



Arboricultural Report

Deansgate Roundabout, Manchester

Ocean Outdoor UK Ltd

25 Argyll Street, London, W1F 7TU

Prepared by:

SLR Consulting Limited

7 Park Row, Leeds, LS1 5HD

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Basis of Report

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Executive Summary

On behalf of Ocean Outdoor UK Ltd, SLR Consulting Limited has carried out a Tree Survey in accordance with BS 5837:2012 'Trees in Relation to Design, Demolition and Construction-Recommendations' on the 20th March 2024 to support planning application 139189/AOH/2024 for the '*Installation of 2 no. Landscape digital displays and associated supporting structures and 2 no. Portrait digital displays and associated supporting structures*' on land located at Deansgate Interchange with Chester Road and Chorlton Road, Manchester.

The survey records all trees within and adjacent to the site, recording a number of parameters including species, crown spread and Root Protection Area ('RPA').

The RPA of any given tree is the area of ground around that tree which should not be disturbed by excavation, compaction, changes in level or other construction/demolition operations. The extent of the RPA is calculated in accordance with BS 5837:2012 and is an important metric for understanding the impact a proposal will have on tree removal and retention and how to protect those trees retained.

The survey recorded three C category tree groups, a single B category, four category C and two category U trees. The proposed development will require the removal of three category C trees and two category U trees (which are both dead).

The proposed development includes for the translocation of the three category C trees to other locations within the application site, and the replacement of the two dead, category U trees in alternative locations within the application site.



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Acronyms and Abbreviations

AIA	Arboricultural Impact Assessment
AMS	Arboricultural Method Statement
CEZ	Construction Exclusion Zone
DBH	Diameter at Breast Height
RPA	Root Protection Area
TCP	Tree Constraints Plan
TPO	Tree Preservation Order
TPF	Tree Protection Fencing
TPP	Tree Protection Plan



1.0 Introduction

1.1 Purpose of the Report

SLR Consulting Limited (SLR) have been appointed by Ocean Outdoor UK Ltd (the Client) to provide consultancy services to support planning application 139189/AOH/2024 for the 'Installation of 2 no. Landscape digital displays and associated supporting structures and 2 no. Portrait digital displays and associated supporting structures' on land Located at Deansgate Interchange with Chester Road and Chorlton Road, Manchester.

The Tree Survey Report has been produced with reference to 'BS5837:2012 – Trees in relation to design, demolition and construction – Recommendations' (BSI, 2012).

1.2 Proposed Development

The proposed development comprises:

- four individual digital advertising screens and associated infrastructure, one on each quadrant of the roundabout, orientated to address the main approach roads to the roundabout.
- Landscaping, including the translocation of three no. of trees, the planting of two new trees and enhancements to the existing wildflower meadow.

1.3 Methodology and Scope

The tree survey was conducted in line with the methodology detailed within BS 5837:2012 and involved the surveying of trees as individuals or groups of trees within an agreed study area (forming the survey area). The information collected and methodology used is summarised in Section 4.2 (Tree Survey Schedule Key) of this Tree Survey Report.

Trees were categorised using BS 5837:2012 into four categories (A, B, C, U) and for trees in categories A-C, they also qualified under three subcategories (1, 2, 3). A summary of this classification can be seen in Section 4.3 (Cascade Chart of Tree Quality Assessment).

The tree survey data is shown in Section 4.4 (Tree Survey Schedule) and has been used to produce Tree Constraints Plans (TCP) (Appendix B). This depicts the existing rooting area and canopy constraints posed by the trees within the study area.

1.4 Limitations and Assumptions

Limitations to the tree survey include the following key points:

- No soil survey data is included in this report.
- Indicative Root Protection Areas (RPAs) have been calculated for tree groups based on the maximum stem diameter taken for each group.
- No data for individual trees within surveyed groups was recorded. An exception to this is when a tree was deemed notable within a group.
- The health and condition of trees can change rapidly and all trees, even healthy ones, are at risk from unpredictable climatic and man-made events. This report is based on the observed health and structural condition of the trees at the time of survey by suitably qualified inspectors. The health, condition and safety of trees should be checked on a basis commensurate with the level of risk and preferably on an annual basis, as recommended in Common Sense Risk Management of Trees (National Tree Safety Group, 2011). The tree survey conducted for this report is not a tree health and safety survey and should not be used as such.



- An RPA provides a notional circular buffer around a given stem based on the stem diameter measured at 1.5m above ground level. The RPA represents the minimum amount of root zone that is required in order to retain the tree in a safe and healthy manner. However, this is not necessarily representative of a tree root system e.g., the roots may extend beyond the RPA boundary on one side and remain inside it on the opposite. The root network extent is dependent on many factors including species, age, soil conditions, topography and exposure etc. The assessment has not taken consideration of these above and shows RPAs as an indicative circular form as per the BS5837:2012 guidance.
- A search for symptoms of disease, parasites, or fungi that may be affecting trees was undertaken as part of the survey and noted where identified. However, symptoms are not always apparent, therefore it is possible that trees affected by disease / parasites / fungi are present within the survey area but could not be identified by surveyor.
- Where the main trunks of trees have limited access due to dense vegetation, epicormic growth or are ivy (*Hedera helix*) clad, the inspection of such trees was limited. The category grading for such trees should be considered as provisional. Further inspection may be necessary following the removal of the obstruction.



2.0 General Arboricultural Principles

2.1 General Principles

Trees are dynamic living organisms which provide essential benefits to society and the wider environment. Any proposed development with the potential to impact on trees must take into consideration the value of trees on site, the impact of any proposed activity, and any potential future conflicts on the site. Suitable measures to safeguard retained trees or mitigate the loss of trees (to be removed) will need to be fully considered and may be subject to a condition of planning consent.

Tree branches and roots frequently grow across site boundaries and off-site trees can pose a constraint and should be carefully considered when assessing the developable space within a site.

2.2 Below Ground Constraints

Below ground tree roots and the soil environment in which they grow need to be protected if the tree is to be retained. Trees grow in association with fungi and other soil organisms which are of key importance to tree health. Roots are essential for anchorage, the uptake of water and nutrients, and the storage of energy (carbohydrates) for the future growth and function of the tree.

