PROPOSED MINERAL EXTRACTION IN MIN 19 AND MIN 205 LANDSCAPE AND RESTORATION PROPOSALS

1.0 INTRODUCTION

1.1 Middleton Aggregates propose to submit a planning application to work two areas of identified Mineral (Min 19 and Min 205). Min 19 already has the benefit of an allocation in the current Minerals Plan.

1.2 Policies particularly important for mineral development in the river valleys are shown below and it is important that any mineral extraction and restoration proposals are able to comply with these policies.

1.3 **ADOPTED CORE RIVER VALLEY POLICY**

Development Management Policy DM2 – Core River Valleys

Development will only be permitted in Core River Valleys (as shown on the Proposals Map) where it can be demonstrated to enhance the local landscape and/or biodiversity (either immediately or on restoration) and not impede floodplain functionality.

Applicants will be expected to demonstrate that proposals will enhance the form, local character and distinctiveness of the landscape and natural environment of a river valley. In the particular case of mineral extraction proposals, an assessment of any impacts will include:

- consideration of the potential impacts or enhancement of the landscape and natural environment, both during and after working;
- the duration of any adverse impacts, and mitigation and/or compensatory measures to replace losses; and
- the provision of any long-term asset enhancement through restoration proposals.

1.4 **EMERGING POLICY**

Policy MP5: Core River Valleys

Minerals development will only be permitted in Core River Valleys (as shown on the Policies Map) where the applicant demonstrates that the development will:

- enhance the form, local character and local distinctiveness of the landscape; and
- enhance the biodiversity of the river valley (either immediately or on restoration); and
- not impede floodplain functionality.

An assessment of any impacts from mineral development will include:

- consideration of the potential impacts or enhancement of the landscape and natural environment, both during and after working;

- the duration of any adverse impacts, and mitigation and/or compensatory measures, as appropriate, to replace losses; and
- the provision of any long-term asset enhancement through restoration proposals.

2.0 DESCRIPTION OF THE SITE

2.1 Min 19 was formerly occupied by the Tamac Coating Plant and the Middleton Aggregates sand and gravel processing plant. The coating plant has recently been removed leaving a large proportion of Min 19 as bare ground with some pile of tarmac. The Middleton Aggregates processing plant to the west of the area remains and will continue to operate for the life of the permitted quarry (Planning Permission expires 31/12/24). Min 19 is bordered by restored lakes and vegetation to the north and west and by the river Nar to the south. The current restoration for the site shows Min 19 restored to woodland at completion of extraction over the site as a whole and removal of the mineral processing plant (currently expected in 2024).

2.2 Min 19 to the east is a large field in active arable cropping and crossed by a track used by fisherman to access Nar Valley Fisheries. Min 19 is separated by Min 205 by a mature hedgerow with a number of mature trees present.

2.3 At this location, the River Nar is in a heavily modified, deep, steep -sided channel. Indeed the Rivers Trust on their website identify that *"Work has taken place to improve the habitat diversity and wildlife at a heavily modified section of the River Nar between Pentney Abbey and Blackborough End, with steep flood banks and a featureless character".*

2.4 https://norfolkriverstrust.org/project/river-nar-pentney/

2.5 The south of the river has been planted with large scale popular plantation whilst to the north of the mineral extraction areas are large scale coniferous plantations. All of these are considered to be out of character with a lowland river valley.

Figure 1 – Existing sand and gravel processing plant in Min 19

Figure 2 – Bare ground of the removed tarmac processing plant in Min 19

Figure 3 – The open field of Min 205 with the angler's access track crossing

Figure 4 – Mature trees in the north-south hedgerow to be retained

Figure 5 – Large restored lakes are a feature of the restored mineral working to the west of Min 19

Figure 6 – Heavily modified river channel of the river Nar and large-scale poplar plantations to the south bares little relationship to the original river valley character that would have existing in the past (refer also the Rivers Trust website comments)

3.0 PROPOSED WORKING AND RESTORATION OF THE AREAS

3.1 It is proposed that both of the areas are worked in tandem and partially connected for continuity by the removal of some of the sections of hedgerow and smaller trees. The area would be would be selectively worked below the water table to form a series of small water bodies with the areas in between the water bodies left (or restored) to around water table level (assumed to be 3.0m AOD) to allow the creation of a wide diversity of habitats as part of the restoration (see Figure 1).

3.2 The significant trees in the dividing hedgerow wall all be retained to maintain continuity to the local landscape. Appropriate stand-offs to the trees will be maintained as advised by Ravencroft Arboricultual Services.

3.3 The water bodies would range in size from 0.8ha to 1.7ha and be similar to those currently seen at the eastern end of the current restoration. Although the creation of one or two larger water bodies would have been easier from an operational point of view this has been avoided as it was considered that such water scale of water bodies would have been in contravention of the above river valley policies. The margins of the water bodies have been specifically designed to be steep to deter geese and other large wading birds in accordance of the requirements of the MOD whilst at the same time maximising biodiversity opportunities for a range of other species.

