



Forestry and
Land Scotland
Coilltearachd agus
Fearann Alba

Newhill

Land Management Plan

Duration of plan – 2021-2040

This plan sets out the strategic direction for management over the next 20 years and provides details of the operations proposed in the first 10 years.



Newhill Land Management Plan

We manage Scotland's National Forest Estate to the United Kingdom Woodland Assurance Standard – the standard endorsed in the UK by the international Forest Stewardship Council® and the Programme for the Endorsement of Forest Certification. We are independently audited.

Our land management plans bring together key information, enable us to evaluate options and plan responsibly for the future. We welcome comments on these plans at any time.



The mark of
responsible forestry



Newhill Land Management Plan

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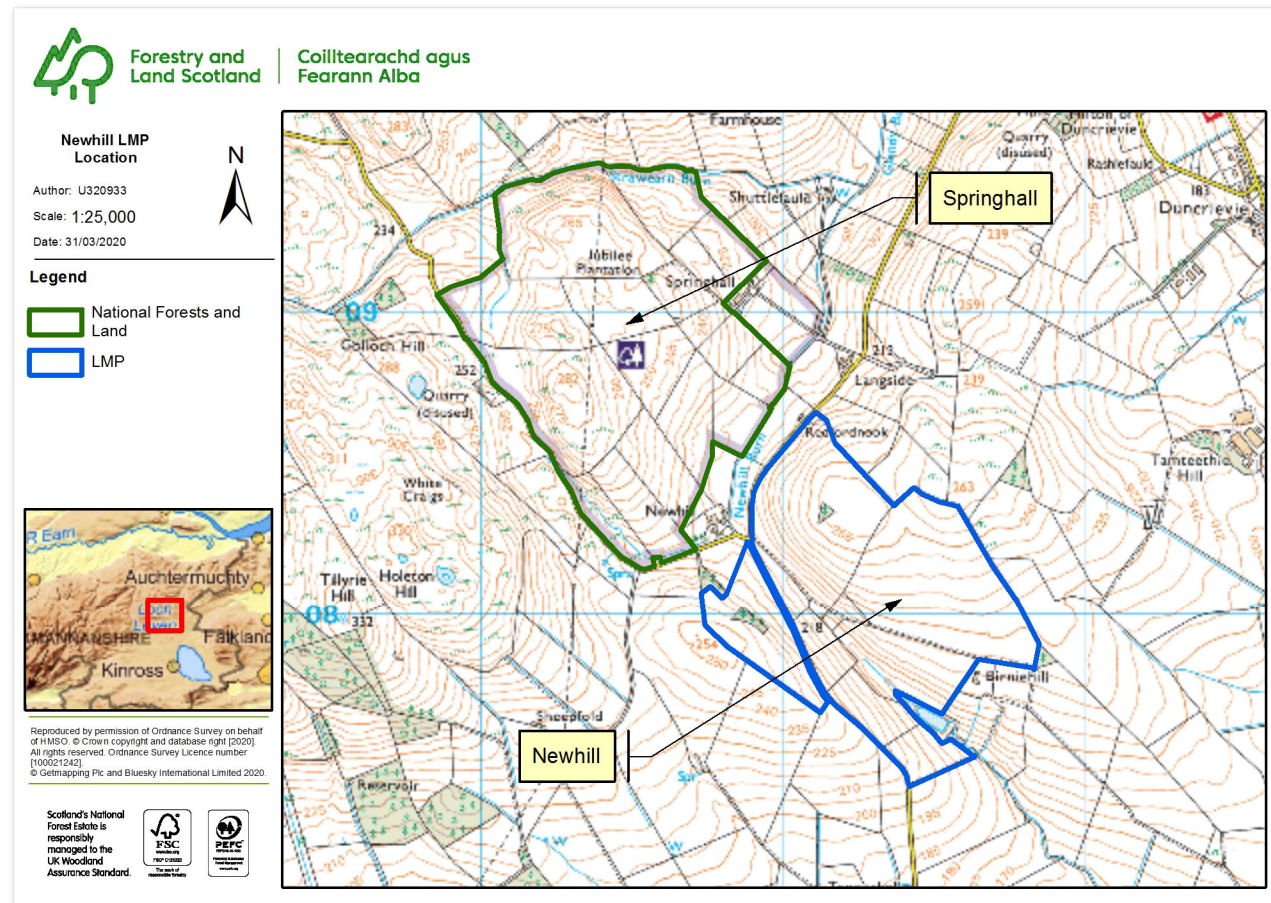
1. Introduction and summary

1.1 Location

Newhill is a woodland creation scheme situated on agricultural grazing land approximately 2km to the south west of Glenfarg in Perth and Kinross. The site sits next to another recent FLS acquisition; Springhall, which was planted in 2017.

1.2 The site

The plan area comprises two separate blocks of open ground currently used for livestock grazing, divided by a minor road. The total area of the site is 68 ha, of which approximately 2.5 ha is currently planted with a mixture of broadleaf and coniferous species. The extent of the plan area and its location are detailed in map 1 below.



1.3 Certification

The management of the woodland is certified and at all times we seek to adhere to the UK Woodland Assurance Standard (UKWAS).

1.4 Key Issues

The key issues in this plan are:

- Most up to date climate models suggest a warming trend over the next 50 years which may impact on species selection now.
- New planting will be attractive to browsing by herbivores, especially broadleaves and diverse conifers.
- There is a public right of way running through the middle of the site.
- Planting within the already established geometric field pattern could create a woodland at odds with its surroundings.
- 1.4km of high voltage overhead power lines cross the site.
- Access/egress from public road may present safety issues for other road users.
- Steep ground and deep soils could lead to excessive soil disturbance during management operations.

1.5 Proposals in Brief

Plant 32.52 ha of commercial conifer crops.

Plant 18.50 ha of broadleaves.

Create a 4.08 ha Scot's pine seed orchard.

Construct 2 bell-mouths to provide access to the site.

Construct approximately 5,400m of deer proof fencing to protect new planting.

1.6 Timing

This plan presents in detail the planting proposals and subsequent management of the site for the first 10 years of operation (2021-2030). This first ten year period is particularly important because it relates to the part of the land management plan that requires specific approval from Scottish Forestry. Longer term management of Newhill is included in the plan but mainly to provide an indication of the direction of travel and to provide context.

1.7 Consultation and Further Information

During the development of this plan we have consulted with the local community and statutory and other interested stakeholders.

For further information on the plan please contact:

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Newhill Land Management Plan

2. Forestry Scotland Regulatory Requirements

2.1 Summary of Planned Operations

| Proposed Operations | 2020 - 2029 |
|---------------------------|-------------|
| Felling (ha) | 0.00 |
| Thinning (ha) | 0.00 |
| Planting (ha) | 53.86 |
| New Road Construction (m) | 50 |
| Road Upgrade (m) | 0 |

2.1.1 Proposed Felling in Years 2021-2025

| Proposed Phase | Area to be Felled (ha) | Proportion of Woodland Area (%) |
|----------------|------------------------|---------------------------------|
| 2020 - 2024 | 0.00 | 0.0 |
| 2025 - 2029 | 0.00 | 0.0 |

Changes in Age Class over plan period

| Age of Trees | Growth Stage | 2020 % | 2024 % | 2029 % | 2039 % |
|----------------------|----------------------|--------|--------|--------|--------|
| 0-10 | Establishment | 0.0 | 79.1 | 79.1 | 0.0 |
| 11 - 20 | Thicket | 3.3 | 3.3 | 0.0 | 79.1 |
| 21 – 40 | Pole | 0.0 | 0.0 | 3.3 | 3.3 |
| 41 - 60 | Maturing High Forest | 0.0 | 0.0 | 0.0 | 0.0 |
| 61+ | Old High Forest | 0.3 | 0.3 | 0.3 | 0.3 |
| Integral Open Ground | N/A | 0.0 | 8.4 | 8.4 | 8.4 |
| Open Hill Ground | N/A | 96.4 | 8.9 | 8.9 | 8.9 |

2.1.2 Proposed Thinning in Years 2021-2025

| Proposed Phase | Area to be Thinned (ha) | Proportion of Woodland Area (%) |
|----------------|-------------------------|---------------------------------|
| 2020 - 2024 | 0.00 | 0.0 |
| 2025 - 2029 | 0.00 | 0.0 |

2.1.3 Proposed Planting in Years 2021-2025

| Proposed Phase | Area to be Planted (ha) | Proportion of Woodland Area (%) |
|----------------|-------------------------|---------------------------------|
| 2020 - 2024 | 53.86 | 78.7 |
| 2025 - 2029 | 0.00 | 0.0 |

Proposed Planting by Coupe

| Coupe Reference | Programme Year | Species 1 | (ha) | Species 2 | Area (ha) | Species 3 | Area (ha) | Open Area (ha) | Total Area (ha) |
|-----------------|----------------|--------------|-------|-------------|-----------|-----------|-----------|----------------|-----------------|
| 65001 | 2022/23 | Sitka spruce | 15.13 | Douglas fir | 11.1 | Noble fir | 5.01 | 1.24 | 32.52 |
| 65002 | 2022/23 | Silver birch | 3.90 | Sessile oak | 0.97 | - | - | - | 4.87 |
| 65003 | 2022/23 | Alder | 6.46 | Downy birch | 3.05 | Mixed BL | 6.53 | 4.57 | 18.20 |
| 65005 | 2022/23 | Scot's pine | 4.08 | - | - | - | - | - | 4.08 |

Species Change Over Plan Period

| Species | 2020 Area (ha) | 2020 % | 2024 Area (ha) | 2024 % | 2029 Area (ha) | 2029 % | 2039 Area (ha) | 2039 % |
|----------------------|----------------|--------|----------------|--------|----------------|--------|----------------|--------|
| Sitka spruce | 0.00 | 0.0 | 15.35 | 22.5 | 15.35 | 22.5 | 15.35 | 22.5 |
| Mixed Broadleaves | 2.26 | 3.3 | 13.96 | 20.2 | 13.96 | 20.2 | 13.96 | 20.2 |
| Douglas fir | 0.00 | 0.0 | 11.14 | 16.4 | 11.14 | 16.4 | 11.14 | 16.4 |
| Birch (downy/silver) | 0.00 | 0.0 | 6.94 | 10.1 | 6.94 | 10.1 | 6.94 | 10.1 |
| Noble fir | 0.00 | 0.0 | 5.08 | 7.4 | 5.08 | 7.4 | 5.08 | 7.4 |
| Scots pine | 0.23 | 0.3 | 4.08 | 6.0 | 4.08 | 6.0 | 4.08 | 6.0 |
| Open Space | 65.96 | 96.4 | 11.89 | 17.4 | 11.89 | 17.4 | 11.89 | 17.4 |
| Total | 68.44 | 100 | 68.44 | 100 | 68.44 | 100 | 68.44 | 100 |

2.1.4 Access and Roding in Years 2021-2025

| Period of Works | Proposed Length for Construction (m) | Proposed Length for Upgrade (m) |
|-----------------|--------------------------------------|---------------------------------|
| 2020 – 2024 | 50 | 0 |
| 2025 – 2029 | 0 | 0 |
| Beyond 2030 | 750 | 50 |

2.2 Departure from UKFS Guidelines

The Land Management Plan seeks to follow the UKFS in all requirements.

