

Structural Appraisal
of
Boundary Wall
at
The Orchard, Huyton

for

Alderley Partnerships

Ref: B05

REV B. July 2025

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1. Introduction

This appraisal considers a 60m length of the boundary wall to the Grade II Listed Greenhill at The Orchard, Huyton.

2. Inspection

The wall was inspected on Monday 20th January 2025, by Charles Blackett-Ord CEng FICE CARE (Conservation Accredited) which was a damp showery day.

A length of about 50 metres was accessible for inspection from the adjacent access road.

Further south the wall was obscured by site cabins and material storage. The Greenhill side was accessible through dense undergrowth.

The owner of Greenhill (Colin Daniels) allowed access to inspect his side of the wall.

3. General Description

The boundary wall of Greenhill probably dates from the middle of the nineteenth century. It flanks the gated entrance to Greenhill and extends around the east side of the garden. The wall is about 1.4 metres high, with a raised section 2.5 metres high starting about 40m from the entrance gates. Beyond this an 8m long length of the wall has collapsed completely. It is not clear why or over what length the wall has been raised to 2.5 metres. It may be the wall of a building or it may be to form a wall for growing fruit trees up.

The 1.4m high wall is partly a retaining wall holding up the garden where there are a number of trees growing very close to the top of the wall. The wall is covered in ivy which limits the inspection.

Around 40m of the length of wall under consideration is propped by five brick buttresses, one of which has been knocked over. There are two sections between the buttresses which are leaning outward to an unacceptable degree and additional buttresses are recommended. There are two areas where some local re-building is required, and some of the copings are loose or missing.

Further on to the south there is 8m section of heightened wall which has collapsed.

4. Conclusions

The wall is suffering from excessive lean in two places, where additional buttresses should be constructed. An alternative would be to take down these sections and rebuild, but this would be disruptive and would require more excavation on the Greenhill side, with the possible removal of trees.

Isolated areas of dislodged stonework should be repaired. Two sections of rebuilding are required in the buttressed section and an 8m length of the heightened section.

Some copings are missing and these should be replaced like for like. Rebuilding facework should use the same stone as is taken down, using lime mortar.

General repointing is not required, and local repointing should be selective because where the wall is retaining it should allow ground water from behind the wall to escape through it.

The dislodged stonework and areas of rebuilding are identified on the accompanying drawings; however it should be noted that once the ivy is removed (which is also recommended) some more repair requirements may be exposed.

The attached specification clauses should be used for the repairs.

5. List of Photos

- Photo 1: West End of Wall
- Photo 2: East Side of Gateway
- Photo 3: North Side of Wall
- Photo 4: North Side of Wall - Broken Buttress
- Photo 5: North Side of Wall
- Photo 6: North Side of Wall
- Photo 7: Buttresses
- Photo 8: South Side of High Wall in Gardens
- Photo 9: South Side of High Wall in Gardens
- Photo 10: Collapsed Section of High Wall
- Photo 11: Collapsed Section of High Wall



