CHAPTER 6. HYDRAULIC ANALYSIS AND RESULTS

6.1 RESULTS SUMMARY

Utilizing the InfoSWMM 7.0 hydraulic model, the ability of City-owned wastewater infrastructure to satisfy the design criteria summarized in Chapter 5 was evaluated in the Existing (2012), 2017, 2022, 2027, 2032, 2037, 2042 and 2050 time-increments. Approximately 12 miles gravity mains, accounting for nearly 2.4 percent of the total gravilty mains, are unable to satisfy the City's design and accommodate peak flows by 2050. Gravity main replacement projects shall be coordinated with the City's Pavement Management Program in order to reduce impacts to the public and the construction dollars. Figure 6-1 illustrates the location of these gravity mains.

6.2 GRAVITY MAIN RESULTS

6.2.1 EXISTING YEAR (2012) RESULTS

In 2012, 11,770 linear feet, approximately 22.1 percent of the total gravity mains to be replaced, are unable to satisfy the depth-to-Diameter (d/D) ratio replacement criteria during peak wet weather flow. The projected flow rates and corresponding d/D rations for these gravity mains are presented in Table 6-1.

6.2.2 YEAR 2017 RESULTS

In 2017, an additional 45 gravity mains are unable to satisfy the d/D ratio replacement criteria during peak wet weather flow, for a total of 13,935 linear feet. These 49 gravity mains are presented in Table 6-2. The 2017 scenario begins to takes into account a portion of the new development identified in Chapter 5.

6.2.3 YEAR 2022 RESULTS

In 2022, an additional 12 gravity mains are unable to satisfy the d/D ratio replacement criteria during peak wet weather flow, for a total of 3,462 linear feet. These 12 gravity mains are presented in Table 6-3.

6.2.4 YEAR 2027 RESULTS

In 2027, an additional 4 gravity mains are unable to satisfy the d/D ratio replacement criteria during peak wet weather flow, for a total of 1,181 linear feet. These 4 gravity mains are presented in Table 6-4.

6.2.5 YEAR 2032 RESULTS

In 2032, an additional 16 gravity mains are unable to satisfy the d/D ratio replacement criteria during peak wet weather flow, for a total of 4,405 linear feet. These 16 gravity mains are presented in Table 6-5.

6.2.6 YEAR 2037 RESULTS

In 2027, an additional 26 gravity mains are unable to satisfy the d/D ratio replacement criteria during peak wet weather flow, for a total of 6,295 linear feet. These 26 gravity mains are presented in Table 6-6.

6.2.7 YEAR 2042 RESULTS

In 2027, an additional 24 gravity mains are unable to satisfy the d/D ratio replacement criteria during peak wet weather flow, for a total of 6,921 linear feet. These 24 gravity mains are presented in Table 6-7.

6.2.8 BUILD-OUT YEAR 2050 RESULTS

Finally, in the 2050 flow scenario, an additional 14 pipes are unable to satisfy replacement criteria during peak wet weather flow, for a total of 3,392 linear feet. These 14 gravity mains are presented in Table 6-8.

6.2.9 PIPELINE IMPROVEMENT RESULTS SUMMARY

Table 6-9 provides a summary table of all pipelines recommended to be upsized along with associated Basins and Street location.

N

0 4,850 9,700 Feet

SAN MIGUEL
SR-125 SB
PROCTOR VALLEY
BONITA
CORRAL CANYON
EASTLAKE
HUNTE
OTAY LAKES
SR-125 SB
WHITE
30TH
SR-54 WB
SR-54 EB
SR-54 EB
SR-54 WB
C
E ST
BONITA
H
PASEO RANCHERO
TELEGRAPH CANYON
MARINA
I-5 SB
I-5 NB
BROADWAY
J
L
04TH
03RD
HILLTOP
MEDICAL CENTER DR
OLYMPIC PARKWAY
SR-125 NB
LA MEDIA
BIRCH
EASTLAKE PKWY
URBAN CENTER EAST
BAY
PALOMAR
ORANGE
MAIN
BEYER
BEYER
I-805 SB
I-805 NB
BRANDYWINE
OTAY VALLEY
HERITAGE

Legend

YEAR

- 2013
- 2017
- 2022
- 2027
- 2032
- 2037
- 2042
- 2050
- POGGI DIF
- New Manhole
- City of Chula Vista Boundary

Infrastructure ENGINEERING CORPORATION

City of Chula Vista
Wastewater Collection System Master Plan

Recommended Pipeline/Manhole Improvements by Year
FINAL
May 2014

Figure 6-1

Table 6-1: Gravity Mains Unable to Satisfy Design Criteria for Existing (2012) Conditions

