OCTOBER 9, 2020

BS5837 TREE SURVEY REPORT

Shimna FAS– Aecom

[redacted]

Site at Shimna River FAS, Newcastle

Survey details

This initial BS 5837 2012 tree survey report was requested by AECOM and concerns selected trees along the banks and adjacent lands of the Shimna river, Newcastle Co. Down.

All information provided to the author of this report is assumed to be accurate.

The scope of this report is to complete a BS5837 2012- Trees in relation to construction- specification tree survey of the trees and make recommendations for any tree management required.

The survey was carried out using Visual Tree Assessment (VTA) methodologies from ground level only. No below ground, invasive or destructive tests where undertaken. No soil / root samples were taken for analysis.

Weather conditions during the survey were dry with a light wind.

Due to the changing nature of trees and other site circumstances this report and any recommendations made are limited to a 1-year period. Any alteration to the subject site, trees or any development could change the current circumstances and may invalidate this report and any recommendations made.

The report is valid only for normal weather conditions. Healthy trees or parts of healthy trees may fail in normal weather situations although the risk is significantly increased in storm conditions and as the consequences of such weather phenomena are unforeseeable the tree surveyor cannot be held liable for any such failures.

Any alteration or deletion from this report shall invalidate it as a whole.

Tree details

The trees which are the subject of this tree survey can be found along the path of proposed flood defences on the banks of the Shimna river.

Species include Ash, Scots Pine and Leylandii. This survey has been completed on the basis that the locational information provided on the topographical survey is correct. Trees have been surveyed as individuals and as groups where appropriate as per BS5837 guidance. The species summary can be found in table 1.

