

# CHANGE OF USE APPLICATION;

## ENGINEERING OPERATIONS TO ENABLE WATER LEVEL MANAGEMENT

AT WORLD'S END FIELDS, MOSS LANE

WHIXALL

SHROPSHIRE

5 MARCH 2021

On behalf of

Natural England

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**NOTE - Due file size restrictions this web version of the version of the document omits the photos of the access points.** The version submitted to Shropshire Council includes these.

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## 1.0 Introduction

1.1 This supporting statement accompanies an application by Natural England (NE) for engineering works to allow the water levels to be managed on the land known as **World's End Fields**.

1.2 Constructive pre-application advice has been received from Shropshire Council following a request by Shropshire Wildlife Trust/NE as part of the Marches Mosses BogLIFE Project (LIFE15NAT/UK/000786). Subsequently this application has been assembled including additional specialist surveys and design works. In addition, NE have been pro-active in liaising with neighbouring property owners and the local community.

1.3 The BogLIFE Project aims to allow better control of water levels to enable wetland habitat to be restored on land acquired in 2017. The land is peatland and originally formed the edge of the internationally important Fenn's, Whixall, Bettisfield, Cadney and Wem Mosses SAC and Ramsar site, significant as the 3<sup>rd</sup> largest lowland raised bog in the UK. The proposal will enable the water levels across the land to be managed to afford optimum conditions to allow bog edge habitats to re-establish such wet grassland, fen and wet carr woodland. Re-wetting the land will prevent further deterioration of the peat, including in the deeper peats of the adjacent Bettisfield Moss NNR and in due course mitigate the associated release of Green-house Gases.

1.4 The application has been carefully developed by an experienced drainage engineer in a way that seeks to protect the drainage of neighbouring landowners and to reduce the wear on the remaining pumped drainage system.

1.5 The documents included within the application are listed within Appendix 1 at the end of this report.

## 2.0 Site Location and Context

2.1 World's End Fields are located to the west of the loose-knit settlement of Whixall close to the Welsh Border. The site is located 5.3 miles north of Wem and 6.5 miles south west of Whitchurch.

2.2 The site is accessed from Moss Lane which leads to World's End with the subject fields located north side of the unadopted section of this lane. Although this site is separated from the main part of the Mosses at Fenn's and Whixall by the Llangollen Canal it adjoins the part of the SAC/SSSI known as Bettisfield Moss.

2.3 Bettisfield Moss forms part of the National Nature Reserve and Special Area of Conservation managed Natural England and Natural Resources Wales. Bettisfield Moss is particularly important for supporting the largest and best surviving fragment of original bog which was not subject to peat cutting. Peat depths exceed 7m and conservation of a healthy bog habitat here requires a suitable hydrological regime being supported on adjoining peatland areas where possible.

2.4 The purpose of this development is to restore and enhance the biodiversity interest of the Worlds End fields and to support the integrity of the adjoining Bettisfield Moss as constituent parts of the SSSI/SAC. To enable this to happen the World's End Fields are to be subject to a more favourable but managed hydrological regime conducive to the restoration of characteristic wetland habitats; and necessary for long-term conservation of the peatland resource.

2.5 It is not expected that the development will attract additional visitors as the application site will have no public access. Notwithstanding this any additional visitors arriving in vehicles can utilise the existing public car park provided by Natural England at the end of Moss Lane. This already serves existing visitors to the trail around Bettisfield Moss NNR.

### **3.0 Proposed Development**

3.1 Please see enclosed additional reports and surveys which provide detailed and expert knowledge on the scheme at World's End, however a summary is provided below:

#### **Archaeology**

3.2 It is considered that the low-level bunds and water level management will not have a significant impact upon the archaeology of the site. The submitted document (Archaeological and historic environment statement for the World End's Fields, Whixall V3) provides further clarification; it concludes that because of the previous agricultural operations, there is a low chance of any artefacts having survived. Notwithstanding this, the preservation of any artefacts in situ will benefit from the improved water level management. The proposal will also support the water tables and thereby any artefacts in the much deeper peats of the adjacent Bettisfield Moss which has not been subject to such agricultural operations.

#### **Ecology**

3.4 The pre-application advice request and subsequent meeting with the Shropshire Council Ecology Team supported the objectives of the application particularly given that the proposal and wider BogLIFE Project provides clear betterment for local ecology and biodiversity. However, at the time of the pre-application full ecological surveys had not been carried out and it was evident that these would be required to support the application.

