

Thermal Envelope Estimates

For

MBIE

Date of report: 2/09/24



RAWLINSONS

Document Control

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Disclaimer

This report has been prepared by Rawlinsons for Ministry of Business, Innovation and Employment.

We will not accept responsibility to any other party other than to Ministry of Business, Innovation and Employment, to whom our report is addressed unless specifically stated to the contrary by us in writing. We will accept no responsibility for any reliance that may be placed on our report should it be used for any purpose other than that for which it is prepared. This report must be read in its entirety. Individual sections of this report could be misleading if considered in isolation from each other.

This report has been prepared with care and diligence. The statements and opinions expressed in this report have been made in good faith and on the basis that all relevant information for the purposes of preparing this report is true and accurate in all material aspects and not misleading by reason of omission or otherwise.

We reserve the right to revise or amend our report if any additional information (particularly as regards the assumptions we have relied upon) which exists on the date of our report but was not drawn to our attention during its preparation, subsequently comes to light.

1. Scope of Report

The purpose of this report is to provide estimates of the cost impact for the different specified changes in insulation values of floor, wall, ceiling/roof and window.

2. Estimate Assumptions

- The stated GFA/m2 rates are based on a commercial house builder or main contractor constructing the required building to current building code requirements for each climate zone.
- The specified 200mm concrete slab construction is not the general practice for residential construction. We have provided pricing for a 100mm concrete slab with foundation beam as specified and 50 or 60 insulation to achieve the rating requirements.
- The specification that matches the current building code are highlighted in yellow and the percentage difference for each specification is in comparison to the highlighted rate. For concrete floors it is the 100mm slab option that is used as the base rate. For skillion roofs the cheapest option is used.

- The buildings are assumed to remain the same GFA for the wall options 3 and 4 where the wall increases in width. If the internal dimensions were to be retained, the additional GFA required and cost at Wellington's GFA rate are:

Single	3.7m2	\$8,695
Double	4.2m2	\$11,130
Townhouse	14.3m2	\$38,475
Apartment	37.4m2	\$138,195

- The apartment estimates do not include costs for the roof and wall types specified as they would not occur on this type of building. The pricing is for the specified insulation only to the ceiling. For walls the pricing is framing and insulation only. As instructed, there is no pricing for floor options.
- There are a couple of specified ratings that we could not find pricing for and therefore have substituted the closest higher rated product. They are:

Wall	R2.5	replaced with R2.6
	R4.0	replaced with R4.1
Slab	45mm	replaced with 50mm R1.32
	R1.0	replaced with R1.05
Floor	R2.8	replaced with R2.9
Windows	Ug1.3	replaced with Ug1.1

- The lowest priced product is used in all estimates.
- The rates all include P&G and margin.

3. Estimate Exclusions

The estimates make no allowance for the following:

- a) GST
- b) Site preparation
- c) Upgrading of foundations for site specific conditions
- d) Services connections
- e) Loose fittings and fixtures
- f) Building consent costs and contributions
- g) Blinds/window treatments
- h) Whiteware (fridges, sanitisers etc.)
- i) Professional and consent fees
- j) Contingencies
- k) Escalation, cost fluctuations and currency fluctuations

4. Basis of Estimate

This estimate is based on the following documentation:

MBIE Scope of Work document dated 22 July 2024

Indicative drawings received from MBIE:

4 M SS Single Storey Standalone

7 S DS Double Storey Standalone

16 T2 MDH Medium Density Housing

18 T2 AP Apartment

QV CostBuilder m2 rates and indices as published 02 September 2024

5. Notes

There are anomalies in the pricing due to the more common products being more readily available and cheaper.

Our window manufacturer advised us that the Ug1.1 glass is no longer readily available.

6. Appendices

Appendix A) Estimate Details & Elemental Summary

Single Storey Standalone Estimates

Double Storey Standalone Estimates

Townhouses Estimates

Apartment Estimates

Single Storey Standalone Dwelling with concrete slab and trussed Roof

Base Costs

Spec Amendment	Auckland	Napier	Wellington	Taupo/Turangi	Christchurch	Queenstown	Analysis		
Climate Zone	1	2	3	4	5	6			
GFA \$/m2	\$2,500	\$2,300	\$2,350	\$2,450	\$2,450	\$2,590			

Trussed Roof

	Element \$/m2	GFA \$/m2	Element \$/m2	GFA \$/m2	Element \$/m2	GFA \$/m2	Element \$/m2	GFA \$/m2	Element \$/m2	GFA \$/m2	Element \$/m2	GFA \$/m2	Difference from Bldg Code Zones 1-6	
Roof space 1	\$ 441	\$ 599	\$ 406	\$ 551	\$ 415	\$ 563	\$ 433	\$ 587	\$ 433	\$ 587	\$ 457	\$ 620	-1.9%	-1.9%
Roof space 2	\$ 427	\$ 578	\$ 392	\$ 531	\$ 401	\$ 543	\$ 418	\$ 566	\$ 418	\$ 566	\$ 442	\$ 598	-5.2%	-5.4%
Roof space 3	\$ 437	\$ 593	\$ 402	\$ 545	\$ 411	\$ 557	\$ 428	\$ 581	\$ 428	\$ 581	\$ 453	\$ 614	-2.8%	-3.0%
Roof space 4	\$ 426	\$ 578	\$ 391	\$ 531	\$ 400	\$ 543	\$ 417	\$ 566	\$ 417	\$ 566	\$ 441	\$ 598	-5.4%	-5.4%
Roof space 5	\$ 438	\$ 594	\$ 403	\$ 546	\$ 412	\$ 558	\$ 430	\$ 582	\$ 430	\$ 582	\$ 454	\$ 615	-2.6%	-2.8%
Roof space 6	\$ 438	\$ 594	\$ 403	\$ 546	\$ 412	\$ 558	\$ 430	\$ 582	\$ 430	\$ 582	\$ 454	\$ 615	-2.6%	-2.8%
Roof space 7	\$ 432	\$ 585	\$ 397	\$ 538	\$ 406	\$ 550	\$ 423	\$ 573	\$ 423	\$ 573	\$ 447	\$ 606	-4.0%	-4.2%
Roof space 8	\$ 441	\$ 598	\$ 406	\$ 550	\$ 415	\$ 562	\$ 433	\$ 586	\$ 433	\$ 586	\$ 457	\$ 619	-1.9%	-2.1%
Roof space 9	\$ 450	\$ 611	\$ 414	\$ 562	\$ 423	\$ 574	\$ 441	\$ 598	\$ 441	\$ 598	\$ 466	\$ 633	0%	0%
Roof space 10	\$ 448	\$ 607	\$ 412	\$ 559	\$ 421	\$ 571	\$ 439	\$ 595	\$ 439	\$ 595	\$ 464	\$ 629	-0.5%	-0.5%

