

APPENDIX A - TABLE E7.1 : SITE SPECIFIC DESIGN CONDITIONS AND REPAIR REQUIREMENTS PRIOR TO PERFORMING SEWER LINING

Assiniboine Avenue (Asset No. MA20002934) Sanitary Sewer	MH at Assiniboine Ave (MH20002662) to 1st MH (Chamber) S of Assiniboine Ave (MH70000004)
Drawing Number	11356
Size / Shape	900 mm Circular
Material Type	Concrete
Total Length	63.5 m
Maximum Sewer Depth to Invert	6.28 m
Design Condition	Partially Deteriorated - Ovality 3%
Site Specific Repairs	
Location	Action Required
Distance From MH2002662 (m)	
5.8 - 11.5	Dimension changes from 900 to 750 for 5.7m - transition piece for liner required
24.4	Remove encrustation at pipe joint from 4:00 to 8:00
43.9 - 44.4	Remove encrustation from pipe wall @ 4:00
45.3	Remove encrustation from pipe wall @ 3:00
58.1	Remove encrustation at pipe joint from 4:00 to 8:00
60.0	Remove encrustation at pipe joint from 2:00 to 5:00

Osborne Street (Asset No. MA60008723) Combined Sewer	MH at Kylemore Ave (MH60007164) to MH at Walker Ave (MH60007145)
Drawing Number	11357
Size / Shape	1200x900 mm Egg
Material Type	Concrete
Total Length	77.1 m
Maximum Sewer Depth to Invert	5.77 m
Design Condition	Fully Deteriorated Ovality 5%
Site Specific Repairs	
Location	Action Required
Distance From MH60007164 (m)	
0.3	Remove encrustation from pipe wall @ 10:00
0.6	Remove encrustation from pipe wall @ 5:00
2.0	Remove encrustation from pipe wall @ 5:00
2.2	Remove roots from pipe wall @ 1:00
8.0 - 9.4	Remove encrustation from pipe wall from 7:00 to 10:00
14.9	Remove encrustation from pipe wall from 1:00 to 3:00
16.6	Remove encrustation at pipe joint from 2:00 to 4:00
24.3 - 29.0	Remove encrustation from pipe wall from 1:00 to 5:00 and from 7:00 to 10:00
32.6 - 33.1	Remove encrustation from pipe wall from 7:00 to 10:00
33.3	Remove encrustation at pipe joint from 7:00 to 5:00
35.4	Remove encrustation from pipe wall from 3:00 to 5:00
36.2	Remove encrustation from pipe wall from 7:00 to 5:00
38.3	Remove encrustation from pipe wall from 7:00 to 10:00
39.1	Remove encrustation from pipe wall from 7:00 to 12:00
41.0	Remove encrustation from pipe wall from 7:00 to 5:00
44.0 - 45.8	Remove encrustation from pipe wall from 7:00 to 10:00 and from 2:00 to 5:00
47.7 - 51.0	Remove encrustation from pipe wall from 7:00 to 10:00 and from 2:00 to 5:00
52.8	Remove obstruction and encrustation - caution, unknown item blocking sewer

Distance From MH60007145 (m)	Reversal - Upstream Direction
5.1	Remove encrustation from pipe wall from 7:00 to 10:00
5.7 - 6.9	Remove encrustation from pipe wall from 1:00 to 6:00
6.5	Remove encrustation from service @ 2:00
9.3	Patch hole @ 5:00
16.4	Remove encrustation from pipe wall from 2:00 to 5:00
19.8	Remove encrustation from pipe wall from 7:00 to 10:00
20.7	Remove encrustation from pipe wall from 2:00 to 5:00
22.5 - 23.3	Remove encrustation from pipe wall from 2:00 to 5:00
23.4	Remove encrustation from pipe wall from 7:00 to 10:00
24.5	Remove obstruction and encrustation - caution, unknown item blocking sewer

Carriere Avenue (Asset No. MA70003181) Combined Sewer	1st MH W of Braemar Ave (MH50006482) to MH at St. Mary's Rd (CL) (MH50006483)
Drawing Number	11358
Size / Shape	1500x1000 mm Egg
Material Type	Concrete
Total Length	48.8 m
Maximum Sewer Depth to Invert	8.10 m
Design Condition	Fully Deteriorated Ovality 6%
Site Specific Repairs	
Location	Action Required
Distance From MH50006482 (m)	
15.4 - 16.2	Remove encrustation from pipe wall from 7:00 to 10:00
15.9	Remove encrustation from pipe wall from 1:00 to 5:00
20.0	Remove encrustation from pipe wall from 7:00 to 10:00
24.0	Remove intruding service @ 11:00
30.0	Remove intruding service @ 12:00
31.4	Remove intruding service @ 12:00
31.7 - 32.4	Remove encrustation from pipe wall from 1:00 to 5:00
35.9 - 38.2	Patch pipe wall @ 7:00
38.1	Remove encrustation from pipe wall from 2:00 to 5:00
44.0	Remove encrustation at pipe joint from 1:00 to 3:00
45.3	Remove encrustation from pipe wall from 1:00 to 4:00

Carriere Avenue (Asset No. MA50007564) Combined Sewer	MH at Braemar Ave (MH50006478) to 1st MH W of Braemar Ave (MH50006482)
Drawing Number	11358
Size / Shape	1500x1000 mm Egg
Material Type	Concrete
Total Length	26.5 m
Maximum Sewer Depth to Invert	8.00 m
Design Condition	Fully Deteriorated Ovality 6%
Site Specific Repairs	
Location	Action Required
Distance From MH50006478 (m)	
0.8	Remove encrustation from pipe wall at 8:00
3.1	Remove encrustation from pipe wall at 4:00
4.0	Remove and reinsert brick at 10:00
13.7	Patch void in wall @ 5:00
14.8 - 16.5	Patch void in wall @ 5:00
15.5 - 17.0	Patch void in wall @ 7:00
16.6 - 17.2	Remove grease from pipe wall @ 7:00
26.3	Remove grease from pipe wall @ 7:00

Carriere Avenue (Asset No. MA50007561) Combined Sewer	MH at Hill St (MH50006481) to MH at Braemar Ave (MH50006478)
Drawing Number	11359
Size / Shape	1500x1000 mm Egg
Material Type	Concrete
Total Length	100.9 m
Maximum Sewer Depth to Invert	7.73 m
Design Condition	Fully Deteriorated Ovality 6%
Site Specific Repairs	
Location	Action Required
Distance From MH50006481 (m)	
5.2	Remove encrustation from pipe wall from 10:00 to 2:00
7.5 - 8.8	Patch void in pipe wall at 7:00
32.5	Remove encrustation from pipe wall from 9:00 to 12:00
36.7 - 43.7	Patch void in pipe wall from 5:00 to 7:00
41.1 - 42.4	Remove encrustation from pipe wall from 9:00 to 3:00
41.6	Grout around outside of service
47.2	Patch void in pipe wall at 5:00
49.7	Remove grease from pipe wall @ 7:00
52.9 - 55.2	Patch void in pipe wall at 5:00
62.6 - 65.6	Patch void in pipe wall at 5:00
69.3 - 70.0	Patch void in pipe wall from 5:00 to 7:00
69.9	Remove encrustation from pipe wall from 7:00 to 9:00
73.5	Remove encrustation from pipe wall from 3:00 to 5:00
73.5	Remove encrustation from pipe wall from 7:00 to 9:00
74.9	Remove encrustation from pipe wall from 3:00 to 5:00
84.2 - 86.4	Remove encrustation from pipe wall from 2:00 to 5:00
95.6	Remove intruding service @ 3:00
96.0	Patch void in pipe wall at 7:00

Academy Road (Asset No. MA60006726) Combined Sewer	MH at Cenntenial St (MH60005344) to MH at Beaverbrook (W PL) (MH60005403)
Drawing Number	11360
Size / Shape	900 mm Circular
Material Type	Concrete
Total Length	76.0 m
Maximum Sewer Depth to Invert	6.23 m
Design Condition	Fully Deteriorated Ovality 5%
Site Specific Repairs	
Location	Action Required
Distance From MH60005344 (m)	
	Note: existing CIPP liner from 0.0 to 2.3m
2.3	Trim back existing liner as required
7.6	Remove encrustation from pipe wall from 10:00 to 5:00
9.2	Remove encrustation from pipe wall from 1:00 to 5:00
20.5 - 21.7	Remove encrustation from pipe wall from 6:00 to 9:00
20.9	Grout void around service at 8:00

Distance From MH60005403 (m)	Reversal - Upstream Direction
2.6 - 3.4	Remove encrustation from pipe wall from 7:00 to 12:00
7.0 - 7.7	Patch void in pipe wall at 5:00
8.0 - 8.4	Patch void in pipe wall at 7:00
12.8	Patch void in pipe wall at 5:00
13.6 - 15.1	Patch void in pipe wall at 5:00
15.3	Remove encrustation from pipe wall from 2:00 to 4:00
16.0 - 16.5	Patch void in pipe wall at 7:00
18.6	Remove encrustation from pipe wall from 7:00 to 11:00
29.7	Grout void around service at 2:00
33.1	Remove encrustation from pipe wall from 7:00 to 11:00
33.5	Grout void around service at 2:00
34.0	Grout void around service at 1:00
34.4 - 35.4	Patch void in pipe wall at 7:00
46.9	Remove encrustation from pipe wall from 9:00 to 2:00
48.7	Remove encrustation from pipe wall from 8:00 to 11:00
51.3 - 53.6	Remove encrustation from pipe wall from 3:00 to 6:00
53.6	Remove intruding service @ 4:00

