



SURVEY

Clarence Place

Masonry Façade Survey August 2023

REF 23108-PAYE-CPS-001





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Executive summary

Clarence Place

The external masonry, painted Bath stone, rendered Kent Rag, rendered brickwork is in an on-going deteriorating condition. There does not appear to have been any maintenance or repairs carried out in recent years. Repairs that have been undertaken are of low quality and failing.

There has been extensive use of cement-based mortar to repair Bath stone embellishments, copings, stringcourses, window surrounds and quoins. These repairs have or are now failing and de-bonding from the stone substrate. Masonry beneath the repairs is depleted, loose and friable.

Use of incompatible cement-based mortar repairs will have the potential to cause further damage to stonework, restricting the migration of moisture will cause depletion of masonry leading to breakdown of adhesion and eventual detachment and loss. Mortar repairs do not provide any structural integrity and should be limited to reinstatement of lost profile where required to re-define architectural detailing.

Mortar repaired weathering courses ideally should be lead capped to provide sufficient protection. Possible use of a non-microporous paint is contributing to the failure and continued deterioration of the stonework

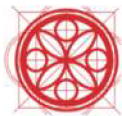
Re-painting mortar repairs and or exposed stonework where necessary should be carried out using a microporous paint and regularly maintained.

There are open continuous fractures through render in various locations. Recommend carrying out a tap test survey and consultation with a structural engineer to inspect exposed structural fractures affecting substrates.

Kent Rag stone may require repair and replacement where exposed following removal of de-bonded render. In the event wholesale removal of render is necessary consideration could be given to leaving the Rag stone exposed.

Rooted vegetation is causing masonry to become unstable; joints are open with loose friable pointing. Comprehensive removal of vegetation is recommended to help de-risk structural failure of masonry.

The development of an effective Planned Preventative Maintenance strategy including a 5-10-year cycle of surveys is recommended following completion of the masonry works to maintain the fabric and long-term integrity of external masonry and helping to reduce the frequency and cost of future possible repair.



Introduction

PAYE Stonework were instructed to undertake a ground level survey of existing external masonry at Clarence Place. The survey was carried out on the 1st August 2023. The weather was dry and sunny.

This report identifies façade deterioration / defects and comments on potential causes. The report does not provide comment on the structural capacity of masonry. The façade condition survey focuses on the following external areas:

- Facing render and painted Bath stone embellishments windows, sills, string course, copings
- Damage and deterioration of stonework due to use of cement-based mortars.
- Fracturing of masonry

The areas of survey include accessible elevations at the time the survey was undertaken. Within the report photographs have been given a reference ELEVATION-PHOTO#.

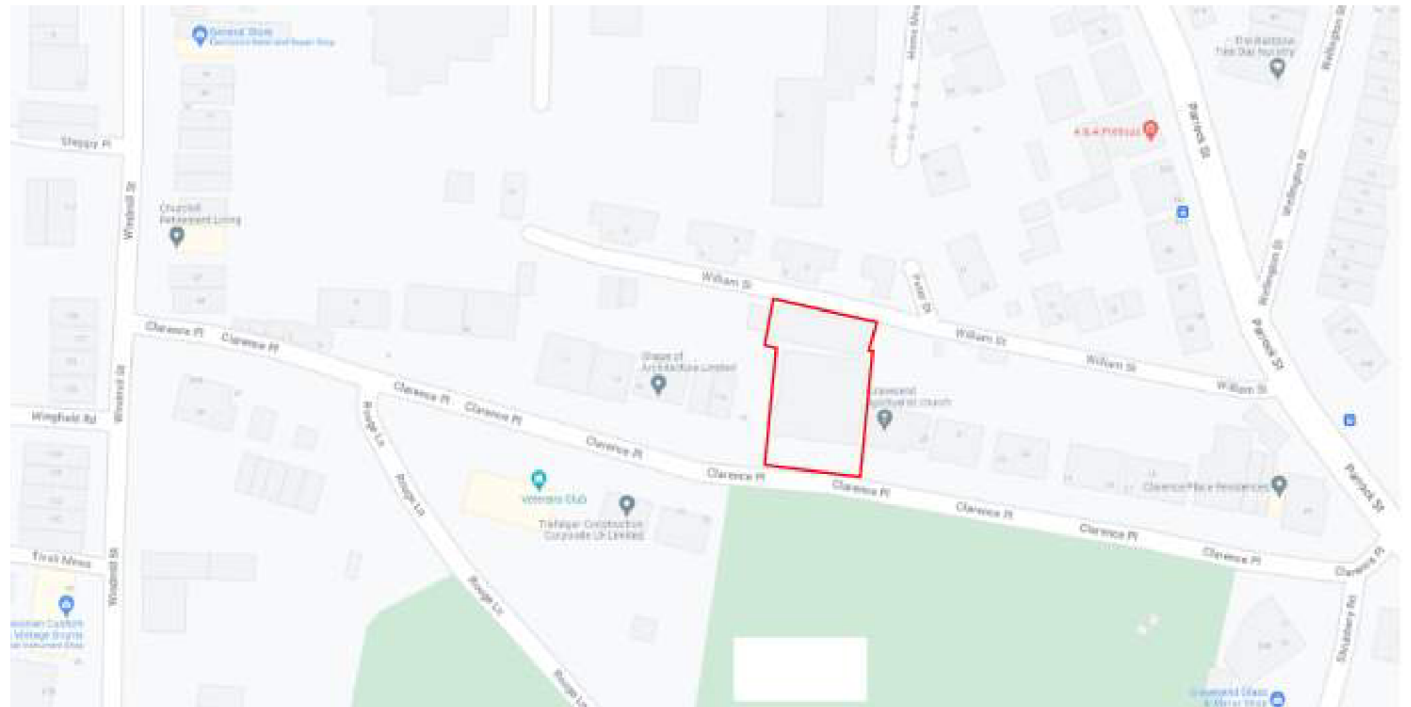
The repairs have been given a Risk Rating of Red, Amber, Green with the definitions for each category described in the table provided.

