

15.0 ARBORICULTURE

Introduction

15.1 This Chapter of the Ryedale Gas Project Environmental Statement addresses arboricultural issues in relation to the proposed pipeline.

15.2 The scope of the Chapter and the accompanying appendices is as follows:

- A detailed tree survey undertaken according to BS5837:2005 'Trees in relation to construction – Recommendations', though recording data at a strategic level (i.e. focused on A & B grade trees only). Please see **Appendix 15.1** for tree survey explanatory information and data;
- A set of detailed recommendations to ensure that the arboricultural impact of the preferred (proposed) pipeline route is kept to a responsible level (which we would characterize as a practicable minimum);
- A comparative impact assessment, benchmarking the Proposed Pipeline Route against three alternative options (set out in Chapter 5 of the ES);
- Any mitigation measures required to address tree or hedgerow removal;
- Identify graphically in plan form:
 - Relevant tree survey data (tree number, crown dimensions, quality & value grade, root protection area)
 - Proposed and alternative pipeline routes
 - Proposed tree retention / removal per route (colour-coded dashed crown outlines)
 - Locations where precautionary working would be required in order to safeguard specific retention trees (diagonal green hatch)

15.3 This latter data is found at **Appendix 15.2**.

Tree survey, quality assessment and retention / removal proposals

Scope of the survey

- 15.4 This statement is based upon data collected in the field between November 2009 and January 2010. During this period several site visits were undertaken for the purpose of surveying trees and hedgerows. As noted already, the survey proceeded in compliance with BS5837:2005.
- 15.5 The survey encompassed five sections of putative pipeline corridor:
- A section commencing just east of the existing natural gas processing facility at Outgang Lane, Pickering to run east to the proposed Hurrell Lane site just east of Thornton-le-Dale. Because this section is no longer required, as a result of the AGI connection to the NTS south of New Ings Lane, this section of the pipeline corridor is not reported upon further;
 - The Proposed Pipeline Route north from the Hurrell Lane site to the proposed access off the A170, roughly mid-way between Thornton-le-Dale and Wilton, then northwest across Wilton Heights, up on to the moor through the Dalby Forest via Stonygate Moor and the upper reaches of Givendale Rigg, before turning slightly south of east then north and then south of east in a dog-leg, to terminate at the Ebberston Wellsite adjacent to Lingy Plantation;
 - Alternative Pipeline Route 1 (APR1) which runs east from the Hurrell Lane site to pass south of Wilton, then turns northeast over Wilton Cliff, then north across the A170 ca. 1km east of Wilton, before rejoining the Proposed Pipeline Route just off the western crest of the Weas Dale to the east of Wilton Heights;
 - Alternative Pipeline Route 2 (APR2) which departs the Proposed Pipeline Route north of Stonygate Moor to head northeast across the Given Dale, before turning just east of north to run parallel with but to the west of the Givendale Dike earthwork, where it rejoins the Proposed Pipeline Route;
 - Alternative Pipeline Route 3 (APR3) which runs east from Hurrell Lane to pass south of Wilton and Allerston before turning north over Bound Cliff to cross the A170 immediately to the west of Hagg Side Lane and on up the Kirk Dale, performing a dog-leg east then slightly east of north at Kirkdale Buildings, on

over Scamridge before rejoining the Proposed Pipeline Route as it returns just south of east to the west of Lingy Plantation.

Tree quality assessment

15.6 Following the advice of BS5837:2005, the trees and, where appropriate, tree groups, hedgerows and woodlands have been differentiated as to quality and value according to **Table 15.1** of that standard, included in the preface to the survey data at Appendix 15.1. This Table sets out the criteria for classifying trees according to the following grading system:

- R Trees identified for removal for reasons of sound arboricultural Management;
- A Trees of high quality and value that should be prioritised for retention;
- B Trees of moderate quality and value; and
- C Trees of low quality and value.

15.7 In addition, certain trees have been identified as having special value in the survey dataset (Appendix 15.1). These trees have been highlighted either because they provide a habitat to protected species or because they are 'veteran trees' (see explanatory information in Appendix 15.1).

Trees placed in the R category

15.8 Those trees in such a condition that they have less than ten years' retention span are identified for removal for "reasons of sound arboricultural management" (RSAM). However, this designation is chiefly applied on grounds of safety: in the Note to paragraph 4.3.7, BS5837 makes clear that:

"If a layout design places category R trees in an inaccessible location such that concerns over public safety are reduced to an acceptable level, it may be preferable or possible to defer the recommendation to fell."

15.9 For this reason, whilst the survey identified a number of hedgerow trees that were in poor condition, these are not prioritised for removal, except where a conflict with the

proposals might arise). In relation to this latter point, BS further advises (para. 4.3.4) that R grade trees 'should not be a consideration in the planning process'.

Trees identified for removal to facilitate the proposed pipeline

- 15.10 In general, where trees in the C category would conflict with the proposed pipeline route, they have been identified for "removal to facilitate it" (RTFD). This is in line with the advice of BS5837:2005 which states (in the Note to the C category in Table 15.1) that 'C category trees will usually not be retained where they would impose a significant constraint on development'. However, this only applies to C grade trees within the operational pipeline corridor: due to the generally narrow width of this, only a few trees are involved (see Table 15.1).
- 15.11 In addition, trees in higher categories that are considered to impose such a constraint that their retention would be disproportionate to their existing value are also sometimes identified for removal. This only rarely applies to A category trees, being those of 'high quality and value', and indeed no A grade trees are identified for removal in this case.
- 15.12 The selecting out of a proportion of the existing stock can more defensibly apply to B grade trees, i.e. those of 'moderate quality and value'. This is generally appropriate where other trees of equal or better quality are being retained, where adequate space is provided for new planting and/or where the trees concerned are immature and/or are not significant landscape features. In this case, only four trees from within one B-grade tree group (TG2022.3) would need to be removed in order to facilitate the Proposed Pipeline Route. These losses are considered to be wholly insignificant.

