

# CHAPTER 3

## UPDATED ENVIRONMENTAL STATEMENT 2017

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### 3.0 UPDATED ENVIRONMENTAL STATEMENT 2017

#### 3.1 The Approach to the Updated Environmental Statement

The Environment Agency's refusal notice against the Integrated Waste Management Facility's (IWMF) first Environmental Permit Application (duly made 15 November 2015) was for the following reason:

*"Based on the information that has been provided to us, we are not satisfied that you [Gent Fairhead & Co Limited (the Applicant)] have demonstrated that the proposals reduce emissions and their impact on the environment through the use of Best Available Techniques (BAT) and in particular that the proposed stack height is BAT"*

Within the Environmental Permit Application, GFC proposed a daily NO<sub>x</sub> emission limit of 150 mg/Nm<sup>3</sup> which would have been the most stringent emission limit in the UK at a conventional Energy from Waste plant, and the associated air quality impact on the local environment using the latest 2016 guidance and screening criteria would have been "insignificant". The approach of limiting NO<sub>x</sub> emissions at source, rather than increasing the height of the stack within the local landscape, was targeted to deliver the preferred solution to abatement and emissions as reported by the Planning Inspector at the time of the 2009 public inquiry (refer to paragraph 13.89):

*'... a dilute and disperse approach by using a taller stack is one of the least preferred methods for controlling the impact of industrial emissions. Preference is given to abatement and the reduction of emissions at source. The applicants submit that the CHP plant could operate at substantially more stringent emission limits, thereby providing an alternative option for reducing the impact of the plant on local air quality.'*

In its assessment of the Environmental Permit Application, the Environment Agency's Air Quality Modelling & Assessment Unit (AQMAU) considered the impacts associated with emissions from the IWMF stack at a height of 35 m above surrounding ground level (85 mAOD) on air quality, habitats and human health and concluded:

- We [AQMAU] agree that the facility [IWMF] is unlikely to contribute to exceedences of air quality Environmental Quality standard (EQS) for human health
- We [AQMAU] agree with Fichtner's [GFC's Consultant] conclusions on ecological impacts
- With respect to their HHRA, we agree with Fichtner's [GFC's] conclusion that the facility would not result in any exceedance of the COT-TDI (Committee on Toxicity of Chemicals in Food, Consumer Products and the Environment – Tolerable Daily Intake).
- Based on their modelling submission and assumed odour emission concentrations, we agree that it is unlikely that releases from the biofilter alone would result in significant odour nuisance. We note however that this is depended on the operation meeting the specified odour emission release rate, and that fugitive emissions do not form part of the modelling assessment. The prevention of odour pollution should therefore be managed through appropriate measures set out in an odour management plant.

Having considered the Environment Agency's detailed decision report, and its consultation responses to local Councillors and members of the public who had expressed concern about the height of the stack, a second (revised) Environmental Permit application was submitted to the Environment Agency on the 3 March 2017. On the 20 June 2017, the Environment Agency confirmed that it was "minded to" permit this second Environmental Permit application that included details for a revised stack height of 58 metres above surrounding ground level (108 mAOD), and issued a Draft Environmental Permit No EPR/FP3335YU for public consultation.

This second (revised) Environmental Permit addresses the original consultation responses raised by local Councilors and members of the public who had expressed concern about the height of the stack.

To comply with the details of the Draft Environmental Permit, this section 73 planning Application has been prepared to vary Condition 56 of the implemented IWMF planning permission (ESS/34/15/BTE) that limits the height of the stack.

The approach adopted in preparing the Environmental Statement(s) (ES(s)) that accompanied the original planning and previous Section 73 applications was that of considering the most reasonable worst case environmental impacts likely to arise from the proposed IWMF development.

