

Appendix 3B

Arboricultural Report Final

Arboricultural Report.

Location:	Linhay Hill Quarry Extension, Ashburton.
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Summary

It is proposed to construct an extension to the existing quarry at Linhay Hill, Ashburton. Within the red line defining the application site, the quarry extension area is approximately 32 hectares. Of which, 21 hectares are being used for extraction and the remaining 11 hectares are to be used for tipping overburden to form screening bunds. In addition a new highway and farm access is to be created, as well as further land being subject to mitigation and enhancement measures.

The trees which could be affected by the development have been surveyed, and guidance has been made as to factors such as the quality of existing trees, the constraints imposed by the trees and measures to reduce the potential impact of the development. Due to the nature of such a long term development, not all details can or are appropriate to be resolved at this stage. However, prior to works commencing all relevant outstanding details would be subject to prior agreement with the Planning Authority.

As part of the design process, arboricultural information has been incorporated and has resulted in various changes to the proposed layout. These changes have reduced the potential arboricultural impact where feasible and the majority of trees to be removed are classified as individually being of a low category. Subject to Planning Authority approval, a comprehensive Landscape and Ecological Mitigation and Enhancement Strategy is to be implemented. This Strategy will provide a range of benefits, and will shape the future landscape, arboricultural and ecological qualities of this area for many years.



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For and on behalf of Evans + Associates Ltd.

1.0 Introduction

1.1 **Terms of Engagement.** This report was commissioned by E & JW Glendinning Ltd, and has been produced in accordance with BS5837:2012 (Trees in relation to design, demolition and construction - Recommendations) where appropriate to the proposed development.

1.2 **Report Purpose & Structure.** This report provides information relevant to the design process, through to measures to be undertaken in relation to protecting the remaining trees during the construction phase. The report contains the following information:

- Tree Survey Information.
- An Arboricultural Implications Assessment (AIA).
- An Arboricultural Method Statement (Heads of Terms only).
- Tree Retention Plan.

Contained within Appendix B are the schedules of tree survey data which include information such as basic physical data, a condition summary, and the required Root Protection Areas (RPA).

Appendix C contains the Head of Terms for the Arboricultural Method Statement (AMS). This outlines items such as the general parameters and measures which are to be implemented in relation to retained trees and construction activities.

Appendix G contains the Tree Retention Plan (Ref EA/0102/G/Arb Rev A) detailing information such as the location of the existing trees in relation to the proposed works.

A more detailed Tree Protection Plan (TPP) is to be produced and submitted for approval to Dartmoor National Park Authority (DNPA) following approval of the planning application but prior to construction works commencing. The TPP will be submitted to DNPA at the same time as the Arboricultural Method Statement, and will contain information such as the type and location of protective fencing to be used during the construction phase.

1.3 **Previous Reports.** This report is the first arboricultural report to be commissioned and submitted to DNPA in relation to the proposed development works.

1.4 **Documents Supplied.** During the survey and design process various drawings and associated details have been supplied to the author. In particular these have included:

- Topographic survey information (Cornish Engineering Surveys),
- Layout and specific design details (Atkins),
- Ecological mitigation and enhancement proposals (Woodfield Ecology),

1.5 **Development Proposals & Evolution.** The proposed development will result in a larger quarry, and provision of local highway alterations. Outlines of the existing and proposed development are shown on the Tree Retention Plan in Appendix G.

The design of the proposals has evolved significantly. From an arboricultural perspective this has enabled the retention of additional existing trees and associated vegetation, and also provided additional space for mitigation and enhancement measures. In particular the proposals for Waye Lane have been re-designed to retain more of the existing trees.

1.6 **Geographical Scope of Report.** This report covers the area that may be affected by the development proposals.

- 1.7 **Legal Tree Protection.** During August 1990 a Tree Preservation Order was served on a group of trees that are located surrounding a pond near Waye Lane. They are referenced as G20 within the Tree Survey Schedules contained within Appendix B.

It is understood from information provided by DNPA that no other trees near or directly adjacent to the boundary of the site are currently subject to Tree Preservation Orders. It is also believed that no trees on or adjoining the site are located within a designated Conservation Area. Prior to undertaking any works to the trees on site however, the extent of any tree protection should be confirmed with DNPA.

- 1.8 **Local Designations.** The site is fully contained within the boundaries of Dartmoor National Park. There are no areas within or directly adjoining the site which currently have either Site of Special Scientific Interest (SSSI) or Local Nature Reserve (LNR) status.
- 1.9 **Qualifications and Experience.** The qualifications and experience of the author of this report are summarised in Appendix F.

2.0 Survey and Data Categorisation

- 2.1 **Site Description.** The proposed extension area occupies an area of approximately 32ha, and further land will be affected by new and altered roads and surface water drainage works. The existing quarry is adjacent to Ashburton and the A38, the remaining surrounding land use is predominantly agricultural. Some residential properties are in close proximity to the site, as well as a local college.

The prevailing landscape character within the local area is addressed within the Landscape Assessment component of the Environmental Statement.

- 2.2 **Site Visit.** The site survey was undertaken between August 2015 and April 2016. It included all trees on site, plus those located on adjoining but private property which may be influenced by the proposed development.
- 2.3 **Soil Assessment.** Formal soil assessment and analysis was not undertaken as part of the arboricultural survey and associated reporting. However the author dug several trial holes and as a layperson regards the topsoil as a freely draining, slightly acidic loam. Due to the extent of previous quarry related works and associated disturbance, within the site the soil profile varies in depth and quality.
- 2.4 **Data Collection.** All survey data was collected visually from ground level, and did not necessitate the use of detailed investigations. For identification purposes all individual trees and groups of trees have been given a unique number which then corresponds with the Tree Survey Schedule contained within Appendix B, and the Tree Retention Plan contained within Appendix G. Trees have not been tagged on site as the location of individual trees is easily determined from the Tree Retention Plan. Only trees with a stem diameter of 75mm or above have been surveyed in accordance with the recommendations of BS5837:2012. Crown spreads and heights were estimated to the nearest metre, stem diameter measured and rounded up to the nearest 25mm increment.

The approach to surveying groups differed from that used for individuals in that minimum/maximum ranges were recorded for stem diameter, and tree height. In addition, the stem diameter of key individuals was recorded for determining the required Root Protection Area.

2.5 **Categorisation.** In accordance with Table 1 of BS 5837:2012, the trees were categorised as follows:

Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years.

Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.

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 150mm.

Category U Trees in such a condition that they cannot be realistically retained as living trees in the context of the current land use for longer than 10 years.

The Tree Retention Plan contained in Appendix G shows the location of each tree &/or group of trees coloured to demonstrate their category. The colours being as follows:

Category A – Green.

Category B – Mid Blue.

Category C – Grey.

Category U – Red.

Particularly within groups of trees and woodlands, individual trees may be of a lower quality when assessed individually. However due to their proximity to other and / or better quality trees, they may visually and/or structurally form a coherent unit and as such attract a higher category rating. However, solely because a young tree has a remaining life expectancy of 40 years plus, it does not automatically result in it being awarded category A status.

An extract of BS 5837:2012 providing both further information as to the process of categorisation, and the survey approach used by the author, are contained within Appendix A.

2.6 **Root Protection Area (RPA).** The RPA provides a *guide* as to the rooting area required by a tree that would be satisfactory to ensure its continued survival if all roots outside of the RPA were severed. Where possible, construction activities within the RPA are therefore to be minimised, and if they are to proceed are to be carefully designed and implemented especially if the tree is to be retained in the long term.

In accordance with the requirements of BS5837 each diameter measurement was rounded up and the resulting radius and RPA figures being directly taken from BS5837 Table D.

Due to ground constraints e.g. existing structures, the full RPA is not always circular in shape but has to be adapted to accommodate those constraints. The shape of the RPA will therefore change but the area covered by the RPA will generally not be reduced. Occasionally, the full RPA cannot be achieved however some limited amendment may be permissible subject to consideration of factors such as the structure, age, species and condition of the tree(s) in question.

2.7 **Construction Exclusion Zone (CEZ).** Once established, the RPA forms the basis of the CEZ. These are the areas which are to be protected (traditionally by the use of temporary fencing throughout the construction phase) against disturbance in order that the trees can be successfully retained, and can be larger but not smaller than the RPA.

2.8 **Hedges.** Details of which hedges are to be removed and / or translocated are detailed within the Landscape and Ecological Mitigation and Enhancement Strategy. Those to be retained will be protected from potentially detrimental impacts during the construction process in

accordance with BS 5837:2012. A minimum of 2.5m clearance will be provided from the hedgerow centreline to the protective fencing.

- 2.9 **Data Submission & Validity.** Due to the timescale over which the development is to be implemented (up to 60 years), detailed arboricultural assessment information for beyond 'Stage 0' of this project is of less value. Over the next few decades the arboricultural context within the site will evolve, and an assessment of long term future impact undertaken at present is at best regarded as a guide only.

To aid the determination process however and provide information as to the possible overall impact of the development, all trees throughout and adjoining the site have been included for assessment. Prior to Stage 1 onwards commencing, full details regarding arboricultural impacts, mitigation measures, method statements, etc... will be submitted to DNPA for approval prior to the relevant Stage of works commencing.

3.0 **Arboricultural Impact Assessment**

- 3.1 **Summary of Impact.** The trees that will be removed by the proposed works are as listed below:

Location		
Balland Lane		
Category	Ref No	Action
A	None	
B	G1 (part), G3 (part),	Remove
C	None	
U	None	

Location		
Waye Lane		
Category	Ref No	Action
A	G20 (part),	Remove
B	G6 (part), G8 (part), G9 (part), G12 (part), G21 (part), W1 (part), W2 (part), W3 (part),	Remove
C	T10, T11, T26, T27, T28, T32, T35, T43, T44, T48, T49, G5, G13,	Remove
U	None	

Location		
Detention Basins		
Category	Ref No	Action
A	G10 (part), G20 (part),	Remove
B	G8 (part),	Remove
C	G12 (part),	Remove
U	None	

Location		
Alston Access		
Category	Ref No	Action
A	None	
B	None	
C	G24,	Remove
U	None	

Location		
Quarry Extension		
Category	Ref No	Action

A	T73,	Remove
B	T61, T62, G42 (part),	Remove
C	T65, T66, G26, G34,	Remove
U	None	

Table 1. Summary of Arboricultural Impact.