3.5 Please refer to ecology report document (Ecological Survey Report - Worlds End Fields) and Shadow Habitats Regulation Assessment for the Worlds End Fields Jan 2021. The overriding conclusion is that the development will provide the necessary habitat improvement required to meet the conservation objectives of the internationally important, Fenn's, Whixall, Bettisfield, Wem and Cadney Mosses SAC, SSSI and Ramsar site. The land is currently classed as being in an '*unfavourable declining*' conservation condition and the application seeks improve this to a recovering condition. The immediate impacts for species are summarised below;

- Bats – conserve the hedgerow boundary and trees; although they provide a low suitability they provide a suitable area for additional roosting facilities.
- Nesting Birds – provision of a scheme to ensure the sensitive selective removal of small areas of vegetation and longer-term re-vegetation programme and suitable grassland management.
- Amphibians and Reptiles – Suitable Risk Avoidance Measures are to be followed
- Badger – Suitable Risk Avoidance Measures are to be followed

Water Vole – There are water voles in the area and suitable habitats; however, it is considered that there is not a requirement for a licence to displace water voles for development projects from Natural England (NE); provided an avoidance mitigation strategy is adopted and adhered to.

3.6 As well as the impacts on species, the ecology report and Shadow HRA assess the impact of the development on the SAC and Ramsar designations in accordance with the Habitat Regulations. As this proposal is directly connected with or necessary for the conservation management of a European site (Fenn's, Whixall, Bettisfield, Wem and Cadney Mosses SAC and Ramsar site) and there is no risk of having a significant deleterious effect on it on its own or in combination with other proposals it is concluded there is no need for the local planning authority to do an Appropriate Assessment.

### **Drainage**

3.7 It is evident that drainage and water level management is key to this development and consultees should refer to the Flood Risk Assessment document including Appendices 1 - 13 for full details of the change-to-drainage proposals.

3.8 It is appreciated that the proposal to manage water levels is a specialist hydrological issue, therefore a general overview/explanation of how the water management scheme will work, is detailed below:

3.9. The main aim of the Scheme is to disconnect the under-drainage in the fields and re-capture the water flowing into the World's End Drain from Bettisfield Moss and from the field's original mineral catchment in order to rewet the fields and recreate bog edge (lagg) habitat. Underdrainage will be stopped by installing bungs in existing manholes. This will minimise soil disturbance.

3.10. To stop retained water running on to other owners' land or the unadopted lane in flood conditions or if the under-drainage pump breaks, the Scheme involves constructing a clay flood embankment around part of the margin of the fields. Outlet pipes through the north-east corner of the bunds will feed excess water to the Lord Hill culvert by gravity along a new ditch also fitted with flood banks through a new culvert at Brook House Farm. Penstocks will control water outlet through the flood embankment.

3.11. Water from some neighbouring landowners will still have to flow through the pumping station so will be fed under the rewetted fields. The pumping will continue to drain the properties north-east of the fields as normal.

3.12. The proposals will also involve re-profiling a drain on mineral land south-east of the fields along Moss Lane minor to shed a large amount of the catchment water by gravity along the ditch along the west of the lane leading to the new culvert at Brook House Farm.

3.13 The clay embankment will have a crest width of 1m and 1:1 vertical to horizontal sloped edges with a crest height of 87mAOD and will protrude ca 0.5m above field surface. It will be created by excavating a strip of peaty soil and removing it down to the clay below. Clay from the in-situ stacks will be packed into the trenches, and the peaty soil will be replaced over the surface of the bunds.

3.14. A diversion ditch from the World's End drain will follow the existing ditch along the south of the fields in a channel with a 1m wide base and banks with a 2:1 vertical to horizontal slope.

3.15. Clay dams will be installed in western parts of the World's End drain to shed water onto the fields, and internal ditches will be blocked.

3.16 An application for Open Water Course consent for works affecting the watercourses has been submitted to Shropshire Council on behalf of the applicant by consulting drainage engineer, Brian Killingworth.

### **Access and Highways**

3.17 The core application site is accessed from Moss Lane, Whixall along the section that is unadopted. Existing field gates will be used during the scheme construction phase except for a new temporary access marked as Application Site Access 6 on Site Location Map 1\_WEF\_V5 and Map 2.2.

3.18 Disruption to the users of the unadopted stretch of Moss Lane during the construction phase will be avoided where possible. Additional construction vehicle movements using the unadopted lanes, Moss Lane and Moss Lane minor, will be limited to delivery of materials for the scheme such as pipes, and manholes and delivery and collection of vehicles for the construction phase. As all the materials for the earthworks are in situ few if any additional HGV movements will be necessary during the construction phase. Contractors vehicles will park on the application site or in the Natural England car park

3.19 Once completed and in use no additional traffic is likely to be generated. The existing Natural England carpark at World's End will serve as car parking for NE operational staff and also cater for the limited number of additional wildlife watchers that might decide to visit the area following the development.