Skillion Roof

	Element \$/m2	GFA \$/m2	Element \$/m2	GFA \$/m2	Element \$/m2	GFA \$/m2	Element \$/m2	GFA \$/m2	Element \$/m2	GFA \$/m2	Element \$/m2	GFA \$/m2	Difference from Bldg Code Zones 1-6	
Skillion 1	\$ 532	\$ 720	\$ 489	\$ 663	\$ 500	\$ 677	\$ 521	\$ 706	\$ 521	\$ 706	\$ 551	\$ 746	-9.7%	-9.9%
Skillion 2	\$ 549	\$ 744	\$ 505	\$ 684	\$ 516	\$ 699	\$ 538	\$ 729	\$ 538	\$ 729	\$ 569	\$ 770	-6.9%	-6.9%
Skillion 3	\$ 560	\$ 757	\$ 515	\$ 697	\$ 526	\$ 712	\$ 548	\$ 742	\$ 548	\$ 742	\$ 580	\$ 785	-5.1%	-5.2%
Skillion 4	\$ 555	\$ 752	\$ 511	\$ 692	\$ 522	\$ 707	\$ 544	\$ 737	\$ 544	\$ 737	\$ 575	\$ 779	-5.8%	-5.9%
Skillion 5	\$ 574	\$ 779	\$ 529	\$ 716	\$ 540	\$ 732	\$ 563	\$ 763	\$ 563	\$ 763	\$ 595	\$ 807	-2.5%	-2.5%
Skillion 6	\$ 676	\$ 916	\$ 621	\$ 843	\$ 635	\$ 861	\$ 662	\$ 898	\$ 662	\$ 898	\$ 700	\$ 949	14.6%	14.6%
Skillion 7	\$ 589	\$ 799	\$ 542	\$ 735	\$ 554	\$ 751	\$ 578	\$ 783	\$ 578	\$ 783	\$ 611	\$ 828	0.0%	0.0%

Walls 2.4m stud height

	Element \$/m2	GFA \$/m2	Element \$/m2	GFA \$/m2	Element \$/m2	GFA \$/m2	Element \$/m2	GFA \$/m2	Element \$/m2	GFA \$/m2	Element \$/m2	GFA \$/m2	Difference from Bldg Code Zones 1-6	
Wall 1 R2.6	\$ 578	\$ 480	\$ 531	\$ 441	\$ 543	\$ 451	\$ 566	\$ 470	\$ 566	\$ 470	\$ 598	\$ 497	-0.37%	-0.22%
Wall 2	\$ 580	\$ 481	\$ 533	\$ 442	\$ 545	\$ 452	\$ 568	\$ 471	\$ 568	\$ 471	\$ 601	\$ 498	0.00%	0.00%
Wall 3 R4.1	\$ 599	\$ 498	\$ 551	\$ 458	\$ 563	\$ 468	\$ 587	\$ 488	\$ 587	\$ 488	\$ 620	\$ 516	3.30%	3.54%
Wall 4	\$ 620	\$ 515	\$ 571	\$ 474	\$ 583	\$ 484	\$ 608	\$ 505	\$ 608	\$ 505	\$ 643	\$ 533	6.97%	7.08%

Timber Floor

	Element \$/m2	GFA \$/m2	Element \$/m2	GFA \$/m2	Element \$/m2	GFA \$/m2	Element \$/m2	GFA \$/m2	Element \$/m2	GFA \$/m2	Element \$/m2	GFA \$/m2	Difference from Bldg Code Zones 1-3		Difference from Bldg Code Zones 4-5		Difference from Bldg Code Zone 6	
Timber Floor 1	\$ 538	\$ 538	\$ 495	\$ 495	\$ 506	\$ 506	\$ 528	\$ 528	\$ 528	\$ 528	\$ 558	\$ 558	-1.0%	-1.0%	-1.9%	-1.9%	-0.9%	-0.9%
Timber Floor 2	\$ 543	\$ 543	\$ 499	\$ 499	\$ 510	\$ 510	\$ 532	\$ 532	\$ 532	\$ 532	\$ 562	\$ 562	-0.2%	-0.2%	-1.1%	-1.1%	-0.2%	-0.2%
Timber Floor 3	\$ 547	\$ 547	\$ 503	\$ 503	\$ 514	\$ 514	\$ 536	\$ 536	\$ 536	\$ 536	\$ 566	\$ 566	0.6%	0.6%	-0.4%	-0.4%	0.6%	0.6%
Timber Floor 4	\$ 544	\$ 544	\$ 500	\$ 500	\$ 511	\$ 511	\$ 533	\$ 533	\$ 533	\$ 533	\$ 563	\$ 563	0.0%	0.0%	-0.9%	-0.9%	0.0%	0.0%
Timber Floor 5 R2.9	\$ 549	\$ 549	\$ 505	\$ 505	\$ 516	\$ 516	\$ 538	\$ 538	\$ 538	\$ 538	\$ 569	\$ 569	1.0%	1.0%	0.0%	0.0%	0.9%	0.9%
Timber Floor 6	\$ 548	\$ 548	\$ 504	\$ 504	\$ 515	\$ 515	\$ 537	\$ 537	\$ 537	\$ 537	\$ 568	\$ 568	0.8%	0.8%	-0.2%	-0.2%	0.8%	0.8%
Timber Floor 7	\$ 544	\$ 544	\$ 500	\$ 500	\$ 511	\$ 511	\$ 533	\$ 533	\$ 533	\$ 533	\$ 563	\$ 563	0.0%	0.0%	-0.9%	-0.9%	0.0%	0.0%