PRIORITY CODES FOR REPAIRS (1-4)	CONDITION (A-D)
GREEN	Aesthetic defect which affects the visible appearance of the building. Remedial works at the discretion of the design team.
AMBER	Defect has an impact on the buildings ability to shed rainwater and maintain weathertightness . Visible or structural damage which is likely to deteriorate in the next 3-5 years if no action is taken. Remedial works should be programmed as soon as possible.
RED	Defect which has a direct impact to health and safety of building occupants and the public. Defect highly unstable and likely to deteriorate within 1-3 years. Remedial Works are necessary and should be undertaken immediately.



Location

Clarence Place
Gravesend
Kent





Historical Context

Historic records state Clarence Place was built in 1874.

Fig.1 shows the building in its original built form constructed using Kent Rag stone walling and Bath stone dressings, copings, window and door surrounds, stringcourses. Use of Aberdeen granite for main entrance columns.

Surviving as a church for 80 years it closed in 1952/3.

In 1955 it was bought by a commercial company and converted into a warehouse. Fig.2

During this phase extensions were added to the side and alterations carried out to entrances. The building was unrendered at this time.

The business vacated the building in 1963 and became a Sikh Temple in 1968, further side extensions were added in 1974



Fig.1



Fig.2



Observations: Record Photographs

Front elevation

Finial damaged and fractured. Recommend further inspection to verify stability. Remove, repair/replace to de-risk potential detachment and damage.

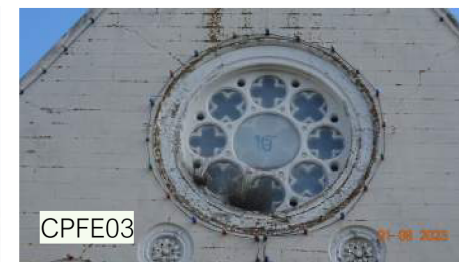
PHOTOS: CPFE01-01a

RISK: RED

De-vegetate to prevent further damage to masonry. Cut back loose, de-bonded mortar repairs from string course, window surrounds and roundels.

Drill in stainless steel reinforcement where necessary to provide added support. Reform original profiles using lime-based mortar.

Consideration given to alternative use of new natural stone indents for a long-term repair solution.



PHOTOS: CPFE02-05, 07-09 RISK: AMBER/RED



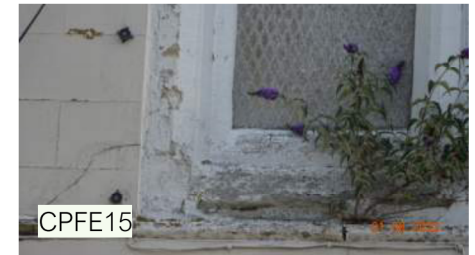
Observations: Record Photographs

Front elevation

De-vegetate to prevent further damage to masonry.
Cut back loose, de-bonded mortar repairs from string course and window surrounds.

Drill in stainless steel reinforcement where necessary to provide added support. Reform original profiles using lime-based mortar.

Consideration given to alternative use of new natural stone indents for a long-term repair solution.



PHOTOS: CPFE10-18

RISK: AMBER/RED



Observations: Record Photographs

Front elevation

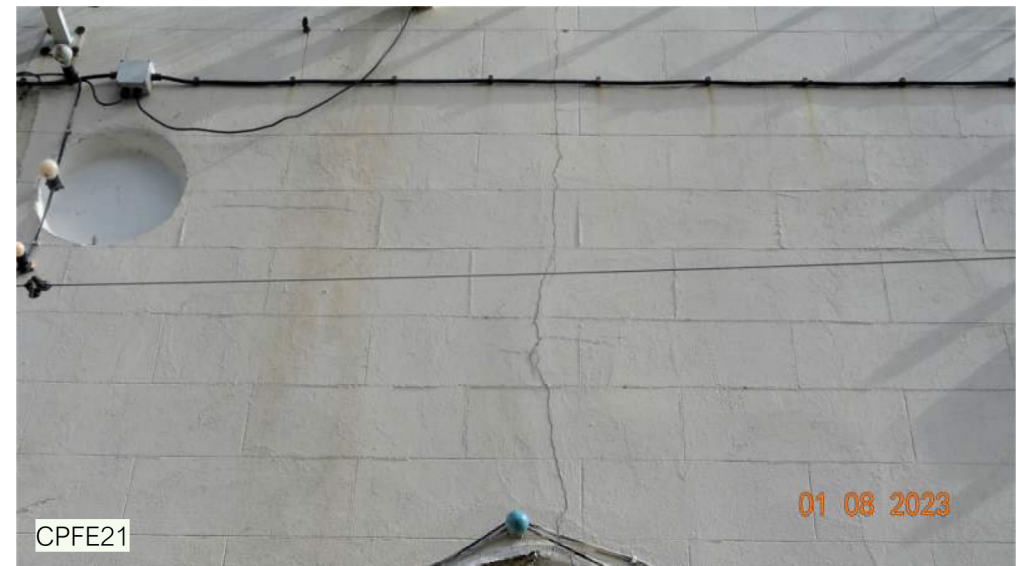
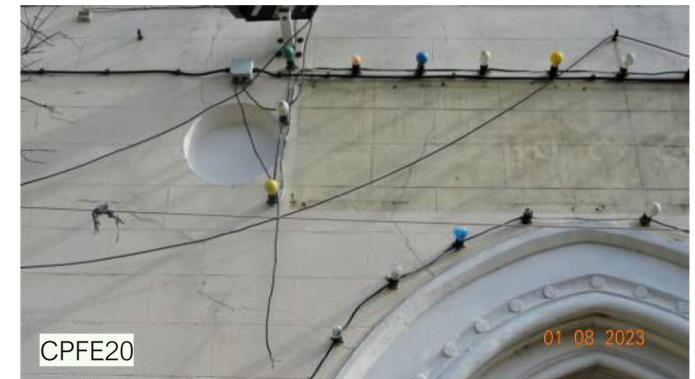
Open continuous fractures through render. Carry out a tap test survey, remove loose, de-bonded back to a sound substrate and re-render as necessary.

