

# Early Years Facility Whole Life Cost Summary

Kilmaurs Nursery

East Ayrshire Council

October 2019



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## Document history

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## Client signoff

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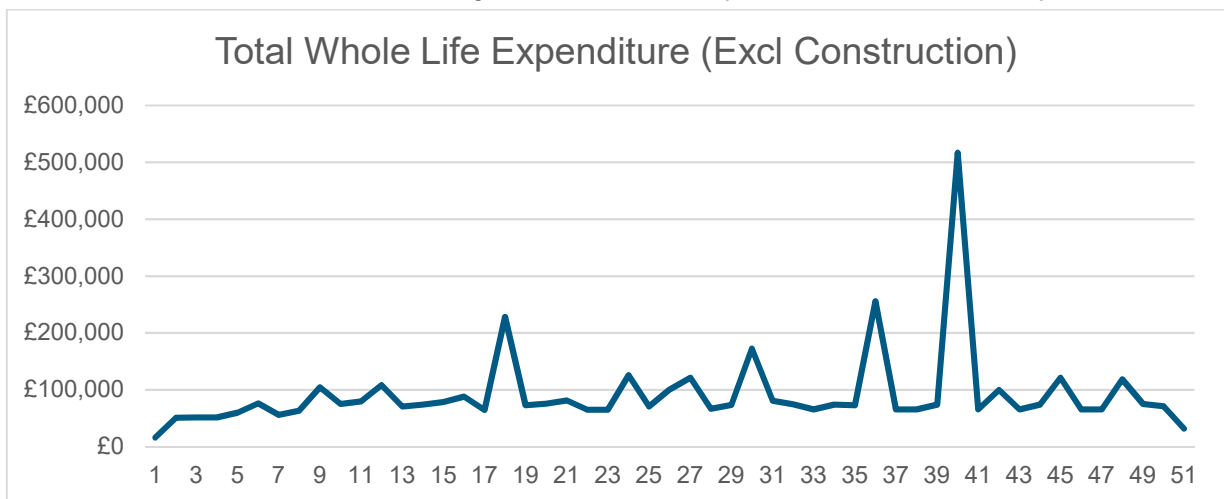
# 1.0 Introduction

1. To support the on-going development of local authority Early Learning and Childcare (ELC) Expansion Plans SFT has continued its engagement with East Ayrshire Council (EAC) to produce a whole life cost assessment of the three ELC projects that EAC are procuring via Hub South West and which were contractually agreed in June 2019. These three whole life cost assessments build upon the whole life cost assessments that were prepared for EAC's ELC Reference Designs in April 2019 and reflect the out-turn construction and forecast operational costs of the final building design developed by EAC.
2. Each of the whole life cost summaries have been prepared in accordance with SFT's Whole Life Appraisal Tool for the Built Environment which consists of an online excel workbook that offers a clear and consistent method of reporting whole life outcomes for a project.
3. A total of three Whole Life Cost summaries have been prepared as listed below:
  - Kilmaurs ELC facility;
  - Netherthird ELC facility;
  - Nether Robertson ELC facility;
4. The workbook for each whole life cost model provides a useful summary of the anticipated operating, energy, maintenance and life cycle replacement costs for each of the three final designs developed by EAC.
5. This report relates to the anderson bell + christie design for the Kilmaurs ELC Facility.
6. This report should be read in conjunction with the SFT Whole Life Cost Model "SFT WLAT V1.5 Early Years Kilmaurs 19.07.19.xlsm"
7. All costs stated in this report are 2Q 2019 prices

## 2.0 Executive Summary

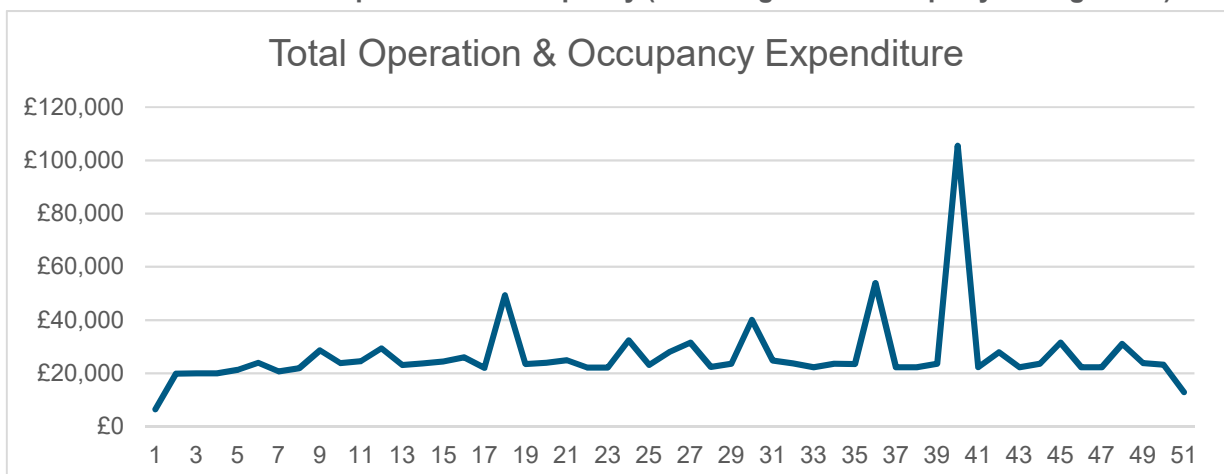
1. This review sets out the anticipated Whole Life Costs associated with the anderson bell + christie design produced for the Kilmaurs ELC facility for which Graham Construction have been appointed by East Ayrshire Council (EAC) through HUB South West.
2. The graphs below indicate the build-up of the estimated expenditure annually (excl VAT) during the operating period using BS ISO 15686-5 guidance and SFT defined subject headings over a 50-year study period for the ABC Reference Design.
3. Total Whole Life costs excluding Capital cost expenditure are estimated as £4,703,598 over the term as indicated below:

**Whole Life Cost – Annual Project Revenue Total (Excl Construction Costs)**



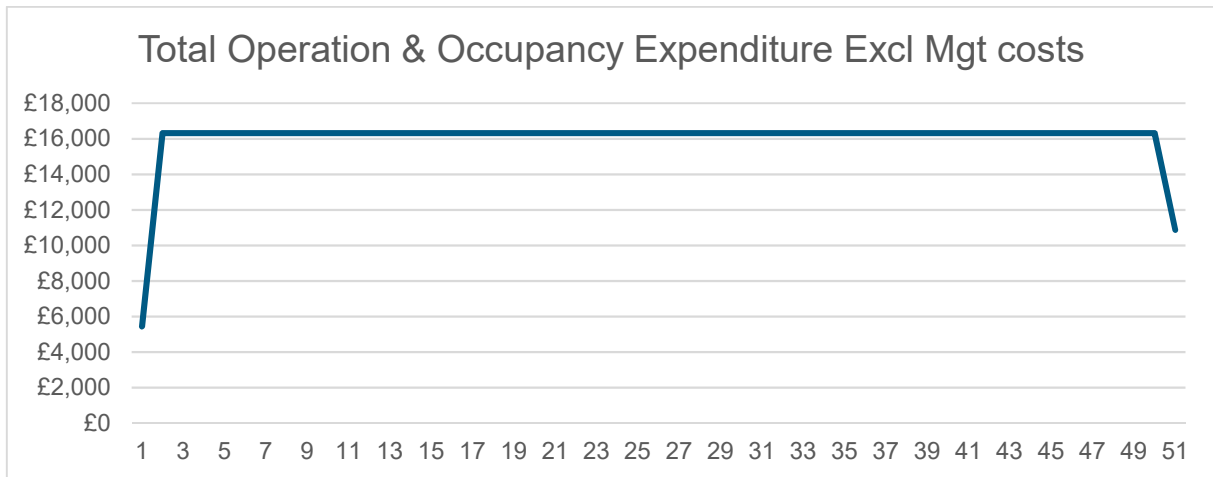
4. The Operation and Occupancy costs include Estate and Property Management, Caretaking, Cleaning, Waste, Security, Catering, Telephony, Occupants FF&E, & ICT. The total anticipated allowance for Operation and Occupancy is variable due to the allowance for Estate / Property Management cost being derived from costs including Life Cycle provisions. The Estate / Property Management costs have been estimated as 8% of collective annual costs for Operation and Occupancy, Energy & Utilities, and Maintenance (Hard FM). This takes cognisance of the requirement for routine asset management necessary to support the anticipated maintenance delivery strategy and to maintain the registration of outdoor space. An additional management cost of 20% has been applied to forecast Life Cycle costs as and when they are forecast to occur.
5. Total Operation and Occupancy costs (including Estate / Property Management allowances) are estimated as £1,348,170 over the term as follows:

