



Transport Assessment: St Mary's Airport Construction Compound

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Prepared for:
Lagan Construction

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Rev	Date	Details	Prepared by	Checked by	Approved by
-	17 January 2014	Draft for client review	Neil Rugg Principal Traffic Engineer	Jonathan Crabb Head of Development Services South	Jonathan Crabb Head of Development Services South Ian Roach Associate Director – Environment and Planning
01	20 th January 2014	Final for planning	Neil Rugg Principal Traffic Engineer	Jonathan Crabb Head of Development Services South	Jonathan Crabb Head of Development Services South Ian Roach Associate Director – Environment and Planning

URS Infrastructure & Environment UK Limited
Mayflower House
Armada Way
Plymouth
PL1 1LD
UK

Telephone: +44 (0)1752 676700
Fax: +44(0)8702 386 023

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EXECUTIVE SUMMARY

URS has been commissioned by Lagan to prepare a Transport Assessment which considers the accessibility and potential impact upon the local transport network of the proposed temporary construction compound associated with a proposal to surface the airport runway on St Mary's, Isles of Scilly.

A pre-application exercise held with the Council of the Isles of Scilly in December 2013 resulted in a request for a "Transport Assessment incorporating, if appropriate, a Travel Plan".

The transport proposals have been developed taking into account the very special nature of the location and the 'Travel Plan' essentially covers the method of working.

1. INTRODUCTION

1.1 Background and Brief

URS has been commissioned by Lagan Construction Ltd. to prepare a Transport Assessment for submission with a planning application for the proposed temporary construction compound associated with a scheme to resurface the airport runways and undertake other works on St Mary's, Isles of Scilly.

It is understood that advantage will be taken of the batching plant being on the island to undertake repairs to the local roads.

1.2 Scoping

Pre-application advice was sought in December 2013 from the Council of the Isles of Scilly. In regard to Transport and Highways the response dated 5th December expressed a need to provide a "Transport Assessment incorporating, if appropriate, a Travel Plan".

The response also included a 'Glossary' which outlined the following requirements for the above, included verbatim in Paragraphs 1.2.1 and 1.2.2.

1.2.1 Transport Assessment

A Transport Assessment is required when developments have significant transport implications. A Transport Assessment should reflect the scale of the development and the extent of transport implications of the proposal. For small schemes the assessment should simply outline the transport aspects of the application, while for major proposals the assessment should illustrate accessibility to the site by all modes and the likely split of types of journey to and from the site. It should also give details of proposed measures to improve access by public transport, walking and cycling, to reduce the need for parking associated with the proposal and to mitigate transport impacts. For more information see *Planning Policy Statement 13: Transport and Guidance on Transport Assessment* (March 2007) published by the Department for Transport.

1.2.2 Travel Plan

A Travel Plan should form part of a Transport Assessment and should outline the way in which the transport implications of the development are going to be managed in order to ensure the minimum environmental, social and economic impacts. The Travel Plan should have a strategy for its implementation that is appropriate for the development proposal under consideration. It should identify a travel plan coordinator, the management arrangements for the plan and the development timetable. The strategy should also include activities for marketing and promoting the plan to occupiers, users, visitors and residents of the site. Further information is available in *Using the Planning Process to Secure Travel Plans: Best Practice Guide* (ODPM 2002) and *Making residential travel plans work: Good practice guidelines for new development* (Department for Transport).

1.3 Report Content**1.3.1 *Transport Assessment***

The extent of assessment of the impact of transport has been based on the temporary nature and the scale of the proposal. In this regard a full Transport Assessment has not been deemed necessary. The assessment provides full details of transport implications of the anticipated site mobilisation, site use and site restoration stages.

1.3.2 *Travel Plan*

In accordance with the scoping response from the Council of the Isles of Scilly, it is considered that a comprehensive Travel Plan would not be appropriate. In its place, travel planning measures have been identified within the method of operation to mitigate the transport impact of the proposals.

- Section 2 of this document outlines the site location, and existing use;
- Section 3 outlines some information on the development proposals;
- Section 4 contains a detailed description of transport arrangements;
- Section 5 examines the operation of the existing highway network surrounding the site;
- Section 6 details some information on the development proposals in terms of anticipated access arrangements, parking provision and staff numbers;
- Section 7 considers the level of vehicular traffic expected to be generated;
- Section 8 discusses mitigation and travel planning; and
- Section 9 provides conclusion to the assessment.