Roots can be damaged by physical severance or wounding (e.g., following excavation of the soil) which can lead to the development of decay and a decline in vitality and/or instability. Raising the soil level can bury tree roots at a depth where suitable conditions for growth are less available. Toxic materials discharged into the soil (such as cement based aggregates, fuel and chemicals) can lead to root death and dysfunction. Soils can be compacted to levels inhospitable to tree growth with even a single pass of machinery, regular pedestrian traffic or the storage of plant and materials. Relieving compaction can be problematic and may require costly remedial works. Changes in drainage/water levels can also have significant long-term impacts for tree health.

The effects of these incursions may take many years to manifest, with a resulting decline in amenity value and potentially the death or failure of the tree. It should be noted that older trees are particularly sensitive to damage and changes in conditions.

The RPA is a notional area considered to be the minimum zone that must be protected to avoid any adverse impacts on retained trees. This area is deemed to be particularly important for tree stability, growth, function and health. However, roots may extend far greater distances, with the distribution of the root system relating directly to the availability of suitable conditions for growth (namely oxygen, water and nutrients). It is accepted that tree roots grow predominantly near the surface, with 80-90% being located in the upper 60cm of soil, however, roots may develop at deeper levels where conditions allow.

The RPA of the existing tree stock is an important material consideration when assessing site constraints and planning development activities. The default position should be that all development, including any associated services will occur outside the RPAs of retained trees. Where this is unavoidable, it may be appropriate to use special measures to install structures, services or surfacing within RPAs which allow the protection of roots and soil structure which are essential for tree growth and keep any incursion to a minimum. Further steps to improve or increase the useable rooting area available to the tree may also be required.



2.3 Soils

On shrinkable clay soil, tree growth can lead to the differential movement of structures as moisture is removed from the soil during the growing season. Soils must be carefully assessed. Where trees which predate existing structures are to be removed, this can result in heave as the soils are re-wet.

The advice of a suitably qualified engineer should be obtained to inform any potential issue of heave. Specific advice in relation to this issue is beyond the scope of this report.

2.4 Above Ground Constraints

Tree stems and branches can restrict available space on a development site. Damage or wounding (including excessive pruning) can significantly reduce the amenity contribution of the tree and may lead to the development of dysfunction and decay, with significant long-term implications for tree health. The future impact of existing trees should be carefully considered, including individual species characteristics (such as potential future size, fruit fall, shade etc.) and how the tree will interact with any proposed development and future land use. Annual tree growth can lead to direct damage if stems/branches (or roots) come into physical contact with structures and this should also be taken into consideration.

2.5 Trees and Risk in the Context of Development

Tree owners/managers have a legal duty to prevent foreseeable harm. It is generally accepted that this duty can be fulfilled by undertaking proactive inspections of significant trees to identify obvious defects and by taking appropriate remedial action or gaining further advice as appropriate.

Further guidance is available from the National Tree Safety Group (<https://ntsgroup.org.uk/>)

The tree survey carried out as the basis of this report is primarily for planning purposes, focusing on the quality and benefits of the trees and is not specifically designed to assess the safety of the trees identified. However, when obvious issues have been identified recommendations have been included in the Tree Survey Schedule (Section 4.4).

The Construction (Design and Management) Regulations (2015) states that developers and contractors have responsibilities for health and safety as a result of their actions. Should trees be left in an unstable or hazardous condition the Health and Safety Executive (HSE) could seek to prosecute those responsible along with the potential for further civil claims for damages.

2.6 Trees and Wildlife

Full consideration must be given to the presence of species protected under the Wildlife and Countryside Act (1981 - as amended), the Countryside Rights of Way Act (2000) and the Habitat Regulations (2017), in particular the presence of bats and nesting birds. It is recommended that wherever possible, significant tree/hedge works take place outside of the typical bird nesting season, typically March to August, but this may vary regionally and advice from a suitably qualified ecologist should be sought. The advice of a suitably qualified ecologist is also recommended in relation to any potential impacts on protected species.

2.7 Tree Works

Any tree surgery recommendations contained within this report are to be undertaken in accordance with BS3998: 2010 Tree work – Recommendations (BS3998) by suitably qualified and insured contractors. Significant pruning works are best undertaken when trees are dormant or outside periods of high functional activity to reduce the overall impact on energy available to the tree for growth and processes. In general, the optimum period for



works is between November to February and July to August (subject to the presence of protected species) when the tree is less active and better placed to respond to wounding and a reduction in leaf area.



3.0 Site Observations

3.1 Site Location

The area surveyed is located on land at Deansgate Interchange with Chester Road and Chorlton Road, Manchester.

3.2 General Tree/Site Observations

The site is located within the area of soft landscaping in the centre of the roundabout, with the highway surrounding the site.



4.0 Tree Survey

4.1 Tree Survey Results and Plans

The site was visited and surveyed by a qualified SLR arboriculturist on the 20th March 2024.

The full findings of the tree survey are presented in the Tree Survey Schedule (Section 4.4) and the Tree Constraints Plans (See Appendix B).

Table 4-1: Summary of Total Number of Trees Surveyed and their Relative BS 5837:2012 Categories.

BS 5837:2012 Categories	Trees	Tree Groups	Totals
A	0	0	0
B	1	0	1
C	4	3	7
U	2	0	2
Totals	7	3	10

- Category 'A' trees are of high quality and value and should be retained.
- Category 'B' trees are of moderate quality and value and should be considered for retention where possible, although care should be taken to avoid misplaced retention. Any scheme should consider the retention and protection of trees, but also the tree's future growth.
- Category 'C' trees are of low quality and value and should not place a constraint on the proposals.
- From an arboricultural point of view, the Category 'U' trees cannot realistically be considered for retention as a living tree in the context of the current land use due to their low life expectancy of less than 10 years in their current poor condition.

4.2 Tree Survey Schedule Key

Table 4-2: Tree Survey Schedule Key

Parameters Assessed	Details
Tree ID	'T' denotes Tree, 'G' denotes Tree Group, 'W' denotes Woodland, 'H' denotes Hedgerow. The original tree survey numbering is shown in brackets.
Species	Botanical and common name.
Height	Measured using a clinometer. Measured to the nearest metre.
Stem Diameter	Measured at 1.5 m above ground level. For multi-stem trees each stem diameter is recorded. For trees with 2-5 stems the overall diameter is calculated by squaring each stem diameter, adding these figures together and square rooting the result. For trees with more than 5 stems the mean stem diameter is squared and multiplied by the number of stems. The result is then square rooted to give the overall diameter.