2.3 Tolerance Tables

See appendix III.

Newhill Land Management Plan

3. Determination

3.1 Deforestation

No deforestation is proposed during the plan period.

3.2 Forest Roding

This plan provides details for the creation of one new forest road approximately 800 metres in length and two permanent forwarder routes totalling 2,400 metres in length. As these features will not be required for harvesting and timber transport for the duration of this plan it is intended to only construct the bell-mouth initially as this will be useful during site preparation, planting and fencing operations. Wayleaves for the proposed infrastructure will be left in the planting matrix for future construction. A second turning area off the C414 to the west of the road will also be constructed during this plan.

3.3 Quarries

It is not anticipated that a quarry will be created on site during the plan period.

3.4 Afforestation

New planting will occupy 54 hectares (79%) of the site. There will be 35 ha of coniferous woodland and 19 ha of new broadleaf planting.

3.5 Additional Regulatory Requirements

3.5.1 *Water Framework*

Given the scale of the proposal at this point in time, as long as SEPA general binding rules are adhered to, a construction site licence will not be required.

3.5.2 *Prior Notification*

Benched sections of forwarder tracks, where they traverse across the face of a slope will require prior notification.

3.5.3 *Planning Consent*

Planning consent will be sought for the portions of new road construction within 25m of the public road mentioned in section 3.2. Planning consent may also be required for fencing adjacent to the public road.

Newhill Land Management Plan

4. Introduction

4.1 Existing Land Holding

The site comprises 68 ha of predominantly permanent pasture with a small area of thicket stage mixed conifer and broadleaf planting and a copse of mature Scot's pine sitting on the crest of the dominant hill. The land is classed as LCA grade 3.2 which, although highly productive from a forestry perspective, is relatively poor compared to other agricultural land in the locality. The site is located on a minor road approximately 2km south west of the town of Glenfarg, close to the M90 motorway for links to markets across central Scotland.

4.2 Setting and Context

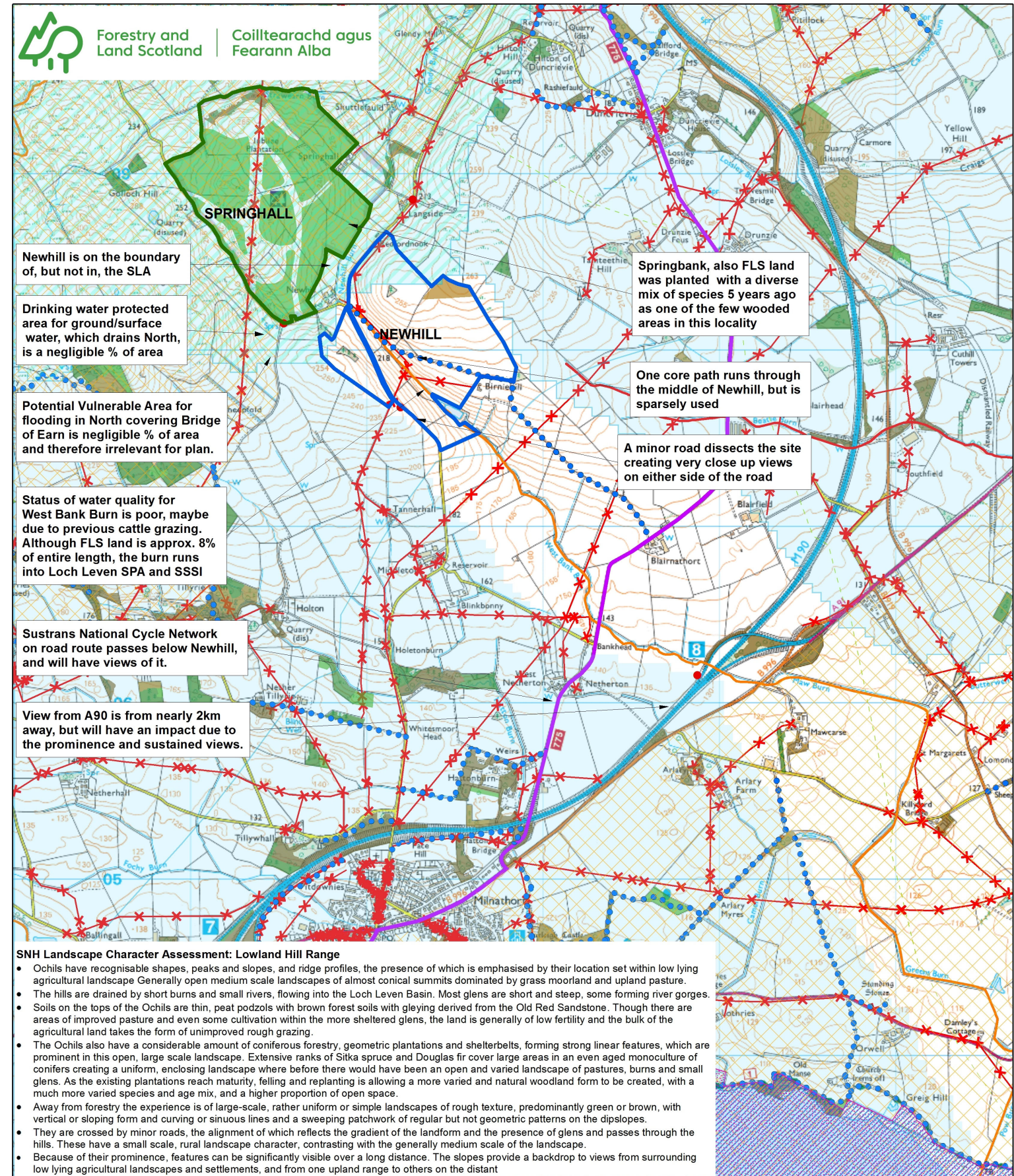
The site sits within a rolling agricultural landscape in the low-lying hills at the eastern end of the Ochils range. The surrounding land is a pattern of geometric field shapes with small shelterbelt woodlands. To the west the land use gradually changes into more open hill and moorland as the Ochils gain in height. Further detail is provided in the Overall Context map opposite.

4.3 Land Management Plan Management Objective Zones

Due to the small size and uniform nature of the site the land holding shall be considered as a single unit for the purposes of this plan.



The site viewed looking north from the C414 public road



Newhill overall context

Scale @ A3: 1:20,000

Date: 05/06/2020

Author: U320933

Legend

- | | |
|---------------------------------|---|
| National Forests and Land | Sites of Special Scientific Interest |
| Newhill LMP Area | Special Protection Areas |
| viewpoints | Special Landscape Areas |
| Core Paths | existing river WB |
| Sustrans National Cycle Network | Drinking Water Protected Areas - Groundwater |
| Overhead Powerline | Drinking Water - Potentially Vulnerable Areas |
- SEPA Watercourse Quality**
- | | |
|----------|------------------|
| Bad | Assumed woodland |
| Poor | Broadleaved |
| Moderate | Conifer |
| Good | Young trees |
| High | |

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Newhill Issues

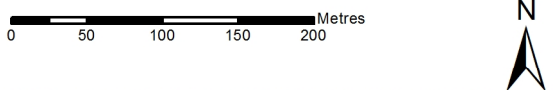
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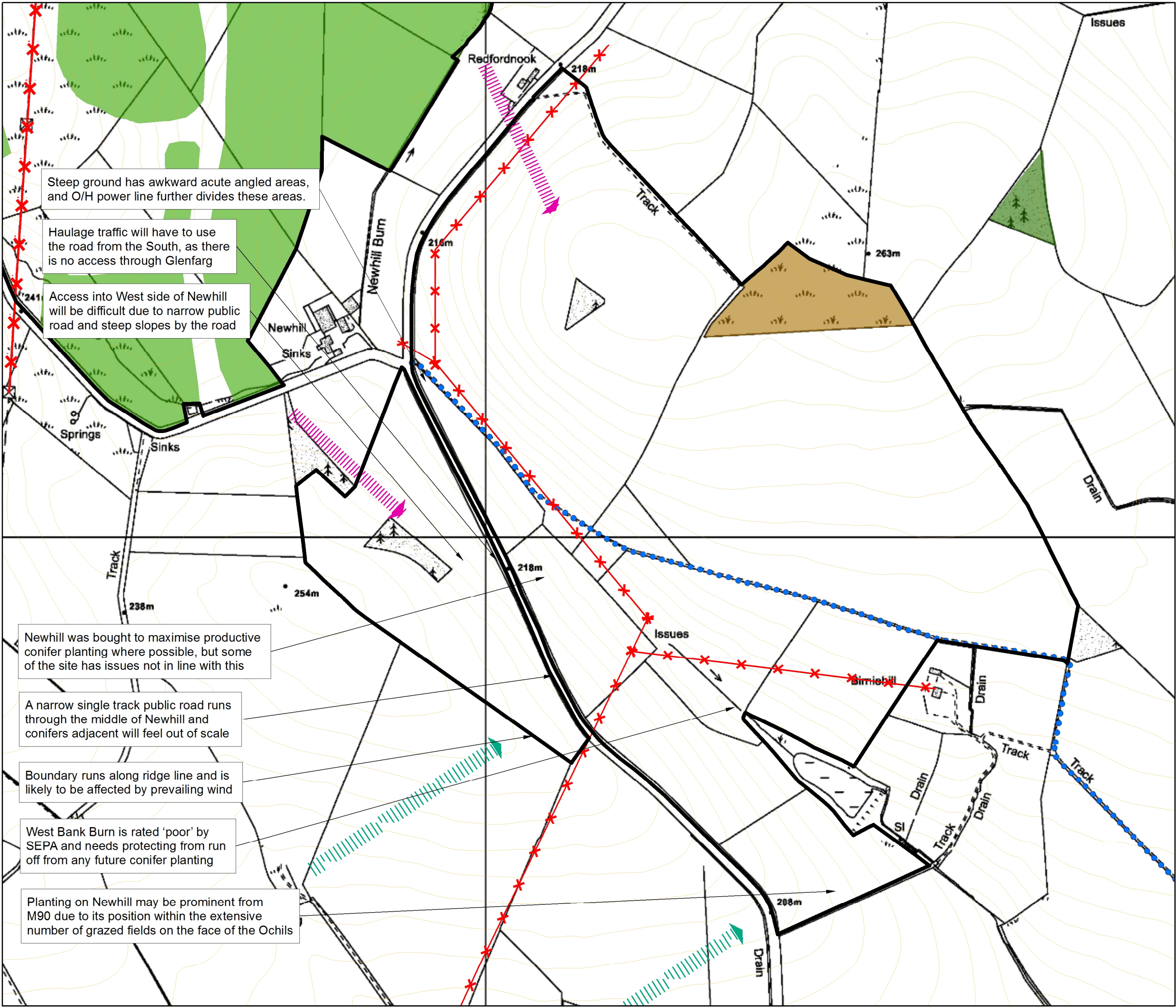
- FLS land
- Deer pressure
- Prevailing wind
- power line
- Core Paths

