

TO: Wrexham County Borough Council  
ADDRESS: The Guildhall,  
Wrexham,  
LL11 1AY

## **Design, Access & Heritage Statement\_Revision A**

DATE: 17.02.20  
REF: 373.003  
JOB: Trevalyn Wood, Rossett

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**Re: Trevalyn Wood, Rossett, LL12 0HH**

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## **1 – EXECUTIVE SUMMARY**

### **1.1 – Introduction**

This **Heritage, Design & Access Statement** is submitted by **Architectural Emporium Ltd** in support of the planning and listed building consent applications for alterations and additions to the existing property at Trevalyn Wood, Rossett. This statement has been prepared following the advice set out in the CABE guidance document supplied by the Design Council.

#### **Main elements in application:**

- New single storey extension between the existing Grain Store and Barn
- Biomass boiler house and store in place of existing informal oil tank & agricultural store arrangement.
- Landscaping works across the site including revised vehicular access, formal parking zone, and new areas of hard standing/boundary treatments.
- External aesthetic alterations to curtilage listed Grain store, 1980's bungalow and Barn with brickwork painted white.

### **1.2 - Client Introduction**

Our clients purchased the land and buildings within the application boundary in February 2015 and have lived on the site since. Our clients have now welcomed their second child and as such are looking to make alterations to the house in order to suit the needs of their growing family. The property requires alterations to form their long-term family home.

### **1.3 – Site Context**

The application site houses an arrangement of three buildings at its Northern edge - a two storey Grain Store, an adjoining bungalow and a 16<sup>th</sup> Century Barn. The site is set in a woodland context. Additional land in the client's ownership, outside of this application, is used for agricultural use with access provided through the application site (Please refer to the site location plan for further information on the site boundaries). To the North of the application lies the Grade II\* listed Trevalyn Hall, and Grade II listed Trevalyn Courtyard both serving as residential buildings with Trevalyn Hall having been converted into multiple properties in the 1980's. The site lies within the curtilage of Trevalyn Hall.

### **1.4 – Pre Application Advice**

The proposed development was discussed with Ms Anna Irwin, Conservation Officer at Wrexham Borough Council in 2018. At this stage the location of the new building had not been decided, but Anna pointed out possible problems with a development against the historic wall to the West of the property (against the Coach House) and suggested the roof line of the new building could extend above the existing roof of the bungalow, but not above the more historic buildings (the grain store and barn). Our clients were advised to use lightweight and recessive structures to connect to the historic buildings and provided clear delineation between old and new. Interesting architecture was encouraged in preference to continuing the style of the 1980s extension. Ms Anna Irwin stated that a listed building application was required as the property was within the curtilage of Trevalyn Hall.



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Following a refused planning application in November 2019 (Reference: ROS P/2019/0743 & ROS P/2019/0742) and subsequent correspondence with the conservation officer (see appendix C) a meeting was held on 17.01.20 at the property with the case officer Ms. Mared Rees-Jones, conservation officer Ms. Anna Irwin, Architectural Emporium and the applicants all in attendance.

The meeting was positive and focussed in depth on the impact of the proposals on the setting of the listed buildings and the proposals impact on the neighbouring property. (See appendix D for further details). In line with the feedback this application has provided a rendered visualisation view from the north of the site showing its impact when viewed from the listed buildings and development work justifying the selection of materials. Additional details have been provided showing proposed connection details to the Grain Store and the ridge height of the proposal has been reduced whilst the attached appendices provide a tree survey, details of the copper cladding proposed and the electric timber gate proposed. This Design, Access & Heritage statement has picked up on all other points raised providing justification for elements where requested.

## **2 - HERITAGE INFORMATION**



- Listed buildings in relation to site boundary.

### **2.1 - Listing Description**

Trevalyn Hall (1) & Trevalyn Courtyard (2) have been listed due to their historic importance by *Cadw*. Please find the listing descriptions below:



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## 1. Trevalyn Hall (including former lodge) – Grade II\* Listed (09/06/1952) Ref: 1528

### History

Built in 1576 for John Trevor of the Trevor family of Brynkinalt. Designer unknown but suggested by Mark Girouard to have been John Trevor himself with the assistance of master-mason Walter Hancock of Much Wenlock. The Trevors claimed descent from the C10 Welsh prince Tudor Trevor. John Trevor's great-grandfather, Richard Trevor, had originally acquired the estate by marriage to Matilda, daughter and heiress of Jenkyn ap David ap Griffith of Trevalyn. John Trevor made his fortune in London largely through the patronage of the powerful Thomas Sackville, the Lord Buckhurst and Earl of Dorset, who was his wife's cousin. He also held a few minor government posts as recorded on his monument in the parish church at Gresford. With Sackville he is assumed to have made a grand tour to France and Italy between about 1563 and 1566, and again to France in 1568 and 1571. Of his four sons only one, Richard, spent time at Trevalyn and even then preferred to stay at another house built by his father, Roft Hall, in Marford (demolished). In the 1670's the family inherited Glynde Place in Sussex which henceforward became their principal seat and Trevalyn was occupied by a succession of stewards and agents. In 1836 descendants through marriage, Thomas and Elizabeth Griffith, moved in and made extensive alterations internally and externally. These included the re-siting of the Porter's Lodge, creation of the topiary garden to the north-east, and extensive internal alterations by the local architect Thomas Jones. Sold in the 1980's and converted into two flats involving extensive works to interior and brickwork.

### Exterior

Elizabethan country house, brick with stone dressings on a stone plinth of five exposed courses. Some evidence to service wing and linking corridor to suggest that the house was rendered with pebbledash in the early C19 under the stewardship of John Boydell to resemble the extensive new estate cottages throughout Gresford and Rossett in the Cottage Orne style of the Picturesque Movement. Render removed after the Hall was sub-divided. Two storeys plus attic. Of five bays with the end cross wings and central entrance bay projecting to the south-east on a H-plan. Each bay to this principal elevation is gabled and surmounted with a tulip-shaped finials at base and apex. The three projecting bays carry armorial bearings carved in stone and set between the windows of the first and second storeys including those of the Sackville family. All windows to this elevation are surmounted by triangular pediments, as is the main entrance. Windows to first and second storeys have stone mullions intersected by a single transome. Attic windows are of only two lights and may well have originally been blind as on the service wing, and many near contemporary buildings in Rossett such as Hem House. Cross wings to north and south continue this pattern of fenestration with larger windows to the second storey and projecting gabled and finialed bays east and west. North cross wing has addition of open glazed canopy supported on five classical columns, probably the result of the remodelling by the Griffiths from the 1830's. Rear elevation has projecting gabled and finialed cross wings framing a recessed central section of three bays with bracketed cornice. From the central bay is a one storey corridor to the contemporary Service Wing with a central gabled Porters Lodge of three bays with two storeys to the central bay. The corridor and Lodge are lit by two-light triangular pedimented windows which are similarly gabled and finialed in the same manner as the Hall. Entrance to the Porters Lodge is by an arched doorway framed by a Doric aedicule.

### Interior

Remodelled in 1830's by Thomas Jones for the Griffith family and subsequently extensively converted into two flats in 1984. Rooms retain fireplaces by Jones and a staircase to panelled gallery upstairs; introduced modern detail.

### Reason for designation

Graded II\* as an important example of an Elizabethan country house, and for historic associations with the Trevor family who developed much of the surrounding built environment.



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## 2. The Courtyard (formerly known as Trevalyn Hall Service Wing) - Grade II Listed (18/10/1996) Ref: 17465

### History

*Probably built slightly later than Trevalyn Hall of 1576 to which it is connected and for which it acted as the service wing until sold in 1984. It has been suggested by Mark Girouard that together with Trevalyn Hall, the linking corridor, and Porters Lodge, the entire site represents an uncompleted Elizabethan house for John Trevor. The eastern and southern wings having been completed but the central section, which would have contained a Great Hall and been connected at the north ends of the surviving buildings was never completed. Foundations for such a Great Hall were found when new gardens were laid out to the north in the mid-C19. The designer is unknown but Girouard suggests that it was John Trevor himself with the assistance of master-mason Walter Hancock of Much Wenlock. The Trevors claimed descent from the C10 Welsh prince Tudor Trevor. John Trevor's great-grandfather, Richard Trevor, had originally acquired the estate by marriage to Matilda, daughter and heiress of Jenkyn ap David ap Griffith of Trevalyn. John Trevor made his fortune in London largely through the patronage of the powerful Thomas Sackville, the Lord Buckhurst and Earl of Dorset, who was his wife's cousin. He also held a few minor government posts as recorded on his monument in the parish church at Gresford. With Sackville he is assumed to have made a grand tour of France and Italy between about 1563 and 1566, and again to France in 1568 and 1571. Of his four sons only one, Richard, spent time at Trevalyn and even then preferred to stay at another house built by his father, Roft Hall, in Marford (demolished). In the 1670's the family inherited Glynde Place in Sussex which henceforward became their principal seat and Trevalyn was occupied by a succession of stewards and agents. In 1836 descendants through marriage, Thomas and Elizabeth Griffith, moved in and made extensive alterations internally and externally. These included the re-siting of the Porter's Lodge, creation of the topiary garden to the north-east, and extensive internal alterations by the local architect Thomas Jones. The estate was sold in 1984 to property developers who subdivided the Hall into two flats, sealed the Service Wing off from the link corridor and re-named it "The Courtyard".*

### Exterior

*Constructed of brick with stone dressings on a stone plinth of five exposed courses. The eastern facade is a copy of the western elevation of the Elizabethan style of Trevalyn Hall, i.e. projecting cross wings to north and south of two storeys plus attic storey. On a H-plan but with single storey later additions to north, south, and western facades. Large stone mullion and transomed windows to two storeys with double-light blind attic windows to stone coped, and tulip shaped finialed, gables. Windows to first and attic storey have triangular pediments. Pediments to first storey contain armorial bearings. Brick chimney stacks to the inside returns of cross-wings. Central section of three bays with large stone four-light transomed and mullioned windows to second storey. Link corridor joins at first storey. To the south wall of the south cross-wing is a later single storey extension which may have been the principal entrance after the removal of the linking corridor and Porters Lodge in the 1830's. In use as a stable at the time of re-survey. To the north wall of the north cross-wing a small single storey extension, probably designed as a garden feature, retains some features found on early C19 Cottage Orne estate houses in Marford and Rossett including blind ogee-arched Gothick window, Gothick lancet window to rear wall, blind arrow slit, and pebbledash render. Garden wall to the north west also retains some render, arrow slits, and blind triangular pedimented door. Western elevation has no decorative enrichment, or the symmetry apparent to the other facades. Contained in a brick walled courtyard. Centrally placed chimney stack, single storey brick lean-to to right of stack. Late C19/early C20 wooden multipaned windows. New entrance under new triangular pediment constructed in the 1980's.*

### Reason for designation

*Listed as an important and unusual survivor of a service wing to an Elizabethan country house.*



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## 2.2 – Curtilage Listing



- Setting out of existing buildings within the application boundary.

Whilst the Grain Store and Barn are not specifically mentioned in the above listings they form part of the curtilage of Trevalyn Hall & The Courtyard. The 1980's bungalow was constructed after 1948 by previous owners and is of limited architectural value. It received planning approval with the Barn & Grain Store being adapted at the same time with brick infill used to stabilise the timber framed structures and provide better weather tightness.

The Grain Store and Barn within this application boundary (See above map for reference) have physical separation from Trevalyn Hall provided by masonry wall boundaries to the North / North East. However the existing low level metal fence at the North boundary, whilst presently providing separation, suggests that access was once present between the site and Trevalyn Hall. The physical layout of the Grain Store and Barn face predominantly away from Trevalyn Hall creating their own independent courtyard to the South, although they do not strictly follow the same geometry. The Grain Store and Barn have historically held a different use to the residential Trevalyn Hall with these buildings ancillary to the land of which they serve rather than the residential building. The Grain Store and Barn show a different style of architecture to Trevalyn Hall and the neighboring Trevalyn Courtyard.

Whilst the architectural language of the existing structures on our clients land differ from that of the listed Trevalyn Hall and Courtyard buildings they are of historical importance. Previous approved adaptations have changed the appearance of the buildings.

### Understanding heritage values and assessing significance

*In accordance with CADW Guidance; to help reach a shared understanding of the special qualities of our historic assets, we can consider significance as a family of four heritage values, which form the assessment criteria:*

- *Evidential value: every historic asset has a unique story to tell. The surviving historic fabric and detail — whether above or below ground — helps us to understand when and how each historic asset was made, how it was used and how it has changed over time. Pictorial and documentary sources may also increase our understanding.*



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- *Historical value: historic assets may illuminate particular aspects of the past. They can help us to understand how people lived and worked, and the beliefs and values they cherished. They may be associated with notable people or events. Through evocation and association, historic assets can connect past people, aspects of life and events with the present.*
- *Aesthetic value: we may value historic assets for their visual qualities, whether they result from conscious design and craftsmanship, or from the fortuitous effect of change over time. Tastes alter and so do historic assets: earlier records and careful analysis of what survives may help in appreciating aesthetic value.*
- *Communal value: historic assets may be cherished by the people and communities who relate to them, and they may play an important part in collective experience or memory. Historic assets can have economic as well as social value with the capacity to provide a valuable source of income or employment.*

## 2.3 – Significance of Buildings within Application

### Grain Store

The existing Grain Store dates from the 16<sup>th</sup> century and is of traditional timber frame construction. It was used for the storage and initial processing of grain associated with agricultural production on the land. The infill panels to the timber frame would have been of wattle and daub construction. This infill has been replaced previously with red brickwork. Assumed to have occurred when the 1980s bungalow was constructed and the building converted to a home. Renovations have stabilized the frame and provide a more modern building envelope. The slate roof is deemed to be non-original to the building along with the UPVC rainwater goods. Most of the materials are modern, and an internal blockwork wall supports the roof with steel beams supporting the first floor. The original form of the building still remains, as do the ‘eye’ shaped timber openings across its elevations. The expressed timber frame is also still present on the façade. New UPVC windows and conservation Velux roof lights have been installed as later additions to the Grain Store. The building is occupied and has been modernised internally. The building retains its original character even if materials have been substituted to bring it back into use. The modernising of the Grain Store has protected the structure for future generations so can be considered to be a sustainable adaptations to preserve a building, which was at risk, when it became defunct. The Grain Store is of heritage significance despite the alterations and additions. The UPVC pipes and brick infill are not original, so can be replaced or altered, whilst the building should be retained and sensitively repaired / renewed.

### Bungalow

The adjacent bungalow adjoins with a single storey flat roof structure between the main bungalow form and the grain store. This sets a precedent for the application. The bungalow is mainly a pastiche pitched building replicating the form of the barn opposite, but lower in height. It features weather boarding on the gable at high level and matching materials to the adapted Grain Store. The expressed external structure and eye shaped windows of the older buildings is removed from the newer 1980s building. This sets a precedent for extension on the site, but also provides architectural pointers for how to approach this more successfully. It could be argued that the pastiche architecture of the bungalow detracts from the grain store and barn although it does help to create a courtyard of buildings to reinforce the agricultural site layout. The bungalow is a relatively recent addition to the site and is not of heritage significance. The location and use of the building supports the current family dwelling and agricultural site arrangement so it is not proposed that the structure should be removed. The appearance of the building should remain complimentary to the historic structures adjacent.

### Barn

The existing Barn also dates from the 16<sup>th</sup> century and is of matching construction to the above Grain Store. The barn was constructed and used for agricultural purposes for the dry storage of hay etc. Half of the barn was converted internally to stables in the 1980s and formed part of an equestrian training facility. It is currently used for storage and as our client’s workshop. The flexible volume has offered the various land owners useful covered space to tend the land. It has retained its original form. The existing timber frame remains exposed internally and



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externally. It is characterful and expressive. The slate roof is deemed to be non-original to the building along with the PVC rainwater goods. Brick infill panels replaced the wattle and daub panels in the 1980s when the property was renovated. This has stabilized the structure and improved weather tightness. The barn features a series of 'eye' shaped timber openings across its elevations along with existing timber windows and doors. The exposed timber frame has been modified and repaired over the years, as would be expected with an agricultural building. Carpenters marks are visible, but only match on a relatively small number of beams. The barn is to remain unaltered. The structure is sound and the building is of heritage significance despite numerous alterations. The PVC pipes and brick infill are not original, so can be replaced or altered, whilst the building should be retained and sensitively repaired/renewed.

