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Consulting Tree Service

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Tree Survey Report

Prepared for:

Limerick City and County Council

Proposed Development:

King's Island Flood Relief Scheme

Prepared by:

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Executive Summary

Arbor-Care Ltd (Professional Consulting Tree Service) was retained Limerick City & County Council undertake firstly, a Tree Survey, tree constraints plan outlining existing trees on or adjacent to the proposed flood relief scheme, this survey is undertaken without prejudice to the proposed works and will assess the trees in their current context . The surveyed trees contained within this report are located within the parameters of the proposed works. The Kings island flood relief schemes incorporates the entire area known as Kings Island. This is a highly populated urban area with prominent trees of high amenity value in particular along Georges quay .

The objective of the tree survey was to identify the areas that contained trees of quality, and to ensure where possible that these areas would be retained.

The Tree Survey and inventory report is based on the British standard *BS 5837:2012 Trees in relation to design, demolition and construction*. *Recommendations,* this standard gives recommendations and guidance on the principles to be applied to achieve a satisfactory juxtaposition of trees, including shrubs, hedges and hedgerows, with structures. It sets out to assist those concerned with trees in relation to construction to form balanced judgements. The survey commenced on the 29th of April 2019.

This Tree Survey report will be accompanied by an inventory of trees on site and tree constraints plan. A separate Arboricultural Impact Assessment and a tree protection plan will also be prepared for the site identifying trees impacted on by the proposed development once the proposed design is finalised.

1.0 Assignment

1. To undertake a visual tree/hedgerow survey to assess the tree's condition(s) and provide an inventory of trees.
2. Provide a table outlining the schedule of trees on site and provide recommendations for their preservation and/or removal.
3. Present a written report on the inspection of the trees.

1.1 Limits of the Assignment

Unless otherwise stated tree inspections have been undertaken from ground level and using non-invasive techniques only. Comments on the condition and safety of any tree relate to the condition of that tree at the time of the survey. It should be recognised that tree condition is subject to change due to, for example the effects of disease, wind or nearby development works. Changes in land use are also significant in respect of risk assessment. Trees should therefore be inspected at intervals relative to identified site risks.

2.0 Methodology Employed

An initial tree survey and visual condition assessment was on the 29th of April 2019. For the purpose of this report and in accordance with *BS 5837: 2012 Trees in relation to design, demolition and construction*. *Recommendations* only trees with diameters of 75mm or greater were surveyed, Also in accordance with section 4.4.2.3 of the British standard document where trees formed obvious groups these were assessed and recorded as groups. The survey commenced along the northern boundary and continued in an easterly direction

Section 4.4.2.3 of BS 5837: 2012 states:

Trees growing as groups or woodland should be identified and assessed as such where the arboriculturist determines that this is appropriate. However, an assessment of individuals within any group should still be undertaken if there is a need to differentiate between them, e.g. in order to highlight significant variation in attributes (including physiological or structural condition).

NOTE: The term "group" is intended to identify trees that 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 wood pasture), in respect of each of the three subcategories.

The survey concentrated primarily on the significant trees located within and adjacent to the proposed development area. The objective of this survey was to gather information regarding the trees location on the proposed development site and the impact the proposed development may have on the trees. **Please refer to appendix 1 for the tree inventory**.

Significant trees can be equated as those trees whose visual importance to the surrounding area are sufficient to justify special efforts to protect/preserve and whose loss would have an irremediable adverse impact on the local environment. Significance can also be placed depending on the trees age, another variable to imply significance can be the aesthetic merit of the tree based on its unusual size, intrinsic physical features or outstanding appearance or

occurring in a unique location or context, and thus provides a special contribution as a landmark or landscape feature.