Photo 1: West End of Wall



Photo 2: East Side of Gateway



Photo 3: North Side of Wall



Photo 4: North Side of Wall - Broken Buttress



Photo 5: North Side of Wall



Photo 6: North Side of Wall



Photo 7: Buttresses



Photo 8: South Side of High Wall in Garden



Photo 9: South Side of High Wall in Garden

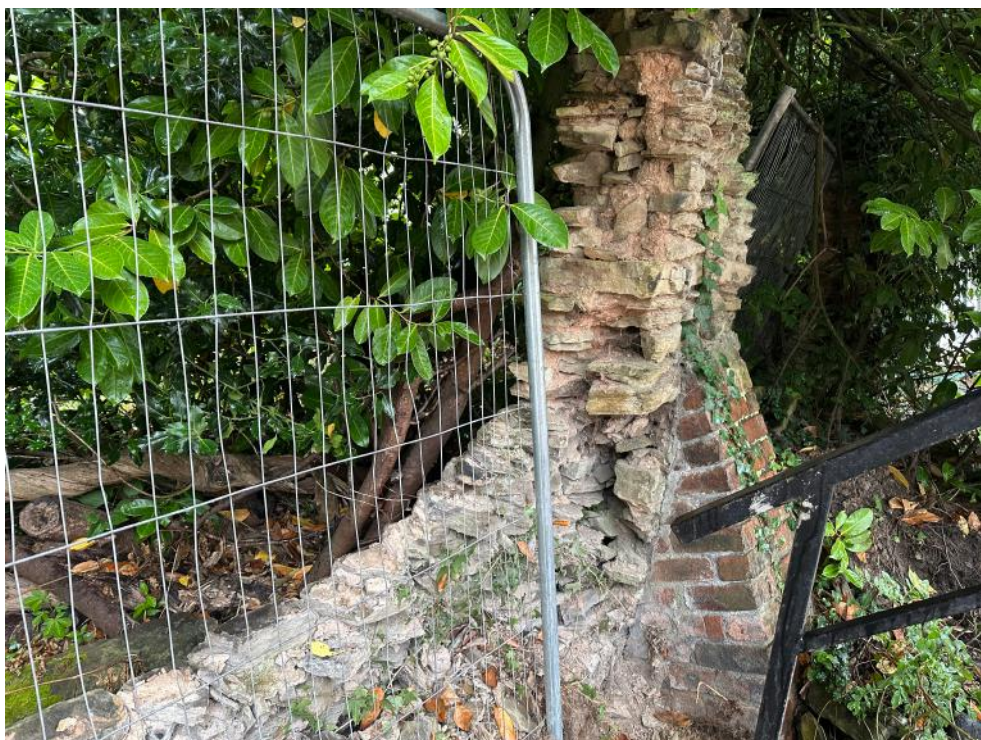


Photo 10: Collapsed section of High Wall



Photo 11: Collapsed section of high wall

6. Schedule of Work and Specification

1. Remove ivy and plant growth from wall face and top. Any vegetation growing on or out of the wall is to be removed by hand using hand tools to remove embedded roots. Any roots that cannot be removed are to be treated with an approved biocide.
2. Remove fallen buttress. Construct new buttress on concrete pad footing using the same bricks or new matching bricks and lime mortar.
3. Construct 2 new brick buttresses on concrete pad footings using matching bricks and lime mortar.
4. Take down two sections of wall, one at the west end abutting a building and one on the east corner of the gateway splay as shown on the drawing. Re-use stone with similar make-up if required. Examples of any new stone (including copings) should be submitted for approval prior to the undertaking of the work. Any new or reclaimed stone should be coursed in appropriately; the wall has a somewhat random coursing pattern with differing size stone in areas which should be replicated. Each stone will be carefully cleaned by hand, using hand tools and stacked within the location from

where it came from. It should be ensured that any sound stonework is left untouched during the repair works.

5. Use lime mortar.
6. Allow 5 linear metres of new coping stones bedded in lime mortar. Stones to be hand finished without any sawmarks visible.
7. Allow 3 square metres of patch repairs and making good.
8. Rebuild 8 linear metres of wall where fallen down, to a height of 2.5 metres. Provide make-up matching stone. Use lime mortar.

7. Mortar Specification.

For bedding and general re-building, the mortar shall be 1 part Lime to 2½ parts sand.

Lime shall be hydraulic lime, Otterbein NHL 2

Sand to be a well-graded, coarse washed concreting sand from Nosterfield, or an equivalent approved supplier.

Water used in the preparation of mortar, for dampening walls, or washing work is to be clean and fit for drinking.

All lime built stonework is to be covered and protected for three weeks after building.

8. List of Drawings

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| 01 | Site Plan |
| 02 | Elevation |
| 03 | Details |

A handwritten signature in black ink, appearing to read 'C Blackett-Ord'. The signature is fluid and cursive, with the first name 'Charles' being more legible than the last name 'Blackett-Ord'.

Charles Blackett-Ord CEng FICE CARE

