

13.0 CULTURAL HERITAGE

Introduction

- 13.1 This Chapter describes the predicted effects of the proposed Ryedale Gas Project upon the cultural heritage resource, and principally the development of the Ebberston Wellsite; the construction of the Hurrell Lane Gas Processing Facility, associated access road from the A170 and temporary construction compound; the 8.6km 300mm and 100mm pipeline corridor between the Ebberston Wellsite and the Hurrell Lane Gas Processing Facility; and the Above Ground Installation (AGI) for “hot tap” facilities into the National Transmission System (NTS) to the south of New Ings Lane. The aim of this Chapter is to identify any significant cultural heritage constraints within the planning application boundary relating to these components of the development proposals, identify any predicted effects and propose appropriate mitigation measures.
- 13.2 The historic environment is considered to include Listed Buildings, Scheduled Monuments, Registered Parks and Gardens, Registered Battlefields, Conservation Areas, local historic landscape designations, all other recorded archaeological sites or areas, significant palaeoenvironmental deposits and hedgerows of archaeological and historic importance. The potential for previously unrecorded archaeological remains within the proposed development boundaries is also assessed.
- 13.3 There are no Listed Buildings, Registered Parks and Gardens, Registered Battlefields or Conservation Areas within the 0.5km-wide study area along the proposed corridor for the pipelines or around the proposed Ebberston Wellsite and Hurrell Lane Gas Processing Facility, although predicted effects upon those Listed Buildings within the wider vicinity (1km) are assessed as necessary.
- 13.4 The study area is located entirely within the Ryedale District of North Yorkshire, although the Ebberston Wellsite and the northern part of the pipeline corridor fall within the administrative area of the North York Moors National Park Authority. The study area includes parts of the civil parishes of Ebberston and Yedingham, Allerston, Wilton and Thornton-le-Dale.
- 13.5 The Chapter describes the planning policy context and the assessment methodology with respect to the cultural heritage. The baseline environment within the detailed study area is described. The potential effects of both the construction and operation of the proposed gas project upon the cultural heritage resource within the area are set out,

and where appropriate any associated mitigation measures to avoid, reduce or remedy any adverse effects identified, and the resultant residual impacts stated.

Planning Policy Context

- 13.6 The planning context with respect to cultural heritage in relation to the development proposals includes the Yorkshire and Humber Plan, the North York Moors National Park Authority Local Development Framework (LDF), statutory legislation and Planning Policy Statements (PPS). There are no relevant “saved” policies in the North Yorkshire County Council Minerals Local Plan (1997) or the Ryedale Local Plan (2002), and the North York Moors Local Plan (2003) has been replaced by the LDF. No Core Strategy has yet been produced as part of the emerging Ryedale LDF.

The Yorkshire and Humber Plan (2008)

- 13.7 Policy ENV9 of the Regional Spatial Strategy for Yorkshire and the Humber on the Historic Environment includes the statement that historical context will inform decisions about development, and that plans and strategies should conserve regionally-distinctive elements of the historic environment, including prehistoric landscapes, especially in the Vale of Pickering.

North York Moors National Park Local Development Framework (2008)

- 13.8 Relevant policies of the Core Strategy and Development Policies include Core Policy G which includes the statement that the landscape, historic assets and cultural heritage of the North York Moors will be conserved and enhanced.
- 13.9 Development Policy 5 on Listed Buildings includes the statement that any development which would have an unacceptable impact on the setting of a Listed Building would not be permitted.
- 13.10 Development Policy 7 on Archaeological Assets states that:

“Proposals for development that would have an unacceptable impact on the integrity or setting of a Scheduled Monument, or other sites or remains of national archaeological importance will not be permitted.

In the case of sites or remains of regional or local

importance, development proposals will only be permitted where the archaeological interest is capable of being preserved in situ. Where this is not justifiable or feasible, permission will only be granted where provision is made for appropriate preservation by record. In all cases, an appropriate assessment and evaluation will be required to be submitted as part of the planning application in areas of known or potential archaeological interest."

Statutory Legislation

- 13.11 Scheduled Monuments are designated by the Secretary of State for Culture, Media and Sport on the advice of English Heritage as selective examples of nationally important archaeological remains. Under the terms of Part 1 Section 2 of the ***Ancient Monuments and Archaeological Areas Act 1979*** it is an offence to damage, disturb or alter a Scheduled Monument either above or below ground without first obtaining permission (Scheduled Monument Consent) from the Secretary of State. This Act does not allow for the protection of the setting of Scheduled Monuments.
- 13.12 Section 66 of the ***Listed Buildings and Conservation Areas Act 1990*** states that the planning authority must have special regard for the desirability of preserving (*inter alia*) the setting of any Listed Building that may be affected by the grant of planning permission. Section 72 states that special attention shall be paid to the desirability of preserving or enhancing the character or appearance of Conservation Areas.

Planning Policy Statements

- 13.13 PPS5 on ***Planning for the Historic Environment*** was published in March 2010 and replaces earlier guidance contained within PPG15 and PPG16. The statement sets out the Government's objectives in that the historic environment should be conserved and enjoyed for the quality of life they bring to this and future generations, to be achieved by delivering sustainable development and the conservation of heritage assets in a manner appropriate to their significance. Heritage assets are recognised as a non-renewable resource and decisions to conserve them should be determined upon the nature, extent and level of that significance, based upon their historic archaeological, architectural and artistic interest, and investigated to a degree proportionate to the importance of the heritage asset.

- 13.14 Policies related to development management include Policy HE6 on the information requirements for applications affecting heritage assets and which require the applicant to provide a description of the significance of the heritage assets affected and the contribution of their setting to that significance. The level of detail should be proportionate to the importance of the heritage asset. Where an application site includes, or is considered to have the potential to include, heritage assets with archaeological interest, a desk-based assessment will be required, and where this research is insufficient to properly assess the interest, a field evaluation. The principles for guiding determination of applications for consent relating to all heritage assets is set out in Policy HE7, and should be related to the significance of the heritage asset, while Policy HE8 states that the effect upon this significance of the heritage assets or its setting is a material consideration in determining the application.
- 13.15 Policy HE9 sets out the principles guiding the consideration of applications for consent relating to designated heritage assets, and emphasises the presumption in favour of conservation the more significant the designated asset, and that loss affecting any designated asset should be wholly exceptional and require clear and convincing justification. Where there will be substantial harm or loss to the significance of a heritage asset local planning authorities should refuse consent unless it can be demonstrated that the harm or loss is necessary to deliver substantial public benefits that outweigh the harm or loss. Policy HE10 states additional policy principles for development affecting the setting of a designated heritage asset (such as scheduled monuments, listed buildings and registered parks and gardens), and when applications do not preserve those elements of its setting that make a positive contribution to the significance of the asset, any harm must be weighed against the wider benefits of the application. Policy HE12 sets out the principles guiding the recording of information related to heritage assets, and where loss of the whole or part of the heritage asset's significance is justified, local planning authorities should require the developer to record and advance understanding of the significance of the heritage asset before it is lost, using planning conditions or obligations as appropriate. Developers should publish this evidence and deposit copies with the relevant historic environment record and any archive generated with a local museum or other public repository.
- 13.16 The PPS is supported by an **Historic Environment Planning Practice Guide** that has been prepared by English Heritage and which supports the implementation of the policy, and may therefore be material to individual planning and heritage consent decisions.

Assessment Methodology

13.17 The assessment represents a comprehensive desk-based review of published and readily accessible documentary, cartographic and aerial photographic information relating to heritage assets within the study area. Some of this information was derived from an earlier appraisal study (**Appendix 13.1**) of all of the possible pipeline route corridor alternatives and the various site options for the potential gas facility, based upon information in the North Yorkshire County Council and North York Moors National Park Authority Historic Environment Records and research of first edition Ordnance Survey maps. The assessment study of the proposed pipeline route corridor and Hurrell Lane Gas Processing Facility was supplemented by further research, as well as a walkover inspection of all areas that would be affected by the proposed development.

13.18 The principal aims of the cultural heritage assessment are:

- to identify known heritage assets within or in the vicinity of the proposed development;
- to establish the predicted effects upon recorded archaeological remains within the development boundaries and associated pipeline corridor;
- to identify areas within the development boundaries and pipeline corridor with the potential to contain any previously unrecorded archaeological remains;
- to assess the visual effects of the proposed development upon the settings of Listed Buildings and Scheduled Monuments;
- to propose appropriate mitigation measures to be built into the development proposals to avoid, reduce or remedy any potential adverse effects identified.

Listed Buildings and Registered Parks and Gardens

13.19 The principal sources of information consulted as part of the assessment of Listed Buildings and Registered Parks and Gardens were the North Yorkshire County Council Historic Environment Record and English Heritage National Monuments Record.

Archaeological Sites

13.20 The assessment is based upon a review of existing available information and desk studies supplemented by site inspection. The record of archaeological sites within the area of the development proposals at the Ebberston Well site is aided by the earlier

assessment study undertaken for the exploratory wellsite and the subsequent archaeological excavation undertaken during construction (Cardwell P 2007: *Ebberston Moor EB2 Exploratory Well Site, North Yorkshire – Archaeological Assessment Report 10/1*; Landscape Research Centre Ltd 2009: *Excavation Report: East of Givendale Head Farm, North Yorkshire LRC Site No 428*).

13.21 The following organisations were consulted in relation to archaeological interests:

- North Yorkshire County Council;
- North York Moors National Park Authority;
- English Heritage;
- North Yorkshire County Record Office (NYCRO);
- Borthwick Institute of Historical Research, University of York (BIHR);
- Landscape Research Centre;
- local studies libraries (Northallerton and Pickering).

