

CHAPTER 9

CULTURAL HERITAGE

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9.0 CHAPTER 9 CULTURAL HERITAGE 2017

This updated Environmental Baseline Statement, in respect of the Integrated Waste Management Facility's (IWMF's) Cultural Heritage Assessment to February 2017, has been prepared on the basis of a series of commissions undertaken on behalf of Gent Fairhead & Co Limited (GFC) and its associated mineral extraction company Blackwater Aggregates by Guildhouse Consulting and Archaeology South East (ASE – formerly Essex Field Archaeology Unit).

9.1 Updated Heritage Baseline 2017

The archaeological setting, site boundary and planning application area remain unchanged from that originally assessed and approved. An archaeological evaluation by trial trenching was carried out across the IWMF site during September and October 2006 by the Essex Archaeology Field Unit (now ASE). Fifty three evaluation trenches were excavated across the footprint of the IWMF site and the findings presented within Appendix 9-3 of the 2008 Cultural Heritage Statement.

Across most of the footprint of the IWMF, quarrying and restoration operations within Site A2 have resulted in the loss of the former airfield runway(s), an aircraft hangar, airfield buildings, and agricultural fields that were originally present at the site.

Prior to the Site A2 quarrying operations (i.e. between February and September 2012), Guildhouse and the Essex Field Archaeology Unit (now ASE) was employed to investigate the area surrounding and including much of the IWMF site via a programme of watching brief and open area excavation, the latter targeted upon significant archaeological 'sites' previously identified by the trial trenching evaluation. Recorded archaeological remains within the IWMF footprint included two medieval farmstead sites and a scatter of prehistoric, Roman and later features all of local archaeological interest. In addition, as quarrying operations progressed across the site, specialist geo-archaeological surveys confirmed that there would be "little potential" for the overburden and mineral deposits to contain lithic artefacts as they represent vigorous fluvial conditions.

Following the implementation of the IWMF planning permission, within the footprint of the IWMF construction area, remaining areas of woodland scrub, topsoil, subsoil and hard-standing (remnants of the former airfield comprising brick foundations and concrete tracks and bases) have been removed. Throughout the work ASE maintained an archaeological watching brief which did not identify any features of archaeological importance. The line and location of the former airfield structures was surveyed and recorded throughout the work.

As of today, in terms of existing ground, the only remaining area of the Site which will require an archaeological watching brief to be maintained will be the construction of the IWMF car park adjacent to Woodhouse Farm. These works will be carried out in accordance with planning condition 10, namely:

Condition 10: *The development hereby permitted shall be implemented in accordance with the details submitted with respect to the scheme and programme of archaeological investigation and recording approved on 16 February 2016 under condition 10 of planning permission ESS/55/14/BTE. The approved details include: application for approval of details reserved by condition dated 4 August 2015 and the following documents:*

- *Project Design for Archaeological Monitoring & Recording dated November 2014 by Archaeology South-East*
- *Figure 2 Integrated Waste Management Facility (IWMF) Areas 1-3 – Archaeological mitigation strategy.*

Upon completion of the archaeological field work, the investigations shall be written up in a report and submitted for approval in writing by the Waste Planning Authority.