National Forest Inventory

- Assumed woodland
- Broadleaved
- Conifer
- Young trees



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Steep ground has awkward acute angled areas, and O/H power line further divides these areas.

Haulage traffic will have to use the road from the South, as there is no access through Glenfarg

Access into West side of Newhill will be difficult due to narrow public road and steep slopes by the road

Newhill was bought to maximise productive conifer planting where possible, but some of the site has issues not in line with this

A narrow single track public road runs through the middle of Newhill and conifers adjacent will feel out of scale

Boundary runs along ridge line and is likely to be affected by prevailing wind

West Bank Burn is rated 'poor' by SEPA and needs protecting from run off from any future conifer planting

Planting on Newhill may be prominent from M90 due to its position within the extensive number of grazed fields on the face of the Ochils

Newhill Land Management Plan

5. Plan Aims & Objectives

5.1 Issues

- Most up to date climate models suggest a warming trend over the next 50 years which may impact on species selection now.
- New planting will be attractive to browsing by herbivores, especially broadleaves and diverse conifers.
- There is a public right of way running through the middle of the site.
- Planting within the already established geometric field pattern could create a woodland at odds with its surroundings.
- 1.4 km of high voltage overhead power lines cross the site.
- Access/egress from public road may present safety issues for other road users.
- Care will be required to avoid soil disturbance during management operations.

5.2 Key Challenges

- Planting a mixture of species that will be commercially viable now, and at the end of rotation.
- Protecting new planting from herbivore damage.
- Maintaining access for members of the public to the site whilst also protecting crops during the early stages of establishment.
- Planning coupe shapes and species choice to complement and blend with the surrounding landscape.
- Designing safe access/egress for vehicles onto the public road.
- Designing internal roading that works around overhead line network for the safety of drivers and machine operators.
- Planning for coupe management and machine access to crops from an early stage.

5.3 Management Aims

5.3.1 Aim 1

Secure carbon sequestration through the growth of high quality timber. – Good soils and low exposure lend themselves to the growing of crops over extended rotations to maximise carbon capture and storage. This is the case both during the lifespan of the tree and also through the longevity of the high value products the trees will go to create.

5.3.2 Aim 2

Production of High quality Timber Crops - The site is well suited to production of high quality timber, including commercial broadleaf and diverse conifer species. Fertile soils across the plan area will make alternatives to Sitka spruce an attractive option and also increase resilience across the National Forests and Land.

5.3.3 Aim 3

Investment in Silvicultural Practices – As a new woodland creation this is a prime opportunity to develop permanent infrastructure to facilitate the ongoing management of this site under the principles of CCF. Investment in permanent machine access networks at an early stage will prove both financially and environmentally beneficial through numerous future thinning and harvesting operations.

5.4 Plan Objectives

- Ensure the site is safe for drivers and machine operators, and also for users of the public road at access points.
- Ensure access to the site is maintained for members of the public.
- Design future coupe shapes and crop edges that are sympathetic with the local surroundings.
- Improve water quality of the West Bank Burn on FLS land.
- Ensure sense of scale is retained when driving along the C414 as it passes through the forest.
- Maximise use of steep ground and awkward areas.

Newhill Land Management Plan

6. Analysis and Concept

6.1 Analysis

Items highlighted in **dark blue** are broad aims for the site, driven by national targets and policies.

| Objective | Opportunity | Constraint | Concept |
|---|---|---|---|
| Secure carbon sequestration through the growth of high quality timber. | > Good soils will allow the growth of high yield crops. > Products from high quality timber tend to be in use for longer, increasing potential for carbon storage. > CCF management tends towards longer rotations and retentions of over-mature trees as future seed source. | > Exposure at high elevations within the site may result in crop loss through windblow. > Access for regular management operations will be needed to facilitate CCF. > Power lines will impede access to parts of the forest. | > Design shape of commercial conifer and broadleaf coupes around existing constraints on site to ensure workability throughout the full crop rotation. > Plan for permanent forwarder access in these areas to ensure thinning windows are not missed due to operational issues. |
| Production of high quality timber crops. | > Good soils will allow the growth of high yield crops. > Diverse conifers and commercial broadleaf crops will thrive in site conditions. | > Power lines could hamper access and isolate suitable areas for commercial cropping. | > Follow ESC principles of 'right tree in the right place' to maximise yield of commercial crops. |
| Investment in silvicultural practices. | > Site conditions are favourable for implementing CCF management. | > Deep soils could be at risk of damage from repeated thinning interventions. | > Design permanent access to coupes to facilitate future management under CCF. |
| Ensure the site is safe for drivers and machine operators, and also for users of the public road at access points. | > As a currently open site there is scope to design appropriate roading and access from the beginning. | > Power lines need to be crossed to access the majority of the site, regardless of entry point. | > Design road entrance to allow safe access/egress from the site. > Create forest road, with permanent goalposts erected, to access timber stacking/loading areas away from power lines. |
| Ensure access is maintained for members of the public. | > Current core path is well established. > Opportunity to design network of rides for future recreational access. | > Maintaining access to a new planting site makes it vulnerable to ingress of browsing herbivores. | > Maintain route of core path as integral open space within planting proposal. > Gates in deer fence to have equestrian access fitted. > Maintain network of forest rides to create internal routes for walking and riding. |

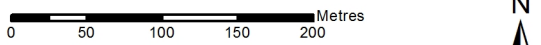
| Objective | Opportunity | Constraint | Concept |
|---|---|---|---|
| Design future coupe shapes and crop edges that are sympathetic with the local landscape. | > As a currently open site there is scope to design appropriate crop breaks and edges into the initial planting plan. > Once established, the site has limited visibility from long distances. | > Large scale afforestation on this site will impact the local landscape if not designed sensitively. > Roadside planting runs the risk of creating 'tunnels' if not designed carefully. | > Break up edges of commercial crops with areas of low density broadleaf planting. > Use planting of low level shrubs to soften edges of power line wayleaves. > Keep commercial planting and fence lines back from the public road to maintain the sense of scale. |
| Ensure water quality flowing into the Loch Leven catchment is maintained. | > As a new planting scheme there is scope to design appropriate riparian zones from the beginning. > Management under CCF has a lower risk of impacting water quality than clearfelling. | > Repeated thinning in CCF coupes runs an increased risk of contaminating water courses if not managed carefully. | > Plant broadleaves along riparian zone to slow runoff from slopes and act as a buffer to commercial conifer crops. > Link broadleaves through to Springhall. |
| Ensure sense of scale is retained when driving along the C414 as it passes through the forest. | > Opportunity to plant native BL's particularly shrubs along the road would soften the edge without dominating. > Thorny shrub edge may form part of deer disincentive. | > Public road is single track and narrow already. > Conifers planted either side, or deer fence, will feel out of scale to the road. | > Plant shrubs and BL trees along road edge. > Consider setting deer fence back from road edge. |
| Maximise use of steep ground and awkward areas. | > Soils are good for native BL's. > Planting on steep ground will help stabilise soil and reduce run-off. | > Steep ground areas narrowing to a point will be difficult to work > O/H power lines further divide the area for access. | > Plant awkward angled pieces of ground with permanent shrubs or BL trees, as part of framework, as conifers will be difficult to access in future. |

