

11.0 TRAFFIC AND TRANSPORTATION

Introduction

11.1 This Chapter of the ES assesses the likely significant effect of the Proposed Development in terms of transport and access and is supported by **Appendix 11.1**. The Chapter describes the assessment methodology; the baseline conditions currently existing at the Assessment 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. This Chapter has been prepared by Cannon Consulting Engineers.

Planning Policy Context

National Planning Policy

11.2 **Planning Policy Guidance Note 13: Transport (March 2001 – 3rd Edition)**: In response to the challenge of integrating land use and transport planning, the Government set out its policy for the future of transport in the White Paper “A New Deal for Transport: Better for Everyone” (July 1998), with the objective to extend choice in transport and secure mobility in a way that supports sustainable development.

11.3 PPG 13 was published in March 2001. The objectives of PPG13 are to integrate planning and transport at the national, regional, strategic and local level to:

- promote more sustainable transport choices for both people and for moving freight;
- promote accessibility to jobs, shopping leisure facilities and services by public transport, walking and cycling, and
- reduce the need to travel, especially by car.

11.4 In paragraph 6 of PPG13 it is stated that, when considering planning applications, local Authorities should:

“...actively manage the pattern of urban growth to make the fullest use of public transport, and focus major generators of travel demand in city, town and district centres and near to major public transport interchanges”.

11.5 In particular to freight, PPG13 sets out the policy when considering planning applications where freight is involved. In paragraph 45, it is stated that:

“...while road transport is likely to remain the main mode for many freight movements, land use planning can help to promote sustainable distribution, including where feasible, the movement of freight by rail and water. In preparing their development plans and in determining planning applications, local authorities should:

- **Where possible, locate developments generating substantial freight movements such as distribution and warehousing, particularly bulk goods, away from congested central areas and residential areas, and ensure adequate access to trunk roads.**
- **...promote opportunities for freight generating development to be served by rail or waterways by influencing the location of development....”**

Regional Planning Policy

11.6 The Regional Spatial Strategy for Yorkshire and Humber was published in May 2008. It sets out the aims and objectives to guide development in the area over the next 15 to 20 years. The plan embodies the Regional Transport Strategy and is taken into account by the areas local authorities in their Local Development Framework and Local Transport Plans. The plan identifies the A64, A19 and A1 as part of the strategic highway network in the area.

Local Planning Policy

11.7 ***North Yorkshire Minerals Local Plan, 1997:*** The North Yorkshire Minerals Local Plan was adopted in 1997. A Local Plan is a document which sets out policies and specific proposals for development and use of land. The plan provides specific local planning guidance on gas operations and provides guidance on the key activities likely to be involved. Transport and Access are identified as one of the key considerations.

11.8 Policy 7/9 refers specifically to transport and states:

“Proposals for the development of oil or gas resources

which are likely to involve the bulk transport of material by road will only be permitted where developers can demonstrate that non-road transport is not feasible and that the traffic generated will not have an unacceptable impact on local communities."

11.9 The adopted Local Plan is still relevant until the time that the replacement Minerals and Waste Core Strategy is adopted. The Core Strategy was withdrawn in March 2009 for further review.

11.10 ***North York Moors National Park Authority Core Strategy, 2008:*** The North Yorkshire Moors National Park Authority is located on the north-western boundary of the Assessment Site and therefore in relatively close proximity to the proposed works. It is therefore important to consider the North York Moors National Park Authority Core Strategy which was adopted in 2008. This is a key document which forms a significant part of the North York Moors Local Development Framework.

11.11 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 impact 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."

11.12 ***Local Transport Plan 2 (2006-2011):*** This is the second North Yorkshire Local Transport Plan (LTP) and replaces the provisional Plan. It sets out the aims and objectives for transport in North Yorkshire for five years and the strategies and policies.

11.13 The plan identifies the A170 as a 'primary route'. 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. Congestion is particularly experienced at the junctions of The Ropery and Vivis Lane

with the A170 in Thornton-le-Dale. The LTP2 identifies plans to improve these junctions by realigning Vivis Lane to create a cross road junction rather than the current staggered junction arrangement. The scheme has been in the pipeline for a number of years and recently funding has been obtained to progress with the scheme and an application has been made by North Yorkshire County Council which is currently going through the planning process and is pending a decision (Application reference 09/01309/CPO).