The EIA Regulations are concerned with the presentation of information on '*significant environmental effects*'. Guidance on the content of an ES is contained in EC Directive 97/11 which states *inter alia* that an ES is required to address "*the aspects of the environment likely to be significantly affected by the proposed project, including, in particular, population, fauna, flora, soil, water, air, climatic factors, material assets, including the architectural and archaeological heritage, landscape and the inter-relationship between the above factors.*"

These aspects were original considered within the various Chapters 5 to 15 of the original EIA based on the site-specific environmental setting. For ease of reference for all parties, the same topics are discussed herein with exactly the same chapter numbers and titles, namely as follows:

- Chapter 5 – Land Use and Contaminated Land;
- Chapter 6 – Water Resources;
- Chapter 7 – Ecological Impact & Risk Assessment;
- Chapter 8 – Landscape and Visual Impact Assessment;
- Chapter 9 – Cultural Heritage;
- Chapter 10 – Travel and Transport;
- Chapter 11 – Air Quality;
- Chapter 12 – Noise and Vibration;
- Chapter 13 – Social and Community Issues;
- Chapter 14 – Nuisances; and
- Chapter 15 – Human Health Risk Assessment.

The approach to this updated Addendum Environmental Assessment 2017, is that of reviewing the original assessments to validate the findings and mitigation proposals, and where necessary offer updated assessments to reassess the environmental impacts of the IWMF associated with increasing the height of the stack by 23 m to 58 m above surrounding ground level (108 mAOD).

Chapters 1 to 4 of the original Environment Statement provided the context in which the Environmental Impact Assessment was undertaken. Chapter 1 provided an introduction associated with the IWMF application and EIA. Chapter 2 provided an overview of EIA procedures including the criteria on which judgements of receptor sensitivity, impact significance, etc are based. Chapter 3 provided information on the nature of the development proposals including details of construction techniques for the IWMF and how it would operate. Chapter 4 considered the planning context of the IWMF development and compliance with relevant key planning policies.

In summary, the proposals would consist of only one stack, clad and completed in the reflective materials as previously approved under the submission of details against planning condition 14, but of an increased height to be acceptable to the Environment Agency and approved by Essex County Council, the Waste Planning Authority (WPA). There will be no visible plume emitted from the stack. All other aspects associated with the implemented IWMF development under planning permission ESS/34/15/BTE remain unchanged.

To support the application to change the IWMF's stack height by 23 m from 35 m above surrounding ground level to a revised height of 58 m above ground level, Gent Fairhead & Co Limited, has prepared the following Environmental Statements to address the change in stack height:

- The preparation of an Addendum Landscape and Visual Assessment assessing the magnitude of change and the significance of the effects arising from the height of the stack as portrayed in the montages from the original seven representative viewpoints. This includes the preparation of updated photomontages to show the proposed increase in height of the stack following construction (Year 0) from the same viewpoints used within the original assessment, which are supported by additional photomontages which have been prepared from viewpoints within a 10 km Zone of Theoretical Visibility. A Zone of Theoretical Visibility (ZTV) will also be prepared to consider the degree of change associated with the increase in stack height on its surroundings;
- An assessment of the potential impact of a change in stack height on the setting of local heritage assets comprising a Heritage Statement: Setting of Designated Heritage Assets;
- The preparation of an Addendum Air Quality Assessment that considers the changes in local air quality impacts;
- The preparation of an Addendum Human Health Risk Assessment that considers the changes in local air quality impacts; and
- The preparation of an Addendum Noise Assessment that considers the changes in the local environment associated with the increase in stack height.

This application to change the stack height is consistent with the details of the Draft Environmental Permit No EPR/FP3335YU issued by the Environment Agency on 20 June 2017 i.e. including for a stack height of 58 metres above surrounding ground level. If the planning application is approved, it will result in a continuation of the implemented IWMF planning permission, allowing for an extension (or variation) to the originally permitted and conditioned stack height.

### **3.2 The IWMF Description of Development**

It is important to note that the proposed Section 73 modifications do not seek to change the planning description of the IWMF, nor any of the key environmental or process limitations set within the original planning permission conditions, nor the principle of establishing the IWMF in this location. The Section 73 proposals will deliver a state of the art integrated waste management facility exactly as the original description of the currently permitted development as follows:

*An Integrated Waste Management Facility comprising: Anaerobic Digestion Plant treating mixed organic waste, producing biogas converted to electricity through biogas generators; Materials Recovery Facility for mixed dry recyclable waste to recover materials e.g. paper, plastic, metals; Mechanical Biological Treatment facility for the treatment of residual municipal and residual commercial and industrial wastes to produce a solid recovered fuel; De-Inking and Pulping Paper Recycling Facility to*

*reclaim paper; Combined Heat and Power Plant (CHP) utilising solid recovered fuel to produce electricity, heat and steam; extraction of minerals to enable buildings to be partially sunken below ground level within the resulting void; visitor/education centre; extension to existing access road; provision of offices and vehicle parking; and associated engineering works and storage tanks, at Rivenhall Airfield, Coggeshall Road (A120) Braintree.*

### 3.3 IWMF Design and Operations

A summary of the IWMF's design and integrated operations outlining: the nominal and maximum design capacities of each process; an overview of the various waste recycling, recovery and treatment processes; the integrated waste water management system; and, the electricity and steam usage is presented within Appendix 3A.