Parameters Assessed	Details
	The results of the calculations for multi-stemmed trees are shown in bold and in brackets on the schedule. Where the tree is inaccessible due to vegetation or obstacles then the stem diameter has been estimated.
RPA Radius	The Root Protection Area (RPA) is calculated using the stem diameter. The RPA is an area equivalent to a circle with a radius 12 times the stem diameter for a single stem tree. BS5837:2012 limits the maximum RPA to 707 square metres (m²), i.e. equivalent to a circle with a radius of 15m or a square with approximately 26m sides. For veteran/ancient trees the current advise is that the RPA for a single stem tree should be an area equivalent to a circle with a radius 15 times the stem diameter or 5m beyond the tree canopy, whichever is the greater.
Branch Spread	Measured at the four cardinal points to derive an accurate representation of the crown and is recorded on the tree survey plan. Where the tree is inaccessible due to vegetation or obstacles then the branch spreads have been estimated. Measured to the nearest metre using a laser measurer. Direction measured using a compass.
Life Stage	Young (Y): Newly planted tree 0-10 years. Semi-Mature (SM): Tree in the first third of its normal life expectancy for the species (significant potential for future growth in size). Early Mature (EM): Tree in the second third of its normal life expectancy for the species (some potential for future growth in size) Mature (M): Tree in the final third of its normal life expectancy for the species (having typically reached its approximate ultimate size). Over Mature (OM): Tree beyond the normal life expectancy for the species. Veteran (V): Tree, which is of interest biologically, aesthetically or culturally because of its condition, size or age.
General Observations	Particularly of structural and / or physiological condition (e.g. the presence of any decay and physical defect) and / or preliminary management recommendations. External features assessed based upon – The Body Language of Trees, Research for Amenity Trees No 4. (Mattheck and Breloer, 1994).
Category Grading	Recorded on the tree survey plans and schedule. See Section 4.3 for Cascade Chart for Tree Quality Assessment. British Standard (BS) 5837 (2012), "Trees in relation to design, demolition and construction – Recommendations". Occasionally trees are given more than one category grading, where trees would otherwise be categorised as U, but have identifiable conservation, heritage or landscape value, even though only for the short term, they may be upgraded, although they might be suitable for retention only where issues concerning their safety can be appropriately managed. A – Trees of high quality with an estimated remaining life expectancy of at least 40 years. (Shown as green on the tree survey plans). B – Trees of moderate quality with an estimated remaining life expectancy of at least 20 years. (Shown as blue on the tree survey plans). C – Trees of low quality with an estimated remaining life expectancy of at least 10 years or young trees with a stem diameter below 150 mm. (Shown as grey on the tree survey plans). U – Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years. (Shown as red on the tree survey plans). 1 – Mainly arboriculture qualities. 2 – Mainly landscape qualities.



Parameters Assessed	Details
	3 – Mainly cultural values, including conservation
Notes	Trees can be grouped if they form cohesive arboricultural features either aerodynamically (e.g. trees that provide companion shelter), visually (e.g. avenues or screens) or culturally, including for biodiversity (e.g. parkland or woodland pasture). The category grading for a group of trees does not necessarily imply that the individual trees within that group are the same grading. The group is viewed as a whole and individual trees within it may have a lower grading.
#	Estimated dimensions
*	Indicates estimated position of tree (not indicated on topographical survey).



4.3 Cascade Chart of Tree Quality Assessment (Taken from BS 5837:2012)

Table 1 Cascade chart for tree quality assessment

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention (see Note)				
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	- Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) - Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline - Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality <i>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.</i>			See Table 2
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation	
Trees to be considered for retention				
Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	See Table 2
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	See Table 2
Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	See Table 2



4.4 Tree Survey Schedule

Table 4-3: Tree Survey Schedule

Tree Ref.	Species	Height (m)	Trunk dia. (mm)	RPA Radius (m)	Branch Spread (m)				Crown Clearance		Life Stage	General observations, including structural and physical conditions and any preliminary management recommendations.	Estimated remaining years	Category
					N	E	S	W	Height of 1 st branch (m) and direction	Height of canopy (m)				
G1	<i>Carpinus betulus</i> 'Fastigiata' (Hornbeam)	5	85	1.0	1.0	1.0	1.0	1.0	2.0 – All	1.75	Y	Stakes/crossbar and straps still present. Strimmer damage to base of stems. Minor dieback and stubs. Physiological and structural condition fair.	40+	C1,2
T2	<i>Sequoiadendron giganteum</i> (Giant Sequoia)	3.5	100	1.2	1.0	1.0	1.0	1.0	1.75 - All	1.75	Y	Physiological and structural condition poor. Cross bar and strapping is girdling stem – remove all supports.	40+	C1,2
T3	<i>Sequoiadendron giganteum</i> (Giant Sequoia)										Y	Dead	0	U
G4	<i>Sequoiadendron giganteum</i> (Giant Sequoia)	8.0	550	6.6	2.0	2.0	2.0	2.0	0.5 – All	0.5	SM	Dense canopy. No major visible defects. Physiological and structural condition good.	40+	B1,2
G5	<i>Sequoiadendron giganteum</i> (Giant Sequoia)	4.5	115	1.38	1.0	1.0	1.0	1.0	1.75 - All	1.75	Y	No major visible defects, minor dieback and branch stubs. Physiological and structural condition poor. Cross bar and strapping is girdling stem – remove all supports.	40+	C1,2
G6	<i>Sequoiadendron giganteum</i> (Giant Sequoia)	4.5	110	1.32	1.0	1.0	1.0	1.0	1.75 - All	1.75	Y	Stakes/crossbar and straps still present. Minor dieback and stubs. Physiological and	40+	C1,2



Tree Ref.	Species	Height (m)	Trunk dia. (mm)	RPA Radius (m)	Branch Spread (m)				Crown Clearance		Life Stage	General observations, including structural and physical conditions and any preliminary management recommendations.	Estimated remaining years	Category
					N	E	S	W	Height of 1 st branch (m) and direction	Height of canopy (m)				
												structural condition fair/poor. Cross bar and strapping is girdling stem – remove all supports.		
G7	<i>Carpinus betulus</i> 'Fastigiata' (Hornbeam)	5.0	85	1.0	1.0	1.0	1.0	1.0	2.0 – All	2.0	Y	Stakes/crossbar and straps still present. Minor dieback and stubs. Physiological and structural condition fair. Cross bar and strapping is girdling stem – remove all supports.	40+	C1,2
G8	<i>Sequoiadendron giganteum</i> (Giant Sequoia)	3.5	120	1.44	1.0	1.0	1.0	1.0	1.75 - All	1.75	Y	Stakes/crossbar and straps still present. Minor dieback and stubs. Physiological and structural condition fair/poor. Cross bar and strapping is girdling stem – remove all supports.	40+	C1,2
T9	<i>Sequoiadendron giganteum</i> (Giant Sequoia)											Dead	0	U
T10	<i>Sequoiadendron giganteum</i> (Giant Sequoia)	4.0	150	1.8	1.0	1.0	1.0	1.0	1.75 - All	1.75	Y	Stakes/crossbar and straps still present. Minor dieback and stubs. Physiological and structural condition fair. Cross bar and strapping is girdling stem – remove all supports.	40+	C1,2



5.0 Arboricultural Impact Assessment

The Arboricultural Impact Assessment (AIA) sets out the direct and indirect impacts of the proposed development on the trees on or immediately adjacent to the site and provides suitable mitigation measures to allow for the successful retention of all the retained trees or to compensate for trees to be removed, where appropriate.

