

Shared Learning

IP W, W & C Region – IP Great Western Programme

Tree Root Protection Zone

A Shared Learning of the correct procedure when conducting work near a Tree Root Protection Zone (TRPZ).

Details

During the installation of a new RRAP on the Thames Valley Area of the Greater West Programme excavation work was required. This excavation work was carried out within a TRPZ without any arboriculture survey. This tree is adjacent to the line and damage to the root structure could undermine the stability of the tree and lead to an incident of the tree falling on the line. It was also not checked to see if this tree was under a Tree Preservation Order (TPO).



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- Trees can be easily damaged by machinery driving over roots, storage of heavy materials on the roots, hazardous spillages and introducing an impervious covering around tree roots such as concrete.

- From the end of February to the end of August is bird nesting season and disturbance to trees that contain nests is a breach of the Wildlife and Countryside Act.
- If the tree is protected by law under a Tree Preservation Order, or is within a conservation area then an application to the local authority will be required for the TPO to be removed. Not protecting the TRPZ of these trees could result in potential prosecution (£20,000 fine and/or 6 months imprisonment), a fine of £2,500, issue a Caution and/or a replanting notice.
- If a tree is damaged then it may become unstable and is more likely to fall, increasing risk to people and assets.
- If trees on site are damaged the local authority could require the company to pay for a replacement tree (like for like), this can cost up to £2,000 per tree plus ongoing maintenance costs.

Recommendations

If tree(s)/hedgerow(s) require removal as part of the works, check with the local authority regarding Tree Preservation Orders (TPO) or other protection requirements. If the tree is protected by a TPO an arboricultural assessment of the tree/s is required and an application to the local authority will be required for the TPO to be removed.

Protected trees can be of any size age species or shape and can be found anywhere. TPO trees are available as a layer on GeoRINM and should be assessed alongside information gained from the Local Authority records usually found online.

To avoid accidental damage to trees and their roots **always** set up the TRPZ. **Guidance on TRPZs is set out in the British Standard ([BS 5837:2012](#)).**

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Where are tree roots?



On average 90% of a tree's roots occur in the upper metre (3') of soil and can extend in width up to 3 times the height of the tree.



However, this does differ between different tree species which is why it is necessary to get an arboriculturalist in if working near TPO trees or large mature trees.

Do's:

- ✓ Obtain specialist advice at the earliest opportunity;
- ✓ Adhere to the recommended tree protection measures at all times;
- ✓ Ensure all staff are aware of the necessary protection measures;
- ✓ Establish good lines of communication;
- ✓ Seek advice should the working methodology need to be revised;
- ✓ Check with project specification documentation controls before felling any trees to ensure permission has been obtained only clear vegetation as instructed;

- ✓ Check for nesting birds and if any are found stop work and contact a line manager immediately if present;
- ✓ Ensure plant and machinery are kept out of any excluded areas;
- ✓ Store all fuels and oils and other potential pollutants away from root systems;
- ✓ Hand dig only around root systems.

Don'ts:

- ✗ **DO NOT** store plant or equipment in TRPZ. This can cause compression of the soil around the tree damaging the roots and can result in accidental damage to the tree trunk or branches;
- ✗ **DO NOT** store spoil or building material, including chemicals and fuels in TRPZ;
- ✗ **DO NOT** undertake tree felling or hedgerow clearance during the bird nesting season;
- ✗ **DO NOT** excavate with machinery. Use trench less techniques or dig by hand;
- ✗ When hand digging, work carefully around the roots, retaining as many as possible. **DO NOT** dig within 1 metre either side of the tree;
- ✗ **DO NOT** cut roots over 25mm in diameter unless the local authority's tree officer agrees beforehand (as a general rule, don't cut a root thicker than your thumb).