Academy Road (Asset No. MA60006790) 1st MH E. of Cenntennial St (MH60005403) to MH at Beaverbrook (CL) (MH60005404)	
Combined Sewer	
Drawing Number	11360
Size / Shape	900 mm Circular
Material Type	Concrete
Total Length	9.4 m
Maximum Sewer Depth to Invert	6.23 m
Design Condition	Fully Deteriorated Ovality 5%
Site Specific Repairs	
Location	Action Required
Distance From MH60005403 (m)	
2.0	Patch void in pipe wall at 7:00

Academy Road (Asset No. MA60006791) MH at Beaverbrook (CL) (MH60005404) to MH at Wellington Cr. S. (CL) (MH70027167)	
Combined Sewer	
Drawing Number	11360
Size / Shape	900 mm Circular
Material Type	Concrete
Total Length	8.1 m
Maximum Sewer Depth to Invert	6.23 m
Design Condition	Fully Deteriorated Ovality 5%
Site Specific Repairs	
Location	Action Required
Distance From MH60005404 (m)	
0.7	Patch void in pipe invert

Academy Road (Asset No. MA70060106)	MH at Wellington Cr S (W PL) (MH70027167) to MH at Wellington Cr S (CL) (MH60005407)
Combined Sewer	
Drawing Number	11360
Size / Shape	900 mm Circular
Material Type	Concrete
Total Length	6.4 m
Maximum Sewer Depth to Invert	6.29 m
Design Condition	Fully Deteriorated Ovality 5%
Site Specific Repairs	
Location	Action Required
Distance From MH70027167 (m)	
3.2 - 3.7	Patch void in pipe wall at 5:00
4.2 - 4.4	Remove encrustation from pipe wall from 8:00 to 4:00

Portage Avenue (Asset No. MA20008920) Sanitary Sewer	1st MH W of Riverbend Cr (W Leg) (MH20008231) to MH at Garden Rd (MH20008298)
Drawing Number	11361
Size / Shape	900 mm Circular
Material Type	Concrete
Total Length	140.5 m
Maximum Sewer Depth to Invert	5.31 m
Design Condition	Deterioration & ovality unknown due to high water level
Site Specific Repairs	
Location	Action Required
Distance From MH20008231 (m)	
	Note: Tender video indicates sewer was telvised in DS direction but video appears to be going against flow
	Note: Pipe flowing 80% full in tender video
46.4	Patch void in pipe wall at 11:00
102.3	Remove encrustation from pipe joint from 8:00 to 4:00
117.0	Remove encrustation from pipe joint @ 2:00
133.4	Remove encrustation from pipe joint from 12:00 to 3:00
	Note: Tender video incomplete

Portage Avenue (S PL) (Asset No. MA20011451) Sanitary Sewer	1st MH E of St. John Ambulance Wy (MH20010446) to 1st MH E of Tylehurst St (MH20010435)
Drawing Number	11362
Size / Shape	900 mm Circular
Material Type	Concrete
Total Length	140.6 m
Maximum Sewer Depth to Invert	4.37 m
Design Condition	Fully Deteriorated Ovality 7%
Site Specific Repairs	
Location	Action Required
Distance From MH20010446 (m)	Reversal - Upstream Direction
	Note: Pipe flowing 30-40% full in tender video
7.6 - 8.0	Remove encrustation from pipe wall from 9:00 to 11:00
14.0	Remove encrustation from pipe joint from 8:00 to 4:00
26.9	Remove roots from pipe joint from 10:00 to 2:00
26.9	Patch void at pipe joint from 8:00 to 4:00
48.9	Remove roots from pipe joint from 10:00 to 2:00
51.3	Remove roots from pipe wall at 2:00
52.0	Remove encrustation from pipe joint from 8:00 to 4:00
55.7 - 56.5	Remove encrustation from pipe wall from 9:00 to 3:00
61.7	Remove roots from pipe joint at 10:00
64.9	Remove encrustation from pipe joint from 8:00 to 4:00
69.8	Remove encrustation from pipe wall at 10:00
77.2	Remove encrustation from pipe joint from 8:00 to 11:00
79.3	Remove encrustation from pipe joint from 8:00 to 4:00
97.6	Remove encrustation from pipe wall from 2:00 to 4:00
99.0	Remove encrustation from pipe joint from 8:00 to 4:00
104.8	Remove encrustation from pipe wall from 9:00 to 11:00
107.8	Remove encrustation from pipe joint from 8:00 to 4:00
109.3	Remove encrustation from pipe wall at 10:00
125.7	Remove roots from pipe joint from 10:00 to 2:00
127.5	Remove roots from pipe joint from 10:00 to 2:00
131.1	Remove roots from pipe joint from 10:00 to 2:00

