

**APPENDIX A**  
**SITE SPECIFIC DESIGN CONDITIONS AND REPAIR REQUIREMENTS**

**APPENDIX A - SITE SPECIFIC DESGN CONDITIONS AND REPAIR REQUIREMENTS PRIOR TO PERFORMING FULL SEGMENT SEWER LINING**

<b>Archibald St (Asset No. MA50007770) - Combined Sewer</b>	<b>MH at Cusson St (MH50006633) to 1st MH N of Cusson St (MH50006665)</b>
Drawing Number	12362
Size / Shape	600 mm Circular
Material Type	Concrete
Total Length	49.9 m
Maximum Sewer Depth to Invert	4.82 m
Design Condition	Fully Deteriorated Ovality 8%
<b>Site Specific Repairs</b>	
<b>Location</b>	<b>Action Required</b>
Distance From MH50006633 (m)	
8.9	Remove encrustation from pipe wall from 9:00 to 11:00
14.0	Remove encrustation from pipe wall from 9:00 to 11:00

<b>Cambridge St (Asset No. MA60011165) - Combined Sewer</b>	<b>2nd MH S of Corydon Av (MH60009454) to 3rd MH S of Corydon Av (MH60009434)</b>
Drawing Number	12363
Size / Shape	600 mm Circular
Material Type	Concrete
Total Length	97.6 m
Maximum Sewer Depth to Invert	3.97 m
Design Condition	Fully Deteriorated Ovality 8%
<b>Site Specific Repairs</b>	
<b>Location</b>	<b>Action Required</b>
Distance From MH60009454(m)	
9.7	Remove intruding service at 2:00
20.4	Remove encrustation from pipe wall from 7:00 to 10:00
44.8	Remove intruding service at 10:00
63.2	Remove encrustation from pipe wall from 7:00 to 10:00

<b>Campbell St (Asset No. MA60005105) - Combined Sewer</b>	<b>3rd MH S of Grant Av (MH60003844) to MH at Mathers Av (MH60003834)</b>
Drawing Number	12364
Size / Shape	600 mm Circular
Material Type	Concrete
Total Length	94.9 m
Maximum Sewer Depth to Invert	5.10 m
Design Condition	Fully Deteriorated Ovality 8.5%
<b>Site Specific Repairs</b>	
<b>Location</b>	<b>Action Required</b>
Distance From MH60003844 (m)	
1.2	Remove roots from pipe wall at 3:00 and at 9:00
1.6	Remove roots from pipe joint at 2:00 and at 10:00
2.4	Remove roots from pipe joint at 8:00
3.2	Remove roots from pipe joint at 8:00
4.0	Remove roots from pipe joint at 8:00
4.8	Remove roots from pipe joint at 8:00
5.4	Remove roots from pipe joint at 8:00
6.0	Remove roots from pipe joint at 8:00
12.1	Remove roots from pipe joint at 8:00
12.7	Remove roots from service at 10:00
14.6	Remove roots from pipe joint at 8:00
15.4	Remove roots from pipe joint at 8:00
19.2	Remove roots from pipe joint at 8:00

20.0	Remove roots from pipe joint at 8:00
21.4	Remove roots from pipe joint at 8:00
22.2	Remove roots from pipe joint at 8:00
23.8	Remove roots from pipe joint at 8:00
24.6	Remove roots from pipe joint at 8:00
25.0	Remove roots from service at 10:00
26.0	Remove roots from pipe joint at 8:00
28.4	Remove roots from pipe joint at 8:00
32.2	Remove roots from pipe joint at 8:00
33.0	Remove roots from pipe joint at 4:00
33.8	Remove roots from pipe joint at 4:00
35.7	Remove roots from service at 2:00
37.6	Remove roots from pipe joint at 4:00
38.4	Remove roots from pipe joint at 4:00
45.2	Remove encrustation at pipe joint from 3:00 to 9:00
58.2	Remove roots from pipe joint at 8:00
69.3	Remove encrustation from pipe wall from 3:00 to 5:00
72.2	Remove encrustation from pipe wall from 7:00 to 10:00
74.3	Remove roots from pipe joint at 4:00
75.9	Remove roots from pipe joint from 4:00 to 9:00
76.6	Remove roots from pipe joint at 8:00
80.5	Remove roots from pipe joint at 4:00
81.8	Remove roots from pipe joint at 2:00
83.9	Remove roots from pipe joint at 4:00
85.4	Remove roots from pipe joint at 8:00
86.7	Remove encrustation from pipe wall from 7:00 to 10:00

