

PLANNING STATEMENT

1. The Project

This project is for a new 3000 m² enclosure in which to house a group of Red Squirrels to enable effective interpretation of healthy trees and woodland, in conjunction with the arboretum's Tree Health Centre.

As part of the public education process about tree health and biosecurity it is important to highlight the very significant damage caused to trees and woodland by the non-native Grey Squirrel. The project aims to make people aware of the native Red Squirrel, now excluded from most of the United Kingdom by the Grey species, which carries Squirrel Pox that is fatal to Reds. The proposal is to create an enclosure where the public can enjoy a close encounter with Red Squirrels and use the facility to interpret the ecological and economic consequences of Grey Squirrels to natural and commercial woodland and explain the need to control them. Experience elsewhere has demonstrated that this approach is palatable to the public.

The Yorkshire Arboretum has based its plans for the enclosure on the successful model at Escot Park, Devon, where a large open-topped enclosure with a wide clearance zone alongside it has been successful in maintaining a healthy Red Squirrel population by excluding Greys, while interpretation by staff and information panels conveys information about Red Squirrel and woodland conservation and the need for control of Greys (estimated to cause £40,000,000 of damage to forestry trees annually in the UK*). The Yorkshire Arboretum plans to work with The Animal & Plant Health Agency (APHA) to develop technologies and research techniques for managing captive Red Squirrels and plan a strategy for their ultimate reintroduction to the wild.

*<https://www.confor.org.uk/media/247518/forestry-century-grey-squirrels.pdf>

The enclosure will be linked up to current pathways across the site to maintain access for all, and within the enclosure there will be a boardwalk elevated slightly to take into account contours of the land. The boardwalk will lead to a viewing platform that will provide visitors with a chance to enjoy an area of native woodland with a rare native mammal interacting with it, along with an area for interpretation and educational talks for public visitors and schools. The boardwalk will be of suitable width and dimensions to allow access for all.

A Zoo Licence or waiver will be required and will be applied for through Ryedale District Council. The Arboretum is fortunate enough to work closely with Defra's Animal and Plant Health Agency based at Sand Hutton who will assist them to fulfil all requirements of such a licence and to assist in all issues of husbandry and veterinary care the squirrels may need. A separate breeding pen is needed to ensure careful monitoring of genetics, and this will also double-up as a release or holding pen for new arrivals prior to their release into the wider enclosure. The long-term aim – probably many years away – is to be able to release native Red Squirrels back into the wild in the Howardian Hills, if the Grey Squirrel population can be controlled sufficiently to make this possible.

Keeping Red Squirrels may seem to be a departure from the core purpose of the arboretum, but the project is deeply intertwined with the Tree Health Centre for which planning consent was granted in January 2019. The Arboretum has have been very fortunate in securing the interest of its Patron, HRH The Prince of Wales, in both aspects of the tree health project and the Prince of Wales's

Charitable Fund has made them a major grant that will fund work within the Tree Health Centre and the capital costs of the Red Squirrel enclosure, subject to the receipt of planning consent.

2. Planning Policies

Planning Policies aim to protect sensitive landscapes and environments, demanding high quality design which mitigates against the impact of developments. In placing the new development and landscape, the site choice is critical to success.

In assessing the Impact of development in relation to site choice the following issues are addressed which directly relate to The National Planning Policy Framework and the Ryedale Local Plan Strategy.

- Conservation and Heritage
- Economy
- Tourism
- The Visual Impact on the landscape
- Design
- Enhancement of important Landscapes
- Sustainability

2.1. Planning Policy Context

The Ryedale Local Plan Strategy, adopted in 2013 is referenced in this Planning Statement as well as reference to align with the New National Planning Policy Framework (NPPF)

2.2. The National Planning Policy Framework (NPPF)

2.2.1. Supporting a Prosperous Rural Economy

Policy 28. Planning policies should support economic growth in rural areas in order to create jobs and prosperity...To promote a strong rural economy, local and neighbourhood plans should: support sustainable rural tourism and leisure developments that benefit businesses in rural areas, communities and visitors, and which respect the character of the countryside. This should include supporting the provision and expansion of tourist and visitor facilities....

The development of the Red Squirrel enclosure will enhance the understanding of visitors to the countryside and will support a strong rural economy and the development of business in the area.