Wolseley Avenue (Asset No. MA20011507) Sanitary Sewer	1st MH E of Stiles St (MH20010489) to MH at Clifton St S (W PL) (MH20010497)
Drawing Number	11363
Size / Shape	1050 mm Circular
Material Type	Concrete
Total Length	109.2 m
Maximum Sewer Depth to Invert	3.54 m
Design Condition	Fully Deteriorated Ovality 6%
Site Specific Repairs	
Location	Action Required
Distance From MH20010489 (m)	
	Note: Pipe flowing 40-50% full in tender video
0.4	Remove roots from pipe wall at 2:00
1.7	Remove roots from pipe wall at 3:00
10.3 - 11.8	Remove roots from pipe wall at 12:00
24.0 - 26.2	Remove roots from pipe wall at 3:00
28.1 - 29.5	Remove roots from pipe wall at 12:00
28.8	Remove encrustation from pipe joint at 3:00
43.4 - 46.8	Remove roots from pipe wall at 12:00
47.0	Remove encrustation from pipe joint at 3:00
56.8	Remove roots from pipe wall from 11:00 to 3:00
65.4	Remove roots from pipe wall at 12:00
68.9	Remove roots from pipe joint from 11:00 to 2:00
87.2	Remove roots from pipe wall from 10:00 to 2:00
107.2	Remove roots from pipe wall at 2:00

Broadway (Asset No. MA20014697)	MH at Langside St (CL) (MH20013275) to MH at Young St (CL) (MH20013273)
Combined Sewer	
Drawing Number	11364
Size / Shape	1200x900 mm Egg
Material Type	Brick
Total Length	75.8 m
Maximum Sewer Depth to Invert	5.91 m
Design Condition	Partially Deteriorated Ovality 7%
Site Specific Repairs	
Location	Action Required
Distance From MH20013275 (m)	
	Note: Removal of silt required prior to lining
1.0	Replace missing brick @ 5:00
1.1 - 1.4	Patch voids between bricks @8:00 and @ 5:00
6.2 - 11.6	Remove encrustation from pipe wall at 7:00
9.0	Remove encrustation from pipe wall at 5:00
10.1	Remove grease from pipe wall at 5:00
11.6	Remove grease from pipe wall at 5:00
18.3 - 24.7	Remove grease from pipe wall at 5:00
31.0	Remove grease from pipe wall at 5:00
36.7	Remove encrustation from pipe wall from 7:00 to 10:00
49.4	Remove intruding service @ 2:00
59.3 - 59.7	Remove encrustation from pipe wall from 2:00 to 5:00

Ellice Avenue (Asset No. MA70025521)	MH at Young St (CL) (MH20014973) to MH at Young St (E PL) (MH70056635)
Combined Sewer	
Drawing Number	11365
Size / Shape	1125x750 mm Egg
Material Type	Brick
Total Length	7.4 m
Maximum Sewer Depth to Invert	5.68 m
Design Condition	Fully Deteriorated Ovality 4%
Site Specific Repairs	
Location	Action Required
Distance From MH20014973 (m)	
0.8 - 1.6	Remove encrustation from pipe wall @ 5:00

Ellice Avenue (Asset No. MA70025522)	MH at Young St (E PL) (MH70056635) to MH at Spence St (W PL) (MH70008172)
Combined Sewer	
Drawing Number	11365
Size / Shape	1125x750 mm Egg
Material Type	Brick
Total Length	59.0 +/-
Maximum Sewer Depth to Invert	5.68 m
Design Condition	Unknown
Site Specific Repairs	
Location	Action Required
	No Pre-Tender Video Available
	Pre-lining video required to determine sewer conditions

Ellice Avenue (Asset No. MA70022982)	MH at Spence St (W PL) (MH70008172) to MH at Spence St (CL) (MH20014974)
Combined Sewer	
Drawing Number	11366
Size / Shape	1125x750 mm Egg
Material Type	Brick
Total Length	11.5 m
Maximum Sewer Depth to Invert	5.65 m
Design Condition	Fully Deteriorated Ovality 4%
Site Specific Repairs	
Location	Action Required
Distance From MH70008172 (m)	
No pre-lining preparation work required	

Ellice Avenue (Asset No. MA20016646) Combined Sewer	MH at Spence St (CL) (MH20014974) to MH at Balmoral St (CL) (MH20014958)
Drawing Number	11366
Size / Shape	1125x750 mm Egg
Material Type	Brick
Total Length	97.6 m
Maximum Sewer Depth to Invert	5.65 m
Design Condition	Fully Deteriorated Ovality 6%
Site Specific Repairs	
Location	Action Required
Distance From MH20014974 (m)	
11.2	Remove encrustation from pipe wall from 7:00 to 10:00
57.5	Remove grease from pipe wall at 5:00
60.5	Remove encrustation from pipe wall from 7:00 to 10:00
86.6 - 87.5	Remove encrustation from pipe wall from 2:00 to 5:00
89.3	Remove encrustation from pipe wall from 7:00 to 10:00
90.7	Remove intruding service @ 2:00

