PROPOSED SITE CLOSURE AND RESTORATION

Restoration Scheme

The principal activity which will be undertaken at the application site is the backfilling and restoration of disturbed lands within an existing sand pit and a neighbouring agricultural field. The objective of the backfilling using imported inert soil and stone waste is to restore the disturbed landform to something similar to that which predated the extraction activity at the site and in so doing provide an improved landform which merges into the surrounding landscape and facilitates the return of the site to agricultural use, as indicated in the restoration plan provided in Figure 2-6 of the EIAR which accompanied the recent planning application. The subject lands will either be left as natural grassland, let to a local farmer for grazing / tillage purposes or left largely fallow / unattended, to be naturally recolonised by native vegetation.

The waste activity which is the subject of this licence application is, in and of itself, essentially a site closure and remediation project, albeit using imported inert natural soil and stone materials which are managed and controlled as waste. On cessation / completion of backfilling and restoration activities, the bulk of the site closure works will be completed and some minor works will be required thereafter to complete the works. These are outlined below.

Capping and Decommissioning

A cover layer comprising 150mm of topsoil and approximately 150mm of subsoil shall be placed over the inert filled materials on completion of the filling activities. This will initially be seeded with a native grass mix in order to promote stability and minimise soil erosion and dust generation. In addition, a number of woodland areas will be planted, as per the planting scheme identified on Figure 2-6 of the EIAR.

Topsoil and subsoil will be imported to the site on a continual basis and shall not be used immediately in the restoration of the worked-out pit. The topsoil and subsoil shall be stockpiled separately pending re-use toward the latter stages of the infilling works, when the top surface of filled ground approaches the finished ground levels envisaged by the restoration scheme. These materials shall be stored separately within the application site, away from the active filling areas and in such location and manner as not to create any temporary adverse visual impact or dust nuisance.

Site Management and Supervision

The Applicant will clearly define the management responsibility for the site restoration work and will ensure that this person has the necessary information (from the EIAR, planning application and waste licence application) and authority to manage and direct the restoration works. Relevant site based staff will be briefed on the scheme and will be adequately supervised / controlled. A system of record keeping for the key restoration activities will be put in place.

Decommissioning

On completion of the filling and restoration works, all mobile plant and equipment associated with the waste recovery activities will be removed off-site. Any dedicated site accommodation infrastructure and/or services (not shared with other site activities) will also be progressively decommissioned and/or removed off-site. Any mobile plant or equipment which is shared and also used or required to operate the adjoining concrete production facility will remain in-situ. Where necessary, hard standing surfaces will be broken up using a hydraulic breaker and subjected to validation testing prior to transfer off-site to authorised construction and demolition waste recovery facilities. `

Long Term Security and Safety

At the present time, the former pit / property boundary is secured by entrance gates, post and wire fencing and/or hedgerow. Following licence award, a perimeter survey of the entire property boundary will be undertaken and where necessary, new boundary fencing will be erected, existing fencing will be repaired and/or replaced and hedgerows will be strengthened or fortified by additional planting.

All components of the barrier system outlined above will remain in placed following cessation / completion of waste recovery activities at the application site. Existing hedgerows surrounding the development will be strengthened and thickened where required. These measures, combined with the secure and locked entrance gates to the development will continue to prevent unauthorised third party access.

Long Term Surface Water and Groundwater Management

Following restoration, surface water will continue to percolate to ground around the application site. There will be no requirement for any active long term surface water or groundwater management at the application site.

