

Supporting Information for the Scheme

Provided by: SSEN (December 2025)

Please find below information to address the comments relating to the refusal of consent to remove the trees Single 1 of TPO 1340/2010 and Single 13 of TPO 1341/2010, as set out in the attached letter of 17th October 2025 from Chris Hannington (ref TF/TPO/1434/2012 /1341/2010/1340/2010/251817).

Justification for the cable route and easement

The easement is 10m wide and the proposed new cable must be positioned within it. The easement's position was predominantly determined by the development partners of the new South Wokingham Phase 2B housing development based on the proposed layout of that project. The easement's position was also influenced by the location of the existing electricity network (pylons and poles) to which the new cables must connect – this has given the easement fixed start and end points. To the immediate north of the cable easement is a railway line and associated land owned by Network Rail – it is not possible to move the easement any further north as this would encroach into Network Rail's estate, and their consent for this would not be granted. To the immediate south of the easement would be new dwellings and streets, for which planning approval has been granted. As such, there are no alternative locations for the cable easement at this location.

Consideration of trenchless technology

The use of horizontal directional drilling (HDD) has been considered to avoid impacts to mature trees. A technical study was undertaken to assess the suitability of the proposed new cables to HDD based on their 'ratings'. The term 'ratings' refers to the specified limits and capabilities within which a cable can be safely and reliably operated. These ratings are defined by standards and manufacturers and cover the electrical and thermal tolerances of the cables. Whether a cable achieves the required ratings is influenced by a number of factors, including the layout of the cables (i.e. their position under the ground in relation to one another), conductor material, installation method, ambient temperature, depth of cable and soil thermal resistivity

For the Waterloo Road crossing, the ratings assessment concluded that the preferred configuration for the two 33kV and two 132kV circuits is to lay the new cables in a trefoil formation (each circuit has three cables). To achieve the required ratings, the 33kV circuits must be separated by a minimum of 1m and the 132kV circuits must be separated by 1m. The 33kV and

132kV circuits must be separated by 3.4m. The width of separation is influenced by several factors, including the amount of heat generated by the individual cables and the effect that this would have on the ratings of adjacent cables. As such, it is important to maintain the relevant separation between the cables. A cross section is attached.

Based on the above, the assessment concluded that open cut trenching is the only viable option for cable installation at Waterloo Road for the following two reasons. Firstly, HDD would require eight 'shots' to install the 132kV and 33kV circuits in the required formations; as the easement is restricted to a width of 10m, there would be an extremely high risk of striking adjacent circuits during drilling operations and so open cut is the preferred solution. Secondly, HDD affects cable ratings as it impedes heat dissipation, increases mutual heating and introduces uncertainty in thermal conditions; the net effect is a reduction in the cables' rating which can only be mitigated by increasing the spacings between the circuits – this is not possible as it would require a widening of the easement, and so open cut is the preferred solution.

Alternative trenchless methodologies such as pipejacking were considered by our specialist design partner but were found to not provide the ratings required on these circuits, in particular due to the depth and diameter of the ducting required for these methodologies. As per the attached cross section there is a requirement to install large quantities of Cement Bound Sand (CBS) in order to dissipate heat in a geotechnically predictable manner. Neither the HDD nor other trenchless options are able to be modelled with sufficient thermal conductivity of the surrounding materials to dispense this energy, which has a subsequent 'derating' to allow for this unpredictability. All possible combinations of type approved cable were considered during the design process and there were no other suitable combinations that could achieve the ratings required. As such, installation by open cut is the only viable methodology at this location.

Consideration of reducing the width of the easement

The easement is 10m wide. As discussed above, the easement must accommodate two 33kV circuits and two 132kV circuits. The trench for the 33kV circuits would be 1.5m wide and the trench for the 132kV circuits would be 1.7m wide, see **Appendix 1**. The 33kV and 132kV circuits must be separated by 3.4m. T58 and T63 (ADAS refs) are located within the centre of the easement. It is not possible for the 10m wide easement to accommodate the four circuits and these trees. A further reduction of the easement's width is therefore not practicable, due to its very large impact on the cable ratings.

Consideration of tree retention and the use of Vac-ex or hand digging

The trenches will significantly encroach into the RPAs of the affected trees. The excavations will follow the guidance contained in Street Works UK (formerly National Joint Utilities Group (NJUG)) 'Volume 4 NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees, Issue 2', where roots 25mm diameter and greater shall be retained and protected for the duration of the excavations. Excavations shall be phased with root retention using Vac-ex / air lance or hand digging.

However, the proposed trenches are required to be a minimum of 2.5m deep. At this depth, it is anticipated that trench supports would be required for safety reasons. The preferred method of supporting trenches is to use shuttering or trench boxes and these would sever all roots that pass through the trenches. An alternative would be to use timber posts for trench support, and these could potentially be installed whilst retaining key roots; however, this can only be determined at the time of construction by the contractor and safety will be the primary concern. If it is found that during construction a large quantity of large diameter roots are exposed resulting in the tree's structural stability becoming a risk and the installation of the trench supports becoming compromised, the felling of one or both trees may be unavoidable.

Accordingly, efforts will be made to minimise root loss and protect tree roots where practicable, with final measures determined on site in response to the progress of the construction works.

Mitigation and compensation

A mitigation plan, including the provision of replacement trees, is set out in the document 'South Wokingham Phase 2B – Tree Mitigation for Condition 64' (ref P19-0052_164C, Pegasus Group, Dec 2025). This document was submitted to Emy Circuit (Wokingham Borough Council) on 15th December by Matt Harris (Nexus Planning). As the proposed cable installation is a planning condition of the South Wokingham Phase 2B project, it is for that project to mitigate the impacts to trees, as set out in the Tree Mitigation Strategy.

Appendix 1: SSEN Trench Cross Section Plans

See following page