John Hirsch Place (Asset No. MA20016330) Combined Sewer	1st MH N of Bannatyne Av (MH20014697) to MH at Bannatyne Av (2nd E of Rorie St) (MH20014685)
Drawing Number	11367
Size / Shape	1200 mm Circular
Material Type	Vitrified Clay (Tiles)
Total Length	36.8 m
Maximum Sewer Depth to Invert	6.55 m
Design Condition	Partially Deteriorated Ovality 5%
Site Specific Repairs	
Location	Action Required
Distance From MH20014974 (m)	
4.5 - 6.2	Remove encrustation from pipe wall from 8:00 to 11:00
18.7 - 20.6	Patch pipe wall at 3:00
19.8	Remove encrustation from pipe wall from 3:00 to 5:00
37.1 - 40.3	Remove roots from pipe wall from 8:00 to 10:00

Cosmo Place (Asset No. MA40011029) Combined Sewer	1st MH W of Eaton St (MH40009974) to 1st MH W of Berlin St. (South Sewer) (MH40009975)
Drawing Number	11368
Size / Shape	1275x850 mm Egg
Material Type	Concrete
Total Length	81.7 m
Maximum Sewer Depth to Invert	6.57 m
Design Condition	Fully Deteriorated Ovality 5%
Site Specific Repairs	
Location	Action Required
Distance From MH40009974 (m)	
1.2 - 3.1	Patch void in pipe wall @ 8:00
1.4 - 2.7	Patch void in pipe wall @ 5:00
31.3	Remove encrustation from pipe wall from 7:00 to 11:00
40.8 - 41.4	Remove encrustation from pipe wall from 7:00 to 9:00
43.1 - 43.8	Remove encrustation from pipe wall from 12:00 to 5:00
65.3 - 66.3	Remove encrustation from pipe wall from 7:00 to 11:00
67.1	Remove encrustation from pipe wall from 1:00 to 4:00
70.1	Remove encrustation from pipe wall from 7:00 to 9:00
76.1 - 76.6	Remove encrustation from pipe wall from 7:00 to 9:00

Cosmo Place (Asset No. MA40011027)	1st MH E of Eaton St (MH40009984) to 1st MH W of Eaton St. (MH40009974)
Combined Sewer	
Drawing Number	11369
Size / Shape	1275x850 mm Egg
Material Type	Concrete
Total Length	113.2 m
Maximum Sewer Depth to Invert	7.12 m
Design Condition	Fully Deteriorated Ovality 4%
Site Specific Repairs	
Location	Action Required
Distance From MH40009984 (m)	
1.0 - 2.9	Remove grease from pipe wall from 7:00 to 5:00
12.4 - 13.4	Patch void in pipe wall @ 5:00
14.8 - 15.4	Remove encrustation from around service and pipe wall from 7:00 to 11:00
16.5 - 16.8	Patch void in pipe wall from 7:00 to 10:00
18.8 - 20.4	Patch void in pipe wall from 7:00 to 10:00
19.1	Patch void in pipe wall at 5:00
27.2	Patch void in pipe wall at 5:00
28.4 - 29.9	Patch void in pipe wall at 4:00
48.8 - 49.2	Patch void in pipe wall at 7:00
51.5 - 52.8	Patch void in pipe wall at 9:00
59.8 - 61.3	Remove encrustation from pipe wall from 7:00 to 5:00
63.8 - 64.6	Patch void in pipe wall at 7:00
82.3	Remove encrustation from pipe wall from 7:00 to 5:00
86.2 - 87.1	Patch void in pipe wall at 7:00
87.9	Patch void in pipe joint from 7:00 to 5:00
90.3 - 91.6	Patch void in pipe wall at 7:00
90.9 - 91.5	Remove broken pipe wall at 7:00
95.7 - 98.7	Remove encrustation from pipe wall from 7:00 to 5:00
100.7	Remove encrustation from pipe wall from 7:00 to 1:00
100.4 - 112.4	Patch void in pipe wall at 7:00 and at 5:00

Narin Avenue (Asset No. MA40011039)	1st MH W of Grey St (MH40009973) to 2nd MH W of Grey St (MH40009984)
Combined Sewer	
Drawing Number	11370
Size / Shape	1275x850 mm Egg
Material Type	Concrete
Total Length	101.9 m
Maximum Sewer Depth to Invert	8.46 m
Design Condition	Fully Deteriorated Ovality 5%
Site Specific Repairs	
Location	Action Required
Distance From MH40009973 (m)	
9.7	Remove encrustation from pipe wall from 7:00 to 9:00
12.0	Patch void in pipe wall at 5:00
20.8	Patch void in pipe wall at 5:00
24.8 - 25.6	Patch void in pipe wall at 5:00
55.2 - 55.7	Remove grease from pipe wall from 7:00 to 5:00
67.0	Patch void in pipe wall at 5:00
69.0	Remove grease from pipe wall from 7:00 and 4:00
68.4	Remove encrustation from service @ 12:00
77.4	Patch void in pipe wall at 5:00
81.3 - 81.9	Remove encrustation from pipe wall from 1:00 to 5:00
98.9 - 101.9	Remove encrustation from pipe wall from 7:00 to 5:00

