

Arboricultural Impact Assessment Addendum

Assessment of Sunlight & Daylight

Land at
The Goulbourne
Borras Park Road
Wrexham

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Commissioned by:
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on behalf of

Blueprint Architectural LTD

Prepared by
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This Arboricultural Impact Assessment has been prepared in accordance with the protocols, standards and procedures set out in BS 5837: 2012 'Trees in relation to design, demolition and construction'.

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Introduction

- 1.1 This addendum has been prepared to evaluate the potential impacts to residential amenity arising from of shade and obstruction to light affecting a proposed housing development at the Goulbourne Public House, Borrass, Wrexham. The report supports the Arboricultural Impact Assessment prepared for the site, ref: AIA-GBW-11-16 and should read in conjunction with this report. The juxtaposition between trees and buildings can have a significant effect on the use and enjoyment of an area and the constraints imposed by trees should inform site layout and design to ensure a harmonious relationship between retained trees and adjacent land use. Trees can influence and effect adjacent land in a number of ways, one of the most common being through shading of rooms and garden areas. This report seeks to objectively establish the extent of any impacts arising from shading and obstruction of light and is based on a shade assessment, undertaken using a proprietary computer programme.

Site Description & Tree Attributes

- 2.1 The proposed development is at the site of the Goulbourne Public House and is fully described in the AIA-GBW-11-16. The site is a brownfield site and currently supports the pub and car park area. A number of site layout have been considered for this site and the two most appropriate are considered in this report.
- 2.2 There are several trees on this site, however of the trees to be retained only T6 & T8 have any notable effect in terms of shading of the site. These trees are described in detail in the AIA and their attributes summarised below.

Tree Attributes

Tree #	Species	Height M	Crown Spread M	Crown Clearance M
T6	Oak	16	N 7.2 E 6.8 S 6.2 W 7	6
T8	Oak	15	N 7.7 E 6.3 S 7 W 7	3

Discussion

- 3.1 The Local Planning Authority have raised concerns that the two trees, situated on land adjacent to the south west boundary of the site would cast shade and obstruct light to the proposed plots along this boundary and this may interfere with a future owners' reasonable enjoyment of their property.
- 3.2 Guidance provided in the British Standard BS 5837: 2012, advises that shading of buildings can be a problem and site should be designed to take account of existing trees, their ultimate size and density of the foliage and that garden areas should be designed to meet the normal requirement for direct sunlight for at least part of the day. Building Research Establishment guide to good practice (BR209) Site Layout Planning for Daylight and Sunlight advises that, in order to appear reasonably sunlit a dwelling should have at least one main window wall that faces within 90° of due south and that on this wall, all points on a line 2m above ground level are within 4m of a point which receives at least a quarter of the annual probable sunlight hours. The guide also advises that for gardens to appear adequately sunlit, no more than two-fifths and preferably no more than a quarter should be prevented from receiving any sunlight on 21st March.
- 3.3 To assess the extent to which the trees interfere with sunlight to the proposed dwellings and their gardens, an assessment was undertaken using the Arborshadow software. Shadow paths have been calculated for 21st March (equinox) and 21st June (sun at highest point in northern hemisphere) and a detailed assessment made for June 21st for every hour between 12:00 & 20:00. The assessment was undertaken using revised site layout G. These are attached to this report at appendix A and include an area analysis for the gardens of plots 6, indicating the extent and time of shading of this area. Also included is a point assessment for the main patio door for the dwelling on plot 6, again providing information on time and duration of shading.
- 3.4 Analysis of the shadow paths indicate that the layout would appear to exceed the minimum requirement for sun lighting as advised in the guidance, with up to three quarters of the garden area receiving some sunshine on the 21st March. Detailed analysis indicates that, during the summer months, the plot receives good levels of sunlight during the day, with an area of between 50 – 99m² receiving full sunlight from 13:00 onwards and the main effect of shading occurring around late midday, when the sun is at its strongest and dappled shade the most desirable. The point analysis also indicates that a satisfactory amount of sunlight would reach the main patio window in plot 6.
- 3.5 A further consideration is that the type of shade cast by trees differs from that cast by buildings and solid objects in that some level of light passes through the crowns. BRE guidance uses transparency ratings to assess the extent of shading associated with a given tree species. In the case of oak, the transparency rating is 45% for bare branches, meaning that 45% of the available light can pass through the crown

when the tree is not in leaf and 20% for the tree in full leaf. This would result in a more acceptable dappled shade, which can be quite pleasant and advantageous, particularly as oak trees tend to come into leaf latter in the year.

