2021 Sewer Renewals by CIPP Lining, Contract 5, Tender 326-2021

Appendix A - Repair Requirements

Sewer Details					Manholes									Pre-Lining Repairs																																			
																	Patching			Removal of Intruding Connections		Removal Roots and Grease		Solid Debris Cutting / Other						Sewer Service Grouting - Man Entry for Sewers >750mm		External Point Repair (EPR) By Contractor		Manhole Stabilization Grouting	
DWG	Sheet	Sewer Asset	Street Name	Location	Upstream	Depth	Downstream	Depth	Length	Height	Width	Shape	Flow Type	Material	Pre-Repair	Sewer Services	Lump Sum Anulus Grouting per Location	Anulus Grouting	Description	Patch Tender >=1m	Patch Tender <=1m	Description	Virtual Cam Tender	Description	Root Tender	Description	Tender 1st 3m	Tender >3m<=6m	Tender >6m<=9m	Description	Service Grouting	Description	Length	Description	Manhole Grouting	Description
12899	3	S-MH00017399	ALPINE AV	1ST MH E FERMOR EXIT TO MH @ FERMOR EXIT	S-MH00014134	3.1	S-MH00014132	3.9	64.6	250	250	CIRCULAR	COMBINED	PVC-POLYVINYL CHLORIDE	No	2									1.0	15.9- 22.8 MM DAGS @ 10-2 DS; 46.7-48.5 MI DAGS @ 10-2 DS;	1			17.7 M GSR @ 1-3 DS; 27.8 M DAG(J) @ 8-9 DS;						
12900	4	S-MH00015043	ARDEN AV	MH AT PULBERRY ST TO 1ST MH W OF PULBERRY ST	S-MH00012073	3.4	S-MH00012074	3.6	124.9	200	200	CIRCULAR	SANITARY	CO-CONCRETE	No	11				1		124.5 M BSV @ 8-5 DS; (VOID NEAR DIAM INTERFACE TO BE GROUTED)	1	23.0 M TBD @ 2 DS;	1.0	5.5 MI RFJ @ 11 DS; 26.6-27.8 M DAG(J) @ 12-3 DS; 27.8-29.1 M DAG(J) @ 10-10 DS; 41.5-47.4 M DAGS @ 8-4 DS; 48.4- 52.0 M DAGS @ 9-3 DS;	1		2	4.0 M DAG(J) @ 4 DS; 28.5 M ISSRH @ 9-2 DS; 40.7 M DAG(J) @ 2-3, 7-9 DS; 44.9 M DAZ @ 6 DS; (LARGE DEBRIS IN INVERT OF PIPE TO BE REMOVED, POSSIBLY BROKEN PIPE MATERIAL); 82.0 ISSRH @ 9 DS;						
12901	5	S-MH00003239	BANFF PL	2NDMH E OF HOVINGHAM RDTO1STMH E OF HOVINGHAM RD	S-MH00002945	3.0	S-MH00002946	3.3	12.4	250	250	CIRCULAR	SANITARY	CO-CONCRETE	No	1																													
12902	6	S-MH00006298	BIBEAU BY (E LEG)	MH AT BIBEAU BY (SLG) TO MH AT BIBEAU BY (NLG)	S-MH00005364	3.1	S-MH00005365	3.8	97.6	250	250	CIRCULAR	SANITARY	CO-CONCRETE	Yes	12									1.0	0.0-4.4 M DAGS @ 3, 9 DS; 27.7-40.5 M DAGS @ 8, 8 DS; 51.2- M DAGS @ 2-4, 8-10 DS;	1		27	1.0 M DAG(J) @ 9-3 DS; 3.1 M DAZ @ 3 DS; 4.5 M DAG(J) @ 9-3 DS; 9.5 M DAG(J) @ 8-4 DS; 13.2 M DAG(J) @ 3-4 DS; 14.4 M DAG(J) @ 8-4 DS; 15.9 M DAZ @ 3-5 DS; 16.8 M DAG(J) @ 12-5 DS; 18.2 M DAZ @ 3-5, 7-9 DS; 19.8 M DAG(J) @ 7-8 DS; 21.1 M DAG(J) @ 7-5 DS; 22.3 M DAG(J) @ 7-5 DS; 24.7 M DAG(J) @ 2-3 DS; 27.2 M DAG(J) @ 2-5 DS; 28.5 M DAG(J) @ 7-5 DS; 30.9 M DAG(J) @ 12-5 DS; 32.1 M DAG(J) @ 2-5 DS; 32.7 M DAZ @ 3-5 DS; 34.7 M DAG(J) @ 7-5 DS; 36.2 M DAZ @ 2-5 DS; 40.1 M DAG(J) @ 2-4, 7-12 DS; 42.6 M DAG(J) @ 7-5 DS; 43.8 M DAG(J) @ 7-12 DS; 46.3 M DAG(J) @ 2-4, 8-11 DS; 47.4 M DAG(J) @ 7-12 DS; 50.0 M DAG(J) @ 2-5, 7-10 DS; 52.0 M DAZ @ 3-5 DS; 54.0 M DAZ @ 3-5 DS; NOTE DIRECTION CHANGE DUE TO REVERSAL; 0.3 M DAG(J) @ 3-5, 7-9 US; 2.0 M DAG(J) @ 7-5 DS; 2.8 M DAG(J) @ 3-5 US; 4.2 M DAG(J) @ 5-3 DS; 6.6 M DAG(J) @ 7-9 DS; 10.6 M DAZ @ 2-4, 8-10 US; 10.9 M DAG(J) @ 7-10 US;						
12903	7	S-MH00003110	BODIE BY	1ST MH S OF CLEARVIEW DR TO MH AT CLEARVIEW DR	S-MH00002820	3.6	S-MH00002819	3.5	62.9	250	250	CIRCULAR	SANITARY	CO-CONCRETE	No	8											1		15	5.1-5.4 M DAZ @ 7-12 DS; 6.3 M DAZ @ 3-5, 7-8 DS; 6.7 M DAZ(J) @ 7-5 DS; 7.9 M DAZ(J) @ 7-5 DS; 9.2 M DAZ(J) @ 7-10 DS; 10.4 M DAZ(J) @ 7-5 DS; 14.3 M DAZ(J) @ 7-9 DS; 16.6 M DAZ(J) @ 7-5 DS; 17.9 M DAZ(J) @ 7-11 DS; 17.9 M DAZ(J) @ 7-12 DS; 19.1 M DAZ(J) @ 7-5 DS; 20.4 M DAZ(J) @ 7-5 DS; 21.7 M DAZ(J) @ 7-5 DS; 28.3 M DAZ @ 8-4 DS; 36.7 M DAZ(J) @ 7-5 DS; 46.2 M DAZ(J) @ 2-5 DS; 51.5 M DAZ @ 7-9 DS; 58.9 M DAZ(J) @ 7-9 DS; 60.2 M DAZ(J) @ 7-5 DS;						
12904	8	S-MH00008460	BOWMAN AV (L)	MH AT BOWMAN AV TO 1ST MH W OF BOWMAN AV	S-MH00007699	3.3	S-MH00007704	3.8	108.9	375	375	CIRCULAR	COMBINED	VC-VITRIFIED CLAY	No	26											1		11	26.2 M DAZ(J) @ 7-10 DS; 30.1 M DAZ @ 7-11 DS; 31.6 M DAZ(J) @ 4-6 DS; 34.1 M DAZ @ 4-5 DS; 35.6 M DAZ @ 7-10 DS; 61.7 M DAZ @ 7-9 DS; 63.6 M DAZ(J) @ 3-4 DS; 65.2 M DAZ(J) @ 8-9 DS; 81.2 M DAZ(J) @ 3-4, 8-9 DS; 82.8 M DAZ(J) @ 1-2 DS; 83.6 M DAZ(J) @ 8-11 DS; 84.3 M DAZ(J) @ 8-10 DS; 85.8 M DAZ(J) @ 7-10 DS; 95.1 M DAZ(J) @ 2-5 DS; 100.8 M DAZ @ 7-10 DS; 102.5 M DAZ(J) @ 1-2 DS;						
12905	9	S-MK70142212	CAMERON ST	1ST MH S TALBOT AV - MH @ HERBERT AV	S-MH70071455	2.2	S-MH00000705	2.8	30.7	300	300	CIRCULAR	COMBINED	PVC-POLYVINYL CHLORIDE	No	7									1.0	4.1-4.3 M DAGS @ 8-10 DS; 23.6 M RFJ @ 2-3 DS;	1			6.1 M ISSR @ 9 DS; 24.7 M DAZ @ 3-4 DS;						
