

Our ref: 6397/JHM

19th May 2017

FAO John Pinn,  
**Quinn and Co,**  
66 Albany Road,  
Cardiff,  
CF24 3RR

Dear John

**RE: Suffolk House, Boundary Retaining Wall assessment along Romilly Road, Canton, Cardiff**

We confirm that in accordance with your instructions I carried out a site inspection on Wednesday, 1st March at the above address. The purpose of the inspection was to assess the current defects to the existing retaining boundary walls and make recommendations on any remedial works required. Selective photographs are included to the rear of this report for reference, including a layout plan (SK01) proposed sketch details for a new retaining wall (SK02).

The recent site inspection confirmed that the retaining wall comprises of a solid random stone of varying height, ranging from approximately 1400mm to 1600mm high, which is located on the west side of Suffolk house. The wall retains the front garden of the property, ranging between 1000mm to 1400mm in height. Significantly the wall is also supporting the root base of three large trees (2 Common lime and one copper beech), one element of the stone wall has collapsed due to the root growth and associated lateral forces during high wind of the copper beech tree. The trees are referenced in Solty Brewster Ecology report, (see enclosed plan 6397\_SK01) as T4, T5 & T6.

T5 & T6 are causing the most significant damage to the walls, T6 being the tree which has caused the wall to failure & T5 causing the wall to bow and lean out towards the pavement to an extent that the wall is touching the waste litter bin.

It can be seen from a visual inspection that the retaining walls are bowing and leaning over by as much as 125mm at the top of the wall (greatest opposite the common lime tree, T5). Localised cracking in the mortar joints, in the wall is also evident around the location of the trees. (See photographs 1 & 2)

It is our professional opinion that the section of wall adjacent the larger Copper beech tree and Common Lime T5 & T6 is close to complete failure and therefore, poses a serious risk to the safety of public using the pavement, especially near the bus stop. The partial failure of the wall around the Copper Beech tree T6, clearly shows that the tree root growth is causing the failure.

There is no doubt that the retaining wall construction is not fit for purpose to support the height of the gardens embankment and two large trees T5 & T6, but also, the Copper beech and Common Lime trees have completely outgrown their environment with regards to the root growth.

It should also be noted that the tree referenced T7 which has presently not damaged the wall, it is highly likely and inevitable that the wall will be damaged and will fail as this tree grows in the future.

The retaining wall will need to be completely re-built over its entire length effected by the trees, using a concrete reinforced wall finished in stone cladding to match existing appearance. A section of the proposed retaining wall construction is attached to this report (Ref, SK03), which has been calculated to current design standards.

It can be seen from the geometry of the new retaining wall that the excavation for its construction will almost completely undermine the root base of the Copper Beech and Common Lime trees. The type of retaining wall proposed also has the least possible wall stem thickness and therefore requires the least excavation during construction, when compared to other types of possible retaining wall, i.e. a mass concrete block/reinforced cavity masonry both stone faced retaining wall.

We recommend that the wall is re-built with some urgency as there is a risk that complete failure of the wall could occur at any time. It is also of our opinion that an appropriately designed retaining wall constructed in the wall's current position cannot be carried out without significantly undermining the root bases of the existing Copper Beech and Common Lime trees, which are currently being retained by the wall. Due to the pavement and highway adjacent the wall, it would be necessary to fell the trees, prior to further demolition/removal of the existing wall, prior to rebuilding a suitable retaining wall (see 6397 SK02), detailed method statements and risk assessment should be submitted to meet CDM & H&S requirements.

I trust this is of use to you but please do not hesitate to contact me should you have any queries

Yours sincerely,



Jon Mathias  
**Director for Vale Consultancy**  
Enclosures: 6397\_SK01 & SK02



Photo 1, Extent of wall requiring re building, T6 (Left) adjacent partial collapse wall.



Photo 2, Lean in wall visible over entire length. T5 tree behind waste litter bin.