

# **RESTORATION OF ROUND O QUARRY**

AMENDED AFTERCARE SCHEME

INCLUDING THE 5 YEAR MANAGEMENT PLAN

## **Condition 31**

24TH DECEMBER 2021

## **1 INTRODUCTION**

- 1.1.1 This document relates to Oakbay Design's Amended Restoration Proposals Drawing No. Z121.001 REV1 (Appendix 1) and should be read with the information on it and the Restoration Statement (Appendix 2).
- 1.1.2 This Aftercare scheme has been prepared for Inglenorth Limited and specifies management of habitats of the restored Round O Quarry site for an initial period of 5 years under Planning Permission No 08/10/0241 following completion of the restoration of the site.
- 1.1.3 The Local Authority (LPA) has conditioned the restoration subject to the submission of a detailed management scheme in respect to the existing and proposed ecology and landscape within the site. The plan specifies the management treatments to be applied to habitats within the site in light of monitoring results and objectives of restoration treatments.
- 1.1.4 This document identifies the key features of ecological and landscape interest associated with the site and management of these features. The methods for retaining and enhancing identified features are also detailed.

## **2 DESIGN PRINCIPLES**

- 2.1.1 The principal objective of the restoration and management of the site is to increase the site biodiversity and nature conservation value and whilst allowing a large part of the land to be restored back to open pasture land and farmed as a method of management.
- 2.1.2 The site management has been designed to create a high degree of semi natural habitats that will require minimal intervention. Where possible natural colonisation of flora and fauna species will be allowed to occur. Priority will be given to improving existing and creating additional areas of the following habitats and nature conservation.
  - Existing woodland and new edge shrub and thicket /screen planting
  - Hedgerows
  - Grasslands
  - Water bodies (Pond, Ditches and Small Seasonal Pools)
- 2.1.3 Priority will be given to the conservation of any species of nature conservation importance on site and the eradication of invasive species such as Japanese knotweed and Himalayan balsam with prescriptions for preventing further infestation.

### **3 NATURE CONSERVATION INTERESTS**

- 3.1.1 The total site area for Round O Quarry is 20.0 hectares. Historically, the main habitats on the site were a large area of grassland and areas of wet and rough grassland and gorse dominated scrub. Other habitats within the site included patches of tall ruderal vegetation and hedgerows. All of which would have supported a range of animal species including birds, mammals, invertebrates, amphibians and reptiles. More recently as part of the quarrying development, blocks of woodland have been planted to the north, east and south east of the site and screen planting has developed along the south and west boundaries of the site.
- 3.1.2 Habitats surrounding the site include arable and pasture agricultural land with some mature field hedgerows and copses and extensive broadleaved woodland in the Tawd River Valley to the west. Riverside woodland has developed along the existing streams to the south and blocks of woodland are present to the east of the site.

### **4 MANAGEMENT OBJECTIVES**

#### **4.1 Short Term Management Objectives**

- 4.1.1 In the short term following the establishment period, during Years One to Five, the Management objectives for the site comprises the creation and establishment of locally appropriate habitat types. Objectives for individual habitat types and species is defined below along with specifications for the creation and establishment. Detailed specifications for the landscaped areas are included within the Restoration Statement for the site which is included in Appendix 2.3.

#### **4.2 Monitoring**

- 4.2.1 Provision has been made for ongoing monitoring of habitats and species are included in Section 6.

### **5 CREATION AND MANAGEMENT OF DISCRETE CHARACTER AREAS**

- 5.1 Details of works required for the creation and management of individual character areas (habitat types) and species interests are given below.

#### **5.2 Existing and new woodland edge, thicket and screening.**

- 5.2.1 Bands of shrub planting will be planted along the eastern edge to the Cobbs Brow Lane woodland and to trees on the south east and to the south west of the site. The existing woodland will be enhanced through selective thinning as appropriate and the glades within the woodland will be allowed to regenerate naturally. A wide band of thicket will be planted on the southern side of the site and similar planting with alder will be planted to form a screen along the western boundary. Maintenance will focus on thinning non-native species typical to the local area and of UK provenance.

