12 TRAFFIC AND TRANSPORT

12.1 INTRODUCTION

12.1.1 GENERAL

This Chapter of the remedial Environmental Impact Assessment Report (rEIAR) provides an assessment of the traffic and transport impacts associated with the historic quarrying operations at Ballykelly Quarry (the 'Project'), in support of an application for Substitute Consent for the existing quarry located at the townlands of Coolsickin or Quinsborough and Ballykelly, Co. Kildare.

The following assessment was prepared by Kevin Harley CEng MIEI – a qualified Civil Engineer graduating from Queens University Belfast with a BEng (Hons) degree. Kevin has over 20 years postgraduate experience across Highways Engineering with more recent work on Traffic Engineering.

12.1.2 TECHNICAL SCOPE

The technical scope of this assessment is to consider the potential impacts and effects that activities at the Site (as detailed in Chapter 2, Project Description) may have had on the traffic and transport infrastructure (the existing road network) during the review period.

This chapter will examine the potential traffic implications associated with the Project in terms of integration in the area and local roads network. This assessment will determine and quantify the extent of trips generated by the quarry, and the impact on operational performance of these trips on the local road network.

12.1.3 GEOGRAPHICAL AND TEMPORAL SCOPE

The geographical extent of this study for the assessment covers the area within the EIA boundary (shown in Figure 12) the connected existing road network utilised by the Project activities. In the context of this rEIAR, the Substitute Consent Application Site boundary¹ is located entirely within the EIA Boundary and contains lands which form the historical extraction area and quarry working areas (i.e. the historical stockpile areas) associated with the Project.

Historical arial mapping and documentation held by Kildare Country Council indicates extraction of aggregates within the Application Site is estimated to have commenced within 2000 and the operation had ceased within 2006. Accordingly, the baseline for this rEIAR has been set to 01 January 2000, and the rEIAR process has assessed environmental impacts from that date to 31 December 2006 (see Chapter 2 Project Description for detail).

According, the temporal scope of the assessment covers the period of 01 January 2000 ('baseline conditions') to the 31 December 2006 (existing conditions) - a timeframe, which is subsequently referred to as the 'review/assessment period'. This assessment period equates to seven years and is identified as within 'short-term' duration (lasting one to seven years) (EPA 2022).

¹ The term 'Application Site' refers to lands within the Substitute Consent Application Site boundary.



Figure 12.1 – EIA Boundary and Substitute Consent Application Boundary

12.2 PROJECT DESCRIPTION SUMMARY

The Project seeking substitute consent consists of extraction of sand, gravel and rock over an area of 7.87 ha through blasting, mechanical excavation and rock breaking along with aggregate processing and stockpiling. The Project was operational between the years 2000-2006.

A full project description is presented in Chapter 2 (Project Description).

12.3 LEGISLATIVE AND POLICY CONTEXT

12.3.1 LEGISLATION

This assessment has been made with cognisance to relevant legislation, including but not limited to:

- European Union Directive 2011/92/EU as amended by Directive 2014/52/EU these Directives
 required that certain private and public projects which are likely to have significant resultant
 environmental impacts are subject to a formalised Environmental Impact Assessment prior to
 their consent.
- European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (SI No. 296 of 2018) which amended the Planning and Development Act, 2000, and the

Planning and Development Regulations, 2001. The 2014/52/EU Directive was transposed into Irish law through this Directive.

12.3.2 POLICIES AND PLANS

The following relevant policies and plans have been considered:

- The Kildare County Development Plan (CDP) 1999 is the strategy document for County Kildare which covers most of the temporal scope of this assessment period. The key policies and objectives of this plan are listed in Section 2.5.1 of the Project Description (Chapter 2).
- The Kildare CDP 2005-2011 was adopted on 18 May 2005 and covers the temporal scope from this date to 31 December 2006. The key policies and objectives of this current plan are listed in Section 2.5.2 of the Project Description (Chapter 2).