It should be noted that in changing the height of the IWMF stack there are no changes to the proposed IWMF operations from those previously approved under planning permission ESS/34/15/BTE.

### 3.4 Conditions 2 and 14: Modification to Stack Height

Whilst no other changes are proposed to the design, layout or general arrangement of the IWMF, the change in stack height will require modifications to permitted planning drawings and approved details previously submitted under conditions which indicate the height of the stack and general arrangement of the IWMF, namely: Conditions 2 and 14.

#### 3.4.1 Condition 2: Modification to Stack Height Indicated on Planning Drawings

The drawings that accompany this application to change the height of the IWMF stack clarify the changes proposed.

The only changes that are proposed to the approved planning drawings, is to change the height of the IWMF stack by 23 m to a revised maximum height of 58 m above surrounding ground level (108 mAOD), and update drawings to reflect works that have been completed since implementing the IWMF planning permission. A summary of the changes is presented in Table 3.1:

**Table 3.1:** Summary of changes to approved planning drawings.

Existing Planning Drawing No.	Title	Change(s)
1-1A	Land Ownership & Proposed Site Plan	No Change
1-2B	Proposed Planning Application Area and Site Plan	No Change
1-5B	Typical Arrangement and Architectural Features	Revision made to stack height – REV C
1-8	Schematic Arrangement of Woodhouse Farm	No Change
1-9A	Simplified Process Flow	No Change
1-10A	Integrated Process Flow	No Change
3-3B	Site Plan Layout	No Change
3-8E	Building and Process Cross Sections	Revision made to stack height – REV F

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<b>3-12E</b>	Building and Process Layout and Cross Sections	Revision made to stack height – REV F
<b>3-14B</b>	Upper Lagoon & Wetland Shelf	No Change
<b>3-16</b>	Services Plan	Revision indicates the diverted route of the UKPN & Anglian Water Mains – REV A
<b>3-19D</b>	General Arrangement & Front Elevation	Revision made to stack height – REV E
<b>8-6B</b>	Landscape Mitigation Measures	Updated to indicate areas of off-site planting – REV B
<b>IT569/SK/06 A</b>	Proposed Improvements to Site Access Road Junction with Church Road	Replaced by drawing IT569_S278_03D to indicate the approved and implemented S278 highway works
<b>IT569/SK/07 A</b>	Proposed Improvements to Site Access Road Junction with Ash Lane	Replaced by drawing IT569_S278_04D to indicate the approved and implemented S278 highway works
<b>19-2C</b>	Tree Survey	Updated to indicate the removal of the woodland scrub – REV D
<b>19-3C</b>	The Constraints and Protection Plan	Updated to indicate the removal of the woodland scrub – REV D
<b>19-5A</b>	Base Plan Woodhouse Farm	No Change
<b>IWMF RP 01</b>	IWMF Roof Layout Plan	No Change

A copy of the complete set of approved and updated planning drawings are presented in Appendices 3B and 3C respectively.

### **3.4.2 Condition 14: Modification to Stack Height Indicated on Drawings**

The drawings previously submitted and approved against Condition 14 have been modified to reflect the change in the height of the IWMF stack. In addition, given the modification in stack height the typical details associated with the self-propelled telescopic booms which would be used to maintain the exterior of the stack have been updated.

Notwithstanding the above, it should be noted that the previously submitted and approved cleaning and maintenance proposals and type of reflective cladding (ALUCOBOND reflect) will remain unchanged.

The updated details presented against Condition 14 are intended to modify the previously approved details submitted with respect to the design and maintenance of the IWMF stack. The modified drawings and details simply relate to the proposed change in height of the IWMF stack.