Pipe ID	Existing Diameter (in)	Pipe Length (ft)	Slope	Upstream Manhole ID	Downstream Manhole ID	Average Dry Weather Flow (gpm)	Peak Dry Weather Flow (gpm)	Peak Dry Weather d/D	Peak Wet Weather Flow (gpm)	Peak Wet Weather d/D	Replacement Diameter (in)	Replacement 2050 Peak Wet Weather d/D
2781	8	421.3	0.001	2650	2770	88.2	121.3	0.591	158.4	0.714	15	0.371
2888	8	442.5	0.001	2770	2869	89.6	123.2	0.574	161.6	0.684	15	0.365
2917	8	132.9	0.002	2869	2901	90.1	123.9	0.489	162.7	0.569	15	0.364
4766	12	69.3	0.003	4722	4726	478.3	656.1	0.606	977.0	0.797	15	0.588
4772	12	400.6	0.005	4726	4733	480.8	659.4	0.572	982.2	0.769	15	0.555
4787	12	374.4	0.005	4733	4749	482.1	661.1	0.533	986.8	0.711	15	0.519
4804	12	321.6	0.009	4749	4763	482.5	661.5	0.443	988.7	0.563	15	0.434
4800	8	342.2	0.005	4759	4722	162.7	224.4	0.773	275.1	0.811	12	0.581
6503	8	114.4	0.01	5080	6413	145.5	199.5	0.46	345.8	0.804	12	0.397
5969	10	218.5	0.004	5879	5890	244.9	335.0	0.482	594.7	0.712	15	0.444
5958	10	122.0	0.004	5880	5879	208.5	285.0	0.516	516.8	0.779	15	0.426
6498	8	230.2	0.003	6409	6400	151.6	207.8	0.603	368.7	0.822	12	0.518
6504	8	292.6	0.006	6413	6414	150.3	206.1	0.596	364.2	1	12	0.513
6505	8	77.2	0.003	6414	6409	150.5	206.4	0.712	364.7	1	12	0.603
2631	12	396.3	0.014	2615	2592	553.9	762.2	0.512	1245.5	0.689	15	0.542
3427	21	451.6	0.004	3362	3420	1881.3	2572.0	0.577	4145.9	0.843	24	0.709
3477	21	447.2	0.004	3420	3472	1881.3	2572.0	0.57	4149.4	0.82	24	0.704
3524	21	424.6	0.004	3472	3514	1881.8	2572.6	0.471	4153.5	0.626	24	0.540
3504	21	378.8	0.004	3495	3362	1875.1	2563.8	0.571	4125.5	0.833	24	0.702
3584	18	35.2	0.034	3514	3527	1884.7	2576.3	0.414	4160.4	0.53	24	0.403
3602	8	220.0	0.014	3568	3588	573.3	640.7	1	616.4	1	12	0.545
3618	8	221.1	0.012	3588	3603	574.3	641.9	1	617.5	1	12	0.560
3674	8	440.3	0.012	3603	3658	574.7	642.9	1	619.0	1	12	0.547
3626	21	367.0	0.004	3612	3495	1873.1	2561.2	0.567	4118.8	0.817	24	0.691
3707	8	334.3	0.013	3658	3692	574.7	635.7	1	620.1	1	12	0.542
3748	8	327.0	0.013	3692	3731	575.1	640.0	1	621.4	1	12	0.556
3722	21	453.0	0.003	3706	3612	1873.1	2561.2	0.587	4115.9	0.864	24	0.725
3780	8	325.1	0.013	3731	3764	575.4	631.2	1	622.6	1	12	0.527
3826	8	315.9	0.013	3764	3810	575.7	622.9	0.84	623.9	0.841	15	0.386
3864	10	84.1	0.01	3842	3845	577.9	625.6	0.568	627.8	0.57	12	0.585
3894	10	403.4	0.013	3845	3872	581.9	630.7	0.537	634.1	0.539	12	0.543
3915	10	257.4	0.016	3872	3891	588.5	639.3	0.491	644.9	0.495	12	0.518

Pipe ID	Existing Diameter (in)	Pipe Length (ft)	Slope	Upstream Manhole ID	Downstream Manhole ID	Average Dry Weather Flow (gpm)	Peak Dry Weather Flow (gpm)	Peak Dry Weather d/D	Peak Wet Weather Flow (gpm)	Peak Wet Weather d/D	Replacement Diameter (in)	Replacement 2050 Peak Wet Weather d/D
4290	15	372.6	0.001	4243	4189	630.5	864.2	0.615	1349.6	0.987	24	0.573
4325	15	443.4	0.003	4277	4243	628.9	862.0	0.622	1345.3	0.874	18	0.675
4375	15	497.6	0.003	4328	4277	628.0	860.8	0.532	1343.3	0.739	18	0.661
4607	10	269.0	0.011	4562	4567	206.2	287.0	0.582	405.6	0.718	18	0.439
3527.1	8	406.0	0	3527	3568	572.7	647.5	0.956	615.5	1	12	0.521
IEC_NEW_PIPE_05	NA	13.8	0	6400	14214	0.0	0.0	0.324	0.0	0.429	12	0.500
3861	10	324.9	0.012	3810	3842	575.7	622.7	0.573	625.1	0.574	12	0.547

Table 6-2: Gravity Mains Unable to Satisfy Design Criteria for 2017 Conditions

Pipe ID	Existing Diameter (in)	Pipe Length (ft)	Slope	Upstream Manhole ID	Downstream Manhole ID	Average Dry Weather Flow (gpm)	Peak Dry Weather Flow (gpm)	Peak Dry Weather d/D	Peak Wet Weather Flow (gpm)	Peak Wet Weather d/D	Replacement Diameter (in)	Replacement 2050 Peak Wet Weather d/D
2870	8	65	0.003	2853	2836	111.1	153.3	0.521	238.8	0.695	10	0.549
5375	8	425	0.013	5330	5338	168.5	231.9	0.444	380.8	0.597	10	0.447
5379	8	239	0.01	5338	5342	175.5	241.4	0.527	393.1	0.761	10	0.502
5387	8	334	0.006	5342	5351	177.1	243.5	0.489	396.1	0.701	12	0.373
5395	8	306	0.021	5351	5359	183.3	252.0	0.487	406.2	0.634	12	0.431
5120	8	320	0.005	5046	5071	169.8	233.0	0.473	378.6	0.709	12	0.365
5097	8	107	0.028	5047	5046	169.3	232.5	0.484	377.0	0.725	12	0.374
5128	8	187	0.037	5071	5080	170.7	234.3	0.395	380.5	0.709	12	0.311
5180	10	327	0.036	5129	5127	302.6	414.1	0.66	683.1	0.715	15	0.625
5181	10	332	0.005	5130	5129	302.3	413.7	0.465	681.1	0.68	15	0.354
5959	10	345	0.004	5881	5880	256.0	350.3	0.534	582.0	0.802	15	0.406
5960	10	379	0.013	5882	5881	255.9	350.2	0.454	580.5	0.626	15	0.348
5965	10	333	0.013	5886	5130	301.6	412.8	0.512	679.2	0.743	15	0.390
6423	8	398	0.005	6333	6336	148.2	203.6	0.53	327.3	0.728	12	0.416
6425	8	101	0.011	6336	6338	149.2	204.9	0.348	330.3	0.47	12	0.278
6426	8	30	0.564	6338	6339	149.8	205.6	0.336	331.2	0.454	12	0.261
6428	8	124	0.005	6339	6340	149.9	205.8	0.506	331.8	0.695	12	0.393
6429	8	223	0.011	6340	5047	168.8	231.8	0.419	376.0	0.563	12	0.329
3697	21	382	0.004	3680	3681	2060.6	2816.9	0.592	4353.0	0.967	24	0.677
3721	21	278	0.004	3681	3706	2061.0	2817.4	0.611	4355.3	0.997	24	0.705
3703	21	291	0.004	3687	3680	2060.3	2816.6	0.596	4354.8	0.91	24	0.679
3720	21	276	0.004	3705	3687	2059.5	2815.5	0.58	4353.6	0.83	24	0.658
4091	8	323	0.002	4065	4001	135.9	187.8	0.588	258.4	0.79	12	0.470
4154	8	330	0.002	4122	4065	135.2	186.9	0.691	256.4	0.869	12	0.438
4170	8	69	0.002	4136	4122	134.7	186.3	0.684	254.8	0.921	12	0.466