12.3.3 GUIDANCE

The following relevant guidance have been used and applied in this assessment:

- "Traffic and Transport Assessment Guidelines" (Transport Infrastructure Ireland, May 2014);
- PE-PAG-02017 Project Appraisal Guidelines for National Roads Unit 5.3 Travel Demand Projections" - (Transport Infrastructure Ireland, Oct 2021) -;
- "PE-PAG-02039 Project Appraisal Guidelines for National Roads Unit 16.1 Expansion Factors for Short Period Traffic Counts - (Transport Infrastructure Ireland, Oct 2016);
- EPA's Guidelines on the Information to be Contained in EIARs (EPA, 2022)

12.4 ASSESSMENT METHODOLOGY AND SIGNIFICANCE CRITERIA

12.4.1 METHODOLOGY ADOPTED FOR APPRAISAL AND REPORT

- Review of previous Traffic and Transport Assessment reports;
- Establishment of baseline traffic flows at beginning of review/assessment period i.e. 1 January 2000;
- Trip Generation and Trip Assignment This has been used to derive the expected increase in vehicle trips associated with the continued operation of the site. The analysis undertaken has estimated the trip generation of the site over a 10-hour period, based on historic and estimated tonnage of quarry materials excavated. Trip assignment has been determined by traffic movements surveyed at the site access junction;
- Localised Junction Modelling assess the expected performance of the junction associated with the expected increase in quarry traffic in terms of both capacity and queueing as resulting from historic operation; and,
- Determination of final significance of effects in accordance with criteria in the EPA's Guidelines on the Information to be Contained in EIARs (EPA, 2022).

12.4.2 ASSUMPTIONS

- Vehicles used for material transport are assumed as a worst case, being 5 axle hauling vehicles with capacity for 18 tonnes of material due to impact on roads maintenance scheduling by roads authorities;
- The operational hours for the adjoining Site through which vehicles accessed the application Site, were 07.00 to 17:00 hours Monday to Friday, and 07.00 to 14:00 hours Saturday. There was no working on Sundays or Bank/Public Holidays.
- Trips generated are assumed as evenly spread across the year and evenly throughout the day;

- For traffic growth, WSP has assumption is from TII Publications Unit 5.3 Travel Demand Projections, PE-PAG-020171: Central Growth, HV, on basis of location and R414 Regional Road Higher value to ensure potential impact maximised.
- As stated in the Project Description (Chapter 2), it is understood that all traffic entering the quarry over the period of quarrying (2000-2006) entered from the adjoining quarry Site (permitted under Kildare planning reg. ref. 06/2729) from the L6030 and used informal haul routes internally within the quarry.
- Based on local knowledge of the operations of the adjoining quarry, it is understood that over the period of the Project, HGVs travelling to and from the site east along the L7049 to join the R414 to access regional routes.
- It is estimated that there were 46 No. truck movements per day (23 inbound and 23 outbound over assessment period), with approximately 6 No. staff/visitor cars movements in and out occurring over the period of the Project, on average.
- Present day public road conditions are used as a proxy for road conditions over the assessment period this assessment. Ariel imagery and Osi mapping indicate that no significant changes to the road configuration and junctions have occurred over the assessment period and to present-day existing conditions.

12.5 BASELINE AND SUBSEQUENT CONDITIONS (1 JANUARY 2000 TO 31 DECEMBER 2006)

The Site is on lands at Coolsickin or Quinsborough and Ballykelly, Co. Kildare. Access to the Site is via the R414 Regional Road, and the L7049 local road. Regionally, the nearest towns are Monasterevin, which is located approximately 3.5 km to the south of the Site and Kildare Town, which is located approximately 13 km to the east of the Site. Beyond this there are several other towns located along the present-day existing location of M7 with the suburbs of Dublin further afield.

Three main land uses have been identified surrounding the Site, these are agricultural, single dwelling residential lands and the L7049 road. The Grand Canal runs north out of Monasterevin and bounds the site along the western and north-western edge beyond which are agricultural lands. During the assessment period, the lands immediately to the northwest of the site were largely taken up by active quarrying activities operated by unrelated parties with further quarries to the southwest. A review of publicly available arial imagery² indicates that there was little change in the surrounding land use over the review period, other than the addition of a single house dwelling.