In total, and throughout the lifetime of this project approximately 300 trees are proposed for removal. Whilst some will be removed as a sole consequence of the proposed development, between a third and half would be removed irrespective of the current proposals and as part of normal and ongoing woodland and estate management. Furthermore some are proposed for removal to assist the provision of flood alleviation measures further downstream, and not as a direct requirement to implement this development. The long timeframe for development also has a bearing on overall arboricultural impact, as some trees proposed for removal will not be removed for many years. During which time the Landscape & Ecological Mitigation and Enhancement Strategy will be implemented, this will result in considerable new tree and woodland establishment. The existing tree population within the site will also evolve and change due to both the natural ageing process, and also factors such as climate change, pests and diseases, etc...

In the short term, tree removal is primarily related to the widening of Balland Lane and creation of Waye Lane. This removal will be noticeable to members of the public particularly in relation to Balland Lane, however less so in relation to Waye Lane due to the reduced number of visual receptors. Section 5 of BS 5837:2012 recognises that trees are only one factor in the design of a site layout and care should be taken to avoid misplaced tree retention. Otherwise, the end result may result in excessive pressure on the trees during demolition or construction work, or post-completion demands for their removal.

Some of the trees within this site would be regarded as veterans in accordance with the definition contained at s3.12 of BS 5837: 2012. Generally veteran trees are regarded as mature or over mature with significant features such as basal decay, but the tree is not physically or physiologically showing signs of significant decline. Various guidance exists in relation to defining veteran trees, and within this site such trees are likely to include T34, T38, T47, T62, T67, T68 T73, and one oak within G10.

As part of this development, T62 & T73 would be removed (T62 contains extensive basal decay). All other veteran trees would be retained with no significant encroachment of construction works within their respective RPAs or canopy pruning required.

Ancient trees are separate from veteran trees in that they are typically of a greater age and have a wider trunk than other trees of the same species. They are also often hollow and have a crown that is in naturally 'retrenching'. None of the trees on site are regarded as 'Ancient'.

No trees present on site are known to have any known historical value in a cultural sense.

3.2 **Detailed Impact Assessment.** This Assessment is provided in two sections. The first considers the impact upon retained trees within Stage 'O' where construction works will be located in or directly adjacent to RPAs. The second section considers retained trees contained within the remaining Stages of the development.

All tree numbers are inclusive, and the impacts are ordered starting from the Eastern end of Balland Lane and progressing through the remainder of Stage 0, before considering the remaining Stages.

3.2.1 Stage 0

T1 – T9, G2, G4. All trees to the south of Balland Lane will be retained. The existing road will be raised in places by approximately 40mm, however full depth reconstruction will not be required. In addition no kerbing is to be installed within the RPA of any retained trees. Canopy heights over the existing road surface are as shown in Appendix B, and based on 5.2m vertical clearance being acceptable to the highways authority, crown lifting to T1, T6, and some of the over stood hedging within G2 and G4, will be required to enable the required clearances for future passing traffic. Some management of the over stood hedging would be beneficial in order to establish a more coherent and long term boundary feature.

G1 & G3. Both groups will be affected by the widening of Balland Lane. And, as a consequence of the development, in total approximately 50no trees will be removed plus some over stood hedge. All the trees in both groups are relatively young (except for 1no cypress in G3 which is mature but in poor condition), having been planted approximately 30 - 40 years ago. Individually the majority of trees would be assessed as being of 'C' category but collectively the group warrants a 'B' category. The over stood hedging is primarily hazel, and contains significant gaps. Independently from the current proposals, management works to both groups would be beneficial in terms of providing the remaining trees with adequate room for future development.

G6. This group contains trees within both 'B' and 'C' categories, those trees proposed for removal (approximately 5no trees) are regarded as being of 'C' category. The overall integrity and visual presence of the group would be retained.

T12 to T28. The proposals will require the removal of Nos T26, T27, & T28. The remaining trees will not have their RPAs directly affected, however some minor canopy pruning of T12, T13, T17, T22 and T24 is likely to be required. Due to their close proximity and relatively young age, these trees would benefit from some management works such as thinning independent from the proposed development proposals.

W1. This young woodland appears to have been planted approximately 30 - 40 years ago, and has now developed to a stage where it would benefit from management works such as thinning. The proposed development will result in the removal of approximately 100no trees, additionally some trees may have construction works undertaken within their RPA.

Given the overall number and age of trees within the woodland, the proposed tree removal required to construct the new road is not regarded likely to compromise the overall integrity of the woodland. Furthermore where trees are worthy of long term retention (from a management perspective) but will be subjected to significant root damage, the RPA will be protected by the use of a cellular system such as 'cell-web'.

Between the trees within this plot and the proposed lane, there is currently an over stood hedge of primarily beech and hawthorn. This hedge will largely be removed.

T34. This veteran oak is in good overall condition, and is to be retained. The proposed side road construction in this location is intended to be only for infrequent use, and within the RPA the surface will be retained as existing. No works to the existing canopy will be required.

G8. Due to the combined impact of the construction of both Waye Lane and also Place Wood Detention Basin, the majority of this group of trees will be removed.

W2. A similar plot to W1 in terms of being relatively recently planted and now would benefit from some management works. The proposed Waye Lane will be located outside of the RPA for the majority of W1, however at the Northern and Southern ends construction works will entail the removal of approximately 11no trees. Due to the construction and use of the existing track, it is likely that the root development of these particular trees is eccentric and favours the ground conditions to the East. Two trees (both oaks and located adjacent to the track at the Southern end of W1) will be retained, but will be subject to fill being placed over part of the RPA. A protective product such as 'cellweb' will be used to reduce this impact.

The maintained hedge alongside the existing track will also be largely retained and protected during construction works, except for at the Northern and Southern extents where it will need to be removed.

G9. A small group of young planted (primarily ash) trees, the construction of Waye Lane will entail the removal of most of this group. It may be possible to retain some of the trees at the Southern end of the group, but this will be subject to review as construction works proceed.

T38. This veteran oak will have construction for works related to the creation of the Brownswell Detention Basin adjacent to, but not within its RPA. No works will be required regarding crown pruning.

G10. Contains 1no veteran oak located at the Eastern edge of the group. The proposed design will result in the removal of a small ash and a small hawthorn closest to the proposed Brownswell Detention Basin. Excavation works will however not occur within the RPA of the veteran oak tree, nor will canopy pruning be required.

G11. Contains 3no dominant oaks, however all construction works are proposed outside of the group RPA.

G12. The construction of the Brownswell Detention Basin and adjacent Waye Lane, will result in the partial removal of this group. None of the trees within this group and proposed for removal are of particular merit, being primarily young alder or poor quality ash.

T39. The construction footprint of Waye Lane will encroach slightly further towards T39 than the footprint of the existing stone track (by less than 1m). The root architecture beneath the existing track is likely to be restricted, and this additional encroachment will be undertaken using root protection measures such as 'cellweb'. As a result there is not anticipated to be any adverse impact upon this tree as a consequence of this development.

T41. As with T39, the construction of Waye Lane will encroach slightly within the RPA of this tree. The encroachment in total will result in a maximum loss of 0.4% of the RPA. Given the structural and physiological condition of this tree, and its environment, no detrimental impact is anticipated as a result of this encroachment.

T42. Is proposed for removal due to its physical condition. This recommendation is irrespective of the proposed development.

G14 & T46. Are to be retained and no encroachment will occur within the respective RPAs. Some minor lateral crown reduction will however be required to enable construction to proceed.

T47. A veteran 'A' category oak tree located on a small bank and adjacent to both a stream / pond (believed to be seasonal) and an existing stone access track. The proposed Waye Lane would be located slightly further from T47 than the existing stone track and watercourse, although still just within the theoretical RPA. Due to the likely root architecture under the existing track, no long term detrimental impact is anticipated from the proposed works. No works to the existing canopy will be required.

T50. The likely root architecture of this tree is unknown due to the presence of the adjacent stream (believed to be seasonal) and the construction of the existing adjoining surfaced track and culvert (the track and culvert on opposing sides of the tree). The proposed road will encroach within the RPA to the South East of the tree however due to the stream and culvert it is regarded as unlikely that this area will contain significant roots. However, as a precautionary measure a cellular root protection product such as 'cellweb' will be used. This measure will also assist retaining G17. No works to the existing canopy will be required.

W3. A young primarily pine plantation, which would benefit from management works irrespective of the proposed development. This woodland will be affected by the construction of a new access to Waye Farm, and which will entail the removal of approximately 30no trees. The Construction Exclusion Zone will be defined prior to the access being created, however will not compromise the overall integrity of the woodland.

G19. The proposed development will not involve any excavation within the RPA of this group. The proposed new access will terminate outside of the RPA.

G20. This group of trees (some of which are subject to a Tree Preservation Order) are potentially impacted upon by two distinct elements of this development. The first is the construction of the proposed Waye Lane which passes to the South. The second is the construction of the Waye Pond Detention Basin. The two elements are considered separately.

The former pond to the south of Waye House has become gradually filled with silt and now contains much self-set vegetation such as willow. In terms of holding water, the pond area is now believed to be only seasonally waterlogged, and therefore the RPAs have been calculated on a primarily circular basis.

As a consequence of the construction of Waye Lane, there will be some raising of levels within the RPA of 5no trees and the extent of which is as shown on the Tree Retention Plan contained within Appendix G. This impact will be mitigated by the use of a cellular root protection product such as 'cellweb' in order to minimise the detrimental impact to the rooting systems.

In addition, some crown lifting will also be required to enable construction of Waye Lane and the passage of vehicles. One suppressed 'C' category tree in particular which has a severely eccentric crown directed towards the South East, is likely to be removed. All other existing trees will be retained (in relation to Waye Lane construction).

To construct the Waye Pond Detention Basin it is proposed to undertake excavation and clearance works to remove silt from within the pond area, but only in those areas of younger self set and poorer quality vegetation. The full lateral extent of excavation is to be defined following further investigations to determine root development profile of those trees to be retained.

Following the clearance work, the volume of water entering and to be retained by the pond throughout the year has been assessed as being broadly similar to that at present. However, anticipated water levels throughout the basin are likely to be up to 2m lower than generally exist at present. The implications of this potential change in hydrology in terms of arboricultural impact are uncertain, and little quantitative information exists on the nature of plant response to different magnitudes, rates, and durations of groundwater decline.

A key question is whether a decline in water table level relative to the conditions under which the roots developed, may strand the roots where they cannot obtain sufficient moisture. Specific tree response is likely to be determined by a number of variables, including local climate, tree age and condition, physiological and morphological adaptations to water related stress, topography, ground construction, and soil characteristics.

The rate of change in local hydrology is also likely to influence the extent of potential impact. To provide additional time for the existing trees to adapt, it is proposed that the excavation works are undertaken over a period of several years and the water level therefore lowered gradually. Nonetheless, given the lowered hydrology and typical rooting depth of the existing trees, the proposals may result in temporary &/or permanent decline in some of those trees.