Concrete Floor

	Element \$/m2	GFA \$/m2	Element \$/m2	GFA \$/m2	Element \$/m2	GFA \$/m2	Element \$/m2	GFA \$/m2	Element \$/m2	GFA \$/m2	Element \$/m2	GFA \$/m2	Difference from Bldg Code Zones 1-5		Difference from Bldg Code Zone 6	
Concrete Floor - 100 with 50 insulation	\$ 433	\$ 433	\$ 398	\$ 398	\$ 407	\$ 407	\$ 424	\$ 424	\$ 424	\$ 424	\$ 454	\$ 454	0.0%	0.0%	0.0%	0.0%
Concrete Floor - 100 with 60 insulation			\$ -	\$ -							\$ 454	\$ 454			0.0%	0.0%
Concrete Floor 1	\$ 538	\$ 538	\$ 495	\$ 495	\$ 506	\$ 506	\$ 528	\$ 528	\$ 528	\$ 528	\$ 558	\$ 558	24.3%	24.3%	22.9%	22.9%
Concrete Floor 2	\$ 566	\$ 566	\$ 521	\$ 521	\$ 532	\$ 532	\$ 555	\$ 555	\$ 555	\$ 555	\$ 586	\$ 586	30.7%	30.7%	29.0%	29.0%
Concrete Floor 3 50mm R1.32	\$ 556	\$ 556	\$ 512	\$ 512	\$ 523	\$ 523	\$ 545	\$ 545	\$ 545	\$ 545	\$ 576	\$ 576	28.5%	28.5%	26.8%	26.8%
Concrete Floor 4	\$ 570	\$ 570	\$ 525	\$ 525	\$ 536	\$ 536	\$ 559	\$ 559	\$ 559	\$ 559	\$ 591	\$ 591	31.7%	31.7%	30.1%	30.1%
Concrete Floor 5 R1.05	\$ 639	\$ 639	\$ 588	\$ 588	\$ 601	\$ 601	\$ 627	\$ 627	\$ 627	\$ 627	\$ 662	\$ 662	47.6%	47.6%	45.8%	45.8%
Concrete Floor 2 - cost per m perimeter	\$ 80		\$ 74		\$ 75		\$ 79		\$ 79		\$ 83					

Windows and Doors

	Element \$/m2	GFA \$/m2	Element \$/m2	GFA \$/m2	Element \$/m2	GFA \$/m2	Element \$/m2	GFA \$/m2	Element \$/m2	GFA \$/m2	Element \$/m2	GFA \$/m2	Difference from Bldg Code Zones 1-6	
Windows and Doors 1	\$ 957	\$ 205	\$ 881	\$ 189	\$ 900	\$ 193	\$ 938	\$ 201	\$ 938	\$ 201	\$ 992	\$ 213	-12.4%	-12.3%
Windows and Doors 2	\$ 1,016	\$ 218	\$ 935	\$ 201	\$ 955	\$ 205	\$ 996	\$ 214	\$ 996	\$ 214	\$ 1,053	\$ 226	-7.0%	-6.8%
Windows and Doors 3 Ug1.1	\$ 1,093	\$ 234	\$ 1,005	\$ 215	\$ 1,027	\$ 220	\$ 1,071	\$ 229	\$ 1,071	\$ 229	\$ 1,132	\$ 242	0.0%	0.0%
Windows and Doors 4	\$ 1,093	\$ 234	\$ 1,005	\$ 215	\$ 1,027	\$ 220	\$ 1,071	\$ 229	\$ 1,071	\$ 229	\$ 1,132	\$ 242	0.0%	0.0%