2.2.2. Conserving and Enhancing the Natural Environment

Policy 109. The planning system should contribute to and enhance the natural and local environment by: protecting and enhancing valued landscapes, geological conservation interests and soils; minimising impacts on biodiversity and providing net gains in biodiversity where possible.

The Arboretum has developed a masterplan program for the wider site to enhance existing features and add to its collection of trees, developing accessibility to all areas. In building up a collection of trees and a varied mixed landscape of meadow and trees, the Arboretum is increasing biodiversity and conservation. In addition, the proposed enclosure is based on the premise of conservation and protection, addressing the needs of one of the British Isles most popular, yet vulnerable indigenous mammals. Also ensuring the long term health and survival of trees from damage from the invasive Grey Squirrel.

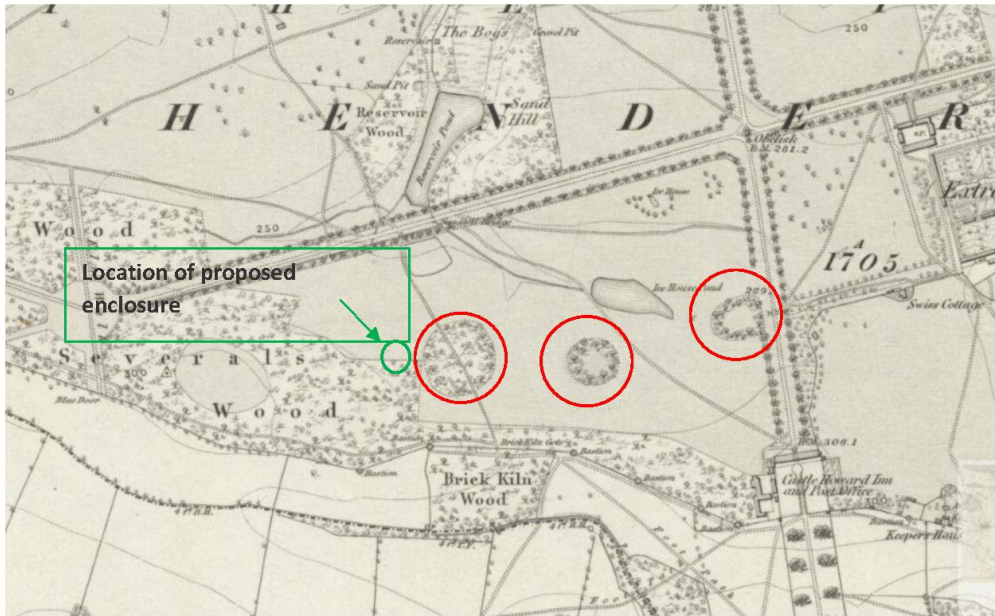
2.2.3. Conserving and Enhancing the Historic Environment

Policy 196. Where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal including, where appropriate, securing its optimum viable use.

Full consideration has been given to the conservation of this historic asset. Through the development of the site, including siting, scale and materials, full weight has been given to the provision of this enclosure to reduce the impact. Early consultation with Historic England (Appendix 1) has led to a siting that minimises its impact on the Grade 1 landscape but that references the historic use of the landscape by creating a modern use for an enclosure such as were created historically within the landscape for agricultural use,

Some consideration has been given to the siting of the proposed enclosure in terms of both aesthetic impacts and operational necessity. While the high fencing proposed will introduce a discordant feature into the landscape, the area chosen for the enclosure is not prominent in views within the parkland and will be incorporated into and in part screened by existing tree planting. The location of the enclosure will not significantly harm the setting of the grade I listed boundary wall. Enclosure within parkland for the management of livestock and game has some precedent and it could be considered that the proposal follows this precedent, all be it for contemporary, nature conservation purposes. – Chris Mayes, Historic England, appendix 1

The following figure shows the historic distribution of parkland trees in the vicinity of the proposed enclosure and quite clearly shows historic enclosures within the landscape



1856 Ordnance Survey 1st edition map

The impact on the historic environment has also been further examined through the submitted Heritage Impact Assessment. Appendix 2

2.3. Ryedale Local Plan Strategy

The purpose of the Ryedale Plan is to encourage new development and to manage future growth whilst ensuring that change across the District is based on a presumption in favour of sustainable development. Vitally, the Plan will also protect those things that are important in this area and which are highly valued by local people. These include Ryedale's outstanding landscapes and rich cultural heritage, as well as the community facilities and services that are essential in supporting rural communities, particularly those in more isolated locations.

