



Skills Funding
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AECOM

Further Education Schemes

Cost Models

New Build, Small Works & Refurbishment Construction

July 2015

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1 Acknowledgements

AECOM has prepared this document, with the guidance and editorial input of the Skills Funding Agency (SFA).

The current issue is dated July 2015.

The previous issue published was July 2014.

The original publication date was October 2007 for the Learning and Skills Council.

2 User Guide

The purpose of the study is to provide a series of guide cost models which relate to typical new build, small works and refurbishment projects. These include typical scope and specifications reflected within the descriptive element.

Some projects will fall outside the cost models, creating either a lower or higher outturn cost. A number of factors including use, specification, size and geographical location will affect this.

We have tailored the cost models for ease of use by any assessment panel. The cost models will allow the assessment of funding application submissions against an expectation, represented by the cost models.

We have dated these cost models from July 2015, which we refer to as 'present day'. This assumes a project cost completing in September 2016.

We have based the costs included within these cost models on the programme criteria in Section 6. We will need to access projects that fall outside this criteria according to published indices.

These cost models provide guidance for the following project schemes:

1. Typical new build schemes expected to represent most funded projects and identified by geographical location.
2. Typical refurbishment schemes, classed as "Full", "Medium" or "Minimal" standard, and identified by geographical location.
3. Typical small works schemes (principally extensions to existing premises) and identified by geographical location.

NOTE: We will regularly review and update the cost models.

We have prepared the cost models on the basis of a range of costs for a typical new or refurbished building. Each model relates to a specific geographical location and regional location factors.

We have made specific reference to the project baseline criteria and programme criteria upon which we have based these cost models.

Model One	-	Relates to the East and West Midlands, East and South West of England.
Model Two	-	Relates to London and the South East, together with Essex, Hertfordshire and Cambridgeshire*.
Model Three	-	Relates to Yorkshire, Humberside and the North East and North West of England.

* Please refer to Section 12 for regional identification.

2 User Guide (Cont'd)

Compare a scheme proposal with the appropriate cost model, acknowledging the following criteria:

- geographical location
- identify whether the scheme broadly relates to the key project baseline criteria
- question whether the proposed scheme has truly exceptional elements, which are out of the scope of the cost model's scope
- timing

Guidance on such matters is provided hereafter.

The guidelines cannot be fully comprehensive; they are not intended to provide a means of assessing every type of scheme.

The cost models are a guide only.

When you use this data, it is essential that you understand how any proposed project is similar or relevant to the cost models. You must reflect variants in any evaluation where you use the cost models as a benchmark.

We have developed the cost models from a compilation of benchmark data taken from recently completed projects. They closely represent 'typical schemes' aligned as the project baseline criteria, programme criteria and specification detail contained within the cost models.

All submissions must include full VAT liability.

3 Changes from Previous Issue

The following is a summary of the key changes from the previously published (July 2014):

1. We have updated each model to reflect present-day costs, as at July 2015.
2. We have amended the typical programme dates to reflect a July 2015 date for receipt of tender.
3. All cost model elements include the scope and specification of work required to achieve a typical BREEAM (Building Research Establishment Environmental Assessment Methodology) rating of 'Very Good'. This complies with projects registered under the BREEAM New Construction 2014 Scheme. A summary position has been provided to express the total costs for schemes that are targeting BREEAM 'Excellent'.
4. Please note the references to VAT legislation in Section 2.
5. Please note the reference to inflation costs, added to each cost model to correspond with the programme dates in Section 6. The final date is the completion of construction and handover to the building end-user. Therefore, costs included are present day (July 2015), with a start on site date of June 2015 and with an anticipated completion / handover date of September 2016.
6. In refurbishment projects, these cost models assume you have registered under the BREEAM Education 2008 Scheme and achieved a 'Very Good' rating.
7. Major refurbishment projects' (that include significant replacement of building fabric, such as facade, roof and mechanical & electrical (M&E) plant) equipment such as boilers, heating emitters, lighting and so on under the new-build scheme provisions.
8. Tender levels have continued to increase, the extent varying and dependent upon geographical location. Based on current industry forecasts an annual increase from September 2016 to September 2017 of approximately 4.9% is expected.

4 Sustainability / Renewables

We include costs for Sustainability and Renewables within the cost models.

The Association of Colleges (AoC) and Skills Funding Agency place increasing emphasis upon supporting funding applications with comprehensive statements of sustainability strategy and future intent. These need to set out measurable targets that indicate measurable reduction in the current carbon footprint. They need to compare the pre-project data with that which you will achieve as a result of the project.

Local authorities are increasingly looking to condition planning approvals with sustainability criteria. This is according to their own guidance and applicable Government legislation.

Further discussions with the AoC and SFA may create a more specific set of requirements. These will enable applicants to focus specifically on government policy and sustainability as one of the conditions of funding.

5 Project Baseline Criteria

Brief description of the concept of a typical New Build scheme.

Location :	Model One – East and West Midlands and the East and South West of England. Model Two – London and South East, together with Essex, Hertfordshire and Cambridgeshire . Model Three – Yorkshire, Humberside and the North East and North West of England.
GIA :	2,000m ² to 3,500m ² (measured inside face to inside face of external walls across all service voids and staircases and including floor areas within open performing and community spaces).
Number of Storeys :	Two to three (Ground, First, Second).
Greenfield/Brownfield:	May be subject to demolition or ground remediation.
New Build / Refurbishment:	New Build.
Existing Campus or Relocation:	Either.
Procurement:	Two-stage design and build or other as appropriate.
Date at which stated present day costs are valid:	Base date: July 2015.
Date at which final day costs are valid:	September 2016 (project completion).
General Specification:	Offering a mix of general teaching and vocational curriculum. Specifications in accordance with the detail expressed within the cost models and to a 'mid-range' quality.