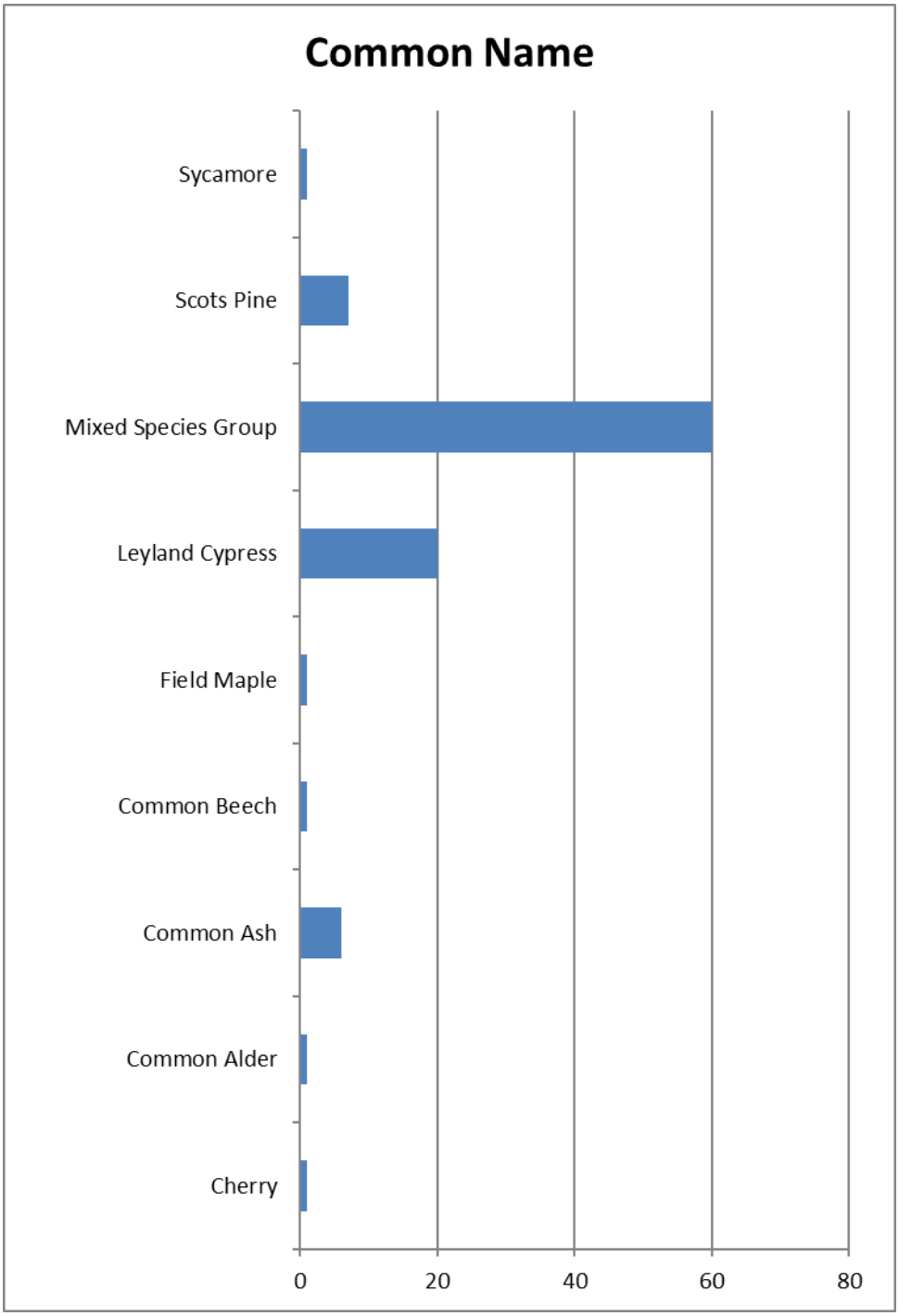


Table 1. Species summary.

BS5837 Category.

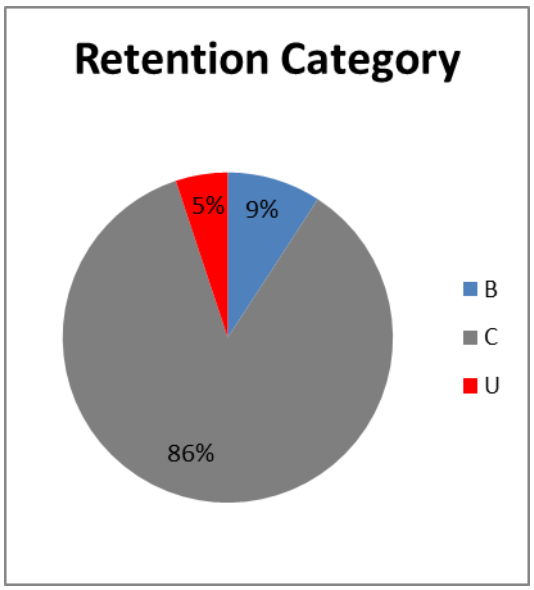
86% of the trees have been categorised as C. Trees in this category include unremarkable trees of limited merit, small-growing, young species which have a relatively low potential amenity value, and low landscape benefits.

5% of the trees have been categorised as U. Trees assigned to this category are 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 and/or are unsuitable for retention in the proximity of new dwellings or areas of public open space.

The remainder are classed as B. Trees assigned to this category include healthy attractive trees with remediable defects that are in a condition as to be able to make a significant contribution for a minimum of 20 years.

For a complete list of observations and recommendations on a tree by tree basis please consult the attached tree survey schedule.



Trees suitable for retention

Where possible, it is generally considered desirable for Category 'A' and Category 'B' trees to be retained and incorporated into new developments and layouts. Category 'U' trees are not considered to be appropriate for retention.

In assessing the Arboricultural Impact on the trees of the proposed development and which trees might be suitable for retention in the context of the proposed layout the following factors have all been considered.

- Shading
- Future Pressure for Tree Removal and Pruning
- Seasonal Nuisance
- Infrastructure
- Direct Damage
- Root Protection Areas
- Future Management
- Demolition/Ground Works
- Construction Activity

Recommendations

All recommendations are as per the survey schedule below. Recommendations are based on the site at present and may change as its usage develops.

General considerations.

To prevent damage to the retained trees, including their roots, within the fenced area (RPA) the following should be avoided.

- Alteration of ground levels, including soil stripping.
- Storage of any materials or equipment, even on a temporary basis.
- Storage of oil, bitumen, cement or other harmful materials, mixed or discharged within 12-m of the trunk of any retained tree and making further allowances for any slope of the ground so prevent running contamination. Phytotoxic materials would include any mineral oil, fuels, cement mortar washings concrete washings, mortar.
- Fires must not be lit beneath or within 12-m of any tree canopies.
- Site operations such as deliveries, site machines, crane jibs etc should be organised to avoid damaging the trunk or crown of trees. Where this conflict is unavoidable then facilitation pruning should be carried out in advance, rather than after damage has occurred. This may also be required to allow demolition operations.
- Mechanical cultivation of the soil as part of landscaping operations.

