

# 16 Traffic and Transport

## 16.1 *Introduction and Methodology*

Hampshire County Council and the Isle of Wight's Highways Department have been consulted regarding the proposed pipeline. Details of this consultation are provided in section 4 'Consultation'.

Automated traffic count and speed data was also obtained from Hampshire County Council for Lepe Road and the Isle of Wight Council for Rew Street (see Appendix K).

The site construction and commissioning would require delivery of heavy plant in several loads. Initially the compound and access would be constructed, in order that all plant necessary for the drilling operations can be delivered and set up away from the public highway and with minimal disruption to the road users. Once the foundation of the compound and access road are in place, delivery of the drilling rig and associated plant would commence. The size of the plant will require delivery via articulated HGVs and/or containerised HGVs, and a mobile crane will be used to unload materials and position.

The proposed pipeline installation will generate drill cuttings, excess drilling fluids and spoil from the drilling operations (which will be stored temporarily in skips that will be emptied on a daily basis), which will require removal from the site by a small number of HGVs to a suitably licensed site (see section 12 'Soils, Geomorphology and Geology').

As with the site set-up, the heavy plant will require removing and the land reinstated. The heavy plant and associated compound accommodation will require lifting onto HGVs, with a crane, and driven away. The compound foundation will be removed and the topsoil reinstated.

## 16.2 *Baseline Conditions*

### 16.2.1 *Road Transport*

#### New Forest

- (a) Existing Infrastructure and Traffic Flows

The major 'A' road in the area is the A326, which links Holbury to the north of the drill rig site off Lepe Road, to the M27. The ES has considered traffic movements through the National Park.

Traffic flows and speeds were obtained from Hampshire County Council for Lepe Road over a two week period from the 26 April 2004 to 9 May 2004. This period of flow provides a good indication of traffic flow during an ordinary week day, weekends, as well as a bank holiday. The counts have been tabulated and can be found in Appendix K.

From the counts, it is evident that the combined peak flows occur around 11.00am and 15.00pm daily, with average flows of around 55 vehicles/hour during weekday mornings, and 79 vehicles/hour during weekday afternoons (peak). Weekend flows are approximately 122 vehicles/hour morning (peak), and 200 vehicles/hour afternoon peak. The figures indicate that traffic to and from Lepe Country Park and beach area is light during the week and weekends. Maximum flows indicate that 3 vehicles per minute use the road in either direction.

The traffic counts also provide an insight into the speeds of vehicles using Lepe Road. The majority of vehicles travel within the 25 -30 mph speed bracket.

(b) Proposed Access

The proposed route of access to the site by delivery vehicles will be from Fawley via Langley and Lepe Road (Figure 16.1).

Access to the site compound will require the construction of an access road across the existing verge. The existing hedgerow at Lepe will require removal over a width of approximately 8m, with an access track constructed across the verge and into the field (proposed drill rig site). When this access road is to be built and linked into the existing highway, traffic signals will be required to control the traffic. The traffic control is necessary to ensure a safe working environment for site personnel as well as the public. Working under traffic control will need to be minimised in order to reduce the impact upon other road users, particularly during busy holiday periods, and general traffic to the Lepe Country Park.

(c) Proposed Traffic Arrangements

Towards the end of the construction phase of the project, a connection chamber will be constructed within the verge, and will again require traffic control in order to ensure a safe working environment. In the same way as the access road

construction, timing of the use of traffic signals will be carefully considered in order to reduce the impact of the works upon existing highway users.

Consent on how and when to use traffic signals will be sought from the Highway Authority (Hampshire County Council) prior to their use.

The site construction and commissioning will require delivery of heavy plant in several loads. Initially the compound and access will need to be constructed, so that all plant necessary for the drilling operations can be delivered and set up away from the public highway and with minimal disruption to the users of the highway.

During construction of the connection chambers one lane of Lepe Road around the proposed location will be temporarily closed and a traffic management strategy adopted in line with statutory requirements.