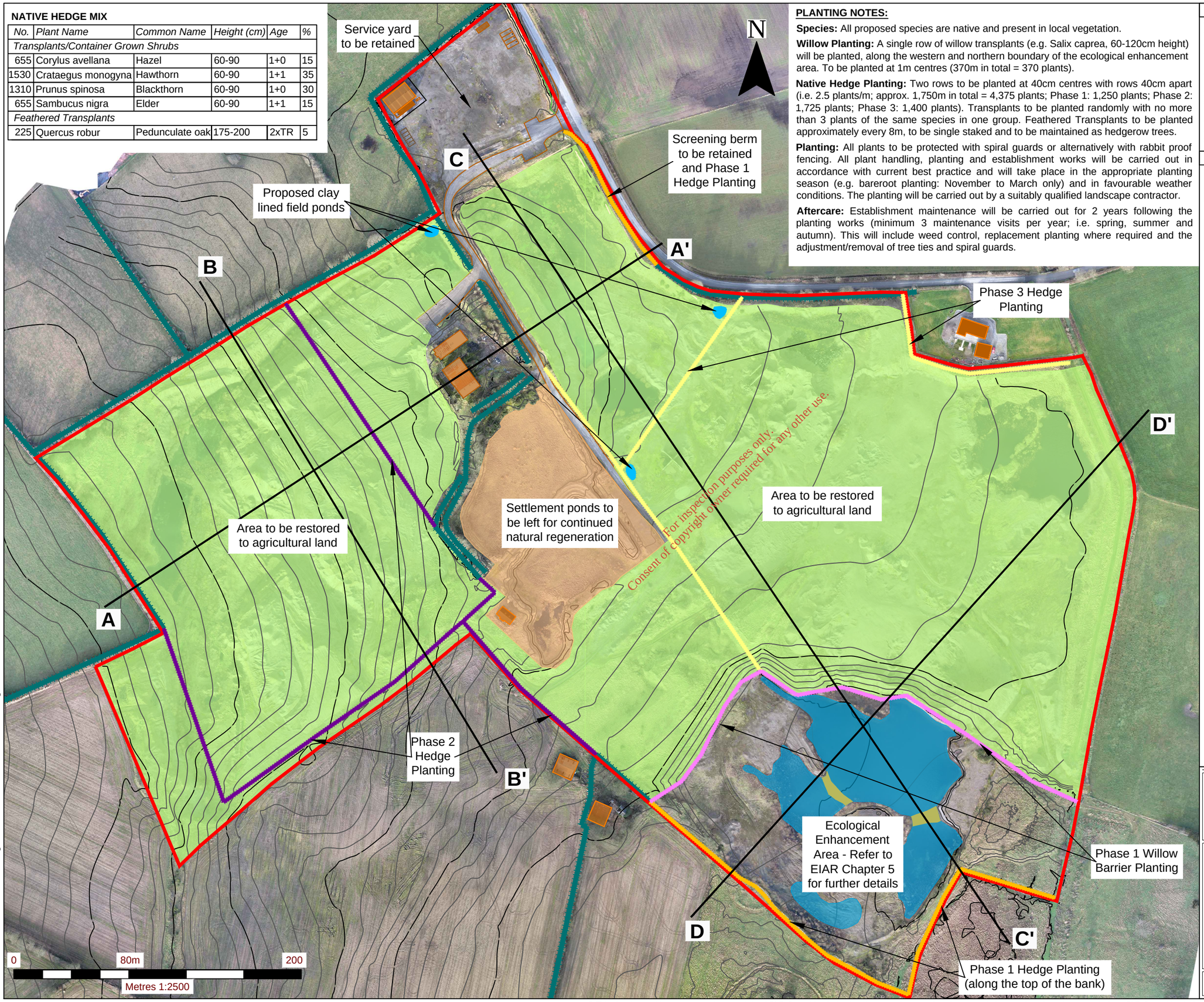
Aftercare and Monitoring

Establishment maintenance will be carried out for 3 years following the planting works (minimum 3 maintenance visits per year; i.e. spring, summer and autumn). This will include weed control, replacement planting where required and the adjustment/removal of tree ties and spiral guards.

Thereafter, the restored lands will either be let to a local farmer for grazing/tillage purposes or will be left largely unattended, to be naturally recolonised by native vegetation. It is expected that over time, the infilled site will return to a woodland / grassland habitat, similar to that which originally existed prior to sand and gravel extraction, and that the restored landform will ultimately merge into the surrounding local landscape which comprises a woodland / grassland mosaic.

NATIVE HEDGE MIX

No.	Plant Name	Common Name	Height (cm)	Age	%
Transplants/Container Grown Shrubs					
655	Corylus avellana	Hazel	60-90	1+0	15
1530	Crataegus monogyna	Hawthorn	60-90	1+1	35
1310	Prunus spinosa	Blackthorn	60-90	1+0	30
655	Sambucus nigra	Elder	60-90	1+1	15
Feathered Transplants					
225	Quercus robur	Pedunculate oak	175-200	2xTR	5



PLANTING NOTES:

Species: All proposed species are native and present in local vegetation.