Newhill Concept

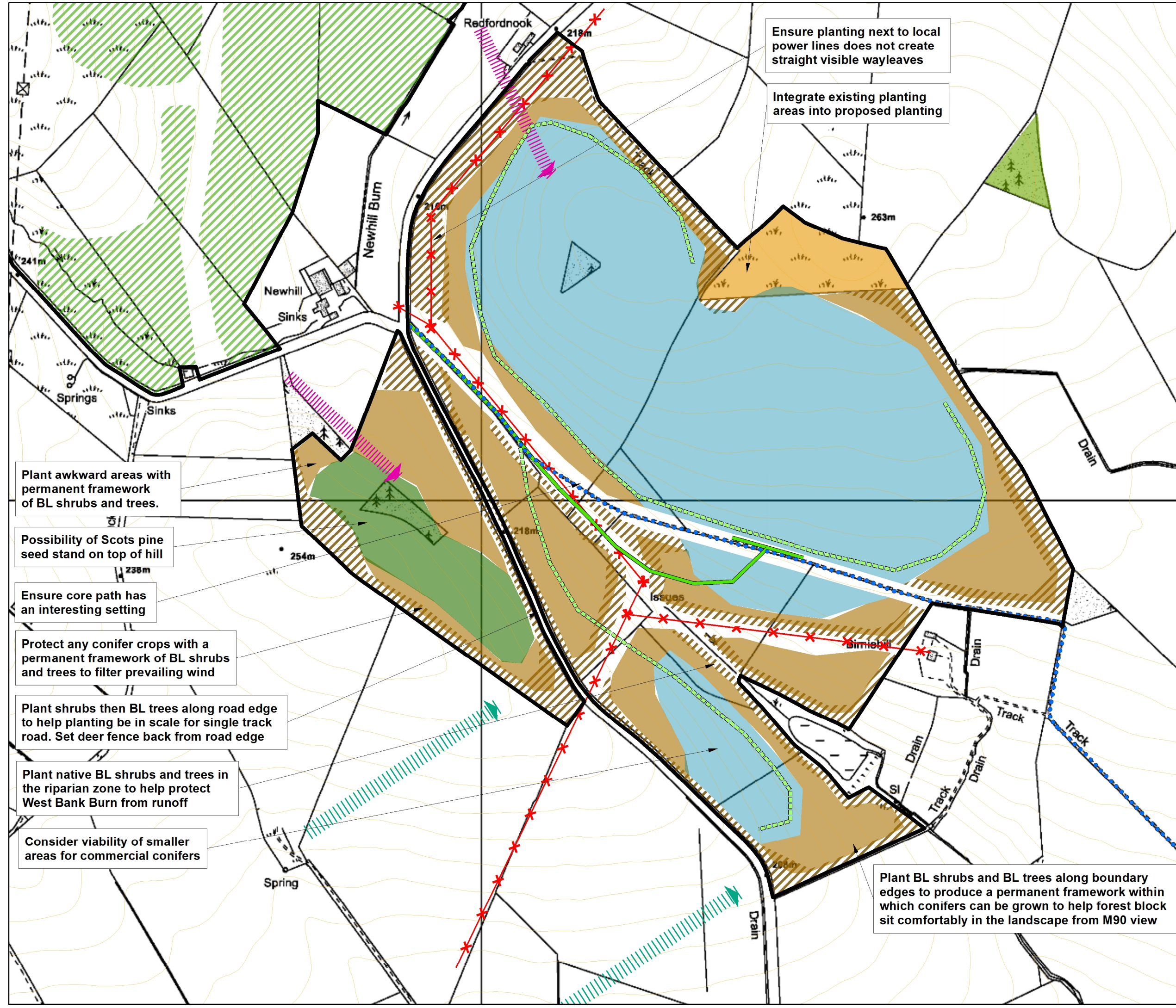
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Date: 15/05/2020

Legend

- Core Paths
- Proposed Forest Road
- - - Proposed Forwarder Access
- 5m contour
- ✕✕ power line
- ▨ Deer pressure
- ▨ Prevailing wind
- ▭ FLS land
- ▭ Potential conifer areas
- ▭ Scot's pine seed stand
- ▭ Broadleaf Planting
- ▨ Broadleaf shrubs
- National Forest Inventory**
- ▨ Assumed woodland
- ▭ Broadleaved
- ▭ Conifer
- ▭ Young trees



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Ensure planting next to local power lines does not create straight visible wayleaves

Integrate existing planting areas into proposed planting

Plant awkward areas with permanent framework of BL shrubs and trees.

Possibility of Scots pine seed stand on top of hill

Ensure core path has an interesting setting

Protect any conifer crops with a permanent framework of BL shrubs and trees to filter prevailing wind

Plant shrubs then BL trees along road edge to help planting be in scale for single track road. Set deer fence back from road edge

Plant native BL shrubs and trees in the riparian zone to help protect West Bank Burn from runoff

Consider viability of smaller areas for commercial conifers

Plant BL shrubs and BL trees along boundary edges to produce a permanent framework within which conifers can be grown to help forest block sit comfortably in the landscape from M90 view

Newhill Land Management Plan

7. Long Term Land management Plan Proposals

7.1 Management

The Newhill Land Management Plan has been designed in accordance with sound silvicultural, legal and environmental principles set out within the UK forestry Standard (UKFS) and UK Woodland Assurance Standard (UKWAS) and in line with the Forestry and Land Scotland National Spatial Overview.

Detail of all operations scheduled for the first phase of this plan can be seen in appendix V.

The period covered by this plan will focus on establishing and maintaining forest cover at sufficient stocking density to provide good quality future timber crops. Crop protection and provision for future access infrastructure will be key considerations for the duration of this LMP, along with improving water quality and maintaining public access.

7.2 Silvicultural Systems

The location, soils and climatic conditions of the site all lend themselves to the use of continuous cover silvicultural systems to best meet the management objectives at Newhill. Establishment and early management of crops will be geared towards developing stands that are stable and capable of responding to the thinning interventions necessary for developing multi-storey canopies.

7.3 Harvesting Proposals

7.3.1 Felling proposals

There are no felling coupes proposed during the plan period.

7.3.2 Thinning Proposals

Commercial conifer crops are anticipated to require thinning before 20 years of age. As this is not within the next 10 years full details will be included in the next full plan review.

7.3.3 Restock Proposals, Future Habitats and Species

The aim of the proposed planting plan for Newhill is to create a mixed use woodland that will fulfil a range of objectives as detailed in section 5.3. Full details of species and planting prescriptions are outlined in section 9.

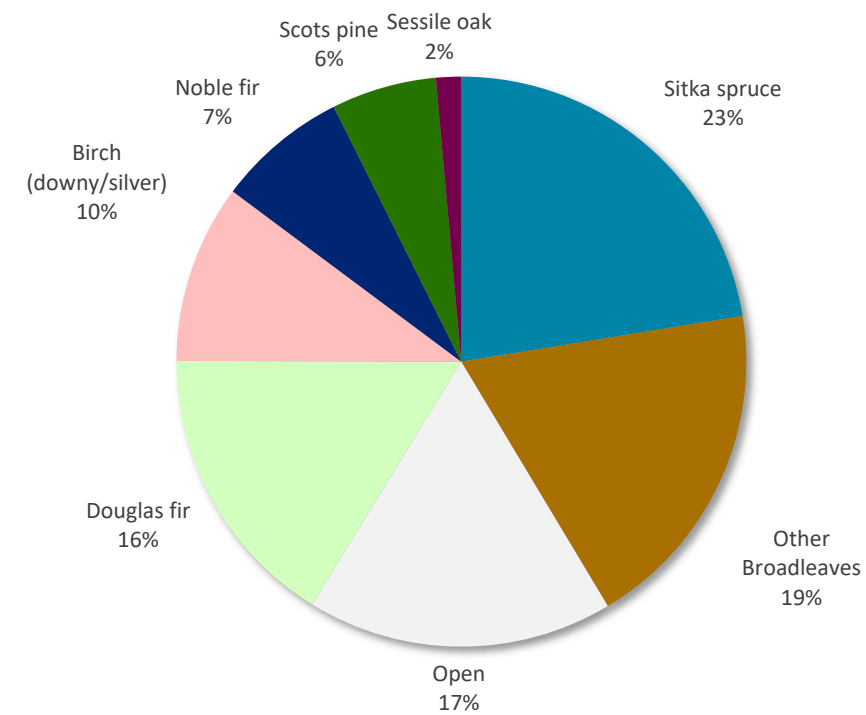
7.3.4 Open Land management

The intention is to plant the entire site with the exception of powerline wayleaves and the proposed road line.

8. Critical Success Factors

- Successful establishment of crops.
- Access from public road in place sufficient for work teams to park safely.
- Internal road and forwarder routes accounted for at point of planting.
- Open access along core path maintained with equestrian gates.
- Improving water quality in the Newhill burn.

Graph 1 - Proposed Species



| Other Broadleaves | | |
|-------------------|-----------|------|
| Species | Area (ha) | % |
| Alder | 6.46 | 9.4% |
| Hazel | 2.95 | 4.3% |
| Aspen | 1.80 | 2.6% |
| Hawthorn | 0.89 | 1.3% |
| Blackthorn | 0.89 | 1.3% |

Newhill Land Management Plan

9. Management Prescriptions

9.1 Forest Management Types

All operations will be undertaken in line with UKWAS and UKFS requirements and as set out in FLS guidance. Appendix VI includes links to these documents.

9.1.1 Stewardship

Beatup

Planting will be monitored annually and beaten up as required during the first three years after planting.

Weed control

Weeding will be carried out annually as required for the first three years after planting.

Respacing

There should be no need to respace trees during the period covered by this LMP.

9.1.2 Silvicultural System

The future aim is to manage this woodland under a continuous cover silvicultural system. Management for the duration of this plan will be focussed on creating well stocked crops that will provide a range of options for future managers.

9.1.3 Ground Preparation

Full details of ground preparation methods will be detailed at the work planning stage. It will be desirable on this site to keep ground disturbance to a minimum for the benefits of soil carbon retention.

9.1.4 Restock / Regeneration

It is intended to carry out planting proposals over the entire site during the 2022/23 financial year. Planting will include approximately 32 ha of commercial conifer crops. The north east facing slope to the west of the public road will include a Scot's pine (*Pinus sylvestris*) seed orchard and a commercial broadleaf coupe. Riparian areas will be stocked with a mixture of suitable broadleaf species. Further broadleaves, planted at low density, will be used to break up hard edges of commercial crops and strong linear features such as power lines. In order to maintain a sense of scale while driving on the public road a 10 meter strip of low lying shrub species will be planted adjacent to prevent tall trees eventually crowding over the road. This mixture will also be used to further break up the shape of powerline wayleaves throughout the block. Included within the broadleaf planting area will be two montane willow provenance trial sites containing 25 clones arranged at 2m spacing. Appendix V shows the species mixtures and planting proportions for the restock areas detailed above. Unless otherwise stated conifer crops will be planted at 2,700 stems per hectare and broadleaves at 1,600 stems per hectare.

Graph 1 shows the breakdown of species proposed and the layout of planting is shown on the Planting Proposal map in section 9.8.

9.2 Operational Access

A route has been identified that will allow lorry access to the main part of the site, east of the C414. This will minimise vehicle movements under power lines and provide a safe stacking and loading area for future forest operations. In addition to this there has been designed two permanent forwarder routes that will allow unrestricted access to the commercial crops for timber harvesting operations. To the west of the C414

a turning area will be created to allow access to the crops in this otherwise isolated block. During the period of this plan it is intended to construct this turning area and the bell mouth of the proposed road as these will provide useful parking and laying out areas during establishment and early crop tending operations.

9.3 Herbivore Management

The site is currently stock fenced and will require a full perimeter deer fence approximately 5,400m in length. Assessment will be made periodically as to the fencing requirement and fences will be maintained or removed as appropriate. Fences along the roadsides should be kept back a minimum of 10 meters to avoid the creation of a tunnel effect. Roadside fences may require planning permission.

The site will be monitored by wildlife rangers periodically with shooting of deer populations when they are found within the boundary fence.

