

AtkinsRéalis



12 August 2024

Feasibility Estimate

Aberdeen City Council

RAAC OPTIONS APPRAISAL

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Document history

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1.0 Executive Summary.

Project Outline

The purpose of this Feasibility Estimate is to give an indication of the capital cost to Aberdeen City Council (ACC) for 4 proposed options to address the Reinforced Autoclaved Aerated Concrete (RAAC) issue within their existing residential estate.

AtkinsRéalis were approached by ACC to carry out an Option Appraisal cost exercise to address the RAAC issue in their residential estate. The scope includes for four options:

Option 1 - Extending Bearing Supports.

Option 2 - Install Timber Support Frame under the existing RAAC Roof Panels.

Option 3 - Removal of RAAC Panels and replace with new Roof Cassette System.

Option 4 - Demolition and Rebuild of properties within same footprint.

We have received high level design information from AtkinsRéalis Building Surveyors at this stage and therefore numerous assumptions and exclusions have been made in carrying out this Feasibility Cost.

Summary of Costs

	RAAC Remediation & Additional Upgrades Total (£)	RAAC Remediation and EESH2 Total (£)
Option 1 - Extending Bearing Supports	7,378,600	N/A
Option 2 - Timber Support Frame	9,157,100	52,474,800
Option 3 - Remove and Replace Roof	16,744,500	60,653,400
	Demolish & Landscape Total (£)	Demolish & New-Build Total (£)
Option 4 - Demolish and Re-Build	8,738,976	130,566,700

Benchmark against similar projects

When pricing the document we have used available 'live' cost information from similar type projects, where available. It should be highlighted that appropriate allowances have been made for elements of the works which are not yet developed.

Risk allowances

The Design Development and Risk Contingency has been included at 15% to reflect the low level of project information available at this stage. We envisage the majority of contingency will be utilised for Design Development - changes relating to design intent including, but not limited to, impact of condition surveys, etc. The residual contingency value is likely to be used to account for potential changes which may come to light during the construction stage. This will be managed via a change control process.



2.0 Option 1 - Extending Bearing Supports.

Ref.	Description	Qty	Unit	Rate	£	Key notes	
<u>RAAC Remediation (inclusive of Kitchen and Bathroom refurbishment)</u>							
2.1	1 Bed Flatted Property (Upper Only) Timber Runners Cost per Property = £15,500 Cost of additional upgrades = £10,000 Inflation @ 5.6% = £1,500 Number of Properties = 113 Total Cost (incl inflation)	114	Nr	27,000.00	£	3,078,000	A This Feasibility Estimate has been prepared by AtkinsRéalis at the request of Aberdeen City Council. B The construction works have been estimated on an elemental basis using approximate quantities. Rates are based on projects from AtkinsRéalis delivered similar projects across the UK, data is adjusted to account for location and base date to normalise costs to current day prices.
2.2	3 Bed Property Timber Runners Cost per Property = £19,000 Cost of additional upgrades = £10,000 Inflation @ 5.6% = £1,700 Number of Properties = 111 Total Cost (incl inflation)	111	Nr	30,700.00	£	3,407,700	C The scope of works priced by the three contractors comprise of removing the existing ceiling, installing 1Nr 8000mm 195x75mm and 1Nr 245x75mm C16 timber runners and then reinstatement of existing ceiling. D Additional upgrades include for the refurbishment of existing kitchens and bathrooms.
2.3	4 Bed Property Timber Runners Cost per Property = £20,000 Cost of additional upgrades = £10,000 Inflation @ 5.6% = £1,700 Number of Properties = 27 Total Cost (incl inflation)	27	Nr	31,700.00	£	855,900	E We have assumed midpoint construction for this Option is Q1 2026.
2.4	7 Bed Property Timber Runners Cost per Property = £25,000 Cost of additional upgrades = £10,000 Inflation @ 5.6% = £2,000 Number of Properties = 1 Total Cost (incl inflation)	1	Nr	37,000.00	£	37,000	
<u>Total Remediation Only Cost</u>					£	7,378,600	



