

# APPENDIX D

## Detailed Cost Estimates

- D.1 Unit Costs
- D.2 Pipeline Projects
- D.3 Interim Improvement Projects
- D.4 North Merced Major Improvement Projects
- D.5 North Merced Minor Improvement Projects
- D.6 South Merced Major Improvement Projects
- D.7 South Merced Minor Improvement Projects





PROJECT: WASTEWATER COLLECTION SYSTEM MASTER PLAN  
PROJECT COSTS

DATE: 2/7/2023

JOB NUMBER: 184030360

PREPARED BY: BEW

CLIENT: CITY OF MERCED

CHECKED BY: SLB

DESCRIPTION: Unit Costs

ENR: 13,175

UNIT COST TABLES

Table 1 - Unit Costs for Additional Items

Item	Units	Unit Cost
35 Mgal/d Pump Station	EA	\$ 7,586,268
Microtunnel Mobilizations	EA	\$ 354,031
60-inch influent junction at WWTP	EA	\$ 224,673
30-inch interceptor structure	EA	\$ 133,592
24-inch interceptor structure	EA	\$ 68,083
60-inch Stream/Canal Crossing (Microtunnel)	LF	\$ 2,853
48-inch Stream/Canal Crossing (Microtunnel)	LF	\$ 2,584
42-inch Stream/Canal Crossing (Microtunnel)	LF	\$ 2,315
36-inch Stream/Canal Crossing (Microtunnel)	LF	\$ 1,688
30-inch Stream/Canal Crossing (Microtunnel)	LF	\$ 1,566
24-inch FM micro tunnel	LF	\$ 1,444
24-inch FM no tunnel	LF	\$ 484

Table 2 - Unit Costs Open Cut Gravity Sewer (\$/LF)

Scaled to match example provided by City of Merced, scaled and rerelated with new bid results

Size	Depth same cost under 9 feet <-																							
Inches	9	10	11	12	13	13.5	14	15	16	17	18	19	20	21	22	23	24	24.5	25	25.5	26	27	28	29
12	\$ 114	\$ 122	\$ 131	\$ 139	\$ 147	\$ 155	\$ 157	\$ 159	\$ 162	\$ 164	\$ 166	\$ 168	\$ 170	\$ 176	\$ 182	\$ 188	\$ 193	\$ 199	\$ 204	\$ 209	\$ 214	\$ 219	\$ 223	\$ 228
15	\$ 134	\$ 142	\$ 150	\$ 158	\$ 166	\$ 174	\$ 177	\$ 179	\$ 182	\$ 185	\$ 188	\$ 191	\$ 194	\$ 198	\$ 203	\$ 207	\$ 212	\$ 217	\$ 223	\$ 230	\$ 236	\$ 243	\$ 249	\$ 255
18	\$ 144	\$ 155	\$ 166	\$ 176	\$ 187	\$ 198	\$ 201	\$ 205	\$ 208	\$ 212	\$ 215	\$ 219	\$ 222	\$ 228	\$ 233	\$ 239	\$ 244	\$ 250	\$ 257	\$ 264	\$ 272	\$ 279	\$ 286	\$ 294
21	\$ 168	\$ 178	\$ 188	\$ 198	\$ 208	\$ 218	\$ 223	\$ 228	\$ 234	\$ 239	\$ 244	\$ 250	\$ 255	\$ 262	\$ 270	\$ 277	\$ 284	\$ 291	\$ 300	\$ 308	\$ 316	\$ 324	\$ 332	\$ 340
24	\$ 188	\$ 201	\$ 214	\$ 226	\$ 239	\$ 252	\$ 257	\$ 262	\$ 267	\$ 273	\$ 278	\$ 283	\$ 288	\$ 295	\$ 302	\$ 309	\$ 316	\$ 323	\$ 332	\$ 342	\$ 351	\$ 360	\$ 369	\$ 378
27	\$ 203	\$ 217	\$ 230	\$ 244	\$ 257	\$ 270	\$ 276	\$ 282	\$ 288	\$ 294	\$ 300	\$ 306	\$ 312	\$ 321	\$ 329	\$ 338	\$ 347	\$ 355	\$ 364	\$ 373	\$ 383	\$ 392	\$ 401	\$ 410
30	\$ 223	\$ 239	\$ 256	\$ 272	\$ 288	\$ 305	\$ 310	\$ 315	\$ 320	\$ 325	\$ 330	\$ 336	\$ 341	\$ 348	\$ 356	\$ 363	\$ 371	\$ 378	\$ 388	\$ 398	\$ 408	\$ 418	\$ 428	\$ 438
33	\$ 257	\$ 272	\$ 286	\$ 300	\$ 314	\$ 329	\$ 334	\$ 339	\$ 344	\$ 349	\$ 354	\$ 359	\$ 364	\$ 373	\$ 381	\$ 390	\$ 398	\$ 407	\$ 421	\$ 435	\$ 449	\$ 463	\$ 476	\$ 490
36	\$ 283	\$ 296	\$ 309	\$ 322	\$ 335	\$ 349	\$ 355	\$ 362	\$ 369	\$ 376	\$ 383	\$ 390	\$ 397	\$ 404	\$ 412	\$ 419	\$ 427	\$ 434	\$ 451	\$ 468	\$ 485	\$ 502	\$ 519	\$ 535
39	\$ 302	\$ 318	\$ 334	\$ 351	\$ 367	\$ 383	\$ 389	\$ 395	\$ 401	\$ 407	\$ 413	\$ 419	\$ 426	\$ 438	\$ 451	\$ 464	\$ 477	\$ 489	\$ 504	\$ 519	\$ 534	\$ 548	\$ 563	\$ 578
42	\$ 327	\$ 343	\$ 359	\$ 375	\$ 391	\$ 407	\$ 418	\$ 428	\$ 439	\$ 450	\$ 461	\$ 472	\$ 483	\$ 494	\$ 506	\$ 517	\$ 528	\$ 540	\$ 554	\$ 567	\$ 581	\$ 595	\$ 608	\$ 622
48	\$ 352	\$ 377	\$ 403	\$ 428	\$ 454	\$ 479	\$ 489	\$ 498	\$ 507	\$ 516	\$ 526	\$ 535	\$ 544	\$ 556	\$ 568	\$ 581	\$ 593	\$ 605	\$ 616	\$ 627	\$ 638	\$ 649	\$ 660	\$ 671
54	\$ 377	\$ 412	\$ 447	\$ 482	\$ 517	\$ 552	\$ 560	\$ 567	\$ 575	\$ 583	\$ 590	\$ 598	\$ 606	\$ 619	\$ 631	\$ 644	\$ 657	\$ 670	\$ 678	\$ 686	\$ 695	\$ 703	\$ 711	\$ 719
60	\$ 402	\$ 447	\$ 491	\$ 536	\$ 580	\$ 625	\$ 631	\$ 637	\$ 643	\$ 649	\$ 655	\$ 661	\$ 667	\$ 681	\$ 694	\$ 708	\$ 721	\$ 734	\$ 740	\$ 746	\$ 751	\$ 757	\$ 763	\$ 768
66	\$ 428	\$ 482	\$ 535	\$ 589	\$ 643	\$ 697	\$ 702	\$ 706	\$ 711	\$ 715	\$ 720	\$ 724	\$ 729	\$ 743	\$ 757	\$ 771	\$ 785	\$ 799	\$ 802	\$ 805	\$ 808	\$ 811	\$ 814	\$ 817