Pipe ID	Existing Diameter (in)	Pipe Length (ft)	Slope	Upstream Manhole ID	Downstream Manhole ID	Average Dry Weather Flow (gpm)	Peak Dry Weather Flow (gpm)	Peak Dry Weather d/D	Peak Wet Weather Flow (gpm)	Peak Wet Weather d/D	Replacement Diameter (in)	Replacement 2050 Peak Wet Weather d/D
4231	8	261	0.004	4191	4136	120.74	167.1	0.605	220.4	0.774	10	0.512
4383	15	262	0.003	4337	4328	908.37	1246.6	0.73	1709.4	1	18	0.713
4418	15	434	0.004	4369	4337	908.37	1246.7	0.691	1707.8	1	18	0.672
4453	15	446	0.003	4409	4369	908.38	1246.9	0.659	1705.3	1	18	0.636
4500	15	444	0.003	4455	4409	907.19	1245.4	0.68	1701.1	1	18	0.655
4537	8	350	0.002	4488	4494	91.50	126.2	0.557	161.6	0.656	12	0.371
4535	15	443	0.003	4492	4455	906.51	1244.7	0.672	1697.6	1	18	0.648
4545	8	348	0.002	4494	4502	93.36	128.7	0.628	165.2	0.732	12	0.401
4550	8	264	0.002	4502	9192	103.68	142.9	0.533	180.2	0.613	12	0.366
4566	15	427	0.003	4525	4492	904.59	1242.5	0.667	1692.5	1	18	0.643
4608	15	454	0.003	4567	4525	903.56	1241.8	0.671	1688.5	1	18	0.646
4649	12	89	0.007	4600	4604	509.00	699.6	0.516	1020.7	0.66	15	0.485
4655	12	219	0.007	4604	4610	509.32	700.0	0.521	1022.1	0.664	15	0.488
4661	12	231	0.007	4610	4616	531.32	730.1	0.517	1054.5	0.655	15	0.482
4672	12	411	0.009	4616	4626	542.72	745.7	0.505	1072.0	0.636	15	0.470
4684	12	379	0.009	4626	4639	552.50	759.1	0.509	1090.7	0.642	15	0.474
4689	12	316	0.009	4639	4644	553.33	760.1	0.513	1093.2	0.646	15	0.477
4698	12	345	0.009	4644	4655	565.38	776.8	0.515	1111.5	0.648	15	0.479
4706	12	346	0.009	4655	4662	565.47	776.8	0.525	1113.1	0.664	15	0.481
4712	12	366	0.008	4662	4669	571.83	785.5	0.504	1123.5	0.629	15	0.487
5702	8	289	0.006	5619	5616	144.03	198.2	0.524	346.6	0.768	15	0.427
17093	12	174	0.002	15538	13980	549.80	759.0	0.786	877.2	0.943	18	0.771
9077	10	13	0	6432	6429	21.05	31.3	0.185	55.3	0.243	10	0.252
6482	8	98	0.03	6395	5131	0.21	0.3	0.023	0.7	0.037	8	0.038

Table 6-3: - Gravity Mains Unable to Satisfy Design Criteria for 2022 Conditions

Pipe ID	Existing Diameter (in)	Pipe Length (ft)	Slope	Upstream Manhole ID	Downstream Manhole ID	Average Dry Weather Flow (gpm)	Peak Dry Weather Flow (gpm)	Peak Dry Weather d/D	Peak Wet Weather Flow (gpm)	Peak Wet Weather d/D	Replacement Diameter (in)	Replacement 2050 Peak Wet Weather d/D
3622	18	320	0.009	3607	3608	2091.2	2860.2	0.595	4354.5	1	21	0.639
3625	18	297	0.009	3608	3611	2091.2	2860.2	0.588	4357.4	1	21	0.629
3624	18	237	0.004	3610	3607	2044.7	2798.2	0.75	4247.7	1	21	0.824
3670	18	298	0.009	3611	3655	2091.2	2860.2	0.589	4358.7	1	21	0.629
3730	18	292	0.009	3655	3713	2096.6	2867.2	0.624	4372.5	1	21	0.670
3768	18	288	0.008	3713	3753	2099.3	2870.8	0.572	4377.4	0.82	21	0.615
3745	18	294	0.018	3729	3705	2110.1	2885.2	0.567	4409.0	0.806	21	0.610
3765	18	309	0.018	3750	3729	2109.7	2884.6	0.474	4406.4	0.617	21	0.503
3798	18	293	0.017	3753	3782	2101.0	2873.1	0.485	4381.1	0.631	21	0.514
3801	18	288	0.017	3782	3783	2101.3	2873.5	0.505	4383.4	0.665	21	0.537
3799	18	292	0.014	3783	3750	2101.7	2873.9	0.504	4385.9	0.664	21	0.537
3643	21	254	0.009	3615	3610	2043.1	2796.2	0.577	4242.6	0.903	21	0.755

Table 6-4: Gravity Mains Unable to Satisfy Design Criteria for 2027 Conditions

Pipe ID	Existing Diameter (in)	Pipe Length (ft)	Slope	Upstream Manhole ID	Downstream Manhole ID	Average Dry Weather Flow (gpm)	Peak Dry Weather Flow (gpm)	Peak Dry Weather d/D	Peak Wet Weather Flow (gpm)	Peak Wet Weather d/D	Replacement Diameter (in)	Replacement 2050 Peak Wet Weather d/D
3516	8	255	0.004	3483	3507	75.2	103.6	0.453	111.2	0.471	12	0.415
3543	8	126	0.004	3507	3532	123.9	170.7	0.525	182.2	0.547	12	0.478
3677	8	407	0.004	3532	3661	126.0	173.5	0.64	186.2	0.672	12	0.505
17112	12	394	0.039	15542	15538	810.3	1122.0	0.705	1239.3	0.717	18	0.547