12906	10	S-MH00008119	CHAUMERS AV	1ST MH W OF WATT ST TO MH AT WATT ST	S-MH00007393	4.1	S-MH00007397	4.8	101.2	300	300	CIRCULAR	COMBINED	VC-VITRIFIED CLAY	No	19						4	9.8 M TBD @ 10 DS; 35.7 M TBD @ 12 DS; 36.2 M TBD @ 12 DS (SLIGHTLY INTRUDING); 60.3 M TBD @ 10 DS;					1	2.1	33	5.3 M DAZ 8-9 DS; 9.2 M DAG(J) @ 4 DS; 9.8 M DAG(J) @ 8-3 DS; 14.9 M DAZ 9-10 DS; 15.1 M DAZ(J) @ 8-9 DS; 18.6 M DAZ @ 8-10 DS; 19.3 M DAZ @ 2-5, 7-11 DS; 20.6 M DAZ(J) @ 2 DS; 21.2 M DAZ(J) @ 3-5 DS; 21.8 M DAZ(J) @ 2-3 DS; 22.3 M DAZ(J) @ 7-9 DS; 23.6-23.9 M DAZ @ 1-5, 7-11 DS; 26.7 M DAZ(J) @ 9 DS; 28.0 M DAZ(J) @ 3-5, 7-12 DS; 28.7 M DAZ(J) @ 1-5 DS; 29.2 M DAZ(J) @ 3-4, 7-10 DS; 34.8 M DAZ(J) @ 8-4 DS; 35.4-36.8 M DAZ @ 8-4 DS; 37.8 M DAZ(J) @ 7-5 DS; 38.6 M DAZ(J) @ 2-5, 7-9 DS; 40.1-41.1 M DAZ @ 7-5 DS; 45.9 M DAZ(J) @ 3-5 DS; 46.5 M DAZ(J) @ 7-10 DS; 47.8 M DAZ(J) @ 9-5 DS; 48.4 M DAZ(J) @ 2 DS; 55.0 M DAZ(J) @ 5 DS; 60.0-60.6 M DAZ @ 7-12 DS; 61.1 M DAZ(J) @ 7-5 DS; 63.1 M DAZ(J) @ 2-4, 8-10 DS; 64.6 M DAZ @ 3-5 DS; 74.2 M DAZ(J) @ 3-5, 7-9 DS; 77.3 M DAZ(J) @ 7-9 DS; 77.9 M DAZ(J) @ 7-9 DS; 78.4 M DAZ(J) @ 2-4 DS; 79.1 M DAZ(J) @ 12-5 DS; 79.7 M DAZ(J) @ 3-4, 7-9 DS; 81.0 M DAZ @ 4 DS;(PIECE OF DEBRIS OR PIPE TO BE REMOVED PRIOR TO LINING); 84.9 M DAZ(J) @ 7-10 DS; 90.4 M DAZ(J) @ 7-5 DS; 93.6 M DAZ(J) @ 3-5, 7-11 DS; 94.2 M DAZ(J) @ 1-5, 7-11 DS; 94.8 M DAZ(J) @ 1-5, 7-11 DS; 96.0 M DAZ(J) @ 4 DS; NATHAN - POINT OF INTEREST - THIS IS THE CHUNK OF CODING FROM EARLIER VIDEO: 1.8 M DAZ(J) @ 7-5 DS; 7.0 M DAZ(J) @ 8-10 DS; 8.2 M DAZ(J) @ 4, 8-9 DS; 9.5 M DAZ(J) @ 7-4 DS; 11.6-12.0 M DAZ @ 7-5 DS; 15.6 M DAZ(J) @ 7-2 DS; 18.3 M DAZ(J) @ 2-3, 6-5 DS; 19.9 M DAZ(J) @ 12-5, 8-11 DS; 20.6 M DAZ @ 7-10 DS; 23.7 M DAZ(J) @ 1-4, 7-10 DS; 24.3 M DAZ(J) @ 2-5, 7-10 DS; 24.9 M DAZ(J) @ 2-5, 7-10 DS; 26.2 M DAZ(J) @ 12-5, 8-11 DS; SECOND VIDEO: (AFTER REVIEWING DELETE EVERYTHING IN RED, LEAVING ONLY THE CHUNK BELOW) 1.5 M DAZ(J) @ 7-5 DS; 6.8 M DAZ(J) @ 7-10 DS; 8.1 M DAZ(J) @ 8 DS; 9.3 M DAZ(J) @ 1-3, 7-11 DS; 11.1-11.8 M DAZ @ 7-5 DS; 15.3 M DAZ(J) @ 9-12 DS; 18.8 M DAZ(J) @ 1-5, 7-11 DS; 23.4 M DAZ(J) @ 1-4, 7-9 DS; 24.1 M DAZ(J) @ 2-5, 7-10 DS; 24.9 M DAZ(J) @ 7-10 DS; 26.1 M DAZ(J) @ 12-5, 8-11 DS;						
12908	12	S-MK50014780	CROFTON BY W LEG	MH AT CROFTON BY N LEG TO 1ST MH S OF CROFTON BY	S-MH00011879	3.2	S-MH00011880	2.8	40.2	525	525	CIRCULAR	STORM	CO-CONCRETE	No	1									1.0	2.9 M RFJ @ 8-9 DS; 15.2 M RFJ @ 4 DS; 16.4 M RFJ @ 2-3 4, 9 DS;	1			12.7 M DAZ @ 1-2 DS;						
12909	13	S-MH00011565	SEYNDRA CR (E LEG)	1ST MH S OF HATCHER RD TO 2ND MH S OF HATCHER RD	S-MH00010521	2.8	S-MH00010488	3.6	87.7	250	250	CIRCULAR	SANITARY	CO-CONCRETE	No	15									1.0	6.1 M RFC @ 10 DS;	1	2.7	7	13.8-14.7 M DAZ @ 7-5 DS; 24.7 M DAZ @ 7-10 DS; 27.7-28.0 M DAZ 2-5 DS; 33.8 M DAG(J) @ 7-9 DS; 40.0 M DAG(J) @ 1-4 DS; 43.3-46.3 M DAZ @ 3-5, 7-10 DS; 46.8 M DAZ @ 2-4 DS; 63.4 M DAZ @ 7-10 DS; 64.9 M DAZ @ 3-5 DS; 65.3 M DAG(J) @ 7-9 DS; 76.7 M DAG(J) @ 8-10 DS; 79.1 M DAG(J) @ 1-4, 8-11 DS; 89.7 M DAG(J) @ 7-9 DS; 91.0-91.3 M DAZ @ 12-5 DS; 92.7 M DAG(J)ISSR @ 7-5 DS;						
12910	14	S-MK50005807	FRONTENAC BY ELEG	1ST MH S FRONTENAC BY NLEG -MH@FRONTENAC BY NLEG	S-MH00004928	2.2	S-MH00004927	2.8	69.3	200	200	CIRCULAR	SANITARY	CO-CONCRETE	No	11				1		11.2 M TBD @ 10 DS;	1.0	2.2 M RFJ @ 7-8 DS; 2.6 M RFC @ 9 DS; 3.2 M RFC @ 2-4 DS; 3.9 M RFC @ 3-4 DS; 4.7 M RFJ @ 2-4 DS; 4.6-5.4 DAGS @ 4, 8 DS; 5.5 M RFC @ 3-5, 7-9 DS; 6.2 M RFC @ 2-4, 7-10 DS; 7.0 M RFJ @ 2-4, 7-9 DS; 7.2-8.4 M DAGS @ 3, 9 DS; 7.8 M RFJ @ 2-4, 7-10 DS; 8.6 M RFJ @ 2-4 DS; 9.4 M RFJ @ 2-4, 8-10 DS; 10.1 M RFJ @ 2-5, 8-9 DS; 10.4 M RFJ @ 8-9 DS; 10.9 RFC @ 2-4, 7-10 DS; 11.2 RFC @ 9-11 DS; 12.5 M RFJ @ 2-3 DS; 12.5-13.4 M DAGS @ 1, 9 DS; 14.0 M RFC @ 2-3, 9-10; 12 DS; 14.8 M RFJ @ 2-4, 8-12 DS; 15.6 M RFJ @ 9-10 S; 16.3-18.2 M DAGS @ 2, 10 DS; 18.7 RFC @ 7-5 DS; 18.7-19.1 M DAGS @ 3, 9 DS; 19.5 M RFJ @ 8-4 DS; 20.3 M RFJ @ 8-4 DS; 21.1 M RFJ @ 8-4 DS; 21.9 M RFJ @ 9-3 DS; 22.6 M RFJ @ 8-4 DS; 23.4 M RFJ @ 9-4 DS; 27.3 M RFJ @ 10 DS; 32.4 M RFC @ 9-3 DS; 41.3 M RFC @ 7-5 DS; 42.1 M RFC @ 2-4 DS; 42.9 M RFC @ 4, 8-2 DS; NOTE DIRECTION CHANGE HERE DUE TO SURVEY REVERSAL; 0.0-18.0 M DAGS @ 3-9 US;			3	7.9 M DAZ @ 8 DS;LOOSE METALIC DEBRIS, TO BE REMOVED PRIOR TO LINING); 23.6 M DAG(J) @ 4-5 DS; 45.3 M DAG(J) @ 4-7 DS; 51.5 M DAG(J) @ 7-8 DS;						
