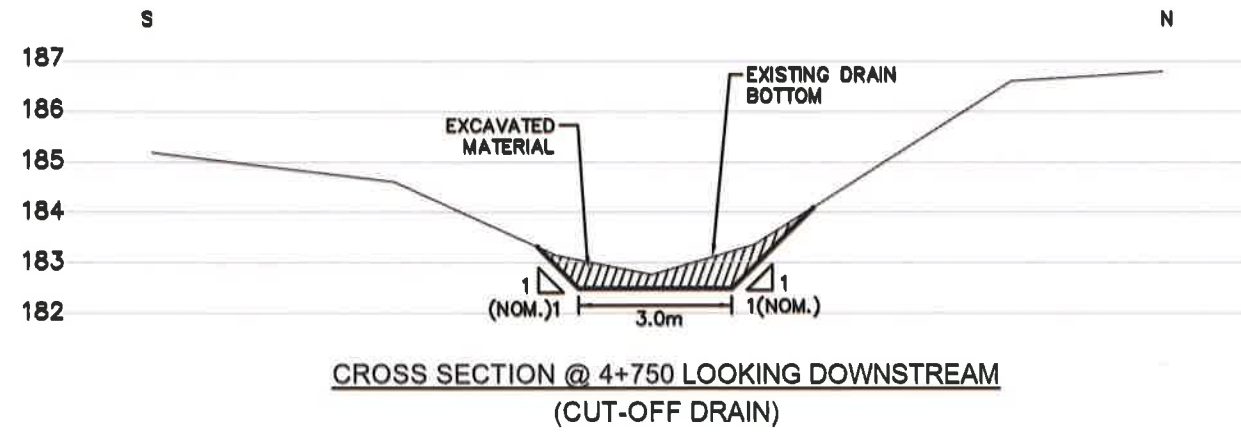
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NO.	REVISION	DATE	BY	SCALE
7	FINAL RECONSIDERED REPORT SUBMISSION	15 JAN 21	JJT	
6	RECONSIDERED REPORT SUBMISSION	15 OCT 20	JJM, TKS	
5	FINAL REPORT RE-SUBMISSION	27 JUN 19	FRP	
4	REVISED FINAL REPORT CLIENT REVIEW	1 MAY 19	JJT	
3	FINAL REPORT CLIENT REVIEW	11 JAN 19	JJT	January 15, 2021
2	PRELIMINARY REPORT SUBMISSION	08 DEC 12	JJT	
1	PRELIMINARY REPORT CLIENT REVIEW	30 MAR 12	JJT	
00	ISSUED FOR			N.T.S.

Cole Drain, Cut-Off Drain & Cole Diversion Drain Branches 'A' & 'B' City of Sarnia (Reconsidered Report)		PROJECT NO: 08-8845
CUT-OFF DRAIN TYPICAL CROSS SECTIONS		SHEET NO: 43 of 50

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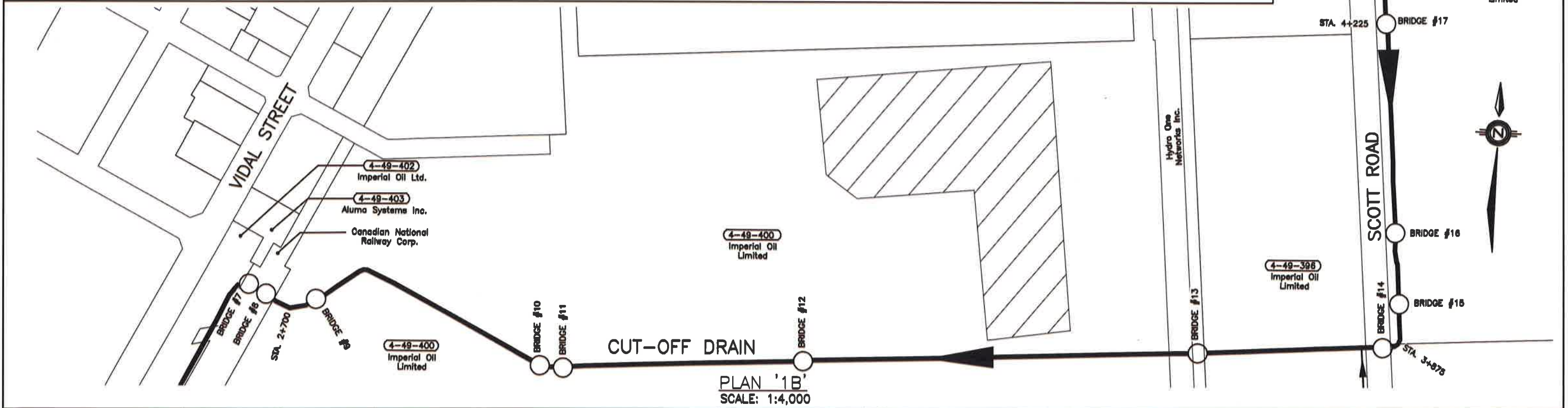
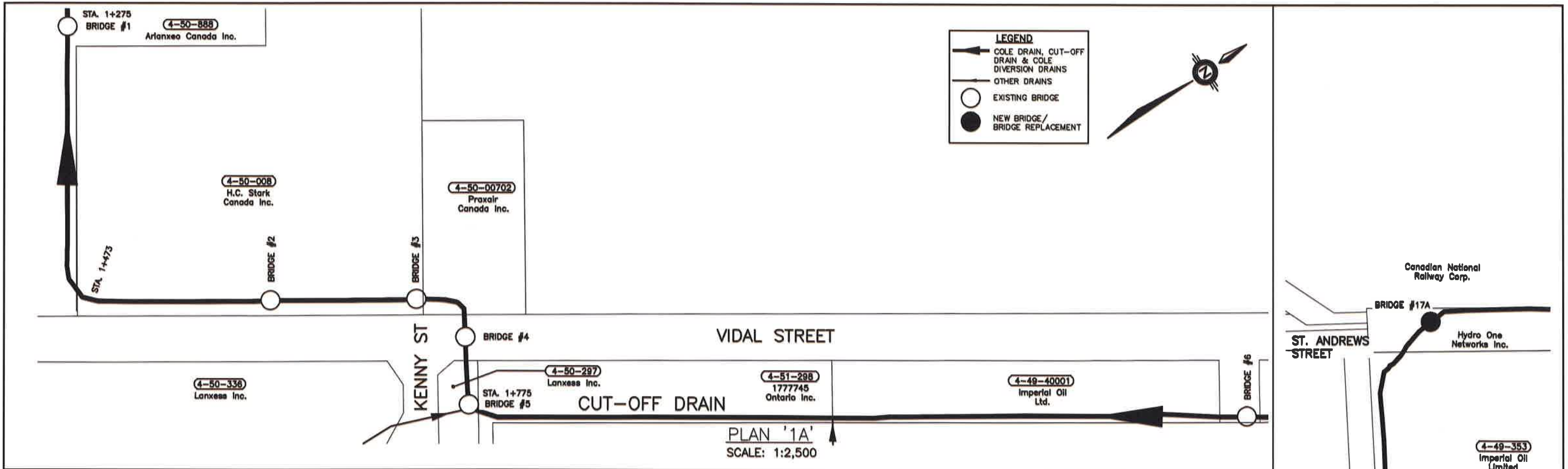
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5	FINAL REPORT RE SUBMISSION	27 JUN 19	JJT	
4	REVISED FINAL REPORT CLIENT REVIEW	1 MAY 19	JJT	
3	FINAL REPORT CLIENT REVIEW	11 JAN 19	JJT	
2	PRELIMINARY REPORT SUBMISSION	06 DEC 12	JJT	
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Cole Drain, Cut-Off Drain & Cole Diversion Drain Branches 'A' & 'B'
 City of Sarnia (Reconsidered Report)