6 Assumed Programme Dates

Feasibility RIBA Stage 1:	Start:	October 2014
	Complete:	December 2014
Proposal - RIBA Stage 2:	Start:	December 2014
	Complete:	February 2016
Full Proposal - RIBA Stage 3:	Start:	March 2015
	Complete:	June 2015
Start on Site:		July 2015
Phasing:		Single or two consecutive phases as applicable
Completion on Site:		August 2016
Occupation:		September 2016
Pre-contract Period:		10 months
Post-contract Period:		14 months

NOTE: The model present-day costs are stated at July 2015.

Pre-contract Period - The pre-contract period will depend on a wide variety of factors, including the ability to achieve timely planning consent. The assumption that the design development will evolve along with the budget is crucial to avoid a time-consuming cost-engineering exercise. This is if the contractors' tenders exceed the fixed budget (established during the feasibility stage).

Post-contract Period - The post-contract period assumes that you have established sub-soil conditions and ground-bearing capacities in the pre-contract period. It also assumes that you have addressed most of the items within the risk register.

We have established the selected periods for both the pre- and post-contract activities from a wide selection of data. These periods have been baselined against benchmark data from completed new builds of a similar value (gross outturn cost of approximately £7 million to £12 million). These cost models are based on this criteria.

7 Contractor Procurement Strategy

The cost model assumes either a single-stage or two-stage design and build procurement strategy. This is for new build projects as the route for producing a firm price from a preferred contractor. It is expected that a contractor be appointed following a rigorous and competitive tender evaluation process and interviews.

The current market-place may create circumstances where single-stage tendering may be more advantageous. A correctly applied and managed two-stage procurement process may still offer additional benefits. The benefit of two-stage tendering rests with careful contractor selection, a clear brief and the contractor's full engagement with the selected consultant team during the pre-contract period.

A project team can submit an alternative proposal where they feel that it will serve the interests of the College or other client body better, with appropriate supporting rationale.

We will review the procurement strategy regularly.

The construction industry is currently experiencing a period of increasing activity. Contracting companies are becoming more selective in their response to tender invitations and avoid single-stage procurement. Consequently, contractors are showing a greater interest in two-stage tendering, which reduces their risk in investing in the tender process. The increasing activity in the market-place is forecast to continue in the near future.

8 Exceptional Items

Items previously regarded and presented as 'abnormals' are now included within the cost models. We will no longer refer to them as 'abnormals'.

The SFA may consider items of a specific exceptional nature relating to site conditions as additional costs outside the model. Each item must have a supporting case study. Items must be unavoidable and represent the most economical approach to accommodate such works.

Such works may include the following:

- off-site infrastructure to access the project
- remote locations
- archaeological impact
- incoming mains services from a distance off site

The above is indicative and does not represent an exhaustive list.

Public sector capital funding is restricted and tightly controlled. It is more likely that applicants will need to address their proposed project to include the cost of any exceptional items within the Cost Model allowances.

TYPICAL NEW BUILD COST MODEL FE COLLEGES SCHEME - LOCATION MODEL ONE

East and West Midlands and the East and South West of England
(Please see Section 12 for detailed information for location)

9. TYPICAL NEW BUILD COST MODEL FE COLLEGES SCHEME – LOCATION MODEL ONE

Element	Cost Allowance £/m ²	%	New Build - Typical Specification
Demolition	27	1.0	2,500 m ² of two storey buildings, with minor deleterious material content. (Cost allowance £64,000 - £112,000).
Substructure	121	4.5	Excavation and disposal, piled foundations, pile caps, ground beams and ground slab. Ground improvement where necessary for poor load bearing ground.
Substructure Subtotal	148	5.5	
2 Superstructure			
2A Frame	78	2.9	Structural steel beams and columns, fire protected and encased or reinforced concrete beams and columns.
2B Upper Floors	69	2.6	Precast, pre-stressed reinforced concrete or insitu reinforced concrete or hollowcore precast planks.
2C Roof	130	4.9	Composite roof deck and concrete with single ply membrane (or similar), insulation and associated drainage either gravity or syphonic. Mansafe or equivalent maintenance system, walkway tiles.
2D Stairs	21	0.8	Core staircases in precast reinforced concrete with half landings. Feature stairs to have stainless steel handrails and perforated metal balustrading. Escape stairs to have painted steel handrails and balustrades. Walls, ceilings & floors included in finishes.
2E External Walls	108	4.1	Rainscreen cladding system including bracket and rail system, insulation, waterproofing and internal wall linings, (approximately 60% of total elevation allowed). Brickwork cavity walls in facing bricks and block inner leaf and insulation, (approximately 10% of total elevation allowed). Louvres associated with mechanical plant etc. within facade.
2F Windows and External Doors	109	4.1	Double glazed aluminium windows, curtain walling unitised system, incorporating simple ppc brise soleil as required, (approximately 30% of total elevation allowed). Automatic double doors to main entrance. Manual double and single doors for all others. Main Entrance to receive an entrance canopy.

