



NEW AMENITY SPACES
SUNLIGHT/SHADOW CALCULATION DATA

DKP-N38-5060-A





APPENDIX

A

Castlelake Housing & Apartment Development

PUBLIC OPEN and COMMUNAL AMENITY SPACES

Compliance guide

	0% Over /equal to
	5% Within
	10% Within
	10% In excess of



Castlelake SHD

SUNLIGHT/SHADOW CALCULATION DATA

1 Castlelake West Local Park 01 **1,026** m2

NEW STATUS March 21st

Time	Shadow	Sunlight	Suntime	Sun area	Sun time.area
24 Hr	% / %		min	m2	min*m2
6.00	100%	0%	60	0	0
7.00	95%	5%	60	51	3,079
8.00	71%	29%	60	298	17,858
9.00	67%	33%	60	339	20,321
10.00	67%	33%	60	339	20,321
11.00	53%	47%	60	482	28,942
12.00	49%	51%	60	523	31,405
13.00	46%	54%	60	554	33,252
14.00	40%	60%	60	616	36,947
15.00	33%	67%	60	688	41,257
16.00	21%	79%	60	811	48,647
17.00	20%	80%	60	821	49,262
18.00	45%	55%	60	564	33,868
19.00	100%	0%	60	0	0

Required sun hours @ 50% area 2
 Achieved sun hours on @ 50% area **7.00**
 Achieved total sun time (hrs) 5.93
 Achieved daily sun time * area 365158

2 Castlelake West Local Park 02 **842** m2

NEW STATUS March 21st

Time	Shadow	Sunlight	Sun time	Sun area	Sun time.area
24 Hr	% / %		min	m2	min*m2
6.00	100%	0%	60	0	0
7.00	98%	2%	60	17	1,010
8.00	95%	5%	60	42	2,525
9.00	52%	48%	60	404	24,244
10.00	36%	64%	60	539	32,325
11.00	29%	71%	60	598	35,861
12.00	27%	73%	60	615	36,871
13.00	25%	75%	60	631	37,881
14.00	22%	78%	60	657	39,396
15.00	20%	80%	60	673	40,406
16.00	21%	79%	60	665	39,901
17.00	35%	65%	60	547	32,830
18.00	48%	52%	60	438	26,264
19.00	100%	0%	60	0	0

Required sun hours @ 50% area 2
 Achieved sun hours on @ 50% area **9.00**
 Achieved total sun time (hrs) 6.92
 Achieved daily sun time * area 349515

3 Castlelake West Local Park 03 **556** m2

NEW STATUS March 21st

Time	Shadow	Sunlight	Suntime	Sun area	Sun time.area
24 Hr	% / %		min	m2	min*m2
6.00	100%	0%	60	0	0
7.00	97%	3%	60	17	1,001
8.00	94%	6%	60	33	2,003
9.00	74%	26%	60	145	8,678
10.00	59%	41%	60	228	13,685
11.00	37%	63%	60	350	21,028
12.00	17%	83%	60	462	27,704
13.00	16%	84%	60	467	28,038
14.00	15%	85%	60	473	28,371
15.00	9%	91%	60	506	30,374
16.00	10%	90%	60	501	30,040
17.00	76%	24%	60	134	8,011
18.00	86%	14%	60	78	4,673
19.00	100%	0%	60	0	0

Required sun hours @ 50% area 2
 Achieved sun hours on @ 50% area **6.00**
 Achieved total sun time (hrs) 6.1
 Achieved daily sun time * area 203606

4 Castlelake North Local Park **818** m2

NEW STATUS March 21st

Time	Shadow	Sunlight	Sun time	Sun area	Sun time.area
24 Hr	% / %		min	m2	min*m2
6.00	100%	0%	60	0	0
7.00	98%	2%	60	16	981
8.00	70%	30%	60	245	14,722
9.00	23%	77%	60	630	37,787
10.00	6%	94%	60	769	46,130
11.00	5%	95%	60	777	46,620
12.00	0%	100%	60	818	49,074
13.00	0%	100%	60	818	49,074
14.00	0%	100%	60	818	49,074
15.00	15%	85%	60	695	41,713
16.00	59%	41%	60	335	20,120
17.00	73%	27%	60	221	13,250
18.00	88%	12%	60	98	5,889
19.00	100%	0%	60	0	0

