

SASD 2020 SYSTEM CAPACITY PLAN EXPANSION TRUNK SHEDS

BR EAST RANCHO TRUNK SHED

Area Description

The BR East Rancho Trunk Shed encompasses a large area located in the eastern part of Sacramento County, south of Folsom Boulevard. The western half of the shed lies in the City of Rancho Cordova, east of Sunrise Boulevard. The shed extends east to the Urban Services Boundary. The southern boundary includes Jackson Road, Grant Line Road, and the Urban Services Boundary.

Trunk System Facilities**Overview Trunk System Facilities – Outfall Locations 1 & 2**

The BR East Rancho buildout expansion trunks are planned to drain to either of two locations which are referred to as Location #1 Outfall and Location #2 Outfall. Location #1 Outfall is located at the S132 Chrysanthy Pump Station, and it will serve the developments in the southern portion of the BR East Rancho shed. Location #2 Outfall is adjacent to White Rock Road, approximately one-half mile east of Sunrise Boulevard, and it will serve the developments in the northern portion of the BR East Rancho shed. Flows at the two outfall locations are planned to be conveyed by future Regional interceptor facilities.

Many of the developments that are located within the shed have approved sewer studies, and their information has been incorporated into the System Capacity Plan.

Trunk facility descriptions are organized by five distinct areas to help make the trunk facility descriptions easier to interpret because trunk sewers may travel through several developments.

Please refer to **Figure A.3-3 – BR East Rancho Sewer Shed Map (Area 1 – Area 5)** when reviewing the trunk shed plan descriptions below.

Trunk System Facilities Description by Area (Figure A.3-4 to Figure A.3-8)

Area 1 – This area serves the **Westborough** development and the northern portion of the **Rio Del Oro** development, in addition to areas without sewer study plans. The shed is planned to be served by four major trunk sewer branches with a few minor connecting trunks, all of which drain to Location #2. There are no trunk pump stations anticipated for this shed.

A trunk sewer will serve the **Westborough** development, which is located in the northwest portion of Area 1. The sewer will drain from north to south and discharge to Location #2 Outfall.

Another trunk sewer serves the northern portion of the **Rio Del Oro** development, located in the southwest portion of Area 1. This trunk sewer drains west and north to connect with the future Location #2 Outfall facility.

The eastern portion of the Area 1 shed currently has no planned developments but it would require at least two major trunk sewers that would drain from the east to the west and discharge to Location #2 Outfall. These two sewer systems have smaller connecting trunks.

Area 2 – Area 2 contains several developments in varying stages of completion. Three new trunk gravity sewers and a trunk pump station are planned for this area. The existing Douglas Trunk sewer serves several completed developments. All of Area 2 sewers drain to Location #1 Outfall.

A trunk sewer is planned for the southern portion of the **Rio Del Oro** development and will drain southwest to a trunk pump station located on the east side of Sunrise Boulevard, north of Douglas Road. The pump station's force main discharges to Location #1 Outfall.

Be aware that the planning of Rio Del Oro's sewer system in the southern area, including the proposed pump station, should consider a design that would allow for a gravity connection to a future Regional San interceptor, in the case that an interceptor is constructed between the Location #1 Outfall and the Location #2 Outfall facility. This would allow for the abandonment of the Rio Del Oro trunk pump station.

A second trunk sewer is planned to go through the **Ranch** development, connect to trunk manhole 322-221-1008, and discharge to the Aerojet Interceptor 1B located in Chrysanthy Boulevard. This trunk is planned to be the outfall of the **Cordova Hills Phase 1** force main and will serve nearby developments.

A third trunk sewer is planned to serve the eastern portion of the Area 2, east of Grant Line Road.

Several force mains from upstream pump stations will travel through the Area 2 shed and share the Douglas Road and Chrysanthy Boulevard sewer alignments to discharge to Location #1 Outfall.

Area 3 – Area 3 is located in the southwest portion of the BR East Rancho shed. The area has two developments, **SunCreek** and **Aboretum**. There is a small portion of this shed without any approved sewer studies.

The **SunCreek** development is spread out across the shed and will be served by two separate sewer systems. The northern portion of **SunCreek** is planned to be served by a trunk pump station that discharges to the existing Aerojet Interceptor 1B at manhole N47-MH0108A, located in Chrysanthy Boulevard. Two gravity trunk sewers will connect to the pump station. This trunk also serves the areas in the shed that do not have approved sewer studies.

The southern portion of the **SunCreek** development will drain to a trunk pump station with one connecting trunk sewer. The pump station is located near the western shed boundary, near Sunrise Boulevard. This pump station will also provide service to the Anatolia-3 development, which currently is draining to the interim S138 Pump Station. The discharge for this future trunk pump station is Location #1 Outfall.

Aboretum is at the southern boundary of the shed and is planned to be served by a trunk pump station with one connecting trunk sewer. This trunk sewer originates from two upstream trunk sewer branches.

The pump station will be located near the intersection of Jackson Highway and Sunrise Boulevard and discharge to Location #1 Outfall.

Area 4 – Area 4 is located in the eastern portion of the BR East Rancho shed, above Area 5. Currently there are no approved sewer studies for Area 4.

Two major trunk systems are planned to serve Area 4. The two parallel trunk systems will convey shed flows from north to the south with each system draining to its own trunk pump station. Both pump stations' force mains are planned to convey flow along the Glory Lane/Douglas Road alignment and ultimately discharge to Location #1 Outfall.

Area 5 – Area 5 is located in the southeast portion of the BR East Rancho shed, situated below Area 4. Most of Area 5 is made up of **Cordova Hills**, a large development with an approved sewer study. The remaining area located south of **Cordova Hills** currently has no planned developments.

Area 5 is planned to be served by two major trunk systems, each draining to downstream trunk pump stations.

The trunk system to the north has two branches, and it serves mostly the **Cordova Hills** development.

The south trunk system travels near the Urban Services Boundary alignment and connects to a downstream trunk pump station. This trunk sewer serves some of the eastern portions of the **Cordova Hills** development and most of the south **Cordova Hills** area.

The pump station to the north will have two force mains, one of the force mains will be used for the **Cordova Hills Phase 1** development.

The pump station located to the south will have one force main.

The force mains from both stations are planned to travel over an unnamed alignment until traveling north on Grant Line Road, west on Chrysanthy Boulevard before discharging to the ultimate destination of Location #1 Outfall.

