



## 13 Traffic and Transport

### 13.1 Introduction

Transport Insights has been commissioned by Kilcarrig Quarries Limited to prepare an Environmental Impact Assessment Report (EIAR) Traffic and Transport Chapter in relation to the development of a quarry at a site at Clogrennane, Co. Carlow. The quarry shall have a projected lifetime of ca. 20 years and is located on a site subject to an application for substitute consent to regularise previous unauthorised development.

#### 13.1.1 Statement of Authority

The Traffic and Transportation Chapter of the EIAR was prepared by Eoin Munn as Project Director and Tom Fitzgerald as Consultant Transport Planner (both of Transport Insights Limited). Details of their experience and qualifications are provided within the following Table 13.1.

| Project Director /Author              | Eoin Munn (Director)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Relevant Experience and Qualification | <p><u>Experience</u><br/>Over 14 years' experience working within Transport Planning and Engineering, including project director of a variety of small to large sized projects from feasibility to detailed design stage. Recent experience in providing transport planning support (including production of EIAR Traffic and Transport Chapters and acting as Project Director) for a sand and gravel quarry at a site at Coolnapish, Co. Carlow, a quarry infill development (inert soil and stone) at a site at Powerstown, Co. Carlow, and an infill development at Scratenagh, Arklow, Co. Wicklow.</p> <p><u>Qualifications and Professional Membership</u><br/>MSc Business Analytics, University College Dublin (2007-2008)<br/>BSc Transport Operations, Technological University Dublin (2003-2007)<br/>Member, Transport Planning Society (MTPS)</p> |
| Second Author                         | Tom Fitzgerald (Consultant Transport Planner)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Relevant Experience and Qualification | <p><u>Experience</u><br/>Tom has 2 years' experience working within Transport Planning and Engineering, on a variety of public and private sector projects. Tom has recent experience of drafting EIAR Traffic and Transport Chapters including for a sand and gravel quarry in Kill, Co. Kildare, an anaerobic digestion facility in Loughmorne, Co. Monaghan and a sand and gravel pit at Kilmeague, Co. Kildare.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                         |



|  |                                                                                                                                                                                                                 |
|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <u>Qualifications</u><br>B.A in Urban Planning, Geography and Environmental Planning, University College Dublin (2021)<br>MSc in Spatial Planning Land and Real Estate Development, Radboud Universiteit (2023) |
|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Table 13.1: Competency of Chapter Authors**

### 13.1.2 Description of the Subject Site Location and Existing Quarry

The proposed development site is located to the west of L7134 (a local road which connects Clogrenanne to the north, with Ballinabrannagh to the south), and immediately to the west of L7130 (a local road which connects Clogrenanne to the north, with Boolyrathornan to the south). Carlow Town is located approximately 6 kilometres (straight line distance) to the north-east of the site and accessible via the R448. The M9 motorway is located approximately 5 kilometres away and can be accessed at Junction 6 via the R448 regional road (to the south). Clogrennane Woods is located to the east of the site.

The existing site is a disused quarry and is subject to an application for substitute consent to regularise a historical unauthorised development.

## 13.2 Methodology

This section of the EIAR outlines the methodology followed in order to carry out the Traffic and Transport Assessment set out within this Chapter. The approach pursued in undertaking the Assessment has been guided by and is consistent with national best practice, namely Transport Infrastructure Ireland's (TII's) Traffic and Transport Assessment Guidelines (TTA Guidelines, May 2014).

The existing conditions on the surrounding road network were informed by a comprehensive site assessment undertaken on 18 March 2025 and a classified junction turning count (JTC) survey of the L50022/L7134/L7130 Crossroads. The traffic survey was undertaken on 03 April 2025. The survey results were then used to establish a baseline from which to predict traffic growth on the local road network. The Do-Nothing scenario, the scenario in which the proposed development does not proceed was established for the YoO (Year of Opening), YoO +5 years and YoO + 15 years. This was then compared to Do Something scenario which applies the potential development traffic to the local road network in the YoO, YoO+5 and YoO +15 assessment years.

A first principles approach to development traffic generation was completed, taking into consideration the quantum of material extracted from the site, in addition to anticipated staffing levels. The results of this analysis were then used to predict the impact of the proposed development on the local road network.

A comprehensive list of guidance documents that have informed specific parts of the Assessment is set out in Section 13.11 of this EIAR Chapter.

## 13.3 Assessment Criteria

### 13.3.1 Construction Phase

The abovementioned TTA Guidelines are the appropriate construction phase assessment criteria.

