



Wildwood Ecology

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WOODLAND MANAGEMENT PLAN

BIKE PARK WALES, MERTHYR TYDFIL

BIKE PARK WALES

DOCUMENT REF: WWE20037 WMP REV A | 30/06/2022

Client:	Bike Park Wales
Site/Job:	Bike Park Wales, Merthyr Tydfil
Report title:	Woodland Management Plan
Report reference:	WWE20037 WMP Rev A

Grid Reference:	SO 05132 03460
Agent:	Liam Hopkins, The Urbanists
Planning reference:	P/19/0073

VERSIONING AND QUALITY ASSURANCE

Rev	Status	Date	Author(s)	Reviewed by	Approved by
A	Draft	02/03/2020	Jessica Snow ACIEEM Ecologist		
B	FINAL	30/06/2022	Peter Hacker ACIEEM Senior Ecologist	Peter Hacker ACIEEM Senior Ecologist	Peter Hacker ACIEEM Senior Ecologist

DISCLAIMER

This document has been prepared by Wildwood Ecology Limited for Bike Park Wales solely as a Woodland Management Plan. Wildwood Ecology Limited accepts no responsibility or liability for any use that is made of this document other than by the client for the purposes for which it was originally commissioned and prepared.

The evidence which we have prepared and provided is true, and has been prepared and provided in accordance with the guidance of The Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.

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1 INTRODUCTION

- 1.1 Wildwood Ecology was commissioned by Bike Park Wales (the client) to produce a 25-year Woodland Management Plan (WMP) for the approved planning of their masterplan development.
- 1.2 The site is subject of a planning application, reference P/19/0073 which has been granted planning permission with conditions.
- 1.3 The planning application is for the provision of 36 camping pods and 5 chalets, erection of shower/toilet block and creation of play and picnic area. Construction of new parking area (150 spaces) with overflow carpark (46 spaces), together with a trail maintenance yard, new highway access routes, ground profile works, drainage, infrastructure and landscape works at Bike Park Wales Gethin Woodland Centre Abercanaid Merthyr Tydfil CF48 1YZ has already begun.
- 1.4 This document should be read in conjunction with all other reports and survey information available, including;
 - Wildwood Ecology – Bike Park Wales – EclA report (WWE22067 Bike Park Wales – Methyr Tydfil – EclA report REV_A, dated 17/05/2022)
 - Wildwood Ecology - Bike Park Wales - PEA report Final (WWE18125 EclA Rev E, dated 24/10/2018)
 - Wildwood Ecology– Bike Park Wales – Habitat Management Plan Final (WWE19194 HMP Rev B, 10/10/2019)
 - Wildwood Ecology– Bike Park Wales – Wildlife Protection Plan (WWE20037 WPP)
 - Peter Quinn Associates - BPW 10 Year Landscape Maintenance Programme (dated 4/10/2019)
 - Treescene Arboricultural Consultants – Tree Protection Plan (dated 11/2019)
 - Treescene Arboricultural Consultants – Woodland Management Plan

Scope of Management Plan

- 1.5 The 25-year Woodland Management Plan will incorporate and address the following elements
 - Plan for the protection of the existing woodland and trees (ecology and tree health)
 - Plan for long term management of new planting
 - Confirmed species
 - Lighting issues
 - Remedial Works
 - Any disease issues and contingencies
- 1.6 The Woodland Management Plan is designed to be flexible and to allow for periodic reviews and updates when necessary. As a minimum, after 5 years post construction it is proposed to review the Management Plan and address any major issues, objectives that are not being met or changes at the site, in consultation with the Local Planning Authority (LPA) as necessary. The requirement for more frequent interim reviews would be distracted by the success/progress of management and the need for more regular alteration to management prescriptions in accordance to changing conditions at the site.

- 1.7 The WMP will describe the ways in which the proposed development will be controlled to safeguard ecological features and mitigated the adverse effects of the development during site preparation and construction. It also addresses, where appropriate, any beneficial measures that will be taken to enhance the nature conservation value of the site.
- 1.8 This document should be read in conjunction with the Habitat Management Plan and Wildlife Protection Plan.