Table 6-5: Gravity Mains Unable to Satisfy Design Criteria for 2032 Conditions

Pipe ID	Existing Diameter (in)	Pipe Length (ft)	Slope	Upstream Manhole ID	Downstream Manhole ID	Average Dry Weather Flow (gpm)	Peak Dry Weather Flow (gpm)	Peak Dry Weather d/D	Peak Wet Weather Flow (gpm)	Peak Wet Weather d/D	Replacement Diameter (in)	Replacement 2050 Peak Wet Weather d/D
6343	8	132	0.015	6258	6248	209.3	138.1	0.361	246.9	0.492	10	0.389
6344	8	169	0.004	6259	6258	208.6	137.7	0.392	246.1	0.557	10	0.397
6345	8	319	0.004	6260	6259	207.1	136.5	0.458	244.4	0.66	10	0.464
3779	8	306	0.002	3661	3763	185.6	236.9	0.728	250.6	0.757	15	0.396
3778	12	241	0.014	3736	3763	822.3	853.2	0.56	1056.0	0.63	15	0.631
16464	12	384	0.009	15056	15059	1033.3	1289.7	0.711	1392.3	0.758	18	0.464
16465	12	400	0.015	15059	15067	1035.1	1289.7	0.514	1394.2	0.543	18	0.350
16477	12	349	0.081	15060	15061	1047.8	1303.5	0.514	1410.8	0.542	18	0.347
16478	12	370	0.011	15061	15062	1049.5	1303.5	0.689	1412.5	0.734	18	0.454
16479	12	351	0.013	15062	15063	1051.2	1303.5	0.558	1414.1	0.591	18	0.376
16480	12	350	0.068	15063	15065	1052.8	1303.5	0.371	1415.7	0.388	18	0.262
16482	12	337	0.011	15064	15069	1055.4	1303.4	0.587	1418.4	0.627	18	0.392
16481	12	225	0.103	15065	15064	1053.9	1303.5	0.551	1416.8	0.589	18	0.368
16463	12	82	0.01	15066	15056	976.6	1213.1	0.69	1314.0	0.734	18	0.448
16476	12	261	0.101	15067	15060	1036.3	1289.7	0.355	1395.4	0.37	18	0.250
17111	12	128	0.051	15069	15542	1056.0	1303.4	0.431	1419.0	0.452	18	0.301

Table 6-6: Gravity Mains Unable to Satisfy Design Criteria for 2037 Conditions

Pipe ID	Existing Diameter (in)	Pipe Length (ft)	Slope	Upstream Manhole ID	Downstream Manhole ID	Average Dry Weather Flow (gpm)	Peak Dry Weather Flow (gpm)	Peak Dry Weather d/D	Peak Wet Weather Flow (gpm)	Peak Wet Weather d/D	Replacement Diameter (in)	Replacement 2050 Peak Wet Weather d/D
6301.2	8	211	0	6301	6302	163.5	224.8	0.334	346.8	0.422	12	0.249
6421	8	148	0.02	6302	6333	163.8	225.1	0.46	347.7	0.609	12	0.336
6393	8	346	0.012	6303	6301	202.4	277.6	0.42	426.8	0.55	12	0.302
6394	8	243	0.012	6304	6303	201.7	276.6	0.513	424.7	0.679	12	0.363
6822	8	163	0.004	6722	6721	96.6	132.1	0.362	233.9	0.505	10	0.372
6824	8	148	0.004	6723	6722	96.3	131.7	0.459	233.0	0.649	10	0.458
314	8	375	0.012	324	278	233.1	320.9	0.479	520.6	0.67	12	0.370
3653	18	267	0.012	3643	3616	2205.1	3018.3	0.609	4465.3	1	21	0.611
3659	18	332	0.01	3647	3643	2205.1	3018.3	0.586	4463.7	1	21	0.594
3673	18	181	0.011	3657	3647	2204.6	3017.6	0.587	4461.2	1	21	0.595
3686	18	122	0.01	3669	3657	2119.9	2904.3	0.571	4280.0	1	21	0.579
3714	18	305	0.011	3701	3669	2119.5	2903.9	0.571	4277.0	0.9	21	0.578
3744	18	291	0.011	3728	3701	2112.0	2893.9	0.562	4266.0	0.765	21	0.567
3761	18	288	0.008	3746	3728	2104.1	2883.5	0.598	4252.9	0.812	21	0.605
3775	18	301	0.008	3760	3746	2104.1	2883.5	0.62	4251.0	0.865	21	0.627
3796	18	313	0.008	3779	3760	2099.4	2877.3	0.613	4242.7	0.843	21	0.619
3803	18	145	0.02	3785	3779	2099.4	2877.3	0.537	4240.5	0.714	21	0.542
16461	10	248	0.011	15046	15058	381.1	524.3	0.513	586.5	0.55	15	0.309
16462	10	289	0.01	15058	15066	387.1	532.6	0.682	601.6	0.779	15	0.411
16809	12	400	0.01	15287	15289	524.0	739.4	0.448	759.9	0.455	15	0.393
16808	12	212	0.021	15289	15288	524.0	739.4	0.382	772.9	0.505	15	0.337

Pipe ID	Existing Diameter (in)	Pipe Length (ft)	Slope	Upstream Manhole ID	Downstream Manhole ID	Average Dry Weather Flow (gpm)	Peak Dry Weather Flow (gpm)	Peak Dry Weather d/D	Peak Wet Weather Flow (gpm)	Peak Wet Weather d/D	Replacement Diameter (in)	Replacement 2050 Peak Wet Weather d/D
7013	10	152	0.001	6904	6907	219.2	302.8	0.605	450.4	1	12	0.611
7392	10	167	0.007	6908	8675	191.6	265.0	0.472	390.3	0.747	12	0.453
7394	10	384	0.004	7278	7277	190.7	263.8	0.404	387.5	0.512	12	0.550
7014	10	238	0.002	8675	6904	193.3	267.3	0.624	394.4	1	12	0.593
IEC_NEW_PIPE_03	10	9	0	IEC_NEW_MH_03	14211	169.9	218.5	0.215	304.6	0.272	12	0.221
13755	10	18	0.019	7277	6908	191.6	265.0	0.348	389.6	0.43	12	0.515

