

8.0 TRAFFIC AND TRANSPORTATION

Introduction

- 8.1 This chapter of the ES assesses the likely significant effect of the Development in terms of transport and access and is supported by Appendix 8.1 and Appendix 8.2, containing the Automatic Traffic Counter data gathered during the traffic surveys carried out in June 2014 and May/June 2013 respectively.
- 8.2 The chapter describes: the assessment methodology; the baseline conditions currently existing at the Site and surroundings; the likely significant environmental effects; the mitigation measures required to prevent, reduce or offset any significant adverse effects; and the likely residual effects after these measures have been employed.

Planning Policy Context

National Planning Policy

National Planning Policy Framework (March 2012)ⁱ

- 8.3 The National Planning Policy Framework (NPPF) came into effect in March 2012 and superseded PPG13ⁱⁱ as the national planning policy guidance. Its emphasis on transport matters in Section 4 is to:

"promote sustainable transport that minimises the emission of greenhouse gases and reduce congestion." (Paragraph 30).

- 8.4 Paragraph 32 of the NPPF requires that:

"All developments that generate significant amounts of movements should be supported by a Transport Statement or Transport Assessment. Plans and decisions should take account of whether:

- The opportunities for sustainable transport modes have been taken up depending on the nature and location of the site, to reduce the need for major transport infrastructure;*
- Safe and suitable access to the site can be achieved for all people; and*

- *Improvements can be undertaken within the transport network that cost-effectively limit the significant impacts of the development. Development should only be prevented or refused on transport grounds where the residual cumulative impacts are severe."*

Planning Practice Guidance to the National Planning Policy Framework

- 8.5 The Web-based Planning Practice Guidance to the National Planning Policy Framework published by the Department for Communities and Local Government supersedes 'Technical Guidance to the National Planning Policy Framework' and has been taken into account in the preparation of this section of the report.
- 8.6 Paragraph: 002 Reference ID: 42-002-20140306 gives further guidance on NPPF paragraph 36 and confirms the requirement for traffic assessments for all developments which generate significant amounts of movements.
- 8.7 Paragraph: 004 Reference ID: 42-004-20140306 gives guidance on the nature of Transport Assessments and Statements:

"Transport Assessments and Statements are ways of assessing the potential transport impacts of developments (and they may propose mitigation measures to promote sustainable development. Where that mitigation relates to matters that can be addressed by management measures, the mitigation may inform the preparation of Travel Plans)."

"Transport Assessments are thorough assessments of the transport implications of development, and Transport Statements are a 'lighter-touch' evaluation to be used where this would be more proportionate to the potential impact of the development (i.e. in the case of developments with anticipated limited transport impacts)."

- 8.8 The information that should be included in Transport Assessments and Statements is detailed in Paragraph: 015 (Reference ID: 42-015-20140306), as listed below:-

"The scope and level of detail in a Transport Assessment or Statement will vary from site to site but the following should be considered when settling the scope of the proposed assessment:

- *information about the proposed development, site layout, (particularly proposed transport access and layout across all modes of transport)*
- *information about neighbouring uses, amenity and character, existing functional classification of the nearby road network;*
- *data about existing public transport provision, including provision/ frequency of services and proposed public transport changes;*
- *a qualitative and quantitative description of the travel characteristics of the proposed development, including movements across all modes of transport that would result from the development and in the vicinity of the site;*
- *an assessment of trips from all directly relevant committed development in the area (i.e. development that there is a reasonable degree of certainty will proceed within the next three years);*
- *data about current traffic flows on links and at junctions (including by different modes of transport and the volume and type of vehicles) within the study area and identification of critical links and junctions on the highways network;*
- *an analysis of the injury accident records on the public highway in the vicinity of the site access for the most recent three-year period, or five-year period if the proposed site has been identified as within a high accident area;*
- *an assessment of the likely associated environmental impacts of transport related to the development, particularly in relation to proximity to environmentally sensitive areas (such as air quality management areas or noise sensitive areas);*
- *measures to improve the accessibility of the location (such as provision/ enhancement of nearby footpath and cycle path linkages) where these are necessary to make the development acceptable in planning terms;*
- *a description of parking facilities in the area and the parking strategy of the development;*
- *ways of encouraging environmental sustainability by reducing the need to travel; and*
- *measures to mitigate the residual impacts of development (such as improvements to the public transport network, introducing*

walking and cycling facilities, physical improvements to existing roads.

In general, assessments should be based on normal traffic flow and usage conditions (e.g. non-school holiday periods, typical weather conditions) but it may be necessary to consider the implications for any regular peak traffic and usage periods (such as rush hours)."

Local Planning Policy

North Yorkshire Minerals and Waste Local Plan

- 8.9 The policies in the Local Plan were due to expire on the 27 September 2007, but the government has allowed some to be extended, or 'saved', until policies being developed in the minerals and waste development framework supersede them. Of these, the following are considered relevant to the preparation of this assessment:-

Policy 4/1

Determination of Planning Applications:-

"In considering an application for mining operations, the Mineral Planning Authority will need to be satisfied that, where appropriate:-

- a) the mineral deposit on the application site has been fully investigated;*
- b) the siting and scale of the proposal is acceptable;*
- c) the proposed method and programme of working would minimise the impact of the proposal;*
- d) landscaping and screening has been designed to effectively mitigate the impact of the proposal;*
- e) other environmental and amenity safeguards would effectively mitigate the impact of the proposal;*
- f) the proposals and programme for restoration are acceptable and would allow a high standard of restoration to be achieved;*
- g) a high standard of aftercare and management of the land could be achieved;*
- h) the proposed transport links to move the mineral to market are acceptable; and,*
- i) any cumulative impact on the local area resulting from the proposal is acceptable."*

- 8.10 Other policies relevant to transport and traffic, such as Policy 4/12 and Policy 7/9 have not been 'saved'.

North Yorkshire Local Transport Plan 3 (2011-2016)ⁱⁱⁱ

- 8.11 This is the third North Yorkshire Local Transport Plan (LTP) and replaces the provisional and second Plans. It sets out the aims and objectives for transport as well as the strategies and policies in North Yorkshire for five years. It seeks to support its aims by defining objectives that include:

- *"reducing the impact of transport on the natural and built environment and tackling climate change (environment and climate change);..."*

- 8.12 The plan identifies the A64(T) and the A170 as 'primary routes', although the County Council does not control the A64(T). The main transport related issues identified for the Pickering and Thornton-le-Dale area include seasonal congestion associated with summer tourist traffic visiting attractions such as the North York Moors Railway, Pickering Castle, Flamingoland and the Dalby Forest Visitors Centre.

North York Moors National Park Authority Core Strategy and Development Policies (2008)^{iv}

- 8.13 Chapter 10 of the document refers to transport. Policy 23 'New Development and Transport' requires consideration of the need to travel and by which mode in order to reduce the environmental effect of traffic on the National Park. Points 3 and 4 of this policy are outlined below and are considered to be relevant:

"3) The external design and layout and associated surfacing works take into account the needs of all users including cyclists, walkers and horse riders.

4) It is of a scale which the adjacent vehicular road network has the capacity to serve without detriment to highway safety or the environmental characteristics of the locality."

The Ryedale Plan – Local Plan Strategy September 2013 (Adopted Document)^v

- 8.14 The only policy within the Ryedale Plan considered relevant to this assessment is SP19 Generic Development Management Issues which addresses access, parking and servicing. It states that access to and movement within the site by vehicles, clues and pedestrians is not

to have a detrimental impact on road safety, traffic movement or the safety of pedestrians and cyclists. It also recognises that development will be expected to comply with the relevant standards in place at the time a planning application is made to the Local Planning Authority.

Assessment Methodology

8.15 The primary purpose of the assessment is to determine what the likely significant effects of the Development would be with respect to traffic and transport, as required by the EIA Regulations^{vi}. The assessment to determine whether effects are likely to be significant or not significant involves the combined consideration of the sensitivity of the highway network to the Development, and the magnitude of the effect that would occur.

8.16 The assessment process aims to establish the following:

- a clear understanding of the existing conditions of the surrounding highway network;
- the nature of the Development and/or any mitigation measures incorporated into the design of the Development in order to minimise significant adverse effects;
- the potential direct and indirect effects of the Development on the highway network;
- identification of mitigation measures that might be implemented to reduce any effects of the Development; and
- conclusions concerning the residual effects of the Development.

8.17 The approach to assessment has followed the procedure suggested by the Institute of Environmental Assessment (IEA) in 'Guidelines for Environmental Assessment of Road Traffic Guidance Notes No. 1' (GN1)^{vii}, which sets out the recommended list of environmental effects which could be considered as potentially significant whenever a new development is likely to give rise to changes in traffic flows. Table 2.1 of the IEA guidelines (GNI, 16) provides a checklist of environmental effects that should be considered for assessment together as follows:-

- Noise (Chapter 9)
- Vibration (Chapter 9)
- Visual Impact (Chapter 7)
- Severance
- Driver Delay
- Pedestrian Delay
- Pedestrian Amenity

- Accidents and safety
- Hazardous loads
- Air Pollution (Chapter 10)
- Dust and dirt
- Ecological Impact (Chapter 6)
- Heritage and conservation areas (Chapter 13)

8.18 In assessing the effects of the Development on specific groups and locations, other road users, residential areas and recreational users of the area have been identified as particular groups to be considered (GN1, 17). The majority of the traffic movements generated by the Development will occur during construction and will be restricted to daytime hours so consideration of a number of the effects can be scoped out of this assessment. Hazardous loads will not be transported as part of this Development and have been scoped out of this assessment. Where other potential effects have been considered in other chapters, as indicated above, they have not been assessed further in this chapter.

8.19 The environmental effects to be considered in this assessment are as follows:

- Severance;
- Accidents and safety;
- Non-vehicular safety and amenity (Cyclists, Pedestrians and Equestrians (CPEs));
- Driver delay; and
- Dust and dirt.

Severance

8.20 Severance is the perceived division that can occur within a community when it becomes separated by a major traffic route. This effect is exacerbated by the coincidence of peak traffic flows with peak pedestrian movements and it can relate to quite minor traffic flows if they impede residents, either pedestrian or motorist.

