Corrib
natural gas

Onshore Gas Pipeline

Traffic Management Plan

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TOBIN CONSULTING ENGINEERS

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Prepared by TOBIN Consulting Engineers for and on behalf of Shell E&P Ireland Limited

ONSHORE GAS PIPELINE
TRAFFIC MANAGEMENT PLAN

PROJECT:

Onshore Gas Pipeline
Traffic Management Plan

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TABLE OF CONTENTS

TABLES

FIGURES

APPENDICES

1.0 INTRODUCTION AND TERMS OF REFERENCE

1.1 PREAMBLE

This Traffic Management Plan for the onshore pipeline section of the Corrib Gas Project has been prepared by TOBIN Consulting Engineers for and on behalf of Shell E&P Ireland Ltd.

Shell E&P Ireland Limited (SEPIL), as operator of the Corrib gas field and in partnership with Statoil Exploration (Ireland) Limited and Marathon International Petroleum Hibernia Limited, are developing a gas terminal at Bellanaboy Bridge, County Mayo, and the Onshore Pipeline is the landward section of the gas pipeline from the offshore gas field. This plan describes the traffic management for the construction of the onshore pipeline section of the Corrib Gas Project.

This document is a "living document". The overall project traffic management is described in three separate documents: (1) The Terminal Plan (Rev. C, January 08), (2) the Pipeline Pull-In Plan (Rev. 02, December 08) and (3) this Onshore Pipeline Traffic Management Plan. The latter can be used to plan and manage transport operations throughout the remainder of the construction project on the pipeline route. This document takes precedent for the Onshore Pipeline Works. Any changes which may occur in the planning process and in the detailed construction programme can be incorporated, as can input from regulatory authorities, RPS, TOBIN and Shell E&P Ireland Ltd.

1.2 REFERENCE DOCUMENTATION

The following reference documents have been used in the compilation of this plan:-

1. Corrib Gas Project On-Shore SEPIL Transport Management Plan – TOBIN Consulting Engineers, June 2005, as updated by Roadbridge Ltd. (February 2007) and as further updated under the title Bellanaboy Bridge Terminal – Transport Management Plan – Rev C TOBIN Consulting Engineers, in January 2008.
2. Traffic count survey data and load projections provided by RPS.
3. Landfall Pull-In of Gas Pipeline Transport Management Plan – TOBIN Consulting Engineers (December 2008).

1.3 OVERVIEW

For the construction of the onshore section of gas pipeline from Glengad to the Terminal, it is necessary to transport the construction materials, equipment and personnel to and from the work sites. This includes (but is not limited to) the transportation of line pipe and rock material to the site and removal of peat and unsuitable excavated material, which will also need to be taken offsite to a place permitted for deposition.

The focus of this Plan is primarily on the Haul Route to the Landfall Valve Installation at Glengad and the pipeline route from there to the Terminal and to the construction areas and wayleaves on the Rossport side of Sruwaddacon Bay, since this is where impacts on local traffic are likely to be greatest. Simultaneous use of the upgraded road from Bangor Erris to the Bellanaboy Bridge Gas Terminal for both terminal and onshore pipeline construction has been taken into account in this transport management plan.

It is a Corrib Project philosophy that, road safety is one of a number of critical elements that contribute to the overall success of the development.

It would be possible to commence pipelaying work using the existing road network, with the Roads Authority in attendance to maintain the network, as construction related wear develops. It would however be desirable carry out preventative maintenance on the pavement in advance of intensification of the Onshore Pipeline Works. This Traffic Management Plan therefore includes for haulage associated with preventative maintenance of the pavement structure of the haulage routes from Bangor to the pipeline construction compounds in Aghoos, Glengad and Rossport and to the working area on the wayleave.

RPS Consulting Engineers have completed their route assessment process and have recommended the pipeline route which is to go forward to planning.

For the purposes of this Traffic Management Plan, materials flows associated with the pipeline route have been used to comment on the traffic management issues. These have been examined to:

1. Establish the expected environmental impacts as described in the EIS, and particularly those affecting people living in residences adjacent to the haul route and other road users,
2. Confirm the demands upon the road infrastructure in the area, together with other project material flows,
3. Highlight risks and contingencies, keeping these under review as the potential road pavement upgrade is completed, and
4. Conduct a thorough Health and Safety review of the operation.

This Traffic Management Plan examines the logistics of:-

(a) The pipe laying operation including preparation of the wayleave.
(b) Establishing the construction compound areas for the estuary crossings and pipe stringing areas, as well as the site compounds for the pipeline works.
(c) The onshore and estuary crossing sections of the pipeline between Glengad-Rossport-Aghoos-Muingnabo and the Terminal.
(d) The county road preventative maintenance and repair works which are likely to facilitate the foregoing.

These will be examined with all of the associated traffic controls, recording systems, and the necessary work procedures and codes of practice that are required to support a planned, coherent operation. It also analyses transportation issues relating to lesser volumes of other bulk materials, both concurrent with, and sequential to the above operation.

At December 2008, pavement improvement works are ongoing along the L1202 between the junction with the R314 and the entrance to the Landfall site at Glengad, with near 50% of the road fully complete and strengthening and realignment are substantially complete. The expectation is that the sequence of pipelaying works will initially concentrate on the sections on the Glengad- Pollatomish side of the bay, with the Rossport sections following on from that, but this plan does not depend entirely on that sequence of operations due to difficulties of being definitive with programming of seasonal and other constraints .

1.4 PIPELINE ROUTE DESCRIPTION

The Pipeline makes landfall at the high water mark at Ch 83.4km and this marks the commencement point of the onshore section covered by this Traffic Management Plan. It leaves the Landfall Valve Installation at Ch 83.49 km.

At Ch 83.91km the lower marine crossing of Sruwaddacon Bay commences, this crossing makes landfall on the Rossport side at Ch 84.51km, and shortly afterwards the pipeline turns southwards at, Ch 84.56km. It runs in wayleave parallel to the foreshore, before turning back northeastwards to cross the L524453-25 at Ch. 85.81km (at road crossing RDX1).

From the crossing of the L52453-25 county road, the pipeline again changes direction at Ch 86 km and proceeds in a south easterly direction crossing the L52453-0 (at road crossing RDX2) before crossing the boundary of the Special Area of Conservation at Ch 87.59km, after which a further change of direction takes place before a crossing of the L52453 public road (at road crossing RDX3) at Ch 88.35km brings the pipeline onto the construction area for the upper marine crossing of Sruwaddacon Bay.

For the second crossing, between Ch 88.52km and Ch 89.55km, a pipe string assembly area will be located on the southern side between the foreshore and the Aghoos side of the L1202 Road. The pipeline itself will be routed in a wayleave close to and parallel to the foreshore, heading south easterly toward a change point prior to Ch 91.0km, where it crosses the Aghoos Road (at road crossing (RDX4) before turning 45 degrees and heading to the Terminal Site boundary.

1.5 REVIEW OF THE TERMINAL EARTHWORKS TRANSPORT OPERATIONS

Materials movement on a scale exceeding that projected in this Traffic Management Plan has already been successfully managed on the overall Corrib project.

Movement of the large volume of peat, by Roadbridge Ltd. and their haulage subcontractor from the Bellanaboy Terminal Site to the Bord na Móna Deposition Site at Shramore on the outskirts of Bangor, was covered by detailed planning of the logistics of the operation. This operation had the following benefits:

(a) It permitted the Contractor to resource his transport fleet properly,
(b) It confirmed operation within the environmental impacts as described in the EIS for that work, and particularly those affecting people living in adjacent residences and other road users,
(c) It permitted successful management of potential queuing pressures,
(d) It provided essential overview of the demands upon the road infrastructure in the area, together with other project material flows,
(e) It highlighted risks and contingencies, keeping these under review as the road pavement upgrade and peat haulage operation was completed,
(f) It facilitated a thorough Health and Safety pre-planning review of the operation.

The peat haulage operation from the Terminal Site to Srahmore commenced in April 2005, and continued for a short period before being discontinued due to disruption of the project. During that initial period, lessons were learned and the operation was resumed and completed in Summer 2007. The operation adhered to the detail of the Traffic Management Plan (Rev B, February 2007), with the exception of installation of GPS recorders in the haulage vehicles, which had been intended to prevent unauthorised out of hours use. This was not required, since all haulage was performed by a single Licensed Haulage Contractor, who parked all vehicles each evening at the Terminal Site. The operation was a success and it established a sustainable and safely manageable level of 400 deliveries daily of Heavy Goods Vehicle (HGV) traffic in addition to workforce traffic and normal traffic levels on the R313, L1204 and R314 sections of haul route.

Material movements which remain to take place to completion of the construction project are set out in Section 5 of this Plan. These include construction materials for the Pipeline Pull-in, the Onshore Pipeline, the Terminal, and materials required in haul road preventative maintenance and repair works.

1.6 DRAWINGS

The following Drawings accompany this Transportation Plan (refer to Appendix 2):

Drawing No.	Title
2044-1350	Layout plan showing road network and distance signage
2044-1351	Layout plan showing L1204 and Haul Route
2044-1352	Layout plan along R314, L1202 and L1203 showing chainage points along Haul Routes
2044-1355	Layout plan showing road signage details for L1204
2044-1356	Layout plan showing road signage details for L1202
2044-1357	Layout plan showing road signage details for L1203 and Rossport area
2044-1359	Key plan of haul route from the Port of Dublin

2.0 THE HAUL ROUTE

Haulage of materials for the remainder of the construction phases of the Corrib project will have a local origin-destination profile for materials such as aggregates, concrete and road-making materials, but will be national in scale for the more specialised pipeline and treatment equipment, some of which will enter the country via the Port of Dublin, with the remainder being transported from Killybegs. Refer to drawing 2044-1359 in Appendix 2.