The table below provides a summary of the trees works required as part of the proposed development, including trees to be removed and any surgery, or other mitigation works required in order to keep retained trees in a safe and healthy manner, as illustrated on the Tree Protection Plans (Appendix C).

Table 5-1: Summary of Tree Work

Tree reference	Species	Comments	Category Grading
G1	<i>Carpinus betulus</i> 'Fastigiata' (Hornbeam)	Translocate due to conflict with proposals	C1,2
T3	<i>Sequoiadendron giganteum</i> (Giant Sequoia)	Dead - Remove	U
G8	<i>Sequoiadendron giganteum</i> (Giant Sequoia)	Translocate due to conflict with proposals	C1,2
T9	<i>Sequoiadendron giganteum</i> (Giant Sequoia)	Dead - Remove	U

5.1 Tree Protection Measures

Retained trees are vulnerable to damage from construction activities which can include physical damage to stems and branches following impacts with plant. The RPA and canopy spread of trees to be retained will form an effective Construction Exclusion Zone (CEZ). Where there is potential for these to be damaged by the works (as illustrated on the Tree Protection Plans (Appendix C)), the area will be secured with robust tree protection fencing to the requirements of Section 6.2.2 of BS 5837:2012 (see Appendix D) or as agreed with the local tree officer. No access will normally be permitted within this area. Where access is necessary then special measures such as the use of ground protection (See Section 9.4) in accordance with the requirements of Section 6.2.3 of BS 5837:2012 capable of supporting any traffic entering or using the site without being distorted or causing compaction of underlying soil shall be used under arboricultural supervision.

No plant or machinery is to operate on unsurfaced ground within the RPA of trees without suitable ground protection measures to protect the structure of the soil.

5.2 Tree Works

All tree work is to follow the principles of BS 3998: 2010 Tree Work – Recommendations and must be carried out by suitably qualified and insured contractors. The Arboricultural Association provides a list of contractors who meet these requirements which can be found at www.trees.org.uk.



6.0 Legal Considerations

6.1 Town and Country Planning Act

The legal protected status of the trees has been assessed below. These include TPOs and Conservation Areas (CA), Sites of Special Scientific Interest, locally or nationally designated sites, designed landscapes and ancient woodland.

Prior to the removal of the trees or groups listed in this report, or any tree surgery works being undertaken, it is essential that the trees are assessed again for legal protected status.

Works (either above or below ground) to trees protected by TPO or CA is an offence under the Town and Country Planning Act 1990 (as amended), and in the Town and Country Planning (Tree Preservation) (England) Regulations 2012 and Section 192 of the Planning Act 2008.

6.2 Tree Preservation Orders and Conservation Areas

A Tree Preservation Order (TPO) check was conducted using the interactive maps found on the Manchester City Council website ([Tree Preservation Orders | Manchester City Council Open Data \(arcgis.com\)](#)) on the 2nd March 2024 to identify the presence of TPOs within the survey area. This check confirmed that there are no trees within the site that are covered by a Tree Preservation Order.

The [Conservation areas | Manchester City Council](#) website confirmed that the site is not within a Conservation Area.

6.3 Ancient Woodland

The Ancient Woodland Inventory was checked on the 21st March 2024 for the presence of ancient woodland within or adjacent to the survey area. This inventory is located on the Multi-Agency Geographical Information for the Countryside (MAGIC) website (www.magic.defra.gov.uk). This is a spatial dataset that describes the geographic extent and location of Natural Environment and Rural Communities Act (2006) Section 41 habitats of principal importance.

No part of the site is listed in the Ancient Woodland Inventory.

6.4 Ancient and Veteran Trees

The Ancient Tree Inventory (Woodland Trust, 2021) was checked on 21st March 2024 for the presence of verified veteran/ancient trees within the survey area. National Planning Policy Framework (Ministry of Housing, Communities & Local Government, 2021) refers to veteran trees as “irreplaceable habitat” which due to their “age, size and condition, is of exceptional biodiversity, cultural or heritage value”.

No trees within the Site Boundary appeared within this inventory. SLR’s qualified arboriculturists did not identify any trees, during survey, which they considered ancient or veteran.

6.5 Felling Licence

The felling of trees is regulated in England by the Forestry Act 1967 (the Act). The Forestry Commission (FC) is the government regulator that enforces the provisions of the Act.

The felling of growing trees in England is restricted under Section 9 of the Act. It requires that felling is either authorised by a felling licence issued by the FC or the felling activity is excepted from the need for a licence.



There are many exceptions to the need for a licence, based on the type of the tree, the location of the tree, the size of the tree, the nature and scope of the felling activity and the person responsible for the felling. These are primarily set out in Section 9 of the Act as well as the Forestry (Exceptions from Restriction of Felling) Regulations 1979.

The most relevant exemption is:

'Section 9 - Requirement of licence for felling (1) A felling licence granted by the appropriate forestry authority shall be required for the felling of growing trees, except in a case whereby or under the following provisions of this Part of this Act this subsection is expressed not to apply...

(d) is immediately required for the purpose of carrying out development authorised by planning permission granted or deemed to be granted under the Town and Country Planning Act 1990 or the enactments replaced by that Act, or under the Town and Country Planning (Scotland) Act 1997.

Advice from a suitably qualified arboriculturist should be sought before any felling (if required) takes place on site.

The granting of permission to remove trees covered by a TPO by the Local Planning Authority does not remove the need to obtain a felling licence from the Forestry Commission if more than 5m³ of timber are to be felled in a calendar quarter and none of the exemptions apply.



