



Plate 13-4
Kilshane Road near western quarry entrance

Proposed Development Details

13.22 As the planning application relates to the continuance of use of the existing quarrying operation, the proposed development details are the same as existing, with the application based on an average annual output of c.1M tonnes from the quarry over a life of 35 years.

Proposed Site Access

13.23 As the planning application relates to the continuance of use of the existing quarrying operation, the proposed development will continue to utilise the primary site entrance accessed off North Road located on the eastern edge of the site. The secondary entrance accessed off Kilshane Road located on the western edge of the site will also remain operational.

13.24 Both access points on North Road and Kilshane Road have historically been shown to function satisfactorily at their present locations. As such, it is considered unnecessary to alter the existing access points in terms of geometry and/or location. The Kilshane Road access however, will be subject to minor improvements such as the cutting back of overgrown vegetation.

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13.25 The improved Kilshane Road access will have visibility splays which meet current NRA standards, with amended junction radii in order to accommodate improved swept-path requirements.

13.26 The proposed access arrangements are shown on Figure 13-3.

Methodology

13.27 The methodology used within this assessment is based upon the guidelines for Traffic Impact Assessment 1994.

13.28 The principal potential impact of the development proposals in transportation terms is likely to be that caused by HGV traffic during the operational phase. Impacts have been assessed in terms of:

- highway capacity – quantitative impact of link capacity; and
- environmental impact – impact of HGV traffic on road safety and the amenity of highway users and local residents.

13.29 A detailed assessment of baseline conditions, including traffic flows and recent accident data, has been undertaken to establish any possible impacts and the likely scale of those impacts.

13.30 Standard assessment techniques have been used to quantify the material impact of development traffic. Material traffic impact has been compared against impact thresholds published by the Institution of Highways and Transportation. A qualitative assessment is made of environmental impacts such as road safety and pedestrian/cyclist amenity.

13.31 In light of any potential impacts caused, mitigation measures are suggested and a final assessment of residual impacts is undertaken.

BASELINE REVIEW

Planning Policy Context

Background

13.32 The type and location of this development requires this EIS Chapter to give full regard to the current planning policy framework. Accordingly, the following national, regional and county planning policy guidance on the transportation and accessibility implications of the development will be considered:

- National Development Plan 2007 - 2013
- National Spatial Strategy for Ireland 2002 - 2020
- Regional Planning Guidelines 2010 - 2022
- Fingal County Development Plan 2011 - 2017

National Planning Policy Guidance

13.33 National planning policy guidance is held within the National Development Plan 2007-2013 and National Spatial Strategy for Ireland 2002-2020.

National Development Plan 2007 - 2013

13.34 The 'National Development Plan (NDP) Transforming Ireland - A Better Quality of Life for All', sets out the roadmap to Ireland's future, integrating strategic development frameworks for regional development.

13.35 The report states that key to regional development will be efficient utilisation of plan investment, especially in infrastructure. It recognises the role that transport has to play with fulfilling development potential.

13.36 Chapter 3 of the NDP considers regional development. It advises that *'...balanced regional development means supporting the economic and social development of all regions in their efforts to achieve their full potential. This Plan aims to promote the development of all regions in Ireland within a co-ordinated, coherent and mutually beneficial framework. Balanced regional development is, accordingly, central to the investment strategy of the Plan'*.

13.37 Transportation trends are also considered within Chapter 3, it recognises that regional population and economic trends also have implications for transportation. The report suggests that *'...a rapidly increasing population, rising employment and income levels have resulted in car ownership levels in Ireland increasing significantly and converging towards EU averages. Between 1991 and 2002, the total number of cars owned by private households increased from 445,226 to 1,601,619. By 2002, just over 62% of workers travelled to work by car compared to 47% of a much smaller workforce in 1991. By contrast, the percentage usage of public transport (bus or train) decreased from 9.4% in 1991 to 8.7% in 2002 even though the actual number of users increased substantially by 31% from 107,211 to 140,381. The 2002 Census figures also pointed to a trend towards longer distance commuting although almost 60% of the population had to travel less than 9 miles and only 6% had to travel over 30 miles. This trend is likely to have been intensified in the 2006 Census and has implications for spatial planning and environmental sustainability'*.

National Spatial Strategy for Ireland 2002 - 2020

13.38 The National Spatial Strategy (NSS) is a 20-year strategy, which is a strategic vision for the spatial development of Ireland. Sustainable development is one of the key concepts of this strategy; from the point of view of strategic spatial planning, sustainable development will, amongst other things, mean *'maximising access to and encouraging use of public transport, cycling and walking...developing sustainable urban and rural settlement patterns and communities to reduce distance from employment...and to make better use of existing public transport'* (Para 1.3).

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- 13.39 Physical networks of infrastructure such as roads, public transport, energy and communications are of particular relevance to the NSS, since they themselves have a spatial impact and also influence the location, timing and extent of development.
- 13.40 Section 2.6 'How to strengthen areas and places' recognises that the promotion of sustainable development, particularly with regard to planning, land use and transportation (effective urban transport systems, including facilities for pedestrians and cyclists) is vital to foster a wide range of enterprise activity and employment creation.
- 13.41 Section 3.3.1 'Consolidating the Greater Dublin Area' asserts that '*...the continuing health of Dublin is critically dependent on concentrating employment intensive activities close to public transport corridors and road transport intensive activities close to the strategic road network...'*. The application proposals is classified as road transport intensive and is well located in terms of the strategic road network, with links to the N2 and M50 within close proximity.

Regional Planning Policy Guidance

- 13.42 The Dublin Regional Authority is one of eight Regional Authorities established in 1994 to provide a regional tier of government level in Ireland. The function of the Authority is to promote the co-ordination of the provision of public services at regional level. The Dublin Regional Authority covers the constituent City/County Council administrative areas of Dublin City, South Dublin County, Dun Laoghaire-Rathdown County and Fingal County in the east of Ireland.
- 13.43 Regional Planning Guidelines consider the statutory obligations of all local authorities in the region, all relevant policies and objectives of the Government, including in particular any national plans, policies or strategies specified by the Minister for the Environment, Heritage and Local Government as relevant to the determination of strategic planning policies. They set 12 to 20-year strategic policy that should be considered by local authorities in their development plans.

Regional Planning Guidelines 2010 - 2022

- 13.44 The Regional Planning Guidelines for the Greater Dublin Area combines two Regional Authority areas - the Dublin Regional Authority and the Mid-East Regional Authority for the purposes of Regional Planning. This approach is provided for in the Planning Act where required by the Minister.
- 13.45 The current Regional Planning Guidelines were made by the Dublin and Mid-East Regional Authorities on the 15th of June 2010. The Guidelines cover the Councils of Dun Laoghaire-Rathdown, Dublin City, Fingal and South Dublin in the Dublin Region and Kildare, Meath and Wicklow County Council areas in the Mid-East Region.
- 13.46 The Regional Planning Guidelines aim to give regional effect to the National Spatial Strategy and to guide the development plans for each county. The

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RPGs inform the Development Plans in each Council area and have effect for six years.

