



Appendix J

Alternatives Opinion of Probable Costs

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PHASE II LONG TERM CONTROL PLAN

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Table J1
 City of Lancaster
 Phase II L TCP
 Projected Costs ALT2W7A

Basin	Unit Price Description	Detailed Work Description	Pipe Diameter (inches)	Quantity	Unit	Unit Price	Total Price
CSO 1008	Orifice Increase 27"	Increase underflow (10" to 27")	27	104	FT	\$4,230.00	\$440,000.00
	Increase Weir Height (2' to 4')	Weir inlet offset increase (12" to 54")	NA	1	LS	\$90,000.00	\$90,000.00
						Subtotal	\$ 530,000
CSO 1009	Increase Weir Height (12"-18")	Overflow Weir (15" offset)	NA	1	LS	\$50,000.00	\$50,000.00
	Orifice Increase 15"	Increase Orifice (8"x14" to 15"x15")	NA	1	LS	\$3,285.00	\$3,000.00
	Increase Under Flow Pipe to 27"	Increase underdrain (12" to 27")	27	431	FT	\$352.50	\$152,000.00
	Increase Under Flow Pipe to 27"	Increase underdrain (15" to 27") from CSO 1009 to Wheeling St. PS POC (end of YMCA FM)	27	539	FT	\$352.50	\$190,000.00
						Subtotal	\$ 395,000
CSO 1012	Increase Under Flow Pipe to 24"	Increase Under Flow Pipe (15" to 24")	24	447	FT	\$341.25	\$153,000.00
	Increase Under Flow Pipe to 24"	Increase Under Flow Pipe (14" to 24")	24	593	FT	\$341.25	\$202,000.00
	Increase Under Flow Pipe to 24"	Increase Under Flow Pipe (16" to 24") from Memorial Dr. between 5th and Mulberry	24	321	FT	\$341.25	\$110,000.00
	Increase Weir Height (0-6")	Inlet offset increase from 3.25 ft to 3.4 ft	NA	1	LS	\$10,000.00	\$10,000.00
						Subtotal	\$ 475,000
CSO 1013	Increase Weir Height (0-6")	Increase overflow Weir Offset (1.65' to 2')	NA	1	LS	\$10,000.00	\$10,000.00
	Orifice Increase 18"	Increase underflow orifice (6" to 18")	NA	1	LS	\$3,645.00	\$4,000.00
	Increase Under Flow Pipe to 18"	Increase underflow Pipe (10" to 18")	18	30	FT	\$303.75	\$9,000.00
	Increase Under Flow Pipe to 18"	Increase underflow pipe (11.25" to 18") from CSO 1013 regulator to CSO 1012 regulator	18	391	FT	\$303.75	\$119,000.00
						Subtotal	\$ 142,000
CSO 1014	36" Open-Cut Sanitary Sewer	18" underflow line from regulator to 36"	18	456	FT	\$780.00	\$356,000.00
	Abandon 12"	Abandon 12" underflow linwe from regulator to 36"	NA	1	LS	\$10,000.00	\$10,000.00
						Subtotal	\$ 366,000
CSO 1033	15" Open-Cut Sanitary Sewer	15" underflow line from regulator to 36" Interceptor	15	600	FT	\$495.00	\$297,000.00
	Abandon 10"	Abandon 10" underflow line from regulator to 36"	NA	1	LS	\$7,000.00	\$7,000.00
						Subtotal	\$ 304,000
Lawrence Street EQ	4.25 MG BELOW GRADE EQ	4.31 MG EQ Below Grade	NA	4.31	MG	\$4,547,113.75	
	45 MGD Pump Station	44.75 MGD Pump Station	NA	45	MGD	\$12,941,846.83	
						Subtotal	\$ 17,488,960.58
					Total	\$ 2,212,000	

Notes:

1. Costs are based on 2014 Dollars.
2. Costs include a 1.30 contingency factor and a 1.23 engineering cost factor.

Table J2
 City of Lancaster
 Phase II LTCP
 Projected Costs ALT3W3A

Basin	Unit Price Description	Detailed Work Description	Pipe Diameter (inches)	Quantity	Unit	Unit Price	Total Price
CSO 1008	Increase Under Flow Pipe to 27"	Increase underflow pipe (10" to 27")	27	104	FT	\$352.50	\$37,000.00
	Increase Weir Height (2' to 4')	Inlet offset increase (12" to 54")	NA	1	LS	\$90,000.00	\$90,000.00
						Subtotal \$	127,000
CSO 1009	Increase Under Flow Pipe to 27"	Increase underflow pipe (12" to 27")	27	431	FT	\$352.50	\$152,000.00
	Increase Under Flow Pipe to 27"	Increase underflow pipe (15" to 27") from CSO 1009 to Wheeling St PS POC (end of YMCA FM)	27	539	FT	\$352.50	\$190,000.00
	Increase Weir Height (12"-18")	Weir with 15" offset	NA	1	LS	\$50,000.00	\$50,000.00
	Orifice Increase 15"	Increase orifice opening (8"x14" to 15"x15")	15	1	LS	\$3,285.00	\$3,000.00
						Subtotal \$	395,000
CSO 1012	Increase Under Flow Pipe to 24"	Increase underflow pipe (15" to 24")	24	447	FT	\$341.25	\$153,000.00
	Increase Under Flow Pipe to 24"	Increase underflow pipe (14" to 24")	24	593	FT	\$341.25	\$202,000.00
	Increase Under Flow Pipe to 24"	Increase underflow pipe (16" to 24") from Memorial Dr. between 5th and Mulberry	24	321	FT	\$341.25	\$110,000.00
	Increase Weir Height (6"-12")	Increase inlet offset (3.25' to 3.4')	NA	1	LS	\$30,000.00	\$30,000.00
						Subtotal \$	495,000
CSO 1013	Orifice Increase 18"	Increase orifice opening (6" to 18")	NA	1	LS	\$3,645.00	\$4,000.00
	Increase Weir Height (0-6")	Increase offset (1.65' to 2')	NA	1	LS	\$10,000.00	\$10,000.00
	Increase Under Flow Pipe to 18"	Increase underflow pipe (10" to 18")	18	30	FT	\$303.75	\$9,000.00
	Increase Under Flow Pipe to 18"	Increase underflow pipe (11.25" to 18") from CSO 1013 regulator to CSO1012 regulator	18	391	FT	\$303.75	\$119,000.00
						Subtotal \$	142,000
CSO 1014	Abandon 12"	abandon 12" pipe	12	1	LS	\$10,000.00	\$10,000.00
	Increase Under Flow Pipe to 18"	New 18" sewer from regulator to 36" interceptor	18	456	FT	\$303.75	\$139,000.00
						Subtotal \$	10,000
CSO 1033	12" Open-Cut Sanitary Sewer	Increase underflow pipe (10" to 12")	12	600	FT	\$450.00	\$270,000.00
	Abandon 10"	abandon 10" pipe	NA	1	LS	\$7,000.00	\$7,000.00
						Subtotal \$	270,000
YMCA EQ	0.50 MG ABOVE GRADE EQ	0.36 MG EQ Above Ground	NA	0.36	MG	\$1,116,667.00	\$1,117,000.00
	10 MGD Pump Station	7.6 MGD Pump Station	NA	7.6	MDG	\$4,274,696.04	\$4,275,000.00
						Subtotal \$	5,392,000
Lawrence Street EQ	4.25 MG BELOW GRADE EQ	4.24 MG EQ Below Ground	NA	4.24	MG	\$4,547,113.75	
	45 MGD Pump Station	45.21 MGD Pump Station	NA	45.21	MGD	\$12,941,846.83	
						Subtotal \$	-
					Total \$	5,799,000	