### 13.3.2 Operational Phase

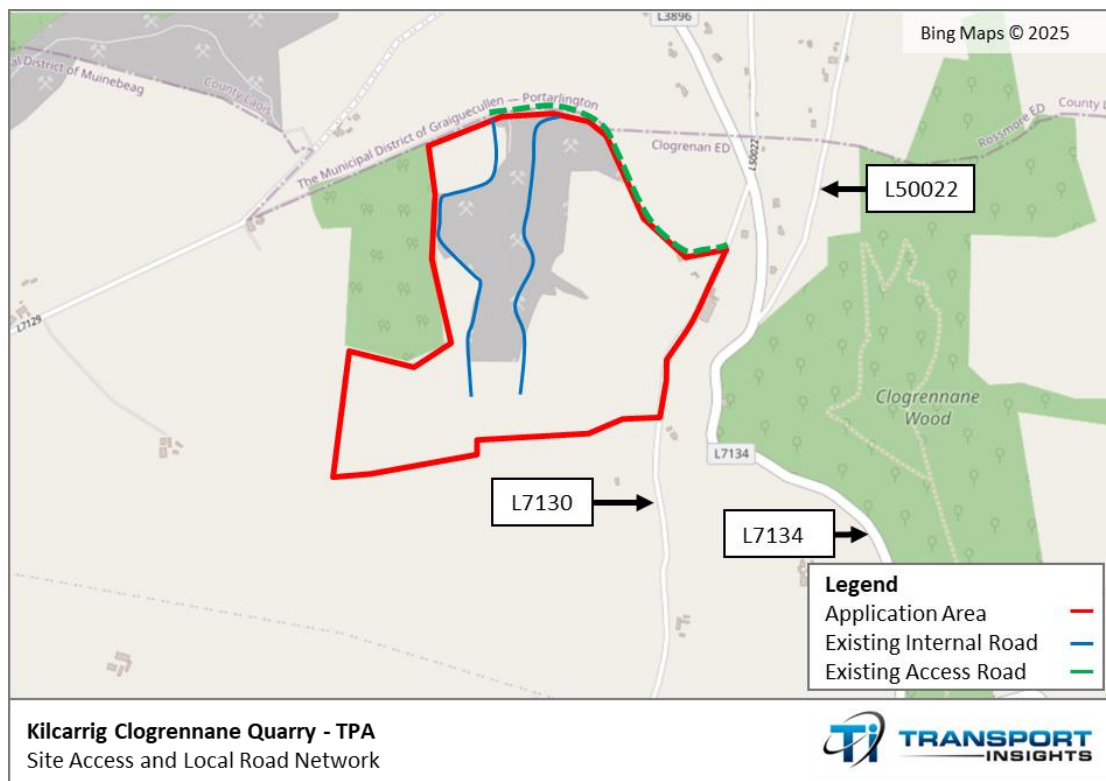
The abovementioned TTA Guidelines are also deemed to be the appropriate operational phase assessment criteria.

## 13.4 Existing Environment

### 13.4.1 Existing Site Access and Layout

The site is currently accessed via 2 no. locations from an internal access road. The existing established access road connects the L7130 to the east of the subject site (illustrated in Figure 13.1 below) with the internal access junctions. The site access is ca. 25 metres wide where it interfaces with the public road (L7130). The access is currently unpaved and accommodates vehicular movements to/from the existing access road directly to the 2 no. access locations to internal site roads. The layout of the site features internal access roads and historical quarried areas.

The site's access and layout arrangements are shown at Figure 13.1, which follows.



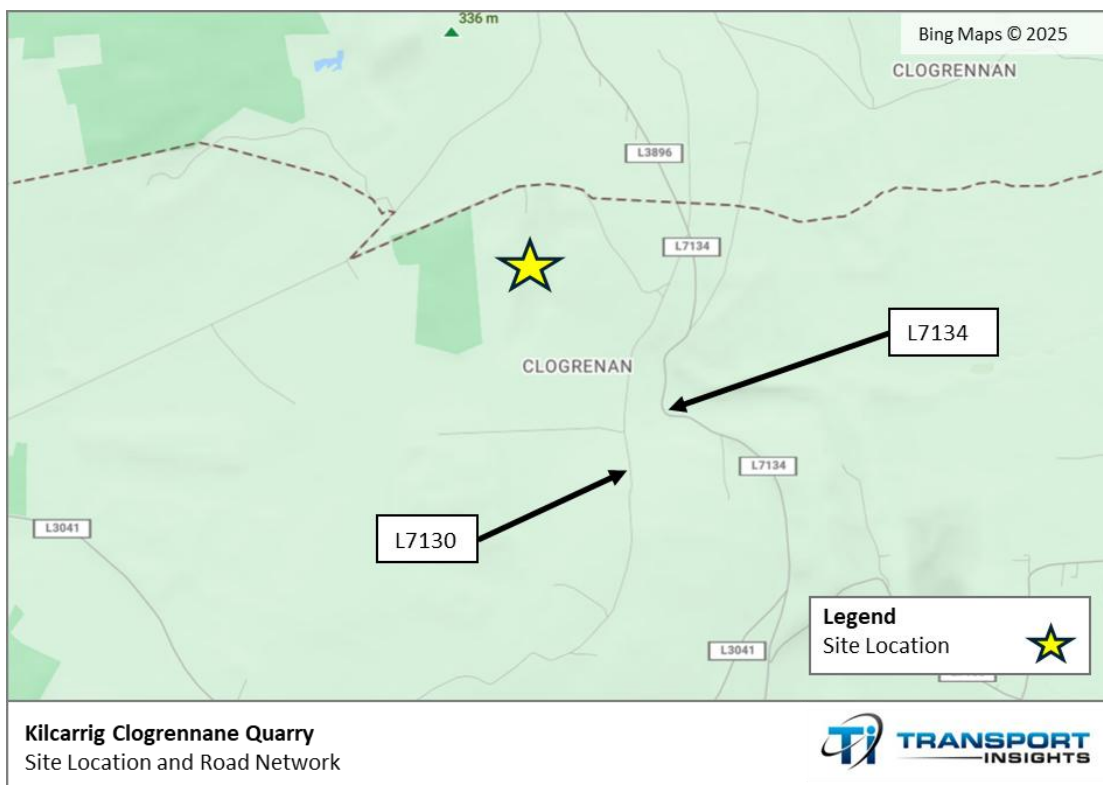
**Figure 13.1: Site Location and Access**



**Figure 13.2: Site Access (From L7130)**

#### 13.4.2 Local Road Network

The layout of the local road network in the proximity of the proposed development site is shown in Figure 13.3. The technical characteristics, layout and operation of these roads are described further in the following sections.



