

## **Landscape Architect comment on objection to the TPO**

The application is for the removal of a number of trees, supported by reports which implicate the trees in an occurrence of subsidence related damage to Greymartins Backworth. The following reports have been supplied which suggest the pattern and nature of the cracks is indicative of an episode of subsidence, and that the cause of the movement appears to be clay shrinkage.

- Arboricultural report
- Claim Assessment Report
- Geotechnical report
- Level monitoring report
- Soil analysis
- Root identification
- Drainage investigation report

It is of the opinion and recommendation of the submitted reports that the current building movement is due to clay shrinkage but other factors in particular the drainage, has been discounted. A drainage investigation report has been submitted and it is noted that the majority of drains surrounding the property are made from pitch fibre, which is generally wood fibre pipe impregnated with coal tar. This type of drainage was seen a cheaper alternative to clay pipes but are subject to deformation and leaks, have a limited life and often collapse blocking the drain run. It is noted in the report that many of the pipes are 'deformed'. In addition to this the drains run parallel to the rear building elevation and between the building and the tree groups with manholes set above ground level. The building is also elevated in part with access points to the building accessed via steps. At this stage no indication has been given as to any drainage repair work to be undertaken. It would be prudent to have the drains repaired in the first instance and then continue with the monitoring to assess if the situation alters.

Two boreholes (trial pits) have been dug on 5<sup>th</sup> December 2018. Both boreholes were taken to a depth of 800mm (TP/BH1) and 940mm (TP/BH2) below ground level and in both cases, tree roots were found. The plasticity index readings were between 27 and 31 for TP/BH1 and 27 to 30 for TP/BH2. Both these readings show the soil to be of medium volume change potential. Level monitoring information has been submitted with 3 no level monitoring visit occurring in a 5 month period (12 months is a recommended monitoring period) so it has not been established if the damage is progressive and fluctuates with seasonal expansion and contraction of cracks according to moisture content of the soil. Evidence of such fluctuation could provide evidence that the tree is a significant influence particularly if works to repair the drains is undertaken.

Whilst the evidence submitted indicates that the influence of the adjacent trees may be a contributory factor, it is inconclusive and until such time that sufficient evidence is provided which clearly implicates the tree as having a significant role as a cause of structural damage to the property, TPO should be confirmed.