Willow Planting: A single row of willow transplants (e.g. Salix caprea, 60-120cm height) will be planted, along the western and northern boundary of the ecological enhancement area. To be planted at 1m centres (370m in total = 370 plants).

Native Hedge Planting: Two rows to be planted at 40cm centres with rows 40cm apart (i.e. 2.5 plants/m; approx. 1,750m in total = 4,375 plants; Phase 1: 1,250 plants; Phase 2: 1,725 plants; Phase 3: 1,400 plants). Transplants to be planted randomly with no more than 3 plants of the same species in one group. Feathered Transplants to be planted approximately every 8m, to be single staked and to be maintained as hedgerow trees.

Planting: All plants to be protected with spiral guards or alternatively with rabbit proof fencing. All plant handling, planting and establishment works will be carried out in accordance with current best practice and will take place in the appropriate planting season (e.g. bareroot planting: November to March only) and in favourable weather conditions. The planting will be carried out by a suitably qualified landscape contractor.

Aftercare: Establishment maintenance will be carried out for 2 years following the planting works (minimum 3 maintenance visits per year; i.e. spring, summer and autumn). This will include weed control, replacement planting where required and the adjustment/removal of tree ties and spiral guards.

NOTES

*'Orthomosaic produced from Aerial Photography flown **January 2018** by SLR Consulting Ireland (IAA Permit No. 150052) www.slrconsulting.com Tel. +353-1-2964667.*

Orthomosaic produced using Ground Control Points; Related to Irish Transverse Mercator Coordinate System and OS Malin Head Level Datum.

The accuracy of the orthomosaics and the digital elevation models (DEM) strongly depends on the flight height, lighting conditions, availability of textures, image quality, overlap, and type of terrain. Contours / 3D data relates to the surface model and not terrain levels. Typical accuracies: E: 0.05 m; N:0.05 m; Levels: 0.30 m.

All Dimensions and Levels are to be checked on site.

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LEGEND

- PLANNING APPLICATION AREA
- EXISTING HEDGEROWS TO BE RETAINED
- SETTLEMENT LAGOONS TO BE LEFT FOR CONTINUED NATURAL REGENERATION
- ECOLIGICAL ENHANCEMENT AREA (REFER TO EIAR CHAPTER 5 FOR FURTHER DETAILS)
- AREAS TO BE RESTORED TO AGRICULTURAL LAND (AS SOON AS SUITABLY LARGE SECTIONS BECOME AVAILABLE)
- FIELD PONDS (TO BE INSTALLED AS PART OF FINAL RESTORATION, CLAY LINED, APPROX. 5M DIAMETER, WITH SHALLOW MARGINS AND UP TO 1.5M DEEP AT THE CENTRE)
- PHASE 1 WILLOW PLANTING (TO BE PLANTED ON COMMENCEMENT OF THE DEVELOPMENT TO PROTECT THE NORTHERN AND WESTERN BOUNDARY OF THE ECOLOGICAL ENHANCEMENT AREA)
- PHASE 1 NATIVE HEDGE PLANTING (TO BE PLANTED ON COMMENCEMENT OF THE DEVELOPMENT AT THE SITE ENTRANCE AND TO PROTECT THE SOUTHERN BOUNDARY OF THE ECOLOGICAL ENHANCEMENT AREA)
- PHASE 2 NATIVE HEDGE PLANTING (TO BE PLANTED AS SOON AS THE FILLING OF THE WESTERN/ELEVATED PART OF THE SITE IS COMPLETED)
- PHASE 3 NATIVE HEDGE PLANTING (TO BE PLANTED ON COMPLETION OF ALL FILLING WORKS)

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DUNLAVIN LAND RESTORATION LTD.

ENVIRONMENTAL IMPACT ASSESSMENT REPORT

LANDS AT USK TOWNLAND, KILCULLEN, CO. KILDARE

FINAL RESTORATION SURFACE

FIGURE 2-5

Scale: 1:2,500 @ A3

Date: JULY 2019

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