

Arboricultural Tree Report

A site visit was carried out on the 05/06/24 at National Trust, Tredegar House, Newport. Two trees were inspected that are in proximity to an existing children's playground. This playground is planned to be removed and replaced. This report will focus on the two trees these works will affect. Both have had metal numerical tags installed on their stems. These are referenced in this document for ease of ongoing management.

The inspections were conducted from the ground. Using a mallet, 40cm probe, diameter tape, clinometer and binoculars.



(Fig 1)

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Tree Inspections



Tree tag – 2370

Genus/Species – *Quercus petraea* (Sessile Oak)

Age - Mature

Height – 15m approx

DBH – 99cm

Spread – N 8m, S 9m, E 10m, W 5m

Crown Shape – Single stem to 10m, then multi stemmed

Target – NT Very High usage Zone. This means tree is on an annual inspection regime. Proximity to main footpath and overhanging children's playground.

(Fig 2)

Assessment

Base of tree on Northwest facing side, evidence of multiple old *Ganoderma* sp. fruiting bodies. No signs of fresh fruiting bodies at time of inspection. Whilst it is difficult to identify which species definitively when the fruiting body is this deteriorated, the pore surface has a strong contrasting pale and dark layer which is quite distinctive of *Ganoderma resinaceum*. The effects of this fungi when advanced can cause uprooting or stem breakage. Whilst it is established the tree has responded vigorously with adaptive growth at it's root flares (See fig 3 below).

When tapping around areas surrounding the fruiting bodies evidence of hollow developing. Surrounding buttresses are well established and normal for species, compensating for dysfunction in base. On the East facing side hollow is evident. When probed 30cm of penetration was evident before sound wood was found. Butress flares around this defect are well formed. (See fig 4 below). Proximity to children's playground on North and West facing sides. 6m from base of tree to concrete pad and perimeter fence of playground. Well within drip line of crown.

Main stem and crown have multiple historical pruning events. All showing either full or partial occlusion (Sealing off) main unions and branch attachments appear tensile and normal for species. Evidence of previous reduction work in upper crown. Reduction of major scaffolds overhanging play area. Due to this crown has an asymmetrical form and a major overextended scaffold to the Northeast.



(Fig 3)



(Fig 4)

Recommendations

Reduce crown on South and East facing sides to rebalance crown in line with previous tree works. This will also reduce the load over the dysfunction at the base caused by the Ganoderma fungi.

Any ground works carried out in the area near base of the tree must avoid damaging roots further by encroaching into the remaining 6m gap that currently exists. As this play area predates BS 5837 (2012) guidance. The area around the tree which has been constructed on is very close. With a diameter of 99cm the recommended exclusion zone to significant works near the base would be 12m. Currently only 6m exists. Any future works in this area must not encroach any closer and ideally widen this gap as much as is practically possible to allow the tree to recover.

Once construction of new play area is complete, a tree circle with a woody mulch to a depth of 75mm around whole tree ideally to drip line but this can be reduced if not practical in that area. This will help to condition and reduce compaction around the tree by improving the soil structure.

Priority

Carry out recommended reduction works prior to construction. Within 12 months ideally. Mulch circle can be created after proposed works are completed.

Reinspection

Annually. This is in line with current National Trust tree safety management guidance.

Tag – 2371

Genus/Species – *Quercus robur* (Pedunculate Oak)

Age - Mature

Height – 21m approx



(Fig 5)

Assessment

Root flare is well established in all directions. Small fruiting body of *Ganoderma* sp. at base on Northwest facing side (See Fig 6 below). Unable to accurately identify at time of inspection due to immature fruiting body. The buttress formations around this area of dysfunction are solid when tapped and normal for species. Wooden fence runs alongside of tree at 1m approx. Playground swings and concrete pad are approximately 5m from base of tree (See fig 7 below).

Main stem appears normal for species. Multiple historical pruning wounds scattered up stem. All are fully occluded. Dense patches of epicormic growth (water shoots) throughout canopy. This limits view of some unions within the canopy. Main unions in crown appear tensile.

Major and moderate deadwood scattered throughout crown. Major deadwood Southeast facing at 14m approx and North facing at same height.



(Fig 6)



(Fig 7)

Recommendations

Recommend reinspecting in Autumn to see if fruiting body has matured to aid correct identification.

Remove major and moderate deadwood throughout crown over target.

Carry out aerial inspection on unions in upper crown which are not easy to see from the ground. This can be done when crown clean takes place.

Consider the root protection zone around the base of this tree when any future works are carried out. The existing concrete playground and foundations encroach to within 4-5m of the stem, well within the drip line of the canopy. This report recommends similar actions to the previous Oak tree in this report. Do not encroach further and when works are completed create a woody mulch circle around the base. Every effort should be made to protect this tree and surrounding root zone as much as is practically possible within the confines of the area. Whilst it is not practical to root protect out to 12x Diameter at breast height. Half that distance here would benefit the tree significantly.

Priority

Carry out recommended tree works and aerial inspection prior to construction. Within 12 months ideally. Mulch circle can be created after proposed works are completed.

Reinspection

Annually. This is in line with current National Trust tree safety management guidance.

Conclusion

In this report recommendations are made based on visual inspection at the present time. Trees are dynamic living systems which can change dramatically over time. This report recommends a regular inspection regime going forward in line with current National Trust tree safety management policy for all retained trees after the proposed works are conducted. This gives the trees time to respond to the works proposed before a reinspection.

References:

The body language of trees (Claus Mattheck and Helge Breloer)

Manual of wood decay in trees (K weber, C.Matheck)

Field guide for visual tree assessment (C.Matheck)

Tree pest and diseases (Guy Watson)

Principle of Tree hazard Assessment and Management (David Lonsdale)

Common Sense Risk Management of Trees (NTSG)

British Standards 5837:2012

British Standards 3998:2010

Detailed Key

Age Class

Young	Requires care e.g., mulch and water	<5 years
Semi mature	Growing rapidly	>5 years but not achieved full height.
Mature	Achieved full height	Achieved full height
Over-mature	In decline	Crown showing signs of decline. Natural retrenchment.
Veteran	Trees of interest biologically, aesthetically or culturally because of their age, in the ancient stage of their life or that are old relative to others of the same species. (Natural England Definition)	

Part size – Deadwood

Minor	0-50mmØ
Moderate	51-100mmØ
Major	>101mmØ