**Whole Life Cost – Operation & Occupancy (including Estate / Property Management)**



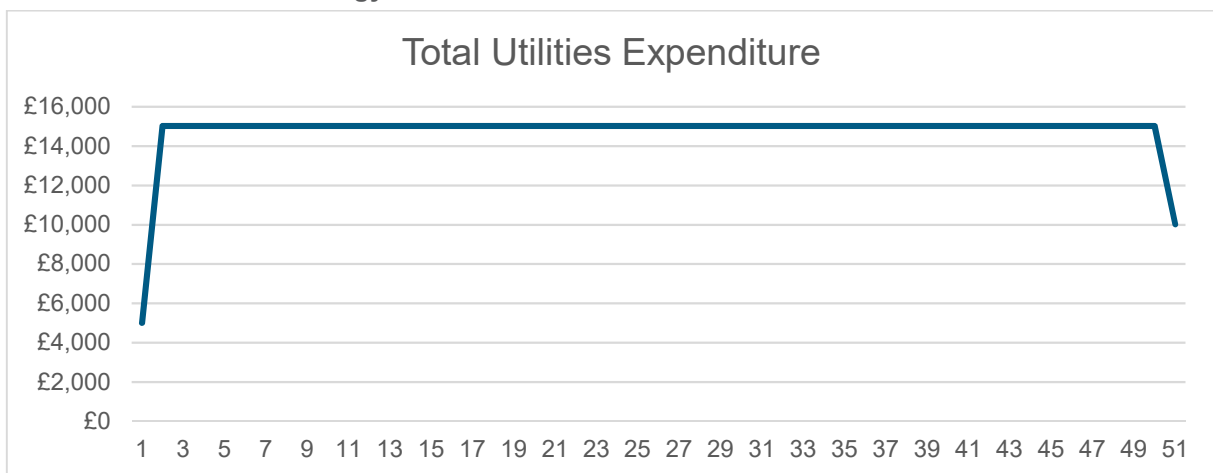
- Excluding Estate and Property Management costs, the forecast annual rate for the remaining Soft FM is estimated to be £16,320 per annum (£40/m<sup>2</sup>).

**Whole Life Cost – Operation & Occupancy (excluding Estate / Property Management)**



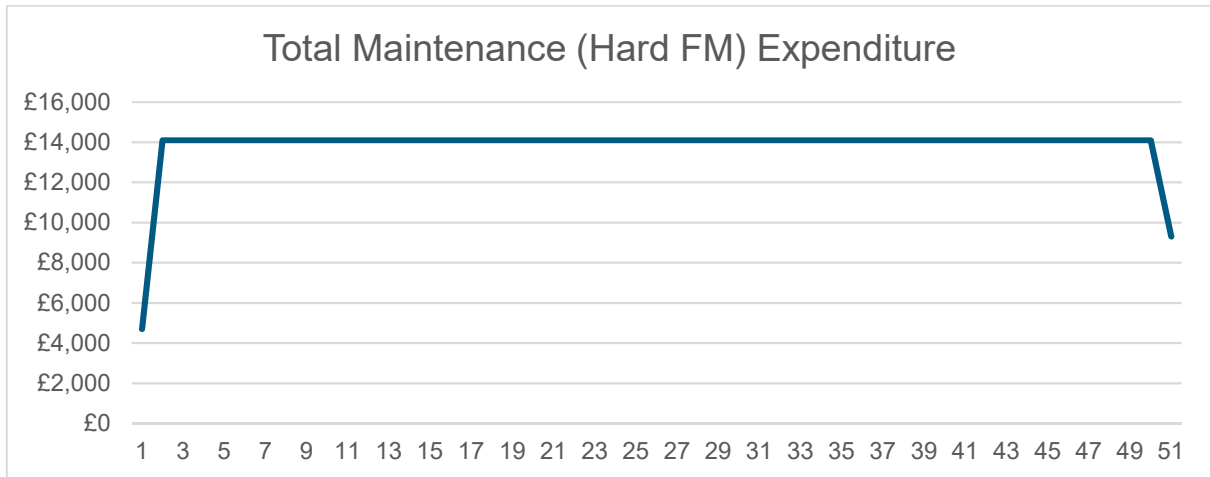
- Energy and Utility costs comprise allowances for electricity, gas, water and sewerage, and telephony. Electricity and gas have been estimated at £2,430 per annum for each, water and sewerage at £2,170 per annum, and telephony at £8,000 per annum.

**Whole Life Cost – Energy & Utilities**



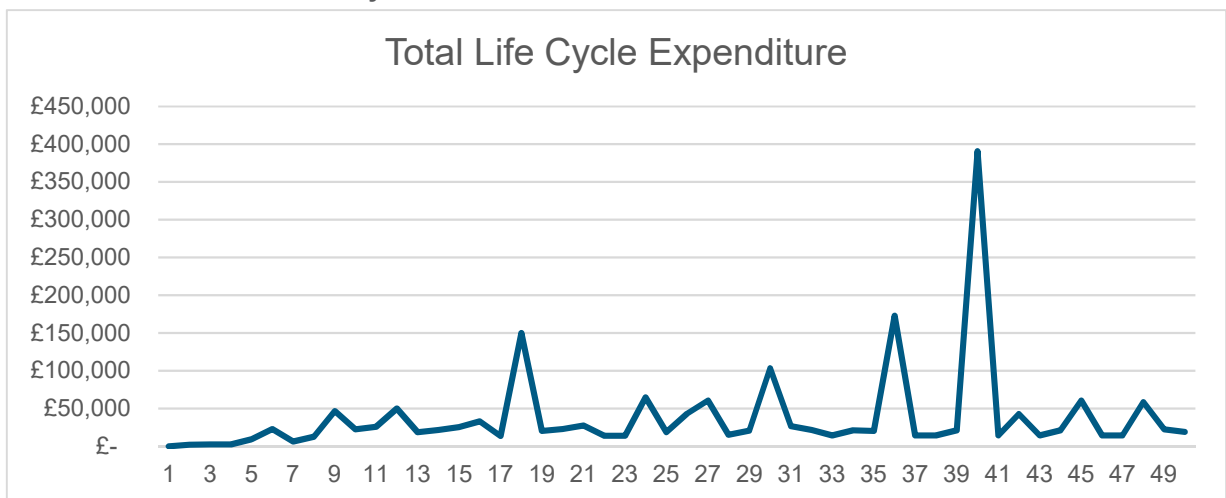
- Maintenance costs (Hard FM) comprise allowances for planned/statutory maintenance, reactive maintenance and repairs, refurbishments and adaptations, redecoration, internal moves and modifications, grounds maintenance, FF&E, and any specialist equipment. A rate of £32.50/m<sup>2</sup> has been assumed for planned/statutory maintenance, reactive maintenance & repairs, and grounds maintenance. The rate has been increased from the £20/m<sup>2</sup> previously assumed to allow for the increased definition of the design proposals and includes notably for the full external site grounds maintenance requirements in addition to CCTV and sprinkler system provisions. Refurbishments and redecoration are contained within Life Cycle allowances, however adaptations / internal moves and modifications are excluded. The rate of £32.50/m<sup>2</sup> equates to an allowance of £14,105 per annum.
- Whilst the unit area rate is a generic allowance it takes cognisance of the asset components, including specific aspects such as the passenger lift and outdoor space, and the anticipated maintenance associated with these facilities in particular to maintain the registration of outdoor space. It is also recognised that the small physical size of the facility does not justify a full-time or dedicated maintenance resource and that these will be delivered through an on-demand arrangement.

