

Structural Report - Mayfield Primary School and St Luke's Primary School**Report by: Kevin Anderson, Executive Director - Place****Report for Decision****1 Recommendations**

It is recommended that the Council:

- i. Notes the findings of structural Engineers, Will Rudd Associates, following their inspection and the actions taken to make safe the buildings.
- ii. Note the recommendation for the installation of remedial steel channels on one internal stair elevation; the east Tower block at Mayfield PS, as most recently installed on the west elevation.
- iii. Notes the continued requirement for protective measures to remain in place for the remaining life of the building and the need to regularly monitor these to ensure they remain correctly positioned as effective safety barriers.
- iv. Notes and approves the expenditure incurred to date £36,589.98 and the ongoing cost of scaffolding and protective measures are £ 497.00 plus VAT per month equating to £5,964.10 plus VAT p.a. These measures will need to remain in place for the remaining life of the school and budget provided for accordingly.
- v. Notes the option to install alternative protective measures around low level windows allowing the removal of some Heras fencing and the release of that playground space.
- vi. Approve a supplementary estimate of £0.060 million in 2023/24 to meet the remedial and ongoing costs as detailed in section 4.1.

2 Purpose of Report/Executive Summary

Mayfield and St Luke's Primary schools are scheduled to be replaced within the next 24-30 months and the conclusions and recommendations drawn reflect this limited residual life. This report seeks to summarise the findings of a non- intrusive visual condition survey into structural elements of Mayfield Primary School and St Luke's Primary School following an incident of falling masonry, and set out actions taken to make the building safe as possible for its remaining expected life span.

Date 15 June 2023**Report Contact:**

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3 Background/Main Body of Report

- 3.1** Following a report of a section of concrete masonry having fallen into the playground area at Mayfield Primary School consultant surveyors and engineers were engaged to inspect the building and recommend immediate action. Specific areas of risk were identified and protective scaffolding put in place to safeguard against potential risk of further masonry falling on building users and visitors. The perimeter of the building was fenced off to create an exclusion zone until further investigations could be undertaken.
- 3.2** These further investigations took place during the week of the 13th February 2023 when the school was on half term break. The engineering inspection team were supported by concrete repair specialists and a team of contractors who were directed to undertake physical 'tap' hammer testing of the structure and where appropriate remove any further loose or failing sections identified.
- 3.3** The Mayfield and St Luke's Primary School campus is typically single storey in construction with the exception of two tower blocks. The tower block to Mayfield Primary School has 12 classrooms spread over three floors (4 on each). The St Luke's PS tower block comprises of eight class rooms over two floors, again four on each. The buildings are deemed to be of loadbearing brickwork construction with in- situ ground bearing floor slab and suspended concrete floor slabs and reinforced concrete stairs. It is expected that the roofs are formed of a mixture of timber and reinforced concrete. Due to the nature of the survey unexposed areas were not opened up to determine the exact structural make up of these areas. The inspection and findings of the report focus on the external elements of the building which gave rise to the failures which in turn triggered the investigation.
- 3.4** The survey followed a logical order, with defined blocks being identified and each external wall given a unique four digit reference number in order to record, photograph locate any identified defects.
- 3.5** A full copy of the report and associated photographs is available in the Members Library, and what follows is a summary of the defects and recommendations in relation to each identified building block.

Note: Subsequent to the inspection, Building Maintenance Services undertook remedial repairs to address these issues and make safe these areas.

Block A – Mayfield Primary School

Main Defects Found – mainly minor spalling and cracking

Internal – Angled Façade support bolts between steel wind posts and concrete façade between 2 and 3 floors have been installed at an angle. These should be addressed in the short to medium term by a specialist contractor (NB. Ideally these works should be undertaken during the summer or autumn school holidays).

Recommendation: Continue to monitor and periodically remove any unsafe items.

Partially filled service trench – a minor residual risk of trip hazard. Action required address this.

Block B – St Luke's Primary School**Main Defects Found** – mainly minor spalling and cracking**Recommendation:** Continue to monitor and periodically remove any unsafe items.*Birds nest found behind drain pipe – further advice to be sought with regard to the seasonal timing of its removal.***Block C – Common Areas****Main Defects Found** – mainly minor spalling and cracking**Recommendation:** Continue to monitor and periodically remove any unsafe items.*Damage to glass block façade system. Requires the application of a protective membrane over affected areas to prevent hazard from further deterioration.***Block D – Library****Main Defects Found** – mainly minor spalling and cracking**Recommendation:** Continue to monitor and periodically remove any unsafe items.**Block E – Nursery****Main Defects Found** – mainly minor spalling and cracking**Recommendation:** Continue to monitor and periodically remove any unsafe items.**Block E – Nursery Temporary Units***New build structure – no defects sighted.***Block G – Sure Start Unit****Main defects***Damage to retaining wall of walkway with Corroded loose railing and displaced masonry to wall head.***Recommendation:** Temporarily restrict access. Continue to monitor and report any further/future deterioration. The walkway which was temporarily closed was subsequently reopened following these works (see Photographs Appendix B2).