### 3.5 Condition 17: Modification to CHP Management Plan

Under the existing planning permission ESS/34/15/BTE, the submission of details against Condition 17 approved a management plan for the CHP plant to ensure there is no visible plume from the stack:

**Condition 17:** *The development hereby permitted shall be implemented in accordance with the details submitted with respect to the management plan for the CHP plant to ensure there is no visible plume from the stack. The approved details include: the application for approval of details reserved by condition dated 4 August 2015 and documents referenced*

- S1552-0700-0008RSF entitled "CHP Management Plan for Plume Abatement" Issue no. 5 dated 16/02/16 by Fichtner
- S1552-0700-0013RSF entitled "Plume Visibility Analysis" both by Fichtner.

*The development shall be implemented in accordance with the approved details.*

In assessing the change in the IWMF's stack height a change has been to the proposed flue gas treatment materials and techniques used within the plant, namely, a change from bicarbonate to lime based treatment technologies. The change has had a beneficial affect both in terms of emission and plume abatement.

The updated operational proposals associated with the CHP Management Plan and its associated Plume Visibility Analysis are presented within: Chapter 11 Updated Air Quality Impact Assessment, Appendices 11D and 11E respectively.

The updated details presented against Condition 17 present the management plan for the CHP plant to ensure there is no visible plume from the stack.

### 3.6 Updates to the Environmental Baseline

The site boundary and planning application area remain unchanged from that originally assessed and approved.

The original Environmental Assessment for the IWMF was carried out during 2008 but has been reviewed and updated on a number of occasions since then. The environmental update information that has been reviewed during the current process is contained within the following documentation:

- December 2008 - Regulation 19 Additional Information report by Golder Associates (UK) Limited;
- September 2009 – Addendum ES by Golder Associates (UK) Limited for the Public Inquiry;
- October 2009 - Public Inquiry evidence and further formation September 2009 – various;
- June 2011 - Planning application by Blackwater Aggregates for mineral Site A2 – Ref No ESS/32/11 dated 22 June 2011 (approved 9 February 2012);
- July 2011 - Discharge of IWMF Planning Conditions 53 and 54 related to updated Ecology report and associated Habitat Management Plan by Golder; discharged by Essex County Council;
- 4 August 2014 – Updated ES Review and reliance statement by Golder Associates (UK) Limited for the extension of time planning application; Ref No ESS/41/14/BTE (approved December 2014);
- 8 October 2014 – Further ecological information by Golder Associates (UK) Limited in response to ECC Consultation on the extension of time application;

- Planning application by Blackwater Aggregates for mineral Sites A3 & A4 – Ref No ESS/24/14 dated August 2014 (approved 26 March 2015);
- July 2015 – Updated ES Review by Honace with supporting reports from consultants (the ecological report replicating and updating the October 2014 Golder Associates (UK) Limited package);
- Section 73 and submission of details Ref No ESS/34/15/BTE; and
- December 2015 – Updated ES and CIA Review by Honace with supporting reports from consultants within this Addendum ES compilation.

The Updated Environmental Statement 2015 which accompanied the implemented planning permission ESS/34/15/BTE has been reviewed to consider the environmental issues likely to arise from a change to the IWMF's stack height.

### 3.7 Updates to Cumulative Impact Assessment

A Cumulative Impact Assessment (CIA) should identify any likely significant effects occurring as a result of the proposed development (the IWMF) with “*other reasonably foreseeable developments*”.

A CIA was presented within the Updated Environmental Statement 2015 that accompanied the implemented planning permission ESS/34/15/BTE. To bring this cumulative assessment information up to date within the past 12 months the following “*foreseeable developments*” have either come forward and/or require consideration:

- i. On the 7 October 2016, Blackwater Aggregates received planning permission (ESS/07/16/BTE) for a variation of conditions to modify the restoration scheme for Bradwell Quarry under planning which permits the integrated use of materials excavated from the footprint of the IWMF site within the overall restoration of the adjacent quarry.

The materials excavated from the IWMF site can be relocated and stockpiled across New Field in a planned and systematic manner over a 6 to 8 month period. As the stockpile is created, to maintain continuity of the existing quarrying operations, particularly the provision of a sustainable water supply to the quarry's screening and washing plant, a temporary lagoon will be created known as 'Sheepcotes Lagoon'. The subsequent excavation of the stockpile and use of the materials within the overall restoration scheme will be integrated into the final minerals site restoration scheme over a period of 3 to 5 years.