Two Storey Standalone Dwelling with concrete slab and trussed Roof

Base Costs																			
Spec Amendment	Auckland		Napier		Wellington		Taupo/Turangi		Christchurch		Queenstown		Analysis						
Climate Zone	1		2		3		4		5		6								
GFA \$/m2	\$2,800		\$2,600		\$2,650		\$2,750		\$2,750		\$2,900								
Trussed Roof																			
	Element	GFA	Element	GFA	Element	GFA	Element	GFA	Element	GFA	Element	GFA	Difference from Bldg						
	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	Code Zones 1-6						
Roof space 1	\$ 447	\$ 332	\$ 415	\$ 308	\$ 423	\$ 314	\$ 439	\$ 326	\$ 439	\$ 326	\$ 463	\$ 344	-2.5%	-2.5%					
Roof space 2	\$ 430	\$ 319	\$ 399	\$ 296	\$ 407	\$ 302	\$ 422	\$ 313	\$ 422	\$ 313	\$ 445	\$ 330	-6.2%	-6.2%					
Roof space 3	\$ 443	\$ 329	\$ 411	\$ 305	\$ 419	\$ 311	\$ 435	\$ 323	\$ 435	\$ 323	\$ 459	\$ 340	-3.5%	-3.4%					
Roof space 4	\$ 430	\$ 319	\$ 399	\$ 296	\$ 407	\$ 302	\$ 422	\$ 313	\$ 422	\$ 313	\$ 445	\$ 330	-6.2%	-6.2%					
Roof space 5	\$ 443	\$ 329	\$ 411	\$ 305	\$ 419	\$ 311	\$ 435	\$ 323	\$ 435	\$ 323	\$ 459	\$ 340	-3.5%	-3.4%					
Roof space 6	\$ 444	\$ 329	\$ 412	\$ 305	\$ 420	\$ 311	\$ 436	\$ 323	\$ 436	\$ 323	\$ 460	\$ 340	-3.2%	-3.4%					
Roof space 7	\$ 436	\$ 324	\$ 405	\$ 301	\$ 413	\$ 307	\$ 429	\$ 319	\$ 429	\$ 319	\$ 452	\$ 336	-4.8%	-4.7%					
Roof space 8	\$ 447	\$ 332	\$ 415	\$ 308	\$ 423	\$ 314	\$ 439	\$ 326	\$ 439	\$ 326	\$ 463	\$ 344	-2.5%	-2.5%					
Roof space 9	\$ 459	\$ 340	\$ 426	\$ 316	\$ 434	\$ 322	\$ 450	\$ 334	\$ 450	\$ 334	\$ 475	\$ 352	0%	0%					
Roof space 10	\$ 456	\$ 338	\$ 424	\$ 314	\$ 432	\$ 320	\$ 448	\$ 332	\$ 448	\$ 332	\$ 473	\$ 350	-0.5%	-0.6%					
Skillion Roof																			
	Element	GFA	Element	GFA	Element	GFA	Element	GFA	Element	GFA	Element	GFA	Difference from Bldg						
	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	Code Zones 1-6						
Skillion 1	\$ 530	\$ 394	\$ 493	\$ 366	\$ 502	\$ 373	\$ 521	\$ 387	\$ 521	\$ 387	\$ 549	\$ 408	-10.0%	-50.3%					
Skillion 2	\$ 548	\$ 407	\$ 509	\$ 378	\$ 519	\$ 385	\$ 539	\$ 400	\$ 539	\$ 400	\$ 568	\$ 421	-7.0%	-48.7%					
Skillion 3	\$ 559	\$ 415	\$ 519	\$ 386	\$ 529	\$ 393	\$ 549	\$ 408	\$ 549	\$ 408	\$ 579	\$ 430	-5.2%	-47.7%					
Skillion 4	\$ 552	\$ 411	\$ 512	\$ 382	\$ 522	\$ 389	\$ 542	\$ 404	\$ 542	\$ 404	\$ 571	\$ 426	-6.5%	-48.2%					
Skillion 5	\$ 574	\$ 426	\$ 533	\$ 395	\$ 543	\$ 403	\$ 563	\$ 418	\$ 563	\$ 418	\$ 594	\$ 441	-2.7%	-46.3%					
Skillion 6	\$ 674	\$ 501	\$ 626	\$ 465	\$ 638	\$ 474	\$ 662	\$ 492	\$ 662	\$ 492	\$ 698	\$ 519	14.3%	-36.9%					
Skillion 7	\$ 590	\$ 794	\$ 547	\$ 737	\$ 558	\$ 751	\$ 579	\$ 779	\$ 579	\$ 779	\$ 611	\$ 822	0.0%	0.0%					
Walls 2.4m stud height																			
	Element	GFA	Element	GFA	Element	GFA	Element	GFA	Element	GFA	Element	GFA	Difference from Bldg						
	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	Code Zones 1-6						
Wall 1	R2.6	\$ 658	\$ 718	\$ 611	\$ 667	\$ 623	\$ 680	\$ 647	\$ 706	\$ 647	\$ 706	\$ 682	\$ 744	-0.32%	-0.15%				
Wall 2		\$ 660	\$ 720	\$ 613	\$ 668	\$ 625	\$ 681	\$ 649	\$ 707	\$ 649	\$ 707	\$ 684	\$ 745	0.00%	0.00%				
Wall 3	R4.1	\$ 679	\$ 741	\$ 631	\$ 688	\$ 643	\$ 701	\$ 667	\$ 727	\$ 667	\$ 727	\$ 704	\$ 767	2.88%	2.94%				
Wall 4		\$ 697	\$ 761	\$ 648	\$ 706	\$ 660	\$ 720	\$ 685	\$ 747	\$ 685	\$ 747	\$ 722	\$ 788	5.60%	5.73%				
Timber Floor																			
	Element	GFA	Element	GFA	Element	GFA	Element	GFA	Element	GFA	Element	GFA	Difference from Bldg		Difference from Bldg		Difference from Bldg		
	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	Code Zones 1-3		Code Zones 4-5		Code Zone 6		
Timber Floor 1	\$ 529	\$ 286	\$ 491	\$ 266	\$ 501	\$ 271	\$ 520	\$ 281	\$ 520	\$ 281	\$ 548	\$ 296	-0.9%	-0.9%	-1.7%	-1.7%	2.6%	2.6%	