To achieve this, the North Yorkshire Strategic Partnership has identified ten priority issues:

This report identifies the key ones which relate to this application:

- Economy and enterprise
- Environment
- Health and well-being

The aims of the plan include:

To create opportunities to retain and create jobs, skills and prosperity and to develop a diverse and resilient economy that supports an ability to live and work in Ryedale.

To protect and enhance the environment, Ryedale's unique character and special qualities associated with its high quality landscapes, rich historic and cultural heritage and a wealth of biodiversity;

utilising natural assets and resources for renewable/low carbon energy generation; minimising the risk of flooding and increasing resilience to climate change.

The development of the Red Squirrel Enclosure aims to fulfil the aspirations of the local plan in its setting, design, services provided, economy, biodiversity enhancement and sustainability.

The following Policies have been addressed as pertinent to this application:

2.3.1. SP1 General Location of Development and Settlement Hierachy

Ryedale's future development requirements will be distributed and accommodated in line with the Spatial Strategy Summary and on the basis of the following hierarchy of settlements:

In the open countryside development will be restricted to that:

- which is necessary to support a sustainable, vibrant and healthy rural economy and communities, or
- which can be justified in order to secure significant improvements to the environment or conservation of significant heritage assets in accordance with the National Enabling Development Policy and Policy SP12 of this Plan.

The Arboretum have a compelling argument for the establishment of the Red Squirrel enclosure within the arboretum. The development brings with it opportunities for the rural economy in terns visitors paying a fee and making use of the existing facilities as well as use of local facilities by the same visitors. In addition, it aims through its remit to secure significant improvements to the environment by conservation of an indigenous, yet vulnerable mammal of the British Isles.

2.3.2. SP8 Tourism

Tourism: Ryedale is an extremely popular tourist and visitor destination based around the outstanding quality of the District's countryside, villages and Market Towns and its wealth of tourist attractions, some of which are of national or regional significance. The Howardian Hills Area of Outstanding Natural Beauty and Castle Howard are some of the more notable examples of more specialist visitor attractions.

Tourism in Ryedale will contribute to a sustainable and diverse economy. SP8 notes the Council will seek to encourage sustainable tourism which minimises its environmental impact on the District.

This will be achieved by supporting:

- *The business plans and operational requirements of existing tourist and visitor attractions,*
- *Encouraging all year round tourism subject to the occupancy conditions set out in Policy SP21*
- *Cultural and creative businesses in Ryedale inspired by Ryedale's unique environment opportunities in northern Ryedale including the North York Moors National Park. The impact of tourism on these communities will be managed particularly in relation to car parking, traffic management, local facilities and services*
- *And by maximising the opportunities to further develop tourism, outdoor education and recreation using the District's natural, cultural and historic assets as an economic driver, including the potential provided by:*

The protected landscapes of the North York Moors National Park and Howardian Hills Area of Outstanding Natural Beauty

Biodiversity and the development of nature tourism

New tourist attractions will be supported where they do not undermine the character of the area or prejudice the quality of the natural or built environment.

The development enhances the existing tourist attraction nature of the Arboretum. By making use of the areas historic natural assets as an economic driver to encourage visitors to the area. This will add to the visitor's enjoyment of the Arboretum and allow for more outdoor education events, enhancing the biodiversity of the landscape and the development of nature tourism.

2.3.3. SP9 The Land-Based and Rural Economy

Land-based economic activity is integral to the District's economy, cultural heritage and identity. Farming, forestry and the equine industry, in particular horse racing, have all been longstanding and traditional components of economic activity. Many of these activities have helped to ensure that Ryedale's valued landscapes are carefully and sensitively managed. In Ryedale the role of local Estates has been a significant factor in influencing rural economic activity and management of the landscape.

Ryedale's land-based economy will be sustained and diversified with support for:

Appropriate farm and rural diversification activity including innovative

The enclosure is a diversification of the existing tourist attraction of the Arboretum by offering a relevant alternative driver to visit the area. The development with its forestry, conservation and biodiversity links strengthens the links between economy and land use.