7.0 Tree Related Constraints and Opportunities

The Tree Constraints Plans, TCP, (Appendix B) illustrates the area of spatial constraints associated with the trees within the survey area. As identified within the drawing legend, the green shaded area shows the extent of tree canopies, and the dashed red line is indicative of the RPA (which is the nominal area of tree roots which are considered essential to tree health and function). It is acknowledged that roots may extend beyond this boundary but are not considered a significant constraint within BS 5837:2012. The category grading of the tree (as defined by Table 1 of BS 5837:2012) is indicated by the colour of the tree number.

The default position for any development is that all construction activities should be located outside of the RPA and crown spread of all retained trees.

7.1 Considerations

In planning terms lower quality trees can generally be removed to facilitate development where their loss can be mitigated with replacement tree planting or where no replacement planting is necessary. This is likely to apply to C category and U category trees where there are no other constraints in place (e.g., ecological or heritage). Whereas higher quality trees (A and B category) should be retained and protected wherever possible; however, in some cases it may also be feasible to remove trees of this quality where there is no reasonable alternative and where the benefit of the development outweighs the impact of the loss of the tree(s).

7.2 The Future Impact of Trees

The future impact of trees within or near to the survey area must be considered in relation to any development proposals. Trees and groups to be retained must be afforded suitable space to ensure they remain viable in the long term. Trees which are currently not fully grown will increase in size and this must be considered in conjunction with the proposed development and future use of the survey area.

7.3 Tree Protection

Trees to be retained in close proximity to areas of development activity, including areas for new surfacing, services, work site compounds and storage will need to be protected to ensure they are not damaged. This can be achieved with the use of robust, immovable temporary tree protection fencing, to prevent access within the RPA or canopy spread of trees. Where access is unavoidable, alternative protection arrangements such as ground protection (sufficient to protect the structure of the soil from compaction), and /or access facilitation pruning (to ensure a reasonable clearance for operations is provided) may be required. The advice of an arboriculturist should be sought to inform this assessment.



8.0 Conclusions

The proposed development will require the removal of two category C trees and two category U trees. The category U trees are recommended for removal regardless of the proposed development going ahead.

The landscape scheme associated with the development proposes the translocation of three category C trees to ensure their retention in the site.

No tree removals or works are required for trees to be retained.



9.0 Preliminary Arboricultural Method Statement

9.1 Overview

This Preliminary Arboricultural Method Statement (AMS) provides generic best practice measures to be adopted in order to protect retained trees during the development process. It has been prepared in order to inform the planning and the construction/ development process. Should a bespoke AMS be required, this shall be produced by a suitably qualified arboriculturist in liaison with the contractor undertaking the works.

9.2 Protective Fencing

The purpose of this fencing is to provide protection to the RPAs of retained trees and tree groups. The type of fencing used shall be appropriate to the level of adjacent construction activity and shall be agreed with the Local Authority tree officer.

The default specification for Tree Protection Fencing (extract from BS 5837:2012) is illustrated in Appendix D.

Weather-proof notices shall be attached to any protective fencing located adjacent to retained trees displaying the words “Construction Exclusion Zone” and listing restrictions which apply. All personnel must be made aware of these restrictions.

Figure 9-1: Example of Protective Fencing Signs



9.3 Construction Exclusion Zones

The Construction Exclusion Zone (CEZ) is the area identified by a suitably qualified arboriculturist as the area to be protected during development, from site clearance and construction work through the use of barriers and/or ground protection to ensure the successful long-term retention of a tree. Fencing or ground protection shall not be taken down or relocated at any time without prior agreement and/or site supervision as recommended by the arboriculturist.

All areas protected by Tree Protection Fencing shall be treated as CEZs, and the following restrictions shall apply:

- No construction activity must occur within these areas.
- No works on trees unless agreed by a suitably qualified arboriculturist.
- No alterations of ground levels or conditions.
- No chemicals or cement washings.
- No excavation.
- No temporary structures
- No storage of soil, rubble or other materials.
- No vehicles or machinery to be used or parked without appropriate ground protection measures as per BS5837:2012. This will require the use of a proprietary system of reinforced concrete slabs/steel road plates on a compressible layer, or side butting scaffold boards/ 18mm plywood sheets on a compressible layer. The type of ground protection used shall be appropriate for the likely loading applied.
- No fixtures (lighting, signs etc.) to be attached to trees.

9.4 Temporary Ground Protection

New temporary ground protection should be capable of supporting any traffic entering or using the site without being distorted or causing compaction of underlying soil. The ground protection might comprise one of the following:

- For pedestrian movements only, a single thickness of scaffold boards placed either on top of a driven scaffold frame, so as to form a suspended walkway, or on top of a compression-resistant layer (e.g., 100 mm depth of woodchip), laid onto a geotextile membrane.
- For pedestrian-operated plant up to a gross weight of 2t, proprietary, inter-linked ground protection boards placed on top of a compression-resistant layer (e.g., 150 mm depth of woodchip), laid onto a geotextile membrane.
- For wheeled or tracked construction traffic exceeding 2t gross weight, an alternative system (e.g., proprietary systems or pre-cast reinforced concrete slabs) to an engineering specification designed in conjunction with arboricultural advice, to accommodate the likely loading to which it will be subjected.

9.5 General Canopy Protection

Since the canopies of retained trees may be in close proximity to areas of plant operation, the following restrictions will apply:

- All plant will be sited outside the defined RPAs of retained trees / groups, and the appointed contractor will ensure all relevant personnel shall be made aware of the location of branches and the need to avoid causing damage to them.



- Prior to the implementation of lifting operations, a representative from the equipment supply company shall visit the site and ensure all operations can be completed without causing damage to retained trees. A lifting plan will be prepared and submitted for approval prior to all lifting operations. The lifting plan will make provision for the potential for damage of retained trees.
- All lifting operations will be completed under the close direction of a qualified banksman, who will be briefed by the appointed contractor as to the need to avoid damage to the stems and branches of retained trees.
- Should additional tree removal or pruning be required the Local Authority Tree Officer shall be contacted and the scope of works agreed in writing.

9.6 Additional Precautions Outside the Exclusion Zone

Planning of site operations should take sufficient account of wide loads, tall loads and plant with booms, jibs and counterweights, in order that they can operate without coming into contact with retained trees.