8.21 GN1 recognises in para 4.28 that:

"The measurement and prediction of severance is extremely difficult. The correlation between the extent of severance and the physical barrier of a road is not clear and there are no predicative formulae which give simple relationships between traffic factors and levels of severance. In general, marginal changes in traffic flow are, by

themselves, unlikely to create or remove severance."

8.22 Reference is given in GN1 to factors contributing to severance such as traffic speed, width of road and the availability of crossing places as well as the composition and number of vehicle movements.

8.23 GN1 recommends that the Manual of Environmental Appraisal indicators, reproduced below, as a way in which severance might be assessed:

"Changes in traffic flow of 30% , 60% and 90% are regarded as producing 'slight', 'moderate' and 'substantial' changes in severance respectively."

"These figures have been derived from studies of major changes in traffic flow and therefore should be used cautiously in any environmental assessment. The assessment of severance should pay full regard to specific local conditions."

Accidents and Safety

8.24 The Personal Injury Accident (PIA) record for parts of the local highway network has been obtained from North Yorkshire County Council (NYCC) for a period from 1 January 2008 to 30 April 2013 (figures for 2014 are still provisional, so the latest available data has been used in the assessment).

Non-Vehicular Safety (Cyclists, Pedestrians and Equestrians)

8.25 CPEs are much more vulnerable to personal injury accidents than occupants of vehicles although no accidents were recorded for these groups by NYCC for the period 1 January 2008 – 30 April 2013 in the area of greatest exposure, along Ebberston Lane. The existing risks faced by all these groups of road users when using this road are:

- High speed motor vehicles passing close to the CPEs;
- Poor visibility of CPEs;
- Risk of being startled;
- Poor awareness of approaching motorised vehicles by CPEs; and
- Poor awareness of CPEs by approaching motorised vehicles.

8.26 Although the Development will only increase the volume of traffic over a relatively short period of time, this still has the potential to increase the risk to the safety of the cyclists, pedestrians and equestrians. Mitigation measures are considered in more detail in later sections, when it will be shown that the traffic control measures or restriction of CPEs away from areas of overlap will increase the safety of the CPEs.

Driver Delay

8.27 The Development may cause delay to drivers, primarily from the following causes:-

- Increased traffic flows on congested roads;
- Vehicles turning off/onto the highway at the site entrance;
- Traffic controls where pipelines are laid in trenches across the road; and
- Movement of equipment from one part of the Site to another.

8.28 The delays are only likely to be significant when the traffic on the network surrounding the Development is already at, or close to, the capacity of the system (GN1, paragraph 4.32).

8.29 The delay caused by each of the issues noted above will be assessed and mitigation measures proposed where necessary.

Dust and Dirt

8.30 There is a potential for traffic generated by the Development to raise dust and bring dirt onto the roads. Most of the vehicle loads will not be inherently dusty as there will be no requirement for large quantities of loose aggregates or deliveries of crushed stone to be delivered to the development but entrances at road crossing points will require some deliveries of stone to create temporary hardstandings.

8.31 The greatest potential for dust and dirt arises at the site entrances where road vehicles return to the highway.

Assessment of Magnitude of Effect

8.32 Correlating the approach adopted by GN1 with the approach in Chapter 2 of this ES, the levels of change relate to each other as shown in Table 8.1 below.

Table 8.1: Comparison of GN1 and Chapter 2 descriptors of magnitude of effect

Chapter of ES	Magnitude of Effect	GN1 (MEI Indicators)
Major	Total loss or major/substantial alteration to key elements/features of the baseline (pre-Development) conditions such that the post Development character/composition/attributes will be fundamentally changed.	Substantial
Moderate	Loss or alteration to one or more key elements/features of the baseline conditions such that post Development character/composition/attributes of the baseline will be materially changed.	Moderate
Minor	A minor shift away from baseline conditions. Change arising from the loss/alteration will be discernable/detectable but not material. The underlying character/composition/attributes of the baseline condition will be similar to the pre- Development circumstances/situation	Slight
Negligible	Very little change from baseline conditions. Change barely distinguishable, approximating to a 'no change' situation.	Negligible

8.33 Effects of lesser magnitude than 'slight' or 'minor' can be regarded as negligible. It is proposed to use the categories proposed in Chapter 2 of the ES to maintain consistency with the other chapters of this ES.

8.34 The sensitivity of a receptor is based on the relative importance of the receptor using the scale in Table 8.2.

Table 8.2 Methodology for Determining Sensitivity

Sensitivity	Examples of receptor
High	The receptor/resource has little ability to absorb change without fundamentally altering its present character, or is of international or national importance.
Moderate	The receptor/resource has moderate capacity to absorb change without significantly altering its present character, or is of high importance.
Low	The receptor/resource is tolerant of change without detriment to its character, is of low or local importance.

8.35 The significance of an environmental effect is determined by the interaction of magnitude and sensitivity, whereby the effects can be beneficial or adverse. The Effect Significance Matrix is set out in Table 8.3.

Table 8.3 Effect Significance Matrix

Magnitude	Sensitivity		
	High	Moderate	Low
Major	Major Adverse/Beneficial	Major - Moderate Adverse/Beneficial	Moderate - Minor Adverse/Beneficial
Moderate	Major - Moderate Adverse/Beneficial	Moderate – Minor Adverse/Beneficial	Minor Adverse/Beneficial
Minor	Moderate - Minor Adverse/Beneficial	Minor Adverse/Beneficial	Minor - Negligible
Negligible	Negligible	Negligible	Negligible

Limitations and Assumptions

- 8.36 This assessment has been carried out within 9 months of a similar assessment in the same area and involving the same highway routes. The Development occupies part of the same corridor as the previous assessment, with minor changes in alignment that do not affect the overall effect of the Development, so baseline data acquired during the previous assessment has been re-used and no further site visits have been undertaken.
- 8.37 Traffic surveys carried out for the earlier assessment have been assumed to be still valid and have been used in this assessment, augmented by additional surveys where necessary.
- 8.38 Road traffic accident statistics for 2014 are provisional and so those for the five years finishing in 2013 have been used in this assessment.

Baseline Conditions

- 8.39 Before access routes to the Development can be considered in detail, an overview of the wider road network will be carried out to confirm the options available for approaching the Site and the most appropriate routes will then be studied in greater detail. The baseline studies comprise:
- Two separate traffic counts using automated traffic counters, one in May 2013 on the A170 and Ebberston Lane, and the other in June 2014 on Malton Lane, Marishes Lane and the B1258.
 - An examination of accident records over the past five years for the route between the major roads and the Site;
 - Examination of the roads by car, with spot checks on foot; and
 - Review of recent road usage.

Local Highway Network

- 8.40 Two 'A' Class roads cross the Vale of Pickering from west to east as shown on Figure 8.1. The A64 passes 1km to the south of the Knapton Generating Station (KGS) at the southern extent of the Site whilst the A170 runs west from Scarborough to Thirsk where it meets the A19, A61 and M1. At Pickering the A169 runs north to south between Whitby and Malton but has no adequate direct access to the Site and will not be considered further. The Site (pipeline corridor) crosses the A170 between Wilton and Allerston.
- 8.41 The B1258 forms a junction with the A64 east of Rillington and heads north towards Ebberston before turning to the east to meet the A170 at Snainton. The B1415 meets the B1258 south of Ebberston and heads in a north west direction passing through Allerston to join the A170 as a minor road junction.
- 8.42 Minor unclassified roads cross the pipeline route between the River Derwent and the A170. Marishes Road joins the B1258 at Yedingham and runs parallel to the River Derwent to connect with the A169 west of the Site, and Malton Lane runs west from its junction with the B1415, changing name to Wilton Ings Lane at the parish boundary before turning north to meet the A170 at Wilton. These minor roads and proposed site traffic routes are shown on Figures 8.2 – 8.4.
- 8.43 Access to the Site north of the A170 from either the north or the east is restricted to narrow unclassified roads through Dalby Forest with gradients of 1:5 in places and would require significant road works to accommodate the vehicles delivering pipes and equipment to the Site. Access from these directions has therefore been scoped out of further consideration.
- 8.44 Minor roads lead north from the A170 in several locations between Allerston and Brompton-by-Sawdon, with the only direct route to the northern end of the Site being via Ebberston Lane and Ebberston Common Lane, the former having a junction with the A170 at Ebberston.

A64(T)

- 8.45 The A64(T) is a trunk road operated, managed and maintained by the Highways Agency, extending between the intersection with the A1(M) at its west end and Scarborough in the east. The A64(T) has a junction with the A1 (M) near Leeds and heads to the east as a two-lane dual carriageway with grade-separated interchanges until it has by-passed York, where it becomes a two-way single carriageway with two stretches of dual two-lane carriageway, the second section of dual carriageway by-passing Malton. The road between the east end

of the Malton by-pass and Staxton is single two-way carriageway, passing through Rillington, to the south west of KGS and the Site, before reaching the junction with the B1258.

- 8.46 Traffic lights are located in Rillington, where the approach to the village is marked by red chevron road markings and a 20m section of red road colouring to indicate the start of a 40mph speed limit. A traffic island set within a red-coloured 'ghost island' marks the 30mph zone through the village, with the painted ghost island extending past the traffic lights through to the change in speed limit on the east side of the village.
- 8.47 The A64 continues eastwards from Rillington as a two-way single carriageway road with a pavement on the north side. The junction with the B1258 has a slip road in the north-bound direction only, permitting vehicles to decelerate before turning north onto the B1258.

A170

- 8.48 The A170 is crossed by the Site pipeline corridor about equidistant between Wilton and Allerston.
- 8.49 Outside the towns and villages, the A170 between Pickering and Scarborough is subject to the national speed limit (60mph) except to the east of Allerston, where a 50mph section extends from the 40mph limit for about 1 km towards Ebberston. The speed limit reduces to 40mph and 30mph where it passes through villages such as Allerston and Ebberston.
- 8.50 There are gateway features at the entrance to the some of the villages, where space permits in the verge, and road markings such as yellow or red lines at 100m intervals precede the speed limit and village name signs. At the location of village name signs and the start of the lower speed limits, a 20m section of highway has red colouring to highlight to drivers the change in speed limit, and villages such as Allerston and Ebberston have double white lines, hatched central strips and traffic islands to reinforce the speed restriction signs.

B1258

- 8.51 The B1258 joins the two 'A' class roads, crossing and then running parallel to the pipeline route before turning east towards Snainton. It mostly comprises a 7.3m wide single lane two-way carriageway generally with an open perspective, wide verges and moderate bends except at Yedingham.