Required sun hours @ 50% area 2
 Achieved sun hours on @ 50% area **7.00**
 Achieved total sun time (hrs) 7.63
 Achieved daily sun time * area 374435



SUNLIGHT/SHADOW CALCULATION DATA

Castlelake SHD

5 Central Park Neighbourhood Park 18,337 m2

NEW STATUS March 21st

Time	Shadow	Sunlight	Suntime	Sun area	Sun time.area
24 Hr	% / %		min	m2	min*m2
6.00	100%	0%	60	0	0
7.00	95%	5%	60	917	55,010
8.00	71%	29%	60	5318	319,060
9.00	39%	61%	60	11185	671,127
10.00	38%	62%	60	11369	682,129
11.00	35%	65%	60	11919	715,135
12.00	24%	76%	60	13936	836,158
13.00	16%	84%	60	15403	924,175
14.00	17%	83%	60	15220	913,173
15.00	23%	77%	60	14119	847,160
16.00	31%	69%	60	12652	759,144
17.00	41%	59%	60	10819	649,123
18.00	70%	30%	60	5501	330,062
19.00	100%	0%	60	0	0

Required sun hours @ 50% area 2
 Achieved sun hours on @ 50% area **9.00**
 Achieved total sun time (hrs) 7.00
 Achieved daily sun time * area 7701456

6 Blandcrest Local Park 01 2,553 m2

NEW STATUS March 21st

Time	Shadow	Sunlight	Sun time	Sun area	Sun time.area
24 Hr	% / %		min	m2	min*m2
6.00	100%	0%	60	0	0
7.00	91%	9%	60	230	13,788
8.00	86%	14%	60	357	21,448
9.00	49%	51%	60	1302	78,131
10.00	16%	84%	60	2145	128,686
11.00	0%	100%	60	2553	153,198
12.00	0%	100%	60	2553	153,198
13.00	0%	100%	60	2553	153,198
14.00	9%	91%	60	2324	139,410
15.00	14%	86%	60	2196	131,750
16.00	44%	56%	60	1430	85,791
17.00	69%	31%	60	792	47,491
18.00	94%	6%	60	153	9,192
19.00	100%	0%	60	0	0

Required sun hours @ 50% area 2
 Achieved sun hours on @ 50% area **8.00**
 Achieved total sun time (hrs) 7.28
 Achieved daily sun time * area 1115281

7 Blandcrest Local Park 02 3,651 m2

NEW STATUS March 21st

Time	Shadow	Sunlight	Suntime	Sun area	Sun time.area
24 Hr	% / %		min	m2	min*m2
6.00	100%	0%	60	0	0
7.00	84%	16%	60	584	35,051
8.00	79%	21%	60	767	46,004
9.00	26%	74%	60	2702	162,109
10.00	16%	84%	60	3067	184,015
11.00	8%	92%	60	3359	201,541
12.00	0%	100%	60	3651	219,066
13.00	0%	100%	60	3651	219,066
14.00	0%	100%	60	3651	219,066
15.00	17%	83%	60	3030	181,825
16.00	22%	78%	60	2848	170,871
17.00	37%	63%	60	2300	138,012
18.00	77%	23%	60	840	50,385
19.00	100%	0%	60	0	0

Required sun hours @ 50% area 2
 Achieved sun hours on @ 50% area **9.00**
 Achieved total sun time (hrs) 8.34
 Achieved daily sun time * area 1827010

8 Station Road North Local Park 01 412 m2

NEW STATUS March 21st

Time	Shadow	Sunlight	Sun time	Sun area	Sun time.area
24 Hr	% / %		min	m2	min*m2
6.00	100%	0%	60	0	0
7.00	97%	3%	60	12	742
8.00	63%	37%	60	152	9,146
9.00	52%	48%	60	198	11,866
10.00	32%	68%	60	280	16,810
11.00	29%	71%	60	293	17,551
12.00	29%	71%	60	293	17,551
13.00	28%	72%	60	297	17,798
14.00	26%	74%	60	305	18,293
15.00	19%	81%	60	334	20,023
16.00	18%	82%	60	338	20,270
17.00	18%	82%	60	338	20,270
18.00	88%	12%	60	49	2,966
19.00	100%	0%	60	0	0