It is noted that Project activity at the Application Site included the following:

- Stripping of soils and not economically valuable overburden from within the quarry void area and associated working areas and subsequently storage of this material within the Application Site.
- Extraction of sand, gravel and limestone rock through drilling, blasting, and mechanical breaking;
- Mobile crushing, and screening of the rock into specific aggregate sizes;
- Temporary stockpiling of screened aggregate;
- Loading aggregate materials onto road trucks for sale and distribution; and,
- Dewatering of the quarry void during extraction for bedrock.

It is estimated that vehicles travelling to/from the quarry use the L7049 highlighted in black in Figure 12.1 below to access the R414 at Ballykelly Cross. Photos of each arm across each junction is shown in Figure 12.3 to Figure 12.8 overleaf.

It is noted that the term 'site access' used in the following sections (see label in Figure 12) refers to the access between the third party quarry lands to the east of the Application Site and the public road, that was utilised by the Project.

² Google Satellite imagery (2025) and Geohive (2025)



Figure 12.2 Site Access Location



Figure 12.3 Site Access viewed from westbound approach along L7049 (Google Maps Image – May 2023)



Figure 12.4 Eastbound view from Site Access along L7049 (Google Maps Image – May 2023)



Figure 12.5 Westbound view along L7049 from R414 Regional Road (Google Maps Image – May 2023)



Figure 12.6 Southbound view along R414 towards Monasterevin (Google Maps Image – May 2023)



Figure 12.7 Northbound view along R414 towards Rathangan (Google Maps Image – May 2023)



Figure 12.8 Eastbound view from intersection of R414/L7049 towards L7012 (Google Maps Image – May 2023)

12.5.1 PRIMARY ACCESS ROUTE ROADS

12.5.1.1 The R414

The R414 is a Regional Road, approximately 25 km in length, which adjoins the R401 within the town of Rathangan in the north and terminates at the intersection of the R445 within the town of Monasterevin in the south. Within the rural sections between the two towns, the road is a two-way single carriageway measuring approximately 6.0 m (Type 3 Single).

In the vicinity of the proposed access route through Ballykelly Cross, the R414 offers optimum forward sight distance along a relatively straight stretch of the road in both the horizontal and vertical planes; however, visibility splays from both minor arms are below standard and therefore, overtaking along this stretch of the R414 is prohibited.

There are no footpath or pedestrian crossing provisions along the Ballykelly Cross section of the R414 with no bus service allocated along the route.

12.5.1.2 The L7049

The L7049 is a local road in Kildare travelling north to south from its junction with the R414 through the townlands of Ballykelly, Coolsickin or Quinsborough, Milfarm, Oldgrange until its intersection with the R424 in the town of Monasterevin. The road is a single carriageway road, approximately 5m wide with an 80km/h speed limit, although a reduction to a default speed limit of 60km/hr is currently being implemented.

The section of the road used as access/egress route (approximately 500m west of Ballykelly Cross) includes negligible verge widths with intermittent clearances at agricultural and residential accesses, which are currently used as informal passing bays for vehicular traffic. A proportion of the access

route (500m west of Ballykelly Cross) offers acceptable forward sight distances in both directions that allows two vehicles to avail of these informal bays; however, the section between the access to the adjoining quarry and the proposed site access (approximately 300m) presents some challenges in terms of forward sight distances, with a more varied horizontal alignment and a fewer number of agricultural/residential accesses.

12.5.2 ROAD ACCIDENT DATA

WSP has attempted to collate road traffic collision (RTC) information from the Road Safety Authority (RSA) and TII websites. However, both authorities are in the process of reviewing their RTC data sharing policies and procedures. Record-level RTC data is not publicly available until this review is complete and, as such, up to date traffic accident data is currently unavailable.

12.5.3 EXISTING TRAFFIC FLOWS

12-Hour classified turning counts were carried out at Ballykelly Cross on 19 September 2019: the crossroads intersection of R414, L7049 and L7012 (see Figure 12.3 above.) The counts took place between the hours of 07:00 and 19:00, which covered not only the estimated working hours of the Project but also included the peak hours on adjacent roads network. Surveyed vehicles were broken down into eight categories as follows:

- Pedestrian
- Cyclist
- Motorcycles
- Passenger Car Equivalent
- LGV (Light Goods Vehicles)
- OGV1 (Two and Three Axle Goods Vehicles)
- OGV2 (Four and Five Axle Goods Vehicles)
- PSV (Public Service Vehicle)

These figures were factored to give Passenger Car Units (PCUs) by the survey company, utilising industry standard conversion factors. To determine baseline flows for 2000, we have taken the latest growth rates from document PAG. The detailed results of the traffic survey are included in Appendix 12A, and a summary of the results has been provided in Table 12.1.