### Arrangement / Landscape

The two buildings of heritage significance are positioned perpendicular to one another, although slightly offset. The Barn footprint is mimicked by the form of the bungalow. This forms a U-shaped courtyard with an open corner where a curved wall has been constructed. The space between the buildings is currently used for parking which doesn't provide a pleasant outlook for the properties or an appropriate setting for the buildings. The bungalow provides bedroom accommodation and a lounge overlooking the walled garden. A curved brick wall is located at the northern end of the barn providing further enclosure. The wall is in a poor state of repair (leaning significantly) and isn't featured on historic maps, so is deemed to be of limited heritage significance. The northern boundary wall is of stone construction with a castellated top and is of heritage significance so should be retained. Rounded stone cobbles can be found on the site. These were installed for agricultural vehicle movement from the buildings to tend to the land and should be reused on the site in an appropriate way.



- Historic photo of Grain Store, 1952.



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## Assessment of Heritage Significance

- **Evidential value:** above, we have outlined the known history of the listed assets and the buildings of historic importance that are positioned within the curtilage of Trevalyn Hall and courtyard buildings to explain their uses previously and currently. All have been adapted and sub divided to suit the various owner's changing needs. The grain store and barn connected with this application specifically were used for agricultural purposes originally. When the grain store use became defunct it lay dormant and then was converted to a home. This meant the heritage asset was preserved and brought into use. The barn has not been converted to residential use and is to remain as a building serving the land (even if internal uses have varied over the years from hay storage, to horse stables, to its current use as a farm workshop. The grain store is to remain unaltered as part of the adapted property. The bungalow is a modern addition to create a home on site. The agricultural landscape has been worked and adapted in various ways, with existing characterful masonry boundary walls still in situ dividing our client's site from the Courtyard buildings and Trevalyn Hall's more formal and residential landscape arrangement.
- **Historical value:** the listing outlines previous key owners and design features of Trevalyn Hall and the Courtyard buildings. Less is known about the grain store and barn as they are not listed and are functional relatively remote buildings. However, they are significant 16<sup>th</sup> century historic buildings used for working the land and were associated with the use of Trevalyn Hall. Hence them falling within the curtilage of the hall. They feature an expressed timber frame, eye shaped windows and weather boarding. Although they have been altered with masonry infill replacing the wattle and daub panels, they are significant historic buildings and should be protected in their original form. The current residential use has activated and preserved the buildings.
- **Aesthetic value:** as outlined above, the grain store and barn structures are characterful and of aesthetic value. Despite the fact that the buildings have been adapted with non-matching materials, they should be retained and sensitively restored with materials and rainwater goods, which more likely represent the original appearance of the building. They have been added to with volumes alongside which are sympathetic. It is argued that replicating these built forms and detailing would actually further detract from the original structures. Adjacent structures should therefore be sympathetic, but different to compliment and not compete.
- **Communal value:** As private, remote, functional and relatively modest structures, it is unlikely that the Grain Store and Barn hold significant importance locally as historic assets. However, that is not to say that they should be removed or significantly adapted. They should be retained as they do offer reasonable heritage significance despite not being individually listed.

The grain store and barn are of reasonable heritage significance and should be retained and restored sympathetically. Whilst the buildings can be appreciated in their context, the surroundings have changed over the years, with the bungalow being the most significant addition, setting a precedent for adjoining the structure. The surrounding original walls conceal the flat roof link from the north, meaning that the buildings are not object buildings such as follies, designed to be viewed from certain viewpoints or particular angles. They are functional structures on private land, which have been adapted to suit the changing requirements of their owners. They can be seen as a collection of buildings forming a courtyard, which stand alone from the main hall in their position and architectural language. Therefore further construction alongside the structures should respect the original building's form, geometry, materiality and existing features. It should continue the rules created by previous developments in terms of site arrangement. The pastiche addition of the bungalow establishes a precedent for attaching to the grain store to reinforce the courtyard arrangement. The bungalow is of no heritage value, but as it is designed to mimic the grain store and barn, it should remain complimentary in form and materiality. It supports the residential and agricultural site usage.



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### 3 – DESIGN PROPOSALS

*Planning Policy: 3.9 The special characteristics of an area should be central to the design of a development. The layout, form, scale and visual appearance of a proposed development and its relationship to its surroundings are important planning considerations. A clear rationale behind the design decisions made, based on site and context analysis, a strong vision, performance requirements and design principles, should be sought throughout the development process and expressed, when appropriate, in a design and access statement.*

#### 3.1 – Design Approach

Our approach is to unify what is already present on the site and to create a clear historic language in line with the original design intent of the buildings through painting the existing infill masonry white. This will resemble the original wattle and daub cladding (see historic photograph). Gutters and downpipes will be replaced with Alumasc heritage range products to better represent original rainwater goods. A clearly defined site wide approach to new additions has been developed through introducing a new material used to clad non-matching forms. All new forms are designed to compliment and not dominate existing adjacent historic structures. They are to be clearly different so that the different layers of site intervention can be read & easily understood.

#### 3.2 – Layout

After investigating numerous options at feasibility stage such as converting the Barn, linking the Barn and the Grain Store and building a new build volume in the walled garden, it was felt that locating the extension between the grain store and barn was the most sensitive solution as it completed the courtyard established by the existing buildings. It also creates a safe and secure area for the family's children to play in. It utilises a part of the site currently not used and the layout helps to create a formal entrance point to the property. Locating the living and dining rooms here joins the living spaces together allowing the bedrooms also to be grouped within the bungalow. Currently the lounge is separated from the kitchen/dining room by two bedrooms and a bathroom, which causes disturbance for sleeping children when entertaining or watching TV after the children's bedtimes.

The building foot-print follows the geometry established by the barn as this forms the prominent edge to the site and follows the boundary. As the grain store sits offset following its nearest boundary, there is a wedge of space left between the proposed extension and the grain store, infilled as a lightweight link structure.

The existing proposed area of hard standing in the courtyard used for parking is to be relocated away from the main living accommodation. This allows the main living spaces to open onto a landscaped courtyard garden and reduces the extent of driveway required. It also allows for the extension of the woodland area, which will be better linked to the house via the courtyard garden. The greening of the site overall will benefit biodiversity. The garden will provide a more appropriate setting for the historic buildings in common with their modern residential use. The proposed parking area is currently utilised as an under-used lawn space; in locating the parking here there is no need to remove any trees on the site to accommodate this. The lawn is relocated to the courtyard where it is more useable by our clients and provides a more pleasant outlook from their home.

#### 3.3 – Use

The proposed single storey extension is required to accommodate the needs of our client's growing family. The



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building will serve as a main entrance; helping to unify the disjointed elements of the existing house with a more obvious front door addressing the vehicular access and parking area. The space will provide a focal point and accommodate the main living space. It is deemed appropriate to construct a new building to further the residential use and make the former agricultural buildings fit for purpose. In creating this extension the existing lounge is to be removed from the bungalow. In its place, an extra bedroom is to be created to allow all bedrooms to be in one element of the house to improve our clients ability to monitor their young children and utilise the living spaces without causing disturbance. Between the existing kitchen and the proposed lounge, a seating area and dining room is proposed within the glass link.

The existing external covered tractor store and adjoining area of hard standing currently used for storage are to be formalised in this application as they are unsightly. It is proposed to provide double doors to the already covered tractor store to enhance security whilst a single storey building is proposed on the existing area of hard standing. This new building is to provide storage facilities and house a new biomass boiler replacing the existing oil tank for a sustainable heating solution. It is deemed appropriate to create this building due to the sustainability benefits it offers to the site – refer to section 3.10 for further sustainability information.

The existing Barn is currently utilised as storage space and as a workshop. It is to remain as existing. Externally it is to be painted, but no changes are proposed to the roof or internal arrangement.

The proposed landscaping works to the wider site will remove a large and unnecessary area of road and a roundabout to extend the woods, create a courtyard garden as opposed to parking area and create a new smaller parking area away from the buildings.

### 3.4 – Scale

The proposed extension is single storey in height in order to relate to the majority of buildings on site with only the Grain Store being two storey. The building has been designed to, at its highest point, sit below the eaves height of the adjacent barn. The form of the building is designed to reduce in height at the Northern boundary respecting the neighboring properties. The proposed height allows several of the more prominent ‘eye’ shaped features to remain visible to the northern properties in respect the proposals impact on the listed buildings.

### 3.5 – Form

The footprint of the proposed extension completes the language already created on site of a series of buildings enclosing a U-shaped courtyard following the barn’s geometry as the dominant element. The proposed roof line of the building sits below the barn & grain store allowing them to read as the most significant structures. In the feasibility design stage, we proposed numerous roof form options such as a dual pitch to replicate the neighbouring barn. However, this was not considered to be complimentary and was actually competing with the existing building. The proposed roof is deliberately clearly distinguishable as a modern form not trying to replicate the adjacent forms of the buildings of heritage significance. This approach doesn’t follow the lead of the existing bungalow extension and is more in line with modern conservation principles where pastiche structures are often deemed to detract from neighbouring structures, confusing the reading of the site and lessening the impact of original historic buildings of significance. Whereas modern forms can help to greater understand the layers of intervention on a site and therefore allow for a greater appreciation of the age in which buildings were constructed. This is not to say that proposed structures should not compliment existing buildings or the context in which they are set. We have tried to strike a balance between creating a new architecture on the site, which sensitively respects its surroundings.



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To respect the form of the existing grain store, the link building is to be low with a flat roof and a fully glazed façade. The form mimics the existing link structure, but greater transparency is offered to better appreciate the difference between the heritage asset and the new structures. The roof aligns with a prominent timber member on the façade and is below the eye shaped opening.

*Planning Policy: 3.10 In areas recognised for their particular landscape, townscape, cultural or historic character and value it can be appropriate to seek to promote or reinforce local distinctiveness. In those areas, the impact of development on the existing character, the scale and siting of new development, and the use of appropriate building materials (including where possible sustainably produced materials from local sources), will be particularly important.*

As the buildings are to reflect the age and environment in which they are built as opposed to replicate existing structures on the site, modern agricultural buildings found in the local area have informed the building materiality and form (see below images). Many such buildings feature a solid hardwearing plinth to provide a robust lower level with a lightweight metal cladding solution to offer affordable weatherproofing. As the buildings are within an agricultural context, but are to be used to form a home, this approach is enhanced, with the concrete block or panels of many agricultural structures replaced with a polished concrete plinth. It is set at the raised level of the grain store, is sunken within the lounge and ramped externally to provide level access into the property to continue the principle of a practical and robust lower level to the form. The lightweight metal cladding is to be copper instead of corrugated powder coated metal sheeting. This material will patinate and age providing a finish in keeping with the aged timber, stone and masonry of adjacent buildings. Copper in Wales has a long history, from its origins over 4000 years ago to the virtual monopoly exercised by Welsh businesses in the global trade in the later eighteenth century. Mined nearby in North and central Wales, perhaps most famously in the Great Orme, Llandudno, it can be found on many local historic buildings.



- Modern agricultural precedents.

### 3.6 – Existing Renovation Work

As outlined above, the existing structures should be sensitively restored with a masonry paint applied to adapted infill brick panels to replicate the original building appearance. Gutters and downpipes are to be replaced with Alumasc heritage rainwater goods to more accurately represent the original appearance of the buildings. 2 No. projecting bay window seats have been proposed in order to improve the functionality of the bungalow, illuminate the corridors and provide a place to dwell overlooking the courtyard garden. These are to be clad in standing seam copper to allow them to be read in conjunction with the other new build elements. The use of copper will help to unify the scheme and corresponds with the site wide strategy. One of the window seats is currently the main entrance. The second is added to compliment the first.



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### 3.7 – Landscaping

Landscaping works have been proposed to: enhance access to all areas of the site; remove cars from immediate view from within the house; extend the woodland habitat; and as a tool to help tie the site together creating a harmonious approach. The courtyard landscape is inspired by the work of Piet Oudolf.

It is proposed that the hard standing is to be used for parking is to be made in bound gravel surface with drainage channels to run to the existing pond. This is proposed in order to promote natural water infiltration and to prevent flash flooding. The new parking area is of a size required to provide a turning circle for maintenance vehicles to access the existing septic tank and the allow our clients to park the required vehicles to continue the agricultural use of the wider site. The client requires space to park a 4 wheel drive vehicle, box trailer, livestock trailer, caravan, two cars and visitor parking justifying the size of this proposed area. The existing automatic timber vehicular access gate to the courtyard is to be retained and relocated to the new parking area.

#### Courtyard

Bound gravel with drainage channels has been proposed for new pathways with weathering steel used as edging strips to compliment the metal cladding chosen in the new build element. Areas of hard standing relate to their immediate surroundings with cast concrete used by the new extension, bound gravel to the rear of the existing tractor shed. The proposed ramp and stairs at the main entrance to the new extension are proposed to be in a matching concrete paving.

#### Woodland

The woodland environment is to be extended with the existing roundabout removed. Surface run off will be routed towards the existing pond. Additional garden creation, where hard standing was located will increase plant diversity and greenery on the site.

#### Boundary

A new instant hedge treatment is proposed at the northern boundary of the site. Whilst providing the necessary security for the family at this boundary the proposed treatment will also help promote increased wildlife on the site. In using a planted treatment here the previous access arrangements between the application site and the listed buildings to the North will still be readable in the language of the site helping to enhance the curtilage listing of the application buildings. A timber gate will be incorporated into the hedge to allow for the required maintenance access only.

#### Curved Brick Wall

The courtyard features an existing curved brick wall with stone copings. Historical maps from the 1870's to 1960's show no reference to the curved wall and no reference is made within the aforementioned listing descriptions. The wall is constructed in a later masonry brick to the prominent stone walls around the property and is as such deemed to be of limited significance to the wider heritage of the site. It is proposed that the wall is to be removed with the stone copings retained for re use within the site as part of the new stone walls cappings.

#### External Cobbled Finish

With this application looking to further enhance the use of the application site as a family home the existing area of cobbles between the bungalow and existing outbuilding require removal in order to be able to provide a



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level surface enabling children to play safely. The cobbles were reviewed at the on site planning meeting (dated 17.01.20) and it was appreciated that any remedial measures of installing new surfaces over the cobbles was not feasible due to the substrates required for new finishes. As such it is proposed that the cobbles be lifted and retained. The cobbles will be placed around the perimeter of the existing barn as part of the proposed landscaping strategy.



- Existing curved brick masonry wall with stone cappings.



- Existing cobbles between the bungalow and outbuilding.

### 3.8.1 – Appearance and Materiality

New build additions (extension, biomass store & window seats to bungalow) are to be all clad in standing seam copper. This material has been chosen in line with the pre application advice received to provide a contrast with the existing materials on site therefore helping to create a clear language of new additions. Extensive material explorations have been conducted in 2D elevation, 3D visuals, and material samples before reaching this material decision. Please refer to the images on the adjacent pages for visualisations of the materials explored in the design process and analysis of each material explored. Apertures in the form are simple and inspired by the location. A Sepele porthole window adjacent to the Sepele entrance door references the eye shaped windows. A large corner opening links the lounge with the courtyard with the openings referencing the neighbouring existing buildings. Apertures are kept to a minimum to not dilute and complicate the form.



1. Material exploration: Vertical plank timber cladding with dark stain to replicate existing timber frame buildings.

*In matching the existing buildings it was felt that the proposal was too dark and dominating in appearance. The pre application advice received was in favour of using a contrasting material and it was felt that a more exciting architecture could be explored than in this option.*



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## 2. Material exploration: Horizontal ship lap silvered timber cladding.

*The ship lap profile explored here did not resonate with any language currently present on the site and the silvered timber felt too close to the existing dark timber to make any impact of its own on the site whilst also not being close enough to appearance to match with the existing.*



## 3. Material exploration: Lime render or similar white render.

*It was felt that the render was too domestic & did not reflect either the agricultural or woodland setting. It also offered longevity issues so was disregarded.*



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#### 4. Material exploration: Copper standing seam cladding

*The verticality of the copper cladding complimented the existing timber frame buildings. It provided a contrast to the existing buildings that was welcomed by the client. The materials deep/warm colour fitted in well with the woodland setting of the site*



#### 5. Material exploration: Corrugated profile galvanised metal sheet cladding.

*Whilst this material provides a noticeable contrast to neighbouring structures and is agricultural it was felt that this would be too modern and eye catching due to its reflectiveness, and sharpness.*



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### 3.8.2 – Concrete Plinth

The new build extension will be built on a concrete plinth. This plinth is to be cast in plywood formwork with the grain of the wood expressed in the cast. This plinth will be used to create the internal changes in levels whilst also creating elements of internal furniture. This plinth will be expressed externally at the base of the copper cladding. As outlined above, the plinth is inspired by agricultural precedents in the area. It provides a practical and robust base that deals with level changes.