**Figure 13.3: Local Road Network**

### **13.4.3 L7130**

The L7130 is a two-way local road that runs in an approximate north-south alignment to the east of the subject site between the L7134 to the north and the L3041 to the south.

L7130 features numerous changes to both its vertical and horizontal alignment throughout its length. The L7130 joins the L7134 to the north approximately 250 metres north of the current site access. A series of notable bends are located on L7130 to the south of the site access, however this does not fall within the haul route for the site as HGV traffic access and egress along L7130 to the north.

There are no road markings, footpaths or public lighting present on L7130 in the vicinity of the existing site access.



**Figure 13.4: L7130**

### **13.4.4 L7134**

The L7134 is a two-way local road that runs in an approximately north-south alignment to the east of the subject site.

In the vicinity of the subject site, the L7134 has an initial straight alignment in the north, with a series of bends in the road approximately 400 metres to the south. This is followed by another relatively straight alignment for approximately 450 metres.

There is a continuous centre line present, indicating overtaking is prohibited. No footpaths or public lighting is present on L7130 in the vicinity of the site.



**Figure 13.5: L7134**

#### **13.4.5 L7130/L7134/L50022 Junction**

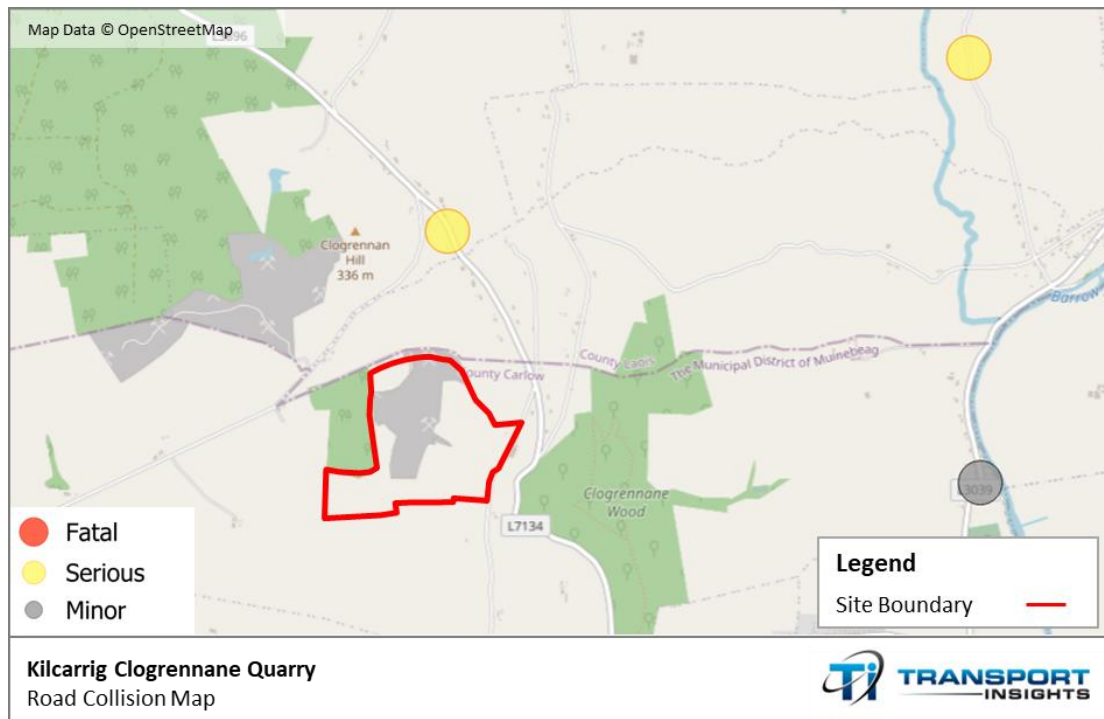
The L7130/L7134/L50022 priority-controlled junction is a 4-arm junction located ca. 250 metres to the north of the application site access road. The L7134 forms the major arms (northwestern and southeastern) arms of the junction. The northeastern arm which is the L50022 features a stop line, and the arm is ca. 8.75 metres wide. The L7130 features no road markings and the arm width is ca. 30 metres wide at the junction. There is a change in vertical alignment onto the L7130 as can be seen in the figure below (Figure 13.6).



**Figure 13.6: L7130/L7134/L50022 Junction**

### 13.4.6 Road Collision Statistics

As can be seen from Figure 13.7 below, 1 no. serious collision was recorded in the vicinity of the subject site over the latest 12-year period that data is available for. The collision occurred ca. 1km to the north of the site. It occurred in 2010 and involved a single car between 16:00-19:00hrs on a Sunday, with 1 no. seriously injured and 2 no. unharmed. The available data outlined above indicates that there are no location-specific road safety concerns of relevance to the site.