BR East Rancho
Trunk Sewer Data and Model Results
Buildout 10-Year Design Storm

Area	US Manhole	DS Manhole	Link Type	Diameter (in)	Length (ft)	US Rim Elev. (ft)	US Invert Elev. (ft)	DS Rim Elev. (ft)	DS Invert Elev. (ft)	Slope (%)	Full Capacity (mgd)	Peak Flow (mgd)	% Full Capacity	d/D
Area 1	2123-EN01	2207-EN02	Gravity Main	12	1965	140.5	114.3	138.0	109.6	0.24	1.1	1.0	92	0.77
	2207-EN02	2207-EN01	Gravity Main	21	805	138.0	108.9	139.0	107.9	0.12	3.6	2.4	69	0.66
	2207-EN01	2291-EN01	Gravity Main	21	1285	139.0	107.9	134.5	106.3	0.13	3.7	2.8	77	0.76
	2291-EN01	2375-EN01	Gravity Main	21	2361	134.5	106.3	139.5	103.4	0.12	3.6	3.2	91	0.75
	2375-EN01	2376-EN05	Gravity Main	24	764	139.5	103.2	136.5	102.3	0.11	4.9	4.0	82	0.7
	2376-EN05	2376-EN03	Gravity Main	24	585	136.5	102.3	134.0	101.6	0.12	5.1	4.2	83	0.68
	2376-EN03	2376-EN02	Gravity Main	27	455	134.0	101.4	132.5	100.8	0.12	7.0	5.1	73	0.64
	2376-EN02	2376-EN01	Gravity Main	27	795	132.5	100.8	130.5	99.9	0.12	7.0	5.1	73	0.65
	2376-EN01	2460-EN01	Gravity Main	27	935	130.5	99.9	128.5	98.7	0.12	7.0	5.3	76	0.66
	2460-EN01	2460-EN02	Gravity Main	27	185	128.5	98.7	124.0	98.5	0.12	7.1	5.5	78	0.65
	2460-EN02	2460-INT01	Gravity Main	27	311	124.0	98.5	124.7	98.2	0.10	6.3	5.5	87	0.63
	2207-EN03	2207-EN02	Gravity Main	15	475	139.0	117.4	138.0	108.9	1.80	5.6	1.0	19	0.87
	2285-EN02	2285-EN01	Gravity Main	12	2269	275.6	261.0	258.0	240.0	0.92	2.2	1.4	61	0.57
	2285-EN01	2286-EN01	Gravity Main	15	2961	258.0	233.2	229.7	212.0	0.72	3.5	2.4	68	0.86
	2286-EN01	2287-EN01	Gravity Main	15	2884	229.7	212.0	201.7	186.3	0.89	4.0	3.7	94	0.78
	2375-EN03	2375-EN02	Gravity Main	18	687	170.6	152.0	138.0	125.6	3.85	13.3	8.9	66	0.69
	2287-EN01	2372-EN01	Gravity Main	27	2704	201.7	185.3	193.4	182.6	0.10	6.3	4.9	77	0.66
	2372-EN01	2373-EN01	Gravity Main	27	2661	193.4	172.2	191.1	169.6	0.10	6.3	5.6	88	0.72
	2375-EN02	2460-INT01	Gravity Main	27	2935	138.0	124.8	124.7	118.0	0.23	9.7	9.1	95	0.78
	2373-EN01	2374-EN01	Gravity Main	30	2653	191.1	157.2	180.9	154.5	0.10	8.4	7.9	94	0.83
	2374-EN01	2375-EN03	Gravity Main	30	3264	180.9	154.5	170.6	151.0	0.11	8.7	8.5	98	0.82
	2288-EN01	2373-EN01	Gravity Main	15	3313	194.7	173.1	191.1	167.1	0.18	1.8	1.2	66	0.59
	2452-EN01	2453-EN02	Gravity Main	10	1334	280.0	267.9	273.1	256.8	0.83	1.3	1.1	84	0.71
	2453-EN01	2454-EN02	Gravity Main	12	2208	267.1	253.8	232.0	217.8	1.63	2.9	2.2	76	0.66
	2453-EN02	2453-EN01	Gravity Main	15	1476	273.1	256.4	267.1	253.8	0.18	1.8	1.6	92	0.76
	2454-EN02	2454-EN01	Gravity Main	18	1590	232.0	217.0	253.3	207.5	0.60	5.3	4.7	89	0.73
	2454-EN01	2455-EN01	Gravity Main	21	2610	253.3	207.2	204.1	194.0	0.51	7.3	5.3	73	0.64
	2374-EN02	2459-EN01	Gravity Main	21	2964	180.9	162.4	142.6	129.9	1.10	10.7	7.4	69	0.63
	2459-EN01	2460-INT01	Gravity Main	24	3146	142.6	129.7	124.7	115.0	0.47	10.0	7.4	74	0.64
	2455-EN01	2371-EN01	Gravity Main	30	1719	204.1	181.5	240.0	179.8	0.10	8.4	7.0	84	0.77
	2371-EN01	2371-EN02	Gravity Main	30	638	240.0	179.8	191.4	179.2	0.10	8.4	7.5	89	0.75
	2371-EN02	2372-EN02	Gravity Main	30	2683	191.4	179.2	190.1	176.5	0.10	8.4	7.5	89	0.73
	2372-EN02	2373-EN02	Gravity Main	30	2751	190.1	168.0	180.2	165.3	0.10	8.4	7.5	89	0.73
	2373-EN02	2374-EN02	Gravity Main	30	2825	180.2	165.3	180.9	162.4	0.10	8.4	7.5	89	0.73
	2537-EN02	2537-EN01	Gravity Main	15	1439	266.0	245.3	259.9	237.7	0.53	3.0	1.5	48	0.56
	2537-EN01	2454-EN02	Gravity Main	15	2398	259.9	237.7	232.0	225.0	0.53	3.0	1.8	59	0.56
	2539-EN01	2455-EN01	Gravity Main	15	2336	192.0	187.0	204.1	182.8	0.18	1.8	1.2	69	0.62
	2540-EN01	2541-EN02	Gravity Main	15	2147	175.2	159.4	172.0	155.6	0.18	1.8	1.4	79	0.67
	2541-EN02	2541-EN01	Gravity Main	21	1330	172.0	155.1	173.8	153.5	0.12	3.6	2.9	82	0.69
	2544-EN02	2544-EN01	Gravity Main	21	813	158.2	135.4	136.0	129.0	0.78	9.1	6.3	69	0.62
	2541-EN01	2542-EN01	Gravity Main	24	1682	173.8	152.7	173.4	150.9	0.11	4.9	3.7	76	0.74
	2542-EN01	2458-EN01	Gravity Main	24	2211	173.4	150.9	179.6	148.4	0.11	4.9	4.2	86	0.8
	2458-EN01	2543-EN01	Gravity Main	24	1431	179.6	148.4	164.6	146.9	0.11	4.9	4.8	98	0.79
	2543-EN01	2544-EN02	Gravity Main	27	3236	164.6	138.6	158.2	135.4	0.10	6.3	5.9	92	0.77
	2544-EN01	2460-EN03	Gravity Main	30	2373	136.0	112.4	124.0	110.1	0.10	8.4	6.6	79	0.67
	2460-EN03	2460-INT01	Gravity Main	30	299	124.0	110.1	124.7	109.8	0.10	8.4	6.6	79	0.58

BR East Rancho
Trunk Sewer Data and Model Results
Buildout 10-Year Design Storm

Area	US Manhole	DS Manhole	Link Type	Diameter (in)	Length (ft)	US Rim Elev. (ft)	US Invert Elev. (ft)	DS Rim Elev. (ft)	DS Invert Elev. (ft)	Slope (%)	Full Capacity (mgd)	Peak Flow (mgd)	% Full Capacity	d/D
Area 2	2708-EN01	2709-EN02	Gravity Main	12	1480	198.3	171.4	172.0	162.0	0.63	1.8	1.3	70	0.63
	2709-EN02	2709-EN01	Gravity Main	18	2589	172.0	156.5	173.7	150.3	0.24	3.3	2.0	59	0.56
	2709-EN01	2710-EN01	Gravity Main	18	1402	173.7	150.0	164.1	147.4	0.19	2.9	2.4	82	0.91
	2710-EN01	2794-EN01	Gravity Main	18	1820	164.1	147.7	150.0	142.3	0.30	3.7	3.2	87	0.81
	2794-EN01	2795-EN03	Gravity Main	21	1945	150.0	142.0	152.0	139.7	0.12	3.6	3.5	99	0.83
	2795-EN03	2879-EN03	Gravity Main	24	2195	152.0	136.1	146.0	133.7	0.11	4.9	4.1	84	0.71
	2879-EN03	2879-EN02	Gravity Main	33	59	146.0	118.5	146.0	118.5	0.10	10.8	7.8	72	0.46
	2795-EN02	2795-EN01	Gravity Main	12	1788	164.8	128.4	148.0	122.7	0.32	1.3	1.2	94	0.78
	2795-EN01	2879-EN03	Gravity Main	18	1904	148.0	122.2	146.0	119.5	0.14	2.5	1.9	75	0.65
	2879-EN02	2879-EN01	Pump									7.8		
	2879-EN01	3131-EN01	Force Main	18	6004	146.0	136.0	167.1	157.1			7.8		
	2789-EN01	2873-EN02	Gravity Main	15	1479	257.3	231.9	256.0	229.3	0.18	1.8	1.4	80	0.79
	2873-EN02	2873-EN01	Gravity Main	15	1263	256.0	229.3	248.0	227.0	0.18	1.8	1.7	95	0.78
	2874-EN01	326-230-1001	Gravity Main	18	2960	247.8	220.2	218.2	193.4	0.90	6.5	2.6	40	0.55
	2873-EN01	2874-EN01	Gravity Main	21	202	248.0	220.5	247.8	220.2	0.12	3.6	2.6	73	0.57
	3127-EN14	3127-EN13	Gravity Main	24	400	209.9	200.4	198.5	191.5	2.21	21.8	1.9	9	0.22
	3127-EN13	3127-EN11	Gravity Main	24	300	198.5	191.5	194.1	185.6	1.96	20.5	1.9	9	0.23
	3127-EN11	3127-EN10	Gravity Main	24	100	194.1	185.4	193.0	184.6	0.79	13.0	2.2	17	0.28
	3127-EN10	3127-EN09	Gravity Main	24	400	193.0	184.6	190.2	181.4	0.79	13.0	2.2	17	0.28
	3127-EN09	3127-EN07	Gravity Main	24	392	190.2	181.3	191.1	178.2	0.79	13.0	2.2	17	0.36
	3127-EN07	3127-EN06	Gravity Main	24	400	191.1	178.1	188.7	177.3	0.20	6.6	2.3	35	0.41
	3127-EN06	3127-EN05	Gravity Main	24	400	188.7	177.3	187.3	176.5	0.20	6.6	2.3	35	0.41
	3127-EN05	3127-EN03	Gravity Main	24	23	187.3	176.4	187.2	176.4	0.20	6.6	2.3	35	0.35
	3127-EN03	3127-EN01	Gravity Main	24	363	187.2	175.3	188.1	174.6	0.21	6.7	2.3	34	0.41
	3127-EN01	3128-EN07	Gravity Main	24	500	188.1	165.0	190.2	164.0	0.20	6.6	2.6	39	0.44
	3128-EN07	3128-EN06	Gravity Main	24	476	190.2	164.0	188.4	163.0	0.20	6.5	2.6	39	0.44
	3128-EN06	3128-EN05	Gravity Main	24	496	188.4	163.0	187.7	161.8	0.24	7.2	2.9	41	0.46
	3128-EN05	3128-EN04	Gravity Main	24	447	187.7	161.7	193.5	160.9	0.18	6.2	2.9	47	0.49
	3128-EN04	3128-EN03	Gravity Main	24	470	193.5	160.9	191.4	160.0	0.18	6.2	3.0	48	0.49
	3128-EN03	3128-EN02	Gravity Main	24	353	191.4	160.0	190.0	159.3	0.18	6.2	3.1	50	0.5
	3128-EN02	3128-EN01	Gravity Main	24	353	190.0	159.3	188.6	158.6	0.18	6.2	3.1	51	0.5
	3128-EN01	3129-EN01	Gravity Main	24	352	188.6	158.6	187.3	158.0	0.18	6.2	3.3	54	0.52
	3129-EN01	3045-EN10	Gravity Main	24	346	187.3	157.9	185.4	157.3	0.18	6.2	3.3	54	0.52
	3045-EN10	3045-EN09	Gravity Main	24	347	185.4	157.2	183.4	156.6	0.18	6.2	3.3	54	0.52
	3045-EN09	3045-EN08	Gravity Main	24	338	183.4	156.6	181.5	156.0	0.18	6.2	3.3	54	0.52
	3045-EN08	3045-EN07	Gravity Main	24	500	181.5	155.7	178.9	155.0	0.14	5.5	3.7	68	0.6
	3045-EN07	3045-EN06	Gravity Main	24	469	178.9	155.0	178.0	154.3	0.14	5.5	3.7	68	0.59
	3045-EN06	322-221-1009	Gravity Main	24	43	178.0	150.2	180.0	150.1	0.14	5.5	3.7	68	1

