

**Schedule of Defects
&
Repair Proposals
at
Cockpit House
Prescot**

for

Knowsley Borough Council

Project No: X54

October 2021



**Blackett-Ord Conservation Engineering
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SCHEDULE OF DEFECTS & REPAIR PROPOSALS

The following references relate to drawings produced by Curtins [dated April 2020] to provide a continuity of referencing. Items selected for repair are based upon a survey undertaken by Blackett-Ord Conservation Engineering in August 2021.

Ref.	STRUCTURAL DEFECT	REMEDIAL WORK	PRIORITY
BA1	BASEMENT NORTH		
BA1.1	Steel 'Beam & Block' – Old entrance replacement floor	No remedial work required.	
BA1.2	Shuttered concrete ground floor with large brick aggregates. Now supported by temporary props (See BA1.16)	Allowance for intrusive investigation of the ground floor concrete slab, consisting of 150mm dia cores (4No) to determine thickness and reinforcement distribution. Opening up local areas of brickwork in the basement at the soffit of the concrete to determine how the brick walls support the concrete floor (6No locations).	Medium
BA1.7	No access to this section	No remedial work required.	
BA1.9	Staircase blocked by trap door above in ground floor	No remedial work required.	
BA1.10	5mm diagonal crack on face of wall	Remove plaster and insert bed joint reinforcement to bridge the crack, consisting of 6mm dia stainless steel Helibar.	Medium
BA1.11	Span direction of compact filler joist floor with the steel joists at 200mm c/c	Remove corrosion from the visible soffit of the steel beams with a wire brush and paint with a zinc rich primer.	Medium
BA1.12	Hairline diagonal crack on this face	No remedial work required – pick up as part of normal redecoration.	
BA1.14	Assume suspended floor on this section but not proven as covered by fire protection – possible asbestos.	No remedial work required.	
BA1.15	Hatch with stairs down to basement	No remedial work required. Although hatch door is extremely heavy and is a H&S risk.	Medium
BA1.16	Acrow props with timber beams are an inappropriate permanent support for the floors above – a more permanent solution should be investigated.	Refer to BA1.2 above.	Medium

BA2	BASEMENT SOUTH		
BA2.4	Decaying steel lintels	Remove existing lintols and replace with precast concrete builder lintols (in groups to suit wall thickness).	Medium
GF	GROUND FLOOR		
GF5	Load bearing wall above. Partition has been removed.	A down stand beam at the underside of the first floor is partially visible, but the remains of the timber stud partition conceals the precise detail at the side of the staircase. Carefully remove the hanging stud partition up to the underside of the first floor beam.	High
GF6	No access		
GF17	Openings through here	No remedial work required.	
GF18	Cracked lintel	Open up and replace failed lintol with precast concrete builders lintol (in groups to suit wall thickness).	High
GF27	Refer to Elevation A – A23. Wall rebuilt when bank use ended.	No remedial work required.	
FF	FIRST FLOOR		
FF4	Primary beams lean down towards this elevation from the midpoint	Further investigation required. Open floor to examine bearing ends in the external wall. Possible failed beam under, in the wall. This could be included as a provisional sum in the works (cross reference with item D5).	High
FF5	Floor leans down towards this elevation from the midpoint	Further investigation required. Open floor to examine bearing ends in the external wall. Possible failed beam under, in the wall. This could be included as a provisional sum in the works (cross reference with item D5).	High
FF6	Some cracking from ceiling to window	Investigate by removing localized areas of plaster to determine if the opening has a timber lintol internally. If so replace with precast concrete builder lintol (in groups to suit wall thickness).	Medium
FF8	Steps lean down – unsupported by post below	The integrity of the internal timber staircase has been compromised and needs remedial works to make it fit for purpose.	Medium
SF	SECOND FLOOR		