**PROJECT:** WASTEWATER COLLECTION SYSTEM MASTER PLAN  
PROJECT COSTS

**DATE:** 2/7/2023

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**PREPARED BY:** BEW

**CLIENT:** CITY OF MERCED

**CHECKED BY:** SLB

**DESCRIPTION:** Project Costs

**ENR:** 13,175

**PIPELINE IMPROVEMENT PROJECTS**

48-inch Interceptor

Pipeline ID	Upstream Manhole	Downstream Manhole	Upstream Depth (ft)	Downstream Depth (ft)	Total Length (LF)	Average Depth (ft)	Pipe Size (in)	Unit Cost (\$/LF)	Pipe Segment Cost
2022.1	2022	2023	14.2	14.1	700	14.1	60	\$ 631	\$ 441,456
2023.1	2023	2024	14.1	15.5	650	14.8	60	\$ 631	\$ 409,921
2024.1	2024	2025	15.5	15.3	580	15.4	60	\$ 637	\$ 369,329
2025.1	2025	2026	15.3	16.1	600	15.7	60	\$ 637	\$ 382,063
2026.1	2026	2027	16.1	15.9	670	16.0	60	\$ 643	\$ 430,743
2027.1	2027	2028	15.9	15.5	700	15.7	60	\$ 637	\$ 445,743
2028.1	2028	2029	15.5	15.9	650	15.7	60	\$ 637	\$ 413,903
2029.1	2029	2030	15.9	15.5	652	15.7	60	\$ 637	\$ 415,176
2030.1	2030	2031	15.5	16.5	1117	16.0	60	\$ 637	\$ 711,519
2031.1	2031	2032	16.5	16.2	1132	16.3	60	\$ 643	\$ 728,015
2032.1	2032	20331	16.2	16.1	702	16.1	60	\$ 643	\$ 450,995
2033.1	2033	2038	14.9	14.4	1643	14.6	60	\$ 631	\$ 1,035,939
20331.1	20331	2033	16.1	14.9	536	15.5	60	\$ 637	\$ 341,199
2035.1	2035	9999	12.6	13.8	737	13.2	60	\$ 580	\$ 427,245
2036.1	2036	2035	12.5	12.6	915	12.6	60	\$ 536	\$ 490,312
2037.1	2037	2036	13.5	12.5	951	13.0	60	\$ 580	\$ 551,523
2038.1	2038	2037	14.4	13.5	966	13.9	60	\$ 625	\$ 603,346
2040.1	2040	2022	14.7	14.2	734	14.4	60	\$ 631	\$ 462,895
2041.1	2041	2040	14.6	14.7	60	14.7	60	\$ 631	\$ 37,839
<b>Subtotal</b>	<b>48-inch Interceptor</b>								<b>\$ 9,149,160</b>

Breeze Rd West

Pipeline ID	Upstream Manhole	Downstream Manhole	Upstream Depth (ft)	Downstream Depth (ft)	Total Length (LF)	Average Depth (ft)	Pipe Size (in)	Unit Cost (\$/LF)	Pipe Segment Cost
C42_10	J146	J144	16.5	13.9	438	15.2	12	\$ 159	\$ 69,781
C82_27	J284	J285	13.8	13.7	322	13.8	12	\$ 155	\$ 49,928
C82_28	J285	J107	13.7	18.3	322	16.0	12	\$ 159	\$ 51,344
C82_9	J144	J284	13.9	13.8	322	13.9	12	\$ 155	\$ 49,928
<b>Subtotal</b>	<b>Breeze Rd West</b>								<b>\$ 220,981</b>

Cone Ave Sewer

Pipeline ID	Upstream Manhole	Downstream Manhole	Upstream Depth (ft)	Downstream Depth (ft)	Total Length (LF)	Average Depth (ft)	Pipe Size (in)	Unit Cost (\$/LF)	Pipe Segment Cost
C68_1	J200	J332	4.7	4.3	639	4.5	12	\$ 114	\$ 73,039
C68_3	J197	J329	5.8	5.5	611	5.6	12	\$ 114	\$ 69,918
C68_4	J329	J330	5.5	4.8	611	5.1	12	\$ 114	\$ 69,918
C69	J198	934	3.7	8.0	964	5.9	12	\$ 114	\$ 110,220
<b>Subtotal</b>	<b>Cone Ave Sewer</b>								<b>\$ 609,007</b>

East Cardella Trunk

Pipeline ID	Upstream Manhole	Downstream Manhole	Upstream Depth (ft)	Downstream Depth (ft)	Total Length (LF)	Average Depth (ft)	Pipe Size (in)	Unit Cost (\$/LF)	Pipe Segment Cost
C81_1	J9	J236	13.2	14.3	657	13.8	24	\$ 252	\$ 165,450
C81_2	J236	J237	14.3	33.8	657	24.0	24	\$ 316	\$ 207,788
C81_3	J237	J238	33.8	32.9	657	33.3	24	\$ 378	\$ 248,537
C81_4	J238	J239	32.9	27.1	657	30.0	27	\$ 410	\$ 269,489
C81_5	J239	J240	27.1	15.7	657	21.4	27	\$ 321	\$ 210,823
C81_6	J240	J241	15.7	10.7	657	13.2	27	\$ 257	\$ 168,918
C81_7	J241	J242	10.7	20.0	657	15.3	30	\$ 315	\$ 206,942
C81_8	J242	J184	20.0	29.5	657	24.7	30	\$ 378	\$ 248,537
C82_1	J184	J229	29.5	27.1	649	28.3	30	\$ 428	\$ 277,910
C82_2	J229	J230	27.1	24.9	649	26.0	30	\$ 398	\$ 258,410
C82_3	J230	J231	24.9	21.6	649	23.2	30	\$ 363	\$ 235,708
C82_4	J231	J232	21.6	18.8	649	20.2	30	\$ 341	\$ 221,155
C82_5	J232	J233	18.8	10.7	649	14.8	30	\$ 310	\$ 200,976
C82_6	J233	J234	10.7	11.1	649	10.9	30	\$ 239	\$ 155,379
C82_7	J234	J235	11.1	11.6	649	11.3	30	\$ 256	\$ 165,937
C82_8	J235	J224	11.6	13.1	649	12.3	30	\$ 272	\$ 176,496
Subtotal	East Cardella Trunk								\$ 3,418,456

Upsize Santa Fe Dr Sewer

Pipeline ID	Upstream Manhole	Downstream Manhole	Upstream Depth (ft)	Downstream Depth (ft)	Total Length (LF)	Average Depth (ft)	Pipe Size (in)	Unit Cost (\$/LF)	Pipe Segment Cost
C29	7M051	7M118	5.5	6.8	1302	6.1	15	\$ 134	\$ 174,632
Subtotal	Expand existing								\$ 174,632

Farmland Ave. Sewer

Pipeline ID	Upstream Manhole	Downstream Manhole	Upstream Depth (ft)	Downstream Depth (ft)	Total Length (LF)	Average Depth (ft)	Pipe Size (in)	Unit Cost (\$/LF)	Pipe Segment Cost
C82_11	J246	J259	11.7	18.6	751	15.2	12	\$ 159	\$ 119,730
C82_12	J259	J260	18.6	12.2	751	15.4	12	\$ 159	\$ 119,730
C82_13	J260	J261	12.2	3.3	751	7.8	12	\$ 114	\$ 85,875
C82_14	J261	J262	3.3	2.6	751	3.0	12	\$ 114	\$ 85,875
C82_15	J262	J263	2.6	4.4	751	3.5	12	\$ 114	\$ 85,875
C82_16	J263	J264	4.4	6.0	751	5.2	12	\$ 114	\$ 85,875
C82_17	J264	J245	6.0	7.3	751	6.6	12	\$ 114	\$ 85,875
Subtotal	Farmland Ave. Sewer								\$ 668,836