BR East Rancho

Trunk Sewer Data and Model Results

Buildout 10-Year Design Storm

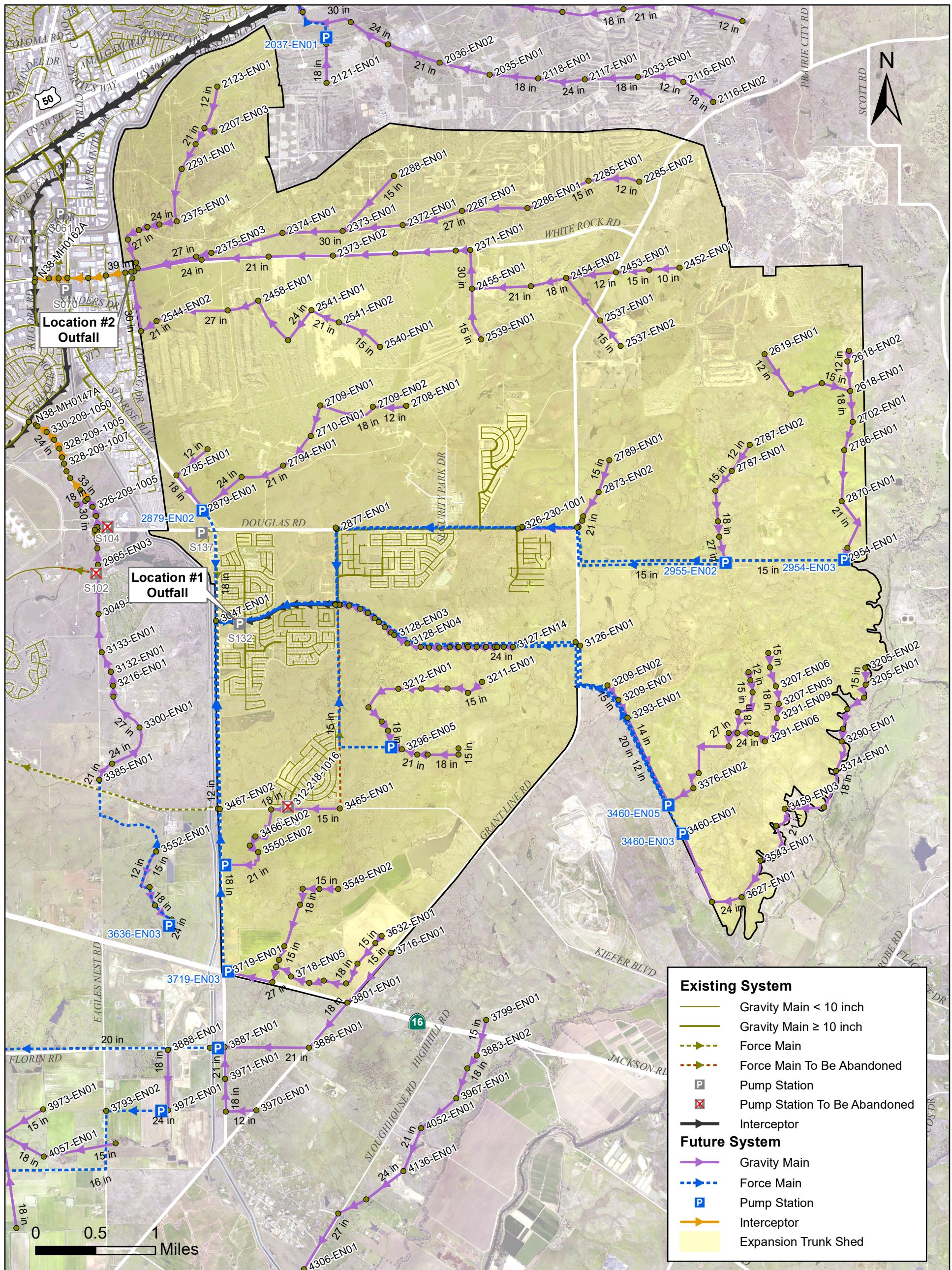
Area	US Manhole	DS Manhole	Link Type	Diameter (in)	Length (ft)	US Rim Elev. (ft)	US Invert Elev. (ft)	DS Rim Elev. (ft)	DS Invert Elev. (ft)	Slope (%)	Full Capacity (mgd)	Peak Flow (mgd)	% Full Capacity	d/D
Area 3	3211-EN01	3211-EN02	Gravity Main	15	786	181.0	168.4	183.0	166.9	0.2	1.8	1.1	58	0.6
	3211-EN02	3212-EN03	Gravity Main	15	982	183.0	166.9	180.0	165.4	0.15	1.6	1.1	66	0.59
	3212-EN03	3212-EN02	Gravity Main	15	1142	180.0	165.4	177.0	163.6	0.16	1.7	1.1	64	0.58
	3212-EN02	3212-EN01	Gravity Main	15	1024	177.0	163.6	174.0	160.9	0.26	2.2	1.1	50	0.5
	3212-EN01	3213-EN01	Gravity Main	15	1694	174.0	160.9	171.0	154.5	0.38	2.6	1.1	42	0.45
	3213-EN01	3296-EN01	Gravity Main	15	859	171.0	154.5	160.5	146.2	0.97	4.1	1.2	30	0.54
	3296-EN01	3296-EN02	Gravity Main	15	491	160.5	146.2	158.7	144.0	0.45	2.8	1.6	56	0.74
	3296-EN02	3296-EN10	Gravity Main	18	727	158.7	143.8	158.0	143.1	0.10	2.1	2.0	94	0.74
	3296-EN10	3296-EN03	Gravity Main	27	62	158.0	142.8	158.0	142.7	0.10	6.3	5.4	85	0.51
	3295-EN01	3295-EN02	Gravity Main	15	272	171.5	154.2	186.0	153.7	0.18	1.8	1.1	64	0.69
	3295-EN02	3296-EN07	Gravity Main	18	1367	186.0	153.5	170.0	151.6	0.14	2.5	2.3	90	0.74
	3296-EN07	3296-EN06	Gravity Main	21	461	170.0	151.3	164.0	150.8	0.12	3.6	3.2	90	0.7
	3296-EN06	3296-EN05	Gravity Main	21	719	164.0	148.0	159.0	145.7	0.33	5.9	3.2	54	0.53
	3296-EN05	3296-EN10	Gravity Main	21	582	159.0	145.7	158.0	143.4	0.39	6.4	3.4	54	0.52
	3296-EN03	3296-EN04	Pump									5.4		
	3296-EN04	N47-MH0108A	Force Main	15	8567	158.0	148.0	177.4	167.4			5.4		
	3465-EN01	312-218-1016	Gravity Main	15	2222	139.0	129.0	133.5	117.8	0.50	3.0	1.1	36	0.62
	312-218-1016	3466-EN01	Gravity Main	18	809	133.5	117.6	141.0	116.6	0.12	2.4	1.8	74	0.64
	3466-EN01	3466-EN02	Gravity Main	18	1821	141.0	116.5	137.0	114.1	0.13	2.5	1.8	74	0.64
	3466-EN02	3466-EN03	Gravity Main	18	486	137.0	114.0	136.0	113.3	0.14	2.6	1.9	74	0.74
	3466-EN03	3550-EN02	Gravity Main	18	476	136.0	113.2	135.0	112.7	0.11	2.2	2.2	98	0.78
	3550-EN02	3551-EN02	Gravity Main	21	1998	135.0	112.5	142.0	109.9	0.13	3.7	3.2	86	0.72
	3551-EN02	3551-EN01	Pump									3.2		
	3551-EN01	3131-EN01	Force Main	12	11852	142.0	132.0	168.0	158.0			3.2		
	3632-EN01	3717-EN04	Gravity Main	15	436	143.0	122.0	143.0	121.1	0.20	1.9	1.2	63	0.58
	3717-EN04	3717-EN03	Gravity Main	15	1197	143.0	121.1	142.0	115.1	0.50	3.0	1.3	43	0.49
	3717-EN03	3717-EN02	Gravity Main	18	1049	142.0	114.8	145.0	113.1	0.17	2.8	1.7	62	0.63
	3717-EN02	3717-EN01	Gravity Main	18	1006	145.0	113.1	140.0	111.7	0.14	2.6	1.8	70	0.65
	3717-EN01	3718-EN06	Gravity Main	18	669	140.0	111.7	140.0	110.5	0.17	2.8	2.1	73	0.74
	3718-EN06	3718-EN05	Gravity Main	18	865	140.0	110.5	138.0	109.6	0.11	2.3	2.1	92	0.74
	3718-EN05	3718-EN02	Gravity Main	18	826	138.0	109.6	127.0	96.2	1.62	8.7	2.3	26	0.77
	3549-EN02	3549-EN01	Gravity Main	15	830	148.8	126.4	151.9	124.9	0.18	1.8	1.4	77	0.65
	3549-EN01	3550-EN01	Gravity Main	15	734	151.9	124.9	133.0	116.9	1.09	4.4	1.8	42	0.68
	3718-EN04	3718-EN03	Gravity Main	15	645	128.1	112.1	127.0	97.1	2.31	6.4	2.4	38	0.55
	3550-EN01	3634-EN01	Gravity Main	18	724	133.0	116.6	132.8	115.6	0.14	2.6	2.2	85	0.71
	3634-EN01	3718-EN04	Gravity Main	18	1967	132.8	115.6	128.1	112.1	0.18	2.9	2.3	79	0.68
	3718-EN03	3718-EN02	Gravity Main	21	341	127.0	96.6	127.0	96.2	0.14	3.8	3.1	80	0.67
	3718-EN02	3718-EN01	Gravity Main	27	694	127.0	95.7	129.9	94.9	0.12	6.9	5.6	81	0.79
	3718-EN01	3719-EN01	Gravity Main	27	2006	129.9	94.9	118.0	93.1	0.09	6.0	5.6	94	0.77
	3719-EN01	3719-EN03	Gravity Main	27	35	118.0	93.1	122.0	92.8	0.78	17.7	5.6	32	0.39
	3719-EN03	3719-EN02	Pump									5.6		
	3719-EN02	3131-EN01	Force Main	18	16654	116.2	106.2	168.0	158.0			5.6		

