



APPENDIX C

Cumulative Growth Calculations

POPULATION

Description	SFR (d.u.)	MFR (d.u.)	Retail (s.f.)	Office (s.f.)	Industrial (s.f.)	Schools (s.f.)	Parks (acres)
1) Spring Canyon (Tract 48086)	549						
2) Tick Canyon (TR 60259)	519						
3) Bee Canyon (TR 54020)	556						
4) Skyline Ranch (TR 60922)	1,361						
5) TT 65159	50						
6) NW and SW Corner of Dockweiler and Sierra Hwy.	190						
7) Vista Ranch	1,200						
8) Gate-King Industrial Park					4,200,000		
9) TT 61811	167						
10) Whittaker Bermmite	1,244	1,667	1,455,500	1,455,500			
11) Valencia Town Center Expansion			600,000				
12) TT 20838		168					
13) Valle do Oro Residential		111					
14) TT 53074	24		100,000				
15) TT 52355	63						
16) TT 52414	498		618,759			300,000	
17) NE Corner Newhall Ranch/GVR	319	180					5
18) S. of Soledad at Penlong Rd.	147						
19) N. of SCR/E. of Bouquet Canyon	432	657	16,000				
20) NW of Stonecrest/W. of Sand Cyn.	265						
21) Proposed Project	99						
TOTAL	7,683	2,783	2,790,259	1,455,500	4,200,000	300,000	5
Growth Factor	3.081	3.081	0.00182	0.00182	0.00208	0.00182	N/A
Population	23,671	8,574	5,072	2,646	8,735	545	0

TOTAL POPULATION GROWTH	49,244
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Note: The population growth factor assumes 3.081 persons per household on average. Housing units are multiplied by 3.081 to yield population growth, while employment-generating uses are multiplied by an employment factor to yield employment growth, then it is assumed (conservatively) that 25% of new employees would relocate to the area. Assuming 1/4 of new employees (and their families) move to the area and require housing, the resultant population growth would be new employees multiplied by 3.081 for each respective housing unit required to house each new employee. Employment factors are 2.36 employees per 1,000 square feet for commercial and school uses, and 2.70 employees per 1,000 square feet for industrial uses. (Per SCAG 2003)

EMPLOYMENT

Description	SFR (d.u.)	MFR (d.u.)	Retail (s.f.)	Office (s.f.)	Industrial (s.f.)	Schools (s.f.)	Parks (acres)
1) Spring Canyon (Tract 48086)	549						
2) Tick Canyon (TR 60259)	519						
3) Bee Canyon (TR 54020)	556						
4) Skyline Ranch (TR 60922)	1,361						
5) TT 65159	50						
6) NW and SW Corner of Dockweiler and Sierra Hwy.	190						
7) Vista Ranch	1,200						
8) Gate-King Industrial Park					4,200,000		
9) TT 61811	167						
10) Whittaker Bermmite	1,244	1,667	1,455,500	1,455,500			
11) Valencia Town Center Expansion			600,000				
12) TT 20838		168					
13) Valle do Oro Residential		111					
14) TT 53074	24		100,000				
15) TT 52355	63						
16) TT 52414	498		618,759			300,000	5
17) NE Corner Newhall Ranch/GVR	319	180					
18) S. of Soledad at Penlong Rd.	147						
19) N. of SCR/E. of Bouquet Canyon	432	657	16,000				
20) NW of Stonecrest/W. of Sand Cyn.	265						
21) <i>Proposed Project</i>	99						
TOTAL	7,683	2,783	2,790,259	1,455,500	4,200,000	300,000	5
Growth Factor	N/A	N/A	0.00236	0.00236	0.00270	0.00236	N/A
Employment	0	0	6,585	3,435	11,340	708	0

TOTAL EMPLOYMENT GROWTH	22,068
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Note: Employment growth factors are 2.36 employees per 1,000 square feet for commercial and school uses and 2.70 employees per 1,000 square feet for industrial uses (per SCAG 2003).

HOUSING

Description	SFR (d.u.)	MFR (d.u.)	Retail (s.f.)	Office (s.f.)	Industrial (s.f.)	Schools (s.f.)	Parks (acres)
1) Spring Canyon (Tract 48086)	549						
2) Tick Canyon (TR 60259)	519						
3) Bee Canyon (TR 54020)	556						
4) Skyline Ranch (TR 60922)	1,361						
5) TT 65159	50						
6) NW and SW Corner of Dockweiler and Sierra Hwy.	190						
7) Vista Ranch	1,200						
8) Gate-King Industrial Park					4,200,000		
9) TT 61811	167						
10) Whittaker Bermmite	1,244	1,667	1,455,500	1,455,500			
11) Valencia Town Center Expansion			600,000				
12) TT 20838		168					
13) Valle do Oro Residential		111					
14) TT 53074	24		100,000				
15) TT 52355	63						
16) TT 52414	498		618,759			300,000	5
17) NE Corner Newhall Ranch/GVR	319	180					
18) S. of Soledad at Penlong Rd.	147						
19) N. of SCR/E. of Bouquet Canyon	432	657	16,000				
20) NW of Stonecrest/W. of Sand Cyn.	265						
21) Proposed Project	99						5
TOTAL	7,683	2,783	2,790,259	1,455,500	4,200,000	300,000	10
Growth Factor	N/A	N/A	0.00059	0.00059	0.00068	0.00059	N/A
Housing	7,683	2,783	1,646	859	2,835	177	0