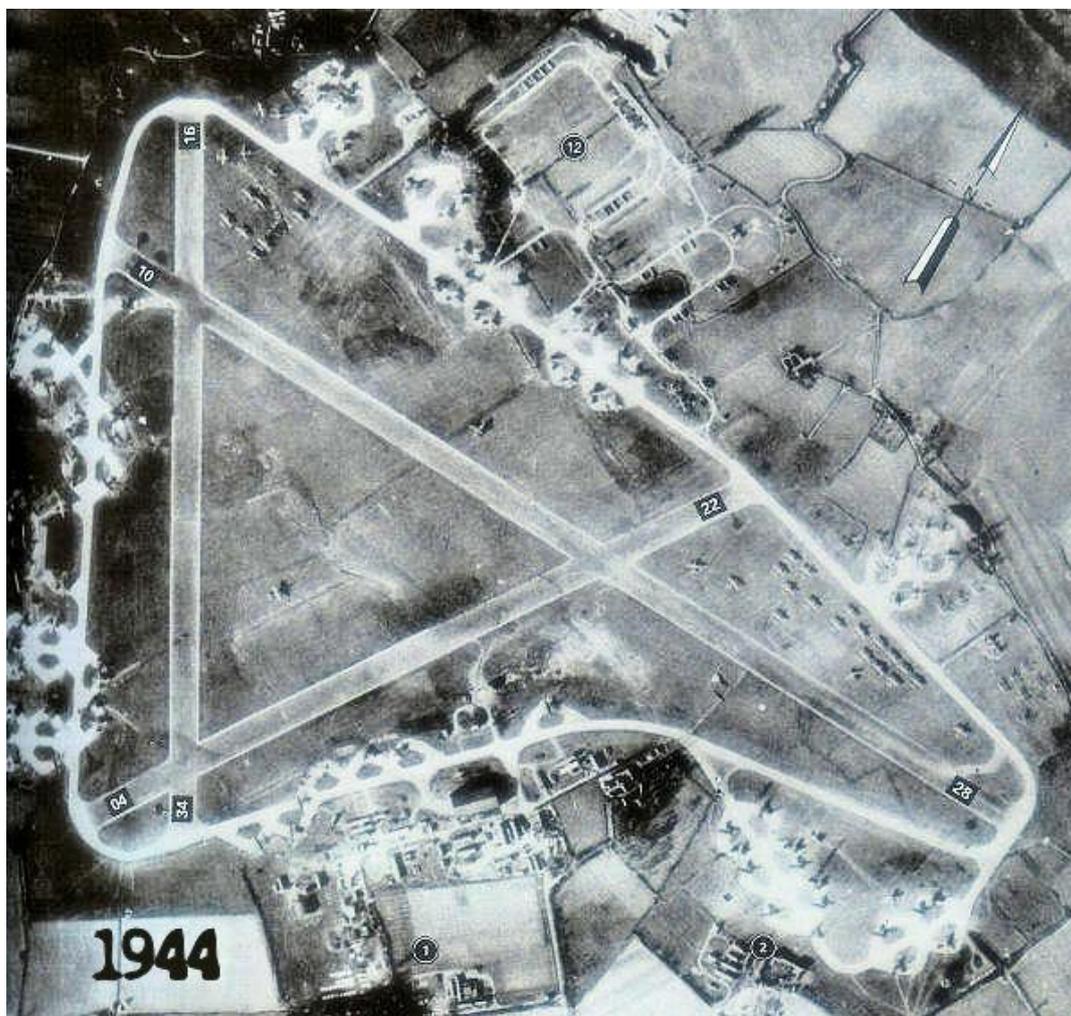
Copies of the documents approved and referred to by planning condition 10 are presented within Appendix 9A.

9.1.1 Removal of Remnants of the former WWII Airfield

Within the footprint of the IWMF construction area, remnants of the former airfield comprising brick foundations and concrete tracks and bases were removed in December 2016 and January 2017.

ASE maintained an archaeological watching brief and surveyed the line and location of the former airfield structures prior to their removal.

A report presenting the findings of the archaeological watching brief from this area of the site is presented within Appendix 9B, which confirms that as a result of disturbance, principally relating to levelling and reprofiling works across the wider site when the airfield was constructed (to the north of point 1 [Wayfarers Field] indicated on the aerial image below), any features of potential archaeological importance were lost, removed and/or disturbed.



Surveying records of the remaining brick foundations and concrete tracks and bases within this section of the site have confirmed the accuracy of the former airfield's Record Site Plan (as built drawing).