<b>Campbell St (Asset No. MA60006052) - Combined Sewer</b>		<b>2nd MH S of Grant Av (MH60004724) to 3rd MH S of Grant Av (MH60003844)</b>	
Drawing Number	12364		
Size / Shape	600 mm Circular		
Material Type	Concrete		
Total Length	96.9 m		
Maximum Sewer Depth to Invert	3.95 m		
Design Condition	Fully Deteriorated Ovality 7%		
<b>Site Specific Repairs</b>			
<b>Location</b>	<b>Action Required</b>		
Distance From MH60004724 (m)			
0.6	Remove roots from pipe joint at 4:00		
1.4	Remove roots from pipe joint at 4:00		
2.6	Remove roots from pipe joint at 4:00		
3.2	Remove roots from pipe joint at 4:00		
3.8	Remove roots from pipe joint at 4:00		
4.6	Remove roots from pipe joint at 8:00		
7.6	Remove roots from pipe joint at 4:00		
8.4	Remove roots from pipe joint at 4:00		
18.4	Remove roots from pipe joint at 8:00		
19.1	Remove roots from pipe joint at 8:00		
20.6	Remove roots from pipe joint at 8:00		
21.4	Remove roots from pipe joint at 8:00		
22.2	Remove roots from pipe joint at 8:00		
23.0	Remove roots from pipe joint at 8:00		
25.2	Remove roots from pipe joint at 8:00		
26.0	Remove roots from pipe joint at 8:00		
26.8	Remove roots from pipe joint at 8:00		
29.0	Remove roots from pipe joint at 8:00		
33.6	Remove roots from pipe joint at 4:00		
36.4	Remove roots from service at 10:00		
36.7	Remove roots from pipe joint at 4:00		
38.3	Remove roots from pipe joint at 4:00		
39.1	Remove roots from pipe joint at 4:00		
41.3	Remove roots from pipe joint at 8:00		
44.1 - 45.3	Remove grease from pipe wall at 4:00		

46.0	Remove roots from pipe joint at 4:00
46.6	Remove roots from pipe joint at 8:00
47.4	Remove roots from pipe joint at 8:00
47.9	Remove roots from service at 2:00
49.7	Remove roots from pipe joint at 8:00
50.5	Remove roots from pipe joint at 4:00
50.1	Remove roots from pipe joint at 4:00
52.7	Remove roots from pipe joint at 4:00
53.5	Remove roots from pipe joint at 4:00
54.3	Remove roots from pipe joint at 4:00
55.1	Remove roots from pipe joint at 4:00
55.8	Remove roots from pipe joint at 4:00
56.6	Remove roots from pipe joint at 4:00
57.3	Remove roots from pipe joint at 7:00
57.9	Remove roots from service at 10:00
58.2	Remove roots from pipe joint at 4:00
58.8	Remove roots from pipe joint at 4:00
59.6	Remove roots from pipe joint at 4:00
60.4	Remove roots from pipe joint at 8:00
61.2	Remove roots from pipe joint at 8:00
61.9	Remove roots from pipe joint at 4:00
62.7	Remove roots from pipe joint at 4:00
63.5	Remove roots from pipe joint at 8:00
64.1	Remove roots from pipe joint at 4:00
65.0	Remove roots from pipe joint at 4:00
65.8	Remove roots from pipe joint at 4:00
66.4	Remove roots from pipe joint at 8:00
67.2	Remove roots from pipe joint at 8:00
68.0	Remove roots from pipe joint at 8:00
68.8	Remove roots from pipe joint at 8:00
69.5	Remove roots from pipe joint at 8:00
70.3	Remove roots from pipe joint at 8:00
71.1	Remove roots from pipe joint at 8:00
71.8	Remove roots from pipe joint at 8:00
72.6	Remove roots from pipe joint at 4:00
73.4	Remove roots from pipe joint at 8:00
74.2	Remove roots from pipe joint at 4:00
74.9	Remove roots from pipe joint at 8:00
75.7	Remove roots from pipe joint at 4:00
76.4	Remove roots from pipe joint at 8:00
77.2	Remove roots from pipe joint at 4:00
80.3	Remove roots from pipe joint at 8:00
81.7	Remove roots from pipe joint at 8:00
84.6	Remove roots from service at 2:00
85.6	Remove roots from pipe joint at 4:00
95.5	Remove roots from pipe joint at 4:00
96.5	Remove roots from pipe joint at 8:00

<b>Carriere Av (Asset No. MA50007560) - Combined Sewer</b>	<b>MH at Des Meurons St (CL) (MH70022211) to MH at Hill St (CL) (MH50006481)</b>
Drawing Number	12365
Size / Shape	1200 X 900 mm Egg
Material Type	Concrete / Brick
Total Length	107.1 m
Maximum Sewer Depth to Invert	7.49 m
Design Condition	Fully Deteriorated Ovality 6%
<b>Site Specific Repairs</b>	
<b>Location</b>	<b>Action Required</b>
Distance From MH70022211 (m)	
16.2	Remove encrustation from pipe wall at 10:00
22.3	Remove intruding service at 11:00
23.4	Remove intruding service at 12:00
28.2	Grout hole in pipe wall at 8:00
30.1	Grout hole in pipe wall at 4:00
31.8 - 35.1	Grout hole in pipe wall at 8:00
32.8	Grout hole in pipe wall at 4:00
37.0	Grout hole in pipe wall at 8:00
40.2	Grout hole in pipe wall at 4:00
45.6	Grout hole in pipe wall at 4:00
45.6	Grout hole in pipe wall at 8:00
54.5	Grout hole in pipe wall at 7:00
56.9	Remove encrustation from pipe wall from 1:00 to 3:00
60.1	Grout hole in pipe wall at 7:00
74.0	Grout hole in pipe wall at 8:00
81.0	Remove encrustation from pipe wall from 8:00 to 4:00
90.9	Grout hole in pipe wall at 8:00
92.3	Grout hole in pipe wall at 7:00
98.0 - 99.2	Remove encrustation from pipe wall from 1:00 to 4:00