3.0 Option 2 - Install Timber Support Frame under the existing RAAC Roof Panels.

Ref.	Description	Qty	Unit	Rate	£	Key notes	
<u>RAAC Remediation (inclusive of Kitchen and Bathroom refurbishment)</u>							
3.1	1 Bed Flatted Property (Upper Only) <u>Timber Support Frame</u> Cost per Property = £20,000 Cost of additional upgrades = £10,000 Inflation @ 7.1% = £2,200 Number of Properties = 113 Total Cost (incl inflation)	114	Nr	32,200.00	£	3,670,800	A This Feasibility Estimate has been prepared by AtkinsRéalis at the request of Aberdeen City Council. B The construction works have been estimated on an elemental basis using approximate quantities. Rates are based on projects from AtkinsRéalis delivered similar projects across the UK, data is adjusted to account for location and base date to normalise costs to current day prices.
3.2	3 Bed Property <u>Timber Support Frame</u> Cost per Property = £25,500 Cost of additional upgrades = £10,000 Inflation @ 7.1% = £2,600 Number of Properties = 111 Total Cost (incl inflation)	111	Nr	38,100.00	£	4,229,100	C The scope of works priced by the three contractors comprise of removing the existing ceiling, installing support frame under the existing RAAC roof panels and then reinstatement of existing ceiling. D Additional upgrades include for the refurbishment of existing kitchens and bathrooms.
3.3	4 Bed Property <u>Timber Support Frame</u> Cost per Property = £31,500 Cost of additional upgrades = £10,000 Inflation @ 7.1% = £3,000 Number of Properties = 27 Total Cost (incl inflation)	27	Nr	44,500.00	£	1,201,500	E We have assumed midpoint construction for this Option is Q3 2026.
3.4	7 Bed Property <u>Timber Support Frame</u> Cost per Property = £42,000 Cost of additional upgrades = £10,000 Inflation @ 7.1% = £3,700 Number of Properties = 1 Total Cost (incl inflation)	1	Nr	55,700.00	£	55,700	
<u>Total Remediation Only Cost</u>					£	<u>9,157,100</u>	



EESH2 Uplift

3.5 1 Bed Flatted Property

Cost per Property = £85,000

Inflation @ 7.1% = £6,100

Number of Properties = 227

Total Cost (incl inflation)

227 Nr 91,100.00 £ 20,679,700

3.6 3 Bed Property

Cost per Property = £148,000

Inflation @ 7.1% = £10,600

Number of Properties = 111

Total Cost (incl inflation)

111 Nr 158,600.00 £ 17,604,600

3.7 4 Bed Property

Cost per Property = £163,000

Inflation @ 7.1% = £11,600

Number of Properties = 27

Total Cost (incl inflation)

27 Nr 174,600.00 £ 4,714,200

3.8 7 Bed Property

Cost per Property = £298,000

Inflation @ 7.1% = £21,200

Number of Properties = 1

Total Cost (incl inflation)