9. TYPICAL NEW BUILD COST MODEL FE COLLEGES SCHEME – LOCATION MODEL ONE

Element	Cost Allowance £/m ²	%	New Build - Typical Specification
2G Internal Walls and Partitions	81	3.0	Combination of plasterboard stud partitions and blockwork (130mm thick partitions, comprising 2 layers of 15mm plasterboard - with localised use of soundblock or similar board to meet acoustic requirements). Timber framed glazing with manifestation as panels within walls, (10% of total wall area). An extra over allowance of £10/m ² has been allowed for 'extra' acoustic treatment.
2H Internal Doors	21	0.8	Standard quality solid core doors with laminate or veneer facing in softwood frames. Single and double doors and frames. Stainless steel ironmongery. Lock suiting and Equality Act 2010 compliant.
Superstructure Subtotal	617	23.2	
3 Internal Finishes			
3A Wall Finishes	25	0.9	Combination of: plaster to blockwork walls; paint on plastered walls; paint on fair faced concrete / blockwork. Plasterboard lining and paint, wall tiling to toilets, cafes, servery and splash backs to sinks - full height to wet areas.
3B Floor Finishes	80	3.0	Combination of screeds, raised access floor (approximately 50% of total area), carpet tiles (approximately 50% of total area), sheet vinyl and coved skirtings (approximately 30% of total area), feature tiling (limestone/ceramic etc.), (approximately 10% of total area), epoxy paint to concrete floor (approximately 0% of total area). Painted MDF skirtings. Barrier matting to entrance area.
3C Ceiling Finishes	29	1.1	Part open / exposed ceilings. Plasterboard ceilings on MF framing, emulsion paint finish. Mineral fibre concealed grid ceiling, plasterboard margins and bulkheads. Acoustic treatments to comply with BREEAM requirements - not complete acoustic ceiling.
Internal Finishes Subtotal	134	5.0	

9. TYPICAL NEW BUILD COST MODEL FE COLLEGES SCHEME – LOCATION MODEL ONE

Element	Cost Allowance £/m ²	%	New Build - Typical Specification
4 Fittings, Furniture and Equipment Generally fixed items of fittings, furniture & equipment	25	0.9	External and internal identity, directional and statutory signage. Reception furniture. IT work benches to general teaching spaces. Laboratory work benches. Fume cupboards and other laboratory fittings. Whiteboards, pinboards and other teaching room fittings, window blinds and vanity units, shelving and storage racks.
5 Services			
5A Sanitary Installations	10	0.4	WC's, fixtures and fittings. Urinals fixtures and fittings. Wash hand basins, fixtures and fittings. Shower in cubicle, tray, fittings. Classroom sinks, laboratory sinks, cleaners sinks, and drinking fountains (excludes all drainage and water service pipework - included in disposal and H&C water installation items below).
5B Disposal Installation	12	0.5	Soil, waste and ventilating systems to sanitary appliances, including connections to foul water drainage. Rainwater disposal including rainwater outlets, gratings, downpipes and connections to foul water drainage.
5C Mechanical Installation	219	8.2	
Services Equipment	17	0.6	Café area and servery. Services and localised extract.
Hot and Cold Water Installations	19	0.7	Mains water service treatment. Hot and cold water storage and distribution pipework including accessories, ancillaries brackets etc. Pipework insulation including all identification marking.
Space Heating, Air Treatment and Ventilation	178	6.7	Space heating via LTHW radiators with all supporting plant and distribution. Part natural, part mechanical ventilation / cooling, opening windows. Extract to toilets. Air handling units and limited local cooling. Localised extract to plant rooms.
Gas Installation	5	0.2	Incoming gas supply connected to meter and pipework distribution within plant room.

9. TYPICAL NEW BUILD COST MODEL FE COLLEGES SCHEME – LOCATION MODEL ONE

Element	Cost Allowance £/m ²	%	New Build - Typical Specification
5D Electrical Installation	241	9.0	
Electrical Installation	144	5.4	Mains and sub-mains distribution including all power cabling and all fittings. Small power generally, including final circuit power from distribution boards, power cabling and all fittings, sockets and outlets. Electrical supplies to mechanical plant and equipment. LED Lighting and emergency lighting and associated power cabling, ceiling roses, flex connections and provision of pattresses / supports. Lighting control (dimmable daylight saving) including zone control. External lighting.
Protective Installation	5	0.2	Lightning protection.
Communication Installation	57	2.1	Fire alarm and smoke detection including interface with door hold system, cabling and containment from primary containment system. Security system to include intruder detection installation, CCTV installation, Access Control installation. Public Address with class change alarm bell. Hearing Induction loop. Disabled refuge call system and WC alarm system. Data network including wiring and containment from primary containment system.
Specialist Installation	35	1.3	BMS controls, with new central control system, direct digital control devices and field devices. Central wiring included.
5E Lift & Conveyor Installation	22	0.8	1 Nr 10 person lifts to comply with Equality Act 2010 requirements.
5F Builders' Work in Connection	25	0.9	Framing and access platforms in risers. Forming holes and chases etc. 5% M&E costs.
Services Subtotal	529	19.8	
<u>BUILDING SUBTOTAL (1 to 5)</u>	1,453	54.6	

9. TYPICAL NEW BUILD COST MODEL FE COLLEGES SCHEME – LOCATION MODEL ONE

Element	Cost Allowance £/m ²	%	New Build - Typical Specification
6 External Works			
6A Site Works	88	3.3	
External Works	72	2.7	Landscaping, street furniture, boundaries, infrastructure, pavings, hardstandings, site clearance and on-site roadworks.
Decanting	16	0.6	Provisional allowance of circa £50k. Note: section 106/278 works are considered exceptional items / site specific.
6B Drainage	13	0.5	Foul and rainwater discharge to boundaries of site and manhole chambers, soakaways and connections to buildings and SUDS (allowance £25k)
6C External Services	13	0.5	Incoming services and distribution to buildings (does not allow for new substation).
External Works Subtotal	114	4.3	
7 Preliminaries	235	8.8	Management costs, site establishment and site supervision. Contractor's preliminaries, overheads and profit @ circa 15%. Testing and commissioning of building services installations, O&M manuals.
SUBTOTAL (1 to 7)	1,802	67.7	
8 Contingencies	90	3.4	
Contingency	90	3.4	5% suggested allowance, to be tested against the project specific risk register.
9 Equipment	80	3.0	New loose fittings, furniture & equipment, procured either directly by the client or via the main contractor (latter option to include management fee). Allows for 70% new and 30% re-utilisation of legacy equipment and decant / recant. ICT loose plug-in equipment is a revenue item (servers, screens etc.)