<b>Cordova St (Asset No. MA60005535) - Combined Sewer</b>	<b>3rd MH N of Grant Av (MH60004212) to MH at Fleet Av (MH60004208)</b>
Drawing Number	12366
Size / Shape	600 mm Circular
Material Type	Concrete
Total Length	96.6 m
Maximum Sewer Depth to Invert	6.19 m
Design Condition	Fully Deteriorated Ovality 9.0%
<b>Site Specific Repairs</b>	
<b>Location</b>	<b>Action Required</b>
Distance From MH60004212 (m)	
20.4	Remove roots from pipe joint at 8:00
36.5	Remove roots from pipe joint from 8:00 to 4:00
37.3	Remove roots from pipe joint from 8:00 to 4:00
47.2	Remove encrustation from pipe joint at 2:00
54.9	Remove encrustation from pipe joint at 5:00
59.2	Remove encrustation from pipe wall from 8:00 to 10:00

<b>Easement Essar Park (Asset No. MA4000627) - Land Drainage Sewer</b>	<b>1st MH S of Essar Av (MH70066256) to 1st MH N of Essar Av (MH70066416)</b>
Drawing Number	12367
Size / Shape	600x900 mm Arch
Material Type	CSP
Total Length	63.1 m
Maximum Sewer Depth to Invert	4.15 m
Design Condition	To be Determined from Preliminary Inspection
<b>Site Specific Repairs</b>	
<b>Location</b>	<b>Action Required</b>
Distance From MH70066256 (m)	
	Heavy soil and debris present in sewer
	Clean and complete Preliminary CCTV Inspection and provide DVD to Contract Administrator - Dewater pipe for Preliminary CCTV Inspection
17.0 - 18.2	Invert corroded out of pipe - remove jagged pipe pieces as required
Distance From MH70066416 (m)	Reversal In Upstream Direction
	Heavy soil and debris present in sewer
	Clean and complete Preliminary CCTV Inspection and provide DVD to Contract Administrator - Dewater pipe for Preliminary CCTV Inspection

<b>Easement (S of Hawthorne Av) (Asset No. MA70133296) - Land Drainage Sewer</b>	<b>1st MH E of Kildonan Dr (MH70021034) to 1st MH S of Hawthorne Av (MH70020907)</b>
Drawing Number	12368
Size / Shape	750 mm Circular
Material Type	CSP
Total Length	34.8 m
Maximum Sewer Depth to Invert	3.35 m
Design Condition	To be Determined from Preliminary Inspection
<b>Site Specific Repairs</b>	
<b>Location</b>	<b>Action Required</b>
Distance From MH70020907 (m)	
	Heavy soil present in sewer
	Clean and complete Preliminary CCTV Inspection and provide DVD to Contract Administrator

<b>Easement (Cheriton Park) (Asset No. MA70048963) - Land Drainage Sewer</b>	<b>2nd MH N of Cheriton Av (MH70021033) to 1st MH N of Cheriton Av (MH70021034)</b>
Drawing Number	12368
Size / Shape	750 mm Circular
Material Type	CSP
Total Length	65.0 m
Maximum Sewer Depth to Invert	1.98 m
Design Condition	To be Determined from Preliminary Inspection
<b>Site Specific Repairs</b>	
<b>Location</b>	<b>Action Required</b>
Distance From MH70021033 (m)	
	Heavy soil present in sewer
	Clean and complete Preliminary CCTV Inspection and provide DVD to Contract Administrator - Dewater pipe for Preliminary CCTV Inspection
Distance From MH70021034 (m)	Reversal In Upstream Direction
	Heavy soil and debris present in sewer
	Clean and complete Preliminary CCTV Inspection and provide DVD to Contract Administrator - Dewater pipe for Preliminary CCTV Inspection