Required sun hours @ 50% area 2
 Achieved sun hours on @ 50% area **8.00**
 Achieved total sun time (hrs) 7.01
 Achieved daily sun time * area 173287



SUNLIGHT/SHADOW CALCULATION DATA

9 Station Road North Local Park 02 **1,458** m2

NEW STATUS March 21st

Time	Shadow	Sunlight	Suntime	Sun area	Sun time.area
24 Hr	% / %		min	m2	min*m2
6.00	100%	0%	60	0	0
7.00	92%	8%	60	117	7,000
8.00	26%	74%	60	1079	64,753
9.00	11%	89%	60	1298	77,879
10.00	7%	93%	60	1356	81,379
11.00	0%	100%	60	1458	87,504
12.00	0%	100%	60	1458	87,504
13.00	0%	100%	60	1458	87,504
14.00	0%	100%	60	1458	87,504
15.00	0%	100%	60	1458	87,504
16.00	9%	91%	60	1327	79,629
17.00	21%	79%	60	1152	69,128
18.00	79%	21%	60	306	18,376
19.00	100%	0%	60	0	0

Required sun hours @ 50% area 2
 Achieved sun hours on @ 50% area **10.00**
 Achieved total sun time (hrs) 9.55
 Achieved daily sun time * area 835663

10 Station Road South Local Park 02 **1,006** m2

NEW STATUS March 21st

Time	Shadow	Sunlight	Sun time	Sun area	Sun time.area
24 Hr	% / %		min	m2	min*m2
6.00	100%	0%	60	0	0
7.00	98%	2%	60	20	1,207
8.00	98%	2%	60	20	1,207
9.00	67%	33%	60	332	19,919
10.00	55%	45%	60	453	27,162
11.00	39%	61%	60	614	36,820
12.00	29%	71%	60	714	42,856
13.00	28%	72%	60	724	43,459
14.00	25%	75%	60	755	45,270
15.00	21%	79%	60	795	47,684
16.00	18%	82%	60	825	49,495
17.00	18%	82%	60	825	49,495
18.00	28%	72%	60	724	43,459
19.00	100%	0%	60	0	0

Required sun hours @ 50% area 2
 Achieved sun hours on @ 50% area **8.00**
 Achieved total sun time (hrs) 6.76
 Achieved daily sun time * area 408034

11 Castlelake West Local Park under pylons **2,803** m2

NEW STATUS March 21st

Time	Shadow	Sunlight	Suntime	Sun area	Sun time.area
24 Hr	% / %		min	m2	min*m2
6.00	100%	0%	60	0	0
7.00	98%	2%	60	56	3,364
8.00	91%	9%	60	252	15,137
9.00	71%	29%	60	813	48,776
10.00	46%	54%	60	1514	90,824
11.00	28%	72%	60	2018	121,098
12.00	22%	78%	60	2186	131,190
13.00	17%	83%	60	2327	139,599
14.00	19%	81%	60	2271	136,236
15.00	31%	69%	60	1934	116,052
16.00	40%	60%	60	1682	100,915
17.00	68%	32%	60	897	53,821
18.00	89%	11%	60	308	18,501
19.00	100%	0%	60	0	0

Required sun hours @ 50% area 2
 Achieved sun hours on @ 50% area **7.00**
 Achieved total sun time (hrs) 5.80
 Achieved daily sun time * area 975514

12 Neighbourhood Park under pylons **7,947** m2

NEW STATUS March 21st

Time	Shadow	Sunlight	Sun time	Sun area	Sun time.area
24 Hr	% / %		min	m2	min*m2
6.00	100%	0%	60	0	0
7.00	95%	5%	60	397	23,842
8.00	55%	45%	60	3576	214,577
9.00	24%	76%	60	6040	362,397
10.00	25%	75%	60	5960	357,629
11.00	25%	75%	60	5960	357,629
12.00	26%	74%	60	5881	352,860
13.00	23%	77%	60	6119	367,165
14.00	23%	77%	60	6119	367,165
15.00	26%	74%	60	5881	352,860
16.00	39%	61%	60	4848	290,871
17.00	41%	59%	60	4689	281,334
18.00	75%	25%	60	1987	119,210
19.00	100%	0%	60	0	0