Notes:

1. Costs are based on 2014 Dollars.
2. Costs include a 1.30 contingency factor and a 1.23 engineering cost factor.

Table J3
 City of Lancaster
 Phase II LTCP
 Projected Costs ALT3W4A

Basin	Unit Price Description	Detailed Work Description	Pipe Diameter (Inches)	Quantity	Unit	Unit Price	Total Price
CSO 1008	Increase Under Flow Pipe to 27"	Increase underflow pipe (10" to 27")	27	104	FT	\$352.50	\$37,000.00
	Increase Weir Height (2' to 4')	Inlet offset increase (12" to 54")	NA	1	LS	\$90,000.00	\$90,000.00
						Subtotal \$	127,000
CSO 1009	Increase Under Flow Pipe to 27"	Increase underflow pipe (12" to 27")	27	431	FT	\$352.50	\$152,000.00
	Increase Under Flow Pipe to 27"	Increase underflow pipe (15" to 27") from CSO 1009 to Wheeling St PS POC (end of YMCA FM)	27	539	FT	\$352.50	\$190,000.00
	Office Increase 15"	Increase office opening (8"x14" to 15"x15")	NA	1	LS	\$3,285.00	\$3,000.00
	Increase Weir Height (12"-18")	Add Weir with 15" offset	NA	1	LS	\$50,000.00	\$50,000.00
						Subtotal \$	395,000
CSO 1012		Description				(Unit cost are 2014)	
	Increase Under Flow Pipe to 24"	Increase underflow pipe (15" to 24")	24	447	FT	\$341.25	\$153,000.00
	Increase Under Flow Pipe to 24"	Increase underflow pipe (14" to 24")	24	593	FT	\$341.25	\$202,000.00
	Increase Under Flow Pipe to 24"	Increase underflow pipe (16" to 24" from Memorial Dr. between 5th and Mulberry	24	321	FT	\$341.25	\$110,000.00
						Subtotal \$	465,000
CSO 1013		Description				(Unit cost are 2014)	
	24" Open-Cut Sanitary Sewer	New 24" sewer from CSO 1013 regulator to CSO 1014	24	525	FT	\$640.00	\$336,000.00
						Subtotal \$	336,000
CSO 1014	Increase Under Flow Pipe to 24"	New 18" sewer from regulator to 36" Interceptor	24	456	FT	\$341.25	\$156,000.00
	Abandon 12"	abandon 12" pipe	NA	1	LS	\$10,000.00	\$10,000.00
						Subtotal \$	166,000
CSO 1033	Abandon 10"	abandon 10" sewer	NA	1	LS	\$7,000.00	\$7,000.00
	12" Open-Cut Sanitary Sewer	new 12" sewer from regulator to 36" interceptor	12	600	FT	\$450.00	\$270,000.00
						Subtotal \$	277,000
YMCA EQ	0.50 MG ABOVE GRADE EQ	0.538 MG EQ Above Grade	NA	0.38	MG	\$1,116,667.00	\$1,117,000.00
	10 MGD Pump Station	9.6 MGD Pump Station	NA	9.6	MGD	\$4,274,696.04	\$4,275,000.00
						Subtotal \$	5,392,000
Lawrence Street EQ	4.50 MG BELOW GRADE EQ	4.34 MG EQ Below Grade	NA	4.16	MG	\$4,755,767.50	
	45 MGD Pump Station	45.37 Pump Station	NA	45.37	MGD	\$12,941,846.83	
						Subtotal \$	-
						Total \$	6,171,000

Notes:

1. Costs are based on 2014 Dollars.
2. Costs include a 1.30 contingency factor and a 1.23 engineering cost factor.

Table J5
 City of Lancaster
 Phase II LTCP
 Projected Costs ALT5W7A-1

Basin	Unit Price Description	Detailed Work Description	Pipe Diameter (inches)	Quantity	Unit	Unit Price	Total Price
CSO 1008	Separation 2025 Considered Below	2025 Separation	NA	1	LS	-	-
						Subtotal \$	-
CSO 1009	Separation 2025 Considered Below	2025 Separation	NA	1	LS	-	-
						Subtotal \$	-
CSO 1012	Separation 2025 Considered Below	2025 Separation	NA	1	LS	-	-
						Subtotal \$	-
CSO 1013	Separation 2025 Considered Below	2025 Separation	NA	1	LS	-	-
						Subtotal \$	-
CSO 1014	Separation 2025 Considered Below	2025 Separation	NA	1	LS	-	-
						Subtotal \$	-
CSO 1033	Separation 2025 Considered Below	2025 Separation	NA	1	LS	-	-
						Subtotal \$	-
2025 Westside Separation Projects	2025 Separation Westside	2025 Separation	NA	1	LS	\$6,227,000.00	\$6,227,000.00
						Subtotal \$	6,227,000
Lawrence Street EQ	2.75 MG BELOW GRADE EQ	2.64 MG EQ below ground	NA	3.12	MG	\$3,295,191.25	
	40 MGD Pump Station	37.15 Pump Station	NA	39.37	MG	\$11,866,493.96	
						Subtotal \$	Total \$ 6,227,000

Notes:

1. Costs are based on 2014 Dollars.
2. Costs include a 1.30 contingency factor and a 1.23 engineering cost factor.

Table J7
 City of Lancaster
 Phase II LTCP
 Projected Costs ALT6W7A-2

Basin	Unit Price Description	Detailed Work Description	Pipe Diameter (inches)	Quantity	Unit	Unit Price	Total Price
CSO 1008	Separation 2050 Considered Below	2050 Separation	NA	1	LS	-	-
	Increase Weir Height (18" - 2')	Increase weir inlet offset (12" to 18")	NA	1	LS	\$650,000.00	\$65,000.00
						Subtotal \$	65,000
CSO 1009	Separation 2050 Considered Below	2050 Separation	NA	1	LS	-	-
						Subtotal \$	
CSO 1012	Separation 2050 Considered Below	2050 Separation	NA	1	LS	-	-
						Subtotal \$	
CSO 1013	Separation 2050 Considered Below	2050 Separation	NA	1	LS	-	-
						Subtotal \$	
CSO 1014	Separation 2050 Considered Below	2050 Separation	NA	1	LS	-	-
						Subtotal \$	
CSO 1033	Separation 2050 Considered Below	2050 Separation	NA	1	LS	-	-
						Subtotal \$	
2025 Westside Separation Projects	2025 Separation Westside	2050 Separation	NA	1	LS	\$6,227,000.00	\$6,227,000.00
						Subtotal \$	6,227,000
2050 Westside Separation Projects	2050 Separation Westside	2050 Separation	NA	1	LS	\$3,397,000.00	\$3,397,000.00
						Subtotal \$	3,397,000
Lawrence Street EQ	2.75 MG BELOW GRADE EQ	2.66 MG EQ Below Ground	NA	3.6	MG	\$3,295,191.25	
	40 MGD Pump Station	37.33 MGD Pump Station	NA	42.03	MGD	\$11,866,493.96	
						Subtotal \$	-
					Total \$	9,689,000	

Notes:

1. Costs are based on 2014 Dollars.
2. Costs include a 1.30 contingency factor and a 1.23 engineering cost factor.

Table J8
City of Lancaster
Phase II LTCP
Projected Costs ALTW7A

Basin	Unit Price Description	Detailed Work Description	Pipe Diameter (inches)	Quantity	Unit	Unit Price	Total Price
CSO 1008	Increase Weir Height (2' to 4')	Increase weir inlet offset (12" to 54")	NA	1	LS	\$90,000.00	\$90,000.00
	Increase Under Flow Pipe to 27"	Increase underflow pipe (10" to 27")	27	104	FT	\$352.50	\$37,000.00
Subtotal \$							127,000
CSO 1009	Increase Weir Height (12"-18")	Add overflow weir (15")	NA	1	LS	\$50,000.00	\$50,000.00
	Orifice Increase 15"	Increase underflow orifice (8"x14" to 15"x15")	15	1	LS	\$3,285.00	\$3,000.00
	Increase Under Flow Pipe to 27"	Increase underflow pipe (12" to 27") from CSO 1009 to Wheeling St PS POC (end of YMCA FM)	27	431	FT	\$352.50	\$152,000.00
	Increase Under Flow Pipe to 27"	Increase underflow pipe (15" to 27")	27	539	FT	\$352.50	\$190,000.00
Subtotal \$							395,000
CSO 1012	Increase Under Flow Pipe to 24"	Increase underflow line (15" to 24")	24	447	FT	\$341.25	\$153,000.00
	Increase Under Flow Pipe to 24"	Increase underflow line (14" to 24")	24	593	FT	\$341.25	\$202,000.00
	Increase Under Flow Pipe to 24"	Increase underflow line (16" to 24") from Memorial Dr. between 5th and Mulberry	24	321	FT	\$341.25	\$110,000.00
	Increase Weir Height (12"-18")	Inlet offset increase (3.25' to 3.4')	NA	1	LS	\$50,000.00	\$50,000.00
	Subtotal \$						
CSO 1013	Increase Weir Height (0-6")	Increase overflow weir (1.65' to 2')	NA	1	LS	\$10,000.00	\$10,000.00
	Orifice Increase 18"	Increase underflow orifice (6" to 18")	18	1	LS	\$3,645.00	\$4,000.00
	Increase Under Flow Pipe to 18"	Increase underflow pipe size (10" to 18")	18	30	FT	\$303.75	\$9,000.00
	Increase Under Flow Pipe to 18"	Increase underflow pipe size (11.25" to 18") from CSO 1013 regulator to CSO 1012 regulator	18	391	FT	\$303.75	\$119,000.00
Subtotal \$							142,000
CSO 1014	18" Open-Cut Sanitary Sewer	18" underflow line from regulator to 36" regulator	18	456	FT	\$540.00	\$246,000.00
	Abandon 12"	Abandon 12"	NA	1	LS	\$10,000.00	\$10,000.00
Subtotal \$							256,000
CSO 1033	15" Open-Cut Sanitary Sewer	15" underflow pipe from regulator to 36" interceptor	15	600	FT	\$495.00	\$297,000.00
	Abandon 10"	Abandon 10"	NA	1	LS	\$7,000.00	\$7,000.00
Subtotal \$							304,000
Interceptor	Increase Under Flow Pipe to 36"	Increase from CSO 1008 to downstream of Maple (27" to 36")	36	6377	FT	\$390.00	\$2,487,000.00
	Subtotal \$						
Lawrence Street EQ	4.50 MG BELOW GRADE EQ	4.5 MG EQ	NA	4.5	MG	\$4,755,767.50	
	50 MGD Pump Station	45.99 MGD Pump Station	NA	45.99	MGD	\$13,986,100.58	
	Subtotal \$						
Total \$							4,226,000