13.22 The following data sources were utilised for the assessment:

- Historic Environment Records (HER);
- National Monuments Record (NMR);
- vertical and oblique aerial photographs;
- published and unpublished historical and archaeological studies;
- cartographic sources (enclosure, tithe and historic Ordnance Survey maps);
- Scheduled Monument schedule entries;
- DEFRA MAGIC website.

13.23 A site walkover inspection of the proposed Hurrell Lane Gas Processing Facility was undertaken in November 2009. This was under arable cultivation and the area within the proposed development boundaries was walked along transects approximately 10m apart. The pipeline corridor route was walked over a period of four days between January and March 2010, with a further additional walkover inspection made of deviations and other amendments to the proposed route in March 2010. Except for areas of forestry plantation, almost all the survey corridor was arable fields which had been recently cultivated and sown, and conditions for the recognition of surface artefacts were good. The corridor was walked in both directions along transects approximately 20m apart. A larger area where soil storage is proposed south of the forestry plantation on Givendale Rigg was walked along transects approximately 25m apart. Both worked flint and pottery was collected during the walkover inspections. This

was located with a hand-held GPS and subsequently submitted to Ann Clark (lithics specialist) and Peter Didsbury (pottery specialist) respectively for spot-dating.

- 13.24 The assessment has been prepared in accordance with guidance on the preparation of Environmental Statements (*Town and Country Planning (Environmental Impact Assessment) Regulations 1990*) and has taken into account current draft guidance (Department for Communities and Local Government 2006 *Amended Circular on Environmental Impact Assessment: A Consultation Paper*) and guidance on the preparation of desk-based assessments (Institute for Archaeologists 2008 *Standard and Guidance for Archaeological Desk-Based Assessment*).
- 13.25 Comments were received upon the Scoping Report for the Environmental Impact Assessment from both North Yorkshire County Council and English Heritage (**Appendix 13.2**). A meeting was held with Lucie Hawkins of North Yorkshire County Council and Keith Emerick of English Heritage regarding the archaeological implications of the proposed development in January 2010, followed by a site visit to the area of the Scheduled Monuments at Oxmoor and Givendale Dikes and the embanked pit alignments near Givendale Head Farm in February 2010 (**Appendices 13.3 and 13.4**). Comments upon a draft of this Chapter were also provided by both Lucie Hawkins of North Yorkshire County Council and Keith Emerick of English Heritage.

Prediction Methodology

- 13.26 The criteria for predicting the significance of the residual effects of the proposed development on the historic environment is determined according to their magnitude and the sensitivity of the receptors. Significant effects may be of the following nature: adverse or beneficial, temporary or permanent, short or long term, direct or indirect, reversible or irreversible and cumulative.
- 13.27 The methodologies employed for determining the importance of receptors and the scale of the impact are based upon the following criteria.

Sensitivity

- 13.28 Sensitivity of the importance of receptors is based upon a combination of the following:
- statutory designations;
 - the PPS5 *Historic Environment Planning Practice Guide*;

- *Conservation Principles: Policies and Guidance for the Management of the Historic Environment* (English Heritage 2008);
- Conservation Area Appraisals (where available from Local Planning Authorities);
- Register of Parks and Gardens of Special Historic Interest from English Heritage;
- English Heritage Monuments Protection Programme criteria; and
- professional judgement

13.29 The sensitivity of receptors is based upon their relative importance using the scale in **Table 13.1** although it is recognised that occasionally sites can have a higher level of sensitivity in a local context, and *vice versa*.

Table 13.1: Definitions of cultural heritage sensitivity

Grading	Level of value	Examples of definitions
Very High	International	An internationally important site e.g. World Heritage Site.
High	National (UK)	A nationally designated or equivalent site e.g. Listed Building, Conservation Area, Scheduled Monument or unscheduled archaeological remains or unlisted building worthy of such designation.
Medium	County (North Yorkshire)	Unscheduled archaeological remains or unlisted building considered to be of regional importance
Low	Local (Ryedale)	Unscheduled archaeological remains or unlisted building considered to be of local importance. Sites with a local value or interest for educational or cultural appreciation. Sites that are so badly damaged that too little remains to justify inclusion at a higher grade.

Magnitude of Effect

13.30 Magnitude (scale of change) is determined by considering the predicted deviation from baseline conditions and the scale of the impact. Quantifiable assessment of magnitude has been undertaken where possible. In cases where only qualitative impact assessment is possible, magnitude has been defined as fully as possible. The methodology for determining the magnitude of effect is shown in **Table 13.2**.

Table 13.2: Definition of magnitude

Magnitude	Definition
High	Complete or substantial destruction of the site or feature. Change or loss resulting in a substantial change to the understanding and appreciation of the resource or its historical context or setting.
Medium	Partial loss or alteration to the site or feature. Change or loss resulting in a moderate change to the understanding and appreciation of the resource or its historical context or setting.

Low	Minor loss or alteration to the site or feature. Change or loss resulting in a slight change to the understanding and appreciation of the resource or its historical context or setting.
Negligible	Negligible change or no material change to the site. No significant change in the ability to understand and appreciate the resource or its historical context or setting.

Significance of Effect

13.31 **Table 13.3** shows how the interaction of magnitude and sensitivity results in the significance of an environmental effect.

13.32 Significance should always be qualified, as in certain cases an impact of minor significance could be considered of great importance in a local context and deserving of further consideration (dependent upon factors such as amenity value).

Table 13.3: Significance of effect

	Magnitude of change			
Receptor sensitivity	High	Medium	Low	Negligible
High	Major	Major/moderate	Moderate	Moderate/minor
Medium	Major/moderate	Moderate	Moderate/minor	Minor
Low	Moderate	Moderate/minor	Minor	Minor/none
Key:	Significant		Not significant	

Baseline Conditions

Listed Buildings

13.33 No Listed Buildings are located with the immediate study area for the proposed development, although five Listed Buildings are located within 1km (see **Appendix 13.1**). These are the White House (**NMR329660**) located within Troutsdale some 370m to the north of the Ebberston Well site, and the farmhouse and associated range of farm buildings at Cockmoor Hall (**NMR327423** and **NMR327424** respectively) some 950m to the south-east. Two Listed buildings are located within 1km of the proposed pipeline, these being the farmhouse and attached outbuildings at High Paper Mill Farm (**NMR440011**) near Ellerburn some 750m to the north-west of the route, and the farmhouse at Prospect Farm (**NMR440557**) in Wilton some 800m to the east. All five buildings are Grade II listed.

Conservation Areas

13.34 No Conservation Areas are located with the immediate study area for the proposed development. The Conservation Area at Ebberston Hall is located 1.7km or more to the south-east of the pipeline route and 3.2km south of the Ebberston Wellsite, that at Allerston some 1.3km or more to the south of the pipeline route and 2.8km to the east of the Hurrell Lane Gas Processing Facility, while that at Thornton-le-Dale is located some 900m or more to the west of the pipeline route and 1.3km north-west of the Hurrell Lane Gas Processing Facility (see **Appendix 13.1**). Given these distances from any permanent structures associated with the development there is not considered to be any potential for significant adverse effects upon the setting of the Conservation Areas, which are accordingly not considered further as part of the assessment study.

Registered Parks and Gardens

13.35 No Registered Parks and Gardens of Special Historic Interest are located with the immediate study area for the proposed development, that at Ebberston Hall being located some 1.7km to the south-east of the pipeline route at its closest point, 3.2km south of the Ebberston Wellsite and 4.2km east of the Hurrell Lane Gas Processing Facility. Given these distances from any permanent structures associated with the development there is not considered to be any potential for significant adverse effects upon the setting of the Registered Park and Garden, which is accordingly not considered further as part of the assessment study.

Archaeological Remains

13.36 All archaeological sites and finds within the 0.5km study area along the proposed pipeline route and around the Ebberston Wellsite and Hurrell Lane Gas Processing Facility are listed in **Table 13.4** and their locations indicated on **Figures 13.1–13.6**. Sites within these study areas are identified either by their North Yorkshire County Council HER number (prefixed with MNY), or their North York Moors National Park HER number (not prefixed) or their National Monuments Record number (prefixed NMR) in order to distinguish the data sources. Primacy is given to MNY numbers in the text descriptions given that most of the study area falls within North Yorkshire. Where an individual site has more than one record number (and specifically the Oxmoor and Givendale Dikes) only the primary number has been stated. The sites are listed in numerical order in **Table 13.4** for each data source. Additional sites identified from other data sources researched and not recorded by any of the above have been

identified by a letter code (A–P). Surface finds collected during the site walkover inspections of the development areas and pipeline route are individually numbered (1–37). All sites (excluding finds of individual or small numbers of surface artefacts) are graded in archaeological significance as of high (national), medium (regional) and low (local) importance in accordance with **Table 13.1** above. Scheduled Monuments within the study area are also indicated by their number on **Figures 13.1–13.6** and within the text. Former or existing field boundaries of archaeological or historical importance are not marked on the figures, but such sites are discussed in the text as appropriate.