- 8.52 The B1258 has a 60mph speed limit until the village of Yedingham, where a 30mph speed limit is in force as the road takes a moderately sharp left hand turn into the village before crossing the River Derwent on the north side of the village. A pub is located at the north end of the village adjacent to the highway bridge over the River Derwent.
- 8.53 The road turns to the east at the Marishes Road/Allerston Lane/B1258 junction before turning north again to the junction with the B1415 south of Ebberston. The B1258 then turns to the east to meet the A170 at Snainton.
- 8.54 A railway line runs from York to Scarborough, meeting the B1258 at a level crossing about 1.5km north of the junction with the A64 (T). Two private crossings over the railway exist between the B1258 and KGS, one serving Elm Tree Farm and the other being used by Wilkinsons.

Ebberston Lane

- 8.55 The width of the A170 in the vicinity of the Ebberston Lane junction is 7.3m, with the two lanes of traffic separated by double white lines and a traffic island. Ebberston Lane forms the minor leg of the junction with the A170, being 7 m wide at the junction and narrowing to 4 m away from the junction.
- 8.56 Ebberston Lane remains about 3.5 m wide for the rest of its length, except at passing places and widenings.
- 8.57 Ebberston Lane forms a minor leg on the north side of crossroads at the A170, where the A170 passes through the village of Ebberston. The lower end of Ebberston Lane, near the A170, rises at gradients up to 1:10 from the village up through a narrow valley, Netherby Dale, to reach the upper plain, where the landscape becomes flatter and more open with good visibility along the road.
- 8.58 The proposed access route passes the along the length of Ebberston Lane (approx 5.0 km) up to Givendale Head Farm. This route is shown on Figure 8.3.
- 8.59 Ebberston Lane is mainly single-track with passing places that were installed when the original Lockton exploration sites were being constructed and drilled in the 1960's and 1970's. The spacing of these passing places varies to provide inter-visibility between them, with those in the lower sections near the A170 being closer together than the passing places in the upper section where Ebberston Lane rises onto the more open plain. Two corners have been eased by local road widening so articulated vehicles are able to

manoeuvre around them without difficulty.

- 8.60 Ebberston Lane has 30mph signs posted along its length applicable to site traffic generated by previous work at the Ebberston Moor South (EMS) Well Site and Ebberston Moor 'A' Well Site (located north of the EMS Well Site).
- 8.61 Vehicles associated with the construction and drilling operations at Ebberston Moor 'A' Well Site and EMS Well Site have used this access without incident since work commenced in 2006.
- 8.62 There have been no accidents relating to turning movements at the junction of the A170 with Ebberston Lane.
- 8.63 Ebberston Lane is primarily used for access to the farms located in the area and a recycling unit at Givendale Head Farm. This facility is operated by the landowner under the trade name of Gwilliam Recycling and is a fully licensed Waste Transfer Station (Licence Nr EAWML66157). The recycling unit accepts agricultural, building and gardening waste for separation and recycling, thus generating HGV traffic along Ebberston Lane. There has been no reported conflict between traffic accessing the recycling unit and that servicing the EMS Well Site. Likewise, there have not been any conflicts reported between well site traffic and farm traffic.
- 8.64 Apart from the large house, Cliff House and the associated cottages, located at the junction of Ebberston Lane with the A170, the only other property within 100m of Ebberston Lane is Givendale Head Farm, which is at the northern end of Ebberston Lane. Other farms such as High Park Farm, Malton Cote and Scamridge are set at least 200m from the public highway, hidden from the highway by the topography, and are considered to have low sensitivity to the traffic using the road.
- 8.65 Cliff House is located immediately adjacent to the A170 and the effect on the occupants to traffic using Ebberston Lane is considered to be minimal in comparison to the effects of traffic on the major road.
- 8.66 Ebberston Common Lane is also used as a Public Right of Way and it extends from the head of Ebberston Lane at Givendale Head Farm in the south to the junction with Dalby Forest Drive in the north. Ebberston Common Lane forms a minor leg at an oblique junction with Dalby Forest Drive about 300m to the north of the Site.
- 8.67 Works traffic for the Ebberston Moor South Well Site has used this established access from

the A170, as shown on Figure 8.3. The same route is proposed for the northern part of the pipeline route.

Penniston Lane (B1415)

- 8.68 There is one dwelling along Penniston Lane, at the east end near the junction with the B1258, set back behind hedges. It is considered to have low sensitivity.

Malton Lane/Wilton Ings Lane

- 8.69 This minor road is a single track lane without passing places, with a narrow verge and a ditch on the north side, and a flat grass verge on the south side. There are no pavements along this road, nor at the junction with Allerston Road.
- 8.70 Malton Lane changes name to Wilton Ings Lane at the parish boundary, when the road turns sharply south and then west again to pass Grange Farm as it heads west towards Wilton.
- 8.71 Although there are two dwellings on the corner of Malton Lane, they are set back from the lane and screened from it by trees. There are no pavements in either Penniston Lane or Malton Lane, with no pedestrians observed during the survey.
- 8.72 There is very low pedestrian usage of the Penniston Lane/Malton Lane junction; the traffic speeds are low and the road width and condition of Malton Lane deter speeding. The preferred route for Heavy Goods Vehicle (HGV) traffic servicing the barns adjacent to the pipeline route is currently to the west and north, through Wilton. Four articulated lorries were noted using that route to access the barns during the survey. There are no schools or nursing homes in the vicinity and the sensitivity of the area is considered to be low.

Marishes Lane

- 8.73 Marishes Lane has a wide junction with the B1258 that will allow articulated vehicles to access the road without difficulty. The site lines are adequate and the junction is level without any changes of gradient.
- 8.74 The pavement from Yedingham terminates at the south west corner of the junction of Marishes Lane with the B1258 with a verge about 2m wide separating the pavement from the road. The location of the pavement ensures that occupants of half the cottages at the junction will not be affected by the traffic using the road, whilst the occupants of the cottages on the northwest corner will have to cross the road to reach the pavement. There are no pavements along the lane to the west.


- 8.75 Marishes Lane is primarily used by farm vehicles and HGVs servicing the farms located along the road. The road is single track, about 3m wide with verges of varying widths on either side that are over-run at farm entrances and corners. The road is generally open and level, and sight lines are mostly good. The junction is heavily marked by tyres from HGVs using the junction to service the farms off Allerston Lane but the severance caused by this existing traffic is minimal as it does not pass the pedestrian gates to the properties in the NW corner.
- 8.76 The properties along the road to the west, other than Derwent Farm, are generally set back from the road by at least 200m.
- 8.77 The road is accessible by HGV traffic although its width and lack of formal passing places will cause difficulties unless traffic management measures were put in place. It has been assumed that this road will have minimal use as an HGV access to the Site, except for vehicles associated with the horizontal directional drilling of the pipeline under the River Derwent and for bringing out machinery following the completion of the pipeline down to the River Derwent. Private vehicles would access the Site along this road.


Existing Traffic Flows

A64 Traffic Flows

- 8.78 Data regarding traffic flows along the A64 have been sourced from the UK Traffic Data website which shows that the average daily two-way vehicle flows on the A64 are in excess of 8,000. The census point between the B1258 junction and Heslerton recorded the traffic flows shown in Table 8.3.

Table 8.3: A64 traffic statistics by year: all traffic two-way Average Daily Flows

Vehicle Types - Average Daily Flow for Year 	2008	2009	2010	2011	2012	2013
Pedal Cycles	5	5	5	5	5	5
Motorcycles and Mopeds	59	59	54	59	55	56
Cars	7822	7799	7690	7643	7582	7565
Buses and Coaches	114	118	122	126	130	128
Light Goods Vehicles	1534	1531	1578	1621	1677	1735
Two-axle Rigid HGVs	390	358	374	361	356	345
Three-axle Rigid HGVs	58	58	58	60	64	67
Four-axle Rigid HGVs	55	53	46	50	56	61
Three-axle Articulated HGVs	46	42	47	35	26	20
Five-axle Articulated	197	170	153	144	136	134

Vehicle Types - Average Daily Flow for Year 	2008	2009	2010	2011	2012	2013
HGVs						
Six-axle Articulated HGVs	177	171	165	167	169	179
All HGVs	923	852	843	817	808	806
All motor vehicles	10452	10359	10287	10266	10251	10290

Notes:

Figures are daily averages calculated from all traffic counts over the course of the year.

Values are rounded to the nearest whole number

A value of zero for any entry means that there were either no recorded vehicles of that type or too few to register after rounding.


A blank value means that there were no counts made in that year

- 8.79 The traffic flows for the latest full year of records (2013) show that proportion of HGVs is 7.9% of the 10,290 vehicles travelling along the road.

A170 Traffic Flows

- 8.80 The survey carried out in April 2013 confirmed that the average daily traffic (ADT) movements along the A170 were 6,601 vehicles with cars and motorbikes comprising 93% of the volume. Light and Heavy Goods Vehicles represented 7% of the total flow with an average of 497 movements daily. These figures correlate well with the DfT permanent counter position for which the latest data is for 2013, shown in table 8.4. There have been no significant changes or developments that would cause a significant change in these baseline figures and the survey has been taken to represent current conditions.

Table 8.4: A170 traffic statistics by year: all traffic two-way Average Daily Flows for 2013

Vehicle Types - Average Daily Flow for Year 	2013
Pedal Cycles	87
Motorcycles and Mopeds	87
Cars	5292
Buses and Coaches	35
Light Goods Vehicles	1022
Two-axle Rigid HGVs	108
Three-axle Rigid HGVs	36
Four-axle Rigid HGVs	34
Three-axle Articulated HGVs	7
Five-axle Articulated HGVs	16
Six-axle Articulated HGVs	33
All HGVs	234
All motor vehicles	6670

B1258 Traffic Flows

- 8.81 The road connecting the A64 in the south with the A170 in the north is extensively used as a short cut for traffic heading towards Scarborough. Automatic Traffic Counters (ATCs) were deployed by 'Sky High-Count On Us' between 26th June 2014 and 2nd July 2014 north of the level crossing at Knapton as shown on Figure 8.5 to provide up to date records of traffic flows on the road. The data gathered by the census is attached in Appendix 8.1 and is presented below in Table 8.5:

Table 8.5: Baseline Traffic Flows along B1258 (Average Weekday Totals)

Direction	Motorbike	Cars Class	LGVs, 2 Axles	HGV 3/4 axles *	HGV 4/5/6 axles *
Southbound	20	1378	136	8	22
Northbound	31	1397	90	5	20

* HGV 3/4 axles category relates to rigid body HGVs,
 HGV 4/5/6 axles category relates to articulated HGVs

- 8.82 These baseline figures show that a minimum of 55 daily journeys were made during the weekdays along the B1258 by HGVs of different sizes.