TOTAL HOUSING GROWTH	15,983
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Note: Housing growth factors are equal to the projected employment generated by uses multiplied by 0.25 (25%), which assumes that 1/4 of employees would relocate to the project vicinity and require housing. Commercial and school factor is 2.36 employees per 1,000 square feet, while the industrial factor is 2.70 employees per 1,000 square feet (per SCAG 2003).

NATURAL GAS

Description	SFR (d.u.)	MFR (d.u.)	Retail (s.f.)	Office (s.f.)	Industrial (s.f.) ^a	Schools (s.f.) ^b	Parks (acres)
1) Spring Canyon (Tract 48086)	549						
2) Tick Canyon (TR 60259)	519						
3) Bee Canyon (TR 54020)	556						
4) Skyline Ranch (TR 60922)	1,361						
5) TT 65159	50						
6) NW and SW Corner of Dockweiler and Sierra Hwy.	190						
7) Vista Ranch	1,200						
8) Gate-King Industrial Park					4,200,000		
9) TT 61811	167						
10) Whittaker Bermmite	1,244	1,667	1,455,500	1,455,500			
11) Valencia Town Center Expansion			600,000				
12) TT 20838		168					
13) Valle do Oro Residential		111					
14) TT 53074	24		100,000				
15) TT 52355	63						
16) TT 52414	498		618,759			300,000	
17) NE Corner Newhall Ranch/GVR	319	180					5
18) S. of Soledad at Penlong Rd.	147						
19) N. of SCR/E. of Bouquet Canyon	432	657	16,000				
20) NW of Stonecrest/W. of Sand Cyn.	265						
21) Proposed Project	99						5
TOTAL	7,683	2,783	2,790,259	1,455,500	4,200,000	300,000	10
Consumption Factor ^c	6,665.0	4,011.5	2.9	2.0	2.416	2.0	N/A
Monthly Natural Gas Consumption (kcf)	51,207,195.0	11,164,004.5	8,091,751.1	2,911,000.0	10,147,200.0	600,000.0	0.0

Total Monthly Natural Gas Consumption (kcf)	84,121.2
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Notes:

a) The consumption factor for industrial uses is cubic feet per gas meter per month. This analysis assumes 100,000 square feet of industrial space per meter.

b) No factor exists for school uses. As such, the office factor was applied.

c) Consumption factors are in cubic feet per month and are from the South Coast Air Quality Management District's CEQA Air Quality Handbook (1993), Table A9-12-A.

cf = cubic feet kcf = thousand cubic feet

ELECTRICITY

Description	SFR (d.u.)	MFR (d.u.)	Retail (s.f.)	Office (s.f.)	Industrial (s.f.) ^a	Schools (s.f.) ^b	Parks (acres)
1) Spring Canyon (Tract 48086)	549						
2) Tick Canyon (TR 60259)	519						
3) Bee Canyon (TR 54020)	556						
4) Skyline Ranch (TR 60922)	1,361						
5) TT 65159	50						
6) NW/SW Corner Dockweiler and Sierra Hwy	190						
7) Vista Ranch	1,200						
8) Gate-King Industrial Park					4,200,000		
9) TT 61811	167						
10) Whittaker Bermmite	1,244	1,667	1,455,500	1,455,500			
11) Valencia Town Center Expansion			600,000				
12) TT 20838		168					
13) Golden Valley Ranch Commercial			105,000				
14) TT 53074	24		100,000				
15) TT 52355	63						
16) TT 52414	498		618,759			300,000	
17) NE Corner McBean/Newhall Ranch			130,000			30,000	5
18) NE Corner Newhall Ranch/GVR	319	180					
19) N. of SCR/E. of Bouquet Canyon	432	657	16,000				
20) NW of Stonecrest/W. of Sand Cyn.	265						
21) Proposed Project	99						5
TOTAL	7,536	2,672	3,025,259	1,455,500	4,200,000	330,000	10
Consumption Factor ^c	5,626.5	5,626.5	13.55	12.95	10.50	11.55	N/A
Annual Electricity Consumption (kWh)	42,401,304.00	15,034,008.00	40,992,259.45	18,848,725.00	44,100,000.00	3,811,500.00	0.00