[redacted]

[redacted]

Photographic record.

Photograph 1. Group 58. [redacted]

Photograph 2. Tree 57. [redacted]

[redacted]

Photograph 3. Taken from within Group 59. [redacted]

[redacted]

Photograph 47. Tree . [redacted]

[redacted]

Appendix 1.

BS5837:2012 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 *NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see [BS5837:2012]* ***4.5.7****.*			
	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)	
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	
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	

Tree survey Schedule –

[redacted]

BS5837 Report

Aecom

Shimna river

Retention Category	No. trees
B	9
C	84
U	5
Total	98

Life Stage	No. trees
Dead	1
Early Mature	63
Mature	6
Over Mature	28

Rem. Contrib.	No. trees
Dead	1
<10 years	6
10+ Years	91

[redacted]

-BS5837 Tree Surveys, Tree Constraints Plans-
-Arboricultural Impact Assessments
-Arboricultural Method Statements Tree Protection Plans-
-Arboricultural Supervision and Site Monitoring-
-Mortgage Tree Report-

Arboricultural ASSOCIATION Professional Member

Ref	Species	Full Structure	Measurements	Spread	General Observations	Retention Category	RPA	Measurements2	Recommendations
T040	Scots Pine (Pinus sylvestris)	Tree	Height (m): 20 Stem Diam (mm): 900 Spread (m): 3N, 4E, 3S, 3W Life Stage: Over Mature Rem. Contrib.: 10+ Years	N:3 E:4 S:3 W:3	A Single stemmed tree. Healthy but partially suppressed crown. Heavily overgrown with Ivy. Overhangs adjacent road Deadwood in the crown.	B1	Radius: 10.8m. Area: 366 sq m.	Physiological Cond: Fair Structural Cond: Fair	Pre construction: Dead wood (major greater than 25mm). Sever ivy at base. During construction: Protect trees with protective barriers - as shown on plans.
T041	Scots Pine (Pinus sylvestris)	Tree	Height (m): 20 Stem Diam (mm): 70 Spread (m): 3N, 5E, 5S, 3W Life Stage: Over Mature Rem. Contrib.: 10+ Years	N:3 E:5 S:5 W:3	A Single stemmed tree. Healthy but partially suppressed crown. Partially overgrown with Ivy. Overhangs adjacent road Deadwood in the crown.	B1	Radius: 0.8m. Area: 2 sq m.	Physiological Cond: Fair Structural Cond: Fair	Sever ivy at base.
T042	Sycamore (Acer pseudoplatanus)	Tree	Height (m): 19 Stem Diam (mm): 940 Spread (m): 4N, 7E, 7S, 6W Life Stage: Over Mature Rem. Contrib.: <10 years	N:4 E:7 S:7 W:6	A Single stemmed tree. Healthy spreading crown. Large Internal decaying cavity at base.	U	None - due to Retention Category of U.	Physiological Cond: Structural Cond:	Remove tree
T043	Common Ash (Fraxinus excelsior)	Tree	Height (m): 18 Stem Diam (mm): 530 Spread (m): 4N, 6E, 3S, 3W Life Stage: Mature Rem. Contrib.: <10 years	N:4 E:6 S:3 W:3	A Single stemmed tree. Healthy but partially suppressed crown. Overhangs adjacent road. Numerous cankers on main stem and scaffold limbs. Large decaying cavity at 6m. Polypore growing from limb at 9m.	C1	Radius: 6.4m. Area: 129 sq m.	Physiological Cond: Poor Structural Cond: Decaying	Crown reduction by 4 to 5m.
T044	Scots Pine (Pinus sylvestris)	Tree	Height (m): 19 Stem Diam (mm): 600 Spread (m): 3N, 3E, 3S, 3W Life Stage: Over Mature Rem. Contrib.: 10+ Years	N:3 E:3 S:3 W:3	A Single stemmed tree. Healthy but partially suppressed crown. Partially overgrown with Ivy. Overhangs adjacent road Deadwood in the crown.	B1	Radius: 7.2m. Area: 163 sq m.	Physiological Cond: Fair Structural Cond: Fair	Sever ivy at base.