**Figure 13.7: Road Collision Map**

### 13.4.7 Existing Traffic Flows

To determine baseline traffic conditions in the vicinity of the site, a classified junction turning count survey was undertaken on the 03 April 2025 at the L7130/L7134/L50022 Crossroads.

Full traffic survey data is included in Appendix 13.1 of this document. A summary of the survey results for the total survey period as ascertained from the survey data is presented in the following Table 13.2.



| Junction                             | Link      | 12-hour Link Flows (07:00-18:59hrs) |    |       |
|--------------------------------------|-----------|-------------------------------------|----|-------|
|                                      |           | LV                                  | HV | Total |
| L50022/L7134/<br>L7130<br>Crossroads | L50022    | 25                                  | 0  | 25    |
|                                      | L7134 (S) | 732                                 | 37 | 769   |
|                                      | L7130     | 75                                  | 5  | 80    |
|                                      | L7134 (N) | 721                                 | 39 | 760   |

**Table 13.2: Traffic Survey Summary Table**

Based on the results of the traffic surveys set out in the preceding Table 13.2, the local road network peak hours, in terms of maximum flow were identified to be 09:00-10:00hrs (AM Peak), and 16:00-17:00hrs (PM Peak).

The results of the traffic survey have been used to establish a baseline from which to predict traffic volumes on the local road network for the proposed development's assumed YoO, YoO +5, and YoO +15.

#### 13.4.8 Annual Average Daily Traffic

In order to further understand the existing traffic flows on the local road network and establish a baseline to assess the traffic impact of the development proposals, it is first necessary to establish future levels of background traffic. The survey data summarised in preceding sections was expanded in accordance with TII's Project Appraisal Guidelines for National Roads Unit 16.1 – Expansion Factors for Short Period Traffic Counts – PE-PAG-02039 (October 2016), to derive Annual Average Daily Traffic (AADT) on the local road network.

The following Table 13.3 outlines the expansion factors used in expanding the survey data to AADT using data for the South-East (Carlow County) Region.

| Variable | Hour of Day                 | Day of Week | Month of Year |
|----------|-----------------------------|-------------|---------------|
|          | 12 hour<br>(07:00-19:59hrs) | Thursday    | April         |
| Factor   | 1.175                       | 0.95        | 0.98          |

**Table 13.3: AADT Factors**

Based on the recorded two-way 24-hour traffic flows, weekly average daily traffic (WADT) and AADT have been calculated using the factors in Table 13.3 above. AADT data for roads in the vicinity of the site are presented in the following Table 13.4.



| Junction                             | Link      | AADT           |                         |       |
|--------------------------------------|-----------|----------------|-------------------------|-------|
|                                      |           | Total Vehicles | Of which Heavy Vehicles | % HGV |
| L50022/L7134/<br>L7130<br>Crossroads | L50022    | 27             | 0                       | 0%    |
|                                      | L7134 (S) | 841            | 40                      | 5%    |
|                                      | L7130     | 88             | 5                       | 6%    |
|                                      | L7134 (N) | 831            | 43                      | 5%    |

**Table 13.4: AADT**

The data set out in Table 13.4 above is used in Section 13.6.2 as a baseline in order to assess the impact of the proposed development under the different prescribed scenarios.

## **13.5 Characteristics of the Proposed Development**

### **13.5.1 Site Access Arrangements**

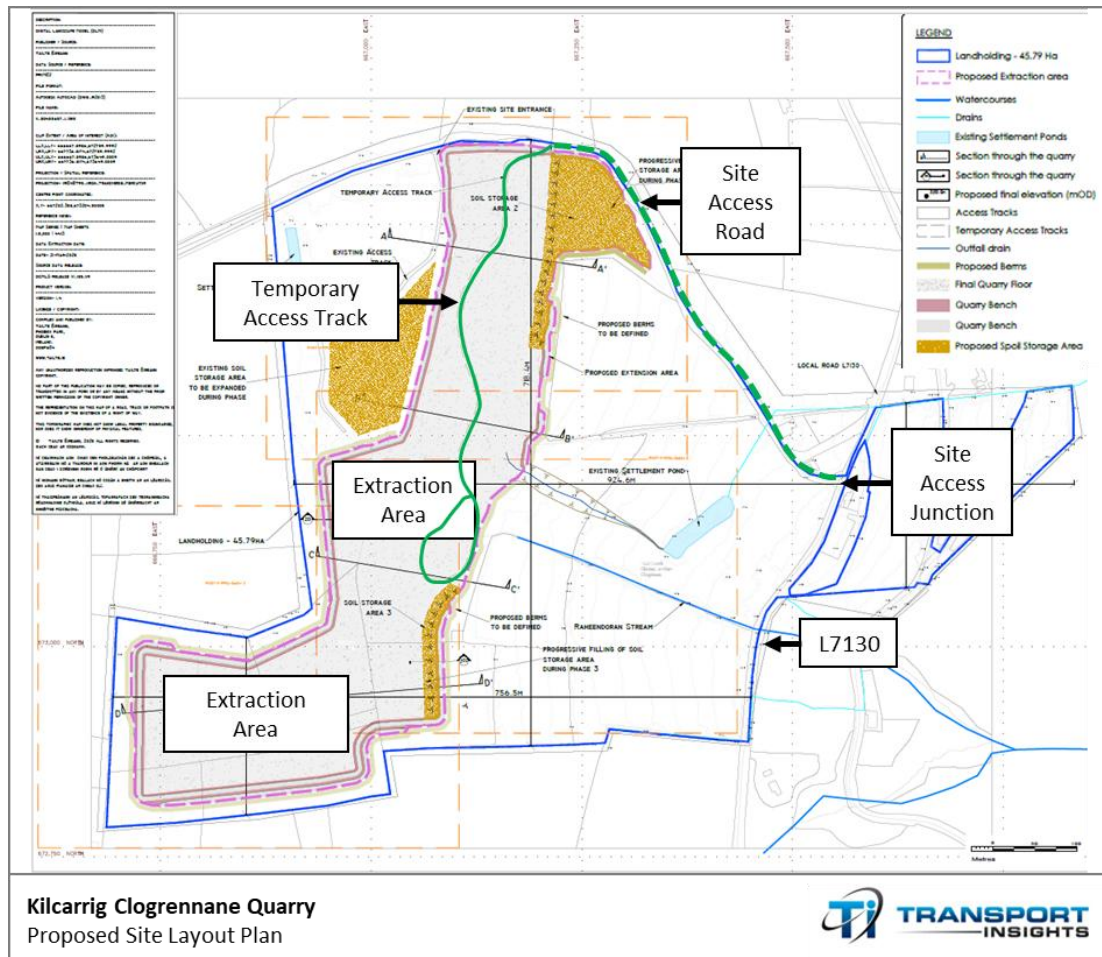
The proposed development will be accessed from via the site access junction on the L7130 and travel along the northeastern boundary of the site via a site access road and enter the site at the north of the development ca. 600 metres northwest of the site access junction.

