

Canopy Goal Options

Scenario Name	Description	Resulting citywide canopy	Total Trees to Plant	Trees to Plant – Baylands & Quarry	Trees to Plant – rest of City	Trees to Plant annually – rest of City
Original 2040 Canopy Goal	Areas with existing canopy above 30%, as well as the Lagoon, waterfront, Quarry and Callippe Hill regions were left unaltered. Other areas of central Brisbane were modeled with a 30% canopy, commercial areas with a 20% canopy, and Baylands with a 25% canopy.	23%	13,033	8,813 in Baylands Quarry not modeled	4,220	280
25% w/ Exceptions	All areas were modeled with 25% canopy goal except those areas where existing canopy is above 25% already, as well as the Lagoon, waterfront, Community Park, Quarry and Callippe Hill regions.	24%	13,991	8,813 in Baylands Quarry not modeled	5,178	345
CalGreen 20/50 Scenario*	To match the most recent CA Building Code CalGreen goals of 20% in developed areas and 50% in undeveloped areas. Lagoon and waterfront were excluded, as were any areas already above the goal that best matched the census block.	32%	25,902	14,601 in Baylands 4,743 in Quarry 19,344 Combined	6,559	437

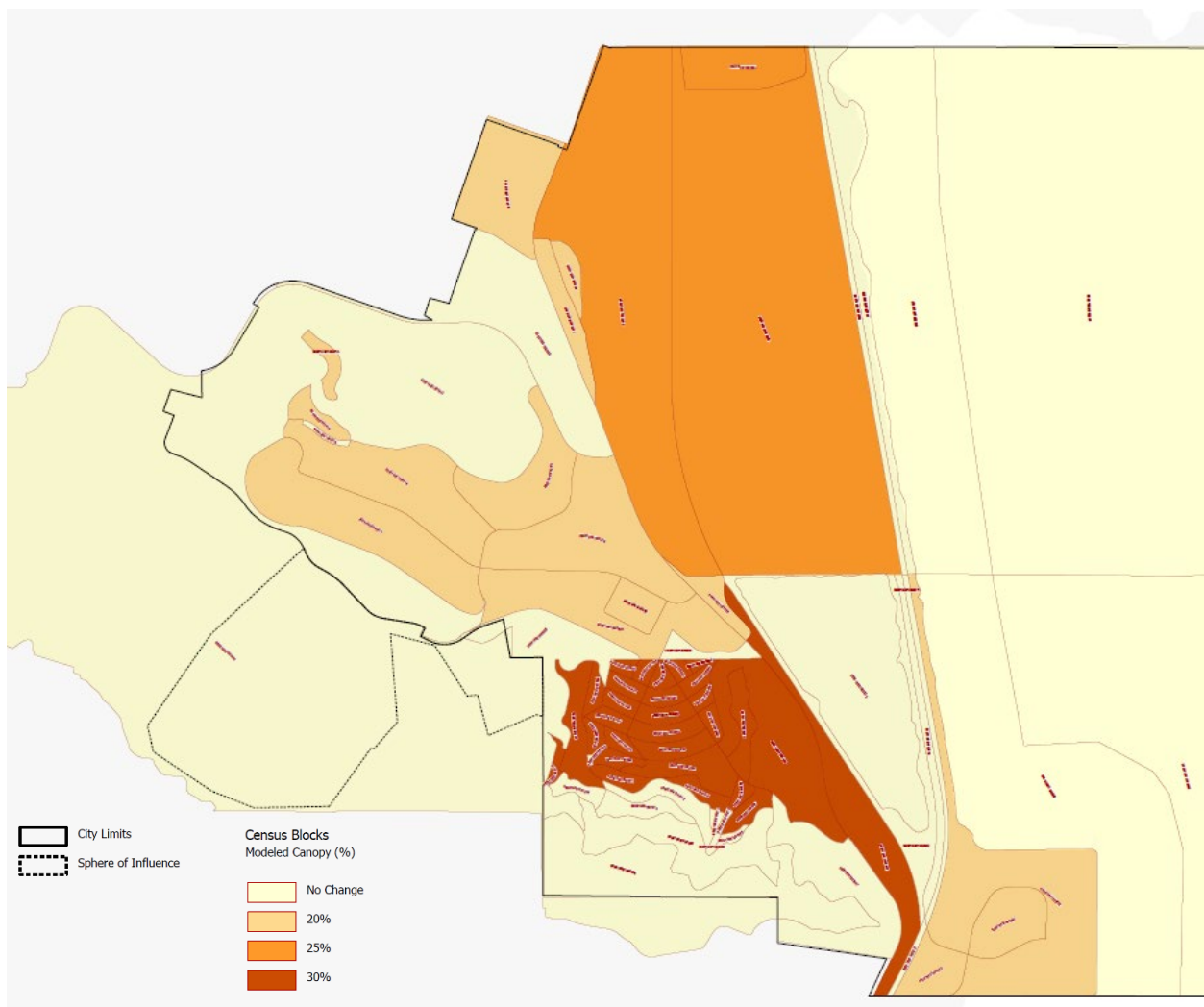
*This scenario is difficult to model with the PlanIT Geo Canopy Grow tool because many census blocks have both developed and undeveloped areas. Furthermore, the Quarry and the largest census block on the Baylands were modeled at 50% due to their current status, but that may not be appropriate or compatible with future development.