- 3.6 The analysis has been based on the trees as they are without any form of remedial pruning to the crowns. Both trees are in good condition and well established in their landscapes as could tolerate some level of selective pruning without significantly compromising either their health or appearance. Works such as crown raising could further improve the levels of light reaching the plots.
- 3.7 In terms of other proximity issues, such as dominance and overbearing presence, the revised layout site the nearest dwelling (Plot6) 11.2 metres from T6, with a distance of 4m from the edge of the canopy. Given that the tree is offset from the house and that this is a sizable 2-story dwelling with a large garden, it is considered that the relationship between the tree and the house is reasonable.

Conclusion

- 4.1 The revised site layout G would appear to provide a satisfactory juxtaposition between the trees and the dwellings and meets the minimum recommendations of BS5837: 2012 and BRE guidance note 209 for site layout in relation to sunlight and daylight. Further improvements could be made, if required, through minor tree surgery works that would not be significantly detrimental to the trees.

S.J.A. Shields

Uni Cert For. & F.P. (Bangor)

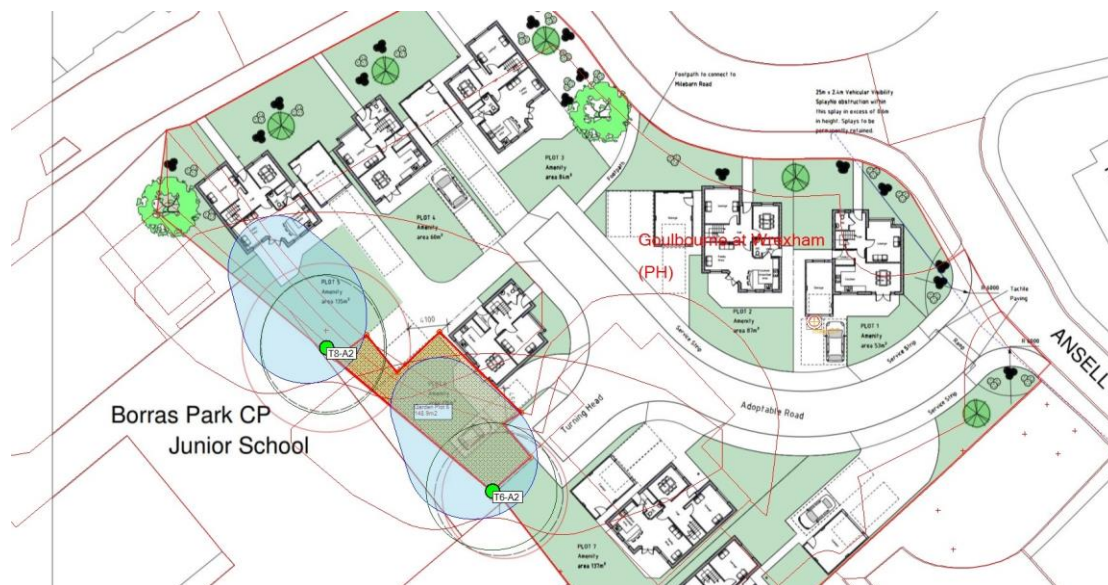
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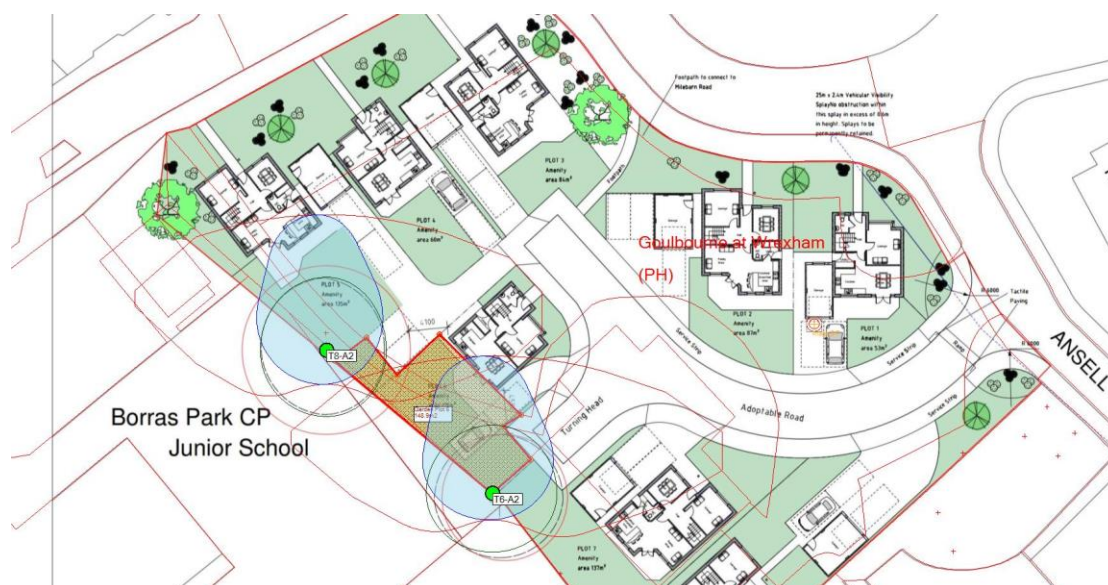
Chartered Forester