2 WOODLAND MANAGEMENT PLAN

- 2.1 This section outlines the woodland management consideration as reported in section 4 of the Habitat Management Plan.

Works as arising

- 2.2 Over the course of the 25-year management period, it is likely that issues may arise within the woodland that will require immediate remediation, to remove or prevent a danger to public safety. As such, all trees (including those planted as part of the development and those previously established on the site within the area of maintenance) are to be inspected from the ground in January every two years, starting the first year after commencement of the maintenance operations by a suitably qualified person with a working knowledge of trees and their defects, as discussed in the 10-year landscaping plan for the site (Peter Quinn Associates, 2019).
- 2.3 In addition, extraordinary inspections to be carried out after gales (mean wind speed in excess of 37 knots/42mph), during and after prolonged drought (once a hose-pipe ban has been enforced in the area) and after any reported incident likely to significantly affect tree health or general safety (vehicle damage, fire, serious disease outbreaks etc.).
- 2.4 An arboriculturist will be commissioned to inspect and report on any large branches or trees which appear to be significantly damaged, diseased or unstable. Any works recommended by the arboriculturist are to be carried out by local-authority-approved tree surgeons. Works to smaller trees and branches may be carried out by suitably qualified landscape maintenance contractors.
- 2.5 If immediate works to a tree are required as a recommendation from an inspection of the trees, the works should not be undertaken within the nesting bird season (March – August inclusive) without the tree first being inspected by a suitably qualified ecologist. Furthermore, if damage caused to trees is left more than a year before remedy, a close inspection of the feature by a suitably qualified ecologist should be conducted prior to any works on the feature. Their advice will be acted upon.

Root protection measures

- 2.6 As discussed in the tree survey provided by Treescene (2019), there is a high risk to established trees at the site and thus the installation of protective fencing is recommended. Trees should be protected using a scaffold frame supporting weld mesh panel fencing sited on the edge of the Root Protection Area as defined in BS5837:2012. It is worth noting recent evidence that suggests that the calculation of previous Root Protection Areas may not be sufficient to protect the full root areas of some tree species, please see (Andrews *et al.*, 2019) for more details. These fenced areas should not be used for the storage of any plant machinery or materials and personnel should be excluded at all times; these fences should remain in situ until after final landscaping has been carried out, and removed by hand with great care to prevent compaction or root damage to established trees.

Soil and bank erosion protection

- 2.7 Soil and bank erosion on the site will predominantly be caused by vegetation clearance and the movement of large construction vehicles, especially for works close to the stream in the south-east corner of the site. The consequence of increased soil erosion at the site may result

in damage to mature, in situ trees, an increase in the time taken for newly planted trees to grow, or a failure for them to grow at all and pollution of nearby waterbodies via run off.

- 2.8 In order to control soil erosion at the site, tree felling and vegetation clearance should be managed appropriately to minimise impact on the nearby soil structure. Additionally, there will be no large vehicular access to unstable track or ground to prevent accelerated erosion.
- 2.9 Ongoing erosion as a result of trail use by bikes and walkers is advised to be managed through the use of vegetated bunding, to encourage the use of the designated pathway/trail only. Planting of tussocky (or encouraging) species and structural diversity will aid this by both stabilising bunds/banks and discouraging unauthorised access/trespass.
- 2.10 Adequate protection of watercourses will be in place, with responsive action taken to changes in climate i.e. increased levels of water run-off due to more extreme weather events; and any other factors that may cause an increase in run off (cumulative effects of felling of offsite trees, for example). Protection measures (in terms of soil and bank erosion) will include widening the course to allow pooling, and resultant slowing of the flow.