The following pages include the summary, map, ecosystem benefits as calculated by PlanIT Geo, and table with details for each census block for each scenario.

Original 2040 Canopy Goal Recommendation

As shown in the map below, areas with existing canopy above 30%, as well as the Lagoon, waterfront, Quarry and Callippe Hill regions were left unaltered (lightest yellow). Other areas of central Brisbane were modeled with a 30% canopy, commercial areas with a 20% canopy, and the Baylands with a 25% canopy. The result is a 23% citywide canopy, or 10% increase over 2022 levels, recommended by 2040.

Reaching this goal would require planting 13,033 trees with an average tree crown diameter of 30 feet and a mortality rate of 5%. Of those trees, 8,813 are in the Baylands, leaving 4,220 trees to be planted across public and private (residential and commercial) sites throughout the rest of the city over 15 years, or around 280 trees per year.



Number of Trees to Plant



Plant 13,033 Trees

MODELED ECOSYSTEM BENEFITS

OVERALL

Current	Modeled	Net
		
Overall Monetary Benefit \$44,877	Overall Monetary Benefit \$76,416	Overall Monetary Benefit \$31,539

AIR QUALITY

Current	Modeled	Net
		
Pollutants Removed (lb) 7,119	Pollutants Removed (lb) 12,122	Pollutants Removed (lb) 5,003
Air Quality Monetary Benefit \$37,276	Air Quality Monetary Benefit \$63,472	Air Quality Monetary Benefit \$26,196

CARBON

Current	Modeled	Net
		
Carbon Monetary Benefit \$169	Carbon Monetary Benefit \$287	Carbon Monetary Benefit \$119
Carbon Sequestered (lb) 7,393	Carbon Sequestered (lb) 12,588	Carbon Sequestered (lb) 5,196

STORMWATER

Current	Modeled	Net
		
Stormwater Monetary Benefit \$7,433	Stormwater Monetary Benefit \$12,656	Stormwater Monetary Benefit \$5,224
Runoff Prevention (Gallons) 862,499	Runoff Prevention (Gallons) 1,468,641	Runoff Prevention (Gallons) 606,142