Timber Floor 2	\$ 533	\$ 288	\$ 495	\$ 267	\$ 504	\$ 273	\$ 523	\$ 283	\$ 523	\$ 283	\$ 552	\$ 298	-0.2%	-0.2%	-1.1%	-1.0%	3.2%	3.3%	
Timber Floor 3	\$ 536	\$ 290	\$ 498	\$ 269	\$ 507	\$ 274	\$ 527	\$ 285	\$ 527	\$ 285	\$ 555	\$ 300	0.4%	0.4%	-0.4%	-0.3%	3.9%	4.0%	
Timber Floor 4	\$ 534	\$ 289	\$ 496	\$ 268	\$ 505	\$ 273	\$ 524	\$ 283	\$ 524	\$ 283	\$ 553	\$ 299	0.0%	0.0%	-0.9%	-1.0%	3.4%	3.3%	
Timber Floor 5	R2.9	\$ 538	\$ 291	\$ 500	\$ 270	\$ 509	\$ 275	\$ 529	\$ 286	\$ 529	\$ 286	\$ 557	\$ 301	0.8%	0.8%	0.0%	0.0%	4.3%	4.4%
Timber Floor 6	\$ 537	\$ 291	\$ 499	\$ 270	\$ 509	\$ 275	\$ 528	\$ 285	\$ 528	\$ 285	\$ 556	\$ 301	0.7%	0.7%	-0.2%	-0.3%	4.1%	4.0%	
Timber Floor 7	\$ 516	\$ 279	\$ 479	\$ 259	\$ 489	\$ 264	\$ 507	\$ 274	\$ 507	\$ 274	\$ 535	\$ 289	-3.3%	-3.3%	-4.2%	-4.2%	0.0%	0.0%	
Upper Floor over uninsulated garage - insulation cost only																			
	Element	GFA	Element	GFA	Element	GFA	Element	GFA	Element	GFA	Element	GFA	Difference from Bldg		Difference from Bldg		Difference from Bldg		
	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	Code Zones 1-3		Code Zones 4-5		Code Zone 6		
Upper Floor 1	\$ 25	\$ 3	\$ 24	\$ 3	\$ 24	\$ 3	\$ 25	\$ 3	\$ 25	\$ 3	\$ 26	\$ 3	-22.6%	-25.0%	-34.2%	-40.0%	-21.9%	-25.0%	
Upper Floor 2	\$ 31	\$ 4	\$ 28	\$ 4	\$ 29	\$ 4	\$ 30	\$ 4	\$ 30	\$ 4	\$ 32	\$ 4	-6.5%	0.0%	-21.1%	-20.0%	-6.3%	0.0%	
Upper Floor 3	\$ 36	\$ 4	\$ 33	\$ 4	\$ 34	\$ 4	\$ 35	\$ 4	\$ 35	\$ 4	\$ 37	\$ 4	9.7%	0.0%	-7.9%	-20.0%	9.4%	0.0%	
Upper Floor 4	\$ 33	\$ 4	\$ 30	\$ 4	\$ 31	\$ 4	\$ 32	\$ 4	\$ 32	\$ 4	\$ 34	\$ 4	0.0%	0.0%	-15.8%	-20.0%	0.0%	0.0%	
Upper Floor 5	R2.9	\$ 39	\$ 5	\$ 36	\$ 5	\$ 37	\$ 5	\$ 38	\$ 5	\$ 38	\$ 5	\$ 40	\$ 5	19.4%	25.0%	0.0%	0.0%	18.8%	25.0%
Upper Floor 6	\$ 38	\$ 4	\$ 35	\$ 4	\$ 36	\$ 4	\$ 37	\$ 4	\$ 37	\$ 4	\$ 39	\$ 4	16.1%	0.0%	-2.6%	-20.0%	15.6%	0.0%	
Upper Floor 7	\$ 33	\$ 4	\$ 30	\$ 4	\$ 31	\$ 4	\$ 32	\$ 4	\$ 32	\$ 4	\$ 34	\$ 4	0.0%	0.0%	-15.8%	-20.0%	0.0%	0.0%	
Concrete Floor																			
	Element	GFA	Element	GFA	Element	GFA	Element	GFA	Element	GFA	Element	GFA	Difference from Bldg		Difference from Bldg				
	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	Code Zones 1-5		Code Zone 6				
Concrete Floor - 100 with 50 insulation	\$ 455	\$ 246	\$ 422	\$ 228	\$ 430	\$ 233	\$ 446	\$ 241	\$ 446	\$ 241	\$ 478	\$ 258	0.0%	0.0%	0.0%	0.0%			
Concrete Floor - 100 with 60 insulation																			
Concrete Floor 1	\$ 560	\$ 303	\$ 520	\$ 282	\$ 530	\$ 287	\$ 550	\$ 298	\$ 550	\$ 298	\$ 580	\$ 314	23.2%	23.4%	21.5%	21.6%			
Concrete Floor 2	\$ 591	\$ 320	\$ 548	\$ 297	\$ 559	\$ 303	\$ 580	\$ 314	\$ 580	\$ 314	\$ 612	\$ 332	29.9%	30.3%	28.2%	28.6%			
Concrete Floor 3	50mm R1.32	\$ 578	\$ 313	\$ 537	\$ 290	\$ 547	\$ 296	\$ 568	\$ 307	\$ 568	\$ 307	\$ 599	\$ 324	27.1%	27.2%	25.4%	25.5%		
Concrete Floor 4	\$ 591	\$ 320	\$ 548	\$ 297	\$ 559	\$ 303	\$ 580	\$ 314	\$ 580	\$ 314	\$ 612	\$ 332	29.9%	30.3%	28.2%	28.6%			
Concrete Floor 5	R1.05	\$ 624	\$ 338	\$ 580	\$ 314	\$ 591	\$ 320	\$ 613	\$ 332	\$ 613	\$ 332	\$ 647	\$ 350	37.4%	37.6%	35.5%	35.6%		
Concrete Floor 2 - cost per m perimeter	\$ 80		\$ 74		\$ 75		\$ 79		\$ 79		\$ 83								
Windows and Doors																			
	Element	GFA	Element	GFA	Element	GFA	Element	GFA	Element	GFA	Element	GFA	Difference from Bldg						
	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	Code Zones 1-6						
Windows and Doors 1	\$ 929	\$ 203	\$ 862	\$ 188	\$ 879	\$ 192	\$ 912	\$ 199	\$ 912	\$ 199	\$ 962	\$ 210	-13.4%	-13.5%					
Windows and Doors 2	\$ 987	\$ 216	\$ 916	\$ 200	\$ 934	\$ 204	\$ 969	\$ 212	\$ 969	\$ 212	\$ 1,022	\$ 223	-8.0%	-8.1%					
Windows and Doors 3	Ug1.1	\$ 1,072	\$ 235	\$ 996	\$ 218	\$ 1,015	\$ 222	\$ 1,053	\$ 230	\$ 1,053	\$ 230	\$ 1,111	\$ 243	0.0%	0.0%				
Windows and Doors 4	\$ 1,072	\$ 235	\$ 996	\$ 218	\$ 1,015	\$ 222	\$ 1,053	\$ 230	\$ 1,053	\$ 230	\$ 1,111	\$ 243	0.0%	0.0%					