21st March 2017

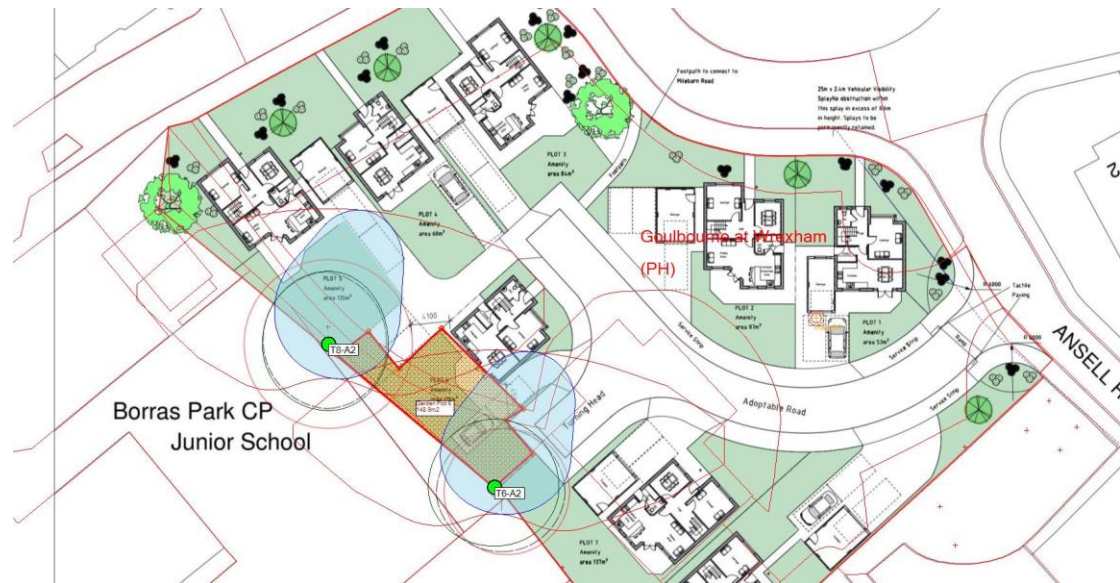
Shadow Paths, Goulbourne Wrexham



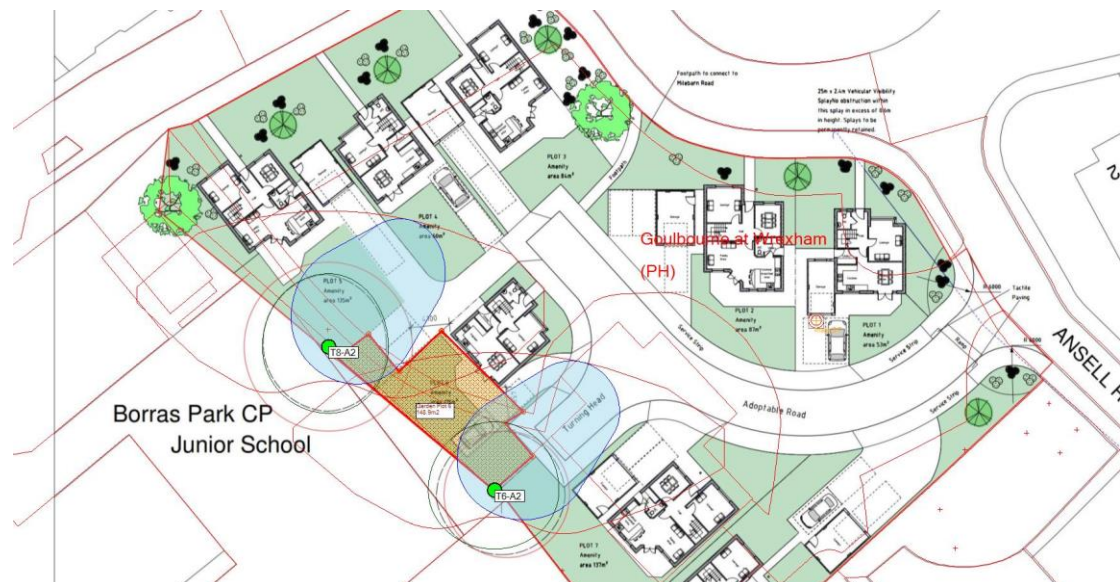
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