The two existing site access locations at the north of the site will be replaced (over time) by a single site access point which links to the site access road. The new site access will link to an internal access track to allow for access around the site. The new site access arrangements are illustrated in the site layout in Figure 13.8.

### **13.5.2 Proposed Development Description and Site Layout**

The proposed development will involve blasting, extraction and processing of rock using mobile primary crushing / screening and associated plant on the proposed quarry floor. The proposed quarry void will be extracted over 4 no. phases to a depth of 2 no. benches of c. 10m each to a quarry depth of c. 300m AOD with a proposed rate of extraction of c. 200K tonnes per annum. The proposed development will include for construction of earthen screening berms, soil storage areas and will utilise existing quarry entrance from the northern boundary linking to the L7130 local road to the east. Existing and proposed access tracks and existing settlement ponds will be utilised as part of the proposed development. The proposed development will be accompanied by a phased restoration plan.

An illustration of the proposed site layout is provided in Figure 13.8 along with additional annotation from Transport Insights.



**Figure 13.8: Proposed Site Layout**

As part of the proposed development, all staff and visitor parking will occur within a designated parking area to be delineated within reasonable proximity to the welfare unit office.

Heavy vehicles will access the site through the proposed site access and proceed to the weighbridge before proceeding to the quarry area via the access ramp. Once within the quarry extraction area, the HVs shall be loaded by relevant machinery, before egressing the access ramp, proceeding once again to the weighbridge via the internal access road and then egressing the site in a northbound direction on the L7130.

### 13.6 Predicted Impacts of the Proposed Development

#### 13.6.1 Construction Phase

As noted in the preceding section, the proposed development shall be delivered in an existing quarry site, and as such construction phase impacts are anticipated to be minimal i.e. the existing facility shall be largely fit for purpose to accommodate the proposed development.

The construction phase shall however include creation of a staff welfare area and car parking, in addition to upgrades to the proposed site access.

Based on figures provided by the design team, it is estimated that on average 3 no. construction workers will be based on site each day. This would likely equate to a daily average



of 2 no. contractor staff vehicle trips (assuming a vehicle occupancy of 3 no. contractors per vehicle) or a peak of 5 no. contractor staff vehicle trips. In regard to construction related deliveries, it is estimated a daily average of 5 no. HV trips (e.g. excavated materials off-site, import materials, delivery HGVs, etc.) and 2 no. LV trips (delivery vans) will occur during construction. Given the temporary nature of the construction related traffic, the impact of the estimated construction traffic is expected to be minimal.

Construction traffic activity is expected to take place between 07:00hrs and 18:00hrs, Monday to Friday, and between 08:00hrs and 13:00hrs on Saturdays. Construction related traffic will access/ egress the site from the access point at the eastern boundary of the site. Construction traffic shall use the same haul routes (separate access and egress routes) utilised for the operational phase and illustrated in Figures 13.9 & 13.10.

During site clearance, the site shall be cleared to allow for parking of all staff and construction vehicles within the boundary of the proposed development site in order to ensure that no construction related parking takes place on the adjoining local road network.

### 13.6.2 Operational Phase

For the purposes of this assessment, two separate scenarios will be analysed and their impacts reported. These scenarios are as follows;

- The Do-Nothing scenario will reflect traffic on the surrounding road network factored up to reflect forecast background growth over time.
- The Do-Something scenario builds on the Do Nothing scenario and includes the assessment of expected development related traffic on the surrounding road network. This is considered the 'worst case' scenario.

These scenarios will detail the traffic impacts for the following years;

- YoO (2026);
- YoO + 5 (2031) and
- YoO +15 (2041).