3.20 Photos of the existing field accesses off the unadopted stretch of Moss Lane to be used for temporary site access during the works are shown below in Figure 1- Figure 6. Figure 7 and 8 indicate existing the location of the field gates located along the adopted part of Moss lane that will be used during the construction phase.

### **Peat Depths**

3.21 Overall the improved control of water levels will enable more consistent hydration of the peat soils to be maintained. This will assist their preservation. Well managed peatland soils lock away large amounts of carbon, fixed from the atmosphere into plant tissues through photosynthesis, representing a valuable global carbon store. Fen and wet woodland habitat is also expected to develop on the fields providing conditions for 'active' peat to form once again in due course. The enclosure Peat Depths Map 4 shows the peat depths on the site.

While most of the debate around using natural habitats to draw down carbon from the atmosphere concerns planting trees and reforestation, the [Government policy e.g. 25 year Environment Plan](#) increasingly acknowledges that an important solution in restoring the peatlands, with the largest gains coming from re-creation of fen and carr.

### **Community Consultation**

3.22 Since 2016, members of the BogLIFE project team have met with neighbours to explain the nature of the proposed works and reassure them regarding any concerns over the impact of the works. In addition, consultation and briefing meetings have been held with the local Ward Member and Parish Council.

3.23 The enclosed document (Record of Community Engagement and Consultation Worlds End Fields) outlines the community meetings and individual meetings. It is understood that generally the nearest neighbours are not opposed to the scheme.

## **4.0 Planning**

### National Planning Policy

4.1 National Planning Policy under the NPPF (revised 2018 and updated Feb 2019) is supportive of development in rural areas that promotes the restoration of biodiversity.

4.2 The development is consistent with Paragraph 149 (a), 150, 170, 174(b) and paragraphs 175(b) and (d) of the NPPF regarding ecological enhancements and climate change mitigation.

### The Core Strategy

4.3 The relevant Core Strategy Policies are outlined below; it is considered that the proposal meets the themes and spirit of the policies;

- CS5 (Countryside and Green Belt) supports modest development within the rural area where it is evident it will benefit the rural area.
- CS6 (Sustainable Design and Development Principles) looks to ensure developments are attractive designs and do not provide any adverse impact on the amenity of the rural area.
- Policy CS17 (Environmental Networks) is linked to the policies above and states that a development should protect and enhance Shropshire's natural environment.
- CS18 – Sustainable Water Management

### SAMDev

4.4 The relevant policies of SAMDev (adopted on 17th December 2015) are considered to be;

- MD2 – Sustainable Design
- MD7b - General Management of Development in the Countryside
- MD12 – Natural Environment

4.5 The proposed works outlined in this application are considered to meet the guidance set out within these policies.

## **5.0 Conclusion**

5.1 In conclusion, the proposal made by Natural England is a betterment to the affected area at World's End, Whixall. It significantly improves and restores characteristic wetland habitat necessary for the conservation of the internationally important Fenn's and Whixall Mosses Special Area of Conservation, Ramsar Site, SSSI and National Nature Reserve.

5.2 Natural England and Shropshire Wildlife Trust and their consultants have spent significant time in providing a rounded and carefully devised scheme design and discussing the proposal with local stakeholders, including the Local Planning Authority, to ensure that the scheme is successful in the long term.

5.3 As such, it is hoped that the Council look favourably upon this application.

## **APPENDIX 1: LIST OF ENCLOSURES**

Location Map 1\_ WEF\_V5

Location Map 2.1\_ WEF\_V5

Location Map 2.2\_ WEF\_V6

Land Ownership Map 3\_ WEF

Peat Depths Map 4\_ WEF

Design and Access Statement Worlds End Fields, Whixall V3

Archaeological and historic environment statement for the World End's Fields, Whixall V3

Ecological Survey Report - Worlds End Fields

Shadow Habitats Regulation Assessment for the Worlds End Fields Jan 2021.