Total Annual Cumulative Electricity Consumption (MWh)	165,187.80
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Notes:

- a) Because no consumption factor exists for industrial uses, the Miscellaneous factor was applied.
- b) Schools include both elementary school and college/university uses. As such, the more conservative college/university factor was applied.
- c) Consumption factors are in kilowatt-hours per dwelling unit or square foot, as applicable, and are from the South Coast Air Quality Management District's CEQA Air Quality Handbook (1993), Table A9-11-A.

kWh = kilowatt-hours MWh = megawatt-hours

FIRE PROTECTION

Description	SFR (d.u.) ^a	MFR (d.u.) ^b	Retail (s.f.)	Office (s.f.)	Industrial (s.f.)	Schools (s.f.)	Parks (acres)
1) Spring Canyon (Tract 48086)	549						
2) Tick Canyon (TR 60259)	519						
3) Bee Canyon (TR 54020)	556						
4) Skyline Ranch (TR 60922)	1,361						
5) TT 65159	50						
6) NW/SW Corner Dockweiler and Sierra Hwy	190						
7) Vista Ranch	1,200						
8) Gate-King Industrial Park					4,200,000		
9) TT 61811	167						
10) Whittaker Bermmite	1,244	1,667	1,455,500	1,455,500			
11) Valencia Town Center Expansion			600,000				
12) TT 20838		168					
13) Golden Valley Ranch Commercial			105,000				
14) TT 53074	24		100,000				
15) TT 52355	63						
16) TT 52414	498		618,759			300,000	
17) NE Corner McBean/Newhall Ranch			130,000			30,000	5
18) NE Corner Newhall Ranch/GVR	319	180					
19) N. of SCR/E. of Bouquet Canyon	432	657	16,000				
20) NW of Stonecrest/W. of Sand Cyn.	265						
21) Proposed Project	99						5
TOTAL	7,536	2,672	3,025,259	1,455,500	4,200,000	330,000	10
Impact Fee Factor ^c	\$775	\$310	\$0.3877	\$0.3877	\$0.3877	\$0.3877	\$0.3877
Fire Impact Fees	\$5,843,414	\$828,748	\$1,172,893	\$564,297	\$1,628,340	\$127,941	\$0

Total Fire Impact Fees	\$10,165,633
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Notes:

- a) Single-family homes are assumed to be 2,000 square feet on average.
- b) Multi-family homes are assumed to be 800 square feet on average.
- c) Fees for fire service impacts are \$0.38776 per square foot of new development for all land uses.

SOLID WASTE

Description	SFR (d.u.)	MFR (d.u.)	Retail (s.f.)	Office (s.f.)	Industrial (s.f.)	Schools (acres)	Parks (acres)
1) Spring Canyon (Tract 48086)	549						
2) Tick Canyon (TR 60259)	519						
3) Bee Canyon (TR 54020)	556						
4) Skyline Ranch (TR 60922)	1,361						
5) TT 65159	50						
6) NW/SW Corner Dockweiler and Sierra Hwy	190						
7) Vista Ranch	1,200						
8) Gate-King Industrial Park					4,200,000		
9) TT 61811	167						
10) Whittaker Bermmite	1,244	1,667	1,455,500	1,455,500			
11) Valencia Town Center Expansion			600,000				
12) TT 20838		168					
13) Golden Valley Ranch Commercial			105,000				
14) TT 53074	24		100,000				
15) TT 52355	63						
16) TT 52414	498		618,759			300,000	
17) NE Corner McBean/Newhall Ranch			130,000			30,000	5
18) NE Corner Newhall Ranch/GVR	319	180					
19) N. of SCR/E. of Bouquet Canyon	432	657	16,000				
20) NW of Stonecrest/W. of Sand Cyn.	265						
21) Proposed Project	99						5
TOTAL	7,536	2,672	3,025,259	1,455,500	4,200,000	330,000	10
Generation Factor (tpd)	0.005	0.0032	0.000023	0.00003	0.000031	0.0000036	N/A
Solid Waste (tpd)	37.68	8.55	69.58	43.67	130.20	1.19	0.00

TOTAL DAILY SOLID WASTE GENERATION (tpd)	291
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Notes: Generation factors are in tons per day per dwelling unit or square foot, as appropriate, and are derived from the California Integrated Waste Management Board website.
<http://www.ciwmb.ca.gov/WasteChar/WasteGenRates/default.htm>

