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Royal & Sun Alliance
c/o Crawford & Company
sent by e-mail to sne.patel@crawco.co.uk

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Date of report: 20 December 2005

ENGINEER'S SITE INVESTIGATION REPORT

1.0 POLICYHOLDERS DETAILS

- 1.1 **POLICYHOLDERS:** 6 Heath Drive Limited
- 1.2 **ADDRESS:** c/o Mr Langer, Flat No. 1,
6 Heath Drive, London NW3 7SY
- 1.3 **SITUATION OF DAMAGE:** Flat 1, 6 Heath Drive (a ground floor flat)
- 1.4 **TELEPHONE NUMBERS:** Mr Langer (flat 1) – 020 7435 0175

2.0 **SUMMARY**

- 2.1 As detailed in our Engineer's Preliminary Report, this matter concerns the result of apparent foundation movement to the front and rear of the property.
- 2.2 Site investigations have now been completed. This report summarises those investigations, gives an opinion as to the cause of movement and the procedure to be adopted to determine the appropriate remedial repairs.

3.0 SITE INVESTIGATIONS

A copy of the factual Site Investigation Report is attached.

3.1. **Trial Pits and Boreholes**

A trial pit was excavated to the front of the tower on the front corner to expose the footings. The footings comprised corbelled brickwork at a depth of 500mm below ground level founded on black ash and stone fill which was underlain by dry very stiff clay.

A further trial pit was excavated inside the rear bedroom, by lifting the existing timber flooring. The footings was observed to be at 600mm below the timber flooring, but almost zero depth into the subsoils, which were reported to be moist stiff clay.



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The depth of the investigations at the front were extended by cutting a borehole to a depth of 3.5m. The clay fill became virgin clay and remained stiff. Tree root samples were obtained from the front borehole and sent to a consultant botanist for identification.

The depth of the investigations at the rear were extended by cutting a borehole to a depth 3.2m below the internal floor level, 2.6m below the ground level. The underlying clay was reported to be moist stiff clay for the full profile of the borehole.

Due to the presence of trees all round the property, it was not possible to get a reference borehole that would yield any meaningful information.

3.2. Laboratory Testing

The results from the testing laboratory, RSA Weeks, were not available at the time of writing this report and will follow in due course

3.3. Insitu Strength Testing

The clay in the front borehole was tested with a vane tester at regular intervals and was found to be of a strength of over 130kPa, which is beyond the range of the instrument, i.e. very stiff.

The clay in the rear borehole was found to have a strength in the region of 88kPa. Beyond 2.7m it became stiffer with readings beyond the range of the instrument.

3.4. Drainage Testing

The drainage had been surveyed previously, in September 2005, and subsequently the defects have been repaired. Some of these were in the area of the rear trial pit and damage.

3.5. Water Main Testing

No applicable

4.0 MONITORING

Monitoring will be distributed to all parties as this matter progresses, by issue of a separate report..

5.0 CAUSES AND TIMING OF DAMAGE

5.1 The claim was apparently submitted over 2 years ago but was not accepted at the time.

5.2 From the results of the Site Investigation report it is our opinion that the cause of the subsidence to the front corner of the property could be associated with seasonal water demand by tree root action on the shrinkable clay.



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- 5.3 We are of the opinion that the removal by felling of the holly standing in proximity to the tower may be sufficient to limit the degree of movement such that it could be accommodated without distress.
- 5.4 The cracking towards the rear of the property was possibly the result of leaking drains that have since been repaired. Therefore stability of that section of the property may be attained.
- 5.5 Although the arboriculturalist has recommended removal by felling of several large mature trees in proximity, we believe such actions would not be acceptable to the London Borough nor the local community, since they offer a significant amenity value. This property has been reasonably stable for previous years and therefore a minor amount of tree surgery works, i.e. the removal of the holly, may be sufficient to re-establish a degree of that equilibrium.

6.0 **RECOMMENDATIONS**

- 6.1 The Insured's holly tree should be removed.
- 6.2 The remaining shrubs should be maintained at their present size by pruning.
- 6.3 Monitoring points have been established and return visits to the house for monitoring of the cracking will record the movement that has or is taking place. This is expected to continue for probably six months after tree surgery works have been undertaken.
- 6.4 We anticipate that the claim will be concluded with a scheme of localised repairs and decoration.

7.0 **REVISED PROGRAMME:**

- 7.1 **Address cause:** The holly should be removed by felling before the onset of summer 2006
- 7.2 **Complete Monitoring:** Spring 2006
- 7.3 **Complete Repairs:** Late 2006 / early 2007


N C Duke
For and on behalf of
ELLIPTA

cc: Ellipta Claims Co-ordination Centre, Ashford
Policyholder – by post