BR East Rancho
Trunk Sewer Data and Model Results
Buildout 10-Year Design Storm

Area	US Manhole	DS Manhole	Link Type	Diameter (in)	Length (ft)	US Rim Elev. (ft)	US Invert Elev. (ft)	DS Rim Elev. (ft)	DS Invert Elev. (ft)	Slope (%)	Full Capacity (mgd)	Peak Flow (mgd)	% Full Capacity	d/D
Area 4	2619-EN01	2618-EN05	Gravity Main	12	2104	254.4	240.8	224.3	213.0	1.32	2.7	1.0	39	0.44
	2618-EN05	2618-EN04	Gravity Main	12	1437	224.3	213.0	206.0	193.0	1.39	2.7	1.0	38	0.44
	2618-EN04	2618-EN01	Gravity Main	15	1300	206.0	192.6	202.0	187.2	0.41	2.7	1.8	65	0.79
	2618-EN03	2618-EN02	Gravity Main	12	476	227.7	208.6	222.1	204.5	0.87	2.2	1.2	57	0.56
	2618-EN02	2618-EN01	Gravity Main	12	1316	222.1	204.5	202.0	193.0	0.87	2.2	1.2	57	0.55
	2618-EN01	2702-EN01	Gravity Main	18	1362	202.0	187.0	198.0	183.5	0.26	3.5	3.2	93	0.8
	2702-EN01	2786-EN01	Gravity Main	18	1303	198.0	183.5	208.9	178.5	0.38	4.2	3.9	92	0.79
	2786-EN01	2870-EN01	Gravity Main	18	2264	208.9	178.5	180.4	169.9	0.38	4.2	3.9	92	0.77
	2870-EN01	2954-EN02	Gravity Main	21	2418	180.4	160.0	192.3	152.0	0.33	5.9	4.9	82	0.72
	2954-EN02	2954-EN03	Gravity Main	24	535	192.3	152.0	158.0	150.4	0.31	8.1	5.6	69	0.62
	2954-EN03	2954-EN01	Pump									5.6		
	2954-EN01	3131-EN01	Force Main	15	31664	158.0	151.0	168.0	158.0			5.6		
	2787-EN02	2787-EN01	Gravity Main	12	1391	224.3	207.0	211.8	200.0	0.50	1.6	1.4	85	0.71
	2787-EN01	2872-EN02	Gravity Main	15	1142	211.8	200.0	203.3	190.0	0.88	3.9	1.8	46	0.68
	2872-EN02	2872-EN01	Gravity Main	15	1347	203.3	190.0	193.9	180.7	0.69	3.5	2.5	72	0.64
	2872-EN01	2956-EN01	Gravity Main	18	687	193.9	180.5	188.1	177.0	0.50	4.8	3.7	77	0.66
	2956-EN01	2955-EN02	Gravity Main	27	1171	188.1	171.2	184.0	170.0	0.10	6.3	4.8	76	0.65
	2955-EN02	2955-EN01	Pump									4.8		
	2955-EN01	3131-EN01	Force Main	15	26476	182.4	172.4	168.0	158.0			4.8		