9.1.2 The WWII Hangar and Minor Airfield Buildings – Demolished 2012

The excavation of Site A2 required the demolition of the World War II hangar and two smaller brick/concrete buildings to the north. Prior to commencement of demolition, GFC had commissioned the Essex Field Archaeology Unit (now ASE) to undertake the Level 3 Historic Building Record survey in accordance with the 2006 English Heritage Guidance entitled "Understanding Historic Buildings: A Guide to Good Recording Practice".

Prior to the demolition and removal of the hangar, a Level 3 survey was completed across the Site and reported "Type T2 Aircraft Hangar at Woodhouse Farm and other WWII Structures at Rivenhall Airfield, Essex – Historic Building Record" by the Essex County Council Field Archaeology Unit, December 2010. This report was formerly submitted to the Essex WPA as part of GFC's submission of details in July 2015 under planning condition 11 and is presented within Appendix 9C. Part of the conclusions of the report summarised the findings as follows:

"The WWII structures at Rivenhall Airfield form part of an interesting group of buildings. Many of their contemporary structures are no longer standing, which is perhaps not surprising since they were designed as temporary structures, to be built quickly and last the length of the war. It is fortunate that plans of the airfield survive from the 1940s so that the function, complexity and extent of the wartime buildings can be appreciated. The surviving structures form only a small part of the buildings that once stood here, particularly around Woodhouse Farm. A considerable number of other wartime structures still survive outside the two areas recorded and whilst some are not in current use, others are still actively used by local businesses and farmers."

9.1.3 Woodhouse Farm

Woodhouse Farm (Grade II) is located approximately 180 m to the northeast of the proposed IWMF. Quarrying operations within Site A2 have not resulted in the loss of water from the Woodhouse Farm moat.

Under IWMF's planning permission ESS/34/15/BTE, planning condition 64 relates to the proposed redevelopment and refurbishment works that will be undertaken at the Woodhouse Farm Listed Building complex, namely:

Condition 64: *The development hereby permitted shall be implemented in accordance with the details submitted with respect to the scheme and programme of historic building recording for Woodhouse Farm and buildings (including Bakehouse & pump) approved on 16 February 2016 under condition 64 of planning permission ESS/55/14/BTE. The approved details include: application for approval of details reserved by condition dated 4 August 2015 and the following documents:*

- *Brief for Historic Building Recording at Woodhouse Farm, Kelvedon by Place Services.*
- *Written Scheme of Investigation Historic Building Recording at Woodhouse Farm ASE Project 8293*
- *Figure 2 Location of buildings to be recorded at Woodhouse Farm, IWMF, Rivenhall dated Feb 2015*

The written scheme and programme of historic building recording shall be implemented prior to the commencement of any demolition, works or conversion of any kind taking place at Woodhouse Farm and buildings as part of this permission. Upon completion of the programme of historic building recording, the recordings shall be written up in a report and submitted for approval in writing by the Waste Planning Authority.

Copies of the documents approved and referred to by planning condition 64 are presented within Appendix 9D.

During the Public Inquiry, the potential impact of the IWMF on the wider historic resource was assessed particularly in terms of landscape and visual impact (Drawings GF/5/B/16, GF/5/D/9 and GF5/D/10). This concluded that given the reflective finish to the IWMF stack and its distance from the surrounding historic resources, it would not have a significant adverse impact on listed buildings within 2 km of the IWMF. Because of the nature and height of the existing trees in the woodlands that will surround the IWMF and, separately, those around the Woodhouse Farm complex, it was also concluded that the stack would not create a significant adverse impact within the proposed offices and visitor centre.

Under this application, it is proposed to vary the height of the IWMF stack by 23 m to a revised maximum height of 58 m above surrounding ground level (108 mAOD).