Recommend structural engineer consultation to inspect exposed structural fractures affecting substrates.

Historic photographs show Kent Rag stone was used to construct the walls of the church that was never intended to be rendered.

It is assumed this still exists beneath the render. Use of cement-based render may inhibit the migration of moisture through the facade.

Consideration given to removing render, repair and re-point Rag stone and leaving exposed.



PHOTOS: CPFE19-20

RISK: AMBER/RED



Observations: Record Photographs

Front elevation

Cut back loose, de-bonded mortar repairs from quoins and column bases.

Carefully defrass loose, friable stonework from carved column capitals

Drill in stainless steel reinforcement where necessary to provide added support. Reform original profiles using lime-based mortar.

Consideration given to alternative use of new natural stone indents for a long-term repair solution.

Aberdeen granite columns have been painted black.

Consideration to removing paint and restoring columns back to their original appearance.

PHOTOS: CPFE22-27

RISK: AMBER/RED





Observations: Record Photographs

Front elevation

Cut back loose, de-bonded mortar repairs from string course and window surround. Failed mortar repair has exposed the original Rag stone beneath the render.

Reform original profiles using lime-based mortar.

Consideration given to alternative use of new natural stone indents for a long-term repair solution.



PHOTOS: CPFE28-30 RISK: AMBER/RED

Original Rag stone is in a deteriorating condition. Surface stone is loose and friable, sections have been excessively eroded and are undercutting masonry above.

Defrass loose, friable stonework, cut out and replace heavily eroded stonework, rake out and re-point loose, missing pointing using lime mortar.



PHOTOS: CPFE31-32 RISK: AMBER/RED

Encaustic tiles are in reasonable condition with minor damage. Consideration given to lifting, subject to adhesion, salvage and re-use.

PHOTOS: CPFE33-34 RISK: AMBER





Observations: Record Photographs

Left elevation

Remove and replace damaged, defective apex stone with new stone apex.

Remove damaged stone copings and replace with new.

Cut back loose, de-bonded mortar repairs from band course, string course and window surrounds.

Drill in stainless steel reinforcement as required.

Reform original profiles using lime-based mortar.

Consideration given to alternative use of new natural stone indents for a long-term repair solution.



PHOTOS: CPLE01=09

RISK: AMBER/RED



Observations: Record Photographs

Left elevation

Cut back loose, de-bonded mortar repairs from window sill

Drill in stainless steel reinforcement as required.
Reform original profiles using lime-based mortar.

Consideration given to alternative use of new natural stone indents for a long-term repair solution.

PHOTO: CPLE10

RISK: AMBER/RED

Open continuous fractures through render.
Carry out a tap test survey, remove loose, de-bonded back to a sound substrate and re-render as necessary.

Recommend structural engineer consultation to inspect exposed structural fractures affecting substrates.

PHOTOS: CPLE11-12

RISK: AMBER/RED

Damaged stone hood moulding caused by previous intervention.

Cut and square up. Drill in stainless steel reinforcement. Re-form mouldings using lime mortar. Consideration given to use of natural stone indents.

PHOTOS: CPLE13-15

RISK: AMBER/RED





Observations: Record Photographs

Right elevation

Open continuous fractures through render. Carry out a tap test survey, remove loose, de-bonded back to a sound substrate and re-render as necessary.

Recommend structural engineer consultation to inspect exposed structural fractures affecting substrates.

PHOTO: CPLRE01

RISK: AMBER/RED



De-vegetate to prevent further damage to masonry. Failed mortar repairs, loose, friable stonework. Cut back to a sound substrate, drill in stainless steel reinforcement as required. Re-form profiles using lime based mortar.



PHOTOS: CPRE02-09

RISK: AMBER/RED



Observations: Record Photographs

Rear elevation

Open continuous fractures through render. Carry out a tap test survey, remove loose, de-bonded back to a sound substrate and re-render as necessary.

Recommend structural engineer consultation to inspect exposed structural fractures affecting substrates.