The haulage route from the Port of Dublin will cover:

(a) the Port Tunnel,
(b) the M50,
(c) approaches to the M4 and the motorway itself,
(d) the National Primary Route N4 in dual carriageway to Mullingar and single carriageway to Longford, Carrick on Shannon, Boyle, Collooney and Ballysadare,
(e) the National Secondary Route N59 from Ballysadare to Ballina, Crossmolina, Bellacorick and Bangor Erris,
(f) the R313, L1204 and R314 county road network to the Terminal Site at Bellanaboy, to the Landfall Site at Glengad and to the pipeline wayleaves at Aghoos and Rossport.
(g) the L1202, L1203, L5245 and L52453 which provide access from the R314 into the working areas north and south of Sruwaddacon Bay.

Transport from the port of Killybegs will travel via:-

(a) the N56 to Donegal,
(b) the N15 from there to Sligo,
(c) the N4 to Ballysadare,

(d) the N59 and the route already described from the port of Dublin (routes described in (f) and (g) above).

The relevant sections of the Haul Route commence with the L1204 county road, linking Bellanboy to the R313 at Bangor Erris and with the R314 from Glenamoy to the Terminal. Secondary haul routes are:-

Road	From
R314	Terminal Gate to L1202 junction
L1202-116	Bellagelly South – Aghoos
L1202-45	Pollatomish – Glengad

Table No. 2.1(a) –Designated Haul Routes upgraded in 2008 and to be maintained

Road	From
L5245-0	Muingnabo – L5245-0 Junction Rossdoagh
L52453-0	L52453-25 Jn.
L52453-25	Rossport

Table No. 2.1(b) –Designated Haul Routes to be maintained

Other roads which will serve as standby access routes includes:-

Road	From
L5244	Bellanaboy – Aghoos
L5243	Pollatomish - Muingeroon

Table No. 2.1(c) –Designated Subsidiary Haul Routes

Drawings No. 2044-1351 and 2044-1352 indicate the Haul Routes, and the road numbers that collectively form them.

The L1204- R314 is the principal artery, and materials flows will continue to be preferentially directed onto the previously upgraded pavement on this route. The L1202 and L1203 are secondary arteries along which materials will flow to the Aghoos and Rossport sides of Sruwaddacon Bay.

2.1 ABNORMAL LOADS

Traffic impacts due to abnormal loads will be subject to permitting by Local Authorities and will be detailed in the applications made for such transports, and will be managed in consultation with the Road Traffic Authorities and the Gardaí. It should be noted that as of December 2008, the vast majority of abnormal loads to the Terminal have been shipped all without incident.

3.0 EXISTING TRAFFIC AND ROAD CONDITIONS

The R314 regional road, which runs in a west to east direction from Belmullet to Ballycastle, forms a southern boundary to the area in which the pipeline route is located. The R313 through Bangor is also a feeder route to the working area for materials drawn from Dublin and Killybegs via the L1204. These three roads are the main haul routes to the area from outside.

3.1 ROAD PROFILE

3.1.1 L1204

The profile of the L1204 is described in section 4.

The pavement upgrade works carried out since 2005 have concentrated on achieving adequate pavement width and adequate pavement strength, but the horizontal and vertical alignment has not fundamentally changed. Notwithstanding this, a combination of driver training, a driver code of practice, voluntary speed limits for haulage traffic, and extensive consultation with other road users, has successfully managed the risks associated with road alignment.

3.1.2 R314 (Terminal Entrance) to L1202 Junction. (Belagelly South)

During 2008, the existing pavement along this section of the R314 was strengthened by Mayo County Council. The pavement width is generally a minimum of 5.5m and will therefore be sufficient to accommodate the safe two-way movement of HGV's. The strengthening works comprised a regulating macadam course, a 'meshtrack' fabric and a 100mm layer of bituminous surfacing finished with a double pass of surface dressing.

As the existing pavement foundation on this section of the R314 is granular material overlying peat there is a risk of pavement damage due to the compressible peat subgrade, which is subject to distortion under loading. To mitigate any damage to the pavement that may occur during both the Landfall Valve Installation works and Onshore Pipeline works, arrangements will be put in place so Mayo County Council will be available to repair and maintain the pavement to an acceptable standard.

3.1.3 L1202

The L1202 has been strengthened and widened where possible and a weak culvert structure at Aghoos South has been replaced.

The L1202 can broadly be divided into two areas:

(a) Sections of road that have a width of less than 5.5m.
(b) Sections of road that have a width of not less than 5.5m.

(a) Sections of road that have a width of less than 5.5m.

This results in places where there is insufficient width along the L1202 for two HGVs to pass. In order to manage this situation, it has been possible to provide pause points. (section of road where width is available where one vehicle can stop to allow an oncoming vehicle to safely pass), separated by adequate sight distance, where a priority rule in favour of the loaded vehicle will apply. These areas are identified by chainage references below. Also, during busy periods, the vehicles will be moved in batches of up to 5 vehicles operating in a convoy manner through the area of limited width. This approach was successfully adopted in 2008 during the initial Landfall Works.

(b) Sections of road that have a width of not less than 5.5m

These are sections of road where there is sufficient width for two HGVs to pass each other. In general, where passing is possible, the pavement has been improved and has resulted in an overall improvement of the situation, which aids the management of traffic on the road. These areas are also scheduled below.

Drawing No. 2044-1352 details the extent of improvements along the L1202.

At December 2008, Mayo County Council were on site widening and/or strengthening the L1202 between the Junction with the R314 at Bellagelly South and the access to the Landfall site at Glengad.

From the junction with the R314 to chainage E4+875, (approximately 400m south of Aghoos Church) the L1202 has been widened to a minimum 5.5m carriageway width and strengthened. There is also realignment works substantially complete that will remove the sub-standard horizontal and vertical alignment at chainage E3+700. This will provide good access to the onshore pipeline works either side of Road Crossing RDX4 and the access to the launch pit and pipe stringing area for the upper marine crossing of Sruwaddacon Bay at chainage E4+000.

Road improvements works are also substantially complete between chainage E5 and Glengad Landfall access. The improvement works comprised widening of the existing carriageway where width was available between road boundaries or where additional lands were available. Strengthening of the pavement is also complete or substantially complete, along the majority of the route.

Chainage E4+875 to E5+275 – Strengthening works were carried out along this section of road with its width generally 4.0 to 4.3 metres. A passing bay is substantially constructed near chainage E5 that would ensure the safe passage of two HGV's. There is good forward visibility either side of this section of road where motorists can see ahead and can either wait at the wide section or at the passing bay to allow other vehicles to pass.

Chainage E5+275 to E5+480 – (adjacent to Aghoos Church) Strengthening and widening works to a minimum 5.5m carriageway width are substantially complete.

Chainage E5+480 to E5+580 – This short section of road could not be widened due to land constraints . Clear visibility is available either side of this narrow section of road from the higher eye height of a lorry driver cabin seating position where they can see ahead and wait at the wider section to allow oncoming vehicles to pass.

Chainage E5+580 to E5+980 – Strengthening and widening works to a minimum 5.5m carriageway width are complete.

Chainage E5+980 to E6+625 – Strengthening and widening works to a minimum 4.8 to 5.5 metres carriageway width, allowing safe two-way movement of a HGV and a light vehicle, are substantially complete.

Chainage E6+625 to E7+090 – Strengthening and widening works to a minimum 5.5m carriageway width are complete.

Chainage E7+090 to E7+465 – (adjacent to Pollatomish National School) Existing carriageway is generally 4.8 to 5.5 metres width passing the school, allowing safe two-way movement of a HGV and a light vehicle. Surfacing works are planned at this location.

Chainage E7+465 to E7+865 – Strengthening and widening works to a minimum 5.5m carriageway width are complete.

Chainage E7+865 to E8+075 – Existing carriageway is generally 4.8 to 5.5 metres width, allowing safe two-way movement of a HGV and a light vehicle, improvement works are substantially complete..

Chainage E8+075 to E9+555 – Strengthening works was carried out along this section of road with its width generally 4.0 to 4.8 metres and are substantially complete.

Between chainage E7+900 and the Landfall Site Entrance a specific Traffic Management regime will be implemented to control the movement of traffic along the narrow road as discussed in section 5.2.1

The L1202 pavement will be monitored during the remainder of the Landfall /Pipeline Pull-in Works and for the duration of the Onshore Pipeline works and damaged pavement will be repaired by Mayo County Council as necessary.

3.1.4 L1203

The L1203 as far as chainage F8, north of Annie Bradys' Bridge has already been upgraded by the Council in recent years, and is suitable for the two-way movement of HGV's in its present condition. The L1203 pavement will be monitored for the duration of the Onshore Pipeline works and any damaged pavement will be repaired by Mayo County Council as necessary at the developer's expense.

3.1.5 L5245 (Junction with the L1203 to junction with L52453)

This section of the L5245 is generally of the order of 4.5m in width. The existing pavement is formed on a rampart embankment on peat deposits and is of relatively poor pavement quality. It is anticipated that preventative maintenance will be carried out on the road pavement before the Onshore pipeline works intensifies. It is also proposed to monitor the pavement for the duration of the Onshore Pipeline works and damaged pavement will be repaired by Mayo County Council as necessary. A specific Traffic Management regime will be implemented to control the movement of traffic along the narrow road as discussed in section 5.2.2.