- 11.14 According to Appendix 2 of the LTP2 peak daily traffic flows in the summer months are typically some 33% higher than the Average Annual Traffic Flows (AADT). A large proportion of this traffic is through traffic heading for the east coast holiday resort of Scarborough and on the A169 to Whitby.
- 11.15 LTP2 expires in March 2011 therefore North Yorkshire County Council is currently developing a third Local Transport Plan (LTP3) which will cover the period 2011 – 2016. The final plan is anticipated to be approved in December 2010.

Policy Summary

- 11.16 It is proposed to transport the gas between the Ebberston Wellsite and the Gas Processing Facility by mean of an underground pipeline. This is, therefore, in line with policy objectives stated in the adopted Mineral Local Plan to use non-road forms of transport where possible.
- 11.17 It is considered that the proposals are located in close proximity to the A170 which is part of the primary route network and therefore suitable and expected to facilitate the transportation of construction materials. The surrounding network is considered to be able to serve the development without detriment for the short temporary period of the construction process.
- 11.18 It is also noted that the A170 is a key tourist route in the summer and will suffer from seasonal congestion and higher daily traffic flows as a result. This is noted and the assessment will consider impacts of construction related traffic specifically in this seasonal peak period. Given the very low traffic generation once the Proposed Development is operational, the impact of this will be minimal; however, the construction phases will need to be considered in more detail.
- 11.19 In conclusion, it is clear that the intention to pipe gas from the Wellsite to the processing facility and onwards via the National Grid connection is entirely consistent

with policy. The construction period represents the most significant impact and the site is well located to take access from the A170 and ensure minimal impact on inadequate local roads.

Assessment Methodology

- 11.20 The assessment uses DfT Guidance on Transport Assessments, Environmental Impact Assessment Handbook (2002) and IEMA Guidelines for Environmental Impact Assessments.
- 11.21 The normal assessment criteria will appraise the impact on highway capacity, road safety for all users and the wider environmental issues associated with traffic.
- 11.22 In order to undertake this technical study, site visits have been carried out to assess the most suitable location for a new access road from the A170 to the proposed Gas Processing Facility and the most suitable routing for construction traffic to the various areas of construction.
- 11.23 The proposed access to the Gas Processing Facility has been designed in accordance with North Yorkshire County Council design guidance (Specification for Housing and Industrial Estate Roads and Private Street Works) and Design Manual for Road and Bridges (DMRB) in terms of design and visibility splay requirements.
- 11.24 Speed surveys were undertaken at two locations along the A170 at the request of the Highway Authority and in accordance with DMRB guidance (TA 22/81 Vol 5, Section 1 Part 5). Accident data for the six year period between 01/01/2004 and 30/11/2009 has been obtained from North Yorkshire County Council and reviewed. Average Annual Daily Traffic count data for the A170 has also been obtained so as to provide a baseline against which development traffic impacts will be measured.

Baseline Conditions

Overview and Site Location

- 11.25 The area of interest to this project is Ryedale in North Yorkshire, and specifically the area between Ebberston (to the east) and Thornton-le-Dale (to the west). The assessment site is predominately rural in character and a patchwork of agricultural fields and forest. The area of interest includes a number of small rural villages namely Wilton, Thornton-le-Dale, and Ebberston all of which lie on the A170 corridor. A

detailed description of the site and the surrounding area is provided in Chapter 3. The zones and areas of interest are shown on **Figure 11.1**.

Local Highway Network

- 11.26 The A170 runs east to west between Scarborough and Thirsk where it meets the A19, A61 and M1. At Pickering the A169 runs north to south between Whitby and York.
- 11.27 The A170 is classified as a primary route within the County and serves the eastern region of North Yorkshire. The majority of the A170 in the vicinity of the Proposed Development is subject to national speed limit (60mph) and is a two way single carriageway road. The speed limit reduces to 40mph and 30mph at the villages it passes through such as Thornton-Le-Dale. There are gateway features incorporating traffic calming measures to highlight the change in speed to drivers at the entrance to the villages. The width of the A170 in the vicinity of the study area is 7.3m.
- 11.28 The study area can be separated into three distinct zones for the purpose of highways and access assessment:
- 1) the Wellsite at Ebberston;
 - 2) the pipeline route; and
 - 3) the Hurrell Lane Gas Processing Facility.