2. SITE LOCATION AND EXISTING USE

2.1 Site Location and Current Use

The site is located towards the north of the airport on St Mary's, Isles of Scilly. Its current use is agricultural.

The site location plan is shown in **Figure 2.1**.



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Figure 2.1 Site location plan

3. OUTLINE DESCRIPTION OF THE PROPOSAL

3.1 Introduction

The runway at St. Mary's Airport is being resurfaced, and the section of grass runway is being converted to hard standing.

To limit the impact on this important transport link the work needs to be undertaken within a short timescale.

3.2 Work Programme

From a transport aspect the work will be divided into identifiable phases:

- Site set up – 6 weeks commencing 10th February 2014;
- Mobilisation of the asphalt and concrete batching plant – 2 weeks within the site set up period;
- Operation of the batching plant – 13 weeks; and
- Decommissioning of the batching plant – 3 weeks (June/July 2014).

3.3 Working Hours

3.3.1 Landside Phase

The hours of operation for the landside phase will include the movement of plant and raw material between the beach and batching plant and the movement of finished material for repairs to the island's infrastructure:

- Monday-Friday 0700-1900;
- Saturday 0700-1300*; and
- Sunday no work*.

*shift times may vary on these days if time has been lost to weather during the week

3.3.2 Airside Phase

- Monday 1900-Tuesday 0700;
- Tuesday 1900-Wednesday 0700;
- Wednesday 1900-Thursday 0700;
- Thursday 1900-Friday 0700;
- Friday 1900-Saturday 0700; and
- Saturday 1600-Monday 0700.

While no works are scheduled to take place on site during the daytime of the airside phase it is assumed that delivery and stockpiling of material will continue.

3.4 Transportation to the Island

Lagan Construction Ltd. investigated four options for the transportation of plant and material to the island:

- Use of landing craft with delivery onto the beach;
- Stone delivery to the docks;
- Stone landed by conveyors and pontoons for a beach landing; and
- A combination of the above.

This investigation resulted in the preferred option being to:

- Convey plant and material to the island by ship with crane or self-discharging coaster which moors off-shore;
- Transfer plant and material to a tug-hauled barge and landing craft; and
- Off-load barge on the Porth Mellon beach, which will be protected by a geotextile matting, and landing craft via Rechabite Slip on Town Beach.

Full details of the proposed operation are contained in **Section 4**.

3.5 Transportation on the Island

Once on the island the plant will either be self-propelled or transported to site by vehicle and the materials will be conveyed by narrow gauge tractor/trailer units.

Between the shore and the batching plant:

- The batching plant will be conveyed on standard width vehicles (approx. 3.2m wide);
- A crawler crane will be conveyed on a low loader (approx. 3.4m wide); and
- Materials will be conveyed on tractor trailers (approx. 2.3m wide).

The site compound will contain an aggregate storage area and hence it can be assumed that the imported material will be transported from the beach at a fairly regular daily frequency.

Between the batching plant and the airport:

- A surfaced route will be provided between the south east corner of the site and the airport, thereby avoiding any travel along the public highway (see **Figure 6.1**); and
- This route will be single track and controlled if required.

4. DETAILED DESCRIPTION OF TRANSPORT ARRANGEMENTS

4.1 Introduction

The consideration of options undertaken by Lagan Construction Ltd. concluded that the use of the existing dock facility at Hugh Town would not be appropriate given the potential for disruption to the daily Scillonian service and other day-to-day movements from the harbour. In addition the conflict between pedestrians and delivery/operational vehicles, associated with the project, at the entrance to the harbour and in the narrow access to through the town would be undesirable and potentially hazardous.

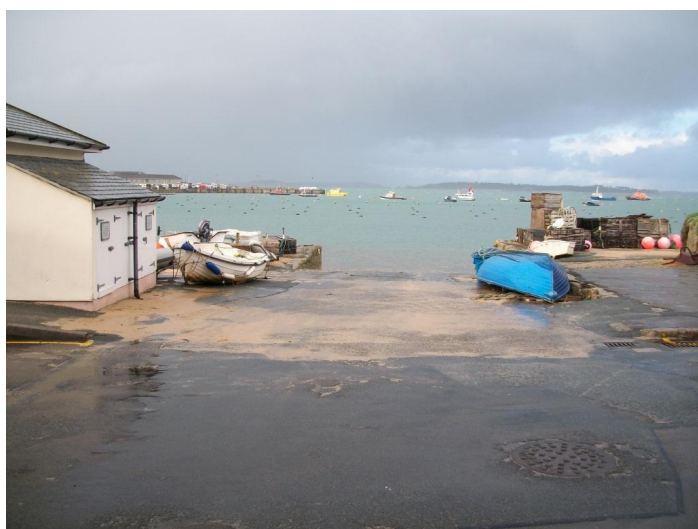
It is proposed therefore to moor delivery vessels off-shore, tranship the plant and material into barges and off-load at Porth Mellon beach. The beach will be protected with a geotextile layer with an interlocking track system or similar. The access to the beach will be via an existing gap in the wall which is 3.5m wide (**Photograph 4.1**).