Clifton Street (Asset No. MA20012779) Combined Sewer	MH at Notre Dame Ave (N of CL) (MH20011676) to MH Notre Dame Ave (S PL) (MH20011646)
Drawing Number	11371
Size / Shape	1350x1050 mm Egg
Material Type	Concrete
Total Length	38.5 m
Maximum Sewer Depth to Invert	6.51 m
Design Condition	Partially Deteriorated Ovality 3%
Site Specific Repairs	
Location	Action Required
Distance From MH20011676 (m)	
	Note: Large amount of debris requires removal in this sewer
0.0	Patch void in pipe wall at 5:00
13.7	Remove encrustation from pipe joint from 8:00 to 4:00
16.5	Remove encrustation from pipe wall @ 8:00
18.1 - 18.7	Remove encrustation from pipe wall from 7:00 to 5:00
26.8	Patch void in pipe wall at 8:00
27.5	Remove encrustation from pipe wall from 3:00 to 5:00
28.5	Remove encrustation from pipe joint from 7:00 to 5:00
33.1	Patch void in pipe wall at 8:00
36.2 - 37.9	Remove encrustation from pipe wall from 8:00 to 4:00
38.4	Remove grease from pipe wall @ 5:00
38.0 - 38.5	Patch void in pipe wall at 8:00

Alexander Avenue (Asset No. MA20019545) Combined Sewer	MH at Dorthy St (MH70028371) to MH at Beacon St (MH20017761)
Drawing Number	11372
Size / Shape	900x600 mm Egg
Material Type	Brick
Total Length	80.7 m
Maximum Sewer Depth to Invert	4.19 m
Design Condition	Partially Deteriorated Ovality 3%
Site Specific Repairs	
Location	Action Required
Distance From MH70028371 (m)	
10.7 - 11.1	Remove encrustation from pipe wall from 1:00 to 5:00
10.8	Grout around outside of service
12.3 - 17.3	Remove encrustation from pipe wall from 3:00 to 9:00
23.0	Replace missing bricks at 10:00
41.7	Grout around outside of service
42.1	Remove intruding service @ 11:00
46.1 - 47.0	Remove encrustation from pipe wall from 2:00 to 5:00
51.1	Remove grease from pipe wall @ 7:00
78.7 - 80.0	Remove encrustation from pipe wall from 1:00 to 4:00
78.3 - 79.8	Remove encrustation from pipe wall from 8:00 to 11:00
80.4	Remove grease from pipe wall @ 2:00

McPhillips Street (Asset No. MA20019475) Combined Sewer	MH at Alexander Ave W (MH20017685) to MH at Ross Ave (MH20017468)
Drawing Numbers	11373 & 11374
Size / Shape	1200x900 and 2000x1500mm Egg
Material Type	Concrete
Total Length	205.1 m
Maximum Sewer Depth to Invert	6.97 m
Design Condition	Partially Deteriorated Ovality 4%
Site Specific Repairs	
Location	Action Required
Distance From MH20017685 (m)	
0.3 - 1.2	Patch void in pipe invert from 5:00 to 7:00
2.4	Patch void in pipe wall @ 5:00
3.7	Patch void in pipe wall @ 5:00
7.0	Remove encrustation from pipe wall from 1:00 to 5:00
7.0	Grout around outside of service @ 1:00
11.5	Remove encrustation from pipe wall @ 7:00
28.0 - 29.0	Remove encrustation from pipe wall from 2:00 to 5:00
30.9	Remove encrustation from service at 1:00
34.3	Remove encrustation from pipe wall from 2:00 to 5:00
35.5	Remove encrustation from pipe wall from 2:00 to 5:00
38.5	Remove intruding service @ 10:00
50.7	Remove encrustation from pipe wall from 2:00 to 5:00
66.6	Remove encrustation from pipe wall from 7:00 to 11:00
67.9	Patch void in pipe wall @ 3:00
68.6	Grout around outside of service @ 2:00
74.2	Remove encrustation from pipe wall from 7:00 to 10:00
74.2	Patch void in pipe wall @ 7:00
77.0	Patch void in pipe wall @ 5:00
93.5	Remove encrustation from pipe wall @ 5:00
92.7	Grout around outside of service @ 12:00
101.2	Remove encrustation from service @ 11:00
103.7	Remove encrustation from pipe wall @ 7:00
105.4	Remove encrustation from pipe wall @ 8:00
105.8	Remove encrustation from pipe wall @ 8:00
108.7	Remove encrustation from pipe wall from 8:00 to 11:00
110.3	Remove encrustation from pipe wall from 7:00 to 11:00
110.7	Remove encrustation from pipe wall @ 8:00
111.5	Remove encrustation from pipe wall from 3:00 to 5:00
111.8	Remove encrustation from pipe wall from 2:00 to 5:00
112.0	Remove encrustation from pipe wall @ 8:00
114.5	Major branch @ 9:00 (Intersects with 1875x1450 CS)
115.2	Sewer dimension changes to 2000x1500
	Sewer Liner to end at 115.2 - No Prep. work required beyond 115.2