The Wellsite

- 11.29 The Wellsite is located within the Parish of Ebberston on the eastern edge of the Dalby Forest and just west of the Wykeham Forest. The Wellsite is approximately 4km north of the village of Ebberston. It occupies the eastern end of a long, narrow field which forms part of the landholding of Givendale Head Farm.
- 11.30 Planning permission for this exploration at the Wellsite was granted in 2007. This included the construction of a temporary access track to the site from the Ebberston Common Lane which runs from the junction with the High Street (A170) in Ebberston and through the North Yorkshire Moors. This was the approved route used for construction traffic associated with the Wellsite exploration and as such is provided with suitable signage to guide traffic.
- 11.31 Access to the existing Wellsite is taken via the A170 at Ebberston Common Lane at Ebberston. Ebberston Common Lane meets the High Street (A170) at Ebberston and is

within an area controlled by a speed limit of 30mph and forms a simple T junction. Ebberston Common Lane is a narrow single track road with passing bays at various points and is subject to national speed limit.

- 11.32 Vehicles associated with the construction and explorations of this Wellsite have been accessing it via the A170 and Ebberston Common Lane without incident since work began in 2007. A number of road traffic accidents recorded at this location relate to vehicles losing control on the A170. There are no accidents relating to turning movements at the junction. The route is primarily used for access only and occasionally used by heavy goods vehicles servicing the farm and commercial premises including the recycling unit at Givendale Head Farm. Farm dwellings served by the road are set well back and would not be affected by the development related traffic.

The Pipeline Route

- 11.33 The proposed pipeline will transport the gas from the Wellsite to the Gas Processing Facility on land east of Hurrell Lane in Thornton-le-Dale. The pipeline would, therefore, run in a north-east to south-west direction linking the two sites. The pipeline route is shown in **Figure 11.1**. The route runs through the North Yorkshire Moors on the edge of the Dalby Forest and, therefore, has limited direct impact on the highway network. The pipeline only crosses the A170 at one location close to the Hurrell Lane Gas Processing Facility (RX3) and crosses two other minor access roads; one access road to Givendale Head Farm (RX1) and one to Warren House (RX2). These locations are shown on **Figure 11.1**.

The Hurrell Lane Gas Processing Facility

- 11.34 To the south-west of the study area is Hurrell Lane which runs north to south from the A170 at Thornton-le-Dale. This is a single carriageway road with few passing bays and provides access to the few farms in the area but doesn't provide for any onward destinations. There is a ditch which runs along the majority of the eastern side of the road. New Ings lane is a narrow track which runs west to east from Hurrell Lane. The proposed Gas Processing Facility is located just east of Hurrell Lane and just north of New Ings Lane. The proposed AGI and hot tap connection would be located to the side of the existing pipeline route just south of New Ings Lane. The location of the Hurrell Lane Gas Processing Facility and the AGI is shown in **Figure 11.1**. No access to the Gas Processing Facility is proposed from Hurrell Lane or New Ings Lane. Infrequent access to the AGI for maintenance purposes would be provided from Hurrell Lane.

11.35 The A170 runs east to west at the northern boundary of the field in which the Gas Processing Facility is proposed.

Existing Traffic Flows

11.36 DfT average annual daily traffic (AADT) count data was obtained for the A170 at Ebberston, just east of the junction with Ebberston Common Lane. The number of vehicles passing through the count point on an average day of the year for the period between 1999 and 2008 is shown in **Table 11.1**.

Table 11.1: AADT A170 at Ebberston

Date	AADT A170 at Ebberston (no.)	HGV (%)
1999	5922	3
2000	6326	4
2001	6136	5
2002	7450	4
2003	9147	3
2004	9771	4
2005	7301	3
2006	9007	4
2007	6073	3
2008	6458	4

11.37 The two way AADT for 2008 at this location on the A170 was 6,458 vehicles of which 4% were HGVs. This is well within link capacity for a road of this type (a 7.3m single two way carriageway road) in accordance with DMRB guidance (TA 46/97) which is up to 13,000 vehicles per day as a recommended traffic flow range. However, such roads can carry much higher volumes of traffic in congested urban situations.

11.38 The AADT data for the years 1999 to 2008 shows that there has been a variation in the number of vehicles on this stretch of road over the years. The lowest was in 1999 at 5,922 and the highest in 2004 at 9,771. The average AADT for the 10 years period is 7,359.