It is also proposed to use landing craft for the 'delicate' items of plant, such as the 40ft modules of the asphalt plant, and off load these on Rechabite Slip, Town Beach. The slipway is 6.8m wide (**Photograph 4.2**).

This method of delivery is illustrated in **Figures 4.1** and **4.2**.



Photograph 4.1 Porth Mellon Beach Access



Photograph 4.2 Rechabite Slip, Town Beach

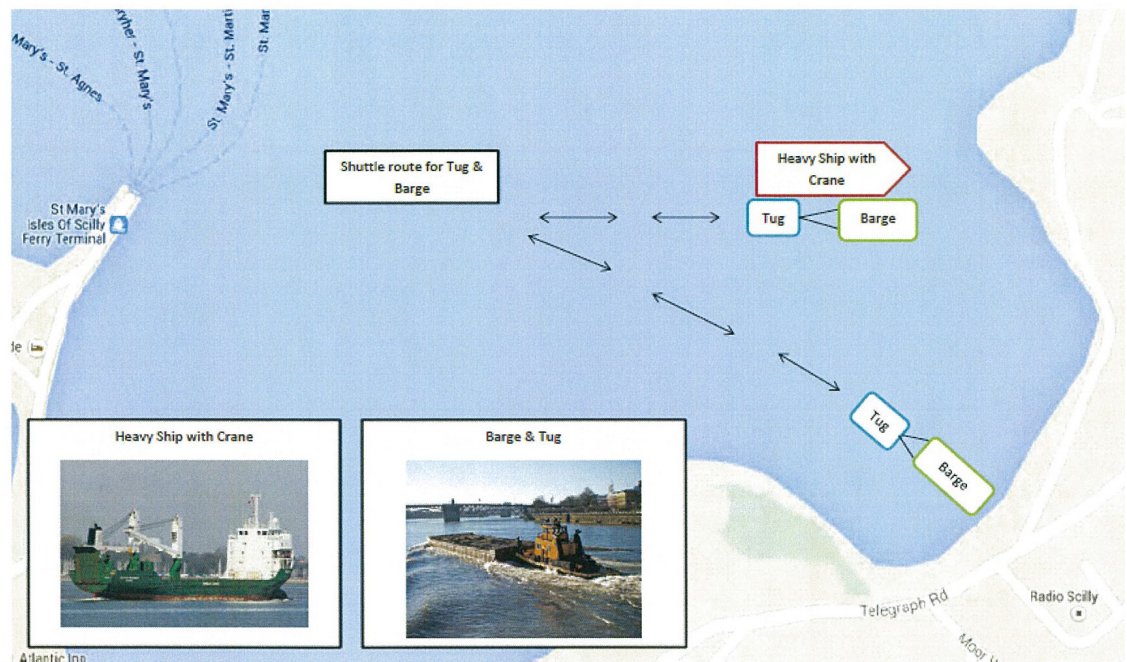


Figure 4.1 Method of delivery of plant and machinery to Porth Mellon Beach
(Source: Lagan Construction)