3.4 The area around the lakes will be restored largely to wet woodland including the following species that are typical of this woodland type:

Trees

Common alder	*Alnus glutinosa*
Downy birch	*Betula pubesens*
Crack willow	*Salix fragilis*

Shrubs

Goat willow	*Sailx caprea*
Grey willow	*Salix cinerea*
Purple willow	*Salix purpurea*
Hawthorn	*Crataugus monogyna*
Guelder rose	*Viburnum opulus*
Purging buckthorn	*Rhamnus cathartica*

3.5 Other habitat features would be areas of wet and dry grassland (both being allowed to develop naturally on varying restored soil profiles, low sand banks along the northern (south facing margins). All of these will add to the landscape diversity of the area. The following photographs have all been taken immediately adjacent to the site.

3.6 It is also proposed to contact the Rivers Trust to investigate opportunities about linking the habitats of the site into the those of the River Nar.

Figure 7 – Image of one of the restored water bodies close to Min XX showing how they fit in with the landscape of a restored river valley

Figure 8 – Another view of one of the restored water bodies

Figure 9 – Developing acid grassland on sandy exposures

Figure 10 – Developing wet woodland with fringes of marginal vegetation

4.0 MANAGEMENT

4.1 The restored wetland mosaic would be managed exclusively for wildlife and not form part of the fishery (thus avoiding the disturbance that other water bodies on the site are subject to). Trails connecting the water bodies would allow vehicular access for management and allow for the close observation of the wildlife.

4.2 **ECOLOGICAL VALUE OF THE RESTORED SITE**

The restored mosaic of small water bodies, wet woodland and open grassland areas will attract a range of small nesting birds associated with such habitats such as reed warbler *Acrocephalus scirpaceus* and sedge warbler *Acrocephalus schoenobaenus*, reed bunting *Emberiza schoeniclus*, willow warbler *Phylloscopus trochilus* and blackcap *Sylvia atricapilla*. It will also provide excellent feeding opportunities for local bat species (5 species have already been recorded around the site as part of ecological monitoring for these sites).

4.3 The water bodies will be connected by shallow ditch features which will attract bird such as moorhen *Gallinula chloropus* and water rail *Rallus aquaticus*.

4.4 Barn owl *Tyto alba* boxes have already been erected on some of the mature trees to be retained whilst further bird boxes will be erected on some of the other trees. A range of bat boxes will also be provided to enhance bat roosting potential. Furthermore, a bat maternity house will be

erected close to the northern boundary of one of the northern lakes. One of these has been installed successfully at Mintlyn Crematorium.

Figure 11 – Bat hibernation box

4.5 The narrow marginal fringes will prove an attraction for Odonata (dragonflies) whilst the retention of some south facing sandy banks will attract aculeates (bees and wasps). The provision of a larger scale sand bank facing east on the edge of one of the water bodies (either retained or created) would be beneficial for sand martins.

4.6 Any vegetation cut from the central hedgerow will be used for habitat enhancement. An otter holt would be created at an appropriate time in the restoration.

5.0 SUMMARY

5.1 The working of both Min 19 and Min 205 provide the opportunity to create a diverse landscape and series of habitats that will compliment the valley of the River Nar and potentially provide an enhancement of the river corridor itself, thus fully complying with the above policies.