Table 16.1 provides an estimate of the numbers of vehicles and traffic movements required for the replacement of the pipeline

**Table 16.1** *Estimated Traffic Numbers and Movements during the Pipeline Replacement Scheme, Lepe*

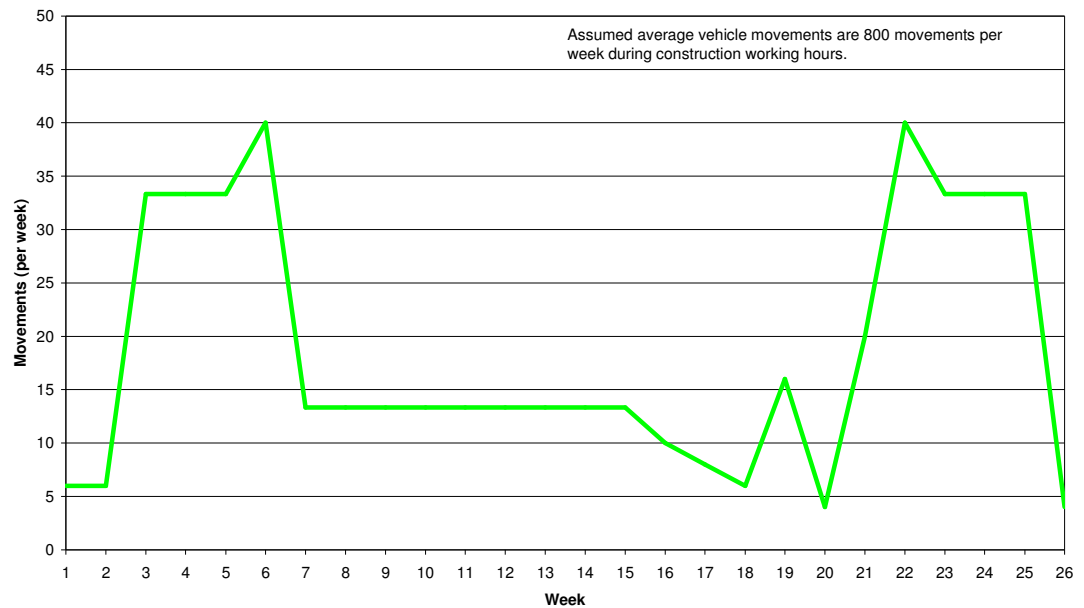
Operation	Activity	Vehicle Type	Approximate Number of Vehicle Movements (per week)	Estimated Total Number of Movements	Duration of Vehicle Movements
Site Set-up	Hedge clearance for field access and fencing	Delivery vehicle (contractors van)	3	6	2 weeks
	Topsoil strip and stone/geotextile delivery	JCB excavator HGV	17	50	3 weeks
	Drilling plant and associated accommodation delivery	Crane HGV	20	20	1 week
Construction of chambers	Delivery of materials and disposal	HGV	32	32	4 – 6 weeks
Drilling Operation	Removal of drilling arisings	HGV	7	60	9 weeks
Site Decommissioning	Removal of plant and accommodation	1 crane HGV	20	20	1 week
	Reinstatement of field, removal	JCB excavator	17	50	3 weeks

Operation	Activity	Vehicle Type	Approximate Number of Vehicle Movements (per week)	Estimated Total Number of Movements	Duration of Vehicle Movements
	of compound foundation	HGV			
	Removal of fence and reinstate gate/hedge line	HGV	2	2	1 week
Mopley Pumping Station	Removal of existing pumps and delivery of new pumps and associated pipework	1 no crane HGV	2	4	2 weeks
	Removal and delivery of kiosk	1 crane HGV	1	2	2 weeks

The anticipated vehicle movements at Lepe during the duration of the construction period of the scheme are shown in Graph 16.1.

Based on traffic count data, it is assumed that there is an average of 800 movements per week. Consequently, the maximum estimate of 40 vehicle movements in one week as a result of the proposed construction works will only account for 5% of the overall existing vehicle movements.

**Graph 16.1: Anticipated Construction Movements per Week over Project Duration - Lepe**



A graph comparing existing background traffic flows and anticipated traffic flows on Lepe Road during the duration of the project can be viewed in Appendix K.

#### Isle of Wight

##### (a) Existing Infrastructure and Traffic Flows

The major 'A' road in the area is the A3020, which links Shanklin in the south-east of the island to Cowes in the north.

Traffic flows were obtained from the Isle of Wight Council for Rew Street, Gurnard at two locations; 'Outside Oreston' and 'Opposite Avenue Cottage' over a two week period from the 14 – 20 February 2005 and 21 – 26 February 2005. This period of flow provides a good indication of traffic flow during an ordinary week day and at weekends. The counts have been tabulated and can be found in Appendix K.

*Outside Oreston 14<sup>th</sup>-20<sup>th</sup> February* – From the counts we can see that the combined daily northbound and southbound peak flows vary from 09.00 and 12.00 in the morning and between 13.00 and 17.00 in the afternoon. The average combined flows are around 84 vehicles/hour in the weekday morning, and 96 vehicles/hour in the weekday afternoon peak. Weekends are around 84 vehicles/hour am peak, and 98 vehicles/hour pm peak. These figures indicate that traffic flows in the area are light both during weekends and the week. These flows indicate that a maximum of 1 vehicle per minute uses the road in each direction.