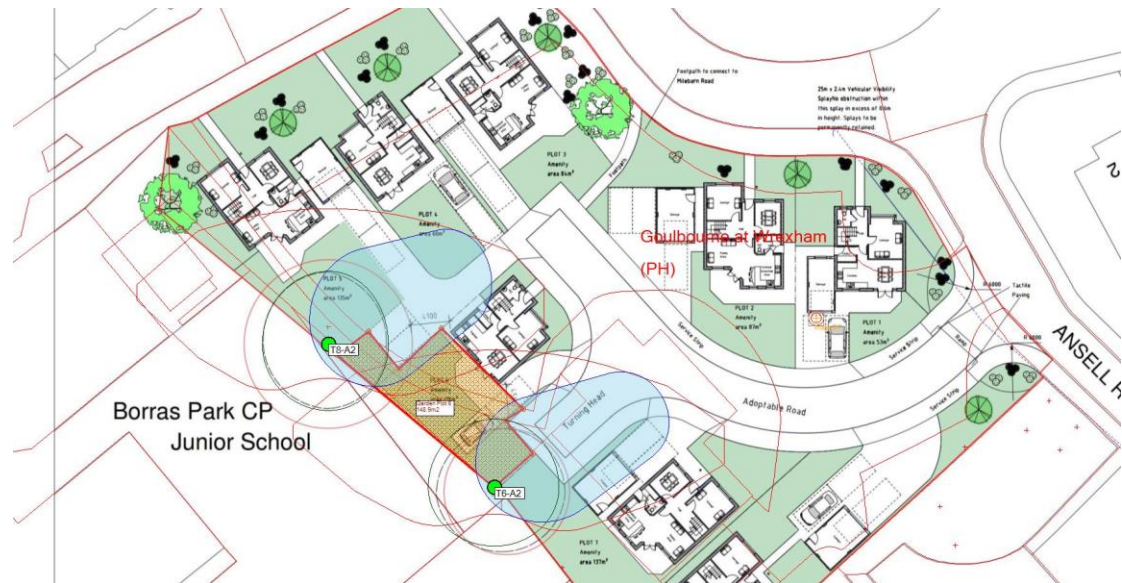
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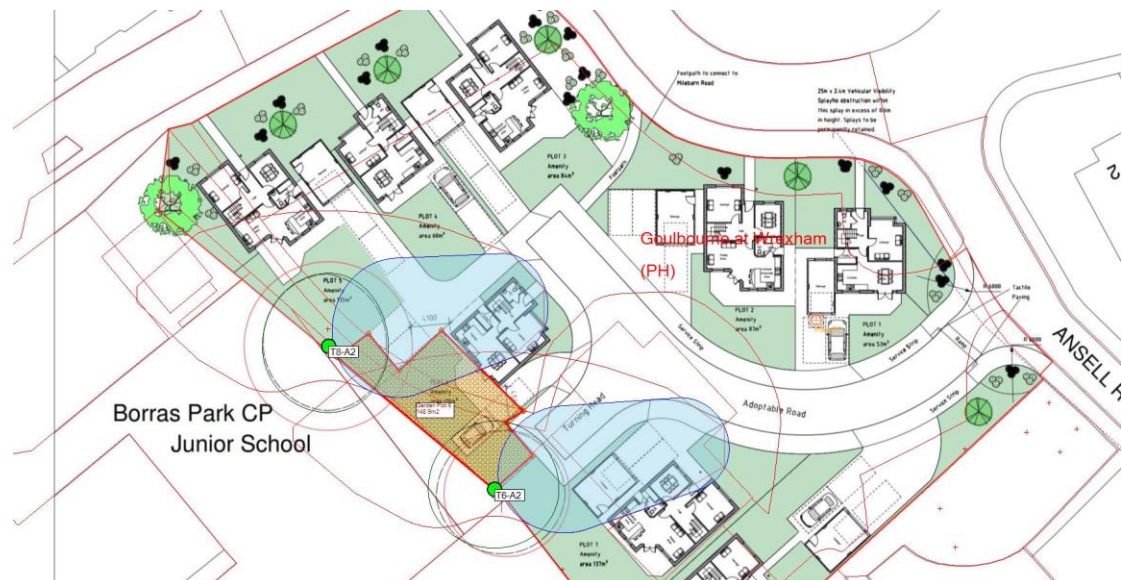