1 Nr 319,200.00 £ 319,200

Total EESH2 Upgrade Cost

£43,317,700



4.0 Option 3 - Removal of RAAC Panels and replace with new Roof Cassette System.

Ref.	Description	Qty	Unit	Rate	£	Key notes
<u>RAAC Remediation (inclusive of Kitchen and Bathroom refurbishment)</u>						
4.1	1 Bed Flatted Property (Upper Only) Remove and Replace RAAC Panels <hr/> Cost per Property = £49,500 Cost of additional upgrades = £10,000 Inflation @ 11.2% = £6,700 Number of Properties = 113 Total Cost (incl inflation)	114	Nr	66,200.00	£ 7,546,800	A This Feasibility Estimate has been prepared by AtkinsRéalis at the request of Aberdeen City Council. B The construction works have been estimated on an elemental basis using approximate quantities. Rates are based on projects from AtkinsRéalis delivered similar projects across the UK, data is adjusted to account for location and base date to normalise costs to current day prices.
4.2	3 Bed Property Remove and Replace RAAC Panels <hr/> Cost per Property = £47,500 Cost of additional upgrades = £10,000 Inflation @ 11.2% = £6,500 Number of Properties = 111 Total Cost (incl inflation)	111	Nr	64,000.00	£ 7,104,000	C The scope of works priced by the three contractors comprise of removing the existing RAAC panels and replace with new timber cassette system. D We have assumed that the new timber roof cassette system will include for roof insulation to meet EESH2 requirements.
4.3	4 Bed Property Remove and Replace RAAC Panels <hr/> Cost per Property = £56,500 Cost of additional upgrades = £10,000 Inflation @ 11.2% = £7,500 Number of Properties = 27 Total Cost (incl inflation)	27	Nr	74,000.00	£ 1,998,000	E Additional upgrades include for the refurbishment of existing kitchens and bathrooms. F We have assumed midpoint construction for the RAAC Remediation Option is Q3 2027 and the midpoint for RAAC Remediation and ESSH2 Option is Q4 2027.
4.4	7 Bed Property Remove and Replace RAAC Panels <hr/> Cost per Property = £76,000 Cost of additional upgrades = £10,000 Inflation @ 11.2% = £9,700 Number of Properties = 1 Total Cost (incl inflation)	1	Nr	95,700.00	£ 95,700	
<u>Total Remediation Only Cost</u>					<u>£16,744,500</u>	



EESH2 Uplift

4.5	1 Bed Flatted Property					
	Cost per Property = £82,500.00					
	Inflation @ 11.9% = £9,900					
	Number of Properties = 227					
	Total Cost (incl inflation)	227	Nr	92,400.00	£	20,974,800
4.6	3 Bed Property					
	Cost per Property = £143,500.00					
	Inflation @ 11.9% = £17,200					
	Number of Properties = 111					
	Total Cost (incl inflation)	111	Nr	160,700.00	£	17,837,700
4.7	4 Bed Property					
	Cost per Property = £157,900.00					
	Inflation @ 11.9% = £18,900					
	Number of Properties = 27					
	Total Cost (incl inflation)	27	Nr	176,800.00	£	4,773,600
4.8	7 Bed Property					
	Cost per Property = £288,350.00					
	Inflation @ 11.9% = £34,450					
	Number of Properties = 1					
	Total Cost (incl inflation)	1	Nr	322,800.00	£	322,800
	<u>Total EESH2 Upgrade Cost</u>					<u>£43,908,900</u>



5.0 Option 4 - Demolition and Rebuild of Properties within same footprint.

Ref.	Description	Qty	Unit	Rate	£	Key notes	
Option 4a							
5.1	Properties to be Demolished Demolished					A This Feasibility Estimate has been prepared by AtkinsRéalis at the request of Aberdeen City Council.	
	Cost per Property = £10,000 Inflation @ 15.5% = £1,600 Number of Buildings = 372						
	Total Cost	372	Nr	11,600.00	£	4,315,200	B The construction works have been estimated on an elemental basis using approximate quantities. Rates are based on projects from AtkinsRéalis delivered similar projects across the UK, data is adjusted to account for location and base date to normalise costs to current day prices.
5.2	Landscaping Works Soft Landscaping						
	Cost per m2 = £50/m2 Inflation @ 15.5% = £8/m2 Area = 76,272m2						
	Total Cost	76,272	m2	58.00	£	4,423,776	C As requested by the Client, we have included for two options for Option 4. Option 4a, the demolition of existing properties and then landscape the existing 11.5 hectare site. Option 4b is the demolition of existing and then constructing 503 new developments across the existing site.
Total Demolition and Landscape Works (incl inflation)					£	8,738,976	
Option 4b							
5.3	Properties to be Demolished Demolished					D We have assumed midpoint construction for the Demolition and Landscape Option is Q4 2028 and the midpoint for Demolition and New-Build Option is Q3 2030.	
	Cost per Property = £10,000 Inflation @ 22.6% = £2,300 Number of Buildings = 372						
	Total Cost	372	Nr	12,300.00	£	4,575,600	
5.4	New Build Works New Build Properties						
	Cost per Property = £280,000 Inflation @ 22.6% = £63,300 Number of Properties = 367						
	Total Cost	367	Nr	343,300.00	£	125,991,100	
Total Demolition and New-Build Works (incl inflation)					£	130,566,700	



