CARLSBAD MUNICIPAL WATER DISTRICT

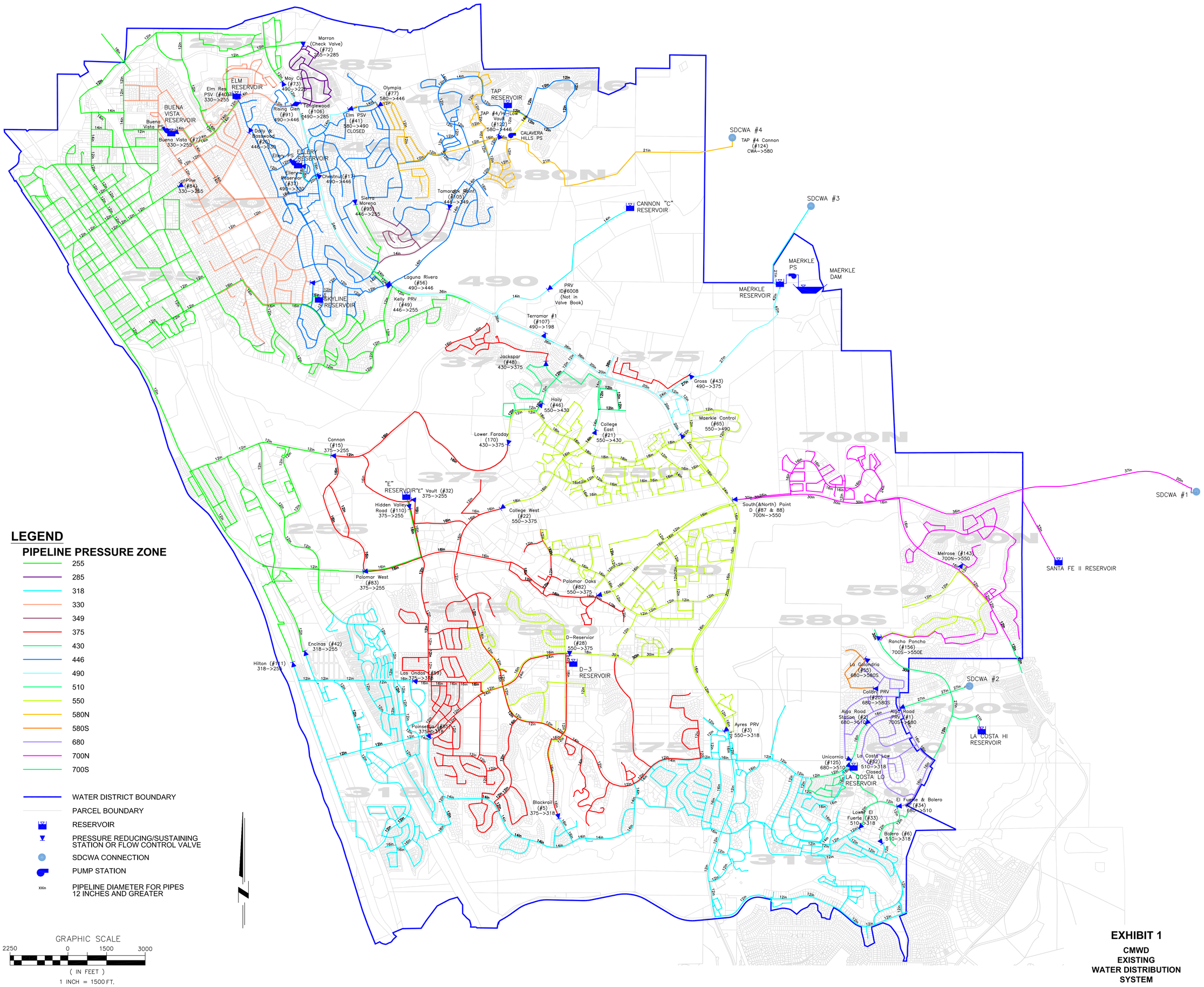


EXHIBIT 1: EXISTING WATER DISTRIBUTION SYSTEM

CITY OF CARLSBAD CALIFORNIA