Avoidance of lighting in sensitive areas

- 2.11 Dark corridors will be retained across the site at night with no lighting of any tree, vegetated corridor, water feature or bat feature (enhancement or otherwise).
- 2.12 Any lighting that is present will be low level, low wattage and with no upward spill in line with ILP and BCT (2018) guidance.
- 2.13 To mitigate for disturbance to bats and other wildlife by artificial illumination, the following recommendations will be considered. The aim of these recommendations will be to avoid light spill and of any projected illumination, for any intended purpose, outwards from buildings and outdoor lighting onto the surrounding trees and landscaping.
- 2.14 Firstly, suggestions for mitigating external lighting are outlined in best practice guidance by the Bat Conservation Trust (Gunnell et. al., 2012). A summary of these recommendations is included here, and any proposed artificial illumination should therefore seek to:
- eliminate bare lamps and any upward pointing light;
 - spread of light should be at or near the horizontal. Flat cut off lanterns are best;
 - use narrow spectrum lamps. Using lamps with the lowest UV output possible, avoid white and blue spectrums of light; lights should peak higher than 550nm or use glass lanterns to filter UV light;
 - direct lighting to where needed and avoid spillage e.g. direct lighting towards the building front/road/car park/foot path and design the luminaire appropriately, including the use of hoods, cowls, shields etc to avoid spillage onto tree lines and gardens.
 - avoid aesthetic up lighting of buildings and trees;
 - only light areas which need to be lit, and use the minimal level of lighting required to comply with guidance such as Institute of Lighting Engineers Guidance Notes for the Reduction of Obtrusive Light (2005);
 - use movement sensors or timers on security lighting;
 - limit the times that the lights are on to provide some dark periods;
 - avoid using reflective surfaces under lights; and,
 - do not use a lamp greater than 150W for security lighting

- 2.15 Motion sensors may not be appropriate in autumn (due to leaf fall) – at this time the lights will be manually turned off if not required to be on to conserve energy; and will be on a timer to light only the required time i.e. there will be times where the lights are not on and the area will be in darkness.

Conservation management to enhance and ensure resilience of the existing woodland

- 2.16 Management of the woodland will be considered separately to the management of the rest of the landscape at the site, which is discussed in the landscape management plan (Peter Quinn Associates, 2019).
- 2.17 Management practices such as selective thinning and the control of grey squirrels and deer should be considered where necessary. Additionally, removal of invasive species such as Japanese knotweed, Himalayan balsam and giant hogweed (and any other non-native species found) should be conducted immediately after the discovery of the invasive species. These species are classed as controlled waste under the Environmental Protection Act 1990 and require disposal at licensed landfill sites, and specialist contractor advice will be sought.

Avoidance of impacting protected species resident in woodland

Bats

- 2.18 All larger trees highlighted as having suitable roost features for bats will be retained and remain unlit. There will be no blocking or impedance of potential flight lines to and from the roost features.
- 2.19 Five Schwegler Type 2FN bat boxes will be installed within wooded areas on trees that do not already have bat features on them. The project ecologist will provide on the ground guidance for the elevation and height of installation.

Common dormouse

- 2.20 Precautionary vegetation removal methods advised with works completed under ecological supervision.
- 2.21 Removal of vegetation to be undertaken outside of the bird breeding season (i.e. after mid-September) with only above ground level vegetation removed in the winter period. A check will be made by a licensed dormouse ecologist. If there are any root balls present and suitable for use by small mammals, these will be left in situ until temperatures are regularly above 10°C (May). They may then be removed following a further ecologist-led check.

European otter, badger and other mammals

- 2.22 All excavations or trenching that are not covered will include a means of escape for any animals that may fall into them. This may be a plank set at 30° to allow escape.
- 2.23 All chemicals and fuel will be stored safely away from any area which may be accessible to animals such as badger, for example, within a locked store.

Amphibians and reptiles

- 2.24 A reptile mitigation strategy has been created for the site and will be followed. The details on the reptile mitigation strategy can be found in appendix V of the update Ecological Impact Assessment report produced by Wildwood Ecology in April 2022.