Hour Ending	L7094	R414 North	R414 South	L7012
08:00	3	90.9	79.4	2
09:00	14.6	131.2	129.9	6
10:00	15	89.1	119	9
11:00	10	67.9	73.7	7.3
12:00	10.3	99.4	75.1	9
13:00	23.9	94.4	69.9	55.2
14:00	8	78.6	45.8	5
15:00	19.6	76.5	83	5
16:00	9.3	101.8	106.1	2
17:00	9	139.1	134	1
18:00	14.6	136.8	145.9	4
19:00	12	97.9	112.6	1
Period Total	149.3	1203.6	1174.4	106.5
Period Total HGV	12	84	78	5
% HGVs	8.04%	6.98%	6.64%	4.69%

Table 12.1 - 2019 Existing Traffic Surveys, Ballykelly Cross – Passenger Car Units

AM Peak: 08:00 to 09:00, PM Peak: 17:00 to 18:00

12.5.4 HISTORIC BASELINE TRAFFIC FLOWS

Whilst the above tables indicate the 2019 traffic flows through the two junctions, this assessment requires establishment of baseline flows at the beginning of the assessment period (2000). A review of Transport Infrastructure Ireland's latest traffic forecasting guidelines "PE-PAG-02017 – Project Appraisal Guidelines for National Roads Unit 5.3 – Travel Demand Projections" only presents retrospective annual growth rates back as far as 2016 with previous iterations only extending back to 2013. In the absence of rates prior to this, it is proposed to use the current rate as per the latest document (i.e. central growth rate of 1.0197 for County Kildare). To convert the existing 2019 surveys back to 2000 base flows, the conversion rate will be $(1 \div 1.0197)^{19} = 0.690$.

Hour Ending	L7094	R414 North	R414 South	L7012
08:00	2	63	55	1
09:00	10	91	90	4
10:00	10	61	82	6
11:00	7	47	51	5
12:00	7	69	52	6
13:00	16	65	48	38
14:00	6	54	32	3
15:00	14	53	57	3
16:00	6	70	73	1
17:00	6	96	92	1
18:00	10	94	101	3
19:00	8	68	78	1
Period Total	103	830	810	72
Period Total HGV	8	58	54	3
% HGVs	8.04%	6.98%	6.64%	4.69%

Table 12.2 - 2000 Baseline Traffic, Ballykelly Cross – Passenger Car Units

AM Peak: 08:00 to 09:00, PM Peak: 17:00 to 18:00

12.5.5 TRAFFIC GROWTH (2000-07)

Due to the lack of access to the retrospective traffic growth figures from 2000-2007, available growth figures from 2016 were used to calculate the annual and cumulative growth of traffic volumes across the assessment period. Traffic Growth has been utilised as per Table 6.2 of TII Guidance – "Project Appraisal Guidelines for National Roads, Unit 5.3 – Travel Demand Projections" with the relevant extract included below in Table 12.3. A 1.0197 central growth rate for light vehicles has been applied in this case on the basis that traffic along the R414 is predominantly made up of commuters to and from the greater Dublin area.

Year	Annual Growth Rate (Kildare, LV, 2016-2030)	Cumulative Growth Rate
2000	1.0197	1.0197
2001	1.0197	1.0397
2002	1.0197	1.0602
2003	1.0197	1.0812
2004	1.0197	1.1024
2005	1.0197	1.1242
2006	1.0197	1.1463

 Table 12.3 Traffic Growth Figures across assessment period

The "Traffic and Transportation Assessment Guidelines" published by Transport Infrastructure Ireland recommend the assessment of traffic in the Opening year, for the Opening Year +5 years and the Opening Year +15 years. As this is a retrospective application however, only the years of operation (1 January 2000 to 31 December 2006) are to be considered.

12.5.6 TRIP GENERATION

Chapter 2 of this rEIAR gives an overview of the Project that is the subject of this assessment. It details the development of the site from baseline to current time by reviewing publicly available resources such as mapping and photography; SQL business records; and monitoring records (see also section 12.4.2).

