



Site Guidance Note 5: Site cranes and piling rigs

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SGN 5: Summary guidance for site operatives

Administration

1. **Unauthorised damage to protected trees is a criminal offence and could lead to enforcement action.**
2. **Work under the normal site risk assessment procedures and comply with the wider site safety rules.**

Other relevant SGNs

3. **Monitor works in root protection areas (RPAs) by the supervising arboriculturist (See SGN 1 Monitoring tree protection).**

Important reminders

4. **Programme fixed site cranes to automatically avoid contact with retained trees or instruct operatives to do so manually.**
5. **Use a banksman to ensure that mobile cranes and piling rigs moving around the site do not hit retained trees.**
6. **Where necessary, create working space during demolition by facilitation access pruning and tying back branches, as specified by the supervising arboriculturist.**

SGN 5: Explanatory notes and examples

Purpose

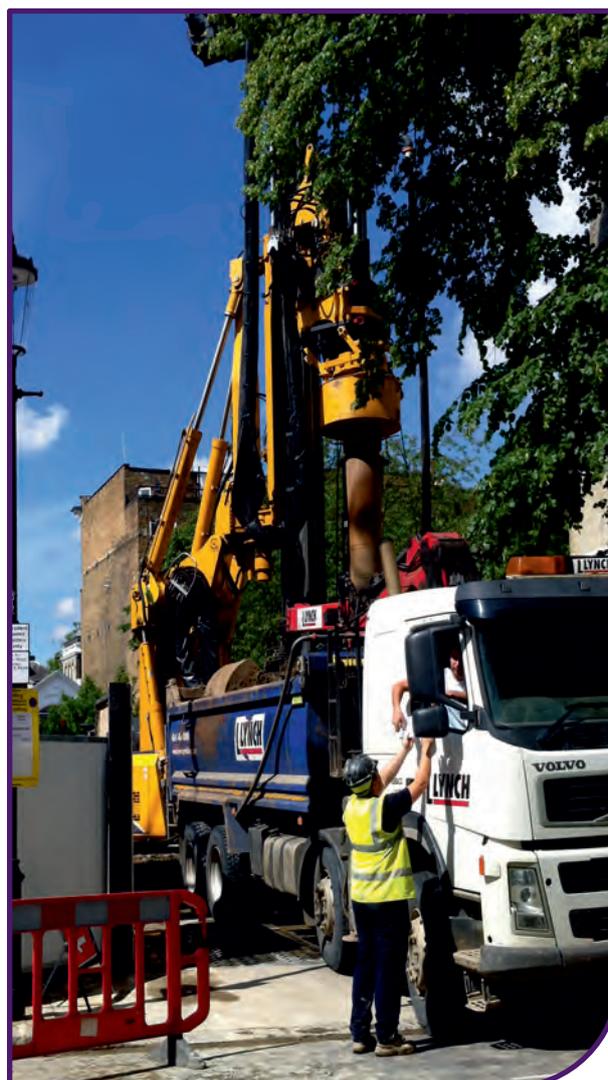
SGN 5 describes the precautions that will be taken to prevent damage to branches during the installation, use, and removal of fixed and mobile site cranes, and mobile piling rigs, near retained trees, based on the recommendations in BS 5837 (5.5, 6.2.4, 7.3, & 7.5).

General principles and clarifications

Site cranes can be permanently fixed on site for the duration of the development activity or temporarily brought on to site for specific lifting tasks. Both fixed position and mobile cranes can damage branches and trunks by physically hitting them with the machine and the loads being moved.

Where possible, permanent site cranes will be automatically programmed to avoid retained trees. If programming is not possible, operatives will be trained to avoid retained trees through the normal site risk management procedures. Mobile cranes and piling rigs will normally be kept away from protected trees by fencing.

However, if low branches extend over the fencing, damage to the tree will be avoided by either facilitation pruning or manually tying them clear of the work area, as specified by the supervising arboriculturist. All movement of mobile plant near trees with branches that extend beyond the fencing will be overseen by a banksman to ensure that there is no contact.



SGN 5: Explanatory notes and examples



Where possible, fixed-position cranes should be programmed to automatically avoid retained trees. If that is not possible, operatives should be trained to avoid retained trees as part of the normal site risk management procedures.



Where possible, access for any plant near trees will be restricted by protective fencing. However, where branches extend over fencing and there is a risk of damage from mobile cranes, operatives should be briefed to avoid them and be guided around the site by a banksman.



Loads can be lifted around the site over and around trees, but operatives should be briefed to avoid contact with tree crowns.

SGN 5: Explanatory notes and examples

Care should be taken to avoid damaging retained trees during the installation and dismantling of fixed-position site cranes.



Tall piling rigs have the potential to damage branches up to 20m off the ground and so protective fencing should be used to prevent this where such rigs are used.



Facilitation pruning to reduce the length of branches extending over fencing or tying long branches back are ways to prevent damage by piling rigs.



SGN 5: Explanatory notes and examples



Alternatively, low height piling rigs should be used to avoid damaging branches that cannot be pruned or tied back.

Technical reference

Due to copyright restrictions, the relevant British Standard clauses are summarised, not quoted, as follows:

- BS 5837 (2012) Trees in relation to design, demolition and construction – Recommendations:**
Clauses 5.5 (Tree protection plan), 6.2.4 (Additional precautions outside the exclusion zone), 7.3 (Tree protection during demolition), and 7.5 (Special engineering for foundations within the RPA), recommend:
 - 5.5.6 To avoid damage to retained tree crowns, working space for cranes, plant, scaffolding and access should be allowed for.*
 - 6.2.4.1 Planning of site operations should account for wide loads, tall loads and plant with booms, jibs and counterweights (including drilling rigs) to prevent them hitting retained trees. Adequate clearance from trees should be maintained by using a banksman when using plant near trees.*
 - 7.3.1 If necessary, access facilitation pruning or temporarily tying branches back should be carried out to provide working space during demolition. A pruning or tying specification should be prepared by an arboriculturist.*
 - 7.5.5 Where piles are to be installed in RPAs, the smallest practical pile diameter should be used because it reduces the size of the rig required, which reduces the reliance on ground protection and any access facilitation pruning.*