BR East Rancho
Trunk Sewer Data and Model Results
Buildout 10-Year Design Storm

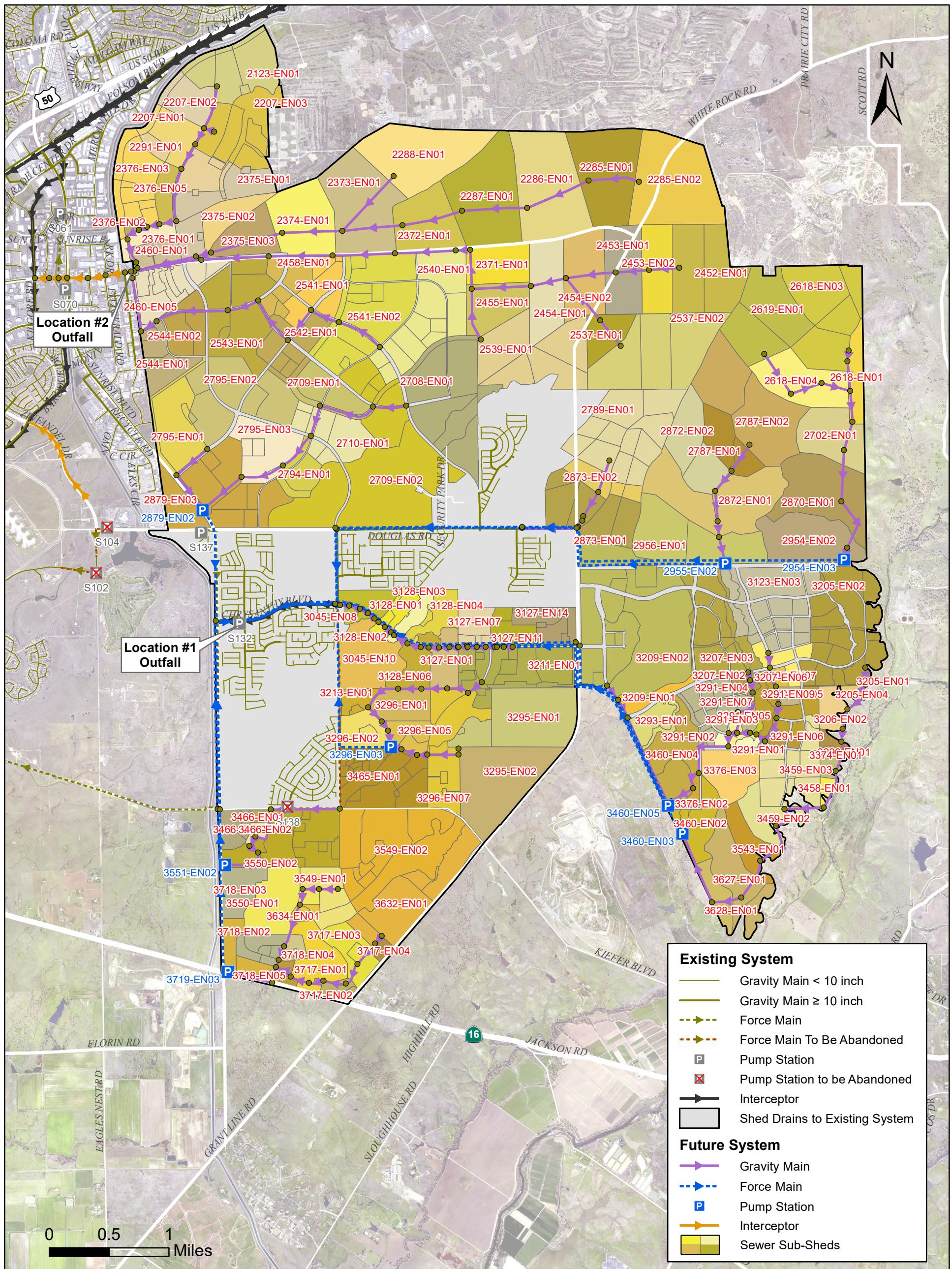
Area	US Manhole	DS Manhole	Link Type	Diameter (in)	Length (ft)	US Rim Elev. (ft)	US Invert Elev. (ft)	DS Rim Elev. (ft)	DS Invert Elev. (ft)	Slope (%)	Full Capacity (mgd)	Peak Flow (mgd)	% Full Capacity	d/D
Area 5	3207-EN03	3207-EN02	Gravity Main	12	362	176.9	160.8	169.4	160.0	0.24	1.1	1.0	89	0.73
	3207-EN02	3207-EN01	Gravity Main	15	547	169.4	159.7	167.5	156.8	0.53	3.0	1.1	37	0.48
	3207-EN01	3291-EN04	Gravity Main	15	1385	167.5	156.7	171.2	153.8	0.21	1.9	1.1	59	0.56
	3291-EN04	3291-EN03	Gravity Main	18	936	171.2	153.5	163.9	150.7	0.30	3.7	1.8	47	0.49
	3209-EN02	3209-EN01	Gravity Main	15	796	235.4	208.2	235.4	205.4	0.35	2.5	1.3	51	0.51
	3209-EN01	3293-EN01	Gravity Main	15	899	235.4	205.4	234.4	200.6	0.53	3.1	1.4	47	0.49
	3293-EN01	3460-EN04	Gravity Main	15	4219	234.4	200.6	138.4	124.2	1.81	5.6	1.7	30	0.39
	3123-EN03	3207-EN07	Gravity Main	15	650	184.4	172.6	178.4	170.3	0.35	2.5	1.1	45	0.51
	3207-EN07	3207-EN06	Gravity Main	18	878	178.4	170.3	179.4	167.5	0.32	3.8	1.4	36	0.43
	3207-EN06	3207-EN05	Gravity Main	18	784	179.4	167.5	174.4	164.9	0.33	3.9	1.5	39	0.43
	3207-EN05	3291-EN09	Gravity Main	18	633	174.4	164.9	169.4	162.4	0.40	4.3	1.6	37	0.5
	3291-EN09	3291-EN06	Gravity Main	18	1182	169.4	162.4	166.4	158.3	0.35	4.0	2.0	49	0.5
	3291-EN06	3291-EN07	Gravity Main	18	486	166.4	158.3	163.4	155.5	0.58	5.2	2.0	40	0.44
	3291-EN07	3291-EN05	Gravity Main	18	291	163.4	155.4	161.8	148.6	2.34	10.4	2.1	20	0.38
	3291-EN05	3291-EN03	Gravity Main	24	567	161.8	148.3	163.9	147.5	0.14	5.5	2.1	39	0.43
	3291-EN03	3291-EN02	Gravity Main	27	386	163.9	147.1	171.2	146.6	0.13	7.2	4.0	55	0.52
	3291-EN02	3291-EN01	Gravity Main	27	590	171.2	146.5	158.7	145.5	0.17	8.3	4.1	50	0.5
	3291-EN01	3376-EN03	Gravity Main	27	2503	158.7	145.4	144.4	135.8	0.38	12.4	4.2	34	0.41
	3376-EN03	3376-EN02	Gravity Main	27	918	144.4	135.7	137.4	130.7	0.54	14.8	4.6	31	0.39
	3376-EN02	3376-EN01	Gravity Main	27	1123	137.4	130.6	138.4	125.8	0.43	13.1	4.6	35	0.42
	3376-EN01	3460-EN04	Gravity Main	27	180	138.4	125.7	138.4	124.2	0.83	18.3	4.6	25	0.35
	3460-EN04	3460-EN05	Gravity Main	30	43	138.4	120.9	132.0	120.9	0.10	8.4	7.0	84	0.49
	3460-EN05	3460-EN06	Pump									1.7		
	3460-EN06	3127-EN14	Force Main	14	11659	132.0	122.0	209.9	201.2			1.7		
	3460-EN05	3460-EN08	Pump									5.4		
	3460-EN08	3131-EN01	Force Main	20	24744	132.0	122.0	168.0	158.0			5.4		
	3205-EN02	3205-EN01	Gravity Main	15	757	158.0	133.0	155.0	130.7	0.30	2.3	1.5	64	0.58
	3205-EN01	3205-EN04	Gravity Main	15	625	155.0	125.9	147.0	124.5	0.23	2.0	1.5	73	0.73
	3205-EN04	3206-EN02	Gravity Main	15	894	147.0	124.5	145.2	122.9	0.18	1.8	1.5	86	0.85
	3206-EN02	3290-EN02	Gravity Main	15	892	145.2	122.9	151.6	121.3	0.18	1.8	1.7	97	0.88
	3290-EN02	3290-EN01	Gravity Main	15	566	151.6	121.3	141.7	120.3	0.18	1.8	1.7	96	0.91
	3290-EN01	3374-EN01	Gravity Main	15	1398	141.7	120.3	141.0	117.7	0.18	1.8	1.8	100	0.89
	3374-EN01	3458-EN01	Gravity Main	18	1743	141.0	117.5	142.1	114.8	0.15	2.7	1.9	70	0.66
	3458-EN01	3459-EN03	Gravity Main	18	1743	142.1	114.8	136.0	112.4	0.14	2.5	1.9	76	0.65
	3459-EN03	3459-EN02	Gravity Main	21	1051	136.0	112.1	138.0	110.9	0.12	3.6	2.6	74	0.72
	3459-EN02	3543-EN01	Gravity Main	21	2126	138.0	110.9	142.7	108.3	0.12	3.6	3.0	85	0.8
	3543-EN01	3627-EN01	Gravity Main	21	1861	142.7	108.3	132.1	106.1	0.12	3.6	3.3	93	0.77
	3460-EN02	3460-EN03	Gravity Main	24	22	124.0	100.8	124.0	100.7	0.11	4.9	4.5	92	0.5
	3627-EN01	3628-EN01	Gravity Main	24	1326	132.1	105.8	135.6	104.4	0.11	4.9	3.9	81	0.73
	3628-EN01	3460-EN02	Gravity Main	24	3280	135.6	104.4	124.0	100.8	0.11	4.9	4.1	85	0.71
	3460-EN03	3460-EN01	Pump									4.5		
	3460-EN01	3131-EN01	Force Main	12	25920	124.0	114.0	168.0	158.0			4.5		



