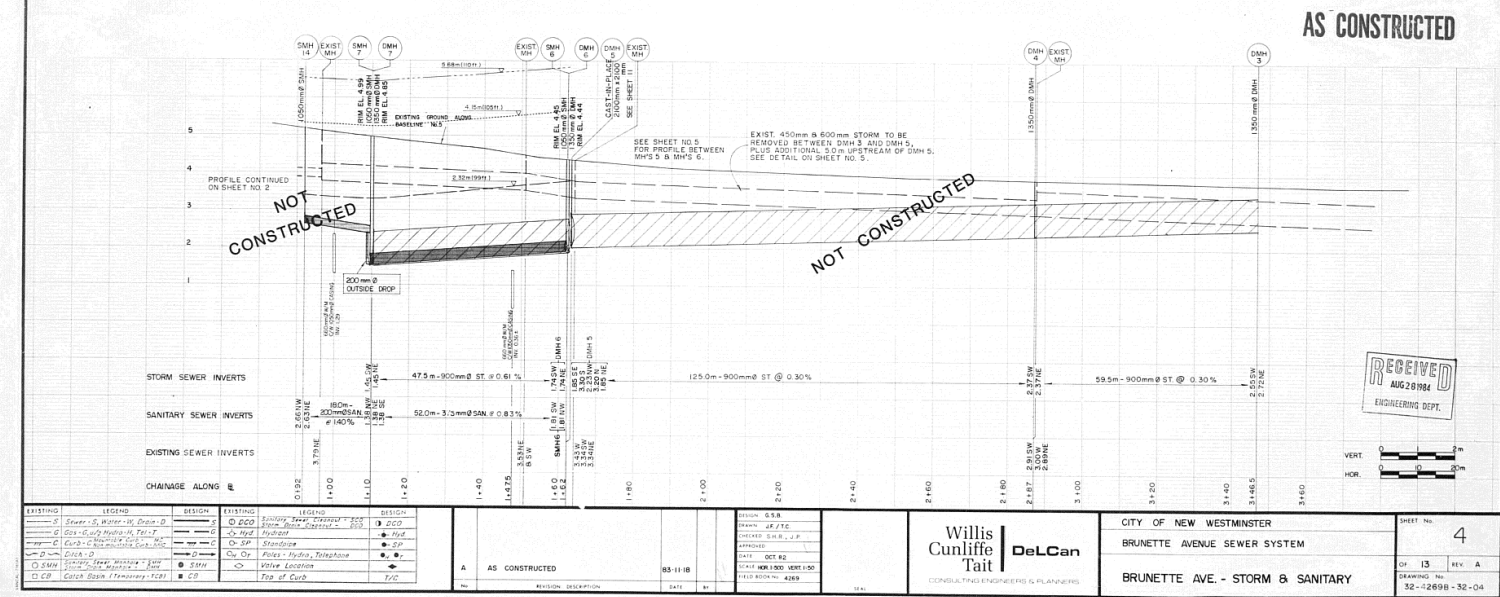
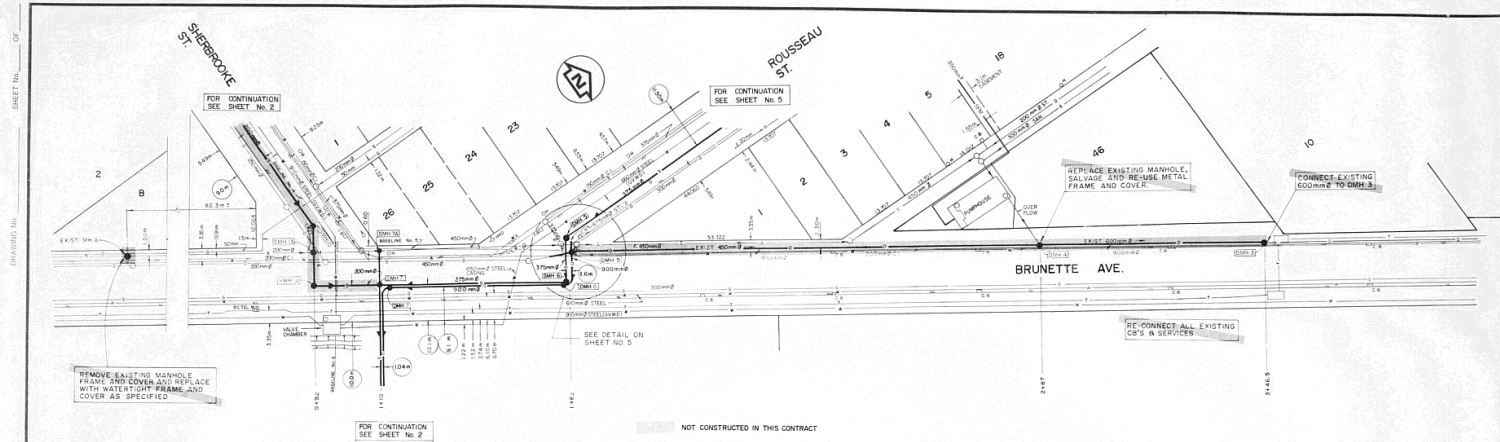
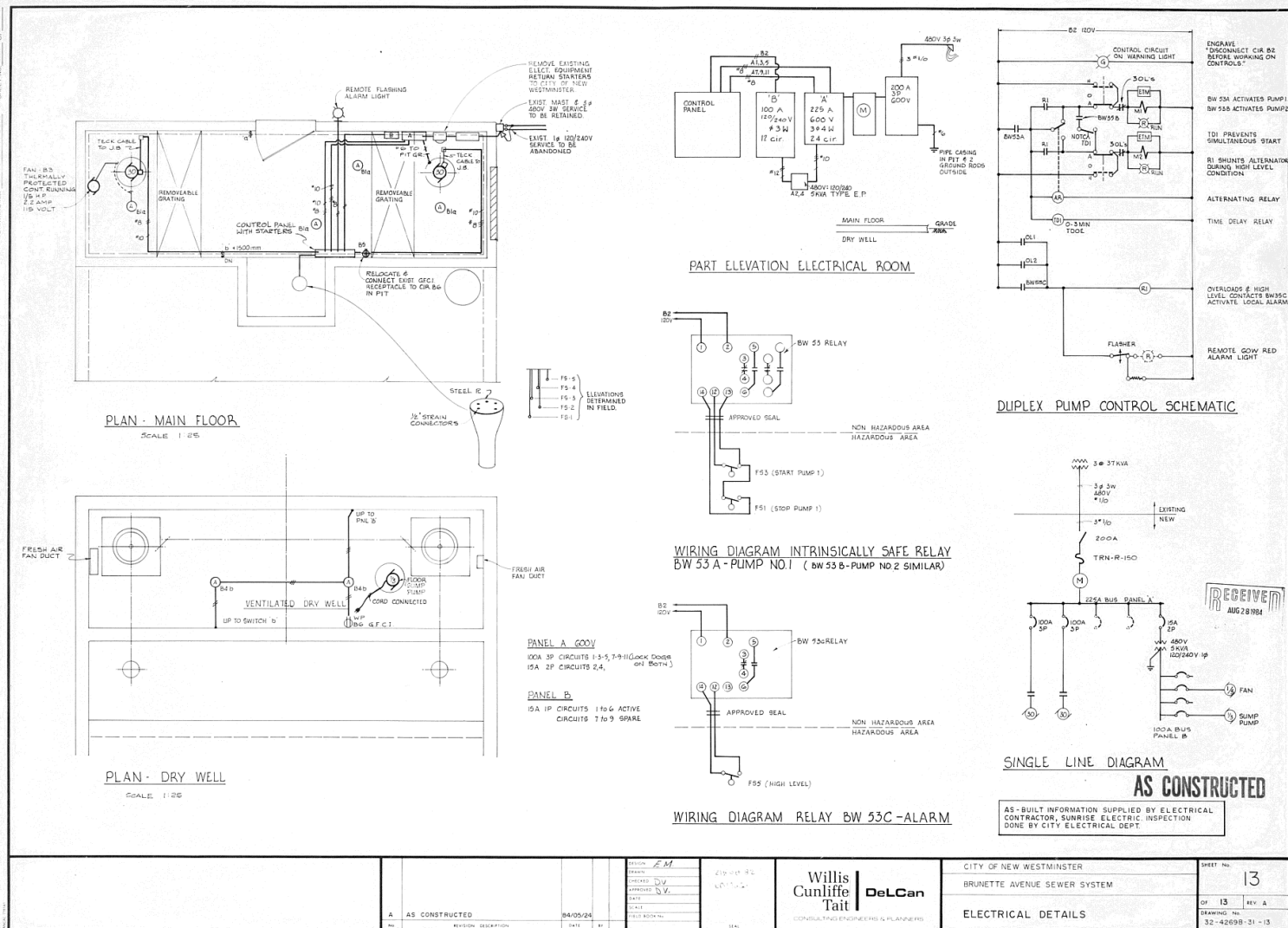