Future ROW

Pipeline ID	Upstream Manhole	Downstream Manhole	Upstream Depth (ft)	Downstream Depth (ft)	Total Length (LF)	Average Depth (ft)	Pipe Size (in)	Unit Cost (\$/LF)	Pipe Segment Cost
C43_1	J11	J80	12.1	13.2	450	12.7	12	\$ 139	\$ 62,441
C43_2	J80	J81	13.2	14.3	450	13.8	12	\$ 155	\$ 69,764
C43_3	J81	J82	14.3	15.7	450	15.0	12	\$ 157	\$ 70,753
C43_4	J82	J83	15.7	17.4	450	16.5	12	\$ 162	\$ 72,733
C43_5	J83	J84	17.4	19.5	450	18.4	12	\$ 166	\$ 74,712
C43_6	J84	J10	19.5	23.9	368	21.7	12	\$ 176	\$ 64,898
Subtotal	Future ROW								\$ 415,301

Future Yosemite

Pipeline ID	Upstream Manhole	Downstream Manhole	Upstream Depth (ft)	Downstream Depth (ft)	Total Length (LF)	Average Depth (ft)	Pipe Size (in)	Unit Cost (\$/LF)	Pipe Segment Cost
C44_1	J12	J85	12.1	12.8	539	12.5	12	\$ 284	\$ 153,013
C44_2	J85	J86	12.8	14.3	539	13.5	12	\$ 317	\$ 170,957
C44_3	J86	J14	14.3	17.3	539	15.8	12	\$ 326	\$ 175,807
C45_1	J14	J87	17.3	19.7	590	18.5	12	\$ 339	\$ 200,278
C45_2	J87	J15	19.7	22.0	590	20.9	12	\$ 348	\$ 205,584
C46	J15	J13	22.0	21.3	713	21.7	12	\$ 360	\$ 256,707
Subtotal Future Yosemite									\$ 1,162,346

G Street Extension 1

Pipeline ID	Upstream Manhole	Downstream Manhole	Upstream Depth (ft)	Downstream Depth (ft)	Total Length (LF)	Average Depth (ft)	Pipe Size (in)	Unit Cost (\$/LF)	Pipe Segment Cost
C82_18	J245	J265	7.3	4.5	525	5.9	21	\$ 168	\$ 88,379
C82_19	J265	J266	4.5	4.9	525	4.7	21	\$ 168	\$ 88,379
C82_20	J266	J267	4.9	3.6	525	4.3	21	\$ 168	\$ 88,379
C82_21	J267	J268	3.6	4.4	525	4.0	24	\$ 188	\$ 98,777
C82_22	J268	3009	4.4	10.1	525	7.2	30	\$ 223	\$ 117,261
Subtotal G Street Extension 1									\$ 481,176

G Street Extension 2

Pipeline ID	Upstream Manhole	Downstream Manhole	Upstream Depth (ft)	Downstream Depth (ft)	Total Length (LF)	Average Depth (ft)	Pipe Size (in)	Unit Cost (\$/LF)	Pipe Segment Cost
C82_10	J244	J269	7.9	6.2	531	7.1	18	\$ 144	\$ 76,538
C82_23	J269	J270	6.2	5.9	531	6.1	18	\$ 144	\$ 76,538
C82_24	J270	J271	5.9	4.7	531	5.3	18	\$ 144	\$ 76,538
C82_25	J271	J272	4.7	5.9	531	5.3	18	\$ 144	\$ 76,538
C82_26	J272	J245	5.9	7.3	531	6.6	18	\$ 144	\$ 76,538
Subtotal G Street Extension 2									\$ 382,690

G Street Extension 3

Pipeline ID	Upstream Manhole	Downstream Manhole	Upstream Depth (ft)	Downstream Depth (ft)	Total Length (LF)	Average Depth (ft)	Pipe Size (in)	Unit Cost (\$/LF)	Pipe Segment Cost
C87_1	J247	J273	11.5	11.9	529	11.7	12	\$ 131	\$ 69,139
C87_2	J273	J274	11.9	11.0	529	11.4	15	\$ 150	\$ 79,382
C87_3	J274	J275	11.0	8.9	529	9.9	15	\$ 134	\$ 71,001
C87_4	J275	J276	8.9	8.1	529	8.5	15	\$ 134	\$ 71,001
C87_5	J276	J244	8.1	7.9	529	8.0	15	\$ 134	\$ 71,001
Subtotal G Street Extension 3									\$ 361,524

Gerard Relief Sewer

Pipeline ID	Upstream Manhole	Downstream Manhole	Upstream Depth (ft)	Downstream Depth (ft)	Total Length (LF)	Average Depth (ft)	Pipe Size (in)	Unit Cost (\$/LF)	Pipe Segment Cost
C80_10	J309	J195	7.6	8.2	669	7.9	24	\$ 188	\$ 125,757
C80_2	J5	J307	11.8	7.7	669	9.7	24	\$ 188	\$ 125,757
C80_8	J307	J308	7.7	8.5	669	8.1	24	\$ 188	\$ 125,757
C80_9	J308	J309	8.5	7.6	669	8.0	24	\$ 188	\$ 125,757
Subtotal Gerard Relief Sewer									\$ 503,029

Gove Rd Sewer

Pipeline ID	Upstream Manhole	Downstream Manhole	Upstream Depth (ft)	Downstream Depth (ft)	Total Length (LF)	Average Depth (ft)	Pipe Size (in)	Unit Cost (\$/LF)	Pipe Segment Cost
C79	J216	9999	4.8	13.8	1330	9.3	30	\$ 223	\$ 296,863
C80_1	J212	J215	5.0	5.3	1353	5.2	30	\$ 223	\$ 302,001
C80_3	J215	J217	5.3	4.7	1333	5.0	30	\$ 223	\$ 297,428
C80_4	J217	J218	4.7	3.8	1333	4.3	30	\$ 223	\$ 297,442
C80_5	J218	J219	3.8	3.9	1333	3.9	30	\$ 223	\$ 297,457
C80_6	J219	J220	3.9	4.5	1333	4.2	30	\$ 223	\$ 297,471
C80_7	J220	J216	4.5	4.8	1333	4.6	30	\$ 223	\$ 297,486
<b>Subtotal</b>	Gove Rd Sewer								<b>\$ 2,086,149</b>