<b>Grosvenor Av (CL) (Asset No. MA60008607) - Combined Sewer</b>	<b>MH at Waverley St (MH60007116) to MH at Montrose St (MH60007045)</b>
Drawing Number	12369
Size / Shape	750 mm Circular
Material Type	Concrete
Total Length	101.8 m
Maximum Sewer Depth to Invert	5.54 m
Design Condition	Fully Deteriorated Ovality 4%
<b>Site Specific Repairs</b>	
<b>Location</b>	<b>Action Required</b>
Distance From MH60007116 (m)	
0.3 - 1.4	Remove encrustation from pipe wall at 5:00
5.6 - 8.6	Patch invert of pipe (to make pipe circular)
18.4	Patch invert of pipe (to make pipe circular)
24.1	Remove encrustation from pipe wall from 12:00 to 3:00
24.5	Remove encrustation from pipe wall from 9:00 to 3:00
28.9	Remove encrustation from pipe wall from 12:00 to 3:00
29.2	Remove encrustation from pipe wall from 9:00 to 3:00
32.2 - 32.8	Remove encrustation from pipe wall from 9:00 to 3:00
33.4	Remove encrustation from pipe joint at 2:00
34.5	Remove encrustation from pipe wall at 2:00
35.4	Remove encrustation from pipe wall from 8:00 to 10:00
35.6	Remove encrustation from pipe wall from 1:00 to 4:00
37.3	Patch invert of pipe (to make pipe circular)
38.2 - 40.5	Remove encrustation from pipe wall from 9:00 to 3:00
40.6	Remove encrustation from pipe joint from 2:00 to 5:00
42.3 - 44.1	Remove encrustation from pipe wall from 8:00 to 10:00
45.3 - 49.4	Remove encrustation from pipe wall from 8:00 to 4:00
52.2	Remove encrustation from pipe wall at 4:00
53.1 - 54.5	Remove encrustation from pipe wall from 10:00 to 2:00
55.2	Remove encrustation from pipe joint from 7:00 to 2:00
56.2 - 57.6	Remove encrustation from pipe wall from 9:00 to 12:00
58.0 - 58.7	Remove encrustation from pipe wall from 10:00 to 2:00
60.2 - 62.2	Remove encrustation from pipe wall from 9:00 to 3:00
62.7	Remove encrustation from pipe joint from 8:00 to 11:00
64.0 - 65.0	Remove encrustation from pipe wall from 8:00 to 4:00
69.9	Remove encrustation from pipe joint from 8:00 to 4:00
71.7 - 76.0	Remove encrustation from pipe wall from 8:00 to 3:00
73.8	Grout hole in pipe wall at 5:00
77.3 - 77.9	Remove encrustation from pipe wall from 9:00 to 3:00
78.5	Remove encrustation from pipe wall from 9:00 to 12:00
78.9	Remove encrustation from pipe wall from 12:00 to 2:00
79.5	Grout hole in pipe wall at 5:00
82.1 - 86.1	Remove encrustation from pipe wall from 9:00 to 3:00
87.4 - 89.3	Remove encrustation from pipe wall from 8:00 to 4:00
91.1 - 93.3	Remove encrustation from pipe wall from 8:00 to 12:00
93.9 - 96.0	Remove encrustation from pipe wall from 9:00 to 3:00
97.2 - 98.5	Remove encrustation from pipe wall from 9:00 to 3:00
98.5 - 101.4	750mm to 600mm diameter change - Install taper

<b>Irving PI (Asset No. MA70133173) - Land Drainage Sewer</b>	<b>1st MH N Irving PI (N Leg) (MH70066535) to 1st MH S Irving PI (MH70066375) (N Leg)</b>
Drawing Number	12370
Size / Shape	600 mm Circular
Material Type	CSP
Total Length	Exact length to be determined in field
Maximum Sewer Depth to Invert	Exact depth to be determined in field
Design Condition	To be Determined from Preliminary Inspection
<b>Site Specific Repairs</b>	
<b>Location</b>	<b>Action Required</b>
Distance From MH70066375 (m)	
	Heavy soil present in sewer
	Clean and complete Preliminary CCTV Inspection and provide DVD to Contract Administrator (after EPR below is completed)
23.0	EPR to remove 300 PVC pipe from 600 CSP (exact length of EPR unknown)
	MH70066535 to be located (traced) in the field (access through private property required)

<b>Easement S of Irving PI (Asset No. MA70133172) - Land Drainage Sewer</b>	<b>Inlet S of Irving PI backlane (IO00019720) to 1st MH S Irving PI (MH70066535)</b>
Drawing Number	12370
Size / Shape	600 mm Circular
Material Type	CSP
Total Length	47.8 m
Maximum Sewer Depth to Invert	Exact depth to be determined in field
Design Condition	To be Determined from Preliminary Inspection
<b>Site Specific Repairs</b>	
<b>Location</b>	<b>Action Required</b>
Distance From IO00019720 (m)	
	Heavy soil present in sewer
7.1	Dent in CSP at 2:00 (Line through defect)
17.7 - 18.7	Dent in CSP at 11:00 (Line through defect)
18.7 - 19.9	Remove separated pipe piece at 7:00
	Submit Pre-liminary Video to Contract Administrator after sewer is cleaned and debris is removed
	MH70066535 to be located (traced) in the field (access through private property required)
	Remove debris in MH70066535 and DS sewer prior to cleaning (MA70133172)