2.3.4. SP12 Heritage

Environment:

Heritage: Historic features provide a valuable legacy and their longstanding presence helps to provide familiarity and a sense of security. The District has a wealth of historic features that include a rich tapestry of built heritage, relic landscapes and archaeology. The historic settlement patterns and the local vernacular of the Market Towns and villages, Country Houses and Estates, Castles and Churches are strong elements which reflect Ryedale's rural culture and the strategic and religious importance of the District in history.

Protecting Listed Buildings, Conservation Areas and Scheduled Monuments is an important element of this Strategy and in its role as the Local Planning Authority the Council will protect or where appropriate, look to enhance these assets in line with national policy and legislation. The Council will work closely with English Heritage, particularly in managing development which would affect high grade heritage assets and with North Yorkshire County Council in respect of archaeological remains.

Distinctive elements of Ryedale's historic environment will be conserved and where appropriate, enhanced. The potential of heritage assets to contribute towards the economy, tourism, education and community identity will be exploited including:

Large country houses and associated estates and estate villages, with Castle Howard being of international importance

To assist

Support new development proposals aimed at educating and raising awareness of Ryedale's historic environment in protecting the District's historic assets and features, the Council will:

Support new development proposals aimed at educating and raising awareness of Ryedale's historic environment.

Designated historic assets and their settings, including Listed Buildings, Conservation Areas, Scheduled Monuments and Registered Parks and Gardens will be conserved and where appropriate, enhanced.

The Enabling Development proposed can be accommodated without material harm to the character of the North York Moors National Park and the Howardian Hills Area of Outstanding Natural Beauty and landscapes identified as being of local value.

The proposal for the new enclosure has been thoroughly interrogated, its siting, scale and materials as well as its impact in the historic landscape. A Heritage Impact Assessment has been completed to assess its impact and has concluded that no material harm to the character of the Howardian Hills Area of Outstanding Beauty and the Castle Howard Estate would result from its development.

2.3.5. SP13 Landscapes

The quality, character and value of Ryedale's diverse landscapes will be protected and enhanced by:

Encouraging new development and land management practises which reinforce the distinctive elements of landscape character within the District's broad landscape character areas of:

- *Howardian Hills*
- *Protecting the special qualities, scenic and natural beauty of the Howardian Hills Area of Outstanding Natural Beauty, the setting of the Area of Outstanding Natural Beauty*

Landscape Character Development proposals should contribute to the protection and enhancement of distinctive elements of landscape character that are the result of historical and cultural influences, natural features and aesthetic qualities including:

- *The pattern and presence of distinctive landscape features and natural elements (including field boundaries, woodland, habitat types, landforms, topography and watercourses)*
- *Visually sensitive skylines, hill and valley sides*
- *The ambience of the area, including nocturnal character, level and type of activity and tranquillity, sense of enclosure/exposure.*

National Landscape Designations and Locally Valued Landscapes- The natural beauty and special qualities of the Howardian Hills Area of Outstanding Natural Beauty (AONB) will be conserved and

enhanced and the impact of proposals on the AONB, its setting or the setting of the North York Moors National Park will be carefully considered. Proposals will be supported where they:

- Do not detract from the natural beauty and special qualities of these nationally protected landscapes or their settings*
- Seek to facilitate the delivery of the Howardian Hills AONB Management Plan Objectives*
- Are considered appropriate for the economic, social and environmental well-being of the area or are desirable to support the understanding and enjoyment of the area.*

The projects aims to build on the significance of the historic landscape allowing visitors to experience vistas and views to the Howardian hillside. Proposals aim to contribute to the protection and enhancement of distinctive elements of the landscape character identified on this site, by minimising impact on the historic landscape and reinterpreting the act of enclosure within the landscape, albeit in a contemporary manner.

2.3.6. SP14 Biodiversity

Biodiversity in Ryedale will be conserved, restored and enhanced by:

- Minimising the fragmentation of habitats and maximising opportunities for the restoration and enhancement of habitats and improving connectivity between habitats through the management of development and by working in partnership with landowners and land managers*
- Supporting, in principle, proposals for development that aim to conserve or enhance biodiversity and geodiversity through the prevention of loss of habitat or species and the incorporation of beneficial biodiversity features*

The Arboretum is committed to the restoration and enhancement of its habitats across its landscape, preventing the loss of native species throughout its meadow, water and tree landscapes. The development's core aim is to preserve the Red Squirrel; an iconic, vulnerable mammal of the British Isles, whilst minimising the impact of the Grey invasive species on the woodland habitat of the Arboretum and the wider Howardian Hills.