Hwy 59 North Trunk 1

Pipeline ID	Upstream Manhole	Downstream Manhole	Upstream Depth (ft)	Downstream Depth (ft)	Total Length (LF)	Average Depth (ft)	Pipe Size (in)	Unit Cost (\$/LF)	Pipe Segment Cost
C67_15	J113	J114	21.0	20.6	288	20.8	24	\$ 288	\$ 83,101
C67_16	J114	J115	20.6	20.6	456	20.6	24	\$ 288	\$ 131,283
C67_17	J115	J116	20.6	25.2	456	22.9	24	\$ 302	\$ 137,697
C67_18	J116	J117	25.2	21.6	456	23.4	24	\$ 309	\$ 140,904
C67_19	J117	J118	21.6	17.7	457	19.7	24	\$ 283	\$ 129,308
C67_20	J118	J119	17.7	17.6	457	17.7	24	\$ 273	\$ 124,483
C67_21	J119	J120	17.6	20.2	454	18.9	24	\$ 278	\$ 126,041
C67_22	J120	J121	20.2	22.8	464	21.5	24	\$ 295	\$ 136,967
C67_23	J121	J122	22.8	25.9	448	24.3	24	\$ 316	\$ 141,545
C67_24	J122	J123	25.9	23.9	464	24.9	24	\$ 323	\$ 149,994
C67_25	J123	J124	23.9	22.4	452	23.1	24	\$ 309	\$ 139,765
C67_26	J124	J94	22.4	20.7	456	21.6	24	\$ 295	\$ 134,432
<b>Subtotal</b>	Hwy 59 North Trunk 1								<b>\$ 1,575,520</b>

Hwy 59 North Trunk 2

Pipeline ID	Upstream Manhole	Downstream Manhole	Upstream Depth (ft)	Downstream Depth (ft)	Total Length (LF)	Average Depth (ft)	Pipe Size (in)	Unit Cost (\$/LF)	Pipe Segment Cost
C67_10	J108	J109	18.0	17.9	456	17.9	18	\$ 212	\$ 96,545
C67_11	J109	J110	17.9	18.2	456	18.0	18	\$ 215	\$ 98,069
C67_12	J110	J111	18.2	21.8	456	20.0	18	\$ 219	\$ 99,644
C67_13	J111	J112	21.8	23.3	456	22.5	18	\$ 233	\$ 106,229
C67_14	J112	J113	23.3	21.0	623	22.1	18	\$ 233	\$ 145,217
C67_9	J107	J108	18.3	18.0	245	18.1	18	\$ 215	\$ 52,666
<b>Subtotal</b>	Hwy 59 North Trunk 2								<b>\$ 598,370</b>

Hwy 59 North Trunk 3

Pipeline ID	Upstream Manhole	Downstream Manhole	Upstream Depth (ft)	Downstream Depth (ft)	Total Length (LF)	Average Depth (ft)	Pipe Size (in)	Unit Cost (\$/LF)	Pipe Segment Cost
C67_4	J102	J103	16.6	18.3	538	17.5	15	\$ 185	\$ 99,615
C67_5	J103	J104	18.3	16.7	454	17.5	15	\$ 185	\$ 83,970
C67_6	J104	J105	16.7	17.1	460	16.9	15	\$ 182	\$ 83,823
C67_7	J105	J106	17.1	17.4	452	17.3	15	\$ 185	\$ 83,569
C67_8	J106	J107	17.4	18.3	671	17.9	15	\$ 185	\$ 124,151
Subtotal Hwy 59 North Trunk 3									\$ 475,128

N SOI Sewer

Pipeline ID	Upstream Manhole	Downstream Manhole	Upstream Depth (ft)	Downstream Depth (ft)	Total Length (LF)	Average Depth (ft)	Pipe Size (in)	Unit Cost (\$/LF)	Pipe Segment Cost
C86_10	J253	J247	12.7	11.5	644	12.1	12	\$ 139	\$ 89,429
C86_6	J248	J250	11.6	10.6	644	11.1	12	\$ 131	\$ 84,185
C86_7	J250	J251	10.6	11.2	644	10.9	12	\$ 122	\$ 78,941
C86_8	J251	J252	11.2	15.0	644	13.1	12	\$ 147	\$ 94,673
C86_9	J252	J253	15.0	12.7	644	13.9	12	\$ 155	\$ 99,917
Subtotal N SOI Sewer									\$ 447,145

Nevada St West

Pipeline ID	Upstream Manhole	Downstream Manhole	Upstream Depth (ft)	Downstream Depth (ft)	Total Length (LF)	Average Depth (ft)	Pipe Size (in)	Unit Cost (\$/LF)	Pipe Segment Cost
C42_4	J131	J65	18.1	24.4	408	21.2	12	\$ 176	\$ 71,816
C42_5	J132	J131	17.6	18.1	408	17.8	12	\$ 164	\$ 66,795
C42_6	J133	J132	16.4	17.6	408	17.0	12	\$ 164	\$ 66,795
C42_7	J134	J133	15.1	16.4	408	15.8	12	\$ 159	\$ 65,002
C42_8	J135	J134	13.2	15.1	408	14.1	12	\$ 157	\$ 64,105
C42_9	J38	J135	13.0	13.2	408	13.1	12	\$ 147	\$ 59,892
C61_1	J78	J136	7.2	6.3	453	6.7	10	\$ 131	\$ 59,192
C61_10	J137	J138	7.2	7.4	453	7.3	10	\$ 131	\$ 59,192
C61_11	J138	J139	7.4	7.4	453	7.4	10	\$ 131	\$ 59,192
C61_12	J139	J140	7.4	8.1	453	7.7	10	\$ 131	\$ 59,192
C61_13	J140	J141	8.1	9.3	453	8.7	10	\$ 131	\$ 59,192
C61_14	J141	J142	9.3	10.3	453	9.8	10	\$ 131	\$ 59,192
C61_15	J142	J38	10.3	13.0	453	11.7	12	\$ 131	\$ 59,192
C61_9	J136	J137	6.3	7.2	453	6.7	10	\$ 131	\$ 59,192
C81_15	J65	J282	24.4	20.8	313	22.6	15	\$ 203	\$ 63,379
C81_16	J282	J283	20.8	17.0	313	18.9	15	\$ 188	\$ 58,724
C81_17	J283	J102	17.0	16.6	313	16.8	15	\$ 182	\$ 56,957
Subtotal Nevada St West									\$ 1,047,002

Old Lake Rd Sewer

Pipeline ID	Upstream Manhole	Downstream Manhole	Upstream Depth (ft)	Downstream Depth (ft)	Total Length (LF)	Average Depth (ft)	Pipe Size (in)	Unit Cost (\$/LF)	Pipe Segment Cost
C81_10	J254	J255	17.6	9.6	878	13.6	12	\$ 155	\$ 136,098
C81_11	J255	J256	9.6	11.1	878	10.3	12	\$ 122	\$ 107,527
C81_12	J256	J257	11.1	10.8	878	11.0	12	\$ 122	\$ 107,527
C81_13	J257	J258	10.8	6.1	878	8.5	12	\$ 114	\$ 100,385
C81_14	J258	J244	6.1	7.9	878	7.0	12	\$ 114	\$ 100,385
C81_9	J243	J254	13.3	17.6	878	15.4	12	\$ 159	\$ 139,959
Subtotal Old Lake Rd Sewer									\$ 691,882