9.4 Management of Open Ground

Open ground will be maintained to provide safe buffering of overhead power lines. Planting in the vicinity of wayleaves will be graduated, with low-lying shrub species closest to the lines and increasing in height with distance.

9.5 Public Access



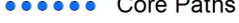
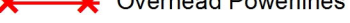
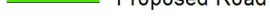

Public access to the core path will be maintained with the provision of equestrian accessible gates. Open rides throughout the crop will provide a network of informal routes for the public to explore.

9.6 Heritage Features

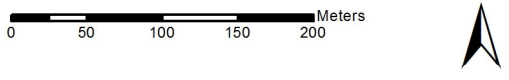
There are no heritage features identified in the plan area. Drystone walls, where present, will be retained.

**Newhill LMP
Planting Proposal**

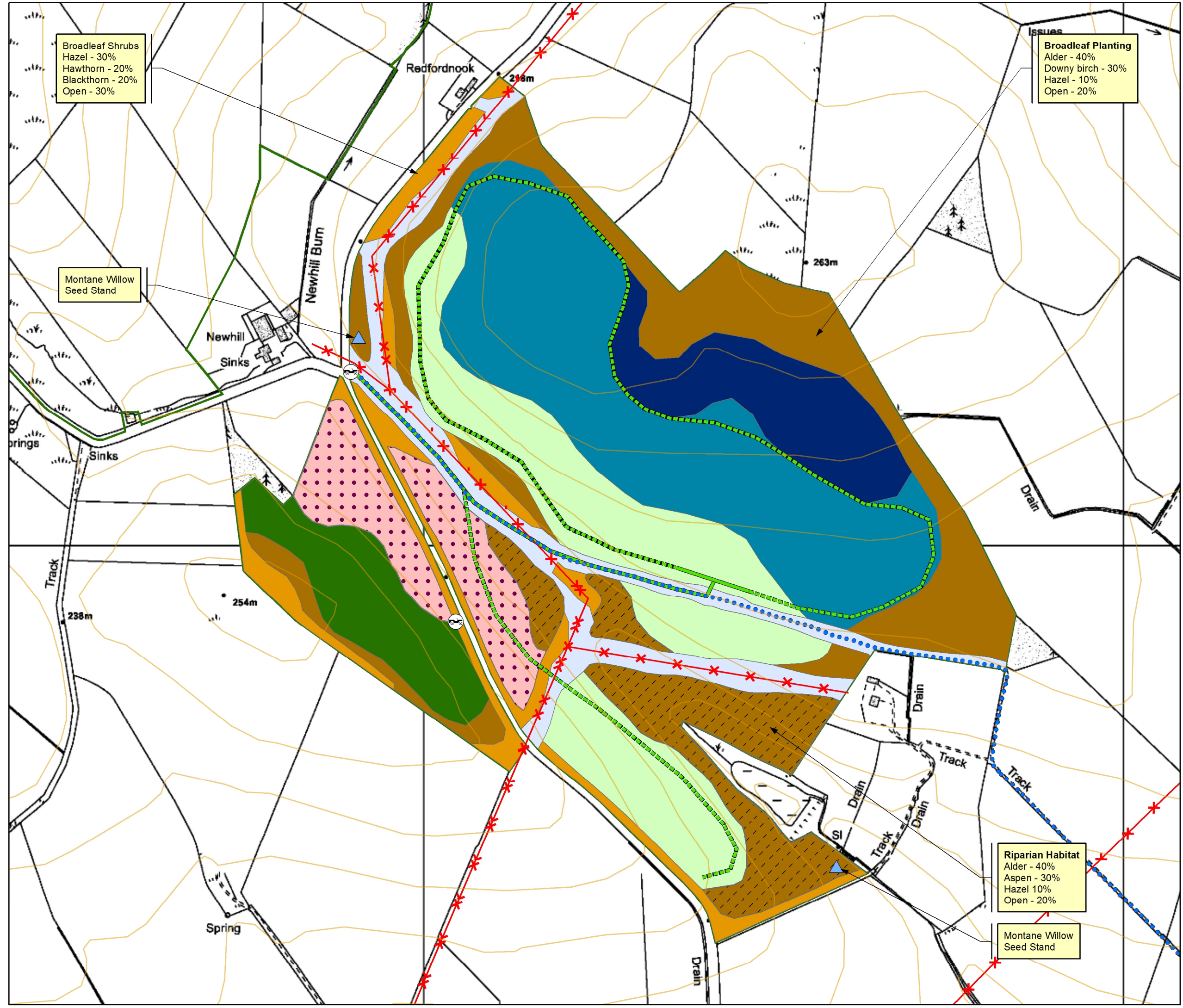
Author: U320933
Scale @ A3: 1:5,000
Date: 24/08/2020

- Legend**
-  Access
 -  Willow Seed Stand
 -  Core Paths
 -  Overhead Powerlines
 -  Proposed Road
 -  Forwarder

- Planting**
-  Sitka Spruce
 -  Douglas Fir
 -  Noble Fir
 -  Scots Pine
 -  Silver Birch with Oak
 -  Mixed Broadleaves
 -  Broadleaf Shrubs
 -  Riparian Broadleaf Planting
 -  Open
 -  Blocks



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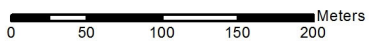


Newhill LMP Management Coupes

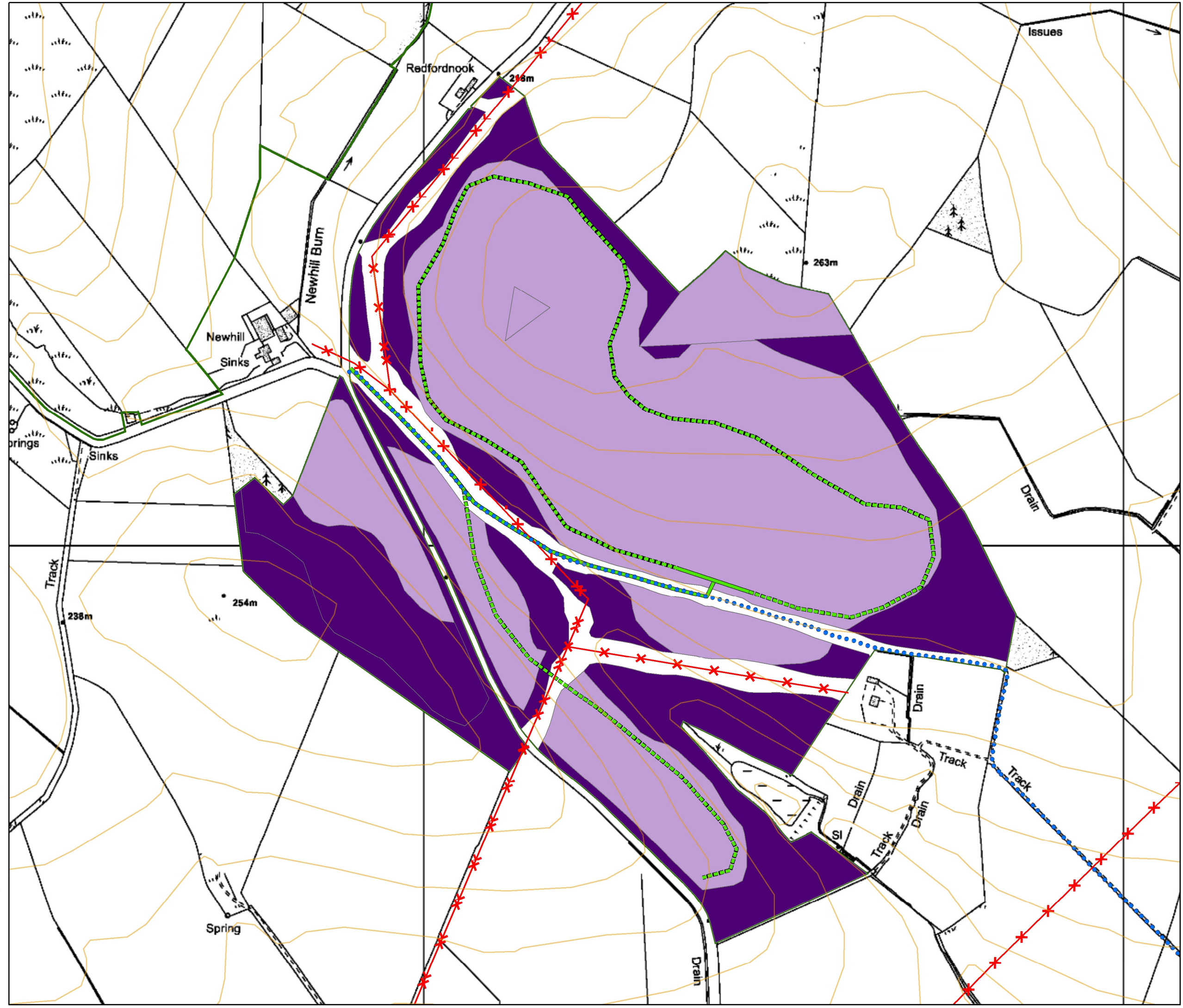
Author: U320933
 Scale @ A3: 1:5,000
 Date: 11/08/2020

Legend

- Core Paths
- ✕ Overhead Powerlines
- Proposed Road
- - - - Forwarder Access
- Felled or fell year requires review (2011 - 2020)
- Phase 1 felling (2021 - 2025)
- Phase 2 felling (2026 - 2030)
- Phase 3 felling (2031 - 2035)
- Phase 4 felling (2036 - 2040)
- Phase 5 felling (2041 - 2045)
- Phase 6 felling (2046 - 2050)
- Phase 7 felling (2051 - 2055)
- After 2055
- Long Term Retention
- Natural Reserve
- Minimum Intervention
- Coppice
- Low Impact Silviculture
- Open
- Missing Data
- Blocks



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Newhill Land Management Plan