Record of Community Engagement and Consultation Worlds End Fields

Notice 1 TACPA Notice under Article 13

Construction Drg No C001 Key Plan\_ WEF

Construction Drg No C002 Diversion Route Site Plan\_ WEF

Construction Drg No C003 Diversion Route Long Section 1\_ WEF

Construction Drg No C004 Diversion Route Long Section 2\_ WEF

Construction Drg No C005 Diversion Route Long Section 3\_ WEF

Construction Drg No C006 Cross Sections 1\_2 and 2A\_ WEF

Construction Drg No C007 Cross Sections 2B \_ 2C and 3 \_ 4 and 5\_ WEF

Construction Drg No C008 Cross Sections 6 and 7\_ WEF

Construction Drg No C009 Land of Nod Sections\_ WEF

Construction Drg No C010 Brook House Farm General Arrangement\_ WEF

Construction Drg No C011 Brook House Farm Diversion Culvert Details\_ WEF

Construction Drg No C012 Brook House Farm Diversion Manhole Detail\_ WEF

Construction Drg No C013 Brook House Farm Replacement Bridge Detail\_ WEF

Construction Drg No C014 Penstock Controls Site Plan and Details\_ WEF

Construction Drg No C015 Penstock Controls Headwall and Penstock Details\_ WEF

Construction Drg No C016 Headwall and Floodbank Construction Details\_ WEF

Construction Drg No C017 Ditch 1 Site Plan and Long Section\_WEF  
Construction Drg No C018 Ditch 1 Cross Sections 1 \_ 2 and 3\_WEF  
Construction Drg No C019 Ditch 1 Weir 4 Penstock Details\_WEF  
Construction Drg No C020 Ditch 1 Weir 4 Screen and Roof Slab Details\_WEF  
Construction Drg No C021 Ditch 2 General Arrangements\_WEF  
Construction Drg No C022 Ditch 2 Moss Lane Manhole Details\_WEF  
Construction Drg No C023 Ditch 2 Connection Details to MH 2\_WEF  
Construction Drg No C024 Coppice House Farm Ditch 3 General Arrangement\_WEF  
Construction Drg No C025 Ditch 3 Coppice House Moss Lane Culvert Details\_WEF  
Construction Drg No C026 Pipe Crossings of Diversion Typical Details\_WEF  
Construction Drg No C027 Fencing Details\_WEF  
Flood Risk Assessment\_ inc Appendices 1-13\_WEF  
FRA Appendix 12\_Drg No C001 Key Plan\_WEF  
FRA Appendix 12\_Drg No C002 Diversion Route Site Plan\_WEF  
FRA Appendix 12\_Drg No C003 Diversion Route Long Section 1\_WEF  
FRA Appendix 12\_Drg No C004 Diversion Route Long Section 2\_WEF  
FRA Appendix 12\_Drg No C005 Diversion Route Long Section 3\_WEF  
FRA Appendix 12\_Drg No C006 Cross Sections 1\_2 and 2A\_WEF  
FRA Appendix 12\_Drg No C007 Cross Sections 2B \_ 2C and 3 \_ 4 and 5\_WEF  
FRA Appendix 12\_Drg No C008 Cross Sections 6 and 7\_WEF  
FRA Appendix 12\_Drg No C009 Land of Nod Sections\_WEF  
FRA Appendix 12\_Drg No C010 Brook House Farm General Arrangement\_WEF  
FRA Appendix 12\_Drg No C011 Brook House Farm Diversion Culvert Details\_WEF  
FRA Appendix 12\_Drg No C012 Brook House Farm Diversion Manhole Detail\_WEF  
FRA Appendix 12\_Drg No C013 Brook House Farm Replacement Bridge Detail\_WEF  
FRA Appendix 12\_Drg No C014 Penstock Controls Site Plan and Details\_WEF  
FRA Appendix 12\_Drg No C015 Penstock Controls Headwall and Penstock Details\_WEF  
FRA Appendix 12\_Drg No C016 Headwall and Floodbank Construction Details\_WEF  
FRA Appendix 12\_Drg No C017 Ditch 1 Site Plan and Long Section\_WEF  
FRA Appendix 12\_Drg No C018 Ditch 1 Cross Sections 1 \_ 2 and 3\_WEF  
FRA Appendix 12\_Drg No C019 Ditch 1 Weir 4 Penstock Details\_WEF

FRA Appendix 12\_Drg No C020 Ditch 1 Weir 4 Screen and Roof Slab Details\_WEF

FRA Appendix 12\_Drg No C021 Ditch 2 General Arrangements\_WEF

FRA Appendix 12\_Drg No C022 Ditch 2 Moss Lane Manhole Details\_WEF

FRA Appendix 12\_Drg No C023 Ditch 2 Connection Details to MH 2\_WEF

FRA Appendix 12\_Drg No C024 Coppice House Farm Ditch 3 General Arrangement\_WEF

FRA Appendix 12\_Drg No C025 Ditch 3 Coppice House Moss Lane Culvert Details\_WEF

FRA Appendix 12\_Drg No C026 Pipe Crossings of Diversion Typical Details\_WEF

FRA Appendix 12\_Drg No C027 Fencing Details\_WEF