- Design Precedents for copper cladding and concrete plinth.

**Please refer to drawing 0.501 for further new build design precedents.**

### 3.8.3 – Copper Cladding

We are proposing to use a TECU Classic Coated standing seam copper cladding. This product comes with the initial shiny appearance of new copper but then oxidizes rapidly within the first two weeks following install to consistent and dull/ paired back appearance. The product does not turn green over time and retains its brown appearance. On the following page please find images attached of this product of which we have used on a previous project of Architectural Emporium. This building shows the copper cladding in situ three and a half years after its install. On the first image (top) please note the matching rainwater goods and Sapele timber window as proposed on this scheme also; and on the second image (bottom) please find a close up of the coppers patina. Please refer to Appendix B for the TECU copper material specification sheet.

Copper coping and rainwater goods will be used throughout the new build interventions to create a consistent approach.

The ageing and patination of the material will allow the new proposals to bed into their surroundings, offering a textured façade. Copper is a soft metal with a long standing association with Wales (as outlined above)



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- TECU classic coated copper standing seam cladding on previous Architectural Emporium project.. The cladding shown is now 3.5 years old.



- Close up detail of patina on copper cladding proposed.



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### 3.9 – Heritage Assessment of Proposals

As outlined in section 2.2, the site is within the curtilage of Trevalyn Hall and features two buildings of historic importance. This has informed our architectural response.

Design proposals have paid careful consideration to the character, quality, location and detailing of the two historic buildings on the site (The Grain Store and Barn) as well as the stone boundary wall. The existing buildings are to be restored sensitively with heritage rainwater goods and painted panels to resemble the original wattle and daub construction.

In summary, the extension is sited to compliment previous extensions and complete the courtyard arrangement with a collection of forms. It respects site geometries following the barn layout. The scale of the building is designed to respect its larger neighbours and appear relatively modest, whilst its roof form and materiality provides a point of difference from neighbouring structures to allow the new interventions to be read as distinct but complimentary volumes. A site wide approach to building materiality is adopted for the biomass boiler building, bay windows and the proposed extension to reference local agricultural precedents and unite the various interventions. The glazed link to the existing Grain Store is recessive with a matching black timber fascia in line with an existing timber member (see section). Aluminium sliding doors in black respond to the existing Grain Store helping to provide a bridging element in the design between that and the copper clad form. The low flat roof references the existing linking element on the opposite side of the Grain Store, but the glazing adds greater transparency to form a lightweight intervention between the two more solid volumes.

As proposals fall within the curtilage of Trevalyn Hall and the Courtyard buildings between, it is worth considering this viewpoint in detail. The proposed form is recessive in height when viewed from the North. The castellated stone wall is retained with the new flat roof over the log store just visible over the wall. The copper cladding is continuous for all cladding, coping and rainwater goods across this elevation providing one clear and new intervention at the boundary. The original 'eye' shaped features have been honoured and are still clearly visible as shown in the visualisation 3.301. New hedging is proposed alongside the stone wall and retains the planted feel of this portion of the boundary. It provides a secure and appropriate boundary between the application site and the neighboring listed property, whilst still providing a clear break in materials helping to demonstrate that the Barn and Grain store were once ancillary to the Northern properties.

As noted above the proposals have carefully considered the special characteristics of the site. All of the works seek to preserve and enhance the appearance of the existing buildings by retaining, repairing and providing carefully considered and limited interventions which are essential for the long term viability of the site and local environment.

### 3.10 – Sustainability

*Planning Policy: 3.7 Good design promotes environmental sustainability and contributes to the achievement of the well-being goals. Developments should seek to maximise energy efficiency and the efficient use of other resources (including land), maximise sustainable movement, minimise the use of non-renewable resources, encourage decarbonisation and prevent the generation of waste and pollution. An integrated and flexible approach to design, including early decisions regarding location, density, layout, built form, the choice of materials, the adaptability of buildings and site treatment will be an appropriate way of contributing to resilient development.*



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## Biomass Boiler Building

The existing external covered tractor store and adjoining area of hard standing currently used for storage are to be converted to a new highly efficient biomass boiler building clad in copper to continue the design approach. A fuel store and buffer tank will be installed in the ancillary building to upgrade and replace the existing oil heating system. The new biomass system will supply hot water and heating to the main house and the barn. Where possible fuel will be sourced from the local area, and a large fuel store will keep deliveries to a minimum.

New buildings will be highly efficient with good thermal performance to better part L1. Plans are efficient to reduce excessive external envelope and wasted space. Glazing provides natural light and ventilation to all new spaces. Solar shading is provided to the largest portion of glazing to the link.

Rainwater is to be gathered for watering the land and overflow is to discharge into the existing pond. Permeable surfaces are proposed in most instances and biodiversity is increased through the introduction of further planting and an extension to the woodland environment.

### 3.11 – Structural / Civil Engineer Response

Please refer to the provided *Drainage Design Statement* and EBC Ltd drawings: Existing and Proposed Site Layout: EBC00622-100, and Proposed Drainage Layout: EBC00622-200)

## 4 – ACCESS STATEMENT

### 4.1 – Vehicular Access & Parking

Vehicular access to the site from the main highway is to be unaltered. Within the site the existing informal parking arrangements in the large paved courtyard is to be replaced with a more compact formal area of hard standing adjacent to the proposed main entrance, allowing the courtyard to be converted into a garden. The relocation of the drive, reduces the extent of hard standing and allows the woods to be extended. The new parking area is of a size required to provide a turning circle for maintenance vehicles to access the existing septic tank and the allow the clients to park the required vehicles (a 4 wheel drive vehicle, box trailer, livestock trailer, caravan, two cars and visitor parking) to continue the agricultural use of the wider site. The existing automatic timber vehicular access gate to the courtyard is to be retained and relocated to the new parking area.

### 4.2 – Inclusive Access

Access to the existing Grain Store is currently made via stepped access. The proposed extension will allow ramped access to the main house improving accessibility. A toilet is accessible from this entrance level as is the dining and kitchen areas, therefore catering for all visitors. It is two steps down to the lounge area (just above garden level). It is three steps down to the bedroom wing and the first floor accommodates a further bedroom.

The existing house is built on these different levels. Due to its historic importance and cost; it is not possible to alter existing internal levels to make the whole property fully accessible for all.



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## 5 – REFUSE STATEMENT

The current refuse arrangement sees bins stored on the area of hard standing adjacent to the tractor store. On collection day the bins are taken by the owner to outside of the main access gate alongside the public highway for collection; the owner takes the bins back as soon as possible.

With the proposed works on site utilising the existing area of hard standing to create the biomass boiler house alternative provision has been provided to house the current 3 No. 240L wheelie bins. Bins will now be located on a designated area of hard standing bounded by a stone wall within the proposed parking area at the East of the Barn. Please refer to drawing 3.002 for further details. The bins will be taken to the existing collection point by the owner on the relevant collection day as per the previous arrangement. The area designated provides enough space to provide separate bins for general waste, recycling & garden waste.

## 6 – CONCLUSION

The proposed works are required to provide a sustainable long-term use of the site for our clients. Proposals are designed to help preserve the character and importance of existing buildings & the site. Proposals will unify the disparate set of structures and create a more complete courtyard of buildings.

New alterations have been clearly defined in their materiality helping to create a site wide language of the new build alterations that are complimentary but different to existing buildings. Careful consideration has been paid to proposed building forms & the chosen materials to protect the environment in which they sit and particularly the 16<sup>th</sup> century structures they are located alongside.

The placement & form of the proposed extension is designed to be complementary to the existing buildings. Internally alterations will improve functionality of the family home with bedrooms grouped and living areas taking advantage of the newly created courtyard garden.

The proposals will improve access to the buildings and help to formalise existing access to the wider site for agricultural uses. The landscaping works are designed to extend the woodland area, create a more useable and attractive courtyard garden, formalise and reduce the amount of hard standing and improve site security.

We have thoroughly explored numerous design options in the process of submitting this application and feel that the proposed works show the best solution to achieve the client's aims in a sensitive manner befitting the site.

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## APPENDIX A: TREE REPORT



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# WE KNOW SERVICES

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## ARBORICULTURAL IMPLICATIONS ASSESSMENT

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FEBRUARY 2020

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## 1.0 Introduction

- 1.1 We Know Services were instructed by Mr and Mrs Horan to carry out an arboricultural survey of trees on land at Trevalyn Wood, Manor Lane, Rossett, Wrexham.
- 1.2 This report details the arboricultural implications of developing the site, including:
  - A survey of the trees on and near the development which may impact the proposal- from ground level, noting their location, species and all relevant parameters, i.e. stem diameter, height, crown spread, condition etc;
  - A tree schedule;
  - Advice on the removal, retention and management of trees;
  - Assessment of the potential effects of the proposal on retained trees and vice versa;
  - Assessment of the requirement for tree protection for the duration of the works; and
  - A mitigation proposal for any loss.
- 1.3 The survey was carried out on 7<sup>th</sup> February 2020 by means of inspection from ground level by an experienced and qualified arboriculturalist. The inspection can be restricted in cases where trees were Ivy clad or surrounded by vegetation.
- 1.4 Under *BS5837: 2012 Trees in Relation to Construction - Recommendations*, the assessment of trees is made objectively. The tree categorisation method identifies the quality and value of the existing tree stock, allowing informed decisions to be made concerning development design layout.
- 1.5 The following documents have been made available by the client:
  - Drawing- Proposed Site Plan.dwg
- 1.6 The supplied drawing did not include tree positions plotted. All trees have been added to the drawing indicatively. Any dimensions regarding tree positions and protective fencing must be checked on site.
- 1.7 The survey was carried out noting the conditions of the trees at the time of inspection. As trees are part of the natural environment, conditions can naturally change; therefore the contents of this report are valid for one year only. After this period, re-inspection may be required.

## 2.0 Survey Methodology

- 2.1 The trees were surveyed (prefixed T, or G for group) and recorded in the tree schedule in **Appendix 1.0**. Where groups are recorded, average height and diameter at breast height (DBH) of the trees in the group are reported. Where access to the base of any trees was limited, stem size was estimated.
- 2.2 All the trees were assessed using: a grading A to C (retention) and U (removal); condition and age class as defined in **Appendix 2.0**.
- 2.3 Where appropriate, canopy spread for each tree was recorded at four cardinal points in order to reproduce an accurate representation of the crown shape of the tree on the tree plan in **Appendix 3.0**.
- 2.4 The survey included all trees within the proposal area and trees near to the proposal.

## 3.0 Proposals and Impact Assessment

- 3.1 The site layout plan within **Appendix 3.0** identifies the trees in relation to the proposed development.
- 3.2 In order to fully assess the impact of the proposals an Impact Table (**Table 3.1**) has been created detailing each tree, which shows the proximity of the associated works.
- 3.3 This can then be assessed in accordance with BS 5837:2012 to determine whether proposals will have a detrimental impact on the health of each tree. Once this has been determined remedial measures can be detailed to reduce the impact the proposals will have on the treescape.

**Table 3.1:** Impact Table

| Tree No. | Root Protection Area identified in table 2 of BS5837:2012 |                                   | Distance to proposed extension (m) | Distance to proposed renewable energy store | Distance to proposed car park (m) | Can the tree/s be successfully retained? |
|----------|-----------------------------------------------------------|-----------------------------------|------------------------------------|---------------------------------------------|-----------------------------------|------------------------------------------|
|          | Area (m <sup>2</sup> )                                    | Equal to a circle with radius (m) |                                    |                                             |                                   |                                          |
| T1       | 191                                                       | 7.8                               | 6.7                                | 27.7                                        | 4.5                               | Yes                                      |
| T2       | 5                                                         | 1.32                              | 6.2                                | 26.8                                        | 4.0                               | Yes                                      |
| T3       | 122                                                       | 6.24                              | 14.2                               | 33.1                                        | 2.7                               | Yes                                      |
| T4       | 191                                                       | 7.8                               | 12.7                               | 35.6                                        | 10.5                              | Yes                                      |
| T5       | 72                                                        | 4.8                               | 12.2                               | 37.0                                        | 10.0                              | Yes                                      |
| T6       | 36                                                        | 3.36                              | 15.2                               | 2.3                                         | 13.2                              | Yes                                      |
| T7       | 55                                                        | 4.2                               | 22.3                               | 6.9                                         | 11.8                              | Yes                                      |

**Table 3.2:** Impact Assessment

|          | Trees to be retained |                            | Trees to be removed |                    |
|----------|----------------------|----------------------------|---------------------|--------------------|
|          | With no impact       | With detailed construction | Due to condition    | Due to development |
| Tree No. | T2, T4, T5, T6 and   | T1 and T3                  | N/A                 | N/A                |

- 3.4 The proposed new car parking courtyard will be installed within the root protection areas of T1 (39m<sup>2</sup>, 22% of existing unsurfaced ground) and T3 (15m<sup>2</sup>, 12% of existing unsurfaced ground). Therefore, the use of a cellular confinement system as detailed at **Section 4.1** is considered achievable without causing a significant adverse effect on these trees and is acceptable in accordance with BS 5837:2012.

## 4.0 Mitigation Proposals

### 4.1 Car Parking Courtyard Construction

- 4.1.1 As shown above, the Impact Table raises concern of the proximity of the proposed car park to T1 and T3 and the effect the proposals would have on the safe useful life expectancy of these trees.
- 4.1.2 If ground levels remain the same, the detrimental effects the car park would have on this tree would be: -
- Compaction, resulting in oxygen depletion, caused from creating the access way.
  - The loss of a permeable surface.
- 4.1.3 It is possible with the use of a cellular confinement system to be able to create hard surfaces very close to trees without having a detrimental effect.
- 4.1.4 A cellular confinement system provides a load transfer mattress which prevents direct loads on tree roots and reduces the bearing pressure on subsoil's by stabilising aggregate surfaces against rutting under wheel loads.
- 4.1.5 A proposed methodology and cross-sectional diagram for the construction of the access way can be found in the accompanying arboricultural method statement.
- 4.1.6 Should this system be used for the car parking, in the area affecting the above trees then the proposals should not have a detrimental effect on the trees.

### 4.2 Soft Landscape Works within the RPA

- 4.2.1 Heavy mechanical soil cultivation techniques will not be carried out within any RPA. Any cultivation will be carried out by hand to minimise damage to tree roots.
- 4.2.2 Existing ground levels within the RPA will be maintained.

## **5.0 Conclusions and Arboricultural Recommendations**

- 5.1 The tree categorisation method identifies the quality and value of the existing tree stock but it is not meant to be interpreted rigidly and is presented in order to form a balanced judgement on tree retention and removal.
- 5.2 A precautionary method of working near trees is detailed in the accompanying Arboricultural Method Statement.
- 5.3 It is considered that in following the advice in this document, any negative factors affecting trees on the site will be minimised.