- 13.37 The area of the development proposals spans a transitional zone in landscape terms between the southern edge of the Tabular Hills and the northern edge of the Vale of Pickering. The Ebberston Wellsite is located on a plateau area defined by gentle slopes towards the south, cut by occasional steeper valleys such as Given Dale, and cut by the steep east to west aligned valley of Troutdale Beck to the north. These areas of mostly limestone give way to the south to areas of boulder clay around the A170 and warp and lacustrine clay in the area of the Hurrell Lane Gas Processing Facility.
- 13.38 The nature and date of human occupation and settlement is reflected in this varied topography and geology. The area of the Ebberston Wellsite and the northern end of the pipeline route contains numerous prehistoric linear boundaries (and funerary and other monuments) which form the third largest group of such dykes in Britain – and though less extensive than those of Wessex and the Yorkshire Wolds many of the boundaries still survive as visible earthworks (Spratt D A 1989: *The Linear Earthworks of the Tabular Hills, Northeast Yorkshire*). In contrast the area of the Hurrell Lane Gas Facility and southern end of the pipeline route are located on the northern edge of the Vale of Pickering, and thus within a landscape where recent intensive research has identified regionally and nationally important areas of occupation of early prehistoric date as well as extensive areas of mostly Iron Age and Roman period settlement (LRC). The proposed development is therefore located within, and links, these two zones of archaeological activity of both regional and national importance, and includes areas with significant archaeological potential.

Table 13.4: Archaeological sites and finds within study area

Site	Grid reference	Classification	Period	Grade
11\52.00	SE 8768 8562	Stone quarry	Post-medieval Modern	Low
11\527	SE 88515 86729	Rabbit trap	Post-medieval Modern	Low
11\531	SE 88730 87270	Rabbit trap	Post-medieval Modern	Low

Site	Grid reference	Classification	Period	Grade
11\573	SE 9047 8712	Rabbit trap	Post-medieval	Low
3517.65	SE 9013 8729	Round barrow	Bronze Age	High*
3517.66	SE 9066 8707	Round barrow	Bronze Age	High*
3525	SE 9044 8713	Flint arrowhead	Prehistoric	-
3624	SE 903 873	Axe fragment	Neolithic	-
8075.00000	SE 88020 85920	Flint arrowhead	Unknown	-
8091	SE 8991 8724	Round barrow	Bronze Age	High*
8111.01057	SE 87640 85590	Rabbit trap	Post-medieval Modern	Low
8111.01068	SE 87563 85235	Rabbit trap	Post-medieval Modern	Low
8111.01072	SE 88081 85992	Rabbit trap	Post-medieval Modern	-
8111.01073	SE 88106 85777	Rabbit trap	Post-medieval Modern	-
14339	SE 9029 8709	Occupation site (flint assemblage)	Late Mesolithic Early Bronze Age	Medium
NMR62719	SE 8492 8201	Railway	19 th century	Low
NMR528778	SE 87434 84561	Farmstead (Warren House)	19 th century	Low
NMR538612	SE 85700 83500	Granary (Birch Farm)	Post-medieval	Low
NMR1106460	SE 87440 84970	Linear feature	Prehistoric Roman	Medium
MNY5449	SE 8962 8726	Dyke (Oxmoor)	Late Bronze Age Iron Age	High*
MNY5454	SE 8924 8688	Dyke (Givendale Lower)	Late Bronze Age Iron Age	High*
MNY5456	SE 8877 8612	Dyke (Givendale Upper)	Late Bronze Age Iron Age	High*
MNY5464	SE 8778 8561	Dyke (Diggerfoot)	Late Bronze Age Iron Age	Medium
MNY5465	SE 8805 8544	Dyke	Late Bronze Age Iron Age	High
MNY5468	SE 8953 8658	Ditch	Unknown	Low
MNY5469	SE 8956 8706	Bank	Unknown	Low
MNY8921	SE 8839 8631	Round barrow	Bronze Age	High*
MNY8925	SE 8823 8610	Arrowhead	Prehistoric	-
MNY12177	SE 8890 8730	Pit alignment Dyke	Early Bronze Age Iron Age	High*
MNY12178	SE 89450 87178	Boundary stone	Post-medieval	High*
MNY12427	SE 86 84	Polished axehead	Neolithic	-
MNY12429	SE 858 841	Quern	Unknown	-
MNY16149	SE 8740 8467	Bronze socketed spearhead	Bronze Age	-
MNY16197	SE 87680 84705	Polished stone axe	Neolithic	-
MNY16200	SE 8742 8468	Bronze looped spearhead	Bronze Age	-
MNY16204	SE 90 87	Stone macehead	Neolithic	-
MNY16209	SE 858 841	Stone quern	Early Bronze Age Late Iron Age	-
MNY16700	SE 870 843	Dyke	Unknown	Low
MNY16701	SE 870 843	Field system	Unknown	Low
MNY23530	SE 8440 8195	Temple	Roman	Medium
A	SE 9043 8731	Structure	18 th -19 th century	Low
B	SE 9041 8699	Limestone quarries	18 th -19 th century	Low

Site	Grid reference	Classification	Period	Grade
C	SE 8970 8709	Barn	19 th century	Low
D	SE 8793 8537	Quarry	19 th century	Low
E	SE 8727 8436	Limestone quarry	18 th -19 th century	Low
F	SE 8726 8427	Limestone quarry	18 th -19 th century	Low
G	SE 8679 8422	Ring gully	Unknown	-
H	SE 8664 8393	Mound	Unknown	-
J	SE 8609 8371	Trackway	Unknown	Low
K	SE 8528 8280	Ridge and furrow	Medieval	Low
L	SE 8550 8287	Ridge and furrow	Medieval	Low
M	SE 8527 8265	Cottage (site of) (Graystone Cottage)	Post-medieval	Low
N	SE 8523 8266	Barn (site of)	19 th century	Low
P	SE 8482 8180	Barn	19 th century	Low
Q	SE 879 856	Pit	19 th century	Low
1	SE 89520 87152	Flint flake	Prehistoric	-
2	SE 89520 87152	Flint flake	Prehistoric	-
3	SE 89360 87078	Retouched flint flake	Late Neolithic Early Bronze Age	-
4	SE 89318 86850	Flint flake	Prehistoric	-
5	SE 88201 85800	Flint blade	Prehistoric	-
6	SE 88192 85790	Flint flake	Late Neolithic Early Bronze Age	-
7	SE 88158 85827	Flint flake	Late Neolithic Early Bronze Age	-
8	SE 88101 85862	Flint flake	Late Neolithic Early Bronze Age	-
9	SE 88091 85681	Flint flake fragment	Prehistoric	-
10	SE 88069 85643	Retouched flint flake	Late Neolithic Early Bronze Age	-
11	SE 88018 85854	Flint core fragment	Prehistoric	-
12	SE 88015 85851	Flint blade fragment	Prehistoric	-
13	SE 88048 85748	Flint blade fragment	Prehistoric	-
14	SE 88037 85724	Flint flake	Prehistoric	-
15	SE 88036 85729	Flint core	Prehistoric	-
16	SE 88006 85710	Flint flake	Prehistoric	-
17	SE 87994 85792	Retouched flint flake	Prehistoric	-
18	SE 87955 85748	Flint flake fragment	Prehistoric	-
19	SE 87883 85537	Flint flake	Late Neolithic Early Bronze Age	-
20	SE 87881 85526	Flint flake	Mesolithic	-
21	SE 87911 85483	Flint flake	Late Neolithic Early Bronze Age	-
22	SE 87796 85344	Flint flake fragment	Prehistoric	-
23	SE 87662 84987	Flint blade	Prehistoric	-
24	SE 87620 84827	Flint core	Late Neolithic Early Bronze Age	-
25	SE 87620 84813	Flint flake	Prehistoric	-
26	SE 87618 84810	Flint blade	Mesolithic	-
27	SE 87620 84808	Flint flake	Prehistoric	-
28	SE 87299 84197	Flint flake	Prehistoric	-
29	SE 86854 83994	Flint flake fragment	Prehistoric	-
30	SE 86336 83851	Flint flake	Prehistoric	-
31	SE 86364 83854	Lower body and base pottery sherd	Medieval	-
32	SE 86337 83880	Pottery base sherd	Medieval	-

Site	Grid reference	Classification	Period	Grade
33	SE 85001 82862	Pottery fragment	Medieval	-
34	SE 85009 82792	Lateral pottery rod handle	Post-medieval	-
35	SE 84952 81920	Pottery base sherd	Post-medieval	-
36	SE 84940 81918	Glazed pottery body sherd	Medieval	-
37	SE 84870 81880	Pottery dish or bowl rim sherd	Post-medieval	-

* Scheduled Monument

13.39 A total of 92 archaeological sites and finds are recorded within the study area. Baseline data on those sites and finds within the vicinity of the proposed development are summarised in chronological order below. The initial or principal description of a site or find within the study area is identified by a **bold number** within the text.

Prehistoric

13.40 The earliest recorded site within the study area is occupation activity (**14339**) of late Mesolithic and early Neolithic date (as well as later prehistoric date) identified within the area of the Ebberston Well site. During field survey in advance of construction, and archaeological excavation during construction, of the exploratory well site a total of 1760 flint artefacts were recovered from the site, the earliest of which date to the late Mesolithic (LRC 2009). Although these formed only a small proportion of the total assemblage, this material was associated with a group of pits and an associated layer. Occupation activity of a similar date is not recorded elsewhere within the study area, and only two flint artefacts of possible Mesolithic date – a flake (**20**) and a blade (**26**) – were collected during the walkover survey in the area to the north of Warren House. This is however considered to reflect a lack of intensive archaeological investigation in other parts of the study area comparable to that at the well site, and which therefore reflects the potential for other contemporaneous and later prehistoric sites to be identified on the basis of more intensive evaluation and investigation.

13.41 No other evidence of settlement activity is recorded within the study area until the more intensive second phase of occupation at the Ebberston Well site in the late Neolithic and early Bronze Age. Isolated finds of Neolithic date are however recorded at other locations within the study area, including a polished stone axehead (**MNY16197**) to the east of Warren House, a further polished stone axe to the west of Warren House together with a further stone macehead (**MNY16204**) although the latter two finds are not accurately provenanced. These finds attest to activity of this date within the study area, at least some of which may be related to forest clearance.