If there is any long term decline in the retained trees, it is likely to be gradual and occur over a number of years. At the same time, and as detailed within the Landscape and Ecological Mitigation and Enhancement Strategy, a comprehensive amount of new woodland is to be planted and will start to develop and make a positive contribution to the locality. Part of this planting will largely encompass and link G20 to the existing woodland (W4) to the north.

A specific component of the AMS will be in relation to G20 and will be subject to prior approval by DNPA, prior to any works commencing on site. This method statement will address the timing, extent, and methodology of works.

G21. The construction of the proposed new access junction will entail the removal of most if not all of the Southern end of the group. This includes approximately 8no trees including a mature beech tree and some young yew.

G22. The proposed new farm access will be aligned so that there is no impact upon this group. In addition, the existing road to the residential property 'Momalda' will remain as at present.

G24 & T59. G24 comprises a short section of over stood hedge (primarily elm - some being diseased), with T59 being a nearby individual cypress. G24 will be removed as part of the proposals, however it should be feasible to retain T59 subject to careful construction of the proposed farm access. Construction work will encroach within the RPA of T59, however the level of potential damage will be reduced due to the construction works largely overlapping the footprint of existing buildings (which are to be removed). As a result long term decline is unlikely.

G25. This group of trees straddles the existing access track to Alston Farm. The proposed new access will merge into the existing access, but this will occur outside of the RPA of any trees (root architecture under the existing track is unknown but currently assumed to be circular). Furthermore, there will be no full depth planing and resurfacing of the existing access within the RPA of the trees.

- 3.2.2 **Stages 1 to 4.** Several individuals and groups of trees are located directly within the proposed quarry extension area and these will need to be removed. These include 1no 'A' and 2no 'B' category individual trees. In addition 1no 'B' category group of trees will be partially removed, plus a further 2no 'C' category groups removed completely.

T53. A mature oak, this tree will be retained and the proposed earthworks will be adapted to ensure that there is no encroachment within the RPA. Furthermore any drainage works necessary for the adjacent Detention Basin will also be located outside of the RPA. No enabling tree surgery works will be required to undertake the proposed works.

Around the perimeter of the site where the quarry extension is to occur, are several groups of trees which are of particular importance. Those adjacent to the A38 provide a number of functions, and it is important that they are retained. When undertaking works in this area, there is considerable scope for local steepening of the proposed earthworks, restricting the movement of construction traffic, etc... to ensure that no works are undertaken where they will cause a long or short term detrimental impact to these trees.

- 3.3 **Impact on Trees Owned by Third Parties.** Adjoining the development site are trees owned by third parties such as Highways England. These trees will however not be affected by the development.

Additional trees are located on land adjoining the site which is leased by third parties but still within the ownership of E & JW Glendinning Ltd, e.g. within the College. Some of these trees will be affected by the proposals for Stage '0', and are as indicated within the Tree Retention Plan.

- 3.4 **Enabling Tree Surgery Works.** Due to the nature of the site and construction methodology, it will be necessary to undertake initial tree removal and associated enabling tree surgery works. These works will be undertaken to the requirements of BS 3998:2010.

Not all stumps will be removed. However where this is to occur, advice is to be taken from the project arboriculturalist as to whether they are to be ground out rather than extracted whole. This is to minimise damage to the root plate of nearby retained trees.

- 3.5 **Statutory Services.** It is not planned as part of this development that any services will be installed or upgraded within the RPA of any retained trees. If this situation changes then measures required by the National Joint Utilities Group (NJUG) guidelines for the installation of services in proximity to trees (Vol 4 2007) shall be complied with.

- 3.6 **Construction Process / Phasing.** Soil compaction and excavations within the rooting zones of trees to be retained can very quickly result in physical damage and initiate long term decline resulting in unnecessary tree loss. As a result, *prior* to any construction works, all retained trees will be fenced in accordance with BS5837:2012 to create the required CEZ's.

- 3.7 **Specialist Construction Techniques.** Within the RPA of several trees it is proposed to construct using 'no-dig' construction methodology. This includes within the construction of the proposed Waye Lane, the principle of which approach has been agreed with the local Highways Authority.

Where a 'no-dig' approach is proposed, no trees affected by the development proposals would be subject to more than 20% of the RPA being covered.

In summary construction using this technique will proceed as follows:

- Existing ground vegetation to be killed using a systemic herbicide and removed by hand. Care taken not to affect the roots of retained trees.
- Hollows filled with sharp sand or topsoil.
- Permeable nonwoven polypropylene geotextile fabric fixed within all areas to be covered by footpath.
- Above ground pegged timber edging installed.
- Cellweb or similar three dimensional cellular confinement system laid over the geotextile fabric and a no fines aggregate used to infill the cellular confinement system. The aggregate to be laid progressively so only the sub-base is used by machinery.
- Sub base to be compacted to minimise future settlement and a second layer of geotextile fabric laid onto the aggregate.
- Finished permeable surface laid by hand on recommended permeable bedding material over the cellular sytem/geotextile fabric.

If surfaces are to be subject to de-icing salt then an impermeable layer will be incorporated to prevent contamination of the rooting area. The full specification will be prepared by an engineer.

3.8 **Detention Basin Design.** Following a request by the DNPA to contribute to flood alleviation further downstream, the detention basins have been designed to be larger than would be required in order to address solely the implications of the proposed development. Due to the limited available locations for the creation of the detention basins, and the location of existing trees, this has resulted in additional trees being proposed for removal than would otherwise have been the case. In particular, this affects groups of trees (G10, G20), both of which are collectively of A category although contain individuals of lesser categories.

3.9 **Impact Mitigation and Enhancement Proposals.** These will be provided by the implementation of measures including:

- An Arboricultural Method Statement (Heads of Terms are included within Appendix C), which will be subject to prior approval by DNPA and adhered to throughout the construction works.
- Input and monitoring from the project arboriculturalist. This monitoring will be reported to all relevant parties, including DNPA if required.
- The implementation of a comprehensive Landscape and Ecological Mitigation and Enhancement Strategy. This Strategy will contain significant new woodland, and a thorough maintenance programme will be implemented to ensure establishment.

3.10 **Remedial Tree Surgery Post Works.** Following completion of each element of construction works, relevant trees will be resurveyed to determine if any additional works are required. Again, all works will be undertaken in accordance with BS 3998:2010 and no vehicular access will be permitted within the Root Protection Areas of any retained trees.

3.11 **Post Development Pressure.** As a consequence of the development it is not anticipated that additional long term pressure will be created resulting in the need to undertake major works to either retained or planted trees. Minor future works may be required such as crown lifting over Waye Lane, however these works would be undertaken to BS3998:2010 and where the trees are protected prior consent would be obtained from DNPA.

4.0 Arboricultural Method Statement (AMS)

4.1 **AMS Purpose.** The primary purpose of the AMS is that it be used on site to guide construction works in relation to trees. It establishes a range of measures that *must* be adopted in order to limit potential damage to retained trees throughout the construction

process. The developer is responsible for ensuring that the measures contained within the AMS are adhered to on site.

- 4.2 **AMS Development and Application.** Section 6 of BS 5837:2012 permits some flexibility in relation to how the AMS is presented at this stage in the determination process. Due to the timescale of the development, geographical scale and likely design alterations during the detailed design stage of the development only AMS 'Heads of Terms' are contained within Appendix C. The Heads of Terms are provided to outline items such as the general parameters for construction activity, and are based on information such as the Root Protection Area etc...

It is anticipated that if planning permission is granted, a condition will require a full AMS for each Stage of development to be submitted for approval prior to any works for the corresponding Stage commencing on site.

The overall aim is that the approved and complete AMS for each Stage will be presented so that it may be easily copied and used on site, and will be distributed to all parties involved in the construction process. In particular a copy will be kept in the site manager's office, and all staff on site are to be made aware of the document and the requirement to adhere to its contents.

- 4.3 **Tree Protection Plan (TPP).** This document forms part of the AMS and details information such as:

- Trees to be retained – identified with a continuous black line.
- Trees to be felled – identified with a broken black line.
- The location of the Construction Exclusion Zones.
- Details of the associated protective fencing.
- Measurements to identify fence positioning in relation to the centre of the tree.

Areas of new landscaping that are to be protected during construction works, will also be covered in the TPP.

5.0 Arboricultural Input

- 5.1 **Pre-commencement.** In order to achieve adequate tree protection on site it is important that the Project Arboriculturalist is involved in the pre-commencement meeting(s) to ensure:

- Induction and personnel awareness of arboricultural issues.
- That individual responsibilities and key personnel are identified, and delegated powers stated.
- The type and location of all protective fencing is confirmed.
- Any design or construction issues that have not already been identified but which could affect the trees are discussed, and the means for ensuring the trees protection throughout construction agreed.
- The timing, methods of site visits, and record keeping is agreed.
- The procedures for dealing with variations and incidents are clarified.
- That the scheme of arboricultural supervision is agreed.

A representative of DNPA will be invited to the pre-commencement meeting, and even if not present will be forwarded a copy of the minutes.

- 5.2 **Site Supervision.** Immediately prior to commencement of construction works the Project Arboriculturalist will confirm with the site team items such as the trees which are to be removed, any pruning required and the location and nature of the protective fencing.

Throughout construction, the fencing is to be checked on a regular basis by a designated member of the site team. Any damage to, or movement of, the fencing is to be reported and corrected to achieve the original degree of protection.

Site visits are to be undertaken by the Project Arboriculturalist to ensure that the fencing is maintained, and the requirements of the AMS are adhered to. In addition, the Project Arboriculturalist will be available for ad-hoc visits should unforeseen issues arise. The outcome of both regular and ad-hoc visits are to be recorded using a standard form (copy contained within Appendix D) and copies circulated to key site staff, and the DNPA Arboricultural Officer (if requested).

6.0 Conclusions and recommendations

6.1 Sequence of works. Following Local Authority approval, the sequence of works should be as follows:

- i. Initial tree removal and pruning for working clearances (if required).
- ii. Installation of temporary fencing to achieve CEZ for site clearance and dilapidation works. This includes areas to be protected for future landscaping.
- iii. Site clearance and dilapidation works.
- iv. Installation of temporary fencing to achieve CEZ for construction and service installation.
- v. Construction and service installation occurs.
- vi. Removal of temporary fencing.
- vii. Soft landscaping.

It is anticipated that this sequence will be repeated as each successive Stage of development is commenced. In addition and where feasible, advance landscape and ecological mitigation and enhancement measures will be undertaken prior to construction activities within the relevant Stage commencing.