Townhouse block with concrete slab and trussed roof

Base Costs																			
Spec Amendment	Auckland		Napier		Wellington		Taupo/Turangi		Christchurch		Queenstown		Analysis						
Climate Zone	1		2		3		4		5		6								
GFA \$/m2	\$2,850		\$2,650		\$2,700		\$2,750		\$2,600		\$2,900								
Trussed Roof																			
	Element	GFA	Element	GFA	Element	GFA	Element	GFA	Element	GFA	Element	GFA	Difference from Bldg						
	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	Code Zones 1-6						
Roof space 1	\$ 493	\$ 216	\$ 458	\$ 201	\$ 467	\$ 205	\$ 476	\$ 209	\$ 450	\$ 197	\$ 502	\$ 220	-3.9%	-4.2%					
Roof space 2	\$ 470	\$ 207	\$ 437	\$ 192	\$ 445	\$ 196	\$ 453	\$ 200	\$ 429	\$ 189	\$ 478	\$ 211	-8.4%	-8.4%					
Roof space 3	\$ 487	\$ 214	\$ 452	\$ 199	\$ 461	\$ 203	\$ 470	\$ 207	\$ 444	\$ 195	\$ 495	\$ 218	-5.1%	-5.1%					
Roof space 4	\$ 470	\$ 206	\$ 437	\$ 191	\$ 445	\$ 195	\$ 453	\$ 199	\$ 429	\$ 188	\$ 478	\$ 209	-8.4%	-8.9%					
Roof space 5	\$ 487	\$ 214	\$ 452	\$ 199	\$ 461	\$ 203	\$ 470	\$ 207	\$ 444	\$ 195	\$ 495	\$ 218	-5.1%	-5.1%					
Roof space 6	\$ 488	\$ 214	\$ 453	\$ 199	\$ 462	\$ 203	\$ 471	\$ 207	\$ 445	\$ 195	\$ 496	\$ 218	-4.9%	-5.1%					
Roof space 7	\$ 478	\$ 210	\$ 445	\$ 195	\$ 453	\$ 199	\$ 461	\$ 203	\$ 436	\$ 192	\$ 487	\$ 214	-6.8%	-7.0%					
Roof space 8	\$ 494	\$ 217	\$ 459	\$ 202	\$ 468	\$ 206	\$ 477	\$ 210	\$ 451	\$ 198	\$ 503	\$ 221	-3.7%	-3.7%					
Roof space 9	\$ 513	\$ 226	\$ 477	\$ 210	\$ 486	\$ 214	\$ 495	\$ 218	\$ 468	\$ 206	\$ 522	\$ 230	0%	0%					
Roof space 10	\$ 509	\$ 224	\$ 473	\$ 208	\$ 482	\$ 212	\$ 491	\$ 216	\$ 464	\$ 204	\$ 518	\$ 228	-0.8%	-0.9%					
Skillion Roof																			
	Element	GFA	Element	GFA	Element	GFA	Element	GFA	Element	GFA	Element	GFA	Difference from Bldg						
	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	Code Zones 1-6						
Skillion 1	\$ 559	\$ 246	\$ 520	\$ 229	\$ 530	\$ 233	\$ 540	\$ 237	\$ 510	\$ 224	\$ 569	\$ 250	-10.2%	-10.0%					
Skillion 2	\$ 578	\$ 254	\$ 538	\$ 237	\$ 548	\$ 241	\$ 558	\$ 245	\$ 528	\$ 232	\$ 589	\$ 259	-7.1%	-6.9%					
Skillion 3	\$ 593	\$ 261	\$ 552	\$ 242	\$ 562	\$ 247	\$ 572	\$ 252	\$ 541	\$ 238	\$ 604	\$ 265	-4.7%	-4.6%					
Skillion 4	\$ 587	\$ 258	\$ 546	\$ 239	\$ 556	\$ 244	\$ 566	\$ 249	\$ 535	\$ 235	\$ 597	\$ 262	-5.8%	-5.8%					
Skillion 5	\$ 606	\$ 266	\$ 563	\$ 247	\$ 574	\$ 252	\$ 585	\$ 257	\$ 553	\$ 243	\$ 617	\$ 271	-2.7%	-2.7%					
Skillion 6	\$ 708	\$ 311	\$ 659	\$ 290	\$ 671	\$ 295	\$ 683	\$ 300	\$ 646	\$ 284	\$ 721	\$ 317	13.7%	13.9%					
Skillion 7	\$ 623	\$ 273	\$ 579	\$ 254	\$ 590	\$ 259	\$ 601	\$ 264	\$ 568	\$ 249	\$ 634	\$ 278	0.0%	0.0%					
Walls 2.7, 3.0 and 2.45m stud height, excludes structural walls																			
	Element	GFA	Element	GFA	Element	GFA	Element	GFA	Element	GFA	Element	GFA	Difference from Bldg						
	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	Code Zones 1-6						
Wall 1	R2.6	\$ 281	\$ 217	\$ 262	\$ 202	\$ 267	\$ 205	\$ 272	\$ 209	\$ 257	\$ 198	\$ 286	\$ 221	-0.25%	-0.25%				
Wall 2		\$ 282	\$ 217	\$ 262	\$ 202	\$ 267	\$ 206	\$ 272	\$ 210	\$ 257	\$ 198	\$ 287	\$ 221	0.00%	0.00%				
Wall 3	R4.1	\$ 306	\$ 235	\$ 284	\$ 219	\$ 289	\$ 223	\$ 295	\$ 227	\$ 279	\$ 215	\$ 311	\$ 239	8.28%	8.28%				
Wall 4		\$ 315	\$ 243	\$ 293	\$ 226	\$ 298	\$ 230	\$ 304	\$ 234	\$ 287	\$ 221	\$ 320	\$ 247	11.61%	11.61%				
Timber Floor																			
	Element	GFA	Element	GFA	Element	GFA	Element	GFA	Element	GFA	Element	GFA	Difference from Bldg		Difference from Bldg		Difference from Bldg		
	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	Code Zones 1-3		Code Zones 4-5		Code Zone 6		
Timber Floor 1	\$ 592	\$ 212	\$ 551	\$ 197	\$ 561	\$ 201	\$ 572	\$ 204	\$ 540	\$ 193	\$ 603	\$ 216	2.2%	2.2%	1.8%	1.5%	2.1%	2.1%	
Timber Floor 2	\$ 579	\$ 207	\$ 538	\$ 192	\$ 548	\$ 196	\$ 558	\$ 200	\$ 528	\$ 189	\$ 589	\$ 211	-0.1%	-0.1%	-0.7%	-0.5%	-0.2%	0.0%	