tpd = tons per day

WASTEWATER

Description	SFR (d.u.) ^a	MFR (d.u.) ^b	Retail (s.f.) ^c	Office (s.f.) ^d	Industrial (s.f.) ^e	Schools (s.f.) ^f	Parks (acres) ^e
1) Spring Canyon (Tract 48086)	549						
2) Tick Canyon (TR 60259)	519						
3) Bee Canyon (TR 54020)	556						
4) Skyline Ranch (TR 60922)	1,361						
5) TT 65159	50						
6) NW/SW Corner Dockweiler and Sierra Hwy	190						
7) Vista Ranch	1,200						
8) Gate-King Industrial Park					4,200,000		
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11) Valencia Town Center Expansion			600,000				
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13) Golden Valley Ranch Commercial			105,000				
14) TT 53074	24		100,000				
15) TT 52355	63						
16) TT 52414	498		618,759			300,000	
17) NE Corner McBean/Newhall Ranch			130,000			30,000	5
18) NE Corner Newhall Ranch/GVR	319	180					
19) N. of SCR/E. of Bouquet Canyon	432	657	16,000				
20) NW of Stonecrest/W. of Sand Cyn.	265						
21) <i>Proposed Project</i>	99						5
TOTAL	7,536	2,672	3,025,259	1,455,500	4,200,000	330,000	10
Acreage	3,425.45	242.91	185.20	26.73	142.84	7.58	10.00
Generation Factor (cfs/acre)	0.0015	0.012	0.015	0.015	0.021	0.015	0.0002
Peak Wastewater Generation (gpm)^g	2,306.18	1,308.30	1,246.86	179.97	1,346.36	51.00	0.90
Total Daily Peak Wastewater Generation (gpd)^h							9,272,967
Total Daily Peak Wastewater Generation (mgd)							9.27

Notes:

- a) Single-family homes were assumed to be zoned Residential Low Density at 2.2 dwelling units per acre.
- b) Multi-family homes were assumed to be zoned Residential Moderate at 11 dwelling units per acre.
- c) Retail uses were assumed to be zoned commercial with a Floor-Area Ratio of 0.375:1.
- d) Office uses were assumed to be zoned Commercial Office with a Floor-Area Ratio of 1.25:1
- e) Industrial uses were assumed to be zoned Industrial with a Floor-Area Ratio of 0.675:1.
- f) School uses are assumed to be comparable to Office uses in terms of wastewater generation. Office factor was used.

g) Peak wastewater generation (gpm) is calculated by multiplying the acreage by the factor (for cfs), multiplied by 60 seconds per minute, then 7.480519 gallons per cubic foot.

h) Daily generation is calculated by multiplying peak generation (gpm) by 60 minutes per hour, then 24 hours per day to yield gallons per day.

cfs = cubic feet per second gpm = gallons per minute gpd = gallons per day mgd = million gallons per day d.u. = dwelling unit s.f. = square foot

WATER

Description	SFR (d.u.)	MFR (d.u.)	Retail (s.f.)	Office (s.f.)	Industrial (s.f.)	Schools (s.f.)	Parks (acres)
1) Spring Canyon (Tract 48086)	549						
2) Tick Canyon (TR 60259)	519						
3) Bee Canyon (TR 54020)	556						
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5) TT 65159	50						
6) NW/SW Corner Dockweiler and Sierra Hwy	190						
7) Vista Ranch	1,200						
8) Gate-King Industrial Park					4,200,000		
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10) Whittaker Bermmite	1,244	1,667	1,455,500	1,455,500			
11) Valencia Town Center Expansion			600,000				
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13) Golden Valley Ranch Commercial			105,000				
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16) TT 52414	498		618,759			300,000	
17) NE Corner McBean/Newhall Ranch			130,000			30,000	5
18) NE Corner Newhall Ranch/GVR	319	180					
19) N. of SCR/E. of Bouquet Canyon	432	657	16,000				
20) NW of Stonecrest/W. of Sand Cyn.	265						
21) Proposed Project	99						5
TOTAL	7,536	2,672	3,025,259	1,455,500	4,200,000	330,000	10
Acreage	N/A	N/A	185	27	143	8	10
Consumption Factor (AFY)	0.9	0.4	4.0	4.0	4.0	4.0	5.5
Annual Water Consumption (AFY)	6,782	1,069	741	107	571	30	55

TOTAL WATER CONSUMPTION (AFY)	9,356
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Notes:

- a) Retail uses were assumed to be zoned commercial with a Floor-Area Ratio of 0.375:1.
 - b) Office uses were assumed to be zoned Commercial Office with a Floor-Area Ratio of 1.25:1
 - c) Industrial uses were assumed to be zoned Industrial with a Floor-Area Ratio of 0.675:1.
 - d) Because open space is assumed to consume no water, only park-related consumption is calculated.
 - e) Consumption factors provided by Newhall County Water District, which are more conservative than those of Valencia Water Company.
- Factors were provided for Single-family residential, Multi-family residential, commercial retail, and parks. Commercial factor was used for retail, office, industrial, and school uses.
- f) Water consumption is calculated by multiplying the dwelling units or acreage, as appropriate, by the annual consumption factor.

d.u. = dwelling units s.f. = square feet AFY = acre-feet per year