2.3.7. SP 16 Design

Development proposals will be expected to create high quality durable places that are accessible, well integrated with their surroundings and which:

- Reinforce local distinctiveness

To reinforce local distinctiveness, the location, siting, form, layout, scale and detailed design of new development should respect the context provided by its surroundings including:

- Topography and landform that shape the form and structure of settlements in the landscape

Extensions and alterations to existing buildings will be appropriate and sympathetic to the character and appearance of the host building in terms of scale, form and use of materials and in considering proposals for the alteration, re-use or extension of individual historic buildings the Council will seek to ensure that:

- Proposed extensions and alterations, considered acceptable in principle, that are of an architectural style which complements the traditional character of the main building
- Appropriate materials and traditional construction methods and techniques are used

The Red Squirrel enclosure has been considered in its siting, topography and scale in relation to the existing buildings and landscapes.

It's siting is away from the existing buildings and structures of historic importance located and designed to be hidden from view from all significant vistas.

In its material use, a very simple palate of materials is proposed. All materials used can be found at Appendix 3

2.3.8. SP 19 Presumption in Favour of Sustainable Development

When considering development proposals the Council will take a positive approach that reflects the presumption in favour of sustainable development contained in the National Planning Policy Framework. It will always work proactively with applicants jointly to find solutions which mean that proposals can be approved wherever possible, and to secure development that improves the economic, social and environmental conditions in the area.

Planning applications that accord with the policies in this Local Plan (and, where relevant, with policies in Neighbourhood Plans) will be approved without delay, unless material considerations indicate otherwise.

The enclosure represents Sustainable Development in the following ways:

- **It contributes to the local economy**
- **It creates an educational resource**
- **It will have little impact on the existing transport network**
- **It promotes conservation, interest in biodiversity and landscape management**
- **It has low impact on the existing historic site and area of outstanding beauty**
- **It is a temporary intervention**
- **It is intended to be fully accessible for all people**

2.3.9. SP 20 Generic Development Management Issues

Character

New development will respect the character and context of the immediate locality and the wider landscape character in terms of physical features and the type and variety of existing uses

Proposed uses and activity will be compatible with the existing ambience of the immediate locality and the surrounding area and with neighbouring land uses and would not prejudice the continued operation of existing neighbouring land uses

The cumulative impact of new development on the character of an area will also be considered

Design

The design of new development will follow the principles established in Policy SP16. Extensions or alterations to existing buildings will be appropriate and sympathetic to the character and appearance of the existing building in terms of scale, form, and use of materials

The Red Squirrel Enclosure respects the ambitions of character and design assessment set out in SP16 and SP20

The enclosure will not harm the existing setting and is fully compatible with existing uses on the site. It will not compromise the operation of the site but will in fact, complement existing facilities. The design, scale and use of materials are sympathetic to the use of the structure, its site and its setting.

- **Intended to be temporary and fully reversible, over a 25 year period.**
- **Ease of access – to ensure the structures and landscape is available for all**
- **The Enhancement of existing amenity – The Development should add to the special character of The Yorkshire arboretum and its amenity**
- **Protection of existing habitat and opportunity to create new habitat**

Summary

The development of the scheme has gone through several iterations involving local stakeholders, Ryedale Planning and with input from other consultants who have advised on the economic viability, the site for the centre, and effect of the scheme within the historic landscape.

This scrutiny has resulted in a proposal which will bring benefit to the site and its visitors, adds an important educational resource in the area of conservation and gives opportunities for the enhancement of the Arboretum.

A pre-application (ref: 19/01141/PREAPP) was submitted. The feedback from the pre-application was positive both in the support of the new facility and design, making reference to policies which would support such a development. These policies have been highlighted above.

Reports including an tree report and a heritage statement concluded that the development will not have a detrimental impact on the existing landscape.