- 13.42 The evidence of occupation of late Neolithic and early Bronze Age date (**14339**) recorded at the Ebberston Wellsite was mostly concentrated towards the south-western corner of the area. This included the majority of the flint assemblage, which was recovered from soil layers on the southern edge of the development area and which may therefore be derived from settlement activity to the south. Both *debitage* and cores attest to flint working taking place on the site, and charred hazelnut shell fragments and a crumb of possible Neolithic pottery were also recovered. Other than pits and ditches elsewhere within the site area there was no evidence of any long-standing occupation, and the assemblage may therefore relate to short-term encampment and use of the ridge-way.
- 13.43 The site walkover inspection also recovered a number of flints of later Neolithic and early Bronze Age date along the northern part of the proposed pipeline corridor as far as the area south of Warren House. These include a core (**24**), retouched flint flakes (**3 and 10**) and flint flakes (**6, 7, 8, 19 and 21**). The remaining 18 flints within the assemblage can only be dated generally to the prehistoric period, but some could well be contemporaneous. Although a small assemblage, a relative concentration of flints was collected towards the southern end of Givendale Rigg in the area to the south of the forestry plantation (**5–18**), including a core fragment, blade, blade fragments and retouched flake, with a smaller group (**24–27**) on the edge of a slightly raised area on the west side of Given Dale to the north-east of Warren House (**Appendix 13.5: Plate 1**).
- 13.44 The surface artefacts collected during the walkover survey, and more specifically the assemblage recorded during the archaeological investigations within the Ebberston Wellsite, indicate the importance of the upland ridges during this period, probably as lines of communications, and also demonstrate that much of the evidence for prehistoric occupation within this area has been damaged and eroded by arable cultivation. Much of the record for settlement of this period within these areas is now essentially contained within the existing ploughsoil.
- 13.45 A number of round barrows or cairns of Bronze Age date are recorded within the study area. Many of these burial mounds survive as earthworks, the majority of which are also Scheduled Monuments. The closest scheduled barrow (**3517.65; SM35437**) to the Ebberston Wellsite is located within an area of forestry plantation some 160m to the north-west. This survives as a well-defined earthen mound up to 17m in diameter and 0.8m high. Another scheduled barrow (**3517.66; SM35438**) is also located within Cockmoor Hall Plantation some 240m to the east of the proposed well site. This survives as an earthen mound up to 12m in diameter and 1m high, which appears to

- have been partially excavated. A further scheduled barrow (**8091; SM35436**) is located on the edge of the forestry plantation some 340m to the west of the proposed well site and 65m to the north of the pipeline corridor. This survives as a substantial and well-defined earth and stone mound up to 22m in diameter and 2m high. Partial excavation has left a hollow in the middle of the mound (**Appendix 13.5: Plate 2**).
- 13.46 A further scheduled round cairn (8094; SM35435) is located just north of the study area within a forestry plantation to the north of the Oxmoor Dikes. In addition to these scheduled barrows, a further less substantial ploughed-out barrow is located to the south of the study area and south of Lingy Plantation (MNY5520) some 360m to the south of the proposed well site. Further to the south within the forestry plantation on Givendale Rigg a further scheduled barrow (**MNY8921; SM34591**) is located some 70m to the south-east of the proposed pipeline corridor. This survives as an earthen mound 12m in diameter and 0.7m high with a circular depression close to the mound's summit as a result of earlier unrecorded excavation.
- 13.47 A distinct subcircular mound (**H**) was noted during the site walkover survey immediately north of the proposed pipeline corridor south of Wilton Heights Plantation. This was some 50m in diameter and visible as a distinct raised area within the surrounding landscape (**Appendix 13.5: Plate 3**). While the feature could be entirely natural in origin, it is possible that it represents a former round barrow that has been reduced by centuries of arable cultivation, and possibly located on an existing topographical feature on the edge of the break of slope southwards with extensive views across the Vale of Pickering. Furthermore, a ring gully (**G**) is recorded some 350m to the north-east from aerial photographic sources (NMR 1676/117 and 1676/118; 16.07.79) and this could possibly represent a further barrow. No similar ring gully is however visible on aerial photographic sources at the location of Site H and its authenticity as the site of a possible burial mound therefore remains uncertain.
- 13.48 The find of a flint arrowhead (**MNY8925**) is recorded to the south-west of this barrow, and a further flint arrowhead (**3525**) recorded to the east of the Ebberston Wellsite, both of uncertain date. A looped bronze spearhead (**MNY16200**) of Bronze Age date was found at Warren House (Grove L R A 1938 Bronze Spearhead from Allerston, near Pickering, in *Yorkshire Archaeological Journal*, Volume XXXIV, 4-8). A record for a socketed bronze spearhead (**MNY16149**) at an almost identical location may refer to the same find.
- 13.49 Where a direct relationship can be established between the multiple linear boundary features and round barrows within the region, the boundaries appear to post-date the

barrows and are therefore usually dated to the late Bronze Age or early Iron Age (Spratt 1989, 13). Some of the boundaries, and particularly the Scamridge Dikes are considered earlier, possibly dating to the late Neolithic or early Bronze Age, and may have originated as tribal or political boundaries (Spratt 1989, 14-16). The boundaries consist of complex systems of multiple ditches or dykes and adjacent earthwork banks. Most boundaries within this part of the Tabular Hills are considered to form part of an extensive network of land division, defining territories or "estates". These extend across both the uplands and lower ground and suggest a mixed farming economy attracted by the fertile limestone soils, although the multiple nature of some of the boundaries appear to also reflect status and prestige. The dykes augment natural landscape divisions such as rivers, valleys and watersheds, and are primarily aligned approximately north to south across the plateau, often along the crests of the valley sides, and terminate at the heads of adjacent natural valleys (ibid, 43-51). A second series of cross ridge dykes transect the spurs between the valleys, and may represent the later subdivision of territories.

- 13.50 The only boundaries possibly originating earlier in the Bronze Age are the embanked pit alignments (**MNY12177**; **SM35159**) recorded to the west of Givendale Head Farm. These are defined by regularly spaced pits flanked by parallel (but not necessarily continuous) banks. A complex of similar alignments recorded on Ebberston Low Moor some 2.5km to the north-east suggests at least an early Bronze Age date for parts of the monument (Ainsworth S 1999: *Archaeological Field Survey – Prehistoric Embanked Pit-Alignments on Ebberston Low Moor, Ryedale, North Yorkshire*) and a similar date is accordingly presumed at Givendale Head. The monument consists of two adjoining alignments, the best preserved within the study area being the western alignment within the forestry plantation immediately to the north of the proposed pipeline route. Along this length the pits average 3m in diameter and up to 1m deep, and the adjacent banks up to 0.5m high despite being partially damaged by forestry planting. The pits terminate to the north of the proposed pipeline corridor, although cartographic evidence suggests a short continuation into an area likely to have been disturbed by the existing pipeline corridor and forest track. Only the northern extent of this monument has been surveyed (Mytum H 1985: Pit Alignments at Givendale Head, in *CBA Forum 1984-85*, 34-35). The alignment to the east within the current pasture field has been almost totally levelled by ploughing, and only occasional shallow depressions suggest its location. Cartographic and aerial photographic evidence suggest that this alignment terminates to the north of the proposed pipeline corridor (Ordnance Survey 25" to mile map: Yorkshire (North Riding) sheet XCII.6; RAF58/1274 12.09.53).

- 13.51 The Oxmoor Dikes (**MNY5449**) to the south-east of Givendale Head Farm are crossed by the proposed pipeline route at their southern end at the junction with the Givendale Dikes (**MNY 5456**), and both form part of an extensive Scheduled Monument (**SM35443**). The Oxmoor Dikes consist of three ditches between four parallel banks aligned north-east to south-west extending for some 530m between the slope into Troutsdale and the head of Given Dale and probably represent more than one phase of construction. The ditches are up to 2m deep from the tops of the banks, and the whole monument up to 38m wide and now largely covered in scrub (**Appendix 13.5: Plate 4**). The outer banks in a number of places have been reduced or levelled by ploughing in the adjacent fields, and it has been suggested that the monument originally had four ditches and banks (Spratt 1989, 43). Towards the west of the monument a post-medieval limestone quarry has destroyed part of the central and north-western ditches and the bank between them. A section across the monument in the quarry face was recorded at this location in 1891, and the base of the ditches to the top of the banks measured up to 3.5m (J R Mortimer 1905: *Forty Years Researches in British and Saxon Burial Mounds of East Yorkshire*, 370, 375).
- 13.52 To the south of the quarry the south-eastern ditch and the banks either side continue and turn to the south, ending at the modern farm access track some 7m wide which truncates them and is the proposed route for the pipeline corridor (**Appendix 13.5: Plates 5 and 6**). To the north the banks are some 12m apart and between 1.4m and 2.1m from the base of the ditch to the top of the banks. Where truncated the monument is defined by the foundations of a post-medieval field wall on the north side of the track, and any visible relationship between the Oxmoor Dikes and the Givendale Dikes to the south has been lost (**Appendix 13.5: Plate 7**).
- 13.53 The northern end of the Givendale Upper Dike is aligned approximately north to south and extends along the upper edge of the dale from a location immediately to the south of the track. The earthwork remains of the monument are some 22m wide and consist of two ditches between three banks, although the outer banks have been much reduced by ploughing. The central bank is some 8m wide and the height from the bank top to the base of the ditches is up to 1.2m (**Appendix 13.5: Plates 8 and 9**). The total distance of the monument along the edge of Given Dale is some 2.3km. The exact relationship with the Oxmoor Dikes is uncertain, although the western and central banks of the Givendale Dikes appear to continue the line of the two banks on either side of the outer ditch of Oxmoor Dikes. The western and outer ditches of each monument may represent a later addition to, and strengthening of, the Oxmoor Dikes (Spratt 1989, 43–45; Waughman M 2002 note on *Sites Considered for Scheduling for Cranstone Consultancy*).