Such contact can result in serious damage to the trees and might make their safe retention impossible. Consequently, any transit or traverse of plant in proximity to trees should be conducted under the supervision of a banksman, to ensure that adequate clearance from trees is maintained at all times. Access facilitation pruning should be undertaken where necessary to maintain this clearance.

9.7 Hazardous Materials

The delivery, storage, mixing and discharge of hazardous materials shall be carried out so that there is no run-off and spillage near the RPAs of retained trees. No substances that are potentially injurious to plant tissue (including diesel, bitumen, concrete, mortar, salts, builders' sand, herbicides and other phyto-toxic materials) shall be stored, discharged, prepared or used, where direct contact, infiltration or run-off might reasonably be considered liable to harmfully affect existing root growth, other parts of retained trees or beneficial soil organisms.

Hazardous chemicals are to be stored in suitable containers as specified by the Control of Substances Hazardous to Health (COSHH) Regulations (2002) (Ref 4). It is now standard practice to have emergency spillage kits available to minimise the impacts of any accidental spillages to the local environment. All cement mixing, vehicle washing or any other activity where toxic chemicals are used shall have the provision to contain any accidental spillage. This can be achieved by creating a bunded area using concrete slabs, timber framework or sandbags. Heavy duty plastic sheeting should be used to line the area as necessary to prevent leaking. Alternatively, all activities should take place on suitable spill trays or on an existing impermeable surface with runoff controls and at least 10m from the edge of the RPA of retained trees.



10.0 References

British Standards Institution (BSI). 2010. *BS 3998:2010. Trees Work – Recommendations*. London: British Standards Institution. 3rd ed. [hard copy] London: British Standards Institution.

British Standards Institution (BSI). 2012. *BS 5837:2012. Trees in relation to design, demolition and construction – Recommendations*. 4th ed. [ebook] London: British Standards Institution.

Lonsdale, D., 1999. *Principles of tree hazard assessment and management*. London: TSO.

Mattheck, C. and Breloer, H., 1994. *The body language of trees*. London: Stationery Office.

National Tree Safety Group. 2011. *Common sense risk management of trees*. Edinburgh: Forestry Commission.





Appendix A Tree Constraints Plan

Arboricultural Report

Deansgate Roundabout, Manchester

City Island Development Ltd

SLR Project No.: 404.064089.00001

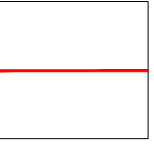
March 2024

DEANSGATE INTERCHANGE

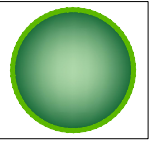


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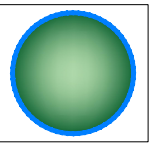
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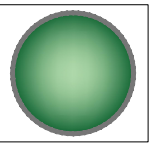
APPLICATION BOUNDARY



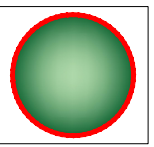
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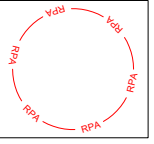
B - CATEGORY TREES (MODERATE QUALITY & VALUE)



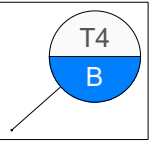
C - CATEGORY TREES (LOW QUALITY & VALUE)



U - CATEGORY TREES (DEAD, DEFECTIVE, INFECTED)



ROOT PROTECTION AREAS (RPA) - AS DEFINED BY BS 5837:2012

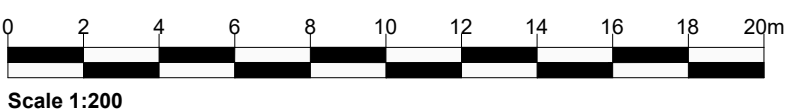


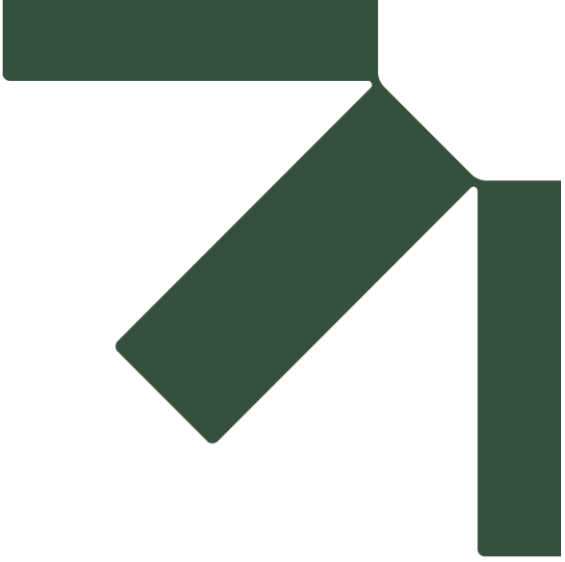
TREE REFERENCE AND CATEGORY

26/03/2024

\\slr-local\EU Offices\UK Leads\Projects\Ocean Outdoor UK Ltd - 138122\Deansgate\Tech\Arb\Drawings\Wing\Tree Constraints Plan.dwg

Rev	Amendments	Date	By	Chk	Auth
 www.slrconsulting.com					
Drawing Status & Suitability Code FOR PLANNING					
Client Ocean Outdoor UK Ltd					
Project Land located at Deansgate Interchange with Chester Road and Chorlton Road, Manchester					
Drawing Title Tree Constraints Plan					
Scale 1:200		@ A1		SLR Project No. 404.064089.00001	
Designed RB	Drawn RB	Checked MS	Authorised RB		
Date 22/03/24	Date 22/03/24	Date 26/03/24	Date 26/03/24		
Drawing Number 404.064089.00001-ARB-001					Rev 01