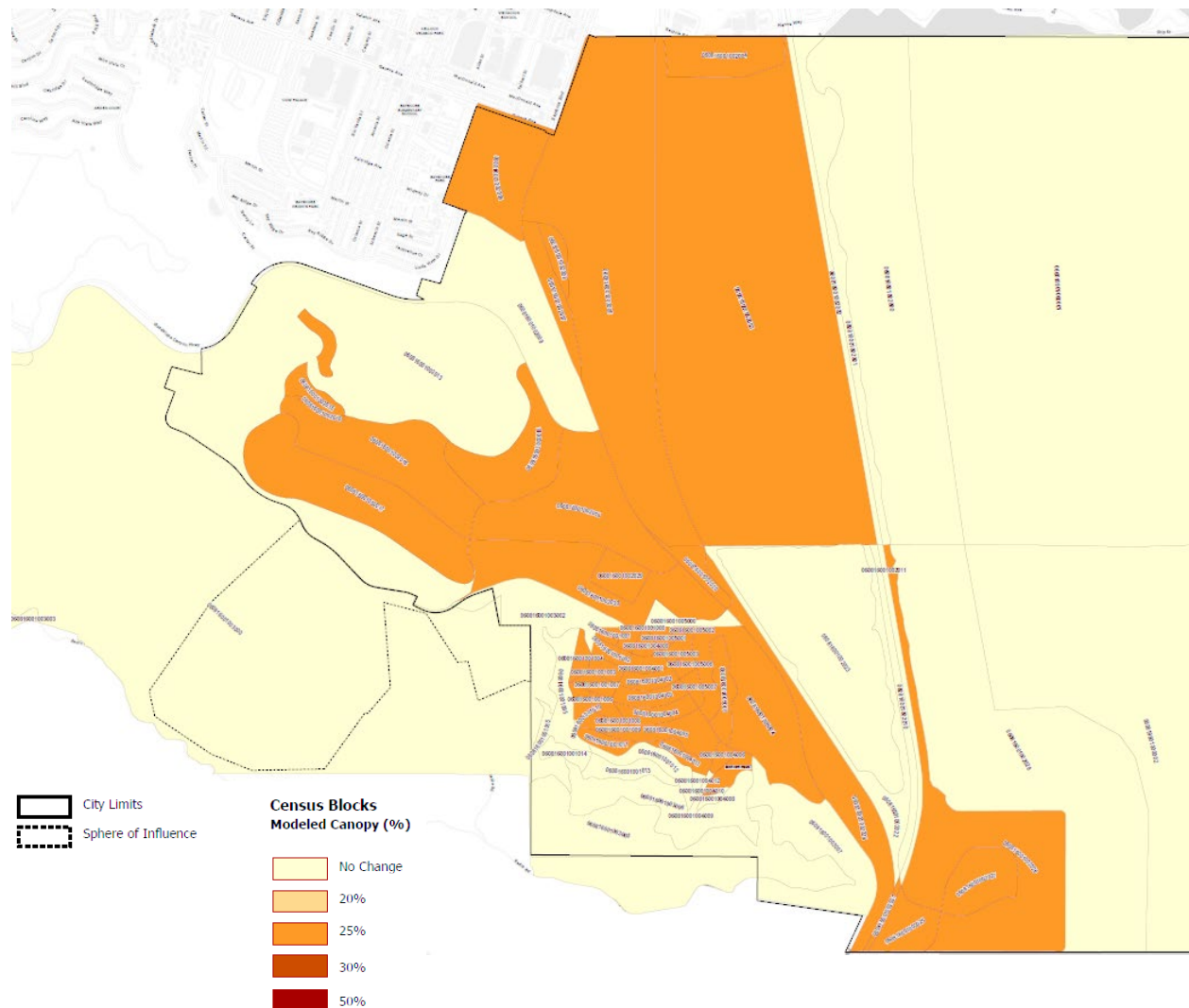
Area Name or ID	Existing Canopy (%)	Modeled Canopy (%)	Net Change Canopy (%)	No. Trees to Reach Goal	Avg Tree Size (ft.)	Mortality Rate (%)	Annual Added Eco-Benefits (\$)
060816001001008	12	30	18	31	30	5	78
060816001004002	10	30	20	62	30	5	158
060816001001003	18	30	12	24	30	5	61
060816001004005	20	30	10	78	30	5	198
060816001004006	16	30	14	19	30	5	48
060816001002004	4	25	21	304	30	5	774
060816001004011	16	30	14	36	30	5	92
060816001005006	3	30	27	35	30	5	88
060816001005003	8	30	22	41	30	5	106
060816001001006	20	30	10	16	30	5	41
060816001005005	12	30	18	96	30	5	244
060816001001005	29	30	1	12	30	5	30
060816001001007	16	30	14	29	30	5	75
060816001001000	13	30	17	23	30	5	59
060816001002006	4	20	16	54	30	5	138
060816001002003	2	25	23	5,947	30	5	15,150
060816001002015	20	20	0	0	30	5	0
060816023002003	29	20	-9	-2	30	5	-5
060816001002016	10	20	10	354	30	5	902
060816001005001	1	30	29	37	30	5	93
060816001002030	16	20	4	122	30	5	311
060816001002025	16	20	4	35	30	5	89
060816001004004	14	30	16	67	30	5	171
060816001001009	11	30	19	38	30	5	96
060816001002014	1	20	19	57	30	5	145
060816001002017	19	20	1	21	30	5	52
060816001001001	8	30	22	26	30	5	65
060816001005004	22	30	8	260	30	5	664
060816001002019	11	20	9	347	30	5	885
060816001004000	10	30	20	29	30	5	75
060816001001015	28	30	2	3	30	5	7
060816001002007	18	20	2	16	30	5	42
060816001001011	25	30	5	14	30	5	36
060816001002020	20	20	0	1	30	5	3
060816001004003	11	30	19	75	30	5	192
060816001001002	9	30	21	45	30	5	115
060816001002012	11	20	9	197	30	5	502
060816001002029	11	20	9	52	30	5	131
060816001002008	4	20	16	422	30	5	1,074
060816001004001	10	30	20	44	30	5	111
060816001005007	16	30	14	22	30	5	57
060816001002005	6	25	19	2,562	30	5	6,526
060816001002027	9	20	11	135	30	5	343
060816001002026	6	20	14	807	30	5	2,056
060816001004007	24	30	6	17	30	5	44
060816001001004	19	30	11	23	30	5	57
060816001002024	15	30	15	386	30	5	985
060816001005002	10	30	20	14	30	5	35