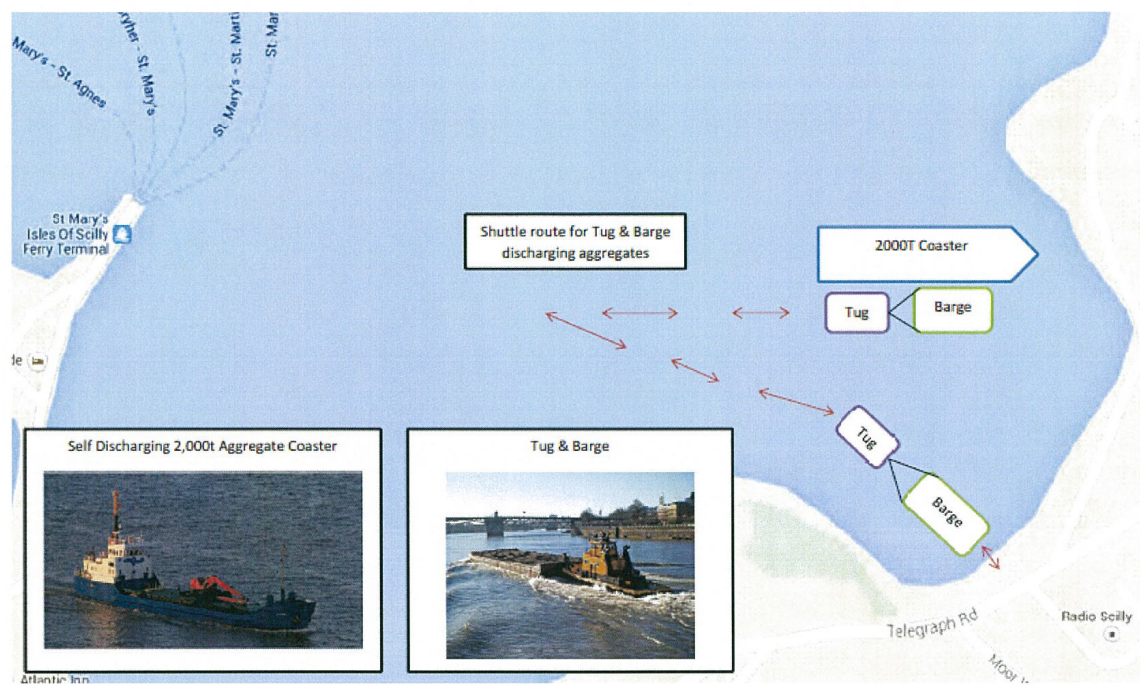


Figure 4.2 Method of delivery of material to Porth Mellon Beach
(Source: Lagan Construction)

4.2 Mobilisation

In the mobilisation phase a ship similar to that shown in **Figure 4.1** will collect plant and equipment from Guernsey and Portsmouth in a single trip. Static plant will be securely mounted on trailers for the complete journey. The ship will moor in the deeper water off Hugh Town Harbour under full guidance of the harbour master and pilots.

The ship will have a twin deck for stowing less stable equipment and will be able to cope with heavy seas. It will self- offload on a 60m barge which will have a flat top and post and sleeper walls to stabilise the cargo. The off-loading is estimated to take five days unless the weather conditions intervene and the ship temporarily moves to seek shelter. On completion of the off-load, the ship will depart and be ready to return for the decommissioning phase.

Self-propelled plant will travel independently between the beach and the site. Other plant and equipment will be conveyed on a trailer or low loader as appropriate. The vehicles will access the beach.

4.3 Operation

In the operation phase a coaster similar to the one shown in **Figure 4.2** will be used to convey the aggregate. A maximum of ten return trips should be sufficient. A suitable source has been located which will be loaded at Granville, France. Some of the other non-aggregate materials will be conveyed from Plymouth.

4.4 Decommissioning

During the decommissioning phase the movement of plant and equipment will be the reverse of the mobilisation phase.

5.

The most commodious route between Rechabite Slip and batching plant site will be via Well Cross, Church Street, Telegraph Road and Carn Friars Lane. The travel distance is approximately 1.3km. The width of the route varies but is generally adequate for two-way traffic. At its narrowest it is approximately 4m approximately 140m to the west of the site access.

Apart from the two movements by the crawler crane on a 3.4m wide transporter all vehicles should be able to negotiate the local road network without any particular difficulty. On these two occasions, which will be pre-planned, notification of the local residents and assistance of the police will be required to temporarily remove parking in the vicinity of the Well Cross / Church Street and Church Street / Church Road junctions.

The route between Porth Mellon beach and batching plant site is approximately 0.9km and avoids Well Cross and Church Street. The majority of loads will land at Porth Mellon beach.

The route is shown on **Figure 5.1**.