Whole Life Cost – Maintenance (Hard FM)



10. Life Cycle replacement costs comprise the estimated capital costs of major asset replacements. The cost profile is based on forecast asset renewal frequencies.
11. Total Life Cycle costs are estimated as £1,898,734 over the term. As illustrated by the graph below the estimate life cycle cost profile has distinct peaks in years 18, 30, 36, and 40, of £149k, £104k, £173k and £391k respectively, with a general baseline annual Life Cycle cost estimate of c. £25k per annum. Actual peaks of Life Cycle works activity will vary depending upon asset performance in use and the strategy for undertaking disruptive works, however these provide an illustration of the variable programme of Life Cycle works anticipated for the 50 year period.

Whole Life Cost – Life Cycle



12. Delivery assumptions across the whole life cost headings have been determined against typical arrangements within East Ayrshire Council’s education domain and from Faithful+Gould / published standards for asset maintenance. Where available, actual cost data has been used to inform the cost heading allowances, supplemented where necessary with typical benchmark costs to identify indicative budgets. Due to the small physical size and use characteristics of the facility some adjustment has been made to identified costs to reflect specific characteristics.
13. Disposal (demolition at end of study period) costs have been excluded from this Whole Life Cost Assessment, and any forecast income associated with this facility is not applicable.
14. No costs have been allocated for rent and rates given that East Ayrshire Council will own the proposed facility and that following the Barclay review of 2017, day nurseries were entitled to 100% rates relief from April 2018.

## 3.0 Facility Description

### General

1. The Kilmaurs facility is sized to accommodate 90no children. The building itself is sized to accommodate 75no children plus an additional 20% outdoor allocation (15no.) broken down as follows:
  - 65no 3-5yrs
  - 10no 2-3yrs
  
2. The size of the building is based around the Scottish Government's Expansion Programme Baseline Planning Assumptions of 5.8m<sup>2</sup> per child and the area metrics from Space to Grow of 2.3m<sup>2</sup> play per child aged 3-5 and 2.8m<sup>2</sup> per child aged 2-3:
  - 75no x 5.8 = 435m<sup>2</sup> GIFA
  - 3-5yr playroom = 65no. children x 2.3m<sup>2</sup> = 149.5m<sup>2</sup>
  - 2-3yr playroom = 10no. children x 2.8m<sup>2</sup> = 28m<sup>2</sup>
  
3. The Anderson Bell Christie Reference Design took full advantage of the 5.8m<sup>2</sup> metric and actually allows for the following enhanced play areas:
  - 3-5yr playroom = 165m<sup>2</sup>
  - 2-3yr playroom = 30m<sup>2</sup>
  - Reading nook [shared play space] = 4.4m<sup>2</sup>

The operating model may of course differ across local authorities. The proposed models for East Ayrshire Council are set out below:

- a. **Model 1:** 1140 hours across 38 weeks (term time) and is available in both term time and full year services.
- b. **Model 2 :** 1140 hours - the Block model : a block is 4 hours 45 minutes , 8.00am-12.45pm or 1.15pm -6.00pm. Model 2 can be taken as 5 blocks per week over 48 weeks in mornings , afternoons or a combination of two full days and one half days, or 6 blocks per week term time taken as 3 whole days.
- c. **Model 3:** 1140 hours - Blended Model is a combination of time in an Early Childhood Centre or funded provider and time with a participating childminder.
- d. **Model 4:** Reduced hours place: a morning session to 12.30pm to include lunch

Some places may be available for sale in 2021.

Heads of centre have discretion as to how work patterns operate in their centres.

4. Staffing - - It is proposed that staff who work in full year services will work shift patterns:
  - 07.45hrs to 15.15hrs
  - 08.45hrs to 16.15hrs and
  - 10.45hrs to 18.15hrs
  
5. Further information in relation to the design of the Kilmaurs facility is available on request from East Ayrshire Council.



## 4.0 Approach Adopted

### General

1. A Whole Life approach identifies indicative costs for the full range of activities from development through operations to preserve the functionality of a facility. The Kilmaurs design, which is developed to Stage 4 Elemental Level Design, has been reviewed using the SFT Whole Life Appraisal Tool cost categories as follows:
  - Purchase Costs;
  - Construction Costs;
  - Rent & Rates;
  - Operation & Occupancy Costs (Soft FM);
  - Energy & Utilities Costs;
  - Maintenance Costs (Hard FM);
  - Life Cycle Replace Costs;
  - Disposal Costs; and
  - Income.
2. The study period is 50 academic years which is assumed to commence in the academic year 2020-21 and continuing to 2069-70.
3. The costs within this review are based upon operating models set out in item 3.4. Should an alternative operating model be required then the costs stated in this review will need to be re-evaluated.
4. There are no costs associated with Purchase or Rent & Rates, and the cost category of Disposal is excluded due to the facility lifespan being anticipated as greater than the 50 year study period.
5. For the purposes of this report, Life Cycle requirements exclude major alterations for upgrading works which may subsequently be required over the term to maintain future standards of accommodation. The necessity and extent of these are not capable of prediction or scope definition and will be determined by East Ayrshire Council as providers of Early Learning facilities.
6. Whole Life allowances are predicated upon those anticipated throughout the life of the project, and cost allowances have taken cognisance of the profile of anticipated expenditure demonstrated within the initial construction, routine steady state costs, and the periodic asset renewals occurring over the study period.
7. Costs have been established against current data provided by East Ayrshire Council where available, and supplemented by Faithful+Gould benchmark data. The final cost implications for all elements will be a direct outcome of design finalisation, determination of service activity, and East Ayrshire Council's approach to procurement and delivery of these. As the cost allowances are presented based upon reference designs it is also recognised that actual project circumstances may further influence requirements and present associated cost implications. Consequently, the budget provisions cannot be fully determined at this stage and the costs in this report should be considered as estimates subject to final project definition.
8. The approach to delivery of the whole life cost categories by East Ayrshire Council has been incorporated within the allowances scheduled. It is recognised that the relatively small size of the facility influences the delivery strategy and the estimated cost for certain activities due to limitations with regard to economies of scale.
9. The design of the facility is predicated upon the provision of an environment for Early Years education, with the design and arrangement of space and facilities a carefully considered solution for an Early Years Facility. The characteristics of the design are considered generally supportive of optimising Whole Life costs, and whilst the incorporation of the outdoor areas as an integral learning space presents specific considerations, these do not indicate any notable adverse impact upon project costs. The relationship between indoor and outdoor space will have some impact, particularly in relation to higher heating demands, however this may be mitigated by good management practices, and technical solutions within the detailed design.

10. The approach to delivery of activities by East Ayrshire Council is considered practical and is subject to some key considerations, including central support for procurement, finance, and activities where resources can be shared / provided on-demand such as Helpdesk, Caretaking, IT resources, and the off-site preparation and supply of meals.
11. The facility size does not justify a full-time technical resource and the anticipated approach is that services will be undertaken through a strategy of site attendance by technical staff as requested by East Ayrshire Council management. This is a straightforward arrangement, with plans and a process for routine activities such as cleaning, statutory testing, and planned preventive maintenance (PPM) to be established along with a Helpdesk to facilitate any East Ayrshire Council requests. Activities are also anticipated to be subject to some practical review with East Ayrshire Council staff to ensure the delivery regime is best aligned with the effective operation of the facility. For example, the passenger lift will be subject to full anticipated asset renewals, however, as this is a single means of disabled access for the upper level of the facilities it should also be subject to a maintenance service (planned and reactive) which adequately supports the functionality of the lift for those users.
12. Life Cycle requirements will support the routine operational maintenance activities within a sustainable maintenance regime. These have been considered using industry recognised techniques with replacement cost estimates based upon the Construction costs (2019) and published reference for life expectancy of specified components of the design. It is acknowledged that actual asset replacements and costs may vary due to a range of factors beyond accurate prediction (such as performance in use, procurement route, technical development / obsolescence, economic climate), with the forecast requirements subject to ongoing review to maintain accuracy.