- 5.2.2 Specifications for planting of locally appropriate native shrub and scrub species are included within the planting schedule of the Restoration Statement for the scheme. It is proposed to plant lower growing edge species such as hawthorn, rose, guelder rose willow, hazel, elderberry, blackthorn, bramble and small amounts of Buddleia to the edge of the woodland planting to provide structural diversity of the habitats and enhance the value for a range of animal species, in particular birds, bats and invertebrate groups including butterflies and moths. The thicket and screen planting has been designed to include scrub species which will knit together and provide both a visual screen and also a shelter to wildlife.
- 5.2.3 Newly planted areas will be fenced to protect damage from livestock should grazing form part of the overall maintenance of the adjacent grasslands and the plants will each be protected from rabbit attack by providing rabbit guards with canes. Any failed shrubs will be replaced as necessary.
- 5.2.4 It is proposed to create additional areas of glades within the existing woodland and coppice areas for the benefit to the nature conservation interests and diversification of the woodland habitat. Small scale localised removal or coppicing of non-native trees such as sycamore and Norway maple will be reviewed particularly where these occur around the edges of the woodland. The grassland within the glades will be allowed to grow as rough grassland.
- 5.2.5 Coppicing and thinning of the newly planted woodland edge is unlikely to be required within the first 5 years of the Management Plan, although the need for such works will be reviewed at the end of the 5 year maintenance period as part of the review of all management prescriptions for the site.
- 5.2.6 Where trees are to be coppiced, either as part of the programme of management for existing woodland or following review of management requirements for newly planted trees and shrubs, the works should be undertaken during the winter months when trees are dormant and should follow traditional techniques for the benefit of both the individual tree and wider nature conservation interests. Habitat improvements can be achieved by creation of woodpiles of deadwood and also from the standing coppice stools and increased open canopy. Utilising deadwood creates a unique habitat in severe decline both locally and nationally and including this habitat within the site management would represent a significant enhancement of nature conservation value of the site for invertebrates, fungi and shelter for small mammals and amphibians.
- 5.2.7 No additional planting of ground flora species is proposed as opening up the canopy will promote the regeneration of woodland species already within the seed-bank.

### **5.3 Hedgerows**

- 5.3.1 Existing hedges adjacent to Cobbs Brow Lane should be maintained as agreed during the maintenance period by either laying or by trimming and mature trees within the hedgerow should be retained.
- 5.3.2 New hedging is proposed along part of the lower slope to the western boundary. A double row of hedging plants will be planted to form a field boundary which will be managed initially by careful pruning to create bushy plants and then trimmed to maintain a thick

base and dense hedge with an A shaped profile to a managed height of 1.2m high. Any dead, dying or diseased plants will be replaced.

## **5.4 Grasslands**

### **Pasture and Wildflower Meadow.**

- 5.4.1 The restored area shall be farmed by annual cutting of the grass for hay and silage and or managed by livestock grazing and be maintained as permanent grassland. Stocking density shall be low to prevent overgrazing. This management method will maintain the grassland as short pasture and create suitable foraging and a suitable nesting habitat for declining farmland birds. Areas of poor take of poached areas will be allowed to regenerate naturally. The soil will be tested for Ph however, no additional chemical fertilisers will be applied ensuring nutrient levels remain low. Any debris brought to the surface that will potentially damage the Farm machinery used should be hand picked and removed and used in making the hibernacula piles around the site.

### **Wet Grassland and Rush Pasture**

- 5.4.2 The wet grassland and rush pasture will be managed as a permanent habitat in poorly drained areas and alongside the ditches and ponds. Seeded areas will be allowed to develop with natural and local seed sources and to colonise naturally. The grasses will be cut annually in August with the arisings allowed to dry out prior to removal to be composted. Review will be undertaken in August each year to prepare a schedule of works to ensure that the Wet Grassland and Rush Pasture is retained as an ecological resource. Tall weed species including stinging nettle, thistle, dock and ragwort will be cut and removed from site. Areas of poor take will be allowed to regenerate naturally.

### **Species Rich Wildflower Grassland**

- 5.4.3 The species rich wild flower grassland will be managed as a permanent habitat as shown on Drawing Z121.001 Rev1. Seeded areas will be allowed to develop with natural and local seed sources and to colonise naturally. The grasses will be cut annually in August with the arisings allowed to dry out prior to removal to be composted or baled. Review will be undertaken in August each year to prepare a schedule of works to ensure that the habitat is retained as an ecological resource. Tall weed species including stinging nettle, thistle, dock and ragwort will be cut or hand weeded and removed from site. No artificial treatments should be used. Areas of poor take may be reseeded. After 5 years or when agreed, grazing will be allowed once the community has been established.