Required sun hours @ 50% area 2
 Achieved sun hours on @ 50% area **9.00**
 Achieved total sun time (hrs) 7.23
 Achieved daily sun time * area 3447539



SUNLIGHT/SHADOW CALCULATION DATA

Castlelake SHD

13 Castlelake North Local Park under pylons **679** m2

NEW STATUS March 21st

Time	Shadow	Sunlight	Suntime	Sun area	Sun time.area
24 Hr	% / %		min	m2	min*m2
6.00	100%	0%	60	0	0
7.00	97%	3%	60	20	1,223
8.00	77%	23%	60	156	9,376
9.00	19%	81%	60	550	33,019
10.00	14%	86%	60	584	35,057
11.00	0%	100%	60	679	40,764
12.00	0%	100%	60	679	40,764
13.00	0%	100%	60	679	40,764
14.00	0%	100%	60	679	40,764
15.00	0%	100%	60	679	40,764
16.00	8%	92%	60	625	37,503
17.00	23%	77%	60	523	31,388
18.00	45%	55%	60	374	22,420
19.00	100%	0%	60	0	0

Required sun hours @ 50% area 2
 Achieved sun hours on @ 50% area **10.00**
 Achieved total sun time (hrs) 9.17
 Achieved daily sun time * area 373806

14 Amenity space Apartment A1 **1,542** m2

NEW STATUS March 21st

Time	Shadow	Sunlight	Sun time	Sun area	Sun time.area
24 Hr	% / %		min	m2	min*m2
6.00	100%	0%	60	0	0
7.00	94%	6%	60	93	5,550
8.00	94%	6%	60	93	5,550
9.00	77%	23%	60	355	21,275
10.00	54%	46%	60	709	42,551
11.00	36%	64%	60	987	59,201
12.00	17%	83%	60	1280	76,777
13.00	9%	91%	60	1403	84,177
14.00	9%	91%	60	1403	84,177
15.00	9%	91%	60	1403	84,177
16.00	12%	88%	60	1357	81,402
17.00	18%	82%	60	1264	75,852
18.00	40%	60%	60	925	55,501
19.00	100%	0%	60	0	0

Required sun hours @ 50% area 2
 Achieved sun hours on @ 50% area **8.00**
 Achieved total sun time (hrs) 7.31
 Achieved daily sun time * area 676190

15 Amenity space Apartment A2 **465** m2

NEW STATUS March 21st

Time	Shadow	Sunlight	Suntime	Sun area	Sun time.area
24 Hr	% / %		min	m2	min*m2
6.00	100%	0%	60	0	0
7.00	87%	13%	60	60	3,627
8.00	32%	68%	60	316	18,972
9.00	0%	100%	60	465	27,900
10.00	0%	100%	60	465	27,900
11.00	0%	100%	60	465	27,900
12.00	0%	100%	60	465	27,900
13.00	0%	100%	60	465	27,900
14.00	0%	100%	60	465	27,900
15.00	0%	100%	60	465	27,900
16.00	0%	100%	60	465	27,900
17.00	11%	89%	60	414	24,831
18.00	19%	81%	60	377	22,599
19.00	100%	0%	60	0	0

Required sun hours @ 50% area 2
 Achieved sun hours on @ 50% area **11.00**
 Achieved total sun time (hrs) 10.51
 Achieved daily sun time * area 293229

16 Amenity space Apartment A3 **418** m2

NEW STATUS March 21st

Time	Shadow	Sunlight	Sun time	Sun area	Sun time.area
24 Hr	% / %		min	m2	min*m2
6.00	100%	0%	60	0	0
7.00	93%	7%	60	29	1,756
8.00	93%	7%	60	29	1,756
9.00	90%	10%	60	42	2,508
10.00	85%	15%	60	63	3,762
11.00	86%	14%	60	59	3,511
12.00	86%	14%	60	59	3,511
13.00	82%	18%	60	75	4,514
14.00	67%	33%	60	138	8,276
15.00	49%	51%	60	213	12,791
16.00	48%	52%	60	217	13,042
17.00	49%	51%	60	213	12,791
18.00	90%	10%	60	42	2,508
19.00	100%	0%	60	0	0