Appendix I – Land Management Plan Consultation record

I/1.0 Record of statutory consultation

| Statutory Consultee | Date Contacted | Date response received | Issues raised | Forest District response |
|------------------------------|----------------|------------------------|---|---|
| SEPA | 22/08/2019 | 22/08/2019 | For all development of this type we ask that UK Forest Standard is adhered to and that proposals ensure compliance with The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (CAR). | All land management plans produced by FLS are required to be compliant with UKFS and Forestry and Water guidelines. |
| Scottish Water | 22/08/2019 | 04/09/2019 | A review of our records indicates that there are no Scottish Water drinking water catchments or water abstraction sources [in the area]. | No response required. |
| | | | A review of our records indicates that there are no Scottish Water assets (including water supply and sewer pipes, water and waste water treatment works, reservoirs, etc.) in the area. | |
| | | | It should be noted that the proposals will be required to comply with Sewers for Scotland and Water for Scotland 3rd Editions 2015 | |
| Perth & Kinross Council | 22/08/2019 | | No response received | |
| Glenfarg Community Council | 22/08/2019 | | No response received | |
| Milnathort Community Council | 22/08/2019 | | No response received | |
| Birniehill | 21/08/2019 | 17/10/2019 | We understand the importance of tree planting and fully support it...however we're also keen to ensure we're not 'closed in' by the proposed development. | New planting will be designed to fit as an element of the wider landscape and will take account of the individual concerns of neighbouring landowners. |
| Redfordneuk | 21/08/2019 | | No response received | |
| Landside | 21/08/2019 | | No response received | |
| Collieston Farm | 21/08/2019 | | No response received | |
| Middleton Farm | 21/08/2019 | | No response received | |
| Newhill Farm | 21/08/2019 | | No response received | |
| Local User | 21/08/2019 | 27/09/2019 | I am very keen to see the core path maintained, and if possible enhanced, e.g. in terms of easier to open gates and provision for horses to pass by any remaining cattle grids. It would be great for horse-riders and walkers if there was an access track network round/through the plantation. | Maintaining access to the core path is a legal requirement for FLS when planning forest operations. The forested area will likely be broken up by a number of rides to provide access for management operations. Decisions to upgrade the track or provide additional formal walking routes will be based on demand and availability of resources and budget. |

I/1.1 Record of public drop-in session

No public drop-in session was conducted for the plan consultation. Local site users and interested parties were encouraged view proposals on the FLS website and to submit feedback via email. Responses received have been included in the above table. Evidence of posters informing of the public consultation are included in appendix VIII.

Newhill Land Management Plan

Appendix II - Supporting Information

II/1.0 The Existing Forestry and Land Holding

As this plan is for a woodland creation the vast majority (97%) of the site is currently open grazing land. There is approximately 2.5 ha of forest cover, made up of a small thicket stage crop of mixed conifer and broadleaf and a copse of mature Scot's pine on the crest of the hill.

II/1.1 History of the Land Holding

The site was acquired by FLS in 2018 from a local landowner looking to rationalise his landholding in advance of retirement from farming. Prior to purchase the land had been divided into a number of fenced paddocks for grazing sheep and cattle.

II/2.0 Analysis of the Previous Plan

II/2.0.1 Aims of Previous Plan and Objectives

As this is a new planting scheme there is no previous plan to review.

II/3.0 Background Information

II/3.0.1 Physical Site Factors

Geology, Soils and Landform

The underlying geology of the site is an igneous bedrock of Devonian origin, rich in andesite and pyroxene.

Soils are predominantly brown earth with some areas of gleying. There is some evidence of localised surface water retention caused by sub-surface compaction from frequent livestock movement.

Hydrology

The site drains to a single watercourse which emerges from a field drain at grid reference NO 1226 0784. The burn then runs south east into a fishing pond outwith the land holding. All watercourses in this locality drain into the ecologically sensitive Loch Leven catchment.

Climate

Local site climate is described in Environmental Site Classification (ESC) terminology as 'cool-moist'. The ESC climate values are derived from a range of factors detailed below:

Elevation: 180-250m

Accumulated temperature: 1000-1138

Moisture Deficit: 56-109mm

DAMS Score: 12-17

II/3.0.2 The Existing Forest

Age, Structure, Species and Potential Yield

Existing forestry on the site amounts to approximately 2.5 ha of thicket stage mixed conifer and broadleaf planting, established in 2005, and a copse of mature Scot's pine.

Good soil conditions and low exposure show the potential of this site to produce high yielding commercial crops, especially favourable to diverse conifer species.

Access

Access to the site is directly from the C414 Glenfarg to Path of Condie public road. There are currently two gate access points into each side of the land holding from this road.

LISS Potential

Good quality, deep rooting soils, aspect and potential for workability all suggest that this site will be highly suitable for the implementation of alternatives to clearfell management.

Thinning Potential

As above, the site has potential to implement thinning regimes provided the necessary access is in place for operations.

II/3.0.3 Land Use

The surrounding land use consists of agricultural land, predominantly open pasture with some dispersed properties and small shelterbelt woodlands.

II/3.0.4 Biodiversity and Environmental Designations

Breeding bird surveys and a phase 1 habitat survey have been carried out on the site during spring/summer of 2019. The Phase 1 habitat survey did not identify any priority habitats of conservation concern, the Newhill acquisition comprises of mainly improved grassland with a small 2.15 ha area of young plantation mixed broadleaved woodland and three small patches of planted conifer woodland including one patch that had been recently felled. Breeding bird surveys recorded 23 species, including 10 on either the amber or red watch list. Afforestation on this site will have no impact on the national, regional or local breeding populations.

II/3.0.5 Landscape

The site sits within a landscape of rolling hills ranging between 180-250m in elevation. To the east of the public road the site drops steeply to a minor watercourse before climbing again up the slope of a rounded hill with aspects from north west to south. To the west of the road the land climbs to the ridge of a low rounded hill running on a south east to north west vector.

II/3.0.6 Social Factors

The site is bisected by a core path running from the gate at the junction of the C414 and Path of Condie roads up to Birniehill farm at the east end of the block. In spite of this recreational use of the site is limited, the core path is used locally by horse riders.

II/3.0.7 Statutory Requirements and Key External Policies

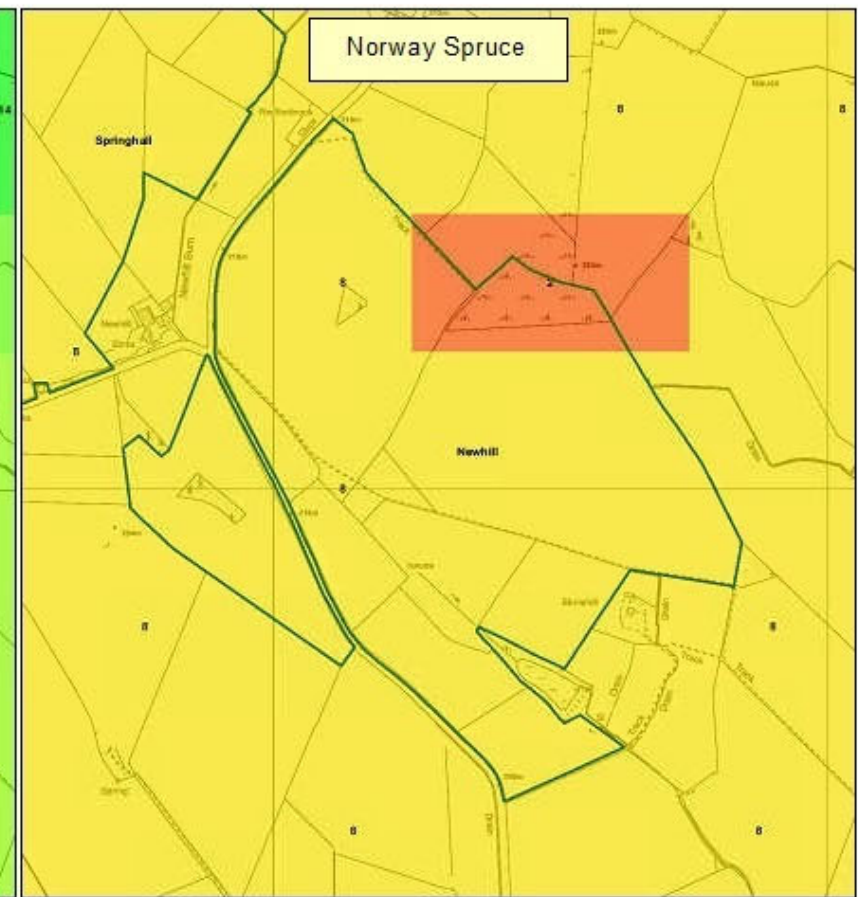
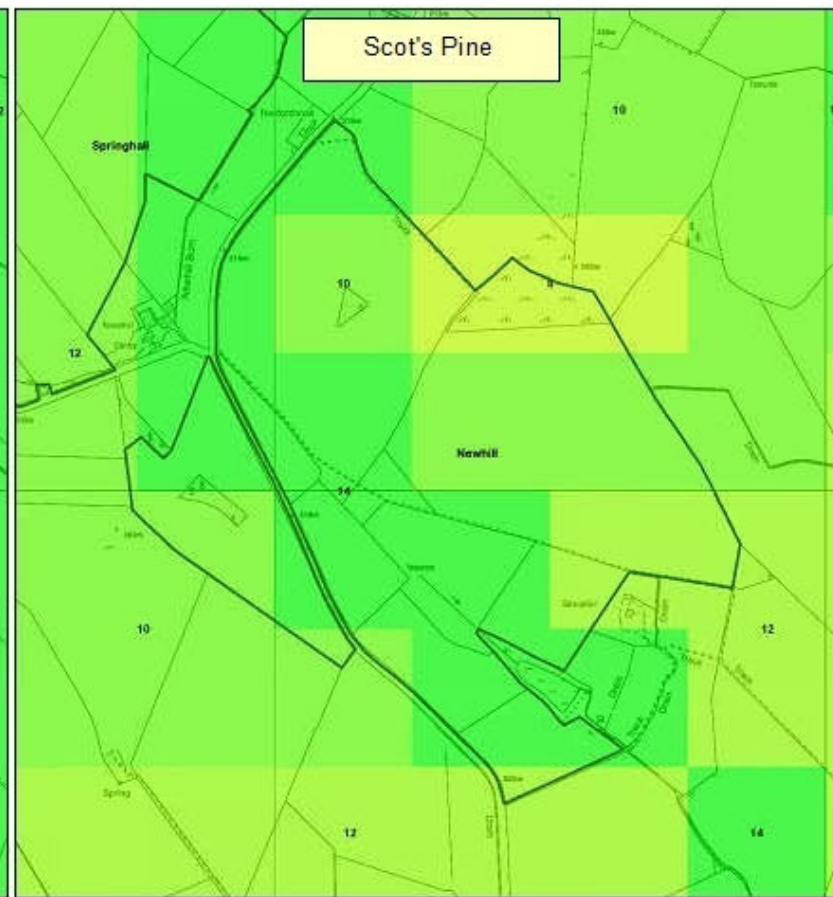
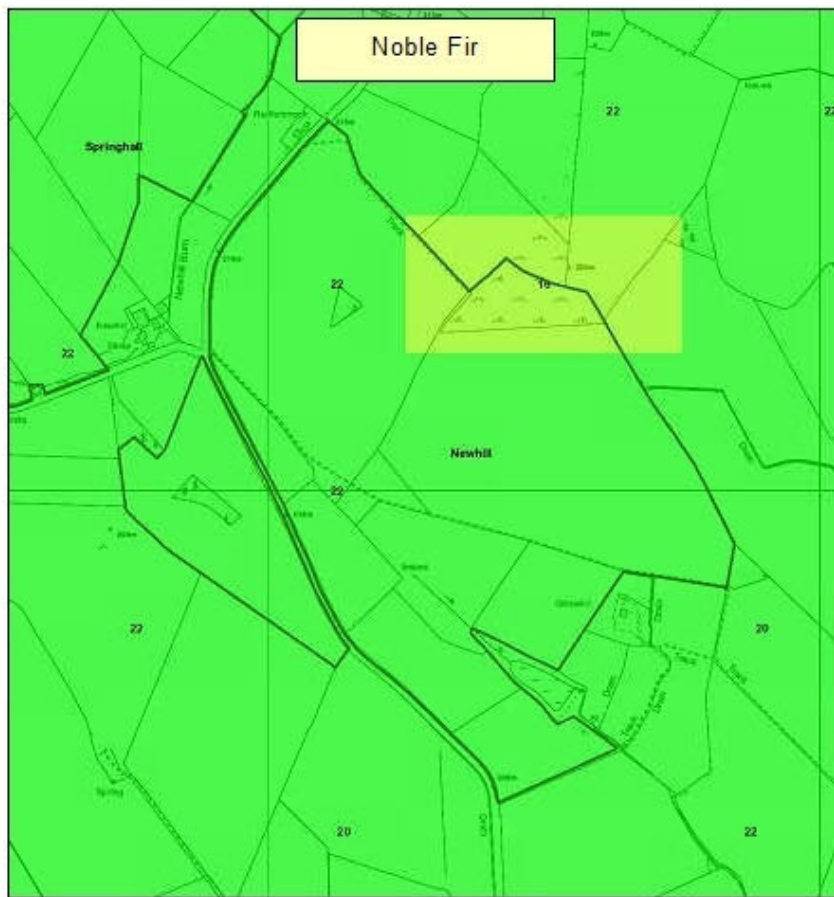
There are no statutory designations in place in the Newhill LMP area.