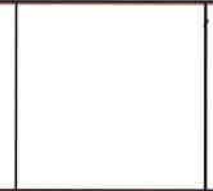
PROJECT NO:
08-8845

**CUT-OFF / COLE DRAIN
 TYPICAL CROSS SECTIONS**

SHEET NO:
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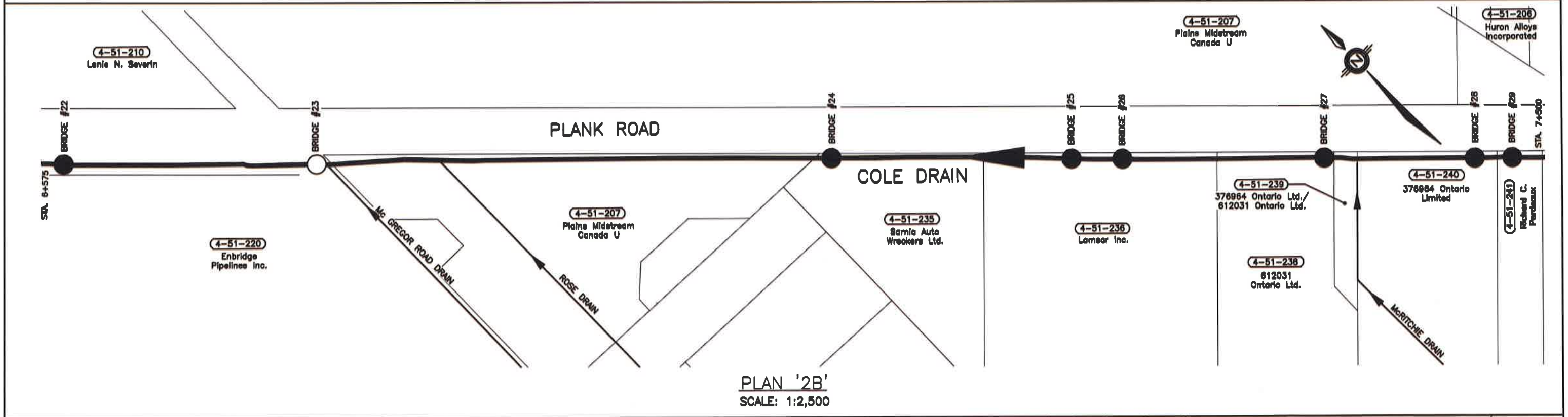
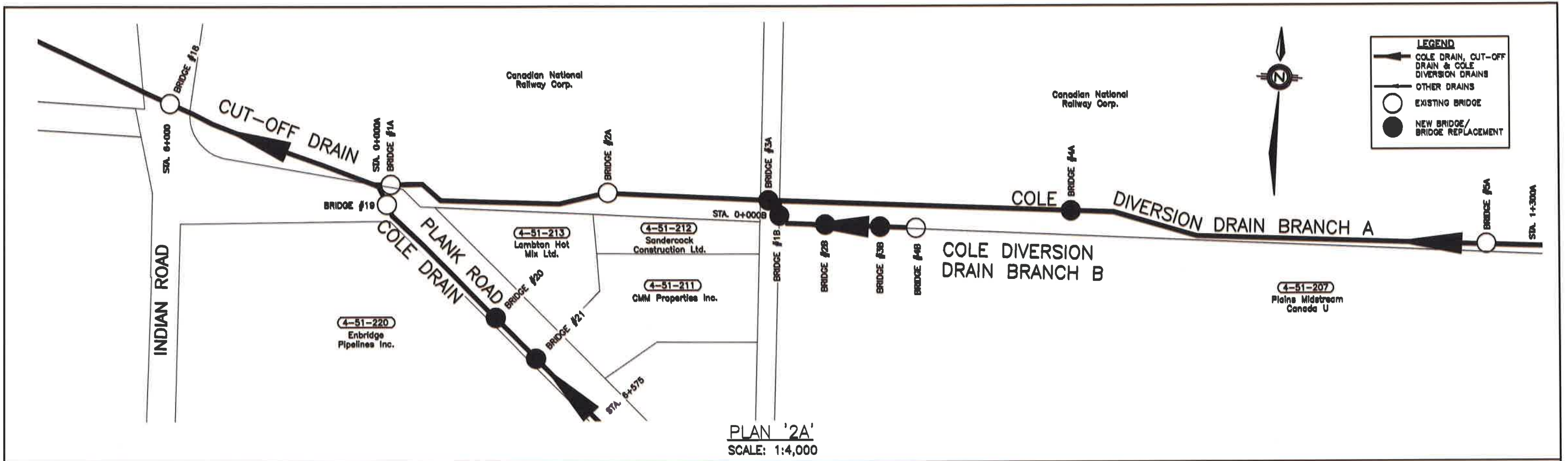
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6	RECONSIDERED REPORT SUBMISSION	15 OCT 20	TRO	JJT
5	FINAL REPORT SUBMISSION	27 JUN 19	TRO	PRP
4	REVISED FINAL REPORT CLIENT REVIEW	1 MAY 18	TRO	JJT
3	FINAL REPORT CLIENT REVIEW	11 JAN 18	JJT	JJT
2	PRELIMINARY REPORT SUBMISSION	08 DEC 12	JJT	JJT
1	PRELIMINARY REPORT CLIENT REVIEW	30 MAR 12	JJT	JJT

DESIGN: TRO
 REVISION: JJT
 DRAWN: JMW, TKS
 CHECKED BY: PRP
 DATE: January 15, 2021
 SCALE: AS SHOWN

Cole Drain, Cut-Off Drain & Cole Diversion Drain Branches 'A' & 'B'
 City of Sarnia (Reconsidered Report)