Required sun hours @ 50% area 2
 Achieved sun hours on @ 50% area **3.00**
 Achieved total sun time (hrs) 2.82
 Achieved daily sun time * area 70726



SUNLIGHT/SHADOW CALCULATION DATA

17 Amenity space Apartment A4 **236** m2

NEW STATUS March 21st

Time	Shadow	Sunlight	Suntime	Sun area	Sun time.area
24 Hr	% / %		min	m2	min*m2
6.00	100%	0%	60	0	0
7.00	89%	11%	60	26	1,558
8.00	18%	82%	60	194	11,611
9.00	9%	91%	60	215	12,886
10.00	0%	100%	60	236	14,160
11.00	17%	83%	60	196	11,753
12.00	64%	36%	60	85	5,098
13.00	66%	34%	60	80	4,814
14.00	76%	24%	60	57	3,398
15.00	90%	10%	60	24	1,416
16.00	95%	5%	60	12	708
17.00	95%	5%	60	12	708
18.00	95%	5%	60	12	708
19.00	100%	0%	60	0	0

Required sun hours @ 50% area 2
 Achieved sun hours on @ 50% area **4.00**
 Achieved total sun time (hrs) 4.86
 Achieved daily sun time * area 68818

18 Amenity space Apartment A5 **208** m2

NEW STATUS March 21st

Time	Shadow	Sunlight	Sun time	Sun area	Sun time.area
24 Hr	% / %		min	m2	min*m2
6.00	100%	0%	60	0	0
7.00	98%	2%	60	4	250
8.00	98%	2%	60	4	250
9.00	71%	29%	60	60	3,619
10.00	14%	86%	60	179	10,733
11.00	9%	91%	60	189	11,357
12.00	8%	92%	60	191	11,482
13.00	6%	94%	60	196	11,731
14.00	6%	94%	60	196	11,731
15.00	6%	94%	60	196	11,731
16.00	15%	85%	60	177	10,608
17.00	79%	21%	60	44	2,621
18.00	95%	5%	60	10	624
19.00	100%	0%	60	0	0

Required sun hours @ 50% area 2
 Achieved sun hours on @ 50% area **7.00**
 Achieved total sun time (hrs) 6.95
 Achieved daily sun time * area 86736

19 Amenity space Apartment A6 **186** m2

NEW STATUS March 21st

Time	Shadow	Sunlight	Suntime	Sun area	Sun time.area
24 Hr	% / %		min	m2	min*m2
6.00	100%	0%	60	0	0
7.00	95%	5%	60	9	558
8.00	56%	44%	60	82	4,910
9.00	58%	42%	60	78	4,687
10.00	69%	31%	60	58	3,460
11.00	80%	20%	60	37	2,232
12.00	90%	10%	60	19	1,116
13.00	85%	15%	60	28	1,674
14.00	67%	33%	60	61	3,683
15.00	27%	73%	60	136	8,147
16.00	13%	87%	60	162	9,709
17.00	13%	87%	60	162	9,709
18.00	44%	56%	60	104	6,250
19.00	100%	0%	60	0	0

Required sun hours @ 50% area 2
 Achieved sun hours on @ 50% area **4.00**
 Achieved total sun time (hrs) 5.03
 Achieved daily sun time * area 56135

20 Amenity space Apartment A7 **1,439** m2

NEW STATUS March 21st

Time	Shadow	Sunlight	Sun time	Sun area	Sun time.area
24 Hr	% / %		min	m2	min*m2
6.00	100%	0%	60	0	0
7.00	88%	12%	60	173	10,361
8.00	23%	77%	60	1108	66,482
9.00	19%	81%	60	1166	69,935
10.00	24%	76%	60	1094	65,618
11.00	26%	74%	60	1065	63,892
12.00	28%	72%	60	1036	62,165
13.00	34%	66%	60	950	56,984
14.00	45%	55%	60	791	47,487
15.00	81%	19%	60	273	16,405
16.00	78%	22%	60	317	18,995
17.00	77%	23%	60	331	19,858
18.00	73%	27%	60	389	23,312
19.00	100%	0%	60	0	0

Required sun hours @ 50% area 2
 Achieved sun hours on @ 50% area **7.00**
 Achieved total sun time (hrs) 6.04
 Achieved daily sun time * area 521494