Appendix 1 – email from Historic England

From: Mayes, Chris <Chris.Mayes@HistoricEngland.org.uk>
Sent: 21 January 2020 11:45
To: Mathew Harrison <business@yorkshirearboretum.org>
Subject: RE: Proposed red squirrel enclosure - pre-application advice

Dear Mathew,

Further to my site visit of 19th November 2019 I am writing to you to confirm our position on your pre-application enquiry relating to your proposed red squirrel enclosure within the registered park and garden at Castle Howard.

The gardens, pleasure grounds and park at Castle Howard contain a mixture of geometric and less formal features developed during the period 1698-1738 by Charles Howard, third Earl of Carlisle and Sir John Vanbrugh possibly with some advice from Stephen Switzer. The monumental scale and conception of the landscape with structures designed by Vanbrugh and Hawksmoor make Castle Howard an outstanding example English landscape architecture, and the adoption of an informal design, possibly by Switzer, for Ray Wood has been seen as decisively important for the development of the 'natural' style in England. The designed landscape is recorded as grade I on the Register of Parks and Gardens of Special Historic Interest in England.

The Yorkshire Arboretum occupies land to the west of the principal building and main, axial north-south thoroughfare through the designed landscape; The Stray. The arboretum sits to the north of the crenelated and bastioned boundary wall (Walling to Park South of Gatehouse, listed grade I) that separates the western parkland from estate land to the south. This wall both visually contains the western parkland and views within it, and is intended to be seen from the south along the approach to the heart of the designed landscape. The arboretum has brought a new use to the western parkland, but one, focussing on the arboricultural character of parkland, that is commensurate with its historical use and character. While the new layout of trees, type of trees and distribution of woodland groups does not follow the historical structure of the park, much of the historical form is preserved and the character of parkland is maintained. Overall the significance of the designed landscape at Castle Howard should be considered exceptional and the contemporary use of the western parkland as an arboretum a complementary addition to this significance.

The proposal is to enclose an area within the arboretum/parkland to provide a secure breeding enclosure for red squirrels. Some consideration has been given to the siting of the proposed enclosure in terms of both aesthetic impacts and operational necessity. While the high fencing proposed will introduce a discordant feature into the landscape, the area chosen for the enclosure is not prominent in views within the parkland and will be

incorporated into and in part screened by existing tree planting. The location of the enclosure will not significantly harm the setting of the grade I listed boundary wall. Enclosure within parkland for the management of livestock and game has some precedent and it could be considered that the proposal follows this precedent, all be it for contemporary, nature conservation purposes.

The National Planning Policy Framework requires decision-making bodies to afford great weight to the conservation of historic assets. And 'where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal including, where appropriate, securing its optimum viable use' (NPPF paragraph 196). In this case, we are of the opinion that while some slight harm to the registered park and garden will result from the proposed development, that harm is outweighed by the benefits derived from the proposal; encouraging greater access to the designed landscape, reintroducing a wild, native species closely associated with historic, wooded landscapes and supporting the on-going use of this part of the parkland as an arboretum.

I hope that the above summarises our discussions and makes our position on the proposed development clear. Should you require any further information or clarification please do not hesitate in contacting me again.

Kind regards

Chris

Chris Mayes CMLI

Heritage at Risk Landscape Architect - North of England

Direct line: 0191 269 1226

Mobile: 07796 311495

Historic England | Bessie Surtees House

41-44 Sandhill | Newcastle upon Tyne | NE1 3JF

Appendix 2 – Heritage Statement – See attached HIA

Appendix 3 Materials list

Material List and specification

The paragraphs below summarise the materials that we plan to use for construction of the Red Squirrel Conservation project.

1. Steel sheet

The steel sheeting that will make up the upper part of the boundary fence is known as “Plastisol” A galvanised steel sheet, 0.7mm thick, that has then been coated in a PVC based plastic. It has been chosen for its longevity, resistance to the elements and its low friction surface that means squirrels cannot grip the surface to climb it. This is a proven method of construction

- Plastic coated steel known as “Plastisol”
- Colour: Juniper Green
 - RAL number: **160 20 10** (See appendix 1)
- Plastisol is used because it has very low friction surface coating that Squirrels cannot grip onto.
- It will be fastened onto the timber frame using
 - Self-drilling steel to timber screws.
- Each sheet is 3000mm x 1220mm x 0.7mm thick
- The vertical posts in the boundary fence will have to be wrapped in “plastisol” to prevent grey squirrels from gaining entry to the enclosure.