Hedgerow removal required to facilitate the proposed pipeline

- 15.13 As identified in Table 15.1, the proposed pipeline route crosses six hedgerows graded A & B (a further five hedgerows of lower grades are crossed). At each crossing, it is assumed that a section of hedgerow would be removed equal to the width of the operational corridor at this point. 356m of A & B graded hedgerow would need to be removed (a further 235m of lower quality hedgerow would also be removed).
- 15.14 The quality and nature of the hedgerows concerned have been assessed against the arboricultural element of the criteria for designating hedgerows as 'Important' under the Hedgerows Regulations 1997. This element of the criteria relates to the number and occurrence of native species present. As part of the assessment, regard has been had to the provision at paragraph 7(2) of Schedule 1 to the Regulations that hedgerows in the

north of England, and specifically including North Yorkshire, require one fewer species to be present in order for a hedgerow to attain the 'Important' designation (assuming that precursor requirements such as length also apply).

15.15 The analysis confirms that none of the hedgerows crossed by the proposed pipeline merit the 'Important' designation on arboricultural grounds. Whilst, prima facie, this may appear surprising, in truth this is because the Proposed Pipeline Route occupies a northerly alignment, and the hedgerows in this area of the locality were of lower quality than those towards the south (i.e. on the lower slopes of the moors and in the valley). In evidence of this, please see the comparative impact for Alternative Route 3 in Table 15.1; the high number of 'Important' hedgerows crossed by this route are located in the southern area of the site.

Comparative Impact Assessment

15.16 For ease of cross-referencing and clarity we have presented our comparative impact assessment between the Proposed Pipeline Route and the three Alternative Pipeline Routes in tabular form. From the Table 15.1, it is entirely obvious that the Proposed Pipeline Route is significantly more benign than the alternatives which we studied.

Table 15.1: Comparative Impact Assessment for A & B grade trees

Item	Route	Proposed Route		APR1		APR2		APR3	
	Length(m)	10227		1860 / 2133		3234 / 3347		8756 / 9690	
	Tree grade	A	B	A	B	A	B	A	B
No. of trees requiring precautionary working	-	-	-	-	-	-	-	-	-
No. of special value trees for precautionary working	1	-	-	-	-	1	-	1	-
No. of trees identified for removal	-	-	-	-	-	-	-	1	14
No. of groups with precautionary working	-	2	-	-	-	-	-	-	-
No. of tree groups lost (estimated no. of trees)	-	-	-	-	-	-	1 (130)	-	5 (330)
No. of tree groups lost in part (est. no. of trees)	-	1 (4)	1 (120)	-	-	-	1 (25)	-	3 (29)

trees)								
No. of hedgerows crossed (total for all grades)	-	6 (11)	-	-	2 (15)	6 (15)	4 (24)	12 (23)
No. potential important hedgerows crossed (length in metres affected)	-		-		-		3 (155)	
Estimated length of hedgerow lost in metres (total for all grades)	-	356 (591)	-	-	197 (715)	236 (715)	308 (1763)	1227 (1763)

Notes to Table 15.1

1.The pipeline route header colours in the table match the route colouration on the Strategic Tree Retention Plan at FLAC Appendix C15.2 2.The figures for 'length in metres' in the APR headers refer to length of Alternative Pipeline Route and length of Proposed Pipeline Route replaced if the alternative route were used.

Mitigation*Precautionary Working in proximity to Retention Trees*

15.17 Under the Proposed Pipeline Route, only one tree and two tree groups require "precautionary working", defined as installation of physical tree protection measures, comprising barriers and temporary ground protection, in accordance with BS5837:2005. It is anticipated that this would be dealt with by a suitable planning condition on grant of planning consent. This is a straightforward matter and there is no reason why the trees concerned cannot be satisfactorily retained.

Tree Replacement

15.18 As noted already, only four trees would need to be removed in order to facilitate construction of the pipeline along the preferred alignment. We consider that the nature of the trees concerned is such that replacement is not required: they comprise the tail end of a much larger tree group, have no or virtually no landscape function, and would simply not be missed.

Hedgerow Replacement

15.19 Also as noted already, no hedgerows would be affected that we would describe as 'Important' in relation to arboricultural criteria under the Hedgerows Regulations 1997. However, it is intended that all sections of hedgerow that are unavoidably removed to

allow pipeline crossover would be replaced by gapping-up planting. Due to the considerable number of hedgerows crossed by gas pipelines in the locality, there are numerous examples nearby where gapping-up hedgerow reinstatement has been implemented. From these, it is apparent that landscape restoration by this means is completed within 10-20 years. Indeed, by the latter end of this time period, it becomes all but impossible to identify crossover locations.

Conclusions

- 15.20 Based on the findings of the tree survey, and a comparison of recorded data with the Proposed Pipeline Route, the arboricultural impact of the proposals is extremely limited in absolute terms.
- 15.21 Moreover, on assessing the Proposed Pipeline Route against a series of alternatives, these would result in greater impacts and, in the case of APR3, the increase in impact would be significant and difficult to justify or mitigate.
- 15.22 For these reasons, the proposals are arboriculturally acceptable and require only modest and straightforward mitigation in order to preserve and restore the landscape.