- 13.47 Transport and Infrastructure strategy is considered within Chapter 5. The strategy highlights priority infrastructure investments and measures to enhance: regional competitiveness, the sustainability of development and to improve quality of life by improving accessibility and reducing travel times.
- 13.48 Paragraph 5.3.2 provides guidance on the protection of existing and proposed road infrastructure '*...National primary, national secondary and strategic regional roads within the region are of critical importance for the movement of goods and services and to the economic function and settlement. It is therefore essential that planning authorities make provision to protect the carrying capacity of these routes in the relevant Development Plans and do not compromise proposed road schemes, where road scheme planning has commenced*'.
- 13.49 Transport and Infrastructure policy TIP14 states that '*Plans and policies should identify and protect strategic road corridors and their principle function as arterial routes for the movement of goods, services and people between settlement areas within and outside of the region*'.

County Planning Policy Guidance

- 13.50 County policy considered will be held within Fingal County Development Plan 2011-2017.

Fingal County Council Development Plan 2011 - 2017

- 13.51 The Fingal County Development Plan sets out Fingal County Council's policies and objectives for the proper planning and sustainable development of the County from 2011 to 2017. The plan came into effect on 20th April 2011 replacing the 2005 to 2011 Development Plan. The plan guides how and where development will take place in the county over the next 6 years.
- 13.52 Section 2.6, Quarrying and Aggregate Extraction, states there is '*a need to identify and protect aggregate resource areas to meet the likely scale of future demand while at the same time protecting the natural environment and communities from environmental impacts including noise, dust, traffic and vibration*'.
- 13.53 Section 4.1, Transportation, has also been reviewed. With regards to integrated land use and transportation this states that '*in developing an integrated land use and transportation policy it should be noted that land uses that generate large numbers of Heavy Goods Vehicles should be situated adjacent to good road networks and away from town centres*'.
- 13.54 The proposed application site is well located in terms of the strategic road network, therefore HGVs generated will not be required to route through any local residential areas/town centres.

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13.55 Additionally, the internal layout of the site will be designed in order to accommodate HGV volumes and vehicle turning requirements. The operation of the site will not result in vehicles stacking out onto the highway causing potential safety issues and vehicles shall enter and exit in a forward gear.

Planning Policy Summary

13.56 An assessment of how the development site accords with national, regional and county policy has been undertaken within this section.

13.57 It is considered from the assessment above that the development proposals put forward for this site accord with the different levels of policy guidance in terms of sustainable development and transport issues.

Existing Road Network

13.58 The existing highway network within the vicinity of the application site is illustrated on Figure 13-1 and is described in detail below.

13.59 The application site at Huntstown is located north-east of Blanchardstown and to the north of Finglas. The existing road network around the site is defined by:

- the R135 Regional Road to the east, which previously served as the N2 National Primary Road (up to May 2006). This road is also known as the North Road. It intersects with the N2 Dual Carriageway at the Cherryhound Interchange to the north and is severed by the M50 Motorway to the south;
- a local road, known as the Kilshane Road (or Cappagh Road) to the west and north of the quarry; and
- the M50 Motorway which lies south of the existing quarry.

13.60 The N2 Dual Carriageway between the M50 Motorway and Cherryhound Interchange runs immediately east of the R135 Regional Road. It continues northwards from the Cherryhound Interchange as the M2 Motorway to north of Ashbourne Co. Meath. From there, it becomes the N2 National Primary Road and continues northwards as a single carriageway road through the counties of Meath, Louth and Monaghan to the border with Northern Ireland.

13.61 In relation to the local road network, the application site is located to the north of the M50 motorway, west of the R135 Regional Road (North Road) and N2 Dual Carriageway and east and south of the Kilshane Road.

13.62 Much of the road network around the application site has only been upgraded in recent years. The N2 Dual Carriageway/M2 Motorway opened in May 2006 and led to a large and immediate reduction in traffic levels along the former N2 National Primary Road (now the R135 Regional Road) immediately east of Huntstown Quarry. Upgrading of the M50 to provide three lanes of traffic in both directions was also completed in 2010, as was the upgrading of the interchange with the N2 Dual Carriageway to provide for a free flow interchange.

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- 13.63 The existing North Road comprises a single carriageway road generally of about 7.5m width with hard shoulders of varying width. The alignment essentially runs straight from the existing quarry entrance northwards up to the N2/M2 Motorway at the Cherryhound Interchange and southwards to the point at which it is severed by the M50 Motorway at Finglas.
- 13.64 A speed limit of 50kph applies on the existing R135 Regional Road. This speed limit applies to traffic which travels via the slip road off the northbound carriageway of the N2 Dual Carriageway and North Road to the quarry entrance and to traffic running between the quarry entrance and the Cherryhound Interchange. The speed limit on Kilshane Road that applies to traffic travelling past the secondary entrance is 80kph.
- 13.65 The speed limit on both the N2 Dual Carriageway and M50 Motorway is 100kph, while that on the M2 Motorway north of the Cherryhound Interchange is 120kph.

Non-car Accessibility

- 13.66 To ascertain opportunities for sustainability, consideration has been given to the non-car accessibility of the application site.
- 13.67 Although operation of the site will be very much road based, staff will require transport means to get to and from work. Non-car accessibility will help reduce traffic impact and also promote social inclusion by providing means of transport to the application site to those who have not got access to a private car.
- 13.68 Access to the application site on foot is by way of the existing pedestrian footway situated to the eastern side of North Road. At approximately 1.5m in width this footway extends along North Road northwards until reaching the northbound N2 slip road/North Road junction where it terminates. Pedestrians can then utilise footway situated to the western side of North Road which extends a short distance in the direction of Cherryhound Interchange before terminating at a bus stop. For employees wishing to access this bus stop on foot, it is an approximate distance of 1.85 kilometres away or a 23 minute walk (based upon an average walking speed of 80m per minute).
- 13.69 A large number of residential dwellings can be reached within a 5 kilometre cycle from the site, which assuming an average speed of 15kmh equates to a 20 minute cycle ride. This includes the northern suburbs of Dublin of Santry, Finglas, Charlestown, Dunsink and Castleknock, and settlements to the north of the M50 Blanchardstown, Mulhuddart and Tyrellstown.
- 13.70 Existing cycle infrastructure has been determined during a site visit and with reference to cycle route plans sourced from <http://dublincitycycling.ie/>. Dublincitycycling is a Dublin Council project led by the <http://dublin.ie/> and the Cycling Unit.
- 13.71 The website states that Dublin City Council began installing cycle lanes and tracks in the mid 1990s. There are now approximately 120km of on-road cycle

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track in the city and 50km of bus lanes that cyclists can use. In addition there are about 25km of off-road cycle track.

- 13.72 For the purposes of the cycle route plans, produced by the Dublin Transport Office 2008, Dublin is split into eight area plans. Two plans cover the highway within proximity of the application site; these are titled as Blanchardstown and North City and are attached at Appendix 13-A of this report. Cycle routes are referred to as three types, on-street cycle lane, adjacent to road cycle track and off-road cycle track.
- 13.73 Although there is a lack of formal cycle infrastructure on the existing access road and the existing access road/North Road priority junction, North Road does have a signed shared pedestrian cycle link on the eastern side of the carriageway to the north of the southbound on-slip.
- 13.74 A photo depicting the signed shared pedestrian cycle link is shown within Plate 13-5.