Ebberston Lane Traffic Flows

- 8.83 The baseline traffic flows along Ebberston Lane were perceived to be considerably lower than for the A170 so a traffic survey was conducted to provide a basis for comparison with predicted vehicle movements during both the construction, operational, and decommissioning and restoration phases of the Development.
- 8.84 A survey was commissioned from 'Sky High-Count On Us' to count the daily traffic vehicle movements on Ebberston Lane and to report on the findings. The survey was carried out between 30th April 2013 and 6th May 2013, with ATCs placed across Ebberston Lane and the A170. The results of the survey are included in Appendix 8.2. There have been no significant other developments in the Ebberston Lane area that might make these results invalid.
- 8.85 The survey confirmed that the traffic flows on Ebberston Lane are low, with a maximum recorded number of 19 movements northbound and 11 movements southbound in one hour (Monday 30 April 0900-1000 hrs). The hourly total of traffic movements between the hours of 0800 and 1700hrs, averaged over the working week, vary between 10 and 17, with an average over the working day of 13 movements per hour.

8.86 Motorcycles and cars comprised 80% of the traffic, with LGVs and HGVs comprising the remaining 20%. These averaged daily movements are summarised in Table 8.6.

Table 8.6: Baseline Traffic Flows along Eberston Lane (Average Weekday Totals)

Direction	Motorbike	Cars Class	LGVs, Axles	HGV axles *	HGV 4/5/6 axles *
Southbound	2	69	14	2	2
Northbound	3	71	12	4	2

* HGV 3/4 axles category relates to rigid body HGVs,
HGV 4/5/6 axles category relates to articulated HGVs

- 8.87 Given that the road provides direct access to only nine properties, the level of car usage suggests that each household generates four two-way trips per day for each property.
- 8.88 A possible explanation for these higher than expected figures is that Eberston Lane is used as a short cut by vehicles originating from further north avoiding the toll payable on Dalby Forest Drive by using farm roads.
- 8.89 The relatively low figures recorded for HGV traffic movements along Eberston Lane suggests that the recycling centre generates fewer traffic movements than might be expected for such a centre to remain viable. The website dedicated to the recycling centre makes no mention that cars carrying waste for treatment would be acceptable, with 1 tonne loads being the minimum quantity charged for by the centre.

Minor Roads South of the A170

- 8.90 Malton Lane and Marishes Lane are both minor unclassified roads that do not carry significant volumes of traffic and almost any usage will generate a change of more than 90% of the existing flows. ATCs were deployed on both roads between 26th June 2014 and 2nd July 2014 to determine the proportions of HGV and Private cars using the roads. The location of these counters is shown on Figure 8.4 and the results of the survey are included in Appendix 8.1.

Malton Lane/Wilton Ings Lane

- 8.91 The traffic counters were located to the east of the pipeline route to pick up through traffic between the pipeline route and the east road junction. This also avoided picking up traffic servicing the barns to the west of the pipeline route, using the access through Wilton.

- 8.92 The survey confirmed that the HGV traffic flows on Malton Lane are low, with a maximum recorded number of 7 movements for both eastbound and westbound traffic. (Wednesday 2nd July 2014 1500-1600 hrs). The hourly total of traffic movements between the hours of 0700 and 1900hrs, averaged over the working week, vary between 40 and 59, with an average over the working day of 8 movements per hour.
- 8.93 Motorcycles and cars comprised 92% of the traffic, with LGVs and HGVs comprising the remaining 8%. These averaged daily movements are summarised in Table 8.7.

Table 8.7: Baseline Traffic Flows along Malton Lane (Average Weekday Totals)

Direction	Motorbike	Cars Class	LGVs, 2 Axles	HGV 3/4 axles *	HGV 4/5/6 axles *
Eastbound	6	28	1	1	1
Westbound	4	26	1	1	1

* HGV 3/4 axles category relates to rigid body HGVs,
HGV 4/5/6 axles category relates to articulated HGVs

- 8.94 The relatively high number of cars suggests that this route is used to access the barn facilities to the west of the pipeline crossing, using the east end of Malton Lane to access the barns, rather than coming through Wilton.
- 8.95 Conversely, the HGV traffic accessing the barns appears to use the better road through Wilton, although a few articulated vehicles used the eastbound route along Malton Lane to Penniston Lane.

Marishes Lane

- 8.96 The ATCs were deliberately positioned as near as possible to the pipeline crossing to record the number of vehicles passing the Site, rather than the number accessing the farms to the east. The survey confirmed that the traffic flows on Marishes Lane are higher than along both Malton Lane and Ebberston Lane, with a maximum recorded number of 58 movements for both eastbound and westbound traffic (Thursday 26th June 2014 1500-1600 hrs). A similar spike in the traffic flows occurred on Wednesday when 40 vehicles passed the counters between 1100 and 1200hrs. However, both these spikes will be treated as anomalous because the normal traffic flow is up to 15 movements per hour. A daily total of traffic movements between the hours of 0700 and 1900hrs, averaged over the working week is 187, with an average over the working day of 15 movements per hour.
- 8.97 Motorcycles and cars comprised 90% of the traffic, with LGVs and HGVs comprising the remaining 10%. These averaged daily movements are summarised in Table 8.8.

Table 8.8: Baseline Traffic Flows along Marishes Lane (Average Weekday Totals)

Direction	Motorbike	Cars Class	LGVs, 2 Axles	HGV 3/4 axles *	HGV 4/5/6 axles *
Eastbound	10	110	10	1	4
Westbound	5	59	4	0	2

* HGV 3/4 axles category relates to rigid body HGVs,
 HGV 4/5/6 axles category relates to articulated HGVs

- 8.98 The relatively high number of cars suggests that this route is used as a commuting route between the A169 Malton to Pickering Road and the A170 Pickering to Scarborough Road.
- 8.99 Conversely, the HGV traffic is thought to be serving the local farms rather than using the road as a through route.

Severance

- 8.100 There is some potential for severance to occur at the junction of Ebberston Lane with the A170, but experience of the area has shown that the pavement alongside the A170 is little used by pedestrians and there is no scope for severance on Ebberston Lane more than 200m from the A170 junction.
- 8.101 Similarly, there is potential for substantial severance at the east end of Malton Lane, but this is limited in practice, given that there is so little traffic and few pedestrians.
- 8.102 The construction traffic will avoid passing through the villages south of the A170, thus avoiding issues of severance within those communities.
- 8.103 Traffic passing through Yedingham has the potential to cause severance as houses are located on either side of the main road and on the minor road heading south to West Heselton.

Accident Records

B1258

- 8.104 The B1258 has a record of accidents related to the railway level crossing gates near the mill. A fatal accident occurred at the junction of the B1258 with the A170 in Snainton, where a motorcyclist crashed whilst travelling along the A170. Another accident also occurred near the same junction when a car passenger was killed after a collision in which one vehicle rolled over. Excessive speed was considered to be a contributory factor in both

incidents.

- 8.105 A search was undertaken for Personal Injury Accident (PIA) records for the length of Ebberston Lane between Ebberston and Givendale Head Farm. North Yorkshire County Council has confirmed that in the period from 1 January 2008 – 30 April 2013 no PIAs were recorded for the road.
- 8.106 It can be seen that the observed accident record on Ebberston Lane is negligible and the road could be considered as a receptor of 'Low' sensitivity. Marishes Lane and Malton Lane can also be considered as receptors of 'Low' sensitivity.

Cycle, Pedestrian and Equestrian (CPE) Facilities

A64 (T)

- 8.107 A cycle path/footpath runs parallel to the highway and it is anticipated that CPEs use that in preference to the highway itself.

A170

- 8.108 The A170 has pavements within the villages but there are no cycle lanes or pavements outside the villages. No CPEs were observed using the A170 during the surveys.

Ebberston Lane

- 8.109 There are no pedestrian specific facilities along Ebberston Lane south of Givendale Head Farm and most recreational walkers use the network of public footpaths in the area, or use the facilities provided in Dalby Forest. A public footpath that forms part of the Tabular Hills Walk runs parallel to the access track leading to Ebberston Moor South Well Site, separated from it by a dry stone wall and 2m wide grass verge. The Tabular Hills Walk also forms part of the 'Moor to Sea' cycle route, crossing Ebberston Lane next to the junction between the access track and Ebberston Lane.
- 8.110 Equestrians are understood to use the area although relatively few use Ebberston Lane, preferring the quieter tracks and rides away from the road.

Dalby Forest

- 8.111 Dalby Forest is located to the west of the EMS Well Site and the pipeline route passes along Givendale Rigg, which is part of the Forest.
- 8.112 Dalby Forest is considered to have very high amenity value, although the main centre for activities is near Low Dalby, to the west side of the forest. The forestry tracks and the Dalby Forest Drive are used extensively by off-road cyclists and hikers, whilst numerous picnic sites have been prepared by the Forestry Commission centred around viewpoints and Dalby Forest Drive.
- 8.113 Two cycle routes have their starting point at Dixons Hollow, about 1.5 km to the west of the Assessment Site and use Ebberston Common Lane, with one cycle route using Ebberston Common Lane up to the boundary of Dalby Forest and Givendale Head Farm and then turns west along the southern boundary of the Forestry Commission land.
- 8.114 Ebberston Common Lane is part of the network of gravel roads in Dalby Forest, but its distance from the main visitor centre and its location off the direct route to viewpoints makes it less used than other tracks in the area. However, awareness of recreational users is still needed, as both pedestrians and cyclists have been observed using the route.
- 8.115 The pipeline route leaves Ebberston Moor South Well Site and crosses Ebberston Lane to follow the route of another pipeline along Givendale Rigg, where its route coincides with the 'Moor to Sea' cycle route and, for a short distance, the Adderstone Cycle Trail. This section of the route follows an existing Forestry Commission track that has a wide verge to the west side through which the other pipeline runs and to the south of the EMS Well Site. This latter section is separated from the Development by a stone wall and fence and is separately assessed in Chapter 7.
- 8.116 When the pipeline route was visited in June 2013, no cyclists were observed on the Givendale Rigg track, but the parallel track to the west was heavily trafficked by cyclists with 25 observed in a 15 minute period.

