

# BLACKETT-ORD CONSERVATION ENGINEERING

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9<sup>th</sup> December, 2021

Mr and Mrs J Rendell  
115 Main Street  
St. Bees  
Cumbria CA27 0AA

Dear James and Rebecca,

## **Structural Inspection of the Rear North Chimney**

I carried out a structural inspection of 115 Main Street, St Bees on Tuesday 23<sup>rd</sup> of November, 2021, following concerns with the condition of the chimney to the north side at the rear of the property.

The property is Grade II listed. It was noted that Listed Building Consent is being sought to install a wood-burning stoves in the fireplace within the family room.

I have the following comments:

### **1. Observations**

My understanding is that the chimney stack was taken down to below roof level and capped by the previous owners without Listed Building Consent. Prior to the sale of the house, the previous owners reinstated the chimney stack which was in agreement with the Conservation Officer.

During the installation of a wood-burning stove to the family room, the roofing contractor carried out an assessment of the chimney stack and noted that the chimney stack is of solid blockwork with no flues present.

I carried out an inspection of the chimney breast within the roof void. Access was permitted via a loft hatch in the shower room. I also carried out a visual inspection of the chimney stack from ground level.

The sandstone chimney breast remains up to 1.2m above the ceiling joists in the attic, as indicated in photo 01. 2 no. courses of concrete blockwork have been built on slate up to the roof line, in cement mortar. Timber boards have been laid across the blockwork to cap the flues below. Concrete blockwork has then been built from the timber boards to form a stack which has a cement render. There are 2 no. clay pots.

The following defects were identified, refer to photo 02:

- The mortar joints exceed the recommended nominal 10mm thickness.
- There are gaps in the mortar bed joints.
- The mortar hasn't been finished to a reasonable standard.
- The ridge beam is inadequately supported on 2 no. timber battens, 45mm square with screw fixings.

## 2. Recommendations

The chimney is in reasonable structural condition albeit the workmanship is of poor quality. The chimney is no longer in use and has been capped at roof level.

We would recommend installing a steel angle bracket to adequately support the timber ridge beam, refer to sketch Sk02. The steel angle bracket should be 50mm x 6mm thick, with a longer leg (225mm) secured to the chimney breast and the shorter leg (100mm) secured to the underside of the joist. Fixings to the chimney breast to be 2 no. 12mm Ø stainless steel threaded bar into the concrete blockwork and sandstone units, 125mm long set in a 2-part epoxy resin. Fixings to the underside of the ridge beam to be 2 no. 5.5mm Ø wood screws.

No other remedial works are required in the chimney's current condition.

We would advise that if the chimney were to be brought back into use with a wood burning stove the chimney would need to be rebuilt. The blockwork would have to be carefully dismantled down to the original sandstone chimney breast within the roof void. The two clay pots should be set aside for reuse. The chimney should be reformed in brick bedded in lime mortar, with a flue sized appropriately for the wood-burning stove. The brickwork above roof level should be lime rendered and colour matched to the external render on the house. The clay pots can be reinstated.

## 3. Conclusion

In its current condition the rebuilt section of the chimney is in reasonable structural condition albeit the workmanship is of poor quality.

We would recommend that the support to the end of the ridge beam be improved, by installing a steel angle bracket.

If a wood-burning stove is to be installed within the fireplace in the family room, the upper section of the chimney would need to be rebuilt in brick with an adequate flue. The two clay pots can be reused.

If you require any further information at this stage, please contact us. We would be happy to help.

Yours sincerely,

Emma Cochrane MEng GMICE  
For and on behalf of Blackett-Ord Conservation Ltd



Photo 01 – Stone chimney breast with 2 no. courses of blockwork within attic space.



Photo 02 – Ridge beam inadequately supported at end bearing.



**Photos - Chimney**  
**115 Main Street, St Bees**



Photo 03 – Rebuilt chimney stack in blockwork with cement render (Nov 2021)



Photo 04 – Rebuilt chimney stack with clay pots (Sep 2020)