9. TYPICAL NEW BUILD COST MODEL FE COLLEGES SCHEME – LOCATION MODEL ONE

Element	Cost Allowance £/m ²	%	New Build - Typical Specification
10 Professional Fees	246	9.2	13% of all costs excluding Equipment (9 above). Also allows for survey costs.
<u>SUBTOTAL (1 to 10)</u>	2,218	83.3	
11 VAT	444	16.7	20% of all costs
<u>TOTAL</u>	2,662	100.0	
Inflationary Costs to allow for increases from July 2015 to completion at September 2016.	186		Based on 7% of Nett construction costs, preliminary costs, professional fees, equipment costs and VAT.
<u>ADJUSTED OVERALL TOTAL</u>	2,848		

9. TYPICAL NEW BUILD COST MODEL FE COLLEGES SCHEME

SUMMARY

MODELS ONE, TWO AND THREE

Base build costs embracing sustainability items relevant to 'Very Good' BREEAM rating

Element	Cost Allowance £/m ² September 2016	Location factor	Location / Regions
MODEL ONE Total allowance September 2016	£2,848/m ²	1.00	East and West Midlands and the East and South West of England.
MODEL TWO Total allowance September 2016	£3,190/m ²	1.12	London and the South East of England, together with Essex, Hertfordshire and Cambridgeshire.
MODEL THREE Total allowance September 2016	£2,706/m ²	0.95	Yorkshire, Humberside and the North East and North West of England

Note: Inflation - current forecasts suggest an annual increase from September 2016 to September 2017 of approximately 4.9%.

Further Education Schemes

Cost Models

July 2015

Where schemes have been agreed to target BREEAM "Excellent" an increase in the gross costs would be expected. There is little empirical evidence which would support a specific number however, where the timing of the determination to seek a greater credit value and the impact on the design and resultant costs varies considerably project to project and is linked to timing of such decision.

As a guide, it is expected that a BREEAM "Excellent" Scheme would deliver the following gross Model costs:

Base build costs embracing all items and variants to the scope of work relevant to achieving an 'Excellent' BREEAM rating

Element	Cost Allowance £/m ² September 2016	Location factor	Location / Regions
MODEL ONE Total allowance September 2015	£3,033/m ²	1.00	East and West Midlands and the East and South West of England.
MODEL TWO Total allowance September 2015	£3,397/m ²	1.12	London and the South East of England, together with Essex, Hertfordshire and Cambridgeshire.
MODEL THREE Total allowance September 2015	£2,882/m ²	0.95	Yorkshire, Humberside and the North East and North West of England

Note: Inflation - current forecasts suggest an annual increase from September 2016 to September 2017 of approximately 4.9%.

NEW BUILD COST MODEL

TYPICAL SMALL WORKS / EXTENSION SCHEME

East and West Midlands and the East and South West of England.

(Please see Section 12 for detailed information for location)

PROJECT BASELINE CRITERIA - SMALL WORKS / EXTENSION

Brief description of the concept of a typical Small Works Project / Extension

GIA :	500 - 700 m ²
Number of Storeys :	2 (Ground, First)
Greenfield/Brownfield:	Brownfield - building in use. May be subject to demolition or ground remediation / facilitation works to 'connect' new extension to existing.
New Build / Refurbishment:	New Build / Extension.
Existing Campus or Relocation:	Existing campus.
Procurement:	i) Single stage traditional or design and build. ii) two stage, design and build; or iii) other as appropriate
Date at which stated costs are valid:	Base date: June 2015 (present day).
Completion Date:	September 2016.
General Specification:	As appropriate in respect of existing building and in accordance with guide specification provided herein.
Value:	£1.0m to £1.3m gross.
BREEAM:	'Very Good' rating.

10. TYPICAL SMALL WORKS / EXTENSION SCHEME NEW BUILD COST MODEL - LOCATION MODEL ONE

Element	Cost Allowance £/m ²	%	Small Works / Extension - Typical Specification
Demolition	12	0.5	Minor demolition works or facilitation works to 'connect' new extension to existing building.
Substructure	117	4.7	Excavation and disposal, concrete pad foundations. Minor allowance for localised remediation/ground improvement.
Substructure Subtotal	129	5.2	
2 Superstructure			
2A Frame	104	4.3	Steel frame and traditional brickwork construction (costs of latter included in part within this section and external walls).
2B Upper Floors	70	2.8	Precast, pre-stressed reinforced concrete or insitu reinforced concrete or hollowcore precast planks, all formwork or shuttering (permanent & temporary).
2C Roof	92	3.7	Insitu reinforced concrete or lightweight timber/steel construction with single ply membrane or tiled construction to match existing insulation and associated drainage. Mansafe or equivalent maintenance system.
2D Stairs	23	0.9	Core staircases in precast reinforced concrete with half landings, polyester coated or painted steel handrailing balustrades.
2E External Walls	130	5.3	Rainscreen cladding system including bracket and rail system, insulation, waterproofing and internal wall linings, (approximately 60% of total elevation allowed). Brickwork cavity walls in facing bricks, insulation and block inner leaf, (approximately 10% of total elevation allowed). Polyester powder coated metal louvres associated with mechanical plant etc. within facade. Generally to match existing.
2F Windows and External Doors	111	4.5	Partial replacement of solid core fire rated doors in hardwood frames. Doors in hardwood frames. Stainless steel ironmongery. Lock suiting and Equality Act 2010 compliant, (approximately 50% replacement).