2020 SASD SYSTEM CAPACITY PLAN

BR East Rancho Sewer Shed and Connection Manholes Buildout Expansion Plan

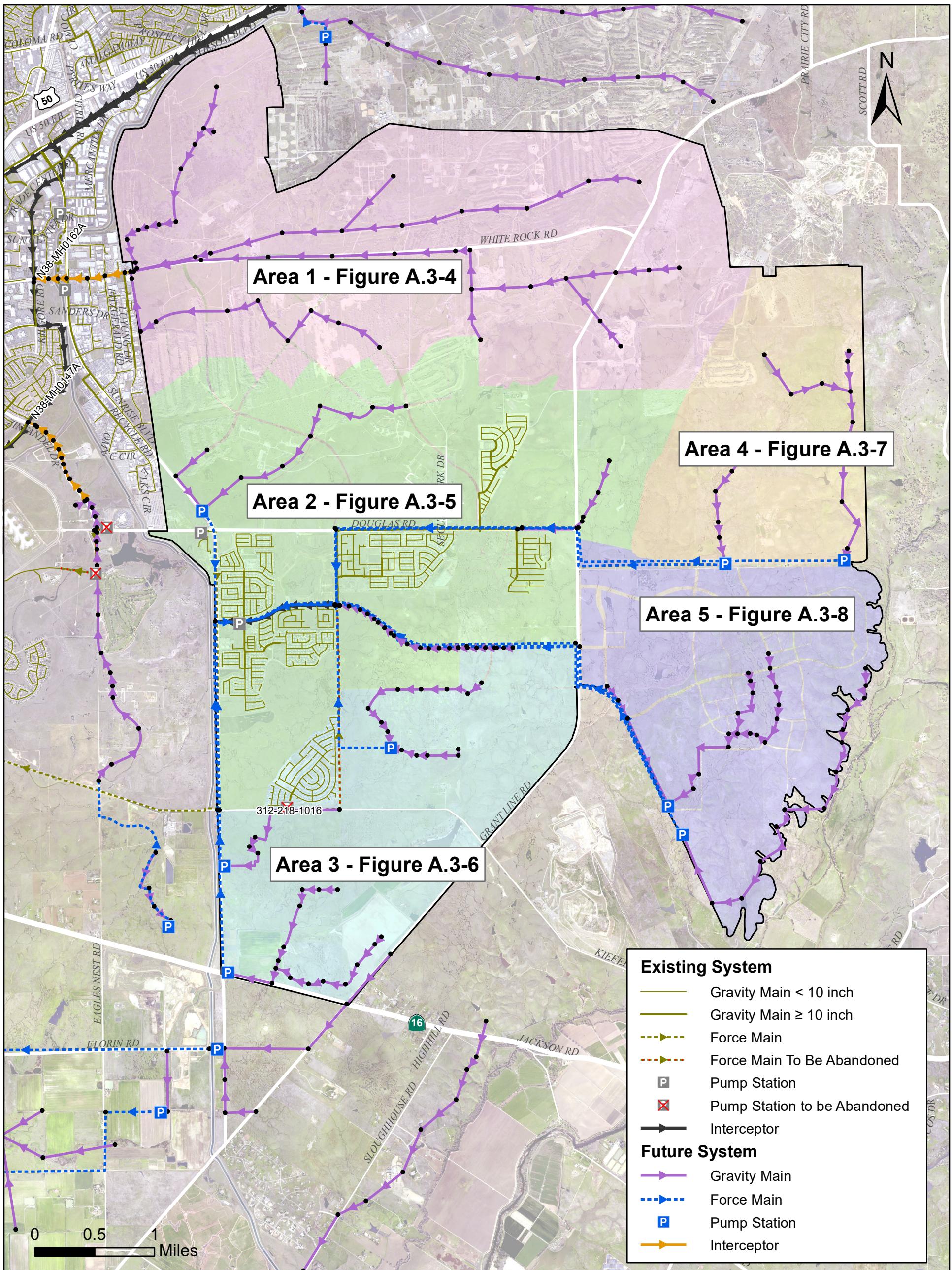
FIGURE A.3-1



2020 SASD SYSTEM CAPACITY PLAN

BR East Rancho Sub-Sheds and Facilities Buildout Expansion Plan

FIGURE A.3-2



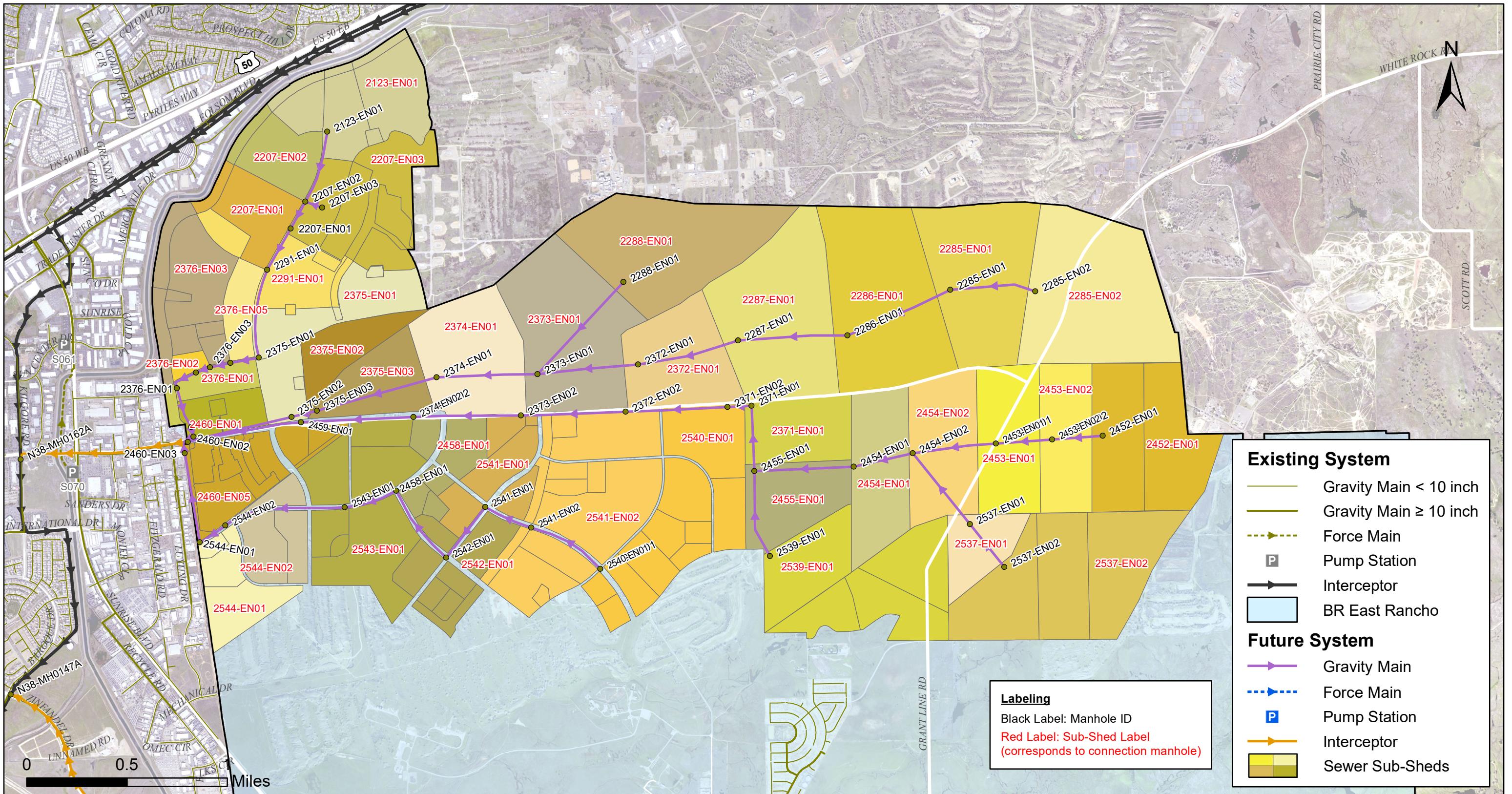
2020 SASD SYSTEM CAPACITY PLAN

BR East Rancho (Area 1 - Area 5)