# 5.0 Whole Life Cost Model Inputs

## Purchase Costs

1. There are no purchase costs identified.

## Construction Costs

### Scope

2. The Construction Cost Plan has been prepared based on Stage 4 design information.

### Basis for Costings

3. The Construction costs are taken from the review dated June 2019 reported separately.
4. The Capital cost for the proposals is identified as– (See *SFT WLAT model ref Option A Tab H62*). This is comprised of a Construction Cost of £1,612,760 and Development Fees of £221,184.

### Cost Profile

5. The Construction cost profile will be commensurate with the construction programme and associated payments. We have assumed expenditure of Construction costs over the 2019-20 period.

## Rent and Rates Costs

6. There are no Rent or Rates Costs identified.

## Operation & Occupancy

### Scope

7. The following activities are included for with Operation & Occupancy allowances: Estate / Property Management, Caretaking, Cleaning, Waste, Security, Catering, Telephony, Occupants FF+E, and ICT.
8. Reception, Helpdesk, Car parking, Logistics, Internal Plants, and Transportation are excluded and are either assumed to be provided by East Ayrshire Council directly, are not defined at this stage, or have no cost implications.

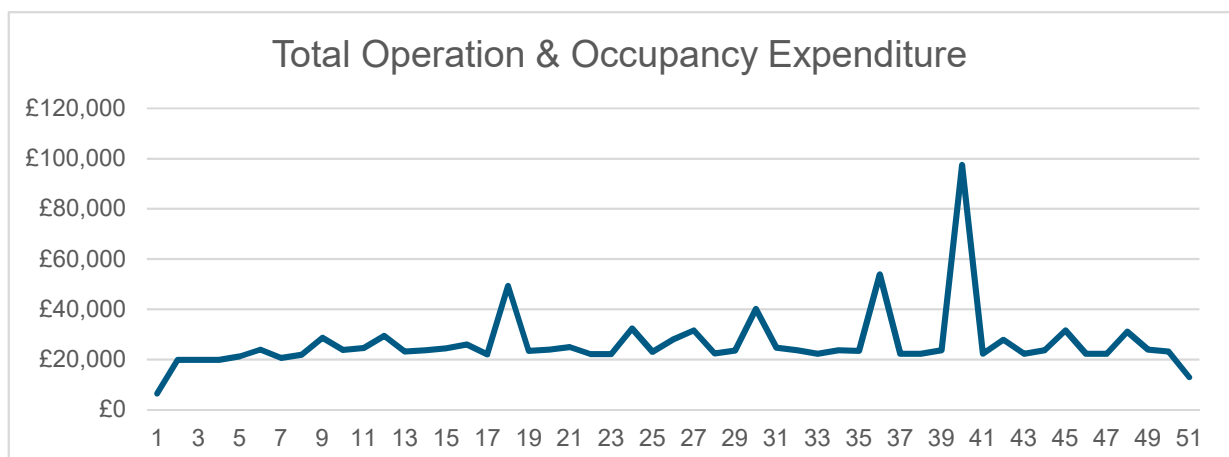
### Basis for Costings

9. The study period is 50 years (assumed to be academic years), commencing 2020-21 and continuing to 2069-70. The SFT model identifies costs by calendar year so year 1 costs have been assumed as 33% of an annual total and what will be calendar year 51 estimated as 66%.
10. Operation & Occupancy cost allowances are predicated upon the design arrangement and use profile of the facility, and the characteristics associated with delivery of these cost centre activities.
11. Individual cost allowances for Operation & Occupancy are determined by a range of factors directly related to the physical characteristics of the facility, but also including delivery regime, procurement approach, and service standards, such that a generic allowance / unit area is used for this stage of cost evaluation. An allowance of £40/m<sup>2</sup> has been used which has been established against typically anticipated benchmark rates within the Faithful+Gould project database and verified against individual service information provided by East Ayrshire Council. This allowance may be reviewed upon any clarification of the determining factors stated above. (See *SFT WLAT model ref Option A Tab H102*).
12. Management of activities is considered a key aspect in a non-site-based methodology, and this will need to encompass reactive, routine, and extended frequency tasks within a professional system and process providing technical and financial management. The costs for such will vary as to the elected methodology employed and the approach to procurement of activities. We have assumed an annual cost of 8% of collective costs for the annual Operation & Occupancy (£40/m<sup>2</sup>), Energy & Utilities, and Maintenance (£32.50/m<sup>2</sup>) allowances. In addition, Life Cycle expenditure will vary throughout the study period and an allowance of 20% of annual Life Cycle expenditure has been allowed for East Ayrshire Council management of such events. (See *SFT WLAT model ref Option A Tab H86*).

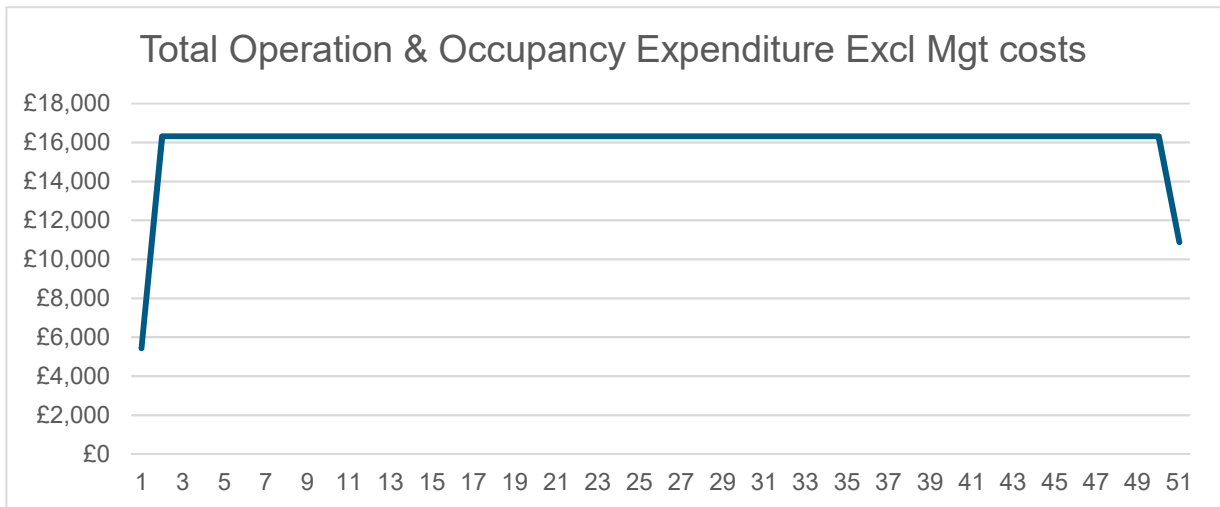
13. Caretaking will be required as a general assistance to school operations however due to the small size of the facility would not justify a full-time role. We are advised by East Ayrshire Council that a Caretaker position would be shared between schools and the overall rate /m2 allowance includes for this provision.
14. Cleaning will be required for daily scheduled cleaning, reactive cleaning, and periodic hygienic cleans to the facility. The provision of suitable cleaning activities are paramount to maintaining not only a suitable environment but also ensuring that asset longevity is not compromised. We have assumed daily scheduled cleaning to occur after school opening hours, with reactive cleans dealt with for emergency situations only. A hygienic clean is allowed for on an annual basis. Wash room restocking is included for based upon advised benchmarks of £1,000 / yr. The overall rate /m2 allowance includes for these provisions.
15. Waste collection and disposal (inclusive of recycling) is included for with annual rates of £3,500 used based upon East Ayrshire Council benchmarks. The overall rate /m2 allowance includes for these provisions. Waste costs relate to the disposal costs for all required elements and will be subject to policies on recycling.
16. The design includes for the provision of CCTV systems.
17. The unlocking and locking of the building is assumed to be included within the caretaker's role. The overall rate /m2 allowance includes for this provision.
18. Catering provisions of £3.11 / child / session with 2 sessions available each day are excluded from the allowances as meals for this facility will be prepared off-site and delivered to the facility. Costs associated with the kitchen servery at the facility are included within the Maintenance Cost (Hard FM).
19. Telephony costs for managing incoming calls are anticipated as included within school staff costs. Line rental and data costs are included within the Utilities cost allowances however this does not include call charges. Equipment costs are included within the allowances for Life Cycle replacement costs.
20. Occupants FF+E as advised is included for within the Maintenance and Life Cycle cost provisions.
21. Occupants ICT is included for within the Life Cycle provisions based upon East Ayrshire Council benchmark provisions. No allowances have been identified for routine ICT support. It has been assumed that these are provided by East Ayrshire Council central resources.