12912	16	S-MH00013822	HARVARD AV W	1ST MH E OF WINONA ST TO MH AT BOND ST	S-MH00012497	1.7	S-MH00012508	4.7	86.2	200	200	CIRCULAR	SANITARY	AC-ASBESTOS CEMENT	Yes	7									1.0	0.0 M RFJ @ 2-5 DS; 1.0 M RFJ @ 7-10 DS; 2.9 M RFJ @ 7-9 DS; 3.6 M RFJ @ 2-4 DS; 4.1 M RFJ @ 2-4, 8-9 DS; 4.7 M RFJ @ 7-9 DS; 5.3 M RFJ @ 7-9 DS; 6.9 M RFJ @ 7-9 DS; 8.2 M RFJ @ 3-4, 8 DS; 8.6 M RFJ @ 8-9 DS; 11.1 M RFJ @ 3 DS; 11.4-11.7 M RFJ @ 1-3 DS; 51.0 M RFJ @ 8-10 DS; 51.6 M RFJ @ 8-10 DS; 52.2 M RFJ @ 3-5, 7-11 DS; 52.8 M RFJ @ 3-5, 7-9 DS; 53.4 M RFJ @ 2-3, 8-10 DS; 54.0 M RFJ @ 2-4, 7-10 DS; 54.7 M RFJ @ 3-5, 7-10 DS; 55.3 M RFJ @ 2-4, 8-12 DS; 55.8 M RFJ @ 7-5 DS; 56.5 M RFJ @ 7-5 DS; 57.1 M RFJ @ 7-5 DS; 57.5 RFC @ 9 DS; 57.7 M RFJ @ 3-5 DS; 58.4 M RFJ @ 7-10 DS; 58.9 M RFJ @ 2-3, 9-10 DS; 60.2 M RFJ @ 9-10 DS; 60.7 M RFJ @ 2-3, 8-10 DS; 61.9 M RFJ @ 2-4, 8 DS; 62.4 M RFJ @ 3-4 DS; 63.2 M RFJ @ 3-5 DS; 63.7 M RFJ @ 2-4, 8-10 DS; 65.0 M RFJ @ 2-10 DS; 65.6 M RFJ @ 2-10 DS; 66.2 M RFJ @ 2-3 DS; 66.5 M RFC @ 2 DS; 67.1 M RFC @ 3-4 DS; 69.3 M RFJ @ 3-4 DS; 71.8 M RFC @ 3-5 DS;			19	12.4 M DAZ(J) @ 3-5 DS; 16.1 M DAZ(J) @ 3-5 DS; 16.8 M DAG(J) 7-10 DS; 22.1 M DAG(J) @ 7-9 DS; 31.9 M DAZ(J) @ 1-5, 8-10 DS; 37.8 M DAZ @ 3-5 DS; 38.1 M DAZ(J) @ 3-5 DS; 38.7 M DAZ(J) @ 4, 8 DS; 39.9 M DAZ(J) @ 4DS; 40.3 M DAZ(J) @ 4-7 DS; 47.7 M DAZ @ 7-9 DS; 48.0 M DAZ(J) @ 7-9 DS; 48.7 M DAZ @ 3-5 DS; 52.2 M DAZ(J) @ 3-4, 8-9 DS; 66.2 M DAZ(J) @ 8-10 DS; 66.9 M DAZ(J) @ 3-5, 7-10 DS; 67.4 M DAZ(J) @ 2-4 DS; 68.3 M DAZ(J) @ 7-12 DS; 67.5 M DAZ @ 2-4, 7-9 DS; 68.1 M DAZ(J) @ 3-5, 7-9 DS; 72.4 M DAZ(J) @ 8-9 DS; 73.5 M DAZ(J) @ 4 DS;				3.0	73.5-76.5m DS; Broken pipe with sharp edges which could be problematic to the liner inversion
12913	17	S-MH00011438	HITCHER RD (S LEG - S OF CL)	1ST MH W OF NUGENT RD TO MH AT BOURNAIS DR	S-MH00010367	7.5	S-MH00010368	8.0	104.0	300	300	CIRCULAR	SANITARY	CO-CONCRETE	No	4											1		13	8.6 M DAG(J) @ 8-3 DS; 15.9 M DAG(J) @ 8-3 DS; 17.7 DAG(J)ISSR @ 12-3 DS; 19.4 M DAG(J) @ 7-10 DS; 26.9 M DAG(J)ISSR @ 2-5 DS; 32.3 M DAG(J) @ 8-9 DS; 37.8 M DAG(J) @ 8-11 DS; 45.1 M DAG(J) @ 8-12 DS; 57.8 M DAG(J) @ 7-5 DS; 59.7 M DAG(J) @ 7-5 DS; 63.5 M DAG(J) @ 7-5 DS; 67.2 M DAG(J) @ 8-10 DS; 69.0 M DAG(J)1985 @ 3-5, 7-9 DS; 100.8 M ISSR @ 3-5 DS;						
12914	18	S-MH00008467	JAMISON AV(E)	1ST MH E OF WATT ST TO MH AT WATT ST	S-MH00007736	4.0	S-MH00007712	5.7	106.9	300	300	CIRCULAR	COMBINED	VC-VITRIFIED CLAY	Yes	28											1		24	1.0 M DAG(J) @ 2-4 DS; 12.2 M DAG(J) @ 12-4 DS; 13.7 M DAG(J) @ 2-5 DS; 14.5 M DAG(J) @ 2-5 DS; 17.8 M DAG(J) @ 7-9 DS; 19.3 M DAG(J) @ 7-9 DS; 20.1 M DAG(J) @ 7-9 DS; 23.9 M DAG(J) @ 2-5 DS; 24.6 M DAG(J) @ 7-9 DS; 25.4 M DAG(J) @ 3-5, 7-11 DS; 26.2 M DAG(J) @ 7-8 DS; 27.7 M DAG(J) @ 4-5, 7-8 DS; 35.4 M DAG(J) @ 3-5, 7-9 DS; 36.2 M DAG(J) @ 3-5 DS; 37.0 M DAG(J) @ 4DS; 42.5 M DAG(J) @ 4-5 DS; 48.0 M DAG(J) @ 7-8 DS; 54.8 M DAG(J) @ 7-8 DS; 55.6 M DAG(J) @ 7-9 DS; 57.2 M DAG(J) @ 4-5, 7-8 DS; 61.9 M DAG(J) @ 8-10 DS; 66.6 M DAG(J) @ 7-8 DS; 68.4 M DAZ @ 3-5 DS; 80.3 M DAZ @ 4 DS; 90.0 M DAG(J) @ 7-8 DS; 97.1 M DAG(J) @ 4-5 DS; 98.7 M DAZ @ 12-5 DS; NOTE DIRECTION CHANGE DUE TO REVERSAL; 0.0-7.0 M DAG; 7.0 M DAZ @ 4, 8-9 DS; 7.6 M DAZ @ 4, 8-9 DS; 8.0 M DAG(J) @ 4-5, 7-9 DS; 9.4 M DAG(J) @ 4, 8 DS; 10.0 M DAG(J) @ 4, 9-10 DS; 11.1 M DAG(J) @ 4-5 DS; 11.8 M DAG(J) @ 4 DS; 12.4 M DAG(J) @ 4-5, 7-8 DS; 13.0 M DAG(J) @ 4-5 DS; 13.6 M DAG(J) @ 4, 7-9 DS; 14.3 M DAG(J) @ 4, 7-8 DS; 15.0 M DAZ @ 4, 7-9 DS; 16.2 M DAZ @ 3-4 DS; 16.7 M DAG(J) @ 3-10 DS; 23.6 M DAZ(J) @ 7-9 DS; 24.5 M DAZ @ 3-4, 7-8 DS; 26.1 M DAG(J) @ 3-4, 7-9 DS; 26.7 M DAG(J) @ 3-4, 8-10 DS; 27.3 M DAG(J) @ 2-3 DS; 27.9 M DAG(J) @ 4-7 DS; 28.6 M DAZ @ 9-8 DS; 29.5 M DAG(J) @ 3-4, 7-9 DS; 29.8 M DAZ(J) @ 4-8 DS; 31.0-33.1 M DAZ @ 2-5, 7-9 DS; 33.6 M DAG(J) @ 7-9 DS; 34.1 M DAG(J) @ 7-9 DS; 34.8 M DAG(J) @ 4, 7-9 DS; 35.4 M DAG(J) @ 7-8 DS; 36.1 M DAG(J) @ 3-4, 7-8 DS; 36.8 M DAG(J) @ 4-5, 8 DS; 37.3 M DAG(J) @ 3-4, 7-8 DS; 37.8 M DAG(J) @ 3-5, 7-9 DS; 38.5 M DAG(J) @ 7-8 DS; 39.1 M DAG(J) @ 7-9 DS; 39.7 M DAG(J) @ 3-5, 7-8 DS; 40.3 M DAG(J) @ 4-5 DS; 44.7 M DAG(J) @ 7-8 DS; 45.4 M DAG(J) @ 7-9 DS; 46.0 M DAG(J) @ 3-5 DS; 46.6 M DAG(J) @ 3-5, 7-9 DS; 47.2 M DAG(J) @ 4-5, 7-9 DS; 47.8 M DAG(J) @ 4-5, 7-9 DS; 48.4 M DAG(J) @ 4, 7-9 DS; 49.1 M DAG(J) @ 7-8 DS; 49.7 M DAG(J) @ 4-5, 7-8 DS; 50.3 M DAG(J) @ 4-5, 7-9 DS; 50.3 M DAG(J) @ 4-5, 7-9 DS; 50.9 M DAG(J) @ 3-4, 7-9 DS; 51.5 M DAG(J) @ 3-4, 7-8 DS; 52.8 M DAG(J) @ 8-9 DS; 53.4 M DAG(J) @ 