SF5	Diagonal hairline crack in the top corner tracking down towards elevation D.	Refer to elevation E relating to external repointing. Internal works to be picked up as part of normal redecoration.	Medium
SF6	Hairline cracks through finishes, wallpaper peeling off as a result of damp	Refer to elevation D relating to external repointing. Internal works to be picked up as part of normal redecoration.	Medium
R ROOF			
R1	Common rafter slipped off notch in purlin	When roof finish is stripped, replace the sarking felt, which is at the end of its design life with a breathable felt to mitigate the condensation staining of the timber elements. Also screw fix any loose common rafters to their supporting purlins or ridge timbers. Note: Existing common rafters are spaced far apart that suggests that the slate battens are oversize.	High
R3	Daylight between roof and wall.	The lead flashings appear to be missing. When exposed the bearing ends of the purlins into the wall to be checked and if required new 12mm thick bolted flitch plates to be inserted to replace any reduced bearing length.	High
R4	Ridgeboard	The timber ridgeboard has deflected vertically probably due to the spread of the common rafters. When the slates have been removed and as the sarking felt is being replaced, insert a new tapered timber bearer on top of the ridge board and insert timber ties across the lines of the purlins to create a tied roof. Ties to be C24 treated softwood, 150x75 and at 1500mm centres.	High
R9	Bending failure of ridge beam.	The timber ridgeboard has deflected vertically probably due to the wane in the timber. When the slates have been removed and as the sarking felt is being replaced, insert a new tapered timber bearer on top of the ridge board and insert Screwed and glued marine ply 12mm thick each side of the ridge timber for the full extent of the wane.	High
R17	Purlins slipping off the hip member	Insert a new dragon tie to restrain the hip member and purlins consisting of 150x150 C24 treated softwood horizontal diagonal and pots to the hip underside.	High
R22	Purlins slipping off the hip member	Insert a new dragon tie to restrain the hip member and purlins consisting of 150x150 C24 treated softwood horizontal diagonal and pots to the hip underside.	High
A ELEVATION A			
A1	Sagging ridge line between supports on both roofs	Refer to R4 and R9 above	High

A3	Dished roof slopes according to sagging ridgeline	Refer to R1 above	High
A5	Downward movement of flat arches below particularly damaged coping stone	Brick voussoir lintol joints to be raked out to a depth of 40mm and slate packed and repointed.	High
A7	Hairline crack and split bricks tracking down past the street sign, across the string course and down towards the ground floor flat arch.	Insert bed joint reinforcement to bridge the crack, consisting of 6mm dia stainless steel Helibar. Bed joint to be raked out to a depth of 40mm and then repointed.	High
A12	Vertical hairline cracks	Insert bed joint reinforcement to bridge the crack, consisting of 6mm dia stainless steel Helibar. Bed joint to be raked out to a depth of 40mm and then repointed.	High
A15	Sloping bed joints along this interface	No remedial work required.	
A16	Butt joint at interface except at ground floor level where the jamb of this window has been well bonded into existing masonry.	Rake out vertical mortar joint to a depth of 40mm and repoint.	High
A21	Fascia damaged at midpoint and damp fabric below	See Architects requirements for replacement of rainwater goods and repointing.	
A22	Gable peak leans inwards slightly, circa. 20mm over its height.	Whilst the roof finishes are off, insert 30x5 stainless steel restraint straps fixed to the underside of the common rafters to each roof slope. Spacing 1200mm,	High
A23	This area of wall has been rebuilt when bank use stopped and corner remodeled to remove entrance and shop front.	No remedial work required.	
A24	The end of the hip dips suggesting a thrust has moved the corner brickwork outwards	Refer to R22 above	High
B ELEVATION B			
B4	Severe mortar decay in this area.	Rake out mortar joint to a depth of 40mm and repoint.	High
B6	Severely decayed masonry fabric.	Rake out mortar joint to a depth of 40mm and repoint.	High
B7	10mm crack below flat arch	Triangle of brickwork above and to the side of the window to be taken down and rebuilt.	High