Background traffic is factored up as per TII's Project Appraisal Guidelines for National Roads Unit 5.3 – Travel Demand Projections - PE-PAG-02017 (October 2021) central growth factors for Co. Carlow. These factors are set out in the following Table 13.5.

| Year      | LV     | HV     |
|-----------|--------|--------|
| 2016-2030 | 1.0133 | 1.0324 |
| 2030-2040 | 1.0047 | 1.0144 |
| 2040-2050 | 1.0034 | 1.0178 |

**Table 13.5: Annual Traffic Growth Factors Carlow**

#### Operational Period

During the operational period, 3 no. staff are expected to be present on site with core work hours as follows;

- 07:00hrs to 18:00hrs - Monday to Friday
- 07:00hrs to 13:00hrs - Saturday

This equates to an estimated approximately 275 no. operational days per year (taking into account anticipated annual leave of staff).



### Development Traffic Generation

The proposed development is expected to generate a limited number of additional traffic movements on the local network. Based on the number of staff expected to work on site i.e. 3 no., a total of 6 no. staff trips are generated i.e. two LV trips per staff member.

Regarding HV movements, the subject application is for the intake of up to 200,000 tonnes of material per annum. It is noted that a typical payload departing site will be 25 tonnes. This equates to an average of 29 no. HVs arriving and 29 no. HVs departing the site each day (including ad hoc HV trips).

The expected operational vehicle movements at the subject site are outlined in the following Table 13.6.

|             | One-way Flows | Two-way Flows |
|-------------|---------------|---------------|
| Staff (LVs) | 3             | 6             |
| HVs         | 29            | 58            |
| Total       | 32            | 64            |

**Table 13.6: Proposed Development Traffic**

### Haulage Routes

All heavy vehicles will access and egress the site via L7130 and L7134 (as illustrated in Figures 13.9 and 13.10). This results in travel to and from the site via one of the following routes:

- From N78 – access to the site via N78 shall travel ca. 3km east to the R430 where they travel to the R430/R431 junction before turning onto the R431 for ca. 500 metres. The R431 meets the L3896 where vehicles will travel for ca. 7km southbound until reaching the junction with the L7130 where the site can be accessed.
- To N78 – egressing vehicles shall access the N78 in the reverse of the route they used to access the site.
- From M9 – vehicles accessing the site from M9 shall join the R448 at M9 Junction 6 and travel southbound for ca. 3.5km before turning onto the L3038. They will travel northbound on the L3038 and L3039 for ca. 4.7km and turn west onto the L3041. They will continue west through Ballinabrannagh on the L3041 and then L7134 for ca. 4.2km before finally turning onto the L7310 and reaching the site access junction.
- To M9 – egressing vehicles shall access the M9 in the reverse of the route they used to access the site.

### Trip Distribution

It is anticipated that all traffic will access and egress the site via the routes outlined above under the following assumed distribution patterns.

To the site (inbound):

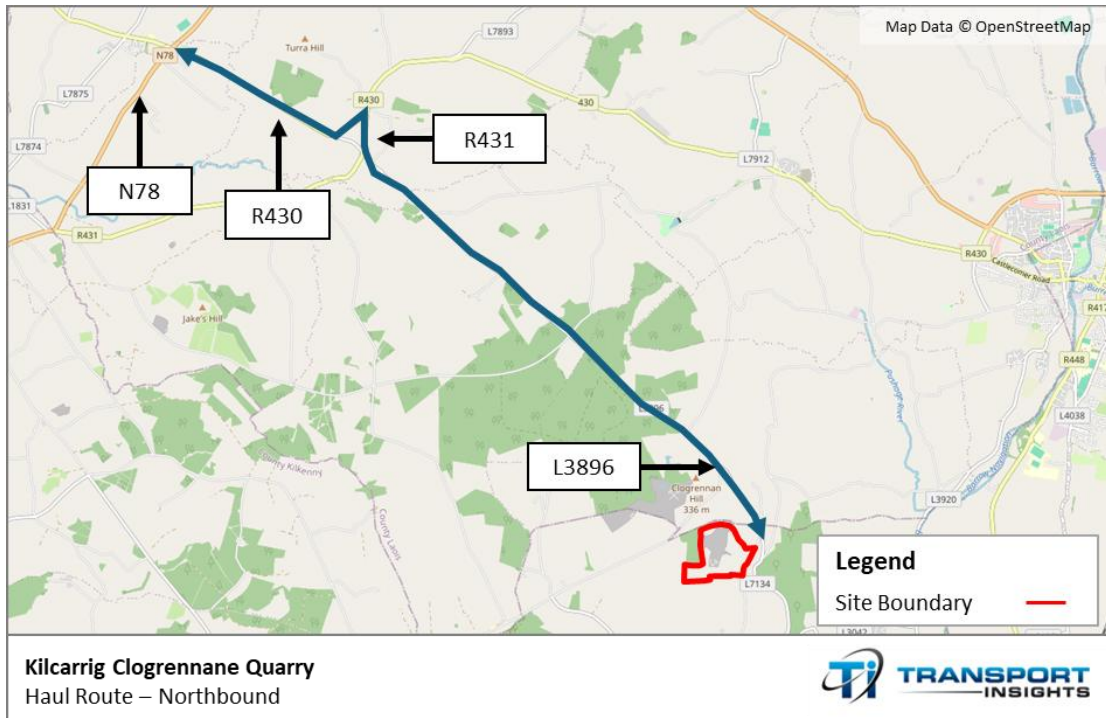
- 100% will arrive at the subject site via the L7130;
- 50% will access the identified haul route via the L7134 from the north; and
- 50% will access the identified haul route via the L7134 from the south.