The overall findings of the reports are based on the scheduled demolition and replacement of these schools within a 5 year period. It concluded that the building fabric is tired and worn commensurate with a buildings of its age. The main areas of concern relate to the clerestory windows which frame the stair case enclosures on the tower block at both schools. Based on the findings of the survey, reinforcement bars in the mullions and transoms of these windows are in an advanced state of decay, caused by the expansive corrosion of the internal ferrous metal reinforcement bars.

3.6 Contingent with the survey, a construction team were engaged and worked under the direction of the engineers to undertake necessary remedial measures. This included tap testing the structural concrete areas of the two tower structures (and removal of loose or unstable materials), clearing out and repairing gutters and soffits, removing historic anti climb spikes.

3.7 Loose glass fragments were removed from glass blocks and sharp edges made safe on the outer side only as inner side not broken and adhesive film

applied to the outer surface. In addition window netting protection was installed on 6 windows on the St Luke's PS tower allowing a previously closed pathway (for safety reasons) to be reopened. See Appendix B1 for a summary photograph of treated areas and a summary of the daily actions undertaken by the survey/contract teams during the period of the survey.

- 3.8** In addition to the Structural Survey work a condition survey was commissioned in respect of the whole building which identifies and prioritises backlog maintenance issues. This report is based on the assumption of a continued long term use of the school.
- 3.9** A number repairs are identified as being required to be undertaken within 1 year due to the remaining effective life of the identified components. The total budgeted cost of these repairs is estimated at £14,397.00. Ideally these repairs should be implemented during the specified period. If the works are not undertaken the areas should be subject to regular review to assess the ongoing condition given the proposed replacement of the building.
- 3.10** One area that is of concern is the uneven slabs in the playground area which represent a trip hazard. This is an area of 2541 square meters. It is recommended that in relation to the remaining expected lifespan of the current school, repair or rebidding works are undertaken in order to address the trip hazards.

4 Report Implications

4.1 Resource

Costs, as outlined in the table below, have been incurred in the current financial year on an emergency health and safety basis, or will be required during the remainder of the year to support further essential work. Budget for these costs is not included in approved budgets thus will require a supplementary estimate to fund them. Ongoing costs relating to future years will be incorporated in Medium Term Financial Strategy projections.

Works to Mayfield PS			
	Item	Sub total	Total
1. Install structural steelwork to brace the existing concrete mullions in east stairwell.	£4,642.00		
2. Install net protection screens to openings on North & South elevations of 3 storey section. (17nr)	£6,193.00		
Recommended Structural Survey Remedial Works			
Works to Assembly Hall			
1. Remove temporary OSB repair and deteriorated timber fascia and soffit to south elevation; remove and cut back all rotten timbers. Install new timber fascia and soffit, allowing for new timber framing as required. Decorate using exterior grade gloss paint.	£1,687.00		
2. Allowance for the clearing of downpipe and remedial repairs to gutter lining and outlet	£850.00		
Miscellaneous			
1. Allow for 1 week hire of MEWP for access	£725.00		
2. Allowance for scaffold tower	£300.00		
Works to Mayfield PS		£10,835.00	
Works to Assembly Hall		£2,537.00	
Miscellaneous		£1,025.00	
TOTAL			£14,397.00
Works Undertaken During Survey on an emergency H&S basis			
Professional Survey Investigation			£26,800.00
Reactive/ makesafe works			£6,367.50
Concrete Specialist Analysis			£3,422.48
TOTAL			£36,589.98
Ongoing Cost			
Scaffolding Hire	per mth	£497.00	
Per Annum Equivelent			£5,964.00
Annual Concrete Inspection Allowance			£2,000.00
TOTAL			£7,964.00

4.2 Digital

Not applicable

4.3 Risk

Note: The issues identified and works undertaken were to address these immediate safety issues and consultants subsequently advise

that with regard to the external masonry, facias and glass blocks the building is safe.

It is essential that the protective scaffolding fans at the base of the towers remain in place for the protection of building users and that these areas are subject an annual inspection to identify any areas of further deterioration and treatment that may be required.

