

STRUCTURAL REPORT

98 - 102 WATH ROAD, ELSECAR

Introduction

These cottages are part of a terraced row of 2 storey properties along Wath Road, within the conservation area but not subject to listing and are described in the Heritage Statement.

Number 102 Wath Road has a front elevation in coursed ashlar honey coloured sandstone and a shop front type window as illustrated on photo 1. The gable to 102 consists of rendered brickwork shown in photo 5.

Number 98 and 100 Wath Road have a front elevation in coursed honey coloured soft local sandstone shown in photos 2, 3 and 4. The roofs to all properties are covered with welsh thin slate. The chimney stacks are of brickwork.

The rear elevation and part gable to 98 is in coursed random sandstone shown in photos 7, 8 and 12. The ground floor windows appear to have been modified, leaving only a 115 mm wide pier between 2 openings.

The rear elevations to 100 and 102 Wath Road including a part gable is in solid brickwork shown in photos 6, 9, 10, 11 and 12. There is a mix of stone and concrete lintels in various states of disrepair to the rear elevation.

Elevations and floor plans are shown on drawings SL(2)03 to SL(2)06 and on Architects details.

Structural Condition of the Properties and Proposals

To the front elevation of 98, 100 and 102 Wath Road only local and isolated stones have as a result of weathering in the formerly industrial polluted environment undergone erosion and have perished at the locations indication on drawing SL(2)05. The top courses of stone to areas of the wall appears loose and will be re-bedded or repointed as necessary. Over the lounge windows to number 98 the stone lintel has a cementitious render repair. Half of the render is missing, exposing the underlying eroded sandstone lintel. It is proposed to replace or repair this lintel and similarly the cracked cill.

The roofs to the properties were strengthened and repaired a number of years ago and remain in good condition. The brick chimney stacks are generally twisted and leaning and require rebuilding or in less severe cases re-pointing.

Following the local removal of stones from the front elevation it will be determined whether any loss or settlement of the rubble to the core of the wall has occurred. If it has it is proposed to rectify this with pumped low pressure cementitious grout, following repointing of the walls to avoid grout loss. If only local loss of the rubble occurs during stone replacement this will be made good as work proceeds. It is proposed to provide stainless steel resin fixed remedial wall ties to avoid any wall spread which is known to have occurred on similar nearby properties.

The gable wall to 102 Wath Road consists of solid rendered brickwork shown on photo 5, where a local area of render is missing adjacent the front corner, the underlying brickwork can be seen to have perished. It is proposed to remove the render, examine the underlying brickwork and make local repairs as necessary prior to re-rendering. Since the first floor joists span parallel to the gable wall it is proposed to provide lateral restraint straps.

The rear elevation to 98 Wath Road has undergone severe weathering and erosion of the soft local sandstone. Many stones and most joints have been made back up with cementitious mortar. There are tilts and bulges to this wall. Concrete lintels and cills are provided to 2 ground floor windows which have cracked and spalled, these are to be replaced with new matching stone units.

An additional window which has been added leaving a potentially unstable 115 mm wide pier, is to be removed and others re-modelled to the Architects requirements.

It is proposed to rebuild the wall in cavity wall construction with a matching stone outer leaf to the arrangement shown on the Architects drawings. Provisionally a strip foundation has been allowed for if this should be found to be required. The degree of erosion of the stone is so advanced that it is considered that little if any will be reusable. New matching stone will be sourced locally. Lateral restraints straps are to be provided at first floor level.

As previously noted the rear elevations to 100 and 102 Wath Road consist of solid brickwork construction. The brickwork surface has perished and the face has spalled to a number of bricks. In a number of instances mortar has been used to make up the face of the brickwork. Most pointing is weathered and in poor condition other areas have been repointed with hard cementitious pointing which is now brittle and loose. The rear brick walls have a number of distinctive and prominent bulges and tilts to such an extent that they are not considered to be within the scope of local repair. It is therefore recommended that they should be rebuilt. It remains to be determined whether any suitable or adequate foundation is present. A new strip footing has been provisionally allowed for if required.

The part gable wall between 100 and 102 Wath Road is in a similar state of disrepair as that described to the rear elevation. Additionally both the wall and the chimney stack nearest the rear can be seen to be leaning out acutely in particular to the top of the wall. Both the top of the wall and the chimney stack are considered to be at risk of collapse.

It is proposed to take down the wall and rebuild in cavity wall construction. The chimney stack at ridge level is to be rebuilt due to its deformation. The chimney stack to the rear is to be demolished and the internal chimney breast removed. The proposals are illustrated on drawings SL(2)05 and 06 as well as the Architect drawings.

Internal Alterations and Adaptations

To number 98 Wath Road the proposals which have any structural implications are:

The ground floor wall between the kitchen and bathroom is to be removed to produce a larger kitchen. A steel beam is to be provided to support the floor joists at the walls location. The triangular chimney breast within the kitchen is to be removed. A trimmer beam and steel plate is to be provided to support the small chimney breast above at first floor.

Timber trimmers and new floor boards are to be provided to support the first floor landing. Lateral restraint straps are to be provided at first floor level to the front and rear elevations.

To number 100 Wath Road the only significant proposal of structural significance is the removal of the semi-cellar store wall below the stairs, which will require the blocking up of the existing door to the lounge and a check made to ensure the adequacy of the existing stair trimmer.

Lateral restraints straps will be required to the front elevation at first floor level.

To number 102 Wath Road the proposals with any structural implications are:

A door between both the lounge and living room and the lounge and kitchen are to be moved which requires the provision of new lintels. The chimney breast within the kitchen and bedroom above is to be removed full height. A beam which is currently supported on the chimney breast at first floor level requires replacement with a new beam which will extend to the outside wall.

Lateral restraint straps are to be provided at first floor level.

Conclusions

To the front elevations of all properties and the gable wall to number 102 minimal structural works are proposed with no material alterations to preserve and maintain these facades in good and weatherproof condition.

To the rear elevations and part gables thereto the advanced deterioration of the masonry, failure of some lintels and significant deformation of the walls requires a significant rebuild of the walls. Unless this is undertaken in the near future there is a risk of the local collapse of the walls and chimney stacks. It is considered that it would be unsafe to re-let the houses unless this work is undertaken.

The rebuilding of the rear walls will require significant temporary supports. Propping details are shown on the drawings.

Internally only minor alterations of minimal structural significance are proposed. These are intended to improve the functional usage of the properties.

APPENDIX A

PHOTOGRAPHS



Photo 1 –Front Elevation 102 Wath Road



Photo 2 – Front Elevation 98+100 Wath Road



Photo 6- Rear Elevation 98+100 Wath Road



Photo 5- Gable to 102 Wath Road



Photo 9- Rear Elevation-98+100 Wath Road Ground Floor



Photo 10- Rear Elevation 100 Wath Road First Floor

APPENDIX B

DRAWINGS