12.5.6.1 Quarry Extraction Trips

Based on these resources, estimations of quarry extraction rates indicate historic extraction quantities as calculated below in Table 12.4, which have been further extrapolated on the assumptions that the quarry is operational for 48 weeks of the year, 5 days per week and 10 hours per day. It has also been assumed that capacities for typical tipper lorries using the site will be 18 tonnes.

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Year	Est. Annual Material Extraction (Tonnes)	Est. Weekly Material Extraction (Tonnes)	Est. Weekday Material Extraction (Tonnes)	Estimated Weekday Trips (arrivals & departures)	Estimated Hourly Trips (arrivals & departures)
2000	108,571.43	2262	412	46	6
2001	108,571.43	2262	412	46	6
2002	108,571.43	2262	412	46	6
2003	108,571.43	2262	412	46	6
2004	108,571.43	2262	412	46	6
2005	108,571.43	2262	412	46	6
2006	108,571.43	2262	412	46	6

Table 12.4 Estimated Breakdown of Trip Rates per Day

12.5.6.2 Staff Trips

As indicated in Chapter 2 of this rEIAR, is it estimated that the Project directly employed 2 No. staff operating plant and vehicles as set out in Chapter 2 (Project Description). It is estimated this generated 2 arrivals and 2 departures daily, all of which are expected to be generated in the first and last hour of the quarry opening hours which are expected to be generated alongside the peak periods.

12.5.6.3 Miscellaneous Trips

Other ancillary operations on site include refuelling, blasting, and waste collection each of which are carried out by a third party and would only generate ad-hoc trips. An assumption of 2 no. trips (1 arrival and 1 departure) daily has been made for this site. For the purposes of this assessment, we have robustly assumed that these trips will take place in the AM peak period.

12.5.6.4 Derived Trip Rates

Table 12.5 below summarises the daily and peak hour arrivals/departures to be included in this assessment

Table 12.5 Daily and Peak Hour Trips

		Peak Ho	ur Arr	Peak Ho	ur Dep
Source of Generated Trip	Daily Trips	АМ	PM	AM	РМ
Quarry Extraction	66	3	3	3	3
Directly Employed Staff	4	2	-	-	2
Miscellaneous	2	1	1	-	-
Total	52	6	4	3	5

12.5.6.5 Generated Trip Distribution

The generated trip distribution will follow existing flow patterns, which have been calculated from arrivals and departures across individual peak period under assessment. These are indicated in Figure 12.9 overleaf with total generated flows confirmed in Figure 12.10.







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Figure 12.10 Generated Flows across AM & PM Peaks

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12.6 POTENTIAL EFFECTS

12.6.1 INFRASTRUCTURE NETWORK IMPACTS

12.6.1.1 Link Capacity Assessment

TII document "PE-PDV-02045 - Traffic and Transport Assessment Guidelines" offers advice on investigating how traffic generated by developments impact existing road infrastructure networks. Whilst it generally accepted that the existing local roads network can accommodate a certain level of additional traffic, there are specific parameters which inform whether additional studies are needed to assess network capacity.

Table 2.1 of the above document together with the "Traffic Management Guidelines" (Department of Transport, 2003) include several key thresholds beyond which incur additional assessments, namely the following:

- Traffic to and from the development exceeds 10% of the traffic flows on the adjoining road;
- Traffic to and from the development exceeds 5% of the traffic flows on the adjoining road where congestion exists, or the location is sensitive.

TII document "PE-PDV-02045 - Traffic and Transport Assessment Guidelines" also indicates that a threshold approach should also be used to establish the area of influence of the development, whereby

"The study area should include all road links and associated junctions where traffic to and from the development may be expected to exceed 10% of the existing traffic movements, or 5% in congested or other sensitive locations, including junctions with National Roads."

Figure 12.11 overleaf indicates the percentage increase in flows through each junction on opening of the quarry in the AM & PM peaks. For both junctions, the 10% threshold is exceeded and therefore requires more in-depth analyses of junction capacity.