Lines highlighted blue are Baylands

25% Canopy Goal (w/ exceptions)

This scenario would set the canopy target at 25% for all areas except those areas where existing canopy is above 25% already, as well as the Lagoon, waterfront, Community Park, Quarry and Callippe Hill regions. The result would be a citywide canopy of 24%, or an 11% increase from 2022 levels.

Reaching this goal would require planting 13,991 trees with an average tree crown diameter of 30 feet and a mortality rate of 5%. Of those trees, 8,813 are in the Baylands, leaving 5,178 trees to be planted across public and private (residential and commercial) sites throughout the rest of the city over 15 years, or around 345 trees per year.



Number of Trees to Plant



Plant 13,991 Trees

MODELED ECOSYSTEM BENEFITS

OVERALL

Current	Modeled	Net
		
Overall Monetary Benefit \$44,877	Overall Monetary Benefit \$78,735	Overall Monetary Benefit \$33,858

AIR QUALITY

Current	Modeled	Net
		
Pollutants Removed (lb) 7,119	Pollutants Removed (lb) 12,490	Pollutants Removed (lb) 5,371
Air Quality Monetary Benefit \$37,276	Air Quality Monetary Benefit \$65,399	Air Quality Monetary Benefit \$28,123

CARBON

Current	Modeled	Net
		
Carbon Monetary Benefit \$169	Carbon Monetary Benefit \$296	Carbon Monetary Benefit \$127
Carbon Sequestered (lb) 7,393	Carbon Sequestered (lb) 12,970	Carbon Sequestered (lb) 5,578