11.39 It is acknowledged that the LPT2 comments that traffic flows can be some 33% higher than the AADT in peak tourist seasons. This would result in a daily traffic flow of 8,589 vehicles in peak tourist season based on the 2008 count which is well within capacity for a road of this type in accordance with DMRB guidance (TA 46/97).

Speed Survey Data

11.40 In accordance with DMRB guidance (TA 22/81 Vol 5, Section 1, Part 4) 85th percentile speed surveys were undertaken at two separate locations on the A170. These are locations which were considered potentially suitable for a new access to the Gas Processing Facility. The locations of the speed surveys are shown in **Figure 11.2**. The 85th percentile combined speed at Location 1 was measured at 52 mph and at Location 2 at 57 mph. Site location 1 is just west of the speed limit change from national speed limit to 40mph through the village of Thornton-Le-Dale. Location 2 is in the national speed limit section of the A170. It would appear that vehicles are, therefore, travelling within the speed limit at this point.

Accident Records

11.41 Accident data for the period 01/01/2004 to 30/11/2009 has been obtained from North Yorkshire County Council. During this time period a total of 26 personal injury collisions (PICs) were recorded along the stretch on the A170 between Dog Kennel Lane in Thornton-le-Dale to the west and Sandspunt Lane in Eberston to the east. This covers a section of the A170 which is approximately 6.7km in length. **Table 11.2** summaries the accident data by calendar year. Note that the 2009 record does not represent a full calendar year.

Table 11.2: Accident Data Summary

Year	Personal Injury Accidents				Pedestrian and Vehicle Involvement					
	Total	Fatal	Serious	Slight	Peds	Motorcycle	Cars	LGVs/HGVs	Public Transport	Other
	2004	4	2	0	2	0	1	6	1	0
2005	2	0	1	1	0	0	3	0	0	0
2006	5	0	1	4	0	0	13	1	1	0
2007	5	0	2	3	0	1	5	1	0	0
2008	8	0	1	7	0	0	14	0	1	0
2009	2	0	1	1	0	0	3	1	0	0
Totals	26	2	9	14	0	2	44	4	2	0

11.42 Of the 26 PICs recorded 2 were fatal, 6 resulted in serious injury and 18 resulted in slight injury. 4 of the PICs occurred in 2004, 2 in 2005, 5 in 2006, 5 in 2007, 8 in 2008 and 2 in the period included for 2009.

- 11.43 A total of 17 of the collisions which occurred were the result of the driver losing control of the vehicle. A number of the PIA records cite 'travelling too fast' as a contributory factor to the loss of control accidents. 9 of these accidents occurred in wet or icy/slippery conditions. 10 occurred when the vehicle was travelling in a west to east direction and 7 occurred in the opposite direction.
- 11.44 Five of the accidents recorded were the result of rear end shunt accidents, 3 of which occurred in an eastbound direction and 2 in a westbound direction. 3 of the accidents recorded involved overtaking manoeuvres. 1 of the accidents recorded occurred when a bus passenger fell whilst onboard the bus.
- 11.45 Due to the nature of the proposals it is not considered that they will have an adverse impact on the accident record in this location. The traffic impact is considered negligible for this road type. Signs on the approach to the new access in accordance with the Local Authority design standards will be provided to warn drivers approaching of the possibility of vehicles turning into and out of the access. A number of these vehicles would be HGV's and although infrequent they will be slow moving in nature, as such signage to raise driver's awareness is an appropriate response. The speed survey data shows that vehicles at Location 2 were travelling below the speed limit. This is the location at which the access to the Gas Processing Facility is proposed.

Likely significant effects

- 11.46 The proposed development comprises the following elements:
- Gas production from the existing Ebberston Wellsite;
 - The construction of two underground gas pipelines from the existing Ebberston Wellsite to a new Gas Processing Facility;
 - A new access road between the A170 and the proposed Gas Processing Facility;
 - A Gas Processing Facility at Hurrell Lane, Thornton-le-Dale; and
 - An Above Ground Installation (AGI) connection into the existing National Transmission System (NTS) pipeline to the south of the Gas Processing Facility on land off New Ings Lane.
- 11.47 The impact will vary significantly from the construction to operational phases and this is considered in more detail below.

Construction Phase

- 11.48 The greatest impact of the development will occur in the construction phase of the

above elements, although this is a temporary impact and within the construction period there will be localised peaks related to certain activities.