Notes:

1. Costs are based on 2014 Dollars.
2. Costs include a 1.30 contingency factor and a 1.23 engineering cost factor.

Table J9
 City of Lancaster
 Phase II LTCP
 Projected Costs ALT8W7A

Basin	Unit Price Description	Detailed Work Description	Pipe Diameter (inches)	Quantity	Unit	Unit Price	Total Price
CSO 1008	Increase Weir Height (12" to 18")	Increase weir inlet offset (12" to 27")	NA	1	LS	\$90,000.00	\$90,000.00
						Subtotal \$	90,000
CSO 1009	Increase Weir Height (12"-18")	Add overflow weir (12")	NA	1	LS	\$50,000.00	\$50,000.00
	Orifice Increase 15"	Increase underflow Orifice (8"x14" to 15"x15")	14	1	LS	\$3,285.00	\$3,000.00
	Increase Under Flow Pipe to 15"	Increase underflow pipe (12" to 15")	15	431	FT	\$274.00	\$118,000.00
						Subtotal \$	171,000
CSO 1012	Increase Weir Height (0-6")	Inter offset increase (3.25' to 3.6')	NA	1	LS	\$10,000.00	\$10,000.00
						Subtotal \$	10,000
CSO 1013	Orifice Increase 15"	Increase underflow orifice (6" to 15")	15	1	LS	\$3,285.00	\$3,000.00
	Increase Under Flow Pipe to 15"	Increase underflow pipe size (10" to 15")	15	30	FT	\$273.75	\$8,000.00
	Increase Under Flow Pipe to 15"	Increase underflow pipe size (11.25" to 15") from CSO 1013 regulator to CSO 1012 regulator	15	391	FT	\$273.75	\$107,000.00
						Subtotal \$	118,000
CSO 1014	Increase Under Flow Pipe to 18"	18" underflow line from regulator to 36" regulator	18	456	FT	\$303.75	\$139,000.00
	Abandon 12"	Abandon 12"	NA	1	LS	\$10,000.00	\$10,000.00
						Subtotal \$	149,000
CSO 1033	Separation 2025 Considered Below	2025 Separation	NA	1	LS	-	-
						Subtotal \$	-
Interceptor	Increase Under Flow Pipe to 36"	Increase from CSO 1008 to downstream of Maple (27" to 36")	36	6377	FT	\$390.00	\$2,487,000.00
						Subtotal \$	2,487,000
2025 Westside Separation Projects	2025 Separation Westside	2050 Separation	NA	1	LS	\$6,227,000.00	\$6,227,000.00
						Subtotal \$	6,227,000
Lawrence Street EQ	3.75 MG BELOW GRADE EQ	3.6 MG EQ	NA	3.6	MG	\$4,129,806.25	
	45 MGD Pump Station	40.73 MGD Pump Station	NA	40.73	MGD	\$12,941,846.83	
						Subtotal \$	-
					Total \$	9,252,000	

Notes:

1. Costs are based on 2014 Dollars.
2. Costs include a 1.30 contingency factor and a 1.23 engineering cost factor.

Table J10
City of Lancaster
Phase II LTCP
Projected Costs ALT2E1A

Basin	Unit Price Description	Detailed Work Description	Pipe Diameter (inches)	Quantity	Unit	Unit Price	Total Price
CSO 1008	Increase Weir Height (4' - 5')	Increase weir inlet offset (12" to 54")	NA	1	LS	\$115,000.00	\$115,000.00
	Orifice Increase 27"	Increase underflow pipe (10" to 27")	27	104	FT	\$4,230.00	\$440,000.00
						Subtotal \$	\$555,000
CSO 1009	Increase Weir Height (12"-18")	Increase Weir Offset 15"	NA	1	LS	\$50,000.00	\$50,000.00
	Orifice Increase 15"	Increase underflow orifice (8"x14" to 15"x15")	15	1	LS	\$3,285.00	\$3,000.00
	Increase Under Flow Pipe to 27"	Increase underflow pipe (12" to 27")	27	431	FT	\$352.50	\$152,000.00
		Increase underflow pipe (15" to 27") from CSO 1009 to Wheeling St PS POC (end of YMCA FM)	27	539	FT	\$352.50	\$190,000.00
						Subtotal \$	\$395,000
CSO 1012	Increase Under Flow Pipe to 24"	Increase underflow pipe (15" to 24")	24	447	FT	\$341.25	\$153,000.00
	Increase Under Flow Pipe to 24"	Increase underflow pipe (14" to 24")	24	583	FT	\$341.25	\$202,000.00
	Increase Under Flow Pipe to 24"	Increase underflow pipe (16" to 24") from Memorial Dr. between 5th and Mulberry	24	321	FT	\$341.25	\$110,000.00
	Increase Weir Height (0-6")	Inlet offset increase (3.25' to 3.4')	NA	1	LS	\$10,000.00	\$10,000.00
						Subtotal \$	\$475,000
CSO 1013	Increase Weir Height (0-6")	Increase Underflow Weir Offset (1.65' to 2')	NA	1	LS	\$10,000.00	\$10,000.00
	Orifice Increase 18"	Increase orifice (6" to 18")	18	1	LS	\$3,645.00	\$4,000.00
	Increase Under Flow Pipe to 18"	Increase underflow pipe size (10" to 18")	15	30	FT	\$303.75	\$9,000.00
	Increase Under Flow Pipe to 18"	Increase underflow pipe size (11.25" to 18") from CSO 1013 regulator to CSO 1012 regulator	18	391	FT	\$303.75	\$119,000.00
						Subtotal \$	\$142,000
CSO 1014	18" Open-Cut Sanitary Sewer	18" Underflow line from regulator to 36" interceptor	18	456	FT	\$540.00	\$246,000.00
	Abandon 12"	Abandon 12" Line	12	1	LS	\$10,000.00	\$10,000.00
						Subtotal \$	\$256,000
CSO 1033	15" Open-Cut Sanitary Sewer	15" Underflow Line	15	600	FT	\$495.00	\$297,000.00
	Abandon 10"	Abandon 10" Line	40	1	LS	\$7,000.00	\$7,000.00
						Subtotal \$	\$304,000
CSO 1019	Orifice Increase 24"	Increase underflow orifice (12" to 24")	24	1	LS	\$4,095.00	\$4,000.00
	Increase Under Flow Pipe to 30"	Increase underflow line (18" to 30") from CSO 1019 regulator to Mian St. interceptor POC	30	156	FT	\$367.50	\$57,000.00
						Subtotal \$	\$61,000
CSO 1029	Orifice Increase 24"	Increase orifice (10" to 24")	NA	1	LS	\$4,095.00	\$4,000.00
	Increase Under Flow Pipe to 24"	Increase underflow pipe (8" to 24") from CSO 1029 regulator to Baldwin Run Interceptor	24	56	FT	\$341.25	\$19,000.00
						Subtotal \$	\$23,000
Interceptor	Increase Under Flow Pipe to 48"	Increase 42" sewer to 48" sewer (Just east upstream of the WPCF entrance)	48	344	FT	\$472.50	\$163,000.00
						Subtotal \$	\$163,000
Lawrence Street EQ	4.66 MGD BELOW GRADE EQ	4.66 MGD EQ below grade	NA	4.66	MGD	\$4,964,421.25	\$4,964,421.25
	50 MGD Pump Station	49.79 MGD Pump Station	NA	49.79	MGD	\$13,986,100.58	\$13,986,100.58
					Subtotal \$	\$18,950,522	
					Total \$	\$21,161,522	