## Cost Profile

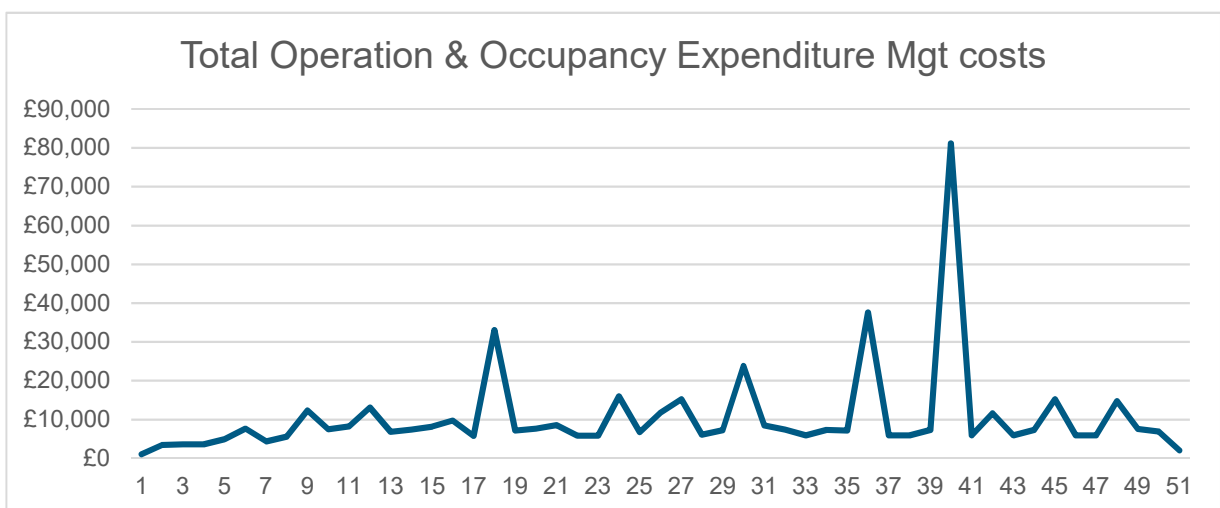
22. The cost profile for Operation and Occupancy Cost is considered consistent over the 50 year study period with the exception of allowances made for Estate Management which are variable based upon the profile of Life Cycle expenditure.
23. Operation and Occupancy costs provisions are currently made based upon an all-inclusive rate of £40/m2 for the 434m2 building plus allowances for the Estate / Property Management costs.
24. To align the SFT model calendar year format with the academic year of August to June, costs for year 1 have been assumed as 33% of an annual total and what will be calendar year 51 being estimated as 66%.
25. The cost allowances for the study period totals £1,348,170 (2Q2019). (See SFT WLAT model ref Option A Tab H107.)
26. The graph below profiles the estimated Operation and Occupancy expenditure including Estates / Property Management costs.



27. The graph below indicates the anticipated routine cost of services based upon the £40/m<sup>2</sup> allowance excluding Estates / Property Management costs.



28. The graph below indicates the allowances made for Estate / Property Management only, demonstrating a variable profile as determined by the periodic Life Cycle replacement costs.



## Energy & Utilities

### Scope

29. Energy & Utilities allowances are included to provide indicative budgets for electricity, gas, water, and telephony standard (excluding calls) charges.

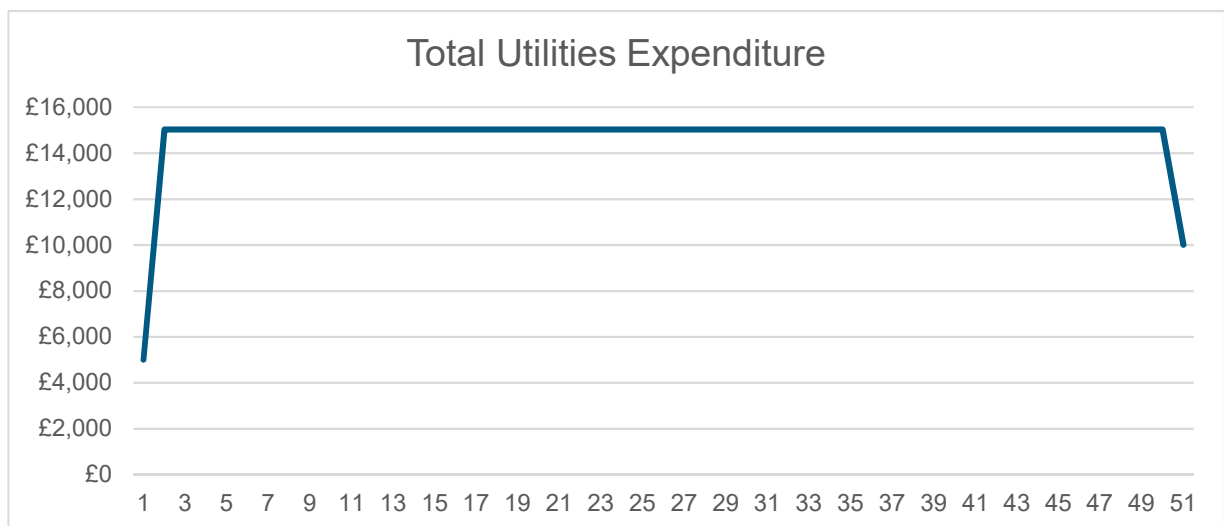
### Basis for Costings

30. The study period is 50 years (assumed to be academic years), commencing 2020-21 and continuing to 2069-70. The SFT model identifies costs by calendar year so year 1 costs have been assumed as 33% of an annual total and what will be calendar year 51 is estimated as 66%.
31. It is recognised that utilities charges will vary by volume and tariff, particularly over the project term, and as such the allowances are considered purely indicative based upon current arrangements for procurement, and will need to be updated regularly to reflect future commercial positions.
32. It has not been possible at this stage of design development to establish the energy mix, and allowances between utilities will need to be reviewed to establish greater detail as the design progresses.

- 33. The design excludes any additional sustainable (e.g. photovoltaic - PV) electrical generation.
- 34. Allowances have been assessed based upon gas and electricity benchmarks supplied from East Ayrshire Council. The use profiles of the benchmark sites are considered sufficiently similar to the design for this stage of evaluation and consideration has been made for the extended use of the facility over academic holiday periods (which are not included within benchmarks). The benchmarks indicate variable consumption and do not indicate individual pricing for gas and electricity. As the energy mix for the design is not established a combined gas and electricity rate is considered acceptable.
- 35. The variation in consumption / unit area is not able to be fully understood from the reference design, however consistent data across these indicates an allowance of £11.20 / m<sup>2</sup> to be broadly acceptable at this stage of evaluation. Based upon an area of 434m<sup>2</sup> this indicates a combined gas and electricity cost of £4,861 / yr. To incorporate this within the SFT model a 50:50 cost ratio for electricity:gas is assumed and which may be revised upon more detailed energy mix data becoming available. Allowances are contained within SFT WLAT model ref Option A Tab H115 & H116.
- 36. No reference data has been identified for Water & Drainage costs within Early Years' facilities and we have therefore allowed a provisional rate of £5/m<sup>2</sup> for this stage of evaluation. This indicates an annual budget of £2,170. Allowances are contained within SFT WLAT model ref Option A Tab H118.
- 37. Telephony charges are contained within two PSTN lines and a 100MB BT circuit for which an allowance of £8,000 / year has been assumed. It is recognised that technological advances may impact upon the costs presented and these are included as indicative at time of report. Allowances are contained within SFT WLAT model ref Option A Tab H119.