Malton Lane/Wilton Ings Lane

- 8.117 Malton Lane has no facilities for CPEs along its length, and the road surface is so poor that it would not be a likely route for cyclists. No equestrians were noted during the visual inspections although allowance for these should be made. A footpath heads south from Willton Ings Lane on the west side of the pipeline route and is crossed by the pipeline route

in the field below Wilton Ings Lane and re-crossed in the field south of Friar Dike.

Marishes Lane

- 8.118 The pavement from Yedingham terminates at the south west corner of the junction of Marishes Lane with the B1258 with a verge about 2m wide separating the pavement from the road. The location of the pavement ensures that occupants of half the cottages at the junction will not be affected by the traffic using the road, whilst the occupants of the cottages on the north west corner will have to cross the road to reach the pavement.
- 8.119 The junction is heavily marked by tyres from HGVs using the junction to service the farms along Allerston Lane but the severance caused by this existing traffic is minimal because it does not pass the pedestrian gates to the properties in the NW corner.

The Site

- 8.120 The Site is a linear site, starting in the north at the EMS Well Site and extending along the route of the pipeline down to the KGS in the south. For convenience of reference, the component parts of the Site will be referred to separately within the chapter as:
- EMS Well Site;
 - The pipeline; and,
 - KGS.
- 8.121 Vehicles accessing the Site will use either the A64 and B1258 or the A170 to reach the area, with traffic approaching from either York or Thirsk in the west or Scarborough in the east.
- 8.122 Increased traffic flow will cause delay and the A169 and A170 around Pickering already experience high traffic flows and congestion in summer months. It is for that reason that the route from the A64 via the B1258 is considered to be the most appropriate route to the Site, although that does not bar access from other directions.
- 8.123 This assessment has been based on the understanding that the construction of the pipeline will progress continuously from the EMS Well Site southwards along the pipeline route and terminate at KGS. There will not be any intermediate compounds in the pipeline route north of the A170, but a compound for pipe storage and welfare facilities will be required adjacent to Grange Farm on Wilton Ings Lane to the south of the A170. A further pipe storage facility and additional welfare facilities will be located at KGS to supply the pipeline route south of

the River Derwent. Supplies of pipes, excavation and pipe-laying machinery will gain access to the pipeline route north of the A170 via the EMS Well Site and travel along the pipeline route to the point of need. Access will not be required along any other minor roads north of the A170 other than Ebberston Lane.

- 8.124 Access onto the pipeline route including for pipe deliveries between the A170 and River Derwent has been assumed to take place from the A170 and from Malton Lane/Wilton Ings Lane. An additional point of access will be used where the pipeline route crosses Marishes Lane, as shown on Figure 8.4.
- 8.125 Construction traffic will not be allowed to access the Site south of the A170 through the villages of Wilton, Allerston or Ebberston. Vehicular access along Malton Lane will be required for HGV as well as LGV and private vehicle traffic.
- 8.126 Chapter 5 confirms that a suitable method such as auger boring, directional drilling or a suitable alternative method will be used to limit surface disturbance when crossing roads. This method is assumed to apply to all the points where the pipeline route crosses the public highway, and most specifically the A170 and B1258. The use of auger boring to cross under roads has been assumed for the minor roads although traffic volumes along them are so low that temporary road closures are appropriate.
- 8.127 Traffic turning into and out of the site entrance will occur where the pipeline route crosses the A170, the B1258 and Wilton Ings Lane. The effect this will have on driver delay will be considered in more detail in the following sections.
- 8.128 Site equipment will potentially use Marishes Lane to exit the pipeline route north of the River Derwent unless it travels the entire length of the pipeline route back up to the A170.
- 8.129 Access to the Site between the River Derwent and KGS is assumed to be from the B1258 south of the River Derwent using the existing access road serving KGS, with a pipe dump and welfare facilities located adjacent to KGS.
- 8.130 The private crossings over the railway line will not be used by construction traffic and private vehicles, which would be required to use the existing private road to the south of the railway. The exception to this might be specific items of machinery that might need to cross the railway once from one section of the pipeline to the other. In such circumstances the equipment would only move under the direct supervision of a Network Rail linesman and all costs for provision of this attendance would be met by the Developer. It is not possible at this stage to confirm whether such a movement of equipment might be needed as this

will depend on the construction method used by the successful contractor, and would in any case only be used if consent were received from Network Rail.

- 8.131 There are no known exceptional loads or vehicles that might cause damage to the Knapton level crossing on the B1258. Most of the vehicles servicing the construction would be normal road vehicles and none would have an axles load in excess of the statutory highway limit. Tracked vehicles would be moved by transporters to avoid damage to the road and crossing. If an exceptional load were to cross the track, prior warning would be given to Network Rail and an inspection would be made of the crossing before the vehicle crossed and afterwards to ensure that no damage occurred.

Likely Significant Effects

- 8.132 The Development is described in detail in Chapter 3 and the traffic volumes differ between the construction, operational, and decommissioning and restoration phases. These will be considered separately below.

Construction

- 8.133 The greatest effect on traffic flows will occur during the construction phase of the Development, with specific activities within the construction phase generating peaks in the anticipated traffic flow. All the effects arising from this phase can be considered as short term and temporary, as described in Chapter 5.
- 8.134 The cumulative effect of construction traffic with traffic from other committed developments is discussed later in the chapter.
- 8.135 Details of the pipeline construction, including the method of passing under roads, are described in Chapter 5 and this assessment is based on that description.
- 8.136 The effects on driver delay will be considered later in this chapter.
- 8.137 The point on the A170 where the pipeline crosses is an essential access point for the pipeline construction. The pipes and equipment needed for construction of the section south of the A170 have to be delivered to this point, with the earthmoving and pipe-laying equipment being moved across from the section north of the A170.
- 8.138 The number of vehicles needing to deliver pipe to the north side will be no more than approximately 8 lorry loads as the majority of the pipe will be brought along the line of the

pipeline from the EMS Well Site.

- 8.139 Pipeline deliveries to the southern section between the A170 and the River Derwent Crossing will number about 20 lorries, with other additional deliveries of fuel and materials. The pipe laying equipment will cross the A170 from the north and continue southwards to the River Derwent.
- 8.140 The pipeline crosses the A170 where the road dips, with a gradual rise to both the east and west. The crest to the west is about 90m from the pipeline crossing, whilst the eastern ridge is more than 300m from the pipeline crossing.
- 8.141 Traffic flows along the A170 are consistently steady throughout the day with peaks during the morning and evening rush hours, making TM essential.
- 8.142 The potential for any severance effect at the road junction between Marishes Lane, Allerston Lane and the B1258 is considered to be low and consequently have a negligible adverse effect upon the occupants of the houses at the junction because of the limited number of vehicles, the low speeds and low number of pedestrians that might use the junction.
- 8.143 Pipe-laying equipment will generally travel along the pipeline route, but will have to cross four roads, the A170, the B1258, Wilton Ings Lane and Marishes Lane. Driver delay will only be likely to occur at the A170 and B1258 crossings, and this effect will be assessed for those roads.

Personnel and Vehicles

- 8.144 A mixture of light and heavy goods vehicle traffic (including some abnormal loads) will be generated during the construction phase. The anticipated construction personnel and traffic to be generated is outlined in Tables 8.8 and 8.9 below, with the numbers of personnel based on previous experience of similar activities.

Table 8.8: Summary of Personnel

Project Activity	Personnel on site each week			
	Project Duration weeks (no.)	Max (no.)	Min (no.)	Average (no.)
EMS Well Site Water production/ disposal well	6*	26	2	10

EMS Well Site Up-grading	4*	10	2	5
Pipeline	23*	73	20	51
KGS	4*	73	20	51
EMS Well Site Water production/ disposal well	6	26	2	10

*It should be noted that activities will run in parallel.

Table 8.9: Summary of Construction Vehicle Movements

Project Activity		Vehicle Movements (no.)		Time period
		HGV*	Others	
EMS Well Site Water Injection Well	Mobilisation	126	20	7 days
	Drilling	20	35	Weekly
EMS Well Site		8	20	Daily
Pipeline		64	225	Weekly
		18	48	Daily
KGS		130	50	Weekly
		26	40	Daily
EMS Well Site Water Injection Well	Mobilisation	126	20	7 days
	Drilling	20	35	Weekly

*All categories of HGV

8.145 In accordance with IEA guidance there are two 'rules of thumb' to delimit the scale of traffic effect.

"Rule 1: include highway links where traffic flows will be increased by more than 30% (or the number of heavy goods vehicles will increase by more than 30%)."

"Rule 2: include other specifically sensitive areas where traffic flows have increased by 10% or more."

8.146 The A64(T) and A170 are not considered to be 'sensitive areas' given their status as a Primary Routes. Previous site construction and drilling projects on Ebberston Moor 'A' Well Site and the EMS Well Site, both accessible from Ebberston Lane and Ebberston Common Lane, have not caused more than a slight and temporary effect, with percentage increases less than the threshold of 30%.

8.147 The Development includes drilling to re-enter the existing borehole on the EMS Well Site and the subsequent drilling of a new borehole some six months later for water production and re-injection. The drilling rig will be removed from site after completing the re-entry work and will be brought back to the EMS Well Site to drill the second borehole. The figures shown in Table 8.10 below provides details on the level of traffic flow generated by the drilling operations, based on the largest rig appropriate for these operations.

Table 8.10: Comparison of Base Traffic Flows on A170 with Development Traffic using A170 and Eberston Common Lane (All categories of HGV combined)

Construction Activities	Traffic Flows on A170			
	Duration (Days)	Daily Flow Base HGVs(2013 figures)	Daily Traffic Movements Generated	% increase in HGV traffic movements
Rig Mobilisation	7	100	18	18%
Drilling	30 (60)*	100	20	20%
Rig de-mobilisation	7	100	18	18%

* 60 days duration for drilling the second well

8.148 Table 8.10 shows that, when using the traffic volumes measured in the recent survey, the increases in traffic movements generated by these projects will be less than 30% of the base flow on the A170. In summary the traffic effect on the A170 is therefore considered to be of low magnitude and negligible. The A170 is therefore scoped out of further assessment.