DUDEK & ASSOCIATES A California Corporation

3-2003 3194-EX01

CARLSBAD MUNICIPAL WATER DISTRICT

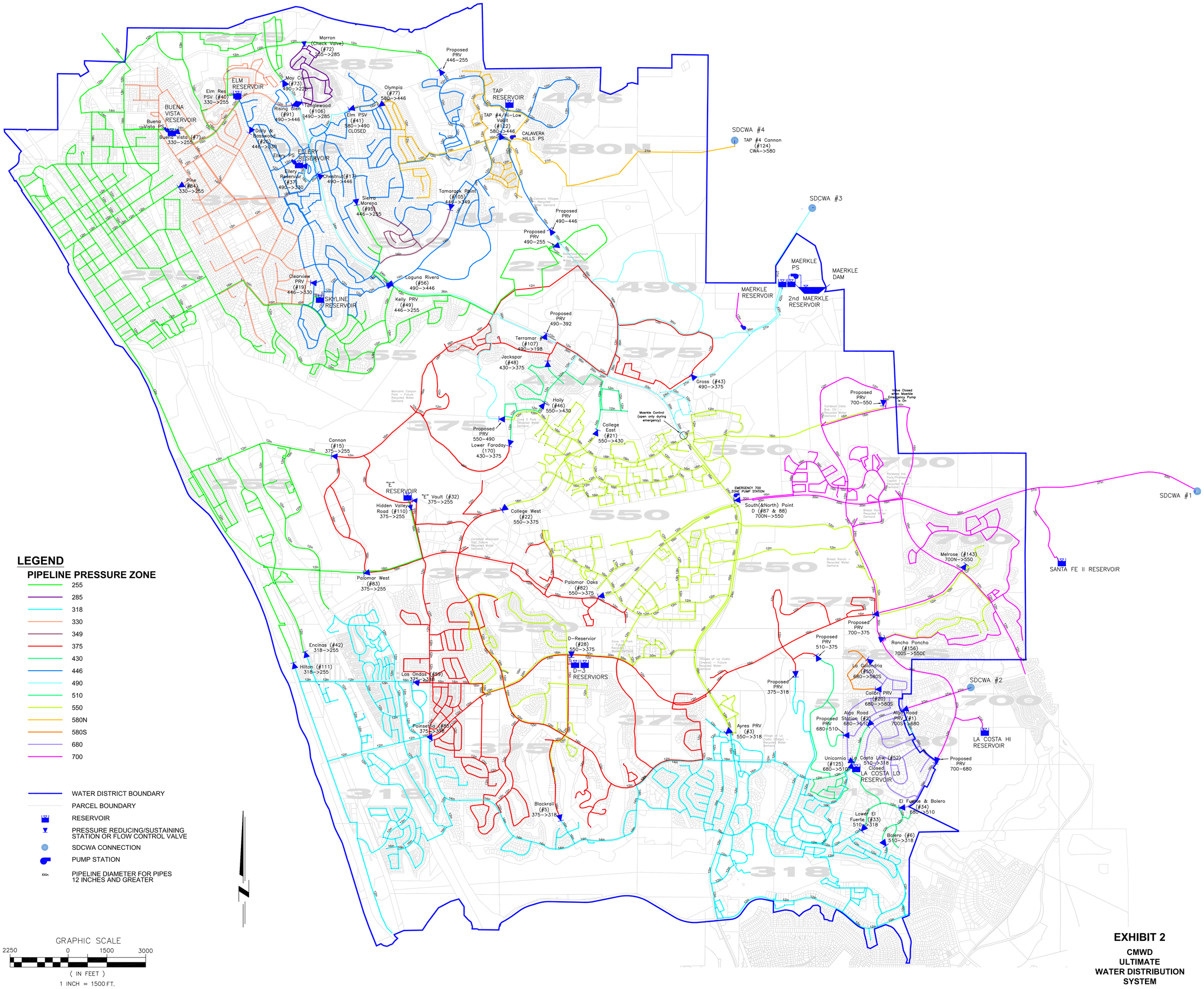