Personnel and Vehicles

- 11.49 This phase of the development would generate a mixture of light and heavy goods vehicle traffic (including some abnormal loads). The anticipated construction personnel and traffic to be generated is outlined in **Table 11.3** and **11.4** below.

Table 11.3 Summary of Construction Personnel

Personnel on site each week				
	Project Duration weeks (no.)	Max (no.)	Min (no.)	Average (no.)
Wellsite	32	26	2	10
Pipelines	23	73	20	51
Processing Site	44	51	6	33

Table 11.4 Summary of Construction Vehicle Movements

	Vehicle Movements (no.)		Time period
	HGV	Others	
Wellsite	6	35	Weekly
	2	7	Daily
Pipeline	68	204	Weekly
	12	34	Daily
Processing Site	31	119	Weekly
	7	24	Daily

- 11.50 In accordance with IEA guidance there are two 'rules of thumb' to delimit the scale of traffic impact.

"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."

- 11.51 The A170 is not considered to be 'sensitive area' given its status as a Primary Route. Therefore, in accordance with IEA guidance 30%, 60% and 90% changes in traffic levels are considered as "slight", "moderate" and "substantial" impacts respectively. **Table 11.5** summarise the flows which would substantiate an impact on the A170.

Table 11.5 IEA Impact Guidance

Traffic Flow		Percentage increase		
		Slight 30%	Moderate 60%	Substantial 90%
AADT (10 year average)	7,359	2,208	4,415	6,623
HGV (4%)	294	88	177	265

- 11.52 The actual peak flows associated with the development construction and the percentage impact are summaries in **Table 11.6**:

Table 11.6 Summary of Peak Construction Vehicle Impact

Non HGV Traffic	HGV Traffic	Total	Percentage Increase Total	Percentage Increase HGV
65	21	86	1%	7%

- 11.53 **Table 11.6** shows an anticipated total traffic increase of 1% in the peak of the construction period and a 7% increase in HGV traffic. Given the seasonal traffic flow fluctuations due to tourist traffic the percentage increase will be even lower than that shown above. The traffic impact on the A170 is therefore considered to be minimal.
- 11.54 In accordance with the above criteria, the traffic impact on Eberston Common Lane will be "substantial" given that the lane has very low traffic flows. However, it was the approved route for the Wellsite exploration which had an estimated impact of 1 vehicle every 25 minutes. This was deemed acceptable and permission was granted in 2007 (application reference NYM/2007/0901/FL). The traffic impact of the pipeline and Wellsite is anticipated to be considerably less than this.

Parking

- 11.55 The construction personnel required at the Gas Processing Facility are estimated to be 33 per day on average with a peak of 51. A parking allowance at the Gas Processing Facility during the construction phase of 60 cars will be provided to allow parking for the Facility workers and also to accommodate the pipeline construction workers.

- 11.56 The construction personnel for the Wellsite are estimated as 10 per day on average with a peak of 26. A parking allowance during the construction phase would be provided at the Wellsite.

Completed Development (Operational Phase)

- 11.57 Once the completed development is operational, it is considered to have a minor/negligible impact and this impact will be permanent.

Personnel

- 11.58 It is estimated that during the day (07:00 – 18:00) the Gas Processing Facility would operate with five members of staff consisting of 1 shift supervisor and 4 operational workers. One of these operational staff will be required to visit the Wellsite for inspection during the day shift.

- 11.59 The night shift (18:00 – 07:00) will require 2 operational members of staff only.

Vehicles

- 11.60 Traffic flows associated with the operation of the Gas Processing Facility would be significantly lower than those associated with the construction phase. On a daily basis a number of on site vehicles would be required to move equipment and aid the general operation of the processing plant. These would largely be contained within the site area, occasionally leaving to transport equipment to and from the Wellsite or other locations as and when required.

- 11.61 Large vehicles would also require access to the Gas Processing Facility for the delivery and removal of materials on a weekly basis.

- 11.62 Once the construction phase is complete, the long term traffic impact relating to the operation of the Proposed Development is insignificant. **Table 11.7** summarises the anticipated traffic impact relating to the day to day operation of the Gas Processing Facility and regular deliveries and removals.