6.2 Conclusion. This development will result in the removal of a number of trees which currently provide a degree of local amenity value. A range of measures have however been put in place to retain trees where possible, and also ensure their survival throughout the construction process.

Some of the trees to be removed are as a direct consequence of the development, whilst others will be removed due to indirect factors such as assisting flood alleviation measures off site. Furthermore and particularly within the woodland areas, many of the trees proposed for removal would be removed as part of general estate maintenance and management irrespective of the proposed development.

Due to the project timeframe, tree removal will occur over an extended period of years and this has direct implications for assessing and mitigating the nature of impact that the removal will have. Firstly it provides time for the comprehensive Landscape & Ecological Mitigation and Enhancement Strategy to be implemented which will include replacement tree and woodland planting, and ongoing maintenance to ensure establishment. Some of that planting being implemented at a relatively early stage in the development, and therefore having time to develop and influence the impact of further elements of the development when they are subsequently undertaken. Secondly, due to the naturally evolving nature of the tree stock and other influences such as climate change and possible pests and diseases, the arboricultural context within the site will develop. This makes long term assessment of future impact of proposed tree removal at best a guide, but also

provides opportunities for the Strategy to be monitored, reviewed, and amended to further minimise impacts and maximise opportunities for mitigation and enhancement.

A handwritten signature in black ink, appearing to read 'Gareth Evans', with a long horizontal flourish extending to the right.

Gareth Evans.
MA, MSc, CMLI, M.Arbor.A, MICFor,
For and on behalf of Evans + Associates Ltd

May 2016

Appendix A: BS 5837:2012 Tree Survey Explanation & Categorisation Chart

Key:

- **Tree Ref No:** This cross references to the individual tree, group or woodland as shown on the tree retention plan.
 - **Species:** Species of tree. If full identification is not possible at time of survey then the genus name is noted.
 - **Height (m):** Approximate height to the nearest meter as recorded from ground level.
 - **Stem dia (mm):** Diameter of stem measured at 1.5m above ground level, or as required by Annex C of BS 5837:2012. If excessive ivy is present, or full access to the tree is not possible, then diameter is estimated (shown as 'Est'). MS – Multiple stems present, stem diameter calculated in accordance with BS5837.
 - **Crown spread (m):** Approximate spread recorded to the nearest meter, to the cardinal points.
 - **Height of crown (m):** Approximate height of crown clearance above adjacent ground level, to the cardinal points.
 - **Age Class:**
 - P** Recently planted or establishing tree that may be transplanted without specialist equipment, i.e. less than 150mm stem diameter.
 - Y** Young (1st 1/3rd of life expectancy). Not yet reached prospective ultimate height.
 - MA** Middle aged (2nd 1/3rd of life expectancy).
 - M** Mature (final 1/3rd of life expectancy). Limited potential for any significant increase in height but still increasing crown spread.
 - OM** Over mature (beyond life expectancy and declining naturally).
 - V** Veteran (a mature or over mature tree showing significant features such as e.g. basal decay, etc...) but not in terminal decline. Ancient trees are identified separately.
 - D** Dead.
 - **Est (years):** Estimated useful remaining contribution (landscape, cultural inc conservation, &/or arboricultural) in years if retained as existing, e.g. less than 10, 10 – 20, 20 – 40, 40+. The figure given is however to be regarded with caution as it is subject to many variable factors. The categorisation is primarily based therefore upon the stated criteria and sub-categories of Table 1.
 - **PC: Physiological condition:**
 - Good (G)** – no significant health problems.
 - Fair (F)** – lower than average signs of vitality, symptoms of ill health that can be remediated, or may remedy naturally with time.
 - Poor (P)** – significant ill health.
 - Dead (D)**
 - **SC: Structural condition:**
 - Good (G)** – no significant defects.
 - Fair (F)** – significant defects that may be remediated, however function and/or longevity likely to be compromised.
 - Poor (P)** – Significant defects no remedy.
 - **Observations/Initial Management Recommendations:** Where appropriate this section includes comments based on existing (or pre development) context, recommending further investigation of suspected defects that require more detailed assessment, potential for wildlife, site constraints, etc..... It may also include details of required immediate or enabling tree surgery works.
 - **RPA Radius (m) & RPA Area (m²):** Calculated in accordance with s4.6 and Annex D of BS 5837: 2012.
 - **BS 5837:2012 Category:** In accordance with Table 1 BS 5837:2012.
 - **Proposed Works:** Tree works necessary to undertake the development.
- Note:**
- For groups of trees, minimum to maximum ranges have been recorded in terms of height, stem diameter, and where appropriate age class, and estimated remaining contribution. Some stems

within a group may not be plotted but overall existing crown spread is plotted on the Tree Retention Plan. In order to calculate the RPA required, the stem diameter of the larger specimens adjacent to any proposed works has been recorded, the required RPAs being calculated and the resulting area's shown reflecting factors such as the presence of on-site obstacles to root development.

- Vegetation that has not been recorded is not considered to be significant in relation to the proposed development and therefore has not been assessed further.

Table 1 – Categorisation cascade chart (From BS 5837:2012. p9).

Trees unsuitable for retention (see note)				
Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
<p>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.</p>	<p>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).</p> <p>Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline.</p> <p>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.</p> <p><i>Note. Category U trees can have existing or potential conservation value which it might be desirable to preserve.</i></p>			DARK RED
Trees to be considered for retention				
Category and definition	Criteria - Subcategories			Identification on plan
	1 – Mainly arboricultural values	2 – Mainly landscape values	3 – Mainly cultural values, including conservation	
<p>Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years.</p>	<p>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).</p>	<p>Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features.</p>	<p>Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood pasture).</p>	LIGHT GREEN
<p>Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.</p>	<p>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 minor 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.</p>	<p>Trees present in numbers, usually growing 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.</p>	<p>Trees with material conservation or other cultural value.</p>	MID BLUE
<p>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 150mm.</p>	<p>Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.</p>	<p>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.</p>	<p>Trees with no material conservation or other cultural benefits.</p>	GREY

Appendix B - Tree Survey Schedules

Project Title: Linhay Hill Quarry Arboricultural Survey										Date of Survey: Various during 2015 / 2016			
Client: Glendinning Ltd										Surveyor: G Evans / P Smith			
Location: Ashburton										Weather: Varied			
Tree Ref No	Species	Height (m)	Stem dia @1.5m (mm)	Crown Spread (m)	Ht of crown (m)	Age class	Est (yrs)	PC	SC	Observations/Initial Management Recommendations	RPA – Radius RPA - m2	Category	Proposed works (As part of intended development)
T1	Ash	14.0	275	N 4	N 5	Y	40+	G	G		3.3	A	Retain
				E 4	E 4						B		
				S 4	S 4						C		
				W 4	W 5						34.0	U	
T2	Oak (Turkey)	20.0	825 MS	N 11	N 8.2	SM/M	40+	G	G	Poor form. Ivy clad.	9.9	A	Retain
				E 9	E 5						B		
				S 11	S 3						C		
				W 7	W 4						308.0	U	
T3	Ash	15.0	550 Est MS	N 6	N 5.8	SM	40+	G	G	Twin stem.	6.6	A	Retain
				E 5	E 6						B		
				S 7	S 4						C		
				W 6	W 4						137.0	U	
T4	Ash	16.0	550MS	N 4	N 7.8	Y	40+	G	G		6.6	A	Retain
				E 6	E 5						B		
				S 7	S 4						C		
				W 3	W 6						137.0	U	
T5	Oak (English)	20.0	650 MS	N 10	N 6.8	SM/M	40+	G	G	Appears twin stem with T6 but likely to be independent stems. Collective canopy with T6.	7.8	A	Retain
				E 5	E 3						B		
				S 10	S 3						C		
				W 5	W 8						191.0	U	
T6	Oak (English)	17.0	625	N 10	N 4.4	SM/M	40+	G	G		7.5	A	Retain
				E 5	E 5						B		
				S 10	S 3						C		
				W 9	W 5						177.0	U	
T7	Oak (Turkey)	16.0	475 Est	N 7	N 6.2	SM/M	40+	G	F	Suppressed.	5.7	A	Retain
				E2	E 4						B		
				S 11	S 3						C		
				W 7	W 8						102.0	U	

Tree Ref No	Species	Height (m)	Stem dia @1.5m (mm)	Crown Spread (m)	Ht of crown (m)	Age class	Est (yrs)	PC	SC	Observations/Initial Management Recommendations	RPA – Radius RPA - m2	Category	Proposed works (As part of intended development)
T8	Oak (Turkey)	21.0	650	N 8 E 6 S 11 W 3	N 6.5 E 4 S 4 W 12	SM/ M	40+	G	G		7.8	A	Retain
												B	
											191.0	C U	
T9	Oak (Turkey)	21.0	600 Est	N 8 E 3 S 10 W 10	N 10.4 E 11 S 4 W 4	SM/ M	40+	G	G	Collective canopy with T8.	7.2	A	Retain
												B	
											163.0	C U	
T10	Ash	12.0	425 MS	N 6 E 6 S 5 W 6	N 5 E 4 S 6 W 8	Y	20+	G	P	Poor form, bifurcated stem, history of damage and decay.	5.1	A	Remove
												B	
											81.0	C U	
T11	Elm	14.0	225	N 5 E 3 S 3 W 4	N 5 E 5 S 7 W 3	Y	10+	G	G	Poor form.	2.7	A	Remove
												B	
											23.0	C U	
T12	Oak (English)	10.0	200	N 2 E 4 S 3 W 4	N 3 E 3 S 1 W 0	Y	40+	G	G		2.4	A	Retain
												B	
											18.0	C U	
T13	Norway maple	10.0	250	N 3 E 4 S 4 W 4	N 2 E 3 S 2 W 2	Y	40+	G	F		3.0	A	Retain
												B	
											28.0	C U	
T14	Birch (Silver)	13.0	175	N 2 E 2 S 2 W 2	N 3 E 3 S 3 W 3	Y	20+	G	F		2.1	A	Retain
												B	
											14.0	C U	