Table 6-7: Gravity Mains Unable to Satisfy Design Criteria for 2042 Conditions

Pipe ID	Existing Diameter (in)	Pipe Length (ft)	Slope	Upstream Manhole ID	Downstream Manhole ID	Average Dry Weather Flow (gpm)	Peak Dry Weather Flow (gpm)	Peak Dry Weather d/D	Peak Wet Weather Flow (gpm)	Peak Wet Weather d/D	Replacement Diameter (in)	Replacement 2050 Peak Wet Weather d/D
3042	18	617	0.006	2982	3029	1754.9	2415.2	0.646	2978.2	0.762	21	0.594
3066	18	332	0.004	3029	3055	1771.4	2437.3	0.659	3002.7	0.779	21	0.605
3094	18	329	0.006	3055	3083	1779.7	2448.3	0.609	3019.3	0.709	21	0.565
3106	18	187	0.006	3083	3094	1783.8	2453.8	0.635	3032.5	0.803	21	0.586
3137	18	318	0.006	3094	3119	2005.1	2759.5	0.683	3348.5	0.951	21	0.622
3158	18	401	0.005	3119	3142	2005.1	2759.4	0.748	3338.8	1	21	0.680
3185	18	319	0.007	3142	3169	2052.8	2824.5	0.555	3398.1	0.676	21	0.518
7414	12	355	0.003	4261	7295	585.9	827.3	0.767	828.9	0.769	15	0.568
5534	8	337	0.019	5495	5391	216.9	298.2	0.508	307.0	0.533	12	0.356
5537	8	325	0.002	5498	5495	162.4	223.3	0.644	229.6	0.657	12	0.366
7294.1	12	46	0	7294	4233	586.4	826.9	0.665	830.4	0.666	15	0.633
7415	12	372	0.006	7295	7294	586.4	826.9	0.513	830.2	0.515	15	0.399
3494	10	58	0.044	3482	3488	346.3	476.9	0.482	654.8	0.613	15	0.322
3590	10	246	0.006	3488	3578	350.4	482.4	0.551	661.3	0.695	15	0.380
3630	12	493	0.01	3578	3617	371.1	511.1	0.42	693.4	0.49	15	0.367
3650	12	122	0.01	3617	3639	494.9	682.3	0.516	869.4	0.604	15	0.442
3662	12	129	0.005	3639	3649	503.1	693.6	0.544	881.3	0.629	15	0.461
3692	12	260	0.012	3649	3676	651.7	897.9	0.559	1090.6	0.628	15	0.463
3724	12	276	0.01	3676	3708	804.4	1107.8	0.645	1306.4	0.73	15	0.525
3753	12	276	0.009	3708	3736	841.6	1158.8	0.621	1360.4	0.699	15	0.507
4063	8	655	0.004	4039	3922	126.0	173.2	0.5	253.6	0.709	10	0.499
4160	12	140	0.01	4119	4129	674.1	689.3	0.529	730.6	0.549	15	0.506
4161	12	114	0.004	4129	4134	674.2	689.5	0.622	731.3	0.65	15	0.594
4185	12	216	0.004	4134	4150	679.8	697.2	0.648	743.7	0.677	15	0.616

Table 6-8: Gravity Mains Unable to Satisfy Design Criteria for 2050 Conditions

Pipe ID	Existing Diameter (in)	Pipe Length (ft)	Slope	Upstream Manhole ID	Downstream Manhole ID	Average Dry Weather Flow (gpm)	Peak Dry Weather Flow (gpm)	Peak Dry Weather d/D	Peak Wet Weather Flow (gpm)	Peak Wet Weather d/D	Replacement Diameter (in)	Replacement 2050 Peak Wet Weather d/D
2990	12	14	0.003	2976	2975	701.0	966.7	0.6	1055.5	0.635	15	0.460
3068	12	335	0.005	3057	2976	355.5	492.6	0.695	512.7	0.73	15	0.517
4247	24	220	0.01	4207	4209	3459.9	4945.9	0.61	7006.9	0.805	27	0.622
4274	24	391	0.006	4209	10002	3459.9	4945.7	0.494	7010.5	0.66	27	0.514
4276	30	58	0.012	4233	4223	6230.8	8499.3	0.723	10888.8	0.87	36	0.704
5579	12	626	0.005	5418	2976	334.8	459.4	0.678	528.0	0.726	15	0.514
1100	8	99	0.008	1103	1074	58.9	81.3	0.641	102.9	0.738	12	0.640
3349	10	338	0.006	3303	3335	332.5	458.2	0.582	589.6	0.694	12	0.506
3376	10	299	0.005	3335	3369	332.5	458.2	0.579	590.7	0.69	12	0.503
3424	10	414	0.007	3369	3417	333.1	459.0	0.498	593.2	0.584	12	0.438
3488	10	287	0.019	3417	3482	333.1	459.0	0.382	594.3	0.445	12	0.333
4229	21	13	0.005	4187	4189	2400.6	3497.5	0.884	5439.4	1	27	0.787
4245	24	283	0.003	4189	4207	3459.9	4945.9	0.63	7004.9	0.805	27	0.644
16807	12	15	0.027	15288	15066	733.0	1275.3	1	1196.0	1	15	0.414

Table 6-9: Pipeline Improvement Summary Table with Associated Basins and Streets

ID	YEAR	LENGTH	Existing Diameter, Inch	New Diameter, Inch	From Manhole ID	To Manhole ID	Project_No*	Basin	Street Name
2781	2013	421	8	15	2650	2770	P1	G Street	Broadway
2888	2013	442	8	15	2770	2869	P1	G Street	Broadway
2917	2013	133	8	15	2869	2901	P1	G Street	Broadway
3042	2042	617	18	21	2982	3029	P2	G Street	G Street
3066	2042	332	18	21	3029	3055	P2	G Street	G Street
3094	2042	329	18	21	3055	3083	P2	G Street	G Street
3106	2042	187	18	21	3083	3094	P2	G Street	G Street
3137	2042	318	18	21	3094	3119	P2	G Street	G Street
3158	2042	401	18	21	3119	3142	P2	G Street	G Street
3185	2042	319	18	21	3142	3169	P2	Bayfront	G Street
5534	2042	337	8	12	5495	5391	P3	G Street	4th Avenue
5537	2042	325	8	12	5498	5495	P3	G Street	4th Avenue
5375	2017	425	8	10	5330	5338	P4	G Street	G Street
5379	2017	239	8	10	5338	5342	P4	G Street	G Street
5387	2017	334	8	12	5342	5351	P4	G Street	G Street
5395	2017	306	8	12	5351	5359	P4	G Street	G Street
2870	2017	65	8	10	2853	2836	P5	G Street	H Street
3349	2050	338	10	12	3303	3335	P6	Telegraph Canyon	H Street
3376	2050	299	10	12	3335	3369	P6	Telegraph Canyon	H Street
3424	2050	414	10	12	3369	3417	P6	Telegraph Canyon	H Street
3488	2050	287	10	12	3417	3482	P6	Telegraph Canyon	H Street
3494	2042	58	10	15	3482	3488	P6	Telegraph Canyon	Broadway
3590	2042	246	10	15	3488	3578	P6	Telegraph Canyon	Broadway
3516	2027	255	8	12	3483	3507	P7	Telegraph Canyon	H Street
3543	2027	126	8	12	3507	3532	P7	Telegraph Canyon	H Street
3677	2027	407	8	12	3532	3661	P7	Telegraph Canyon	Bay Blvd
4160	2042	140	12	15	4119	4129	P8	Telegraph Canyon	J Street
4161	2042	114	12	15	4129	4134	P8	Telegraph Canyon	J Street
4185	2042	216	12	15	4134	4150	P8	Telegraph Canyon	J Street
4290	2013	373	15	24	4243	4189	P9	Telegraph Canyon	Colorado Ave
4325	2013	443	15	18	4277	4243	P9	Telegraph Canyon	Colorado Ave
4375	2013	498	15	18	4328	4277	P9	Telegraph Canyon	Colorado Ave
4383	2017	262	15	18	4337	4328	P10	Telegraph Canyon	K Street
4418	2017	434	15	18	4369	4337	P10	Telegraph Canyon	Industrial Blvd