Pollution control measures (including litter, fuel, dust, contaminated run-off and other chemicals)

- 2.25 All materials/ fuel chemicals will be stored away from natural habitats, preferably within a secure storage space within or close to one of the buildings onsite. This space should be properly secured to prevent animal access.
- 2.26 Silt fencing, or other similar pollution control measures, will be installed by the edges of the stream located in the south-east and northern parts of the site, as well as in any areas where significant soil erosion is considered likely as a result of the felling or other works planned at the site. This will be done prior to works commencing to prevent the discharge of soil into nearby watercourses and causing a subsequent decline in water quality.
- 2.27 Litter picking should be conducted following a similar schedule to that outlined in the landscape maintenance plan (Peter Quinn Associates, 2019). However, within the woodland fallen leaves should not be cleared but if piles of leaves begin to aggregate, should be spread out over the woodland. Fallen leaves collected from the roads and footpaths should be spread evenly and not piled up in one place.
- 2.28 NB If there is evidence of disease in any tree at any time, the leaf litter around the tree should be removed to reduce the risk of spread of spores contained within the leaf litter to other healthy trees (e.g. Chalara, or ash die-back caused by *Hymenoscyphus fraxineus*).
- 2.29 A litter picking schedule should be followed allowing for weekly picks (and as noticed) in the peak season (May to September) and monthly in the off-peak season (October to April).

Ground flora management

- 2.30 After any additional vegetation clearance, wildflower and grass seeds should be sown over the bare land. This will help to stabilise the soil and increase biodiversity at the site.
- 2.31 The seed mix used will focus on BS8M: woodland and heavy shade wildflowers to allow for continued presence once newly planted trees have grown up.
- 2.32 Mixes of BS7M: Hedgerow and light shade wildflowers may be preferred in some areas of the site at the edge of wooded areas or along newly planted lines of trees.
- 2.33 Sowing will be completed to nursery guidelines with approximately 5g per m².
- 2.34 Sowing will be completed in autumn or spring, between March and November, with seed hand-sown, and rolled or treaded in.
- 2.35 In the first year, the seed will be topped in March and May to promote target species growth with arisings removed immediately. A late summer (September) cut will be taken down to 150mm post-flowering and seed setting. Arisings will be allowed to remain on site for one week (to allow seed to drop) before removal.
- 2.36 Once established, cuts in early spring and later summer (post-seed dropping) will be undertaken. Arisings will be removed. Arisings may be used to enhance the reptile habitat piles as and when required.

Monitoring strategy (performance indicators)

- 2.37 The aim is to have a healthy woodland of mixed age, species and structural diversity maintained. This will require ongoing management and review to ensure young growth is allowed to survive post-construction. Given the longevity of trees, consideration of young growth will be appropriate towards the end of the first management period i.e. in January 2027.

- 2.38 The monitoring in January 2027 (and every 5 years afterwards) will take into consideration the new growth of saplings since the 2019 tree survey or previous assessment. This will form the basis of ensuring ongoing age diversity within the woodland, as appropriate for the species present, and within certain areas. Translocation or thinning may be appropriate.
- 2.39 NB Where areas of woodland contain older growth only, with mature specimens present, this may be appropriate for that area due to the mature tree suppressing young growth. These areas will be marked upon the new management plan.
- 2.40 All onsite trees will be inspected every 2 years by an experienced and suitably qualified arboriculturalist, with any signs of dead or dying trees being noted. If any areas where there is significant dieback or impact to trees are identified, the management plan may need amending to prevent further degradation of the woodland.
- 2.41 Reactive and remedial measures will be implemented as appropriate and dictated by the onsite requirements and conditions, in order to maintain a healthy woodland.
- 2.42 New tree plantings will have their stakes removed once established to prevent damage to the plant, with all new plantings checked for health. Any dead or dying trees will be removed and replaced, like-for-like (in terms of age, species, structure) in the next available and suitable planting season. This will be continued **every** 5 years within the current management plan phase.
- 2.43 Any deadwood removed will be allowed to stand (if safe) or felled and retained onsite to promote fungal growth and support invertebrate communities.
- 2.44 The bat boxes installed at the site should be inspected every 2 years (between May and September) by a suitably qualified ecologist.
- 2.45 Hibernacula constructed for use by reptiles should be maintained, with inspections at least once every 2 years to ensure that the hibernacula are still suitable for use by reptiles.