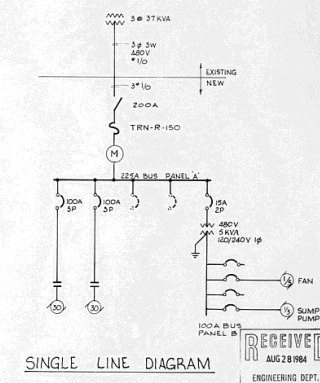
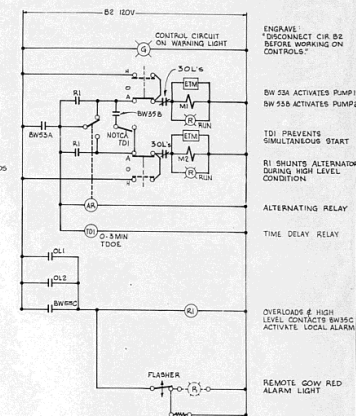
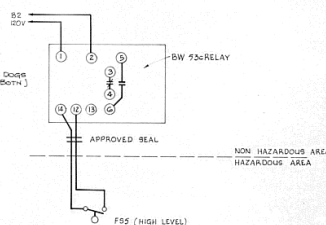
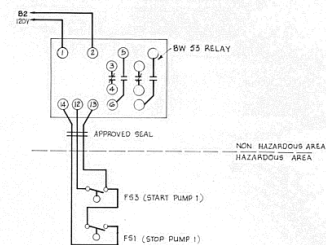
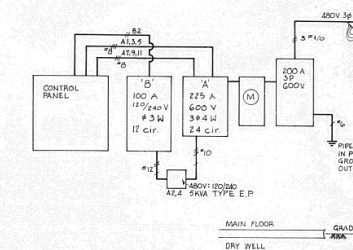
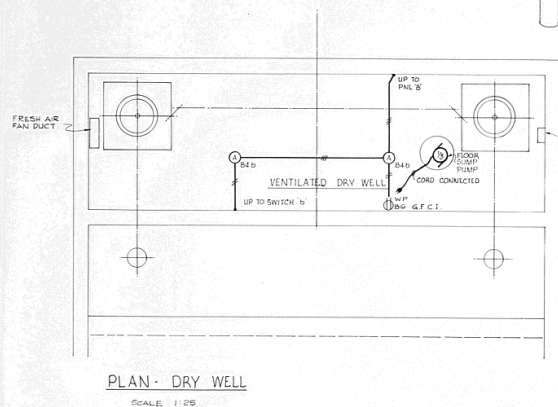
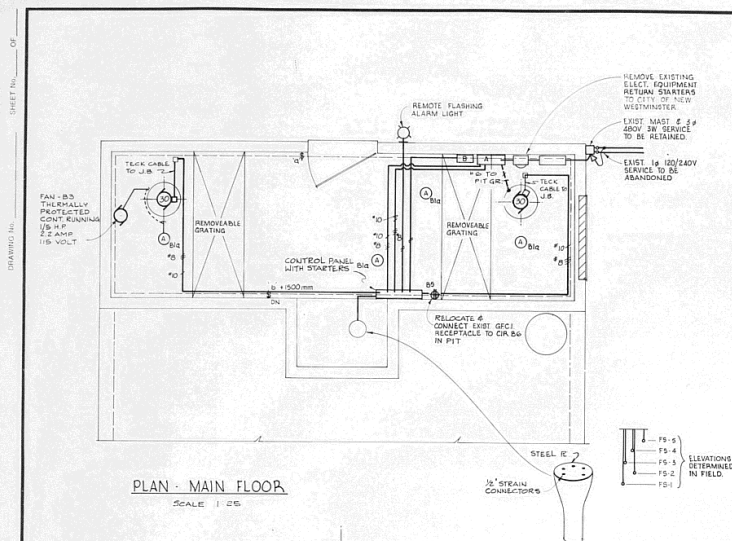
RECEIVED
AUG 28 1994
ENGINEERING DEPT.

LEGEND EXISTING S Storm - 15, Water in, Drain D C Curb - 15, Water in, Drain D S Storm - 15, Water in, Drain D C Curb - 15, Water in, Drain D S Storm - 15, Water in, Drain D C Curb - 15, Water in, Drain D	DESIGN S Storm - 15, Water in, Drain D C Curb - 15, Water in, Drain D S Storm - 15, Water in, Drain D C Curb - 15, Water in, Drain D S Storm - 15, Water in, Drain D C Curb - 15, Water in, Drain D	LEGEND EXISTING S Storm - 15, Water in, Drain D C Curb - 15, Water in, Drain D S Storm - 15, Water in, Drain D C Curb - 15, Water in, Drain D S Storm - 15, Water in, Drain D C Curb - 15, Water in, Drain D	DESIGN S Storm - 15, Water in, Drain D C Curb - 15, Water in, Drain D S Storm - 15, Water in, Drain D C Curb - 15, Water in, Drain D S Storm - 15, Water in, Drain D C Curb - 15, Water in, Drain D	LEGEND EXISTING S Storm - 15, Water in, Drain D C Curb - 15, Water in, Drain D S Storm - 15, Water in, Drain D C Curb - 15, Water in, Drain D S Storm - 15, Water in, Drain D C Curb - 15, Water in, Drain D	DESIGN S Storm - 15, Water in, Drain D C Curb - 15, Water in, Drain D S Storm - 15, Water in, Drain D C Curb - 15, Water in, Drain D S Storm - 15, Water in, Drain D C Curb - 15, Water in, Drain D	LEGEND EXISTING S Storm - 15, Water in, Drain D C Curb - 15, Water in, Drain D S Storm - 15, Water in, Drain D C Curb - 15, Water in, Drain D S Storm - 15, Water in, Drain D C Curb - 15, Water in, Drain D	DESIGN S Storm - 15, Water in, Drain D C Curb - 15, Water in, Drain D S Storm - 15, Water in, Drain D C Curb - 15, Water in, Drain D S Storm - 15, Water in, Drain D C Curb - 15, Water in, Drain D	LEGEND EXISTING S Storm - 15, Water in, Drain D C Curb - 15, Water in, Drain D S Storm - 15, Water in, Drain D C Curb - 15, Water in, Drain D S Storm - 15, Water in, Drain D C Curb - 15, Water in, Drain D	DESIGN S Storm - 15, Water in, Drain D C Curb - 15, Water in, Drain D S Storm - 15, Water in, Drain D C Curb - 15, Water in, Drain D S Storm - 15, Water in, Drain D C Curb - 15, Water in, Drain D	LEGEND EXISTING S Storm - 15, Water in, Drain D C Curb - 15, Water in, Drain D S Storm - 15, Water in, Drain D C Curb - 15, Water in, Drain D S Storm - 15, Water in, Drain D C Curb - 15, Water in, Drain D	DESIGN S Storm - 15, Water in, Drain D C Curb - 15, Water in, Drain D S Storm - 15, Water in, Drain D C Curb - 15, Water in, Drain D S Storm - 15, Water in, Drain D C Curb - 15, Water in, Drain D
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PRECISION MICROGRAPHIC SERVICES LIMITED



PRECISION MICROGRAPHIC SERVICES LIMITED



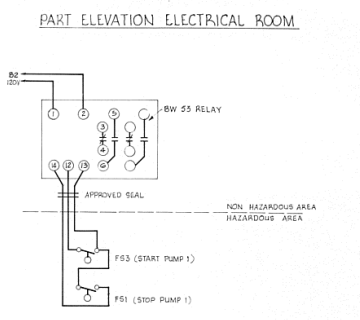
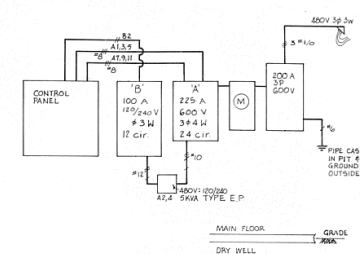
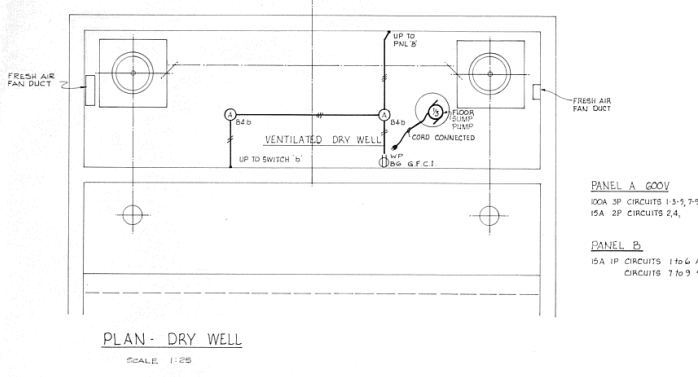
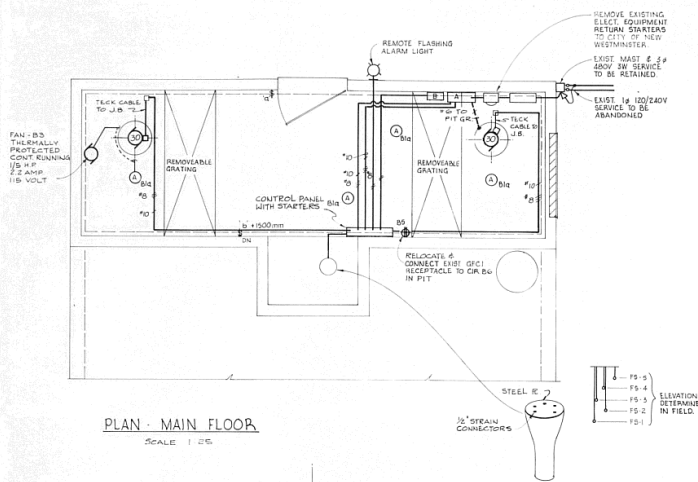
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					DRAWING
					CHECKED <i>DV</i>
					APPROVED <i>DV</i>
					DATE
					SCALE
A	AS CONSTRUCTED		84/05/24		FIELD BOOK No.
No.	REVISION	DESCRIPTION	DATE	BY	

**Willis
Cunliffe
Tait** | **DeLCan**
CONSULTING ENGINEERS & PLANNERS

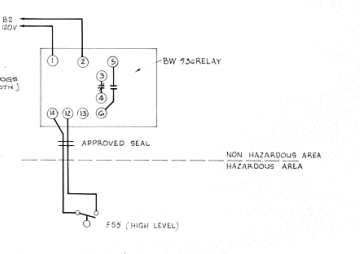
CITY OF NEW WESTMINSTER
BRUNETTE AVENUE SEWER SYSTEM
ELECTRICAL DETAILS

AS CONSTRUCTED	
SHEET No. 13	
OF 13	REV. A
DRAWING No. 32-42668-31-13	

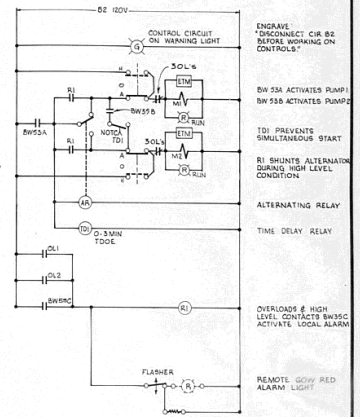
DRAWING NO. SHEET NO. OF



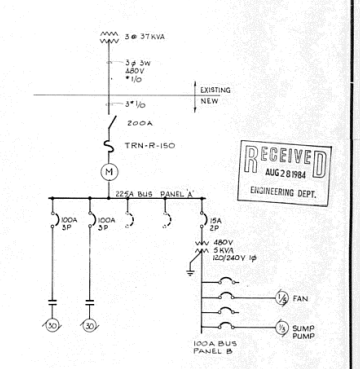
WIRING DIAGRAM INTRINSICALLY SAFE RELAY
BW 53 A - PUMP NO. 1 (BW 53 B - PUMP NO. 2 SIMILAR)



WIRING DIAGRAM RELAY BW 53C-ALARM



DUPLEX PUMP CONTROL SCHEMATIC



SINGLE LINE DIAGRAM
AS CONSTRUCTED

AS-BUILT INFORMATION SUPPLIED BY ELECTRICAL CONTRACTOR, SUNRISE ELECTRIC INSPECTION DONE BY CITY ELECTRICAL DEPT.