The cumulative impact associated with the above was fully considered within the Updated Environmental Statement 2015.

The proposed change in the IWMF stack height does not result in any significant changes to the conclusions of earlier Environmental Statements with regard to the stockpiling of materials or the restoration of Bradwell Quarry.

- ii. On the 23 December 2016, Gent Fairhead & Co Limited received planning permission ESS/44/16/BTE for the Installation of an abstraction point, pumping equipment and water main from the River Blackwater to the IWMF site (ESS/34/15/BTE) using an existing abstraction licence (Environment Agency ref AN/037/0031/001/R01) at land between River Blackwater and IWMF site.

The cumulative impact associated with the above abstraction-only arrangement was fully considered within the Updated Environmental Statement 2015.

The proposed change in the IWMF stack height does not result in any significant changes to the conclusions of earlier Environmental Statements with regard to the

design, installation or arrangement of the abstraction-only arrangements from the River Blackwater namely that no significant cumulative issues have been identified.

- iii. Braintree District Council has updated its Strategic Housing Land Availability Assessment (SHLAA) to support the production of its new Local Plan. The Braintree District Council website provides details of those sites put forward for potential consideration for future development. The website link for these plans is as follows:

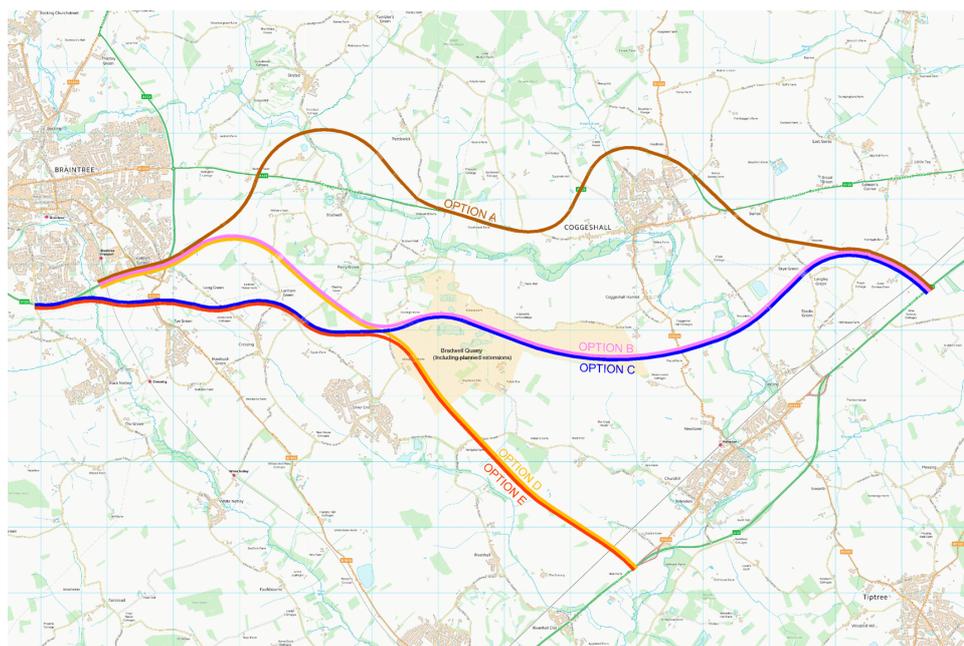
[https://www.braintree.gov.uk/info/200230/planning\\_policy/701/new\\_local\\_plan/4](https://www.braintree.gov.uk/info/200230/planning_policy/701/new_local_plan/4)

A potential development site is the proposed Gladman Development project for 350 houses on land east of Silver End, which was considered at a Public Inquiry on 31 January 2017. Subsequently, on 21 March 2017, the Secretary of State decided to grant outline planning permission for this development "with all matters reserved for subsequent approval". Whilst this approval would result in moving the housing edge of Silver End closer to the IWMF, it would still be sufficiently distant that views would largely remain unchanged and as assessed previously from the eastern edge of Silver End. This is confirmed by paragraph 88 of the Inspector's Report stating that, with regard to the Gladman Development application, "the Environmental Statement considers the impact of Bradwell Quarry and a proposed waste facility on the proposed houses, concluding that there would be no significant adverse effects". It is clear that the IWMF has been in the planning domain for many years prior to the concept of this development. Gladman Developments has been able to design its scheme using the naturally lower topography and the proposed perimeter woodland to minimise any potential environmental effects. Nevertheless, the IWMF's most recent Environmental Assessments considered the presence of this proposal and concluded that there would be no cumulative impacts associated with its development if approved.