The existing planning permission ESS/34/15/BTE established the principle of a stack within the landscape. The degree of change associated with the proposed increase in elevation and view from Woodhouse Farm is presented below:



Existing View from Footpath 8, Woodhouse Farm



Photomontage View of 35 m IWMF stack from Footpath 8, Woodhouse Farm



Photomontage View of 35 m IWMF stack from Footpath 8, Woodhouse Farm

The stack will (as before) be visible from some areas of the Woodhouse Farm complex and the proposed change in stack height will lead to less than substantial harm on the designated asset. The proposed redevelopment and refurbishment of the Woodhouse Farm complex will eventually result in the buildings and local environs being brought back into beneficial use, and will support in mitigating the overall change in setting.

In addition, within the wider landscape the revised stack height is of an elevation similar to existing landmarks such as the Sheepcotes Hangar mast and the network of high voltage overhead electricity pylons which are around 50 m above surrounding ground level.

As the principal buildings of reported heritage interest that now remain within the IWMF planning application area are within the curtilage of the Woodhouse Farm Listed Building

complex, considerable work has been undertaken since 2009. A planning application for Listed Building Consent for the proposed redevelopment and refurbishment of the Woodhouse Farm complex was submitted to Braintree District Council on GFC's behalf by the Johnson Dennehy Planning Partnership (JDPP). This application included a report dated March 2015 by JDPP entitled "Heritage Statement – Woodhouse Farm, Rivenhall Airfield, Kelvedon, Essex", which is presented within Appendix 9E. The conclusions of this report include the following statement:

"The group of buildings of Woodhouse Farm are excellent vernacular buildings; part of the Essex pattern of timber-framed buildings. They have a future as office(s) and an Education Centre that can be used by IWMF. If the repair and rehabilitation of these buildings is put in hand at the beginning of the process of development, then they will not be so much at risk as would otherwise be the case. These buildings will make a valid contribution to the landscape when all the work has been completed."

In addition to the above, further surveys were carried out to the Bakehouse in February 2017 to provide an update to its existing condition and clarify the scope of the proposed redevelopment works and are also presented within Appendix 9E.

The plans and drawings submitted to the Braintree District Council within the Listed Building complex at Woodhouse Farm, and recent survey of the Bakehouse, indicate how GFC intend to complete its planning obligations by creating an Education/Visitor Centre, an Airfield Museum room and executive offices. The redevelopment proposals for the Woodhouse Farm complex will be developed further on receipt of the additional survey works to the Bakehouse. Updated plans and drawings for the Bakehouse will be submitted for approval to Braintree District Council. The refurbishment will enhance the buildings and their immediate environment.

In addition to the above, in line with Condition 13 of planning permission ESS/34/15/BTE, there is an approved scheme in place for the signage, telecommunications equipment and lighting within the Grade II listed Woodhouse Farm complex.

9.1.4 Other Former Airfield Structures

The general description of the other structures on the old airfield, many of which are not within the IWMF planning application footprint (particularly those around the Sheepcotes Farm hangar) was given in the T2- Hangar Report (Appendix 9C) as follows:

"Several temporary brick structures, recorded on the airfield plan used in the survey, also stand within the development area, though many more have disappeared over time. Like the hangars they were light utility structures found on airfields across the country and are therefore ubiquitous. They were designed with adaptability to perform different rendered brick walls and either a corrugated steel or asbestos roof carried on a simple but strong angled iron frame. None of these buildings were designed to take a direct hit during a bombing raid, but given their basic construction could be replaced relatively easily. All had steel Crittalls windows from the nearby factory at Silver End."

In 2012, in addition to the demolition of the Hangar as part of the Site A2 quarrying operations, two smaller WWII equipment storage sheds to the immediate north-west, that the "T2 Hangar Report" had identified as being "thin-walled and of no particular interest" were demolished.

The only currently remaining structures within the planning application area are the former Squadron Offices and the nearby blast shelter (sometimes referred to as the "strafer bunker"). Both are located in thick undergrowth far to the northeast of the former hangar location, closer to Woodhouse Farm. Both structures have been included in the Level 3 Survey (Appendix 9C) but neither were identified as being of particular significant interest. As such, they have no planned use as part of the planning permission. The walls to the

Squadron Offices are single-skin brick and suffering from widespread cracking and subsidence due to the significant root damage creating movement in the inadequate foundations.