ID	YEAR	LENGTH	Existing Diameter, Inch	New Diameter, Inch	From Manhole ID	To Manhole ID	Project_No*	Basin	Street Name
4453	2017	446	15	18	4409	4369	P10	Telegraph Canyon	Industrial Blvd
4500	2017	444	15	18	4455	4409	P10	Telegraph Canyon	Industrial Blvd
4535	2017	443	15	18	4492	4455	P10	Telegraph Canyon	Industrial Blvd
4566	2017	427	15	18	4525	4492	P10	Telegraph Canyon	Industrial Blvd
4607	2013	269	10	18	4562	4567	P10	Telegraph Canyon	Moss Street
4608	2017	454	15	18	4567	4525	P10	Telegraph Canyon	Industrial Blvd
4091	2017	323	8	12	4065	4001	P11	Telegraph Canyon	5th Avenue
4154	2017	330	8	12	4122	4065	P11	Telegraph Canyon	5th Avenue
4170	2017	69	8	12	4136	4122	P11	Telegraph Canyon	5th Avenue
4231	2017	261	8	10	4191	4136	P11	Telegraph Canyon	5th Avenue
4063	2042	655	8	10	4039	3922	P12	Telegraph Canyon	4th Avenue
3427	2013	452	21	24	3362	3420	P13	Telegraph Canyon	J Street
3477	2013	447	21	24	3420	3472	P13	Telegraph Canyon	J Street
3524	2013	425	21	24	3472	3514	P13	Telegraph Canyon	J Street
3504	2013	379	21	24	3495	3362	P13	Telegraph Canyon	Hilltop Drive
3584	2013	35	18	24	3514	3527	P13	Telegraph Canyon	J Street
3602	2013	220	8	12	3568	3588	P13	Telegraph Canyon	J Street
3618	2013	221	8	12	3588	3603	P13	Telegraph Canyon	J Street
3674	2013	440	8	12	3603	3658	P13	Telegraph Canyon	J Street
3626	2013	367	21	24	3612	3495	P13	Telegraph Canyon	Hilltop Drive
3707	2013	334	8	12	3658	3692	P13	Telegraph Canyon	J Street
3748	2013	327	8	12	3692	3731	P13	Telegraph Canyon	J Street
3722	2013	453	21	24	3706	3612	P13	Telegraph Canyon	Hilltop Drive
3780	2013	325	8	12	3731	3764	P13	Telegraph Canyon	J Street
3826	2013	316	8	15	3764	3810	P13	Telegraph Canyon	J Street
3864	2013	84	10	12	3842	3845	P13	Telegraph Canyon	J Street
3894	2013	403	10	12	3845	3872	P13	Telegraph Canyon	J Street
3915	2013	257	10	12	3872	3891	P13	Telegraph Canyon	J Street
3527.1	2013	406	8	12	3527	3568	P13	Telegraph Canyon	J Street
3861	2013	325	10	12	3810	3842	P13	Telegraph Canyon	J Street
3697	2017	382	21	24	3680	3681	P14	Telegraph Canyon	Telegraph Canyon Rd
3721	2017	278	21	24	3681	3706	P14	Telegraph Canyon	Telegraph Canyon Rd

ID	YEAR	LENGTH	Existing Diameter, Inch	New Diameter, Inch	From Manhole ID	To Manhole ID	Project_No*	Basin	Street Name
3703	2017	291	21	24	3687	3680	P14	Telegraph Canyon	Telegraph Canyon Rd
3720	2017	276	21	24	3705	3687	P14	Telegraph Canyon	Telegraph Canyon Rd
3622	2022	320	18	21	3607	3608	P15	Telegraph Canyon	Telegraph Canyon Rd
3625	2022	297	18	21	3608	3611	P15	Telegraph Canyon	Telegraph Canyon Rd
3624	2022	237	18	21	3610	3607	P15	Telegraph Canyon	Telegraph Canyon Rd
3670	2022	298	18	21	3611	3655	P15	Telegraph Canyon	Telegraph Canyon Rd
3730	2022	292	18	21	3655	3713	P15	Telegraph Canyon	Telegraph Canyon Rd
3768	2022	288	18	21	3713	3753	P15	Telegraph Canyon	Telegraph Canyon Rd
3745	2022	294	18	21	3729	3705	P15	Telegraph Canyon	Telegraph Canyon Rd
3765	2022	309	18	21	3750	3729	P15	Telegraph Canyon	Telegraph Canyon Rd
3798	2022	293	18	21	3753	3782	P15	Telegraph Canyon	Telegraph Canyon Rd
3801	2022	288	18	21	3782	3783	P15	Telegraph Canyon	Telegraph Canyon Rd
3799	2022	292	18	21	3783	3750	P15	Telegraph Canyon	Telegraph Canyon Rd
3643	2022	254	21	21	3615	3610	P15	Telegraph Canyon	Telegraph Canyon Rd
4537	2017	350	8	12	4488	4494	P16	Telegraph Canyon	Moss Street
4545	2017	348	8	12	4494	4502	P16	Telegraph Canyon	Moss Street
4550	2017	264	8	12	4502	9192	P16	Telegraph Canyon	Moss Street
4649	2017	89	12	15	4600	4604	P17	Telegraph Canyon	Naples Street
4655	2017	219	12	15	4604	4610	P17	Telegraph Canyon	Naples Street
4661	2017	231	12	15	4610	4616	P17	Telegraph Canyon	Naples Street
4672	2017	411	12	15	4616	4626	P17	Telegraph Canyon	Naples Street
4684	2017	379	12	15	4626	4639	P17	Telegraph Canyon	Naples Street