3-5, 7-9 DS; 54.1 M DAG(J) @ 4, 7-8 DS; 54.7 M DAG(J) @ 4-5, 8 DS; 55.3 M DAG(J) @ 4-5, 7 DS; 56.0 M DAG(J) @ 4-5, 7-8 DS; 56.6 M DAG(J) @ 4, 7-9 DS; 57.2 M DAG(J) @ 4-5, 7-8 DS; 59.0 M DAG(J) @ 3-5, 7-9 DS; 59.6 M DAG(J) @ 7-8 DS; 60.4 M DAG(J) @ 3-5 DS; 61.0 M DAG(J) @ 3-5 DS; 61.5 M DAG(J) @ 4-5, 7-9 DS; 62.9 M DAG(J) @ 4-5, 7-8 DS; 63.5 M DAG(J) @ 4-5, 7-8 DS; 64.1 M DAG(J) @ 3-5 DS; 65.3 M DAG(J) @ 3-5, 7-8 DS; 67.8 M DAG(J) @ 4-5 DS; 68.5 M DAG(J) @ 3-5, 7-8 DS; 69.1 M DAG(J) @ 7-8 DS; 70.5 M DAG(J) @ 3-5, 8-9 DS; 71.5 M DAG(J) @ 3-5, 7-8 DS; 72.2 M DAG(J) @ 4-5, 7-10 DS; 72.4 M DAG(J) @ 4-5, 7-9 DS; 74.6 M DAG(J) @ 3-5, 7-8 DS; 75.3 M DAG(J) @ 3-5, 7-9 DS; 75.9 M DAG(J) @ 3-5, 7-9 DS; 76.5 M DAG(J) @ 2-5, 7-10 DS; 77.1 M DAG(J) @ 3-5, 7-12 DS; 77.7 M DAG(J) @ 2-5, 7-8 DS; 78.3 M DAG(J) @ 3-5, 7-9 DS; 79.0 M DAG(J) @ 4, 7-8 DS; 79.8 M DAG 7-9 DS; 80.9 M DAG(J) @ 3-5, 7-9 DS; 81.5 M DAG(J) @ 4-5 DS; 82.7 M DAG(J) @ 1-3 DS; 84.0 M DAG(J) @ 2-5, 7-10 DS; 84.6 M DAG(J) @ 2-5, 7-8 DS; 85.1 M DAG(J) @ 4-5, 8-9 DS; 85.8 M DAG(J) @ 2-5, 7-8 DS; 86.4 M DAG(J) @ 3-4, 7-8 DS; 87.6 M DAG(J) @ 8-10 DS; 88.3 M DAG(J) @ 2-4 DS; 88.9 M DAG(J) @ 3-5, 7-8 DS; 90.3 M DAG(J) @ 3-5, 7-9 DS; 91.0 M DAG(J) @ 2-5, 7-9 DS; 91.5 M DAG(J) @ 2-5, 7-9 DS; 92.1 M DAG(J) @ 7-8 DS; 93.5 M DAG(J) @ 1-3 DS; 94.1 M DAG(J) @ 1-4 DS; 94.7 M DAG(J) @ 8-4 DS;						
12915	19	S-MH00005302	JAMISON AV	2ND MH E OF HENDERSON HW TO 3RD MH E OF HENDERSO	S-MH00004872	2.8	S-MH00004828	3.4	96.1	300	300	CIRCULAR	COMBINED	VC-VITRIFIED CLAY	No	22						3	0.5 M TBD @ 2 DS; 28.6 M TBD @ 10 DS; 30.1 M TBD @ 2 DS;					1	1.8	92	5.1 M DAZ @ 3-5 DS; 6.4 M DAZ @ 7-9 DS; 7.0 M DAZ @ 4, 8-9 DS; 7.6 M DAZ @ 4, 8-9 DS; 8.0 M DAG(J) @ 4-5, 7-9 DS; 9.4 M DAG(J) @ 4, 8 DS; 10.0 M DAG(J) @ 4, 9-10 DS; 11.1 M DAG(J) @ 4-5 DS; 11.8 M DAG(J) @ 4 DS; 12.4 M DAG(J) @ 4-5, 7-8 DS; 13.0 M DAG(J) @ 4-5 DS; 13.6 M DAG(J) @ 4, 7-9 DS; 14.3 M DAG(J) @ 4, 7-8 DS; 15.0 M DAZ @ 4, 7-9 DS; 16.2 M DAZ @ 3-4 DS; 16.7 M DAG(J) @ 3-10 DS; 23.6 M DAZ(J) @ 7-9 DS; 24.5 M DAZ @ 3-4, 7-8 DS; 26.1 M DAG(J) @ 3-4, 7-9 DS; 26.7 M DAG(J) @ 3-4, 8-10 DS; 27.3 M DAG(J) @ 2-3 DS; 27.9 M DAG(J) @ 4-7 DS; 28.6 M DAZ @ 9-8 DS; 29.5 M DAG(J) @ 3-4, 7-9 DS; 29.8 M DAZ(J) @ 4-8 DS; 31.0-33.1 M DAZ @ 2-5, 7-9 DS; 33.6 M DAG(J) @ 7-9 DS; 34.1 M DAG(J) @ 7-9 DS; 34.8 M DAG(J) @ 4, 7-9 DS; 35.4 M DAG(J) @ 7-8 DS; 36.1 M DAG(J) @ 3-4, 7-8 DS; 36.8 M DAG(J) @ 4-5, 8 DS; 37.3 M DAG(J) @ 3-4, 7-8 DS; 37.8 M DAG(J) @ 3-5, 7-9 DS; 38.5 M DAG(J) @ 7-8 DS; 39.1 M DAG(J) @ 7-9 DS; 39.7 M DAG(J) @ 3-5, 7-8 DS; 40.3 M DAG(J) @ 4-5 DS; 44.7 M DAG(J) @ 7-8 DS; 45.4 M DAG(J) @ 7-9 DS; 46.0 M DAG(J) @ 3-5 DS; 46.6 M DAG(J) @ 3-5, 7-9 DS; 47.2 M DAG(J) @ 4-5, 7-9 DS; 47.8 M DAG(J) @ 4-5, 7-9 DS; 48.4 M DAG(J) @ 4, 7-9 DS; 49.1 M DAG(J) @ 7-8 DS; 49.7 M DAG(J) @ 4-5, 7-8 DS; 50.3 M DAG(J) @ 4-5, 7-9 DS; 50.3 M DAG(J) @ 4-5, 7-9 DS; 50.9 M DAG(J) @ 3-4, 7-9 DS; 51.5 M DAG(J) @ 3-4, 7-8 DS; 52.8 M DAG(J) @ 8-9 DS; 53.4 M DAG(J) @ 3-5, 7-9 DS; 54.1 M DAG(J) @ 4, 7-8 DS; 54.7 M DAG(J) @ 4-5, 8 DS; 55.3 M DAG(J) @ 4-5, 7 DS; 56.0 M DAG(J) @ 4-5, 7-8 DS; 56.6 M DAG(J) @ 4, 7-9 DS; 57.2 M DAG(J) @ 4-5, 7-8 DS; 59.0 M DAG(J) @ 3-5, 7-9 DS; 59.6 M DAG(J) @ 7-8 DS; 60.4 M DAG(J) @ 3-5 DS; 61.0 M DAG(J) @ 3-5 DS; 61.5 M DAG(J) @ 4-5, 7-9 DS; 62.9 M DAG(J) @ 4-5, 7-8 DS; 63.5 M DAG(J) @ 4-5, 7-8 DS; 64.1 M DAG(J) @ 3-5 DS; 65.3 M DAG(J) @ 3-5, 7-8 DS; 67.8 M DAG(J) @ 4-5 DS; 68.5 M DAG(J) @ 3-5, 7-8 DS; 69.1 M DAG(J) @ 7-8 DS; 70.5 M DAG(J) @ 3-5, 8-9 DS; 71.5 M DAG(J) @ 3-5, 7-8 DS; 72.2 M DAG(J) @ 4-5, 7-10 DS; 72.4 M DAG(J) @ 4-5, 7-9 DS; 74.6 M DAG(J) @ 3-5, 7-8 DS; 75.3 M DAG(J) @ 3-5, 7-9 DS; 75.9 M DAG(J) @ 3-5, 7-9 DS; 76.5 M DAG(J) @ 2-5, 7-10 DS; 77.1 M DAG(J) @ 3-5, 7-12 DS; 77.7 M DAG(J) @ 2-5, 7-8 DS; 78.3 M DAG(J) @ 3-5, 7-9 DS; 79.0 M DAG(J) @ 4, 7-8 DS; 79.8 M DAG 7-9 DS; 80.9 M DAG(J) @ 3-5, 7-9 DS; 81.5 M DAG(J) @ 4-5 DS; 82.7 M DAG(J) @ 1-3 DS; 84.0 M DAG(J) @ 2-5, 7-10 DS; 84.6 M DAG(J) @ 2-5, 7-8 DS; 85.1 M DAG(J) @ 4-5, 8-9 DS; 85.8 M DAG(J) @ 2-5, 7-8 DS; 86.4 M DAG(J) @ 3-4, 7-8 DS; 87.6 M DAG(J) @ 8-10 DS; 88.3 M DAG(J) @ 2-4 DS; 88.9 M DAG(J) @ 3-5, 7-8 DS; 90.3 M DAG(J) @ 3-5, 7-9 DS; 91.0 M DAG(J) @ 2-5, 7-9 DS; 91.5 M DAG(J) @ 2-5, 7-9 DS; 92.1 M DAG(J) @ 7-8 DS; 93.5 M DAG(J) @ 1-3 DS; 94.1 M DAG(J) @ 1-4 DS; 94.7 M DAG(J)

2021 Sewer Renewals by CIPP Lining, Contract 5, Tender 326-2021

Appendix A - Repair Requirements

Sewer Details														Pre-Lining Repairs																													