BRIDGE LOCATION PLAN 1

PROJECT NO: 08-8845
 SHEET NO: 45 of 50



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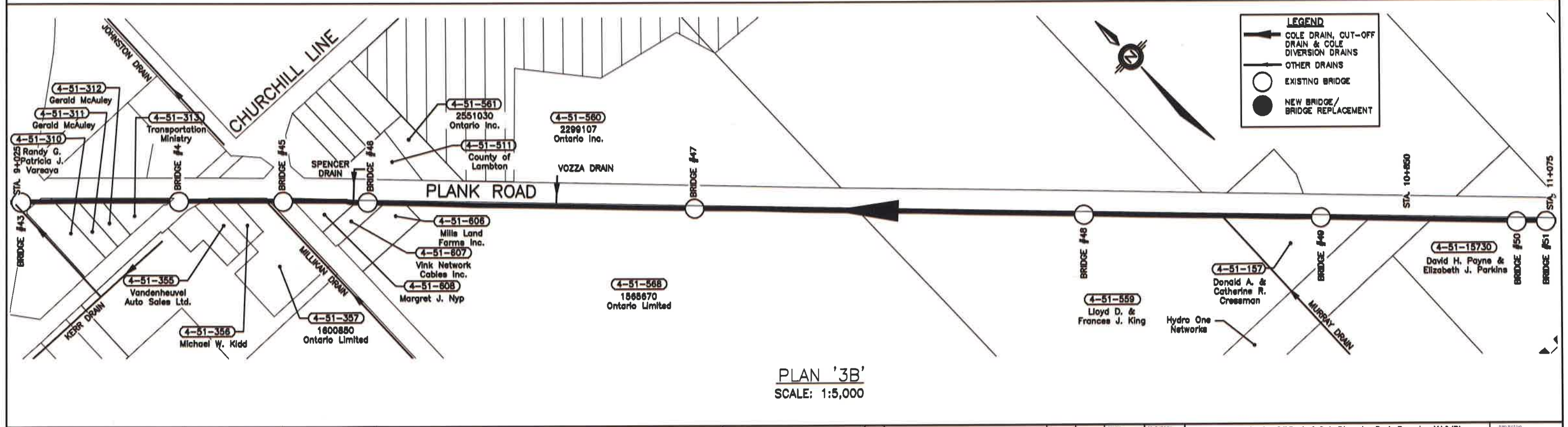
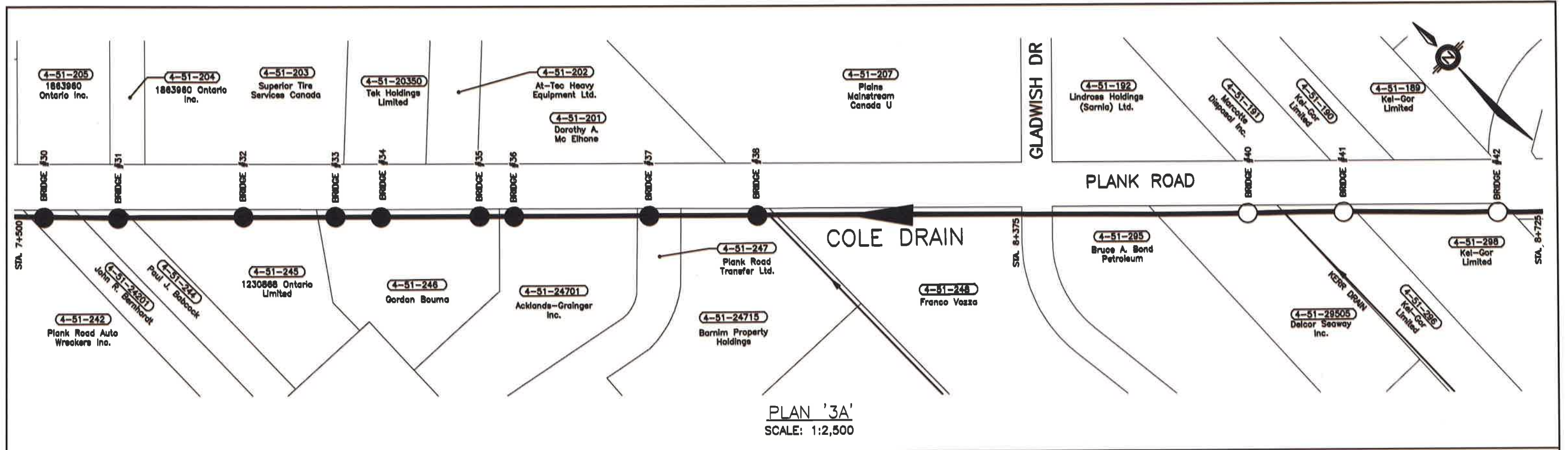
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6	RECONSIDERED REPORT SUBMISSION FOR CLIENT REVIEW	18 OCT 20	TRO	CHASDFP
5	FINAL REPORT RE SUBMISSION	27 JUNE 19	TRO	JMM, TKB
4	REVISED FINAL REPORT CLIENT REVIEW	1 MAY 19	TRO	SAE
3	FINAL REPORT CLIENT REVIEW	17 JAN 18	JIT	SAE
2	PRELIMINARY REPORT SUBMISSION	08 DEC 12	JIT	SAE
1	PRELIMINARY REPORT CLIENT REVIEW	30 MAR 12	JIT	SAE

DESIGN: TRO
REVIEWED BY: JIT
DATE: January 18, 2021
SCALE: AS SHOWN

Cole Drain, Cut-Off Drain & Cole Diversion Drain Branches 'A' & 'B'
City of Barrie (Reconsidered Report)

BRIDGE LOCATION PLAN 2

PROJECT NO: 08-8845
SHEET NO: 46 of 50



LEGEND

- ➔ COLE DRAIN, CUT-OFF DRAIN & COLE DIVERSION DRAINS
- ➔ OTHER DRAINS
- EXISTING BRIDGE
- NEW BRIDGE / BRIDGE REPLACEMENT

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NO.	DESCRIPTION	DATE	BY	FOR
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8	RECONSIDERED REPORT SUBMISSION FOR CLIENT REVIEW	19 OCT 20	TRO	CHECKED BY
9	FINAL REPORT SUBMISSION	27 JUNE 19	TRO	JMM, TKS
4	REVISED FINAL REPORT CLIENT REVIEW	1 MAY 19	TRO	JMM
3	FINAL REPORT CLIENT REVIEW	11 JAN 19	JJT	January 15, 2021
2	PRELIMINARY REPORT SUBMISSION	08 DEC 12	JJT	
1	PRELIMINARY REPORT CLIENT REVIEW	30 MAR 12	JJT	SCALE AS SHOWN