# **Appendix 1.0**

## **Tree Survey Schedule**

TREE SURVEY SCHEDULE

| Arboricultural Data Sheet: 386 Hale Road, Widnes |                |          |            |     |                  |     |     |     |                 | Date of Survey: 20/01/2020 |                                                                                                                                                                                                                                                                     |                                  |                              | Surveyor: Nicola Wallbank |  |
|--------------------------------------------------|----------------|----------|------------|-----|------------------|-----|-----|-----|-----------------|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|------------------------------|---------------------------|--|
| Tree No.                                         | Species        | DBH (mm) | Height (m) | Age | Crown Spread (m) |     |     |     | Crown clearance | Condition rating           | Comments and preliminary management recommendations                                                                                                                                                                                                                 | Estimated remaining contribution | Tree quality category rating |                           |  |
|                                                  |                |          |            |     | N                | E   | S   | W   |                 |                            |                                                                                                                                                                                                                                                                     |                                  |                              |                           |  |
| T1                                               | Lime           | 620      | 22.5       | M   | 5.0              | 6.0 | 6.0 | 6.0 | 2.0             | 2                          | Co-dominant specimen with reasonable form. Previously topped. Minor decay evident at pruning cut on stem. Minor deadwood (diameter <50mm). Extensive epicormic growth. – <b>Pollard and remove epicormic growth</b>                                                 | 10+                              | C1/3                         |                           |  |
| T2                                               | Yew            | 110      | 3.5        | SM  | 1.5              | 1.0 | 1.5 | 1.0 | 0.5             | 1                          | Good form. Roots are sound and functioning well based on crown signs. Stem is sound with no defects observed.                                                                                                                                                       | 20+                              | C1                           |                           |  |
| T3                                               | Sycamore       | 520      | 17.5       | M   | 4.0              | 3.0 | 4.0 | 4.0 | 2.5             | 2                          | Co-dominant species with reasonable form. Bifurcated. Stem covered in dense Ivy. Roots appear to be sound and functioning well based on crown signs. – <b>Sever Ivy</b>                                                                                             | 10+                              | C1/3                         |                           |  |
| T4                                               | Lime           | 650      | 16.0       | M   | 5.0              | 5.0 | 5.0 | 5.0 | 3.0             | 3                          | Multi-stemmed with reasonable form. Roots are sound and functioning well based on crown signs. Limited inspection of stem due to epicormic growth but one dead stem which has been reduced to a height of 6 metres is evident. - <b>Full crown reduction by 20%</b> | 10+                              | C1/3                         |                           |  |
| T5                                               | Horse Chestnut | 400      | 10.5       | EM  | 4.0              | 3.0 | 4.0 | 6.0 | 2.0             | 1                          | Trifurcated with reasonable form. Minor Ivy cover. Roots are sound and functioning well based on crown signs. Stem is sound with no significant defects observed                                                                                                    | 10+                              | C1/3                         |                           |  |
| T6                                               | Cherry         | 280      | 9.5        | M   | 3.0              | 3.0 | 4.0 | 3.0 | 3.5             | 1                          | Trifurcated with poor form. Roots are sound and functioning well based on crown signs. Minor stem wound which                                                                                                                                                       | 10+                              | C1/3                         |                           |  |

| Arboricultural Data Sheet: 386 Hale Road, Widnes |         |          |            |     |                  |     |     |     |                 | Date of Survey: 20/01/2020 |                                                                                                                                                                 |                                  | Surveyor: Nicola Wallbank    |  |
|--------------------------------------------------|---------|----------|------------|-----|------------------|-----|-----|-----|-----------------|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|------------------------------|--|
| Tree No.                                         | Species | DBH (mm) | Height (m) | Age | Crown Spread (m) |     |     |     | Crown clearance | Condition rating           | Comments and preliminary management recommendations                                                                                                             | Estimated remaining contribution | Tree quality category rating |  |
|                                                  |         |          |            |     | N                | E   | S   | W   |                 |                            |                                                                                                                                                                 |                                  |                              |  |
|                                                  |         |          |            |     |                  |     |     |     |                 |                            | exhibits good wound wood . - <b>Reduce and reshape</b>                                                                                                          |                                  |                              |  |
| T7                                               | Lime    | 350      | 20.0       | M   | 5.0              | 5.0 | 5.0 | 5.0 | 3.0             | 1                          | Co-dominant specimen with good form.<br>Roots are sound and functioning well based on crown signs. Extensive epicormic growth. – <b>Remove epicormic growth</b> | 20+                              | B1/3                         |  |

# **Appendix 2.0**

## **Tree Survey Key**

| Trees for removal                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Category and definition                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Criteria                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Category U<br>Those in such a condition that any existing value would be lost within 10 years and which should, in the current context, be removed for reasons of sound arboricultural management                             | 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 R category trees (i.e. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning)<br>Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline<br>Trees infected with pathogens of significance to the health and/or safety of other trees nearby (e.g. Dutch elm disease), or very low quality trees suppressing adjacent trees of better quality<br><b>Note</b> – Habitat reinstatement may be appropriate (e.g. R category tree used as a bat roost: installation of bat box in nearby tree). |                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Trees to be considered for retention                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Category and definition                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Criteria - Subcategories                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1 Arboriculture values                                                                                                                                                                                                                       | 2 Landscape values                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Category A<br><b>Those of high quality and value:</b> in such a condition as to be able to make a substantial contribution (a minimum 40 years is suggested)                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Trees that are particularly good examples of their species, especially if rare or unusual, or essential components of groups, or of formal or semi-formal arboriculture features (e.g. the dominant and/or principal trees within an avenue) | Trees, groups or woodlands which provide a definite screening or softening effect to the locality in relation to views into or out of the site, or those of particular visual importance (e.g. avenues or other arboricultural features assessed as groups)                                                                                                                                                                                                                                                 |
| Category B<br><b>Those of moderate quality and value:</b> those in such a condition as to make a significant contribution (a minimum of 20 years is suggested)                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Trees that might be included in the high category, but are downgraded because of impaired condition (e.g. presence of remediable defects including unsympathetic past management and minor storm damage)                                     | Trees present in numbers, usually as groups or woodlands, such that they form distinct landscape features, thereby attracting a higher collective rating than they might as individuals but which are not, individually, essential components of formal or semi-formal arboriculture features (e.g. trees of moderate quality within avenue that includes better, A category specimens), or trees situated mainly internally to the site, therefore individually having little impact on the wider locality |
| Category C<br><b>Those of low quality and value:</b> currently in adequate condition to remain until new planting could be established (a minimum of 10 years is suggested), or young trees with a stem diameter below 150 mm |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Trees not qualifying in higher categories                                                                                                                                                                                                    | Trees present in groups or woodlands, but without this conferring on them significantly greater landscape value, and/or trees offering low or only temporary screening benefit                                                                                                                                                                                                                                                                                                                              |
|                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>Note</b> - Whilst C category trees will usually not be retained where they would impose a significant constraint on development, young trees with a stem diameter of less than 150 mm should be considered for relocation                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

Age Class

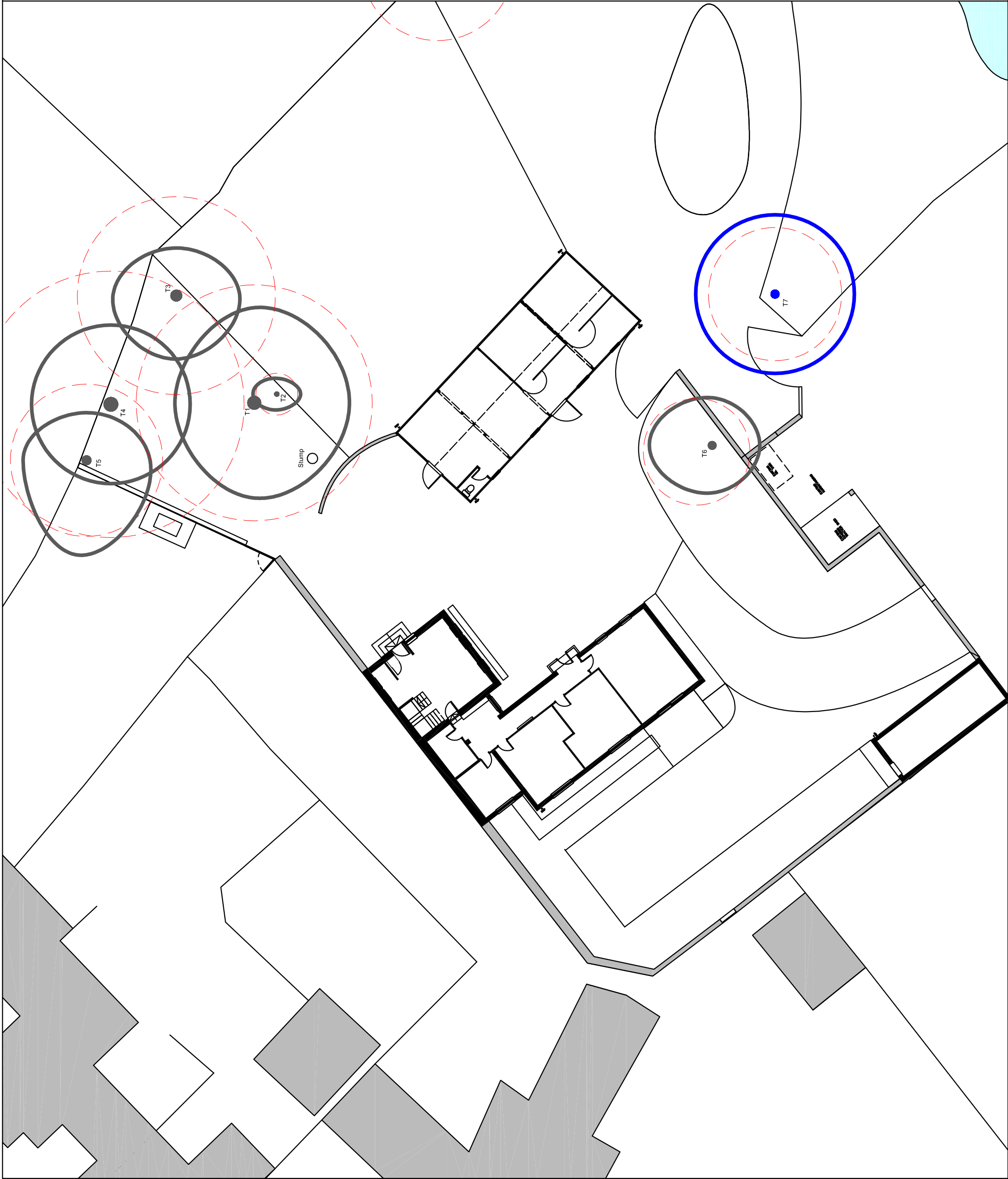
|    |              |                                                          |
|----|--------------|----------------------------------------------------------|
| Y  | Young        | Trees that have not yet established                      |
| SM | Semi-Mature  | Established trees up to 1/3 of expected height and crown |
| EM | Early mature | Between 1/3 and 2/3 expected height and crown            |
| M  | Mature       | Between 2/3 and full expected height and crown           |
| FM | Fully Mature | Full expected height and crown                           |
| OM | Over-Mature  | Crown beginning to break up and decrease in size         |
| S  | Senescent    | Crown in advanced stage of break-up                      |

Condition

|   |      |
|---|------|
| 1 | Good |
| 2 | Fair |
| 3 | Poor |
| 4 | Dead |

# **Appendix 3.0**

## **Plans**



- Category A Trees
- Category B Trees
- Category C Trees
- Category U Trees
- Root protection area

**WE KNOW SERVICES**

Yorkon Building  
Archway Road  
PO Box 24  
Huyton  
L36 9YU

Tel: 0151 443 2308  
Email: [info@weknowservices.co.uk](mailto:info@weknowservices.co.uk)

Client:  
Mr and Mrs Horan

Site Address:  
Trevalyn Wood, Manor Lane,  
Rossett, Wrexham, LL12 0HH

Drawing Title:  
BS5837 Plan

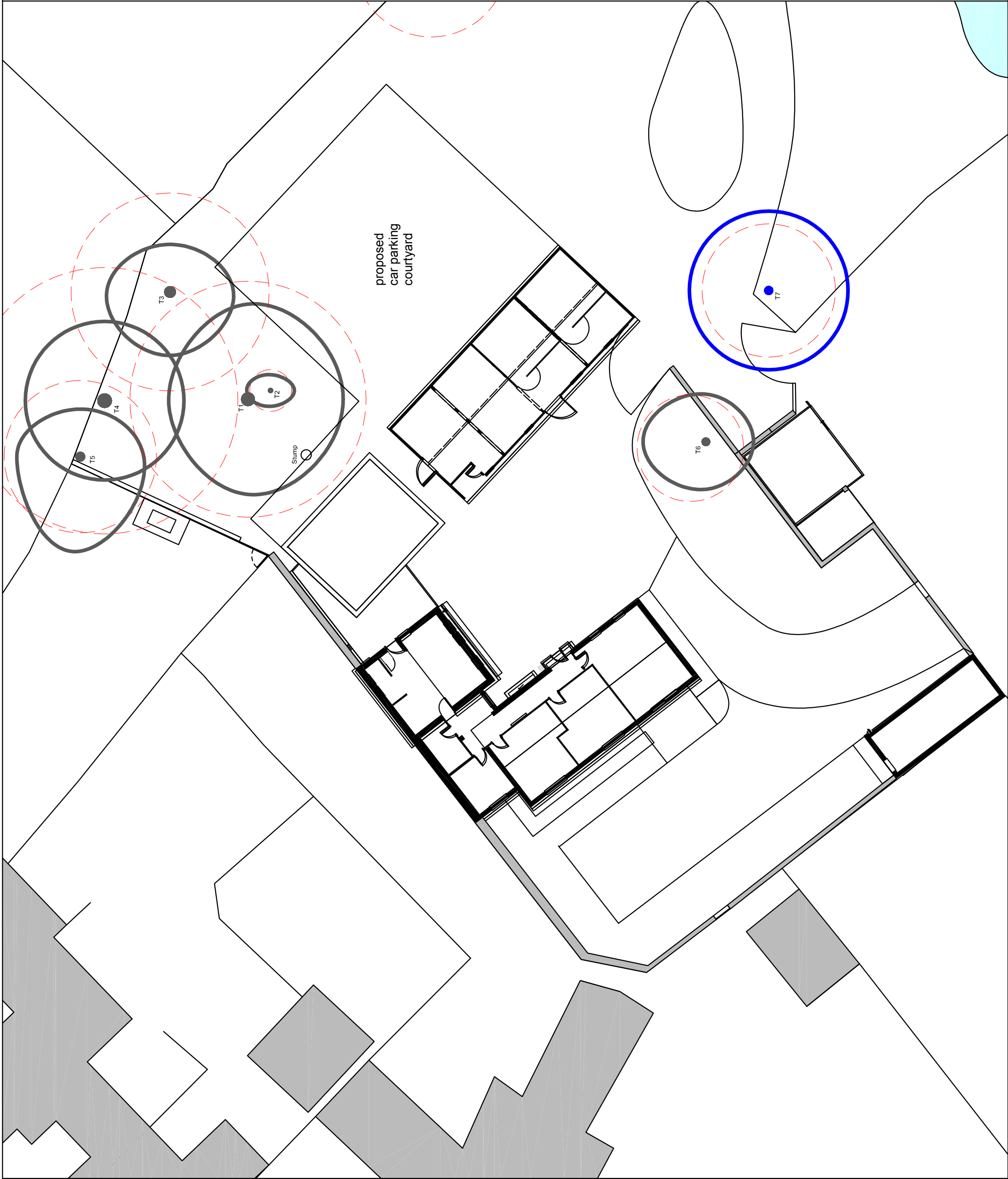
Drawing No:  
19/00080/BS

Date:  
17.02.2020

Scale:  
1:300@A3

Drawn by:  
NW

Note: Dimensions are not to be scaled from this drawing.  
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-  Category A Trees
-  Category B Trees
-  Category C Trees
-  Category U Trees
-  Root protection area

|                                                                                                                                                                                                                                                                                                         |                                                          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|
|  WE KNOW SERVICES                                                                                                                                                                                                    |                                                          |
| Yorkon Building<br>Archway Road<br>PO Box 24<br>Huyton<br>L36 9YU                                                                                                                                                                                                                                       |                                                          |
| Tel: 0151 443 2308<br>Email: <a href="mailto:info@weknowservices.co.uk">info@weknowservices.co.uk</a>                                                                                                                                                                                                   |                                                          |
| Client:                                                                                                                                                                                                                                                                                                 | Mr and Mrs Horan                                         |
| Site Address:                                                                                                                                                                                                                                                                                           | Trevalyn Wood, Manor Lane,<br>Rossett, Wrexham, LL12 0HH |
| Drawing Title:<br>AIA Plan                                                                                                                                                                                                                                                                              | Drawing No:<br>19/00080/AIA                              |
| Date:<br>18/02/2020                                                                                                                                                                                                                                                                                     | Scale:<br>1:300@A3                                       |
| Drawn by:<br>NW                                                                                                                                                                                                                                                                                         |                                                          |
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# WE KNOW SERVICES

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## ARBORICULTURAL METHOD STATEMENT

---

TREVALYN WOOD  
MANOR LANE  
ROSSETT  
WREXHAM  
LL12 0HH

---

FEBRUARY 2020

---

We Know Services  
Yorkon Building, Archway Road, Huyton, Merseyside, L36 9YU  
T: 0151 443 2308 E: [info@weknowservices.co.uk](mailto:info@weknowservices.co.uk)  
[www.weknowservices.co.uk](http://www.weknowservices.co.uk)

Ref: 19/00080

Author: Nicola Wallbank  
Ph.D. B.Sc. Hons

## 1.0 Discussion

- 1.1 The majority of the root system, of a tree, is in the surface 600mm of the soil, extending radically for distances frequently in excess of the trees height. Beyond the main structural roots (close to the base of the trunk), the root system rapidly sub-divides into smaller diameter roots: off this main system, a mass of fine roots develops.
- 1.2 The shape of the main structural roots develops in response to the need for the tree to have physical stability. Beyond these major roots, root growth and development is influenced by the availability of water and nutrients. Unless conditions are uniform around the tree, which would be unusual, the extent of the root system will be very irregular and difficult to predict. It will not generally show the symmetry seen in the branch system.
- 1.3 The parts of the root system, which are active in water and nutrient uptake, are very fine, typically less than 0.5mm diameter. They are short lived, developing in response to the needs of the tree, with the majority dying each winter. It is essential that conditions in the soil remain conducive to the healthy growth of these fine roots so that the water and nutrients necessary for healthy tree growth can be absorbed.
- 1.4 All parts of the root system, but especially the fine roots, are vulnerable to damage. Once they are damaged, water and nutrient uptake will be restricted until new roots have regenerated. Vigorous young trees will be capable of rapid regeneration but over mature trees will respond slowly, *if at all*.
- 1.5 In order to live and grow, roots need oxygen from the soil. Respiration by the roots and other soil organisms depletes this oxygen and increases carbon dioxide levels in the soil; a correct balance of these gases is normally maintained by diffusion between the soil and the atmosphere. Anything, which disturbs this balance, will affect the condition of the root system.
- 1.6 The factors that most commonly affect this diffusion adversely, and therefore damage roots, are the following: -
  - a) Compaction of the ground, which reduces the space between soil particles. This is particularly important on clay soils. A single passage by heavy equipment on clay soils or storage of heavy materials can cause significant damage;
  - b) Changing soil levels, even for a few weeks;
  - c) Covering the root area with impervious surfaces; and
  - d) A rise in the level of the water table. Roots can tolerate submersion for short periods. But a permanent rise will deplete the soil of oxygen.
- 1.7 Serious damage is often caused during preliminary site works by stripping the topsoil. For this reason, such works should be avoided until protective fencing has been erected.