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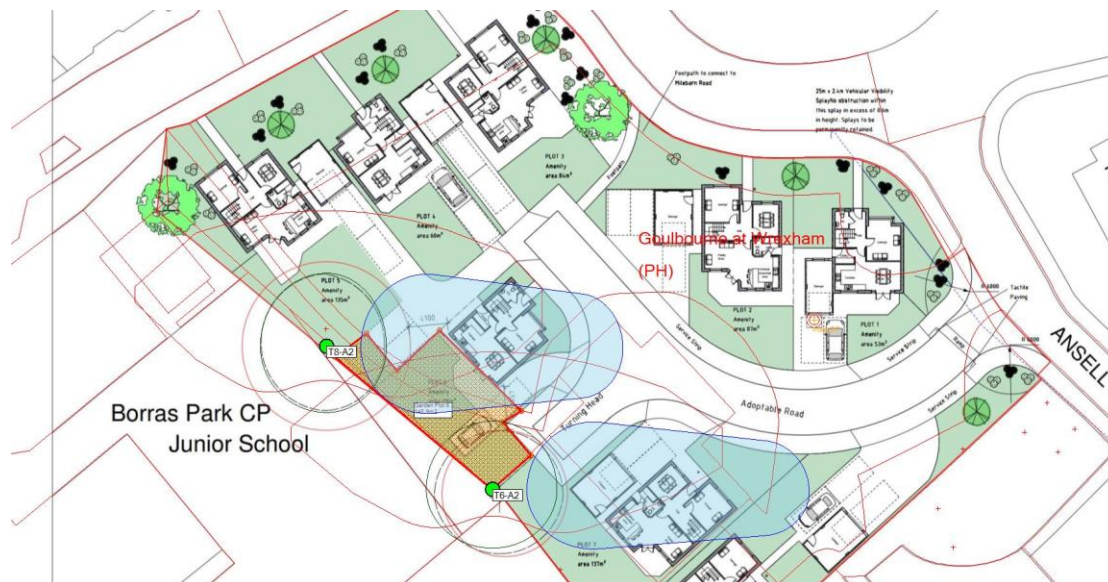
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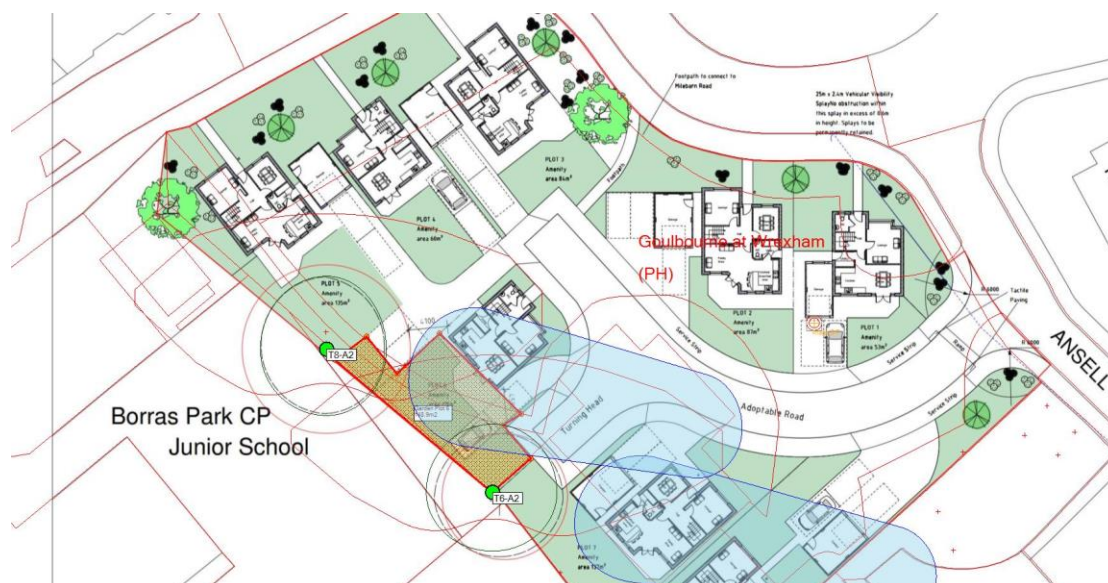