Responsible persons

- 2.46 Bike Park Wales is responsible for ensuring that all management and maintenance requirements are met, Furthermore, they are responsible for reviewing the management plans based on evidence gathered during regular inspections and, if necessary, make the appropriate changes to the plans to ensure continued functionality of the woodland.
- 2.47 Bike Park Wales will engage specialist advice and contractors when required.
- 2.48 A log of all visits made for contractors' work to the woodland/trees/vegetation will be kept. This will detail the nature of the work, by who, the date and time of the work and reasoning behind it. The contractor will have access to the management plan and will sign to confirm that the works to be undertaken are in line with this agreed document.

Long-term plan review

- 2.49 Every five years i.e. in 2027 for the first phase, the woodland management plan will be reviewed in response to the most recent investigations and monitoring data. When necessary, the management works can be amended to support updated objectives or to alleviate issues that may arise during the five-year period; including in response to climate change; new research; or changes to activity onsite or nearby.

- 2.50 The plan will be updated using the advice and recommendations from an arboriculturalist and an ecologist, and in liaison with the LPA.
- 2.51 Changes will be made to the management schedule to reflect any changes in British or European legislation and standards.

3 PLANTING SCHEDULE

3.1 A mass planting beds total area of 1,795 sqm. will be achieved during phase 2.

Table 1 - Phase 2 planting schedule

Species	English Name	Number
Large feathered trees		
<i>Alnus glutinosa</i>	Common Alder	19
<i>Quercus robur</i>	Pedunculate oak	30
<i>Sorbus aucuparia</i>	Rowan	32
Small feathered trees		
<i>Alnus glutinosa</i>	Common Alder	85
<i>Betula pendula</i>	Silver Birch	80
<i>Betula pubescens</i>	Hairy Birch	60
<i>Quercus petraea</i>	Sessile oak	145
<i>Quercus robur</i>	Pedunculate oak	74
<i>Sorbus aucuparia</i>	Rowan	51

3.2 A mass planting beds total area of 3033 sqm. will be achieved during phase 3.

Table 2 - Phase 3 planting schedule

Species	English Name	Number
Standard trees		
<i>Alnus glutinosa</i>	Common Alder	24
Large feathered trees		
<i>Alnus glutinosa</i>	Common Alder	11
<i>Quercus robur</i>	Pedunculate oak	27
<i>Sorbus aucuparia</i>	Rowan	17
Small feathered trees		
<i>Alnus glutinosa</i>	Common Alder	43
<i>Betula pendula</i>	Silver Birch	57
<i>Betula pubescens</i>	Hairy Birch	75
<i>Quercus petraea</i>	Sessile oak	120
<i>Quercus robur</i>	Pedunculate oak	139
<i>Sorbus aucuparia</i>	Rowan	54