Appendix B Tree Protection Plan

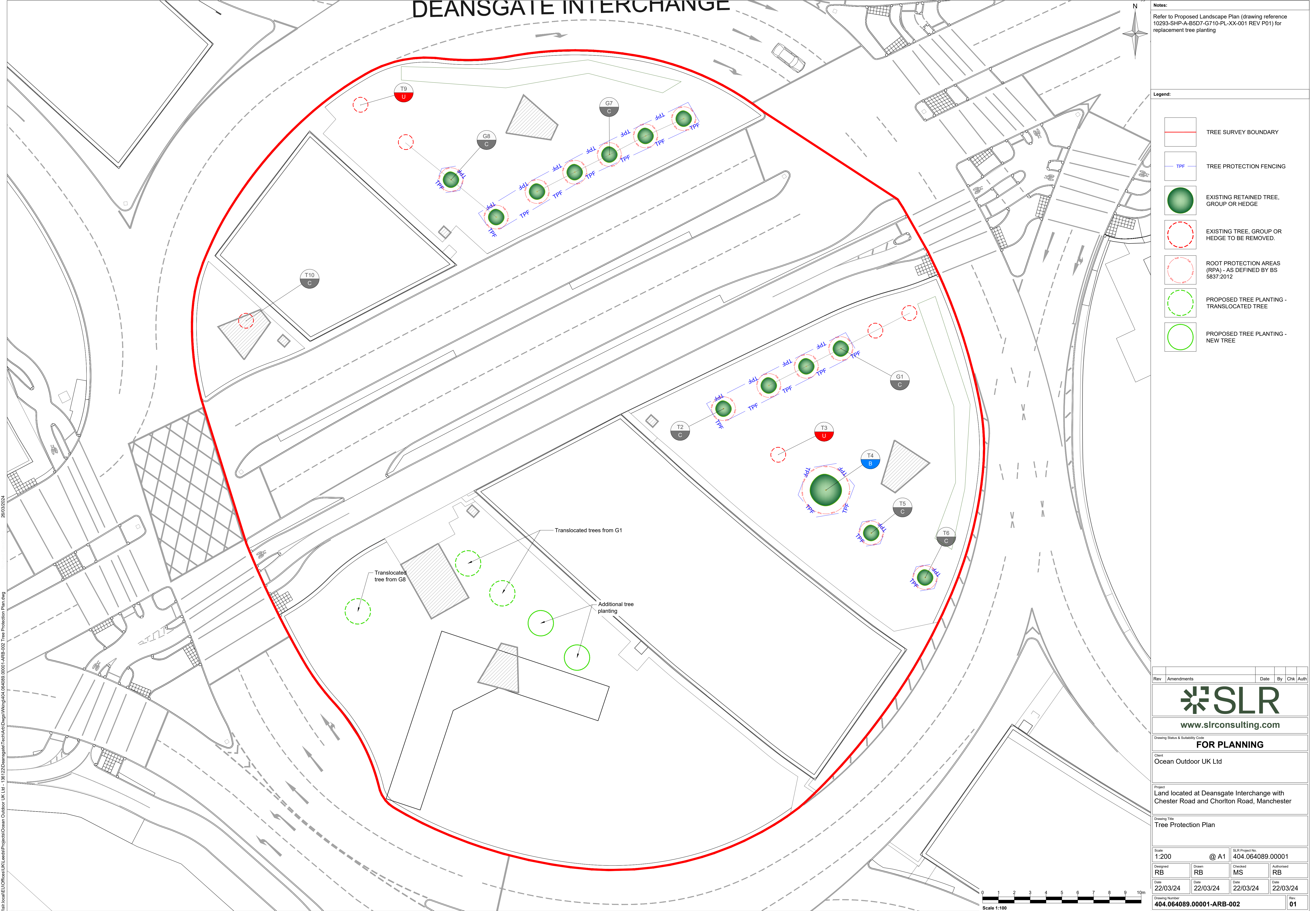
Arboricultural Report

Deansgate Roundabout, Manchester

City Island Development Ltd

SLR Project No.: 404.064089.00001

March 2024



Notes:
Refer to Proposed Landscape Plan (drawing reference 10293-SHP-A-B5D7-G710-PL-XX-001 REV P01) for replacement tree planting

- Legend:
- TREE SURVEY BOUNDARY
 - TREE PROTECTION FENCING
 - EXISTING RETAINED TREE, GROUP OR HEDGE
 - EXISTING TREE, GROUP OR HEDGE TO BE REMOVED.
 - ROOT PROTECTION AREAS (RPA) - AS DEFINED BY BS 5837:2012
 - PROPOSED TREE PLANTING - TRANSLOCATED TREE
 - PROPOSED TREE PLANTING - NEW TREE

Rev	Amendments	Date	By	Chk	Auth
 www.slrconsulting.com					
Drawing Status & Suitability Code FOR PLANNING					
Client Ocean Outdoor UK Ltd					
Project Land located at Deansgate Interchange with Chester Road and Chorlton Road, Manchester					
Drawing Title Tree Protection Plan					
Scale: 1:200		@ A1		SLR Project No: 404.064089.00001	
Designed RB	Drawn RB	Checked MS	Authorised RB		
Date 22/03/24	Date 22/03/24	Date 22/03/24	Date 22/03/24		
Drawing Number 404.064089.00001-ARB-002					Rev 01

\\slr.local\EU Offices\UK Leads\Projects\Ocean Outdoor UK Ltd - 138122\Deansgate\Tech\Arb\Drawings\Wings\404.064089.00001-ARB-002 Tree Protection Plan.dwg 26/03/2024



Appendix C Tree Protection Fencing Illustrations

Arboricultural Report

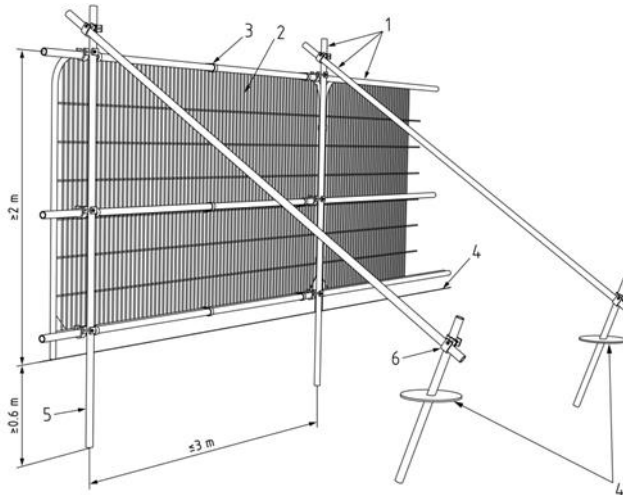
Deansgate Roundabout, Manchester

City Island Development Ltd

SLR Project No.: 404.064089.00001

March 2024

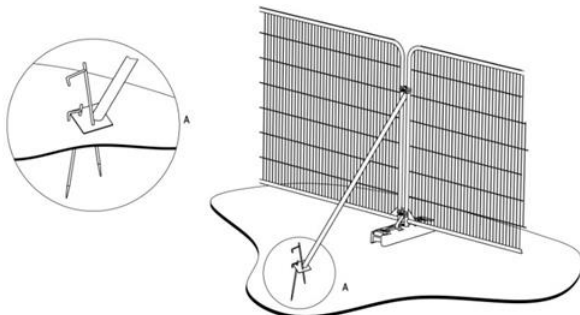
Extracts taken from B.S. 5837: (2012), "Trees in relation to design, demolition and construction – Recommendation".