STORMWATER

Current	Modeled	Net
		
Stormwater Monetary Benefit \$7,433	Stormwater Monetary Benefit \$13,041	Stormwater Monetary Benefit \$5,608
Runoff Prevention (Gallons) 862,499	Runoff Prevention (Gallons) 1,513,217	Runoff Prevention (Gallons) 650,718

Area Name or ID	Existing Canopy (%)	Modeled Canopy (%)	Net Change Canopy (%)	No. Trees to Reach Goal	Avg Tree Size (ft.)	Mortality Rate (%)	Annual Added Eco-Benefits (\$)
060816001001008	12	25	13	22	30	5	56
060750610003006	3	25	22	3	30	5	8
060816001004002	10	25	15	47	30	5	119
060816001001003	18	25	7	14	30	5	36
060816001004005	20	25	5	39	30	5	99
060816001004006	16	25	9	12	30	5	31
060816001002004	4	25	21	304	30	5	774
060816001004011	16	25	9	23	30	5	59
060816001005006	3	25	22	28	30	5	72
060816001005003	8	25	17	32	30	5	82
060816002001005	0	25	25	1	30	5	1
060816001003008	6	25	19	19	30	5	48
060816001001006	20	25	5	8	30	5	20
060816001005005	12	25	13	68	30	5	174
060816001001007	16	25	9	19	30	5	48
060816001002021	0	25	25	31	30	5	79
060816001001000	13	25	12	16	30	5	42
060816001002006	4	25	21	71	30	5	181
060816001002003	2	25	23	5,947	30	5	15,150
060816003002011	0	25	25	2	30	5	4
060816001002015	20	25	5	19	30	5	49
060816001002016	10	25	15	525	30	5	1,338
060816001005001	1	25	24	30	30	5	77
060816001002030	16	25	9	284	30	5	722
060816001002025	16	25	9	78	30	5	198
060816001004004	14	25	11	46	30	5	118
060816001001009	11	25	14	28	30	5	71
060750610003000	0	25	25	1	30	5	2
060816001002018	24	25	1	1	30	5	2
060816001002014	1	25	24	72	30	5	183
060816001002017	19	25	6	222	30	5	566
060816001001001	8	25	17	20	30	5	50
060816001005004	22	25	3	99	30	5	253
060816001002019	11	25	14	542	30	5	1,381
060816001004000	10	25	15	22	30	5	56
060816001002007	18	25	7	56	30	5	143
060816003002006	22	25	3	1	30	5	4
060816001001011	25	25	0	1	30	5	2
060750610003012	0	25	25	0	30	5	0
060816001002020	20	25	5	24	30	5	61
060816001004003	11	25	14	56	30	5	141
060816001001002	9	25	16	35	30	5	88
060816001002012	11	25	14	302	30	5	770
060816001002029	11	25	14	82	30	5	208
060816001002008	4	25	21	551	30	5	1,404
060816001004001	10	25	15	33	30	5	84
060816001005007	16	25	9	15	30	5	37
060816001002005	6	25	19	2,562	30	5	6,526