2. Weldmesh

Various components of the project require a material that is durable, with a low wind resistance yet is easily installed and maintained. Galvanised steel weldmesh, with holes of a size that don’t allow squirrels to pass through is ideally suited.

The sides of the boardwalk are an exception to this, the mesh that will be used there is primarily to keep people on the boardwalk and allow squirrels to pass freely through it.

- Boundary Fence (Appendix 2)
 - 19mmx19mm² holes
 - 1.6mm galvanised wire
 - 600mm roll width
 - 300mm approximately under ground
 - Fixed to frame using fencing staples
- Release/ Breeding pens and Double Door Entrance/exits (Appendix 2)
 - 19mmx19mm² holes
 - 1.6mm galvanised wire
 - 900-1200mm roll width where appropriate
 - Fixed to frame using fencing staples
- Boardwalk sides (Appendix 3)
 - Stock netting with holes from 200mm at the top, decreasing to 100mm at the bottom
 - 2mm galvanised wire
 - 1000mm roll width
 - Fixed to frame using fencing staples

3. Timber

The majority of the components in this project will be of a timber construction. We aim to source the timber locally. Where necessary the timber will be tanalised/pressure treated, though due Red Squirrels naturally gnawing at wood we will be constructing the boardwalk and viewing platform out of untreated larch; A naturally rot-resistant timber.

- Fence frame
 - Softwood timber – larch (Appendix 4)
 - Pressure treated or Tanalised for longevity
 - Vertical posts are 100x100mm²
 - Horizontal pieces are 75x50mm²
 - Vertical posts will be wrapped in Platisol to prevent Grey Squirrels from climbing the posts and entering the enclosure.
- Release/ Breeding pens and Double Door Entrance/exits
 - 100x100mm² and 75x50mm² where appropriate
 - Softwood timber (Appendix 4)
- Boardwalk and Viewing Platform
 - Frame will be larch (Appendix 4)
 - 100x100mm², 200x100mm² and 75x50mm² where appropriate
 - Fixed together using wood screws, joist hangers
 - Decking boards will be 120mm wide
 - 6-10mm gaps between boards to allow for expansion and contraction
 - Small gaps to allow wheelchair users and disabled access.
 - Total length of boardwalk is 86m
 - Viewing Platform is 4.8m x 7.2m
 - Slopes will be a maximum of 1:20 to allow easy access for wheelchair users
 - Hand rails at 950mm

4. Perspex

Perspex or transparent acrylic sheet will be used in areas that require a clear line of site into and out of the enclosure, yet need to be squirrel proof. The low friction, high transparency and durability of this material mean it is ideally suited to this task.

- Perspex to the front and rear of the Double Door Entry/exit units to allow for safe entry and exit of pedestrians
 - Avoid bumping into other pedestrians
 - Avoid bumping into and injuring Red Squirrels within the enclosure
- 3mm Perspex or equivalent transparent shatterproof plastic

5. Path

The paths up to the new enclosure will be of the same construction of the current hard paths around the arboretum. A hard path is needed due to the ground conditions and certain times of the year to minimise compaction and ground damage to the routes to and from the enclosure.

- Paths will be of the same composition of current hard paths around the arboretum
 - 25mm stone top dressing – 50mm deep
 - 50-75mm stone sublayer – 150mm deep

- Separation membrane – permeable layer
- In total there will be 170m of path – 1.8m wide
 - 100m to the enclosure
 - 70m return

6. Shed

In order to store food and equipment necessary to maintain a healthy Red Squirrel population a shed will be needed. It will be of heavy duty timber construction but a standard “off the shelf” shed. Connected to this shed will be the breeding and release pens. This allows for careful monitoring and recording of the population. The shed, breeding and release pens have been orientated and placed to take advantage of natural light and space within the enclosure.

- Timber framed and clad shed – Pressure treated (Appendix 4)
 - For storage of equipment, food, cleaning equipment etc.
 - Access to breeding and release pens
- 2.8m x 3m foot print
- Ridge height of 2.1m
- Roof covered in standard roofing felt

7. There will be a variety of fixings and hardware required to build this project. However there will be nothing unusual.