Olive McKee Extension/LS

Pipeline ID	Upstream Manhole	Downstream Manhole	Upstream Depth (ft)	Downstream Depth (ft)	Total Length (LF)	Average Depth (ft)	Pipe Size (in)	Unit Cost (\$/LF)	Pipe Segment Cost
C42_16	J157	J158	4.0	4.1	476	4.0	12	\$ 114	\$ 54,418
C42_17	J158	J159	4.1	4.3	476	4.2	12	\$ 114	\$ 54,418
C42_18	J159	J160	4.3	3.3	476	3.8	12	\$ 114	\$ 54,418
C42_19	J160	J161	3.3	3.2	476	3.2	12	\$ 114	\$ 54,418
C42_20	J161	2M228	3.2	3.1	476	3.1	12	\$ 114	\$ 54,418
C42_21	J164	J171	3.1	1.5	513	2.3	12	\$ 114	\$ 58,645
C42_22	J171	J172	1.5	1.4	513	1.5	12	\$ 114	\$ 58,643
C42_23	J172	J173	1.4	2.9	513	2.2	12	\$ 114	\$ 58,642
C42_24	J173	J174	2.9	2.5	513	2.7	12	\$ 114	\$ 58,641
C42_25	J174	2M228	2.5	3.1	513	2.8	12	\$ 114	\$ 58,640
C43	J162	2M228	2.5	3.1	537	2.8	12	\$ 114	\$ 61,349
<b>Subtotal</b>	Olive McKee Extension/LS								<b>\$ 626,649</b>

Parallel G Street Sewer

Pipeline ID	Upstream Manhole	Downstream Manhole	Upstream Depth (ft)	Downstream Depth (ft)	Total Length (LF)	Average Depth (ft)	Pipe Size (in)	Unit Cost (\$/LF)	Pipe Segment Cost
C42	3009	J224	10.1	13.1	8000	11.6	27	\$ 230	\$ 1,841,899
<b>Subtotal</b>	Parallel G Street Sewer								<b>\$ 1,841,899</b>

Parallel Sewer & Creek Crossing

Pipeline ID	Upstream Manhole	Downstream Manhole	Upstream Depth (ft)	Downstream Depth (ft)	Total Length (LF)	Average Depth (ft)	Pipe Size (in)	Unit Cost (\$/LF)	Pipe Segment Cost
C32_1	2257	J175	23.5	16.6	623	20.0	48	\$ 544	\$ 338,824
C32_10	J183	2044	10.6	15.8	621	13.2	48	\$ 454	\$ 281,823
C32_2	J175	J176	16.6	16.6	623	16.6	48	\$ 507	\$ 315,866
C32_3	J176	J177	16.6	20.3	621	18.5	48	\$ 526	\$ 326,563
C32_4	J177	J178	20.3	26.3	621	23.3	48	\$ 581	\$ 360,590
C32_5	J178	J179	26.3	12.7	621	19.5	48	\$ 535	\$ 332,304
C32_6	J179	J180	12.7	11.4	621	12.0	48	\$ 428	\$ 266,083
C32_7	J180	J181	11.4	10.9	621	11.1	48	\$ 403	\$ 250,243
C32_8	J181	J182	10.9	10.7	621	10.8	48	\$ 377	\$ 234,403
C32_9	J182	J183	10.7	10.6	621	10.7	48	\$ 377	\$ 234,408
C33	704	J2	15.7	20.3	115	18.0	42	\$ 461	\$ 52,888
C34	J2	2257	20.3	23.5	162	21.9	48	\$ 556	\$ 90,154
<b>Subtotal</b>	Parallel Sewer & Creek Crossing								<b>\$ 3,084,149</b>

South Hwy 59 Trunk

Pipeline ID	Upstream Manhole	Downstream Manhole	Upstream Depth (ft)	Downstream Depth (ft)	Total Length (LF)	Average Depth (ft)	Pipe Size (in)	Unit Cost (\$/LF)	Pipe Segment Cost
C89	J249	4000_PS	22.0	38.7	6064	30.4	48	\$ 671	\$ 4,067,063
C90_1	J277	J288	20.2	20.5	263	20.4	48	\$ 544	\$ 143,293
C90_10	J291	J249	21.8	22.0	263	21.9	48	\$ 556	\$ 146,478
C90_3	J94	J279	20.7	20.1	327	20.4	48	\$ 544	\$ 177,864
C90_4	J279	J280	20.1	19.9	327	20.0	48	\$ 544	\$ 177,864
C90_5	J280	J281	19.9	19.9	327	19.9	48	\$ 535	\$ 174,835
C90_6	J281	J277	19.9	20.2	327	20.1	48	\$ 544	\$ 177,864
C90_7	J288	J289	20.5	20.7	263	20.6	48	\$ 544	\$ 143,294
C90_8	J289	J290	20.7	21.2	263	20.9	48	\$ 544	\$ 143,293
C90_9	J290	J291	21.2	21.8	263	21.5	48	\$ 556	\$ 146,477
<b>Subtotal</b>	South Hwy 59 Trunk								<b>\$ 5,498,325</b>



South Trunk

Pipeline ID	Upstream Manhole	Downstream Manhole	Upstream Depth (ft)	Downstream Depth (ft)	Total Length (LF)	Average Depth (ft)	Pipe Size (in)	Unit Cost (\$/LF)	Pipe Segment Cost
C66	J193	2029	7.0	15.9	209	11.5	27	\$ 230	\$ 48,205
C66_10	J298	J299	7.7	6.7	846	7.2	27	\$ 203	\$ 172,172
C66_11	J299	J300	6.7	6.1	846	6.4	27	\$ 203	\$ 172,172
C66_12	J300	J193	6.1	7.0	846	6.6	27	\$ 203	\$ 172,172
C66_13	J301	J302	8.3	8.4	750	8.4	27	\$ 203	\$ 152,510
C66_14	J302	J303	8.4	8.6	750	8.5	27	\$ 203	\$ 152,510
C66_15	J303	J304	8.6	8.9	750	8.7	27	\$ 203	\$ 152,510
C66_16	J304	J305	8.9	8.8	750	8.8	27	\$ 203	\$ 152,510
C66_17	J305	J306	8.8	8.3	750	8.5	27	\$ 203	\$ 152,510
C66_18	J306	J194	8.3	8.0	750	8.1	27	\$ 203	\$ 152,510
C66_4	J195	J301	8.2	8.3	750	8.2	27	\$ 203	\$ 152,510
C66_5	J194	J296	8.0	8.0	846	8.0	27	\$ 203	\$ 172,172
C66_8	J296	J297	8.0	8.2	846	8.1	27	\$ 203	\$ 172,172
C66_9	J297	J298	8.2	7.7	846	8.0	27	\$ 203	\$ 172,172
<b>Subtotal</b>	<b>South Trunk</b>								<b>\$ 2,148,804</b>

South Trunk Extension/PS

Pipeline ID	Upstream Manhole	Downstream Manhole	Upstream Depth (ft)	Downstream Depth (ft)	Total Length (LF)	Average Depth (ft)	Pipe Size (in)	Unit Cost (\$/LF)	Pipe Segment Cost
C60_12	J190	J325	7.6	8.6	650	8.1	12	\$ 114	\$ 74,363
C60_13	J325	J326	8.6	6.2	650	7.4	12	\$ 114	\$ 74,363
C60_14	J326	J191	6.2	6.5	650	6.4	12	\$ 114	\$ 74,363
C61_16	J191	J327	6.5	7.2	661	6.9	12	\$ 114	\$ 75,639
C61_17	J327	J192	7.2	7.7	661	7.5	12	\$ 114	\$ 75,639
C66_19	J310	J311	6.8	7.7	652	7.3	18	\$ 144	\$ 93,948
C66_20	J311	J312	7.7	7.3	652	7.5	18	\$ 144	\$ 93,948
C66_21	J312	J195	7.3	8.2	652	7.8	18	\$ 144	\$ 93,948
C66_22	J328	J205	7.0	7.4	674	7.2	15	\$ 134	\$ 90,359
C66_6	J205	J310	7.4	6.8	652	7.1	18	\$ 144	\$ 93,948
C66_7	J192	J328	7.7	7.0	674	7.4	15	\$ 134	\$ 90,359
<b>Subtotal</b>	<b>South Trunk Extension/PS</b>								<b>\$ 930,877</b>