PHOTO: CPRRE01,04,09-10 RISK: AMBER/RED

Failed mortar repaired, eroded copings. It is not recommended to mortar repair weathering surfaces unless protected by lead capping. Recommend replacing damaged coping with new. Recommend further survey of all copings, remove and replace as necessary.

PHOTOS: CPRRE02-03 RISK: AMBER/RED





Observations: Record Photographs

Rear elevation

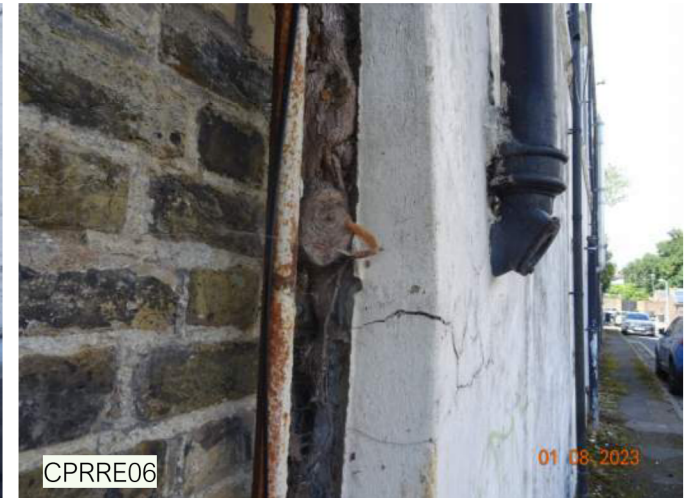
Displaced, de-bonded render, possible damage to brickwork . Caused by deep rooted vegetation.

Cut back render to expose brickwork. Deconstruct as required to remove roots and repair brickwork. Re-render to original profile. Recommend structural engineer consultation to inspect exposed structural damage for comment and repair specification.

PHOTO: CPRRE05-06 RISK: AMBER/RED

De-vegetate to prevent further damage to masonry. Failed mortar repairs, loose, friable stonework. Cut back to a sound substrate, drill in stainless steel reinforcement as required. Re-form profiles using lime-based mortar.

PHOTOS: CPRRE08-09 RISK: AMBER/RED





Recommendations:

Carry out a tap test survey of existing render applied over historic Rag stone. Remove loose, de-bonded render and re-render as necessary.

Undertake further investigation and structural engineer consultation of exposed fractures that have damaged substrates following removal of render.

The external facades of the original church building were built using course Kent Rag stone which is assumed remains beneath the render. In the event the render is found to be largely unstable consideration could be given to complete removal to leave the Rag stone exposed. A full assessment of its condition would need to be carried out in order to determine the extent of repair and re-pointing required.

Extensive use of incompatible mortars to repair stonework has caused further deterioration and depletion of masonry leading to failure and loss of the repair. Where mortar repairs are carried out it should be with a mortar that is compatible with the substrate. Substrates first need to be sound and not in an ongoing deteriorating condition as any subsequent repair will fail.

Carefully remove failed mortar repairs, defrass loose, friable stonework. Drill in stainless steel reinforcement and re-form profiles using compatible lime mortars. Mortar repairs must not bridge joints which are to be raked out and re-pointed using lime mortar.

Consideration given to use of natural stone indents to provide a long-term repair solution.

The depletion and failure of stonework may have been contributed to by painting with a non-breathable paint which has restricted the natural migration of moisture. It is recommended that future re-painting is carried out using a microporous paint system such as Dulux Weathershield of Keim. The application of these systems may first require stripping back existing paint coats.

De-vegetate all rooted growth ensuring root systems are neutralised to prevent re-growth and potential damage and displacement of masonry.

The development of an effective Planned Preventative Maintenance strategy including a 5-10-year cycle of surveys is recommended following completion of the masonry works to maintain the fabric and long-term integrity of external masonry and helping to reduce the frequency and cost of future possible repair.



Appendix A: Schedule of Works

To follow



Façade Condition Survey. All quantities, budgets remain subject to verification from scaffolding further investigation.

Item	Typical Photo ref:	Schedule of works	Qty	Unit	Rate	£
		This schedule has been prepared using the information provided and detailed as follows: 23108-PAYE-RPT-001 - Clarence Place Façade Condition Survey Pricing Notes - To be read in conjunction with PAYE report 23108-PAYE-RPT-001 - Scaffolding, hoisting by others - All welfare, power, and water is to be provided by others. - All quantities are for budget purposes and are provisional subject to further investigation, structural engineer consultation verification and agreement of scope with the CA. - Please note any survey carried out will represent the condition of the visible external masonry only at the time the survey is undertaken and cannot be relied upon for future evaluation of repair and maintenance. Clarence Place Repairs				
1.00						
1.01		Carry out a tap test and dimensional survey of existing render. Annotate elevation drawings provided, areas of loose, de-bonded render		item		1,100.00
1.02	CPFE19, CPLE11,	A/R: Cut back loose, de-bonded render to a sound substrate. Re-render using lime based mortar. Not exceeding 30mm thick		item		28,000.00
1.03	CPFE07, CPRRE03	A/R: Remove damaged, defective copings and dispose to skips provided. Supply and fix new stone copings, bed and point up using lime mortar.	50	m	312.00	15,600.00
1.04	CPRRE02	A/R: Remove plain damaged, defective apex stone. Supply and fix new stone	1	nr	1,100.00	1,100.00
1.05	CPLE01	A/R: Remove carved damaged, defective apex stone. Supply and fix new carved apex	1	nr	3,200.00	3,200.00
1.06	CPFE01-01a	R: Remove fractured pre-cast finial. Supply and fix new finial secured using a stainless steel threaded rod		PS		3,000.00
1.07	CPFE02, CPLE05, CPRE09	A/R: Cut back loose, defective stone string course. Drill in stainless steel reinforcement. Reform profile using lime based mortar. Not exceeding 180mm girth	40	m	220.00	8,800.00
1.08	CPFE28, CPRE07	A/R: Cut back loose, defective stone string course. Drill in stainless steel reinforcement. Reform profile using lime based mortar. Not exceeding 240mm girth	15	m	236.00	3,540.00
1.08	CPFE11, CPLE13	A/R: Cut back loose, defective curved stone hood mould. Drill in stainless steel reinforcement. Reform profile using lime based mortar. Not exceeding 160mm girth	30	m	268.00	8,040.00
1.09	CPFE03a, 08,30,	A/R: Cut back loose, and friable stonework to window voussoirs. Drill in stainless steel reinforcement as required and reform profile using lime mortar.	6	m	288.00	1,728.00
		Recommend structural engineer consultation to determine structural integrity of arched windows prior to repair to confirm repair				
1.10	CPFE22	A/R: Cut back loose, de-bonded mortar repairs from quoins. Reform profiles using lime based mortar.		item		730.00