Notes:

1. Costs are based on 2014 Dollars.
2. Costs include a 1.30 contingency factor and a 1.23 engineering cost factor.

Table J11
 City of Lancaster
 Phase II LTCP
 Projected Costs ALT3E1A-1

Basin	Unit Price Description	Detailed Work Description	Pipe Diameter (inches)	Quantity	Unit	Unit Price	Total Price
CSO 1008	Increase Under Flow Pipe to 27"	Increase underflow pipe (10" to 27")	27	104	FT	\$352.50	\$37,000.00
	Orifice Increase 27"	Increase orifice (12" to 54")	NA	1	LS	\$4,230.00	\$4,000.00
					Subtotal	\$	41,000
CSO 1009	Orifice Increase 15"	Increase orifice opening (8"x14" to 15"x15")	NA	1	LS	\$3,285.00	\$3,000.00
	Increase Under Flow Pipe to 27"	Increase pipe (12" to 27")	27	431	FT	\$352.50	\$152,000.00
	Increase Under Flow Pipe to 27"	St.PS POC (end of YMCA FM)	27	539	FT	\$352.50	\$190,000.00
	Increase Weir Height (12"-18")	Add weir 15" offset	NA	1	LS	\$50,000.00	\$50,000.00
					Subtotal	\$	395,000
CSO 1012	Increase Weir Height (0-6")	Increase inlet offset (3.25' to 3.4')	NA	1	LS	\$10,000.00	\$10,000.00
	Increase Under Flow Pipe to 24"	Increase pipe (15" to 24")	24	447	FT	\$341.25	\$153,000.00
	Increase Under Flow Pipe to 24"	Increase pipe (14" to 24")	24	593	FT	\$341.25	\$202,000.00
	Increase Under Flow Pipe to 24"	Increase pipe (16" to 24") from Memorial Dr. between 5th and Mulberry	24	321	FT	\$341.25	\$110,000.00
						Subtotal	\$
CSO 1013	Increase Under Flow Pipe to 18"	Increase pipe (11.25' to 18") from CSO 1013 regulator to CSO 1012 regulator	18	391	FT	\$303.75	\$119,000.00
	Increase Under Flow Pipe to 18"	Increase pipe (10" to 18")	18	30	FT	\$303.75	\$9,000.00
	Orifice Increase 18"	Increase orifice (6" to 18")	NA	1	LS	\$3,645.00	\$4,000.00
	Increase Weir Height (0-6")	Increase inlet offset (1.65' to 2')	NA	1	LS	\$10,000.00	\$10,000.00
						Subtotal	\$
CSO 1014	Abandon 12"	abandon 12" pipe	NA	1	LS	\$10,000.00	\$10,000.00
	18" Open-Cut Sanitary Sewer	New 18" pipe from regulator to 36" interceptor	18	456	FT	\$540.00	\$246,000.00
					Subtotal	\$	256,000
CSO 1033	Abandon 10"	abandon 10" pipe	NA	1	LS	\$7,000.00	\$7,000.00
	15" Open-Cut Sanitary Sewer	New 15" pipe from regulator to 36" interceptor	15	600	FT	\$495.00	\$297,000.00
						Subtotal	\$
CSO 1029	Separation 2025 Considered Below	2025 Separation	NA	1	LS	-	-
					Subtotal	\$	-
CSO 1019	Separation 2025 Considered Below	2025 Separation	NA	1	LS	-	-
					Subtotal	\$	-
Interceptor	Increase Under Flow Pipe to 48"	Increase interceptor (42" to 48") (Just east upstream of the WPCF entrance)	48	344	FT	\$472.50	\$163,000.00
					Subtotal	\$	163,000
2025 Eastside Separation Projects	2025 Separation Eastside	2025 Separation	NA	1	LS	\$3,761,000.00	\$3,761,000.00
					Subtotal	\$	3,761,000
Lawrence Street EQ	3.02 MG BELOW GRADE EQ	3.02 MG EQ below grade	NA	3.72	MG	\$3,712,486.75	\$3,712,486.75
	40 MGD Pump Station	36.64 MGD Pump Station	NA	36.64	MGD	\$11,866,493.96	\$11,866,493.96
					Subtotal	\$	15,578,993
					Total	\$	21,115,993

Notes:
 1. Costs are based on 2014 Dollars.
 2. Costs include a 1.30 contingency factor and a 1.23 engineering cost factor.