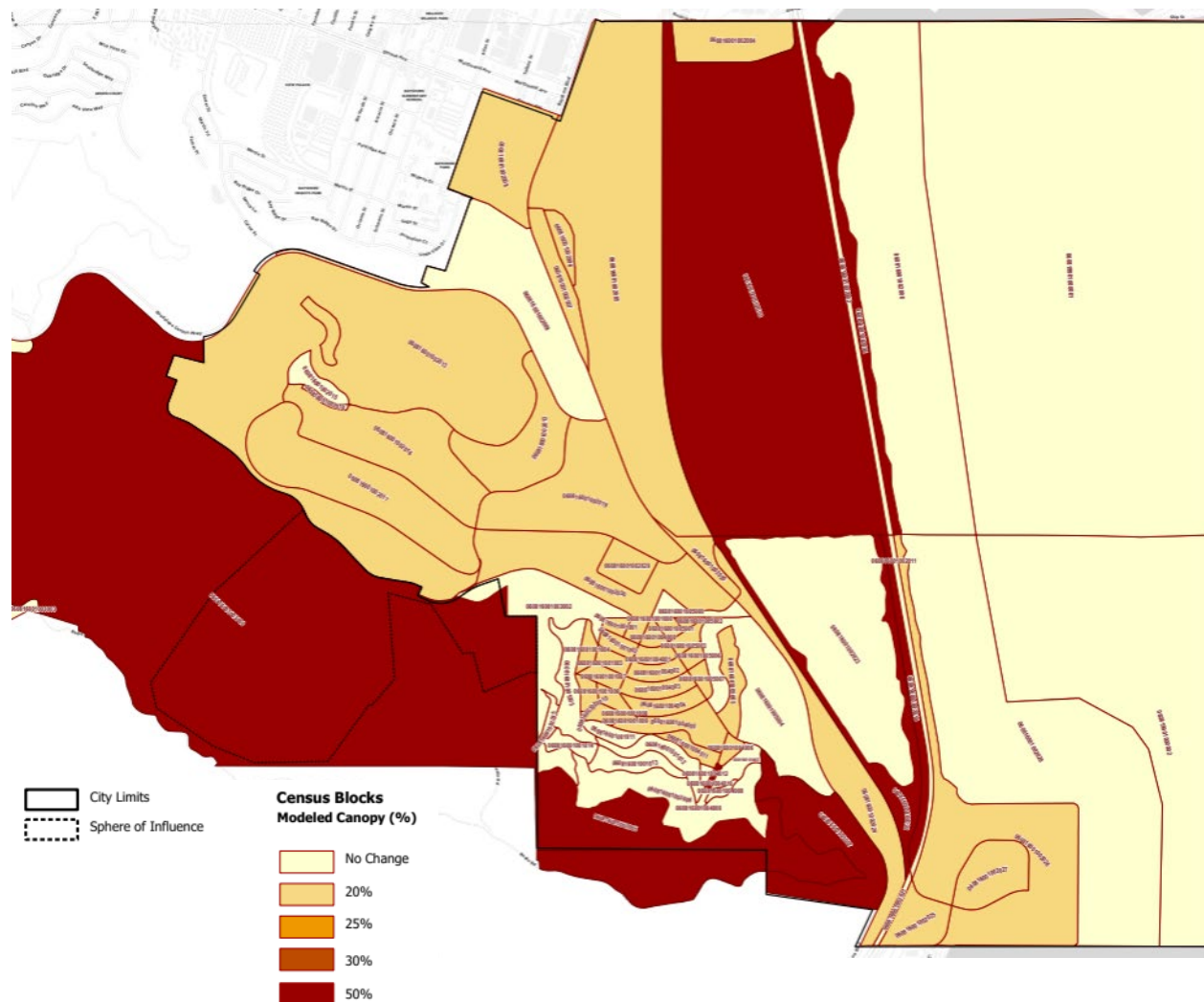
Lines highlighted blue are Baylands

CalGreen 20/50 Scenario

To match the most recent CA Building Code CalGreen goals of 20% in developed areas and 50% in undeveloped areas. Lagoon and waterfront were excluded, as were any areas already above the goal that best matched the census block.

This scenario is difficult to model with the PlanIT Geo Canopy Grow tool because many census blocks have both developed and undeveloped areas. Furthermore, the Quarry and the largest census block on the Baylands were modeled at 50% due to their current status, but that may not be appropriate or compatible with future development.

The result would be a citywide canopy of 32%, or a 19% increase from 2022 levels. Reaching this goal would require planting 25,902 trees with an average tree crown diameter of 30 feet and a mortality rate of 5%. Of those trees, 14,601 are in the Baylands and an addition 4,743 are in the Quarry, leaving 6,559 trees to be planted across public and private (residential and commercial) sites throughout the rest of the city over 15 years, or around 437 trees per year.