Sewer Shed Map

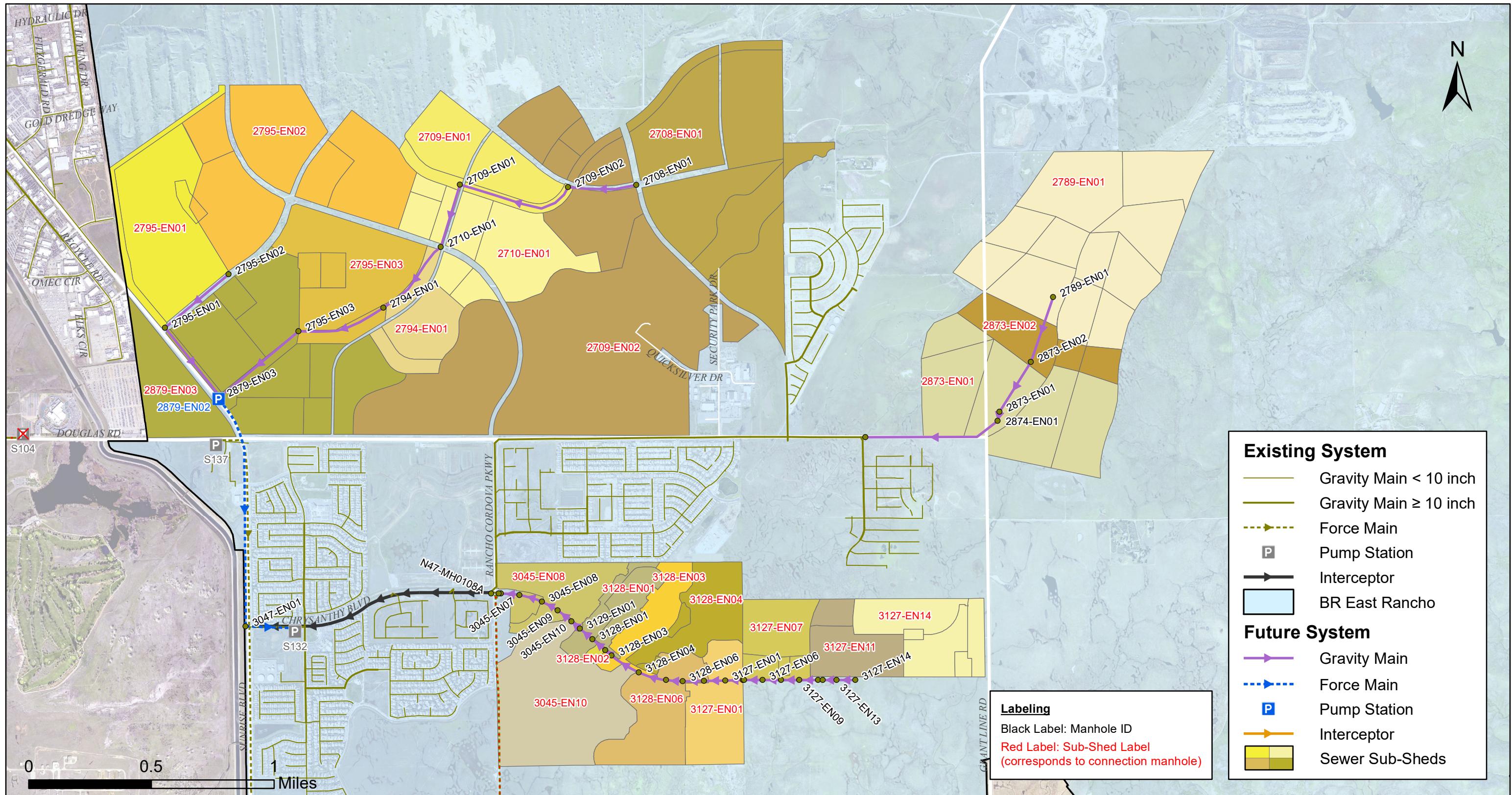
Buildout Expansion Plan

FIGURE A.3-3



BR East Rancho - Area 1
Sub-Sheds and Connection Manholes
Buildout Expansion Plan
FIGURE A.3-4

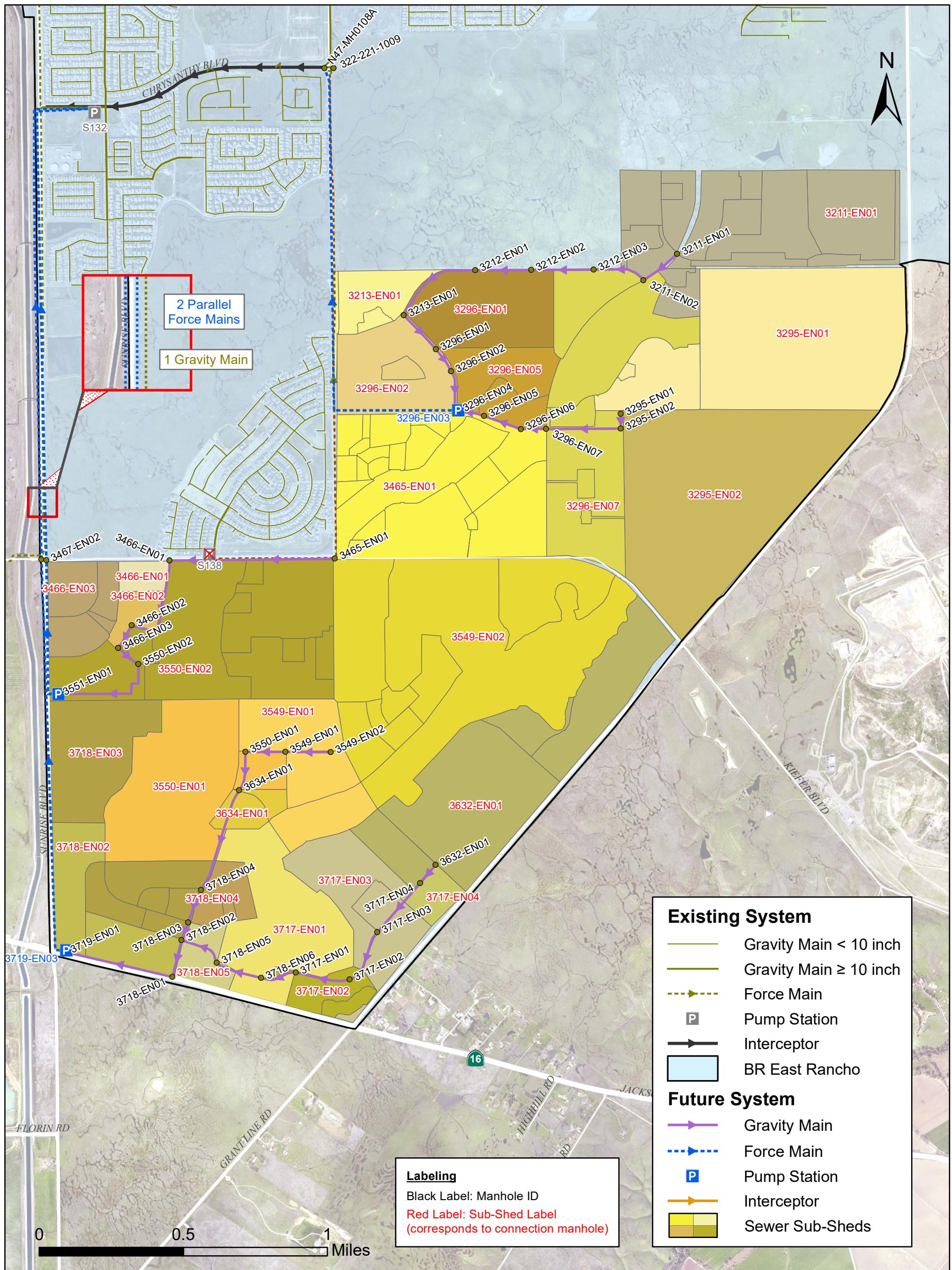
2020 SASD SYSTEM CAPACITY PLAN



BR East Rancho - Area 2
Sub-Sheds and Connection Manholes
Buildout Expansion Plan
FIGURE A.3-5