Ref	Species	Full Structure	Measurements	Spread	General Observations	Retention Category	RPA	Measurements2	Recommendations
T045	Scots Pine (Pinus sylvestris)	Tree	Height (m): 19 Stem Diam (mm): 640 Spread (m): 4N, 6E, 4S, 3W Life Stage: Over Mature Rem. Contrib.: <10 years	N:4 E:6 S:4 W:3	A Single stemmed tree. Healthy but unbalanced crown. Partially overgrown with Ivy. Overhangs adjacent road Deadwood in the crown. Significant lean towards road. Suspected internal decay at base reports hollow.	U	None - due to Retention Category of U.	Physiological Cond: Poor Structural Cond: Physical Defect	Remove tree
T046	Common Beech (Fagus sylvatica)	Tree	Height (m): 18 Stem Diam (mm): 600 Spread (m): 5N, 6E, 5S, 4W Life Stage: Mature Rem. Contrib.: 10+ Years	N:5 E:6 S:5 W:4	A Single stemmed tree. Healthy but unbalanced crown. Overhangs adjacent road Growing on bank.	B1	Radius: 7.2m. Area: 163 sq m.	Physiological Cond: Fair Structural Cond: Fair	Crown reduction by 2 to 3m.
T047	Common Ash (Fraxinus excelsior)	Tree	Height (m): 16 Stem Diam (mm): 500 Spread (m): 1N, 2E, 4S, 2W Life Stage: Mature Rem. Contrib.: <10 years	N:1 E:2 S:4 W:2	A Single stemmed tree. Poor crown with loss of vigour. Partially overgrown with Ivy. Overhangs adjacent road Internal decay suspected.	U	None - due to Retention Category of U.	Physiological Cond: Poor Structural Cond: Decaying	Remove tree
T048	Common Ash (Fraxinus excelsior)	Tree	Height (m): 11 Stem Diam (mm): 800 Spread (m): 5N, 3E, 4S, 6W Life Stage: Over Mature Rem. Contrib.: <10 years	N:5 E:3 S:4 W:6	A Single stemmed tree. Healthy spreading crown. Heavily overgrown with Ivy. Overhangs adjacent road Minor decay pockets in crown. Suspected internal decay at base.	U	None - due to Retention Category of U.	Physiological Cond: Poor Structural Cond: Decaying	Remove tree
T049	Common Ash (Fraxinus excelsior)	Tree	Height (m): 15 Stem Diam (mm): 400 Spread (m): 3N, 3E, 3S, 3W Life Stage: Mature Rem. Contrib.: 10+ Years	N:3 E:3 S:3 W:3	A multi-stemmed tree. Healthy but partially suppressed crown. Partially overgrown with Ivy. On riverbank,	B1	Radius: 4.8m. Area: 72 sq m.	Physiological Cond: Fair Structural Cond: Fair	Sever ivy at base.
T050	Scots Pine (Pinus sylvestris)	Tree	Height (m): 10 Stem Diam (mm): 560 Spread (m): 5N, 5E, 6S, 6W Life Stage: Mature Rem. Contrib.: 10+ Years	N:5 E:5 S:6 W:6	A Single stemmed tree. Healthy but partially suppressed crown. Overhangs adjacent path. Deadwood in the crown. Minor well callused wounds on main stem.	B1	Radius: 6.7m. Area: 141 sq m.	Physiological Cond: Fair Structural Cond: Fair	Dead wood (major greater than 25mm).
T051	Scots Pine (Pinus sylvestris)	Tree	Height (m): 10 Stem Diam (mm): 420 Spread (m): 5N, 3E, 2S, 1W Life Stage: Mature Rem. Contrib.: 10+ Years	N:5 E:3 S:2 W:1	A Single stemmed tree. Healthy but unbalanced crown. Deadwood in the crown. Old Wounds on main stem from previous pruning. Leans away from path.	B1	Radius: 5.0m. Area: 79 sq m.	Physiological Cond: Fair Structural Cond: Physical Defect	No action required.