- 13.54 The Givendale Lower Dike (**MNY5454**) is located up to some 150m to the west and may represent an earlier extension of the Oxmoor Dikes. This is recorded for a distance of 420m or more along the eastern edge of Given Dale. The monument originally had a ditch between two parallel banks, with a width of between 13m and 22m, although a further ditch and bank on the eastern side has been postulated (Waughman 2002). The northern part of the boundary has been ploughed down and only parts of the former earthworks are visible as shallow depressions in the existing pasture field. To the south the eastern bank has been reduced by ploughing, but the ditch and western bank survive as earthworks up to 6m wide on the west facing slope with a height between the base of the ditch and top of the bank of some 1.8m (**Appendix 13.5: Plate 10**). To the south the boundary peters out. At its northern end the boundary turns to the north-east to join the south-western end of the Oxmoor Dikes, the boundary originally being contiguous with the north-western ditch and its flanking banks but the junction is now partly obscured by the modern field boundary and track.
- 13.55 These linear boundaries form part of a wider complex of monuments, although most of the remaining boundaries within the study area have been levelled as a result of arable cultivation. These include the Diggerfoot Dike (**MNY5464**) located between the forestry plantation and Warren House. This is the only example on the Tabular Hills of a cross ridge dyke bisecting a valley transversely, in this case across Givendale Rigg, and may form an addition to the main system of dykes (Spratt 1989, 38). A short length of the eastern part of the boundary (**MNY5465**) still survives as a visible earthwork within the forestry plantation on the west side of Given Dale, and suggests a single ditch between two banks. The boundary may originally have extended as far as the southern end of the Givendale Upper Dike, but on the Ordnance Survey map of 1854 only extends for a length of 0.9km across the ridge (Ordnance Survey 6" to mile map: Yorkshire sheet 92). The monument had largely been ploughed out by 1912 (Ordnance Survey 25" to mile map: Yorkshire (North Riding) sheet XCII.6).
- 13.56 A number of other boundaries are recorded within the study area, either as earthworks or soil marks from aerial photographs at locations where earthworks have not previously been mapped. These included a possible bank (**MNY5469**) of unknown date extending southwards from the Oxmoor Dikes (AJC 005/12–13 19.10.83). A possible ditch (**MNY5468**) of uncertain authenticity may extend south-eastwards to the east of the Givendale Dikes on the southern edge of the study area. A further possible dyke (**MNY16700**) is recorded on the northern edge of the study area to the south-west of Warren House. Although of unknown origin, these may represent later subsidiary land divisions of either late Bronze Age or Iron Age date. A ditch feature (**NMR1106460**) is recorded to the north of Warren House and considered to be prehistoric or Roman in

date, the former being more likely given its location.

- 13.57 A quern of Bronze Age or Iron Age date (**MNY16209**) has been recovered to the north of Wilton on the northern edge of the study area. A further quern (**MNY12429**) recorded at the same location probably refers to this find (McDonnell J (ed) 1963: *A History of Helmsley, Rievaulx and District*, 406).

Roman

- 13.58 During the Roman period the number of recorded sites and finds is fewer and no longer concentrated on the southern edge of the Tabular Hills, being instead on the lower ground of the Vale of Pickering. Few settlement sites are recorded, although a number of stray finds attests to occupation in the area during this period. On the basis of place-name evidence the site of a Roman temple (**MNY23530**) has been suggested on the ridge of Harrow Cliff to the west of Hurrell Lane, but there is no further evidence to suggest the authenticity of this site. The number of finds of Roman date from the area further to the west, to the south of Thornton-le-Dale, does however suggest the probability of a settlement (MNY16127) in this area.
- 13.59 Although no settlement sites of Iron Age or Roman date are recorded within the study area, the northern edge of the Vale of Pickering has the potential to contain previously unrecorded sites of this date. Intensive geophysical survey along the southern edge of the Vale in vicinity of Sherburn and Heslerton in particular has identified an extensive area of late Iron Age and Roman 'ladder' settlement extending for some 3.5km and comprising farmsteads, field systems and cemeteries (LRC). The focus for settlement appears to be sand ridges within the Vale, which could suggest that areas of clay similar to that within the study area have less potential for occupation than other areas.

Medieval

- 13.60 All of the principal settlements adjacent to the study area had been established by the end of the Anglo-Saxon period. These four villages are all located at the dip slope springline (corresponding with the current A170) and have names of Old English origin which are first recorded at the time of the Domesday Survey in 1086 (Faull M L and Stinson M (eds) 1986: *Domesday Book 30 Yorkshire*; Mills A D 2003: *Oxford Dictionary of English Place Names*). These are Eberston (*Edbrizune* or 'farm of a man called Eadbeorth'), Allerston (*Alurestan* or 'boundary stone of a man called Aelfhere'), Wilton (*Wiltune* or 'farmstead or village where willow-trees grow') and Thornton (*Toretune* or

'thorn-tree enclosure or farmstead'). Although not recorded until the time of the Domesday survey, all of these villages are likely to have originated several centuries earlier, suggesting a focus of settlement from this period at the base of the dip slope along the northern edge of the Vale of Pickering.

- 13.61 At the time of the Domesday Survey the manors associated with all four villages were soke of the king's manor of Pickering and those at Allerston and Ebberston remained part of the honour of Pickering (and part of the Duchy of Lancaster) throughout the medieval period (Page W 1968: *The Victoria History of the Counties of England – Yorkshire North Riding* Volume II). All of the townships and each of the associated manors extended for some considerable distance between the Vale of Pickering and the Tabular Hills to the north, and documentary sources provide little information regarding the northern extent of these townships for both Ebberston and Allerston in the area of the development proposals. There is however a reference to Ralph de Hastings being granted free warren in Allerston in 1328 or 1329 (Page 1968, 422), and given the location of later rabbit warrens this is likely to have been within the northern part of the manor. These areas are therefore likely to have remained as open and unenclosed moorland throughout the medieval period, and no settlement sites or other evidence of occupation is recorded in the area of the Ebberston Well site or within the northern part of the proposed pipeline corridor. A possible boundary of medieval date, the Allerston Acerdyke, is however recorded in 1325 and extended westwards from the Allerston–Ebberston township boundary, possibly as far as and beyond Warren House (Spratt 1989, 50) and probably separated arable land from pasture. Although indicated on the 1810 Allerston enclosure map it is not subsequently mapped and there is no clear evidence for the boundary.
- 13.62 In contrast there is map-based evidence for extensive open field systems of probable medieval date within the southern part of the proposed pipeline corridor in the area to the west and south-west of Wilton in particular (1854 Ordnance Survey map). In the latter area long narrow and sometimes sinuous fields extending southwards from the A170 indicate former open field systems of probable medieval date, and two fields of former ridge and furrow cultivation (**K and L**) survive as visible earthworks within the study area to the east of the proposed pipeline corridor. These areas are relatively rare survivals where most of the ridge and furrow has been levelled by ploughing, though the extent of the former earthwork remains can be recorded from post-war aerial photographs (RAF/106G/UK/1342 01.04.46) although any within the area of the pipeline corridor and access road to the Hurrell Lane Gas Processing Facility appears to have been levelled by that date. The isolated finds of medieval pottery collected during the walkover site inspections of the southern part of the proposed pipeline route on

Wilton Heights (**31**), on the access road on Blue Bank (**33**) and within the area of the Hurrell Lane Gas Processing Facility (**36**) probably relate to the manuring of fields at these locations during this period.

Post-Medieval and Modern

- 13.63 The landscape within the northern part of the study area saw relatively little change until the enclosure of the moorland in the late 18th and early 19th centuries. There are only occasional references to sites or features prior to this period, such as that to the boundary stone (**MNY12178**) in the Oxmoor Dikes on the township boundary between Ebberston and Allerston mentioned in a 1620 perambulation of Allerston (Spratt 1989, 43). The stone, some 1m high, is still extant and located on the northern edge of the monument within the scheduled area.
- 13.64 At the time of the 1770 enclosure of part of the lordship of Ebberston the northern extent of the enclosed land at that time appears to have been defined by the Oxmoor Dikes and then followed the northern edge of the field in which the proposed Ebberston Wellsite and pipeline corridor would be located as far as the boundary with the lordship of Snainton. This would suggest that the boundary of the enclosed land therefore passed through the wellsite, but whether there was any physical demarcation of this parcel of land is not certain. The area immediately to the north (currently forested) is labelled on the enclosure map as *Grundale brow* and Troutsdale Beck as *Grundale Beck (A Plan of the Lordship of Ebberston Inclosed 1770 L Thompson Esqr Lord Therof J Foord Delin NYCRO ZJQ 1)*. Much of the area of the southern half of the well site and part of the pipeline corridor were accordingly located within a large parcel of land that extended almost as far south as Malton Cotes (some 1.5km).
- 13.65 The enclosure of the township of Allerston dated to 1810 and this covers much of the northern part of the proposed pipeline route to the north of Warren Farm. No settlements, enclosures or other features are indicated other than a pit (**Q**) or quarry, suggesting that much of the existing field pattern post-dates this period (*A Plan of the Township and Manor of Allerston with Crosscliff and Staintondale Allotted and Divided by Act of Parliament in 1810 NYCRO ZJQ 30*). This area had however been enclosed and fields established by the time of 1846 tithe award map for Allerston (BIHR TA 855 VL), and names such as 'New Field' for that to the east of Warren Farm would suggest that these were relatively recent enclosures.
- 13.66 By the time of the first edition Ordnance Survey map of 1854 the northern part of the proposed pipeline corridor was being extensively used for rabbit warrening. The