All above parts of the trees were visually examined. Tree diameters (DBH) were estimated at 1.5 meter above grade as per standard arboricultural practice. Tree height was measured with the use of a clinometer (Where practical). A generalised system was employed to describe the overall health of the trees. The system uses a five tier rating scale with the following descriptors:

Specimen condition 5-tier rating system
Very poor-1-20%
Poor- 21-40%
Fair- 41-60%
Good- 61-80%
Very good 81-100%

3.0 Trees surveyed

The survey commenced on the 29th of April 2019. A total of 32 trees were surveyed. The impact of the development on the trees surveyed will be assessed in the Arboricultural Impact Assessment.

3.1 A breakdown of the Tree Categories on site as per BS 5837 2012 is set out in the table below:

Category	Quantity
A-Tree of high quality	14
B-trees of good quality	1
C (Low quality or trees less than 75mm diameter)	9
U (remove due to poor condition)	8
Total Trees surveyed	32

Conclusion

A complete tree inventory has been provided in appendix 1 outlining the schedule of trees on site in accordance with *BS 5837: 2012 Trees in relation to design, demolition and construction*. *Recommendations.* The surveyed trees contained within this report are located within the parameters of the proposed works. The Kings island flood relief schemes incorporates the entire area known as Kings Island. This is a highly populated urban area with prominent trees of high amenity value in particular along Georges quay . The scheme has allowed for the most important trees to be retained.

Tree Categorization.

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Category U

This category signifies those trees that are in such a condition that any existing value would be lost within 10 years and which should, in the current context, be removed for reasons of sound arboricultural management.

Category A.

Those trees of a high quality and value, in such a condition as to be able to make a substantial contribution. (A minimum of 40 years is suggested)

Category B

This category signifies those trees of a moderate value and in such a condition as to be able to make a substantial contribution (A minimum life expectancy of 20 yrs is suggested)

Category C

This category signifies those trees of a low quality and value that are currently in an adequate condition to remain until new planting could be established (A minimum life expectancy of 10yrs is suggested), or young trees with a stem diameter below 150mm. Whilst C category trees will usually not be retained where they would impose a significant constraint on development, young trees with a stem diameter of less than 150mm should be considered for relocation.

The above categories have sub-categories attached to the tree categorisation.

Sub-category 1- Mainly Arboricultural Values eg-A1

Sub-category 2- Mainly Landscape Values- B2

Sub-category 3- Mainly cultural values, including conservation C2

Appendix 1 – Tree Inventory

Tree Inventory Legend

Tree Dimensions - All dimensions are in meters.
Ht - Tree Height
Crown clearance - Lowest canopy height (distance from ground level to the first live branch)
Crown spread - Tree Canopy Spread measured by radii at north, east, south and west
Dia. -Stem diameter at approx. 1.50m from ground level.
RPA - Root Protection Area, as a radius measured from the tree's stem centre.

Physiological Condition
Good - A specimen of generally good form and health
Fair - A specimen with defects or ill health that can be either rectified or managed typically allowing for retention
Poor - A specimen whom through defect, disease attack or reduced vigour has a limited longevity or may be un-safe
Dead - A dead tree

Structural Condition - Information on structural form, defects, damage, injury or disease supported by the tree

PMR (Preliminary Management Recommendations) – refers to Arboricultural actions or works considered necessary at the time of the inspection and relating to the existing site context and tree condition. *Note is also made of works considered as urgent*.

Age Class - Young: A tree, which has been planted in the last 10 years.
Semi -mature A tree that is less than 1/3 the expected height of the species in question.
Early mature: A tree, which is approximately 2/3's the expected height of the species in question.
Mature: A tree that has reached the expected height of the species in question, but still increasing in size.
Over mature: A tree at the end of its life cycle and the crown is starting to break up and decrease in size.

Species Common name is given; botanical name is also given upon its first entry, in

Italics.