12.6.1.2 Junction Capacity Analysis

Junctions 9 (PICADY) models have been built for various time-based scenarios and assess three key criteria for both the L7049/site access and the L7049/R414/L7012 junctions as follows:

- 95th percentile queue length (50th percentile is average & 100th percentile is maximum);
- Delay (average time vehicles must wait at give way/stop line before entering a junction) and
- Ratio of Flow to Capacity, RFC (how efficiently flows are moving through the junction).

Table 12.6 Junctions 9 (PICADY) Analysis – L7049/site access ju	nction
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		95th %tile length (ve	e queue ehs)	Delay (s)		RFC	
Assessment Scenario	Arm	AM	РМ	АМ	PM	АМ	РМ
2000 Baseline	Site Access	N/A	N/A	N/A	N/A	N/A	N/A
	L7049 (East)	N/A	N/A	N/A	N/A	N/A	N/A
2000 Baseline +	Site Access	1.0	0.5	0.00	4.81	0.00	0.01
Generated	L7049 (East)	0.5	0.5	5.98	5.97	0.01	0.01
2007 Baseline	Site Access	N/A	N/A	N/A	N/A	N/A	N/A
	L7049 (East)	N/A	N/A	N/A	N/A	N/A	N/A
2007 Baseline +	Site Access	1.0	0.5	0.00	4.81	0.01	0.01
Generated	L7049 (East)	0.5	0.5	5.98	5.97	0.01	0.01

Table 12.7 Junctions 9 (PICADY) Analysis L7049/R414/L7012 junction

		95 th %tile length (ve	queue ehs)	Delay (s)		RFC	
Assessment Scenario	Arm	АМ	РМ	АМ	РМ	АМ	РМ
2000 Baseline	L7012 R414 (North) L7049 R414 (South)	0.5 0.5 0.5 0.5	0.5 0.5 0.5 1.0	6.02 5.99 5.68 5.96	6.10 6.02 5.61 0.00	0.01 0.01 0.02 0.00	0.01 0.01 0.02 0.00
2000 Baseline + Generated	L7012 R414 (North) L7049 R414 (South)	0.5 0.5 0.5 0.5	0.5 0.5 0.5 1.0	6.18 6.02 5.82 5.95	6.20 6.04 5.75 0.00	0.02 0.01 0.03 0.00	0.02 0.02 0.03 0.00
2007 Baseline	L7012 R414 (North) L7049 R414 (South)	0.5 0.5 0.5 0.5	0.5 0.5 0.5 1.0	6.09 5.95 5.74 5.92	6.17 5.99 5.68 0.00	0.02 0.01 0.02 0.00	0.01 0.01 0.02 0.00
2007 Baseline + Generated	L7012 R414 (North) L7049 R414 (South)	0.5 0.5 0.5 0.5	0.5 0.5 0.5 0.5	6.25 5.98 5.88 5.91	6.27 6.01 5.82 0.00	0.02 0.01 0.03 0.00	0.02 0.02 0.04 0.00

It is generally accepted by the industry that an RFC value of 0.85 indicates the point beyond which junctions operate beyond capacity, where the volumes of queuing vehicles cause a knock-on reduced efficiency of movement. The RFCs for all arms under assessment are well below this threshold, with a maximum value of 0.15.

12.6.2 ROAD SAFETY

12.6.2.1 Site Access

Site access is via the L7049, which connects with the R414 to the east and the L1002 to the West with all generated traffic accessing the site via the R414 which involves a left of right turn. Drawing containing swept path analyses are included in Appendix 12B.

12.6.2.2 Sightlines and Visibility

To facilitate safe access through a priority junction from a minor arm onto a major arm, visibility splays are required to ensure that motorists have adequate sightlines to oncoming traffic. These are determined by the level of traffic using the minor arm and the speed of traffic along the major arms. The "x" distance is the set-back from the stop/yield line and represents the driver's eye location when stationery at the junction and is determined using TII document DN-GEO-03060, Table 5.4. The "y" distance represents the distance that the motorist can see in both directions along the major arm of the junction and corresponds to the stopping sight distances taken from TII document DN-GEO-03031, Table 1.3.

Table 12.8 below indicates the requirements for each junction under consideration in this assessment – namely the Site Access/L7049 junction and the L7049/R414 junction. These visibility splays are indicated in Appendix 12B.