Newhill LMP
Species Suitability

Author: U320933

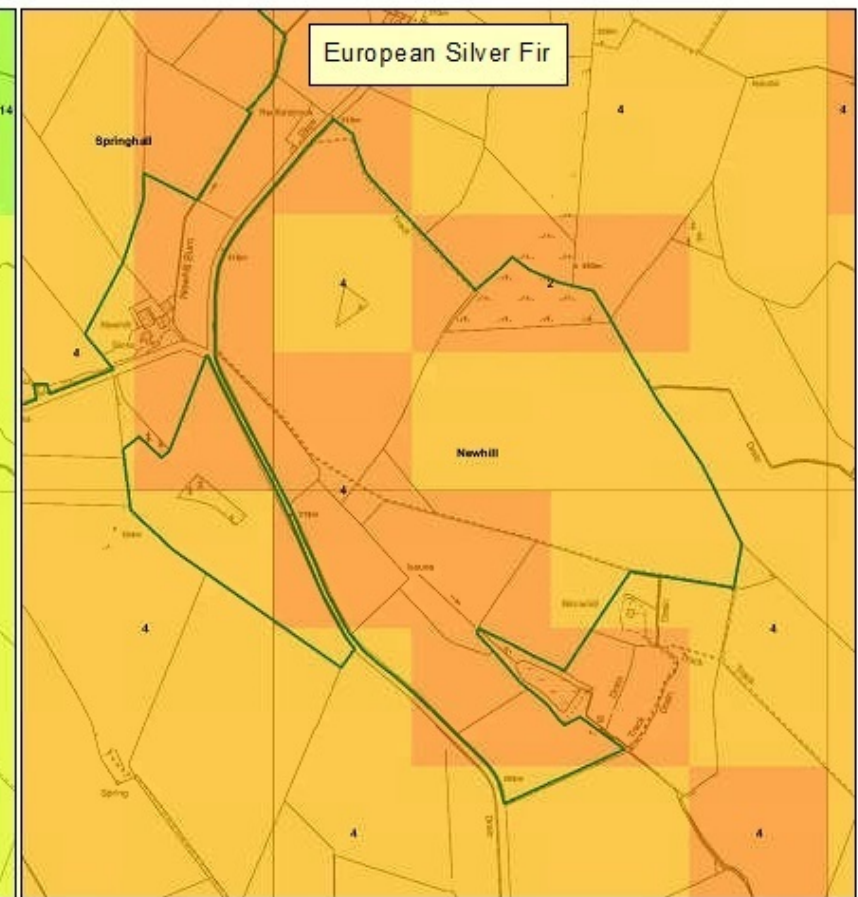
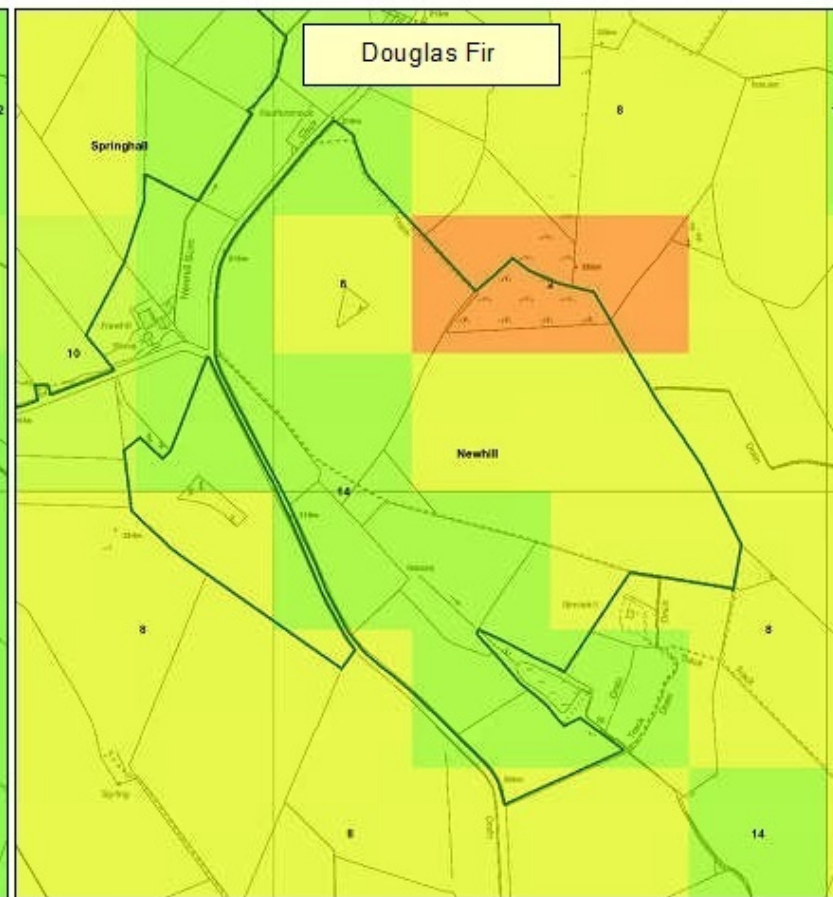
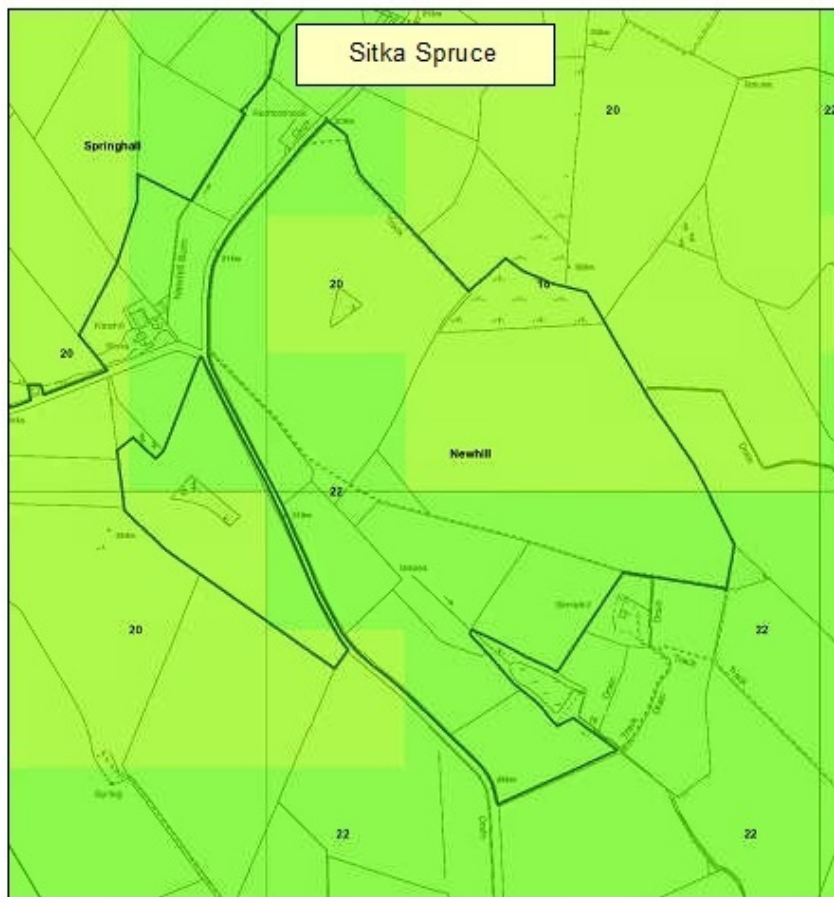
Date: 01/06/2020

Legend



Environmental Site Classification (ESC) determines the suitability of a particular tree species for a given site based on a range of factors including; soil type, elevation, exposure, nutrient availability, moisture deficit and continentality. A score above 0.5 is considered suitable and above 0.7, very suitable. ESC is a useful starting point for determining species suitability which is then backed up by on site investigation of localised conditions to determine the best course of action.