Ref	Species	Full Structure	Measurements	Spread	General Observations	Retention Category	RPA	Measurements2	Recommendations
T052	Scots Pine (Pinus sylvestris)	Tree	Height (m): 11 Stem Diam (mm): 730 Spread (m): 6N, 3E, 6S, 5W Life Stage: Over Mature Rem. Contrib.: 10+ Years	N:6 E:3 S:6 W:5	A Single stemmed tree. Healthy but unbalanced crown. Deadwood in the crown. Numerous old decay pockets from pruning wounds on main stem. A large daying wound at the base from a limb failure. Leans away from path.	B	Radius: 8.8m. Area: 243 sq m.	Physiological Cond: Poor Structural Cond: Physical Defect	No action required.
T053	Common Alder (Alnus glutinosa)	Tree	Height (m): 7 Stem Diam (mm): 400 Spread (m): 4N, 5E, 6S, 4W Life Stage: Over Mature Rem. Contrib.: <10 years	N:4 E:5 S:6 W:4	A multi-stemmed tree. Poor crown with loss of vigour. Heavily overgrown with Ivy. Overhangs adjacent property. Overhangs adjacent building. Minor decay pockets on main stem. Deadwood in the crown.	C1	Radius: 4.8m. Area: 72 sq m.	Physiological Cond: Fair Structural Cond: Fair	Complete Prune. Prune back to boundary. Sever ivy at base.
T054	Cherry (Prunus sp. (Cherries))	Tree	Height (m): 4 Stem Diam (mm): 200 Spread (m): 1N, 1E, 1S, 1W Life Stage: Dead	N:1 E:1 S:1 W:1	Standing dead tree.	U	None - due to Retention Category of U.	Physiological Cond: Dead Structural Cond: Collapsing	Remove tree
T055	Common Ash (Fraxinus excelsior)	Tree	Height (m): 9 Stem Diam (mm): 300 Spread (m): 4N, 3E, 4S, 4W Life Stage: Early Mature Rem. Contrib.: 10+ Years	N:4 E:3 S:4 W:4	A Single stemmed tree. Healthy but partially suppressed crown. Partially overgrown with Ivy. Overhangs adjacent property. Overhangs adjacent building.	C1	Radius: 3.6m. Area: 41 sq m.	Physiological Cond: Fair Structural Cond: Fair	Complete Prune. Prune back to boundary. Sever ivy at base.
T056	Common Ash (Fraxinus excelsior)	Tree	Height (m): 9 Stem Diam (mm): 300 Spread (m): 3N, 5E, 4S, 1W Life Stage: Early Mature Rem. Contrib.: 10+ Years	N:3 E:5 S:4 W:1	A twin stemmed tree. Healthy but partially suppressed crown. Partially overgrown with Ivy. Overhangs adjacent property.	C1	Radius: 3.6m. Area: 41 sq m.	Physiological Cond: Fair Structural Cond: Fair	Complete Prune. Prune back to boundary. Sever ivy at base.
T057	Field Maple (Acer campestre)	Tree	Height (m): 5 Stem Diam (mm): 230 Spread (m): 3N, 3E, 3S, 3W Life Stage: Early Mature Rem. Contrib.: 10+ Years	N:3 E:3 S:3 W:3	A Single stemmed tree. Healthy spreading crown.	B1	Radius: 2.8m. Area: 25 sq m.	Physiological Cond: Fair Structural Cond: Fair	No action required.

Ref	Species	Full Structure	Measurements	Spread	General Observations	Retention Category	RPA	Measurements2	Recommendations
T058	Leyland Cypress x20 (Cupressocyparis leylandii X)	Group 20 trees	Height (m): 16 20 stems, avg.(mm): 450 Spread (m): 7N, 7E, 6S, 5W Life Stage: Over Mature Rem. Contrib.: 10+ Years	N:7 E:7 S:6 W:5	A large group of single and multi-stemmed trees growing along the boundary of a golf course. The trees have suffered storm damage and hung up, broken limbs are common. All of the trees have group suppressed crowns and overhang the adjacent property. There is evidence of several trees being lost to windthrow which has opened up gaps. The trees are not remarkable and will continue to suffer storm damage. the trees grow as a group and removal of trees from the group will increase the chance of storm damage as non-wind firm trees are exposed.	C1	Area: 432.64 sq m.	Physiological Cond: Fair Structural Cond: Collapsing	Tidy broken limbs.
T059	Mixed Species Group x60 (Group, mixed species)	Group 60 trees	Height (m): 16 60 stems, avg.(mm): 500 Spread (m): 4N, 4E, 4S, 4W Life Stage: Early Mature Rem. Contrib.: 10+ Years	N:4 E:4 S:4 W:4	This linear riverside group grows to the rear of private houses. The group is dense with a low canopy. The group overhangs adjacent properties. The group grows on sloping ground and there is a thick understory of Holly, Hazel, and Thorn. There is a range of ages within it from young self-seeded trees to early mature and mature trees to the North. The main species represented are Alder, Sycamore, Ash, and Hazel. Ivy and minor deadwood throughout.	C	Area: 2919.6 sq m.	Physiological Cond: Fair Structural Cond: Fair	No action required.

