ESTIMATED COSTS OF THE 2021 IRC CODE CHANGES

National Association of Home Builders

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Table 2. Estimated Cost to Consumer of 2021 IRC Code Compliance

		Selected Cities	Miami, Dallas		Los Angeles, Seattle, New York		Chicago, Helena		Duluth, Fairbanks	
		Climate Zones	1 & 2		3 & 4		5 & 6		7 & 8	
		Reference Houses	1 & 2		1, 2, 3, & 4		3 & 4		3 & 4	
			Cost Range ($)							
Ref #	Description of Change	2021 IRC Section	High	Low	High	Low	High	Low	High	Low
R-8 (RB164)	Revises the minimum footing size in tables for consistency with common engineering practices.	R403.1; Tables R403.1(1-3)	$329	$0	$329	($398)	($346)	($1,061)	($693)	($1,061)

R-7 (RB154)	Replaces the term "Stationary Storage Battery

APPENDIX A: COST DETAILS OF INDIVIDUAL CODE CH

R-2 (RB40)

IRC

R-3 (RB43)

IRC R301.3 Story height

Summary of Code Change:

The code change adds an exception allowing a story of a dwelling to be constructed3(ll)3(in)5(g)4( )]TJETQ0.00000912 0 6

R-4 (RB46)

IRC Table R301.5

Summary of Code Change:

The code change separates the live load requirements for guards and handrails and only requires guards to resist a 200-

R-7 (RB154)

IRC R328 Energy Storage Systems

Summary of Code Change:

The code change Œ ‰ o • š Stationary Storage Battery Systems _ Á] Energy Storage Systems (ESS) _ v Æ ‰ v • Œ ‹ µ] Œ Installations. ESS can only be installed in garages, detached accessory structures, outdoors, or inside a dwelling in enclosed utility closets, basements, storage, or utility spaces with finished or noncombustible walls and ceilings. Depending on where an ESS is installed, smoke alarms (and in certain cases heat detectors), vehicle barriers, mechanical ventilation (where charging could produce hydrogen or other flammable gases), and/or an enclosed space with finished or noncombustible walls and ceilings

Table R-8-D. Quantity of Additional Concrete based on Minimum Footing Size, for Brick Veneer/Stucco, 2,000 psf soil

		Snow	2018 IRC			2021 IRC			Additional
Reference House	LF	Load	Width	Thickness	CY	Width	Thickness	CY	CY
1 (1-story slab)	256	30 psf	12	6	4.7	12	6	4.7	0.0
2 (2-story slab)	196		12	6	3.6	14	6	4.2	0.6
3 (1-story basement)	256		16	6	6.3	14	6	5.5	(0.8)
4 (2-story basement)	196		21	6	6.4	18	6	5.4	(0.9)

R-11 (RB242)

IRC R703.7.3 Water-resistive barriers (R703.7 Stucco)

Summary of Code Change:

The code change divides the water-resistive barrier requirements behind stucco into sections for dry climates and moist or marine climates, and for moist or marine climates requires a 3/16-inch air space or material with high drainage efficiency.

Cost Implication of the Code Change:

This code change will increase the cost of construction where applicable. Analysis is based on the incremental cost to install a drainage mat product in addition to the required two layers of water resistive barrier, as shown in Table R-11-A V š Z] • } • š Œ ‰ Œ • v. The lowest cost would be zero where the code change is not applicable. A cost was also developed for an alternative approach: a drainable house wrap (e.g., Tyvek StuccoWrap) applied as the second layer of water resistive barrier instead of Grade D building paper (Table R-

R-12 (RB289)

IRC AF104 Testing (Radon)

Summary of Code Change:

The code change adds testing requirements to Appendix AF Radon Control Methods. Testing may be performed by the contractor, a registered design profession (engineer or architect), or an independent third party (i.e., a radon tester certified by the National Radon Proficiency Program or National Radon Safety Board), and the code change includes detailed testing instructions.

Cost Implication of the Code Change:

Analysis is based on the additional cost of radon testing by a certified third party professional.

Applicability of Code Change:

Applicable where radon-resistant construction is required.