- conglomeration of large commercial warrens on the Tabular Hills in the 18th and 19th century was the largest complex in North Yorkshire (Henderson A 2003: Rabbits and Rabbit Warrens, in R A Butlin (ed) *Historical Atlas of North Yorkshire*, 162). Within the study area a number of individual rabbit traps are recorded, including one to the east of the Ebberston Wellsite (**11\573**), but particularly along the western side of the proposed pipeline route on Givendale Rigg (**8111.01057, 8111.01068, 8111.01072, 11\527 and 11\531**). Of those closest to the proposed route 11\531 appears to have been destroyed by the existing pipeline but 11\527, although damaged by the forestry plantation survives as an earthwork some 8m in length with a pit some 1m square. That recorded within the proposed soil storage area (**8111.01073**) has been destroyed by arable cultivation.
- 13.67 The farmstead at Warren House (**NMR528772**) had been established by 1854, and is therefore presumed to date to the early 19th century, the name reflecting the warrens to both the north and east in particular. The only other buildings recorded within the northern part of the study area are a former structure to the north of the Ebberston Wellsite (**A**) and a barn (**C**) to the west.
- 13.68 The enclosure of the open moorland and associated establishment of farmsteads, fields, barns and warrens within the area, and the resultant need for building stone, was the reason for a number of limestone stone quarries recorded within the study area. These are located to the south of the Ebberston Wellsite (**B**), to the south-west of Warren House (**E and F**) and on Givendale Rigg to both the east (**D**) and west (**11\52.00**) of the proposed pipeline route and soil storage area. Most of these are mapped as disused on later Ordnance Survey mapping of 1912 and a number have subsequently been infilled.
- 13.69 Field or enclosure boundaries are mapped at a number of locations to the west of the Ebberston Wellsite, south of the Oxmoor Dikes, west of Given Dale and east of Warren House. However, all of these have now been removed with the exception of ruinous wall lines or earthwork foundations immediately south of Oxmoor Dikes, along the northern edge of the forestry plantation to the west of Given Dale, and on the west side of the track within the forestry plantation along Givendale Rigg (as indicated on **Figures 13.1 and 13.2**).
- 13.70 Within the northern part of the study area the establishment of the extensive forestry plantations from the early 20th century has fundamentally altered the landscape within this part of the study area. While these have precluded the identification of surface artefacts within these areas, and particularly within the plantation along Givendale

Rigg, this is still considered to have archaeological potential despite the damage caused to some surface remains by planting operations.

- 13.71 Within the southern part of the proposed pipeline route a number of buildings are mapped within the study area, including the site of the former Graystone Cottage (**M**) and later barn (**N**) to the south of the A170, and a further barn (**P**) to the south of New Ings Lane. The site of a former granary (**NMR 538612**) is also recorded on Wilton Heights.
- 13.72 The former strip fields within this southern part of the study area were also subdivided, although a number of the field boundaries have been removed in the post-war period and former field boundaries within the area of both the proposed Hurrell Lane Gas Processing Facility and along the associated access road and pipeline route to the north are no longer extant.
- 13.73 The principal changes in the latter part of the 19th century within the immediate area of the proposed Hurrell Lane Gas Processing Facility was the construction of the Seamer and Pickering branch of the North Eastern Railway (**NMR62719**), opened in 1882. The line was closed to passengers in 1950 and then to freight in 1964 when the track was lifted (Hoole K 1974: *A Regional History of the Railways of Great Britain – Volume IV The North East*, 90). The substantial embankment for the railway line survives to the north of the proposed facility, but has been removed further to the east.

Likely Significant Effects

Effects on Listed Buildings

Construction Impacts

- 13.74 There are no Listed Buildings within any of the proposed development areas or the surrounding study area, and there would accordingly be no direct physical adverse effects upon Listed Buildings arising from the construction of the proposed Ryedale Gas Project.
- 13.75 As a result of intervening distance, topography and vegetation no temporary effects upon the setting of any Listed Buildings are predicted as a result of construction activities.

Operational Impacts

- 13.76 The only Listed Buildings in relatively close proximity to the proposed development are the farm at White House and the farmhouse and associated farmbuildings at Cockmoor Hall to the north and south-east of the Ebberston Wellsite respectively. The White House is located within the valley of Troutsdale Beck some 370m to the north. There would be no predicted views of the development from the building. Cockmoor Hall would be screened from the proposed development by the areas of intervening woodland to the north-west, and no impact upon the setting of these Listed Buildings is therefore predicted.

Effects upon Archaeological Remains*Construction Impacts*

- 13.77 The potential direct physical effects of the construction of the proposed Ryedale Gas Project upon archaeological remains would be restricted to the initial construction of the proposed facilities. Such direct effects upon archaeological remains could result from the removal of both topsoil and subsoil, ground reduction and deeper excavations for foundations and services, trench excavations for the pipelines and tree planting. Seven separate components of the project could potentially have an effect upon archaeological remains, namely the Ebberston Wellsite; the Hurrell Lane Gas Processing Facility and associated construction compound; the access road from the A170 to the Hurrell Lane Gas Facility; the 300mm and 100mm pipeline corridor linking the Ebberston Wellsite and Hurrell Lane Gas Processing Facility; the soil storage area on Givendale Rigg; the AGI to the south of New Ings Lane; and the associated pipeline to the Hurrell Lane Gas Processing Facility. The predicted and potential effects of these components upon archaeological remains are addressed separately.
- 13.78 Any decommissioning of the proposed facilities, and subsequent site restoration, would be restricted to those areas previously affected by construction activities. No further potential effects upon archaeological remains additional to those identified during the construction phase are therefore predicted, and the detailed assessment below therefore relates only to construction activities.

Ebberston Wellsite

- 13.79 The proposed Ebberston Wellsite would be located some 1km to the east of Givendale Head Farm (SE 9030 8715) and would extend over an area of some 1.4ha (**Figure**

13.1). The compound would measure some 110m by 145m. Once operational this would primarily contain a local equipment room, road tanker bund, pig launchers, hydrate and corrosion/scale inhibitor packages and the wellhead separator, the latter being some 6m in height, surrounded by a security fence 2.85m high.

- 13.80 None of the works proposed within the compound at the Ebberston Wellsite would extend beyond the boundaries previously archaeologically excavated at the time that the exploratory well site was constructed (LRC 2009). Although a significant flint assemblage (14339) was recovered representing occupation on the site from the late Mesolithic to the early Bronze Age, no additional impacts are predicted as a result of the further development of the site.

Hurrell Lane Gas Processing Facility

- 13.81 The proposed Hurrell Lane Gas Processing Facility would be located some 1.5km to the south-east of Thornton-le-Dale, immediately to the south of the former railway line, to the east of Hurrell Lane and north of New Ings Lane (SE 8490 8190). The area is currently under arable cultivation. The facility would extend to an area of some 4.7ha with the compound measuring some 320m by 175m, including the associated temporary construction compound and storage area (**Figure 13.6**). During construction a pipeline laydown area extending to some 1.1ha would be located to the east. Once operational the principal elements of the facility would be an administration and control building, compressor building, transformer, control room, boiler house, gas exchanger, separator, cooler, degasser, regen gas heater, surge vessel, condensate vessel, water and condensate storage tanks, ground flare and associated pipelines. The most substantial structures would be the ground flare and regen gas heater which would be 15.5m and 15m in height respectively, while the degasser, surge and condensate vessels would be between 10–14m in height and the control building some 10m high. There would be woodland planting around the margins of the site on all but part of the east side, and the site would be surrounded a security fence 2.85m high.
- 13.82 No archaeological sites are recorded within the area of the proposed facility, although sherds of both medieval and early post-medieval pottery (35–37) were collected during the site walkover inspection. The northern boundary of the site area is defined by the embankment of the former Seamer to Pickering railway line (NMR62719). A 19th century barn (P) is located south of the site on the opposite side of the New Ings Lane.
- 13.83 With the exception of those effects of moderate magnitude upon former post-medieval field boundaries, no impacts upon any recorded archaeological remains are predicted

during the construction of the proposed facility, and the pottery collected probably represents manuring of the fields during arable cultivation. Given the location of the site on the northern edge of the Vale of Pickering there is however considered to be some potential for previously unrecorded buried archaeological remains or associated palaeoenvironmental deposits to survive within the site boundaries. This potential could only be established by further archaeological survey and evaluation.

Access Road from the A170 to Hurrell Lane Gas Processing Facility

- 13.84 The proposed access road from the A170 to the Hurrell Lane Gas Processing Facility would be some 1.3km in length within an arable field, although much of this length would fall within the proposed pipeline corridor. The road would mostly be 4.5m wide, extending to 7.5m where there were lay-bys, and 6.8m wide at the north end near the road junction. A bund 8.6m wide would be located along the west side of the road, with a new hedge planted to the west of the bund.
- 13.85 No impacts upon any recorded archaeological remains are predicted during the construction of the proposed road, and the sherds of both medieval and early post-medieval pottery (33–34) collected during the site walkover inspection probably represent manuring of the fields when under arable cultivation – with the alignment of the former medieval strip fields being reflected in the current alignment of the surviving hedges. Although the road is located down the south-facing slope of Blue Bank there is no evidence of any settlement or occupation sites within the road corridor, and any such potential could only be established by further archaeological survey and evaluation.