Table 12.8 Visibility Splays at Junctions

Junction	"x" distance	"y" distance
Site access/L7049	2.0m	120m
L7049/R414/L7012	3.0m	160m

12.6.2.3 Public Transport

There are no public transport connections within safe walking distance of the site with the nearest bus services located 2km away in Clonbollogue.

The nearest bus and rail connections to the site are located 2km away in Monasterevin. Monasterevin train station as part of the rail network offers connections to the urban centres of Cork, Galway, Dublin, Westport, Portlaoise as well as intermediary stations as part of Ireland's rail network. Local bus route 806 operates between Monasterevin and Portarlington and serves westbound bus stop 152361 and eastbound bus stop 136501 every 90 minutes in morning and evening peaks with services every 120 minutes at off peak. Bus route 726, the N7 service operates every hour from Monasterevin to Portlaoise or Dublin airport. Both bus stops provide hardstanding areas with hailing poles, standard pavement kerbs with only stop 136501 providing a sheltered bus stop.

12.6.2.4 Pedestrians and Cyclists

There is no footpath provision on the R414 surrounding the junction with the L7049, neither is there any crossing provisions in the vicinity. There are no current cycle lanes or other facilities on the R414, nor are there any bespoke cycling facilities on site.

12.6.2.5 Assessment of Significance – Road Safety

There are no anticipated elements for Road Safety. The site is accessed by HGVs and Car traffic only, with no real scope for staff to access by other means. Additionally, the continued site operations have not highlighted any specific areas of concern.

Effects from traffic on road safety are considered to be Not Significant.

12.7 REMEDIAL MITIGATION AND MONITORING

No remedial mitigation and monitoring are required to be undertaken.

12.8 RESIDUAL EFFECTS

There are no residual effects as a result of effects during the assessment period.

12.9 CUMULATIVE EFFECTS

Cumulative impacts are not predicted to have occurred.

12.10 DATA LIMITATIONS

Visibility splays indicated in Appendix 12B are determined using orthophotography. Topographical survey would offer a more accurate figure; however, the use of orthophotography is appropriate in this regard.

12.11 REFERENCES

EPA Guidelines on the Information to be Contained in Environmental Impact Assessment Reports, Environmental Protection Agency (May 2022).

Traffic and Transport Assessment Guidelines" - (Transport Infrastructure Ireland, May 2014);

PE-PAG02017 - Project Appraisal Guidelines for National Roads Unit 5.3 – Travel Demand Projections" - (Transport Infrastructure Ireland, Oct 2021) ;

Google Satellite imagery, available at: https://earth.google.com/web/ Accessed 01/04/2025

Geohive, available at: https://www.geohive.ie/ Accessed 01/04/2025

Appendix 12A.

TRAFFIC FLOW DIAGRAMS & JUNCTIONS 9 (PICADY) OUTPUTS





























Appendix 12B.

DRAWINGS

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PROJECT

HISTORIC QUARRY ACTIVITIES, COOLSICKEN, MONASTEREVIN, Co. KILDARE.

SHEET TITLE

REVIEW

APPROVED

KH

СВ

L7049/SITE ENTRANCE OUTBOUND

PROJECT No.	DRAWING No.	Rev.	SCALE
40000205	1200	А	1:250 A3



26 mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FR

PROJECT No. 40000205

REVIEW

APPROVED

KH

СВ

DRAWING No.

Rev. A 1:250 A3



10.201m 2.495m 2.890m 0.341m 2.471m 6.00s 11.550m

2025-08-04 PREPARED MS DESIGN MS REVIEW KH APPROVED СВ

115



PROJECT

HISTORIC QUARRY ACTIVITIES, COOLSICKEN, MONASTEREVIN, Co. KILDARE.

SHEET TITLE

R414 NORTHBOUND- OUT OF L7049





PROJECT

HISTORIC QUARRY ACTIVITIES, COOLSICKEN, MONASTEREVIN, Co. KILDARE.