3.1.6 L52453-0

The L52453-0 is formed on peat deposits, it is narrow (no greater than 3.0m) and it is of relatively poor pavement quality. It is anticipated that preventative maintenance will be carried out on the road pavement before the Onshore pipeline works intensifies. It is also proposed to monitor the pavement for the duration of the Onshore Pipeline works and damaged pavement will be repaired by Mayo County Council as necessary. A specific Traffic Management regime will be implemented to control the movement of traffic along the narrow road as discussed in section 5.2.2.

3.1.7 L52453-25

The L52453-25 between the L52453-0 and Rossport is formed on mineral deposits. It is narrow (no greater than 3.0m) and it is of relatively poor pavement quality. It is anticipated that preventative maintenance will be carried out on the road pavement before the Onshore pipeline works intensifies. It is also proposed to monitor the pavement for the duration of the Onshore Pipeline works and damaged pavement will be repaired by Mayo County Council as necessary. A specific Traffic Management regime will be implemented to control the movement of traffic along the narrow road as discussed in section 5.2.2.

A temporary easement will be required at the junction of the L52453-0 with the L52453-25 (at chainage F10), to facilitate necessary junction widening to ensure HGV's can manoeuvre safely around the junction.

4.0 HAUL ROAD CONDITION

4.1 BACKGROUND

The improvement works carried out to date by Mayo County Council comprised of: -

4.1.1 R314 / L1204

1. A widening of the Haul Route to provide a minimum of 5.5m paved width throughout its length.
2. The removal of visibility deficiencies through a combination of minor realignments and hedge trimming.
3. The replacement of weak bridge structures at Cloontakilla and Glenturk Beg, and a piped culvert at Cloontakilla.
4. The carrying out of pavement strengthening works over the full extent of the route.

4.1.2 L1202

5. Where possible a widening of the Haul Route to provide a minimum of 5.5m paved width throughout its length. (Areas of limited width are identified in Drawing 2044-1352)
6. The removal of visibility deficiencies through a combination of minor realignments and hedge trimming.
7. The replacement of a weak bridge structure at Aghoos and a piped culvert.
8. The carrying out of pavement strengthening works over the full extent of the route.

4.2 ROAD IMPROVEMENT AND PREVENTATIVE MAINTENANCE DETAILS

In upgrading the L1204 / R314 / L1202 road, Mayo County Council have followed the Department of the Environment and Local Government "Guidelines on the Depth of Overlay to be used on Rural Non National Roads".

Mayo County Council have used Clause 804 and DBM Basecourse macadam for the road upgrade works, which were complete by early May 2005. The strengthening of the haul route generally consists of:-

- A regulating layer of Clause 804 of 40-100mm (or more where the carriageway is to be re-shaped);
- A layer of geosynthetics in the form of geogrid; (Peat-land Areas Only)
- 150mm Clause 804
- 50mm DBM Basecourse
- Application of surface dressing

- Local pavement reinforcement – “Mesh Trak”; (Peat-land Areas Only)
- 50mm DBM Basecourse
- Application of second course of surface dressing

This maintenance technique has an estimated life of 10 years under normal operating conditions.

The selected pavement design is demonstrated to be adequate for the anticipated haulage activities for the construction of the Terminal Site, Landfall Site and the onshore pipeline. However, due to the presence of an appreciable peat layer beneath the road pavement, it was not possible to predict with total accuracy the behaviour of the strengthened pavement at all locations along the route for the duration of the project. Therefore it was anticipated that during the haulage operation, there would be noticeable settlement in the widened section of road compared to the existing pavement edge. Mayo County Council have kept the condition of the R313, L1204 and R314 under inspection and localised repair, and will continue to do this. The foregoing rationale will also be extended to the L1202, L1203, L5245 and the L52453, whilst it is being used for the Onshore Pipeline works.

In the case of the L5245-0, the L52453-0 and the L52453-25, the anticipated preventative maintenance will be scoped and agreed with Mayo County Council at the appropriate time and will be funded by the developer. Typically the works involved will consist of:-

(i) A regulating layer of DBM material
(ii) Local pavement reinforcement – “Mesh Trak”; (Peat-land Areas Only)
(iii) 50-55mm Basecourse layer DBM,
(iv) 45mm layer of wearing course DBM with surface dressing.

4.3 TERMINAL HAUL ROAD CONDITION

A pavement survey was carried out in the Summer of 2006 by Pavement Management Services (PMS). The results of this survey show that the upgraded terminal haul route has generally stood up to substantial haulage in 2005 and 2006 and visual inspection suggests that it has also held up well to the peat haulage loads in summer 2007 and the general construction haulage of 2008 associated with the Corrib Project development. It has also been subjected to haulage of materials for the BGE pipeline. The average Pavement Condition Index in the 2006 survey was described as good to very good and the average ride quality was described as smooth.

5.0 5. MATERIALS FLOW TO THE ONSHORE PIPELINE

5.1 HAULAGE METHODOLOGIES

This Traffic Management Plan has a number of elements to facilitate the movement of construction materials to/from the site:

(a) Material to be hauled to the Glengad and Aghoos sections of the pipeline will travel on the R314, the L1202, L1202-116 and L1202-45.

(b) Material hauled to the Rossport side of Sruwaddacon Bay will travel via the L1203, the L1203-40, the L5245, the L52453-0 and L52453-25 and along the wayleave from Road Crossing RDX1 to access the launch/reception pit and pipe stringing area on the east side of Sruwaddacon Bay. At the early stages of the haulage to the Rossport side, before the wayleave haul road is operational, access to the Site Compound SC3 will be via the wayleave or a proposed. access track near the site.

(c) In the event that traffic is temporarily disrupted along the R314 and L1202 by direction of the Gardaí or roads authority, material may be transported as a temporary measure onto the pipeline wayleave between the Terminal and Aghoos, via the L5244-0 and Gate 2.

(d) Constraints are:

a. Material stockpiling strategies must consider the presence of the SAC and blanket bog habitat, (refer to Chapter 5 of the EIS).

b. The need to limit HGV traffic along the narrow sections of haul routes

c. The need to limit HGV traffic on the R313/L1204 to limits already proven feasible with the terminal peat haulage operation.

(e) There will be site compounds (SC) and pipe stringing areas located as follows:-

SC1	Adjacent to Landfall at Glengad
SC2	Glengad in vicinity of Tunnelling Access Pit (L1)
SC3	Rossport side of Bay (lower crossing) in vicinity of Tunnelling Access Pit (L2)
SC4	Near L52453-25 Road Crossing RDX-1
SC5	Near L52453-0 - Road Crossing RDX-2 at SAC Boundary
SC6	On North side of Estuary at upper crossing in vicinity of Tunnelling Access Pit (L3) Rossport South
SC7	On South side of Estuary at upper crossing in vicinity of Tunnelling Access Pit (L4) Aghoos
SC8	Near L1202 road crossing RDX-4 below wayleave to Terminal
SC9	Within the Terminal Site

** Ref. Drawing 2044-1352*

5.2 CONVOY OPERATION OF HGV TRAFFIC

5.2.1 Delivery Convoy

It is proposed to manage HGV movements both to and from Glengad Landfall and the onshore Pipeline at Rossport by limiting HGV movements along the sections of road where the existing carriageway width is too narrow for the safe two-way movement of HGV's. Movement of HGV's will use a convoy system (maximum of 5 lorries in any one convoy). Convoys will be controlled by Traffic Management Operatives (TMOs) to ensure that construction vehicles will not meet on the narrow road sections.

5.2.2 L1202 Convoy.

There will be no restriction to two way HGV movements along the L1202 from the junction with the R314 to chainage E4+875. Therefore access to the Onshore pipeline operations at Aghoos, where access off the L1202, at approximate chainages E3 and E4, can take place with no convoy system in place.

Between chainages E4+875 to E7+865 there are some restrictions in width, but it is feasible to have a lorry pass a car and even two lorries pass at regular intervals along the route. From chainage E7+865 to the Glengad Landfall site entrance there is restrictive width and a one way convoy operation of construction traffic is proposed along this section.

The aim of a Convoy system is to have a convoy running to and from the site along the L1202. It is proposed to have HGV's travelling to the Landfall site wait at a safe location until the convoy which has left the Landfall site, will have progressed to a point where they can safely pass. The proposed holding area is along the wide paved area located off the R314 outside Gate 1 of the Terminal site and clear of the visibility splays from the Terminal Site access junction. Release of the delivery convoy from Gate 1 will be timed so that the two streams of construction HGV's ideally meet between chainage E0 and E4+875, but an occasional HGV could meet between chainage E4+875 and E7+865. A communication system will be put in place so that a Traffic Management Operative (TMO) at the gate of the Landfall access and at the Terminal Site Gate 1 can control the release of the Convoy.

It is proposed that the convoy have a short separation between each truck, so that impact on local vehicles is kept to a minimum.

It is also proposed to restrict locally, the convoy operation during the drop off and pick up time of Pollatomish National School and warden liaison with the school bus operator will continue to ensure this takes place.

5.2.3 L1203 Convoy.

Access to the Onshore Pipeline on the Rossport side of Sruwaddacon Bay is restricted by the narrow roads off the L1203, specifically L5245 and the L52453. It is therefore proposed that a convoy operation will be put in place to ensure one-way HGV movements along the L5245 and the L52453.