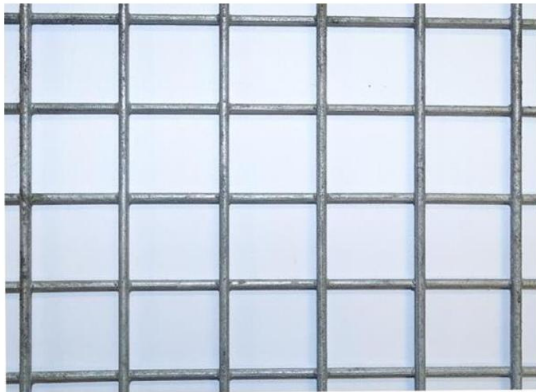
Appendix

- 1) Juniper Green Plastisol steel sheet – **RAL# 160 20 10**

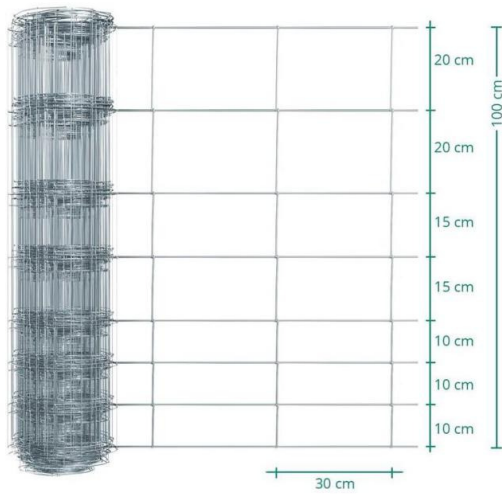


Image from - Cladco.co.uk – a Plastisol supplier. Colour may vary due to lighting conditions and print quality

- 2) Weldmesh 19mm² galvanised 1.6mm steel wire.



- 3) Boardwalk sides – galvanised steel mesh



- 4) Timber frame for components will be built out of softwood. A combination of tanalised softwood and untreated Larch will be used.

Tanalised soft wood



Untreated Larch



The project is made up of several structures and components all necessary for successful habitation by a colony of Red Squirrels.

1. The Boundary fence

The boundary fence is comprised of steel sheet "plastisol" and weldmesh fastened to a timber frame. Approximately half of the weldmesh will be below ground to guarantee a squirrel proof fastening. On top of the boundary fence there will be an electric fence as a final safeguard against escapees and intruders. The Fence line is approximately 226m in perimeter and 2m high.

2. Double Door Entry and exits

For visitors and staff gain entry to the enclosure there will be 2 double door entry/exit units. These have been designed so that one door will be closed before the other door can be opened, an "airlock." Adjoining one of these there is a staff and vehicle entry unit. The double door units will have a decked floor that will aid in a smooth transition to the boardwalk.

3. The boardwalk and viewing platform

The boardwalk is 2.4m wide, and will meander through an area of the arboretum that is populated with trees that are native to the UK, including semi mature Oaks, Chestnut and Hawthorne. The boardwalk and the viewing platform will have hand rails and are elevated to increase the interactivity of visitors and the Red Squirrels. Being elevated it also reduces compaction and impact on the soil and root plates of the trees within the enclosure. We anticipate the maximum height of the boardwalk and viewing platform will be is 450mm. The viewing platform is 4.8m x 7.2m, of a similar construction to the boardwalk. This size will allow space for visitors to observe the Red Squirrels in a natural habitat, provide space for educational talks and demonstrations. The boardwalk and viewing platform have been designed to allow access for all. The ramps up to the boardwalk will be 1:20, the decking board spacing will be 6-10mm to allow for contraction and expansion of the timber, whilst been of a suitable size to not hinder access.

4. Breeding, release pen and shed

The breeding and release pens are of course critical to this project. There are 2 pens, 1.8 x 2.4 x 3.6 (WxLxH) that are joined together by 2 tunnels, these tunnels have doors on them that will enable the cages to be isolated or joined up. The height of the enclosures is more critical than the footprint. Red squirrels find safety in height.

These two pens will be connected to a shed that will house materials, food and resources necessary for maintaining a healthy colony of Red Squirrels.

5. Paths up to the Enclosure

The paths up to the enclosure will be of the same composition and construction as the current hard paths around the arboretum. They will follow the route of existing mown grass paths. The paths will provide an all-weather access route to the enclosure enabling animal welfare checks to be carried out year round. They will also all vehicular access up to the enclosure during construction and future maintenance.