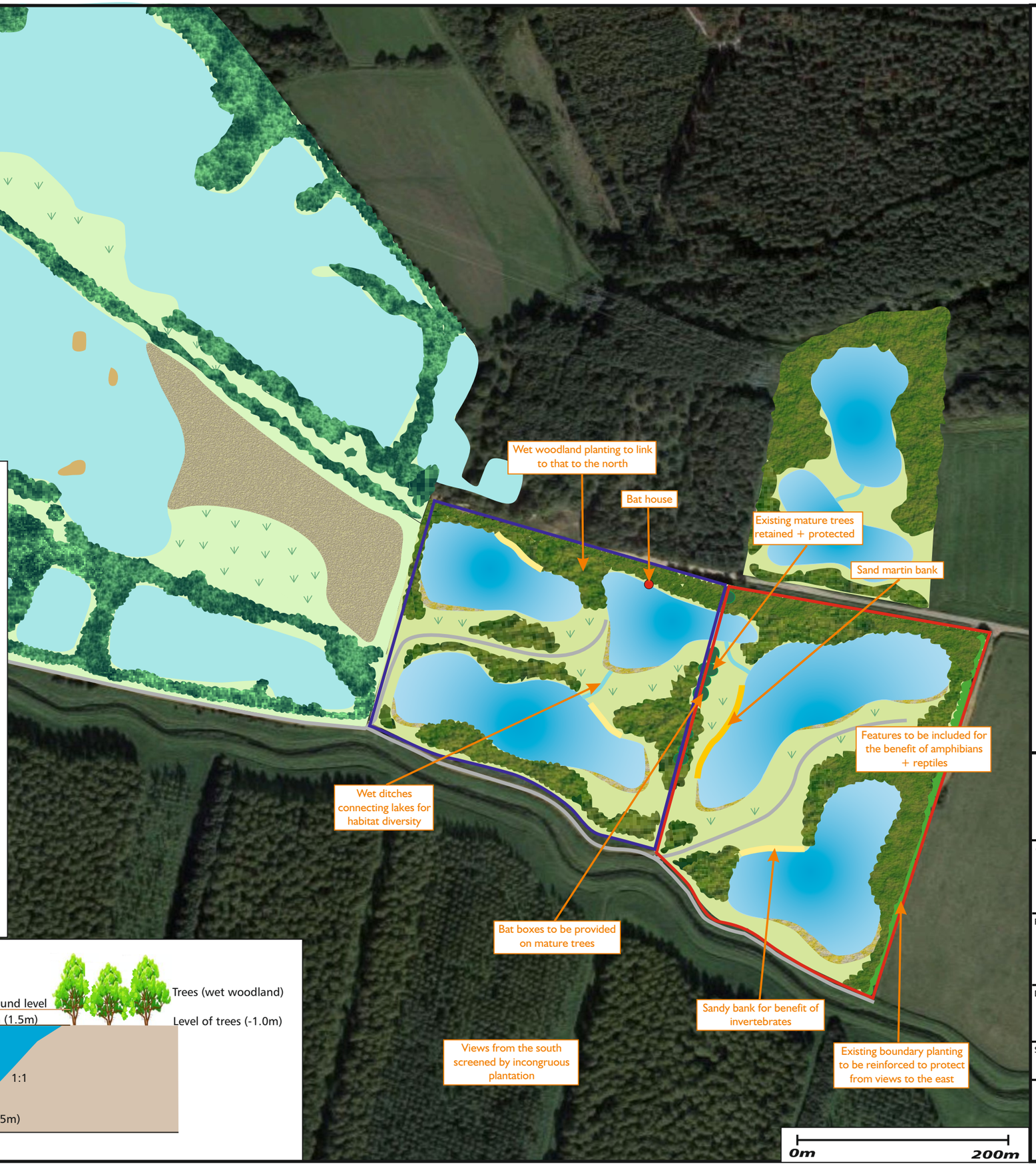
Wet woodland
The site is currently a mosaic of bare ground (Tarmac existing allocation) and arable (Tarmac proposed allocation). The concept is to create the appearance of a wet woodland to match the adjacent small wooded water body rather than a single extensive water body. Margins to the lakes to be as steep sided as possible (given the stability of the mineral). Any reed planting shown will be limited and on shelves just below water level to limit use by birds.

Major trees
Alder
Crack willow

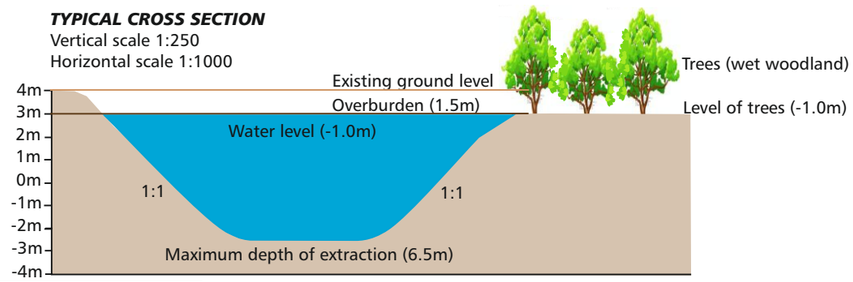
Minor trees
Downy birch
Pendunculate oak
Holly
Goat willow

Major shrubs
Grey willow
Elder

Minor shrubs
Hawthorn
Guelder rose
Blackthorn
Purging buckthorn
Osier
Purple willow



TYPICAL CROSS SECTION
Vertical scale 1:250
Horizontal scale 1:1000



KEY

- Proposed Allocation Area
- Existing Allocation (MIN 19)
- Existing vegetation
- Existing lake/island
- Existing reedbed
- Tree to be retained
- Proposed wet woodland
- Proposed advanced hedgerow planting
- Proposed pond
- Proposed reed fringe
- Proposed wet grassy glade just above water level with walkway
- Proposed sand martin bank
- Proposed sandy bank for invertebrates
- Proposed bat house

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MIDDLETON AGGREGATES

PROJECT
PROPOSED MANAGEMENT OF LAND AT PENTNEY QUARRY, NORFOLK

DRAWING TITLE
RESTORATION PLAN

SCALE	DATE	DWG NO	REV
NTS	JULY 2019	P2013 - 03 D7	F

REV	DATE	DETAILS