### Cost Profile

- 38. The volume consumption and cost profile for Utilities is considered generally consistent over the 50 year study period subject to relative pricing arrangements for which indexation within the SFT model has been assumed as 5%.
- 39. To align the SFT model calendar year format with the academic year of August to June, costs for year 1 have been assumed as 33% of an annual total and what will be calendar year 51 is estimated as 66%.
- 40. The estimated Energy and Utility cost allowances for the study period is £751,538 (2Q2019), with the profile of expenditure indicated below:



### Maintenance Costs (Hard FM)

#### Scope

- 41. Maintenance Costs include for Hard FM activities comprising Statutory & Mandatory inspections, scheduled planned preventive maintenance (PPM), and reactive maintenance to the facility and

equipment. This would include for a variety of technical and grounds maintenance activities commensurate with the design provisions.

42. Vandalism costs are excluded and are anticipated to be provided for through insurance.

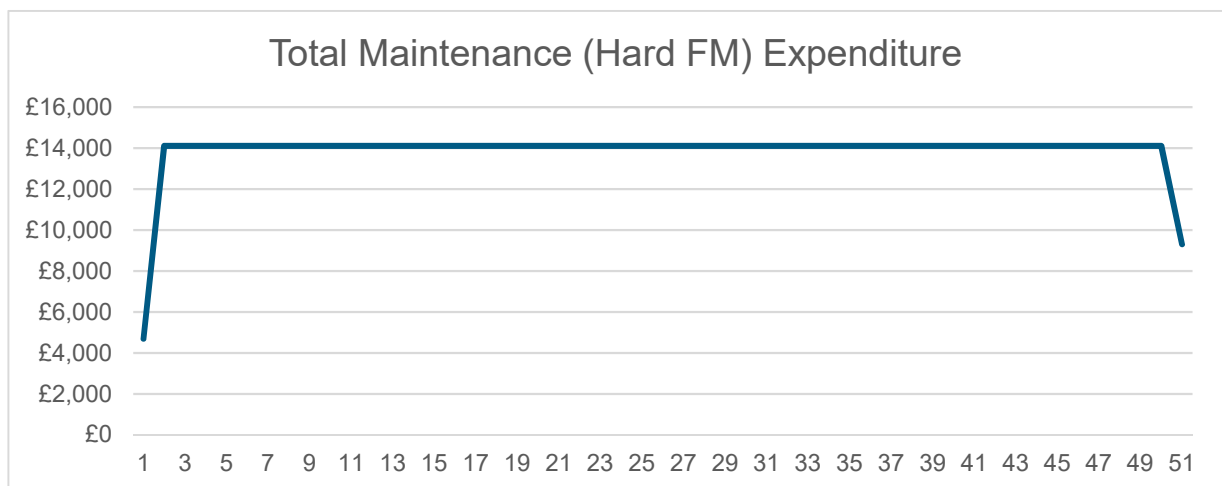
## Basis for Costings

43. The study period is 50 years (assumed to be the academic years), commencing 2020-21 and continuing to 2069-70. The SFT model identifies costs by calendar year so year 1 costs have been assumed as 33% of an annual total and what will be calendar year 51 is estimated as 66%.
44. Individual cost allowances for Maintenance are determined by a range of factors directly related to the physical characteristics of the facility, but also including delivery regime, procurement approach, and service standards, such that a generic allowance / unit area is used for this stage of cost evaluation. An allowance of £32.50/m<sup>2</sup> has been used which has been established against typically anticipated benchmark rates within the Faithful+Gould project database taking cognisance of the available Stage 4 design and anticipated maintenance strategy. The rate has been increased from the £20/m<sup>2</sup> previously assumed to allow for the increased definition of the design proposals and includes notably for the full external space Grounds Maintenance provisions in addition to now specified CCTV and sprinkler system provisions. The maintenance service approach has been considered in close association with the Life Cycle provisions which, collectively, will provide a holistic and sustainable approach to asset maintenance. This allowance may be reviewed upon any clarification of the determining factors stated above. Allowances are contained within SFT WLAT model ref Option A Tab H141.
45. Redecoration costs are included within the Life Cycle allowances.
46. New works / alterations that may be required for future refurbishments and adaptations are excluded due to their unknown nature.
47. The out-turn maintenance costs will be influenced by a number of factors, including for example, standard of service, manner by which services are provided, economic climate, specification standards for installed assets, access limitations, and asset criticality. We have therefore made assumptions based upon the characteristics and use profile of the facility to arrive at best estimates which can inform future indicative budgets.
48. Due to the small physical size of the facility it is not considered economically justified for any full-time dedicated technical resource to be employed. The delivery of Maintenance services will therefore be through attendance for planned and reactive tasks. We have assumed a Planned Preventive Maintenance (PPM) regime inclusive of Statutory & Mandatory tasks and a preventive regime suitable to maintain asset reliability and functionality as per manufacturers recommendations / industry best practice (e.g SFG 20) and facility use. The delivery of Maintenance services is therefore assumed as entirely through a remote methodology which will require to be managed and co-ordinated accordingly.
49. The PPM programme will be determined based upon asset composition and will require regular site attendance for execution. It is noted that certain PPM tasks such as weekly testing of the fire alarm may be capable of being performed by East Ayrshire Council site staff which would mitigate PPM contractor costs. A review of these activities would be undertaken in determining the final PPM delivery methodology.
50. The Maintenance service includes for management and maintenance of outdoor features and surfaces which within the facility must provide a safe environment for the children attending. This is to be managed by school staff and the Caretaker with contractor attendance at regular frequencies to ensure ongoing safe use. The characteristics of the proposed outdoor space are considered to present a marginally higher requirement for the required management and maintenance tasks compared to traditional pre-school grounds, however this is not considered to be material. The necessary tasks are considered to be capable of straightforward execution to support the utility of the external environment and associated facilities.

## Cost Profile

51. The cost profile for Maintenance services are considered generally consistent over the 50 year study period. Reactive costs may present some small increase to requirements as time progresses however liability for construction defects and the provisions within the Life Cycle allowances are scheduled to substantially mitigate these requirements.
52. To align with the SFT model calendar year format costs for year 1 costs have been assumed as 33% of an annual total and what will be calendar year 51 is estimated as 66%.

53. The cost allowances for the study period totals £705,155 (2Q2019), with the profile of expenditure indicated below:



## Life Cycle Replacement Costs

### Scope

54. Life Cycle costs include for major asset replacements, refurbishment, redecoration, and scheduled replacement.

55. The BCIS components considered within the SFT Whole Life Appraisal model are identified below:

#### Superstructure

- Roof
- External Walling
- Windows & External Doors

#### Internal Finishes

- Floor
- Wall
- Ceiling

#### Fixtures and Fittings

##### M&E Services

- Sanitary
- Water
- Heating
- Electrical
- Fire
- Communications
- Lifts

##### External Works

- External features
- Surfaces
- Fencing & Gates
- Roads & Pavings



56. East Ayrshire Council have advised of the requirement for network switches and Wi-Fi equipment, along with IT equipment of personal computers, iPad tablets, laptops, and smart boards.