Tree Ref No	Species	Height (m)	Stem dia @1.5m (mm)	Crown Spread (m)	Ht of crown (m)	Age class	Est (yrs)	PC	SC	Observations/Initial Management Recommendations	RPA – Radius RPA - m2	Category	Proposed works (As part of intended development)
T15	Birch (Silver)	16.0	250	N 3	N 3	Y	20+	G	G	Ivy clad.	3.0	A	Retain
				E 3	E 3						B		
				S 3	S 2						C		
				W 3	W 3						U		
T16	Pine	9.5	200	N 2	N 3	Y	10+	G	P	Suppressed, canopy thin. Ivy clad.	2.4	A	Retain
				E 2	E 3						B		
				S 2	S 3						C		
				W 2	W 3						U		
T17	Oak (English)	13.0	225	N 3	N 5	Y	40+	G	G		2.7	A	Retain
				E 4	E 5						B		
				S 3	S 3						C		
				W 5	W 3						U		
T18	Norway maple	12.0	250	N 3	N 2	Y	40+	G	F		3.0	A	Retain
				E 4	E 3						B		
				S 4	S 2						C		
				W 4	W 2						U		
T19	Ash	8.5	125	N 2	N 3	P	40+	G	F		1.5	A	Retain
				E 1	E 3						B		
				S 2	S 3						C		
				W 1	W 5						U		
T20	Norway maple	10.0	200	N 3	N 3	Y	40+	G	F		2.4	A	Retain
				E 4	E 5						B		
				S 3	S 3						C		
				W 3	W 3						U		
T21	Pine	10.0	200	N 3	N 3	Y	20+	F	G	Suppressed.	2.4	A	Retain
				E 3	E 3						B		
				S 3	S 3						C		
				W 3	W 3						U		

Tree Ref No	Species	Height (m)	Stem dia @1.5m (mm)	Crown Spread (m)	Ht of crown (m)	Age class	Est (yrs)	PC	SC	Observations/Initial Management Recommendations	RPA – Radius RPA - m2	Category	Proposed works (As part of intended development)
T22	Alder (Italian)	17.0	325	N 4 E 4 S 5 W 5	N 3 E 3 S 4 W 1	Y	20+	G	G		3.9	A	Retain
											48.0	C	
T23	Ash	11.0	175	N 3 E 4 S 2 W 3	N 4 E 4 S 2 W 2	Y	40+	G	F		2.1	A	Retain
											14.0	C	
T24	Beech	9.0	200	N 4 E 5 S 3 W 5	N 2 E 3 S 2 W 1	Y	40+	G	F	Squirrel damage, compression fork at 2m.	2.4	A	Retain
											18.0	C	
T25	Oak (English)	11.0	225	N 4 E 4 S 4 W 4	N 2 E 3 S 3 W 1	Y	40+	G	G		2.7	A	Retain
											23.0	C	
T26	Sweet chestnut	8.0	200	N 3 E 4 S 4 W 5	N 3 E 5 S 3 W 2	Y	40+	G	F	Basal decay.	2.4	A	Remove
											18.0	C	
T27	Beech	12.0	200	N 3 E 3 S 3 W 5	N 3 E 2 S 3 W 1	Y	40+	G	G		2.4	A	Remove
											18.0	C	
T28	Alder (Italian)	16.0	250	N 3 E 3 S 3 W 4	N 4 E 4 S 5 W 3	Y	20+	G	G		3.0	A	Remove
											28.0	C	

Tree Ref No	Species	Height (m)	Stem dia @1.5m (mm)	Crown Spread (m)	Ht of crown (m)	Age class	Est (yrs)	PC	SC	Observations/Initial Management Recommendations	RPA – Radius RPA - m2	Category	Proposed works (As part of intended development)
T29	Ash	7.0	250 (Est)	N 3 E 3 S 3 W 3	N 2 E 2 S 2 W 2	Y	40+	G	F		3.0	A	Retain
											28.0	B	
C													
U													
T30	Oak (Turkey)	7.0	200 (Est)	N 3 E 3 S 2 W 3	N 1 E 2 S 1 W 2	Y	40+	G	G		2.4	A	Retain
											18.0	B	
C													
U													
T31	Ash	7.0	300 (Est)	N 3 E 3 S 3 W 3	N 2 E 2 S 2 W 2	Y	40+	G	F		3.6	A	Retain
											41.0	B	
C													
U													
T32	Ash	6.0	175 (Est)	N 3 E 3 S 3 W 3	N 1 E 1 S 1 W 17	Y	40+	G	F		2.1	A	Remove
											14.0	B	
C													
U													
T33	Plane	24.0	1130	N 10 E 14 S 12 W 12	N 3 E 3 S 2 W 3	M	40+	G	G		15.0	A	Retain
											707.0	B	
C													
U													
T34	Oak (English)	24.0	1600	N 9 E 11 S 9 W 13	N 2 E 2 S 2 W 2	V	40+	G	G	Ivy clad. Basal cavity. Veteran. No crown retrenchment.	15	A	Retain
											707	B	
C													
U													
T35	Beech (purple)	9.0	250 Est	N 3 E 3 S 3 W 3	N 3 E 3 S 3 W 3	Y	40+	G	G	Restricted access due to undergrowth.	3.0	A	Remove
											28.0	B	
C													
U													

Tree Ref No	Species	Height (m)	Stem dia @1.5m (mm)	Crown Spread (m)	Ht of crown (m)	Age class	Est (yrs)	PC	SC	Observations/Initial Management Recommendations	RPA – Radius RPA - m2	Category	Proposed works (As part of intended development)
T36	Hazel	7.0	300 Est MS	N 3	N 2	Y	20+	G	G	Hazel stool, ave stem dia 75mm. Approx. 15no stems. Restricted access due to undergrowth.	3.6	A	Retain
				E 3	E 2						B		
				S 3	S 2						C		
				W 3	W 4						U		
T37	Beech (purple)	9.0	225 Est	N 3	N 2	Y	40+	G	G	Restricted access due to undergrowth.	2.7	A	Retain
				E 3	E 2						B		
				S 3	S 2						C		
				W 3	W 4						U		
T38	Oak (English)	17.0	1450 Est	N 11	N 3	V	40+	G	G		15	A	Retain
				E 11	E 4						B		
				S 11	S 3						C		
				W 11	W 5						U		
T39	Ash	17.0	825 Est	N 7	N 4	M	20+	F	F	Located to West of stream (believed to be seasonal). Butt is part undermined, with likely basal decay present. Poor form, history of limb failure. Influence of stone track on architecture unknown.	9.9	A	Retain
				E 9	E 4						B		
				S 10	S 5						C		
				W 8	W 3						U		
T40	Ash	18.0	700	N 5	N 8	M	20+	F	F/P	Crown showing some indications of stress on primary limbs. Decay present in butt in two locations, extent unknown. Butt is part undermined.	8.4	A	Retain
				E 9	E 8						B		
				S 13	S 6						C		
				W 2	W 6						U		
T41	Oak (English)	21.0	975	N 10	N 3	M	40+	G	G	Basal cavity on S face. Leans at approx. 20° to W. No crown retrenchment. Adjacent stream believed to be seasonal.	11.7	A	Retain
				E 6	E 4						B		
				S 11	S 4						C		
				W 14	W 3						U		
T42	Ash	13.0	750 Est	N 10	N 5	M	0 - 10	P	P	Extensive basal decay, indications of progressive total failure. Leans to E. Ivy clad. Adjacent stream believed to be seasonal.	9.0	A	Remove
				E 10	E 5						B		
				S 3	S 5						C		
				W 7	W 5						U		

Tree Ref No	Species	Height (m)	Stem dia @1.5m (mm)	Crown Spread (m)	Ht of crown (m)	Age class	Est (yrs)	PC	SC	Observations/Initial Management Recommendations	RPA – Radius RPA - m2	Category	Proposed works (As part of intended development)
T43	Willow (Grey)	9.5	275 MS	N 4	N 3	Y	20+	G	F	Subject to poor pruning in past, adjacent to track. Principal stem leans to East.	3.3	A	Remove
				E 4	E 3						B		
				S 4	S 3						C		
				W 4	W 2						U		
T44	Willow (Grey)	9.0	275 MS	N 5	N 2	Y	20+	G	F	Subject to poor pruning in past adjacent to track. Principal stem leans to East.	3.3	A	Remove
				E 6	E 4						B		
				S 5	S 4						C		
				W 3	W 2						U		
T45	Alder (common)	7.0	175 est	N 3	N 2	Y	40+	G	G	Access restricted due to scrub.	2.1	A	Retain
				E 4	E 2						B		
				S 5	S 2						C		
				W 3	W 5						U		
T46	Ash	9.5	250	N 4	N 4	Y	40+	F	F	Restricted access, tree in hedge. Ivy clad. Stem has significant lean to East. located on crest of bank, overhangs far side of it. Root plate suspect.	3.0	A	Retain
				E 4	E 7						B		
				S 4	S 3						C		
				W 3	W 3						U		
T47	Oak (English)	21.0	1800 Est	N 7	N 5	V	40+	G	G	Basal decay, ivy clad, principal fork at 1.5m, minor dwd. No crown retrenchment. Influence of adjacent stone access track and stream on root architecture unknown.	15.0	A	Retain
				E 15	E 3						B		
				S 12	S 4						C		
				W 8	W 2						U		
T48	Willow (Goat)	8.0	325 MS	N 5	N 2	Y	20+	G	F	Poor pruning, deadwood present, wound on north stem at 3m agl.	3.9	A	Remove
				E 4	E 0						B		
				S 5	S 1						C		
				W 3	W 3						U		
T49	Ash	11.0	450 Est	N 3	N 4	Y	40+	G	F	Hedgerow ash, previously pruned at hedge height. Multi stem from 0.3m upwards.	5.4	A	Remove
				E 3	E 2						B		
				S 3	S 3						C		
				W 3	W 4						U		

Tree Ref No	Species	Height (m)	Stem dia @1.5m (mm)	Crown Spread (m)	Ht of crown (m)	Age class	Est (yrs)	PC	SC	Observations/Initial Management Recommendations	RPA – Radius RPA - m2	Category	Proposed works (As part of intended development)
T50	Chestnut (Sweet)	12.0	800 MS	N 5 E 4 S 5 W 4	N 3 E 3 S 3 W 5	MA	20+	F	F	Twin stem, ivy clad, major bark necrosis plus basal cavity on West face, ingrown wire, etc.. Historical root damage likely due to construction of adjacent culvert, and track. Adjacent seasonal stream may also have influenced root architecture.	9.6	A	Retain
												B	
											290.0	C U	
T51	Ash	12.0	300 MS	N 3 E 4 S 5 W 4	N 5 E 5 S 2 W 5	Y	40+	G	F		3.6	A	Retain
												B	
											41.0	C U	
T52	Chestnut (Sweet)	12.0	650 Est	N 5 E5 S 3 W 4	N 3 E 3 S 4 W 4	MA	20+	F/P	F	Canopy swamped by ivy, bark necrosis covering up to fifty percent of stem girth. Deadwood present, ingrown wire etc.	7.8	A	Retain
												B	
											191.0	C U	
T53	Oak (English)	16.0	975	N 15 E 13 S 11 W 9	N 1 E 1 S 1 W 2	MA/ M	40+	G	G	Basal cavity.	11.7	A	Retain
												B	
											430.0	C U	
T54	Ash	9.0	200 Est	N 4 E 4 S 4 W 4	N 3 E 3 S 2 W 3	Y	40+	G	F		2.4	A	Retain
												B	
											18.0	C U	
T55	Oak (English)	9.0	525 Est	N 3 E 3 S 4 W 3	N 2 E 3 S 2 W 3	MA	20+	P	F	Significant crown dieback, moribund.	6.3	A	Retain
												B	
											124.0	C U	
T56	Oak (Turkey)	10.0	275	N 3 E 3 S 3 W 3	N 3 E 3 S 3 W 3	Y	40+	G	F	Influence of track on root architecture unknown.	3.3	A	Retain
												B	
											34.0	C U	