Number of Trees to Plant



Plant 25,902 Trees

MODELED ECOSYSTEM BENEFITS

OVERALL

Current	Modeled	Net
		
Overall Monetary Benefit \$44,877	Overall Monetary Benefit \$107,559	Overall Monetary Benefit \$62,682

AIR QUALITY

Current	Modeled	Net
		
Pollutants Removed (lb) 7,119	Pollutants Removed (lb) 17,063	Pollutants Removed (lb) 9,944
Air Quality Monetary Benefit \$37,276	Air Quality Monetary Benefit \$89,340	Air Quality Monetary Benefit \$52,065

CARBON

Current	Modeled	Net
		
Carbon Monetary Benefit \$169	Carbon Monetary Benefit \$404	Carbon Monetary Benefit \$236
Carbon Sequestered (lb) 7,393	Carbon Sequestered (lb) 17,719	Carbon Sequestered (lb) 10,326

STORMWATER

Current	Modeled	Net
		
Stormwater Monetary Benefit \$7,433	Stormwater Monetary Benefit \$17,815	Stormwater Monetary Benefit \$10,382
Runoff Prevention (Gallons) 862,499	Runoff Prevention (Gallons) 2,067,185	Runoff Prevention (Gallons) 1,204,686

Area Name or ID	Existing Canopy (%)	Modeled Canopy (%)	Net Change Canopy (%)	No. Trees to Reach Goal	Avg Tree Size (ft.)	Mortality Rate (%)	Annual Added Eco-Benefits (\$)
060816001001008	12	20	8	13	30	5	34
060816001004002	10	20	10	31	30	5	80
060816001001003	18	20	2	5	30	5	12
060816001004005	20	20	0	0	30	5	-1
060816001004006	16	20	4	5	30	5	14
060816001002004	4	20	16	232	30	5	592
060816001004011	16	20	4	10	30	5	25
060816001005006	3	20	17	22	30	5	55
060816001005003	8	20	12	23	30	5	58
060816001001006	20	20	0	-1	30	5	-1
060816001005005	12	20	8	41	30	5	105
060816001002001	3	50	47	836	30	5	2,129
060816001001007	16	20	4	8	30	5	21
060816001001000	13	20	7	10	30	5	24
060816001002006	4	20	16	54	30	5	138
060816001002003	2	50	48	12,469	30	5	31,762
060816001002016	10	20	10	354	30	5	902
060816001005001	1	20	19	24	30	5	61
060816001002030	16	20	4	122	30	5	311
060816001002025	16	20	4	35	30	5	89
060816001003000	17	50	33	4,743	30	5	12,082
060816001004004	14	20	6	25	30	5	64
060816001001009	11	20	9	18	30	5	47
060816001002014	1	20	19	57	30	5	145
060816001002017	19	20	1	21	30	5	52
060816001003007	42	50	8	218	30	5	555
060816001001001	8	20	12	14	30	5	35
060816001002019	11	20	9	347	30	5	885
060816001004000	10	20	10	15	30	5	37
060816001002007	18	20	2	16	30	5	42
060816001002020	20	20	0	1	30	5	3
060816001004003	11	20	9	36	30	5	91
060816001002013	11	20	9	1,440	30	5	3,668
060816001002010	30	50	20	154	30	5	391
060816001001002	9	20	11	24	30	5	61
060816001002022	1	50	49	767	30	5	1,953
060816001002012	11	20	9	197	30	5	502
060816001002029	11	20	9	52	30	5	131
060816001004010	43	50	7	3	30	5	8
060816001002008	4	20	16	422	30	5	1,074
060816001004001	10	20	10	22	30	5	57
060816001005007	16	20	4	7	30	5	17
060816001002005	6	20	14	1,900	30	5	4,840
060816001002027	9	20	11	135	30	5	343
060816001002026	6	20	14	807	30	5	2,056
060816001001004	19	20	1	3	30	5	6
060816001002024	15	20	5	121	30	5	309
060816001005002	10	20	10	7	30	5	18
060816001003005	49	50	1	38	30	5	98

Lines highlighted blue are Baylands; green is Quarry