					Manholes												Patching			Removal of Intruding Connections		Removal Roots and Grease		Solid Debris Cutting / Other				Sewer Service Grouting - Main Entry for Sewers >750mm		External Point Repair (EPR) By Contractor		Manhole Stabilization Grouting	
DWG	Sheet	Sewer Asset	Street Name	Location	Upstream	Depth	Downstream	Depth	Length	Height	Width	Shape	Flow Type	Material	Pre-Repair	Sewer Services	Lump Sum Anulus Grouting per Location	Description	Patch Tender +15m	Patch Tender +15m	Description	Intrusd Conn Tender	Description	Root Tender	Description	Tender 1st km	Tender 2km-10km	Tender @ 10km	Description	Service Grouting	Description	Length	Description	Manhole Grouting	Description
13921	25	S-MA40004388	PRINCE RUPERT AV	2ND MH E OF GATEWAY RD TO 1ST MH W OF GREY ST	S-MH40003984	2.9	S-MH40004000	4.1	84.9	300	300	CIRCULAR	COMBINED	VC-VITRIFIED CLAY	No	12						1	36.9 M TBD @ 10 DS;	1.0	8.5 M MRC @ 2 DS; 16.0 M BRJ @ 9-9 DS; 29.0 M BRJ @ 8-10 DS; 12.2 M BRJ @ 2_7-9 DS; 60.6 M BRJ @ 3_8-10 DS; 63.7 M BRJ @ 8-11 DS; 64.5 M BRJ @ 1_7-9 DS; 66.8 M BRJ @ 3-5_8-9 DS; 67.6 M BRJ @ 3-5 DS; 68.4 M BRJ @ 3-5_7-9 DS; 69.2 M BRJ @ 2-4_7-9 DS; 70.7 M BRJ @ 8-10 DS; 72.2 M BRJ @ 3-4 DS; 73.0 M BRJ @ 10-12_3-6 DS; 73.7 M DAE@ 2_10-12 DS; 75.2 M BRJ @ 7-9 DS; 76.0 M BRJ @ 2-5_7-10 DS; 77.7 M BRJ @ 9-10 DS; 78.4 M BRJ @ 7 DS; 79.1 M BRJ @ 9 DS; 79.9 M BRJ @ 3 DS; 80.6 M BRJ @ 2-5_7-10 DS; 81.4 M BRJ @ 3-4_8-10 DS; 82.1 M BRJ @ 2-5_7-9 DS; 82.9 M BRJ @ 7-10 DS; 83.6 M BRJ @ 7-10 DS; 85.0 M BRJ @ 8 DS; ROOTS AND DEBRIS IN INVERT OF DSMH TO BE REMOVED PRIOR TO LINING	1	0.7	S3	0.9 M DAE@ 7-5 DS; 1.4 M DAE@ 3-5_7-9 DS; 2.9 M DAE@ 3-5_7-10 DS; 3.6 M DAE@ 2-7-5 DS; 4.4 M DAE@ 3-5_7-8 DS; 5.2 M DAE@ 3_7-11 DS; 5.9 M DAE@ 3-5_7-10 DS; 6.7 M DAE@ 2-5_7-10 DS; 7.5M DAE@ 3-5_7-10 DS; 8.3-8.7 M DAE @ 7-5 DS; 9.2 M DAE@ 3-5_7-9 DS; 9.8 M DAE@ 3-5_7-9 DS; 10.6 M DAE@ 2-5_8-11 DS; 12.2 M DAE @ 2-5_7-10 DS; 13.0 M DAE@ 3_7-9 DS; 13.7 M DAE@ 3-5_7-10 DS; 14.5 M DAE@ 2_7-8 DS; 18.2M DAE@ 2-5 DS; 19.0 M DAE@ 4-5_8-9 DS; 20.5 M DAE@ 4_7-9 DS; 22.8 M DAE@ 3-5_7-9 DS; 23.6 M DAE@ 3-5_7-9 DS; 24.5 M DAE@ 7-9 DS; 25.2 M DAE@ 3_7-9 DS; 26.0 M DAE@ 3-5_7-9 DS; 26.7 M DAE@ 3_4_7-9 DS; 27.4 M DAE@ 2-5_7-9 DS; 28.1 M DAE@ 7-9 DS; 28.0 M DAE@ 8-10 DS; 29.8 M DAE@ 7-10 DS; 30.1 M DAE @ 7-9 DS; 30.5 M DAE@ @ 3-5_7-9 DS; 30.7 M DAE @ 3-5 DS; 33.0 M DAE@ 3-5_7-9 DS; 33.7 M DAE@ 3 DS; 37.5 M DAE@ 8 DS; 38.5 M DAE @ 3-4 DS; 38.3 M DAE@ @ 3-4 DS; 40.4 M DAE@ @ 2-5_7-8 DS; 46.1 M DAE@ 8 DS; 46.4 M DAE @ 7-9 DS; 47.5 M DAE@ @ 4_8 DS; 48.4 M DAE@ @ 4 DS; 49.0 M DAE@ @ 8 DS; 51.4 M DAE@ @ 4 DS; 53.0 M DAE @ 4 DS; 54.6 M DAE@ @ 8 DS; 56.7 M DAE@ @ 3-5_7-9 DS; 58.3 M DAE@ @ 3-5_7-9 DS; 59.0 M DAE@ 3-5_7-10 DS; 60.0 M DAE @ 7-10 DS; 61.4 M DAE@ @ 3-4 DS; 62.2 M DAE@ @ 3 DS; 63.1 M DAE@ @ 3-5 DS; 63.7 M DAE@ @ 2-4 DS; 64.5 M DAE@ @ 4 DS; 67.5 M DAE@ @ 7 DS; 67.8 M DAE @ 7-9 DS; 70.9 M DAE@ @ 3 DS; 76.1 M DAE@ @ 2-5 DS; 76.4 M DAE @ 3-4 DS; 81.4 M DAE@ @ 4-5 DS; 81.1 M DAE @ 7-9 DS; 81.6 M DAE@ @ 3-4 DS; 84.3 M DAE@ @ 7-5 DS;									
13922	26	S-MA40007949	ROBIN HOOD CR. (W LEG)	2NDMHS.OF ADAMSDELLCR.(N LEG)TO1STMHIN OF ADAMSDELL	S-MH40007548	4.3	S-MH40007547	4.5	58.9	375	375	CIRCULAR	COMBINED	CO-CONCRETE	No	10						1	13.7 M TBD @ 10 DS; 30.2 M TBD @ 10 DS; 38.9 M TBD @ 2 DS;	1.0	0.3 M BRJ @ 3-5_7-9 DS; 2.0 M BRJ @ 3-5 DS; 13.7 M DAE @ 8-10 DS; 17.3 M DAE@ @ 1-5 DS; 21.2 M DAE@ @ 3-5_7-9 DS; 25.8 M DAE@ @ 8-9 DS; 26.7 M DAE@ @ 7-9 DS; 27.4-27.7 M DAE @ 2_5_7-9 DS; 29.0 M DAE@ @ 2-5_7-9 DS; 29.8 M DAE@ @ 7-10 DS; 30.4 M DAE @ 7-5 DS; 42.3 M DAE@ @ 7-8 DS; 43.0 M DAE@ @ 7-11 DS; 46.6 M DAE @ 7-8 DS; 49.2 M DAE@ @ 7-9 DS; 50.2 M DAE @ 2-5 DS; 50.7 M DAE@ @ 7-5 DS; 51.4 M DAE@ @ 3-5_7-9 DS; 52.4 M DAE@ @ 7-5 DS;	1		14	9.6 M DAE@ 1-5_7-11 DS; 10.3 M DAE@ 2-5 DS; 13.7 M DAE @ 8-10 DS; 17.3 M DAE@ @ 1-5 DS; 21.2 M DAE@ @ 3-5_7-9 DS; 25.8 M DAE@ @ 8-9 DS; 26.7 M DAE@ @ 7-9 DS; 27.4-27.7 M DAE @ 2_5_7-9 DS; 29.0 M DAE@ @ 2-5_7-9 DS; 29.8 M DAE@ @ 7-10 DS; 30.4 M DAE @ 7-5 DS; 42.3 M DAE@ @ 7-8 DS; 43.0 M DAE@ @ 7-11 DS; 46.6 M DAE @ 7-8 DS; 49.2 M DAE@ @ 7-9 DS; 50.2 M DAE @ 2-5 DS; 50.7 M DAE@ @ 7-5 DS; 51.4 M DAE@ @ 3-5_7-9 DS; 52.4 M DAE@ @ 7-5 DS;									