10. TYPICAL SMALL WORKS / EXTENSION SCHEME NEW BUILD COST MODEL - LOCATION MODEL ONE

Element	Cost Allowance £/m ²	%	Small Works / Extension - Typical Specification
2G Internal Walls and Partitions	62	2.5	Combination of plasterboard stud partitions and blockwork. (130mm thick partitions comprising 2 layers of 15mm plasterboard - with localised use of soundblock or similar board to meet acoustic requirements). Timber framed glazing with manifestation as panels within walls, (10% of total wall area). An extra over allowance of £10/m ² has been allowed for 'extra' acoustic treatment.
2H Internal Doors	29	1.2	Standard quality solid core doors with laminate or veneer facing in softwood frames. Single and double doors, frames. Stainless steel ironmongery. Lock suiting and Equality Act 2010 compliant.
<i>Superstructure Subtotal</i>	621	25.2	
<u>3 Internal Finishes</u>			
3A Wall Finishes	25	1.0	Combination of: plaster to blockwork walls; paint on plastered walls; paint on fair faced concrete / blockwork. Plasterboard lining and paint, wall tiling to toilets, cafes, servery and splash backs to sinks - full height to wet areas.
3B Floor Finishes	67	2.7	Combination of screeds, raised access floor (approximately 60% of total area), carpet tiles (approximately 30% of total area), sheet vinyl and coved skirtings (approximately 45% of total area), feature tiling (limestone/ceramic etc.), (approximately 10% of total area), epoxy paint to concrete floor (approximately 15% of total area). Painted MDF skirtings. Barrier matting to entrance area.
3C Ceiling Finishes	29	1.2	Part open / exposed ceilings. Plasterboard ceilings on MF framing, emulsion paint finish. Mineral fibre concealed grid ceiling, plasterboard margins and bulkheads. Acoustic treatments.
<i>Internal Finishes Subtotal</i>	121	4.9	

10. TYPICAL SMALL WORKS / EXTENSION SCHEME NEW BUILD COST MODEL - LOCATION MODEL ONE

Element	Cost Allowance £/m ²	%	Small Works / Extension - Typical Specification
4 Fittings, Furniture and Equipment	41	1.7	External and internal identity, directional and statutory signage. Reception furniture. IT work benches to general teaching spaces. Laboratory work benches. Fume cupboards and other laboratory fittings. Whiteboards, pinboards and other teaching room fittings. Window blinds and vanity units. Retain lockers, shelving and storage racks.
5 Services			
5A Sanitary Installations	10	0.4	WCs and fittings. Extra for disabled fittings. Urinals and fittings. Wash hand basins and fittings. Shower in cubicle, tray, fittings. Classroom sinks, laboratory sinks, cleaners sinks, drinking fountains.
5B Disposal Installation	15	0.6	Waste, soil and vent pipework. Rainwater installations.
5C Mechanical Installation	160	6.6	
Services Equipment	9	0.4	Provisional allowance. No major services equipment expected, but may necessitate either additions to existing or upgrading plant.
Hot and Cold Water Installations	24	1.0	Mains water service treatment. Hot water storage and distribution. Cold water storage and distribution.
Space Heating, Air Treatment and Ventilation	122	5.0	Space heating via LTHW radiators with all supporting plant and distribution. Part natural, part mechanical ventilation / cooling; opening windows. Extract to toilets and kitchen areas. Air handling units and limited local cooling. Localised extract to plant rooms.
Gas Installation	5	0.2	Incoming gas supply extended with new pulse meter.

10. TYPICAL SMALL WORKS / EXTENSION SCHEME NEW BUILD COST MODEL - LOCATION MODEL ONE

Element	Cost Allowance £/m ²	%	Small Works / Extension - Typical Specification
5D Electrical Installation	228	9.2	
Electrical Installation	158	6.4	Extension of mains and sub-mains distribution, small power generally, electrical supplies to mechanical plant and equipment, lighting, emergency lighting and external lighting. Lighting control (dimmable daylight saving) including zone control.
Protective Installation	7	0.3	Lightning protection.
Communication Installation	47	1.9	Fire alarm and smoke detection including interface with door hold system, cabling and containment from primary containment system. Security system to include intruder detection installation, CCTV installation, Access Control installation. Public Address with class change alarm bell. Hearing Induction loop. Disabled refuge call system and WC alarm system. Data network including wiring and containment from primary containment system.
Specialist Installation	16	0.6	BMS control wiring, set points extended into new areas. Main controller retained and reprogrammed to suit.
5E Lift & Conveyor Installation	0	0.0	Equality Act 2010 Platform lift - Excluded
5F Builders' Work in Connection	21	0.9	Framing and access platforms in risers. Forming holes and chases etc. 5% M&E costs.
Services Subtotal	434	17.7	
BUILDING SUBTOTAL (1 to 5)	1,346	54.7	

10. TYPICAL SMALL WORKS / EXTENSION SCHEME NEW BUILD COST MODEL - LOCATION MODEL ONE

Element	Cost Allowance £/m ²	%	Small Works / Extension - Typical Specification
6 External Works			
6A Site Works	33	1.3	
External Works	17	0.7	Localised (to extent of extension) of landscaping, street furniture, pavings, hardstandings, site clearance and amendments to on-site roadworks. No provision for off-site works.
Decanting	6	0.2	Provisional allowance for decanting and recanting resultant from the extension works.
Planning	10	0.4	Provisional allowance for discharge of planning conditions and to tie-in new and existing developments.
6B Drainage	13	0.5	Foul and rainwater discharge to existing manhole chambers, soakaways and connections to buildings.
6C External Services	10	0.4	Amendments to incoming services and distribution to buildings. No requirement for major new plant or major upgrades.
External Works Subtotal	56	2.2	
7 Preliminaries	196	8.0	Management costs, site establishment and site supervision. Contractor's preliminaries, overheads and profit @ circa 14%. Testing and commissioning of building services installations, O&M manuals.
SUBTOTAL (1 to 7)	1,598	64.9	