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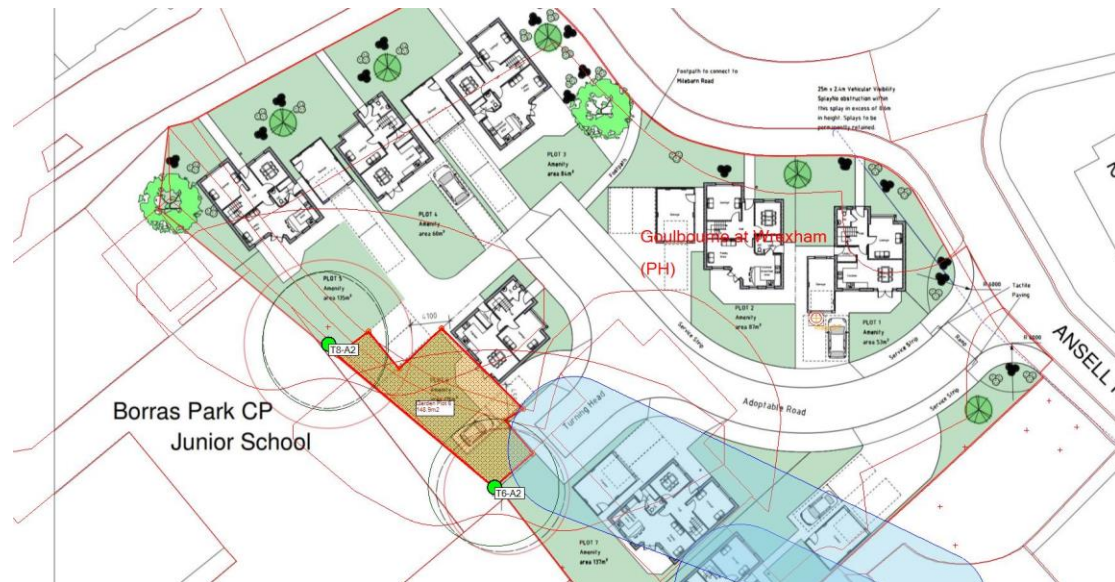
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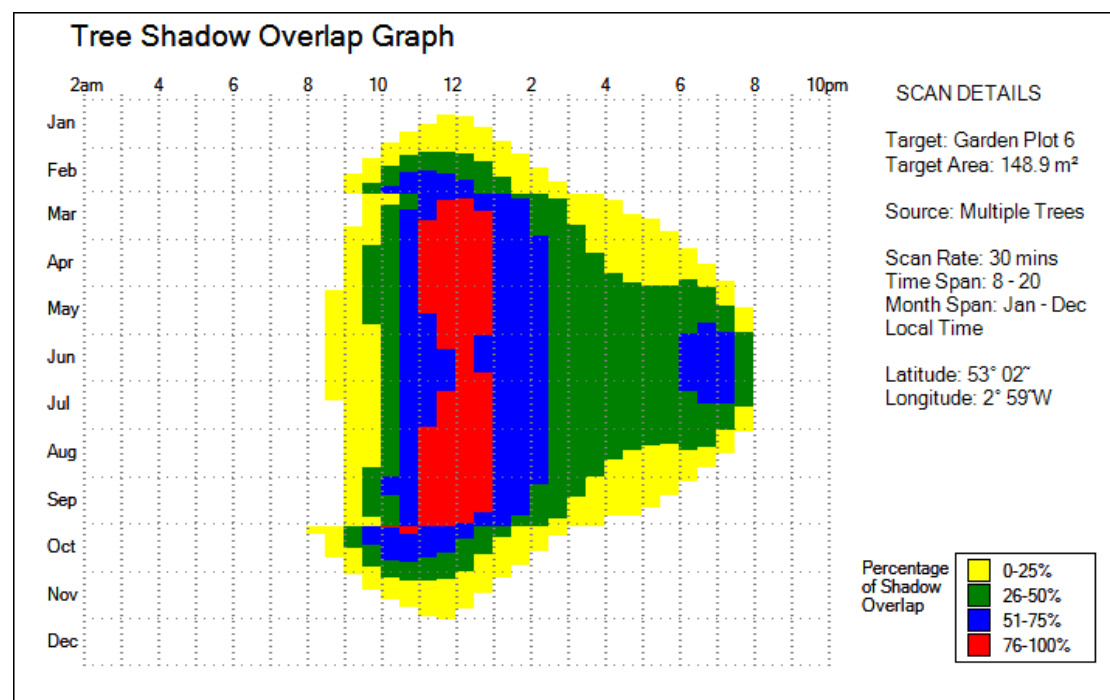