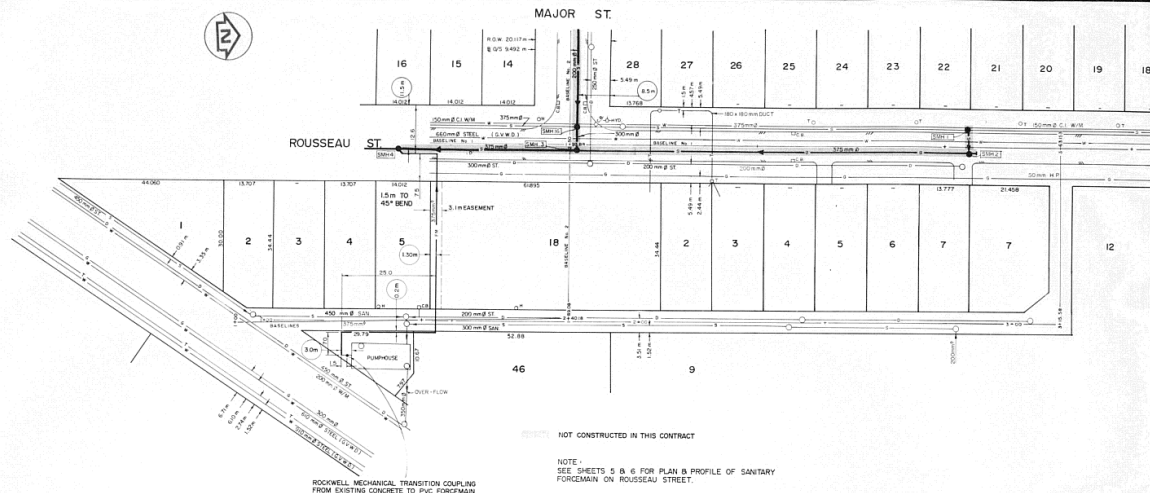
AS CONSTRUCTED REVISION DESCRIPTION DATE BY	REVISION DESCRIPTION DATE BY	DESIGNED BY CHECKED BY APPROVED BY DATE FIELD ROOM NO.	Willis Cunliffe Tait DeLCan CONSULTING ENGINEERS & PLANNERS LTD.	CITY OF NEW WESTMINSTER BRUNETTE AVENUE SEWER SYSTEM ELECTRICAL DETAILS	SHEET NO. 13 OF 13 REV. A DRAWING NO. 32-42698-31-13
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PRECISION MICROGRAPHIC SERVICES LIMITED

BRUNETTE AVE.

MAJOR ST.

ROUSSEAU ST.

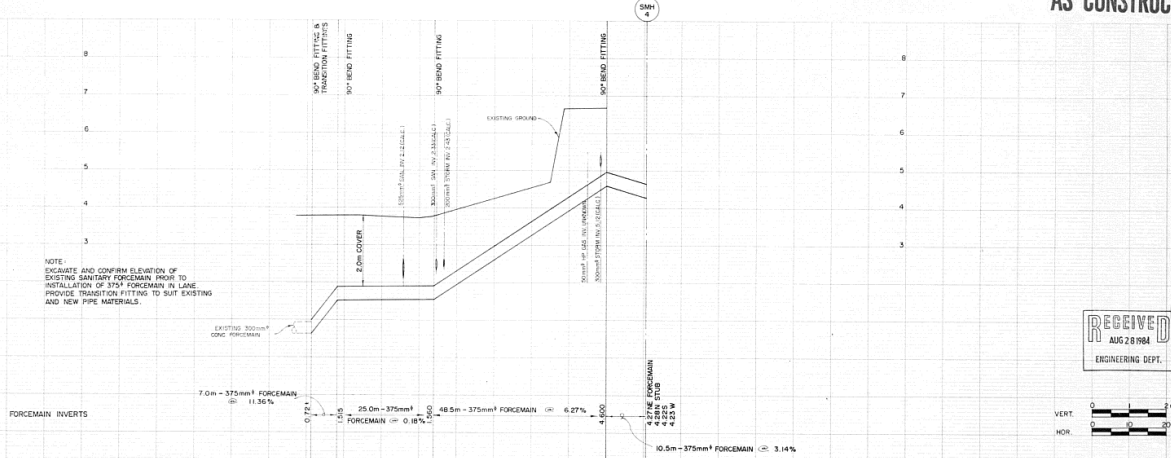


ROCKWELL MECHANICAL TRANSITION COUPLING FROM EXISTING CONCRETE TO PVC FORCEMAIN

NOT CONSTRUCTED IN THIS CONTRACT

NOTE:
SEE SHEETS 5 & 6 FOR PLAN & PROFILE OF SANITARY FORCEMAIN ON ROUSSEAU STREET.

AS CONSTRUCTED



NOTE:
INDICATE AND CONFIRM ELEVATION OF EXISTING SANITARY FORCEMAIN PRIOR TO INSTALLATION OF 375mm FORCEMAIN IN LINE. PROVIDE TRANSITION FITTING TO SUIT EXISTING AND NEW PIPE MATERIALS.

RECEIVED
AUG 28 1984
ENGINEERING DEPT.

VERT. 0 1 2 m
HOR. 0 1 20 m

EXISTING	LEGEND	DESIGN	EXISTING	LEGEND	DESIGN
1	Steel S. Water M. Pipe	1	1	Steel S. Water M. Pipe	1
2	Steel S. Water M. Pipe	2	2	Steel S. Water M. Pipe	2
3	Steel S. Water M. Pipe	3	3	Steel S. Water M. Pipe	3
4	Steel S. Water M. Pipe	4	4	Steel S. Water M. Pipe	4
5	Steel S. Water M. Pipe	5	5	Steel S. Water M. Pipe	5
6	Steel S. Water M. Pipe	6	6	Steel S. Water M. Pipe	6
7	Steel S. Water M. Pipe	7	7	Steel S. Water M. Pipe	7
8	Steel S. Water M. Pipe	8	8	Steel S. Water M. Pipe	8
9	Steel S. Water M. Pipe	9	9	Steel S. Water M. Pipe	9
10	Steel S. Water M. Pipe	10	10	Steel S. Water M. Pipe	10
11	Steel S. Water M. Pipe	11	11	Steel S. Water M. Pipe	11
12	Steel S. Water M. Pipe	12	12	Steel S. Water M. Pipe	12

EXISTING	LEGEND	DESIGN	EXISTING	LEGEND	DESIGN
1	Steel S. Water M. Pipe	1	1	Steel S. Water M. Pipe	1
2	Steel S. Water M. Pipe	2	2	Steel S. Water M. Pipe	2
3	Steel S. Water M. Pipe	3	3	Steel S. Water M. Pipe	3
4	Steel S. Water M. Pipe	4	4	Steel S. Water M. Pipe	4
5	Steel S. Water M. Pipe	5	5	Steel S. Water M. Pipe	5
6	Steel S. Water M. Pipe	6	6	Steel S. Water M. Pipe	6
7	Steel S. Water M. Pipe	7	7	Steel S. Water M. Pipe	7
8	Steel S. Water M. Pipe	8	8	Steel S. Water M. Pipe	8
9	Steel S. Water M. Pipe	9	9	Steel S. Water M. Pipe	9
10	Steel S. Water M. Pipe	10	10	Steel S. Water M. Pipe	10
11	Steel S. Water M. Pipe	11	11	Steel S. Water M. Pipe	11
12	Steel S. Water M. Pipe	12	12	Steel S. Water M. Pipe	12

Willis
Cunliffe
Tait
DeLCan
CONSULTING ENGINEERS & PLANNERS

CITY OF NEW WESTMINSTER
BRUNETTE AVENUE SEWER SYSTEM
LANE EAST OF ROUSSEAU ST. -
SANITARY FORCEMAIN

SHEET No. 8
DATE 13 REV. A
DRAWING No. 32-4269B-32-09

PRECISION MICROGRAPHIC SERVICES LIMITED

(1) COMMON TRENCH SECTION

TRENCH MAY BE WIDENED ABOVE PIPE ZONE AT THE CONTRACTOR'S EXPENSE

PAYMENT REPAIR DECREASES ELSEWHERE

NOTE:

- D1 - OUTSIDE DIAMETER OF SANITARY SEWER PIPE
- D2 - OUTSIDE DIAMETER OF STORM SEWER PIPE

FIRM TRENCH WALL AS REQUIRED

SANITARY PIPE

MINIMUM OF D0 D1 OR C 25 D2

100 (MM IN.)

150 (MM IN.)

200 (MM IN.)

300 (MM IN.)

450 (MM IN.)

600 (MM IN.)

750 (MM IN.)

900 (MM IN.)

1050 (MM IN.)

1200 (MM IN.)