The blast shelter nearby is an open-roofed brick structure surrounded by an earth mound. It would not have survived a direct hit but the earth mound would have helped absorb any bomb blast or strafing fire (there had been several others located around the airfield close to personnel offices and buildings). As part of its mitigation measures in the detailed design of the IWMF, the blast shelter will be retained within a landscape area in the proposed car park for the Woodhouse Farm offices. In addition, this car park layout and other IWMF proposals have avoided the former Squadron offices.

9.2 Heritage Assets

It is proposed to vary the height of the IWMF stack by 23 m to a revised maximum height of 58 m above surrounding ground level (108 mAOD).

The existing planning permission ESS/34/15/BTE established the principle of a stack within the landscape. The degree of change associated with the proposed increase in elevation within the wider landscape is indicated on the Zone of Theoretical Visibility (ZTV) drawing presented within Appendix 9F.

To identify the area from which the stack may be most visible, and to help calculate the number and location of visual receptors, a computer generated ZTV has been produced for a 3 km study area.

The ZTV was prepared to assist in the identification of potential visual receptors. Its purpose is to identify where potential views may theoretically be possible and aid further site work. It does not consider the diminishing visual effects resulting from distance, nor does it consider the limitations of the human eye. In reality, the greater the distance of the heritage asset being assessed, the lesser the visual effects and impacts on the setting of the asset.

There is no specific guidance in relation to the size of a ZTV study area for a stack or static development. Based upon professional judgment the heritage assessment was undertaken within a 3km study area. Any potential viewpoint locations of heritage assets beyond the 3km study area would not result in significant visual effects, and would likely be slight to negligible.

The height of the currently permitted IWMF stack at 35 m above surrounding ground level (85 mAOD) and the revised height of 58 m above surrounding ground level (108 mAOD) have been superimposed onto a digital surface terrain model of the site and its surroundings (OS Terrain 5, at 5 m resolution); enabling a three-dimensional plot of the 'visible areas' to be produced, taking into account screening afforded by landform and significant woodland blocks. It should be noted that the ZTV represents a 'worst case scenario'; accounting only for major visual barriers which are in excess of 8 m in height above ground level. In reality, considerable additional screening at eye level is afforded by intervening hedgerows, buildings and other structures.

The ZTV is presented on a 1:25,000 scale Ordnance Survey base to illustrate the potential zone of visibility of the stack under the existing planning permission ESS/34/15/BTE, and the degree of change that will result in varying the height of the IWMF stack by 23 m to a revised maximum height of 58 m above surrounding ground level (108 mAOD).

The ZTV indicates that the existing 35 m stack would be visible over an area of 18.03 km², and with an increase in stack height of 23 m the ZTV would extend a further 2.26 km² within the same environment to 20.08km². The ZTV confirms that the stack will theoretically be visible within the local landscape. However, it should be noted that the proposed 23 m change in

stack height (to 58 m above surrounding ground level) only brings an additional three heritage assets into the ZTV study area.

The location of the heritage assets (Listed Buildings) within the local landscape, are presented on the ZTV.

It is inevitable that, compared with the currently permitted proposals, the prominence of the stack (or degree of change) on the heritage assets within the local landscape will increase from many of the existing viewpoints, particularly those closer (within 1 km) to the IWMF site, such as Woodhouse Farm. However, the degree of change, in terms of theoretical visibility, is not considered to be significantly different from those already theoretically possible.

It should be noted that the ZTV is purely a tool to assist in the assessment of visibility. It does not necessarily guarantee views will or will not be possible, nor does it consider the reduction in prominence associated with increased distance of the view from the stack.

Within the wider landscape the revised stack height of 58 m above surrounding ground level is of an elevation similar to existing landmarks such as the Sheepcotes Hangar mast and the network of high voltage overhead electricity pylons which are around 50 m above surrounding ground level.