<b>Lamont Bv (Asset No. MA60007336) - Combined Sewer</b>	<b>1st MH S of Nanton Bv (MH60005896) to MH at Nanton Bv (MH60005892)</b>
Drawing Number	12371
Size / Shape	750 mm Circular
Material Type	Vitrified Clay
Total Length	131.4 m
Maximum Sewer Depth to Invert	5.13 m
Design Condition	Fully Deteriorated Ovality 8.5%
<b>Site Specific Repairs</b>	
<b>Location</b>	<b>Action Required</b>
Distance From MH60005896 (m)	
16.5	Remove intruding service at 12:00
37.5	Remove roots from pipe joint at 10:00
50.6	Material change to VC tile
50.7	Remove encrustation from pipe joint from 8:00 to 10:00
54.1	Remove encrustation from pipe joint from 8:00 to 10:00
56.1 - 59.3	Remove encrustation from pipe wall from 8:00 to 11:00
59.3	Remove roots from pipe joint at 10:00
60.9	Material change to VC pipe
67.4	Remove encrustation from pipe wall at 1:00
77.9	Remove encrustation from pipe wall from 7:00 to 9:00
128 - 130.4	Remove encrustation from pipe wall from 4:00 to 8:00

<b>Osborne St (W Curb) (Asset No. MA60009357) - Combined Sewer</b>	<b>MH at Togo Av (MH60007745) to MH at Don Av (MH60007766)</b>
Drawing Number	12372
Size / Shape	600 mm Circular
Material Type	Concrete
Total Length	86.1 m
Maximum Sewer Depth to Invert	6.23 m
Design Condition	Fully Deteriorated Ovality 4%
<b>Site Specific Repairs</b>	
<b>Location</b>	<b>Action Required</b>
Distance From MH60007745 (m)	
3.7	Remove encrustation from pipe wall at 9:00
4.0 - 10.0	Remove grease from pipe wall at 8:00
9.8	Remove encrustation from pipe wall at 5:00
10.6	Remove encrustation from pipe wall at 8:00
12.5 - 14.2	Remove grease from pipe wall at 3:00
15.8	Remove encrustation from pipe joint at 4:00
18.3	Remove encrustation from pipe wall at 3:00
18.9	Remove encrustation from service 2:00
19.3	Remove encrustation from service 10:00
19.5	Remove encrustation from pipe wall at 7:00
26.0 - 27.1	Remove encrustation from pipe wall at 5:00
27.5	Remove encrustation from pipe wall from 2:00 to 10:00
27.8	Remove encrustation from service 2:00
27.8	Remove encrustation from service 10:00
35.1 - 35.6	Remove encrustation from pipe wall from 5:00 to 7:00
35.7	Remove encrustation from pipe wall from 2:00 to 10:00
35.7	Remove encrustation from service 2:00
35.7	Remove encrustation from service 10:00
42.4	Remove encrustation from pipe wall from 2:00 to 5:00
43.4	Remove encrustation from pipe wall at 4:00
43.9	Remove encrustation from service 2:00
44.1	Remove encrustation from service 10:00
43.9 - 44.5	Remove grease from pipe wall at 4:00
44.4 - 46.7	Remove encrustation from pipe wall from 4:00 to 8:00
47.1 - 48.1	Remove encrustation from pipe wall at 5:00
47.4	Remove encrustation from pipe joint from 1:00 to 5:00
49.0 - 51.5	Remove encrustation from pipe wall from 4:00 to 8:00
52.0	Remove encrustation from service 2:00
52.4 - 55.2	Remove encrustation from pipe wall from 4:00 to 8:00
59.0	Remove encrustation from pipe joint from 7:00 to 5:00
60.1	Remove encrustation from pipe wall from 2:00 to 10:00
60.1	Remove encrustation from service 10:00
60.1	Remove encrustation from service 2:00
66.0 - 67.8	Remove encrustation from pipe wall from 4:00 to 8:00
66.7	Remove encrustation from service 11:00
68.7	Remove encrustation from service 2:00
68.7	Remove encrustation from service 10:00
77.7 - 77.9	Remove encrustation from pipe wall from 7:00 to 10:00
81.1	Remove encrustation from service at 2:00
83.4 - 83.9	Remove encrustation from pipe wall at 4:00
84.3	Remove encrustation from pipe wall at 5:00
85.0 - 85.5	Remove encrustation from pipe wall from 3:00 to 5:00