Cole Drain, Cut-Off Drain & Cole Diversion Drain Branches 'A' & 'B'
City of Barrie (Reconsidered Report)

BRIDGE LOCATION PLAN 3

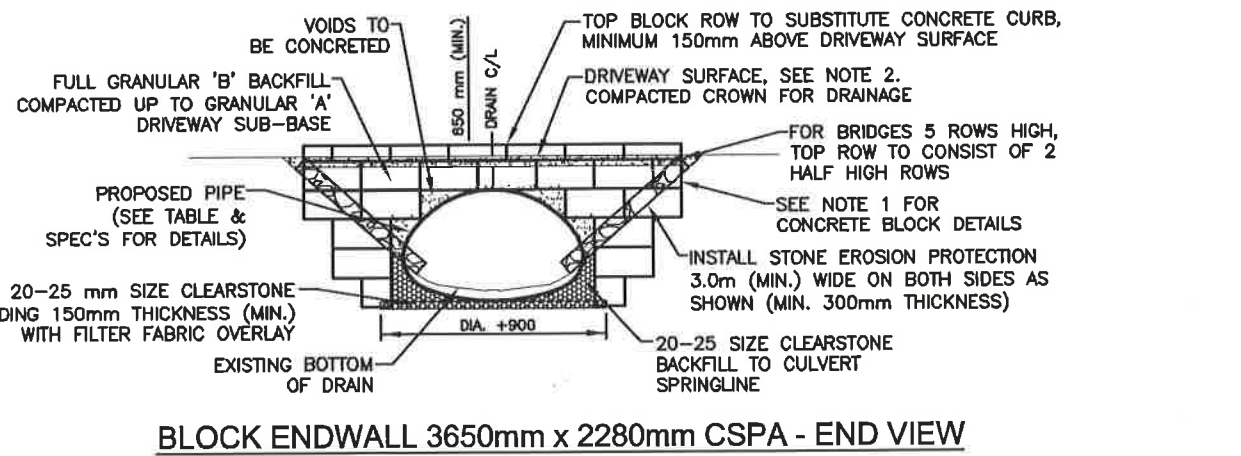
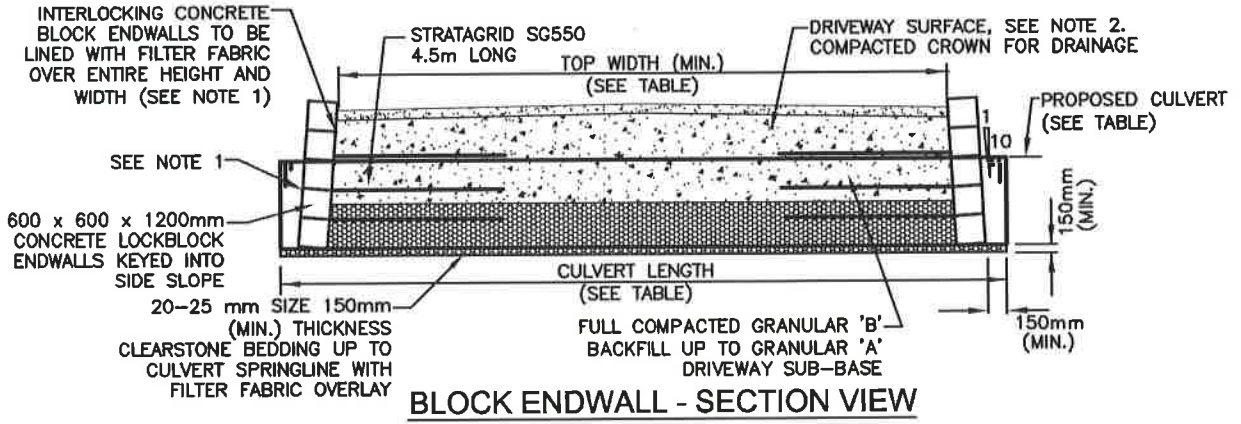
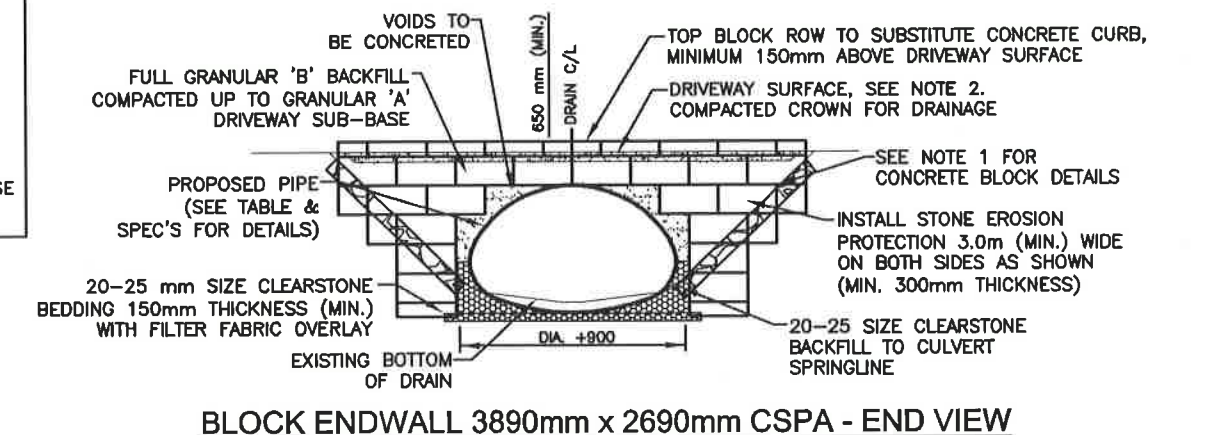
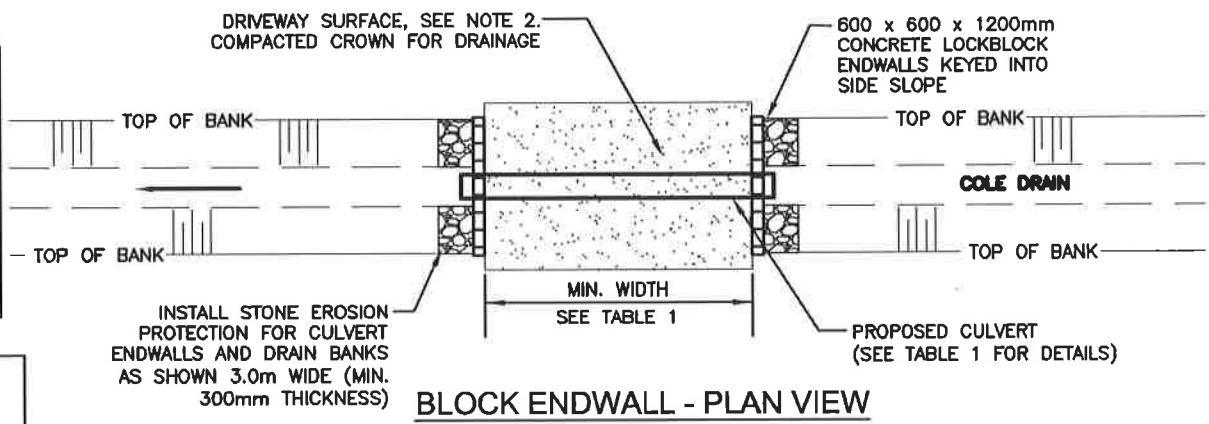
PROJECT NO: 08-8845
SHEET NO: 47 of 50