## **5.5 Water bodies**

### **New Pond**

- 5.5.1 Wetland habitats of value to wildlife are incorporated into the scheme. The creation of such habitats will contribute to national and local biodiversity objectives.

- Conservation of aquatic and marginal plant species of conservation importance
- Creation of key BAP habitats comprising reed-beds and standing open water/ponds
- Prevention of excessive siltation of open water habitats
- Re plant appropriate aquatic macrophyte and emergent vegetation species if considered necessary.
- Incorporation of purpose built hibernacula suitable for common amphibian and reptile species.

5.5.2 The new pond to the south east of the site shall be cleared of debris, desilted and provide for the removal of overgrown plants to provide open water. The existing banks should then be assessed to review retention of plants. The pond will then be retained to enhance its value to wildlife which will include some replanting of the existing plants but also allow natural regeneration. To minimise future management requirements supplementary planting if required should include only locally appropriate native non-intrusive species that will not encroach rapidly on the open water habitats. Management should be supported by appropriate maintenance of adjacent terrestrial habitats. This should include the creation of wood or rubble piles to provide shelter and for small mammals and common amphibian species.

### **Ditches**

- 5.5.4 Existing periphery drains will be assessed on a yearly programme to ensure that they are clear of obstructions and silting. It is proposed to enhance the management techniques through a programme of seeding of wetland species and allow natural colonisation and the alteration of ditch dredging specifications to maximise the potential interest of ditches to wildlife. On the ditch bankings and margins, emergent plant species will provide structural diversity and offer foraging interest to species such as water voles and wetland birds including reed bunting.
- 5.5.5 Using standard methods it may be possible to use a ditch dredging scheme to create a diverse habitat whilst maintaining hydrological flow. Care should be taken during ditch cleaning to conserve emergent vegetation at the fringes of the water line.

### **Shallow scrapes and pools**

- 5.5.8 Shallow scrapes and pools will be maintained by a combination of poaching by livestock, grazing, grass cutting and vehicular wheel rutting to maintain open and sparsely vegetated conditions and to prevent colonisation of terrestrial species. Scrapes must be shallow less than 0.3m deep and will be dependent on ground water levels. The scrapes and pools will form a suitable habitat for water beetle and should be managed for the conservation of other invertebrate species.

### **Invasive species**

- 5.5.9 Any Indian Balsam present on site should be hand-pulled prior to flowering and disposed of off-site.or treated with Glyosphate.

- 5.6.2 Japanese knotweed is currently present on site and control should be undertaken prior to the implementation of the landscaping following the guidelines set out in the Environment Agency publication 'Managing Japanese Knotweed on Development sites: the knotweed code of practise (2006).'
- 5.6.3 In view of the timescales, it is envisaged that treatment with an appropriate herbicide such as 'Roundup' will comprise the most effective and appropriate treatment. The Environment Agency advises that the glyphosate based treatment should be undertaken where treatment over a period of three years or more is practical to achieve eradication and is achievable at this site. 'Roundup' should be applied during the growing season between May to October to manufacturers recommended rates.

### **Birds**

- 5.7.1 Nesting birds are protected under the Wildlife and Countryside Act 1981 as amended. Vegetation clearance works will be undertaken outside the bird breeding season (March to August inclusive), where possible to minimise risks of disturbance to nesting birds. Should clearance works within the bird breeding season be unavoidable, works will not be started until the site has been inspected and approved to ensure that no nests are disturbed.
- 5.7.2 Tree and shrub management works should only be undertaken between December and February. This may result in localised reduction of the availability of nest site and it is proposed that bird boxes be installed on suitable trees around the site. Nest boxes should be sited 3-5m from the ground where they are sheltered from heavy rain and extreme sun and on the edge of favourable foraging habitat.
- 5.7.3 The creating of wet grassland and rough grassland areas will provide nesting habitats for birds such as curlew, lapwing, skylark and meadow pipit, and the permanent pasture will provide foraging for these species.