PAYE Stonework & Restoration Ltd

Clarence Place

17.08.23



Façade Condition Survey. All quantities, budgets remain subject to verification from scaffolding further investigation.

Item	Typical Photo ref:	Schedule of works	Qty	Unit	Rate	£
1.11	CPFE25-26	A/R. Cut back loose, de-bonded column base mortar repairs. Drill in stainless steel reinforcement as required. Re-form profiles using lime based mortar. Recommend consideration given to alternative repair using natural stone indents to provide long-term repair solution at ground level in a vulnerable location		item		1,092.00
1.12	CPFE31-32	A/R. Defrass loose, friable Rag stone		item		60.00
1.13		A/R. Cut out Rag stone eroded back beyond the wall line. Supply and fix new coursed pitched faced Rag stone	8	nr	192.00	1,536.00
1.14		Contingency sum for further unforeseen masonry repairs.		item		10,000.00
2.10		Preliminaries		item		15,318.00
						102,844.00

PAYE



Appendix B: Annotated Elevation Drawings

CPFE06 Open continuous fractures through render. Carry out a tap test survey, remove loose, de-bonded back to a sound substrate and re-render as necessary. Recommend structural engineer consultation to inspect exposed structural fractures affecting substrates.
Historic photographs show Kent Rag stone was used to construct the walls of the church that was never intended to be rendered. It is assumed this still exists beneath the render. Use of cement based render may inhibit the migration of moisture through the facade. Consideration given to removing render, repair and re-point Rag stone and leaving exposed.

CPFE07 Failed mortar repaired copings. It is not recommended to mortar repair weathering surfaces unless protected by lead capping. Recommend replacing damaged coping with new. Recommend further survey of all copings, remove and replace as necessary.

CPFE08-13 Failed mortar repairs, loose, friable stonework. Cut back to a sound substrate, drill in stainless steel reinforcement as required. Re-form profiles using lime based mortar. **Repaint using microporous paint to allow migration of moisture and prolong life of repair.**

CPFE19-21 Open continuous fractures through render. Carry out a tap test survey, remove loose, de-bonded back to a sound substrate and re-render as necessary. Recommend structural engineer consultation to inspect exposed structural fractures affecting substrates.

CPFE31-32 Kent Rag stone. Defrass loose, friable stonework. Rake out loose pointing and re-point using lime mortar. Recommend replacing deeply eroded stone with new rag stone to maintain integrity of the facade. Consideration given to application of a lime shelter coat to help conserve masonry

CPFE33-34 Encaustic tiles are in reasonable condition with minor damage. Consideration given to lifting, subject to adhesion, salvage and re-use.

CPFE22-30 Failed mortar repairs, loose, friable stonework. Drill in stainless steel reinforcement as required. Re-form profile using lime based mortar. Consideration given to the use of natural stone indents to provide long-term repair solution.