10. TYPICAL SMALL WORKS / EXTENSION SCHEME NEW BUILD COST MODEL - LOCATION MODEL ONE

Element	Cost Allowance £/m ²	%	Small Works / Extension - Typical Specification
8 Contingencies	96	3.8	
Contingency	48	1.9	3% suggested allowance, to be tested against the project specific risk register.
Design Reserve	48	1.9	Allowance for design development @ 3%.
9 Equipment	71	2.9	New loose fittings, furniture & equipment, procured either directly by the client or via the main contractor (latter option to include management fee). Allows for 70% new and 30% re-utilisation of legacy equipment and decant / recant. ICT loose plug-in equipment is a revenue item (servers, screens etc.).
10 Professional Fees	288	11.7	17% of all costs excluding Equipment (9 above). Also allows for survey costs.
SUBTOTAL (1 to 10)	2,053	83.3	
11 VAT	411	16.7	20% of all costs
TOTAL	2,464	100.0	
Inflationary Costs to allow for increases from July 2015 to completion at September 2016	144		Based on 7% of Nett construction costs, preliminary costs, equipment costs and VAT (i.e. professional fees, assumed unaffected as orders should have been placed)
ADJUSTED OVERALL TOTAL	2,608		

10. TYPICAL SMALL WORKS / EXTENSION SCHEME NEW BUILD COST MODEL

SUMMARY

MODELS ONE, TWO AND THREE

Base build costs embracing sustainability items relevant to a 'Very Good' BREEAM rating

Element	Cost Allowance £/m ² September 2016	Location factor	Location / Regions
MODEL ONE Total allowance September 2016	£2,608/m ²	1.00	East and West Midlands and the East and South West of England.
MODEL TWO Total allowance September 2016	£2,921/m ²	1.12	London and the South East of England, together with Essex, Hertfordshire and Cambridgeshire.
MODEL THREE Total allowance September 2016	£2,478/m ²	0.95	Yorkshire, Humberside and the North East and North West of England.

Note: Inflation - current forecasts suggest an annual increase from September 2016 to September 2017 of approximately 4.9%.

REFURBISHMENT COST MODEL

REFURBISHMENT WORKS

East and West Midlands and the East and South West of England.

(Please see Section 12 for detailed information for location)

PROJECT BASELINE CRITERIA - REFURBISHMENT

Brief description of the concept for typical levels of refurbishment criteria:

- FULL:** Strip the building back to its primary frame, retain structural floors, provide a new envelope, replace and resurface roof and fully fit out internally including M&E, IT and communication installations.
- MEDIUM:** Retain the existing structural fabric and envelope of the building and introduce extensive new internal finishes and partial replacement of FF&E with part renewal of M&E, IT and communication installations.
- MINIMAL:** Retain the building in its present form, with limited elements only of new finishes internally including part FF&E.

Cost Models have been developed for the Medium Refurbishment level and are displayed in an elemental form. The Cost Models relate to the three Skills Funding Agency regions (Southern, Central and Northern). For a detailed schedule of locations, please see Section 12.

However, such is the variable nature of refurbishment, it is expected that any submission will range considerably from one to the next. These refurbishment models are intended to act as guidance.

It is advised that for **Full or Minimal** levels of refurbishment works an adjustment is made to the total base (medium) build rates:

Full:	+ 30%	for models One, Two or Three
Minimal:	- 45%	for models One, Two or Three

Any refurbishment submissions will be assessed on the basis of the Medium Refurbishment Cost Model, with due allowance made for the scope of the works, as given above.

NOTE: Total Base Build Present Day Costs include fees and full VAT liability and are expressed at June 2015 values. Final day costs relate to September 2016.

Refurbishment works can be subject to compliance with current and changing legislation (building regulations) relating to electrical and other installations.

11. REFURBISHMENT COST MODEL - REFURBISHMENT WORKS - LOCATION MODEL ONE

Element	Cost Allowance £/m ²	%	Refurbishment Works - Typical Specification
Demolition	16	0.9	Internal demolitions of existing building only (50% strip out of services, demolition of non-structural internal walls). Minor asbestos removal.
Substructure	0	0.0	No works to substructure.
<i>Substructure Subtotal</i>	16	0.9	
<u>2 Superstructure</u>			
2A Frame	16	0.9	Works to existing frame only - adaptation/fire rating
2B Upper Floors	21	1.2	Works to existing floors only - making good, forming and trimming openings.
2C Roof	65	3.6	Replacement of roof coverings and insulation only (no structural works).
2D Stairs	5	0.2	Repairs and making good only - no new provision.
2E External Walls	46	2.5	Localised repairs and making good.
2F Windows and External Doors	111	6.1	Localised repairs to existing windows - allowance to replace 20% of existing windows. New doors and ironmongery.
2G Internal Walls and Partitions	71	3.9	Partial replacement of internal walls (approximately 50%) with new plasterboard stud partitions and blockwork. Timber framed glazing panels within walls (10% of total wall area). An extra over allowance of £10/m ² has been allowed for 'extra' acoustic treatment.
2H Internal Doors	21	1.2	Partial replacement of solid core fire rated doors in hardwood frames. Doors in hardwood frames. Stainless steel ironmongery. Lock suiting and Equality Act 2010 compliant, (approximately 50% replacement).
<i>Superstructure Subtotal</i>	356	19.6	