1350 (MM IN.)

1500 (MM IN.)

1650 (MM IN.)

1800 (MM IN.)

1950 (MM IN.)

2100 (MM IN.)

2250 (MM IN.)

2400 (MM IN.)

2550 (MM IN.)

2700 (MM IN.)

2850 (MM IN.)

3000 (MM IN.)

3150 (MM IN.)

3300 (MM IN.)

3450 (MM IN.)

3600 (MM IN.)

3750 (MM IN.)

3900 (MM IN.)

4050 (MM IN.)

4200 (MM IN.)

4350 (MM IN.)

4500 (MM IN.)

4650 (MM IN.)

4800 (MM IN.)

4950 (MM IN.)

5100 (MM IN.)

5250 (MM IN.)

5400 (MM IN.)

5550 (MM IN.)

5700 (MM IN.)

5850 (MM IN.)

6000 (MM IN.)

6150 (MM IN.)

6300 (MM IN.)

6450 (MM IN.)

6600 (MM IN.)

6750 (MM IN.)

6900 (MM IN.)

7050 (MM IN.)

7200 (MM IN.)

7350 (MM IN.)

7500 (MM IN.)

7650 (MM IN.)

7800 (MM IN.)

7950 (MM IN.)

8100 (MM IN.)

8250 (MM IN.)

8400 (MM IN.)

8550 (MM IN.)

8700 (MM IN.)

8850 (MM IN.)

9000 (MM IN.)

9150 (MM IN.)

9300 (MM IN.)

9450 (MM IN.)

9600 (MM IN.)

9750 (MM IN.)

9900 (MM IN.)

10050 (MM IN.)

10200 (MM IN.)

10350 (MM IN.)

10500 (MM IN.)

10650 (MM IN.)

10800 (MM IN.)

10950 (MM IN.)

11100 (MM IN.)

11250 (MM IN.)

11400 (MM IN.)

11550 (MM IN.)

11700 (MM IN.)

11850 (MM IN.)

12000 (MM IN.)

12150 (MM IN.)

12300 (MM IN.)

12450 (MM IN.)

12600 (MM IN.)

12750 (MM IN.)

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38400 (MM IN.)

38550 (MM IN.)

38700 (MM IN.)

38850 (MM IN.)

39000 (MM IN.)

39150 (MM IN.)

39300 (MM IN.)

39450

The drawing consists of two main parts: a plan view and a sectional elevation.

PLAN - SECTION B-B

This view shows the top-down layout of the manhole. It features a circular manhole opening with a diameter of 1500 mm. The manhole is surrounded by a concrete casing with a minimum thickness of 100 mm. A masonry dam is shown on the right side, with a 90° lined radius bend. The concrete is undisturbed. The plan view also shows the location of the manhole relative to the main pipe and the 90° lined radius bend.

SECTIONAL ELEVATION

This view shows the side profile of the manhole. It illustrates the vertical alignment of the manhole, the 90° lined radius bend, and the concrete casing. The manhole is shown with a 1500 mm diameter. The concrete casing is shown with a minimum thickness of 100 mm. The masonry dam is shown on the right side, with a 90° lined radius bend. The concrete is shown as undisturbed.

LEGEND:

- CONCRETE CASING MINIMUM THICKNESS 100 mm
- MASONRY DAM TO SPRING LINE
- 90° LINED RADIUS BEND
- CONCRETE TO UNDISTURBED

3 CAST-IN-PLACE STEEL No. 5

SCALE 1:20

375mm Ø STM

1600

675mm Ø STM

300mm Ø STM

300mm Ø DROP PIPE

LADDER RUNGS
MAINFRAME
& COVER OVER

3-43

3-14

3-10

R16 @ 200

R10 @ 100

1800

150

1800

150

300mm Ø P.C. DROP PIPE

300mm Ø STM

4
THRUST REACTION BLOCKS - FOR SEWAGE FORCEMAIN

C-153

PIPE SIZE (inches)	REQUIRED BEARING AREA (in ²) FOR SAFE BEARING (100 kpsi) AT TEST PRESSURE (kpsi)			
	TEES	90°	45°	22 1/2°
100	125	0.814	0.534	0.048
150	0.740	0.552	0.359	0.037
200	0.430	0.358	0.329	0.068
250	0.702	0.533	0.317	0.074
300	1.001	1.416	0.741	0.331

NOTE: FOR SAFE BEARING (100 kpsi) * kpsi AND
TEST PRESSURE * kpsi MULTIPLY DISALLOWED
RESULTS BY 0.07

TEE

REDUCING COUPL.

REDUCING TEE

WYE

TEE

PLUGGED TEE

PERMANENT CAP

REDUCER

OFF SET

2-10Mx200 DIAGONALS
EACH SIDE, BOTTOM

4.75

10M DOWELS at 230 O.C

2-10Mx2000 TOP, EA-SIDE
TYPICAL CUT TO SUIT AT
OPENING

OPENING
R=285

10M DOWELS at 230 O.C
EA. WAY, BOT

10M DOWELS at 230 O.C

200

4.75

10M DOWELS at 230 O.C

MANHOLE TOP SLAB REINFORCING

FRAME SET TO GRADE
WITH 1 OR 2 COURSES

MAINHOLE TOP SLAB REINFORCING

2-10M TOP
300
100
60 C.C.
900mm STORM
10M DOWELS
10M E.W. BOTTOM
20mm GALVANNEAL C.S. ROOFING @ 300 O.C. CAST INTO WALLS

SECTION B-B

FRAME SET TO GRADE WITH 1 OR 2 COURSES OF BRICK
20mm GALVANNEAL C.S. ROOFING
MASONRY DAM
45° STORM
300mm PVC WYE - SDR 35
300mm x 45° PVC BEND - SDR 35
375mm SANITARY
MINIMUM 150mm CONC. UNDER BARREL OF PIPE

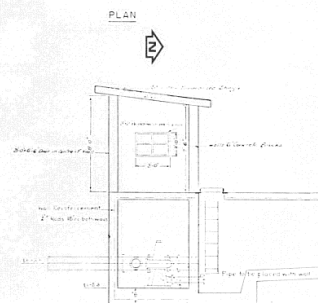
AS CONSTRUCTED

		DESIGN S.B.	
		DRAWN N.H.	
		CHECKED S.B.	
		APPROVED	
		DATE OCT 82	
		SCALE	
		FIELD BOOK No.	

Willis
Cunliffe
Tait | DeLCan
CONSULTING ENGINEERS & PLANNERS

CITY OF NEW WESTMINSTER
BRUNETTE AVENUE SEWER SYSTEM
MISCELLANEOUS DETAILS

SHEET No.	11
OF 13	REV
DRAWING No.	
32-4269B-32-11	



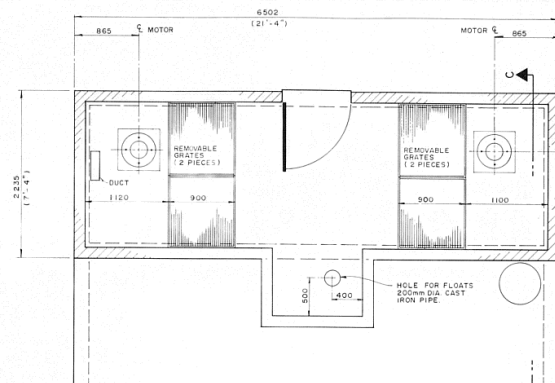
PLAN

SECTION

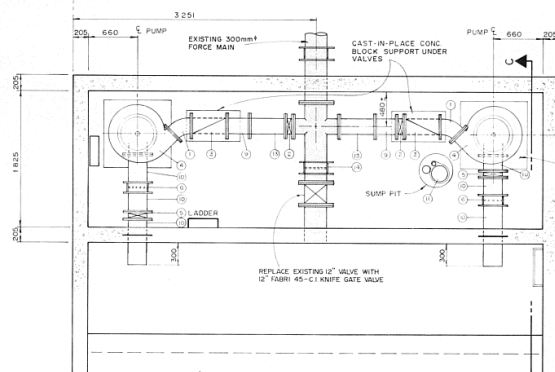
EXISTING PUMPHOUSE

Scale 1/4" = 1'-0"

NOTE: ALL DIMENSIONS SHOWN ARE TAKEN FROM OLD CONTRACT DRAWINGS AND SHOULD BE VERIFIED IN THE FIELD.



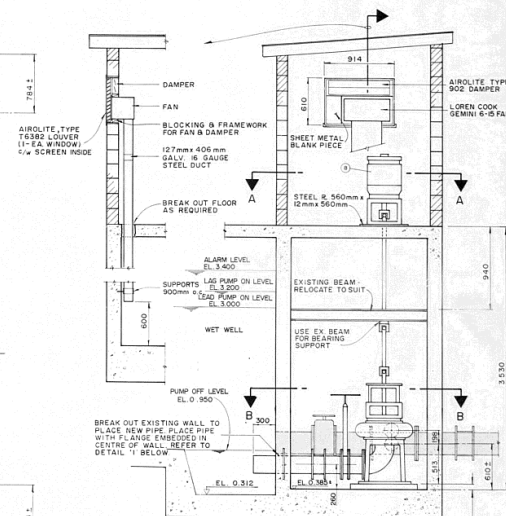
PLAN A-A



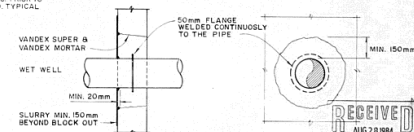
PLAN B-B

LIST OF MATERIALS (PIPE & VALVE DESIGNATIONS
IN IMPERIAL)

- | | |
|---|--|
| (1) 8" 45° STRAIGHT ELBOW | (6) MOTION |
| (2) 8" FABRI 45-C1 KNIFE GATE VALVE | (7) 8" DIA. STEEL SPOOL PIECE |
| (3) 8" SWING CHECK VALVE, FIG. 10 FABRI-VALVE | (8) 10" DIA. STEEL SPOOL PIECE |
| (4) PUMP, COMPLETE WITH MERCURY FLOAT CONTROL | (9) PUMP PUMP 1/4" DIA. DISCHARGE PIPE TO BE CONNECTED TO EXISTING RUBBER HOSE |
| (5) 10" FABRI 45-C1 KNIFE GATE VALVE | (10) FLANGE & FLARE |
| (6) 10" TRANSITION COUPLING | (11) 8" DIA. ONE PIECE FABRICATED BEND |
| | (12) TRANSITION COUPLING |
| | (13) INDICATES EXISTING PIPE |



SECTION C-C



STEPS FOR RECONSTRUCTION

1. BREAK OUT EXISTING CONC. MIN. 150mm AROUND NEW PIPE.
2. APPLY SLURRY COATING OF VANDESE SUPER FOLLOWED BY 2-LAMINATING LAYERS OF VANDESE MORTAR CONSISTING OF VANDESE SUPER & VANDESE FIBER 1:6 (APPLY BY TROWEL)
3. POUR CONCRETE THROUGH WINDOW AT TOP OF BLOCK-OUT (25MPa CONC., MAX. 150mm DEEP, MIN. 150mm WIDE)
4. ROUT-OUT MIN. 20mm DEEP GROOVE WHERE NEW CONCRETE MEETS THE OLD AND AROUND THE PIPE. APPLY SLURRY AND MORTAR AS IN STEP 2.
5. APPLY VANDESE SLURRY MIX MIN. 150mm BEYOND THE BLOCK-OUT ON THE WATER SIDE.