Plate 13-5
Signed shared pedestrian/cycle link

- 13.75 The N2 south of the M50 comprises a combination of on and off-street cycle facilities, providing good cycle links with central Dublin.
- 13.76 To the south of the secondary access the roundabout on Kilshane Road has cycle facilities which link towards the west. Other than a short gap between the Ratoath Road and Cruiserath Road roundabouts, adjacent to road cycle tracks

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link with Tyrellstown and Mulhuddart and continue south-west towards Blanchardstown.

- 13.77 A photo depicting the cycle facilities south of Kilshane Road is shown within Plate 13-6.



Plate 13-6
Cycle facilities south of Kilshane Road

- 13.78 Adequate provision has already been made for pedestrians and cyclists within the application site with internal pedestrian walk-ways segregated from vehicles and secure, covered cycle parking provided for those members of staff/visitors wishing to travel in via bicycle. Whilst the applicant is limited by what can realistically be undertaken to further improve non-car accessibility within the development site, should the development proposals give rise to an increase in members of staff/visitors wishing to travel in via bicycle then additional cycle parking will be provided.
- 13.79 The closest bus stop to the application site is situated on North Road to the north of the N2 off-slip.
- 13.80 A photo depicting the closest bus stop on North Road is shown within Plate 13-7.

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Plate 13.7
North Road bus stop

- 13.81 The bus stop is a simple flag post stop which is served by the number 103 and 107 services operated by Bus Eireann. Both of the routes that serve the bus stop run from Dublin to surrounding towns and villages.
- 13.82 The number 103 service runs between the city of Dublin to Ashbourne, Kilmoon and Duleek. Services operate 7 days a week and begin at 0530HRS in the morning and run at 20 minute intervals throughout the day until approx. midnight.
- 13.83 The number 107 service runs between the city of Dublin to Navan, Nobber and Kingscourt. Services operate 7 days a week and begin at 1100HRS in the morning and run three/four services in either direction throughout the day.
- 13.84 As identified above the local bus service is limited, however there are regular 20 minute services available from central Dublin throughout the day seven days per week. Travel by bus to the application site is therefore a realistic alternative to the car. A bus route plan and timetables are attached at Appendix 13-B of this report.

Accident Records

- 13.85 Accident data has been obtained from the Road Safety Authority website www.rsa.ie. The website provides an interactive online mapping tool which has

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been navigated to the area of interest in order to determine the local accident history.

- 13.86 Accident data covering the period from 2005 to 2009 is provided. The accident study area includes North Road and Kilshane Road (including Kilshane Cross), refer to Plate 13-8.
- 13.87 The information obtained is rudimentary and only provides the number of collisions and the seriousness of the collisions, along with basic details of each incident. The definitions of the severities are given below:
- **Fatal** (a crash resulting in a death)
 - **Serious** (detention in hospital; includes paralysis, fractures and severe lacerations)
 - **Minor** (includes whiplash, sprains and minor lacerations)
- 13.88 A total of 10 incidents were recorded; 1 of which was fatal, 1 classified as serious and the remainder classified as minor in nature. A summary of the collision history broken down into vehicle type is provided in Table 13.1.

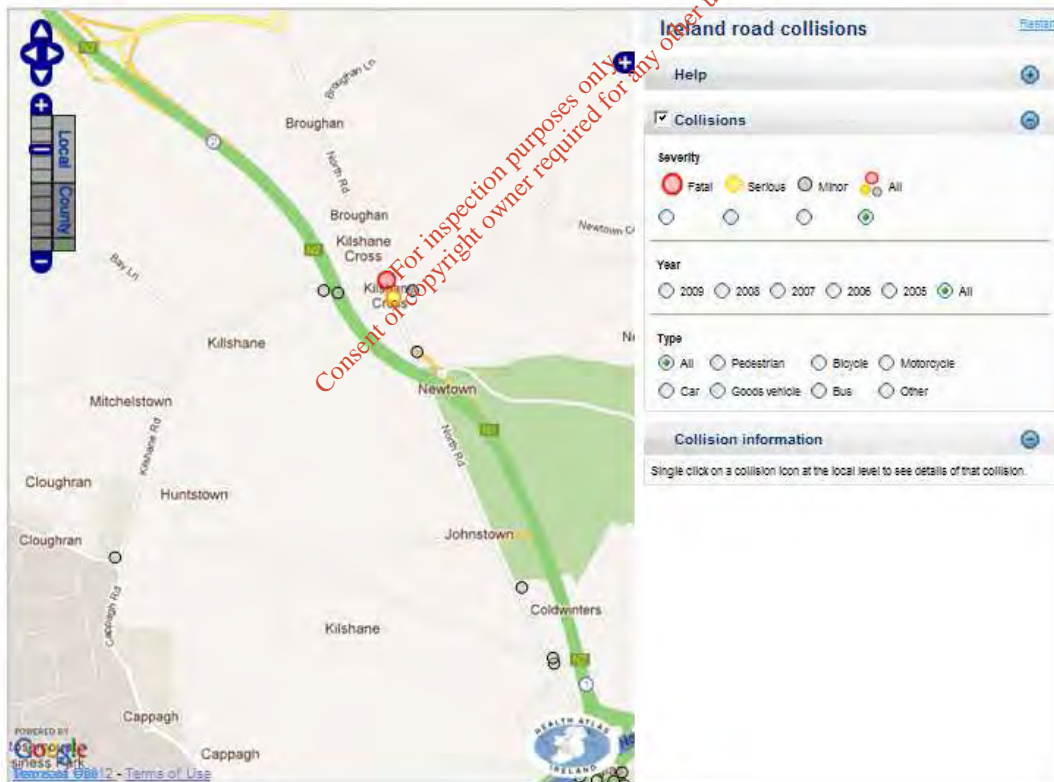


Plate 13-8
Accident Locations within Study Area (2005 – 2009)

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Table 13.1
Summary of Road Collision History by Vehicle Type (2005 – 2009)

Vehicle Type	Fatal Collisions	Serious Collisions	Minor Collisions	All Collisions
Bus	0	0	0	0
Goods Vehicle	0	1	3	4
Car	0	0	1	1
Motorcycle	1	0	3	4
Bicycle	0	0	0	0
Pedestrian	0	0	0	0
Other	0	0	1	1
Total	1	1	8	10

13.89 No fatal or serious incidents were recorded at either the North Road quarry access or Kilshane Road quarry access. The one fatal incident and one serious incident recorded both occurred at Kilshane Cross.

13.90 Two minor incidents occurred in close proximity to the North Road quarry access; however on closer inspection it appears these took place prior to the N2 Primary Road improvements.