300mm and 100mm Pipeline Corridor

- 13.86 An 8.6km length of pipeline corridor would be constructed for two pipelines between the Ebberston Wellsite and the Hurrell Lane Gas Processing Facility (**Figures 13.1–13.6**). These would be a 300mm diameter pipeline to convey the gas to Hurrell Lane and a 100mm diameter pipeline to convey the liquids from the wellhead. The corridor would be 42m wide within which some 38m would be stripped of topsoil (where the working width has not been reduced as a result of other constraints, including archaeology). The pipes would be laid within a trench 1.8m wide and between 1.5m and 1.8m deep. The corridor would also contain a buried fibre optic cable.
- 13.87 The pipeline has been routed in order to avoid or minimise any affects upon recorded archaeological sites within the study area, but given the linear nature of many of the

monuments along the route a number of impacts upon archaeological remains are predicted. These are summarised below, listed from north to south between the Ebberston Wellsite and the Hurrell Lane Gas Processing Facility:

- *Flint assemblage 14339*: that length of the pipeline corridor to the north of the access road to the Ebberston Wellsite is predicted to affect further assemblages of flint similar to those recovered during the archaeological excavations along the access road to the exploratory well site. This would be an adverse impact of high magnitude upon a resource of medium to low sensitivity and therefore of moderate significance.
- *Ditch MNY5469*: that length of the pipeline corridor to the south of Oxmoor Dikes is predicted to affect a 40m length of the subsurface remains of a former ditch. This would be an adverse impact of medium magnitude upon a resource of medium to low sensitivity and therefore of moderate/minor significance.
- *Oxmoor Dikes MNY5449; SM35443*: although the working width has been reduced to some 7m that length of the pipeline corridor between the Oxmoor and Givendale Dikes is predicted to affect subsurface remains of ditches, banks and associated deposits at the junction of these two monuments. This would be an adverse impact of medium magnitude upon a resource of high sensitivity and therefore of major/moderate significance.
- *Givendale Lower Dike MNY5454; SM35443*: although the working width has been reduced to 20m that length of the pipeline corridor across this monument is predicted to affect subsurface remains of ditch deposits. This would be an adverse impact of medium magnitude upon a resource of high sensitivity and therefore of major/moderate significance.
- *Enclosure boundary*: that length of the pipeline corridor on the western edge of Given Dale is predicted to affect a 38m length of the earthwork and buried remains of a post-medieval enclosure boundary. This would be an adverse impact of medium magnitude upon a resource of low sensitivity and therefore of moderate/minor significance.
- *Field wall*: that length of the pipeline corridor to the west of Given Dale is predicted to affect a 200m length of a ruinous field wall defining a post-medieval enclosure. This would be an adverse impact of high magnitude upon a resource

of low sensitivity and therefore of moderate significance.

- *Enclosure boundaries*: that length of the pipeline corridor along Givendale Rigg is predicted to affect part of three lengths of former walls defining post-medieval enclosure boundaries. This would be an adverse impact of medium magnitude upon a resource of low sensitivity and therefore of moderate/minor significance.
- *Occupation activity 5–21*: that length of the pipeline corridor along Givendale Rigg to the south of the forestry plantation is predicted to affect an area of prehistoric occupation activity represented by flint scatters. These scatters may represent much of the evidence for this former occupation, although the potential for associated subsurface deposits could only be established by further archaeological survey and evaluation.
- *Diggerfoot Dike MNY5465*: that length of the pipeline corridor along Givendale Rigg is predicted to affect a 38m length of the subsurface remains of ditch deposits. This would be an adverse impact of medium magnitude upon a resource of medium sensitivity and therefore of moderate significance.
- *Occupation activity 24–27*: that length of the pipeline corridor north-east of Warren House is predicted to affect an area of prehistoric occupation activity represented by a flint scatter. The potential for associated subsurface deposits could only be established by further archaeological survey and evaluation.
- *Mound H*: the pipeline corridor along Wilton Heights is predicted to affect the edge of this mound of uncertain significance. The potential for any deposits within this area of an archaeological nature could only be established by further survey and evaluation.

13.88 In addition to specific sites and features, a number of areas adjacent to these have the potential for associated but previously unrecorded archaeological remains, and particularly in the area of the various dyke systems in the northern part of the pipeline corridor. Any such potential could only be established by further archaeological survey and evaluation.

13.89 The lower section of the proposed pipeline route also crosses a total of twelve hedgerows that pre-date 1845 and would therefore qualify as "important" with respect to archaeology and history under the terms of the Hedgerow Regulations 1997

(*Statutory Instrument 1997 No 1160*, as amended 2002). This includes that defining the township boundary between Wilton and Thornton-le-Dale.

- 13.90 No impacts upon the railway embankment (NMR62719) to the north of the Hurrell Lane Gas Facility are predicted, as this would be crossed by directional drilling or auger bore rather than by open cut.
- 13.91 At the north end of the proposed pipeline route an existing badger sett within the proposed corridor to the west of the Givendale Lower Dike (MNY5454; SM35443) will need to be relocated to the area to the south. The new artificial sett would be located a minimum of 10m from the edge of the monument in order to avoid any effects upon archaeological remains.

Soil storage area

- 13.92 An area of up to some 10ha on Givendale Rigg to the south of the forestry plantation (**Figure 13.3**) is to be used for the storage of topsoil and subsoil. Dependent upon the nature of the works this could have an adverse impact upon any areas of prehistoric occupation activity as represented by surface flint scatters (5–21) as well as the subsurface ditch deposits associated with the Diggerfoot Dike (MNY5465). These scatters may represent much of the evidence for this former occupation, although the potential for associated subsurface deposits could only be established by further archaeological survey and evaluation and the impact predicted upon clarification of the proposed works in this area.

New Ings Lane AGI

- 13.93 The connection from the Hurrell Lane Gas Processing Facility to the existing National Transmission System (NTS) pipeline would be a “hot tap connection”. This would involve the construction of two AGIs in a pasture field to the south of New Ings Lane at the junction with Hurrell Lane (SE 8470 8175). This would consist of two adjacent compounds belonging to Moorland and National Grid respectively, the combined size of which would measure some 44m by 38m (**Figure 13.6**). The above ground components would include kiosks, junction boxes and valve stems up to 1.5m in height. There would be woodland planting to the north of the facility.
- 13.94 No archaeological sites or finds are recorded in this area, and given that the location is largely within the corridor of the existing National Grid pipeline no adverse impacts upon archaeological remains are predicted.

Effects upon Settings of Scheduled Monuments

- 13.95 The only part of the proposed development where permanent structures will be constructed in close proximity to Scheduled Monuments is the Ebberston Wellsite, and the potential impact upon the setting of these monuments has been assessed. The closest Scheduled Monuments are two round barrows located some 160m to the north-west (3517.65; SM35437) and some 240m to the east (3517.66; SM35438). Both of these monuments are located within areas of woodland plantation to which there is no public access. The wellsite is not predicted to be visible from these monuments. Given the existing forest setting in the immediate vicinity of the barrows no impacts upon the setting of either of these monuments is predicted.
- 13.96 A further scheduled round barrow (8091; SM35436) is located on the edge of the forestry plantation some 340m to the west of the proposed well site and some 65m north of the proposed pipeline corridor (**Appendix 13.5: Plate 2**). From this monument (to which there is no public access) there are predicted to be partial views of the wellsite and access road. However, given the nature of the existing setting of the monument and the distance and scale of those aspects of the proposed development that would be visible from the site, the impact on the setting of this monument is predicted to be of negligible to minor significance.
- 13.97 The proposed pipeline corridor would be constructed in close proximity to this round barrow, as well those areas adjacent to the Oxmoor Dikes (MNY5449; SM35443) and Givendale Dikes (MNY5454 and MNY5456; SM35443) where these are crossed by the pipeline corridor. This would have potential effects upon the settings of these monuments of major magnitude, but as these affects would be temporary (for a period of up to 10 months) and the pipeline corridor would be reinstated, these are not considered to be significant.

Mitigation Measures*Listed Buildings*

- 13.98 No adverse effects upon the setting of any Listed Buildings are predicted, and no mitigation measures therefore proposed.

Archaeological Remains

13.99 A number of the potential impacts of the Ryedale Gas Project upon archaeological remains have already been partially mitigated as a result of designing the development proposals to avoid known sites or reduce any predicted impacts. This is particularly the case with the Scheduled Monuments at Oxmoor and Givendale Dikes (MNY5449, MNY5454 and MNY5456; SM35443), where in consultation with English Heritage and North Yorkshire County Council a route for the pipeline corridor has specifically been selected in order to cross these monuments where they have already been degraded or damaged, and to reduce the working width of the corridor (to 7m at the Oxmoor Dikes and 20m at the Givendale Lower Dike) as much as is technically feasible.

13.100 Both at these monuments, and at other locations where potential adverse impacts upon archaeological remains are predicted, a further stages programme of evaluation of the specific areas of the development proposals are considered necessary in order to establish the extent of particular sites and assess the potential for further associated archaeological remains. Once such further evaluation has been undertaken this would enable a full assessment of the predicted effects to be established, together with a detailed mitigation strategy. This further evaluation would initially consist of both geophysical and detailed fieldwalking (the systematic and total collection of surface artefacts) surveys.

13.101 It is proposed that both geophysical and fieldwalking surveys be undertaken within the following lengths of the pipeline corridor as part of the further evaluation of the proposed development:

- the field to the west of the Eberston Wellsite;
- the field to the south of the Oxmoor Dikes;
- the field between the Givendale Upper and Lower Dikes;
- the field to the west of Givendale Lower Dike;
- the field to the north-east of Warren House as far as the forestry plantation (and including the proposed soil storage area);
- the area of Wilton Heights to the south and west of mound (H); and
- the Hurrell Lane Gas Processing Facility.