13923	27	S-MA40013553	ROSSEAU AV W	1ST MH W OF WINONA ST TO 2ND MH W OF WINONA ST	S-MH40012266	2.0	S-MH40012265	2.5	95.8	200	200	CIRCULAR	SANITARY	AC-ASBESTOS CEMENT	Yes	13						1	71.9 M TBD @ 2 DS; 72.3 M TBD @ 10 DS; 83.0 M TBD @ 9 DS; 87.6 M TBD @ 2 DS; 90.5 M TBD @ 10 DS;	1.0	24.5 M BRJ @ 7-9 DS; 25.2 M BRJ @ 3-5_7-9 DS; 26.8 M BRJ @ 2-4 DS; 27.7 BRC @ 2-4 DS; 27.8 BRJ @ 2-4 DS; 28.4 M BRJ @ 3-4_8-9 DS; 28.1 BRJ @ 3-4_7-9 DS; 40.1 M BRJ @ 2-3 DS; 40.9 M BRJ @ 2-5_7-9 DS; 43.2 M BRJ @ 2-3 DS; 52.5 M BRJ @ 9-10 DS; 65.0 M BRJ @ 2-3 DS; 68.1 M BRJ @ 2-4 DS; 87.8 M BRJ @ 2 DS;			3	62.3 M DAE@ @ 2-3 DS; 64.3 M DAE@ @ 2-3 DS; 88.6 M DAE@ @ 4 DS;									
13924	28	S-MA40013672	ROSSEAU AVE/ WINONA ST	MH AT RAVELSTON AV W TO MH AT ROSSEAU AV W	S-MH40012387	3.6	S-MH40012393	3.9	89.1	200	200	CIRCULAR	SANITARY	VC-VITRIFIED CLAY	No	10						1	67.2 M TBD @ 2 DS;	1.0	17.9-22.5 M DAGS @ 2_10 DS; 38.7-51.6 M DAGS @ 10-2 DS; 52.1 M DAGS @ 10_1-2 DS; 52.7-52.7 M DAGS @ 2 DS; 58.8-67.0 M DAGS @ 9-10 S; 67.2 M RRC @ 2 DS;	1		3	16.8 M DAE@ @ 3-4 DS; 54.0 M DAE@ @ 8-2 DS; 71.3 M DAE@ @ 7-11 DS;									
13925	29	S-MA40013681	ROSSEAU AV W	1ST MH E OF WINONA ST TO MH AT WINONA ST	S-MH40012496	1.6	S-MH40012393	3.9	86.3	200	200	CIRCULAR	SANITARY	AC-ASBESTOS CEMENT	Yes	12						1	1.0 M TBD @ 3 DS; NOTE DIRECTION CHANGE DUE TO REVERSAL; 22.0 MTBD @ 10 US; 46.1 M TBD @ 10 DS; 57.8 M TBD @ 10 US; 74.4 M TBD @ 10 US;	1.0	4.6 M BRJ @ 9-10 US; 6.9-7.5 M DAGS @ 10-2 US;	1		2	9.9- 10.5 M DAE @ 1-3_8-10 US; 35.6 M DAE@ @ 7-10 US; 38.3 M DAE@ @ 3 US;			2.5	11 S-14.0m DS; Sag/rise in the sewer, dislocated joint could impede the riversion of the liner
13926	30	S-MA40013832	ROSSEAU AV W	1ST MH W OF DAY ST TO MH AT DAY ST	S-MH40012502	1.4	S-MH40012512	4.8	104.4	200	200	CIRCULAR	SANITARY	AC-ASBESTOS CEMENT	No	12						1		1.0	13.9 M BRJ @ 1_10 DS; 14.6 M BRJ @ 2-4 DS; 15.5 M BRJ @ 3-4_7-10 DS; 15.9-7 DAGS @ 3_9 DS; 16.5 M BRJ @ 2-4_7-9 DS; 17.1 M BRJ @ 3-5_7-9 DS; 17.7 M BRJ @ 3-4_7-9 DS; 18.4 M BRJ @ 3-4_7-9 DS; 18.9 M BRJ @ 2-5_7-10 DS; 19.6 M BRJ @ 3-4_9 DS; 20.2 M BRJ @ 3-4_8-10 DS; 20.8 M BRJ @ 3-4_8-10 DS; 21.4 M BRJ @ 2-3_9-10 DS; 22.0 M BRJ @ 2-3_8-10 DS; 22.6 M DAE(J) @ 3-4_8-10 DS; 23.2 M DAE(J) @ 2-3_8-9 DS; 23.8 M DAE(J) @ 2-3_9 10 DS; 24.5 M DAE(J) @ 2-3_8-9 DS; 25.1 M DAE(J) @ 2-3_8-9 DS; 25.8 M DAE(J) @ 2-3_7-10 DS; 27.4 M BRJ @ 2-3_8-10 DS; 27.8 M RRC @ 9 DS; 28.3 M BRJ @ 3-4_7-8 DS; 28.8 M RRJ @ 3-4_9 DS; 29.5 BRJ @ 3_9 DS; 30.1 M RRJ @ 3_9 DS; 30.7 M RRJ @ 3_9 DS; 31.4 M RRJ @ 3_9 DS; 31.9 M RRJ @ 3_9 DS; 32.6 M RRJ @ 3_9 DS; 33.2 M RRJ @ 3 DS; 33.8 M RRJ @ 3_9 DS; 34.5 M RRJ @ 3_9 DS; 35.1 M RRJ @ 3_9 DS; 35.7 M RRJ @ 3_9 DS; 45.5 M RRC @ 3-5_8-10 DS; 46.4 M RRJ @ 4_9 DS; 47.0 M RRJ @ 3_9 DS; 47.6 M RRJ @ 4_9 DS; 48.1 RRJ @ 3_9 DS; 48.8 RRJ @ 3_9 DS; 49.4 M RRJ @ 2-3_8-10 DS; 50.4 RRC @ 2 DS; 50.7 M RRJ @ 3-5 DS; 51.4 RRJ @ 3_9 DS; 51.9 RRJ @ 3_8 DS; 52.1 M RRJ @ 2_8-9 DS; 52.6 M RRJ @ 3-5_8-9 DS; 53.2 M RRJ @ 3-5_8-9 DS; 54.3 M RRJ @ 8-9 DS; 56.9 M RRJ @ 3-5_8 DS; 68.7 M RRJ @ 3_9 DS; 70.0 RRJ @ 3_9 DS; 70.6 RRJ @ 3_9 DS; 71.2 RRJ @ 3_9 DS; 71.8 RRJ @ 3_9 DS; 72.5 RRJ @ 3_9 DS;	1	1.1	6	26.1 M DAE(J) @ 2-5 DS; 27.7 M DAE(J) @ 2-5 DS; 30.1-31.1 M DAE @ 7-5 DS; 36.1 M DAE(J) @ 2-5 DS; 37.7 M DAE(J) @ 2-5 DS; 38.3-39.1 M DAE @ 7-5 DS; 38.3 M DAE @ 7-5 DS; 39.7 M DAE @ 7-5 DS; 40.5 M DAE @ 7-5 DS; 48.3-48.6 M DAE @ 7-5 DS; 49.1-49.7 M DAE @ 7-5 DS; 50.3 M DAE @ 3-5 DS; 65.7 M DAE @ 7-9 DS; 66.3 M DAE @ 3-5 DS; 66.6 M DAE(J) @ 7-11 DS; 67.4 M DAE(J) @ 3-5_7-9 DS;									
13928	32	S-MA40002752	SPRINGFIELD RD N CURB	1ST MH E OF BRIAN ST TO 1ST MH W OF BRIAN ST	S-MH40002488	2.8	S-MH40002545	3.2	99.6	200	200	CIRCULAR	SANITARY	CO-CONCRETE	No	18						1	51.1 M TBD @ 2 DS; 61.3 M TBD @ 10 DS; 62.8 M TBD @ 10 DS; 66.2 M TBD @ 2 DS;	1.0	0.0-1.0 M DAE @ 7-5 DS; 3.2 M DAE @ 2-5 DS; 3.9-4.2 M DAE @ 7-5 DS; 5.6 M DAE @ 7-11 DS; 7.1 M DAE @ 4-5 DS; 12.7 M DAE(J) @ 4-5_7-8 DS; 14.3 M DAE @ 7-11 DS; 15.7 M DAE @ 1-5 DS; 19.1-19.4 M DAE @ 1-5 DS; 20.3-20.6 M DAE @ 7-5 DS; 21.7 M DAE @ 7-9 DS; 22.7 M DAE(J) @ 7-10 DS; 24.2 M DAE @ 7-11 DS; 33.9 M DAE @ 2-5 DS; 46.2-46.5 M DAE @ 7-5 DS; 48.0 M DAE @ 2-5 DS; 49.4 M DAE(J) @ 7-8 DS; 51.1 M DAE(J) @ 7-5 DS; 52.2 M DAE @ 7-8 DS; 62.8 M DAE @ 7-5 DS; 64.8 M DAE(J) @ 7-5 DS; 66.2 M DAE @ 7-5 DS; 82.5 M DAE @ 2-5_7-12 DS; 95.5 M DAE @ 2-5 DS; 98.0-99.0 M DAE @ 7-5 DS;									