Appendix 1 – Tree Inventory **Kings Island Flood Relief**

Tree #	Species Botanical Name	Age class	Size (mm)	Height (M)	Crown Sp. (M)	Crown Cl.(M)	Condition	Structural/Physiological Observations	Impact of the development	PMR	Category	R.P.A. Meters
480	*Tilia x europaea* Common Lime	M	660	24	N=5 S=5 E=5 W=5	2	Good	A large mature lime, displaying a good overall condition. A tree of high aesthetic and amenity value	Unknown	• Retain • Crown raise the lowest whorl of branches	A2	7.6m
481	*Platanus orientalis* Oriental Plane	M	1100	26	N=8 S=8 E=8 W=8	2	Good	A large mature Plane, displaying a good overall condition. A tree of high aesthetic and amenity value	Unknown	• Retain • Crown raise the lowest whorl of branches	A2	12m
482	Oriental Plane	M	120	28	N=4 S=6 E=8 W=9	2	Good	A large mature Plane, displaying a good overall condition. A tree of high aesthetic and amenity value	Unknown	• Retain • Crown raise the lowest whorl of branches	A2	12m
483	Common Lime	M	680	24	N=5 S=5 E=5 W=5	2	Good	A large mature lime, displaying a good overall condition. A tree of high aesthetic and amenity value	Unknown	• Retain • Crown raise the lowest whorl of branches • Removal basal suckers	A2	8m
484	Oriental Plane	M	1080	28	N=5 S=6 E=8 W=8	2	Good	A large mature Plane, displaying a good overall condition. A tree of high aesthetic and amenity value	Unknown	• Retain • Crown raise the lowest whorl of branches	A2	12m
485	*Aesculus hippocastanum* Horse chestnut	M	920	30	N=6 S=6 E=6 W=6	2	Good	A large mature Chestnut, displaying a good overall condition. A tree of high aesthetic and amenity, ecological value	Unknown	• Retain • Crown raise the lowest whorl of branches	A2	12m

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Tree #	Species Botanical Name	Age class	Size (mm)	Height (M)	Crown Sp. (M)	Crown Cl.(M)	Condition	Structural/Physiological Observations	Impact of the development	PMR	Category	R.P.A. Meters
486	Common Lime	M	580	20	N=5 S=5 E=5 W=5	2	Good	A large mature lime, displaying a good overall condition. A tree of high aesthetic and amenity value	Unknown	• Retain • Crown raise the lowest whorl of branches	A2	7.6m
487	*Acer Platanoides* Norway Maple	M	360	16	N=4 S=4 E=4 W=4	3	Good	A mature Norway maple, a tree of moderate amenity value	Unknown	• Retain	B2	4.6m
488	Oriental Plane	M	1450	28	N=6 S=6 E=8 W=8	2	Good	A large mature Plane, displaying a good overall condition. A tree of high aesthetic and amenity value	Unknown	• Retain • Crown raise the lowest whorl of branches	A2	12m
489	Common Lime	M	700	220	N=5 S=5 E=6 W65	2	Good	A large mature lime, displaying a good overall condition. A tree of high aesthetic and amenity value	Unknown	• Retain • Crown raise the lowest whorl of branches	A2	8m
490	Common Lime	M	700	220	N=5 S=5 E=6 W65	2	Good	A large mature lime, displaying a good overall condition. A tree of high aesthetic and amenity value	Unknown	• Retain • Crown raise the lowest whorl of branches	A2	8m
491	Oriental Plane	M	1100	26	N=6 S=6 E=8 W=8	2	Good	A large mature Plane, displaying a good overall condition. A tree of high aesthetic and amenity value	Unknown	• Retain • Crown raise the lowest whorl of branches	A2	12m