Timber Floor 3	\$ 581	\$ 208	\$ 540	\$ 193	\$ 551	\$ 197	\$ 561	\$ 201	\$ 530	\$ 190	\$ 591	\$ 212	0.3%	0.3%	-0.2%	0.0%	0.2%	0.5%	
Timber Floor 4	\$ 579	\$ 207	\$ 539	\$ 193	\$ 549	\$ 196	\$ 559	\$ 200	\$ 529	\$ 189	\$ 590	\$ 211	0.0%	0.0%	-0.5%	-0.5%	0.0%	0.0%	
Timber Floor 5	R2.9	\$ 583	\$ 208	\$ 542	\$ 194	\$ 552	\$ 197	\$ 562	\$ 201	\$ 532	\$ 190	\$ 593	\$ 212	0.6%	0.6%	0.0%	0.0%	0.6%	0.5%
Timber Floor 6		\$ 582	\$ 208	\$ 541	\$ 194	\$ 551	\$ 197	\$ 562	\$ 201	\$ 531	\$ 190	\$ 592	\$ 212	0.5%	0.5%	0.0%	0.0%	0.4%	0.5%
Timber Floor 7		\$ 579	\$ 207	\$ 539	\$ 193	\$ 549	\$ 196	\$ 559	\$ 200	\$ 529	\$ 189	\$ 590	\$ 211	0.0%	0.0%	-0.5%	-0.5%	0.0%	0.0%
Upper Floor over uninsulated garage - insulation cost only																			
	Element	GFA	Element	GFA	Element	GFA	Element	GFA	Element	GFA	Element	GFA	Difference from Bldg		Difference from Bldg		Difference from Bldg		
	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	Code Zones 1-3		Code Zones 4-5		Code Zone 6		
Upper Floor 1	\$ 25	\$ 5	\$ 23	\$ 4	\$ 23	\$ 4	\$ 24	\$ 4	\$ 23	\$ 4	\$ 25	\$ 5	-22.1%	-22.1%	-35.1%	-42.9%	-20.7%	-20.0%	
Upper Floor 2	\$ 30	\$ 6	\$ 28	\$ 5	\$ 29	\$ 5	\$ 29	\$ 5	\$ 28	\$ 5	\$ 31	\$ 6	-4.9%	-4.9%	-21.6%	-28.6%	-3.4%	0.0%	
Upper Floor 3	\$ 35	\$ 7	\$ 33	\$ 6	\$ 34	\$ 6	\$ 34	\$ 6	\$ 32	\$ 6	\$ 36	\$ 7	11.3%	11.3%	-8.1%	-14.3%	10.3%	20.0%	
Upper Floor 4	\$ 32	\$ 6	\$ 30	\$ 6	\$ 30	\$ 6	\$ 31	\$ 6	\$ 29	\$ 5	\$ 32	\$ 6	0.0%	0.0%	-16.2%	-14.3%	0.0%	0.0%	
Upper Floor 5	R2.9	\$ 39	\$ 7	\$ 36	\$ 7	\$ 36	\$ 7	\$ 37	\$ 7	\$ 35	\$ 7	\$ 39	\$ 7	21.0%	21.0%	0.0%	0.0%	20.7%	40.0%
Upper Floor 6		\$ 37	\$ 7	\$ 35	\$ 6	\$ 35	\$ 7	\$ 36	\$ 7	\$ 34	\$ 6	\$ 38	\$ 7	17.1%	17.1%	-2.7%	0.0%	17.2%	20.0%
Upper Floor 7		\$ 32	\$ 6	\$ 30	\$ 6	\$ 30	\$ 6	\$ 31	\$ 6	\$ 29	\$ 5	\$ 32	\$ 6	0.0%	0.0%	-16.2%	-14.3%	0.0%	0.0%
Concrete Floor																			
	Element	GFA	Element	GFA	Element	GFA	Element	GFA	Element	GFA	Element	GFA	Difference from Bldg		Difference from Bldg				
	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	Code Zones 1-5		Code Zone 6				
Concrete Floor - 100 with 50 insulation	\$ 608	\$ 218	\$ 566	\$ 202	\$ 576	\$ 206	\$ 587	\$ 210	\$ 555	\$ 199			0.0%	0.0%					
Concrete Floor - 100 with 60 insulation															0.0%	0.0%			
Concrete Floor 1	\$ 723	\$ 259	\$ 672	\$ 240	\$ 685	\$ 245	\$ 698	\$ 250	\$ 660	\$ 236	\$ 736	\$ 263	18.8%	18.8%	17.0%	16.8%			
Concrete Floor 2	\$ 764	\$ 273	\$ 711	\$ 254	\$ 724	\$ 259	\$ 737	\$ 264	\$ 697	\$ 249	\$ 778	\$ 278	25.6%	25.6%	23.6%	23.5%			
Concrete Floor 3	50mm R1.32	\$ 737	\$ 264	\$ 685	\$ 245	\$ 698	\$ 250	\$ 711	\$ 255	\$ 672	\$ 241	\$ 750	\$ 269	21.1%	21.2%	19.2%	19.5%		
Concrete Floor 4		\$ 746	\$ 267	\$ 694	\$ 248	\$ 707	\$ 253	\$ 720	\$ 258	\$ 681	\$ 244	\$ 759	\$ 272	22.7%	22.7%	20.6%	20.8%		
Concrete Floor 5	R1.05	\$ 791	\$ 283	\$ 735	\$ 263	\$ 749	\$ 268	\$ 763	\$ 273	\$ 721	\$ 258	\$ 804	\$ 288	29.9%	30.0%	27.8%	28.0%		
Concrete Floor 2 - cost per m perimeter	\$ 80		\$ 74		\$ 75		\$ 79		\$ 79		\$ 83								
Windows and Doors																			
	Element	GFA	Element	GFA	Element	GFA	Element	GFA	Element	GFA	Element	GFA	Difference from Bldg						
	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	\$/m2	Code Zones 1-6						
Windows and Doors 1	\$ 939	\$ 1,258	\$ 874	\$ 1,170	\$ 890	\$ 1,192	\$ 906	\$ 1,214	\$ 857	\$ 1,148	\$ 956	\$ 1,280	-17.5%	-17.5%					
Windows and Doors 2	\$ 1,013	\$ 1,356	\$ 942	\$ 1,261	\$ 960	\$ 1,285	\$ 978	\$ 1,309	\$ 924	\$ 1,237	\$ 1,031	\$ 1,380	-11.0%	-11.1%					
Windows and Doors 3	Ug1.1	\$ 1,139	\$ 1,525	\$ 1,059	\$ 1,418	\$ 1,079	\$ 1,445	\$ 1,099	\$ 1,472	\$ 1,039	\$ 1,391	\$ 1,552	0.0%	0.0%					
Windows and Doors 4		\$ 1,139	\$ 1,525	\$ 1,059	\$ 1,418	\$ 1,079	\$ 1,445	\$ 1,099	\$ 1,472	\$ 1,039	\$ 1,391	\$ 1,552	0.0%	0.0%					