13.91 A summary of the details available has been provided below.

Classification: Minor
Date/Time: 2008 - Friday between 1000-1600hrs
Location: Kilshane Road/Cappagh Road roundabout (50kph speed limit)
Vehicle: Other
Circumstances: Single vehicle only
No. Casualties: 1

Classification: Minor
Date/Time: 2006 - Thursday between 1900-2300hrs
Location: North Road (80kph speed limit)
Vehicle: Goods vehicle
Circumstances: Head-on conflict
No. Casualties: 1

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Classification: Minor
Date/Time: 2005 - Thursday between 1000-1600hrs
Location: North Road (100kph speed limit)
Vehicle: Motorcycle
Circumstances: Angle, both straight
No. Casualties: 1

Classification: Minor
Date/Time: 2005 - Friday between 1900-2300hrs
Location: North Road (100kph speed limit)
Vehicle: Motorcycle
Circumstances: Rear end, straight
No. Casualties: 1

Classification: Minor
Date/Time: 2005 - Friday between 0300-0700hrs
Location: North Road (100kph speed limit)
Vehicle: Motorcycle
Circumstances: Other
No. Casualties: 1

Classification: Minor
Date/Time: 2008 - Thursday between 1000-1600hrs
Location: Kilshane Road/Kilshane Cross approach (80kph speed limit)
Vehicle: Goods vehicle
Circumstances: Head-on conflict
No. Casualties: 1

Classification: Serious
Date/Time: 2008 - Saturday between 0300-0700hrs
Location: Kilshane Cross (100kph speed limit)
Vehicle: Goods vehicle
Circumstances: Other
No. Casualties: 2 (1 serious, 1 minor)

Classification: Fatal
Date/Time: 2005 - Thursday between 1600-1900hrs
Location: North Road/Kilshane Cross approach (100kph speed limit)
Vehicle: Motorcycle
Circumstances: Angle, right turn
No. Casualties: 1

Classification: Minor
Date/Time: 2008 - Monday between 1600-1900hrs
Location: Kilshane Road (80kph speed limit)
Vehicle: Car
Circumstances: Head-on conflict
No. Casualties: 1

Classification: Minor
Date/Time: 2007 - Wednesday between 1600-1900hrs
Location: Kilshane Road (80kph speed limit)

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Vehicle: Goods vehicle
 Circumstances: Rear end, straight
 No. Casualties: 1

13.92 The majority of above highlighted incidents are not specifically relevant to the development proposals, both in terms of location and incident detail. In addition, it is also worth noting that the two minor incidents that occurred in close proximity to the North Road quarry access took place prior to the N2 Primary Road improvements, when all traffic would have routed through North Road and traffic flows would have been much greater than at present. Therefore it is considered that there is no accident issue which the development proposals could be perceived as contributing towards.

Existing Traffic Flows

- 13.93 To ascertain traffic flows on North Road and Kilshane Road, 7 day Automatic Traffic Counts (ATCs) were commissioned by SLR Consulting Ltd and carried out between 22nd September 2011 and 28th September 2011 by traffic survey specialists Count-on-us; a neutral week in terms of seasonal variation, therefore outside of school holidays and weeks containing bank holidays.
- 13.94 Following collection of the North Road ATC data it was determined that the ATC equipment had been tampered with; a new ATC for this link was undertaken between 2nd October 2011 and 8th October 2011.
- 13.95 The traffic count on North Road was undertaken north of the N2 off-slip. The traffic count on Kilshane Road was undertaken approximately 30m north of the secondary quarry access. The data recorded is included in Appendix 10-C, and a summary of the Annual Average Weekday Traffic (AAWT) flow for North Road is given in Table 13.2 and for Kilshane Road in Table 13.3.

Table 13.2
Existing North Road Traffic (AAWT)

Period	North Road NB	North Road SB	North Road 2 Way
AM Peak (0800-0900HRS)	359 (47)*	20 (2)	379 (49)
PM Peak (1700-1800HRS)	304 (35)	10 (1)	314 (36)
Average Day (0000-0000HRS)	4,082 (670)	259 (43)	4,341 (713)

*Total (HGV)

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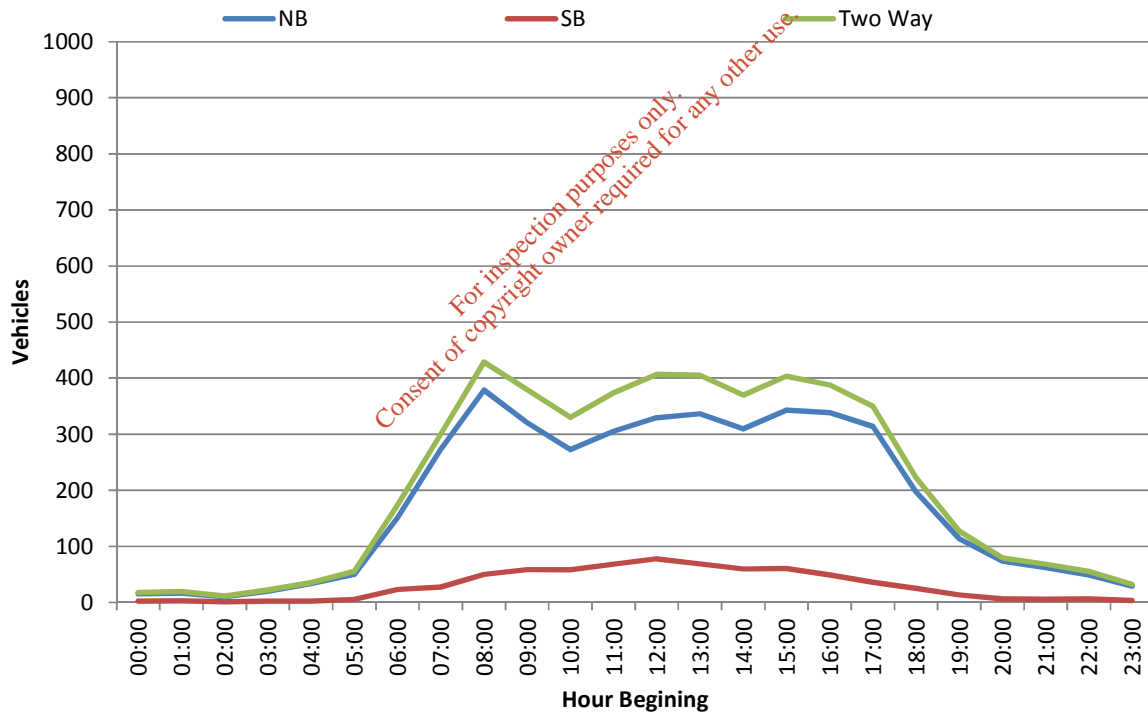
Table 13.3
Existing Kilshane Road Traffic (AAWT)

Period	Kilshane Road NB	Kilshane Road SB	Kilshane Road 2 Way
AM Peak (0800-0900HRS)	223 (30)*	744 (44)	968 (74)
PM Peak (1700-1800HRS)	640 (32)	238 (33)	878 (64)
Average Day (0000-0000HRS)	4,372 (535)	4,915 (610)	9,287 (1,146)

*Total (HGV)