<b>Osborne St (Asset No. MA60009309) - Combined Sewer</b>	<b>MH at Don Av (W of CL) (MH60007766) to 1st MH N of Don Av (W of CL) (MH60007697)</b>
Drawing Number	12372
Size / Shape	600 mm Circular
Material Type	Concrete
Total Length	85.9 m
Maximum Sewer Depth to Invert	6.46 m
Design Condition	Fully Deteriorated Ovality 5%
<b>Site Specific Repairs</b>	
<b>Location</b>	<b>Action Required</b>
Distance From MH60007766 (m)	
0.3	Remove encrustation from pipe wall at 7:00
2.8	Remove encrustation from pipe wall at 7:00
4.0 - 7.4	Remove encrustation from pipe wall from 5:00 to 7:00
9.8	Remove encrustation from pipe wall at 8:00
13.6	Remove encrustation from pipe wall at 9:00
14.4	Remove encrustation from pipe wall from 1:00 to 5:00
15.6	Remove encrustation from pipe wall at 9:00
17.0 - 17.5	Remove encrustation from pipe wall from 2:00 to 10:00
17.4	Remove encrustation from service 2:00
17.4	Remove encrustation from service 10:00
18.7	Remove encrustation from pipe wall from 3:00 to 9:00
20.3	Remove encrustation from pipe wall from 1:00 to 5:00
20.8	Remove encrustation from pipe wall from 7:00 to 11:00
21.5 - 21.9	Remove encrustation from pipe wall from 1:00 to 5:00
22.5	Remove encrustation from pipe joint from 7:00 to 5:00
23.9	Remove encrustation from pipe wall from 1:00 to 3:00
25.7	Remove encrustation from pipe wall from 8:00 to 4:00
25.8	Remove encrustation from service 2:00
25.8	Remove encrustation from service 10:00
29.8	Remove encrustation from pipe joint from 7:00 to 5:00
33.0	Remove encrustation from pipe wall from 7:00 to 5:00
33.3	Remove encrustation from service 2:00
33.3	Remove encrustation from service 10:00
33.7	Remove encrustation from pipe wall from 7:00 to 11:00
34.5 - 35.2	Remove encrustation from pipe wall from 7:00 to 11:00
36.3	Remove encrustation from pipe wall from 7:00 to 11:00
41.7	Remove encrustation from service 2:00
41.7	Remove encrustation from service 10:00
41.7	Remove encrustation from pipe wall from 2:00 to 10:00
43.3	Remove encrustation from pipe wall from 2:00 to 5:00
43.5	Remove encrustation from pipe wall from 8:00 to 11:00
44.6	Remove encrustation from pipe joint from 7:00 to 10:00
47.1 - 49.0	Remove encrustation from pipe wall at 10:00 and 2:00
49.5 - 50.6	Remove encrustation from pipe wall at 8:00 and 4:00
50.4	Remove encrustation from service 2:00
50.4	Remove encrustation from service 10:00
55.0 - 58.0	Remove encrustation from pipe wall at 10:00 and 2:00
58.4	Remove encrustation from pipe wall at 2:00 and 10:00
59.5	Remove encrustation from pipe wall at 8:00 to 4:00
58.4	Remove encrustation from service 2:00
58.4	Remove encrustation from service 10:00
62.2 - 63.9	Remove encrustation from pipe wall at 10:00 and 2:00
64.0	Remove encrustation from pipe wall at 2:00 to 4:00
65.0	Remove encrustation from pipe wall from 7:00 to 11:00
66.4	Remove encrustation from pipe wall from 2:00 to 10:00
66.5	Remove encrustation from service 2:00
66.5	Remove encrustation from service 10:00
68.9	Remove encrustation from pipe joint from 7:00 to 5:00
70.4 - 71.4	Remove encrustation from pipe wall from 6:00 to 11:00
70.7	Remove intruding service at 11:00
74.4 - 75.2	Remove encrustation from pipe wall from 2:00 to 10:00
74.8	Remove encrustation from service 2:00
74.8	Remove encrustation from service 10:00
78.2 - 78.6	Remove encrustation from pipe wall from 8:00 to 10:00
80.1	Remove encrustation from pipe wall from 1:00 to 5:00
80.2	Remove encrustation from pipe wall at 7:00
83.7 - 84.4	Sewer Repair (Reduced Diameter) - Line through repair
84.7 - 85.1	Remove encrustation from pipe wall from 8:00 to 4:00