From the site (outbound):

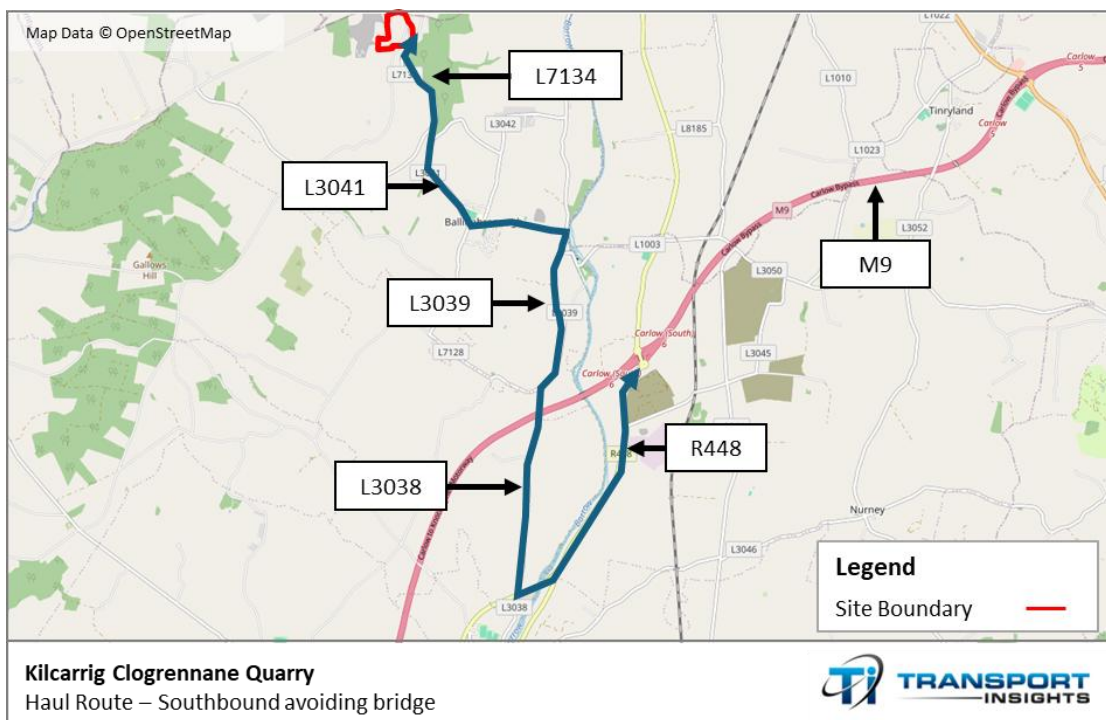
- 100% will leave the site via the L7130 northbound;

- 50% will egress onto the identified haul route via the L7134 to the north; and
- 50% will egress onto the identified haul route via the L7134 to the south.

Figures 13.9 and 13.10 below provides a graphical representation of HV haulage routes and trip distribution patterns to/ from the proposed development.



**Figure 13.9: Haulage Route Northbound**



**Figure 13.10: Haulage Route Southbound**



An on-site assessment of the local road network carried out on 18 March 2025 (described in Section 13.4) indicates that the local and regional roads and motorway which are proposed to form the haul routes to site are appropriate to accommodate traffic associated with both the construction phase and operational phase of the proposed development.

#### Do-Something Traffic Forecast

Table 13.7 below details the total AADT and proportion of which comprises HVs on local roads for the Do-Something scenario. The Do Something scenario considered the worst case scenario, whereby the proposed development traffic outlined above are assessed in addition to the factored up background traffic for the year of opening (2026), year of opening +5 years (2031), and year of opening +15 Years (2041).

| Year | Road Link | Total AADT | Of which, HGV | %HGV | % increase in AADT over Do-Nothing |
|------|-----------|------------|---------------|------|------------------------------------|
| 2026 | L50022    | 28         | -             | 0%   | 0%                                 |
|      | L7134 (S) | 885        | 71            | 8%   | 4%                                 |
|      | L7130     | 153        | 64            | 42%  | 72%                                |
|      | L7134 (N) | 875        | 73            | 8%   | 4%                                 |
| 2031 | L50022    | 29         | -             | 0%   | 0%                                 |
|      | L7134 (S) | 940        | 77            | 8%   | 4%                                 |
|      | L7130     | 159        | 65            | 41%  | 68%                                |
|      | L7134 (N) | 929        | 80            | 9%   | 4%                                 |
| 2041 | L50022    | 31         | -             | 0%   | 0%                                 |
|      | L7134 (S) | 987        | 85            | 9%   | 3%                                 |
|      | L7130     | 164        | 66            | 40%  | 64%                                |
|      | L7134 (N) | 977        | 88            | 9%   | 3%                                 |

**Table 13.7: Do Something Traffic**

The figures set out in Table 13.7 above show that within the Do-Something scenario, traffic volumes on the L7134 in the development's assumed year of opening (2026) are expected to increase by 4%. This will decrease to 3% to the Year of Opening +15 (2041). Traffic on L7130 shall increase by more than this, however this a reflection of its local access function.