4 TIMETABLE OF WORKS

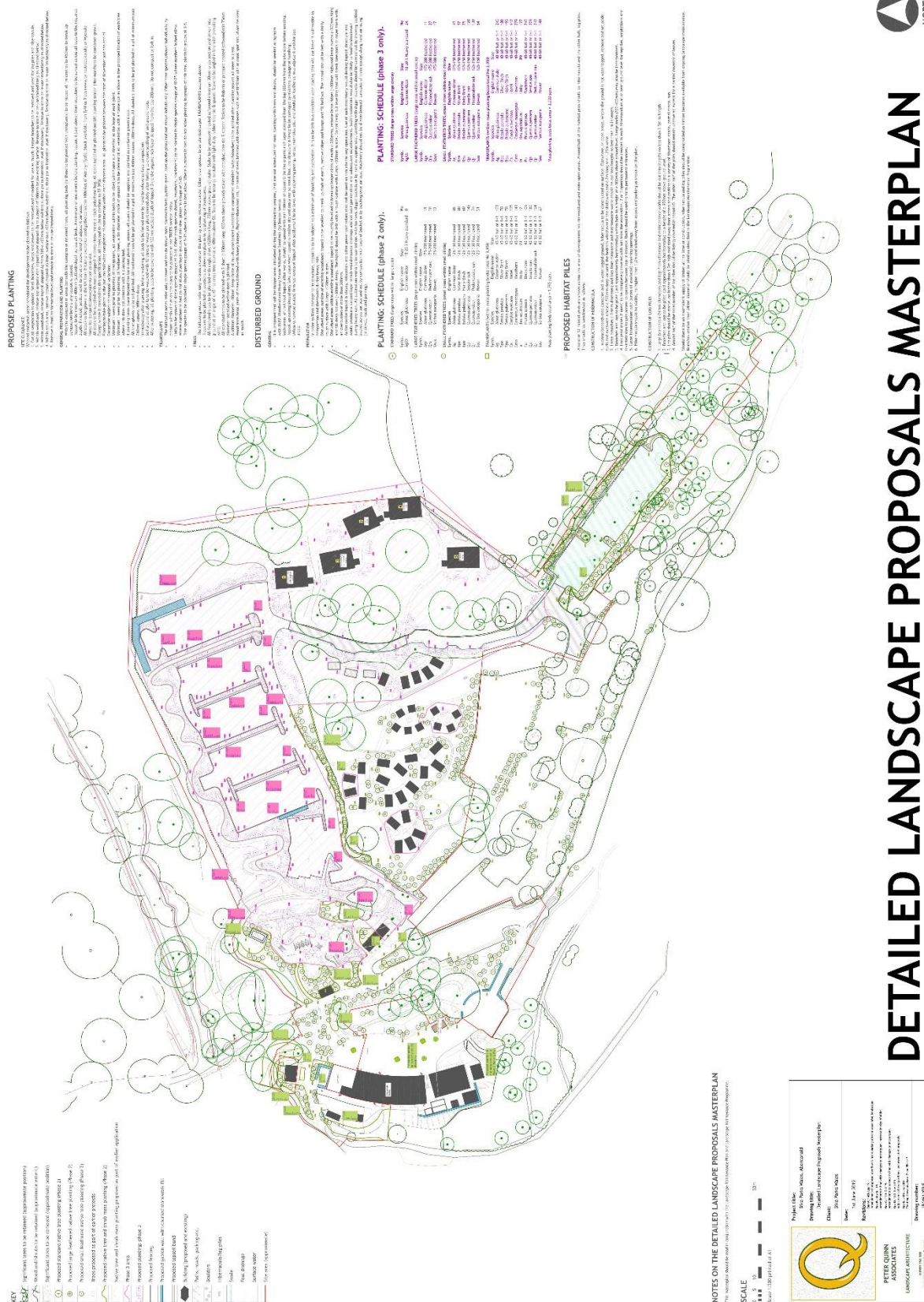
4.1 Refer to BPW 10 Year Landscape Maintenance Programme for further details.