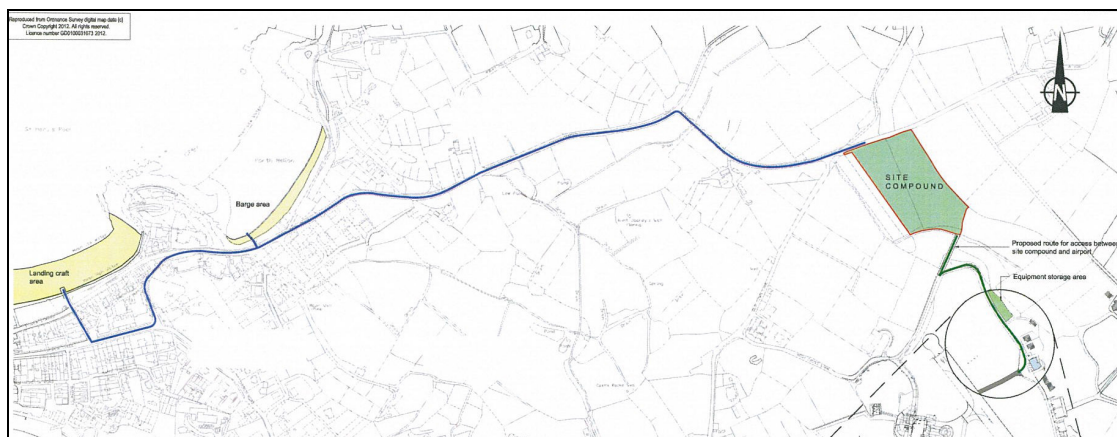


Figure 5.1 Delivery access route

6. DEVELOPMENT PROPOSALS

6.1 Location

The location of the site of the proposed batching plant is shown in **Figure 2.1** and the layout in **Figure 6.1**.

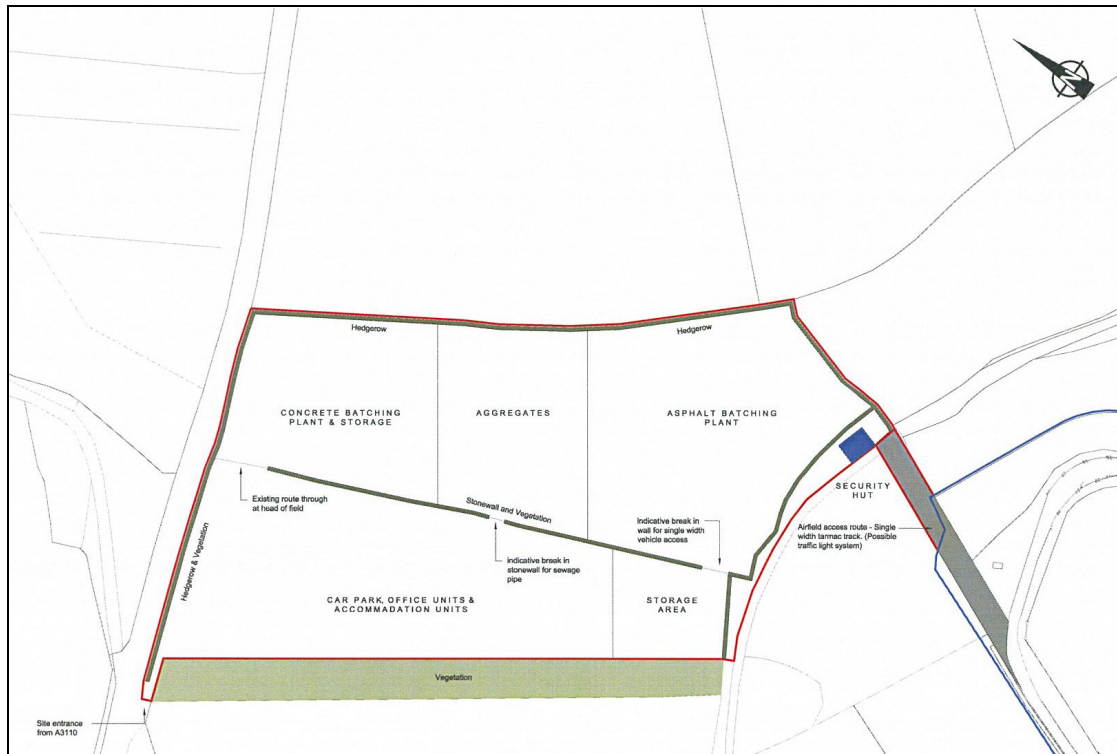


Figure 6.1 Site layout

6.2 Development Schedule

It is proposed to erect an asphalt and concrete batching plant and associated temporary offices and living accommodation (for up to 30 staff).