Stretch Rd Sewer

Pipeline ID	Upstream Manhole	Downstream Manhole	Upstream Depth (ft)	Downstream Depth (ft)	Total Length (LF)	Average Depth (ft)	Pipe Size (in)	Unit Cost (\$/LF)	Pipe Segment Cost
C45_10	J342	J166	5.4	5.4	511	5.4	12	\$ 114	\$ 58,380
C45_11	J343	J167	5.3	5.1	511	5.2	12	\$ 114	\$ 58,380
C45_12	J344	J168	4.8	4.8	511	4.8	12	\$ 114	\$ 58,380
C45_13	J345	J169	4.3	3.7	511	4.0	12	\$ 114	\$ 58,380
C45_14	J346	J170	3.6	4.2	511	3.9	12	\$ 114	\$ 58,380
C45_15	J347	7M051	3.6	5.5	511	4.6	12	\$ 114	\$ 58,380
C45_3	J166	J343	5.4	5.3	511	5.4	12	\$ 114	\$ 58,380
C45_4	J167	J344	5.1	4.8	511	5.0	12	\$ 114	\$ 58,380
C45_5	J168	J345	4.8	4.3	511	4.5	12	\$ 114	\$ 58,380
C45_6	J169	J346	3.7	3.6	511	3.6	12	\$ 114	\$ 58,380
C45_7	J170	J347	4.2	3.6	511	3.9	12	\$ 114	\$ 58,380
C45_9	J165	J342	5.2	5.4	511	5.3	12	\$ 114	\$ 58,380
<b>Subtotal</b>	<b>Stretch Rd Sewer</b>								<b>\$ 700,559</b>

Thornton Rd Sewer 1

Pipeline ID	Upstream Manhole	Downstream Manhole	Upstream Depth (ft)	Downstream Depth (ft)	Total Length (LF)	Average Depth (ft)	Pipe Size (in)	Unit Cost (\$/LF)	Pipe Segment Cost
C79_1	J213	J313	4.6	2.7	781	3.6	21	\$ 168	\$ 131,431
C79_10	J318	J212	4.7	5.0	781	4.8	21	\$ 168	\$ 131,431
C79_11	J319	J320	3.0	3.2	661	3.1	18	\$ 144	\$ 95,158
C79_12	J320	J321	3.2	3.8	661	3.5	18	\$ 144	\$ 95,158
C79_13	J321	J213	3.8	4.6	661	4.2	18	\$ 144	\$ 95,158
C79_2	J214	J319	3.9	3.0	661	3.5	18	\$ 144	\$ 95,158
C79_5	J313	J314	2.7	2.2	781	2.4	21	\$ 168	\$ 131,431
C79_6	J314	J315	2.2	2.9	781	2.5	21	\$ 168	\$ 131,431
C79_7	J315	J316	2.9	3.5	781	3.2	21	\$ 168	\$ 131,431
C79_8	J316	J317	3.5	4.2	781	3.8	21	\$ 168	\$ 131,431
C79_9	J317	J318	4.2	4.7	781	4.4	21	\$ 168	\$ 131,431
<b>Subtotal</b>	Thornton Rd Sewer 1								<b>\$ 1,300,651</b>

Thornton Rd Sewer 2

Pipeline ID	Upstream Manhole	Downstream Manhole	Upstream Depth (ft)	Downstream Depth (ft)	Total Length (LF)	Average Depth (ft)	Pipe Size (in)	Unit Cost (\$/LF)	Pipe Segment Cost
C79_14	J322	J323	3.7	4.6	662	4.1	12	\$ 114	\$ 75,704
C79_15	J323	J324	4.6	4.3	662	4.5	12	\$ 114	\$ 75,704
C79_16	J324	J214	4.3	3.9	662	4.1	12	\$ 114	\$ 75,704
C79_4	J211	J322	3.2	3.7	662	3.5	12	\$ 114	\$ 75,704
<b>Subtotal</b>	Thornton Rd Sewer 2								<b>\$ 302,817</b>

West Bellevue Collector

Pipeline ID	Upstream Manhole	Downstream Manhole	Upstream Depth (ft)	Downstream Depth (ft)	Total Length (LF)	Average Depth (ft)	Pipe Size (in)	Unit Cost (\$/LF)	Pipe Segment Cost
C47_18	J53	J52	12.5	13.3	400	12.9	12	\$ 139	\$ 55,503
C47_19	J54	J53	9.6	12.5	400	11.0	12	\$ 131	\$ 52,249
C47_20	J55	J54	15.2	9.6	400	12.4	12	\$ 139	\$ 55,503
C47_21	J56	J55	14.1	15.2	400	14.6	12	\$ 157	\$ 62,892
C47_22	J57	J56	13.3	14.1	400	13.7	12	\$ 155	\$ 62,012
C47_23	J58	J57	12.5	13.3	400	12.9	12	\$ 139	\$ 55,503
C47_32	J52	J66	13.3	16.2	274	14.7	12	\$ 157	\$ 43,109
<b>Subtotal</b>	West Bellevue Collector								<b>\$ 386,771</b>

West Bellvue

Pipeline ID	Upstream Manhole	Downstream Manhole	Upstream Depth (ft)	Downstream Depth (ft)	Total Length (LF)	Average Depth (ft)	Pipe Size (in)	Unit Cost (\$/LF)	Pipe Segment Cost
C43_10	J153	J154	12.0	12.7	450	12.4	12	\$ 139	\$ 62,497
C43_11	J154	J66	12.7	16.2	450	14.4	12	\$ 157	\$ 70,817
C43_7	J145	J151	10.6	11.8	450	11.2	12	\$ 131	\$ 58,833
C43_8	J151	J152	11.8	11.9	450	11.9	12	\$ 131	\$ 58,833
C43_9	J152	J153	11.9	12.0	450	12.0	12	\$ 131	\$ 58,833
C47_17	J125	J67	23.5	22.7	402	23.1	18	\$ 239	\$ 95,848
C47_33	J126	J125	19.6	23.5	402	21.6	18	\$ 228	\$ 91,431
C47_34	J127	J126	17.6	19.6	402	18.6	18	\$ 215	\$ 86,446
C47_35	J128	J127	16.9	17.6	402	17.2	18	\$ 212	\$ 85,058
C47_36	J129	J128	15.0	16.9	402	15.9	15	\$ 179	\$ 72,060
C47_37	J130	J129	14.7	15.0	402	14.9	15	\$ 177	\$ 70,924
C47_38	J66	J130	16.2	14.7	402	15.5	15	\$ 179	\$ 72,060
C86_11	J67	J286	22.7	22.5	333	22.6	18	\$ 233	\$ 77,730
C86_12	J286	J287	22.5	21.5	333	22.0	18	\$ 228	\$ 75,897
C86_13	J287	J113	21.5	21.0	333	21.2	18	\$ 228	\$ 75,897
<b>Subtotal</b>	West Bellvue								<b>\$ 1,113,162</b>