Tree Ref No	Species	Height (m)	Stem dia @1.5m (mm)	Crown Spread (m)	Ht of crown (m)	Age class	Est (yrs)	PC	SC	Observations/Initial Management Recommendations	RPA – Radius RPA - m2	Category	Proposed works (As part of intended development)
T57	Oak (English)	9.0	525	N 4	N 3	MA	40+	G	F	Influence of track on root architecture unknown.	6.3	A	Retain
				E 4	E 3						B		
				S 5	S 3						C		
				W 4	W 3						124.0	U	
T58	Oak (English)	15.0	750	N 7	N 2	MA	40+	G	G	Influence of track on root architecture unknown.	9.0	A	Retain
				E 7	E 2						B		
				S 8	S 2						C		
				W 7	W 3						255.0	U	
T59	Cypress (Lawson)	11.0	950 Est	N 5	N 2	MA	40+	G	G	No Access	11.4	A	Retain
				E 5	E 2						B		
				S 5	S 2						C		
				W 5	W 2						408.0	U	
T60	Oak (Turkey)	9.0	325	N 3	N 4	Y	40+	G	F		3.9	A	Remove
				E 3	E 4						B		
				S 3	S 4						C		
				W 3	W 4						48.0	U	
T61	Ash	14.0	700 MS	N 6	N 3	MA	40+	G	F	Compression fork at 1.0m agl.	8.4	A	Remove
				E 7	E 4						B		
				S 6	S 3						C		
				W 6	W 3						222.0	U	
T62	Ash	11.0	1200 Est	N 8	N 3	M/V	20+	G	F/P	Lapsed pollard, crown ivy clad, extensive basal decay. 4no small diameter elms between ash and adjacent hedge corner all declining with DED.	14.4	A	Remove
				E 8	E 4						B		
				S 8	S 4						C		
				W 8	W 4						652.0	U	
T63	Ash	9.0	225 Est	N 3	N 4	Y	40+	G	G		2.7	A	Retain
				E 3	E 4						B		
				S 3	S 5						C		
				W 3	W 4						23.0	U	

Tree Ref No	Species	Height (m)	Stem dia @1.5m (mm)	Crown Spread (m)	Ht of crown (m)	Age class	Est (yrs)	PC	SC	Observations/Initial Management Recommendations	RPA – Radius RPA - m2	Category	Proposed works (As part of intended development)
T64	Oak (English)	11.0	900 Est	N 8 E 8 S 8 W 8	N 4 E 4 S 4 W 5	MA/ M	40+	G	F	Stem decay present. Ivy clad.	10.8	A	Retain
												B	
											366.0	C U	
T65	Holly	6.5	250 Est. MS	N 3 E 3 S 3 W 3	N 2 E 1 S 5 W 1	SM	20+	F	F		3.0	A	Remove
												B	
											28.0	C U	
T66	Holly	6.0	300 Est. MS	N 3 E 3 S 3 W 3	N 4 E 2 S 5 W 2	SM	20+	F	F		3.6	A	Remove
												B	
											41.0	C U	
T67	Ash	12.0	1200 Est	N 8 E 8 S 8 W 8	N 3 E 4 S 3 W 5	OM/ V	20+	P	F	Lapsed pollard. Stem decay present. Ivy clad.	14.4	A	Retain
												B	
											652.0	C U	
T68	Ash	9.5	1200 Est	N 8 E 8 S 8 W 8	N 2 E 3 S 2 W 2	OM/ V	10+	F	P	Extensive basal and stem decay, significant crown failure likely without remedial works. Ivy clad. Crown retrenchment not evident. Young suppressed 25 cm dia ash approx. 1m from butt - also has basal decay.	14.4	A	Retain
												B	
											652.0	C U	
T69	Holly	7.5	350 Est	N 4 E 5 S 4 W 5	N 4 E 4 S 4 W 4	SM	40+	G	G	Inaccessible due to location.	4.2	A	Retain
												B	
											55.0	C U	
T70	Holly	7.0	400 Est	N 4 E 4 S 4 W 4	N 4 E 4 S 4 W 4	SM	40+	G	F	Inaccessible due to location. Basal decay present.	4.8	A	Retain
												B	
											72.0	C U	

Tree Ref No	Species	Height (m)	Stem dia @1.5m (mm)	Crown Spread (m)	Ht of crown (m)	Age class	Est (yrs)	PC	SC	Observations/Initial Management Recommendations	RPA – Radius RPA - m2	Category	Proposed works (As part of intended development)
T71	Sycamore	8.0	150 MS	N 2	N 3	Y	40+	G	F	Compression fork at 0.8m agl. Tree located directly adjacent to existing third party building.	1.8	A	Retain
				E 2	E 2						B		
				S 1	S 2						C		
				W 2	W 3						U		
T72	Ash	12.0	300	N 5	N 2	Y	40+	G	G		3.6	A	Retain
				E 4	E 2						B		
				S 4	S 2						C		
				W 4	W 3						U		
T73	Oak (English)	12.0	1250	N 9	N 5	V	40+	G	G	Lapsed pollard, possible stem decay present. Ivy clad. Minor dwd, no crown retrenchment. In-grown wire in butt.	15.0	A	Remove
				E 12	E 3						B		
				S 9	S 3						C		
				W 12	W 4						U		
										707.0			

Tree Ref No	Species	Height (m)	Stem dia @1.5m (mm)	Crown Spread (m)	Ht of crown (m)	Age class	Est (yrs)	PC	SC	Observations/Initial Management Recommendations	RPA – Radius RPA - m2	Category	Proposed works (As part of intended development)
G1	Ash, Beech, Holly, Hazel, Sweet chestnut, Cherry,	9 – 16.0	80 - 380	As shown	0 - 7	Y	40+	G	G	Within group and adjacent to lane are remnants of over stood Hazel hedge. Vertical clearance over lane due to hedge reduces to 3.8m in parts. Overall, the group would benefit from management works. Collectively B category, individually C category.	As shown	A B	Remove (part)
											As shown	C U	
G2	Hazel, Hawthorn , Elm, Holly	6 – 13	75 – 240	As shown	0 - 6	M	40+	F	F	Primarily an over stood hedge, with gaps in places. Some DED present within elm. Crown height over lane in approx. - 4m. Would benefit from management.	As shown	A B	Retain
											As shown	C U	
G3	Hazel, Hawthorn , Elm, Ash, Cherry, Sycamore , Beech, Holly, Sweet chestnut,	12 – 17	80 – 470	As shown	0 - 6	Y	40+	G	G	Within group and adjacent to lane are remnants of over stood hedge. Vertical clearance over lane due to hedge reduces to approx. 3.6m in parts. Some DED present within elm. Overall, the group would benefit from management works. 1no mature cypress (leylandii) present at Eastern end of group - multiple stem, poor form, fill around base, stem dia – 76cm. Group collectively B category, individuals generally C category.	As shown	A B	Remove (part)
											As shown	C U	
G4	Hawthorn , Hazel	11	75 – 320	As shown	1 - 4	M	40+	G	G		As shown	A B	Retain
											As shown	C U	
G5	Hazel	4 – 9	75 – 160	As shown	1 - 5	M	20+	G	G	Over stood hedge.	As shown	A B	Remove
											As shown	C U	

Tree Ref No	Species	Height (m)	Stem dia @1.5m (mm)	Crown Spread (m)	Ht of crown (m)	Age class	Est (yrs)	PC	SC	Observations/Initial Management Recommendations	RPA – Radius RPA - m2	Category	Proposed works (As part of intended development)
G6	Alder (Italian), Beech, Cypress, Elm, Holly, Chestnut (Sweet), N/Maple, Pine, Willow (Goat), Sycamore	7 – 15	100 – 580	As shown	1 - 8	Y - SM	40+	G	G		As shown	A B	Remove (part)
											As shown	C U	
G7	Ash	9	240 – 320	As shown	1 - 2	Y	40+	G	F		As shown	A B	Retain
											As shown	C U	
G8	Oak (various spp), Hazel, Hawthorn, Willow (Grey),	7 – 15	75 – 530	As shown	1 – 5	Y - MA	40+	G	F/G		As shown	A B	Remove (part)
											As shown	C U	
G9	Ash, Alder (Grey), Birch (Silver), Sycamore	18	220 – 450	As shown	2 - 5	Y	40+	G	G	Stems up to 2 m from fence. Restricted access. Canopy height minimum of 5m over track. Impact of adjacent stone track on root architecture unknown.	As shown	A B	Remove (part)
											As shown	C U	
G10	Oak (English), Ash, Hawthorn	4 - 19	175 – 1500	As shown	1 - 7	Y - V	40+	G	G	Includes 1no veteran oak, located at Eastern end of group.	As shown	A B	Remove (part)
											As shown	C U	

Tree Ref No	Species	Height (m)	Stem dia @1.5m (mm)	Crown Spread (m)	Ht of crown (m)	Age class	Est (yrs)	PC	SC	Observations/Initial Management Recommendations	RPA – Radius RPA - m2	Category	Proposed works (As part of intended development)
G11	Oak (English, Ash, Willow (Grey))	5 - 21	175 - 1000	As shown	1 - 7	M	40+	G	G	Contains 3no dominant oaks.	As shown	A	Retain
											As shown	B	
G12	Alder (Common), Willow (Grey), Hazel, Holly,	15	75 – 320	As shown	1 - 5	Y – M	40+	G	G	Canopy height 5m agl over track. Restricted access. Majority of trees to rear of stream.	As shown	C	Remove (part)
											As shown	B	
G13	Willow (Grey)	8	240 – 260 MS	As shown	2 - 5	Y	20+	G	G	2 no trees, both MS. Poor pruning wounds present.	As shown	C	Remove
											As shown	A	
G14	2no Ash, 1no Alder (Common)	10	160, 150, 110,	As shown	2 - 5	Y	40+	G	G		As shown	B	Retain
											As shown	A	
G15	Ash, Hawthorn, Hazel,	16	120 – 240,	As shown	As shown	MA	40+	G	G	Poor form and significant ivy present, in grown wire, bark wounding.	As shown	C	Retain
											As shown	A	
G16	Oak (English), Ash, Hawthorn, Alder (Common),	6 - 21	80 - 450 Est	As shown	2 - 5	Y-ma	40+	G	G		As shown	B	Retain
											As shown	C	