There will be parking on site for 10 cars.

6.3 Access Proposals and Visibility

The route to the site would be via the A3110 Telegraph Road and Carn Friars Lane.

The existing access to the site will be used; with some improvements required to widen the access point, including: removal of stone gateposts and the end section of the stone-faced hedgebank; tree removal and some vegetation management. All deliveries will arrive from the west and drive straight into the access (which runs parallel to the A3110). Empty or returning vehicles will leave the access heading west. Visibility to the right will be restricted by planting in the verge and the vertical alignment of the road. It is proposed to temporarily erect a mirror

so that emerging drivers can have a view of vehicles approaching from their right. It will be a requirement that this mirror is checked first thing every morning to ensure that it remains in correct alignment and is clean. In addition temporary signs warning of the site access will be erected and maintained either side of the access.

Photograph 6.1 shows the acute angle between the access track and the A3110 and **Photograph 6.2** a view looking forward from the access.



Photograph 6.1 Site access track



Photograph 6.2 Forward view from access track

A surfaced route will be provided between the south east corner of the site and the airport, thereby avoiding any travel along the public highway (see **Figure 6.1**).

This route will be single track and controlled if required.

6.4 Staff Numbers

There are expected to be a maximum of 30 staff on site at any one time.

Living accommodation on site will be provided for up to 30 staff.

Up to 10 staff may be required to live off-site. Some of these may already be resident on the island.

7. DEVELOPMENT TRIP GENERATION / IMPACT**7.1 Existing Land Use Vehicular Trip Generation**

The site consists of an open field and hence can be assumed to have zero trip generation.

7.2 Development Trip Generation**7.2.1 Mobilisation Phase**

The mobilisation phase is estimated to generate:

- 30-40 loads – asphalt plant and equipment;
- 6 loads – office accommodation; and
- 20-30 loads – residential accommodation.

7.2.2 Operation Phase

The operation phase is estimated to generate overall:

- 12,000 tonnes aggregate based on a capacity of 15.5 tonnes per trailer equates to 775 loaded and 775 return journeys between the beach and the site;
- 450 tonnes bitumen in 1 tonne bags and 10 per trailer equates to 29 loaded and 29 return journeys between the beach and the site;
- 804 movements of output based on the above from the site, 694 between the batching plant and the airport and 110 between the site and the island's roads;
- 804 empty return journeys, 694 between the site and the airport and 110 between the site and the island's roads; and
- The staff accommodated on site will make very few 'private' journeys on daily basis. Other staff accommodated elsewhere on the island will travel to and from the site at the beginning and end of the working day either by mini-buses or double cab small trucks. The maximum of 10 staff will therefore generate significantly fewer than 10 return journeys.

7.2.3 Decommissioning Phase

The decommissioning phase is estimated to generate:

- 30-40 loads – asphalt plant and equipment;
- 6 loads – office accommodation; and
- 20-30 loads – residential accommodation.

7.3 Development Trip Impact**7.3.1 Mobilisation**

It is estimated that 70 loads will be moved over a period of 6 weeks which average at 12 per week. In practice there will be peaks and troughs relating to the delivery schedule and the site fitting-out schedule. If it is assumed that on the worst week the load movement will be double the average, then 24 loads over 5½ days approximates to around 5 per day (5 full load movements and 5 empty vehicle trips). This low level of trips should not cause congestion or inconvenience.

7.3.2 Operation Phase

The estimated 804 loads of material between the beach and site will be spread over the 13 week period. In practice delivery is likely to tail off towards the end and to generate a worst case scenario it is assumed that they will be concentrated over the first 12 weeks.

At the time of the preparation of this document the capacity of the various vessels to be used is still being determined. The following scenario is provided to give an understanding of the possible traffic movements.

The 12,000 tonnes of aggregate will require 6 trips by a 2,000 tonne capacity coaster and the use of a 600 tonne capacity barge will result in 4 trips to the beach to offload each coaster.

Each barge movement will generate 39 loaded HGV trips assuming a capacity of 15.5 tonnes per trip. There will be 7 tractor/trailer units. Each unit will make 6 loaded and 6 return trips. Assuming a load transfer time of 5 minutes the barge could be offloaded in 3¼ hours.

The barge will be beached on a falling tide and refloated on the next rising tide and potentially there will be two deliveries per day. The timing of these will therefore be dependent on the tide and overnight material transfer at the beach and to the site can be anticipated.