McPhillips Street (Asset No. MA70012177) Combined Sewer	MH at (S PL) of Logan Ave (MH20017703) to MH at Alexander Ave W (MH20017685)
Drawing Number	11375
Size / Shape	1200x900 mm Egg
Material Type	Concrete
Total Length	77.9 m
Maximum Sewer Depth to Invert	6.45 m
Design Condition	Partially Deteriorated Ovality 3%
Site Specific Repairs	
Location	Action Required
Distance From MH20017703 (m)	
0.2 - 0.6	Remove encrustation from pipe wall from 2:00 to 5:00
7.3	Remove grease from pipe wall @ 7:00
12.7 - 14.3	Remove encrustation from pipe wall from 7:00 to 5:00
17.2 - 17.6	Remove encrustation from pipe wall from 7:00 to 10:00
33.6	Remove encrustation from pipe wall from 1:00 to 4:00
35.8	Grout void on inside of service @ 12:00
40.4	Remove intruding service @ 10:00
40.4	Grout void on inside of service @ 10:00
71.1	Patch void in pipe wall @ 5:00
	Note: Large amount of debris left in pipe at DS end in tender video

Selkirk Avenue (Asset No. MA00014262) Combined Sewer	MH at McKenzie St (MH00012800) to 1st MH E of McKenzie St (MH00012702)
Drawing Number	11376
Size / Shape	1200x900 mm Egg
Material Type	Brick
Total Length	103.9 m
Maximum Sewer Depth to Invert	6.45 m
Design Condition	Partially Deteriorated Ovality 4%
Site Specific Repairs	
Location	Action Required
Distance From MH00012800 (m)	
0.5	Remove grease from pipe wall @ 5:00
7.4	Remove encrustation from pipe wall from 7:00 to 11:00
19.1	Remove encrustation from pipe wall from 7:00 to 11:00
29.5	Remove encrustation from pipe wall from 7:00 to 10:00
52.5	Remove encrustation from pipe wall from 7:00 to 11:00
69.0	Remove encrustation from pipe wall from 7:00 to 10:00
75.7	Remove encrustation from pipe wall from 7:00 to 10:00
84.2 - 85.3	Remove encrustation from pipe wall @ 8:00
90.1	Remove encrustation from pipe wall @ 8:00
91.5 - 92.2	Remove encrustation from pipe wall from 7:00 to 10:00
93.8	Remove encrustation from pipe wall @ 8:00
103.6	Remove encrustation from pipe wall @ 3:00

Sinclair Street (Asset No. MA00012691)	MH at Redwood Ave (MH00012925) to MH at Boyd Avenue (MH00010347)
Combined Sewer	
Drawing Number	11377
Size / Shape	1575x1200 mm Egg
Material Type	Concrete
Total Length	81.0 m
Maximum Sewer Depth to Invert	5.45 m
Design Condition	Fully Deteriorated Ovality 5%
Site Specific Repairs	
Location	Action Required
Distance From MH00012925 (m)	
0.3	Remove intruding service @ 8:00
0.3	Patch void under pipe @ 7:00
5.7 - 11.0	Remove encrustation from pipe wall from 1:00 to 5:00
7.7 - 10.8	Remove encrustation from pipe wall @ 10:00
12.3	Remove encrustation from pipe wall from 2:00 to 4:00
15.5	Remove encrustation from pipe joint @ 3:00
25.2	Remove encrustation from pipe joint from 2:00 to 5:00
28.5	Remove encrustation from pipe wall from 3:00 to 5:00
30.1	Remove encrustation from pipe joint from 7:00 to 5:00
32.3	Remove encrustation from pipe joint from 7:00 to 11:00
33.3 - 37.7	Remove encrustation from pipe wall from 7:00 to 5:00
40.6	Remove encrustation from pipe wall from 2:00 to 5:00
52.2	Remove encrustation from pipe wall from 7:00 to 9:00
70.4	Remove encrustation from pipe wall from 7:00 to 9:00

Henderson Highway (Asset No. MA40005414) Combined Sewer	MH at Donalda Ave (MH40004951) to Tee at Munroe Ave (TE70030362)
Drawing Number	11378
Size / Shape	1125x750 mm Egg
Material Type	Concrete
Total Length	112.6 m
Maximum Sewer Depth to Invert	7.75 m
Design Condition	Fully Deteriorated Ovality 5%
Site Specific Repairs	
Location	Action Required
Distance From MH40004951 (m)	
0.3 - 0.6	Remove encrustation from pipe wall @ 7:00
0.4 - 1.0	Remove encrustation from pipe wall @ 5:00
2.8	Patch void in pipe wall @ 5:00
8.3	Remove encrustation from pipe wall from 7:00 to 11:00
9.5	Remove encrustation from pipe wall from 7:00 to 5:00
22.2	Patch void in pipe wall @ 7:00
22.2	Remove encrustation from pipe wall from 7:00 to 11:00
23.3 - 24.7	Remove encrustation from pipe wall from 7:00 to 11:00
27.4 - 28.9	Remove encrustation from pipe wall from 7:00 to 11:00
30.1 - 31.8	Remove encrustation from pipe wall from 7:00 to 11:00
37.7	Remove encrustation from pipe wall @ 9:00
38.0	Remove encrustation from pipe wall from 1:00 to 5:00
38.0	Grout around outside of service @ 2:00
39.3 - 39.8	Remove encrustation from pipe wall from 7:00 to 11:00
49.4	Remove encrustation from pipe wall from 7:00 to 10:00
54.6	Remove grease from pipe wall @ 7:00
55.8	Remove encrustation from pipe wall from 7:00 to 11:00
57.0 - 57.6	Remove encrustation from pipe wall from 7:00 to 11:00
57.0	Remove encrustation from service @ 10:00
59.6 - 61.8	Patch void in pipe wall @ 5:00
64.0	Remove intruding service @ 2:00