Tree Ref No	Species	Height (m)	Stem dia @1.5m (mm)	Crown Spread (m)	Ht of crown (m)	Age class	Est (yrs)	PC	SC	Observations/Initial Management Recommendations	RPA – Radius RPA - m2	Category	Proposed works (As part of intended development)
G17	Willow (Goat), Alder (Common),	9 - 14	330 MS - 370	As shown	2 - 3	Y - MA	20+	G	P	Alder in decline, access restricted.	As shown	A	Retain
												B	
											As shown	C	
												D	
G18	Alder (Grey), Birch (Silver), Ash,	7- 17	100- 300 Est	As shown	2 - 4	Y	40+	G	G		As shown	A	Retain
												B	
											As shown	C	
												U	
G19	Sycamore	9- 13	80 - 570 MS	As shown	0 - 5	Y	40+	G	G	Located on edge of bank, no evidence of surface damage to adjacent tracks.	As shown	A	Retain
												B	
											As shown	C	
												U	
G20	Ash, Willow (Grey), Hawthorn, Holly, Beech, Oak (English), Oak (Holm), Fir,	4- 21	75 – 860	As shown	0 - 6	Y - MA	40+	G - P	G - P	Pond confirmed as seasonal only, assumed unrestricted root development.	As shown	A	Remove (part)
												B	
											As shown	C	
												U	
G21	Ash, Beech, Sycamore, Hawthorn, Yew, Oak (Sessile)	6- 15	80 – 1050	As shown	0 - 5	Y-M	40+	G	F	Largest tree (Oak) to N of group has veteran features, inc basal decay and has been subject to substantial surgery. Two of the dominant beech within the group have fungal decay at base (Kretzschmaria deusta). Existing drainage pipe installed within RPA of large beech to South of group, extent of associated root damage unknown.	As shown	A	Remove (part)
												B	
											As shown	C	
												D	

Tree Ref No	Species	Height (m)	Stem dia @1.5m (mm)	Crown Spread (m)	Ht of crown (m)	Age class	Est (yrs)	PC	SC	Observations/Initial Management Recommendations	RPA – Radius RPA - m2	Category	Proposed works (As part of intended development)
G22	Oak (English and Turkey), Willow (Grey), Ash, Pine (Scots), Hawthorn, Hazel, Holly, Elm, Sycamore	4 – 18	80 – 820	As shown	0 - 6	Y - M	40+	G	G		As shown	A	Retain
												B	
											As shown	C	
												U	
G23	Oak (English), Willow (Grey), Ash	6 – 12	300 – 860 Est	As shown	1 - 5	Y - M	40+	G	G	Basal decay present in some oaks. Influence of adjacent track on root architecture unknown.	As shown	A	Retain
												B	
											As shown	C	
												U	
G24	Elm, Sycamore, Hawthorn, Hazel,	4 – 8	75 – 320	As shown	0 - 4	Y	40+	F	G	Group dominated by elm, majority of which are diseased.	As shown	A	Remove
												B	
											As shown	C	
												U	
G25	Poplar, Ash, Chestnut (Horse), Maple (Norway)	9 – 29	280 – 750 Est	As shown	2 - 4	Y - M	40+	G	G	Restricted access. Construction of existing track unknown.	As shown	A	Retain
												B	
											As shown	C	
												U	
G26	Ash, Sycamore, Hawthorn, Hazel,	5 – 9	75 – 310	As shown	0 - 5	Y - M	40+	F	F	Principally an over stood hedge, plus 1no ash and 1no sycamore present.	As shown	A	Remove
												B	
											As shown	C	
												U	

Tree Ref No	Species	Height (m)	Stem dia @1.5m (mm)	Crown Spread (m)	Ht of crown (m)	Age class	Est (yrs)	PC	SC	Observations/Initial Management Recommendations	RPA – Radius RPA - m2	Category	Proposed works (As part of intended development)	
G27	Holly, Ash, Elm, Norway Maple, Hawthorn, Hazel,	5 – 11	75 – 350	As shown	0 – 5	Y	40+	F	F	Principally over stood hedge. Some elm in decline.	As shown	A	Retain	
												B		
											As shown	C		
G28	Hawthorn	6 – 7.0	300 – 410	As shown	2 – 4	M	20+	G	G	2no Hawthorn within group.	As shown	A	Retain	
												B		
											As shown	C		
G29	Oak (English), Ash	10 – 18	350 – 750 Est	As shown	1 – 5	M	40+	G	G	2no oak and 1no ash within group.	As shown	A	Retain	
												B		
											As shown	C		
G30	Oak (English)	14 – 16	450 – 650 Est	As shown	2 – 8	M	40+	G	G	Contains 1no moribund oak.	As shown	A	Retain	
												B		
											As shown	C		
G31	Sycamore, Ash, Willow	5 – 18	100 – 500 Est	As shown	2 - 8	Y - M	40+	G	G		As shown	A	Retain	
												B		
											As shown	C		
G32	Hawthorn, Holly	7	150, 220 Est	As shown	2 - 4	SM	40+	G	G		As shown	A	Retain	
												B		
											As shown	C		
G33	Ash, Sycamore	5 – 17	100 – 450 Est	As shown	3 - 6	SM	40+	G	G		As shown	A	Retain	
												B		
											As shown	C		

Tree Ref No	Species	Height (m)	Stem dia @1.5m (mm)	Crown Spread (m)	Ht of crown (m)	Age class	Est (yrs)	PC	SC	Observations/Initial Management Recommendations	RPA – Radius RPA - m2	Category	Proposed works (As part of intended development)
G34	Ash, Holly	10 – 12	130 – 450 Est	As shown	3 - 4	Y - SM	40+	F	G	2no Ash, 2no Holly,	As shown	A	Remove
												B	
											As shown	C	
											U		
G35	Ash, Hazel, Elm	6 – 9	75 – 250	As shown	0 - 4	Y	40+	G	G	Over stood hedge. Some elm in decline with DED.	As shown	A	Retain
												B	
											As shown	C	
											U		
G36	Sycamore, Cypress, Spruce, Oak (English), Pittosporum	7 – 13	75 – 420 Est MS	As shown	1 - 5	Y	40+	G	G	All trees located on third party land.	As shown	A	Retain
												B	
											As shown	C	
											U		
G37	Sycamore, Oak (English and sessile)	10 – 18	100 – 600	As shown	0 - 5	Y/SM	40+	G	G	All trees located on third party property. Closest trees are 3m from existing boundary fence.	As shown	A	Retain
												B	
											As shown	C	
											U		
G38	Beech,	3 – 5	75 - 90	As shown	0 - 1	Y	40+	G	G	Recently planted, majority of trees under 7.5cm stem diameter.	As shown	A	Retain
												B	
											As shown	C	
											U		
G39	Sycamore, Ash, Elm	6 – 18	100 – 500	As shown	0 - 6	Y - SM	40+	G	G	All trees located on third party owned land.	As shown	A	Retain
												B	
											As shown	C	
											U		
G40	Ash, Sycamore	10	170 – 250	As shown	0 - 2	Y	40+	G	G	In very close proximity to each other, and directly adjacent to site boundary.	As shown	A	Retain
												B	
											As shown	C	
											U		

Tree Ref No	Species	Height (m)	Stem dia @1.5m (mm)	Crown Spread (m)	Ht of crown (m)	Age class	Est (yrs)	PC	SC	Observations/Initial Management Recommendations	RPA – Radius RPA - m2	Category	Proposed works (As part of intended development)
G41	Beech, Pine (Corsican), Ash	6 – 19	80 – 600 Est	As shown	0 – 7	Y - SM	40+	G	G	Restricted access due to proximity of quarry edge.	As shown	A	Retain
												B	
											As shown	C	
G42	Oak (Holm), Pine, Holly, Cypress	8 – 14	75 – 350 Est	As shown	1 – 5	Y	40+	G	G	Group already partially removed for overhead line clearance. Restricted access due to proximity of quarry edge. Plot would benefit from management works.	As shown	A	Remove (part)
												B	
											As shown	C	

Tree Ref No	Species	Height (m)	Stem dia @1.5m (mm)	Crown Spread (m)	Ht of crown (m)	Age class	Est (yrs)	PC	SC	Observations/Initial Management Recommendations	RPA – Radius RPA - m2	Category	Proposed works (As part of intended development)
W1	Beech, Sweet Chestnut, Silver Birch, Alder (grey and Italian), Ash, Pine (scots), Willow (goat).	9 – 17	120 – 410	As shown	1 – 4	Y	40+	G	G	Woodland at stem exclusion / pole stage, and would benefit from management works. Front row of trees approx. 4m from fence line. Adjacent to the existing track is an over stood beech and hawthorn hedge. Planted on old spoil heap. B category collectively.	As shown	A B	Remove (part)
											As shown	C U	
W2	Ash, Beech, Silver birch, Alder (Italian), Cypress (Leylandii), Pine (Scots), Oak (English), Willow (Goat),	9 – 17	80 – 430	As shown	1 – 6	Y	40+	G	G	Woodland at stem exclusion / pole stage, and would benefit from management works. Front row of trees approx. 4m from fence line. Impact of adjacent stone track on root architecture not known. Adjacent to the existing track is a maintained hedge (to be retained). Plot is B category collectively, whilst individuals are primarily C category, except 2no oak (individually B category) at the Southern end of the plot.	As shown	A B	Remove (part)
											As shown	C U	
W3	Pine (Scots), hawthorn, rowan,	9- 15	80 - 310 Ave pine stem dia is approx 200	As shown	1 – 4	Y	20+	G	G	Predominantly a young pine plantation, plus occasional hawthorn and rowan closer to existing track. Would benefit from management works.	As shown	A B	Remove (part)
											As shown	C U	

Tree Ref No	Species	Height (m)	Stem dia @1.5m (mm)	Crown Spread (m)	Ht of crown (m)	Age class	Est (yrs)	PC	SC	Observations/Initial Management Recommendations	RPA – Radius RPA - m2	Category	Proposed works (As part of intended development)
W4	Pine (Scots), Ash, Beech, Oak (English)	4-17	80 – 420	As shown	1 - 6	Y	40+	G	G	Would benefit from management works. Plot is a B category collectively.	As shown	A	Retain
												B	
											As shown	C	
W5	Oak (English), Ash, Willow (Goat), Beech	4 – 21	75 – 1000+	As shown	1 - 8	Y - M	40+	G	G		As shown	A	Retain
												B	
											As shown	C	

Abbreviations.