SHEET TITLE

DESIGN

REVIEW

APPROVED

MS

KH

СВ

R414 SOUTHBOUND- OUT OF L7049



PROJECT No.	DRAWING No.	Rev.	SCALE
40000205	1204	А	1:250 A3

L7012 EB - OUT OF L7049

SHEET TITLE

115

DESIGN

REVIEW

APPROVED

MS

KH

СВ



PROJECT No.	DRAWING No.	Rev.	1:250 A3
40000205	1205	A	

L7049 EB - OUT OF R414 NB

SHEET TITLE

REVIEW

APPROVED

KH

СВ

HISTORIC QUARRY ACTIVITIES, COOLSICKEN, MONASTEREVIN, Co. KILDARE.

PROJECT



PROJECT No.	DRAWING No.	Rev.	1:250 A3
40000205	1206	A	

L7049 EB - OUT OF R414 SB

SHEET TITLE

115

DESIGN

REVIEW

APPROVED

MS

KH

СВ

HISTORIC QUARRY ACTIVITIES, COOLSICKEN, MONASTEREVIN, Co. KILDARE.





PREPARED MS DESIGN MS REVIEW KH APPROVED СВ

115

PROJECT No. 40000205	DRAWING No. 1207	Rev. A	1:250 A3

L7049 EB - OUT OF L7012

SHEET TITLE

HISTORIC QUARRY ACTIVITIES, COOLSICKEN, MONASTEREVIN, Co. KILDARE.

PROJECT





LEGEND:	LEGEND:						GLIENT	
Normal Visibility	Geometry Measurements	0		20	40	60m	BISON QUARRIES LTD	
Forward Visibility		11	1 000				CONSULTANT	YYYY-MM-DD
Forward Visibility			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					PREPARED
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				COLUMN ST

HISTORIC QUARRY ACTIVITIES, COOLSICKEN, MONASTEREVIN, Co. KILDARE.

SHEET TITLE

2025-08-04 MS

MS KH

СВ

SITE ACCESS VISIBILITY SPLAYS - L7049

PROJECT No.	DRAWING No.	Rev.	SCALE
40000205	1208	A	1:1000 A3



LEGEND:	LEGEND:	1				CLIENT		
Normal Visibility	Geometry Measurements	0	50	100	150m	BISON QUARRIES LTD		
Forward Visibility		1:2 500				CONSULTANT	YYYY-MM-DD	2025-08-04
Forward Visibility		1.2,000					PREPARED	MS
							DESIGN	MS
		1					REVIEW	KH
						•	APPROVED	СВ

PROJECT No.	DRAWING No.	Rev.	1:1000 A3
40000205	1209	A	

R414/L7049/L7012 VISIBILITY SPLAYS 1

SHEET TITLE

HISTORIC QUARRY ACTIVITIES, COOLSICKEN, MONASTEREVIN, Co. KILDARE.

PROJECT



LEGEND:	LEGEND:					GLIENT		
Normal Visibility	Geometry Measurements	0	50	100	150m	BISON QUARRIES LTD		
Forward Visibility		1:2 500				CONSULTANT	YYYY-MM-DD	2025-08-04
Forward Visibility		1.2,000					PREPARED	MS
							DESIGN	MS
 							REVIEW	КН
							APPROVED	CB

PROJECT No. 40000205	DRAWING No. 1210	Rev. A	1:500 A3

R414/L7049/L7012 VISIBILITY SPLAYS 2

SHEET TITLE

PROJECT No.	DRAWING No.	Rev.

HISTORIC QUARRY ACTIVITIES, COOLSICKEN, MONASTEREVIN, Co. KILDARE.



 PROJECT No.
 DRAWING No.
 Rev.
 SCALE

 40000205
 1211
 A
 1:250 A3

REVIEW

APPROVED

KH

СВ



LEGEND:	LEGEND:					GLIENT		
Normal Visibility	Geometry Measurements	0	50	100	150m	BISON QUARRIES LTD		
		1:2 500				CONSULTANT	YYYY-MM-DD	2025-08-04
Forward Visibility		1.2,000					PREPARED	MS
							DESIGN	MS
							REVIEW	КН
							APPROVED	СВ

HISTORIC QUARRY ACTIVITIES, COOLSICKEN, MONASTEREVIN, Co. KILDARE.

SHEET TITLE

R414/L7049/L7012 PICADY JUNCTION GEOMETRY

PROJECT No. 40000205	DRAWING No. 1212	Rev. A	1:500 A3