The aim of a Convoy system would be to have a convoy (maximum 5 trucks) running to/from the site along the L1203. It is proposed to have HGV's travelling towards the Rossport side, wait at a safe location until the convoy has left the onshore pipeline works. The proposed holding area is along the wide paved area located off the R314 outside Gate 1 of the Terminal site and clear of the visibility splays from the Terminal Site access junction. Release of the delivery convoy from Gate 1 will be timed so that the two streams of construction HGV's meet between chainage E0 and F8. A communication system will be put in place so that a Traffic Management Operative (TMO) at the Junction of L5245 and the L1203 and at the Terminal Site Gate 1 can control the release of the Convoy.

It is proposed that the convoy have a short separation between each truck, so that impact on local vehicles is kept to a minimum. As the section between chainage F8 and Rossport is narrow, it is also proposed to station an additional Traffic Management Operative (TMO) at the junctions of the L5245/L52453 and the junction of the L53453 at chainage F+0, so as to hold oncoming traffic until the convoy has passed.

It is acknowledge that the Convoy system will result in delays to existing traffic along the L5245 and the L52453. These delays will be minimised as much as is practical. The longest delay will be along the L52453-0 when the peat removal and stone delivery is taking place. A typical delay during the arrival or departure of a convoy of five trucks, would be 6 minutes (assuming an average speed of 30km/h along this section of road). SEPIL will consult with local residents and the Gardai to inform of the delays and advise of an alternative route. Subject to agreement with the Local Authority, applications may be made for the temporary closure of the L52453-0 during periods of intense construction activity, to improve the efficiency of the rock import and peat removal so as to reduce the duration of the peak impact of HGV movements on the local community.

5.3 WAYLEAVES AS SUBSIDIARY HAUL ROUTES

The proposed construction methodology in peat areas is to use a stone road in the pipeline wayleave to provide long term stability for the pipeline and which can also function as a construction access road for haulage along the wayleave of the enabling material, pipe sections, and construction plant.

5.3.1 Section of Wayleave in Peatland

It is expected that a stone access road will be created along the wayleave in the peatland sections to provide stability to the installed pipeline and to permit materials to be brought onto the wayleave at designated access points, and then transported into position. In order to define the extent of the

transportation operation associated with this construction methodology, the following working assumptions have been made:

(a) The stone road to be built in the wayleave will be 9m wide.

(b) Based on survey data the depth to firm ground will average 3m in this area.

(c) The lowermost layer of 0.5m of peat will be left in the base of the trench, above firm ground, and stone placed directly into the residual peat.

(d) The pipe bedding material will be stockpiled at the compound locations and hauled to position at the trench with dumpers, when required.

(e) Excavated peat for reuse will be transported by dumpers and stockpiled nearby. Surplus peat will be hauled off site in tipper lorries. To minimise impact on the local area, stone delivery lorries will be back loaded with peat and transported to the Peat Deposition Area at Srahmore. The lorries will then be loaded with stone from local quarries for delivery to the wayleave in peatlands.

(f) Tipper trucks on the public road will carry a unit load of 10cu.m of peat and 9-10 cu.m of rock, and ready-mix concrete will be brought to position in 6-8 cu.m. units.

(g) Generally rock will be transported within the wayleave by large size dump trucks with a 16 cu.m unit load, or alternatively regular size dump trucks with a 10cu.m unit load.

Stockpiling of peat or enabling or construction materials will not take place in sections constructed in intact bog or in the Special Area of Conservation. This essentially partitions the overall length of 3.32 km in peatland in Rossport into 2.14 km where peat stockpiling will be permitted, and a length of 1.18 km where no stockpiling will take place.

Collectively, on both sides of Sruwaddacon Bay, these movements of materials will result in:

(a) Importation of an estimated c174,000 cu.m of rock, in 17,725 truckloads on the public road network;

(b) Removal offsite of approximately 75,000 cu.m of peat, in 7,550 truckloads on the public road network; (Peat will be back loaded into rock trucks);

(c) Removal offsite of approximately 63,500 cu.m of surplus material, in 6,707 truckloads on the public road network.

It will not be possible to completely rely on the pipeline wayleave to carry all material to points further along, it will be necessary to impose to some degree on the public road infrastructure to supplement what can be moved preferentially along the wayleave.

5.4 PROJECTED MATERIALS FLOWS

The profile of material movement has been set out for the pipeline in Appendix No. 1. These include:

(a) Cabins, fencing and mobilisation materials,
(b) Rock, concrete and bedding material,
(c) General and Tunnelling Equipment
(d) Casing pipe and gas pipe,
(e) Cables, Umbilical pipe / conduit, outfall pipe
(f) Sheeting Piling and miscellaneous services.
(g) Peat and miscellaneous materials for disposal.

5.5 MAINTENANCE MATERIALS FOR HAUL ROUTE IN ROSSPORT AREA

Along the designated haul routes in the Rossport Area, namely L5245-0, L52453-0 and the L52453-25, heavy construction traffic may cause damage to the existing road pavement during the construction phase. Surveys have been carried out of the proposed construction haul route, which indicated areas where preventative and ongoing repair maintenance works are likely to be required, during the construction phase. Road width constraints have also been identified in Rossport and Glengad and a managed convoy haulage system is planned for such areas. These measures have been discussed with Mayo County Council as part of the pre-application consultation process. The costs of any repair and maintenance works of the haul route, during the construction phase, will be borne by the developer.

To ensure a robust estimate of haulage movements during the Onshore Pipeline Works, this Traffic Management Plan includes estimates of haulage movements for the repair and maintenance of the haul routes. In addition to repair and maintenance of the designated haul routes along the L5245-0, L52453-0 and L52453-25, consideration should be given to implementing preventative maintenance on the pavement along the remainder of the loop around Rossport Village from the L52453-25 via the L5245-0 around to Road Crossing RDX-1, as a matter of good practice, and as a means to facilitate access for other road works in the area. These works have also been accounted for in the estimate of haulage movements.

Table 5.1 shows the estimated number of haulage movements required along the L5245, L52453-0 and the L52453-25.

Schedule of Repair and Maintenance Materials

Road Section	Length	Width	Qty	Qty	Tonnes	Loads
L5245						
Chainage F8 to Jn with L52453	0.8 km	4.5 m				
DBM Wearing Course		45 mm		163 cu.m	359 t	17
DBM Basecourse		55 mm		199 cu.m	438 t	21
Regulating Layer		60 mm		217 cu.m	478 t	23
Geotextile/Mesh Track				3623 sq.m		2
L52453-0						
Jn with L5245 to Chainage F10	1.2 km	3.0 m				
DBM Wearing Course		45 mm		162 cu.m	356 t	17
DBM Basecourse		55 mm		198 cu.m	436 t	21
Regulating Layer		60 mm		216 cu.m	475 t	23
Geotextile/Mesh Track				3600 sq.m		2
L52453-25						
Between RDX-1 and RDX-3	2.3 km	3.0 m				
DBM Wearing Course		45 mm		306 cu.m	673 t	33
DBM Basecourse		55 mm		374 cu.m	822 t	41
Regulating Layer		60 mm		408 cu.m	897 t	44
Geotextile				6795 sq.m		4
Provision for Possible Repair and Maintenance to Rossport Village loop						
L5245						
Jn with L52453 to Rossport Pier	3.0 km	4.5 m				
DBM Wearing Course		45 mm		608 cu.m	1337 t	66
DBM Basecourse		55 mm		743 cu.m	1634 t	81
Regulating Layer		60 mm		810 cu.m	1782 t	89
Geotextile				13500 sq.m		9
L52453						
From RDX-1 to Rossport	1.5 km	3.0 m				
DBM Wearing Course		45 mm		198 cu.m	437 t	21
DBM Basecourse		55 mm		243 cu.m	534 t	26
Regulating Layer		60 mm		265 cu.m	582 t	29
Geotextile				4410 sq.m		2
L52453						
From RDX-3 to eastern end	0.6 km	3.0 m				
DBM Wearing Course		45 mm		74 cu.m	163 t	8
DBM Basecourse		55 mm		91 cu.m	200 t	9
Regulating Layer		60 mm		99 cu.m	218 t	10
Geotextile				1650 sq.m		1
				Subtotal		**599**
				Miscellaneous Drainage materials		**20**
Estimated Total Loads for Repair and Maintenance materials						**619**