The distance between the beach and the site is approximately 0.9km which at an average speed of 20mph would involve a journey time of approximately 2 minutes. Assuming an offload time of 5 minutes (with a tipping trailer) the total load/trip/offload/trip time could be as low as 14 minutes giving 4 trips per hour per vehicle.

Potentially not all vehicles will be available for material transfer as the operation may coincide with the movement of asphalt to the airfield or road/car park works on the island. However, allowing for this and more generous times allotted to the total trip time it appears that the number of vehicles should be sufficient to enable offloading of the barge on a single tide.

For the purpose of assessing the impact there would be concentrated bursts of activity and in the example above 78 total HGV trips over 3¼ hours averages at 24 per hour. Assuming tides are separated by 12½ hours there would be a break of 9 ¼ hours before the next period of activity. After 4 periods of activity there would be a very low level of activity until the next coaster arrived. Overall there would be 6 such intense periods of activity coinciding with the arrival of the coaster.

The majority of the asphalt will be delivered directly between the plant and the airfield and not travel on the highway.

The maximum quantity of asphalt travelling on the highway will occur on a Saturday between 0700-1300 hours and comprise 300 tonnes which in 15.5 tonne loads will require 20 loaded

and 20 empty HGV movements. Assuming that the material is delivered in the first 5 hours then the average hourly movement will be 8 in total.

7.3.3 *Decommissioning Phase*

The estimated 70 loads will be moved over a period of 3 weeks which average at 24 per week. In practice there will be peaks and troughs relating to the site decommissioning schedule. If it is assumed that on the worst week the load movement will be double the average then 48 loads over 5½ days approximates around 9 loads per day (9 full load movements and 9 empty vehicle trips). This low level of trips should not cause congestion or inconvenience.

8. MITIGATION OF TRANSPORT IMPACT / TRAVEL PLANNING**8.1 Introduction**

The potential transport impact of the project will be mitigated through the adoption of a number of travel planning measures.

8.2 Portsmouth as a Point of Origin

The selection of Portsmouth as the port of origin of plant and equipment, rather than a port closer to the Isles of Scilly, reduces the transport impact on the mainland through a reduction in vehicle miles. Due to the timing of the works, vehicle movement would take place during the winter months with an added risk of delay to the project; the knock-on effect of which would be to increase vehicular movement on St Mary's at the start of the holiday season. Using Portsmouth will therefore reduce the risk of delay and reduce the potential impact on the island.

8.3 Transhipment at Porth Mellon Beach and Town Beach

The proposal to tranship plant, equipment and material at Porth Mellon Beach and Town Beach, rather than use the dockside facilities, reduces the transport impact on the island by enabling the dock to continue to operate without additional restriction and by preventing an undesirable vehicle/pedestrian conflict at the entrance to the harbour and through the town.

8.4 Movement between Town Beach and Batching Plant

Advance notification will be given to the local residents and assistance of the police will be requested to temporarily remove parking in the vicinity of the Well Cross / Church Street and Church Street / Church Road junctions on the two movements of the crawler crane.

8.5 Movement between Porth Mellon Beach and Batching Plant

The aggregate will be moved using narrow gauge vehicles which will cause less disruption to existing users of the highway.

Due to tidal restrictions it is inevitable that some of the peak movements of HGV traffic will occur overnight. Advance notification will be given to residents adjoining the route of night movements and signs will be erected at either end of the route advising of the date of the next movement (day or night).

8.6 Site Access

A mirror will be erected at the site access to provide drivers leaving the site with a view of the road to their right.

The site access will be slightly widened to enable the HGV's to enter and leave.

8.7 Movement between Batching Plant and Airport

A surfaced off-road track will be created to alleviate the requirement to travel on the highway between the site and the airport.

8.8**Staff Travel**

The accommodation of the majority of staff on site will reduce the need to travel. The provision of mini-buses and double cab trucks will further reduce the number of off-site staff movements.

9. CONCLUSION

The unique conditions presented by the island require careful and innovative methods of transportation. This will help mitigate the relatively minor overall impact. In overall terms the numbers of vehicle movements are not large but they do occur in concentrated batches. With a small population it will be possible, and indeed necessary, to keep them informed, especially when overnight movement is about to take place.

Although there may be a small amount of inconvenience over a short period there will be a long term benefit in the improvement to the airport and in the condition of the surface of local roads and car parks.