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Tree #	Species Botanical Name	Age class	Size (mm)	Height (M)	Crown Sp. (M)	Crown Cl.(M)	Condition	Structural/Physiological Observations	Impact of the development	PMR	Category	R.P.A. Meters
492-493 x 6	Common Lime	EM	260	8	N=2 S=2 E=2 W=2	2	Fair	A cluster of early-mature Lime displaying fair overall condition they have been heavily pruned in the past	Remove to facilitate the development	• Remove	C2	
494-95	Whitebeam Cherry Norway Maple	EM	280	10	N=2 S=2 E=2 W=2	2	Fair	Three early mature trees located with the boat club all three trees have been negatively pruned to accommodate an overhead wire, which has resulted in the canopies being unbalanced. The cherry is in advanced decline	Remove to facilitate the development	• Remove	C2	
496	London Plane	M	750	28	N=5 S=5 E=8 W=8	2	Good	A large mature Plane, displaying a good overall condition. A tree of high aesthetic and amenity value. Located within Authlunkard Boat club	Unknown	• Retain	A2	8.5m
497	*Acer pseudoplatanus* Sycamore	M	700	240	N=5 S=5 E=6 W=6	2	Good	A large mature Sycamore, displaying a good overall condition. A tree of high aesthetic and amenity value. . A tree of high aesthetic and amenity value. Located within Authlunkard Boat club	Unknown	• Retain	A2	8m
498	*Acer pseudoplatanus* Sycamore	M	700	240	N=5 S=5 E=6 W=6	2	Good	A large mature Sycamore, displaying a good overall condition. A tree of high aesthetic and amenity value. . A tree of high aesthetic and amenity value. Located within Authlunkard Boat club	Unknown	• Retain	A2	8m

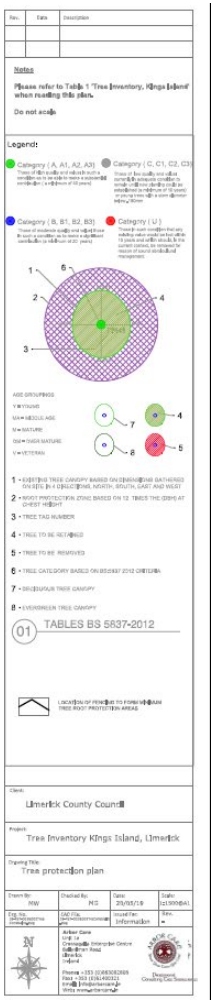
Appendix 1 – Tree Inventory **Kings Island Flood Relief**

Tree #	Species Botanical Name	Age class	Size (mm)	Height (M)	Crown Sp. (M)	Crown Cl.(M)	Condition	Structural/Physiological Observations	Impact of the development	PMR	Category	R.P.A. Meters
499-500	3 x Horse chestnut 2 x Lime 1 x Sycamore	M	580	18	N=2 S=2 E=2 W=2	2	Fair-poor	A row of mature trees along the river bank pathway. All trees have suffered varying degrees of vandalism for example significant fire damage to the base. The trees have also suffered upper canopy storm damage.	Unknown	• Consider for removal in the interest of health and safety	U	
501 x 2	Lime	EM	240	5	N=2 S=2 E=2 W=2	2	Poor	Two early mature lime trees that have been negatively pruned which has negated their amenity value. It is recommended that these are removed and replaced with appropriate species	Remove to facilitate the development	• Remove • Replace with native mountain ash	U	

Appendix 2. Tree Constraints Plan

The above displays an example of a suitable protective barrier as recommended by *BS. 5837 2012 Trees in Relation to Construction*

1. Standard scaffold poles
2. Uprights to be driven into the ground
3. Panels secured to uprights with wire ties and where necessary standard scaffold poles
4. Weld mesh wired to the uprights and horizontals
5. Standard clamps
6. Wire twisted and secured on the inside of fencing to avoid easy dismantling
7. Ground level
8. Approx. 0.6m driven into the ground



This report was prepared by:

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Yours in Conservation,

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Figure 1. Displays trees 480-485

Figure 2. Displays trees 480-485. Note their high amenity value

Figure 3. Displays 492-493

Figure 4. Displays tree 501. These trees have been over-pruned and have lost their aesthetic value