Table 3 – Timetable of 25 year management plan

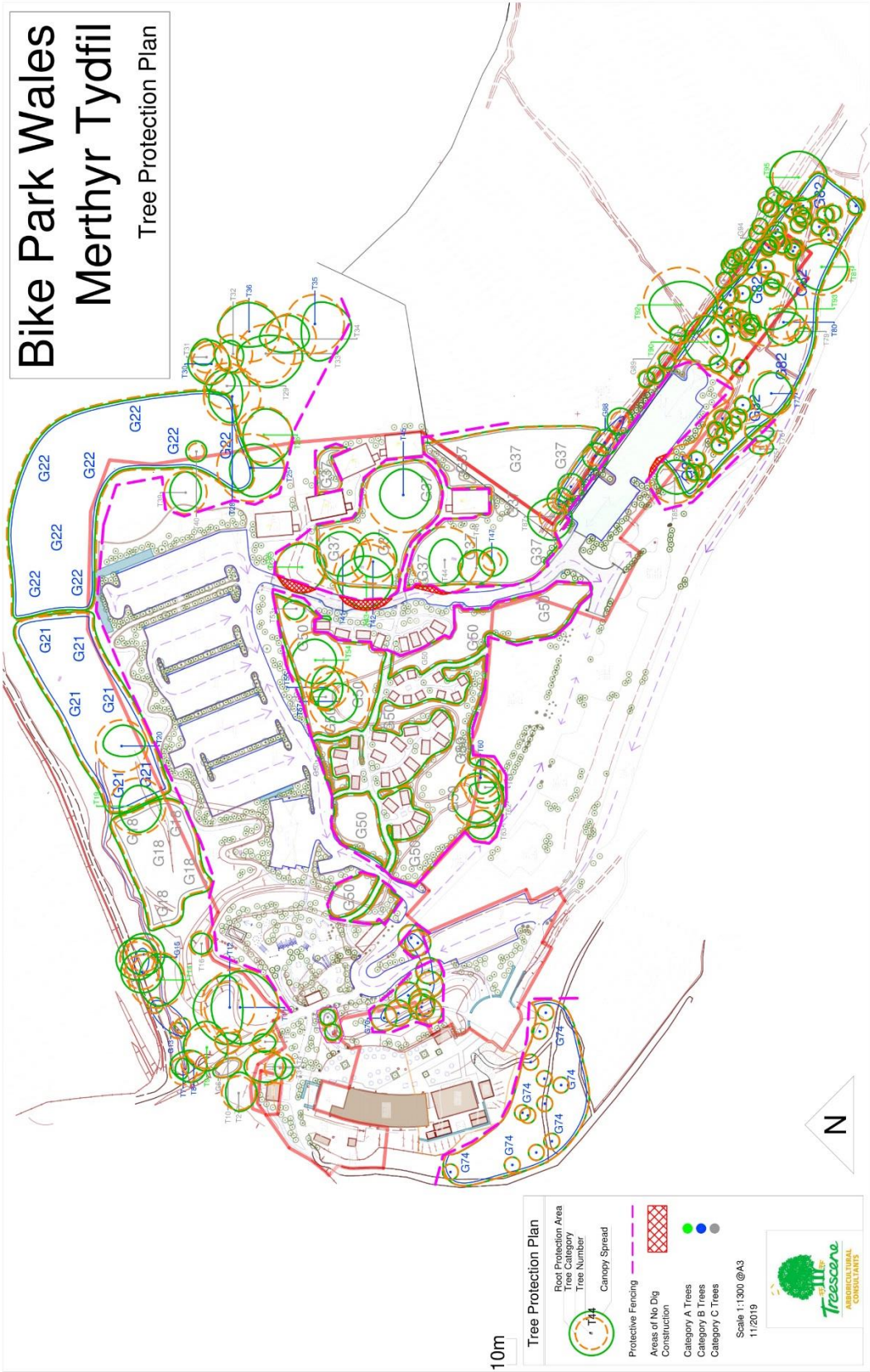
When	Date	Activity	Details	Responsible persons
March 2 nd year after planting	Phase 2 – 2020 Phase 3 – 2023	Top up mulch	Top up mulch in a circle of 600mm diameter around each tree individually planted.	Bike Park Wales appointed contractor under guidance of project arboriculturalist
March & September first three years after planting	Phase 2 – 2022, 2023 and 2024 Phase 3 – 2023, 2024 and 2025	Tree fixings	- Check tree ties & supporting woodwork for breakages, loosens and/or chaffing. - Replace, tighten or loosen as necessary.	Bike Park Wales appointed contractor under guidance of project arboriculturalist
December 3 rd year after planting	Phase 2 – 2023 Phase 3 – 2024	Tree stake removal	Remove all stakes and associated ties.	Bike Park Wales appointed contractor under guidance of project arboriculturalist
All Year	26 visits a year	Leaf picking	Fallen leaves cleared as part of litter picked should be spread in a layer of max. depth 150mm amongst wooded areas.	Bike Park Wales appointed contractor under guidance of project arboriculturalist
May and September	Every year	Pest Control	Check all stock for transmittable diseases and pests. Allow for control of pests by pruning or removal of entire plant to tip and replacement	Bike Park Wales appointed contractor under guidance of project arboriculturalist
Summer every other year post installation	Alternate years from 2021 - 2046	Checks of bat boxes and hibernacula	Remedial measures as appropriate.	Bike Park Wales appointed contractor; ecologist
January every other year post planting	Phase 2 – alternate years from 2022 - 2046 Phase 3 – alternate years from 2023 - 2047	Tree inspection general and mature trees	Please refer to Landscape Management Plan	Bike Park Wales appointed arboriculturalist
Every 5 years	January 2025 to 2047	Tree health and diversity check	A check to ensure the 10-year landscape maintenance programme does not require any adjustments; or adjustments made as required.	Bike Park Wales appointed arboriculturalist
At the end of the 25 year management plan	Autumn 2047	Management plan review	Review and collation of the data accumulated in relation to the management plan;	Bike Park Wales management team; arboriculturalist; ecologist