TABLE 1 - COLE DRAIN ACCESS BRIDGES DESIGN INFORMATION

DESCRIPTION	BRIDGE No. 20	BRIDGE No. 21	BRIDGE No. 22	BRIDGE No. 24	BRIDGE No. 25	BRIDGE No. 26	BRIDGE No. 27	BRIDGE No. 28	BRIDGE No. 29	BRIDGE No. 30	BRIDGE No. 31	BRIDGE No. 32	BRIDGE No. 33	BRIDGE No. 34	BRIDGE No. 35	BRIDGE No. 36	BRIDGE No. 37	BRIDGE No. 38
BRIDGE LOCATION (STA.)	6+431	6+492	6+662	7+161	7+324	7+355	7+483	7+581	7+610	7+739	7+794	7+879	7+928	7+959	7+999	8+045	8+133	8+205
PIPE INVERT ELEV. U/S SIDE(m)	183.62	183.65	183.78	184.61	184.69	184.81	184.75	184.79	184.80	184.98	185.01	185.35	185.46	185.46	185.46	185.51	185.82	186.03
PIPE INVERT ELEV. D/S SIDE(m)	183.61	183.64	183.74	184.60	184.68	184.80	184.74	184.78	184.79	184.97	185.00	185.31	185.45	185.45	185.45	185.50	185.80	186.01
TOP OF CENTERLINE DRIVEWAY SURFACE ELEVATION (m)	186.96	186.78	187.14	187.80	187.72	187.95	187.81	187.75	187.81	188.04	188.10	188.32	188.50	188.50	188.50	188.55	188.74	189.12
DRAIN BOTTOM (m) (DESIGN) (AT CENTERLINE OF CULVERT)	183.89	183.92	184.02	184.84	184.91	184.92	184.97	185.01	185.02	185.08	185.24	185.56	185.74	185.50	185.50	185.92	186.07	186.25
MIN. TOP WIDTH OF DRIVEWAY(m)	9.0	26.5	9.0	9.0	9.0	9.8	11.3	9.0	9.0	17.5	12.5	9.0	7.0	7.0	11.2	11.3	9.0	9.0
DRIVEWAY SURFACE MATERIAL	ASPH.	GRAVEL	ASPH.	CONC.	ASPH.	ASPH.	ASPH.	ASPH.	ASPH.	GRAVEL	GRAVEL	GRAVEL	CONC.	CONC.	CONC.	ASPH.	ASPH.	ASPH.
MIN. CULVERT GRADE (%)	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
CULVERT TYPE	C.S.P. ARCH	C.S.P. ARCH	C.S.P. ARCH	C.S.P. ARCH	C.S.P. ARCH	C.S.P. ARCH	C.S.P. ARCH	C.S.P. ARCH	C.S.P. ARCH	C.S.P. ARCH	C.S.P. ARCH	C.S.P. ARCH	C.S.P. ARCH	C.S.P. ARCH	C.S.P. ARCH	C.S.P. ARCH	C.S.P. ARCH	C.S.P. ARCH
PIPE SIZE (mm)	3890 x 2690	3890 x 2690	3890 x 2690	3650 x 2280	3650 x 2280	3650 x 2280	3650 x 2280	3650 x 2280	3650 x 2280	3650 x 2280	3650 x 2280	3650 x 2280	3650 x 2280	3650 x 2280	3650 x 2280	3650 x 2280	3650 x 2280	3650 x 2280
CULVERT LENGTH (m)	11.5	29.5	11.5	11.5	11.5	12.5	14.5	11.5	11.5	20	15.0	11.5	9.5	9.5	14.0	14.0	11.5	11.5
CULVERT THICKNESS (mm)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
CULVERT CORRUGATIONS (mm)	125x25	125x25	125x25	125x25	125x25	125x25	125x25	125x25	125x25	125x25	125x25	125x25	125x25	125x25	125x25	125x25	125x25	125x25
CULVERT MATERIAL	ALUM.	ALUM.	ALUM.	ALUM.	ALUM.	ALUM.	ALUM.	ALUM.	ALUM.	ALUM.	ALUM.	ALUM.	ALUM.	ALUM.	ALUM.	ALUM.	ALUM.	ALUM.
CULVERT ENDWALL TYPE	BLOCK	BLOCK	BLOCK	BLOCK	BLOCK	BLOCK	BLOCK	BLOCK	BLOCK	BLOCK	BLOCK	BLOCK	BLOCK	BLOCK	BLOCK	BLOCK	BLOCK	BLOCK
TOP OF BLOCK WALL (m) MIN. ELEV	187.22	186.95	187.38	187.85	187.93	188.00	187.95	187.72	187.73	187.90	188.20	188.28	188.65	188.65	188.65	188.70	188.75	189.27
NUMBER OF BLOCK ROWS HIGH	6	5.5	6	5.5	5.5	5.5	5.5	5	5	5	5.5	5.5	5.5	5.5	5.5	5	5.5	

NOTE 1:
 INTERLOCKING 600mm x 600mm x 1200mm CONCRETE BLOCKS TO BE ON A 10:1 BATTER.
 FOR BRIDGES OF 5 ROWS HIGH, TOP ROW TO CONSIST OF 2 HALF HIGH CONCRETE BLOCK ROWS.
 THE PIPE CULVERT TO PROTRUDE A MINIMUM 150 mm BEYOND THE LOWEST BLOCK ROW.