Table J12
City of Lancaster
Phase II LTCP
Projected Costs ALT3E1A-2

Basin	Unit Price Description	Detailed Work Description	Pipe Diameter (inches)	Quantity	Unit	Unit Price	Total Price
CSO 1008	Increase Under Flow Pipe to 27"	Increase underflow pipe (10" to 27")	27	104	FT	\$352.50	\$37,000.00
	Orifice Increase 27"	Increase orifice (12" to 54")	NA	1	LS	\$4,230.00	\$4,000.00
						Subtotal \$	41,000
CSO 1009	Orifice Increase 15"	Increase orifice opening (8"x14" to 15"x15")	NA	1	LS	\$3,285.00	\$3,000.00
	Increase Under Flow Pipe to 27"	Increase pipe (12" to 27")	27	431	FT	\$352.50	\$152,000.00
	Increase Under Flow Pipe to 27"	Increase pipe (15" to 27") from CSO 1009 to wheeling St PS POC (end of YMCA PM)	27	539	FT	\$352.50	\$190,000.00
	Increase Weir Height (12"-18")	Add weir 15" offset	NA	1	LS	\$50,000.00	\$50,000.00
					Subtotal \$	395,000	
CSO 1012	Increase Weir Height (0-6")	Increase inlet offset (3.25' to 3.4')	NA	1	LS	\$10,000.00	\$10,000.00
	Increase Under Flow Pipe to 24"	Increase pipe (15" to 24")	24	447	FT	\$341.25	\$153,000.00
	Increase Under Flow Pipe to 24"	Increase pipe (14" to 24")	24	593	FT	\$341.25	\$202,000.00
	Increase Under Flow Pipe to 24"	Increase pipe (16" to 24") from Memorial Dr. between 5th and Mulberry	24	321	FT	\$341.25	\$110,000.00
						Subtotal \$	475,000
CSO 1013	Increase Under Flow Pipe to 18"	Increase pipe (11.25' to 18") from CSO 1013 regulator to CSO 1012 regulator	18	391	FT	\$303.75	\$119,000.00
	Increase Under Flow Pipe to 18"	Increase pipe (10" to 18")	18	30	FT	\$303.75	\$9,000.00
	Orifice Increase 18"	Increase orifice (6" to 18")	NA	1	LS	\$3,645.00	\$4,000.00
	Increase Weir Height (0-6")	Increase inlet offset (1.65' to 2')	NA	1	LS	\$10,000.00	\$10,000.00
					Subtotal \$	142,000	
CSO 1014	Abandon 12"	abandon 12" pipe	NA	1	LS	\$10,000.00	\$10,000.00
	18" Open-Cut Sanitary Sewer	New 18" pipe from regulator to 36" interceptor	18	456	FT	\$540.00	\$246,000.00
					Subtotal \$	256,000	
CSO 1033	Abandon 10"	abandon 10" pipe	NA	1	LS	\$7,000.00	\$7,000.00
	15" Open-Cut Sanitary Sewer	New 15" pipe from regulator to 36" interceptor	15	600	FT	\$495.00	\$297,000.00
					Subtotal \$	304,000	
CSO 1029	Separation 2025 Considered Below	2025 Separation	NA	1	LS	-	-
					Subtotal \$	-	
CSO 1019	Separation 2025 Considered Below	2025 Separation	NA	1	LS	-	-
					Subtotal \$	-	
Interceptor	Increase Under Flow Pipe to 48"	Increase interceptor (42" to 48") (Just east upstream of the WPCF entrance)	48	344	FT	\$472.50	\$163,000.00
					Subtotal \$	163,000	
2025 Separation Projects	2025 Separation Eastside	2025 Separation	NA	1	LS	\$3,761,000.00	\$3,761,000.00
					Subtotal \$	3,761,000	
2050 Separation Projects	2050 Separation Eastside	2050 Separation	NA	1	LS	\$6,152,000.00	\$6,152,000.00
					Subtotal \$	6,152,000	
Lawrence Street EQ	3.25 MG BELOW GRADE EQ	3.02 MG EQ below grade	NA	3.72	MG	\$3,712,498.75	\$3,712,498.75
	140 MGD Pump Station	36.64 MGD Pump Station	NA	36.64	MGD	\$11,866,493.96	\$11,866,493.96
					Subtotal \$	15,578,993	
					Total \$	27,267,993	

Notes:

1. Costs are based on 2014 Dollars
2. Costs include a 1.30 contingency factor and a 1.25 engineering cost factor.

Table J13
City of Lancaster
Phase II LTCP
Projected Costs ALT4E1A

Basin	Unit Price Description	Detailed Work Description	Pipe Diameter (inches)	Quantity	Unit	Unit Price	Total Price
CSO 1008	Increase Under Flow Pipe to 27"	Increase pipe (10" to 27")	27	104	FT	\$352.50	\$37,000.00
	Increase Weir Height (2' to 4')	Increase weir inlet offset (12" to 54")	NA	1	LS	\$90,000.00	\$90,000.00
						Subtotal \$	127,000
CSO 1009	Increase Under Flow Pipe to 27"	Increase pipe (15" to 27") from CSO 1009 to Wheeling St PS POC (end of YMCA FM)	15	539	FT	\$352.50	\$190,000.00
	Increase Weir Height (12"-18")	Add weir (15" offset)	NA	1	LS	\$50,000.00	\$50,000.00
	Orifice Increase 18"	Increase Orifice (8"x14" to 15"x15")	15	1	LS	\$3,295.00	\$3,000.00
	Increase Under Flow Pipe to 27"	Increase underflow line (12" to 27")	27	431	FT	\$352.50	\$152,000.00
						Subtotal \$	395,000
CSO 1012	Increase Under Flow Pipe to 24"	Increase pipe (15" to 24")	24	447	FT	\$341.25	\$153,000.00
	Increase Weir Height (0-6")	Increase weir offset (3.25' to 3.4')	NA	1	LS	\$10,000.00	\$10,000.00
	Increase Under Flow Pipe to 24"	Increase pipe (14" to 24")	24	593	FT	\$341.25	\$202,000.00
	Increase Under Flow Pipe to 24"	Increase pipe (16" to 24") from Memorial Dr. between 5th and Mulberry	24	321	FT	\$341.25	\$110,000.00
						Subtotal \$	475,000
CSO 1013	Orifice Increase 18"	Increase underflow orifice (6" to 18")	NA	1	LS	\$3,645.00	\$4,000.00
	Increase Weir Height (0-6")	Increase inlet offset (1.65' to 2')	NA	1	LS	\$10,000.00	\$10,000.00
	Increase Under Flow Pipe to 18"	Increase underflow line (10" to 18")	15	30	FT	\$303.75	\$9,000.00
	Increase Under Flow Pipe to 18"	Increase underflow line (11.25 to 18") from CSO 1013 regulator to CSO 1012 regulator	15	391	FT	\$303.75	\$119,000.00
						Subtotal \$	142,000
CSO 1014	18" Open-Cut Sanitary Sewer	18" underflow line from regulator to 36" interceptor	18	456	FT	\$540.00	\$246,000.00
	Abandon 12"	Abandon 12"	NA	1	LS	\$10,000.00	\$10,000.00
						Subtotal \$	256,000
CSO 1033	15" Open-Cut Sanitary Sewer	15" underflow line from regulator to 36" interceptor	10	600	FT	\$495.00	\$297,000.00
	Abandon 10"	abandon 10"	10	1	LS	\$7,000.00	\$7,000.00
						Subtotal \$	304,000
CSO 1029	Separation 2025 Considered Below	2025 Separation	NA	1	LS	-	-
	12" Open-Cut Sanitary Sewer	Increase underflow line (8" to 12") from CSO 1029 regulator to Baldwin Run Interceptor	12	56	FT	\$450.00	\$25,000.00
						Subtotal \$	25,000
CSO 1019	Separation 2025 Considered Below	2025 Separation	NA	1	LS	-	-
	Orifice Increase 24"	Increase orifice (12" to 24")	NA	1	LS	\$4,095.00	\$4,000.00
	Increase Under Flow Pipe to 24"	Increase underflow line (18" to 24") from CSO 1019 regulator to main St interceptor POC	24	156	FT	\$341.25	\$53,000.00
	Interceptor	Increase Interceptor (42" to 48") (Just east upstream of the WPCF entrance)	48	344	FT	\$472.50	\$163,000.00
						Subtotal \$	163,000
2025 Separation Projects	2025 Separation Eastside	2025 Separation	NA	1	LS	\$3,761,000.00	\$3,761,000.00
	Lawrence Street EQ	4.0 MGD BELOW GRADE EQ	NA	4	MG	\$4,338,460.00	\$4,338,460.00
	50 MGD Pump Station	46.09 MGD Pump Station	NA	46.09	MGD	\$13,986,100.58	\$13,986,100.58
						Subtotal \$	18,324,561
						Total \$	23,866,561

Notes:
1. Costs are based on 2014 Dollars
2. Costs include a 1.30 contingency factor and a 1.23 engineering cost factor.

Table J14
City of Lancaster
Phase II LTCP
Unit Prices

Unit Price Description	Unit Price
8" Open-Cut Sanitary Sewer	\$ 350
10" Open-Cut Sanitary Sewer	\$ 400
12" Open-Cut Sanitary Sewer	\$ 450
15" Open-Cut Sanitary Sewer	\$ 495
18" Open-Cut Sanitary Sewer	\$ 540
21" Open-Cut Sanitary Sewer	\$ 600
24" Open-Cut Sanitary Sewer	\$ 640
27" Open-Cut Sanitary Sewer	\$ 680
30" Open-Cut Sanitary Sewer	\$ 720
36" Open-Cut Sanitary Sewer	\$ 780
42" Open-Cut Sanitary Sewer	\$ 820
48" Open-Cut Sanitary Sewer	\$ 880
54" Open-Cut Sanitary Sewer	\$ 930
60" Open-Cut Sanitary Sewer	\$ 1,020
66" Open-Cut Sanitary Sewer	\$ 1,063
72" Open-Cut Sanitary Sewer	\$ 1,105
78" Open-Cut Sanitary Sewer	\$ 1,190
84" Open-Cut Sanitary Sewer	\$ 1,550
12" Open-Cut Storm Sewer	\$ 360
15" Open-Cut Storm Sewer	\$ 365
18" Open-Cut Storm Sewer	\$ 405
21" Open-Cut Storm Sewer	\$ 440
24" Open-Cut Storm Sewer	\$ 455
27" Open-Cut Storm Sewer	\$ 470
30" Open-Cut Storm Sewer	\$ 490
36" Open-Cut Storm Sewer	\$ 520
42" Open-Cut Storm Sewer	\$ 588
48" Open-Cut Storm Sewer	\$ 630
54" Open-Cut Storm Sewer	\$ 772
60" Open-Cut Storm Sewer	\$ 920
66" Open-Cut Storm Sewer	\$ 1,000
72" Open-Cut Storm Sewer	\$ 1,050
78" Open-Cut Storm Sewer	\$ 1,110
84" Open-Cut Storm Sewer	\$ 1,300
0.25 MG ABOVE GRADE EQ	\$ 954,167
0.50 MG ABOVE GRADE EQ	\$ 1,116,667
0.75 MG ABOVE GRADE EQ	\$ 1,279,167
1.0 MG ABOVE GRADE EQ	\$ 1,441,667
1.25 MG ABOVE GRADE EQ	\$ 1,604,167
1.5 MG ABOVE GRADE EQ	\$ 1,766,667
1.75 MG ABOVE GRADE EQ	\$ 1,929,167
2.0 MG ABOVE GRADE EQ	\$ 2,091,667
2.25 MG ABOVE GRADE EQ	\$ 2,254,167
2.5 MG ABOVE GRADE EQ	\$ 2,416,667
2.75 MG ABOVE GRADE EQ	\$ 2,579,167
3.0 MG ABOVE GRADE EQ	\$ 2,741,667
3.25 MG ABOVE GRADE EQ	\$ 2,904,167
3.5 MG ABOVE GRADE EQ	\$ 3,066,667
3.75 MG ABOVE GRADE EQ	\$ 3,229,167
4.0 MG ABOVE GRADE EQ	\$ 3,391,667
4.25 MG ABOVE GRADE EQ	\$ 3,554,167
4.50 MG ABOVE GRADE EQ	\$ 3,716,667
4.75 MG ABOVE GRADE EQ	\$ 3,879,167
5.0 MG ABOVE GRADE EQ	\$ 4,041,667
5.25 MG ABOVE GRADE EQ	\$ 4,204,167
5.5 MG ABOVE GRADE EQ	\$ 4,366,667
5.75 MG ABOVE GRADE EQ	\$ 4,529,167
6.0 MG ABOVE GRADE EQ	\$ 4,691,667
10.0 MG ABOVE GRADE EQ	\$ 7,291,667
0.25 MG BELOW GRADE EQ	\$ 1,208,654
0.50 MG BELOW GRADE EQ	\$ 1,417,308
0.75 MG BELOW GRADE EQ	\$ 1,625,961
1.0 MG BELOW GRADE EQ	\$ 1,834,615
1.25 MG BELOW GRADE EQ	\$ 2,043,269
1.5 MG BELOW GRADE EQ	\$ 2,251,923
1.75 MG BELOW GRADE EQ	\$ 2,460,576
2.0 MG BELOW GRADE EQ	\$ 2,669,230

