Landmark Trees

FURTHER INVESTIGATION REPORT:

2 Fitzroy Park

London

N6 6HP

REPORT PREPARED FOR:

Peter Kenny

2 Fitzroy Park

London

N6 6HP

REPORT PREPARED BY:

Adam Hollis

MSc ARB MICFor FArbor A MRICS C Env

Ref: KAR/2FP/PCS/01

Date: 12th January 2015

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Site Details:

Site Address: 2, Fitzroy Park, London N6 6HP

Client: Peter Kenny, 2 Fitzroy Park, London N6 6HP

Surveyor: Vincent Cainey

Date of Inspection: 22nd December 2014

Instruction:

Carry out Resistograph Decay detection on the main stem of 1 Beech tree.

Tree Details

Species: Copper Beech (*Fagus sylvatica purperea)*

Height: 19.6m

Diameter: at 1.5m above ground level (agl) 790mm

General Observations:

The tree is situated in the rear garden on the southern boundary with the perimeter wall 40cm south of the stem. There is a shed against the stem to the north. It looks as if the soil levels at the base of the tree have been raised at some time.

At the base of the tree in the northwest, west, southwest, southeast and east are significant areas of cambial dysfunction with superficial white rot, caused by honey fungus (Armillaria spp). Ivy has been removed from the lower stem, but is still on the upper stem and into the crown. There are old pruning wounds on the stem and into the crown. The crown is showing signs of moderate decline: apical die back with major dead wood in the north, east and south over the neighbour's garden. Overall the crown appears sparse, but intact. The sparseness is partially due to past pruning (crown thinning).

The land use within the target area, at risk from branch drop and / or tree failure, is that of gardens, of low occupancy, particularly in times of adverse weather.

Resistograph Tests:

The Resistograph is a drilling instrument that probes the tree with a micro drill with a 3mm tip and a 1.5mm x 400mm shaft; this can penetrate to a depth of 40cm. As the probe advances it measures the resistance encountered. Good healthy wood gives a high reading and poor dysfunctional wood or cavity gives a lower reading. This is depicted on a wax paper strip (see Appendix 1).

Results:

Table 1: 4 Resistograph readings were taken:

Direction	Height of Test	Result
North North West	10cm	Decay to 16cm, good wood 16-40cm (60% sound wood)
North East	5cm	Decay to 16cm, good wood 14-40cm (60% sound wood)
East	5cm	Decay to 16cm, good wood 14-40cm (60% sound wood)
West	5cm	Decay to 31cm, good wood 31-40cm (20% sound wood)

Risk Assessment:

Matheny & Clark (1994) Risk Assessment

The Risk Assessment is based upon the ranges in Table 2 below:

Table 2: Risk Assessment Ranges

Failure Potential:

1 Low
2 Medium
3 High
4 Severe

Size of Part:

1. 1-15cm
2. 15-45cm
3. 45-75
4. >75cm

Target Rating:

1 Occasional occupancy
2 Intermittent occupancy
3 Frequent occupancy
4 Constant occupancy

These ranges are summed (Failure Potential + Size of Part + Target Rating) to a give a total Hazard Rating score of 3-12 points. There is no absolute safety threshold generated. Ultimately, the landowner / site manager will determine his own thresholds and exposure, based upon sound principles of resources management (prioritising and abating, rather than eliminating all risk).

Table 3: Risk Scores

Hazard	Failure Potential	Size of part	Target Rating	Risk Score
Deadwood	3	1	1	5
Stem	2	4	1	7

Conclusion:

The Resistograph tests show that there is external decay around most of the stem but there doesn't appear to be any central decay/cavity. This pattern of decay and the die back and dead wood in the crown are symptomatic of a more pathogenic mode of action, possibly brought on by the historic piling of garden waste against the base of the tree or swimming pool construction. The latter will have a moderate effect on the tree's long-term anchorage. As yet, the amount of decay is not significant enough to majorly affect the structural integrity of the stem (justify felling), though the western cross section does give some cause for concern, and the integrity of the root system remains in some doubt. Root plate failure from honey fungus is generally prefigured by marked crown decline. This tree would be best described as in moderate decline.

The deadwood within the tree has a high risk of failure and the tree itself has a moderate risk of failure. The size of parts involved are at opposite ends of the spectrum, but the target area is consistently low.