<b>Osborne St (Asset No. MA60009308) - Combined Sewer</b>		<b>1st MH N of Don Av (MH60007697) to 1st MH S of Mulvey Av (MH60008980)</b>	
Drawing Number	12373		
Size / Shape	600 mm Circular		
Material Type	Concrete		
Total Length	84.7 m		
Maximum Sewer Depth to Invert	6.75 m		
Design Condition	Fully Deteriorated Ovality 5%		
<b>Site Specific Repairs</b>			
<b>Location</b>	<b>Action Required</b>		
Distance From MH60007697 (m)			
1.6 - 2.4	Remove encrustation from pipe wall from 10:00 to 2:00		
2.0	Remove encrustation from service 1:00		
12.0 - 12.5	Remove encrustation from pipe wall from 2:00 to 10:00		
12.4	Remove encrustation from service 2:00		
12.4	Remove encrustation from service 10:00		
18.8 - 19.5	Remove encrustation from pipe wall from 2:00 to 10:00		
19.0	Remove encrustation from service 2:00		
19.0	Remove encrustation from service 10:00		
22.0	Remove encrustation from pipe wall at 7:00		
27.3 - 27.8	Remove encrustation from pipe wall from 2:00 to 10:00		
27.5	Remove encrustation from service 2:00		
35.1 - 35.4	Remove encrustation from pipe wall from 2:00 to 10:00		
37.6 - 39.5	Remove encrustation from pipe wall from 3:00 to 9:00		
41.5	Remove encrustation from pipe wall from 2:00 to 10:00		
44.1	Remove encrustation from pipe wall at 7:00		
50.4	Remove encrustation from pipe wall from 2:00 to 5:00		
58.0	Remove encrustation from service 2:00		
58.1	Remove encrustation from service 11:00		
65.5	Remove encrustation from service 2:00		
65.6	Remove encrustation from service 10:00		
73.6	Remove encrustation from service 2:00		
73.6	Remove encrustation from pipe wall from 1:00 to 5:00		
75.2	Remove encrustation from pipe wall from 7:00 to 10:00		
76.5 - 77.5	Remove encrustation from pipe wall from 1:00 to 5:00		
80.1 - 80.9	Remove encrustation from pipe wall from 7:00 to 5:00		

<b>Osborne St (Asset No. MA70036912) - Combined Sewer</b>		<b>1st MH S of Mulvey Av (MH60008980) to MH at Mulvey Av (MH70001337)</b>	
Drawing Number	12373		
Size / Shape	600 mm Circular		
Material Type	Concrete		
Total Length	81.0 m		
Maximum Sewer Depth to Invert	6.75 m		
Design Condition	Fully Deteriorated Ovality 4%		
<b>Site Specific Repairs</b>			
<b>Location</b>	<b>Action Required</b>		
Distance From MH60008980 (m)			
3.7	Remove encrustation from pipe wall from 7:00 to 10:00		
4.5	Remove encrustation from pipe joint at 11:00		
5.5	Remove encrustation from pipe joint from 7:00 to 11:00		
11.9	Remove encrustation from pipe joint at 11:00		
12.5 - 14.1	Remove encrustation from pipe wall from 3:00 to 9:00		
14.3	Remove encrustation from pipe joint from 11:00 to 5:00		
17.5 - 18.0	Remove encrustation from pipe wall from 2:00 to 5:00		
18.0	Remove encrustation from service 2:00		
18.0	Remove encrustation from service 10:00		
21.7	Remove encrustation from pipe joint from 1:00 to 5:00		
24.3	Remove encrustation from service 2:00		
24.3	Remove encrustation from service 10:00		
24.5	Remove encrustation from pipe wall from 1:00 to 4:00		
25.8	Remove encrustation from service 1:00		
27.9	Remove encrustation from pipe wall from 1:00 to 5:00		
28.0	Remove encrustation from service 1:00		
28.8	Remove encrustation from pipe wall from 8:00 to 10:00		
29.1	Remove encrustation from pipe joint from 7:00 to 5:00		

31.0 - 31.6	Remove encrustation from pipe wall from 1:00 to 5:00
31.5	Possible service at 1:00 - remove encrustation and verify
31.7 - 31.9	Remove encrustation from pipe wall from 7:00 to 10:00
35.9	Remove encrustation from pipe wall from 1:00 to 5:00
38.7	Remove encrustation from pipe joint at 7:00
40.6	Remove encrustation from pipe wall from 2:00 to 4:00
40.6	Remove encrustation from service 2:00
40.6	Remove encrustation from service 10:00
42.1 - 42.6	Remove encrustation from pipe wall from 2:00 to 10:00
43.6	Remove encrustation from pipe joint from 9:00 to 3:00
45.3	Remove encrustation from pipe wall at 7:00
51.1	Remove encrustation from pipe joint at 5:00
51.8	Remove encrustation from pipe wall from 2:00 to 5:00
53.4	Remove encrustation from pipe joint from 7:00 to 5:00
56.0	Remove encrustation from pipe wall from 9:00 to 3:00
63.4	Remove encrustation from service 10:00
63.6	Remove encrustation from service 1:00
64.0	Remove encrustation from pipe wall at 8:00
71.2	Remove encrustation from pipe wall from 1:00 to 5:00
Distance From MH70001337	Reversal In Upstream Direction
6.7	Remove encrustation from pipe wall from 9:00 to 3:00