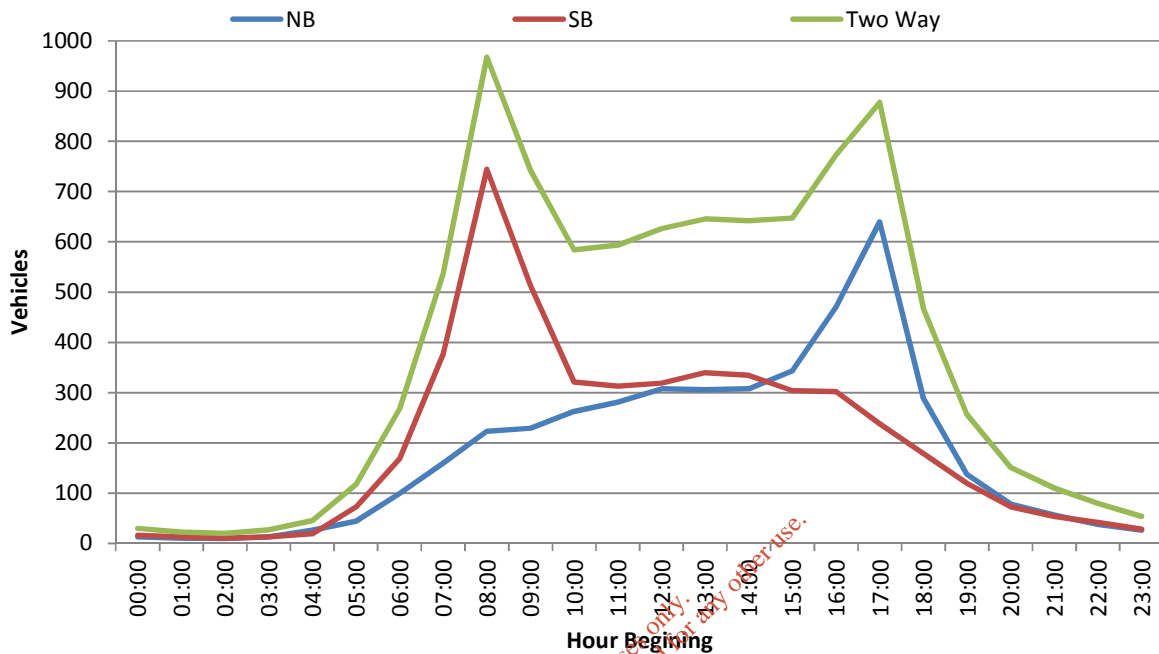
13.96 Daily traffic profiles have also been determined for both links; these have been illustrated in graph form at Plates 13-9 and 13-10.

Plate 13-9
24hr Weekday Traffic Profile – North Road



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Plate 13-10
24hr Weekday Traffic Profile – Kilshane Road



13.97 Table 13.2 and Plate 13-9 demonstrates that traffic flows on North Road are relatively light, with the vast majority of the two-way traffic flows consisting of northbound vehicle movements (due to North Road, which previously served as the N2 National Primary Road, terminating 820m south of the N2 off-slip).

13.98 Table 13.3 and Plate 13-10 demonstrates that traffic flows on Kilshane Road are subject to a tidal traffic flow pattern whereby a higher level of traffic heads southbound during the AM peak and a higher level of traffic heads northbound during the PM peak. The graph is almost symmetrical.

Committed Development

13.99 A waste licence application for a proposed inert waste recovery facility at Huntstown and the backfilling of the existing North Quarry was submitted to and is awaiting a decision from the Environmental Protection Agency (EPA Ref.W0277-01).

13.100 The estimated volume of material to be placed at the application site is approximately 3,840,000m³. The duration of backfilling activities at the quarry void will largely be dictated by the rate at which externally sourced inert soil and stone is imported to the site. In light of these and other variables, calculation of intake rates and duration is not an exact science.

13.101 It is estimated that the rate of importation of inert materials to the quarry void could average around 400,000 tonnes per annum and increase to a maximum of 750,000 tonnes per annum should a large scale infrastructure or

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development project proceed at some stage within the surrounding catchment area during its operational life. If an average importation rate of 400,000 tonnes per year is assumed, the expected operational life of the waste recovery facility would be 18 years.

- 13.102 An assumed annual average intake of up to 400,000 tonnes per year corresponds to an average daily trip rate of 70 HGV movements into and 70 HGV movements out of the North Quarry per day. Should the rate of backfilling accelerate to 750,000 tonnes per year on account of a large scale development or infrastructure project (such as Metro North or Dart Underground), the daily HGV trip rate could increase to approximately 130 HGV movements into and 130 HGV movements out of the quarry per day.
- 13.103 It is envisaged that almost all HGV's importing material to the proposed inert soil recovery facility at Huntstown will approach the site along the M50 Motorway and/or N2 Dual Carriageway and enter the site using the existing North Road entrance. It is expected that only a very occasional HGV lorry carrying material to the facility will use the Kilshane Road entrance. Therefore all committed development traffic has been applied to the North Road entrance.
- 13.104 Roadstone Wood Ltd are still awaiting the granting of the waste license for the North Quarry and as such the recent traffic surveys undertaken at the application site did not include vehicular trips associated with this activity.
- 13.105 Therefore, for the purposes of a worst case assessment, committed development traffic will be considered within this assessment on the basis of 750,000 tonnes per year of back filling, which would result in a daily HGV trip rate of approximately 130 HGV movements into and 130 HGV movements out of the quarry per day. Across an eleven hour day this equates to 12 arrivals and 12 departures per hour.
- 13.106 No other committed development in the local area has been established and no imminent development has been highlighted by Fingal County Council which should be considered as part of the base transport conditions.

TRIP GENERATION

Existing Trip Generation

- 13.107 The existing quarry is currently processing on average 3,500 tonnes per day and operates on a 6 day week single shift basis employing c.49 members of staff. This generates a number of vehicle movements per day, comprising of HGVs (quarried material etc) and light vehicles (staff, deliveries, maintenance etc).
- 13.108 In order to record the level of existing vehicular movement an additional 7 day ATC was also commissioned by SLR Consulting Ltd on the existing quarry access road. The traffic counts were carried out between 22nd September 2011 and 28th September 2011 by traffic survey specialists Count-on-us. The results