B1258

8.149 If all traffic generated during the construction phase is assumed to approach the Site along the B1258 from the A64, the increase in daily traffic of 18 movements during the 7 days of rig mobilisation will result in a 33% increase in traffic along the B1258. The HGV traffic on the B1258 generated by the subsequent drilling process will result in an increase of 18.2% in HGVs and the total traffic flow will increase by 6.5%. The other parts of the construction process at EMS Well Site will generate lower traffic numbers spread over a longer period and would not be coincident with the drilling rig operations.

Table 8.11: Comparison of Base Traffic Flows on B1258 with Development Traffic generated during construction. (All categories of HGV combined)

Construction Activities	Traffic Flows on B1258			
	Duration (Days)	Daily Flow Base HGVs(2013 figures)	Daily Traffic Movements Generated	% increase in HGV traffic movements
Rig Mobilisation (1 st)	7	55	18	33%

Construction Activities	Traffic Flows on B1258			
	Duration (Days)	Daily Flow Base HGVs(2013 figures)	Daily Traffic Movements Generated	% increase in HGV traffic movements
Drilling	30	55	10	18.2%
Rig de-mobilisation	7	55	18	33%
EMS Wellsite Gas works	28	55	2	3.6%
Pipeline	161	55	2	3.6%
Rig Mobilisation (2 nd)	7	55	18	33%
Drilling	60	55	10	18.2%
Rig de-mobilisation	7	55	18	33%

8.150 This shows that the traffic flows generated by the construction of the Development are generally much less than the 30% 'Rule of Thumb' guideline and the duration of the greatest traffic movements is only two periods of seven days each, every time the drilling rig is moved. The rig movements are separated by a minimum period of 30days, further reducing the effect, thus suggesting a minor adverse effect upon the road users and environs.

8.151 At least 30% of the total traffic flow generated by the Development accesses the pipeline route south of the River Derwent, and serves the works at KGS, and therefore does not approach Yedingham, so the effect of the Development will be reduced so that the overall temporary increase in traffic flows falls even further below the 30% threshold and will therefore have negligible effect. The B1258 is therefore scoped out of further assessment.

Ebberston Lane

8.152 In accordance with the 30% rule, the traffic effect on Ebberston Lane will be moderately adverse, given that the lane has very low base traffic flows. However, it was the approved route for construction of two sites, Ebberston Moor 'A' in 2006 for Viking UK Gas Ltd (application reference NYM/2005/0254/FL), and Ebberston Moor South in 2007 for Warwick Energy (application reference NYM/2007/0901/FL); followed by the drilling of exploratory boreholes on each site. This is also the approved route for construction traffic serving the Ebberston Moor 'A' Well Site EDS scheme for the approved Third Energy application (application reference NYM/2005/0254/FL) and the Ebberston Moor 'A' Well Site to Knapton Generating Station pipeline (application reference NYM/2005/0254/FL), also for Third Energy.

Penniston Lane/Malton Lane

8.153 Penniston Lane and Malton Lane will be used by private cars and light vans and heavy

goods vehicles associated with the construction of the pipeline between the A170 and the River Derwent. The section of the pipeline likely to be serviced by this road is about 2.8km (20%) of the total length of the pipeline and the duration of the works in this section has been proportionately reduced from the total construction time. The total daily number of private and light vehicle movements along Malton Lane (10-16) is anticipated to be less than the maximum number working on the pipeline in a single day shown in Table 8.12. Deployment of personnel elsewhere along the pipeline route and vehicle sharing will further reduce traffic movements. Deliveries of cabins, surfacing and pipeline to the compound will generate an estimated 30 HGV deliveries of all categories, occurring in the first week, when the compound is being constructed and the pipe delivered. At the end of the construction period the cabins will be taken off site, generating approximately 10 HGV movements.

Table 8.12: Comparison of Base Traffic Flows on Malton Lane with Development Traffic

Construction Activities	Traffic Flows on Malton Lane during pipeline construction				
	Duration (Days)	Daily Flow Light/HGV Vehicles	Base	Daily Traffic Movements Generated	% increase in traffic movements
Pipeline Light Vehicles	32	54		16	29.6%
Pipeline HGV*	5	2		12	600%

* All HGV categories combined

8.154 Consequently, the magnitude of the change in traffic flows for light vehicles is less than 30%, the low sensitivity of the lane and its occupants means that the severance effect of the light traffic is considered to have negligible significance.

8.155 The magnitude of change on traffic flows for heavy goods vehicles is 6 times the base flow which suggests a major severance effect that, because of the low sensitivity, will have a temporary moderate adverse significance of very short duration.

Marishes Lane

8.156 The main usage of Marishes Lane will be to bring the excavation and pipe-laying machinery out from the end of the pipeline route on the north side of the River Derwent and allow private vehicles to access the works. This movement of HGVs is expected to amount to four low-loaders to transport the excavators and pipe-laying machines, with a further 6 for the drilling unit and ancillary equipment. A maximum of 20 HGV movements would therefore be generated as the equipment is brought out, spread over a number of days, compared with the baseline HGV traffic flow of 6 per day.

- 8.157 The magnitude of increase in the HGV traffic flows will be comparable to the traffic generated by a farm during harvest, but for a very limited period.
- 8.158 The main usage of Marishes Lane will be to bring the excavation and pipe-laying machinery out from the end of the pipeline route on the north side of the River Derwent and allow private vehicles to access the works. This movement of HGVs is expected to amount to four low-loaders to transport the excavators and pipe-laying machines, with a further 6 for the drilling unit and ancillary equipment. This traffic has been assumed to take place over two days.

Table 8.13: Comparison of Base Traffic Flows on Marishes Lane with Development Traffic

Construction Activities	Traffic Flows on Marishes Lane during pipeline construction				
	Duration (Days)	Daily Flow Light/HG Vehicles	Base	Daily Traffic Movements Generated	% increase in traffic movements
Pipeline (Light Vehicles)	20	120		20	16.6%
Pipeline (HGV)	2	20*		10	50%

* All HGV categories combined

- 8.159 The cottages and farm near the east end of Marishes Lane have the greatest sensitivity of the occupant of the lane, but even this is low due to the volumes of traffic passing through and past the junction. A total of 10 heavy goods vehicles entering and leaving the site is comparable to the level of activity during harvest, so that although the magnitude of the increase in traffic is greater than 30%, this would be considered to have a temporary and minor adverse effect of severance on the residents.

Accidents and Safety

- 8.160 The risk of accidents is increased by an increase in traffic flows, but the past record of development using the route from the A170 up to Ebberston Moor 'A' Well Site (located north of the EMS Well Site) has shown that the risk of accidents is negligible with the current traffic management in place.
- 8.161 The level crossing for the railway on the B1258 is highlighted as a risk location and drivers of any large or slow vehicles should contact the train operators in accordance with normal practice. If this is done and normal highway protocol involving level crossings is complied with, there will be no increase in the risk of accidents.

CPEs

- 8.162 The location of the pipeline route away from main cycling and walking routes within Dalby Forest means that there will be a minor adverse effect on CPEs using these facilities.
- 8.163 The pipeline crosses the route of the 'Moors to Sea' cycle path at Ebberston Lane, with potential for a temporary, moderately adverse effect on CPEs using this route.
- 8.164 Use of Marishes Lane, Penniston Lane and Malton Lane by development traffic could have a minor adverse effect on CPEs using those roads because they share the road way with vehicles.
- 8.165 For users of the footpath south of Wilton Ings lane, there will be a temporary but moderate adverse effect where the pipeline route crosses and then re-crosses the footpath.

Driver Delay

- 8.166 Careful implementation of traffic management schemes on the A170 and B1258 will avoid causing delays of any magnitude to drivers, with the maximum time spent stationary at lights being no more than for lights at an urban road junction. Avoidance of any unnecessary lights or operation of lights when there is no traffic entering or leaving site will also reduce the magnitude of any effect.
- 8.167 Use of Wilton Ings Lane/Malton Lane will cause unavoidable delays to drivers because there are no suitable places for vehicles to pass along the length of the road. Consequently, if a delivery vehicle approaches the compound from Penniston Lane, traffic heading east in the opposite direction will have to wait for the vehicle to travel along Malton Lane, negotiate the two corners in the road and enter the site in Wilton Ings Lane, which is estimated to take up to 2 minutes for an articulated vehicle travelling at 32 kph (20 MPH). This would worsen if two or more vehicles came in convoy.
- 8.168 During the construction of the compound at Grange Farm, it may be preferable to close the road to through traffic to avoid unexpected driver delay, or time deliveries to avoid peak traffic times, which may lengthen the construction period. The magnitude of driver delay has been assessed having a temporary moderate adverse effect.
- 8.169 Where HGV traffic has to use Marishes Lane, the magnitude of any driver delay will be minimal and thus have a negligible effect on road users.

Dust and Dirt

- 8.170 The dust and dirt arising from heavy goods vehicles on the public highways is considered to have a negligible effect on road users and residences near the Development.
- 8.171 Wherever the pipeline route crosses a public highway and there is access from the Development onto the public highway, there will be potential for dirt and dust to be brought onto the road. The effect on road safety, particularly on the A170 and B1258, is potentially major as wet mud on the road could cause accidents that have the potential to result in a personal injury or fatality.
- 8.172 Over-running of verges will generate mud and dust – a situation that is possible along Malton Lane, where articulated vehicles carrying pipe will have to negotiate the two sharp bends that are quite close to each other. Swept paths showing the passage of the vehicles through the bends are shown in Figure 8.6. This has the potential to cause a temporary minor effect that can be reversed.

Completed Development

- 8.173 Once the construction phase is complete, there will be up to two tankers per week relating to the operation of the Development with daily maintenance visits to the EMS Well Site required. No every-day access will be necessary to the pipeline although a 10m wide easement will be provided along the pipeline route with the appropriate access from roads. Instead, staff will control the processes remotely from KGS.

Accidents

- 8.174 The traffic flows generated during operation are negligible and the risk of accidents is correspondingly reduced, suggesting that if the current levels of care are maintained during operation there will be a negligible effect upon the safety of road users.