ID	YEAR	LENGTH	Existing Diameter, Inch	New Diameter, Inch	From Manhole ID	To Manhole ID	Project_No*	Basin	Street Name
4689	2017	316	12	15	4639	4644	P17	Telegraph Canyon	Naples Street
4698	2017	345	12	15	4644	4655	P17	Telegraph Canyon	Naples Street
4706	2017	346	12	15	4655	4662	P17	Telegraph Canyon	Naples Street
4712	2017	366	12	15	4662	4669	P17	Telegraph Canyon	Naples Street
4766	2013	69	12	15	4722	4726	P18	Main Street	Oxford Street
4772	2013	401	12	15	4726	4733	P18	Main Street	Oxford Street
4787	2013	374	12	15	4733	4749	P18	Main Street	Oxford Street
4804	2013	322	12	15	4749	4763	P18	Main Street	Oxford Street
4800	2013	342	8	12	4759	4722	P18	Main Street	Oxford Street
7414	2042	355	12	15	4261	7295	P19	Bayfront	Marina Pkwy
7294.1	2042	46	12	15	7294	4233	P19	Bayfront	Marina Pkwy
7415	2042	372	12	15	7295	7294	P19	Bayfront	Marina Pkwy
5702	2017	289	8	15	5619	5616	P20	Telegraph Canyon	E. Naples St
5180	2017	327	10	15	5129	5127	P21	Main Street	Main Street
5181	2017	332	10	15	5130	5129	P21	Main Street	Main Street
5965	2017	333	10	15	5886	5130	P21	Main Street	Main Street
5969	2013	219	10	15	5879	5890	P22	Main Street	Main Street
5958	2013	122	10	15	5880	5879	P22	Main Street	Main Street
6503	2013	114	8	12	5080	6413	P23	Main Street	Palm Road
6498	2013	230	8	12	6409	6400	P23	Main Street	Walnut Drive
6504	2013	293	8	12	6413	6414	P23	Main Street	Walnut Drive
6505	2013	77	8	12	6414	6409	P23	Main Street	Walnut Drive
IEC_NEW_PIPE_05	2013	14	12	12	6400	14214	P23	Main Street	Main Street
9077	2017	13	10	10	6432	6429	P24	Date Fairve	Otay Valley Rd
6482	2017	98	8	8	6395	5131	P24	Main Street	Main Street
6343	2032	132	8	10	6258	6248	P25	Main Street	E. Rienstra St
6344	2032	169	8	10	6259	6258	P25	Main Street	E. Rienstra St
6345	2032	319	8	10	6260	6259	P25	Main Street	E. Reinstra S
9083	POGGI DIF	68	18	21	13844	8978	P26	Poggi Canyon	E. Orange Ave
7222	POGGI DIF	246	18	21	7109	7108	P26	Poggi Canyon	E. Orange Ave
9081	POGGI DIF	159	18	21	8975	8976	P26	Poggi Canyon	Olympic Pkwy

ID	YEAR	LENGTH	Existing Diameter, Inch	New Diameter, Inch	From Manhole ID	To Manhole ID	Project_No*	Basin	Street Name
9082	POGGI DIF	48	18	21	8976	13844	P26	Poggi Canyon	Olympic Pkwy
9084	POGGI DIF	296	18	21	8978	8979	P26	Poggi Canyon	E. Orange Ave
9085	POGGI DIF	223	18	21	8979	8980	P26	Poggi Canyon	E. Orange Ave
17845	POGGI DIF	307	18	21	8980	7109	P26	Poggi Canyon	E. Orange Ave
7013	2037	152	10	12	6904	6907	P27	Date Fairve	Main Street
7392	2037	167	10	12	6908	8675	P27	Date Fairve	Main Street
7394	2037	384	10	12	7278	7277	P27	Date Fairve	Main Street
7014	2037	238	10	12	8675	6904	P27	Date Fairve	Main Street
IEC_NEW_PIPE_03	2037	9	10	12	IEC_NEW_MH_03	14211	P27	Date Fairve	Main Street
13755	2037	18	10	12	7277	6908	P27	Salt Creek	Main Street
3629	2037	211	18	21	3616	3615	P28	Telegraph Canyon	Telegraph Canyon
3653	2037	267	18	21	3643	3616	P28	Telegraph Canyon	Telegraph Canyon Rd
3659	2037	332	18	21	3647	3643	P28	Telegraph Canyon	Telegraph Canyon Rd
3673	2037	181	18	21	3657	3647	P28	Telegraph Canyon	Telegraph Canyon Rd
3686	2037	122	18	21	3669	3657	P28	Telegraph Canyon	Telegraph Canyon Rd
3714	2037	305	18	21	3701	3669	P28	Telegraph Canyon	Telegraph Canyon Rd
3744	2037	291	18	21	3728	3701	P28	Telegraph Canyon	Telegraph Canyon Rd
3761	2037	288	18	21	3746	3728	P28	Telegraph Canyon	Telegraph Canyon Rd
3775	2037	301	18	21	3760	3746	P28	Telegraph Canyon	Telegraph Canyon Rd
3796	2037	313	18	21	3779	3760	P28	Telegraph Canyon	Telegraph Canyon Rd
3803	2037	145	18	21	3785	3779	P28	Telegraph Canyon	Telegraph Canyon Rd