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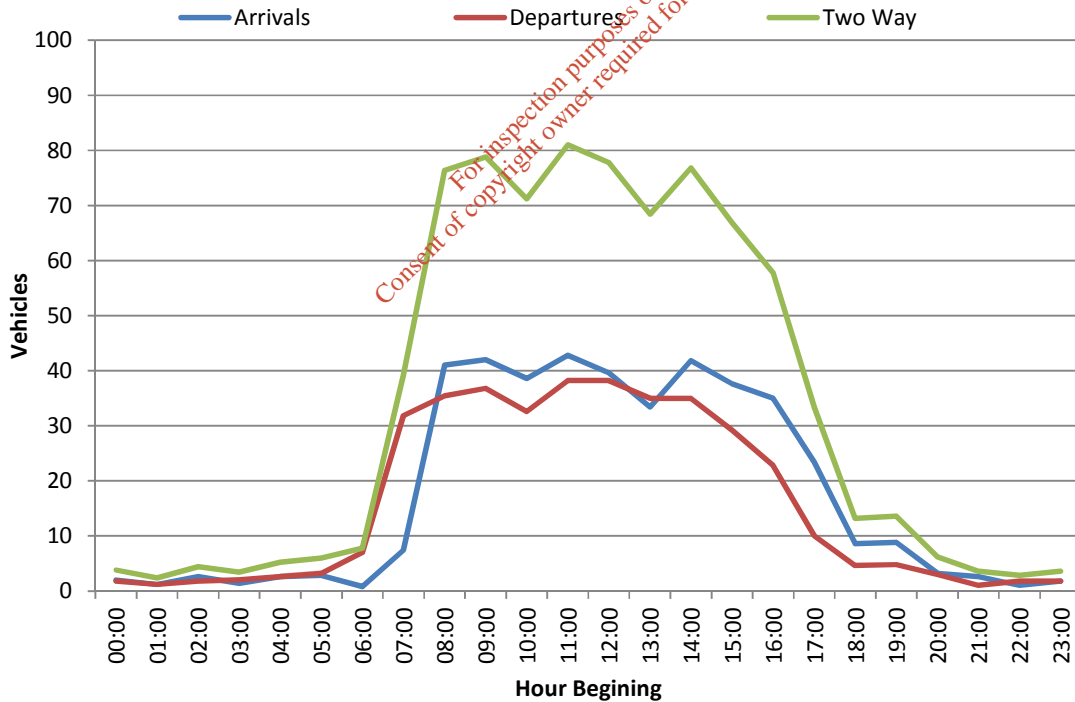
in terms of the Annual Average Weekday Traffic flow (AAWTF), therefore typical weekday, are summarised below in Table 13.4.

Table 13.4
Existing Quarry Trip Generation

Vehicle Type	Daily (0000-2400HRS)		AM Peak Hour (0800-0900HRS)		PM Peak Hour (1700-1800HRS)	
	In	Out	In	Out	In	Out
Light Veh.	284	215	25	26	21	4
Heavy Goods Veh.	138	167	16	9	2	6
Total Vehs.	422	382	41	35	23	10

13.109 The results also enable a traffic profile to be determined for a typical weekday's activity at the existing quarry; illustrated in graph form at Plate 13-11.

Plate 13-11
24hr Weekday Traffic Profile – Existing Quarry Traffic



13.110 Table 13.4 and Plate 13-11 demonstrates that traffic flows on the existing quarry access road have a relatively flat profile throughout the working day and, as expected, flows are broadly similar in both southbound and northbound directions. Two-way traffic movements peak between 11:00 – 12:00, at 81 vehicles.

Historic Trip Generation

13.111 In addition to the existing quarry vehicle movements, Roadstone Wood Ltd has also provided daily vehicle figures for the historic use at the application site. The information includes the level of materials imported and exported every year from 2007 to 2010. Materials exported off site include stone, blocks, ready-mix concrete and asphalt. Materials imported to site include sand, C+D waste and inert soil for recycling. Owing to commercial sensitivities a full breakdown cannot be provided.

13.112 The purpose of this exercise is to determine the level of future trip generation potential based upon activity fluctuations over recent years. A marked fall in demand for construction materials has been experienced in light of the current economic downturn.

13.113 Traffic data for each year has been calculated on the basis of average payloads and the number of working days in a year (assumed as 6 working day weeks over 48 weeks). Table 13.5 below provides a summary of the vehicular trip generation at the application site since 2007.

Table 13.5
Historic Quarry Vehicular Trip Generation

Operation	2007	2008	2009	2010
Export	1,746,000t	1,952,100t	1,298,900t	786,500t*
Import	331,700t	183,100t	27,200t	7,700t*
HGV Movements (in & out)				
Annual HGV	103,885	106,760	66,305	39,710
Ave. Daily HGV	722	742	462	276
Ave. Hourly HGV	66	68	42	26

* Extrapolated from 11 month data up to November 2010

13.114 Table 13.5 shows that in terms of recent activity, site operation that occurred in the year 2008 in terms of exports and imports generated the highest volumes of materials and therefore generated the most vehicular traffic. In 2008, the average daily HGV movements were 742; equating to 68 hourly HGV movements on average.

Proposed Trip Generation

13.115 As the planning application relates to the continuance of use of the existing quarrying operation, the proposed development details are the same as existing, with the application based on an annual output of c.1M tonnes from the quarry over a life of 35 years. As a consequence, the proposed trip generation (in theory at least) will remain as per the existing situation.

13.116 However, as detailed previously, due to the recent economic downturn and the resultant marked fall in demand for construction materials, the existing

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quarrying operation is currently operating well below an annual output of c.1M tonnes. In terms of vehicular trip generation, the existing traffic survey results as shown within Table 13.4 detail that the existing (2011) total daily HGV movements equate to 305.

- 13.117 In order to ensure a robust assessment of the local road network is undertaken, first principles have been adopted to calculate a traffic forecast for an annual output of c.1M tonnes.
- 13.118 HGV calculations are therefore based upon average payloads of 20 tonnes across 48 weeks per year, operating 6 days per week. For the purposes of an hourly breakdown working days are based upon 11 hour working days.
- 13.119 A forecast of light vehicle movements has been based upon the proportion of existing light vehicles against existing HGVs recorded on site.
- 13.120 Table 13.6 and provides a traffic forecast for HGV traffic associated with the full operation of the application site. Table 13.7 provides an overall traffic forecast including light vehicles.

Table 13.6
Full Operation HGV Forecast (Annual Average)

Material	Volume	Loads
Stone	720,000t	36,000
Concrete	104,000m ³	15,000
Blacktop	180,000t	9,000
Masonry	-	1,000
Bitumen	-	360
Cement	-	1,300
Sand	-	2,500
Total HGV loads		65,160
HGV loads per day		226

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Table 13.7
Full Operation Traffic Forecast

Vehicle Type	Daily (0000-2400HRS)		AM Peak Hour (0800-0900HRS)		PM Peak Hour (1700-1800HRS)	
	In	Out	In	Out	In	Out
Light Veh.	461	290	33	60	210	14
Heavy Goods Veh.	226	226	21	21	21	21
Total Vehs.	687	516	54	81	231	35

13.121 The existing quarry traffic as recorded by the recent traffic surveys has been subtracted in order to establish the uplift in vehicular activity that would arise should the site operate at full capacity. Table 13.8 summarises this traffic uplift.

Table 13.8
Full Operation Traffic Uplift

Vehicle Type	Daily (0000-2400HRS)		AM Peak Hour (0800-0900HRS)		PM Peak Hour (1700-1800HRS)	
	In	Out	In	Out	In	Out
Light Veh.	177	75	8	34	189	10
Heavy Goods Veh.	88	59	5	12	19	15
Total Vehs.	265	134	13	46	208	25

HIGHWAY IMPACT

13.122 Vehicular traffic impact has been assessed in accordance with the National Roads Authority adopted document 'Traffic and Transportation Guidelines – September 2007'.