11. REFURBISHMENT COST MODEL - REFURBISHMENT WORKS - LOCATION MODEL ONE

Element	Cost Allowance £/m ²	%	Refurbishment Works - Typical Specification
<u>3 Internal Finishes</u>			
3A Wall Finishes	32	1.8	Combination of: plaster to blockwork walls; paint on plastered walls; paint on fair faced concrete / blockwork. Plasterboard lining and paint, wall tiling to toilets, cafes, servery and splash backs to sinks - full height to wet areas.
3B Floor Finishes	58	3.2	Combination of screeds, raised access floor (approximately 50% of total area replaced), carpet tiles (approximately 30% of total area), sheet vinyl and coved skirtings (approximately 45% of total area), feature tiling (limestone/ceramic etc.), (approximately 10% of total area), epoxy paint to concrete floor (approximately 15% of total area). Painted MDF skirtings. Barrier matting to entrance area.
3C Ceiling Finishes	31	1.7	Part open / exposed ceilings. Plasterboard ceilings on MF framing, emulsion paint finish. Mineral fibre concealed grid ceiling, plasterboard margins and bulkheads. Acoustic treatments.
<i>Internal Finishes Subtotal</i>	121	6.7	
<u>4 Fittings, Furniture and Equipment</u>	33	1.8	External and internal identity, directional and statutory signage. Reception furniture. IT work benches to general teaching spaces. Laboratory work benches. Fume cupboards and other laboratory fittings. Whiteboards, pinboards and other teaching room fittings. Window blinds and vanity units. Retain lockers, shelving and storage racks.
<u>5 Services</u>			
5A Sanitary Installations	7	0.4	WCs and fittings. Extra for disabled fittings. Urinals and fittings. Wash hand basins and fittings. Shower in cubicle, tray, fittings. Classroom sinks, laboratory sinks, cleaners sinks, drinking fountains. Re-useable fittings retained where possible.
5B Disposal Installation	6	0.3	Adaptions to waste, soil and vent pipework. Rainwater installations, syphonic drainage. 20% retained (rainwater installations).

11. REFURBISHMENT COST MODEL - REFURBISHMENT WORKS - LOCATION MODEL ONE

Element	Cost Allowance £/m ²	%	Refurbishment Works - Typical Specification
5C Mechanical Installation	161	8.9	
Services Equipment	21	1.2	Kitchen, servery and bar fit out.
Hot and Cold Water Installations	21	1.2	Mains water service treatment. Hot water storage and distribution. Cold water storage and distribution. 40% services retained.
Space Heating, Air Treatment and Ventilation	115	6.3	Space heating via LTHW radiators with all supporting plant and distribution. Part natural, part mechanical ventilation / cooling, opening windows. Extract to toilets and kitchen areas. Air handling units and limited local cooling. Localised extract to plant rooms. 40% services retained.
Gas Installation	4	0.2	Incoming gas supply and distribution adapted to suit new configuration as required.
5D Electrical Installation	177	9.7	
Electrical Installation	111	6.1	Extension of mains and sub-mains distribution, small power generally, electrical supplies to mechanical plant and equipment, lighting, emergency lighting and external lighting. Lighting control (dimnable daylight saving) including zone control. 30% services retained.
Protective Installation	3	0.1	Lightning protection retained and made good where required.
Communication Installation	40	2.2	Upgrade of fire alarm and smoke detection, interface with door hold system, disabled refuge comms system, induction loop alarm interface. Security system, intruder alarm, CCTV, public address. Induction loop. Disabled WC alarm system and data network including containment. 40% services retained.
Specialist Installation	23	1.3	BMS control wiring replaced where required (assumed 60%), with new set points and reprogramming existing main controller unit.
5E Lift & Conveyor Installation	23	1.3	Major refurbishment of existing lift finishes and making good.

11. REFURBISHMENT COST MODEL - REFURBISHMENT WORKS - LOCATION MODEL ONE

Element	Cost Allowance £/m ²	%	Refurbishment Works - Typical Specification
5F Builders' Work in Connection	26	1.4	Framing and access platforms in risers. Forming holes and chases etc. 7.5% M&E costs.
Services Subtotal	400	22.0	
BUILDING SUBTOTAL (1 to 5)	926	51.0	
6 External Works			
6A Site Works	41	2.2	
External Works	8	0.4	Minor hard landscaping amendments associated with fire exits/entrances and general circulation around the campus.
Temporary Works	16	0.9	Temporary works and services necessary to facilitate the refurbishment works.
Decanting	13	0.7	Provisional allowance for decanting and recanting resultant from to refurbishment works.
Planning	4	0.2	Minor allowance associated with any entrance works.
6B Drainage	7	0.4	Making good foul and rainwater discharge to boundaries of site and manhole chambers, soakaways and connections to buildings.
6C External Services	0	0.0	No works expected.
External Works Subtotal	48	2.6	
7 Preliminaries	146	8.0	Management costs, site establishment and site supervision. Contractor's preliminaries, overheads and profit @ circa 15%. Testing and commissioning of building services installations, O&M manuals.
SUBTOTAL (1 to 7)	1,120	61.6	