CPEs

- 8.175 The low traffic flows during operation will minimise the significance of the effects from the Development but there will remain an overlap of usage by CPEs and vehicles of Ebberston Lane that keeps the significance at a minor adverse level.
- 8.176 The pipeline route crossing and re-crossing of the footpath south of Wilton Ings Lane will have negligible effect when the Development has been completed.

8.177 There will be no effect on CPEs elsewhere on the Site from the completed Development.

Decommissioning and Restoration

8.178 Decommissioning and restoration of the Development (see Chapter 5), will require the removal of buildings, pipework and above-ground installations such as pipe runs, tanks and bunded areas on the EMS Well Site to enable the Well Site to be restored to farm land in a condition as close as practicable to its original state if planning permission for future use of the EMS Well Site is not forthcoming. Prior to that removal process, all residual fluids will be removed from site to appropriate licensed waste disposal sites, using sealed tankers operated by hauliers licensed to carry the particular fluids.

8.179 Removal of fluids will generate additional vehicle movements, estimated at about five two-way vehicle movements in total.

8.180 The decommissioning and restoration activities will produce similar numbers of vehicle movements to the construction phase. Consequently, this phase will have traffic flows along Ebberston Lane producing a negligible increase in adverse effect from that in the construction phase.

8.181 The pipeline will be left in-situ and the ends capped, so no traffic will be generated by decommissioning the pipeline, and KGS will be unaffected by the decommissioning works.

Restoration

8.182 All fluids arising from the gas production process will have been removed from the EMS well Site during the decommissioning phase. The tanks, pipework and steel framework for the buildings will also have been removed leaving the stone and concrete surfaces and sub-surface structures.

8.183 The wells will be plugged and abandoned in a manner agreed with the Health and Safety Executive, the Environment Agency and NYMNPA if future planning permission for the Well Site is obtained. Generated traffic numbers will be similar to those quoted in Table 8.9.

8.184 The restoration phase will have an effect that will depend on the manner in which the work is carried out and the manner of disposal of removed materials which will be agreed with the appropriate authorities before the end of the operation phase. For example, if the concrete and hardcore produced by removing the Site surfaces is re-used as road material to make up the Forestry Commission Roads, no HGV traffic will be generated along

Ebberston Lane although more Forest roads will be affected than if the materials were exported.

- 8.185 However, if the stone and concrete were to be disposed of to another site or a licensed tip away from the area, it would all have to be exported via Ebberston Lane to the A170 and then further afield to its destination. The rate of disposal will be slower than during construction of the sites, because the material will have to be broken up, excavated, crushed if necessary, and then loaded onto lorries.
- 8.186 The total number of HGV lorry movements generated by this restoration process will amount to about 250, with 220 loads being generated by removal of the stone surfacing on the EMS Well Site.
- 8.187 It would be appropriate to suggest that the number of HGV movements be limited to that generated during construction of the EMS Well Site (30 each way per day) so that the effect on receptors is no worse than during construction. The effect of this might be to prolong the restoration process, but may be preferable to higher traffic movements over a shorter timeframe.
- 8.188 The relatively short term duration of this restoration phase (8 -12 weeks) will not change the significance of the effects on receptors from that of earlier phases.

Mitigation Measures

Construction

General

- 8.189 The use of temporary road closures on minor roads has not been ruled out, but will only be used where necessary and only after consultations have been held with the Highways Authority and local residents affected by the closure.
- 8.190 Traffic management (TM) measures will be introduced where appropriate to ensure safety of the construction personnel and other road users. The form of TM will be tailored to suit the specific task and minimise the potential for delay to other road users.
- 8.191 Traffic lights or manually operated stop/go boards are necessary for site entrances so that definite control of the traffic flow is maintained, with a preference for lights on safety grounds. The imposition of a temporary speed restriction on the A170 between Wilton and

Allerston during the course of the works will increase safety and not have a significant effect on driver delay, as it will extend from the speed restriction zone in Allerston.

A170

- 8.192 The A170 has been identified as the most heavily trafficked road in the vicinity of the Site and the potential exists for delays and reduction in safety standards wherever Development traffic comes onto or leaves the A170.
- 8.193 The traffic management plan has been orientated to using the A64, the B1258 and the A170 between Snainton and the site access on the A170. This routeing has been adopted to reduce to a minimum the vehicle movements passing through Pickering and Thornton-le-Wold, as these communities are already affected by the existing traffic using the A170.
- 8.194 Vehicle swept paths have been generated to demonstrate that articulated HGVs can safely manoeuvre through the junctions of minor roads with the A170 and these swept paths are shown on Figure 8.7 for the A170/B1258 junction and Figure 8.8 for the A170/Ebberston Lane junction. No mitigation is required for these junctions.
- 8.195 As a consequence of the routeing plan, vehicles will approach the pipeline crossing point between Allerston and Wilton from the east and will have to turn right to access the northern part and left to access the southern part of the pipeline route.
- 8.196 The positions of the accesses from the A170 into the fields north and south of the road will be determined during the detailed design stage but would most likely use the existing field entrances near the crossing point. Sight lines from the entrances are marginal and, to improve safety, road traffic signs would be erected to warn approaching traffic of manoeuvring vehicles. A speed restriction would also mitigate the effects on safety of sub-standard sight lines. Traffic lights would be used to control both the traffic on the A170 and construction plant crossing the road. Details of phasing and response timing of the lights will be confirmed in the detailed design stage.
- 8.197 These measures have been considered in detail with North Yorkshire Highways Authority for the recently approved application for a pipeline from Ebberston Moor 'A' Well Site to Knapton Generating Station and will be adopted for this proposal.
- 8.198 Vehicles forming the pipeline construction train will cross the A170 from north to south under the control of traffic lights, whilst the deliveries of materials using the A170 will be unrestricted on access, but controlled by lights on egress from either the north or south

side of the A170.

- 8.199 The southern entrance, shown on Figure 8.5, is located just to the west of a bend in the road that reduces the visibility to the east to 128m, measured from 2.4m back from the road edge, which is considerably less than the 215m requirement for traffic travelling at 60mph. The sight lines to the west are also reduced by the topography to below the standard for 60mph.
- 8.200 It is therefore proposed to impose a temporary 40mph speed restriction on traffic travelling in both directions on the A170 for the 8 week period during which the pipeline construction is expected to involve access from the A170.
- 8.201 The sight line to the east, measured from the centreline of the proposed vehicular entrance is 128m x 2.4m, which is better than the 120m x 2.4m requirement for traffic speeds of 40mph. If a traffic light were positioned on the south verge as shown on Figure 8.5, it would be visible from at least 240m away for vehicles approaching from the east.
- 8.202 The sightline from the northern Site entrance to just beyond the crest of the rise, west of the pipeline crossing, is about 100m. This is minimal and 20m short of the sight line requirement of 120m for traffic speeds of 40mph.
- 8.203 However, there are only 8 deliveries to be made to the north side that would cross the east bound lane of the carriageway. If this is unacceptable, it is proposed to have all deliveries turn left (south) into the southern pipeline section and then cross the A170 under the control of traffic lights. This would then avoid the risks associated with the short sight lines for traffic approaching the Site from the west.
- 8.204 The traffic lights on the north side, controlling the east-bound traffic, would be placed midway up the rise from the Site to the western crest, where they will be visible from at least 300m away to the west.
- 8.205 In summary, the proposals are:-
- A 40mph speed restriction on the A170 in the vicinity of the pipeline crossing for a period of 8 weeks, extending at least 300m either side of the proposed works;
 - All HGV traffic to approach the Site from the east;
 - All HGV traffic to turn left from the A170 onto the southern pipeline section. Any deliveries to the northern section shall then cross the A170 under the control of the

traffic lights;

- All traffic exiting the site shall be controlled by traffic lights.

B1258

8.206 The B1258 is much flatter and sight lines are considerably better than at the crossing point on the A170, so temporary traffic lights and signage will suffice without the need for a speed restriction.

8.207 All agreement on road signage and permissions will form part of the detailed design stage during which the NY County Highways Department will be consulted. The mitigation measures to minimise driver delay and maintain road safety are discussed in the following sections.

Ebberston Lane

8.208 Mitigation measures to be implemented during construction will include the use of route cards which will be issued to all drivers visiting the Site and vehicles accessing the Site along Ebberston Lane and other minor roads shall be restricted to speeds of 30 mph. This will be most relevant to CPEs who are the most vulnerable of all receptors.

8.209 Large loads being moved along any minor road will be escorted by an escort vehicle to avoid conflict with oncoming traffic.

Malton Lane/Wilton Ings Lane

8.210 Access by HGVs to the Site compound at Wilton Ings Lane will be permitted only from the east via Penniston Lane. The single track road can just accommodate articulated vehicles, as demonstrated by the vehicle swept path shown in Figure 8.6, but no other traffic will be able to use the road whilst the vehicle is in transit.

8.211 During construction, traffic management will be required between the road junction at Penniston Lane and the Site to avoid conflict between vehicles passing in different directions. Traffic flows along Malton Lane/Wilton Ings Lane are so low and there are sufficient alternative routes for other traffic, that when the site compound is being set up and initial deliveries of pipes are being made, a temporary road closure is proposed. This closure would only be in force for about ten days during working hours and only after extensive consultation with residents and road users based along the road to ensure early morning traffic can clear before the closure is implemented.

- 8.212 The road closure would be advertised in accordance with traffic regulations. Signage, previously agreed with NYCC Highways Department, would be put in place to redirect traffic.
- 8.213 A temporary holding area will be created within the width of the verge in Penniston Lane where a vehicle can wait for instructions to proceed towards the Site as shown in Figure 8.8. Signage will instruct all site traffic to wait at the layby until instructions are given to proceed.
- 8.214 A traffic controller will be located in a small booth on the verge in Malton Lane to control the barriers that will be placed across the road entrance. The controller will be in radio contact with the site, who could confirm whether or not the vehicle waiting in Penniston Lane can proceed along Malton Lane to the site.
- 8.215 After the compound has been built and the bulk of the deliveries have been made, the road closure will be stopped and the traffic will be controlled by stop/go boards at the pipeline entrance and the junction with Penniston lane linked by radio. Advance warning notices would be erected at the ends of all the affected roads, informing road users of the intended works and the time frame of the works affecting the road
- 8.216 Control of vehicle speeds and avoiding vehicles will result in negligible effect on accident rates.
- 8.217 The pipeline route south of Wilton Ings Lane crosses a footpath twice and a temporary diversion is proposed, with the footpath being located within the red line boundary of the site, separated from the pipeline work by an earth bund, as shown in Figure 8.7.