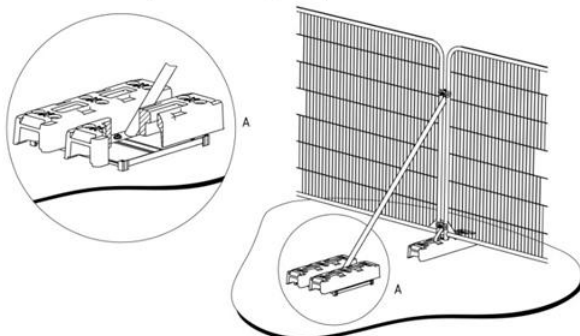
Key

- 1 Standard scaffold poles
- 2 Heavy gauge 2 m tall galvanized tube and welded mesh infill panels
- 3 Panels secured to uprights and cross-members with wire ties
- 4 Ground level
- 5 Uprights driven into the ground until secure (minimum depth 0.6 m)
- 6 Standard scaffold clamps

Default specification for protective barrier

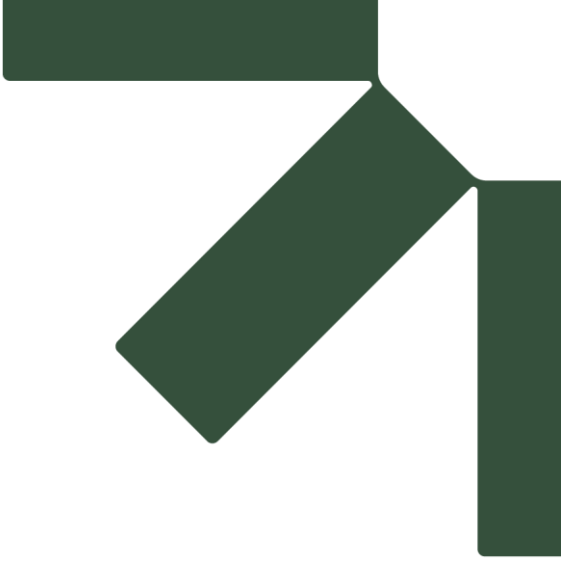


a) Stabilizer strut with base plate secured with ground pins



b) Stabilizer strut mounted on block tray

Examples of above ground stabilising systems



Appendix D Glossary of Arboricultural Terms

Arboricultural Report

Deansgate Roundabout, Manchester

City Island Development Ltd

SLR Project No.: 404.064089.00001

March 2024

Glossary of Arboricultural Terms

- AIA: Arboricultural Impact Assessment.
- AMS: Arboricultural Method Statement.
- Ancient tree: An ancient tree is exceptionally valuable attributed with great age/size/cultural heritage/biodiversity value as a result of significant wood decay and the habitat created from the ageing process. All ancient trees are veteran trees with very few trees of any species reaching the ancient life-stage.
- Bark: A term usually applied to all the tissues of a woody plant lying outside the vascular cambium.

Buttress zone: The region at the base of a tree where the major lateral roots join the stem, with buttress-like formations on the upper side of their junction.
- Canker: A lesion formed by the death of bark and cambium often due to fungal or bacterial infection.
- Condition: An indication of the physiological vitality the tree. Where the term 'condition' is used in a report, it should not be taken as an indication of the stability of the tree.
- Conservation Area: A designated area that requires notice (currently six weeks) to be given to the local planning authority prior to the commencement of any tree works.
- Construction Exclusion Zone: Area based on the Root Protection Area (in square metres) to be protected during development, by the use of barriers and/or ground protection.
- Crown/Canopy: The main foliage bearing section of the tree.
- Crown lifting: A term used to describe the removal of limbs and small branches to a specified height above ground level.
- Deadwood: Branch or stem wood bearing no live tissues. Retention of deadwood provides valuable habitat for a wide range of species and seldom represents a threat to the health of the tree. Removal of deadwood can result in the ingress of decay to otherwise sound tissues and climbing operations to access deadwood can cause significant damage to a tree. Removal of deadwood is generally recommended only where it represents an unacceptable level of hazard.
- Dieback: The death of parts of a woody plant, starting at shoot-tips or root-tips.
- Diameter at Breast Height (DBH): Stem diameter measured at a height of 1.5 metres (UK) or the nearest measurable point. Where measurement at a height of 1.5 metres is not possible, another height may be specified.
- Habit: The overall growth characteristics, shape of the tree and branch structure.
- Hazard beam: An upwardly curved part of a tree in which strong internal stresses may occur without being reduced by adaptive growth; prone to longitudinal splitting.
- Minor deadwood: Dead wood of a diameter less than 25mm and or unlikely to cause significant harm or damage upon impact with a target beneath the tree.
- Notable: Notable trees are usually mature trees which may stand out in the local environment because they are large in comparison with other trees around them
- Pollarding: is the removal of the tree canopy, back to the stem or primary branches. Pollarding may involve the removal of the entire canopy in one operation or may be phased over several years. The period of safe retention of trees having been

pollarded varies with species and individuals. It is usually necessary to re-pollard on a regular basis, annually in the case of some species.

- **Primary branch:** A major branch, generally having a basal diameter greater than 0.25 x stem diameter.
- **Pruning:** The removal or cutting back of twigs or branches, sometimes applied to twigs or small branches only, but often used to describe most activities involving the cutting of trees or shrubs.
- **Root Protection Area (RPA):** An area of ground surrounding a tree that contains sufficient rooting volume to ensure the tree's survival, calculated with reference to BS 5837:2012.
- **Snag/stub:** In woody plants, a portion of a cut or broken stem, branch or root which extends beyond any growing-point or dormant bud; a snag usually tends to die back to the nearest growing point.
- **Stem/s:** The main supporting structure/s, from ground level up to the first major division into branches.
- **Topping:** In arboriculture it is the removal of the crown of a tree, or of a major proportion of it.
- **Tree Preservation Order (TPO):** Is an order made by the local authority and placed upon individual trees, groups of trees or areas of trees. The local authority must usually grant permission prior to any works undertaken to affected trees.
- **Veteran tree:** A loosely defined term for an old specimen that is of interest biologically, culturally or aesthetically because of its age, size or condition and which has usually lived longer than the typical upper age range for the species concerned.



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