Species suitability scores provided by ESC must be taken in context with specific site objectives. For example; Sitka spruce is often the most suitable species for a site but may be dismissed in favour of creating a more diverse forest structure or another non-timber production aim.



A note on map display: Numbers shown represent likely yield class achievable for the given species.

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Newhill Land Management Plan

Appendix III - Tolerance Tables

| Tolerance Table | Adjustment to Felling Coupe Boundaries | Timing of Restocking | Change to Species | Windthrow Response |
|--|--|---|--|--|
| FC Approval Not Normally Required | 0.5ha or 5% of coupe – whichever is less | Planting up to 5 seasons after felling (allowing for fallow periods for Hylobius). For natural regeneration up to 10 planting seasons after felling. | Change within species group, e.g. conifers: native broadleaves | |
| Approval by Exchange of Email and Map | 0.5ha to 2.0ha or 10% of coupe – whichever is first | | Greater than 15% species change | Up to 5.0ha – if mainly windblown trees between 5.0ha to 10ha in areas of low sensitivity. |
| Approval by Formal Plan Amendment | Greater than 2.0ha or 10% of coupe | Delay in excess of that described above. | Increased native woodland component. Increase in native broadleaves and open/bog restoration. | Greater than 5.0ha |
| Tree Felling in Exceptional Circumstances | <p>FLS will normally seek to map and identify all planned tree felling in advance through the LMP Process. However there are some circumstances requiring small scale tree felling where this may not be possible and where it may be impractical to apply for separate felling permission due to the risks or impacts of delaying felling.</p> <p>Felling permission is therefore sought for the LMP approval period to cover the following circumstances: Individual, rows or small groups of trees that are impacting on important infrastructure (ie Forest roads, footpaths, access routes (vehicular, cycle, equestrian or pedestrian), Buildings, Utilities and services and drains) either because they are now encroaching on or have been destabilised or made unsafe by wind, physical damage or impede drainage.</p> <p>The maximum volume of felling in exceptional circumstances covered by this approval is 40 cubic metres per Land Management Plan per calendar year.</p> <p>A record of the volume felled in this manner will be maintained and will be considered during the five year LMP review.</p> | | | |

Newhill Land Management Plan







Appendix IV - Land Management Plan Brief

IV/1.0 Previous plan objectives

As this plan relates to a woodland creation scheme there is no previous plan to review.

IV/1.1 Strategic Influence

The management of National Forest Estate is guided by The Forest Enterprise Scotland Corporate Plan (2019-2022), which aims to support the Scottish governments wider outcomes base approach set out in the National Performance Framework. FLS aims to make a particular contribution to the following six outcomes:

| | |
|---|---|
|  | Economy We have a globally competitive, entrepreneurial, inclusive and sustainable economy |
|  | Environment We value, enjoy, protect and enhance our environment |
|  | Health We are healthy and active |
|  | Communities We live in communities that are inclusive, empowered, resilient and safe |
|  | Fair Work and Business We have thriving and innovative businesses, with quality jobs and fair work for everyone |
|  | Education We are well educated, skilled and able to contribute to society |

IV/1.2 Key Issues and Constraints

Most up to date climate models suggest a warming trend over the next 50 years which may impact on species selection now.

New planting will be attractive to browsing by herbivores, especially broadleaves and diverse conifers.

There is a public right of way running through the middle of the site.

Planting within the already established geometric field pattern could create a woodland at odds with its surroundings.

1.4 km of high voltage overhead power lines cross the site.

Access/egress from public road may present safety issues for other road users.

Steep ground and deep soils could lead to excessive soil disturbance during management operations.

IV/1.3 Aims of new plan

| Aim | Objective | Actions and Prescriptions |
|--|--|--|
| Plant trees that will be resilient to future climate scenarios and potential disease risk. | Select species that will be suitable for current and potential future climatic conditions. | An accurate assessment of site conditions will be required; soils, climate, exposure etc. based on current and likely future climate models. Species to be selected based on suitability in accordance with the principles of Environmental Site Classification. |
| Protect new planting from herbivore browsing until fully established. | Ensure that planting of a suitable density to afford options for future management operations is achieved by the end of the plan period. | New planting will need to be protected from browsing. Most likely through a combination of fencing and shooting. |
| Maintain public access to the site. | Keep the core path open and accessible to a range of public users. | Gates will be required where the core path crosses fence lines. These should be accessible to horse riders without the need to dismount. |
| Design a forest that is sympathetic with the local landscape. | Consider the impact of planting, and the eventual mature forest, on the landscape from key viewpoints. | Key viewpoints will need to be identified. Coupe shapes and species choices will need to be considered from these selected vantage points. |
| Protect water quality flowing into the Loch Leven catchment. | Improve water quality entering the West Bank Burn where it crosses FLS land. | Planting of appropriate broadleaf species in riparian zones will help to reduce run-off and lower flood risk. |
| Design a forest that will eventually be managed under CCF. | Design a forest that will be suitable for conversion of CCF in future. | As a new planting site there is opportunity to design coupes and infrastructure now that will improve ease of access for future operations. |

Newhill Land Management Plan

Appendix V – Schedule of Works and Projected Costings 2021-2025

V/1.1 Schedule of Works – Establishment

| Coupe Reference | Operation | Programme Year | Area (ha) | Species 1 | % | Species 2 | % | Species 3 | % | Open Space (%) | Feature length (m) | Management Description |
|-----------------|--------------------|----------------|-----------|--------------|-----|-------------|----|------------|----|----------------|--------------------|---|
| Block | Fencing | 2022/23 | N/A | - | - | - | - | - | - | - | ~5,400 | Full block boundary fence enclosing both areas either side of C414 public road separately. Gate access required at bell-mouths with equestrian gates fitted at either end of core path. Fence route to be determined at work plan stage. Planning permission may be required. |
| N/A | Road | 2022/23 | N/A | - | - | - | - | - | - | - | 25 | Bell mouth construction from C414 at grid reference NO 118 082. Requires planning permission. |
| N/A | Road | 2022/23 | N/A | - | - | - | - | - | - | - | 25 | Bell mouth construction from C414 into block to west of road, site as yet to be determined by civil engineers. Requires planning permission. |
| N/A | Road | 2022/23 | N/A | - | - | - | - | - | - | - | 2,400 | Benching of permanent forwarder routes in preparation for laying formation ahead of first thinning. |
| Block | Ground Preparation | 2022/23 | 59.91 | - | - | - | - | - | - | - | N/A | Most suitable method to be determined by FM forester at work plan stage. |
| 65001A | Planting | 2022/23 | 15.13 | Sitka spruce | 100 | - | - | - | - | <10 | N/A | Commercial crop planted at 2,700 stems per hectare. Open space element to account for permanent forwarder access track. |
| 65001B | Planting | 2022/23 | 12.35 | Douglas fir | 90 | - | - | - | - | 10 | N/A | Commercial crop planted at 2,700 stems per hectare. Open space element to account for permanent forwarder access track. |
| 65001C | Planting | 2022/23 | 5.01 | Noble fir | 100 | - | - | - | - | - | N/A | Commercial crop planted at 2,700 stems per hectare. |
| 65002A | Planting | 2022/23 | 4.87 | Silver birch | 80 | Sessile oak | 20 | - | - | <10 | N/A | Commercial broadleaf crop. SBI planted at 1,600 stems per hectare with SOK in groups within the matrix. Open space element to account for permanent forwarder access track. |
| 65003A | Planting | 2022/23 | 7.76 | Common Alder | 40 | Downy birch | 30 | Hazel | 10 | 20 | N/A | Broadleaf planting to provide landscaping and habitat links at coupe edges. Plant at 1,280 stems per hectare in intimate mix. |
| 65003B | Planting | 2022/23 | 5.99 | Common Alder | 40 | Aspen | 30 | Hazel | 10 | 20 | N/A | Broadleaf planting in riparian zone. Plant at 1,280 stems per hectare in intimate mix. |
| 65003C | Planting | 2022/23 | 4.45 | Hazel | 30 | Hawthorn | 20 | Blackthorn | 20 | 30 | N/A | Shrub species at boundary edges to provide gradual height change at block edges and along wayleaves. Plant at 1,120 stems per hectare in intimate mix. |
| 65003D | Planting | 2022/23 | 0.02 | Willow | 100 | - | - | - | - | - | N/A | Montane willow provenance trials – 2 sites located at NO 119 082 and NO 125 075. |
| 65004A | Planting | 2022/23 | 6.08 | - | - | - | - | - | - | 100 | N/A | Managed open space for overhead powerline wayleave and core path. |
| 65005A | Planting | 2022/23 | 4.08 | Scot's pine | 100 | - | - | - | - | - | N/A | Seed orchard. Consult with Nurseries Manager to determine correct layout and planting density. |
| 65002 65003 | Vole Guarding | 2022/23 | 18.50 | - | - | - | - | - | - | - | N/A | Vole guards for broadleaf planting. |

Newhill Land Management Plan

V/1.2. Ongoing Establishment Costs 2021-2025

The following operations will need to be factored into budgets through the establishment phase of this woodland creation plan following initial planting.

- Stocking density analysis (SDA)
- Weeding
- Mowing rides and open space
- Beat-up
- Deer control
- Fence maintenance
- Formative pruning of productive broadleaves

Other ongoing costs including management time, admin time and chemical storage will also need to be accounted for.

V/1.3. Projected Costings 2021-2025

The figures stated below are averaged from previous costs for establishing new planting across a range of different sites. The costings are to provide an indication of likely financial commitments during the establishment of the site.

| Programme Year | Budget cost per hectare | Budget cost by plantable area* |
|----------------|-------------------------|--------------------------------|
| 2022/23 | £ 4,900 | £ 293,559 |
| 2023/24 | £ 1,100 | £ 65,901 |
| 2024/25 | £ 600 | £ 35,946 |
| 2025/26 | £ 450 | £ 26,959 |
| 2026/27 | £ 450 | £ 26,959 |
| Total | £ 7,500 | £ 449,324 |

*Plantable area = 59.91ha.

Appendix VI – Links to Policy and Guidance Documents

For further information and documents relating to Scottish forestry policies and guidance please follow the link below:

<https://forestryandland.gov.scot/what-we-do/planning/links>