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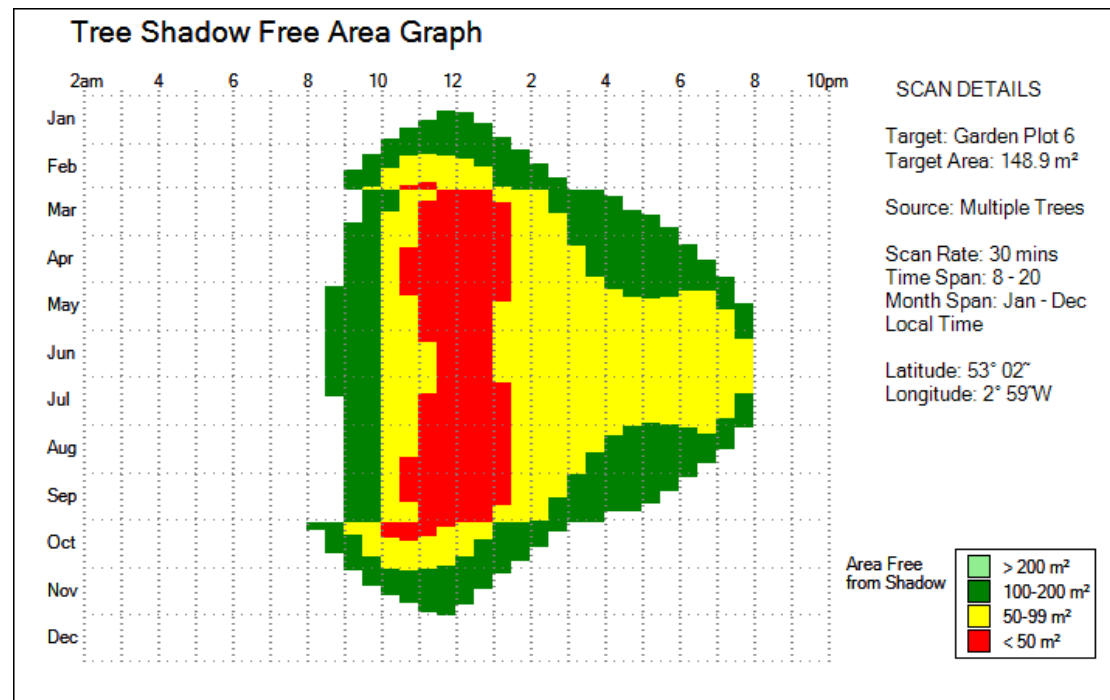
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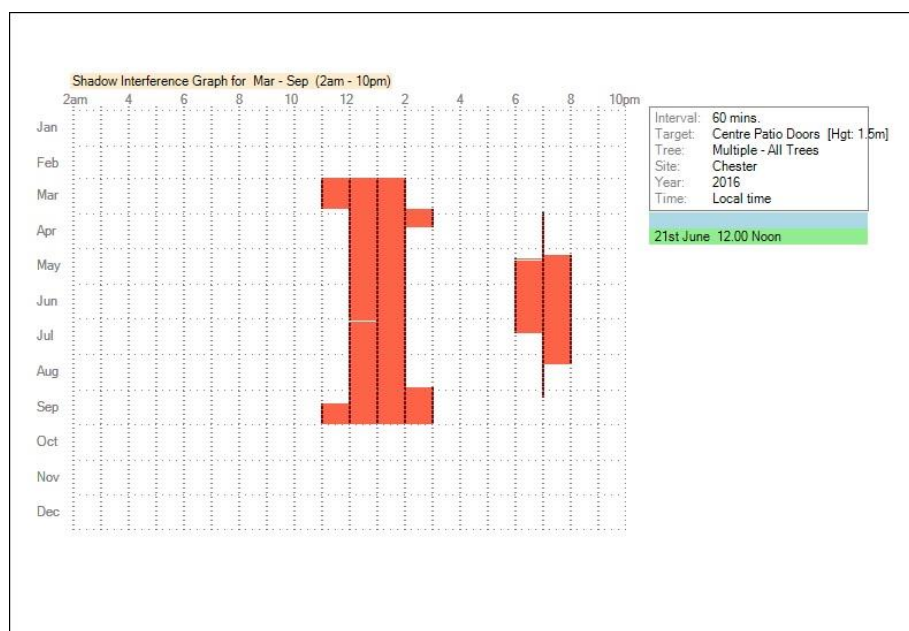
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Area Analysis Garden; Plot 6



Area Analysis Garden; Plot 6



Point Analysis Patio Window; Plot 6