DETAIL 'I'

AS CONSTRUCTED

						DESIGN - J.P. DRAWN - S.H. CHECKED - J.P. APPROVED DATE - OCT 02 SCALE - 1:25 U.N.G. FIELD BOOK NO.		Willis Cunliffe Tait DeLCan CONSULTING ENGINEERS & PLANNERS	CITY OF NEW WESTMINSTER BRUNETTE AVENUE SEWER SYSTEM		SHEET NO. 12
A	AS CONSTRUCTED	04/05/23							PUMP STATION DETAILS	OF 13 REV. A	DRAWING NO. 32-42698-32-12



SECTION A-A

SMH 2 DETAIL
N.T.S.

AS CONSTRUCTED

NOT CONSTRUCTED IN THIS CONTRACT



VERT. 0 10 20

EXISTING		LEGEND	DESIGN	EXISTING		LEGEND	DESIGN
		Sewer - W, Water - H, Drain - D				Sanitary Sewer, Grained - S, 150	○ DCO
		Gas - G, Hydro - H, Tel - T	S			Storm Water, Grained - S, 300	○ DCO
		Electric - E	G			Hydrant	○ Hyd
M		Curb - C, Manhole - M, Catch Basin - CB	C			SP	○ SP
		Ditch - D	D			Poles - Hydro, Telephone	○ P
○ SMH		Sanitary Sewer Manhole - SMH				Valve Location	○ V
○ M		Manhole - M				Top of Curb	○ C
○ CB		Catch Basin (Temporary) - CB	CB				

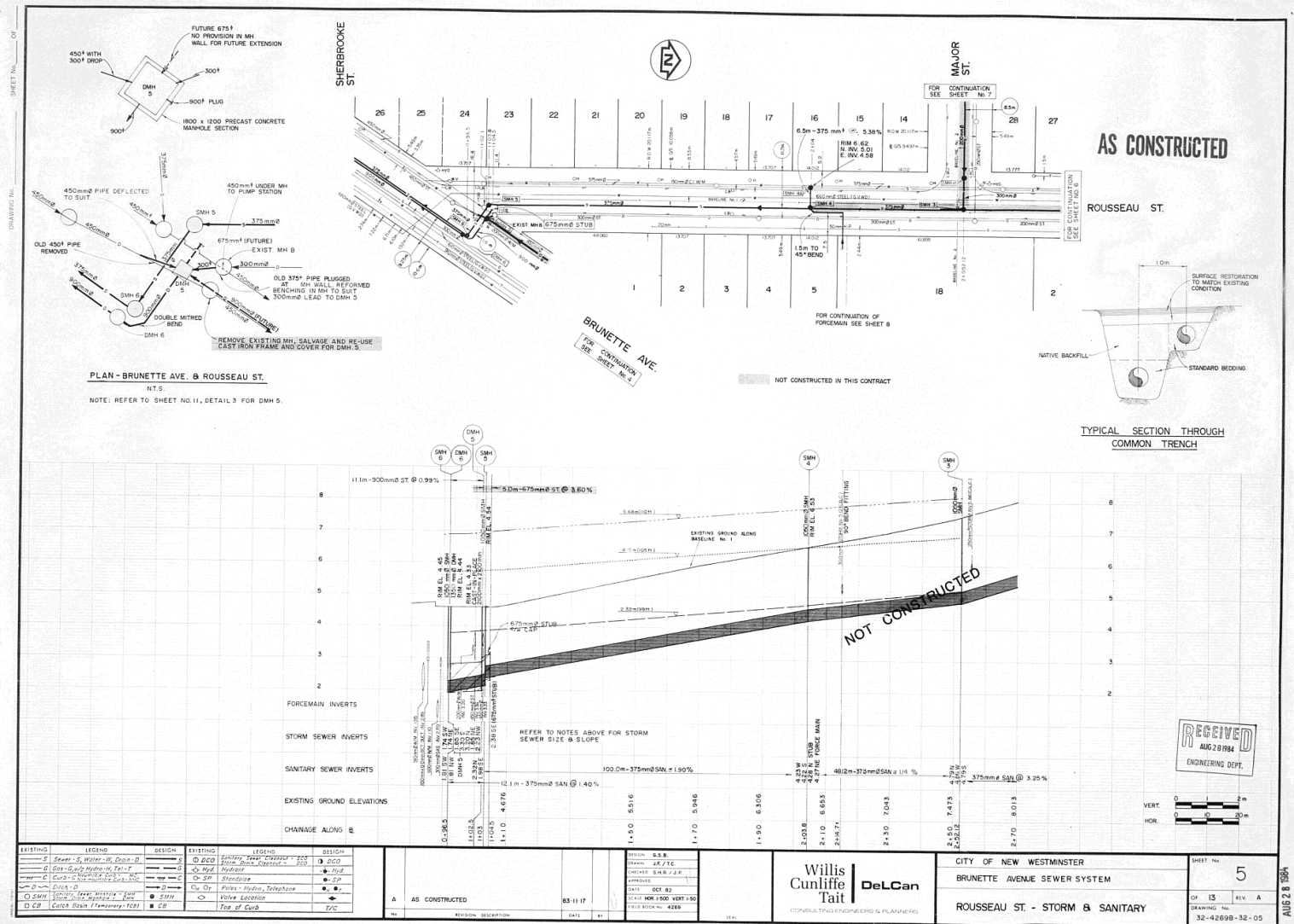
[illegible]

DESIGN	G.S.B.	Willis Cunliffe Tait DeLCan
DRAWN	T.C.	
CHECKED	G.W.R., J.P.	
APPROVED		
DATE	MARCH 82	
SCALE	NOR. 1:500 VERT. 1:50	
FIELD BOOK NO.	4269	

Willis
Cunliffe
Tait | DeLCan

CITY OF NEW WESTMINSTER
BRUNETTE AVENUE SEWER SYSTEM
ROUSSEAU ST. - STORM & SANITARY

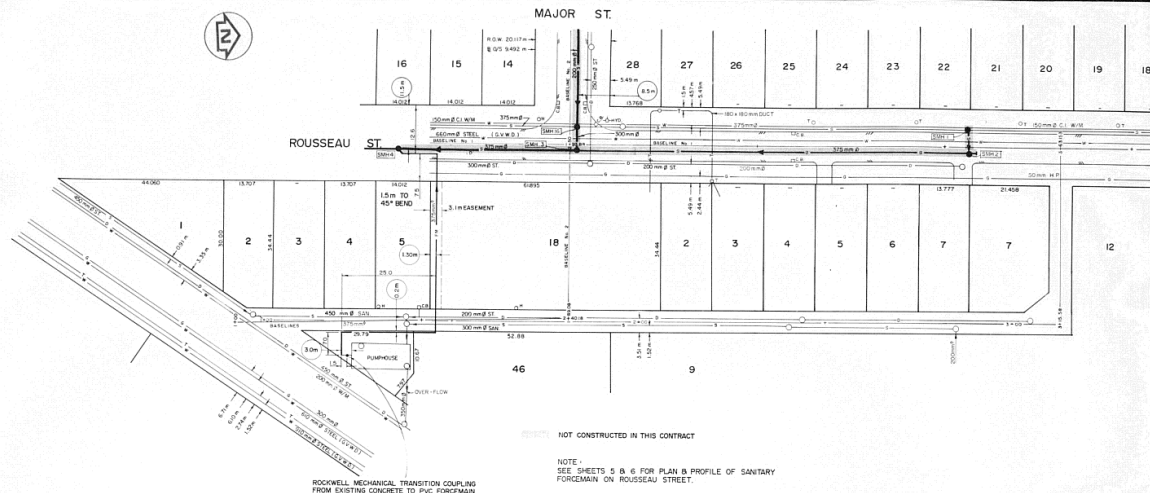
SHEET No.		6
OF 13	REV.	
DRAWING No.		
32-42696-32-06		



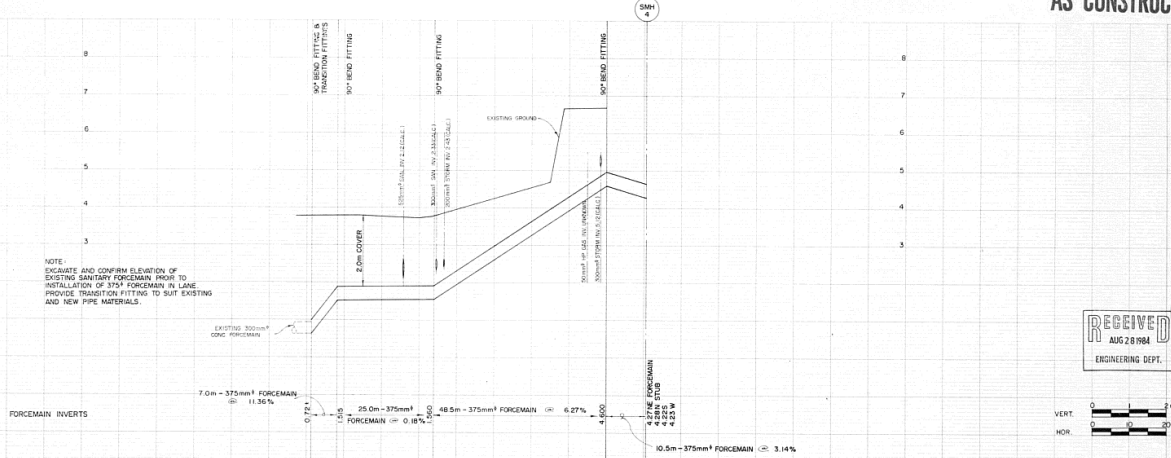
BRUNETTE AVE.