EXHIBIT 2

CMWD ULTIMATE WATER DISTRIBUTION SYSTEM

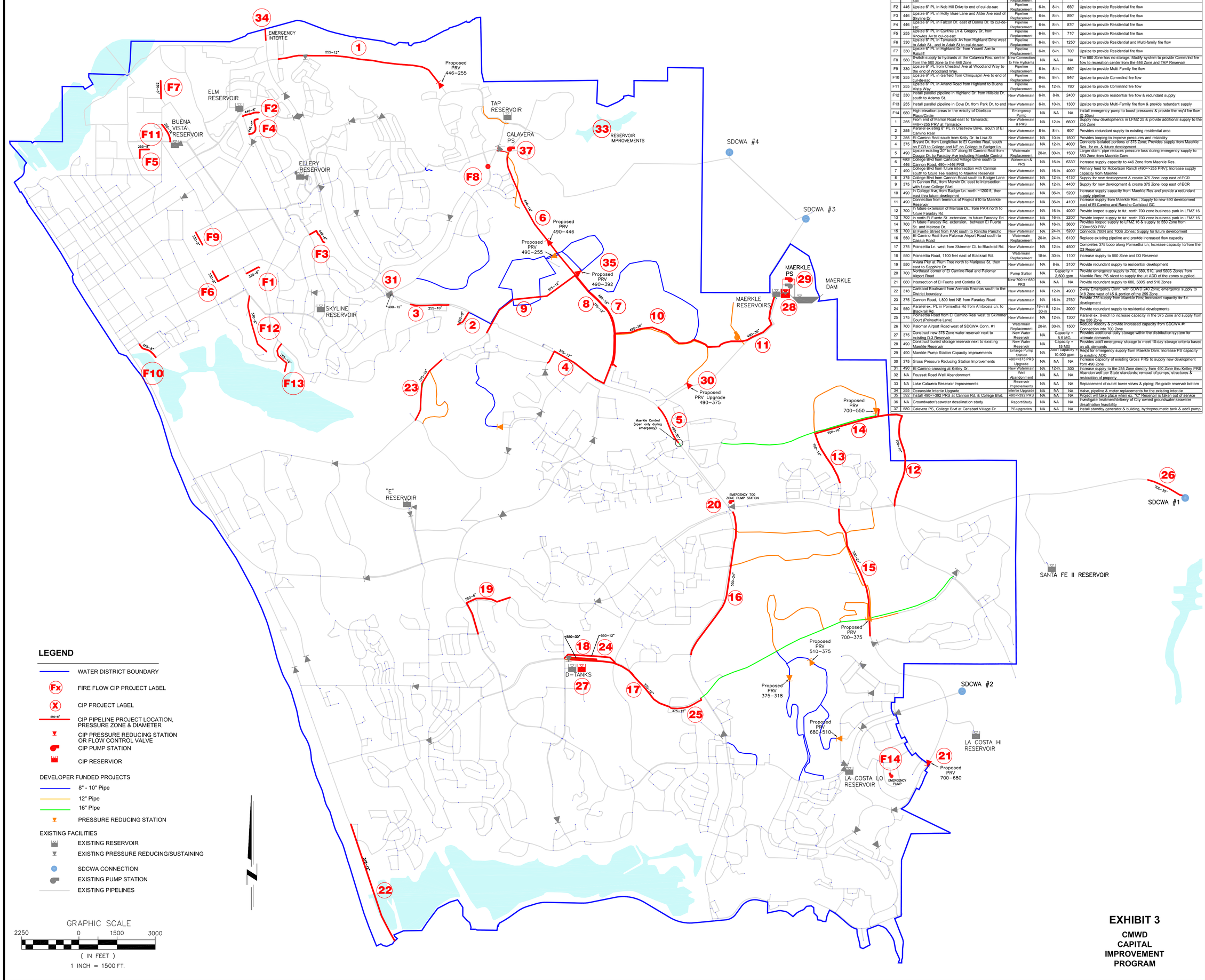
EXHIBIT 2: ULTIMATE WATER DISTRIBUTION SYSTEM