64.0	Remove encrustation from pipe wall from 7:00 to 10:00
78.6	Patch void in pipe wall @ 5:00
78.8	Remove grease from pipe wall @ 8:00
80.5	Remove grease from pipe wall @ 7:00
81.6	Patch void in pipe wall @ 5:00
82.2	Remove grease from pipe wall @ 8:00
83.3 - 84.3	Remove encrustation from pipe wall from 7:00 to 11:00
83.5	Patch void in pipe wall @ 5:00
86.4	Patch void in pipe wall @ 8:00
86.6	Patch void in pipe wall @ 5:00
89.5	Patch void in pipe wall @ 7:00
90.4	Patch voids in pipe wall @ 5:00 & 7:00
93.6 - 94.8	Patch voids in pipe wall @ 5:00
93.5 - 97.0	Patch voids in pipe wall @ 7:00
103.2	Patch voids in pipe wall @ 5:00 & 7:00

Henderson Highway (Asset No. MA40005443) Combined Sewer	
MH at Trent Ave (MH40004963) to MH at Donalda Ave (MH40004951)	
Drawing Number	11379
Size / Shape	900x600 mm Egg
Material Type	Concrete
Total Length	94.3 m
Maximum Sewer Depth to Invert	5.98 m
Design Condition	Fully Deteriorated Ovality 6%
Site Specific Repairs	
Location	Action Required
Distance From MH40004963 (m)	
	Note: A large amount of silt was found in sewer when the tender video was completed. A fair amount of silt remained in sewer after cleaning and inspection was completed.
2.2 - 2.5	Remove encrustation from pipe wall from 7:00 to 5:00
3.6	Remove encrustation from pipe wall from 7:00 to 5:00
4.6 - 5.5	Remove encrustation from pipe wall from 7:00 to 11:00
6.0 - 6.9	Remove encrustation from pipe wall from 7:00 to 5:00
8.5 - 9.3	Remove encrustation from pipe wall from 1:00 to 5:00
9.0	Remove encrustation from service @ 1:00
10.5	Remove encrustation from pipe wall from 2:00 to 5:00
11.6	Remove encrustation from pipe wall @ 8:00
12.7	Remove encrustation from pipe wall from 7:00 to 10:00
13.2 - 13.9	Remove encrustation from pipe wall from 7:00 to 10:00
14.6	Patch voids in pipe wall from 5:00 to 7:00
15.2	Remove encrustation from pipe joint from 7:00 to 9:00
19.4	Remove encrustation from pipe wall from 10:00 to 5:00
19.6	Remove encrustation from pipe wall @ 3:00
24.8	Remove encrustation from pipe joint from 7:00 to 5:00
27.0	Grout around outside of service @ 2:00
29.9	Remove encrustation from pipe joint from 7:00 to 5:00
32.3	Remove encrustation from pipe joint from 1:00 to 5:00
34.6	Remove encrustation from pipe wall from 2:00 to 5:00

35.1	Remove intruding service @ 2:00
40.2	Remove encrustation from pipe wall @ 9:00
43.7 - 44.6	Remove encrustation from pipe wall from 12:00 to 5:00
44.7	Remove encrustation from pipe wall from 7:00 to 11:00
46.5 - 47.5	Remove encrustation from pipe wall from 7:00 to 5:00
47.5	Remove encrustation from service @ 2:00
48.3	Remove encrustation from pipe wall from 2:00 to 5:00
49.8	Remove encrustation from pipe wall from 7:00 to 10:00
54.0	Remove encrustation from pipe joint from 8:00 to 5:00
54.9	Remove encrustation from pipe wall from 7:00 to 10:00
56.3	Remove encrustation from pipe wall from 7:00 to 10:00
63.8	Patch void in pipe wall @ 5:00
68.6	Remove encrustation from pipe joint from 8:00 to 10:00
69.5	Remove grease from pipe wall @ 1:00
76.8	Remove encrustation from pipe wall from 7:00 to 10:00
87.8	Remove encrustation from pipe joint from 7:00 to 11:00
87.8	Remove intruding service @ 10:00
91.7	Remove encrustation from pipe wall @ 7:00
92.7	Remove encrustation from pipe wall from 7:00 to 5:00