<b>Pulberry St (Asset No. MA50015276) - Land Drainage Sewer</b>	<b>MH at Bethune Wy (MH50012273) to MH at Arden Av (MH50012238)</b>
Drawing Number	12374
Size / Shape	600 mm Circular
Material Type	Concrete
Total Length	81.3 m
Maximum Sewer Depth to Invert	2.87 m
Design Condition	Fully Deteriorated Ovality 3%
<b>Site Specific Repairs</b>	
<b>Location</b>	<b>Action Required</b>
Distance From MH50012273 (m)	
	Soil and stones in invert of pipe - to be cleaned prior to lining
2.3	Remove encrustation from pipe joint at 3:00
17.6	Remove intruding service at 2:00
36.5	Remove encrustation from pipe joint from 5:00 to 7:00
39.0	Remove encrustation from pipe joint from 7:00 to 5:00
46.2	Remove encrustation from pipe joint at 12:00
72.0	Invert of water main through obvert of pipe, no cutting operations from 71.0 to 73.0

<b>Talbot Av (Asset No. MA40010923) - Combined Sewer</b>	<b>MH at Keenleyside St (MH40009881) to 1st MH W of Keenleyside St (MH40009878)</b>
Drawing Number	12375
Size / Shape	900 mm Circular
Material Type	Concrete
Total Length	146.0 m
Maximum Sewer Depth to Invert	5.90 m
Design Condition	Fully Deteriorated Ovality 4%
<b>Site Specific Repairs</b>	
<b>Location</b>	<b>Action Required</b>
Distance From MH40009881 (m)	
5.3	Remove encrustation from pipe wall from 2:00 to 5:00
9.5	Remove encrustation from pipe wall from 2:00 to 5:00
10.1	Remove encrustation from pipe joint at 7:00 to 3:00
11.3 - 11.9	Remove encrustation from pipe wall from 7:00 to 11:00
16.6	Remove encrustation from pipe wall from 1:00 to 5:00
17.4 - 17.9	Remove encrustation from pipe wall from 7:00 to 5:00
25.0	Remove encrustation from pipe wall from 7:00 to 10:00
47.5	Remove encrustation from pipe wall from 3:00 to 5:00
53.4	Remove encrustation from pipe wall from 3:00 to 5:00
55.9	Remove encrustation from pipe wall from 9:00 to 12:00
56.9 - 57.4	Remove encrustation from pipe wall at 7:00
60.9 - 61.5	Remove encrustation from pipe wall from 2:00 to 10:00
62.7 - 64.3	Remove encrustation from pipe wall from 2:00 to 5:00
65.0	Remove encrustation from pipe wall from 2:00 to 5:00
72.2 - 72.9	Remove encrustation from pipe wall from 2:00 to 5:00
73.2	Remove encrustation from pipe wall from 7:00 to 10:00
75.2	Remove encrustation from pipe wall from 7:00 to 10:00
76.0	Remove encrustation from pipe wall from 7:00 to 9:00
82.6 - 83.6	Remove encrustation from pipe wall from 2:00 to 5:00
90.5	Remove encrustation from pipe joint at 7:00 to 9:00
91.3 - 91.9	Remove encrustation from pipe wall from 7:00 to 11:00
94.0	Remove encrustation from pipe wall from 2:00 to 4:00
97.1	Remove encrustation from pipe wall from 1:00 to 5:00
98.0	Remove encrustation from pipe wall from 2:00 to 5:00
105.4	Remove encrustation from pipe wall from 2:00 to 5:00
114.7	Grout defective service at 2:00 (man entry) fill void behind host pipe wall, chip host pipe wall at invert of service pipe as require to allow unimpeded flow in host pipe from service
120.0 - 122.5	Grout bottom of pipe from 5:00 to 7:00
131.7 - 133.5	Grout bottom of pipe at 7:00
138.0 - 140.7	Grout bottom of pipe at 5:00
143.6	Grout bottom of pipe at 5:00
144.0 - 146.0	Grout bottom of pipe at 7:00
MH40009878	Narrow MH stack

<b>Waverley St (Asset No. MA60005834) - Combined Sewer</b>	<b>3rd MH S of Corydon Av (MH60004509) to MH at Fleet Av (MH60004495)</b>
Drawing Number	12376
Size / Shape	600 mm Circular
Material Type	Vitrified Clay
Total Length	100.5 m
Maximum Sewer Depth to Invert	5.34 m
Design Condition	Fully Deteriorated Ovality 13%
<b>Site Specific Repairs</b>	
<b>Location</b>	<b>Action Required</b>
Distance From MH6004509 (m)	
17.9	Remove encrustation from pipe joint from 5:00 to 7:00
28.6	Remove roots from pipe joint at 8:00
29.5	Remove roots from pipe joint at 8:00

33.4	Remove roots from pipe joint at 9:00
34.2	Remove roots from pipe joint at 9:00
34.8	Remove roots from pipe joint at 9:00
35.7	Remove roots from pipe joint at 9:00
36.5	Remove roots from pipe joint at 9:00
37.3	Remove roots from pipe joint at 9:00
38.7	Remove roots from pipe joint at 9:00
39.5	Remove roots from pipe joint at 9:00
40.2	Remove roots from pipe joint at 9:00
76.2	Remove encrustation from pipe joint from 5:00 to 7:00