*Opp. Avenue Cottage 7<sup>th</sup>-13<sup>th</sup> February* – From these counts we can see that the combined daily northbound and southbound peak flows occur at 09.00 in the morning and between 15.00 and 18.00 in the afternoon. The average combined flows are around 94 vehicles/hour in the weekday morning, and 102 vehicles/hour in the weekday afternoon peak. Weekends are around 73vehicles/hr am peak, and 85vehicles/hour pm peak. These figures conclude that traffic flows in the area are light both during weekends and the week. Again, these flows indicate that a maximum of 1 vehicle per minute uses the road in either direction.

##### (b) Proposed Access

The proposed route of access to the site (Figure 16.2) by delivery vehicles will be from the south of the site at Gurnard via the A3020 and B3325 at Northwood, onto Pallance Road and into Rew Street.

Traffic flow data is currently awaited from the Isle of Wight Council although it is envisaged that monitoring data will not be available for Rew Street.

(c) Proposed Traffic Arrangements

The Highways Authority has confirmed that they would like to see one vehicle at a time called to deliver to site from the compound, which will prevent the narrow roads on the approach to Rew Street becoming blocked.

The site entrance into the southern field at which the drill rig will be sited, will be widened by approximately 4m to allow HGVs to enter and exit without encroaching on private land adjacent to the site.

In addition to the minor increase in vehicles required for works at Broadfields, Table 16.2 provides an estimate of the numbers of vehicles and traffic movements required for the replacement of the pipeline.

**Table 16.2** *Estimated Traffic Numbers and Movements during the Pipeline Replacement Scheme – Isle of Wight*

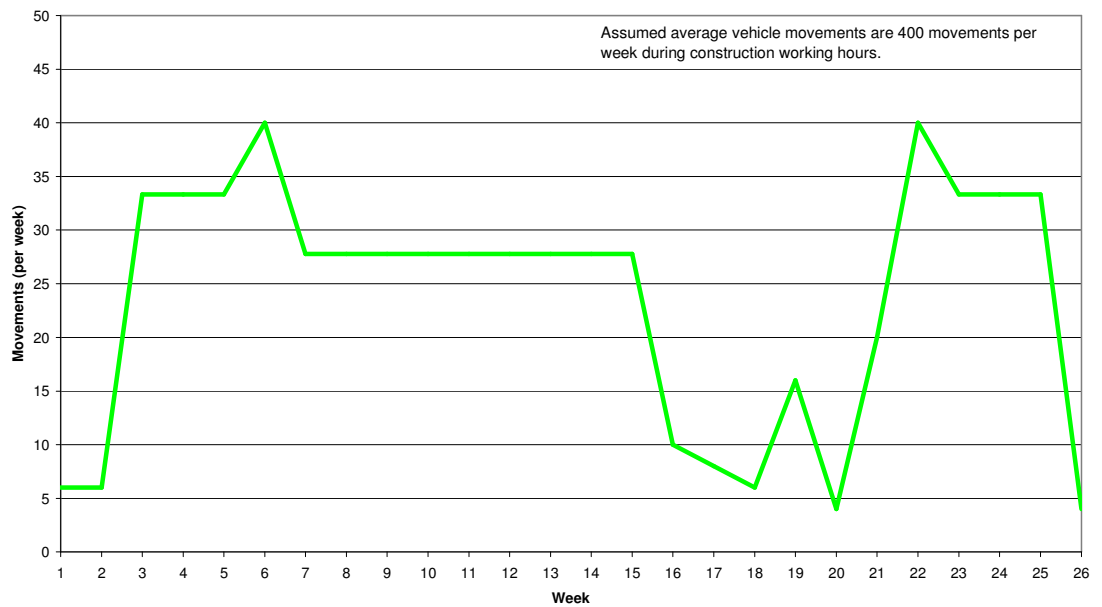
Operation	Activity	Vehicle Type	Approximate Number of Vehicle Movements (per week)	Estimated Total Number of Movements	Duration of Vehicle Movements
Site Set-up	Hedge clearance for field access and fencing	Delivery vehicle (contractors van)	3	6	2 weeks
	Topsoil strip and stone/geotextile delivery	JCB Excavator HGV	17	50	3 weeks
	Drilling plant and associated accommodation delivery	Crane HGV	20	20	1 week
Construction of chambers	Delivery of materials and disposal	HGV	32	32	4 – 6 weeks
Drilling Operation	Removal of drilling arisings	HGV	14	125	9 weeks
Site Decommissioning	Removal of plant and accommodation	1 crane HGV	20	20	1 week
	Reinstatement of field, removal of compound foundation	JCB excavator HGV	17	50	3 weeks

Operation	Activity	Vehicle Type	Approximate Number of Vehicle Movements (per week)	Estimated Total Number of Movements	Duration of Vehicle Movements
	Removal of fence and reinstate gate/hedge line	HGV	2	2	1 week

The anticipated vehicle movements at Gurnard during the duration of the construction period of the scheme are shown in Graph 16.2.