2020 SASD SYSTEM CAPACITY PLAN

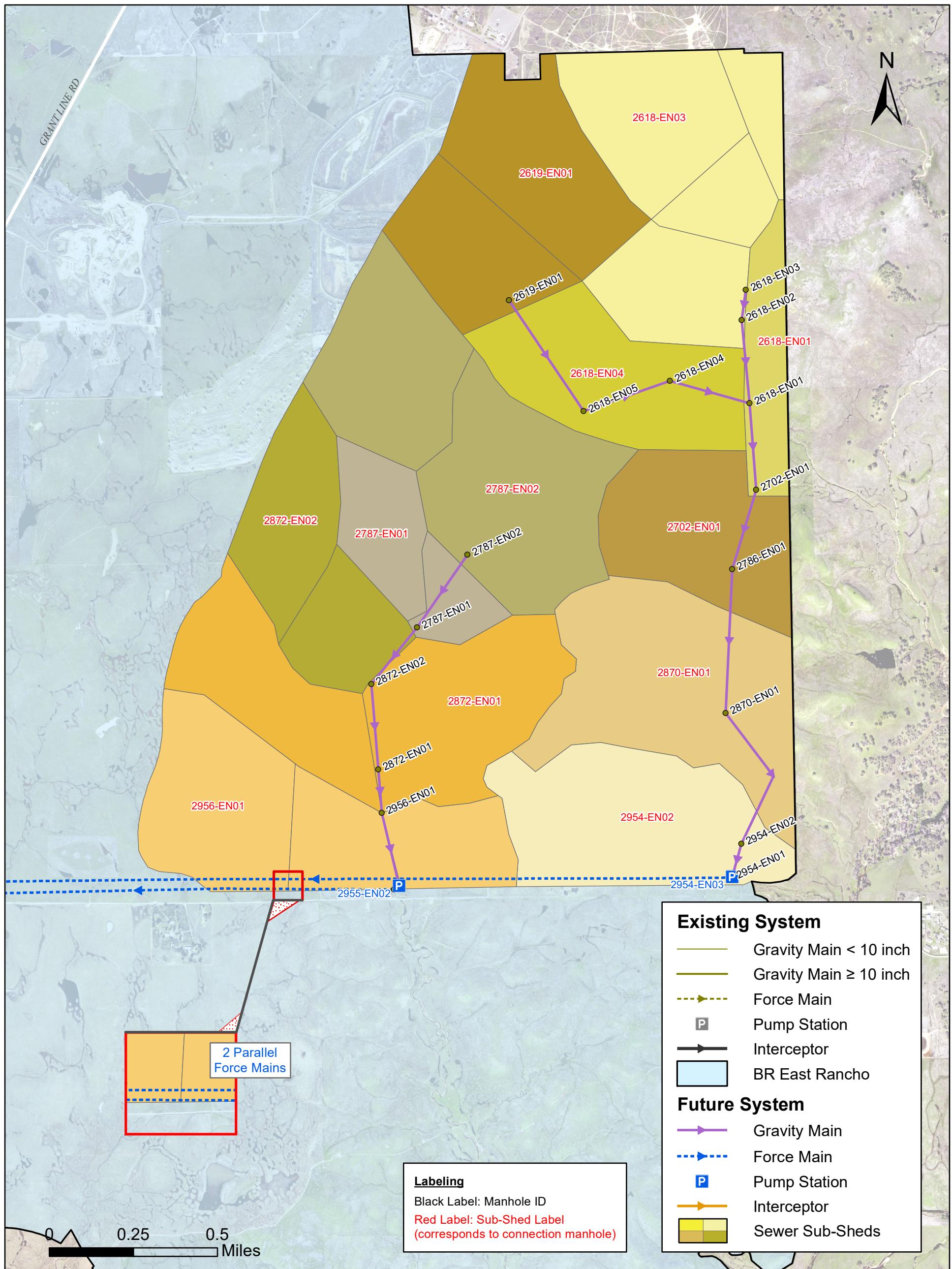
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2020 SASD SYSTEM CAPACITY PLAN

BR East Rancho - Area 3 Sub-Sheds and Connection Manholes Buildout Expansion Plan

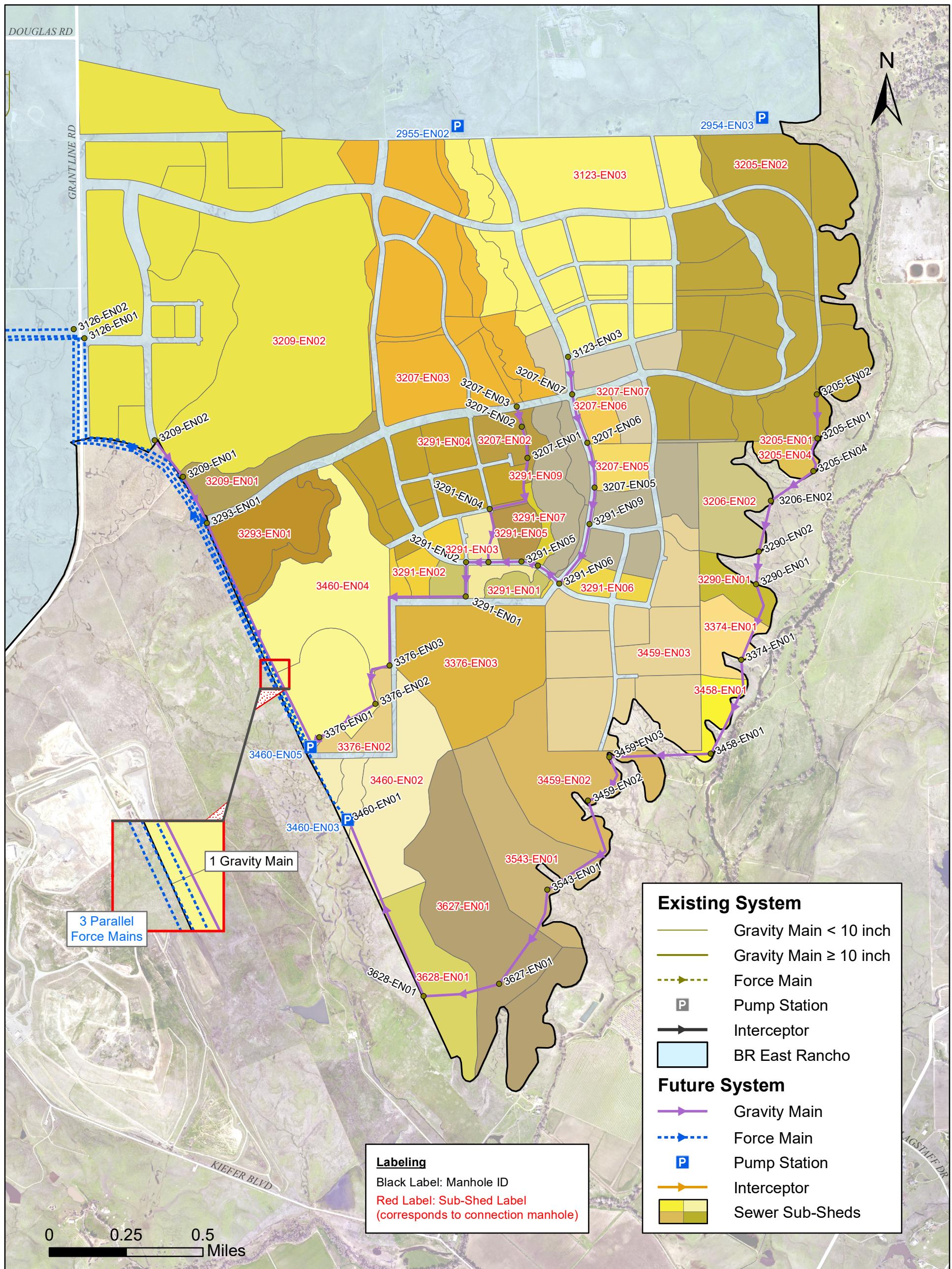
FIGURE A.3-6



2020 SASD SYSTEM CAPACITY PLAN

BR East Rancho - Area 4 Sub-Sheds and Connection Manholes Buildout Expansion Plan

FIGURE A.3-7



2020 SASD SYSTEM CAPACITY PLAN

BR East Rancho - Area 5 Sub-Sheds and Connection Manholes Buildout Expansion Plan

FIGURE A.3-8