			formulation of the next 25-year period 2047 - 2072; and agreement with the LPA.	
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APPENDIX I: LANDSCAPE PLAN



APPENDIX II: TREE PROTECTION PLAN



APPENDIX III: LANDSCAPE ARCHITECTS COMMENTS

To: David Cross
Re: Planning Application P/19/0073
From: Landscape Architect
Ask for: Tom Bramley Ext: 6276
Date : 28th November 2019

Provision of 36 camping pods and 5 chalets, erection of shower/toilet block and creation of play and picnic area. Construction of new parking area (141 spaces) with overflow carpark (85 spaces), together with a trail maintenance yard, new highway access routes, ground profile works, drainage,, infrastructure and landscape works at Bike Park Wales Gethin Woodland Centre Abercanaid

Tree Constraints Plan

The plan is acceptable in its recommendations and for the most part provides a much needed assessment of the existing tree stands with recommendation to take action where necessary. The assessment also lays bare the quality and management considerations for what will remain woodland covered by a tree preservation order post completion of the development.

Masterplan

The masterplan adequately sets out the over-arching strategy for providing an acceptable landscape setting for the proposed development; while at the same time offering a more secure future for the woodland. The newly planted trees will effectively become part of the existing woodland tree preservation order which covers the site and therefore afforded that protection.

Management Plan

The plan identifying the area of landscape management associated with this development is acceptable, there does however not appear to be an accompanying itemised schedule that identifies the management operations that need to be carried out. Operations appear to be covered in general terms the Habitat Management Plan. While this is acceptable from a habitat management perspective it does not provide a contractual management regime and therefore cannot be enforced. An itemised schedule for management is required.

Detailed Landscape Plan Revision D

Ground preparation should avoid ripping, this is not considered to be a necessary operation in this terrain and will do more harm than good as it will destroy soil horizons and create too much disturbance of soil mycorrhiza, invertebrates, ruderal seed banks and earthworm habitats with unknown consequences; there will already have been excessive disturbance to the area as a consequence of the development and this kind of activity will exacerbate the problem. Avoid imported topsoil, topsoil retained from the site should be stored for the shortest time possible.

Planting Schedule

Transplants would be best planted as cell grown stock. A percentage of grass sward should be included along with the seed mix for woodland wild flowers. To ensure good coverage and ensure that excessive erosion does not take place (use shade tolerant fescues etc).

Otherwise ok.
Kind regards
Tom Bramley
Landscape Architect