ID	YEAR	LENGTH	Existing Diameter, Inch	New Diameter, Inch	From Manhole ID	To Manhole ID	Project_No*	Basin	Street Name
16461	2037	248	10	15	15046	15058	P29	Salt Creek	Exploration Falls
16462	2037	289	10	15	15058	15066	P29	Salt Creek	Exploration Falls
16809	2037	400	12	15	15287	15289	P29	Salt Creek	Hunte Pkwy
16807	2050	15	12	15	15288	15066	P29	Salt Creek	Hunte Pkwy
16808	2037	212	12	15	15289	15288	P29	Salt Creek	Hunte Pkwy
17093	2017	174	12	18	15538	13980	P30	Salt Creek	Private Rd
2631	2013	396	12	15	2615	2592	P31	Sweetwater	E. H Street
1100	2050	99	8	12	1103	1074	P32	Sweetwater	I-805 NB
314	2037	375	8	12	324	278	P33	Sweetwater	Otay Lakes Rd
5959	2017	345	10	15	5881	5880	P35	Main Street	Main Street
5960	2017	379	10	15	5882	5881	P35	Main Street	Main Street
6301.2	2037	211	8	12	6301	6302	P36	Main Street	Loma Lane
6421	2037	148	8	12	6302	6333	P36	Main Street	Loma Lane
6393	2037	346	8	12	6303	6301	P36	Main Street	Loma Lane
6394	2037	243	8	12	6304	6303	P36	Main Street	Loma Lane
5120	2017	320	8	12	5046	5071	P37	Main Street	Palm Road
5097	2017	107	8	12	5047	5046	P37	Main Street	Palm Road
5128	2017	187	8	12	5071	5080	P37	Main Street	Palm Road
6423	2017	398	8	12	6333	6336	P37	Main Street	Loma Lane
6425	2017	101	8	12	6336	6338	P37	Main Street	Btwn Loma Ln and Palm Rd
6426	2017	30	8	12	6338	6339	P37	Main Street	Btwn Loma Ln and Palm Rd
6428	2017	124	8	12	6339	6340	P37	Main Street	Btwn Loma Ln and Palm Rd
6429	2017	223	8	12	6340	5047	P37	Main Street	Palm Road
3779	2032	306	8	15	3661	3763	P38	Telegraph Canyon	Bay Blvd
3778	2032	241	12	15	3736	3763	P38	Telegraph Canyon	Btwn 1st and H Street
4247	2050	220	24	27	4207	4209	P39	Bayfront	J Street
4274	2050	391	24	27	4209	10002	P39	Bayfront	J Street
4229	2050	13	21	27	4187	4189	P39	Telegraph Canyon	J Street
4245	2050	283	24	27	4189	4207	P39	Telegraph Canyon	J Street

ID	YEAR	LENGTH	Existing Diameter, Inch	New Diameter, Inch	From Manhole ID	To Manhole ID	Project_No*	Basin	Street Name
4276	2050	58	30	36	4233	4223	P40	Bayfront	Bay Blvd
17112	2027	394	12	18	15542	15538	P42	Salt Creek	Hunte Pkwy
16464	2032	384	12	18	15056	15059	P43	Salt Creek	Hunte Pkwy
16465	2032	400	12	18	15059	15067	P43	Salt Creek	Hunte Pkwy
16477	2032	349	12	18	15060	15061	P43	Salt Creek	Hunte Pkwy
16478	2032	370	12	18	15061	15062	P43	Salt Creek	Hunte Pkwy
16479	2032	351	12	18	15062	15063	P43	Salt Creek	Hunte Pkwy
16480	2032	350	12	18	15063	15065	P43	Salt Creek	Hunte Pkwy
16482	2032	337	12	18	15064	15069	P43	Salt Creek	Hunte Pkwy
16481	2032	225	12	18	15065	15064	P43	Salt Creek	Hunte Pkwy
16463	2032	82	12	18	15066	15056	P43	Salt Creek	Hunte Pkwy
16476	2032	261	12	18	15067	15060	P43	Salt Creek	Hunte Pkwy
17111	2032	128	12	18	15069	15542	P43	Salt Creek	Hunte Pkwy
3630	2042	493	12	15	3578	3617	P44	Telegraph Canyon	Btwn 1st and H Street
3650	2042	122	12	15	3617	3639	P44	Telegraph Canyon	Btwn 1st and H Street
3662	2042	129	12	15	3639	3649	P44	Telegraph Canyon	Btwn 1st and H Street
3692	2042	260	12	15	3649	3676	P44	Telegraph Canyon	Btwn 1st and H Street
3724	2042	276	12	15	3676	3708	P44	Telegraph Canyon	Btwn 1st and H Street
3753	2042	276	12	15	3708	3736	P44	Telegraph Canyon	Btwn 1st and H Street
6822	2037	163	8	10	6722	6721	P45	Main Street	Marl Court
6824	2037	148	8	10	6723	6722	P45	Main Street	Marl Court
2990	2050	14	12	15	2976	2975	P46	G Street	G Street
3068	2050	335	12	15	3057	2976	P46	G Street	Vance St
5579	2050	626	12	15	5418	2976	P46	G Street	G Street

*Project Numbers are discussed further in Chapter 7.

6.3 LIFT STATION RESULTS

6.3.1 RECOMMENDED PUMP STATION IMPROVEMENTS

The hydraulic analysis found that the all seven of the existing lift stations modeled have a maximum pumping capacity that is sufficient when accounting for and allowing for operational storage at each site to be utilized during the peak times of the day. This analysis is based on measuring the PWWF against the maximum pumping flow capacity at each lift station. Table 6-10 below summarizes each lift station included in the hydraulic model evaluation results having no recommended improvements needed.

Table 6-10: Lift Station Pump Capacity 2050 PWWF Results

Number	Existing Active Lift Stations	No. of Pumps Operating[1]	Existing PS Max Flow (GPM)[1]	2050 PWWF Flow through the Lift Station (gpm)	Additional pumping required (gpm)	Existing Operational Wet well Capacity (gallons)
1	Agua Vista[2]	2	308	355	47	7,140
2	Corral Ct	2	90	10	0	2,818
3	G Street	2	225	60	0	1,127
4	Hilltop	2	100	9	0	940
5	OTC [2]	2	188	203	15	5,224
6	Parkside Dr	2	316	38	0	10,218
7	Surrey Pl	2	35	6	0	1,761

1. Information collected from City Staff, Dated July 2, 2013
2. Pumps maximum pumping capacity and wet well capacity received from City, based on two pumps operating.
3. Utilizing the existing operational wet well capacity at lift stations, the existing pumping capacity is sufficient through 2050.

6.3.2. RECOMMENDED EMERGENCY STORAGE REQUIREMENTS

Based on the hydraulic modeling results for the seven lift stations modeled, while the pumps are sufficient, the wet well emergency storage capacity requirements were not suffiencent in all locations except Parkside Dr. Table 6-11 identifies the lift station emergency storage requirements and the recommended year for improvement.

Table 6-11: Wet Well Emergency Storage Requirements

Number	Lift Station Description	6-Hour Emergency Storage Required (gallons)	Recommended Year Proposed
1	Agua Vista	102,447	2017
2	Corral Ct	2,739	2017
3	G Street	16,305	2042
4	Hilltop	2,337	2017
5	OTC	56,758	2017
6	Parkside Dr.	10,715	None
7	Surrey Pl	1,571	2017