

# Additional Proof of Evidence, William Leonard Anderson.

October 2022.

Appeal against an enforcement notice issued by  
the Peak District National Park Authority.

PDNPA reference ENF: 21/0034 – Thornbridge Hall and Estate,  
Ashford in the Water, DE45 1NZ.

For Mrs Emma Harrison CBE.

- Contents.
1. Comments lately received from PDNPA regarding the installation of drainage alongside the car park and driveway.
  2. Best practice guidance for installation of utilities in respect of trees.
  3. Discussion.
  4. Conclusion.

Appendix; NJUG10's figure 1 with text.

Anderson file reference; Thornbridge Hall 15

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9001

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1. On Friday October 7<sup>th</sup> I was made aware of PDNPA comments regarding the installation of surface water drains alongside the car park and alongside the driveway to the car park. I wasn't aware of this matter but have now seen drawings relating to the drainage channels, prepared by Northern Structural Services.

Fairly simply, this drainage channel will involve digging a trench alongside the drive, which will discharge into an "attenuation pond," which in turn will discharge into existing pond.

I presume the PDNPA's concerns are the trenches that will necessarily cross root protection areas and potentially cause damage to roots. I note that the attenuation pond will be adjacent to tree 40.

2. The best practice guidance document for installation of utility trenches near trees is the National Joint Utilities Group's publication "Volume 4," widely known as "NJUG 10." I've appended that document's figure 1, which is fairly self-explanatory.

The National Joint Utilities Group were formed in the light of the cable TV revolution in the early 1990s, when the Arboricultural world realised that trenches were being dug through the nation's streets and potentially damaging tree roots.

NJUG 10 gives the easy-to-understand advice that trenches should never be dug within one metre of a tree's trunk and calls this the "prohibited zone." It then describes an area known as "Precautionary Zone," which is more or less the same as BS5837's RPA. In this zone work is permitted with suitable precautions. For clarity I've appended Figure 1 from NJUG 10.

3. NJUG's concerns are primarily street trees that might be anticipated to be under considerable stress, even before trenches are dug nearby. Trees in streets suffer repeated indignities, as the photograph below illustrates.



The photograph shows a street tree near my house with a new electricity cable being installed. The green conduit is the cable TV installed some years before.

Photograph 1. (March 2020)

Trees like these suffer repeated intrusions but don't die very often. Arboriculturists of my generation watched the cable TV revolution with dread but I have to say although trenches

through root systems were seemingly installed with abandon, very few trees seemed to die. In my neighbourhood I can think of only one tree (out of maybe a hundred) that seemed to decline after trenching works. And even that took more than a decade to reach such condition that it had to be taken down. The tree in the photograph remains alive and vertical as of today.

Self-evidently the situation at Thornbridge Hall will be nothing like the situation in the photograph. The trenches will be on the outer reaches of the precautionary zone so as long as work within any tree's RPA is kept to a minimum and other precautions are followed, trees are unlikely to suffer. Furthermore the trees at Thornbridge are not growing surrounded by tarmac and buildings so they can be anticipated to be more resilient than street trees. Therefore small intrusions into their RPAs are unlikely to lead to decline.

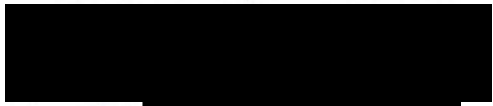
This is not to say that I would not, if given the opportunity, suggest some slight modifications to the drainage route, particularly in relation to the car park's Horse Chestnut tree, but this would be a relatively minor alteration.

#### **4. Conclusion.**

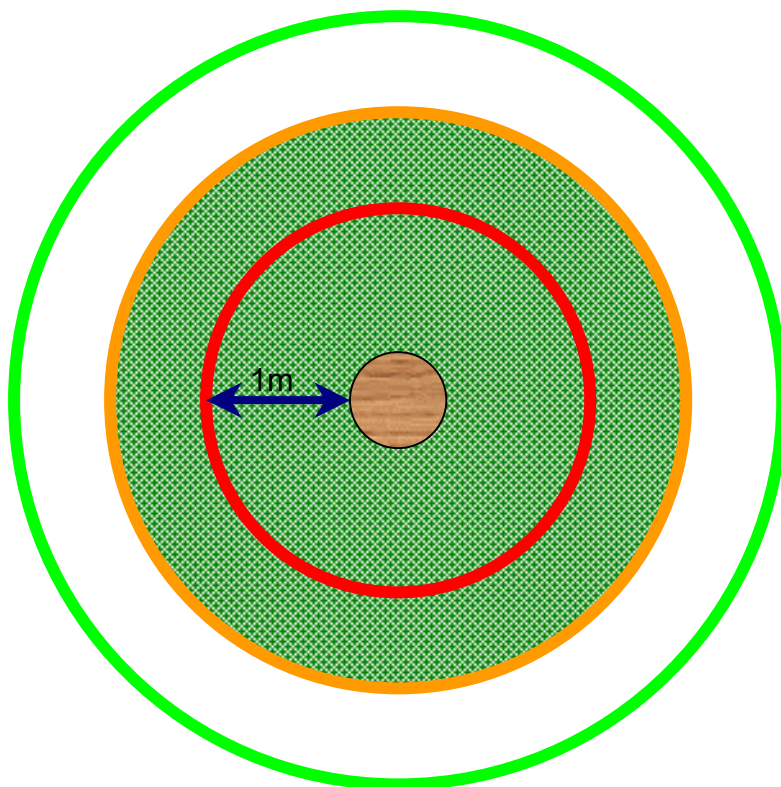
Although the PDNPA's concerns about potential root damage are entirely understandable, in this case the potential problems are unlikely to lead to damage and can be easily overcome.