The proposed change in the IWMF stack height does not result in any significant changes to the conclusions of earlier Environmental Statements with regard to the design or development of housing in the local area; namely that no significant cumulative issues have been identified.

- iv. A consultation on options for a new stretch of the A120 between Braintree and the A12 was launched on the 17 January 2017.

Five possible options are being considered for this section of the A120.



Essex County Council plan is to fast-track the feasibility process so it can be put forward for consideration by the Government for inclusion in the Road Investment Strategy 20-25.

Although the A120 is part of the Strategic Road Network operated by Highways England, in 2015 the Government agreed that Essex County Council will lead on the work to determine the way forward.

It is important to remember that at this early stage the options have been technically developed to a point where Essex County Council are confident that they can be built. However exact details about road alignments, junction design and environmental assessments and mitigation measures have not been completed. Like other major road projects this work is undertaken once a single option has been selected.

The above is considered within the updated Travel and Transport Statement of the updated Environmental Statement 2017.

# APPENDIX 3A

Description of Development

## APPENDIX 3B

Approved Planning Drawings ESS/34/15/BTE [Complete Set]

<b>Existing Planning Drawing No.</b>	<b>Title</b>
<b>1-1A</b>	Land Ownership & Proposed Site Plan
<b>1-2B</b>	Proposed Planning Application Area and Site Plan
<b>1-5B</b>	Typical Arrangement and Architectural Features
<b>1-8</b>	Schematic Arrangement of Woodhouse Farm
<b>1-9A</b>	Simplified Process Flow
<b>1-10A</b>	Integrated Process Flow
<b>3-3B</b>	Site Plan Layout
<b>3-8E</b>	Building and Process Cross Sections
<b>3-12E</b>	Building and Process Layout and Cross Sections
<b>3-14B</b>	Upper Lagoon & Wetland Shelf
<b>3-16</b>	Services Plan
<b>3-19D</b>	General Arrangement & Front Elevation
<b>8-6B</b>	Landscape Mitigation Measures
<b>IT569/SK/06 A</b>	Proposed Improvements to Site Access Road Junction with Church Road
<b>IT569/SK/07 A</b>	Proposed Improvements to Site Access Road Junction with Ash Lane
<b>19-2C</b>	Tree Survey
<b>19-3C</b>	The Constraints and Protection Plan
<b>19-5A</b>	Base Plan Woodhouse Farm
<b>IWMF RP 01</b>	IWMF Roof Layout Plan

## APPENDIX 3C

### Updated Planning Drawings [Complete Set]

Existing Planning Drawing No.	Title	Change(s)
1-1A	Land Ownership & Proposed Site Plan	No Change
1-2B	Proposed Planning Application Area and Site Plan	No Change
1-5C	Typical Arrangement and Architectural Features	Revision made to stack height – REV C
1-8	Schematic Arrangement of Woodhouse Farm	No Change
1-9A	Simplified Process Flow	No Change
1-10A	Integrated Process Flow	No Change
3-3B	Site Plan Layout	No Change
3-8F	Building and Process Cross Sections	Revision made to stack height – REV F
3-12F	Building and Process Layout and Cross Sections	Revision made to stack height – REV F
3-14B	Upper Lagoon & Wetland Shelf	No Change
3-16A	Services Plan	Revision indicates the diverted route of the UKPN & Anglian Water Mains – REV A
3-19E	General Arrangement & Front Elevation	Revision made to stack height – REV E
8-6B	Landscape Mitigation Measures	Updated to indicate areas of off-site planting – REV B
IT569_S278_03D	Proposed Improvements to Site Access Road Junction with Church Road	Approved and implemented S278 highway works
IT569_S278_04D	Proposed Improvements to Site Access Road Junction with Ash Lane	Approved and implemented S278 highway works
19-2D	Tree Survey	Updated to indicate the removal of the woodland scrub – REV D
19-3D	The Constraints and Protection Plan	Updated to indicate the removal of the woodland scrub – REV D
19-5A	Base Plan Woodhouse Farm	No Change
IWMF RP 01	IWMF Roof Layout Plan	No Change