Unit Price Description	Unit Price
2.25 MG BELOW GRADE EQ	\$ 2,877,884
2.5 MG BELOW GRADE EQ	\$ 3,086,538
2.75 MG BELOW GRADE EQ	\$ 3,295,191
3.0 MG BELOW GRADE EQ	\$ 3,503,845
3.25 MG BELOW GRADE EQ	\$ 3,712,499
3.5 MG BELOW GRADE EQ	\$ 3,921,153
3.75 MG BELOW GRADE EQ	\$ 4,129,806
4.0 MG BELOW GRADE EQ	\$ 4,338,460
4.25 MG BELOW GRADE EQ	\$ 4,547,114
4.50 MG BELOW GRADE EQ	\$ 4,755,768
4.75 MG BELOW GRADE EQ	\$ 4,964,421
5.0 MG BELOW GRADE EQ	\$ 5,173,075
5.25 MG BELOW GRADE EQ	\$ 5,381,729
5.5 MG BELOW GRADE EQ	\$ 5,590,383
5.75 MG BELOW GRADE EQ	\$ 5,799,036
6.0 MG BELOW GRADE EQ	\$ 6,007,690
10.0 MG BELOW GRADE EQ	\$ 9,346,150
Increase Under Flow Pipe to 15"	\$ 274
Increase Under Flow Pipe to 18"	\$ 304
Increase Under Flow Pipe to 21"	\$ 330
Increase Under Flow Pipe to 24"	\$ 341
Increase Under Flow Pipe to 27"	\$ 353
Increase Under Flow Pipe to 30"	\$ 368
Increase Under Flow Pipe to 36"	\$ 390
Increase Under Flow Pipe to 42"	\$ 441
Increase Under Flow Pipe to 48"	\$ 473
Orifice Increase 15"	\$ 3,285
Orifice Increase 18"	\$ 3,645
Orifice Increase 21"	\$ 3,960
Orifice Increase 24"	\$ 4,095
Orifice Increase 27"	\$ 4,230
Orifice Increase 30"	\$ 4,410
Orifice Increase 36"	\$ 4,680
Orifice Increase 42"	\$ 5,292
Orifice Increase 48"	\$ 5,670
Increase Weir Height (0-6")	\$ 10,000
Increase Weir Height (6"-12")	\$ 30,000
Increase Weir Height (12"-18")	\$ 50,000
Increase Weir Height (18" - 2')	\$ 65,000
Increase Weir Height (2' to 4')	\$ 90,000
Increase Weir Height (4' - 5')	\$ 115,000
Abandon 8"	\$ 5,000
Abandon 10"	\$ 7,000
Abandon 12"	\$ 10,000
Green-Field 8-inch Sanitary Sewer	\$ 216
Green-Field 10-inch Sanitary Sewer	\$ 223
Green-Field 12-inch Sanitary Sewer	\$ 234
Green-Field 15-inch Sanitary Sewer	\$ 257
Green-Field 18-inch Sanitary Sewer	\$ 282
Green-Field 21-inch Sanitary Sewer	\$ 316
Green-Field 24-inch Sanitary Sewer	\$ 347
Green-Field 27-inch Sanitary Sewer	\$ 358
Green-Field 30-inch Sanitary Sewer	\$ 392
Green-Field 36-inch Sanitary Sewer	\$ 412
Pipe Bursting	\$ 300.00
1 MGD Pump Station	\$ 784,161
5 MGD Pump Station	\$ 2,565,645
10 MGD Pump Station	\$ 4,274,696
15 MGD Pump Station	\$ 5,762,308
20 MGD Pump Station	\$ 7,122,195
25 MGD Pump Station	\$ 8,394,369
30 MGD Pump Station	\$ 9,600,747
35 MGD Pump Station	\$ 10,755,023
40 MGD Pump Station	\$ 11,866,494
45 MGD Pump Station	\$ 12,941,847
50 MGD Pump Station	\$ 13,986,101
55 MGD Pump Station	\$ 15,003,147