- 1.8 Excavations in the rooting area can sever roots. As the majority of roots are in the surface 600mm, even shallow excavations can cause damage.
- 1.9 Excavations for foundations, landscaping or service trenches are usually sufficiently deep to sever most of the roots, and it should therefore be assumed that all parts of the root system beyond the excavation would no longer serve the tree.
- 1.10 Excavation or soil stripping which sever or damage the roots may impair the stability of the tree and make it dangerous.

## **2.0 Method Statement**

### **2.1 Methodology for the Construction of the Car Parking Courtyard**

2.1.1 The following methodology supports the drawing indicating the construction of the car park within the RPA of T1 and T3. The methodology is prepared on the basis of the sequence of operations necessary to complete the construction of the car park with the minimum damage to the trees proposed for retention.

- The surface layer is to be scraped off. This can be done either by hand or by very small machinery.
- Erect protective fencing to the edge of the construction area.
- Spread a sub grade material to fill any small ruts.
- Construct edging using treated timber if required.
- Lay geotextile mat over smoothed area.
- Extend the Geoweb perforated tree root protection system with sufficient overlap such that kerbs can be constructed on top of the Geoweb.
- Fill the voids within the Geoweb with reduced fines Type 1 material working into the site over the top of the Geoweb.
- Lay edgings and surface over the Geoweb such that the construction binds itself together.
- Construct finished surface as required in line with guidance illustrated in **Appendix 2.0**.

## 2.2 Removal of Existing Hard Standing with RPA

- No hard surface removal within the Root Protection Area (RPA) should occur without arboricultural supervision.
- The initial 'breaking up' of hard standing should be carried out by low impact hand held pneumatic tools.
- Removal of the surface should occur in sections working backwards over the undisturbed surface to avoid movement over exposed ground.
- Any exposed roots should be covered with a good quality top soil to avoid desiccation as the operation progresses.
- Compacted surfaces should be lightly broken up with hand tools to aid water penetration.
- Subsequent removal of arisings /debris should also be carried out by hand.
- No reduction in levels of the underlying soil surface shall occur.
- The underlying soil shall be levelled by the addition of good quality top soil (in accordance with BS3882:2015 (typically 150mm maximum depth);Hand tools only shall be used for any levelling works which will not disturb the underlying soil.

## 2.3 Soft Landscape Works within the RPA

- Heavy mechanical soil cultivation techniques should not be carried out within any RPA. Any cultivation should be carried out by hand to minimise damage to tree roots.
- Existing ground levels within the RPA should be maintained.

## 2.4 Protective Fencing

- All fencing used on the site should fully comply with BS 5837:2012 (Trees in Relation to Construction – Recommendations).
- The fencing should be strong and suitable for local conditions. It should also take into account the degree of construction activity on the site.
- The fencing should be at least 2.3m in height and should be erected with both a vertical and horizontal scaffolding framework capable of withstanding impact, with vertical tubes spaced at a maximum of 3 m. This should support either weldmesh panels which should be securely fixed with wire or scaffold clamps.
- Notices should also be erected on the fencing stating 'Protected Area - No operations within fenced area'.
- The positioning of the protective fencing is also very important and should be erected in the proposed location identified in **Appendix 1.0**. Once the fence has been erected it should never be crossed and particular care should be taken to store any materials or soil within the protected area.
- Where there is a presence of underground services, an alternative arrangement is acceptable using boots to support the vertical sections of the fence and a stabilizer strut mounted on a block tray.

## 2.5 Ground Protection Measures for Root Protection Areas (RPA) Outside the Protective Fencing

### 2.5.1 Where access is required within the RPA the following methodology must be followed:

- Mulch must be spread to a depth of 150mm over the dedicated area;
- The mulch must be levelled then covered with boarding. The boarding may be either: scaffold boards laid butted together (Appendix 4.0); or plywood sheets 2440mm by 1220mm at least 19mm thick laid butted together.

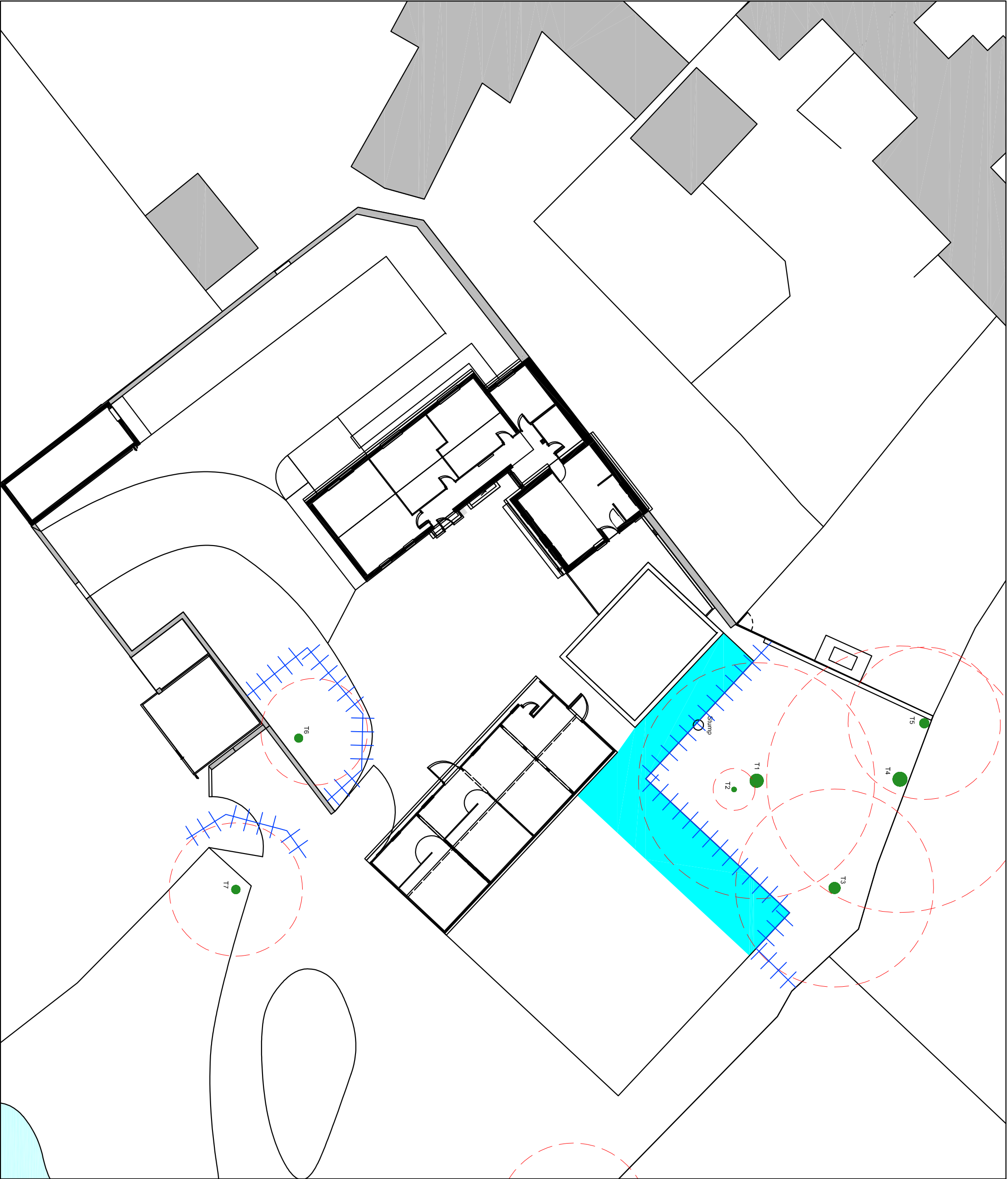
## 2.6 Additional Precautions

- Oil, bitumen, cement or other material likely to cause damage to the trees will not be stacked or discharged within 10m of a tree stem.
- Concrete mixing and washing will not be carried out within 10m of any retained trees.

- Fires will not be lit beneath the foliage or in a position where the flames could extend to within 5m of the foliage, branches or trunk. If the fire is large then this may necessitate a distance of at least 20m.
- Trees that are to be retained will not be used as anchorage for equipment.
- Notice boards, telephone cables, or other services will not be attached to any part of a retained tree.
- Care should be taken when using cranes or other equipment near the canopy of the retained trees.

# **Appendix 1.0**

## **Tree Plan**





Root protection area



Geoweb



Tree protection fencing



WE KNOW SERVICES

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Huyton  
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Email: [info@weknowservices.co.uk](mailto:info@weknowservices.co.uk)

Client:  
Mr and Mrs Horan

Site Address:  
Trevayln Wood, Manor Lane,  
Rossett, Wrexham, LL12 0HH

|                      |             |
|----------------------|-------------|
| Drawing Title:       | Drawing No: |
| Tree Protection Plan | 19/00080/MS |
| Date:                | Scale:      |
| 17.02.2020           | 1:300@A3    |
| MS                   | MS          |

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## **Appendix 2.0**

### **Construction of Special Surface**

## **METHODOLOGY FOR THE CONSTRUCTION OF HARD SURFACING WITHIN ROOT PROTECTION AREAS**

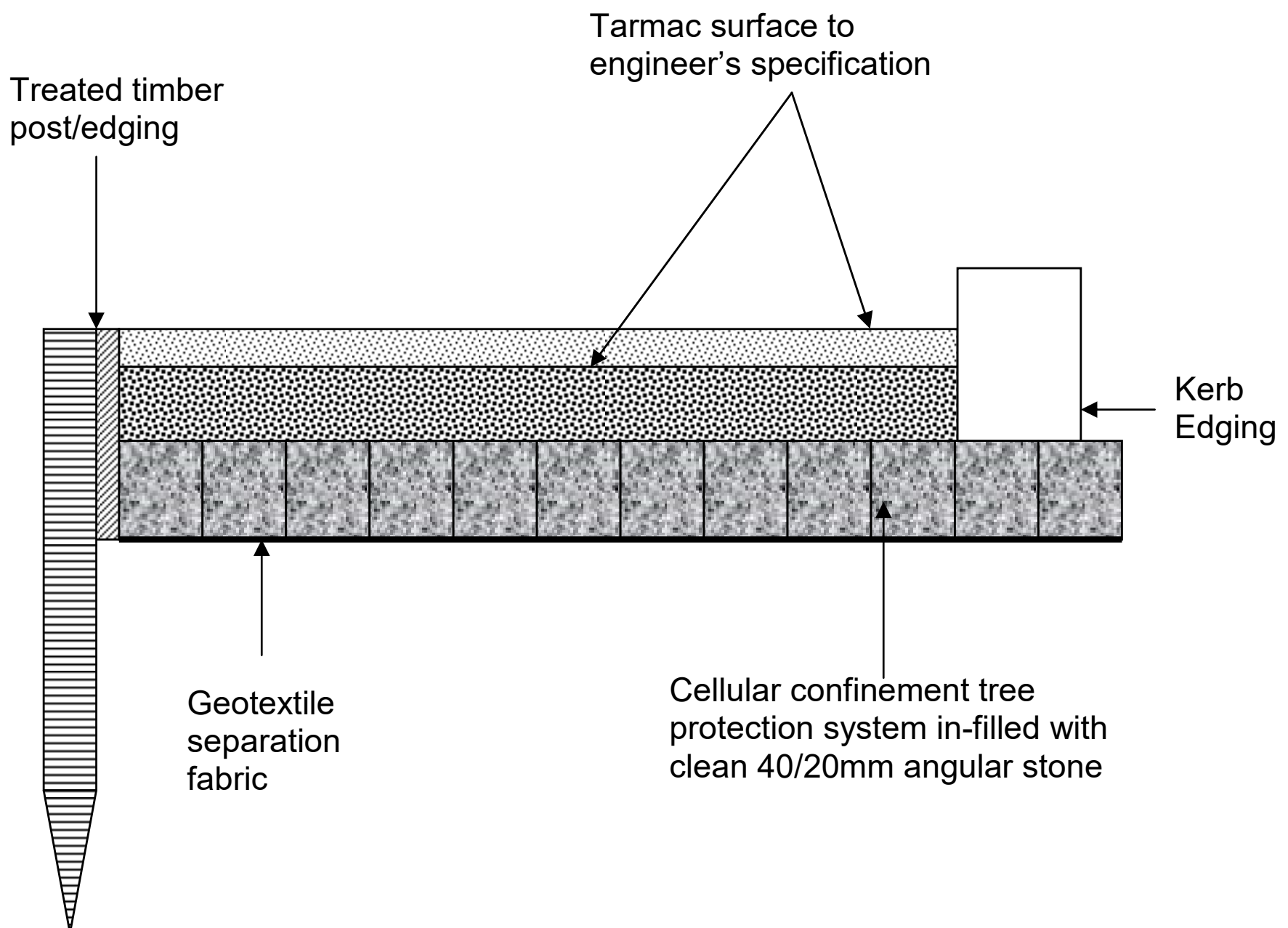
The following methodology supports the drawing indicating the construction of the car park within the RPA of T1 and T3. The methodology is prepared on the basis of the sequence of operations necessary to complete the construction of the car park with the minimum damage to the trees proposed for retention.

- The surface layer is to be scraped off. This can be done either by hand or by very small machinery.
- Erect protective fencing to the edge of the construction area.
- Spread a sub grade material to fill any small ruts.
- Construct edging using treated timber if required.
- Lay geotextile mat over smoothed area.
- Extend the Geoweb perforated tree root protection system with sufficient overlap such that kerbs can be constructed on top of the Geoweb.
- Fill the voids within the Geoweb with reduced fines Type 1 material working into the site over the top of the Geoweb.
- Lay edgings and surface over the Geoweb such that the construction binds itself together.
- Construct finished surface as required in line with guidance illustrations below.