CITY OF CARLSBAD CALIFORNIA

DUDEK & ASSOCIATES A California Corporation

3-2003 3194-EX02.dwg

CARLSBAD MUNICIPAL WATER DISTRICT



Label	Zone	Description/Location	Project Type	Existing Diam.	New Diam.	Pipeline Length	Benefit/Comments
F1	330	Upsize 6" and 4" PL in Jeanne Place to end of cul-de-sac	Pipeline Replacement	6-in.	8-in.	600'	Upsize to provide Residential fire flow
F2	446	Upsize 6" PL in Nob Hill Drive to end of cul-de-sac	Pipeline Replacement	6-in.	8-in.	650'	Upsize to provide Residential fire flow
F3	446	Upsize 6" PL in Holly Brae Lane and Alder Ave east of Skyline Dr.	Pipeline Replacement	6-in.	8-in.	890'	Upsize to provide Residential fire flow
F4	446	Upsize 6" PL in Falcon Dr. east of Donna Dr. to cul-de-sac	Pipeline Replacement	6-in.	8-in.	870'	Upsize to provide Residential fire flow
F5	255	Upsize 6" PL in Cynthia Ln & Gregory Dr. from Knowles Av to cul-de-sac	Pipeline Replacement	6-in.	8-in.	710'	Upsize to provide Residential fire flow
F6	330	Upsize 6" PL in Tamarack Av from Highland Drive west to Adair St., and in Adair St to cul-de-sac	Pipeline Replacement	6-in.	8-in.	1250'	Upsize to provide Residential and Multi-family fire flow
F7	330	Upsize 6" PL in Highland Dr. from Yourell Ave to Ratcliff	Pipeline Replacement	6-in.	8-in.	700'	Upsize to provide Residential fire flow
F8	580	Switch supply to hydrants at the Calavera Rec. center from the 580 Zone to the 446 Zone	New Connection to Fire Hydrants	NA	NA	NA	The 580 Zone has no storage. Modify system to provide Comm/Ind fire flow to recreation center from the 446 Zone and TAP Reservoir
F9	330	Upsize 6" PL from Chestnut Ave at Woodland Way to the end of Woodland Way	Pipeline Replacement	6-in.	8-in.	560'	Upsize to provide Multi-Family fire flow
F10	255	Upsize 6" PL in Garfield from Chinquapin Ave to end of cul-de-sac	Pipeline Replacement	6-in.	8-in.	846'	Upsize to provide Comm/Ind fire flow
F11	255	Upsize 6" PL in Arland Road from Highland to Buena Vista Way	Pipeline Replacement	6-in.	12-in.	780'	Upsize to provide Comm/Ind fire flow
F12	330	Install parallel pipeline in Highland Dr. from Hillside Dr. south to Adams St.	New Watermain	6-in.	8-in.	2400'	Upsize to provide residential fire flow & redundant supply
F13	255	Install parallel pipeline in Cove Dr. from Park Dr. to end	New Watermain	6-in.	10-in.	1300'	Upsize to provide Multi-Family fire flow & provide redundant supply
F14	680	High elevation areas in the vincity of Obelisco Place/Circle	Emergency Pump	NA	NA	NA	Install emergency pump to boost pressures & provide the req'd fire flow @ 20psi
1	255	From end of Marron Road east to Tamarack; 446=>255 PRV at Tamarack	New Watermain & PRS	NA	12-in.	6600'	Supply new developments in LFMZ 25 & provide additional supply to the 255 Zone
2	255	Parallel existing 8" PL in Crestview Drive, south of El Camino Real	New Watermain	8-in.	8-in.	600'	Provides redundant supply to existing residential area
3	255	El Camino Real south from Kelly Dr. to Lisa St.	New Watermain	NA	10-in.	1500'	Provides looping to improve pressures and reliability
4	375	Bryant Dr. from Longfellow to El Camino Real, south on ECR to College and NE on College to Badger Ln.	New Watermain	NA	12-in.	4000'	Connects isolated portions of 375 Zone; Provides supply from Maerkle Res. for ex. & future development
5	490	Upsize existing 20" to 30" along El Camino Real from Cougar Dr. to Faraday Ave including Maerkle Control	Watermain Replacement	20-in.	30-in.	1500'	Larger diam. pipe reduces pressure loss during emergency supply to 550 Zone from Maerkle Dam
6	490/446	College Blvd from Carlsbad Village Drive south to Cannon Road, 490=>446 PRS	Watermain & PRS	NA	16-in.	6330'	Increase supply capacity to 446 Zone from Maerkle Res.
7	490	College Blvd from future intersection with Cannon south to future Tee leading to Maerkle Reservoir	New Watermain	NA	16-in.	4000'	Primary feed for Robertson Ranch (490=>255 PRV); Increase supply capacity from Maerkle
8	375	College Blvd from Cannon Road south to Badger Lane	New Watermain	NA	12-in.	4130'	Supply for new development & create 375 Zone loop east of ECR
9	375	In Cannon Rd., from Merwin Dr. east to intersection with future College Blvd.	New Watermain	NA	12-in.	4400'	Supply for new development & create 375 Zone loop east of ECR
10	490	In College Ave, from Badger Ln. north ~1200 ft, then east thru future development	New Watermain	NA	36-in.	5200'	Increase supply capacity from Maerkle Res and provide a redundant supply pipeline
11	490	Connection from terminus of Project #10 to Maerkle Reservoir	New Watermain	NA	36-in.	4100'	Increase supply from Maerkle Res.; Supply to new 490 development east of El Camino and Rancho Carlsbad GC