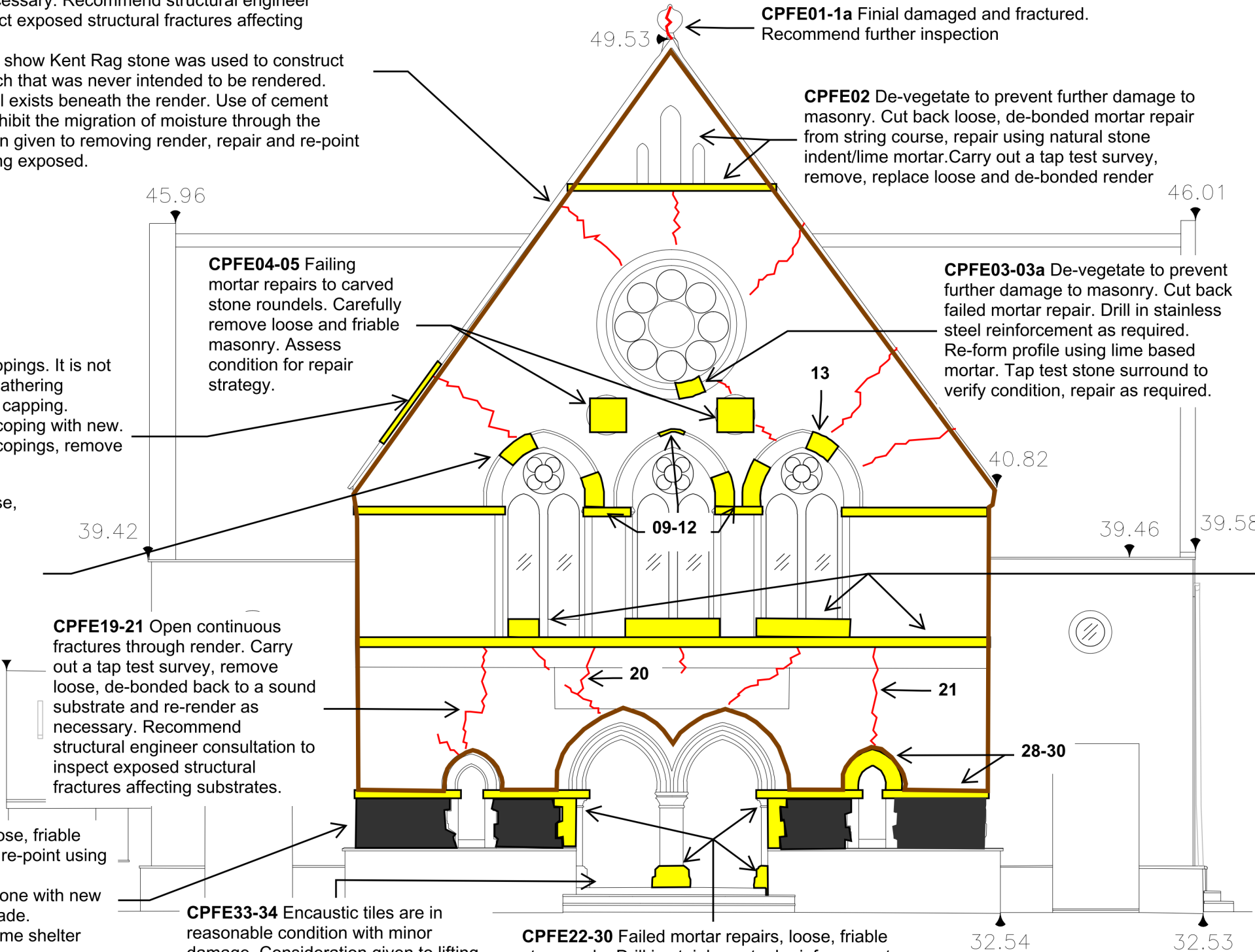
CPFE01-1a Finial damaged and fractured. Recommend further inspection

CPFE02 De-vegetate to prevent further damage to masonry. Cut back loose, de-bonded mortar repair from string course, repair using natural stone indent/lime mortar. Carry out a tap test survey, remove, replace loose and de-bonded render

CPFE03-03a De-vegetate to prevent further damage to masonry. Cut back failed mortar repair. Drill in stainless steel reinforcement as required. Re-form profile using lime based mortar. Tap test stone surround to verify condition, repair as required.

CPFE14-18 De-vegetate to prevent further damage to masonry. Cut back failed mortar repairs to string course and window jambs, mullions, sills. Drill in stainless steel reinforcement as required. Re-form profile using lime based mortar. Consideration given to the use of natural stone indents to provide a long-term repair solution.

Paint applied to stonework is failing. Stonework appears loose and friable. Consideration given to the use of microporous paint to allow migration of moisture and minimise the risk of continued depletion of stonework.



- | | |
|---|---|
|  - FRACTURED/DISPLACED MASONRY |  - FRACTURED/LOOSE DEBONDED RENDER |
|  - FAILED STONE MORTAR REPAIR | |
|  - DAMAGED/DETERIORATING STONE | |

TITLE: CLARENCE PLACE

ELE: FRONT ELEVATION

DWG: CP/23108/FE01 DATE: AUGUST 2023



CPLE04, 11-12 Open continuous fractures through render. Carry out a tap test survey, remove loose, de-bonded back to a sound substrate and re-render as necessary. Recommend structural engineer consultation to inspect exposed structural fractures affecting substrates.
Historic photographs show Kent Rag stone was used to construct the walls of the church that was never intended to be rendered. It is assumed this still exists beneath the render. Use of cement based render may inhibit the migration of moisture through the facade. Consideration given to removing render, repair and re-point Rag stone and leaving exposed.

CPLE01-2 Failed mortar repairs, loose, friable stonework. Cut back to a sound substrate, drill in stainless steel reinforcement as required. Re-form profiles using lime based mortar

CPLE06-07 Failed mortar repairs, loose, friable stonework. Cut back to a sound substrate, drill in stainless steel reinforcement as required. Re-form profiles using lime based mortar

Paint applied to stonework is failing. Stonework appears loose and friable. Consideration given to the use of microporous paint to allow migration of moisture and minimise the risk of continued depletion of stonework.

CPLE08-11 Failed mortar repairs, loose, friable stonework. Cut back to a sound substrate, drill in stainless steel reinforcement as required. Re-form profiles using lime based mortar. Repaint using microporous paint to allow migration of moisture and prolong life of repair.

CPLE03-05 Failed mortar repairs, loose, friable stonework. Cut back to a sound substrate, drill in stainless steel reinforcement as required. Re-form profiles using lime based mortar

CPLE13-15 Damaged stone hood moulding. Cut and square up. Drill in stainless steel reinforcement. Re-form mouldings using lime mortar. Consideration given to use of natural stone indents.