NOTE 2:
GRAVEL DRIVEWAY:
 300 mm (MIN.) GRANULAR 'A' (CRUSHED LIMESTONE)
ASPHALT DRIVEWAY:
 300 mm GRANULAR 'A' SUB-BASE
 50 mm HL4 BASE COURSE
 50 mm HL3 SURFACE COURSE
CONCRETE DRIVEWAY:
 200 mm GRANULAR 'A' - SUB-BASE
 200 mm - 30 MPA CONCRETE



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NO.	DESCRIPTION	DATE	BY	CHKD.
2	FINAL REPORT FOR SUBMISSION	15 JAN 21	FRG	JJM
5	REVISED REPORT SUBMISSION	15 OCT 20	FRG	FRF
1	FINAL REPORT FOR SUBMISSION	27 APR 18	FRG	JJM
3	REVISED FINAL REPORT CLIENT REVIEW	1 MAY 18	FRG	JJM
7	FINAL REPORT CLIENT REVIEW	11 JAN 16	JJM	JJM
2	PRELIMINARY REPORT SUBMISSION	28 DEC 12	JJM	JJM
1	PRELIMINARY REPORT CLIENT REVIEW	30 MAR 12	UI	JJM

DATE: January 15, 2021
 DRAWN BY: JMM, TKS
 CHECKED BY: FRF
 SCALE: 1:1

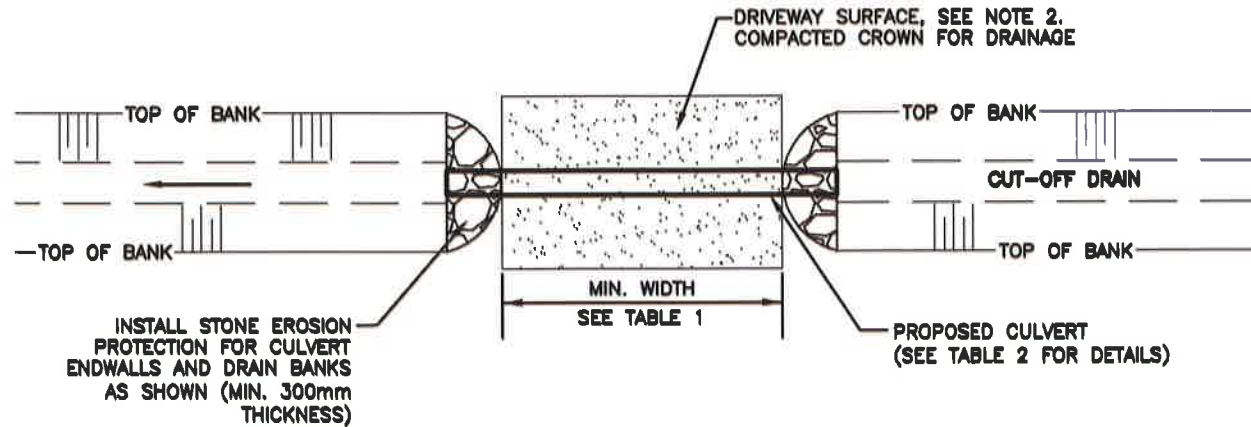
Cole Drain, Cut-Off Drain & Cole Diversion Drain Branches 'A' & 'B'
 City of Sarnia (Reconsidered Report)

**COLE DRAIN
 ACCESS BRIDGE REPLACEMENT DETAILS**

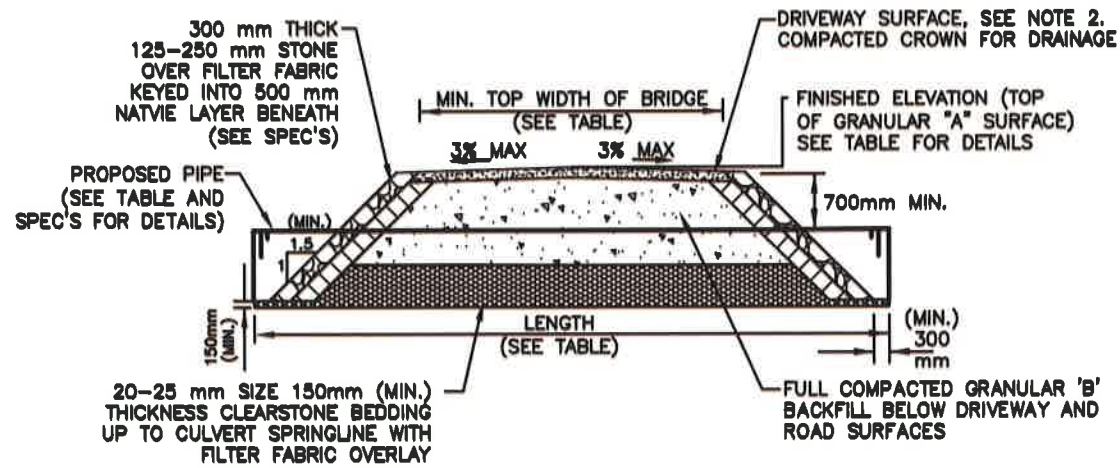
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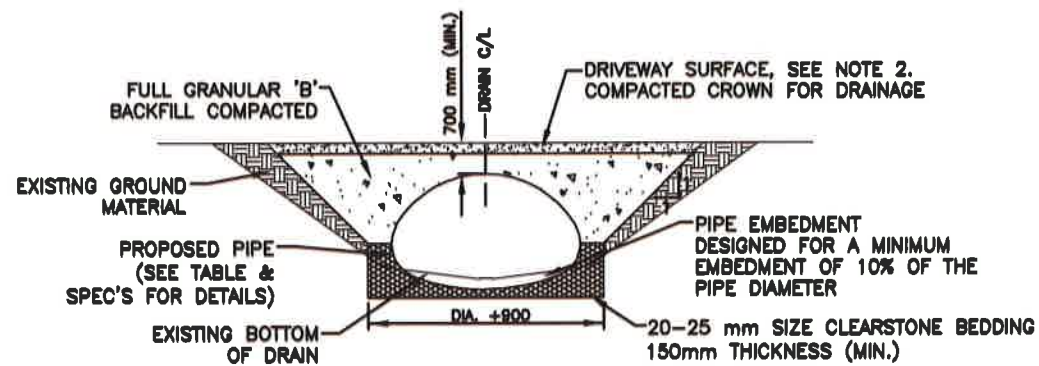
DILLON CONSULTING LIMITED, 10 FETTER STREET SOUTH, CHATHAM, ONTARIO, M7N 0V4, PHONE (905) 354-7882, FAX (905) 354-3889