Table 11.7: Summary of Vehicle Movements

Site Operation	
Day time (07:30-18:00)	Night Time (18:00-07:30)
1 supervisor 4 operational staff	2 operational staff

Other operational vehicles and deliveries		Maximum Daily Traffic Impact
Operational vehicles	Regular External Deliveries/Removals	
1 4x4 maintenance vehicles	Gas Processing Facility Sulphur cake removal - 12 tonne flat bed (HGV)	5 two way staff movements
3 trailers (1 injection pump trailer, a condensate/water recover tank, a heavy duty twin axle trailer to move tools).	Water/condensate removal - articulated road tanker (HGV) Corrosion inhibitor recovery - site pick up/4x4 Methanol recovery - site pick up/4x4 Wellsite Corrosion inhibitor delivery - delivery by road tanker (HGV), recovery by site pick up/4x4 Methanol delivery - delivery by road tanker (HGV), recovery by site pick up/4x4	7 two way deliveries and removals. Total 12 two way vehicle trips

Parking

- 11.63 Permanent parking would be provided for 15 cars/vans (to cover permanent staff and any temporary maintenance crew and/or visitors) at the Gas Processing Facility. Permanent parking would be provided for 3 cars/vans at the Wellsite which although unmanned would require daily maintenance visits.

Mitigation Measures

Construction

- 11.64 The construction phase of the development would generate a mixture of light and heavy goods vehicle traffic (including abnormal loads). The local road network in the vicinity of the site is considered suitable to accept such traffic. The A170 is a primary route and provides good links to the strategic highway network whilst largely avoiding potentially sensitive areas such as direct impact on residential areas.
- 11.65 It will be ensured that this agreed routing is adhered to. Deliveries to and from the site will be expected and, therefore, the desired routing of vehicles carrying materials can be easily communicated and monitored during construction. Signing would also be used to direct construction traffic.
- 11.66 The origin and destination of the majority of traffic associated with the construction phase will be known. This makes the provision of detailed instructions regarding the routing for drivers easy to implement. A **traffic management plan**, to be agreed with the Highway Authority, would be in operation to minimise the impact on local roads.

The main points of access to the main elements of the Proposed Development are set out below:

- 11.67 **Ebberston Wellsite:** It is proposed to access the Wellsite via Ebberston Common Lane which meets the A170 at Ebberston. This route has been previously approved for use by vehicles associated with exploration at the Wellsite and is already signed as such.
- 11.68 **Gas Processing Facility:** The Gas Processing Facility would be accessed from the A170 via the proposed access road for the facility. This avoids traffic using local routes including Hurrell Lane.
- 11.69 **Pipeline construction:** Construction traffic associated with the pipeline would access the pipeline route either from the Wellsite to the north or from the temporary access from the A170. The choice between these two routes would depend on which section of the pipeline is being worked on at the time.
- 11.70 **Figure 11.3** shows the construction traffic routes within the study area and estimated number of associated traffic movements with each aspect of the project in accordance with **Table 11.4**. This figure also show the construction programme timeline and estimated numbers of vehicles required at each point in time.
- 11.71 In order to monitor the physical impact of the construction traffic on the routes other than the A170 quality surveys will be undertaken before and after construction. Where necessary, mitigation such as the reinstatement of damage to the edge of the carriageway surface would be implemented. The methodology for the monitoring would be agreed with the Highway Authority prior to commencing construction. This is particularly relevant to the Ebberston Common Lane route to the Wellsite.
- 11.72 Restrictions on working hours would be implemented and these would be agreed with the Planning Authority.
- 11.73 During the construction phase vehicle movements would be concentrated at the proposed access from the A170 to the Gas Processing Facility. Temporary traffic management and signing on the A170 on the approach to the access road would be used to warn approach drivers of the possibility of construction traffic entering and exiting this access.
- 11.74 Access would be required to either side of the A170 where the pipeline route crosses the road in order to run the pipeline under the carriageway. It is proposed to use the

existing lay-by on the southern side of the A170 to gain access to the works area on this side of the road. It is proposed to formalise the existing farm access on the northern side of the A170 to allow access to the works area at this location. A standard Highway Authority construction detail for upgrading the field access will be used and has been agreed. Wheel washing facilities will be provided at appropriate locations to be agreed with the highway Authority to prevent mud and debris from the construction sites being carried onto the highway.