Similarly the protective Heras fencing which provides an exclusion zone around the building should remain in place and as positioned. This will be monitored on a regular to ensure this remains the case. At present this is impacting on the usable area of playground. Engineers have advised that a medium term solution to be considered which may allow removal of some of this fencing would be to install protective netting around the windows in these areas as has been installed at St Luke's PS (See Appendix C). This would require additional budget but would return play space to the school.

4.4 Ensuring Equalities (if required a separate IIA must be completed)

Not applicable.

Appendix A: Report Implications

A.1 Key Priorities within the Single Midlothian Plan

Not applicable.

A.2 Key Drivers for Change

Not applicable.

A.3 Key Delivery Streams

☐ One Council Working with you, for you

☒ Preventative and Sustainable

☐ Efficient and Modern

☐ Innovative and Ambitious

☐ None of the above

A.4 Delivering Best Value

The report does not directly impact on Delivering Best Value.

A.5 Involving Communities and Other Stakeholders

No external consultation has taken place on this report.

A.6 Impact on Performance and Outcomes

There are no issues arising directly from this report.

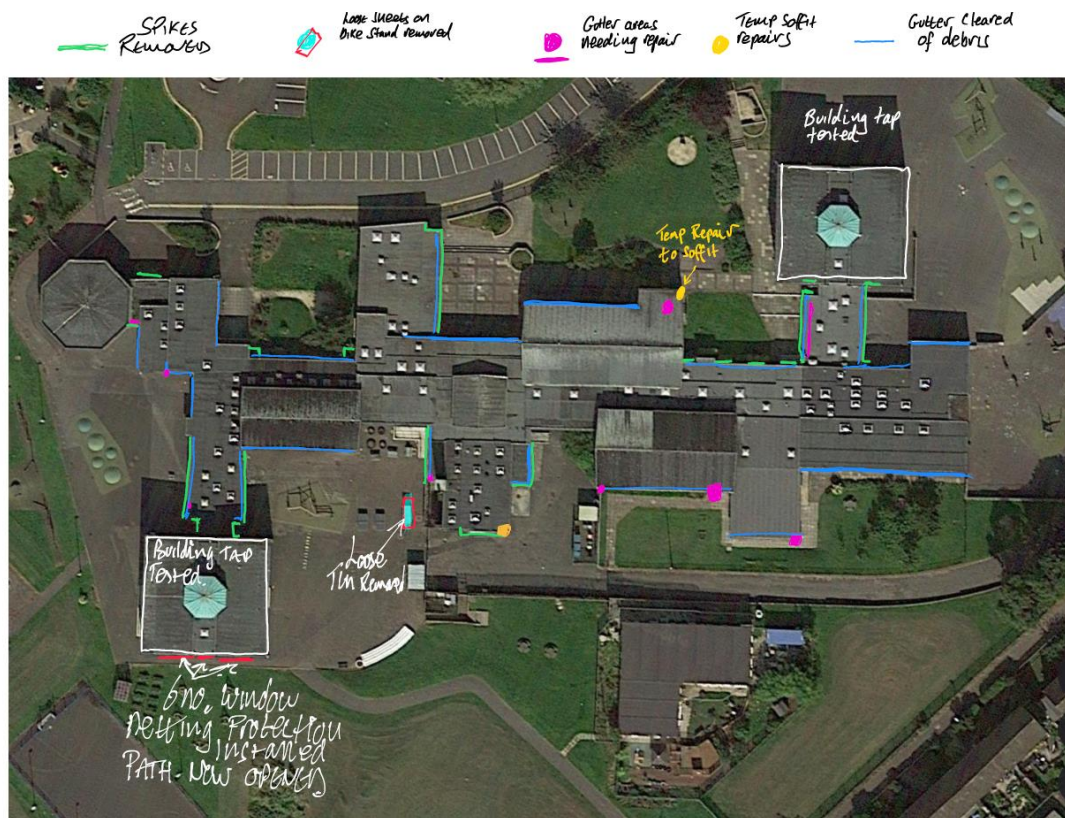
A.7 Adopting a Preventative Approach

Not applicable.

A.8 Supporting Sustainable Development

Not applicable.

**Appendix B –
Aerial Photograph summarising locations of works carried out during survey**



Appendix B2



Remedial works undertaken by Building Maintenance Services in conjunction with

Halston Engineering to address the loose wall-head, cracking in the retaining wall and loose railings identified during the structural survey.



Appendix C –

example of protective netting



Slabbed playground area



Timber fascia