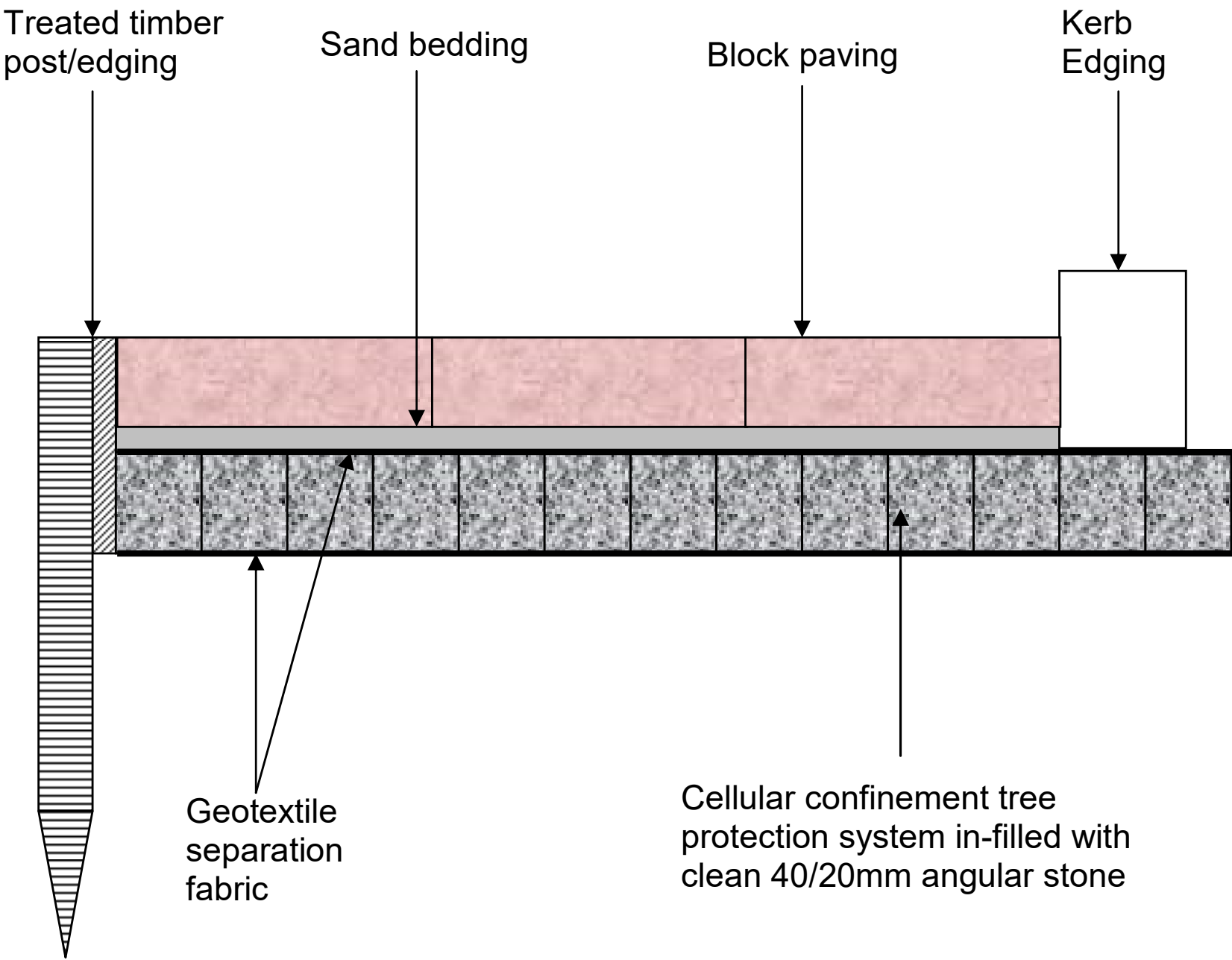
**Geoweb Based Construction – (Indicative Only)**

Depth of confinement system variable according to use- refer to manufacturer

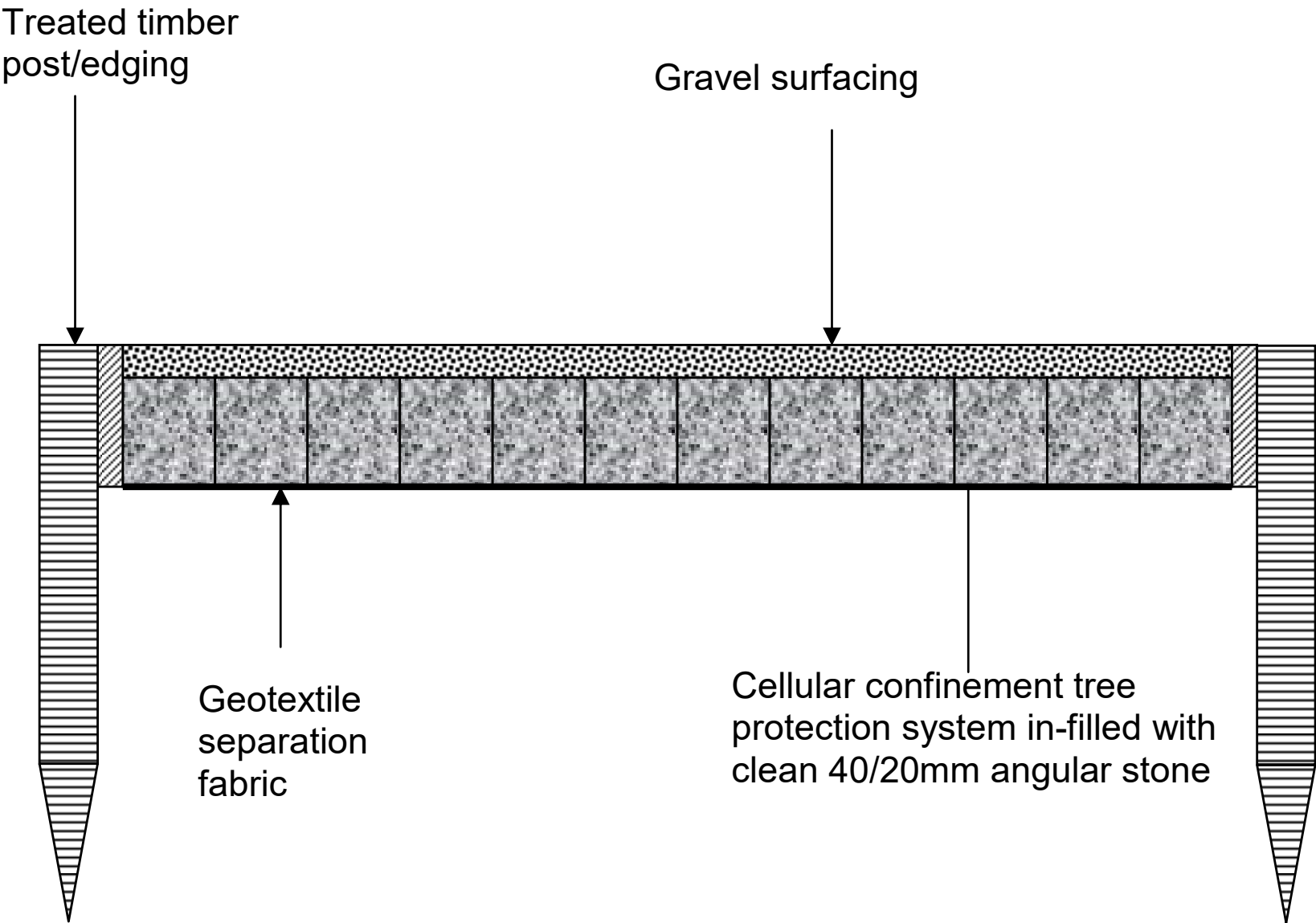
**Tarmac Surface**



Block Paved Surface

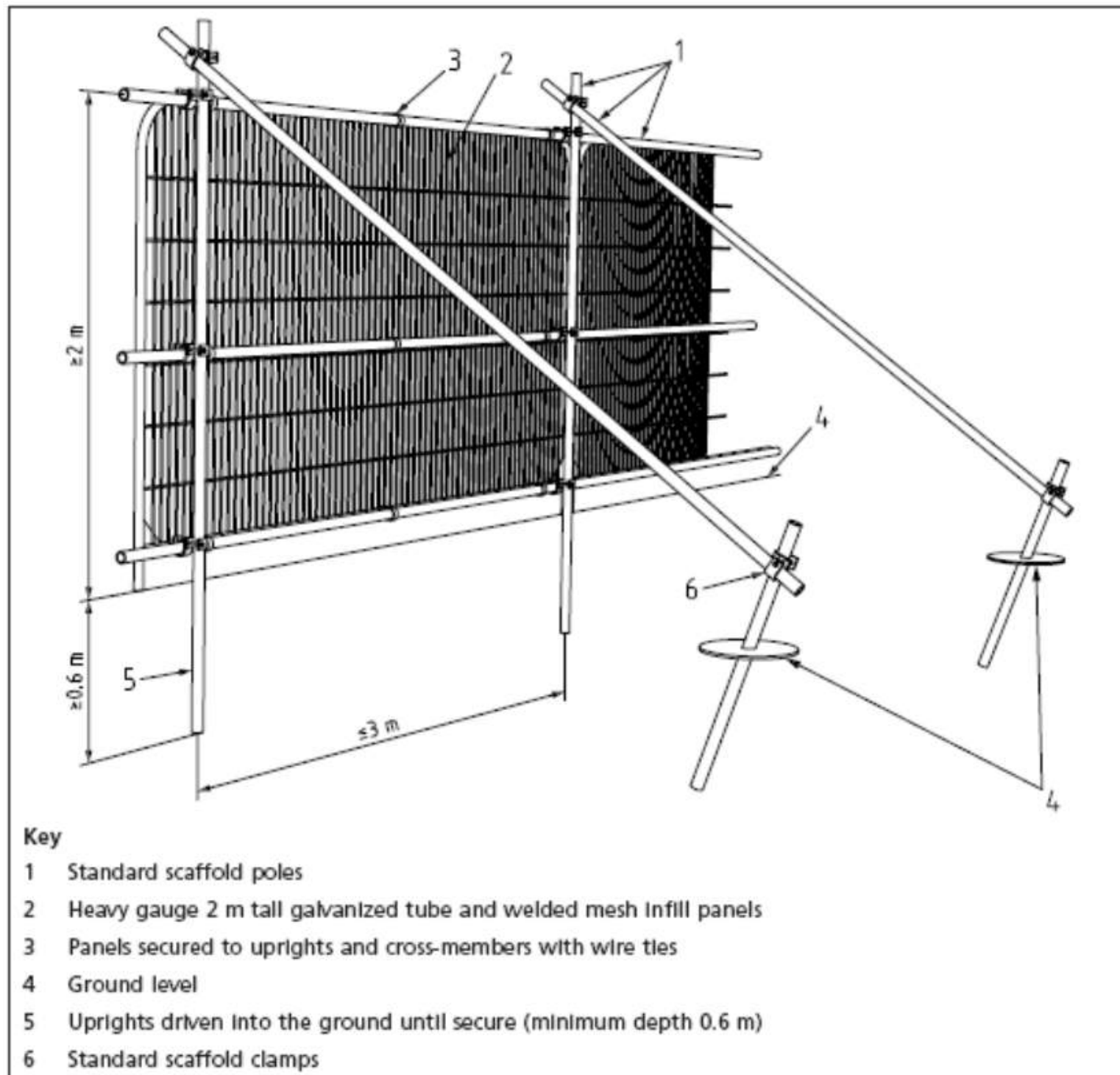


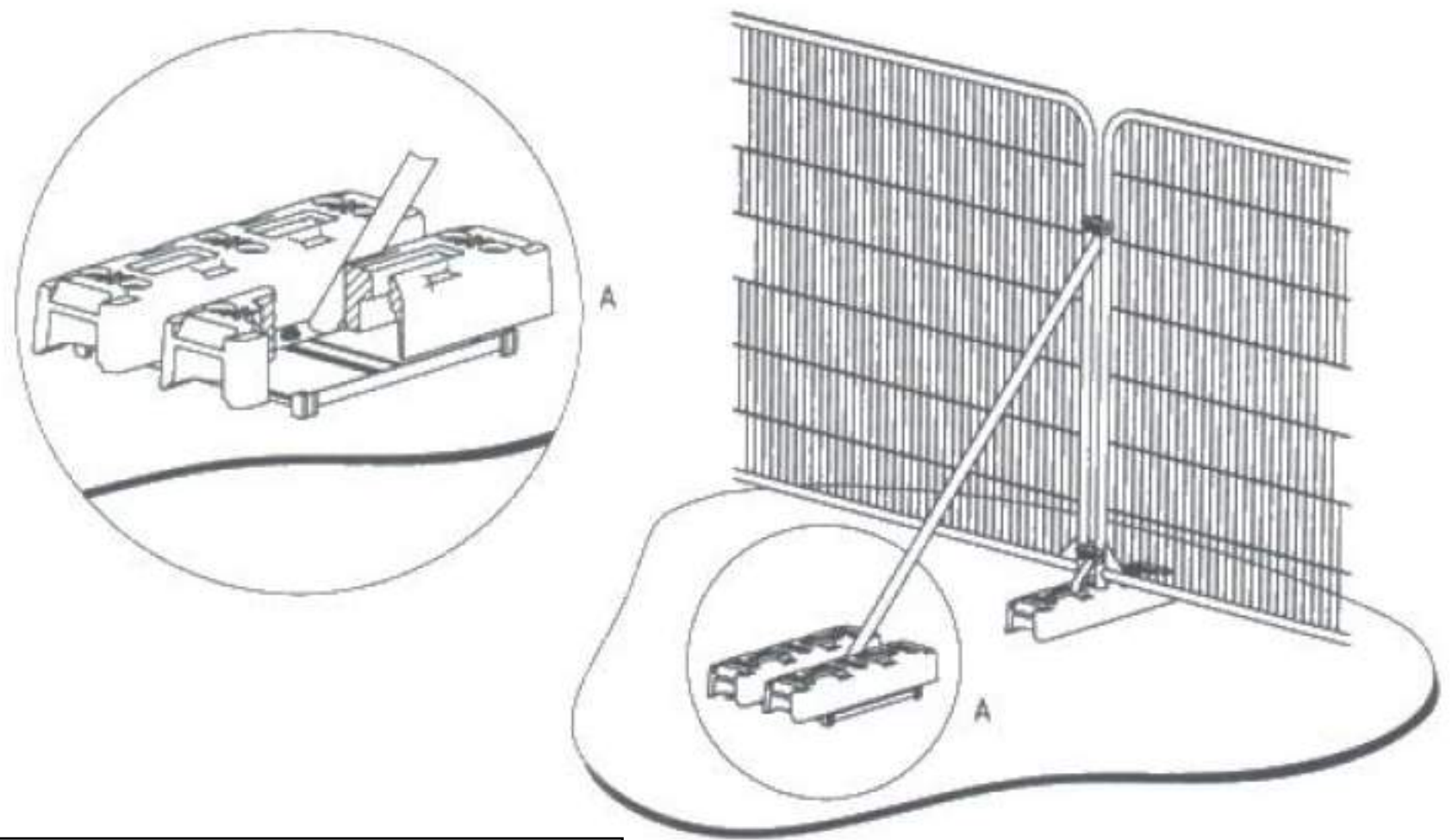
Gravel Surface



## **Appendix 3.0**

# **Tree Protection Fencing**

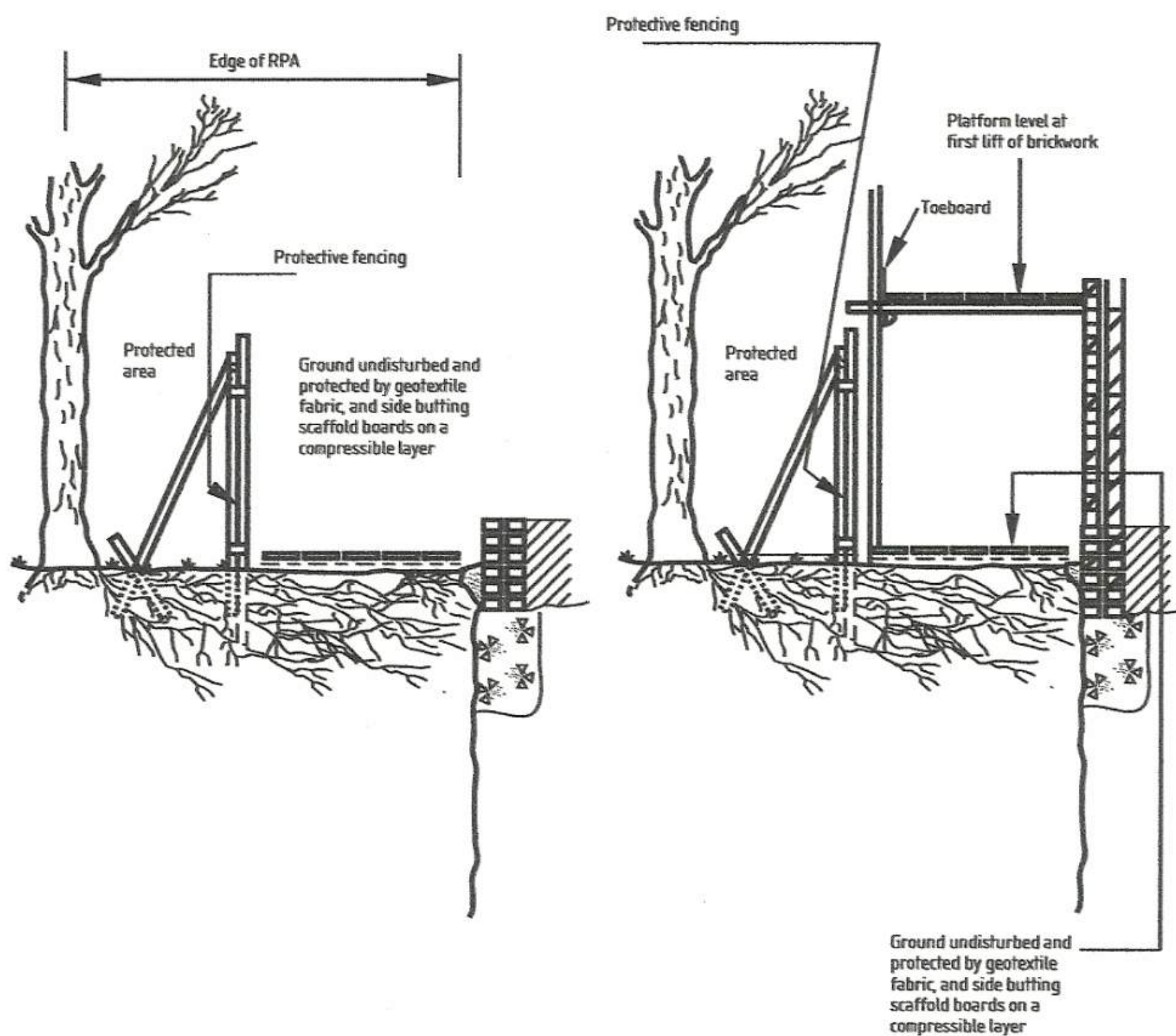




Fencing arrangement in the presence of underground services- vertical sections mounted in boots and stabilizer strut mounted on block tray

## **Appendix 4.0**

# **Ground Protection Measures**



The scaffold boards may be substituted for plywood sheets (e.g. 2440mm by 1220mm) of at least 19mm thickness and laid on 150mm depth mulch in order to spread the load of any high points on the original surface.