Table No. 5.1 – Proposed Road Repair and Maintenance Traffic

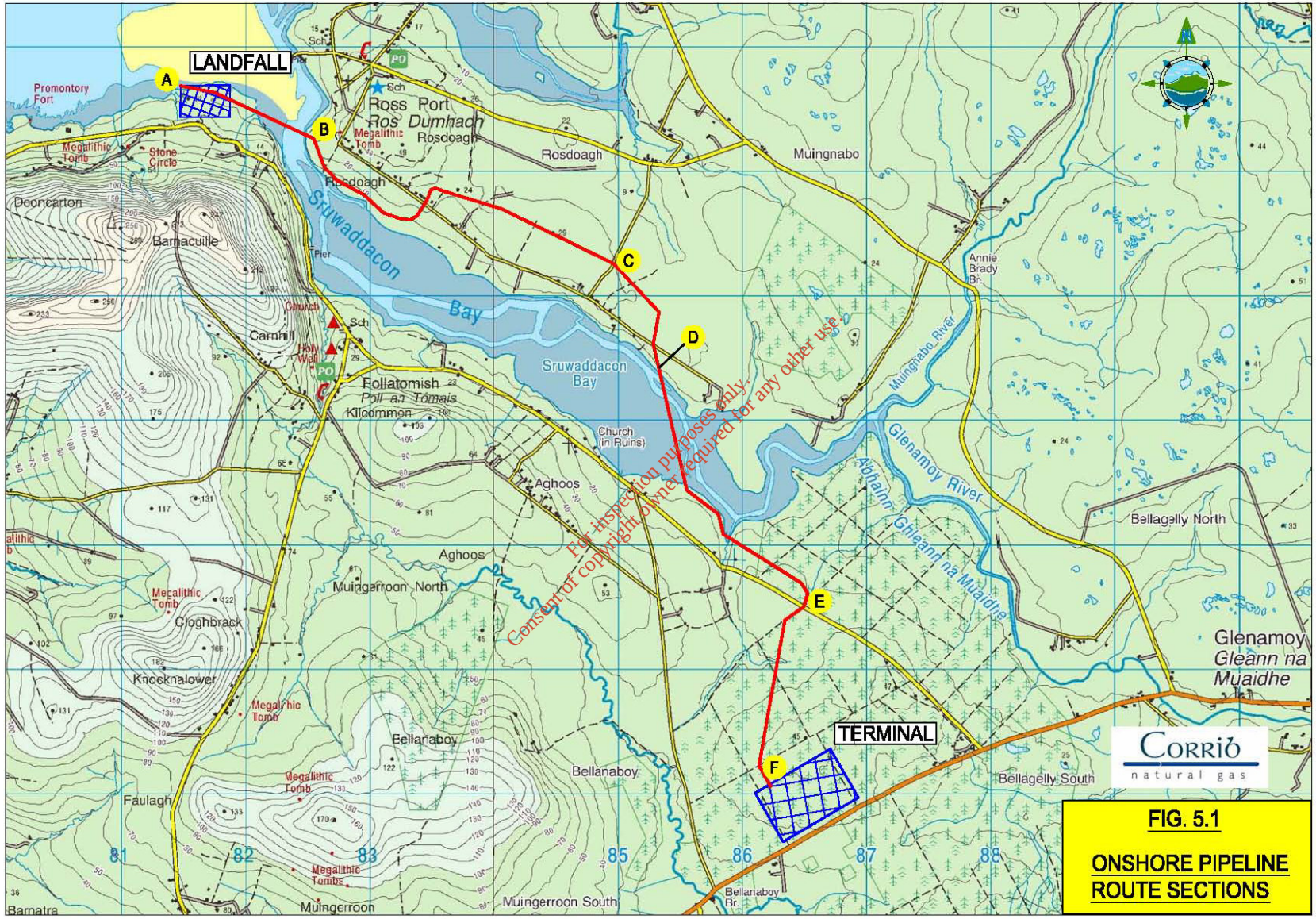


Figure 5.1 – Onshore Pipeline Route Sections

5.6 ONSHORE PIPELINE CONSTRUCTION TRAFFIC MOVEMENTS

The following discussion outlines materials movements in each section of the pipeline route.

5.6.1 Landfall Valve Installation and Glengad (including estuary crossing) (Ch 83.4km to Ch 84.51km) Point A to Point B

It is intended to construct a secure compound around the Landfall Valve Installation. This will require fencing to be brought to site and erected, and hardstanding to be constructed.

At Glengad, commencing in Month 1, pipeline works and the Landfall Valve Installation will require rock, concrete, tunnelling equipment, casing pipe, line pipe, umbilicals and related miscellaneous materials, with surplus material haul away.

Commercial vehicles will deliver site accommodation, pipeline and umbilical sections, ducting and outfall pipework and will be involved in haulage of surplus material away from the area. Referring to the schedules of materials in Appendix No. 1, it is expected that traffic arising from work in this area will peak in months 2 and 3 at c614 and c608 HGV deliveries per month respectively, and from 65-250 deliveries per month over the remainder of the 12 month period of work in the area. Personnel vehicles will peak in months 4 to 11 at c900 vehicle round trips per month, or 40 round trips per day in the R314-L1202 area.

5.6.2 Rossport Point to Road Crossing RDX-2 (Ch. 84.51km to Ch 87.59 km) Point B to Point C and Road Crossing RDX-2 to Rossport South Tunnel Site (North Side of Bay) (Ch 87.59km to Ch 88.52km) Point C to Point D

Commercial vehicles will deliver site accommodation, pipeline and umbilical sections, rock, sheet piles, tunnelling equipment and wayleave materials, as well as ducting and outfall pipework and will be involved in haulage of surplus peat and other material away from the area. It is expected that traffic arising from work in this area will peak in Month 4 at c2,190 HGV deliveries per month, and c2060 to c2,155 HGV deliveries per month in months 1,2 5 and 6. Personnel vehicles will peak at c1,750 vehicles per month in month 7, or 78 round trips per day in the L1203-L52453 area arising from these works.

5.6.3 Tunnel Site at Aghoos N/E to Road Crossing RDX-4 (South Side of Bay) (Ch 88.52 km to Ch 91.0km) Point D to Point E and Road Crossing RDX-4 at Aghoos N/E to Terminal North (Ch 91.0 km to Ch 92.35 km) Point E to Point F

Commercial vehicles will deliver site accommodation, pipeline and umbilical sections, rock, sheet piles, tunnelling equipment, casing equipment and wayleave materials, as well as ducting and outfall pipework and will be involved in haulage of surplus peat and other material away from the area. It is expected that traffic arising from work in this area will peak in Month 4 at c3,258 HGV deliveries per month, and c2,350 and c1,071 in months 5 and 1 respectively, declining to c60 to c575 HGV deliveries

per month over the remainder of the 12 month period of work in the area. Personnel vehicles will peak at c1400 vehicles per month, or 62 round trips per day in the L1202 area arising from these sections of work.

5.7 MATERIALS TRANSPORT FROM OTHER PROJECT CONSTRUCTION PHASES

Broadly speaking, there continues to be four distinct elements of materials haulage, which are still relevant to the Onshore Pipeline itself, and these are:

(a) Onshore Pipeline construction haulage.
(b) Materials to maintain roads associated with the onshore pipeline;
(c) Enabling Materials to Srahmore Peat Deposition Site (see Srahmore Peat Deposition EIS)
(d) Simultaneous haulage to the terminal.

The estimated quantities of road-making materials for the maintenance work in Rossport have been set out in Table No. 5.1. These materials flows, and those associated with the later stages of the Terminal, have been superimposed on the projected transportation schedule for the Onshore Pipeline in Table No 5.2.

This indicates a maximum expected HGV round trip count, associated with this work, as shown. It has been conservatively assumed that the road upgrade materials will be transported along the L1204 for the purposes of defining a likely peak simultaneous HGV traffic level.

In advance of the peat import to Srahmore Peat Deposition site, some enabling infrastructure is required. There is a requirement for some further enabling construction within the site. A stone access road will be constructed within the deposition bays. Some minor maintenance is proposed to upgrade certain aspects of the site, which includes surface dressing of the access road and the internal haul roads where activity will occur.

An estimated 12,000 cu.m. of rock and maintenance material will be imported from local quarries to the existing peat reception area, and from there will be transported by trailers along the existing haul roads within the site. The rock will be placed on a geotextile layer, to form a 7.5m wide haul road.

Secondary haul routes will be formed by timber mats. The timber mats are already on site at Srahmore from previous deposition operations.

Estimated amounts of material required for these construction activities are shown in Figure 5.2. The construction materials will be obtained from local quarries.

Table 15.2 Requirements for Road / Surfacing Construction Materials

Use	Amount imported rock (m3)	Amount of imported maintenance (m3)	Amount of imported terram (sq.m)
Internal Circulation Road	10,000	2,000	20,000

Table No. 5.2 - Requirements for Enabling Road / Surfacing Construction Materials

Table No. 5.3 shows the projected profile of combined project traffic. It shows that HGV traffic will range between 20 and 259 vehicle deliveries per day, in the period from Month 1 to Month 12. Traffic associated with personnel employed on the construction work, will vary between 213 and 331 vehicle round trips per day approximately.

These HGV traffic volumes are well within those experienced previously with the peat haulage operation, and will be manageable with residential traffic in the area, given the same attention to safety and organisation as was previously put in place for the peat haulage operation.

The majority of private vehicle movements associated with the workforce will be concentrated at the start and end of the working day. Parking facilities off the public road will also be provided and group transport of personnel will be used to the greatest practical extent.

	Month											
Commercial Vehicles	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Monthly Total Onshore Pipeline	3426	3260	1447	5648	4657	2281	1167	403	277	2202	2045	1673
Monthly Total Terminal Traffic	160	160	160	160	160	160	160	160	160	160	160	160
Monthly Total Mayo County Council Haul Road improvement works	206	206	206	20	20	20	20	20	20	20	20	20
Srahmore Enabling Works			1389									
Combined Monthly Total	3792	3626	3202	5828	4837	2461	1347	583	457	2382	2225	1853
Average Daily Total	**169**	**161**	**142**	**259**	**215**	**109**	**60**	**26**	**20**	**106**	**99**	**82**
Personnel Vehicles												
Monthly Total Onshore Pipeline Workforce	2615	2965	3350	3800	3800	3800	4050	3100	3100	3100	2115	1845
Monthly Total Terminal Workforce	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
Monthly Total Mayo County Council staff	110	110	110									
BNM Srahmore Workforce		300	300	450	450	450	450	200				
Combined Monthly Total	5675	6325	6710	7200	7200	7200	7450	6250	6050	6050	5065	4795
Average Daily Total	**252**	**281**	**298**	**320**	**320**	**320**	**331**	**278**	**269**	**269**	**225**	**213**

Table No. 5.3 – Projected Onshore Pipeline HGV deliveries and Personnel Traffic round trips

Note: Average daily figures rounded to nearest integer

6.0 SIGNAGE AND CONTROLS

6.1 SIGNAGE

Road signs on the R313, L1204 and R314 were erected during the upgrade works to facilitate the materials haulage operations. These signs are customised for each location, and will continue to act as a preliminary warning to road users of works traffic and traffic controls extending over a stated time period, as well as advising of possible restrictions and alternative routes.