## Basis for Costings

57. The study period is 50 years (assumed to be academic years), commencing 2020-21 and continuing to 2069-70. The SFT model identifies costs by calendar year so the scheduled costs extend to a 51 year programme.
58. Life Cycle allowances have been derived using the industry recognised technique of establishing these from capex values within the Stage 4 Cost Plans, with allowances for anticipated renewal activities tabled within the BCIS headline and sub cost categories presented. For any East Ayrshire Council additional items, the arrangements for provision and replacement have also been advised and incorporated accordingly.
59. The design has been developed to Stage 4, and all renewal tasks and costs are assumed upon typical replacement activities advised within BCIS and industry / manufacturer guidance. The estimated cost provisions should be reviewed during the operating period to ensure activities and associated cost allowances remain aligned with ensuring the facility remains serviceable.
60. Life Cycle activities will be undertaken commensurate with anticipated individual asset renewal requirements. These will occur at various frequencies throughout the 50 year term involving partial / whole / multiple asset renewals, and the allowances within the SFT model are based upon a fully sustainable maintenance regime with component replacement frequencies supported by the PPM programme in operation.
61. Due to the disruption to the facility from particular asset renewals it is assumed that some works activities would be grouped and scheduled for execution within specific periods to minimise facility disruption or temporary unavailability, and as such the programme for actual works packages will be subject to definition in use. This approach has been included for within the scheduling of allowances within the SFT model.
62. It is recognised that the management of Life Cycle works will entail additional management activities by East Ayrshire Council and we have allowed a nominal 20% of works value within the Estate / Property Management allowances within Operation & Occupancy costs for this requirement.

## Superstructure

63. Allowances for Superstructure include Roof, External Walling, and Windows and Doors as indicated below. The collective cost allowance for these items is included at SFT WLAT model ref Option A Tab H154.

## Roof

64. The roof on the building is a pitched design incorporating skylights. Roof covering is an aluminium sheet with life expectancy (according to published guidance) of approximately 35-45 years. Minimal maintenance only is anticipated to areas such as flashings / trims, rooflights and rainwater goods, throughout the anticipated life expectancy with no notable renewals prior to full replacement.
65. The life expectancy of such materials may in reality be sufficient to last the 50 year review period, however typical data indicates replacement will be required during the term. We have scheduled full replacement at year 40. Allowances are contained within SFT WLAT model ref Project Input Tab H154.

## External Walling

66. The external wall covering allowed for from the design and cost plan is Marley Eternit with life expectancy (according to published guidance) of approximately 50 years. Minimal maintenance only is anticipated to areas such as flashings and trims throughout the anticipated life expectancy with no notable renewals during the project term. This specification is an improvement on the reference design which required a full wall cladding replacement at year 40.
67. The life expectancy of such materials may in reality be sufficient to last the 50 year review period, however typical data indicates that minor element replacement will be required during this term. We have scheduled an allowance for selective replacement of trims and flashings at year 40 to align with window replacement activities. Allowances are contained within SFT WLAT model ref Project Input Tab H154.

## Windows and Doors

68. The window and external doors are specified of a sufficient standard to require minimal maintenance and renewal requirements, with a BCIS life expectancy of 40 years assumed. The allowances below are included in SFT WLAT model ref Option A Tab H154.
69. External doors are recognised as enduring a high level of utilisation and we have allowed for a 5 year programme of overhaul and component renewal commencing in year 11.
70. A full replacement of windows and external doors is scheduled for year 40 supported with selective cladding component replacements.
71. An allowance is made at 18 year intervals for selected internal door replacements within SFT WLAT model ref Option A Tab H154. Ironmongery renewals allowed for within the General allowance within SFT WLAT model ref Option A Tab H161 or if prior to these provisions as a reactive task within Maintenance allowance within SFT WLAT model ref Option A Tab H141.

## Finishes

72. Allowances for Finishes include Walls, Floors, and Ceilings as indicated below. The collective cost allowance for these items is included at SFT WLAT model ref Option A Tab H155.
73. The Finishes component of the Life Cycle provisions is typically a significant area due to the magnitude of cost associated with the tasks and multiple frequencies occurring over the project term.
74. We assume that the final design choices selected for the project for finishes elements will ensure appropriate durability within the selection process.
75. Internal wall finishes comprise a predominantly painted interior with areas of wet wall and the use of IPS within washrooms.
76. We have assumed that it will be sufficient for general redecoration to take place on a 9 year cycle to maintain aesthetic appearance, supported by selected redecoration to more intensive impact areas on an annual basis.
77. An allowance for wet wall covering materials replacement is made at year 26.
78. Floor finishes are to be a combination of carpet and vinyl coverings. The use of the facility by pre-school children would suggest a low impact upon floor finishes however the integrated use of external areas may place the internal flooring at increased risk of debris such that a management protocol is anticipated. Within the allowances for renewal of floor finishes we have allowed for regular replacement of barrier mats on a year 6 frequency, 50% of carpet finishes on a 6 year cycle, and 50% of vinyl on a 6 year cycle commencing year 12.
79. Ceiling finishes, where painted, would be redecorated at the 9 year frequency. Ceiling tiles are anticipated as subject to some use for services access throughout the term but to remain generally serviceable. It is unrealistic to consider the ceiling tiles and grid to remain fully serviceable and aesthetically acceptable for the 50 year term and so a full replacement has been allowed at a latter redecoration cycle at year 30.

## Fixtures, Furnishings & Equipment

80. General fixtures and furnishings renewals for the project are not anticipated as extensive and will have their own bespoke life expectancy for which a general Life Cycle allowance has been made based on typically anticipated use and age deterioration. We have allowed 3% of capital cost allowance at annual intervals commencing year 5 for general FF&E replacement based upon condition.
81. Specific allowances for bespoke joinery replacements are made at an 18 year cycle.
82. Specific allowances for kitchen equipment replacements are made at an 8 year cycle.
83. Specific allowances for blinds and curtain replacements are made at an 6 year cycle.
84. Specific allowances for signage replacements are made at year 30.
85. We have assumed all fixtures and furnishings will be subject to regular maintenance in order to ensure life expectancies are achieved.
86. Allowances are contained within SFT WLAT model ref Option A Tab H156.

## Services Elements

87. The Services elements include mechanical, electrical, and sanitary appliances, with these categories presenting the largest impact on Life Cycle within the constructed asset. Services elements are also the most critical to the building's functionality. Services within the facility will be maintained by a combination of asset renewal and regular maintenance within an appropriate maintenance regime by East Ayrshire Council to support Life Cycle allowances.
88. The single lift installation is considered an important factor for full use of the building facilities and to support accessibility obligations of the Disability Discrimination Act 1995. We have assumed a suitable PPM and reactive maintenance strategy, and within Life Cycle have allowed for significant overhaul at 10 year frequencies with full replacement at year 30.
89. Heating systems Life Cycle renewals are recognised over the term with heat source and associated component renewals allowed for. BCIS guidance and benchmarks indicates a 15-20 year life expectancy for boilers and we have allowed for 2 no. boiler replacements at a 18 year frequency over the term.
90. Electrical system infrastructure providing power and lighting is assumed to be substantially serviceable for the 50 year term however an annual allowance for general component renewal commences at year 10.
91. We note the absence of Photo Voltaic panels within the Stage 4 cost data.
92. Security system component replacements are anticipated and an allowance at 5 year frequency is made commencing year 9. Technical obsolescence is recognised as a major factor to system maintenance and allowances should be monitored over future years for system requirements.
93. Access control system component replacements are anticipated and an allowance at 5 year frequency is made commencing year 9. Technical obsolescence is recognised as a major factor to system maintenance and allowances should be monitored over future years for system requirements. Small items with premature failure will be addressed within the Maintenance budget.
94. CCTV replacements for cameras and control equipment will be required and an allowance at a 10 year frequency is made. Technical obsolescence is recognised as a major factor to system maintenance and allowances should be monitored over future years for system requirements. Small items with premature failure will be addressed within the Maintenance budget.
95. Fire alarm system component replacements are anticipated and an allowance at 15 year frequency is made for panel renewal. Technical obsolescence is recognised as a major factor to system maintenance and allowances should be monitored over future years for system requirements. Small items with premature failure will be addressed within the Maintenance budget.
96. Sanitary Appliances / Fittings and Water installations include for general facilities within the building. We have made an annual allowance for general renewals commencing year 10. Small items with premature failure will be addressed within the Maintenance budget.
97. We have made an annual allowance for general renewals to external lighting at a 12 year cycle. Small items with premature failure will be addressed within the Maintenance budget.
98. Allowances are contained within SFT WLAT model ref Option A Tab H157.