11. REFURBISHMENT COST MODEL - REFURBISHMENT WORKS - LOCATION MODEL ONE

Element	Cost Allowance £/m ²	%	Refurbishment Works - Typical Specification
8 Contingencies	118	6.4	
Contingency	84	4.6	7.5% allowance, to be tested against the project specific risk register.
Design Reserve	34	1.8	Allowance for design development @ 3%.
9 Equipment	80	4.4	Based upon circa £103/m ² teaching space. ICT loose plug-in equipment is a revenue item (servers, screens etc.) 35% to be retained for the utilising of legacy equipment.
10 Professional Fees	198	10.9	16% of all costs excluding Equipment (9 above). Also allows for survey costs.
SUBTOTAL (1 to 10)	1,516	83.3	
11 VAT	303	16.7	20% of all costs.
TOTAL	1,819	100.0	
Inflationary Costs to allow for increases from July 2015 to completion at September 2016	127		Based on 7% of Nett construction costs, preliminary costs, equipment costs, professional costs and VAT.
ADJUSTED OVERALL TOTAL	1,946		

11. REFURBISHMENT COST MODEL - REFURBISHMENT WORKS

SUMMARY

MODELS ONE, TWO AND THREE

Base build costs embracing sustainability items relevant to a 'Very Good' BREEAM rating

Element	Cost Allowance £/m ² September 2016	Location factor	Location / Regions
MODEL ONE Total allowance September 2016	£1,946/m ²	1.00	East and West Midlands and the East and South West of England.
MODEL TWO Total allowance September 2016	£2,179/m ²	1.12	London and the South East of England, together with Essex, Hertfordshire and Cambridgeshire.
MODEL THREE Total allowance September 2016	£1,848/m ²	0.95	Yorkshire, Humberside and the North East and North West of England

Note: Inflation - current forecasts suggest an annual increase from September 2016 to September 2017 of approximately 4.9%.

12 LOCATION MATRIX

Region	Area	Relevant Model
London North and East	Barking and Dagenham	Two
	Barnet	Two
	Camden	Two
	Enfield	Two
	Hackney	Two
	Haringey	Two
	Havering	Two
	Islington	Two
	Kensington + Chelsea	Two
	Newham	Two
	Redbridge	Two
	Tower Hamlets	Two
	Waltham Forest	Two
Westminster	Two	
London South and West	Bexley	Two
	Brent	Two
	Bromley	Two
	Croydon	Two
	Ealing	Two
	Greenwich	Two
	Kingston	Two
	Hammersmith + Fulham	Two
	Harrow	Two
	Hillingdon	Two
	Hounslow	Two
	Lambeth	Two
	Lewisham	Two
	Merton	Two
	Richmond	Two
	Southwark	Two
Sutton	Two	
Wandsworth	Two	

12 LOCATION MATRIX (Cont'd)

Region	Area	Relevant Model
South Central	Hampshire Dorset Surrey Bournemouth Poole Southampton Portsmouth West Sussex Isle of Wight Brighton + Hove	Two One Two One One Two Two Two Two Two
South West	Bath + NE Somerset Bristol Cornwall Devon Isles of Scilly North Somerset Plymouth Somerset South Gloucestershire Torbay	One One One One One One One One One One
South East	Kent East Sussex Thurrock Medway Southend on Sea Essex	Two Two Two Two Two Two

12 LOCATION MATRIX (Cont'd)

Region	Area	Relevant Model
Thames Valley	Bucks	Two
	Oxfordshire	Two
	Swindon	Two
	Reading	Two
	West Berks	Two
	Slough	Two
	Bracknell Forrest	Two
	Windsor + Maidenhead	Two
	Wokingham	Two
	Wiltshire	Two
Central Eastern	Hertfordshire	Two
	Cambridgeshire	Two
	Central Bedfordshire	Two
	Bedford	Two
	Bedfordshire	Two
	Luton	Two
	Northampton	One
	Milton Keynes	Two
	Suffolk	One
	Norfolk	One
Peterborough	One	
West Midlands	Telford + Wrekin	One
	Shropshire	One
	Herefordshire	One
	Worcestershire	One
	Warwickshire	One
	Coventry	One
	Birmingham	One
	Sandwell + Dudley	One
	Staffordshire	One
	Walsall	One
	Wolverhampton	One
Solihull	One	

12 LOCATION MATRIX (Cont'd)

Region	Area	Relevant Model
East Midlands	Derby	One
	Derbyshire	One
	Leicester	One
	Leicestershire	One
	Lincolnshire	One
	Nottingham	One
	Nottinghamshire	One
	Rutland	One
Cheshire, Warrington + Staffordshire	Bolton	Three
	Bury	Three
	Cheshire West and Warrington	Three
	Trafford	Three
	Stockport	Three
	Tameside	Three
	Manchester	Three
	Salford	Three
	Wigan	Three
	Stoke on Trent	Three
	Cheshire East	Three
	Rochdale	Three
	Oldham	Three
Liverpool City Region, Cumbria and Lancashire	Liverpool	Three
	Cumbria	Three
	Lancashire	Three
	Blackpool	Three
	Sefton	Three
	Blackburn + Darwin	Three
	Wirral	Three
	Knowsley	Three
	Halton	Three
	St Helens	Three

12 LOCATION MATRIX (Cont'd)

Region	Area	Relevant Model
Yorkshire and the Humber	North Yorkshire	Three
	York	Three
	East Riding of Yorkshire	Three
	Doncaster	Three
	Kingston upon Hull	Three
	Rotherham	Three
	Sheffield	Three
	Barnsley	Three
	Kirklees	Three
	Wakefield	Three
	Leeds	Three
	Bradford	Three
	Calderdale	Three
	North Lincolnshire	Three
North East Lincolnshire	Three	
North East	Northumberland	Three
	County Durham	Three
	Gateshead	Three
	Newcastle upon Tyne	Three
	North Tyneside	Three
	South Tyneside	Three
	Sunderland	Three
	Hartlepool	Three
	Middlesbrough	Three
	Redcar + Cleveland	Three
	Stockton on tees	Three
	Darlington	Three