Nearer to the major junction points, specific instruction signs, to National Roads Authority standard, serve to caution drivers of crossing or emerging traffic.

Signage has been erected along the L1204 Haul Route, in accordance with Drawing No. 2044-1355, in order to:

(a) mark Chainage points for easy reference of potential breakdown, road deterioration or other hazard such as stray animals,
(b) mark particular hazards, such as bends, sections of poor sight distance for residents emerging onto Haul Route, etc.
(c) warn of priority rules at locally narrow sections of road,
(d) warn drivers to check brakes, or slow at specified points etc.
(e) speed limit signs

The position of signs of different type, are shown on Drawing No. 2044-1355. Similar signage will be erected along the pipeline haul routes, as shown on Drawings No. 2044-1356 and 2044-1357, and the condition of these signs will be kept under inspection and repair.

The original practice of marking chainage along the L1204 will be extended to the R314-L1202. These markings are shown at 1km spacing for clarity on Drawing No. 2044-1352.

The markers will be further extended eastwards along the L1203 and L52453, as shown on the Drawings.

6.2 COMMUNICATION BY RADIO, TELECOMS AND PRINT MEDIA

Regular progress reports are published in the print media, are given to Midwest Radio and other local radio stations, with details of any significant milestones anticipated over the coming weeks. A special effort will be made to maintain the awareness of schoolchildren of increased traffic volumes associated with the project.

A freephone number has been provided, and listed on all communications, to permit the public:

(a) to comment on the driving standards they encounter with individual HGV drivers, and

(b) to raise queries, report accidents or hazards, or register complaints.

This number will be manned during working hours, with appropriate voicemail outside of such hours, and all calls will be logged and responded to.

6.3 LIGHTING CONDITIONS

Regardless of daylight conditions, and in response to the Mayo County Council promotion of dipped headlights in daytime, trucks will normally operate on dipped headlights. This will assist in mitigating risks of road accidents particularly in poor daylight.

6.4 AREAS OF RESTRICTED CARRIAGEWAY WIDTH

There are a number of sections of road where residential development and boundary walls locally restrict carriageway width, so that two trucks cannot safely pass at such points. At such points, the Code of Practice for Drivers defines a priority system to allow the right of way to the laden vehicle, and signage at such locations warns drivers to this effect, with provision for a pause point for the yielding vehicle.

6.5 SPEED LIMITS AND SEPARATION DISTANCES

A maximum speed limit of 60 km/hr has been imposed for HGVs on the Haul Route sections on the R313, L1204 and R314, and will extend along the L1202 and L1203 with the exception of roads where the Convoy system will be implemented where a maximum speed limit of 50km/hr will be imposed. This will be extended to the minor roads branching from the L1202 and L1203. SEPIL will from time to time deploy a pacing vehicle as part of the enforcement of this requirement, and feedback from the Freephone number will be used to police the speed limits on the route.

Drivers have been instructed to follow the convoy system where required and will maintain, as far as possible, the separation between vehicles travelling in the same direction so that the space available for locally widened sections at areas of poor sight distance, and where oncoming traffic must yield, need not be designed to accommodate more than two vehicles waiting. However subject to Garda Siochana direction separation distances may vary.

In any queuing situation on the L1202, L1203 or inner road network, drivers will be instructed to maintain a minimum separation of 20m from each other, and from entrances to dwellings, so that safe visibility around each vehicle can be maintained. The manner of traffic controls at key junctions will be agreed with the Gardaí.

6.6 ACCOMMODATING THE NEEDS OF LOCAL RESIDENTS.

There are approximately 50 households on or adjacent to the L1204, or adjacent to the minor roads which serve the villages of Muingingaun, Glenturk More, Glenturk Beg, Glencullin Lower and Upper, Lenanadurtaun, and Cloontakilla. A comparable number of dwellings exist in Glengad-Pollatomish and in Rossport-Rossdoagh.

Haulage traffic must share the route with forestry traffic, local residents, school bus and other road users. The common usage of the R313, L1202, L1203, L1204 and R314 by haulage and local traffic presents risks, which have been assessed and which are mitigated by:-

- Proper road signs.
- Regular communication.
- Awareness of school bus runs.
- Driver training and communication.
- Speed controls.
- Maintenance of clean loading and unloading areas on site.

There are three schools in the working area, two schools are located in the village of Rossport, Rossport National School and a secondary school Coláiste Comhain, Ros Dumhach. The third school, Pollatomish National School located on the L1202 in Pollatomish village.

6.7 RECORD KEEPING

In order to ensure compliance with national regulations on maximum working hours and break intervals for drivers, vehicle tachographs are fitted to all heavy commercial haulage vehicles. These are recorded to archive and analysed for compliance with work duties on a weekly basis. Open book access to these records are made available to the Gardaí in their monitoring of statutory load limits.

The use of mobile phones whilst driving is not permitted.

Other report sheets have been designed for the driver to record any incident, or vehicle maintenance requirement.

6.8 DRIVER TRAINING

The elements included in the training of each vehicle driver are listed in the Code of Practice for Drivers which was developed before the peat haulage operation. The Gardaí have indicated that a general requirement for haulage vehicles to pull in at a safe location and give way to following private traffic would be helpful in avoiding driver frustration and this has been included in the Driver Code.

Driver training will be conducted by the Institute of Advanced Motoring.

6.9 INSPECTIONS

There are three types of inspection which applies to the fleet:

- *First Use Inspection*
  A current DOE (Section 6.9) certificate of road worthiness will be held on site for all vehicles.
- *Daily Check:*
  Performed by the driver.

Each of these different inspections is addressed in the following Sections.

6.9.1 First Use Inspection

a) First use inspections will be carried out before using any vehicle.
b) A first use inspection is a pre-mobilisation inspection combining a normal safety inspection, and a check that the vehicle meets the contract specifications for performance.
c) Each Vehicle will be issued a Garage Certificate that it has been accepted into use on site.

6.9.2 Daily Checks

a) Carried out before using the vehicle by the driver or other authorised person e.g. mechanic or inspection team
b) The Vehicle Daily Checklist and Defect Form lists the daily check items, and the Drivers Code prompts him to complete it.
c) There will be a system of reporting faults that may affect the roadworthiness of the vehicle, which shall include:

- Reporting of all faults every day until they are fixed
- A method of recording, in writing, the faults reported
- A method of closing out reported faults in the same place as they are originally recorded

6.9.3 Defect Reports

Any defects found during the daily check, whilst the vehicle is in use, or on its return to base, is reported by the driver. The defects are recorded in writing, normally by the driver.

6.9.4 Responsibility for Actioning Defect Reports

Defect reports shall be actioned by the Contractor involved who shall ensure that corrective action is taken.

6.9.5 Defect Reports and Maintenance Records

A defect report is part of the maintenance record of the vehicle and is kept, together with details of the remedial action taken, for at least 12 months until the asset is released from Company or Contractor service.

6.9.6 *Standards and Information for Safety Inspections*

i. The manufacturer's maintenance and operations manual shall be used, and reference made to manufacturers recommended tolerances for pass/fail criteria.

ii. The previous inspection report shall be available to make sure that all defects have been remedied.

6.9.7 *Safety Inspection Reports*

i. Each safety inspection shall be recorded in writing.

ii. The safety inspection report shall include:

- name of owner of vehicle
- name of user using vehicle (if different)
- date of inspection
- name of the inspector
- vehicle identity (fleet number and/or registration number)
- odometer reading
- a list of all items inspected
- an indication of the condition of each item inspected.
- details of any defects found
- details of any repair work and by whom it was done.
- closing statement that any defects have been repaired satisfactory, and the vehicle passes the inspection.

iii. The safety inspection report shall have notes of repair work done to remedy defects identified and details of any work to be carried forward.

6.9.8 *Safety Inspection Records*

Safety inspection reports shall be kept as part of the maintenance history of the vehicle. Safety inspection records may be stored electronically.

6.9.9 *Visual Evidence of Inspection*

A certificate or sticker shall be issued to vehicles, which pass the safety inspection, to be attached or kept in the vehicle until the following inspection. This evidence shall include, as a minimum: the date of last inspection, the name of the inspector.

6.10 ROAD CONDITION MAINTENANCE

The extent of the heavy vehicle traffic movements, and the nature of the payload may create problems of:

(a) fugitive spills of entrained water from tailgates,

(b) localised areas of subgrade and wearing surface failure

Internal circulation roads leading the vehicles to the wayleave or stockpiling point will be kept as clean as operations permit, by means of regular trimming of the circulation road surface by onsite graders, and topping off with clean maintenance coatings on a regular basis. A truck mounted vacuum mechanical sweeper will be assigned to the haul routes on a continuous basis over the working day.

To mitigate against the fugitive spillage of entrained water from tailgates, it is proposed to modify the tailgate by installing a special seal to all peat carrying trucks.

Use of private cars by plant drivers and fleet drivers in the confines of the approach routes and materials tipping sites will be in specified car parks only.

6.11 EMERGENCIES AND CONTINGENCIES

It is important that, notwithstanding materials haulage traffic, emergency services can gain ready access to any household along the Haul Route, or indeed can gain priority usage of the Haul Route for travel to and from Rossport, Glengad, Pollatomish, Aghoos, Barnatra, or Glenamoy to Bangor and onwards to Castlebar. SEPIL, and the Contractor will agree emergency procedures and contact numbers with all the Emergency Services in County Mayo. On being notified of a priority condition, all vehicles, if they are already at those locations, will be directed either to park at the Terminal, Peat Deposition site or Pipeline wayleave sites. Alternatively, they will be directed to the nearest lay-by position, if on the Haul road network, giving right of way to the emergency vehicles until the need for priority access has passed.