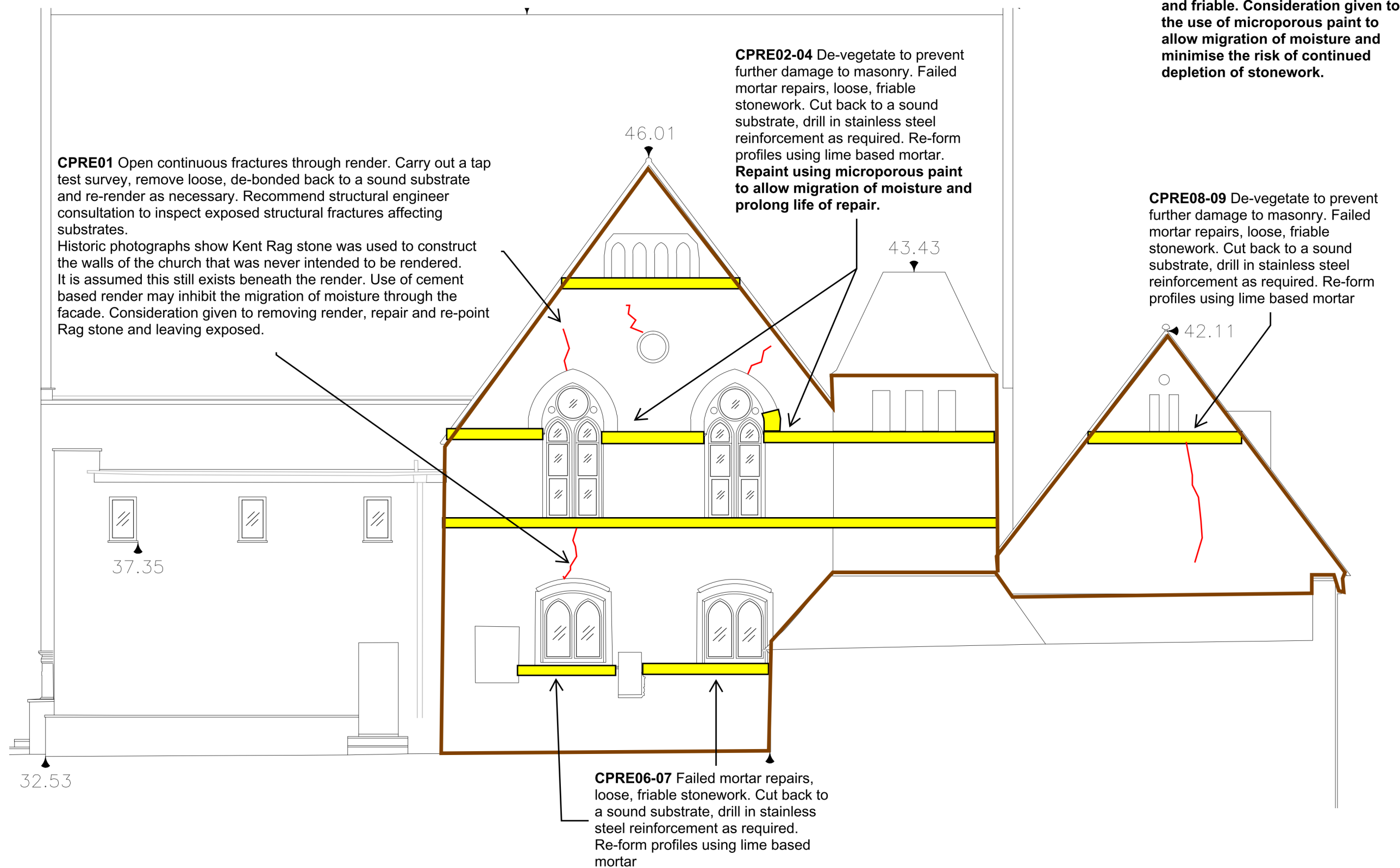
-  - FRACTURED/DISPLACED MASONRY
-  - FRACTURED/LOOSE DEBONDED RENDER
-  - FAILED STONE MORTAR REPAIR
-  - DAMAGED/DETERIORATING STONE

TITLE: CLARENCE PLACE

ELE: LEFT ELEVATION

DWG: CP/23108/LE02 DATE: AUGUST 2023





CPRRE01, 04 Open continuous fractures through render. Carry out a tap test survey, remove loose, de-bonded back to a sound substrate and re-render as necessary. Recommend structural engineer consultation to inspect exposed structural fractures affecting substrates. Historic photographs show Kent Rag stone was used to construct the walls of the church that was never intended to be rendered. It is assumed this still exists beneath the render. Use of cement based render may inhibit the migration of moisture through the facade. Consideration given to removing render, repair and re-point Rag stone and leaving exposed.