APPENDIX 1 – SUPPORTING COMMENTS

[redacted]

Good afternoon [redacted],

Please find additional comments below.

Group 59- The group is densely packed and grows on undulating terrain. Working within the woodland with large machinery will require clearance of working platforms.

To retain shade riverbank trees should be retained with as little disturbance as possible. I recommend that the retained riverbank trees be given a root protection zone of between 4 to 5m radius from the center of the stem. This area should be fenced off before work starts and should not be removed until works are complete.

Root protection areas –(RPAS)

The erection of protective fencing as per the Tree Protection Plan (TPP) prior to the commencement of any works on site will protect the RPA of retained trees.

Existing ground levels should be retained within the RPAs. Intrusions into the soil within the RPAs is generally not acceptable and topsoil within it should remain in situ.

The erection of protective fencing, in this instance, is considered likely to place constraints on elements of the construction and its associated activities and/or possibly limit the working space available, with the subsequent result that incursions into the RPAs of some of the retained trees. Consequently, additional ground protection measures will be required.

The British Standards 5837:2012 advises that new temporary ground protection should be capable of supporting any traffic entering or using the site without being distorted or causing compaction to underlying soil and further provides the following note:

NOTE The ground protection might comprise one of the following:

a) 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;

b) for pedestrian-operated plant up to a gross weight of 2 t, 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;

c) for wheeled or tracked construction traffic exceeding 2 t 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.

Root Protection Fencing.

Protective fencing is essential to preserve root protection areas during the duration of the works.

The location will be agreed with the retained Arboricultural consultant prior to work commencing and will aim to preserve and protect the root systems of retained trees for the duration of the works.

Due to the nature of this site root protection fencing may have to allow for pedestrian movement. Protective barriers are to be erected prior to the commencement of site works including demolition, soil stripping or movement, bringing onto site of materials, supplies or machinery. Tree works can be undertaken prior to the erection of the barriers.

The barriers should be considered essential and should not be removed or altered without prior recommendation by an Arboriculturalist and approval of the local planning authority.

The barrier should consist of a vertical and horizontal framework of scaffold tubing which is adequately braced to resist impacts. The vertical scaffold tubes need to be placed at a distance not exceeding 3m apart and driven securely into the ground for a minimum depth of 0.6m. Care should be taken when locating the vertical poles to avoid underground services and, in the case of the bracing poles, also to avoid any structural roots. The weldmesh or Heras panels need to be a minimum 2.0m tall and are securely attached to the scaffold framework with wire or scaffold clamps.

The wire or scaffold clamps should be secured on the inside of the barrier to avoid easy dismantling. Panels on rubber or concrete feet are not resistant to impact and should not be used.
No fixing shall be made to any tree and all possible care must be taken to prevent damage to tree roots when locating the posts.

All barriers must be firmly fixed to prevent movement by site personnel or vehicles and include all weather signs with the wording “Construction exclusion zone- keep out”.

Excavation/Ground Works

The erection of protective fencing and/or use of ground protection, prior to the commencement of any works on site, will allow excavations and ground works to take place
without any adverse effect and/or impact on the retained trees.

All plant and vehicles engaged in ground works should either operate outside the RPAs, or run on ground protection in the proximity of retained trees.

Where trees stand adjacent to hard surfaces and/or buildings to be removed, excavation should be undertaken inwards, from within the footprint of the existing hard surfacing or
outside of the RPAs.