---

## APPENDIX B: COPPER MATERIAL SPECIFICATION SHEET



---

**Architectural Emporium Ltd.**

E: [mail@architectural-emporium.co.uk](mailto:mail@architectural-emporium.co.uk)

T: +44 (0) 151 363 0000

A: Architectural Emporium

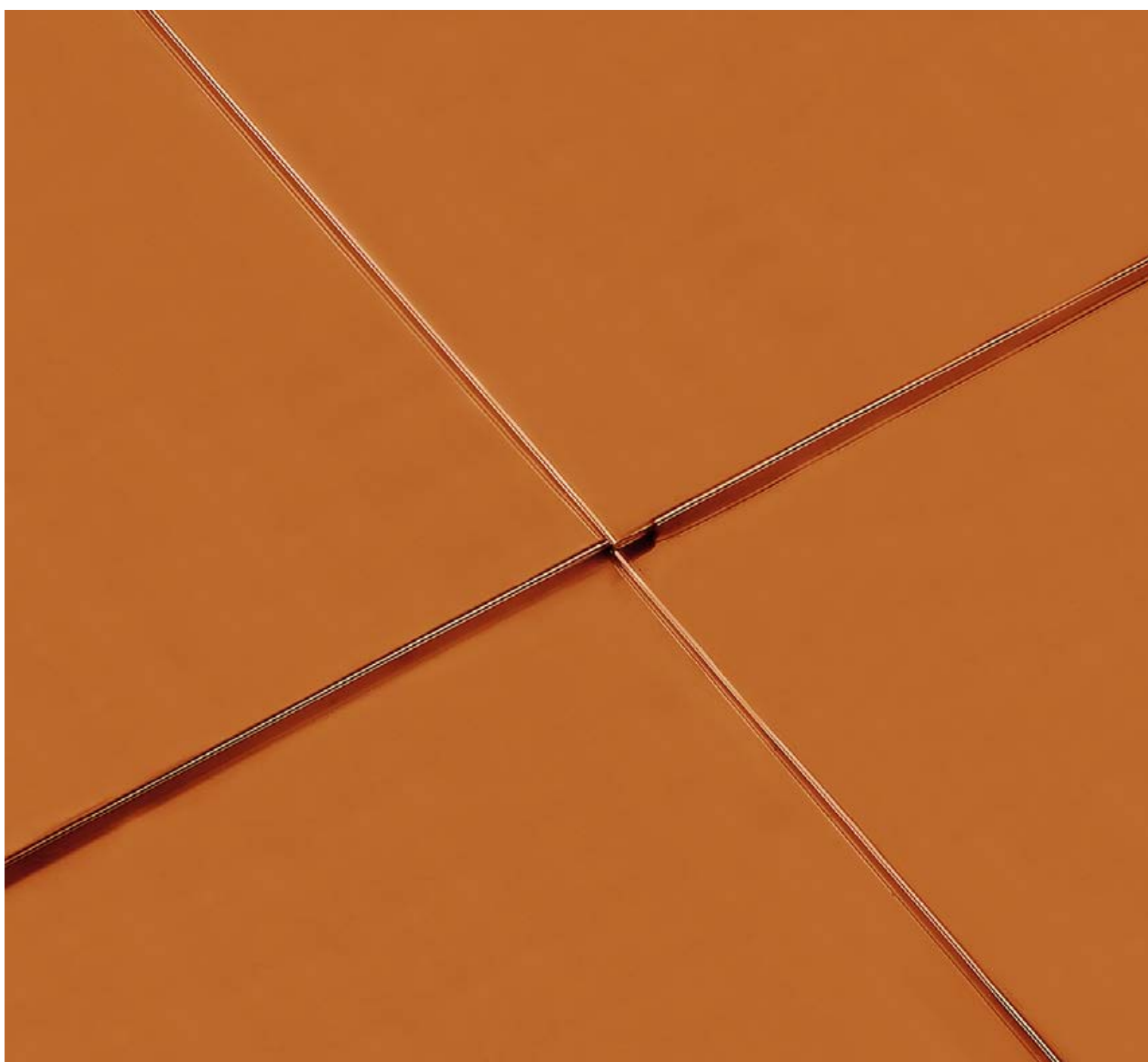
13 Hope Street

Liverpool L1 9BH

# TECU® Classic\_coated



|      |                          |
|------|--------------------------|
| [GB] | Product Data Sheet       |
| [DE] | Produktdatenblatt        |
| [FR] | Fiche technique          |
| [ES] | Ficha técnica            |
| [IT] | Scheda Tecnica           |
| [PL] | Dane techniczne produktu |
| [RU] | Продуктдате́нблатт       |



**International Standards**

| International Standards | Symbol  | Number                           |
|-------------------------|---------|----------------------------------|
| DIN EN 1172: 2012-02    | Cu-DHP  | CW024A                           |
| UNS*                    | C 12200 | *Unifield Numbering System (USA) |

**Chemical composition in %**

| Element | min.  | max.  |
|---------|-------|-------|
| Cu      | 99,90 | -     |
| P       | 0,015 | 0,040 |

**Technical Data: Thickness 0.70 - 1.00 mm**

|                                                                                |                                                                                                                          |
|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| applicable width range                                                         | 670 mm - 1000 mm                                                                                                         |
| width tolerance                                                                | 0 / + 2 mm                                                                                                               |
| length tolerance for sheets                                                    | 0 / + 10 mm                                                                                                              |
| thickness tolerance                                                            | +/- 0,02 mm                                                                                                              |
| longitudinal edge straightness tolerance<br>- sheets up to 3000 mm<br>- strips | up to 1 mm per 1000 mm, max. 3 mm for 3000 mm gauge length<br>up to 1 mm per 1000 mm, max. 5 mm for 5000 mm gauge length |
| flatness (transverse to rolling direction)                                     | < 0,2 % of strip width                                                                                                   |
| Tensile strength (R <sub>m</sub> )                                             | 240 - 285 N/mm <sup>2</sup>                                                                                              |
| Proof Strength (R <sub>p0.2</sub> )                                            | 180 - 230 N/mm <sup>2</sup>                                                                                              |
| Elongation (A50)                                                               | ≥ 15 %                                                                                                                   |
| hardness HV                                                                    | max. 90                                                                                                                  |

**Availability**

|                                                                                                                                                                                                                                    |                                                                  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|
| coil inside diameter Ø - big coil                                                                                                                                                                                                  | 500 mm, 600 mm                                                   |
| sheets                                                                                                                                                                                                                             | on request                                                       |
| surface                                                                                                                                                                                                                            | copper red mill finish with transparent coil-coating on one side |
| temporary protective plastic film                                                                                                                                                                                                  | foliation on the coated side                                     |
| product application                                                                                                                                                                                                                | construction                                                     |
| Environmental Product Declaration                                                                                                                                                                                                  | EN 15804                                                         |
|  CE-marked according to EN 14783 and EU directive 89 / 106 / Eec (CPD) - more information on <a href="http://www.kme.com/ce">www.kme.com/ce</a> |                                                                  |

**Physical Properties**

|                                |                        |
|--------------------------------|------------------------|
| density                        | 8,93 g/cm <sup>3</sup> |
| coefficient of expansion       | 1,7 mm/m Δ T 100 K     |
| modulus of elasticity at 20° C | 132 kN/mm <sup>2</sup> |

**To be read in conjunction with KME document "Important instructions for Storage, Application and Processing of TECU® Classic\_coated".**

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The technical information contained herein is correct and corresponds to the state-of-art at the time of printing.

Although all due care and attention has been taken, we cannot accept liability for the content.

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| Normbezeichnung      |             |                                 |
|----------------------|-------------|---------------------------------|
| Norm                 | Kurzzeichen | Nummer                          |
| DIN EN 1172: 2012-02 | Cu-DHP      | CW024A                          |
| UNS*                 | C 12200     | *Unified Numbering System (USA) |

| Chemische Zusammensetzung in % |       |       |
|--------------------------------|-------|-------|
| Element                        | min.  | max.  |
| Cu                             | 99,90 | -     |
| P                              | 0,015 | 0,040 |

| Technische Daten: Dicken 0,70 - 1,00 mm |                                                      |
|-----------------------------------------|------------------------------------------------------|
| Breite                                  | 670 mm - 1000 mm                                     |
| Breitentoleranz                         | 0 / + 2 mm                                           |
| Längentoleranz bei Tafeln               | 0 / + 10 mm                                          |
| Dickentoleranz                          | +/- 0,02 mm                                          |
| Geradheitstoleranz (Säbelförmigkeit)    |                                                      |
| - Tafeln bis 3000 mm                    | je 1 mm pro 1000 mm, max. 3 mm bei 3000 mm Messlänge |
| - Bänder                                | je 1 mm pro 1000 mm, max. 5 mm bei 5000 mm Messlänge |
| Ebenheit quer zur Walzrichtung          | < 0,2 % der Bandbreite                               |
| Zugfestigkeit (R <sub>m</sub> )         | 240 - 285 N/mm <sup>2</sup>                          |
| Dehngrenze (R <sub>p0,2</sub> )         | 180 - 230 N/mm <sup>2</sup>                          |
| Bruchdehnung (A50)                      | ≥ 15 %                                               |
| Härte HV                                | max. 90                                              |

| Lieferformen                                                                                                                                                                                                                                      |                                                                  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|
| Ring - Innen - Ø für Großcoil                                                                                                                                                                                                                     | 500 mm, 600 mm                                                   |
| Tafeln                                                                                                                                                                                                                                            | auf Anfrage                                                      |
| Oberfläche                                                                                                                                                                                                                                        | walzblank kupferrot mit einseitig transparenter Bandbeschichtung |
| Oberflächenfolierung                                                                                                                                                                                                                              | einseitig foliert auf der beschichteten Seite                    |
| Anwendungsbereich                                                                                                                                                                                                                                 | Bauwesen                                                         |
| Umweltproduktdeklaration                                                                                                                                                                                                                          | EN 15804                                                         |
|  nach EN 14783 gemäß EU Richtlinie 89 / 106 / EEC (BPR) mit CE gekennzeichnet - weitere Informationen unter <a href="http://www.kme.com/ce">www.kme.com/ce</a> |                                                                  |

| Physikalische Eigenschaften |                        |
|-----------------------------|------------------------|
| Dichte                      | 8,93 g/cm <sup>3</sup> |
| Ausdehnungskoeffizient      | 1,7 mm/m Δ T 100 K     |
| Elastizitätsmodul bei 20° C | 132 kN/mm <sup>2</sup> |

### Bitte beachten Sie: "Wichtige Hinweise zur Lagerung, Anwendung und Verarbeitung"

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Die technischen Informationen dieser Schrift entsprechen dem Zeitpunkt der Drucklegung und den anerkannten Regeln der Technik.

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| Normes               |         |                                  |
|----------------------|---------|----------------------------------|
| Norme                | Symbole | Numéro                           |
| DIN EN 1172: 2012-02 | Cu-DHP  | CW024A                           |
| UNS*                 | C 12200 | *Unifield Numbering System (USA) |

| Composition chimique en % |       |       |
|---------------------------|-------|-------|
| Elément                   | min.  | max.  |
| Cu                        | 99,90 | -     |
| P                         | 0,015 | 0,040 |

| Spécification: Épaisseur 0,70 - 1,00 mm                   |                                                                                                                              |
|-----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| Largeur                                                   | 670 mm - 1000 mm                                                                                                             |
| Tolérance de largeur                                      | 0 / + 2 mm                                                                                                                   |
| Tolérance de longueur pour bandes                         | 0 / + 10 mm                                                                                                                  |
| Tolérance d'épaisseur                                     | +/- 0,02 mm                                                                                                                  |
| Rectitude longueur<br>- tôles jusqu'à 3000 mm<br>- bandes | Jusqu'à 1mm par 1000mm, max. 3mm par 3000mm longueur mesurée<br>Jusqu'à 1mm par 1000mm, max. 5mm par 5000mm longueur mesurée |
| Planéité transversale à la direction de laminage          | < 0,2 % du largeur de la bande                                                                                               |
| Résistance à la traction (R <sub>m</sub> )                | 240 - 285 N/mm²                                                                                                              |
| Limite élastique (R <sub>p0,2</sub> )                     | 180 - 230 N/mm²                                                                                                              |
| Allongement à la rupture (A50)                            | ≥ 15 %                                                                                                                       |
| Dureté HV                                                 | max. 90                                                                                                                      |

| Disponibilité                                                                                                                                          |                                                                |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| Ø Intérieur du rouleau - bande grand                                                                                                                   | 500 mm, 600 mm                                                 |
| Tôle                                                                                                                                                   | sur demande                                                    |
| Finition                                                                                                                                               | Aspect de surface (rouge de cuivre) avec revêtement traparente |
| La surface de protection                                                                                                                               | Filmé sur la face avec revêtement                              |
| Domaines d'application                                                                                                                                 | Bâtiment                                                       |
| Declaration environnementale                                                                                                                           | EN 15804                                                       |
| CE Marquage CE selon EN 14783 et directive européenne 89 / 106 / EEC (CPD) - plus d'information sur <a href="http://www.kme.com/ce">www.kme.com/ce</a> |                                                                |

| Propriétés Physiques                |                    |
|-------------------------------------|--------------------|
| Densité                             | 8,93 g/cm³         |
| Coefficient de dilatation thermique | 1,7 mm/m Δ T 100 K |
| Module d'élasticité à 20 °C         | 132 kN/mm²         |

S'il vous plaît faire attention à: "Consignes importantes d'utilisation, de façonnage et de pose"

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| Normas               |           |                                 |
|----------------------|-----------|---------------------------------|
| Norma                | Simbólica | Número                          |
| DIN EN 1172: 2012-02 | Cu-DHP    | CW024A                          |
| UNS*                 | C 12200   | *Unified Numbering System (USA) |

| Composición química en % |       |       |
|--------------------------|-------|-------|
| Elemento                 | min.  | max.  |
| Cu                       | 99,90 | -     |
| P                        | 0,015 | 0,040 |

| Especificación: Espesor 0,70 - 1,00 mm                                           |                                                                                                                          |
|----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Ancho                                                                            | 670 mm - 1000 mm                                                                                                         |
| Tolerancia de anchura                                                            | 0 / + 2 mm                                                                                                               |
| Tolerancia de longitud para chapas                                               | 0 / + 10 mm                                                                                                              |
| Tolerancia de espesor                                                            | +/- 0,02 mm                                                                                                              |
| Tolerancia longitudinal de canto recto<br>- chapas mayores de 3000 mm<br>- banda | hasta 1 mm por 1000 mm, máx. 3 mm para 3000 mm de longitud<br>hasta 1 mm por 1000 mm, máx. 5 mm para 5000 mm de longitud |
| Planicidad en la dirección transversal de bobina                                 | < 0,2 % de ancho de banda                                                                                                |
| Resistencia a la tracción ( $R_m$ )                                              | 240 - 285 N/mm <sup>2</sup>                                                                                              |
| Límite elástico ( $R_{p0,2}$ )                                                   | 180 - 230 N/mm <sup>2</sup>                                                                                              |
| Alargamiento (A50)                                                               | ≥ 15 %                                                                                                                   |
| Dureza HV                                                                        | max. 90                                                                                                                  |

| Disponibilidad                                                                                                                                                                                                          |                                                        |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|
| Diámetro interior de bobina Ø - Bobina grande                                                                                                                                                                           | 500 mm, 600 mm                                         |
| Chapas                                                                                                                                                                                                                  | bajo demanda                                           |
| Superficie                                                                                                                                                                                                              | Acabado rojo cobre con lacado transparente en una cara |
| Plástico protector                                                                                                                                                                                                      | en la cara lacado                                      |
| Campo de aplicación                                                                                                                                                                                                     | Área de la construcción                                |
| Declaración Medioambiental del Producto                                                                                                                                                                                 | EN 15804                                               |
|  Marca CE según EN 14783 y directriz EU 89 / 106 / EEC (CPD) - más información en <a href="http://www.kme.com/ce">www.kme.com/ce</a> |                                                        |

| Propiedades físicas         |                           |
|-----------------------------|---------------------------|
| Densidad                    | 8,93 g/cm <sup>3</sup>    |
| Coeficiente de expansión    | 1,7 mm/m $\Delta T$ 100 K |
| Módulo de elasticidad 20 °C | 132 kN/mm <sup>2</sup>    |

### Por favor observa: "Avisos importantes para aplicación y procesamiento"

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La información técnica contenida en este folleto corresponde, en el momento de su impresión, a las normas técnicas reconocidas en ese momento. Sin embargo y a pesar de una edición y corrección minuciosa, no asumimos responsabilidad alguna por su contenido.