## Externals

99. External play areas form a key component in the design, and the multi-surfaces and variety of items located within this area need to be carefully maintained to ensure a safe environment. In addition to the PPM regime we have allowed for partial renewals to surfaces and landscaping on an annual basis from year 3, with a 9 year cycle for more significant renewals of features and surfaces.
100. Replacement works to fencing and gates has been allowed for at year 27 as a mid term activity.
101. Paths and paved / car parking areas have an indicative renewal schedule ranging to 50 years, dependant on a range of use factors. An allowance has been incorporated for surfacing renewals within year 40. Relining of car parking and other surface markings has been allowed for at a 12 year frequency. It is assumed that Maintenance budgets will manage any earlier specific replacements.
102. Allowances are contained within SFT WLAT model ref Option A Tab H158

## General Allowance

- 103. In addition to the specified allowances above a general allowance has been made for the increased component renewals anticipated from year 5 onwards. This allowance increases from £500/yr (years 5-9), £1000/yr (years 10-19), £1500/yr (years 20-29), to £2000/yr (years 30-50).
- 104. Allowances are contained within SFT WLAT model ref Option A Tab H161.

## Network Switches and Wi-Fi

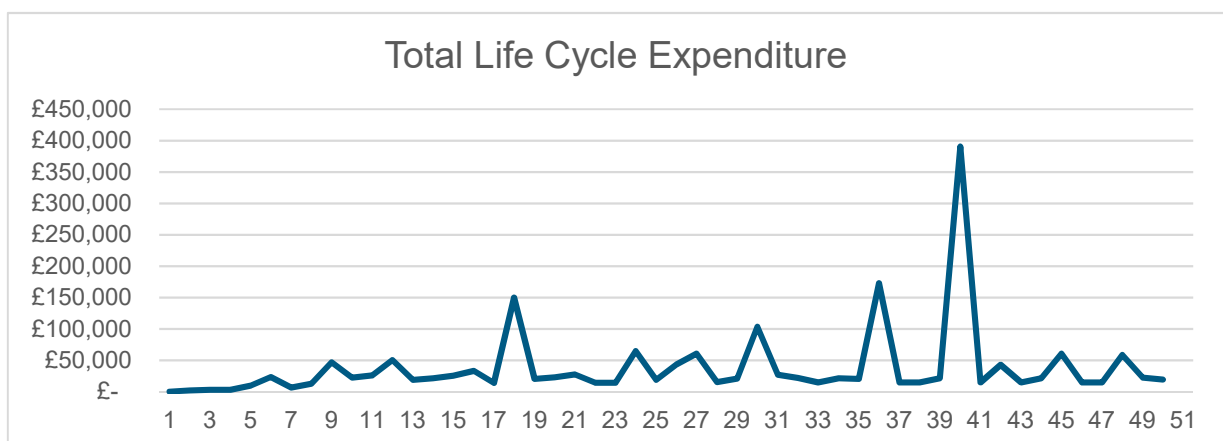
- 105. East Ayrshire Council network and Wi-Fi requirements additions have been modelled separately. Network switches and Wi-Fi equipment renewals are allowed for on a 6 year cycle.
- 106. Allowances are contained within SFT WLAT model ref Option A Tab H162.

## Educational IT equipment

- 107. East Ayrshire Council IT additions have been modelled separately. Renewal of IT equipment of personal computers, iPad tablets, and laptop on 7 / 5 / 6 year respective frequency, and smart boards are allowed for on a 9 year programme of replacement.
- 108. Allowances are contained within SFT WLAT model ref Option A Tab H163.

## Cost Profile

- 109. The total value of Life Cycle expenditure over the 50 year term is estimated as £1,898,734 (2Q2019).
- 110. The profile of overall expenditure for Life Cycle determined by the allowances identified above is as follows:

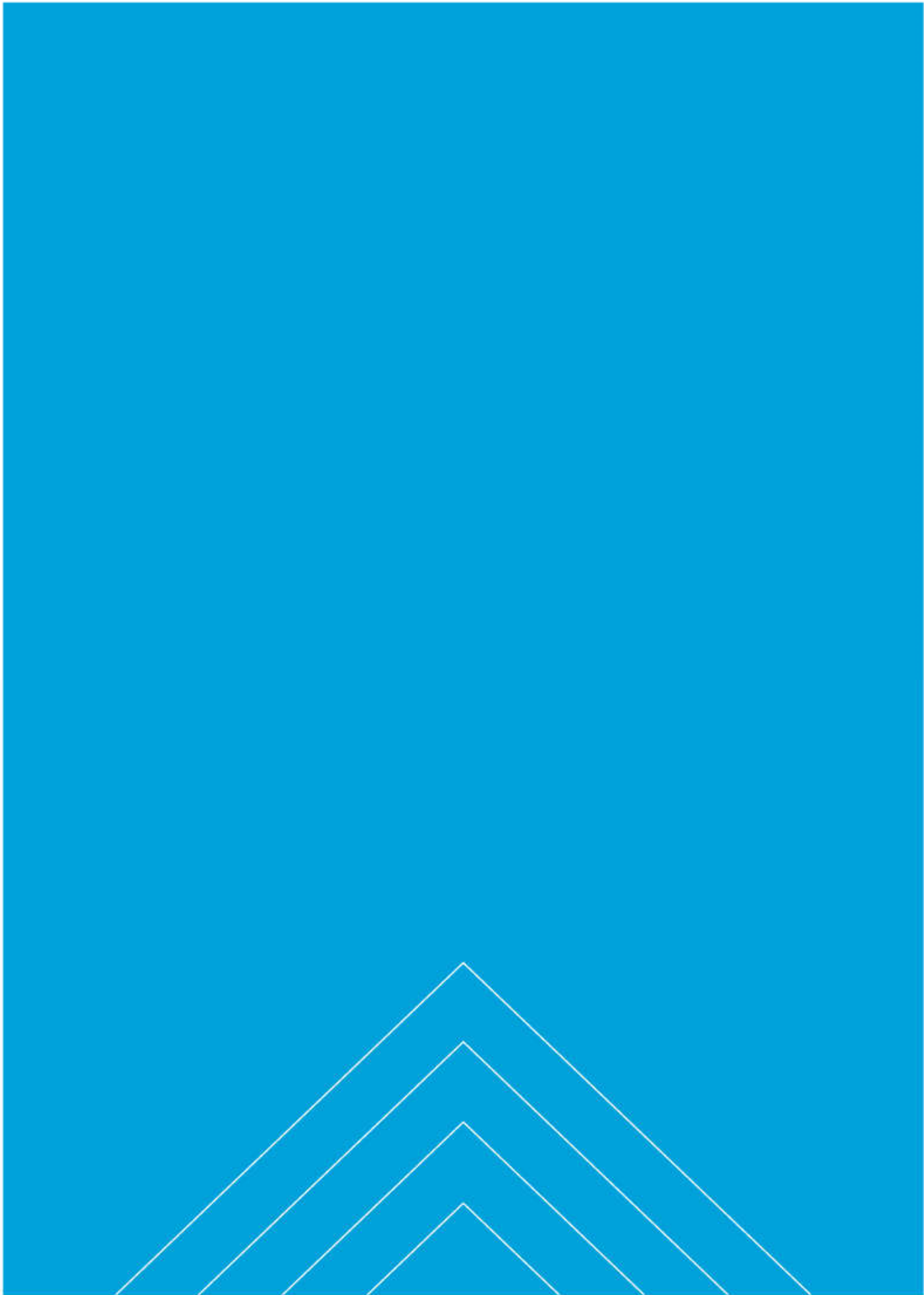


## Disposal Costs

- 111. There are no Disposal Costs identified.

## Income

- 112. There are no Income Costs identified.



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