With respect to an emergency condition arising on the Terminal or on the Onshore Pipeline Site itself, priority access to and from these sites will be given to ambulance or firetenders by a similar general stand down order and by clearance of the access lane to the affected site.

The local emergency services will be provided with mapping of the Chainage Marker system so that it can be used for rapid direction of emergency vehicles to any accident location along the Haul Route.

Copies of this plan will be lodged with each of the Emergency services, the Gardaí and Mayo County Council.

7.0 REVIEW AND UPDATING

This Pipeline Traffic Management Plan has been developed to underpin the planning process for the Onshore Pipeline Route. It is anticipated it will need one subsequent revision to take account of any conditions emerging from that process, so that the necessary steps are taken by the Corrib Project Team, RPS and the Contractor to support an efficient, safe transportation operation, with the least possible impact upon the lives of the residents living alongside, or close to the Haul Routes to the Pipeline.

Two separate, independent Traffic Management Plans have also been developed for the Landfall Pull-In and the Terminal.

Traffic flows from each of these elements of the project, together with supporting enabling works by others, have been taken into account in each Plan.

Given that significant volumes of peat have been successfully transported in traffic volumes well in excess of those expected henceforth, the experience and lessons gained in that period have been drawn upon to correct any deficiencies, in consultation with the key stakeholders.

This Plan, will eventually form part of the Safety File for the completed project.

APPENDIX 1

Detailed Schedule of Materials to be hauled to the Onshore Pipeline

CORRIB FIELD DEVELOPMENT PROJECT / ONSHORE GAS PIPELINE
Master Traffic Plan (Estimated)

Roads	Activity	Month 1	2	3	4	5	6	7	8	9	10	11	12
N56/N15/N59/L120 4/R314/L1202	**Glengad Pipeline**												
	Cabins	4	4									4	4
	Fencing	45	45									45	45
	Rock	100	100	100	10	10							
	Concrete	5	30										
	General Equipment	4	3	3	7	5	5	5	5	5	5	5	5
	Tunnelling Equipment		20	38	2	2	2	20	38				
	Casing Pipe / Sleeve Rollers etc		35	53	6	6	6	6	6				
	Surplus Material Away		5	35	75	75	5	5	5	5	5	75	75
	Sheet Piles	3								3			
	Services	10	10	10	10	10	10	10	10	10	10	10	10
	20" Pipe				5	10							
	Cables				1	2							
	Umbilical Conduit				2	4							
	Umbilical				2	2							
	Service Duct				1	1							
	Outfall Pipe				1	1							
	Miscellaneous Materials	20	20	20	20	20	20	20	20	20	20	10	10
	Personnel Vehicles	315	315	400	450	450	450	450	450	450	450	450	315

CORRIB FIELD DEVELOPMENT PROJECT / ONSHORE GAS PIPELINE
Master Traffic Plan (Estimated)

Roads	Activity	Month 1	2	3	4	5	6	7	8	9	10	11	12
N56/N15/N59/L1204/R314/L1202	**Glengad Landfall Valve Facility**												
	Cabins	4											4
	Fencing	10	10	1	1							10	12
	Rock	20	10	10	5	5	5	5	5	5	5		
	Concrete		10	25	25	2	2	2	2	2	2		
	Equipment	3	3	3	3	3	4	4	3	3	3	3	3
	Sheet Piles			1					1				
	Surplus Material Away	100	300	300	15	15	5	5	5	5	5	75	50
	Services	4	4	4	4	4	4	4	4	4	4	4	4
	Mechanical Equipment					5	5	5	5	2	2	2	
	Miscellaneous Materials	5	5	5	5	5	5	5	5	5	5	5	5
	Personnel Vehicles	400	400	400	450	450	450	450	450	450	450	450	315

CORRIB FIELD DEVELOPMENT PROJECT / ONSHORE GAS PIPELINE
Master Traffic Plan (Estimated)

Roads	Activity	Month 1	2	3	4	5	6	7	8	9	10	11	12
N56/N16/N59/L1205/R314/L1203/L52453	**Rossport Point to RDX 2**												
Cabins		4	4	5				4	4	5	5		
Fencing		45	45	45						30	75	75	
Rock		1300	1400		2000	2000	160	160		10			
Concrete		5	5				8	8					
Equipment		8	12	20	2	5	5	10	4	8	12	12	12
Sheet Piles		5	5		5	5				9	9	2	
Bogmats		30	30	8								68	
Tunnelling Equipment / Winches		6	8	8	4	4	4	4	4	4	8	22	
Casing Pipe			10	12									
Peat Away*					690	690	1000	260					
Surplus Material Away		5	5	5	5	5	5	5	5	5	1000	1000	1000
Services		10	10	10	10	10	10	10	10	10	10	10	10
20" Pipe					20	10	25	25					
Cables					1		1	1					
Umbilical Conduit					1		2	1					
Umbilical					2		2	2					
Service Duct					1		3	3					
Outfall Pipe					4		3	4					
Miscellaneous Materials		10	10	10	10	10	10	10	10	10	10	10	10
Personnel Vehicles		400	400	700	1050	1050	1050	1050	700	700	700	315	315

CORRIB FIELD DEVELOPMENT PROJECT / ONSHORE GAS PIPELINE
Master Traffic Plan (Estimated)

Roads	Activity	Month 1	2	3	4	5	6	7	8	9	10	11	12
	RDX 2 to Rossport South Tunnel Site N/E (North Side of Bay)												
N56/N16/N59/L1205/R314/L1203/L52453	Cabins	4	4							4	4		
	Fencing	25				25				25	25		
	Rock	500	400	300			1800	700	100				
	Concrete	5	10	10									
	Equipment	8	12	4	6	2	3	5	2	4	22	23	
	Sheet Piles	2	2								3		
	Bogmats	25				25					50		
	Tunnelling Equipment / Winches	6	8	8	4	4	4	4	4	4	8	22	
	Casing Pipe		10	12									
	Peat Away*						800	600					
	Surplus Material Away		150	100	100						300		
	Services	5	5	5	5	5	5	5	5	10	10	10	10
	20" Pipe								20				
	Cables								1				
	Umbilical Conduit								2				
	Umbilical								3				
	Service Duct								2				
	Outfall Pipe								2				
	Miscellaneous Materials	10	10	10	10	10	10	10	10	10	10	10	10
	Personnel Vehicles	450	450	450	450	450	450	700	700	700	700	450	450

* Peat back loaded on Rock Trucks

CORRIB FIELD DEVELOPMENT PROJECT / ONSHORE GAS PIPELINE
Master Traffic Plan (Estimated)

Roads	Activity	Month 1	2	3	4	5	6	7	8	9	10	11	12
	Tunnel Site at Aghoos N/E to RDX 4 (South Side of Bay)												
N56/N16/N59/L1204/R314/L1202	Cabins	5											5
	Fencing	20	20										40
	Rock	1000	300		1250	1250							
	Concrete		20	20									
	Equipment	4	4	2	6	6	8	2	24	24	24	8	8
	Sheet Piles		3			3			6	6	6		
	Bogmats		20								20		
	Tunnelling Equipment / Rollers		20	20	20	5	5	60					
	Casing Pipe/Sleeve		45	45	45								
	Surplus Material Away	2	25	150	150	60	5	5	5	5	500	500	300
	Peat Away*				950	800							
	Services	5	5	5	5	5	5	5	5	5	5	5	5
	20" Pipe					25	25						
	Cables					1	1						
	Umbilical Conduit					4	4						
	Umbilical					4	4						
	Service Duct					4	4						
	Outfall Pipe					4	4						
	Miscellaneous Materials	5	5	5	5	5	5	5	5	5	5	5	5
	Personnel Vehicles	700	700	700	700	700	700	700	450	450	450	100	100