Agl – above ground level

Bifurcated – twin stemmed

Companion Shelter – The shelter provided by trees growing in close proximity to each other. When one is removed the increased exposure as a result must be taken into account.

Compression fork – a fork which contains or is likely to contain included bark and therefore as a result a plane of weakness

Decline – Tree is declining in signs of vitality but may recover (see Moribund)

Dwd – deadwood

Epicormic – Re-growth of dormant or adventitious shoots often triggered as a result of prior works.

Moribund – In terminal decline.

M/S – multistem

Trifurcated - triple stemmed

1st order limb – the limb that forms directly from the trunk, 2nd order limb – the limb that forms directly from a 1st order limb.....

Key: Scientific tree names:

Alder (Common)	<i>Alnus glutinosa</i>
Alder (Grey)	<i>Alnus incana</i>
Alder (Italian)	<i>Alnus cordata</i>
Ash	<i>Fraxinus excelsior</i>
Beech	<i>Fagus sylvatica</i>
Beech (Purple)	<i>Fagus sylvatica purpurea</i>
Birch (Silver)	<i>Betula pendula</i>
Cherry	<i>Prunus avium</i>
Cypress (Lawson)	<i>Chamaecyparis lawsoniana</i>
Cypress	<i>Cupressus x leylandii</i>
Elm	<i>Ulmus minor var vaulgaris</i>
Field Maple	<i>Acer campestre</i>
Fir	<i>Abies spp</i>
Hawthorn	<i>Crataegus monogyna</i>
Hazel	<i>Corylus avellana</i>
Holly	<i>Ilex aquifolium</i>
Norway Maple	<i>Acer platanoides</i>
Oak (English)	<i>Quercus robur</i>
Oak (Sessile)	<i>Quercus petraea</i>
Oak (Turkey)	<i>Quercus cerris</i>
Pine (Corsican)	<i>Pinus nigra ssp laricio</i>
Pine (Scots)	<i>Pinus sylvestris</i>
Pine (Black)	<i>Pinus nigra</i>
Plane	<i>Platanus x acerifolia</i>
Sweet Chestnut	<i>Castanea sativa</i>
Sycamore	<i>Acer pseudoplatanus</i>
Willow (Goat)	<i>Salix caprea</i>
Willow (Grey)	<i>Salix cinerea</i>

Appendix C: Arboricultural Method Statement (Heads of Terms).

Location:	Linhay Hill Quarry Extension, Ashburton, Devon.
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Contact Details:	
Local Authority:	Brian Beasley, Tree Officer, Dartmoor National Park Authority.
Design Consultants:	Atkins. The Octagon, Pynes Hill Court, Rydon Lane, Exeter, EX2 5AZ.
Project Arboriculturalist:	Gareth Evans, Evans + Associates Ltd, Galloway Office, Newcourt Barton, Clyst Road, Topsham, Exeter, Devon. EX2 5HJ.

Heads of Terms		
Item No	Title	Description of general parameters, information to be provided, or approach to be adopted (if known).
General		
1	Identification of trees to be retained and protected.	A Tree Protection Plan will be provided which will detail the trees to be removed or retained, the location and type of fencing to be used, and measurements to identify the fence positioning relative to the centre of the tree or other fixed object.
2	Responsibilities, & emergency / accident contact details	Key responsibilities and roles will be identified for those on site. Overall, it will be the responsibility of the Developer to ensure that the requirements of the AMS are adhered to at all times. Contact details are to be provided for all key staff.
3	Planning of operations	The sequencing of all operations will require consideration of the limitations imposed by the presence of the Construction Exclusion Zone (CEZ).
4	Phasing of construction / enabling tree surgery works	Phasing shall be agreed in order that tree removal and surgery occurs at the appropriate time within the construction period, and is undertaken to the appropriate standard (BS 3998). Will also define protective fence erection, maintenance and removal.
5	Site monitoring	The degree of input by the Project Arboriculturalist to achieve satisfactory monitoring shall be identified.
6	Site awareness	All staff shall be aware of the requirements of the AMS, provision and location of warning signs.
7	Other risks	This will include risks to trees from activities outside of the CEZ but close enough to cause damage
Specific		
8	Access details	Full details of permanent and temporary access shall be provided.
9	Demolition / site clearance / removal of existing hard standing	To include measures for operating inside and outside of the CEZ e.g. use of hand tools etc, dust accumulation, care of exposed roots, and retention or removal of redundant underground structures / services.
10	Bonfires	No bonfires are to be lit within 20m of any retained tree.
11	Protective and / or stock fencing	Timing, installation methodology, location and type,
12	Contractors car parking	Location to be agreed, but to be located outside of any CEZ.
13	Requirements for foundations and construction	If specific measures are to be undertaken within any CEZ, details of location, timing, construction methodology.
14	Special construction techniques	Use of protection measures such as a cellular three dimensional grid system e.g. cellweb to be detailed. Location, type, installation requirements,
15	Ground level	No alterations are to occur within the CEZ without prior approval.

	changes	
16	Spatial requirements for large machinery, high sided vehicles	How machinery and vehicles will enter, use and leave site.
17	Site office and compound, toilet facilities,	All site facilities will be located outside of the CEZ.
18	Materials storage space, including loading and unloading	All material storage space will be located outside of the CEZ.
19	Pollution run-off, wheel washing facilities,	To include control and contamination prevention measures, and spill procedures.
20	Additional precautions outside of CEZ	Ensure working / turning distances can be achieved, and operations in close proximity use a banksman.
21	Excavations and earthworks within CEZ	Where required, measures to limit extent of damage shall be provided.
22	Services within CEZ	New and existing. No new services will be located within the CEZ's.
23	Soft landscaping	All landscape operations within CEZ's shall be undertaken so as not to damage tree roots via the use of rotovators, etc..
24	Use of herbicides	Ensure herbicide is appropriate, and does not damage retained trees.
25	Use of temporary surfacing	Timing, type and when temporary surfacing shall be laid and removed.
26	Construction of Way Pond Detention Basin	Timing and extent of all excavation works including investigative results as required.

Note:

CEZ = Construction Exclusion Zone

Appendix D: Arboricultural Site Monitoring Form

Client contact details:

Site:

Ref:

LPA Tree Officer (if applicable):

Consultant:

Date of inspection:

Accompanied by site manager
Previous actions complied with

Site currently active

INSPECTION DETAILS:

Any signs/evidence within the RPA of:

Ground contamination
Excavations
Water run off
Unauthorised tree works

Changed soil levels
Material storage
Ground compaction

If yes to any of the above provide details:

CONDITION OF FENCING:

Erected according to approved details
Fencing in place/intact
Bracing & clamps in place

Protective signs present
Upright poles in ground
Any signs of breach

ADDITIONAL NOTES including action taken/required:

Date of next inspection:

Copied to Client

Copied to Site manager

Copied to LPA

Appendix E: Limitations of service

- i Unless otherwise stated any tree survey is ground based and visual only, following recognised methods of Visual Tree Assessment (V.T.A). No soil or root samples were taken for detailed analysis or excavations carried out. If further invasive, aerial or repeat inspections are required these will be recommended to the client for approval.
- ii All reports are valid for a period of one year from the date of survey (unless otherwise stated in the report), and following receipt of payment in full for the services provided. Please note that structural and physiological condition of trees may change following the effects of diseases, pests, severe weather conditions etc.... Alterations to the proposals for the site or development could alter the current understanding of the implications and recommendations and therefore also invalidate this report. In the event that significant changes do occur specialist arboricultural advice should be sought.
- iii In undertaking tree surveys and providing tree reports, G. J. Evans Associates may make general comments regarding potential ecological issues (e.g. nesting birds, bats etc..) but these are provided to be helpful only. Any verbal comments or statements included within reports *must not* be substituted for the advice of a competent qualified ecologist.
- iv The accuracy of the information provided for the purposes of the inspection is directly related to the accuracy of this report. G. J. Evans Associates will not be responsible where essential data is either not provided or is inaccurate. Data provided will be assumed to be accurate. Where trees are added by ourselves to the plans their location cannot be guaranteed.
- v Third party trees and those on site where access is restricted may not be able to be surveyed in detail. Additional arrangements may need to be made to gain the necessary information.
- vi This report is primarily concerned with the condition of the existing trees and the application of current guidance regarding their retention and management. References to soil characteristics are only made in relation to the purpose of this report and therefore this report does not address the specific subject of subsidence risk. Any queries regarding possible subsidence should be resolved via a separate specific report.
- vii Occasionally, the detail of some construction issues such as temporary facilities, site storage, phasing of works etc... is not finalised at the time of report production. As a consequence, aspects of this report may need to be updated as the level of available information increases.

Appendix F: Report Authors Qualifications and Experience.

- 1 **Qualifications.** I hold various qualifications up to and including Masters Degree level. I am a Chartered Landscape Architect, and separately, a Chartered Arboriculturalist.
- 2 **Continuing Professional Development.** In order to up to date with latest thinking and developments, various seminars and short courses are attended throughout the year.
- 3 **Experience.** My employment with trees extends back to the mid 1980's when working full-time as a contractor undertaking arboricultural works. I was then employed for twelve years in various Arboricultural and Landscape Officer positions for four separate Local Authorities. Latterly, I was for three years Landscape and Arboricultural Manager for the Royal Borough of Kingston upon Thames. During Local Authority employment, I managed the council owned tree stock however my principle responsibilities were in relation to providing input to planning applications and Tree Preservation Orders, including written and verbal evidence at appeals and inquiries. On leaving Local Authority employment, I joined the consulting company of Mott MacDonald plc where I was employed for nine years, and was an associate director providing specialised input to transportation, railways, and local authority projects both in the UK and abroad.

In 2008 Evans + Associates Ltd was established to provide both arboricultural and landscape input to projects primarily in the South West of England. Projects to date have been primarily within the transportation, commercial and industrial sectors. Since spring 2011 the practice has been regularly externally audited, and as result accredited to both BS9001:2005 and National Highways Sector Scheme 18.

Appendix G: Tree Retention Plan(s).

Please refer to accompanying plans (Ref: EA/0102/G/Arb Rev A {5no in total}).