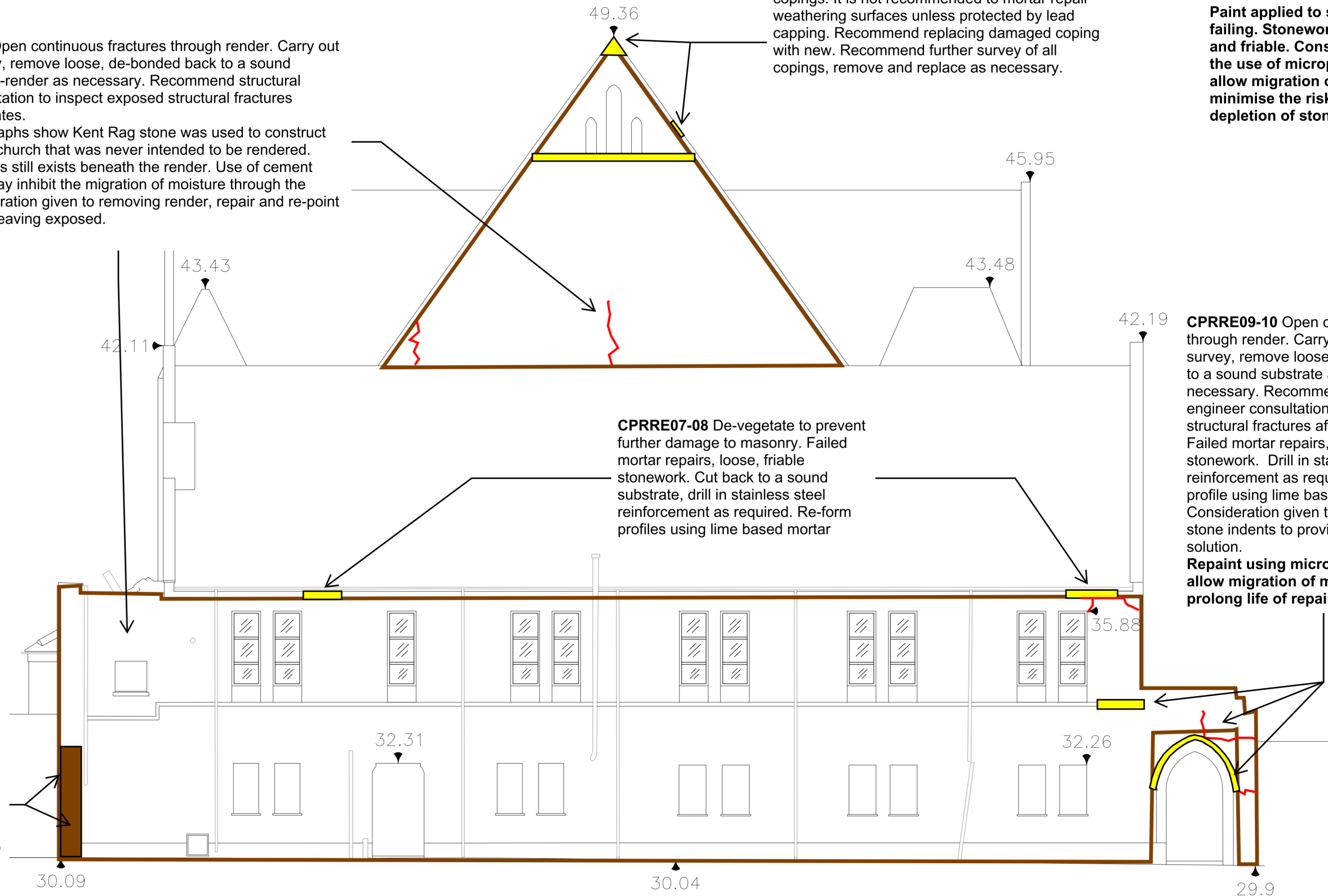
CPRRE02-03 Failed mortar repaired, eroded copings. It is not recommended to mortar repair weathering surfaces unless protected by lead capping. Recommend replacing damaged coping with new. Recommend further survey of all copings, remove and replace as necessary.

Paint applied to stonework is failing. Stonework appears loose and friable. Consideration given to the use of microporous paint to allow migration of moisture and minimise the risk of continued depletion of stonework.

CPRRE07-08 De-vegetate to prevent further damage to masonry. Failed mortar repairs, loose, friable stonework. Cut back to a sound substrate, drill in stainless steel reinforcement as required. Re-form profiles using lime based mortar

CPRRE09-10 Open continuous fractures through render. Carry out a tap test survey, remove loose, de-bonded back to a sound substrate and re-render as necessary. Recommend structural engineer consultation to inspect exposed structural fractures affecting substrates. Failed mortar repairs, loose, friable stonework. Drill in stainless steel reinforcement as required. Re-form profile using lime based mortar. Consideration given to the use of natural stone indents to provide long-term repair solution. Repaint using microporous paint to allow migration of moisture and prolong life of repair.

CPRRE05-06 Displaced, de-bonded render, possible damage to brickwork. Caused by deep rooted vegetation. Cut back render to expose brickwork. Deconstruct as required to remove roots and repair brickwork. Re-render to original profile. Recommend structural engineer consultation to inspect exposed structural damage for comment and repair specification.



- FRACTURED/DISPLACED MASONRY
- FRACTURED/LOOSE DEBONDED RENDER
- FAILED STONE MORTAR REPAIR
- DAMAGED/DETERIORATING STONE

TITLE: CLARENCE PLACE

ELE: REAR ELEVATION

DWG: CP/23108/RE04 DATE: AUGUST 2023





Get in touch



Paye Stonework and Restoration
Stationmasters House
Mottingham
Station Approach
London
SE9 4EL



(+44) 20 8857 9111



info@paye.net

Key contacts



David Manktelow

Pre Construction

Phone

020 8857 9111

Email

Estimating

Phone

020 8857 9111

Email

estimating@paye.net