* Peat back loaded on Rock Trucks

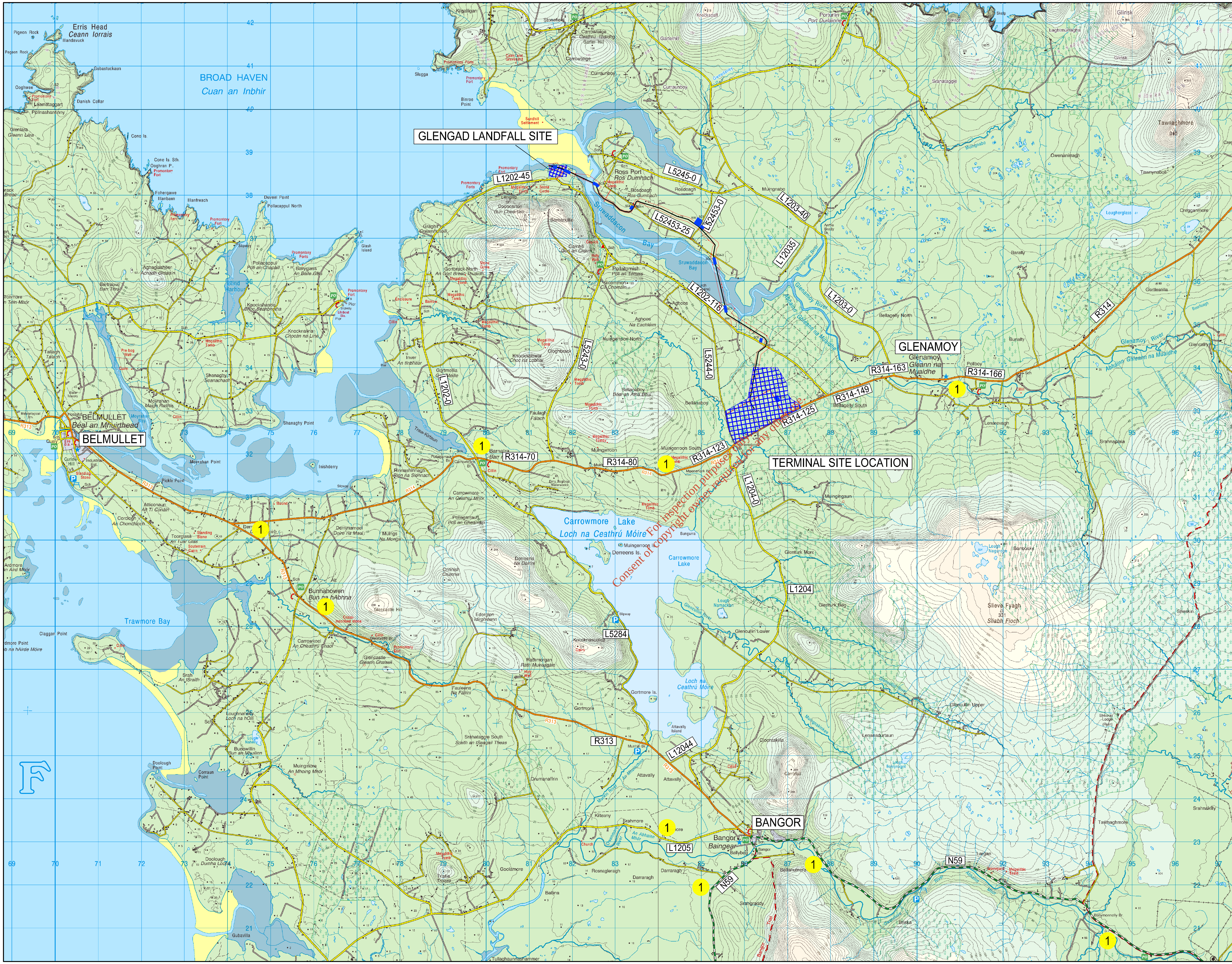
CORRIB FIELD DEVELOPMENT PROJECT / ONSHORE GAS PIPELINE
Master Traffic Plan (Estimated)

Roads	Activity	Month 1	2	3	4	5	6	7	8	9	10	11	12
	RDX 4 Aghoos N/E to Terminal North												
N56/N16N59/L1204/R314/L1202	Cabins	6											6
	Fencing	10											10
	Rock				1750	950							
	Equipment		2	6	10	10	12	8	30				
	Sheet Piles				3				3				
	Bogmats		8						8				
	Surplus Material Away	5	5	5	5	5	5	5	5	5	5	5	5
	Peat Away*				590	750	420						
	Services	4	4	4	4	4	4	5	5	5	5	5	5
	20" Pipe						30						
	Cables						1						
	Umbilical Conduit						4						
	Umbilical						4						
	Service Duct						4						
	Outfall Pipe						4						
	Miscellaneous Materials	5	5	5	5	5	5	5	5	5	5	5	5
	Personnel Vehicles	350	700	700	700	700	700	700	350	350	350	350	350

* Peat back loaded on Rock Trucks

APPENDIX 2

Drawings



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LEGEND

1. ADVANCE WARNING SIGN POSITION

R313 ROAD REFERENCE NUMBER

PROPOSED PIPELINE ROUTE

NOTES

1. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING
2. ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE
3. ENGINEER TO BE INFORMED BY THE CONTRACTOR OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES
4. ALL LEVELS SHOWN RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD

Rev	Date	Description	By	Chkd.
C	22-01-09	PIPELINE UPDATED	P.G.	T.C.
B	22-12-08	PIPELINE UPDATED	M.L.	T.C.
A	24-04-08	ISSUE TO CLIENT	R.K.	M.F.G.

Client: Corrib natural gas

Project:
ONSHORE GAS PIPELINE
PART TWO
ONSHORE PIPELINE
TRANSPORT MANAGEMENT PLAN

Title:
LAYOUT PLAN SHOWING ROAD NETWORK & DISTANCE SIGNAGE

Scale @ A1: 1 : 40,000

Prepared by: R.K.
Checked: M.F.G.
Date: FEB '08

Project Director: MICHAEL F. GARRICK

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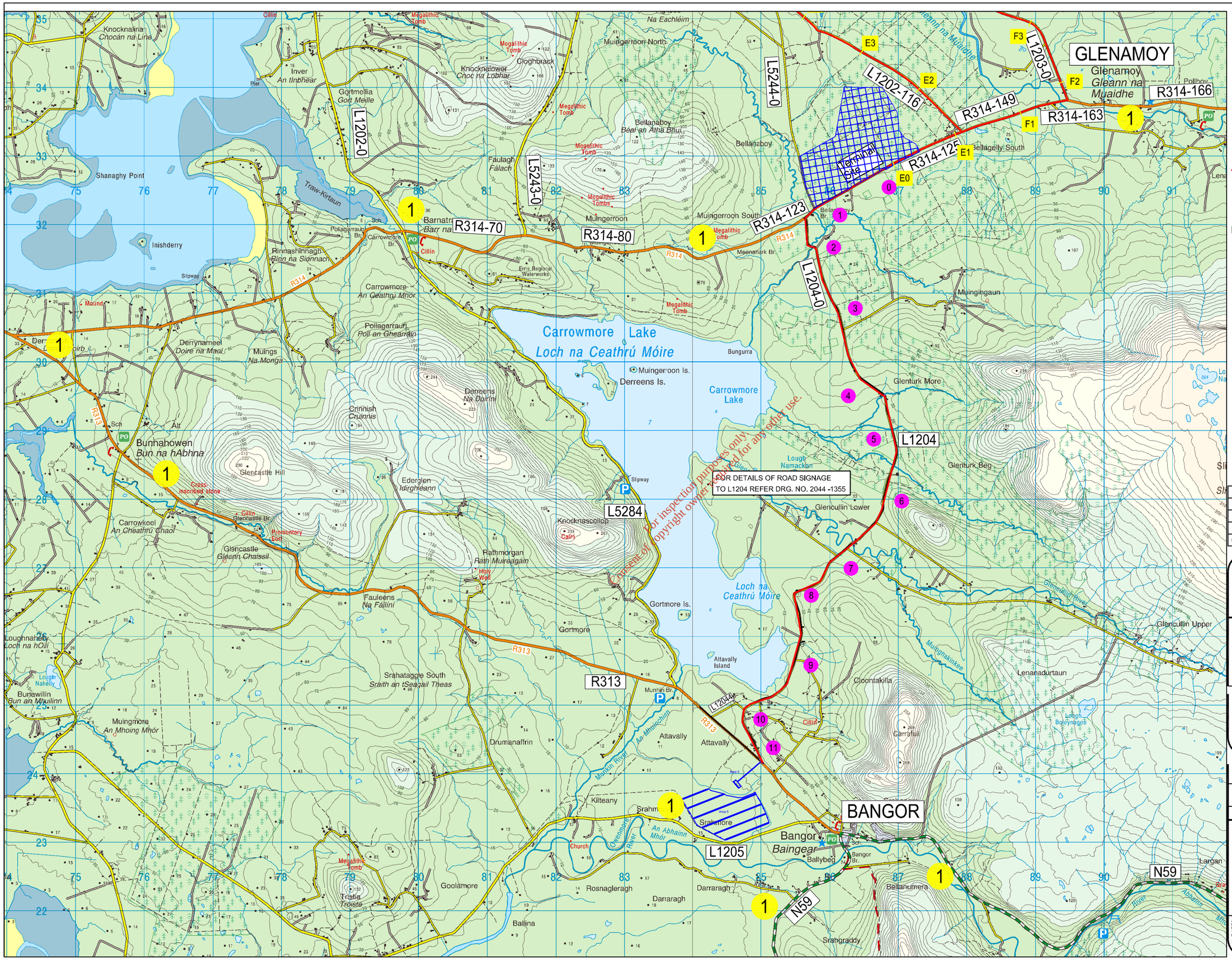
Drawing No.: 2044-1350

Revision: C



FOR DETAILS OF ROAD SIGNAGE TO L1204 REFER DRG. NO. 2044 -1355

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LEGEND

1.	ADVANCE WARNING SIGN POSITION
∼	PROPOSED HAUL ROUTE
4	KILOMETRE CHAINAGE POINTS L1204
E1	KILOMETRE CHAINAGE POINTS
R313	ROAD REFERENCE NUMBER

NOTES

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3. ENGINEER TO BE INFORMED BY THE CONTRACTOR OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES
4. ALL LEVELS SHOWN RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD

Rev	Date	Description	By	Chkd.
B	22-12-08	CHAINAGES UPDATES	M.L.	TC
A	24-04-08	ISSUE TO CLIENT	R.K.	M.F.G.

Client: Corrib natural gas

Project:
ONSHORE GAS PIPELINE
PART TWO
ONSHORE PIPELINE
TRANSPORT MANAGEMENT PLAN

Title:
LAYOUT PLAN SHOWING
L1204 & HAUL ROUTE

Scale @ A1: 1 : 25,000

Prepared by: R.K.
Checked: M.F.G.
Date: FEB '08

Project Director: MICHAEL F. GARRICK

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Drawing No.: 2044-1351
Revision: B