RIPRAP ENDWALL - PLAN VIEW



RIPRAP ENDWALL - SECTION VIEW



RIPRAP ENDWALL - END VIEW

TABLE 2 - CUT-OFF DRAIN ACCESS BRIDGE DESIGN INFORMATION	
DESCRIPTION	BRIDGE No. 17A
BRIDGE LOCATION (STA.)	4+415
PIPE INVERT ELEV. U/S SIDE(m)	181.92
PIPE INVERT ELEV. D/S SIDE(m)	181.90
TOP OF CENTERLINE DRIVEWAY SURFACE ELEVATION (m)	185.55
DRAIN BOTTOM (m) (DESIGN) (AT CENTERLINE OF CULVERT)	182.21
MIN. TOP WIDTH OF DRIVEWAY(m)	6.0
DRIVEWAY SURFACE MATERIAL	GRAVEL
MIN. CULVERT GRADE (%)	0.10
CULVERT TYPE	C.S.P. ARCH
PIPE SIZE (mm)	4370 x 2890
CULVERT LENGTH (m)	18.0
CULVERT THICKNESS (mm)	3.5
CULVERT CORRUGATIONS (mm)	125x25
CULVERT MATERIAL	ALUM.
CULVERT ENDWALL TYPE	SLOPING

NOTE 2:

GRAVEL DRIVEWAY:
300 mm (MIN.) GRANULAR 'A' (CRUSHED LIMESTONE)

ASPHALT DRIVEWAY:
300 mm GRANULAR 'A' SUB-BASE
50 mm HL4 BASE COURSE
50 mm HL3 SURFACE COURSE

CONCRETE DRIVEWAY:
200 mm GRANULAR 'A' - SUB-BASE
200 mm - 30 MPA CONCRETE

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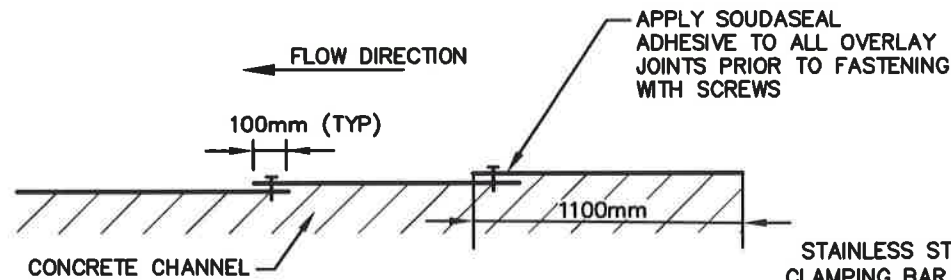
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6	RECONSIDERED REPORT SUBMISSION	15 OCT 20	JTT	JMM, TKS	FRF
5	FINAL REPORT SUBMISSION	27 JUN 19	JTT		
4	REVISED FINAL REPORT CLIENT REVIEW	1 MAY 19	JTT		
3	FINAL REPORT CLIENT REVIEW	11 JAN 19	JTT	January 18, 2021	
2	PRELIMINARY REPORT SUBMISSION	08 DEC 12	JTT		
1	PRELIMINARY REPORT CLIENT REVIEW	30 MAR 12	JTT	SCALE	N.T.S.

Cole Drain, Cut-Off Drain & Cole Diversion Drain Branches 'A' & 'B'
City of Sarnia (Reconsidered Report)

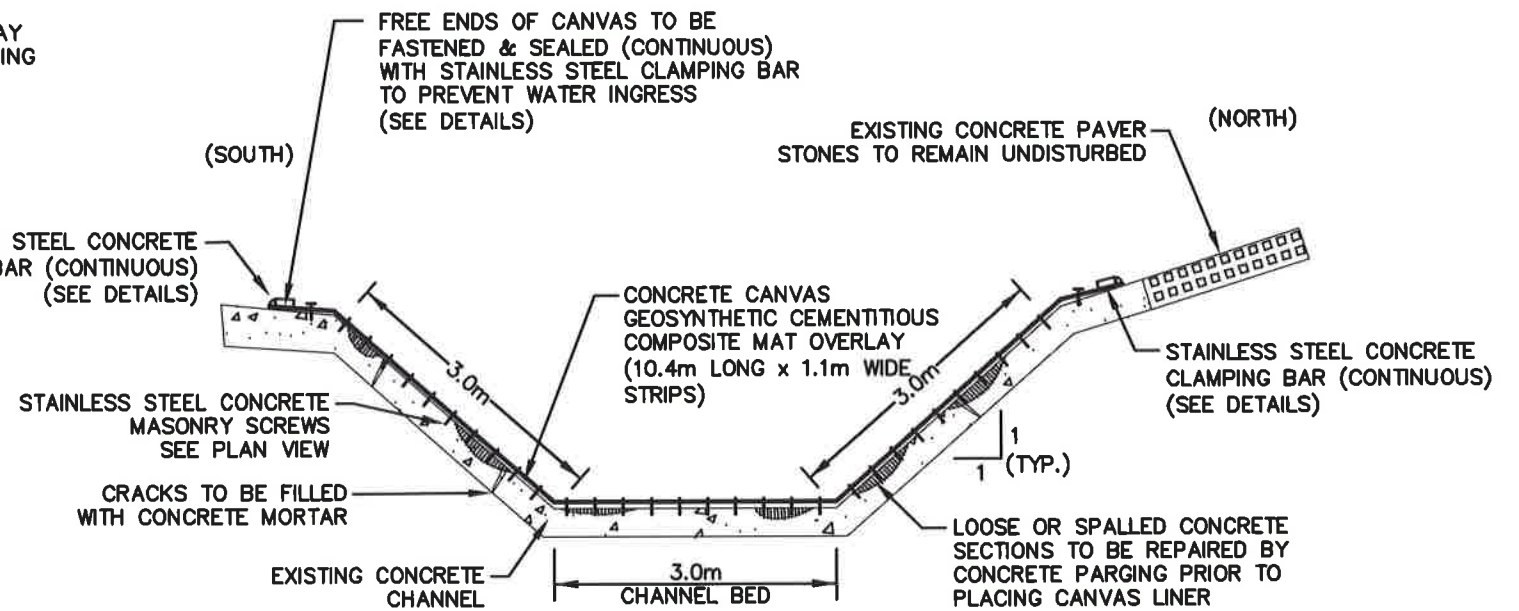
PROJECT NO
08-8845

**CUT-OFF DRAIN
ACCESS BRIDGE
DETAILS**

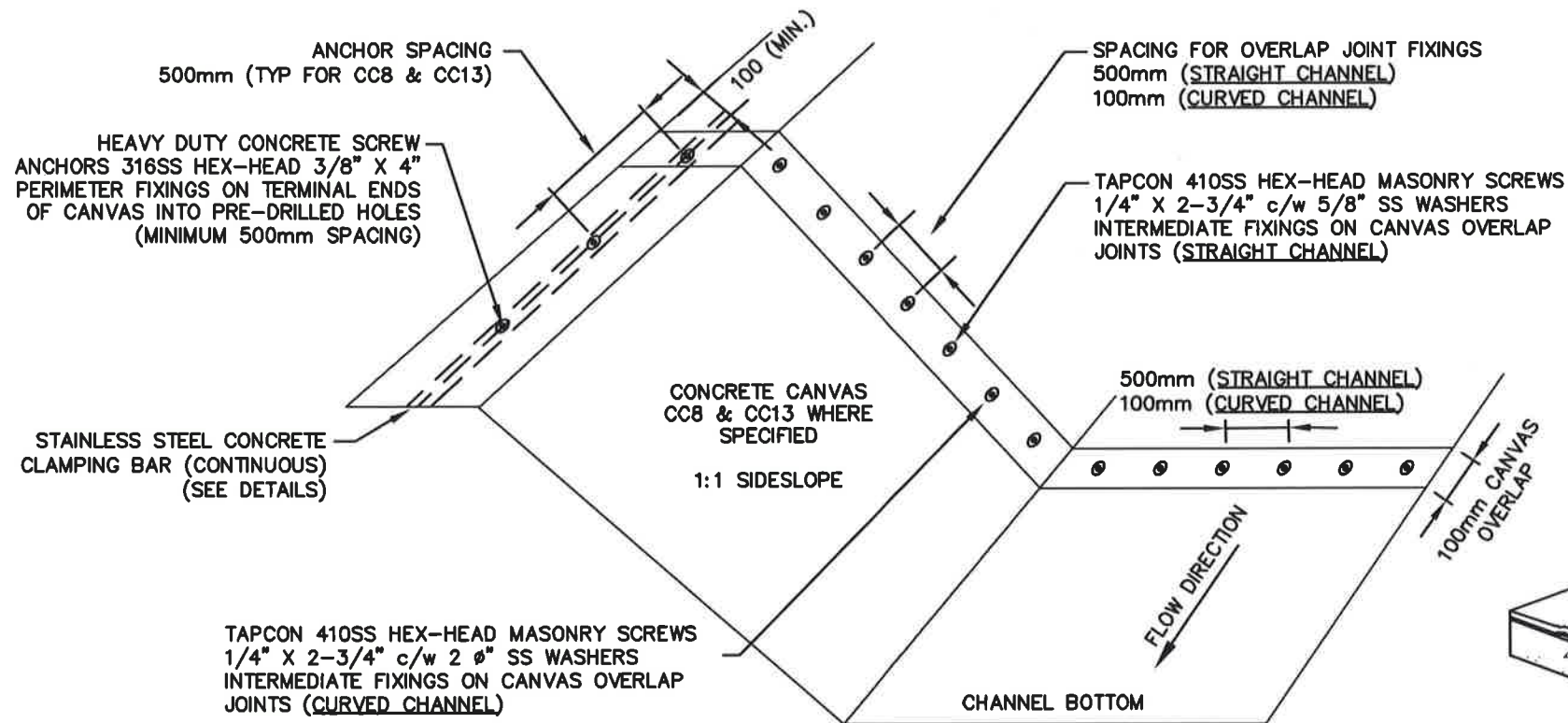
SHEET NO
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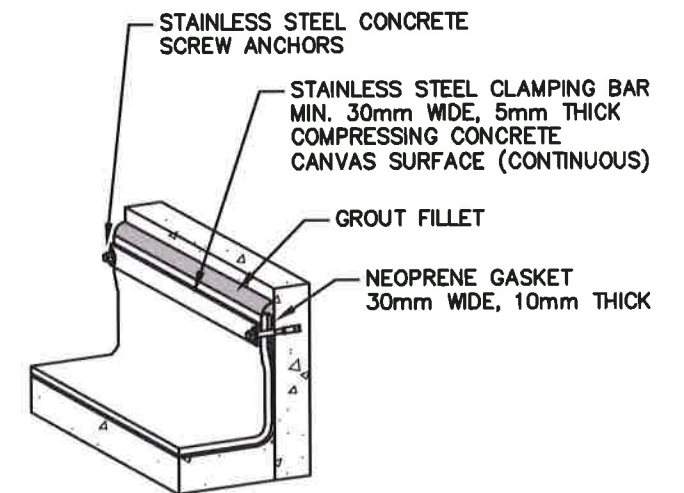
OVERLAP JOINTING DETAIL



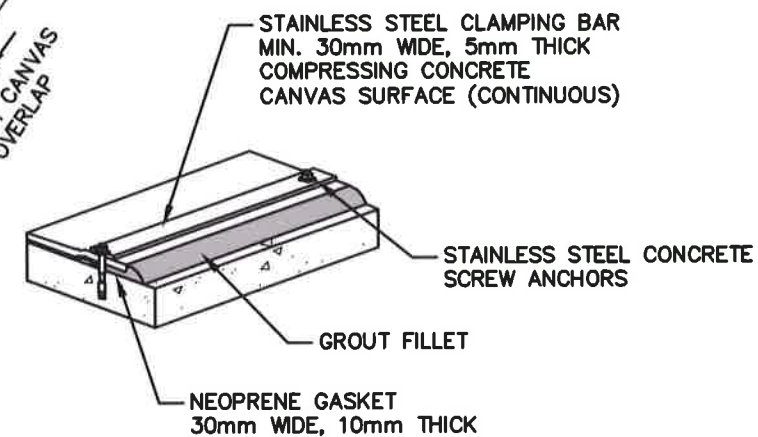
CROSS-SECTION VIEW
(LOOKING DOWNSTREAM)



PLAN VIEW
(LOOKING UPSTREAM)



CONCRETE CLAMPING BAR DETAIL
(VERTICAL SURFACES)



CONCRETE CLAMPING BAR DETAIL
(HORIZONTAL SURFACES)

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NO.	DESCRIPTION	DATE	BY	DESIGN	REVISION
7	FINAL RECONSIDERED REPORT SUBMISSION	15 JAN 21	TRO	TRO	JJT
6	RECONSIDERED REPORT SUBMISSION	15 OCT 20	TRO	JMM, TKS	FRF
5	FINAL REPORT RESUBMISSION	27 JUNE 19	TRO		
4	REVISED FINAL REPORT CLIENT REVIEW	1 MAY 19	TRO		
3	FINAL REPORT CLIENT REVIEW	11 JAN 18	JJT		
2	PRELIMINARY REPORT SUBMISSION	06 DEC 12	JJT		
1	PRELIMINARY REPORT CLIENT REVIEW	30 MAR 12	JJT		
00	ISSUED FOR				

Cole Drain, Cut-Off Drain & Cole Diversion Drain Branches 'A' & 'B'
City of Sarnia (Reconsidered Report)

PROJECT NO.
08-8845

CONCRETE CANVAS
DETAILS

SHEET NO.
50 of 50

SCALE
N.T.S.