Based on traffic count data, it is assumed that there is an average of 400 movements on Rew Street per week. Consequently, the maximum estimate of 40 vehicle movements in one week as a result of the proposed construction works will only account for 10% of the overall existing vehicle movements.

**Graph 16.2: Anticipated Construction Movements per Week over Project Duration - Gurnard**



A graph comparing existing background traffic flows and anticipated traffic flows on Lepe Road during the duration of the project can be viewed in Appendix K.

Issues associated with cycling within the study area are discussed in section 17 'Human Beings'.

#### 16.2.2

##### *Rail Transport*

There are no rail links within the vicinity of the proposed scheme.

#### 16.2.3

##### *Sea Transport*

###### (a) Existing Commercial Craft

Various vessels and vessel types use the West Solent to approach ports within the Solent. These range from small coasting vessels, tankers, dry cargo and large passenger vessels.

The number of vessels using the West Solent is difficult to estimate as there is no official monitoring of ship movements in this area. However, the types of vessels known to use the West Solent are generally small to medium size coasters, bulk carriers and cargo vessels of the order of 6000 gross tonnage (gwt). Very large vessels such as container ships headed for the Port of Southampton tend to use the East Solent.

Fast ferries operate on a daily basis across the Solent, however these do not present any significant danger to the proposed pipeline as they operate at low draft and with experienced local captains who keep to approved routes and approaches. There are no ferry routes in the vicinity of the proposed works.

An admiralty chart covering the study area is shown in Appendix K. This shows the area of the Cross-Solent mains clearly marked as being within a defined 'Cable and Pipeline Area'. The accompanying notes on the Admiralty Chart add a warning to mariners that they should not "anchor, dredge, trawl or engage in any other activity" which may cause damage in this area.

###### (b) Leisure Craft

As discussed in section 17 'Human Beings', the West Solent within the study area is used extensively by recreational vessels including power boats, yachts.

Two principal mooring areas within the Solent lie in close proximity to the study area at Beaulieu River and at Cowes. These provide a range of facilities including extensive land storage, repair and chandlery facilities and are a popular stopping off point for yachts.

(c) Emergency Services

A Solent Rescue station at Lepe, deploys a 5.5m Delta vessel to provide cover mostly in the West Solent. Solent Rescue man a lookout and conduct safety patrols along the foreshore.

Access for launch, recovery and operation of RNLI lifeboats in the area should be considered during the development of the scheme.

Safe navigation for mariners would be maintained at all times.

(d) Existing Navigation Aids

The proposed routing of the twin pipeline passes approximately 50m to the west of East Lepe Buoy. Trinity House has not raised any objection to the proposed works and has offered to temporarily relocate the buoy if it is considered to conflict with the construction works, provided they are given sufficient advance notice (in order that they can plan the operation and issue the appropriate notices to mariners).

(e) Proposed Marine Works

Marine operations will involve several intermittent operations. The HDD operation involves 4 drills, each taking approximately 1 month, programmed over the period May to September. Once each drill is complete the polyethylene pipe assembly will be towed out to sea to the drill exit point, attached by divers to the end of the drill string and pulled up towards the rig.

Typical vessels involved in floating plant, will be a 'Multicat', which is a general purpose work vessel with a working platform of around 25m x 10m, one or two tugs, a survey launch and a support vessel for servicing and crew changes. One of the vessels such as the multicat, will serve as a dive boat.

Typically the 2m or so depth of gravel around the drill exit point will be cleared locally over 2 or 3 days with the aid of divers using air lift or jetting. The pipe will be brought in by the tugs. The survey vessel will assist in safeguarding positions and will help to ensure that the vessel moorings do not impinge on other services. Each of the four drill pipe pull-ins could be undertaken in one or two days depending on weather conditions.