12	700	In future extension of Melrose Dr., from PAR north to future Faraday Rd.	New Watermain	NA	16-in.	4000'	Provide looped supply to fut. north 700 zone business park in LFMZ 16
13	700	In north El Fuerte St. extension, to future Faraday Rd.	New Watermain	NA	16-in.	2200'	Provide looped supply to fut. north 700 zone business park in LFMZ 16
14	700	In future Faraday Rd. extension, between El Fuerte St. and Melrose Dr.	New Watermain	NA	16-in.	3600'	Provides looped supply to LFMZ 16 & supply to 550 Zone from 700=>550 PRV
15	700	El Fuerte Street from PAR south to Rancho Pancho	New Watermain	NA	24-in.	5200'	Connects 700N and 700S Zones; Supply for future development
16	550	El Camino Real from Palomar Airport Road south to Cassia Road	Watermain Replacement	20-in.	24-in.	6100'	Replace existing pipeline and provide increased flow capacity
17	375	Poinsettia Ln. west from Skimmer Ct. to Blackrail Rd.	New Watermain	NA	12-in.	4500'	Completes 375 Loop along Poinsettia Ln; Increase capacity to/from the D3 Reservoir
18	550	Poinsettia Road, 1100 feet east of Blackrail Rd.	Watermain Replacement	18-in.	30-in.	1100'	Increase supply to 550 Zone and D3 Reservoir
19	550	Avara Pky at Plum Tree north to Mariposa St, then east to Sapphire Dr.	New Watermain	NA	8-in.	3100'	Provide redundant supply to residential development
20	700	Northeast corner of El Camino Real and Palomar Airport Road	Pump Station	NA	Capacity = 2,500 gpm		Provide emergency supply to 700, 680, 510, and 580S Zones from Maerkle Res; PS sized to supply the ult ADD of the zones supplied
21	680	Intersection of El Fuerte and Corintia St.	New 700 => 680 PRS	NA	NA	NA	Provide redundant supply to 680, 580S and 510 Zones
22	318	Carlsbad Boulevard from Avenida Encinas south to the District boundary	New Watermain	NA	12-in.	4900'	2-way Emergency Conn. with SDWD 240 Zone; emergency supply to 318 Zone west of I-5 & portion of the 255 Zone
23	375	Cannon Road, 1,800 feet NE from Faraday Road	New Watermain	NA	16-in.	2760'	Provide 375 supply from Maerkle Res; Increased capacity for fut. development
24	550	Parallel ex. PL in Poinsettia Rd from Ambrosia Ln. to Blackrail Rd.	New Watermain	18-in & 30-in.	12-in.	2000'	Provide redundant supply to residential developments
25	375	Poinsettia Road from El Camino Real west to Skimmer Court (Poinsettia Lane)	New Watermain	NA	12-in.	1300'	Parallel ex. 8-inch to increase capacity in the 375 Zone and supply from the 550 Zone
26	700	Palomar Airport Road west of SDCWA Conn. #1	Watermain Replacement	20-in.	30-in.	1500'	Reduce velocity & provide increased capacity from SDCWA #1 Connection into 700 Zone.
27	375	Construct new 375 Zone water reservoir next to existing D-3 Reservoir	New Water Reservoir	NA	Capacity = 8.5 MG		Provides additional daily storage within the distribution system for ultimate demands
28	490	Construct buried storage reservoir next to existing Maerkle Reservoir	New Water Reservoir	NA	Capacity = 15 MG		Provides add'l emergency storage to meet 10-day storage criteria based on ult. demands
29	490	Maerkle Pump Station Capacity Improvements	Enlarge Pump Station	NA	Add'l Capacity = 10,000 gpm		Req'd for emergency supply from Maerkle Dam. Increase PS capacity to existing ADD
30	375	Gross Pressure Reducing Station Improvements	490=>375 PRS Upgrade	NA	NA	NA	Increase capacity of existing Gross PRS to supply new development from 490 Zone
31	490	El Camino crossing at Kelley Dr.	New Watermain	NA	12-in.	300	Increase supply to the 255 Zone directly from 490 Zone thru Kelley PRS
32	NA	Foussat Road Well Abandonment	Well Abandonment	NA	NA	NA	Abandon well per State standards, removal of pumps, structures & restoration of property
33	NA	Lake Calavera Reservoir Improvements	Reservoir Improvements	NA	NA	NA	Replacement of outlet tower valves & piping; Re-grade reservoir bottom
34	255	Oceanside Intertie Upgrade	Intertie Upgrade	NA	NA	NA	Valve, pipeline & meter replacements for the existing inter-tie
35	392	Install 490=>392 PRS at Cannon Rd. & College Blvd.	490=>392 PRS	NA	NA	NA	Project will take place when ex. "C" Reservoir is taken out of service
36	NA	Groundwater/seawater desalination study	Report/Study	NA	NA	NA	Investigate treatment/delivery of City owned groundwater;seawater desalination feasibility
37	580	Calavera PS, College Blvd at Carlsbad Village Dr.	PS upgrades	NA	NA	NA	Install standby generator & building, hydropneumatic tank & add'l pump

EXHIBIT 3: CAPITAL IMPROVEMENT PROGRAM

DUDEK & ASSOCIATES
A California Corporation

3-2003