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| Denominazione        |         |                                 |
|----------------------|---------|---------------------------------|
| Normativa            | Simbolo | Numero                          |
| DIN EN 1172: 2012-02 | Cu-DHP  | CW024A                          |
| UNS*                 | C 12200 | *Unified Numbering System (USA) |

| Composizione chimica in % |       |       |
|---------------------------|-------|-------|
| Elemento                  | min.  | max.  |
| Cu                        | 99,90 | -     |
| P                         | 0,015 | 0,040 |

| Specifiche: Spessore 0,70 - 1,00 mm  |                                                            |
|--------------------------------------|------------------------------------------------------------|
| Larghezza                            | 670 mm - 1000 mm                                           |
| Tolleranza di larghezza              | 0 / + 2 mm                                                 |
| Tolleranza di lunghezza per lastre   | 0 / + 10 mm                                                |
| Tolleranza di spessore               | +/- 0,02 mm                                                |
| Sciabolatura                         |                                                            |
| - lastre di lunghezza fino a 3000 mm | Fino a 1mm per 1000mm, max. 3mm per tratto utile di 3000mm |
| - nastri                             | Fino a 1mm per 1000mm, max. 5mm per tratto utile di 5000mm |
| Planarità, (altezza ondulazione)     | < 0,2 % della lunghezza delle ondulazioni                  |
| Resistenza alla trazione ( $R_m$ )   | 240 - 285 N/mm <sup>2</sup>                                |
| Carico di snervamento ( $R_{p0,2}$ ) | 180 - 230 N/mm <sup>2</sup>                                |
| Allungamento alla rottura (A50)      | ≥ 15 %                                                     |
| Durezza HV                           | max. 90                                                    |

| Disponibilità                                                                                                                                                                                                                                   |                                                                                 |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|
| Diametro interno rotolo - Ø - rotolo                                                                                                                                                                                                            | 500 mm, 600 mm                                                                  |
| Lastre                                                                                                                                                                                                                                          | su richiesta                                                                    |
| Superficie                                                                                                                                                                                                                                      | Finito di laminazione colorazione rame rosso con vernice trasparente su un lato |
| Pelabile                                                                                                                                                                                                                                        | Son solo en lato con vernice trasparente                                        |
| Campi di applicazione                                                                                                                                                                                                                           | Architettura ed edilizia                                                        |
| Certificazione ambientale del prodotto                                                                                                                                                                                                          | EN 15804                                                                        |
|  Marchiatura CE in conformità con EN 14783 e EU direttiva 89 / 106 / EEC (CPD) - maggiori informazioni su <a href="http://www.kme.com/ce">www.kme.com/ce</a> |                                                                                 |

| Proprietà fisiche                           |                           |
|---------------------------------------------|---------------------------|
| Densità                                     | 8,93 g/cm <sup>3</sup>    |
| Coefficiente di dilatazione termica lineare | 1,7 mm/m $\Delta T$ 100 K |
| Modulo di elasticità normale a +20 °C       | 132 kN/mm <sup>2</sup>    |

**Favorisca notare: "Istruzioni importanti per la conservazione, applicazione e lavorazione dei materiali"**

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Le informazioni tecniche riportate più sopra sono esatte e corrispondono al prodotto al momento della pubblicazione.

Pur avendo curato attentamente tutti i dati riportati più sopra, KME declina ogni responsabilità per gli stessi.

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| Normy                |         |                                 |
|----------------------|---------|---------------------------------|
| Normy                | Znak    | Numer                           |
| DIN EN 1172: 2012-02 | Cu-DHP  | CW024A                          |
| UNS*                 | C 12200 | *Unified Numbering System (USA) |

| Skład chemiczny Udział w % |       |       |
|----------------------------|-------|-------|
| Pierwiastek                | min.  | max.  |
| Cu                         | 99,90 | -     |
| P                          | 0,015 | 0,040 |

| Dane produktu: grubości 0,70 - 1,00 mm     |                                                                |
|--------------------------------------------|----------------------------------------------------------------|
| szerokość                                  | 670 mm - 1000 mm                                               |
| tolerancja szerokości                      | 0 / + 2 mm                                                     |
| tolerancja długości arkuszy                | 0 / + 10 mm                                                    |
| tolerancja grubości                        | +/- 0,02 mm                                                    |
| sierpowatość                               |                                                                |
| - arkusze o dł ugości pomiarowej do 3000mm | do 1 mm na 1000 mm, max. 3 mm dla 3000 mm dł ugości pomiarowej |
| - taśmy                                    | do 1 mm na 1000 mm, max. 5 mm dla 5000 mm dł ugości pomiarowej |
| płaskość (wysokość falowania)              | < 0,2 % długości falowania                                     |
| wytrzymałość na rozciąganie ( $R_m$ )      | 240 - 285 N/mm <sup>2</sup>                                    |
| granica plastyczności ( $R_{p0,2}$ )       | 180 - 230 N/mm <sup>2</sup>                                    |
| wydłużenie (A50)                           | ≥ 15 %                                                         |
| twardość HV                                | max. 90                                                        |

| Forma dostawy                                                                                                                                                                                                  |                                                                                      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| średnica wewnętrzna kręgów - Ø kręgi duże                                                                                                                                                                      | 500 mm, 600 mm                                                                       |
| arkusze                                                                                                                                                                                                        | na żądanie                                                                           |
| powierzchnia                                                                                                                                                                                                   | jasny walcowany miedziano-czerwony z przezroczystą powłoką pasmową na jednej stronie |
| zafoliowanie powierzchni                                                                                                                                                                                       | po powlekanej stronie                                                                |
| zakres zastosowań                                                                                                                                                                                              | cele budowlane                                                                       |
| standardy ekologiczne produktu                                                                                                                                                                                 | EN 15804                                                                             |
|  wg EN 14783 i dyrektywy EU: 89 / 106 / EEC (CPD) -więcej informacji na: <a href="http://www.kme.com/ce">www.kme.com/ce</a> |                                                                                      |

| Własności fizyczne gatunku                                 |                           |
|------------------------------------------------------------|---------------------------|
| gęstość                                                    | 8,93 g/cm <sup>3</sup>    |
| współczynnik rozszerzalności                               | 1,7 mm/m $\Delta T$ 100 K |
| współczynnik sprężystości podłużnej przy temperaturze 20 ° | 132 kN/mm <sup>2</sup>    |

**Please pay attention to: "Important instructions for Storage, Application and Processing"**

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The technical information contained herein is correct and corresponds to the state-of-art at the time of printing.

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| Обозначение материала |                         |                                 |
|-----------------------|-------------------------|---------------------------------|
| Стандарт              | Сокращенное обозначение | Номер                           |
| DIN EN 1172: 2012-02  | Cu-DHP                  | CW024A                          |
| UNS*                  | C 12200                 | *Unified Numbering System (USA) |

| Химический состав в % |                  |                   |
|-----------------------|------------------|-------------------|
| Элемент               | Содержание, мин. | Содержание, макс. |
| Cu                    | 99,90            | -                 |
| P                     | 0,015            | 0,040             |

| Характеристики материала: Толщина материала 0,70 - 1,00 mm      |                                                        |
|-----------------------------------------------------------------|--------------------------------------------------------|
| Ширина листа/ленты                                              | 670 mm - 1000 mm                                       |
| Допуск на ширину                                                | 0 / + 2 mm                                             |
| Допуск на длину листа                                           | 0 / + 10 mm                                            |
| Допуск на толщину листа/ленты                                   | +/- 0,02 mm                                            |
| Допуск на отклонение от прямолинейности в плоскости по длине:   |                                                        |
| - листы длиной до 3000 мм;                                      | не более 1 мм на 1000 мм, макс. 3 мм на длине 3000 мм; |
| - ленты                                                         | не более 1 мм на 1000 мм, макс. 5 мм на длине 5000 мм; |
| Отклонение от плоскостности перпендикулярно направлению проката | <0,2% на всей ширине листа/ ленты                      |
| предел прочности при растяжении (Rm)                            | 240 - 285 N/mm <sup>2</sup>                            |
| условный предел текучести (Rp0,2)                               | 180 - 230 N/mm <sup>2</sup>                            |
| относительное удлинение при разрыве (A50mm)                     | ≥ 15 %                                                 |
| Твердость по Виккерсу HV                                        | макс. 90                                               |

| Форма поставки                                                                                                                                                                                           |                                                                                          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| Внутренний диаметр рулона - большой рулон                                                                                                                                                                | 500 mm, 600 mm                                                                           |
| листы                                                                                                                                                                                                    | по запросу                                                                               |
| Наружная поверхность                                                                                                                                                                                     | Холоднокатаная поверхность с блестящей медно-красной поверхностью с прозрачным покрытием |
| Наличие защитной пленки                                                                                                                                                                                  | на стороне с покрытием                                                                   |
| Область применения                                                                                                                                                                                       | Строительство                                                                            |
| Соответствие экологическим требованиям                                                                                                                                                                   | EN 15804                                                                                 |
| <p>CE Материал соответствует стандартам качества и безопасности Европейского Союза (ЕС) – стандарт EN 14783 в соответствии с Директивой ЕС 89 / 106 / ЕЕС (BPR) и обозначается пиктограммой CE-mark:</p> |                                                                                          |

| Физические свойства        |                          |
|----------------------------|--------------------------|
| Плотность                  | 8,93 гр./см <sup>3</sup> |
| Температурное расширение   | 1,7 мм/м при ΔT=100 K    |
| Модуль упругости при 20 °C | 132 кН/ мм <sup>2</sup>  |

## УКАЗАНИЕ!: "Важные указания по складированию, применению и переработке материала"

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## APPENDIX C: CONSERVATION OFFICER CORRESPONDANCE, 29.10.19



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Case No: P/2019/0743

Proposal: Single Storey Extension To Dwelling, Internal And External Alterations To Existing Listed Buildings, Erection Of Single-Storey Building To House Renewable Energy Store And Landscaping Works

Location: , Trevalyn Wood, Manor Lane, LL12 0HH.

From: Anna Irwin:

Date: 29th October 2019

Policy Section: Con

Trevalyn Wood is considered to be a curtilage listed building in association with the Grade II\* Listed Trevalyn Hall. The site comprises a timber-framed grain store which underwent significant renovation and extension in the 1980s, and a timber framed barn.

The proposals seek to provide a further extension to the grain store via a glazed link as well construct a biomass store, pergola and bay windows to the 1980's extension and a new landscaping scheme throughout.

The principal of a single storey extension to the property was discussed and agreed in principle at the pre-application stage. Proposals have now been submitted for a contemporary and contrasting design linked to the north east elevation of the grain store.

Further rationale for the design and in particular the use of materials proposed is required and why this design is considered appropriate within this context. The existing material palette includes stone, brick and timber and it is proposed to paint the existing brickwork to give the appearance of a lime wash over what would previously have been wattle and daub infill panels. The proposed palette of concrete and copper seems rather harsh by comparison and more industrial in feel rather than agricultural in keeping with the surroundings. I am concerned that the contrast will be too stark in both colour and texture. More information on how the material will patinate is also required.

The Heritage Statement has not properly assessed the physical impacts of the extension on the existing building and I would ask that a section drawing be provided to demonstrate the impacts of the proposed link in relation to the north east elevation of the grain store, in particular the effects of floor levels and junctions in relation to the timber frame.

The Heritage Statement has not provided an assessment of the proposals upon the setting of the adjoining Grade II listed Building, Trevalyn Court. The impacts of both the extension and new fencing in relation to this building will need to be considered.

The significance of the curved brick and stone wall, to be removed, needs to be assessed as well as the impacts on reducing the height of the existing stone wall and the effects of the new biomass store on the existing wall.

The new location of the parking area and considered to be more appropriate in terms of reducing its impact upon the setting of the buildings however I would query why it needs to be so large. Further details of the coping to the new stone walls and details of all new electric gates will be required.

Landscaping proposals are generally considered to be acceptable but effects on existing cobbles needs to be stated.

---

## APPENDIX D: PRE APPLICATION MEETING, CASE OFFICER NOTES, 17.01.20



---

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A: Architectural Emporium

13 Hope Street

Liverpool L1 9BH

From: Horan, Richard richard@horanengineering.com  
Subject: RE: Trevalyn Wood



Date: 22 January 2020 at 21:39  
To: Anna Irwin Anna.Irwin@wrexham.gov.uk, Mared.Rees-Jones@wrexham.gov.uk  
Cc: Rachel Horan rachel@horanhome.com, Michael Southern michael@architectural-emporium.co.uk, Toby Wallis toby.wallis@architectural-emporium.co.uk

Thanks Anna and Mared

We really appreciate you coming over and waiting for us to return from our trip to Wrexham.

There should be no problem addressing all your comments and questions below.

Regarding the Northern boundary, we went away with the plan to build a wall, but after further investigation it seems the ownership of this boundary is not clear, so building and maintaining a wall is likely to need negotiations with the neighbours that may be best avoided. Would it be acceptable shown in the attached image? There is already some yew in that hedge, so we are not adding something completely new. We would leave the wire and metal fence in place and plant just behind these.



We went away from the meeting wondering if anybody other than Simon at The Courtyard has objected to the application. What is the process to ask formally for details of all the objections please?

Thanks

Richard and Rachel

From: Anna Irwin <Anna.Irwin@wrexham.gov.uk>  
Sent: 20 January 2020 11:06  
To: michael@architectural-emporium.co.uk  
Cc: Horan, Richard <richard@horanengineering.com>; Mared Rees-Jones <Mared.Rees-Jones@wrexham.gov.uk>; Rachel Horan <rachel@horanhome.com>  
Subject: Trevalyn Wood

Good Morning,

Unfortunately we had a few problems with emails on Friday so I am sending you the following on Mared's behalf:

Following our meeting on Friday, I have set out below what will need to be included as part of a re-submitted planning and listed building consent application.

Planning

- Location and Site Plan - amended red edge to include the driveway and skirting tight around the boundary of the biomass building.

Trees

- Arboricultural Report and Impact Assessment to BS5837:2012 required of all trees within influencing distance of the proposal

Heritage

- More detailed HIA to justify the proposals and demonstrate the impacts on the setting of the listed building.
- Justification as to why the use of materials is proposed - Needs to include reasoning for not using other materials as specified.
- Submission of sample if possible of the type of material proposed.
- How do the materials patinate?
- Roof of extension needs to be re-looked at
- Justification for the loss of/covering up of the cobbles.
- Justification of works/removal of boundary treatments/walls.
- Curved wall - Historic Mapping give an indication of date of this.
- Please submit proposed options for the boundary treatment proposed along the northern boundary - a close board fence will not be acceptable. This also requires inclusion in the HIA.

Any queries on the above, please let me know.

Mared

Anna Irwin  
Arweiniwr Cadwraeth a Amgylchedd/ Conservation and Environment Lead  
Cynllunio a Rheoleiddio / Planning and Regulatory



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