Image of Sheepcotes Hangar and mast (Source: www.derelictplaces.co.uk)

The Sheepcotes mast comprises a standard grey steel lattice structure which has an elevation of around 100.5 mAOD. The revised height of the IWMF stack will be 108 mAOD. In terms of ZTV the impact of the IWMF stack would be no greater than that of the existing Sheepcotes mast. Furthermore, it is important to note that architectural measures have been taken to visually cloak the stack within the wider environment with the use of reflective cladding which will reduce the overall impact of the stack in comparison to other existing landmarks.

The materials proposed to be used in this “optic cloak” on the stack can be seen to work effectively on other buildings as presented in the supporting details approved under existing Planning Condition No 14. However, there is also an unprecedented technological factor associated with the proposed emissions from the IWMF stack in that, unlike the majority of similar installations in the UK, there will be no visible plume emanating from the stack. A CHP Management Plan has been approved, under Condition 17 of the planning permission, demonstrating how the plant will be operated to ensure no plume is visible throughout the year.

Within the wider landscape the heritage assets (Listed Buildings) presented on the ZTV, benefit from intervening screening offered by buildings, agricultural barns, hedgerows and woodland areas. In addition, screening within the curtilage of the Listed Buildings (around the perimeter of the property) such as existing hedgerows, woodland and/or fenced areas, mitigate long-distant views at ground level. Similarly, the orientation and outlook of the Listed Buildings reduce direct views of the IWMF stack.

The above is of particular relevance to the following Listed Buildings: Wolverton and Craig Angus which are located along Boars Tye Road within Silver End; Sheepcotes Farm; Goslings Farm; Curd Hall; Rivenhall Place; Rook Hall; and, Leapingwells.

In terms of impacts on local heritage assets, whilst the proposed change in the IWMF stack height would increase the prominence of the stack, the degree of change would be slight and comparable to other features within the local landscape.

A Heritage Statement: Setting of Designated Heritage Assets has been prepared in support of the proposed change in stack height and is presented within Appendix 9G. The staged assessment, in accordance with recognised national guidance as outlined in Historic England 2015, has considered the potential impacts on the setting “as it pertains to their significance “by:

- identifying the key components of their setting that make a contribution to their significance; and
- assessing the effects of the proposed development, whether beneficial or harmful, on that significance.

The importance of the designated heritage assets within the study area largely derive from the following factors; their age (survival), associations as groups of assets and architectural value. Many of the heritage assets are working farmsteads so the relationship with the landscape is less specific/more generic than it would be if they were part of a designed landscape. The wider rural setting is acknowledged as being visually appealing but does not particularly contribute to the significance of the heritage assets; i.e. the character of the landscape is incidental to the significance of the assets rather than integral to it. Accordingly the impacts on this wider setting arising from the increase in stack height will not represent a major effect on those factors from which they derive their significance; impacts from the increased height of stack have been identified as similar to those in the original assessment i.e. Neutral/Negligible to Slight Adverse.

9.3 Cumulative Heritage Impact Assessment

In terms of the proposed cable and water pipeline routes, and the wider area context of potential other developments around the IWMF site, the conclusions offered by ASE within the Addendum ES 2015 confirmed that there are no designated heritage assets (Listed Buildings, Scheduled Monuments etc.) directly on the possible routes but there are seven Listed Buildings within the wider study area. The proposed works will not have a direct physical impact on these assets although they may have a temporary impact upon their setting during construction. Therefore, there will be no residual impact on the setting of these assets.

It was proposed that the detailed design of the final route, and the final proposed method of working, would ensure that any proposed diversions to the preferred routes will need to take into account the presence of specific heritage assets, particularly near Lanham Manor Farm and two areas of Ancient Woodland.

Cuthedge Lane is a Protected Lane. These lanes are considered to have a particular historic and landscape value. The impacts on such assets will be minimized by the agreed method of working but will be temporary in nature; the residual impacts will be minimal. The preferred routes also lie in close proximity to a number of Public Rights of Way. Restrictions on the use of these may be required during construction works. Reinstatement will be undertaken following works and thus the residual impact on these assets will be minimal.