B9	Crack increasing with height to 10mm at coping	Insert bed joint reinforcement to bridge the crack, consisting of 6mm dia stainless steel Helibar. Bed joint to be raked out to a depth of 40mm and then repointed.	High
B10	Open perpend joint in coping, ca. 10-50mm	Coping stones to single storey flat roof to be taken off and relaid.	High
B11	20mm diagonal crack up to coping, bricks locally displaced in this location	It is likely that the existing lintol has failed and needs to be replaced, which will involve the taking down of the brickwork above the window and rebuilding.	High
B12	10mm diagonal crack	Included within B11 above.	High
B19	Vertical hairline cracks from either side of flat arch	Insert bed joint reinforcement to bridge the crack, consisting of 6mm dia stainless steel Helibar. Bed joint to be raked out to a depth of 40mm and then repointed.	High
B20	Bed joints in this section tend in different directions and bricks appear to have been displaced	Rake out vertical mortar joint to a depth of 40mm and repoint.	High
B24	Vertical hairline crack	Insert bed joint reinforcement to bridge the crack, consisting of 6mm dia stainless steel Helibar. Bed joint to be raked out to a depth of 40mm and then repointed.	High
B27	Refer to Elevation A – A24. Brickwork moved outwards.	Refer to R22 above	High
B28	Refer to Elevation A – A23. Wall rebuilt when bank use ended.	No remedial work required.	
B29	Crack through voussoir requires packing and pointing	Brick voussoir lintol joints to be raked out to a depth of 40mm and slate packed and repointed.	High
D ELEVATION D			
D1	Refer to Elevation A – A1. Ridgeline sags.	Refer to R9 above	High
D5	Bed joints lean in/down to either side of the boundary between old and new, bricks have been replaced this side.	Possibly linked to first floor FF4 & FF5 – further investigation required.	High
D7	Stone lintel with timber lintel above	Timber lintol / beam might be associated with the reason why the first floor has settled against the wall at the point of support. Timber lintol to be removed and new steel lintol beam inserted.	High
D11	5mm diagonal crack from cill of blocked window	Insert bed joint reinforcement to bridge the crack, consisting of 6mm dia stainless steel Helibar. Bed joint to be raked out to a depth of 40mm and then repointed.	High

D16	Refer to Elevation B – B10. Open perpendicular joint in coping.	Coping stones to single storey flat roof to be taken off and relaid.	High
D17	Existing steel escape staircase not fit for purpose	Replace with a new steel escape staircase. Note: Lifting beam is rated 1 ton SWL and a certificate reference is marked on the beam, however this should not be used.	Medium
E ELEVATION E			
E5	Timber lintel covered by felt	Timber lintol to be removed and new steel lintol beam inserted.	High
E6	Distorted arched window	There is a beam within the external wall at roof level that is likely to have failed and needs to be replaced. This will involve some rebuilding of the arch.	High
E7	Bed joints crack down significantly, hairline crack from cill to arch	There is a beam within the external wall at roof level that is likely to have failed and needs to be replaced. This will require some rebuilding of the wall.	High
E9	10mm diagonal crack from cill to corner at interface with flat roof.	Insert bed joint reinforcement to bridge the crack, consisting of 6mm dia stainless steel Helibar. Bed joint to be raked out to a depth of 40mm and then repointed.	High
F BELOW GROUND DRAINAGE			
F1	Rear yard surface water flooding	Clean out all rainwater gullies, removing silt from their traps. Lift manhole covers and water jet all below ground drainage to its discharge point beyond the boundary. Report any blockages / drain collapses and allow for digging down and replacing failed drainage pipes with repair sleeves.	High
G REAR YARD RETAINING WALL			
G1	Brick retaining wall, coping and brick piers are in a poor state of repair.	All copings to be taken off and set aside for reuse. Take down and rebuild the top 600mm of brickwork. Insert new stainless steel 6mm ties at a diagonal through the pier bed joint into the retaining wall and point up all open mortar joints.	High