6.0 Schedule of Information Used.

6.1 Schedule of information used

This Feasibility Estimate has been prepared based on the information listed below:

Outline RAAC Business Case Review - Fairhurst

July 2024



7.0 Assumptions and Exclusions.

7.1 Basis and key assumptions

- 7.1.01 The Feasibility Estimates are based on the Fairhurst layout drawings.
- 7.1.02 All costs are based on 3Q 2024 rates with an allowance for the cost impact of future inflation to the assumed mid-point of construction using the Building Cost Information Service All-In Tender Price Index (BCIS TPI). All midpoint inflationary allowances are stated in the "Key Notes" section of each option.
- 7.1.03 A 15% design development and construction contingency allowance has been included, which we consider to be appropriate to the stage of the design information and the nature of the project works.
- 7.1.04 We have included 12% for Main Contractor's preliminaries. This is based on benchmarked project allowances from other projects of a similar scale and nature to the proposed project.
- 7.1.05 We have included 5% for Main Contractor's overheads and profit. To achieve this, we assume maximising competition in the marketplace.
- 7.1.06 It is assumed the procurement route chosen would obtain prices through single stage competitive tender and not require any negotiation of cost. We have assumed that the works included to meet EESH2 requirements are:
- External wall Insulation
 - Under floor insulation
- 7.1.07
- Roof insulation
 - New triple glazed windows
 - New entrance doors
 - District Heating Network.
- We have assumed that works are to council properties only and the property split for council properties is as follows:
- 7.1.08
- 1 Bed Flat (Upper Flat) = 113Nr
 - 1 Bed Flat (Lower Flat) = 114Nr
 - 3 Bed Property = 111Nr
 - 4 Bed Property = 27Nr
 - 7 Bed Property = 1Nr.
- 7.1.09 We have assumed 367Nr properties are to be redeveloped for Option 4b - demolition and construction of new units. This is based on utilising the same plot areas as existing and assuming a mix of 3 and 4 bedroom units.
- 7.1.10 We have included for works to the 7-bedroom property, however we have assumed this is a combination of the 3 Bed and 4 Bed properties as no design information is available on this property.
- 7.1.11 We have assumed that works are only required to council properties where refurbishment works are required. Any works to private units are deemed to be cost neutral as these will be paid for by the private tenants.
- 7.1.12 We have assumed that all council tenants will be moved out prior to any construction works and have made no allowance for decanting properties (deemed to be covered separately by ACC).
- 7.1.13 For all Options excluding 4a and 4b, we have assumed that additional upgrades are required to each property type and this includes for the refurbishment of existing kitchens and bathrooms.
- 7.1.14 For Option 3b, we have assumed that all buildings inclusive of a council property on either the upper or lower floor, will have the roof replaced and that private owners will reimburse the council for the works.



7.0 Assumptions and Exclusions.

7.2 General exclusions

- 7.2.01 Value Added Tax.
- 7.2.02 Financing costs.
- 7.2.03 Legal fees.
- 7.2.04 Project/Design Team fees + VAT
- 7.2.05 Client direct fees (technical advisor, clerk of works, etc).
- 7.2.06 Site survey costs.
- 7.2.07 Site enabling works.
- 7.2.08 Planning fees and any associated off site planning contributions.
- 7.2.09 Building Warrant fees.
- 7.2.10 Below ground services diversions.
- 7.2.11 Post occupancy evaluation works.
- 7.2.12 Asbestos removal.



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