MAJOR ST.

ROUSSEAU ST.

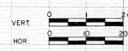


AS CONSTRUCTED



NOTE:
INDICATE AND CONFIRM ELEVATION OF
EXISTING SANITARY FORCEMAIN PRIOR TO
INSTALLATION OF 375 FORCEMAIN IN LINE
PROVIDE TRANSITION FITTING TO SUIT EXISTING
AND NEW PIPE MATERIALS.

RECEIVED
AUG 28 1984
ENGINEERING DEPT.



EXISTING	LEGEND	DESIGN	EXISTING	LEGEND	DESIGN
1	Steel S. Water M. Pipe	1	1	Steel S. Water M. Pipe	1
2	Steel S. Water M. Pipe	2	2	Steel S. Water M. Pipe	2
3	Steel S. Water M. Pipe	3	3	Steel S. Water M. Pipe	3
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Willis
Cunliffe
Tait
DeLCan
CONSULTING ENGINEERS & PLANNERS

CITY OF NEW WESTMINSTER
BRUNETTE AVENUE SEWER SYSTEM
LANE EAST OF ROUSSEAU ST. -
SANITARY FORCEMAIN

SHEET No. 8
DATE 13 MAY 84
DRAWING No. 32-4269B-32-09

PRECISION MICROGRAPHIC SERVICES LIMITED

(1) COMMON TRENCH SECTION

TRENCH MAY BE WIDENED ABOVE PIPE ZONE AT THE CONTRACTOR'S EXPENSE

PAYMENT REPAIR DECREASES ELSEWHERE

NOTE:

- D1 - OUTSIDE DIAMETER OF SANITARY SEWER PIPE
- D2 - OUTSIDE DIAMETER OF STORM SEWER PIPE

FIRM TRENCH WALL AS REQUIRED

SANITARY PIPE

MINIMUM OF D0 D1 OR C 25 D2

100 (MM IN.)

150 (MM IN.)

200 (MM IN.)

300 (MM IN.)

450 (MM IN.)

600 (MM IN.)

750 (MM IN.)

900 (MM IN.)

1050 (MM IN.)

1200 (MM IN.)

1350 (MM IN.)

1500 (MM IN.)

1650 (MM IN.)

1800 (MM IN.)

1950 (MM IN.)

2100 (MM IN.)

2250 (MM IN.)

2400 (MM IN.)

2550 (MM IN.)

2700 (MM IN.)

2850 (MM IN.)

3000 (MM IN.)

3150 (MM IN.)

3300 (MM IN.)

3450 (MM IN.)

3600 (MM IN.)

3750 (MM IN.)

3900 (MM IN.)

4050 (MM IN.)

4200 (MM IN.)

4350 (MM IN.)

4500 (MM IN.)

4650 (MM IN.)

4800 (MM IN.)

4950 (MM IN.)

5100 (MM IN.)

5250 (MM IN.)

5400 (MM IN.)

5550 (MM IN.)

5700 (MM IN.)

5850 (MM IN.)

6000 (MM IN.)

6150 (MM IN.)

6300 (MM IN.)

6450 (MM IN.)

6600 (MM IN.)

6750 (MM IN.)

6900 (MM IN.)

7050 (MM IN.)

7200 (MM IN.)

7350 (MM IN.)

7500 (MM IN.)

7650 (MM IN.)

7800 (MM IN.)

7950 (MM IN.)

8100 (MM IN.)

8250 (MM IN.)

8400 (MM IN.)

8550 (MM IN.)

8700 (MM IN.)

8850 (MM IN.)

9000 (MM IN.)

9150 (MM IN.)

9300 (MM IN.)

9450 (MM IN.)

9600 (MM IN.)

9750 (MM IN.)

9900 (MM IN.)

10050 (MM IN.)

10200 (MM IN.)

10350 (MM IN.)

10500 (MM IN.)

10650 (MM IN.)

10800 (MM IN.)

10950 (MM IN.)

11100 (MM IN.)

11250 (MM IN.)

11400 (MM IN.)

11550 (MM IN.)

11700 (MM IN.)

11850 (MM IN.)

12000 (MM IN.)

12150 (MM IN.)

12300 (MM IN.)

12450 (MM IN.)

12600 (MM IN.)

12750 (MM IN.)

12900 (MM IN.)

13050 (MM IN.)

13200 (MM IN.)

13350 (MM IN.)

13500 (MM IN.)

13650 (MM IN.)

13800 (MM IN.)

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15600 (MM IN.)

15750 (MM IN.)

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16650 (MM IN.)

16800 (MM IN.)

16950 (MM IN.)

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17250 (MM IN.)

17400 (MM IN.)

17550 (MM IN.)

17700 (MM IN.)

17850 (MM IN.)

18000 (MM IN.)

18150 (MM IN.)

18300 (MM IN.)

18450 (MM IN.)

18600 (MM IN.)

18750 (MM IN.)

18900 (MM IN.)

19050 (MM IN.)

19200 (MM IN.)

19350 (MM IN.)

19500 (MM IN.)

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31050 (MM IN.)

31200 (MM IN.)

31350 (MM IN.)

31500 (MM IN.)

31650 (MM IN.)

31800 (MM IN.)

31950 (MM IN.)

32100 (MM IN.)

32250 (MM IN.)

32400 (MM IN.)

32550 (MM IN.)

32700 (MM IN.)

32850 (MM IN.)

33000 (MM IN.)

33150 (MM IN.)

33300 (MM IN.)

33450 (MM IN.)

33600 (MM IN.)

33750 (MM IN.)

33900 (MM IN.)

34050 (MM IN.)

34200 (MM IN.)

34350 (MM IN.)

34500 (MM IN.)

34650 (MM IN.)

34800 (MM IN.)

34950 (MM IN.)

35100 (MM IN.)

35250 (MM IN.)

35400 (MM IN.)

35550 (MM IN.)

35700 (MM IN.)

35850 (MM IN.)

36000 (MM IN.)

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36300 (MM IN.)

36450 (MM IN.)

36600 (MM IN.)

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38100 (MM IN.)

38250 (MM IN.)

38400 (MM IN.)

38550 (MM IN.)

38700 (MM IN.)

38850 (MM IN.)

39000 (MM IN.)

39150 (MM IN.)

39300 (MM IN.)

39450

The drawing consists of two main views: a Plan view (top) and a Sectional Elevation view (bottom).

Plan - Section B-B: This view shows the top-down layout of the manhole. It features a circular manhole opening with a diameter of 1500 mm. A 90° lined radius bend is shown extending from the manhole. The drawing includes dimensions for the concrete casing (minimum thickness 100 mm) and the masonry dam to the spring line. A note indicates that the fitting cut should be flush with the masonry dam to the spring line.

Sectional Elevation: This view shows the vertical profile of the manhole. It includes a 1500 mm diameter manhole opening. The drawing shows the concrete casing and the masonry dam to the spring line. A note indicates that the fitting cut should be flush with the masonry dam to the spring line. The drawing also shows the 90° lined radius bend and the 1500 mm diameter manhole opening.

Notes:

- CONCRETE CASING MINIMUM THICKNESS 100 mm
- MASONRY DAM TO SPRING LINE
- FITTING CUT FLUSH WITH MASONRY DAM TO SPRING LINE
- INTENT STRAIGHT VERTICAL REQUIRED BY HEIGHT OF CHIMNEY
- 90° LINED RADIUS BEND
- SLOPE BENCHING 300mm MIN. UP FROM LEVEL OF MAIN PIPE
- CONCRETE TO UNDISTURBED SOIL

[illegible]

 THRUST REACTION BLOCKS - FOR SEWAGE FORCEMAIN

C-153

PIPE SIZE (inches)	REQUIRED BEARING AREA (in ²) FOR SAFE BEARING SOIL CAPACITY		AT TEST PRESSURE (psi)	
	TEES	REDUCERS	90°	45°
100	125	0.814	0.034	0.048
150	0.740	0.552	0.29	0.039
200	0.430	0.658	0.329	0.068
240	0.702	0.938	0.811	0.074
300	1.001	1.416	0.741	0.201

NOTE: FOR SAFE BEARING SOIL CAPACITY "X" AND AND TEST PRESSURE "Y" MUST MULTIPLY DISALLOWED RESULTS BY 0.017

TEE

REDUCING COUPLING

REDUCING TEE

WYE

WYE

PLUGGED TEE

PERMANENT CAP

REDUCER

OFF SET

2-10Mx200 TOP, DIAGONALS EACH SIDE, BOTTOM

4.75

10M DOWELS at 230 O.C

2-10Mx2000 TOP, EA-SIDE TYPICAL CUT TO SUIT AT OPENING

OPENING R=285

10M at 230 O.C EA. WAY, BOT

10M DOWELS at 230 O.C

200

10M DOWELS at 230 O.C

MANHOLE TOP SLAB REINFORCING

FRAME SET TO GRADE WITH 1 OR 2 COURSES

MANHOLE TOP SLAB REINFORCING

PLAN VIEW:

- Overall dimensions: 2.00m x 2.00m.
- Reinforcing bars: 10M @ 200, TYP 4 SIDES.
- Concrete: MINIMUM 150mm CONC. UNDER BARREL OF PIPE.
- Frame set to grade with 1 or 2 courses of brick.
- Finished grade level indicated.