13.102 In order to establish any potential significant constraints within these areas and agree an appropriate mitigation strategy it is proposed that the geophysical survey be undertaken in the spring of 2010, with the fieldwalking survey being undertaken after harvest in the autumn of 2010. Fieldwalking would not include the pasture field to the west of Givendale Lower Dike or the field in which the Hurrell Lane Gas Processing

Facility is proposed. A Written Scheme of Investigation setting out the detailed scope of the surveys would be agreed in advance with North Yorkshire County Council, the North York Moors National Park Authority and English Heritage. The geophysical survey across the Oxmoor and Givendale Dikes would also require a Section 42 Licence from English Heritage.

13.103 In addition to these surveys, a measured earthwork and topographical survey would be undertaken of those parts of the remains of visible monuments adjacent to where these were crossed or affected by the proposed pipeline corridor. This would in particular apply to the area at the junction of the Oxmoor and Givendale Dikes (MNY5449 and MNY5456; SM35443). Further surveys at the southern end of the embanked pit alignment (MNY12177: SM35159) and the surviving length of the Diggerfoot Dike (MNY5464) adjacent to the soil storage area are also proposed. These surveys would assist with the detailed design of the working width at these sensitive locations, and also provide a record that would enable any excavated features and deposits within the working width to be placed in their immediate context. It is proposed that these earthwork surveys be undertaken over the winter of 2010–2011 to an agreed Written Scheme of Investigation.

13.104 Any geotechnical ground investigations undertaken for the development proposals in advance of construction would also be archaeologically monitored if at locations of known or potential archaeological importance.

13.105 It is anticipated that mitigation of the predicted adverse effects upon archaeological remains during construction works would include the following:

- the reduction in the working width of the corridor to reduce impacts upon the Oxmoor and Givendale Dikes (to 7m and 20m respectively) as well as between the monuments;
- the reduction in the working width to avoid any impacts to the field wall to the west of Given Dale and the possible mound (H) on Wilton Heights;
- secure demarcation of archaeological remains adjacent to the working width (to avoid inadvertent damage);
- the use of “bog mats” to protect sensitive archaeological deposits within the working width from damage by vehicular traffic
- restoration of hedgerows along the pipeline corridor.

13.106 Where adverse impacts upon archaeological remains cannot be avoided then

archaeological investigations would be carried out in order to secure “preservation by record” in accordance with local plan policies and national planning guidance. Subject to planning permission for the development being granted this would include detailed area excavation in advance of or during the early stages of construction at the most significant locations, and specifically the areas of the Scheduled Monuments at the Oxmoor and Givendale Dikes (MNY5449, MNY5454 and MNY5456; SM35443), as well as at the Diggerfoot Dikes (MNY5464) or other locations identified as significant on the basis of the earlier geophysical and fieldwalking surveys. Other areas considered less sensitive would be recorded by means of “strip, map and record” during the construction programme, with adequate time and resources being made available to record any remains. The programme of archaeological investigation would be set out in a detailed Written Scheme of Investigation, to a defined research agenda, establishing the methodology for the archaeological investigations and subsequent report preparation and publication, to be undertaken in accordance with best practice (English Heritage 1991: *Management of Archaeological Projects*; English Heritage 2006: *Management of Research Projects in the Historic Environment – The MoRPHE Project Managers’ Guide*) and in agreement with North Yorkshire County Council, the North York Moors National Park Authority and English Heritage. In addition to this agreement the excavations within the scheduled areas would also require Scheduled Monument Consent from the Department for Culture, Media and Sport.

- 13.107 In addition to mitigating any adverse direct effects upon archaeological remains the results of the proposed scheme of works would also have the benefit of providing information regarding the sites and monuments within the area, and in particular that relating to the prehistoric boundaries and associated features within the northern part of the study area. The development would also enable investigation of a transect across an important and transitional archaeological landscape, rather than just of individual site locations.
- 13.108 Investigation of part of the Oxmoor Dikes, Givendale Lower Dike and Diggerfoot Dike in particular, using modern techniques and scientific analysis of the results, would represent a rare and valuable opportunity not provided for some decades. There is little positive dating for the linear boundaries on the Tabular Hills, and even the number of banks and ditches at each of these specific boundaries, and their sequence of construction, is unclear. The investigations should therefore enable the form, phasing and date of these individual monuments to be established and compared, and any contemporaneous activity in the vicinity to be recorded. Scientific analysis of the ditch deposits might also enable the past environments at that time to be determined. This should facilitate a much more detailed understanding of the development of the

boundaries and territories within the area to be established than is available at present and from field survey alone, and for the distribution and intensity of prehistoric and later activity within this part of the Tabular Hills to be determined.

Residual effects

13.109 Subject to the implementation of this mitigation strategy no significant adverse physical effects upon archaeological remains from the construction of the proposed development are predicted.

Summary and Conclusions

13.110 The results of the assessment study and associated site walkover inspections have demonstrated that the development proposals, and particularly in the vicinity of the Ebberston Wellsite and the northern half of the proposed pipeline route, are located within an area containing archaeological remains of national importance and of high archaeological potential. This part of the development area is located within an area of the Tabular Hills containing numerous prehistoric linear earthworks, as well as funerary and other monuments, which form part of the third largest group of such boundaries in Britain and some of the best preserved. While fewer archaeological sites and finds are recorded on the slope to the south and on the northern edge of the Vale of Pickering, this lower ground still has potential to contain previously unrecorded remains of both regional and national significance.

13.111 The most significant identified physical effects of the construction of the proposed development are where the northern end of the proposed pipeline route transects the Oxmoor and Givendale Dikes, both of which are Scheduled Monuments of national importance. In consultation with North Yorkshire County Council and English Heritage the route proposed across these monuments has been specifically selected at locations where there is an existing track or where the earthwork remains have already been reduced by ploughing in order to minimise the predicted effects. However, significant subsurface deposits are likely to survive within these areas which will contain important information on the form, date and relationship of these boundaries. Any such effects would therefore be considered of major/moderate significance.

13.112 Other identified physical effects of the proposed development include those upon the prehistoric boundary features such as the Diggerfoot Dyke on Givendale Rigg, as well as to areas of prehistoric occupation activity identified in the form of surface scatters of flint artefacts to the west of the Ebberston Wellsite and in the area of the proposed

pipeline route and soil storage area on Givendale Rigg and to the north of Warren House. The presence or extent of any subsurface archaeological deposits associated with these flint scatters could only be established by means of further survey, although the artefacts within the ploughsoil itself represent an important record of former occupation and activity and any effects would therefore be considered of moderate to major significance.

13.113 For the remainder of the pipeline corridor, and for other aspects of the development such as the proposed Hurrell Lane Gas Processing Facility, the predicted effects upon archaeological remains are fewer in number and of less significance. Those upon recorded remains would mostly be upon sites of later date such as field enclosures of 18th or 19th century date, or upon features of uncertain origin. For most of these sites the predicted effects would be of moderate or minor significance. The southern part of the proposed pipeline route also crosses a number of hedgerows that qualify as important under the terms of the Hedgerow Regulations.

13.114 Mitigation of the predicted effects upon important archaeological remains is inherent with the design of the proposed development. In particular, the route of the proposed pipeline will cross the Scheduled Monuments of the Oxmoor and Givendale Dikes at locations where they have already been degraded, and the working width of the pipeline corridor would be reduced. Further evaluation by means of geophysical survey and detailed fieldwalking is proposed to evaluate those areas adjacent to the Scheduled Monuments and at the other locations identified of archaeological potential in order to establish a detailed mitigation strategy.

13.115 Mitigation of the predicted effects would include measures such as detailed recording of earthwork remains in advance of construction and the reduction in the working width of the pipeline corridor where this crosses sensitive archaeological sites. Significant remains adjacent to the working areas would be securely demarcated to avoid inadvertent damage and "bog mats" would be used at sensitive locations as necessary. Where significant remains such as the Oxmoor and Givendale Dikes would be affected by any pipeline or other construction works these would be investigated by means of detailed archaeological excavation in advance of or during the early phases of these works, with other areas of archaeological potential recorded by means of "strip, map and record" during construction.

13.116 In accordance with planning policy and guidance the programme of archaeological works would be set out in a detailed Written Scheme of Investigation, establishing the methodology for the archaeological investigations and subsequent report preparation

and publication, to be agreed with the planning authorities and English Heritage. The excavations within the scheduled areas would also require Scheduled Monument Consent.

13.117 In addition to mitigating any adverse direct effects upon archaeological remains the results of the proposed scheme of works would also have the benefit of providing valuable information regarding the sites and monuments within the area, and in particular relating to the prehistoric boundaries and associated features within the northern part of the study area. Investigation of part of the Oxmoor Dikes, Givendale Lower Dike and Diggerfoot Dike should enable the form, function and date of these individual monuments to be established and compared, and any other contemporaneous activity to be recorded, and so allow a much more detailed understanding of the development of the prehistoric and later landscape within this area.

13.118 Subject to the implementation of this mitigation strategy no significant adverse physical effects upon archaeological remains from the construction of the proposed development are predicted.

13.119 No significant indirect effects on the setting of either Scheduled Monuments or Listed Buildings within the vicinity of the proposed development are predicted. While the proximity of the pipeline corridor is such that there would be an effect upon the area of the Oxmoor and Givendale Dikes in particular during the construction works, any such impact would be temporary and reversible, and is not therefore considered significant.