Although following the NJUG 10 figure 1 guidance is sufficient for this particular project, a project-specific method statement could be prepared.

Tree 40 (by the attenuation pond) was in poor condition before this project started and my best advice remains; it should be replaced. The replacement planting can be undertaken once the drainage works are complete.



W L Anderson. Dip.Arb(RFS). M Arbor A. October 2022.

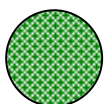


**TREE PROTECTION ZONE**

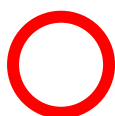
Key to Diagram



Trunk of Tree



Spread of canopy or branches



**PROHIBITED ZONE – 1m from trunk.** Excavations of any kind must not be undertaken within this zone unless full consultation with Local Authority Tree Officer is undertaken. Materials, plant and spoil must not be stored within this zone.



**PRECAUTIONARY ZONE – 4 x tree circumference.** Where excavations must be undertaken within this zone the use of mechanical excavation plant should be prohibited. Precautions should be undertaken to protect any exposed roots. Materials, plant and spoil should not be stored within this zone. Consult with Local Authority Tree Officer if in any doubt.



**PERMITTED ZONE – outside of precautionary zone.** Excavation works may be undertaken within this zone however caution must be applied and the use of mechanical plant limited. Any exposed roots should be protected.

## NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees – Issue 2

### DAMAGE TO TREES

Tree roots keep a tree healthy and upright. Most roots are found in the top 600mm of soil and often grow out further than the tree's height. The majority of these roots are very fine; even close to a tree few will be thicker than a pencil. Most street tree roots grow under the footway but may also extend under the carriageway. If roots are damaged the tree may suffer irreversible harm and eventually die.

### PROTECTING ROOTS - DO'S and DON'TS

There are three designated zones around a tree each of which has its own criteria for working practices.

#### THE PROHIBITED ZONE

- Don't** excavate within this zone.
- Don't** use any form of mechanical plant within this zone
- Don't** store materials, plant or equipment within this zone.
- Don't** move plant or vehicles within this zone.
- Don't** lean materials against, or chain plant to, the trunk.
- Do** contact the local authority tree officer or owner of the tree if excavation within this zone is unavoidable.
- Do** protect any exposed roots uncovered within this zone with dry sacking.
- Do** backfill with a suitable inert granular and top soil material mix as soon as possible on completion of works.
- Do** notify the local authority tree officer or the tree's owner of any damage.

#### THE PRECAUTIONARY ZONE

- Don't** excavate with machinery. Where excavation is unavoidable within this zone excavate only by hand or use trenchless techniques.
- Don't** cut roots over 25mm in diameter, unless advice has been sought from the local authority tree officer.
- Don't** repeatedly move / use heavy mechanical plant except on hard standing.
- Don't** store spoil or building material, including chemicals and fuels, within this zone.
- Do** prune roots which have to be removed using a sharp tool (e.g. secateurs or handsaw). Make a clean cut and leave as small a wound as possible.
- Do** backfill the trench with an inert granular material and top soil mix. Compact the backfill with care around the retained roots. On non highway sites backfill only with excavated soil.
- Do** protect any exposed roots with dry sacking ensuring this is removed before backfilling.
- Do** notify the local authority tree officer or the tree's owner of any damage.

#### THE PERMITTED ZONE

- Don't** cut roots over 25mm in diameter, unless advice has been sought from the local authority tree officer.
- Do** use caution if it is absolutely necessary to operate mechanical plant within this zone.
- Do** prune roots which have to be removed using a sharp tool (e.g. secateurs or handsaw). Make a clean cut and leave as small a wound as possible.
- Do** protect any exposed roots with dry sacking ensuring this is removed before backfilling.
- Do** notify the local authority tree officer or the tree's owner of any damage.