SECTION B-B:

- Vertical dimensions: 100mm (slab thickness), 200mm (dowel length), 400mm (total height), 450mm (storm height), 300mm (wye height), 300mm (bend height), 375mm (sanitary height).
- Reinforcing bars: 10M DOWELS, 10M @ 200, TYP 4 SIDES.
- Materials: 20mm#2 GALVANIZED C.R.S. NOT BURIED @ 300 O.C. CAST INTO WALL, MASONRY DAM, 300mm#8 PVC WYE - SDR 35, 300mm#4 45° PVC BEND - SDR 35, 375mm#8 SANITARY.
- Angles: 45°.
- Labels: 900mm#8 STORM, 280mm, 115mm, 197mm, 206mm.

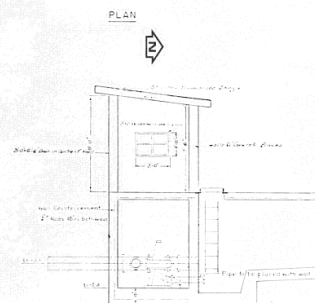
AS CONSTRUCTED

		DESIGN S.B.	
		DRAWN N.H.	
		CHECKED S.B.	
		APPROVED	
		DATE OCT 82	
		SCALE	
		FIELD BOOK No.	

Willis
Cunliffe
Tait | DeLCar
CONSULTING ENGINEERS & PLANNERS

CITY OF NEW WESTMINSTER
BRUNETTE AVENUE SEWER SYSTEM
MISCELLANEOUS DETAILS

SHEET No.	11
OF 13	REV.
DRAWING No.	
32-4269B-32-1	

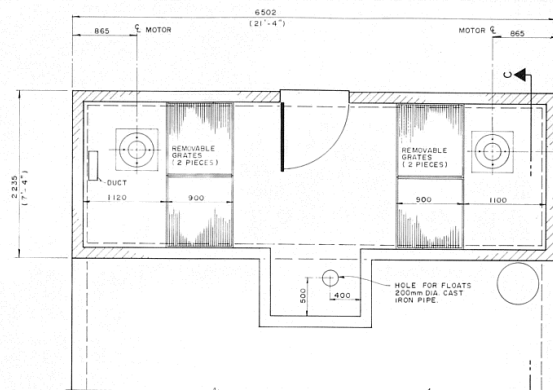


SECTION

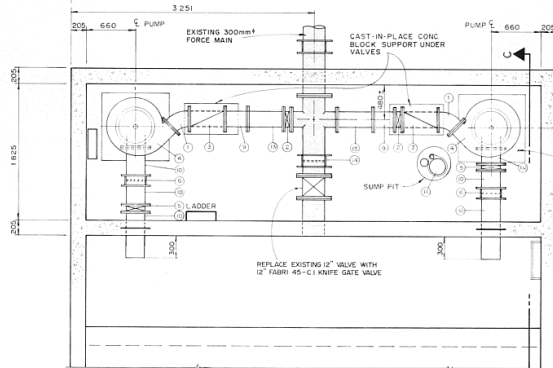
EXISTING PUMPHOUSE

Scale 1/4" = 1'-0"

NOTE: ALL DIMENSIONS SHOWN ARE TAKEN FROM OLD CONTRACT DRAWINGS AND SHOULD BE VERIFIED IN THE FIELD.



PLAN A-A

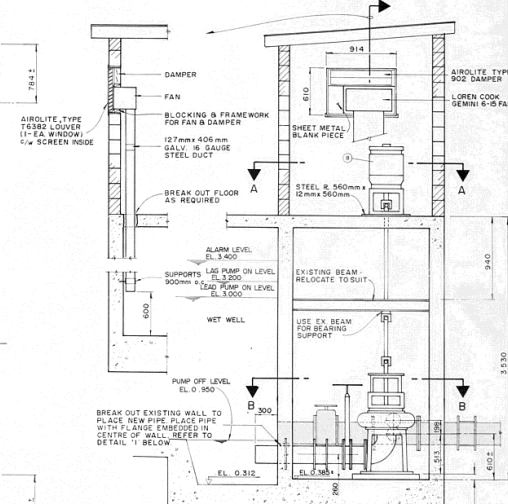


PLAN B-B

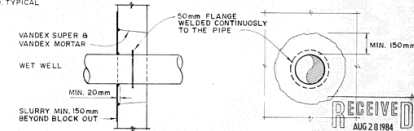
LIST OF MATERIALS

(PIPE & VALVE DESIGNATIONS
IN IMPERIAL)

- | | | |
|---|---------------|---|
| ① 8" - 45° STRAIGHT ELBOW | (IN IMPERIAL) | ④ MOTION |
| ② 8" DIA. 45- C1 KNIFE GATE VALVE | | ⑤ 8" DIA. STEEL SPOOL PIECE |
| ③ 8" - SWING CHECK VALVE, FIG. 10 FABRI-VALVE | | ⑥ 10" DIA. STEEL SPOOL PIECE |
| ⑦ PUMP, COMPLETE WITH MERCURY FLOUT CONTROL | | ⑦ DUMP PUMP, 1/2" DIA. DISCHARGE PIPE TO BE CONNECTED TO EXISTING RUBBER BEND |
| ⑧ 10" - FABRI 45- C1 KNIFE GATE VALVE | | ⑧ FLANGE & FLARE |
| ⑨ 10" - TRANSITION COUPLING | | ⑨ 8" DIA. ONE PIECE FABRICATED BEND |
| | | ⑩ 12" - TRANSITION COUPLING |
| | | ⑪ INDICATES EXISTING PIPE |