13.123 It is noted that the local highway network currently accommodates traffic associated with the operation of the application site without any issues. Additionally, site operation over the most recent five year period has been at higher levels during which no issues have been determined.

13.124 Notwithstanding this, a link capacity assessment has been undertaken in order to quantify the impact that the proposals will have on the surrounding highway network.

Area of Analysis

13.125 As previously detailed, the area of analysis in terms of highway impact has been determined as North Road and Kilshane Road. This represents the area

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over which it is considered that the impacts of the proposed development may have some material impact that requires detailed assessment.

Methodology

13.126 To ensure that the local highway network is able to accommodate the proposed development traffic, link capacity assessments have been undertaken on the basis of full operation whereby the application site will process c.1m tonnes of material. Base traffic observed on the network, committed development traffic associated with the granting of the waste license for the North Quarry and a forecast of the proposed development traffic has been assessed in order to produce a proposed scenario.

Distribution and Assignment

13.127 The majority of the development generated vehicle trips has been distributed in line with the existing traffic patterns as surveyed, at the primary site access on North Road; all traffic generated by the proposed development routing to/from the north via North Road, providing access to Dublin and the North via the N2/M2 Motorway.

13.128 In addition, a proportion of the development vehicular traffic has been distributed at the secondary access on Kilshane Road; the majority of arrivals and departures routing to/from the south towards/from Blanchardstown and the M3 Motorway. Therefore, it has been assumed that 75% of traffic will route via the North Road access and 25% of traffic will route via the Kilshane Road access.

13.129 All North Road traffic shall be included within the assessment, whereas in reality, due to the location of the ATC being north of the N2 off-slip, a proportion of the traffic would turn left towards the site access and avoid the area of analysis. This provides a further robust assessment.

13.130 Additionally, it is envisaged that the vast majority of all HGV's importing material to the proposed inert soil recovery facility at Huntstown will approach the site along the M50 Motorway and/or N2 Dual Carriageway and enter the site using the existing North Road entrance. It is expected that only a very occasional HGV lorry carrying material to the facility will use the Kilshane Road entrance. Therefore all committed development traffic has been applied to the North Road entrance.

Link Capacity

13.131 To ascertain the impact of the development proposals on the capacity of the surrounding highway network, two scenarios have been assessed; the forecasted traffic levels for c.1M tonnes, referred to as 'Full Operation' and the forecasted traffic levels for c.1M tonnes added to the committed development. These have been set against the baseline traffic flows in order to calculate the percentage impact. A summary is presented in Table 13.9 and Table 13.10 below.

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Table 13.9
North Road Link Capacity Summary

Period	North Road NB	North Road SB	2 Way
Baseline Traffic 24HR AAWT	4,082 (670)	259 (43)	4,341 (713)
Full Operation	101 (44)	199 (66)	300 (110)
Impact (%)	2.5 (6.6)	77 (153.4)	6.9 (15.4)
Full Operation + Committed Development	231 (174)	329 (196)	560 (370)
Impact (%)	5.7 (26.0)	127.0 (455.8)	12.9 (51.9)

*Total Vehicles (HGV)

Table 13.10
Kilshane Road Link Capacity Summary

Period	Kilshane Road NB	Kilshane Road SB	2 Way
Baseline Traffic 24HR AAWT	4,372 (535)	4,915 (610)	9,287 (1,146)
Full Operation	66 (22)	34 (15)	100 (37)
Impact (%)	1.5 (4.7)	0.7 (2.4)	1.1 (3.2)

*Total Vehicles (HGV)

13.132 The Guidelines for Traffic Impact Assessment 1994 suggest that an increase in the existing traffic flow which exceeds 10% would constitute a traffic impact. Where traffic congestion exists, or would exist under new flows, a 5% increase would constitute a traffic impact.

13.133 The two way traffic impact on Kilshane Road falls well within the recommended guidelines at 3.2% for two way traffic and is therefore deemed acceptable.

13.134 Although the percentage increase in HGV traffic flow on North Road is higher than desirable, particularly HGV levels, the scale of the impact is primarily due to the existing light traffic flows. North Road terminates south of the site access so there is no through traffic from the south.

13.135 In order to demonstrate this, the adequacy of North Road in link capacity terms can be determined by reference to TA79/99¹. North Road has been determined as a Carriageway Standard Urban All Purpose 3 (UAP3). The standard states that a 7.3m wide road with UAP3 Standard characteristics can accommodate in the order of 1,300 vehicles per hour in the busiest direction of

¹ Design Manual for Roads & Bridges TA79/99 Determination of Urban Road Capacity

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travel (assuming a 60/40 directional split), equating to a two-way flow of 2,166 vehicles.

- 13.136 The highest hourly two-way traffic flow recorded on North Road was during the weekday AM peak period at 0800HRS where 429 vehicles were counted. This would suggest that in terms of link capacity North Road is currently within the guidelines at approximately 20% theoretical capacity during its busiest period.
- 13.137 Even with the addition of development traffic associated with application proposals, this will not increase the two-way traffic flow to a level even close to the theoretical capacity for North Road.
- 13.138 It is therefore considered that the development proposals would not adversely affect the operation of the surrounding highway network and that the network would continue to perform well within capacity.

Driver Delay

- 13.139 Delay to drivers is generally caused at junctions and is only likely to be significant when the network is close to capacity.
- 13.140 Anticipated vehicle movements on both North Road and Kilshane Road are considered to be well within the available reserve capacity of the highway network and as such would operate within capacity during the operational phase with no significant driver delay expected.
- 13.141 It is therefore anticipated that the development proposals would have minimal impact on driver delay throughout the surrounding road network.

Public Transport

- 13.142 It has been demonstrated that the surrounding highway network has sufficient reserve capacity to accommodate traffic generated during the operational phase and the impacts on buses would be negligible.
- 13.143 It is therefore concluded that the development proposals would have negligible impact on the operation and capacity of the local bus network.

Pedestrian Amenity

- 13.144 Pedestrian facilities on the surrounding highway network are fairly limited, with the likelihood of quarry staff walking to work being small.
- 13.145 There have been no reported incidents of road traffic accidents involving pedestrians within the previous five years.
- 13.146 In light of the above, no significant impact on pedestrian amenity is envisaged. Notwithstanding this fact, all HGV drivers accessing the application site would be briefed to pay particular attention to road safety and to the presence of pedestrians.

Cyclist Amenity

- 13.147 Cycling facilities on the surrounding highway network are fairly limited, with the likelihood of quarry staff cycling to work being small.
- 13.148 There have been no reported incidents of road traffic accidents involving cyclists within the previous five years.
- 13.149 In light of the above, no significant impact on cyclist amenity is envisaged. Notwithstanding this fact, all HGV drivers accessing the application site would be briefed to pay particular attention to road safety and to the presence of cyclists.