13929	33	S-MA40002797	SPRINGFIELD RD N CURB	1ST MH W OF BRIAN ST TO 2ND MH W OF BRIAN ST	S-MH40002545	3.2	S-MH40002525	3.0	102.6	200	200	CIRCULAR	SANITARY	CO-CONCRETE	No	21						1	35.1 M TBD @ 2 DS; 47.2 M TBD @ 2 DS; 68.6 M TBD @ 10 DS; 69.9 M TBD @ 10 DS; 73.1 M TBD @ 2 DS; 88.2 M TBD @ 2 DS;	1.0	0.3 M DAE @ 7-5 DS; 1.0 M DAE(J) @ 7-5 DS; 1.7-2.7 M DAE @ 7-5 DS; 3.8 M DAE @ 5-6 DS; 5.0 M DAE(J) @ 7-12 DS; 6.3 M DAE @ 9-4 DS; 13.8 M DAE @ 2-5 DS; 26.4 M DAE @ 7-12 DS; 30.2 M DAE(J) @ 7-5 DS; 34.9 M DAE @ 7-5 DS; 43.7 M DAE(J) @ 7-5 DS; SODM DAE @ 12-4 DS; 60.3 M DAE(J) @ 7-5 DS; 68.6 M DAE @ 7-3 DS; 69.9 M DAE @ 7-5 DS; 71.3-73.4 M DAE @ 7-5 DS; 84.1 M DAE @ 3-5 DS; 88.2 M DAE @ 7-5 DS; 97.6-99.4 M DAE @ 10 DS; 100.2 M DAE @ 3-5 DS; 100.5 M DAE(J) @ 7-5 DS; 101.4 M DAE(J) @ 8-4 DS; 101.4 M DAE(J) @ 8-4 DS;	1	3.4	9	0.3 M DAE(J) @ 7-5 DS; 1.0 M DAE(J) @ 7-5 DS; 1.7-2.7 M DAE @ 7-5 DS; 3.8 M DAE @ 5-6 DS; 5.0 M DAE(J) @ 7-12 DS; 6.3 M DAE @ 9-4 DS; 13.8 M DAE @ 2-5 DS; 26.4 M DAE @ 7-12 DS; 30.2 M DAE(J) @ 7-5 DS; 34.9 M DAE @ 7-5 DS; 43.7 M DAE(J) @ 7-5 DS; SODM DAE @ 12-4 DS; 60.3 M DAE(J) @ 7-5 DS; 68.6 M DAE @ 7-3 DS; 69.9 M DAE @ 7-5 DS; 71.3-73.4 M DAE @ 7-5 DS; 84.1 M DAE @ 3-5 DS; 88.2 M DAE @ 7-5 DS; 97.6-99.4 M DAE @ 10 DS; 100.2 M DAE @ 3-5 DS; 100.5 M DAE(J) @ 7-5 DS; 101.4 M DAE(J) @ 8-4 DS; 101.4 M DAE(J) @ 8-4 DS;									
13930	34	S-MA40002738	SPRINGFIELD RD N CURB	2ND MH W OF BRIAN ST TO 1ST MH W OF KAREN ST	S-MH40002525	3.0	S-MH40002469	3.0	102.4	200	200	CIRCULAR	SANITARY	CO-CONCRETE	No	15						1	6.6 M TBD @ 2 DS; 12.4 M TBD @ 11 DS; 21.9 M TBD @ 2 DS; 97.8 M TBD @ 10 DS;	1.0	22.0-26.0 M DAGS @ 10-11_1-2 DS;	1	2-3	8	0.3 M DAE(J) @ 7-5 DS; 1.0 M DAE(J) @ 7-5 DS; 6.6 M DAE @ 7-5 DS; 18.3 M DAE(J) @ 2-5 DS; 28.3 M DAE @ 2-5 DS; 29.4 M DAE(J) @ 2-5 DS; 32.6-32.9 M DAE @ 7-5 DS; 34.4-34.7 M DAE @ 7-11 DS; 40.1 M DAE @ 2-5_7-10 DS; 44.4 M DAE @ 2-5 DS; 46.8 M DAE(J) @ 2-5 DS; 48.2 M DAE @ 2-5 DS; 55.8-56.1 M @ 7-5 DS; 57.8 M DAE @ 2-5 DS; 58.5-58.6 M DAE @ 7-5 DS; 74.0 M DAE @ 7-5 DS; 74.7 M DAE @ 2-5 DS; 75.2 M DAE @ 9-4 DS; 76.3 M DAE @ 8 DS; 79.0 M DAE(J) @ 7-5 DS; 81.3 M DAE @ 2-5_8-11 DS; 82.5 M DAE @ 7-5 DS; 84.2 M DAE @ 2-5 DS; 85.4 M DAE(J) @ 7-10 DS; 85.4 M DAE @ 9-10 DS; 92.2 M DAE(J) @ 2-5 DS; 100.9-101.2 M DAE @ 7-5 DS;									
13931	35	S-MA40002678	SPRINGFIELD RD N CURB	1ST MH W OF KAREN ST TO 2ND MH W OF KAREN ST	S-MH40002469	3.0	S-MH40002414	3.0	101.5	200	200	CIRCULAR	SANITARY	CO-CONCRETE	No	15						1	90.8 M TBD @ 2 DS;	1.0	90.2- 95.0 M DAGS @ 2_10 DS;	1	1.6	17	0.0 M DAE(J) @ 7-5 DS; 2.5-2.8 M DAE @ 7-5 DS; 4.5 M DAE(J) @ 7-12 DS; 6.0-7.3 M DAE @ 7-5 DS; 20.2 M DAE(J) @ 7-5 DS; 20.8 M DAE(J) @ 7-5 DS; 32.4 M DAE @ 2-5_7-10 DS; 35.2 M DAE(J) @ 7-5 DS; 35.6 M DAE @ 2-5 DS; 35.9 M DAE(J) @ 7-5 DS; 36.7 M DAE(J) @ 7-11 DS; 56.6-56.9 M DAE @ 7-5 DS; 61.4 M DAE(J) @ 12-5 DS; 61.5 M DAE(J) @ 7-11 DS; 62.2 M DAE(J) @ 7-5 DS; 62.9 M DAE(J) @ 7-5 DS; 63.6 M DAE(J) @ 7-5 DS; 64.3 M DAE(J) @ 7-5 DS; 65.1 M DAE(J) @ 7-5 DS; 65.8 M DAE(J) @ 7-5 DS; 66.4 M DAE(J) @ 7-5 DS; 67.1 M DAE(J) @ 7-5 DS; 67.6 M DAE 7-5 DS; 73.0 M DAE(J) @ 7-5 DS; 73.8 M DAE(J) @ 7-5 DS; 74.3 M DAE @ 2-5 DS; 74.3 M DAE @ 2_8-10 DS; 89.6 M ISRM @ 4DS; 92.3 M DAE(J) @ 7-5 DS; 93.9 M DAE @ 2-5 DS;									
13932	36	S-MA40002592	SPRINGFIELD RD N CURB	2ND MH W OF KAREN ST TO 3RD MH W OF KAREN ST	S-MH40002414	3.1	S-MH40002327	3.2	103.0	200	200	CIRCULAR	SANITARY	CO-CONCRETE	No	22						1	22.0 M TBD @ 12 DS; 58.9 M TBD @ 1 DS; 65.0 TBD @ 1 DS; 93.9 M TBD @ 2 DS;	1.0	88.8- 96.5 M DAGS @ 2_10 DS;	1	0.7	7	0.3 M DAE @ 2-5 DS; 1.0 M DAE(J) @ 7-5 DS; 1.0-1.7 M DAE @ 7-12 DS; 16.8 M DAE @ 2-5 DS; 17.8 M DAE(J) @ 2-5 DS; 23.4 M DAE(J) @ 7-5 DS; 29.8 M DAE(J) @ 8-4 DS; 31.7 M DAE @ 2-5 DS; 32.0 M DAE(J) @ 2-5 DS; 43.0 M DAE(J) @ 2-5 DS; 46.5 M DAE @ 2-5 DS; 61.4-61.7 M DAE @ 7-5 DS; 72.3 M ISRM @ 12-2 DS; 74.3 M DAE @ 2-5 DS; 74.3 M DAE @ 2_8-10 DS; 89.6 M ISRM @ 4DS; 92.3 M DAE(J) @ 7-5 DS; 93.9 M DAE @ 2-5 DS;									
13933	37	S-MA40002566	SPRINGFIELD RD N CURB	3RD MH W OF KAREN ST TO MH AT ROTHESAY ST	S-MH40002327	3.2	S-MH40002304	2.8	97.3	200	200	CIRCULAR	SANITARY	CO-CONCRETE	No	13						1		1.0	74.2-83.2 M DAGS @ 2_10 DS;	1	0.7	14	0.3 M DAE(J) @ 7-5 DS; 1.0 M DAE(J) @ 7-5 DS; 6.2 M DAE(J) @ 7-5 DS; 11.4 M DAE @ 2-3 DS; 24.8 M DAE @ 12-5 DS; 41.2 M DAE @ 2-5 DS; 48.8 M DAE @ 7-5 DS; 49.6-50.0 M DAE @ 7-5 DS; 51.5 M DAE @ 7-5 DS; 52.1 M DAE(J) @ 7-5 DS; 55.6 M DAE(J) @ 8-4 DS; 56.2 M DAE(J) @ 8-3 DS; 58.9 M DAE @ 7-5 DS; 61.2-61.5 M DAE(J) @ 8-10 DS; 62.7 M DAE @ 3-4 DS; 65.4 M DAE(J) @ 12-4 DS; 66.5-66.8 M DAE @ 2-3 DS; 66.9-67.2 M DAE @ 2-5 DS; 69.1 M DAE(J) @ 2-5 DS; 70.4 M DAE(J) @ 2-4 DS; 80.3 M DAE(J) @ 6-10 DS; 82.2 M DAE(J) @ 12-4 DS; 84.1-84.4 M DAE(J) @ 8-11 DS; 86.6 M DAE(J) @ 2-4 DS; 87.8 M DAE(J) @ 7-5 DS; 89.0 M DAE(J) @ 7 DS;									