11.75 It is anticipated that some vehicles would need to cross from the southern side of the A170 (where materials will be stored in the lay down area adjacent to the Gas Processing Facility) to the northern side of the A170 (to the pipeline crossing and onwards to the pipeline route). It is proposed to provide a vehicle crossing point between the northern and southern side of the A170. This would be controlled with temporary traffic management. **Figure 11.4** illustrates the temporary access and traffic management which will consist of:

- A temporary 40mph speed limit between Thornton-le-Dale and Wilton;
- Temporary traffic signals on the mainline A170;
- Temporary vehicle activated signs to be used in particularly busy periods of the construction to warn approaching drivers of construction traffic and speed restrictions in place;
- Temporary traffic management signing in accordance with DfT 'Traffic Signs Regulations and General Directions', 2002.

11.76 The temporary access road will be agreed with the Highways and Planning Authority and delivered through a separate Section 184 Agreement and Permitted Development Rights, as required.

Completed Development

11.77 The gas and processed liquids will be transported through pipelines, therefore, negating the need for any vehicle transportation of this product. The operation of the Gas Processing Facility requires only a few members of staff and the overall impact of the operational aspect of the development would be minimal. The development would not generate any personal travel, just travel associated directly with the few members of staff and operation requirements of the site meaning it can be easily monitored. Due to the shift patterns of these staff, the majority of trips to and from the site would be undertaken outside of the normal peak periods. The Gas Processing Facility, where the

operational staff would be located, is well situated for the strategic road network with direct access onto the A170. This would be facilitated by the provision of a new access road from the A170. The access road is located to maximise visibility from it and at a location considered most suitable in terms of highway safety. The proposed access road junction is shown in **Figure 11.5**. **Figure 11.6** shows the proposed permanent access in relation to the proposed temporary access. The length of the access road is shown in **Figure 11.7**.

- 11.78 Considering the above, no mitigation is required for the normal operation of the completed development.

Residual effects and Conclusions

Construction

- 11.79 The construction phase is short-term and these operations are clearly temporary in nature. The level of traffic experienced during this construction phase will not persist once construction is complete. Road condition and quality surveys of the routes used by the construction traffic before and after the works begin would be undertaken and any damage to the carriageway would be assessed and remediated where necessary once construction is finished. This is particularly relevant to the Ebberston Common Lane access to the Wellsite.

Completed Development

- 11.80 There are not considered to be any residual effects relating to the completed development. The movements relating to the operational staff would be minimal. There would be occasional deliveries and removals of materials but these are expected to have a negligible impact and the surrounding network which is considered capable of accepting such movements.

Summary

- 11.81 The greatest impact of the proposals is anticipated to be the construction phase of the development. This will be a short temporary period. The impact of this period has been assessed in detail throughout this Chapter and the impacts are considered to be minor. The overall traffic increase is 1% of the current total traffic flow on the A170 and a 7% of total number of HGVs already recorded on this section of A170. This can be accommodated without detriment to the existing capacity and safe operation of the road

network.

11.82 The impact of the operational development once construction is complete is considered to be negligible. The Gas Processing Facility will generate very few trips and these can be easily accommodated within the existing road network and with the provision of a new access road from the A170. **Table 11.8** provides a summary of impacts of the Proposed Development.

Table 11.8: Summary of Impacts

Potential Effects	Nature of Effects (Permanent/Temporarily)	Significance (Major/Moderate/Minor) (Beneficial/Adverse/Negligible)	Mitigation / Enhancement Measures	Geographical Importance *							Residual Effects (Major/Moderate/Minor) (Beneficial/Adverse/Negligible)
				I	U K	E	R	C	D	L	
Demolition and Construction											
Construction of gas pipeline	Temporary	Minor / Negligible	Routing of construction of traffic to suitable roads							X	Minor / Negligible
Construction of Gas Processing Facility	Temporary	Minor / Negligible	Routing of construction of traffic to suitable roads							X	Minor / Negligible
Construction of access junction and access road	Temporary	Minor / Negligible	Routing of construction of traffic to suitable roads							X	Minor / Negligible
Completed Development											
Operational staff	Permanent	Minor / Negligible	Provision of new access at optimal location in terms of visibility and safety.							X	Minor / Negligible
Deliveries by large vehicles	Permanent	Minor / Negligible	Provision of new access at optimal location in terms of visibility and safety.							X	Minor / Negligible
Cumulative Effects											
None foreseen	N/A	N/A	N/A								N/A
*Geographical Level of Importance I = International; UK = United Kingdom; E = England; R = Regional; C = County; D = District; L = Local											