### **Bats**

- 5.8.1 Habitats within the site will provide suitable foraging habitat for bats and the implementation of the management works and creation of wetland features will further improve the general quality of the site for feeding bats.
- 5.8.2 In order to provide roosting opportunities on site, bat boxes will be installed on mature trees around the site. Bat boxes should be mounted 3m from the ground near to streams, ponds or woodland edges that form natural flight paths/corridors. A minimum of 12 bat boxes should be installed grouped three to a tree and arranged facing south west, south east and north to provide roosting conditions in a variety of weather conditions.

### **Amphibians and reptiles**

- 5.9.1 Amphibians and reptiles prefer well-vegetated habitats with extensive groundcover associated with damp conditions. The habitats on site offer a mosaic of suitable conditions that can be enhanced by additional management works. The restored areas and new pond and ditch system should be managed to create suitable habitats for these species.

- 5.9.2 It is proposed to provide hibernacula structures to provide shelter and for over wintering of amphibians and reptile species. Suitable structures will be made out of dried grass and compost arising from grass management works and dead wood/cuttings from woodland management works built up on timber pallets with soils to form a mound. These piles should be created within 25m of wetland areas. In addition it is proposed to arrange small discrete piles of brick and stone to provide shelter for these species.
- 5.10.2 The gates and fencing to the entrance to the site should be inspected twice a year and maintained/repared to restrict access. The surface of the short access roadway will be inspected annually. Any soft spots or wear will be raked over and re-rolled and repairs undertaken as necessary to ensure a firm well bound surface.

### **Landscape Management Planning**

- 5.11.1 The initial establishment period of the landscape management plan for the first 5 years has been established for the scheme. The site will be visited in August each year by the Landscape Architect to monitor and assess the development of the various habitats based on the plan.

## **6 MONITORING AND REVIEW OF MANAGEMENT PLAN**

- 6.1.1 A programme of monitoring will be undertaken annually over a fifteen year period to assess the effectiveness of management prescriptions and habitat creation and enhancement. The following is a summary of the monitoring to be undertaken.
- **Woodland /scrub:** Annual review of the success of previous year's coppicing, regeneration and tree work to include growth rates, woodland floor flora regeneration and the health and success of new planting and replacement of failed plants. All tree guards and canes will be straightened
  - **Hedgerows:** Annual review of maintenance of existing hedgerow trees and success of new planting and replacement of failed plants.
  - **Ditches and pond:** Yearly review to monitor the vegetation and agree maintenance including supplementary planting if required and removal of leaves and silt.
  - **Grasslands:** Annual review and monitor the success of the grassland management regime and make recommendations/alterations to the regime as appropriate. Identify areas of poor take or poaching for re-cultivation and seeding if considered necessary.
  - **Wetlands:** Annual review and monitor the success of the wetland management regime and make recommendations to for alteration to the regime as appropriate.
  - **Invasive species:** During site visit in August the site should be checked to ensure invasive species remain absent.
  - **Birds:** Bird boxes and mounting shall be checked annually and for use by nesting birds



- **Bats:** Bat boxes and mounting shall be checked annually and for use by roosting bats. Boxes that have not been used within the first 2 years should be relocated to areas of favourable habitat to encourage uptake.
- **Amphibians and reptiles:** Annually check condition of hibernacula and rebuilt or added to with appropriate materials if necessary.
- **Fencing and gates.** Check for damage and repair as necessary. Continuous

## 7 Implementation

- 7.1.1 The management of the proposals set out in this document will be implemented during each year as detailed in Section 6 above and the 5 year Maintenance Plan attached to this report.
- 7.1.2 The implementation of the strategy will be assured by Inglenorth Limited.

### APPENDIX 1 : PLANS

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|----------------------------|----------------------------|
| Drawing No Z121.000        | Location Plan              |
| Drawing No Z121.001, Rev 1 | Restoration Proposals      |
| Drawing No Z121.002. Rev 1 | Sections                   |
| Drawing NO Z121.003        | Pond Details and Sections. |

### APPENDIX 2: RESTORATION STATEMENT 24<sup>TH</sup> December 2021

### APPENDIX 3: FIVE YEAR MANAGEMENT PLAN

24<sup>th</sup> December 2021