ENVIRONMENTAL POLICIES

EN16001 Energy Management System Accreditation

- 13.150 Roadstone were the first construction and quarrying company to achieve Sustainable Energy Ireland's EN16001 Environmental Management rating for a pilot project launched at Slane Quarry in Co. Meath. In doing so, Roadstone reduced energy consumption by 10% and implemented the certification standard across another eight locations in Ireland, one of which being Huntstown Quarry in Dublin.
- 13.151 The EN16001 Energy Management Standard was established to recognise standards achieved by businesses that have created systematic approaches for improving their energy performance on a continuous basis. It specifies the requirement for continuous improvement through using energy more efficiently.
- 13.152 To achieve accreditation, Roadstone was required to implement, maintain and improve an Energy Management System for all energy-consuming aspects of the operation, from front-end quarrying activities, such as the use of explosives, to back-end business-support and administration services.
- 13.153 As an initial step, Roadstone worked with Sustainable Energy Ireland to develop an analysis of the existing energy-consuming systems on site, ranging from the machinery used in the extraction and processing of rock to the daily consumption of energy at the site's offices and administration centre. Next, a number of Key Performance Indicators (KPIs) were assigned to all energy-consuming areas of the operation, the aim of which was to measure the energy consumption over time and to monitor any improvements which might result from the implementation of new work practices.
- 13.154 Fuel represents the largest amount of energy consumed, ranging from the fuel used in the production of blacktop products to the fuelling of vehicles used to transport extracted material from site. A KPI based on 'number of litres used per tonne' was instigated to monitor and improve fuel consumption.
- 13.155 As well as installing the new KPI measurements at the quarry, Roadstone have an ongoing programme in place to educate and assist employees in terms of the contribution they could make to ensure that IS393 accreditation is

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maintained, requiring every member of staff to monitor how they use all types of energy and seek to reduce, or make more efficient, the use of that energy.

HGV Traffic

13.156 The applicant is aware that HGV traffic can be of concern to both local residents and users of the highway network.

13.157 The vast majority of HGVs accessing the application site would originate from the quarry and therefore the applicant has considerable control over the behaviour of drivers. All drivers accessing the application site would be encouraged to operate and maintain their vehicles with the utmost regard for the environment and road safety. Drivers would be required to adopt a courteous driving policy both within the site boundary and on the highway network.

13.158 Drivers would be given a routing plan which would emphasise the requirement to travel via the strategic road network wherever possible and avoid unnecessary travel through urban and residential areas. The continued use of the western entrance to Huntstown Quarry, located on Kilshane Road, ensures that HGV's are routed as efficiently as possible (also avoiding unnecessary travel through Kilshane junction). This provides savings in energy/fuel/CO2 emissions which accrue due to reducing the travel distance for HGVs heading out in that direction (Blanchardstown M3 Motorway); supporting the aims of IS393 Energy Management System as previously detailed.

MITIGATION

13.159 It has been demonstrated in this Chapter that the development proposals would generate an increase in HGV movements on the surrounding local road network when compared to existing levels. HGV traffic can be of particular concern to both local residents and highway users, and the mitigation measures outlined below are designed to alleviate any adverse impacts:

- Roadstone Wood Ltd would adhere to a routing policy to ensure all movements are made via the strategic road network to avoid HGV's passing through residential areas as far as is practical; and
- Roadstone Wood Ltd would employ a policy of safety and environmental awareness for all HGV drivers accessing the site.

ENVIRONMENTAL IMPACT

13.160 Taking into account all the factors assessed in this Chapter, a final analysis of the impact resulting from the development proposals has been undertaken and is summarised within Table 13.11 below:

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Table 13.11
Summary of Environmental Impact

Potential Impact	Impact Duration	Significance	Mitigation	Residual Impact
Highway Capacity	Permanent	Insignificant	Nil	Insignificant
Driver Delay	Permanent	No impact	N/A	No impact
Road Safety	Permanent	No impact	Nil	No impact
Detritus on Highway Network	Permanent	No impact	Good management practice	No impact
Pedestrian/Cycle Amenity	Permanent	No impact	N/A	No impact

13.161 It is considered that the development would have an insignificant impact in respect of traffic and transportation.

CONCLUSIONS

13.162 This Chapter assesses the traffic and transport implications of the proposed continuance of use of Huntstown Quarry at North Road, Finglas, Co. Dublin; based on an annual output of c.1M tonnes over a life of 35 years.

13.163 The principal purpose of this Chapter was to provide a detailed consideration of the development in terms of its implications for highway and transportation matters. This included details of all the traffic and movement activity associated with the development proposals and as a result the overall traffic and transport impact of the application site.

13.164 In accordance with the scale of development and location, realistic consideration has been given to the non-car accessibility of the site. This demonstrated that non-car accessibility is adequate for the type of development located in this area.

13.165 The application site is well located in terms of access to the strategic highway network and all HGV traffic would be routed on roads considered suitable to accommodate frequent HGV movements.

13.166 Traffic generated by the proposals will depend upon economic demand / market conditions. The existing operation is currently operating under full capacity, traffic surveyed arriving and departing from the application site determined that 804 vehicle movements (422 arrivals and 382 departures) occurred on a typical weekday. Of these vehicular movements 138 arrivals and 167 departures were classified as HGV.

13.167 A traffic forecast for the full operation of the application site, c.1m tonnes of material, was undertaken based upon first principles. The traffic forecast suggested that the proposals would likely generate 1,203 vehicular

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movements. Of these vehicular movements, 226 arrivals and 226 departures were classified as HGV.

- 13.168 A link capacity assessment has determined that the traffic impact resulting from the application proposals on Kilshane Road is within the recommended guidelines. The traffic impact on North Road has determined that the increase in traffic flow exceeds the recommended guidelines, particularly HGV levels; however the scale of the impact is primarily due to the existing light traffic flows. North Road terminates south of the site access so there is no through traffic from the south.
- 13.169 In order to demonstrate this, the adequacy of North Road in link capacity terms has been determined. The link is currently within the guidelines at approximately 20% theoretical capacity during its busiest period. The addition of the development traffic will not increase the two-way traffic flow to a level even close to the capacity guidelines for North Road.
- 13.170 It has been demonstrated therefore that the surrounding highway network will operate adequately in the future situation and development traffic will have minimal impact, with both North Road and Kilshane Road already experiencing established HGV use.
- 13.171 A review of accidents recorded on the surrounding highway network covering the period from 2005 to 2009 showed that no fatal or serious incidents were recorded at either the North Road quarry access or Kilshane Road quarry access. The one fatal incident and one serious incident recorded both occurred at Kilshane Cross. Two minor incidents occurred in close proximity to the North Road quarry access; however on closer inspection it appears these took place prior to the N2 Primary Road improvements. None are therefore specifically relevant to the development proposals, both in terms of location and incident detail. It is considered that there is no accident issue which the development proposals could be perceived as contributing towards; the proposed development would not have a significant impact on road safety.
- 13.172 Overall, it is considered that the development proposals would have a minimal impact in terms of highways and transport. For the above reasons, the proposed development of the site accords with the national, regional and county planning policies and is considered to be acceptable in traffic and transport terms.
- 13.173 A number of mitigation measures have been suggested by the applicant. With these in mind, it has been concluded that development traffic would not create a significant adverse environmental impact on the surrounding road network.
- 13.174 In overall terms, it is concluded that the development proposals would have minimal impact in terms of transportation and highways, and would be not significant in terms of the EIA Regulations.