In considering the significance of the impact of the development on heritage assets that are present it is necessary to understand both the significance of the asset and the likely degree of impact i.e. how much of the asset will be damaged or lost. No specific heritage assets have been identified on the proposed routes but it is considered that, given the results of previous archaeological works and the length of the route, there is the potential for as yet unknown assets of archaeological interest to be present. They are most likely to be of local to perhaps regional significance.

Extensive areas of previous disturbance have been identified along the preferred routes, in some cases removing any assets in their entirety. In these areas, no impacts on the cultural heritage resource will arise from the works. In other instances previous impacts will have disturbed or damaged, but not necessarily destroyed any assets present.

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. Planning conditions 10 and 11 require the preparation and submission of a scheme and programme of archaeological and palaeo-environmental investigation and a written programme of archaeological investigation and recording to be submitted to and approved in writing by the Waste Planning Authority prior to its implementation.

Given that there is the potential for, as yet unknown, archaeological remains to be present along some sections of the cable and water connections, it is likely that similar Watching Brief arrangements will be established.

In terms of the continuing Site A3 and A4 quarrying and restoration operations, Golder Associates undertook a cumulative impact assessment early in 2014 that considered the IWMF area within the footprint of the Site A3 and A4 application area. The Environmental Statement produced by Golder Associates in May 2014 was summarised in Section 16.5 "Archaeology" (page 247) as follows:

- *The evaluation identified few archaeological remains overall, suggesting that Sites A3 and A4 are of relatively low archaeological potential;*
- *The archaeological trial trenching established that there are non-designated heritage assets within the site which are of local/minor regional importance; these relate to the early Iron Age and Medieval periods and it is possible that other small-scale sites may be present; and*
- *It was concluded that on on-going programme of archaeological excavation, assessment, and publication of findings would mitigate any removal of potential sites and this is currently being undertaken as part of the on-going extraction operations.*

Future proposals for modifying the sequencing of earthmoving and stockpiling as part of the ongoing operational and restoration plans for the quarry, such as the proposals for a New Field Stockpile and temporary Sheepecotes Lagoon, will all take place within the planning permission footprints of the quarry and the IWMF. As such, they are normal on-going mineral operations and there will be no perceived added impact.

9.4 Conclusions on Cumulative Impact

Listed Buildings are located within and around the proposed IWMF site. Woodhouse Farm (Grade II) is located approximately 180 m to the north east of the proposed IWMF. Specifically identified heritage assets along the cable route will be carefully considered as part of the final route selection and the agreed method of working. A Watching Brief will be employed during all disturbances of existing natural ground.

Based on all known archaeological information within the IWMF's site boundary, the adjacent quarry and along the possible routes for the proposed cable and pipeline connections, the impact of the IWMF development on historic resources remains unaltered from that originally assessed; and, the recording and reporting of any archaeological remains under a watching brief will continue to expand and improve the existing knowledge and understanding of the site's historic setting within the wider landscape. Many of the considerable mitigation measures have already been implemented and proven to be successful.

The additional assessment that has been undertaken in light of the proposed increase in stack height under this planning application has led to no fundamental change to the findings of the cultural heritage assessment.

APPENDIX 9A

Archaeological Monitoring: Planning Condition 10 ESS/34/15/BTE

APPENDIX 9B

Archaeological Watching Brief 2016

APPENDIX 9C

Level 3 Survey: Planning Condition 11 ESS/34/15/BTE

APPENDIX 9D

Woodhouse Farm Monitoring Proposals: Planning Condition 64 ESS/34/15/BTE

APPENDIX 9E

Woodhouse Farm Listed Building Consent Application

APPENDIX 9F

Heritage Assessment 3km ZTV

APPENDIX 9G

Heritage Statement: Setting of Designated Heritage Assets