13934	38	S-MA40002567	SPRINGFIELD RD N CURB	1ST MH W OF ROTHESAY ST TO MH AT ROTHESAY ST	S-MH40002305	2.6	S-MH40002304	3.2	9.4	200	200	CIRCULAR	SANITARY	CO-CONCRETE	No	0						1				1			2.9 M DAE @ 7-5 DS;						
13935	39	S-MA40002744	SPRINGFIELD RD S CURB	MH AT BRIAN ST TO 1ST MH W OF BRIAN ST	S-MH40002489	1.9	S-MH40002529	2.5	122.4	375	375	CIRCULAR	STORM	CO-CONCRETE	Yes	0						1				1			11.6 M DAE @ 0 DS; 62.3 M DAE @ 11-4 DS; (SEEMS TO BE A PIECE OF METAL, THE CAMERA DRIVES OVER IT AND BENDS IT DOWN INTO THE INVERT); 64.3 M DAE @ 4-8 DS; (CROSS-BORE)					2.0	64.5-67.5m DS; To reroute the service connection at 64m
13936	40	S-MA40008350	UNION AV W	2ND MH E OF WATT ST TO 1ST MH E OF WATT ST	S-MH40007610	1.8	S-MH70032853	4.0	106.7	300	300	CIRCULAR	COMBINED	VC-VITRIFIED CLAY	Yes	15						1	40.7 M TBD @ 3 DS; 85.7 M TBD @ 2 DS;	1.0	64.2-90.0 M DAGS @ 4_8 DS;	1	10.9	25	1.2 M DAE(J) @ 3-5 DS; 3.0 M DAE(J) @ 3-4 DS; 3.6-3.9 M DAE @ 3-5_7-9 DS; 4.1 M DAE(J) @ 3-5 DS; 9.1 M DAE @ 7-9 DS; 22.6 M DAE(J) @ 8-10 DS; 23.5 M DAE(J) @ 8-10 DS; 26.0 M DAE(J) @ 7-10 DS; 27.4 M DAE(J) @ 7-9 DS; 30.2 M DAE(J) @ 2-5_7-11 DS; 31.2 M DAE(J) @ 2-5_7-10 DS; 32.2 M DAE(J) @ 3-4_7-9 DS; 33.0-33.3 M DAE @ 3-4_7-9 DS; 34.0-34.3 M DAE @ 3-4_7-9 DS; 38.8 M DAE(J) @ 12-3 DS; 46.4 M DAE(J) @ 4-7 DS; 47.5-51.7 M DSC @ 3-9 DS; 54.2 M DAE(J) @ 4-6 DS; 57.6-58.6 M DSC @ 4-6 DS; 59.7 M DAE(J) @ 3-5_7-8 DS; 61.2 M DAE(J) @ 3-4 DS; 61.1 M DSC @ 4-DS; 64.0 M DAE(J) @ 3-5_7-9 DS; 64.6 M DAE @ 7-5 DS; 66.8-68.8 M DSC @ 4-6 DS; 71.8 M DAE @ 2-5 DS; 72.3 M DAE(J) @ 2-5 DS; 73.1 M DAE(J) @ 3-5 DS; 73.7-86.3 M DAE @ 7-5_DSC @ 4-6 DS; 86.2 M DAE(J) @ 2-5 DS; 87.6-88.5 M DSC @ 4-7 DS; 89.0 M DAE(J) @ 4_8 DS; 89.9 M DAE(J) @ 6 DS; 90.8 M DAE(J) @ 2-5 DS; 91.1 M DAE @ 4-6 DS; 92.7 M DAE(J) @ 2-5 DS; 94.1 M DAE(J) @ 2-5 DS; 98.5 M DAE(J) @ 7-8 DS;									
13937	41	S-MA40004775	WASHINGTON ST	1ST MH W OF WATT ST TO 2ND MH W OF WATT ST	S-MH40004351	2.8	S-MH40004345	3.2	107.6	300	300	CIRCULAR	COMBINED	VC-VITRIFIED CLAY	No	17						1	41.3 M TBD @ 10 US (INTRUDING CONNECTION W/ WOODEN DISBRIS TO BE REMOVED); 96.6 M TBD @ 10 US; 101.3 M TBD @ 1 US;	1.0	2.0 M DAE(J) @ 6-9 US; 3.5 M DAE(J) @ 4-8 US; 14.4 M DAE(J) @ 4-5 US; 15.8 M DAE @ 3-4 US; 16.1 M DAE(J) @ 4-7 US; 16.9 M DAE(J) @ 7 US; 20.9 M DAE(J) @ 4 US; 39.2 M DAE(J) @ 5-6 US; 39.6 M DAE(J) @ 4_8 US; 32.6 M DAE(J) @ 4-6 US; 38.1 M DAE(J) @ 3-4_7 US; 48.4 M DAE(J) @ 3-4 US; 58.5 M DAE(J) @ 8 US; 59.4 M DAE(J) @ 8 US; 60.1 M DAE(J) @ 5 US; 64.1 M DAE(J) @ 4 US; 68.7 M DAE(J) @ 3-5 US; 72.7 M DAE(J) @ 4-6 US; 75.9 M DAE(J) @ 4 US; 82.2 M DAE(J) @ 5-6 US; 96.9 M DAE(J) @ 6-8 US; 98.5 M DAE @ 4-7 US; 94.8 M DAE(J) @ 4-6 US; 101.1 M DAE(J) @ 8 US;			22									
13938	42	S-MA40008174	WATT ST()	MH AT MARTIN AVE TO MH AT UNION AVE W	S-MH40007467	4.7	S-MH40007638	5.2	105.4	300	300	CIRCULAR	COMBINED	VC-VITRIFIED CLAY	No	4						1				1			7.2 M DAE @ 3-5 US; 17.2 M DAE @ 3-5 DS;						
13939	43	S-MA40008169	WATT ST/MARTIN AV W	MH AT WATT ST TO 1ST MH W OF WATT ST	S-MH40007467	5.1	S-MH40007656	5.3	6.4	375	375	CIRCULAR	COMBINED	VC-VITRIFIED CLAY	Yes	10						1	90.7 M TBD @ 2 DS;	1.0	64.2-90.0 M DAGS @ 4_8 DS;	1		20	3.0 M DAE(J) @ 6-8 US; 6.4 M DAE @ 6-7 US; 8.5 M DAE(J) @ 7-9 DS; 9.2 M DAE(J) @ 8-10 DS; 10.1 M DAE @ 7-10 DS; 17.6 M DAE(J) @ 7-5 DS; 18.9 M DAE(J) @ 2-5 DS; 25.1 M DAE(J) @ 12-4 DS; 25.7 M DAE(J) @ 7-11 DS; 26.7 M DAE @ 3-5 DS; 34.4 M DAE(J) @ 3-5 DS; 43.9 M DAE(J) @ 4 DS; 51.3 M DAE @ 2-4 DS; 54.0 M DAE @ 3-5 DS; 55.0 M DAE(J) @ 4 DS; 55.4 M DAE(J) @ 7-5 DS; 56.2 M DAE(J) @ 2-5_7-10 DS; 57.4 M DAE(J) @ 3-5_7-11 DS; 62.0 M DAE @ 3-4 DS; 63.6 M DAE(J) @ 7-9 DS; 64.7 M DAE(J) 7-10 DS; 68.8 M DAE(J) @ 2-3 DS; 70.4 M DAE(J) @ 2-4 DS; 71.0 M DAE(J) @ 2-3 DS; 71.7 M DAE @ 8-10 DS; 72.4 M DAE @ 7-11 DS; 74.6 M DAE(J) @ 7-10 DS; 85.8 M DAE(J) @ 2-5 DS;					2.0	17.0-19.0m DS; Defective oblevet, crown of the pipe removed and replaced with plywood, it will result in an annular space around service connection if the pipe is lined in the current shape
13940	44	S-MA40008203	WATT ST/MARTIN AV W	1ST MH E OF WATT ST TO MH AT WATT ST	S-MH40007593	4.6	S-MH40007667	5.1	108.6	300	300	CIRCULAR	COMBINED	VC-VITRIFIED CLAY	No	26						1	43.1 M TBD @ 1 DS;	1.0	45.1 M RRC @ 9 DS;	1		5	0.0-0.3 M DSC @ 4-9 DS; 1.7 M DAE(J) @ 7-8 DS; 6.4 M DAE @ 3-5 DS; 27.3 M DAE @ 3-5 DS; 44.5 M DAE @ 3-5 DS; 46.6 M DAE @ 6-10 DS (WHAT APPEARS TO BE A PIECE OF METAL WEDGED IN JOINT TO BE REMOVED); 59.7 M DAE @ 7-9 DS; 61.3 M DAE @ 3-4 DS (ANOTHER PIECE OF DEBRIS WEDGED IN JOINT TO BE REMOVED); 67.7 M DAE @ 7-9 DS; 82.4 M DAE(J) @