Section 2.1 of TII's Traffic and Transport Assessment Guidelines (May 2014) sets out thresholds for production of a Traffic and Transport Assessment, with thresholds for developments provided in Table 2.1. It is noted from Table 2.1 that where "traffic to and from the development exceeds 10% of the traffic flow on the adjoining road", more detailed analysis of a proposed development's traffic impacts may be required. The proposed development will result in a 4% increase on L7134 in year 2026, below the 10% threshold. It is also noted that traffic on the local road adjacent to the site features traffic increases above 10%, however this is a product of its local access function.

#### **13.6.3 Do Nothing Impact**



The Do-Nothing impacts of the proposed development are based on the appropriately factored up background traffic. In this scenario, the site remains in its current state and thus generates no additional traffic.

Table 13.8 below details the total AADT and proportion of which comprises HVs on the local road network in the Do-Nothing scenario for the year of opening (2026), year of opening + 5 Years (2031) and year of opening + 15 Years (2041).

| Year | Road Link | Total AADT | Of which, HGV | %HGV |
|------|-----------|------------|---------------|------|
| 2026 | L50022    | 28         | 0             | 0%   |
|      | L7134 (S) | 853        | 42            | 5%   |
|      | L7130     | 89         | 6             | 6%   |
|      | L7134 (N) | 843        | 44            | 5%   |
| 2031 | L50022    | 29         | 0             | 0%   |
|      | L7134 (S) | 908        | 48            | 5%   |
|      | L7130     | 95         | 7             | 7%   |
|      | L7134 (N) | 897        | 51            | 6%   |
| 2041 | L50022    | 31         | 0             | 0%   |
|      | L7134 (S) | 955        | 56            | 6%   |
|      | L7130     | 100        | 8             | 8%   |
|      | L7134 (N) | 945        | 59            | 6%   |

**Table 13.8: Do Nothing Traffic**

The above table provides a baseline from which the proposed development's traffic impacts have been determined, with the outputs of that analysis presented in Table 13.7.

## 13.7 Mitigation Measures

### 13.7.1 Construction Phase

As part of the construction phase, a number of mitigation measures are proposed. These are as follows;

- In order to minimise the potential impact on the local road network surfaces, road cleaning is proposed to be implemented on site during the earliest construction phase (e.g. earth extraction) to mitigate against material such as dust, earth, debris etc. from entering the local road network, as required.
- Furthermore, as outlined above, the site shall be cleared to allow the parking of all construction vehicles including staff vehicles within the bounds of the subject site.
- Haul routes outlined within Figures 13.9 & 13.10 will be strictly adhered to by construction vehicles so as not to have an undue impact on unsuitable local roads.
- These haul routes shall be strictly controlled by the client or the appointed main constructor during the duration of the construction phase with all construction vehicle operators employed being issued maps of sanctioned haul routes to and from the site and under strict instructions to follow these routes.

### 13.7.2 Operational Phase

As part of the operational phase, several mitigation measures are proposed, which are as follows;



- To ensure adequate visibility for vehicles egressing the site of oncoming traffic to both the north and south, it is proposed to ensure that the required sightlines of 90 metres (in accordance with the County Development Plan) are achievable in both directions to ensure adequate visibility of drivers egressing the site of oncoming traffic. See Appendix xx of this document.
- The site access junction will also be provided with stop road markings and signage to ensure that vehicles egressing the site are mandated to come to a full stop before turning onto the L7130.
- Haul routes outlined within Figures 13.9 & 13.10 shall be strictly controlled by the client for the duration of the operational phase with all heavy vehicle operators employed being issued maps of sanctioned haul routes to and from the site and under strict instructions to follow these routes.

### **13.8 Residual Impacts**

The predicated residual impact of the proposed development in terms of traffic and transportation is that there will be a marginal increase in LVs and HVs on the adjoining road network due to the operation of the proposed development.

### **13.9 Monitoring**

#### **13.9.1 Construction Phase**

The potential impact of construction traffic on the local road network in the vicinity of the site will be monitored during the construction phases, with regular observations of the local road network. Should monitoring indicate any excess mud or debris on the road, a road sweeper can be organised (if required) to clean the surface.

Compliance with haul routes to site will be monitored for the duration of the construction phase with spot checks carried out to ensure that any construction vehicles follow the haul routes prescribed.

#### **13.9.2 Operational Phase**

Compliance with haul routes to site will be monitored continuously during the operational phase with spot checks carried out to ensure that all heavy vehicles follow the haul routes prescribed. Only pre-approved sources, authorised collection companies, sign up to agreed haulage routes as part of approval process.

### **13.10 Interactions and Cumulative Impacts**

The analysis contained within this chapter interacts with the Noise Assessments contained within this EIAR. This is primarily due to the potential for an increase in HV traffic movements on the surrounding road network due to development.

### **13.11 References**

The EIAR Traffic and Transport Assessment has been prepared taking into account the following policy and technical guidance documents:



- EPA (2022) Guidelines on the information to be contained in Environmental Impact Assessment Reports.
- Carlow County Development Plan 2022 - 2028
- Transport Infrastructure Ireland (TII) (2014) Traffic and Transport Assessment Guidelines;
- Transport Infrastructure Ireland (TII) Project Appraisal Guidelines for National Roads Unit 16.1 - Expansion Factors for Short Period Traffic Counts (October 2016);
- Transport Infrastructure Ireland (TII) Project Appraisal Guidelines for National Roads Unit 5.3 – Travel Demand Projections (October 2021); and
- Transport Infrastructure Ireland (TII) Publications (Standards).

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