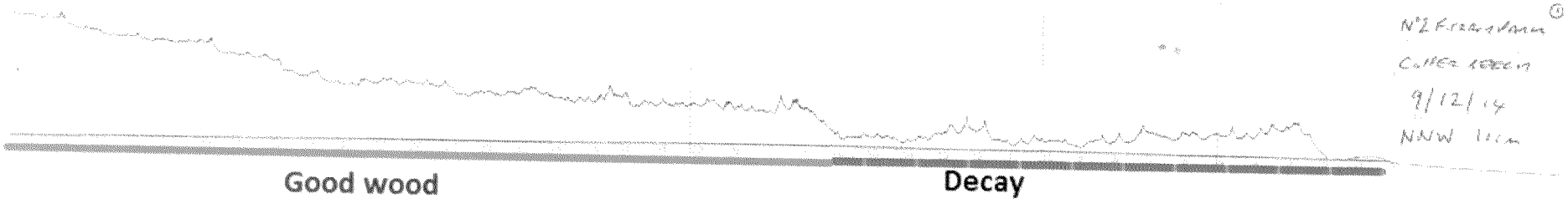
The total risk score(s) from the tree are moderate – high, with the greater risk from catastrophic tree failure.

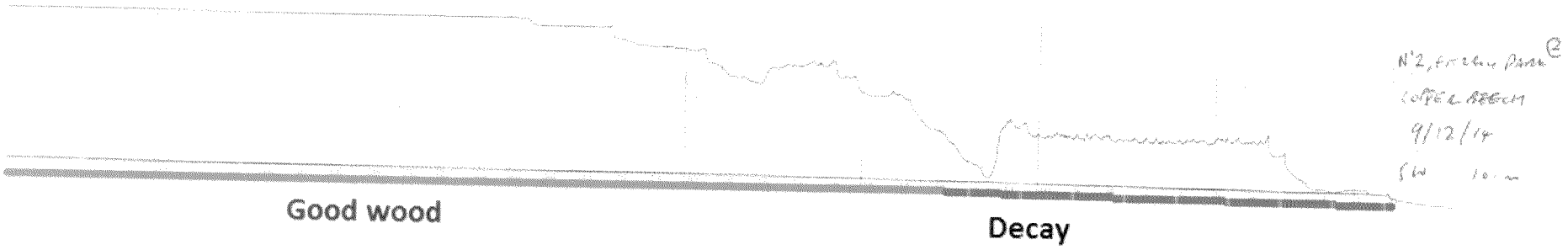
Recommendations:

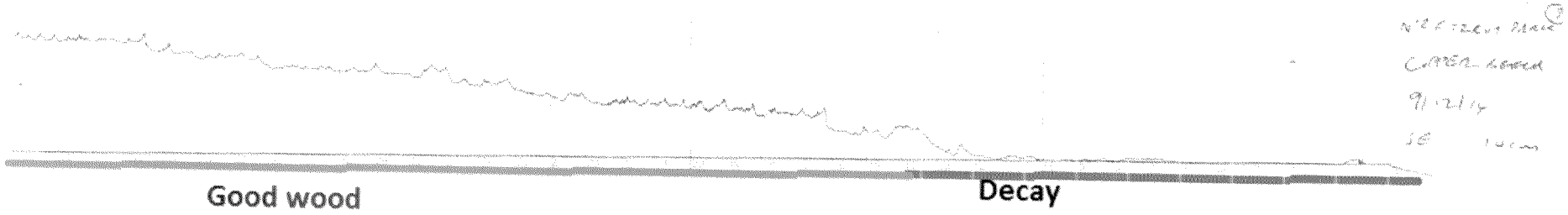
The dead wood should be removed as soon as practically possible, and should be combined with a crown reduction of 25% by area (i.e. removal of outermost 25% of branch and twig length). The remaining ivy should also be removed, as this will significantly affect the trees wind resistance. The tree should be re-inspected in 2 years or if it shows signs of significant / accelerated decline in the interim.

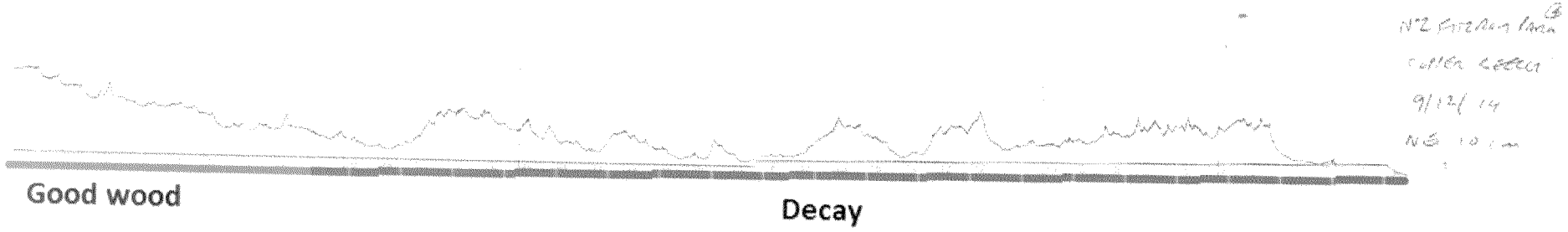
All work to be carried out to BS3998(2010), tree work, by a fully qualified and insured arborist.

Appendix 1


Good wood
Decay


Good wood
Decay


Good wood
Decay


Good wood
Decay