The 'marine lay' operation (October to December) will take place after the drill pipes have been installed. It will typically involve up to 6 vessels intermittently over a period of around 2 months in reasonable weather conditions, as follows:-

- Spool barge to transport and lay the pipe (*Henry P Lading* is not self propelled, it moves with the aid of tugs or by using its own onboard anchor winches)
- 2 tugs to assist the spool barge and lay out the anchors
- Pipeline embedding and dive support vessel
- Survey vessel
- Support launch for servicing and crew changes

### 16.3

#### 16.3.1

### ***Impact Assessment and Mitigation***

#### *Construction Impacts: New Forest*

I.1. There will be a **minor adverse impact** on vehicle users as they use Lepe Road, as a result of construction traffic movements (particularly those associated with removing spoil from the site) and the requirement for traffic signals. The greatest impact on road users (generally recreational users of Lepe Country Park) will be experienced during the delivery and removal of drilling plant.

Maximum existing traffic flows on Lepe Road indicate that 3 vehicles per minute use the road in either direction and therefore the vehicle movements associated with the proposed works at the site entrance and verge will have little impact upon this traffic, even with the use of traffic signal control. The majority of vehicles travel within the 25 -30 mph speed bracket, again making the use of traffic signals beneficial and safe.

M.1. The Highways Authority will continue to be consulted regarding access routes, and timings of construction traffic.

The use of all roads leading to the site will require sensitivity to avoid disturbance to residents and other road users. Having implemented these mitigation measures it is expected that there will be **no significant residual impacts** resulting from vehicles travelling to and from the drill rig site.

I.2. There is the potential for damage to local road access routes during the construction period and the potential for construction debris to be

spread on surrounding access roads. The impact of this could range from **minor to major adverse**.

- M.2. Lepe Road will be inspected following construction and any damage attributable to the works is to be re-instated by the contractors. For this purpose, pre- and post-construction condition surveys will be undertaken.

To prevent the spread of construction debris, any debris on Lepe Road arising from the works or vehicles entering or leaving the works will be swept or cleaned. The arisings will be removed from site by HGVs with covered load carriers in order to prevent material spillage and contamination of the highway and surrounding land.

Maintaining clean roads and the re-instatement of access routes (if required) will ensure that there would be **no significant residual impacts**.

#### 16.3.2

##### *Construction Impacts: Isle of Wight*

- I.3. There will be a **minor adverse impact** on local residents and vehicle users using Rew Street. The greatest impact will be experienced during the delivery and removal of drilling plant and this may disrupt access to residential properties on Rew Street.

Maximum existing traffic flows on Rew Street indicate that a maximum of 1 vehicle per minute uses the road in either direction and therefore the vehicle movements associated with the proposed works at the site entrance will have little impact upon this traffic, even with the use of traffic signal control.

- M.3. The delivery of materials to the site will be controlled from a compound on the island, possibly at Southern Water's Depot. This will prevent too many vehicles arriving at the drill rig site at any one time. The use of all roads leading to the site will require sensitivity to avoid disturbance to residents and other road users.

To further prevent nuisance to local residents on Rew Street and surrounding roads all required accesses within and across the working

area will be maintained, and consultation will continue with the Isle of Wight Council with regard to transport routes and timings.

To minimise the disturbance to local residents, in terms of inappropriate or unsafe parking, car parking facilities at the site compound will be provided for site personnel to prevent on-street parking in residential areas, which in turn will help to prevent congestion occurring.

Following mitigation, this could be considered as **no significant impact to minor adverse residual impact**.

I.4. There is the potential for damage to local road access routes during the construction period and the potential for construction debris to be spread on surrounding access roads. The impact of this could range from **minor to major adverse**.

M.4. To prevent the spread of construction debris, any debris on Rew Street or other local roads arising from the works or vehicles entering or leaving the works will be swept or cleaned. The arisings will be removed from site by HGVs with covered load carriers in order to prevent material spillage and contamination of the highway and surrounding land.

Maintaining clean roads and the re-instatement of access routes (if required) will ensure that there will be **no significant residual impacts**

### 16.3.3

#### *Construction Impacts: Marine*

I.5. The proposed vessel movements associated with the marine construction works will have a **negligible to minor adverse impact** on sea-faring craft within the Solent before and after mitigation.

M5. To minimise the disturbance to fishermen and commercial craft, periods during which vessel movements are programmed to take place are to be notified to the public by site notices and directly to local fishermen by a fisheries liaison officer. Close contact will be maintained with ABP and harbourmasters at Southampton and Cowes and a Notice to Mariners will be published. Local sailing groups and other interested parties will also be informed of the works.

All boats will be adequately illuminated at night or in foggy conditions and will exhibit sounds and signals as per International Regulations for the Prevention of Collisions at Sea 1972 as amended.

16.3.4

*Operational Impacts*

- I.6. Occasional visits will be made to the connection chambers at Lepe and Gurnard to inspect the valves and flow meters, pressure monitoring, and routine maintenance and testing of the associated telemetry. However, **no long-term significant impacts** have been identified following completion of the scheme.