Marishes Lane

- 8.218 Access will be only from the east, off the B1258 and speed restricted to 30mph.
- 8.219 Traffic management would take a similar form to that proposed for Malton Lane, with a pair of traffic controllers regulating the traffic flow between the B1258 and the site entrance.

Allerston Lane

- 8.220 Access along Allerston Lane will be prohibited for HGVs because articulated lorries will not be able to avoid over-running the verges when turning into or out of Malton Lane.

General for the Development

- 8.221 The CEMP provided for the Development would address the issue of dirt and dust being taken onto the public highways by use wheel washing, road sweepers and other best practice to keep the public highways clean. Air Quality issues are addressed in Chapter 10.

Completed Development

- 8.222 There will not be any mitigation measures required during operation of the Development.

Decommissioning

- 8.223 The mitigation measures applied during the construction phases will apply to Ebberston Lane during this phase as well, particularly in respect of escorting large loads such as tanks.

- 8.224 No mitigation measures will be required for the pipeline section of the Site, which will be left intact.

- 8.225 Mitigation measures to avoid any effects from dust and dirt will be required for all access points onto the public highway network.

Restoration

- 8.226 The pipeline will be left undisturbed and will not generate any traffic movements during this phase and will have no effect.

Residual Effects

Construction

- 8.227 Residents living along the minor roads will still experience minor/negligible severance even after mitigation due to construction works traffic, but the short term nature of the construction phase will cause only a temporary effect. Residents in Yedingham and other villages next to the A170 and A64 will not experience any appreciably increased magnitude of traffic flow and thus will therefore experience negligible effects.

- 8.228 The construction phase is short-term with the construction activities being short term and temporary in nature. Where the pipeline crosses the Moors to Sea footpath there will be

negligible effect as the footpath will use Ebberston Lane at the crossing point.

- 8.229 South of Wilton Ings Lane, the temporary diversion of the footpath and separation of it from the pipeline works will have negligible residual effect.
- 8.230 Other road users meeting construction vehicles on narrower roads such as Ebberston Lane, Wilton Ings Lane and Marishes Lane may have to slow or wait at a passing place to enable the vehicles to pass each other, but the delay should be minimal and have negligible effect.
- 8.231 The road closure proposed for Malton Lane/Wilton Ings Lane will cause other traffic to take a diversion that may increase journey times and distance, so there will be a temporary moderate adverse residual effect.
- 8.232 The traffic control and traffic management measures proposed for the A170 will ensure that Road Safety should not be affected by the Development and the residual effect of the construction phase on safety is negligible.
- 8.233 The effect on other road users of extra traffic, traffic controls and disruption of traffic flow by moving machinery will be minimised but not completely avoided. The residual effect following mitigation is considered to be temporary and of a minor/negligible adverse effect.
- 8.234 Rigorous implementation of a CEMP will effectively mitigate the effects of dirt and dust so that the residual effect on safety is negligible.

Completed Development

- 8.235 There will be a continued overlap of operations with CPE activity along Ebberston Lane arising from the occasional delivery vehicle and the residual overlap is considered to be negligible. There will be no other effects arising from the completed Development on the remainder of the Site.

Decommissioning

- 8.236 Decommissioning will have a residual minor adverse effect on Ebberston Lane for the short term duration of the works that will cease upon completion of the decommissioning.

Restoration

- 8.237 Placing the salvaged surfacing upon the Dalby Forest tracks (if agreed by the Forestry

Commission) will reduce during this phase the significance of the effects on Ebberston Lane between Givendale Head Farm and the A170 to negligible. Total disposal offsite via Ebberston Lane will have no effect upon CPEs in Dalby Forest and along Ebberston Common Lane. Management of CPE access will reduce the significance of the options to negligible.

Cumulative Effects

8.238 There are two projects that are considered to potentially have cumulative effects when combined with the Development: Ebberston Moor EDS (NYM/2013/0477/EIA) and the York Potash Project, for which a planning application is due to be lodged with North York Moors NPA in September 2014. Further information on the two schemes is provided in Chapter 2.

EDS

8.239 It is highly unlikely that construction of the Ebberston Moor EDS and the Development would coincide, however, in order to undertake a worst case assessment, the assumption has been made that the two schemes would be constructed and operational at the same time. The Ebberston Moor EDS will potentially affect Ebberston Lane north of the A170 and will increase traffic flow along the A170 during both the construction phases and operation phases.

8.240 The traffic generated by the EDS scheme will be broadly similar to that for this Development and so traffic volumes during construction would be double the numbers quoted in this assessment. Whilst the magnitude of the traffic flow will double the sensitivity of the main receptors will remain low so that the consequent effect on severance along Ebberston Lane will be marginally increased to a minor adverse effect.

8.241 A Doubling of traffic volumes from the two schemes using the same route could lead to increased effect on safety that will require mitigation, possibly in the form of a joint traffic management scheme, which would reduce the impact on safety to a minor adverse effect.

8.242 Driver delay could increase on all the roads used jointly by the two projects and the effect on congestion, will increase marginally but still remain relatively low, resulting in a minor adverse effect.

8.243 The construction phase of this Development will overlap with the operational phase of the Ebberston Moor EDS and traffic management measures to be adopted for both schemes will be the same. Ebberston Moor EDS will also affect the B1258 during its operational phase, but the aggregate of HGV traffic produced by both schemes will still fall below the threshold

of 30% on that road so no significant adverse effect is anticipated for residents along the B1258.

8.244 The sensitivity of Ebberston Lane is low so the effect of the increased traffic upon road users and local residents will also be low.

8.245 The mitigation measures suggested for traffic to the Site include an escort for large or loads of by-products or treatment fluids, and this provision should be made known to other road users.

York Potash Project

8.246 The proposed surface location for the York Potash mine is set within an existing farm and commercial forestry block located approximately one mile south of Sneaton village and two miles south of the outskirts of Whitby. It is located off the B1416, close to Red Gate, which gives good access to the A171.

8.247 The location of the project is on the north side of the NYMNP and the emphasis is upon using an underground transport tunnel to Redcar where there will be a dock facility for exporting the potash.

8.248 Access to that Development would be via the A171, which follows the northern boundary of the NYMNP from Middlesbrough eastwards to Whitby and then follows the east coast south to Scarborough.

8.249 The location of the Potash Development and the proximity of a good quality road nearby makes it unlikely that traffic generated during construction and subsequent operation would have any effect on roads south or west of Scarborough. It is possible that some traffic might use the A169 northwards from the A64(T) through Pickering, but this is to the west of the Development and will have no cumulative effect.

Summary

8.250 The Site extends from the existing EMS Well Site located to the north of the A170, along the pipeline route down to and across the A170 and then across the Vale of Pickering to KGS. During construction a number of access points will be required that will utilise the A64(T), A170, and B1258 as primary access routes. The A64(T) and A170 form part of the primary route network in Yorkshire, and the B1258 is recognised as a link road for HGVs between the two main roads. These three roads are considered to be suitable as an HGV access to

the Site.

- 8.251 It is also considered that the established access to the north part of the Site from the A170 using Ebberston Lane is appropriate especially if subject to traffic restrictions including a speed limit.
- 8.252 The greatest effect of the Development is anticipated to be during the construction phase. These phases will occur over a short term and temporary period, minimising the significance of any effects.
- 8.253 The effect of the completed Development is considered to be negligible. The Development will generate very few trips (with the majority to the EMS Well Site) and these can be easily accommodated within the existing road network.
- 8.254 Table 8.14 provides a summary of the likely significant effects of the Development.

Table 8.14: Table of Significance – Traffic and Transportation

Potential Effects	Nature of Effects (Permanent/ Temporary)	Significance (Major/Moderate/ Minor) (Beneficial/Adverse /Negligible)	Mitigation Enhancement Measures	Geographical Importance*							Residual Effects (Major/Moderate/Minor) (Beneficial/Adverse/ Negligible)
				I	UK	E	R	C	NP	L	
Construction											
Construction activities	Short term temporary	Moderate Adverse	Routing construction traffic to suitable roads imposing traffic control measures							*	Negligible-Moderate Adverse
Construction on footpath south of Wilton Ings Lane	Short term temporary	Moderate Adverse	Temporary Footpath diversion							*	Negligible
Operation											
Operational staff	Long term temporary	Negligible	No additional provision							*	Negligible
Decommissioning											
Traffic along Ebberston Lane	Short term temporary	Minor Adverse	Routing of traffic to suitable roads imposing traffic control measures							*	Minor Adverse / Negligible
Traffic on minor roads south of A170	None	Negligible	N/A							*	Negligible
Restoration											
Traffic along Ebberston Lane	Short term temporary	Minor Adverse/ Negligible	Routing of traffic to suitable roads with traffic control measures							*	Minor Adverse / Negligible
Cumulative Effects											
Coincidence of construction with operation of Ebberston Moor EDS	Temporary	Moderate Adverse	Imposing traffic control measures							*	Minor Adverse / Negligible
<p>*Geographical Level of Importance</p> <p>I = International; UK = United Kingdom; E = England; R = Regional; C = County; NP = National Park; L = Local</p>											

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- ⁱ Department of Communities and Local Government (March 2012) National Planning Policy Framework
 - ⁱⁱ Department for Communities and Local Government (March 2010) Planning Policy Guidance 13: Transportation
 - ⁱⁱⁱ North Yorkshire County Council (2006) North Yorkshire Local Transport Plan 2 (2006-2011)
 - ^{iv} North York Moors National Park Authority Development Framework (2008). Core Strategy and Development Policies (Adopted Nov 2008)
 - ^v Ryedale District Council (May 2012) The Ryedale Plan – Local Plan Strategy Submission Document
 - ^{vi} The Town and Country Planning (Environmental Impact Assessment) Regulations 2011 (SI 2011/1824)
 - ^{vii} Institute of Environmental Assessment (1993) Guidelines for Environmental Assessment of Road Traffic: Guidance Notes No 1 (GN1)