West Cardella Trunk

Pipeline ID	Upstream Manhole	Downstream Manhole	Upstream Depth (ft)	Downstream Depth (ft)	Total Length (LF)	Average Depth (ft)	Pipe Size (in)	Unit Cost (\$/LF)	Pipe Segment Cost
C60_1	J16	J34	25.0	21.8	526	23.4	42	\$ 517	\$ 271,727
C60_10	J99	J98	18.6	18.5	428	18.6	42	\$ 461	\$ 197,274
C60_11	J31	J99	20.5	18.6	428	19.6	42	\$ 472	\$ 201,911
C60_2	J34	J35	21.8	20.4	526	21.1	42	\$ 494	\$ 259,705
C60_3	J35	J31	20.4	20.5	527	20.4	42	\$ 483	\$ 254,269
C60_6	J95	J94	19.3	20.7	557	20.0	42	\$ 483	\$ 268,834
C60_7	J96	J95	19.4	19.3	428	19.3	42	\$ 472	\$ 201,911
C60_8	J97	J96	18.9	19.4	428	19.2	42	\$ 472	\$ 201,911
C60_9	J98	J97	18.5	18.9	428	18.7	42	\$ 461	\$ 197,274
C83	J224	J221	13.1	17.1	874	15.1	42	\$ 428	\$ 374,672
C84	J221	J222	17.1	15.6	680	16.4	42	\$ 439	\$ 298,821
C85	J222	J223	15.6	15.5	1049	15.6	42	\$ 428	\$ 449,279
C86_1	J223	J225	15.5	15.7	676	15.6	42	\$ 428	\$ 289,630
C86_2	J225	J226	15.7	16.4	676	16.1	42	\$ 439	\$ 296,956
C86_3	J226	J227	16.4	16.4	676	16.4	42	\$ 439	\$ 296,956
C86_4	J227	J228	16.4	18.8	676	17.6	42	\$ 450	\$ 304,282
C86_5	J228	J16	18.8	25.0	676	21.9	42	\$ 494	\$ 333,988
Subtotal	West Cardella Trunk								\$ 4,699,399

West Street

Pipeline ID	Upstream Manhole	Downstream Manhole	Upstream Depth (ft)	Downstream Depth (ft)	Total Length (LF)	Average Depth (ft)	Pipe Size (in)	Unit Cost (\$/LF)	Pipe Segment Cost
2042.1	2042	2041	15.4	14.6	558	15.0	60	\$ 631	\$ 351,901
2043.1	2043	2042	15.0	15.4	652	15.2	60	\$ 637	\$ 415,117
2044.1	2044	2043	15.8	15.0	690	15.4	60	\$ 637	\$ 439,392
Subtotal	West Street								\$ 1,206,410

Yosemite Sewer Extension

Pipeline ID	Upstream Manhole	Downstream Manhole	Upstream Depth (ft)	Downstream Depth (ft)	Total Length (LF)	Average Depth (ft)	Pipe Size (in)	Unit Cost (\$/LF)	Pipe Segment Cost
C36	2081	19M108	12.2	5.3	5130	8.7	27	\$ 203	\$ 1,043,416
Ex	19M108	2663	5.3	18.7	2524	12.3	27	\$ 297	\$ 748,618
Subtotal	Yosemite Sewer Extension								\$ 1,792,033

H59PS Forcemain

Pipeline ID	Upstream Manhole	Downstream Manhole	Upstream Depth (ft)	Downstream Depth (ft)	Total Length (LF)	Average Depth (ft)	Pipe Size (in)	Unit Cost (\$/LF)	Pipe Segment Cost
FM1					4575		24	\$ 399	\$ 1,825,425
FM2					4575		24	\$ 399	\$ 1,825,425
FM3					1200		24	\$ 1,444	\$ 1,732,254
FM4					1200		24	\$ 1,444	\$ 1,732,254
Subtotal	H59PS Forcemain								\$ 7,115,357



**PROJECT:** WASTEWATER COLLECTION SYSTEM MASTER PLAN  
PROJECT COSTS

**DATE:** 2/7/2023

**JOB NUMBER:** 184030360

**PREPARED BY:** BEW

**CLIENT:** City of Merced

**CHECKED BY:** SLB

**DESCRIPTION:** Project Costs

**ENR:** 13,175

**INTERIM SYSTEM IMPROVEMENTS**

**Pipelines**

CIP No	Name	Length (LF)	Buildout Pipe Size (in)	Construction Cost
1	BRPS FM Discharge Change	-	-	\$0
2	Parallel Sewer & Creek Crossing	6,500	48	\$3,085,000
3	West Street	1,900	60	\$1,207,000
4	48-inch Interceptor	14,700	60	\$9,150,000
5	Yosemite Sewer Extension	5,100	27	\$1,793,000
6	Parallel G Street Sewer	8,000	27	\$1,842,000
<b>Subtotal Pipelines:</b>				<b>\$17,077,000</b>
Additional Items	Description	QTY	Unit Cost	Construction Cost
1	Microtunnel Mobilizations	3	\$ 354,031	\$1,063,000
2	60-inch Influent Junction at WWTP	1	\$ 224,673	\$225,000
3	60-inch Stream/Canal Crossings (Microtunnel)	275	\$ 2,853	\$785,000
4	West Street, Parrallel Sewer, & 60-inch Junction Structure	1	\$ 224,673	\$225,000
5	48-inch Stream/Canal Crossings (Microtunnel)	175	\$ 2,584	\$453,000
6	48-inch Rail Road Crossing (Microtunnel)	200	\$ 2,584	\$517,000
7	27-inch Junction Structure, G St. Parallel	2	\$ 68,083	\$137,000
<b>Subtotal Additional Items:</b>				<b>\$3,405,000</b>

**Cost Summary**

Item	Description	Cost
1	Pipeline Costs	\$17,077,000
2	Additional Items	\$3,405,000
	<i>Subtotal</i>	<i>\$20,482,000</i>
3	5% Mobilization/Demobilization	\$1,025,000
	<i>Construction Cost Subtotal</i>	<i>\$21,507,000</i>
4	30% Contingency	\$6,453,000
	<i>Estimated Construction Cost</i>	<i>\$27,960,000</i>
5	20% Engineering, Environmental, & Admin	\$5,592,000
	<b>Total Project Cost</b>	<b>\$33,552,000</b>



**PROJECT:** WASTEWATER COLLECTION SYSTEM MASTER PLAN  
PROJECT COSTS

**DATE:** 2/7/2023

**JOB NUMBER:** 184030360

**PREPARED BY:** BEW

**CLIENT:** City of Merced

**CHECKED BY:** SLB

**DESCRIPTION:** Project Costs

**ENR:** 13,175

**NORTH MERCED MAJOR IMPROVEMENTS**

**Pipelines**

CIP No	Name	Length (LF)	Buildout Pipe Size (in)	Construction Cost
9	H59PS Forcemain	5,775	2x24	\$7,116,000
7	South Hwy 59 Trunk (PS to Cardella)	8,688	48	\$5,499,000
8	West Cardella Trunk (Hwy 59 to G St)	10,257	42	\$4,700,000
10	East Cardella Trunk (G St to VST)	10,448	30 to 24	\$3,419,000
11	G Street Extension 1 (Bellevue to Farmland)	2,627	30 to 21	\$482,000
12	G Street Extension 2 (Farmland to Old Lake)	2,657	18	\$383,000
17	Hwy 59 North Trunk 1 (Bellevue to Cardella)	5,307	24	\$1,576,000
18	Hwy 59 North Trunk 2 (Breese to Bellevue)	2,691	18	\$599,000
20	West Bellevue (Hwy 59 to Fahren's Creek)	6,064	18 to 12	\$1,114,000
<b>Subtotal Pipelines:</b>				<b>\$24,888,000</b>
Additional Items	Description	QTY	Unit Cost	Construction Cost
1	H59PS Expansion	1	\$ 7,586,268	\$7,587,000
2	48-inch Influent Junction at H59PS	1	\$ 224,673	\$225,000
3	Microtunnel Mobilizations	3	\$ 354,031	\$1,063,000
4	42-inch Stream/Canal Crossings (Microtunnel)	200	\$ 2,315	\$464,000
5	30-inch Stream/Canal Crossings (Microtunnel)	300	\$ 1,566	\$470,000
<b>Subtotal Additional Items:</b>				<b>\$9,809,000</b>