SECTION C-C



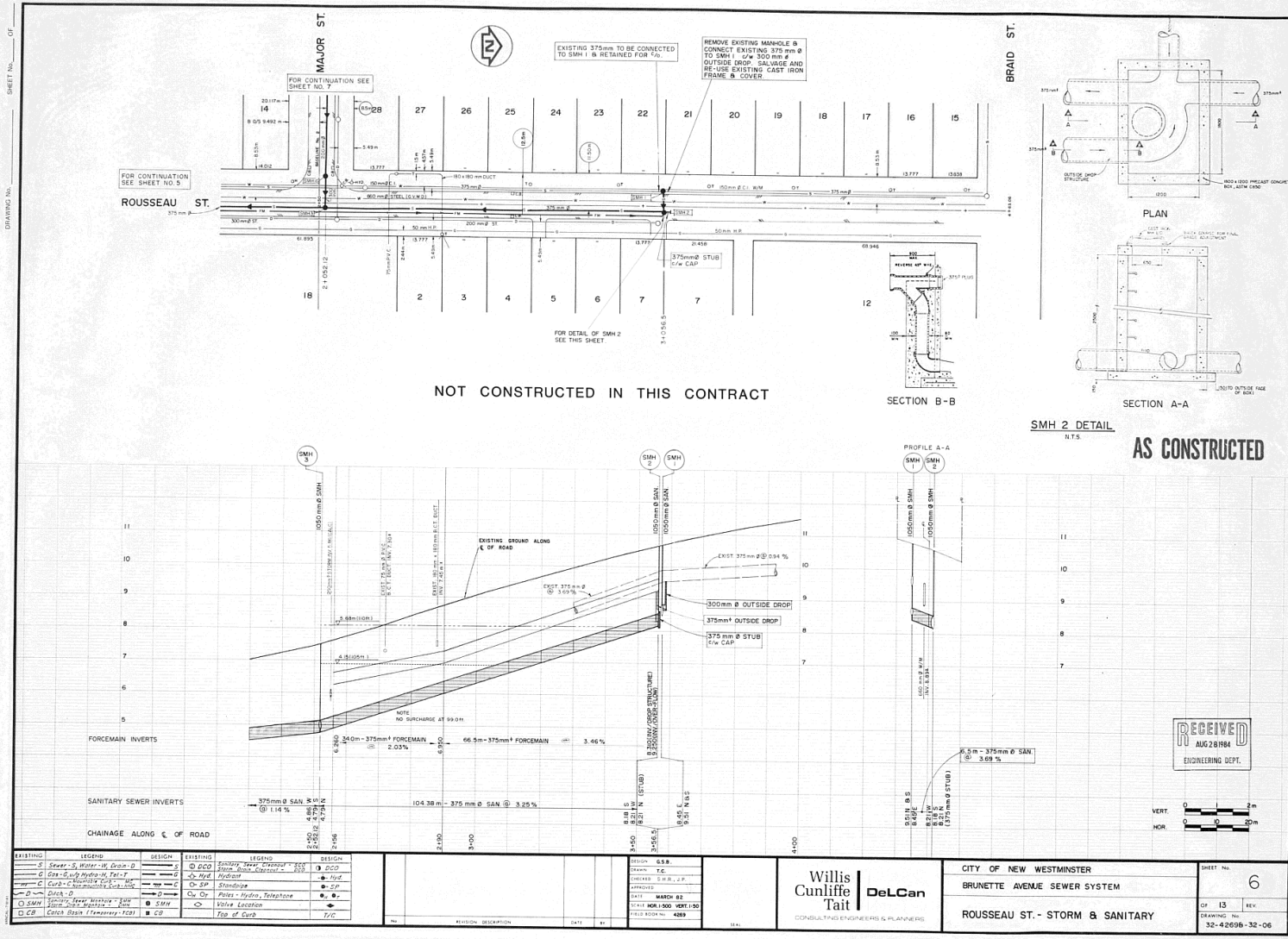
STEPS FOR RECONSTRUCTION

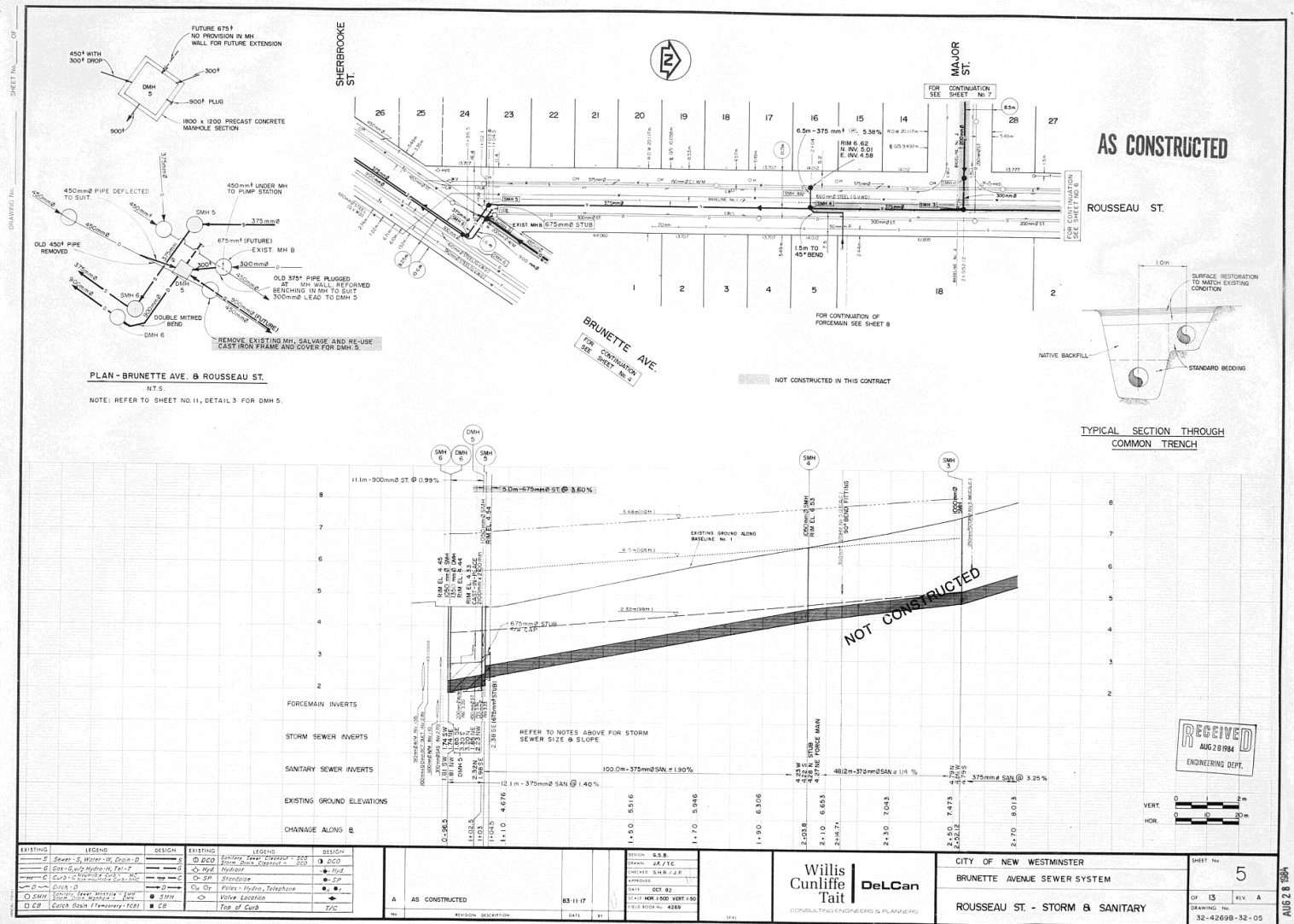
1. BREAK OUT EXISTING CONC MIN. 150mm AROUND NEW PIPE.
2. APPLY SLURRY GROUT TO VANDEX SUPER FOLLOWED BY 1" LAMINATING LAYERS OF VANDEX MORTAR CONSISTING OF VANDEX SUPER & VANDEX PREMIX 1:6 (APPLY BY TROWEL).
3. POUR CONCRETE THROUGH WINDOW AT TOP OF BLOCK-OUT (25MPa CONC., MAX. AGGREGATE SIZE = 10mm DIA).
4. ROUT-OUT MIN. 20mm DEEP GROOVE WHERE NEW CONCRETE MEETS THE OLD AND AROUND THE PIPE. APPLY SLURRY, MORTAR & MORTAR AS IN STEP 2.
5. APPLY VANDEX SLURRY MIX MIN. 150mm BEYOND THE BLOCK-OUT ON THE WATER SIDE.

DETAIL 'I'

AS CONSTRUCTED

NO. 1 AS CONSTRUCTED 04/05/23		REVISION DESCRIPTION DATE		DESIGN - J.P. DRAWN - S.M. CHECKED - J.P. APPROVED DATE OCT 02 SCALE 1/25 U.S. TITLE BOOK NO.	CITY OF NEW WESTMINSTER BRUNETTE AVENUE SEWER SYSTEM PUMP STATION DETAILS		SHEET NO. 12 OF 13 REV. A DRAWING NO. 32-42698-32-12
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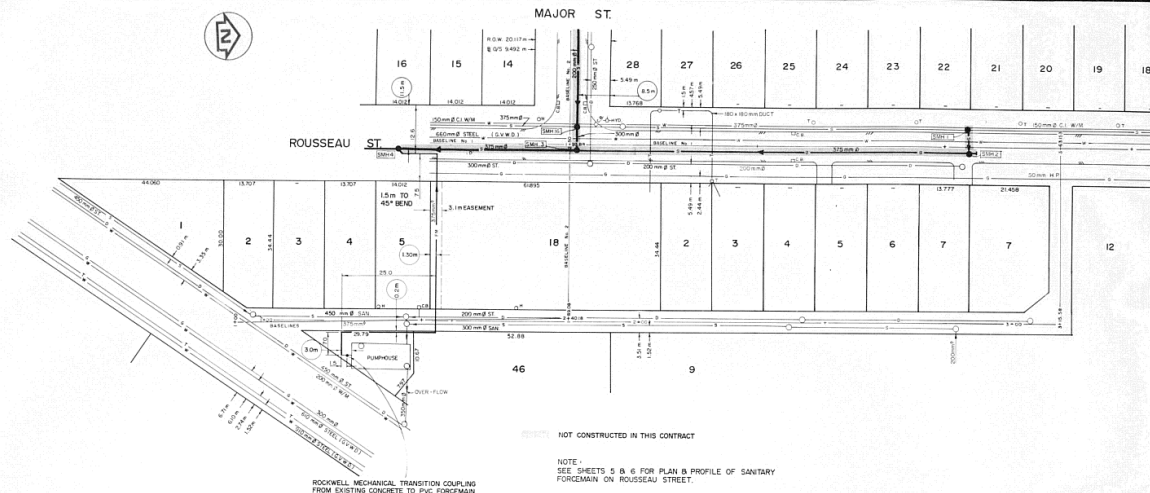




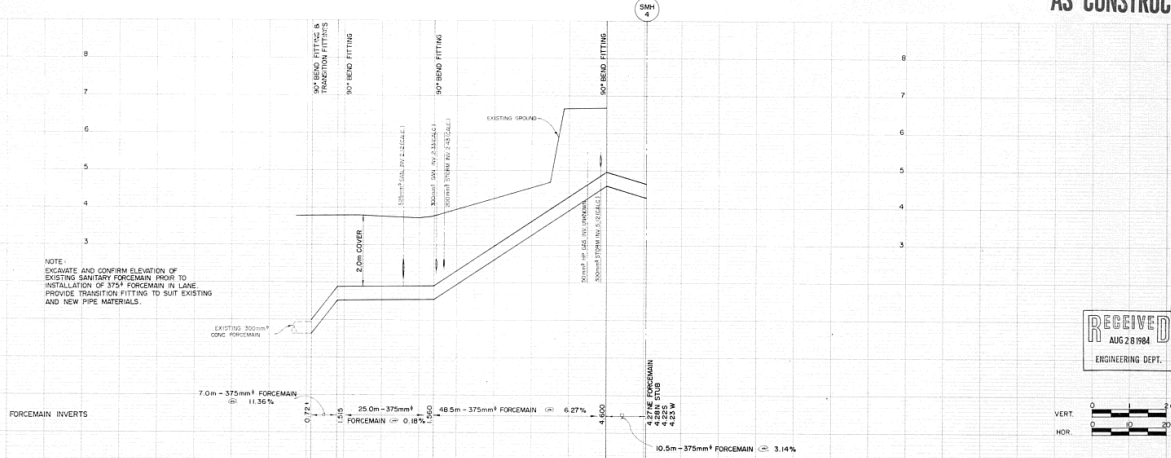
BRUNETTE AVE.

MAJOR ST.

ROUSSEAU ST.

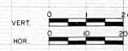


AS CONSTRUCTED



NOTE:
INDICATE AND CONFIRM ELEVATION OF
EXISTING SANITARY FORCEMAIN PRIOR TO
INSTALLATION OF 375 FORCEMAIN IN LINE
PROVIDE TRANSITION FITTING TO SUIT EXISTING
AND NEW PIPE MATERIALS.

RECEIVED
AUG 28 1984
ENGINEERING DEPT.



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8	Steel S. Water M. Pipe	8	8	Steel S. Water M. Pipe	8
9	Steel S. Water M. Pipe	9	9	Steel S. Water M. Pipe	9
10	Steel S. Water M. Pipe	10	10	Steel S. Water M. Pipe	10
11	Steel S. Water M. Pipe	11	11	Steel S. Water M. Pipe	11
12	Steel S. Water M. Pipe	12	12	Steel S. Water M. Pipe	12

Willis
Cunliffe
Tait
DeLCan
CONSULTING ENGINEERS & PLANNERS

CITY OF NEW WESTMINSTER
BRUNETTE AVENUE SEWER SYSTEM
LANE EAST OF ROUSSEAU ST. -
SANITARY FORCEMAIN

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