Apartment Building

Base Costs

Spec Amendment	Auckland	Napier	Wellington	Taupo/Turangi	Christchurch	Queenstown	Analysis						
Climate Zone	1	2	3	4	5	6							
GFA \$/m2	\$4,000	\$3,650	\$3,700	\$3,650	\$3,650	\$3,950							

Roof insulation only - assuming concrete slab with insulation in ceiling space

	Element		Element		Element		Element		Element		Element		Difference from Bldg		Difference from Bldg		Difference from Bldg		Difference from Bldg		Difference from Bldg	
	\$/m2	GFA \$/m2	\$/m2	GFA \$/m2	\$/m2	GFA \$/m2	\$/m2	GFA \$/m2	\$/m2	GFA \$/m2	\$/m2	GFA \$/m2	Code Zone 1		Code Zone 2		Code Zones 3-4		Code Zone 5		Code Zone 6	
Roof space 1	\$ 46	\$ 5	\$ 42	\$ 5	\$ 43	\$ 5	\$ 42	\$ 5	\$ 42	\$ 5	\$ 46	\$ 5	142.1%	150.0%	133.3%	150.0%	59.3%	66.7%	55.6%	66.7%	-13.2%	-16.7%
Roof space 2	\$ 19	\$ 2	\$ 18	\$ 2	\$ 18	\$ 2	\$ 18	\$ 2	\$ 18	\$ 2	\$ 19	\$ 2	0.0%	0.0%	0.0%	0.0%	-33.3%	-33.3%	-33.3%	-33.3%	-64.2%	-66.7%
Roof space 3	\$ 40	\$ 4	\$ 37	\$ 4	\$ 37	\$ 4	\$ 37	\$ 4	\$ 37	\$ 4	\$ 40	\$ 4	110.5%	100.0%	105.6%	100.0%	37.0%	33.3%	37.0%	33.3%	-24.5%	-33.3%
Roof space 4	\$ 19	\$ 2	\$ 18	\$ 2	\$ 18	\$ 2	\$ 18	\$ 2	\$ 18	\$ 2	\$ 19	\$ 2	0.0%	0.0%	0.0%	0.0%	-33.3%	-33.3%	-33.3%	-33.3%	-64.2%	-66.7%
Roof space 5	\$ 40	\$ 4	\$ 37	\$ 4	\$ 37	\$ 4	\$ 37	\$ 4	\$ 37	\$ 4	\$ 40	\$ 4	110.5%	100.0%	105.6%	100.0%	37.0%	33.3%	37.0%	33.3%	-24.5%	-33.3%
Roof space 6	\$ 41	\$ 4	\$ 37	\$ 4	\$ 38	\$ 4	\$ 37	\$ 4	\$ 37	\$ 4	\$ 41	\$ 4	115.8%	100.0%	105.6%	100.0%	40.7%	33.3%	37.0%	33.3%	-22.6%	-33.3%
Roof space 7	\$ 29	\$ 3	\$ 27	\$ 3	\$ 27	\$ 3	\$ 27	\$ 3	\$ 27	\$ 3	\$ 29	\$ 3	52.6%	50.0%	50.0%	50.0%	0.0%	0.0%	0.0%	0.0%	-45.3%	-50.0%
Roof space 8	\$ 29	\$ 3	\$ 27	\$ 3	\$ 27	\$ 3	\$ 27	\$ 3	\$ 27	\$ 3	\$ 29	\$ 3	52.6%	50.0%	50.0%	50.0%	0.0%	0.0%	0.0%	0.0%	-45.3%	-50.0%
Roof space 9	\$ 54	\$ 6	\$ 49	\$ 6	\$ 50	\$ 6	\$ 49	\$ 6	\$ 49	\$ 6	\$ 53	\$ 6	184.2%	200.0%	172.2%	200.0%	85.2%	100.0%	81.5%	100.0%	0.0%	0.0%
Roof space 10	\$ 49	\$ 5	\$ 44	\$ 5	\$ 45	\$ 5	\$ 44	\$ 5	\$ 44	\$ 5	\$ 48	\$ 5	157.9%	150.0%	144.4%	150.0%	66.7%	66.7%	63.0%	66.7%	-9.4%	-16.7%

Wall framing and insulation only

		Element		Element		Element		Element		Element		Element		Difference from Bldg		Difference from Bldg					
		\$/m2	GFA \$/m2	\$/m2	GFA \$/m2	\$/m2	GFA \$/m2	\$/m2	GFA \$/m2	\$/m2	GFA \$/m2	\$/m2	GFA \$/m2	Code Zones 1-4		Code Zones 5-6					
Wall 1	R2.6	\$ 209	\$ 112	\$ 191	\$ 102	\$ 193	\$ 104	\$ 191	\$ 102	\$ 191	\$ 102	\$ 206	\$ 111	-1.00%	-1.00%	-0.5%	-0.9%				
Wall 2		\$ 211	\$ 113	\$ 192	\$ 103	\$ 195	\$ 105	\$ 192	\$ 103	\$ 192	\$ 103	\$ 208	\$ 112	0.00%	0.00%	0.0%	0.0%				
Wall 3	R4.1	\$ 238	\$ 128	\$ 217	\$ 116	\$ 220	\$ 118	\$ 217	\$ 116	\$ 217	\$ 116	\$ 235	\$ 126	12.65%	12.65%	13.0%	12.5%				
Wall 4		\$ 261	\$ 140	\$ 238	\$ 128	\$ 241	\$ 130	\$ 238	\$ 128	\$ 238	\$ 128	\$ 258	\$ 138	23.73%	23.73%	24.0%	23.2%				

Windows and Doors

		Element		Element		Element		Element		Element		Element		Difference from Bldg					
		\$/m2	GFA \$/m2	\$/m2	GFA \$/m2	\$/m2	GFA \$/m2	\$/m2	GFA \$/m2	\$/m2	GFA \$/m2	\$/m2	GFA \$/m2	Code Zones 1-6					
Windows and Doors 1		\$ 962	\$ 1,289	\$ 878	\$ 1,176	\$ 890	\$ 1,192	\$ 878	\$ 1,176	\$ 878	\$ 1,176	\$ 950	\$ 1,273	-17.5%	-17.5%				
Windows and Doors 2		\$ 1,038	\$ 1,389	\$ 947	\$ 1,268	\$ 960	\$ 1,285	\$ 947	\$ 1,268	\$ 947	\$ 1,268	\$ 1,025	\$ 1,372	-11.0%	-11.1%				
Windows and Doors 3	Ug1.1	\$ 1,166	\$ 1,562	\$ 1,064	\$ 1,425	\$ 1,079	\$ 1,445	\$ 1,064	\$ 1,425	\$ 1,064	\$ 1,425	\$ 1,152	\$ 1,543	0.0%	0.0%				
Windows and Doors 4		\$ 1,166	\$ 1,562	\$ 1,064	\$ 1,425	\$ 1,079	\$ 1,445	\$ 1,064	\$ 1,425	\$ 1,064	\$ 1,425	\$ 1,152	\$ 1,543	0.0%	0.0%				