**Cost Summary**

Item	Description	Cost
1	Pipeline Costs	\$24,888,000
2	Additional Items	\$9,809,000
	<i>Subtotal</i>	<i>\$34,697,000</i>
3	5% Mobilization/Demobilization	\$1,735,000
	<i>Construction Cost Subtotal</i>	<i>\$36,432,000</i>
4	30% Contingency	\$10,930,000
	<i>Estimated Construction Cost</i>	<i>\$47,362,000</i>
5	20% Engineering, Environmental, & Admin	\$9,473,000
	<b>Total Project Cost</b>	<b>\$56,835,000</b>



**PROJECT:** WASTEWATER COLLECTION SYSTEM MASTER PLAN  
PROJECT COSTS

**DATE:** 2/7/2023

**JOB NUMBER:** 184030360

**PREPARED BY:** BEW

**CLIENT:** City of Merced

**CHECKED BY:** SLB

**DESCRIPTION:** Project Costs

**ENR:** 13,175

**NORTH MERCED MINOR IMPROVEMENTS**

**Pipelines**

CIP No	Name	Length (LF)	Buildout Pipe Size (in)	Construction Cost
13	G Street Extension 3 (Old Lake to SOI)	2,647	15	\$362,000
14	Old Lake Road Sewer (G St to Golf Rd)	5,267	12	\$692,000
15	N. SOI Sewer (G St to Golf Course)	3,222	12	\$448,000
16	Farmland Ave Sewer (G St to Golf Rd)	5,257	12 to 8	\$669,000
19	Hwy 59 North Trunk 3 (Nevada to Breese)	2,575	12	\$476,000
21	West Bellevue Collector (ROW)	2,674	18 to 12	\$387,000
22	Breeze Rd West (Hwy 59 to Utah St)	1,404	12	\$221,000
23	Nevada St West (Hwy 59 to Creek)	7,009	12	\$1,048,000
24	Future Yosemite (El Capitan Canal to Hwy 59)	3,510	15 to 10	\$1,163,000
25	Future ROW (Santa Fe to Hwy 59)	2,618	12	\$416,000
26	Olive McKee Extension/LS	5,480	12	\$627,000
<b>Subtotal Pipelines:</b>				<b>\$6,509,000</b>
Additional Items	Description	QTY	Unit Cost	Construction Cost
1	Microtunnel Mobilizations	2	\$ 354,031	\$709,000
2	24-inch Stream/Canal Crossings (Microtunnel)	150	\$ 1,444	\$217,000
3	24-inch Stream/Canal Crossings (Microtunnel)	150	\$ 1,444	\$217,000
<b>Subtotal Additional Items:</b>				<b>\$1,143,000</b>

**Cost Summary**

Item	Description	Cost
1	Pipeline Costs	\$6,509,000
2	Additional Items	\$1,143,000
	<i>Subtotal</i>	\$7,652,000
3	5% Mobilization/Demobilization	\$383,000
	<i>Construction Cost Subtotal</i>	\$8,035,000
4	30% Contingency	\$2,411,000
	<i>Estimated Construction Cost</i>	\$10,446,000
5	20% Engineering, Environmental, & Admin	\$2,090,000
	<b>Total Project Cost</b>	<b>\$12,536,000</b>



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**CHECKED BY:** SLB

**DESCRIPTION:** Project Costs

**ENR:** 13,175

**SOUTH MERCED MAJOR IMPROVEMENTS**

**Pipelines**

CIP No	Name	Length (LF)	Buildout Pipe Size (in)	Construction Cost
27	South Mission Trunk	7,788	27	\$2,149,000
28	Gerard Relief Sewer	2,675	24	\$504,000
33	Gove Rd Sewer	9,347	30	\$2,087,000
34	Thornton Rd Sewer 1 (Dickenson Ferry to Wardrobe)	8,112	21 to 18	\$1,301,000
<b>Subtotal Pipelines:</b>				<b>\$6,041,000</b>
Additional Items	Description	QTY	Unit Cost	Construction Cost
1	30-inch Influent Junction at Main Trunk, WWTP, interceptor	3	\$ 133,592	\$401,000
2	Microtunnel Mobilizations	8	\$ 354,031	\$2,833,000
3	24-inch Stream/Canal Crossings (Microtunnel)	150	\$ 1,191	\$179,000
4	30-inch Stream/Canal Crossings (Microtunnel)	1050	\$ 1,566	\$1,645,000
<b>Subtotal Additional Items:</b>				<b>\$5,058,000</b>

**Cost Summary**

Item	Description	Cost
1	Pipeline Costs	\$6,041,000
2	Additional Items	\$5,058,000
	<i>Subtotal</i>	<i>\$11,099,000</i>
3	5% Mobilization/Demobilization	\$555,000
	<i>Construction Cost Subtotal</i>	<i>\$11,654,000</i>
4	30% Contingency	\$3,497,000
	<i>Estimated Construction Cost</i>	<i>\$15,151,000</i>
5	20% Engineering, Environmental, & Admin	\$3,031,000
	<b>Total Project Cost</b>	<b>\$18,182,000</b>



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**CLIENT:** City of Merced

**CHECKED BY:** SLB

**DESCRIPTION:** Project Costs

**ENR:** 13,175

**SOUTH MERCED MINOR IMPROVEMENTS**

**Pipelines**

CIP No	Name	Length (LF)	Buildout Pipe Size (in)	Construction Cost
29	South Trunk Extension/PS to Gerard	7,230	18 to 12	\$931,000
30	Upsize Santa Fe Dr Sewer	1,302	15	\$175,000
31	Stretch Rd Sewer	6,126	12	\$701,000
32	Cone Ave Sewer	5,326	12	\$610,000
35	Thornton Rd Sewer 2 (Wardrobe to McSwain)	2,648	12	\$303,000
<b>Subtotal Pipelines:</b>				<b>\$2,720,000</b>

**Cost Summary**

Item	Description	Cost
1	Pipeline Costs	\$2,720,000
2	Additional Items	\$0
	<i>Subtotal</i>	<i>\$2,720,000</i>
3	5% Mobilization/Demobilization	\$136,000
	<i>Construction Cost Subtotal</i>	<i>\$2,856,000</i>
4	30% Contingency	\$857,000
	<i>Estimated Construction Cost</i>	<i>\$3,713,000</i>
5	20% Engineering, Environmental, & Admin	\$743,000
	<b>Total Project Cost</b>	<b>\$4,456,000</b>