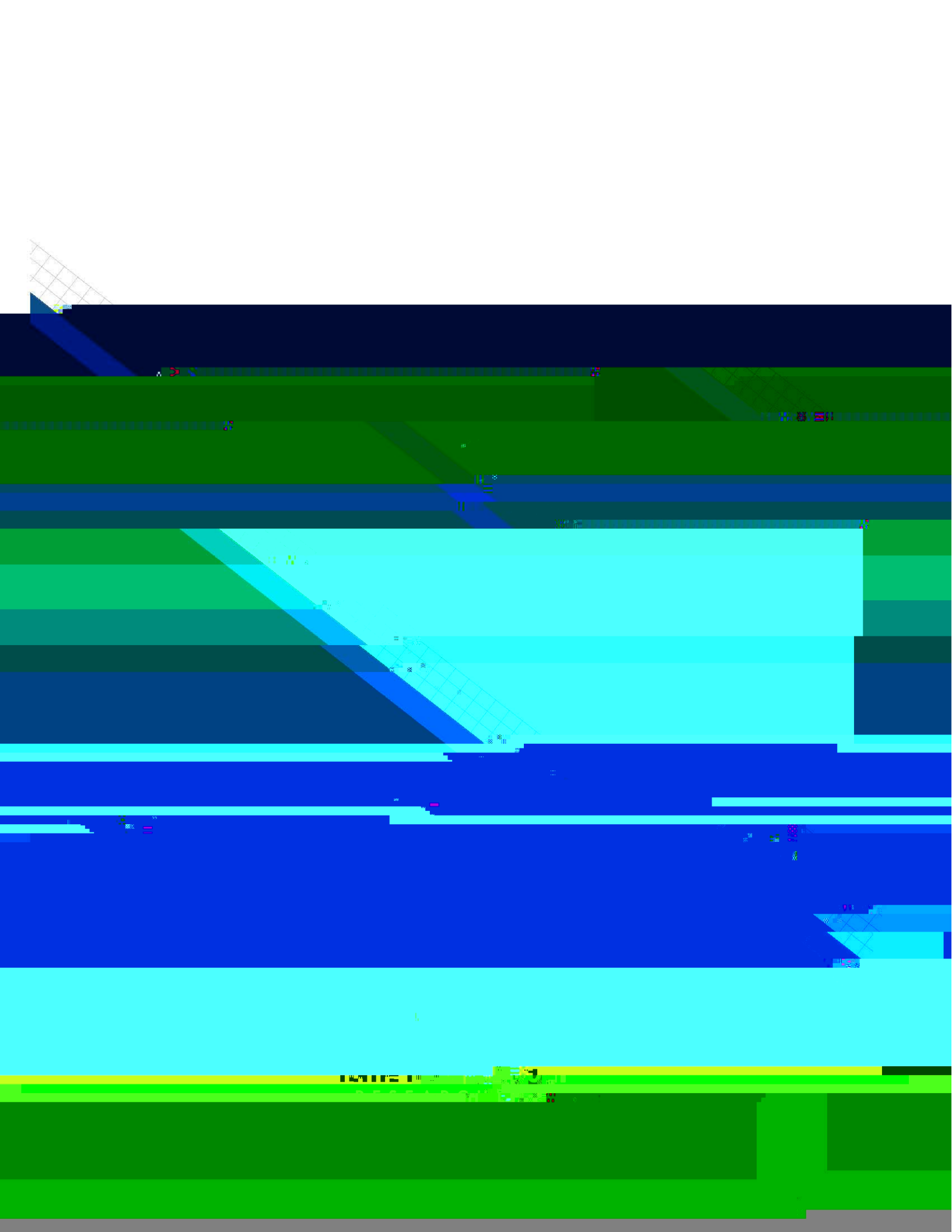
Table R-12-A. Cost of Radon Testing

Component	Unit	Material	Labor	Total	w/O&P	Quantity	Cost
Radon testing, third party	EA				225.00	1	225
Total to Builder							225
Total to Consumer							278

APPENDIX C: REFERENCE HOUSES

Reference House Configurations

The four Reference House designs used in this analysis are based on the data contained in the Census Bureau report, *Characteristics of New Single-Family Construction Completed*.[9] The report provides

APPENDIX E:

APPENDIX F: