Location	Date	Field of view	35mm equivalent	Distance to site	Camera model
View 4 Existing	05/11/21	74°	24mm	586m	Canon EOS 5DS

digital dimensions
architectural visualisation

View	Location	Reason for Selection
VP4	On R135 586m south-east of site – beside Ravenswood Estate	Expansive and unscreened views across open countryside Nearest south-eastern view
Landscape Significance	Local residential significance Low general significance	

Figure 11.6 Existing view 4

View	Location	Reason for Selection
VP5	45m west of site on L3120 Kilshane Rd. beside site boundary	Direct view toward site
Landscape Significance	Low general significance	

Figure 11.7 Existing view 5

View	Location	Reason for Selection
VP6	260m south-west of site on L3120 Kilshane Rd.	Nearest south-western public road
Landscape Significance	Low general significance	

Figure 11.8 Existing View 6

Location	Date	Field of view	35mm equivalent	Distance to site	Camera model
View 7 Existing	10/08/22	74°	24mm	613.1m	Canon EOS 5DS

digital dimensions

View	Location	Reason for Selection
VP7	613m west of site on Bay Lane	Potential view from road oriented towards site.
Landscape Significance	Low general significance	

Figure 11.9 Existing View 7

11.4 PREDICTED IMPACTS

There is no single definitive visual impact of a project. Instead, there are a series of effects - each different in appearance and degree - that occur throughout the area from which the project is visible. This section describes the visual impact from a number of locations some of which are immediately adjacent (e.g., View 1) and some of which are at greater distance.

Impacts on the character of an area combine the potential visual effects with those of additional sound, smells, traffic as well as knowledge of effects on local ecology and cultural heritage. These matters have been described in detail in other sections and find that there are no significant such effects that would be discernible beyond the site perimeter. For this reason, further evaluation of effects on the landscape are confined to visual impacts.

This section provides a commentary to accompany the 'before and after' photographic images. In each instance, a commentary is provided on how the 'Proposed' image illustrates the visual impact of the proposed development from the selected location. Each section concludes with a description of the visual impact from that location. (Note that larger versions of each photographic image are contained in Appendix 11)

Note that the images included in this section are smaller views than are recommended – the A4 sized views when viewed at arm's length, better illustrate how the project will appear in reality.

Note also that the impacts are the permanent effects on the appearance and character of the area, following completion of construction and establishment of perimeter landscaping.

The visual impacts of the construction period – exposed structures, unfinished surface, perimeter fencing construction vehicles and cranes are of such limited duration, at such a distance from the public realm and so significantly screened that they are deemed to be imperceptible and so, while described, do are not considered further when describing the impact on the landscape.
All of the predicted impacts show how the development will appear in year 10 following the establishment of screen planting. Appendix 11 illustrates the predicted appearance at years 1 and 5 – so that initial impacts can be assessed.

11.4.1 VIEW 1

Location	Date	Field of view	35mm equivalent	Distance to site	Camera model
View 1 Proposed (yr10)	05/11/21	74°	24mm	24m	Canon EOS 5DS

Showing planting @ year10

digital dimensions

View 1	Initial Visibility of the Proposed Development [See Appendix 11 for visualisation of impacts with vegetation at years 1 and 5]	Impact [ie impact following completion of construction and removal of temporary construction equipment, such as cranes]	Significance of Context	Effect on Context	Residual Visibility [ie impact after end of construction and establishment of screening at Year 10]	Residual Impact
1	Taller scaffolding, equipment and cranes visible during construction period. Areas of bare earth visible and construction fencing visible during construction.	Limited and localised partial visibility of upper portions of some buildings and roof-mounted plant and exhaust structure. Aircraft warning lights and general building environs partially and locally visible at night - increased visibility through winter foliage	Local residential significance Low general significance A regionally abundant landscape type	Impacts will be confined to the vicinity of this opening. Little or no visibility from other adjoining areas on account of height and density of existing mature hedgerows.	Very low visibility of the proposed development or of any associated development – such as the GIS	**Very Low** Impact on the appearance and character of the landscape

Figure 11.10 Proposed view 1 Predicted Visibility [Development screened by existing structures, mounding and vegetation]

11.4.2 VIEW 2

View	Initial Visibility of the Proposed Development [See Appendix 11 for visualisation of impacts with vegetation at years 1 and 5]	Impact [ie impact following completion of construction and removal of temporary construction equipment, such as cranes]	Significance of Context	Effect on Context	Residual Visibility [ie impact after end of construction and establishment of screening at Year 10]	Residual Impact
2	Taller scaffolding, equipment and cranes visible during construction period. Areas of bare earth visible and construction fencing visible during construction.	Limited and localised partial visibility of upper portions of some buildings and roof-mounted plant and exhaust structure. Aircraft warning lights and general building environs partially and locally visible at night - increased visibility through winter foliage	Local residential significance Low general significance A regionally abundant landscape type	Impacts will be confined to the vicinity of this opening. Little or no visibility from other adjoining areas on account of height and density of existing mature hedgerows.	Very low visibility of the proposed development or of any associated development – such as the GIS	**Not Significant** because of very low impact on the appearance and character of the landscape

Figure 11.11 Proposed view 2

11.4.3 VIEW 3

View	Initial Visibility of the Proposed Development [See Appendix 11 for visualisation of impacts with vegetation at years 1 and 5]	Impact [ie impact following completion of construction and removal of temporary construction equipment, such as cranes]	Significance of Context	Effect on Context	Residual Visibility [ie impact after end of construction and establishment of screening at Year 10]	Residual Impact
3	Taller scaffolding, equipment and cranes visible during construction period. Areas of bare earth visible and construction fencing visible during construction.	Visibility of upper portions of some buildings and roof-mounted plant and exhaust structure. Aircraft warning lights and general building environs partially and locally visible at night - increased visibility through winter foliage	Medium general significance on account of elevated vista Elevated views are relatively scarce in this flat landscape	Impacts will be confined to the immediate vicinity of this elevated viewing position. Little from other adjoining areas on account of height and density of existing mature hedgerows. No significant visibility from nearby N2 on account of lower level and existing roadside vegetation.	Moderate-High visibility of the proposed development or of any associated development – such as the GIS	**Moderate - High** Impact on the local appearance and character of the landscape in the immediate vicinity of this elevated viewing point.

Figure 11.12 Proposed view 3

11.4.4 VIEW 4

View	Initial Visibility of the Proposed Development	Impact [ie impact following completion of construction and removal of temporary construction equipment, such as cranes]	Significance of Context	Effect on Context	Residual Visibility [ie impact after end of construction and establishment of screening at Year 10]	Residual Impact
4	Upper-most portions of tallest cranes visible during construction period.	No visibility because of intervening vegetation and distance	Local residential significance Low general significance A regionally abundant landscape type	No effect on account of lack of visibility	No visibility of any part of the development	**No Impact** because of no visibility

Figure 11.13 Proposed view 4

11.4.5 VIEW 5

View	*Initial Visibility of the Proposed Development*	**Impact [ie impact following completion of construction and removal of temporary construction equipment, such as cranes]**	**Significance of Context**	**Effect on Context**	**Residual Visibility [ie impact after end of construction and establishment of screening at Year 10]**	**Residual Impact**
5	No visibility during construction	No visibility because of intervening vegetation and distance	Low general significance A regionally abundant landscape type	No effect on account of lack of visibility	No visibility of any part of the development	**No Impact** because of no visibility

Figure 11.14 Proposed view 5

11.4.6 VIEW 6

View	Initial Visibility of the Proposed Development	Impact [ie impact following completion of construction and removal of temporary construction equipment, such as cranes]	Significance of Context	Effect on Context	Residual Visibility [ie impact after end of construction and establishment of screening at Year 10]	Residual Impact
6	No visibility during construction	No visibility because of intervening vegetation and distance	Low general significance A regionally abundant landscape type	No effect on account of lack of visibility	No visibility of any part of the development	**No Impact** because of no visibility

Figure 11.15 Proposed view 6

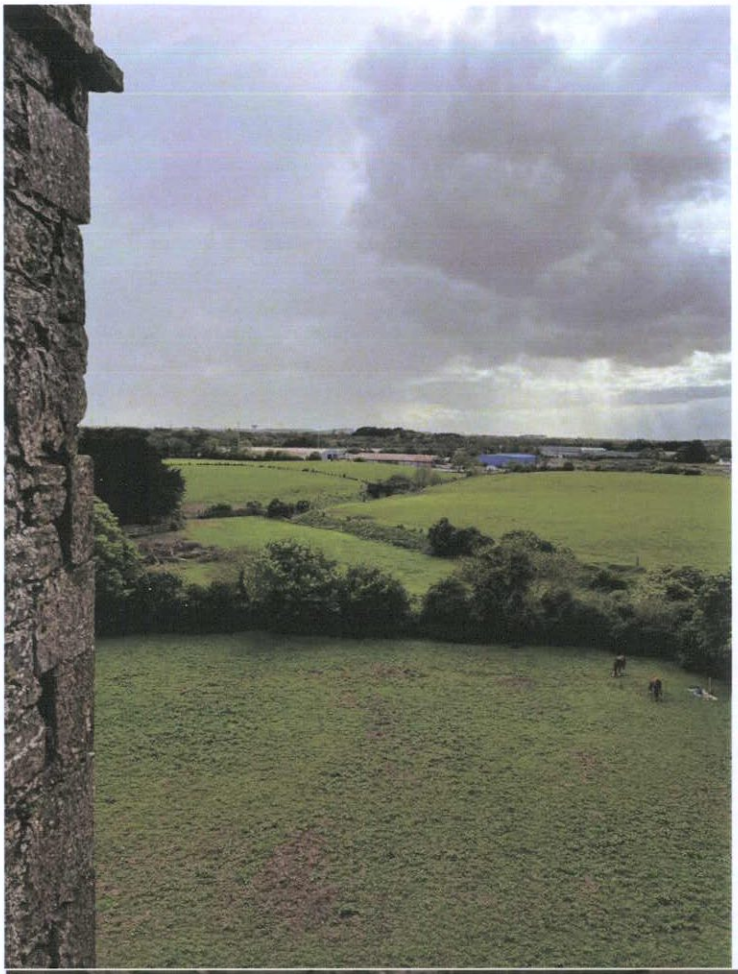
11.4.7 VIEW 7

Location	Date	Field of view	35mm equivalent	Distance to site	Camera model
View 7 Proposed	10/08/22	74°	24mm	613.1m	Canon EOS 5DS

digital dimensions architectural visualisation

View	Initial Visibility of the Proposed Development	Impact [ie impact following completion of construction and removal of temporary construction equipment, such as cranes]	Significance of Context	Effect on Context	Residual Visibility [ie impact after end of construction and establishment of screening at Year 10]	Residual Impact
7	No visibility during construction	No visibility because of intervening vegetation and distance	Low general significance A regionally abundant landscape type	No effect on account of lack of visibility	No visibility of any part of the development	**No Impact** because of no visibility

Figure 11.16 Proposed view 7



Landscape and Visual Impact on Dunsoughly Castle

The proposed development lies to the north-east of Dunsoughly Caste, a Protected Structure and national Monument.

Panoramic views from the upper potions of this structure, as shown in the photograph. These include views toward the development site. There is no public access to this viewing point.

Impact

The upper portions of the proposed development will be distantly visible from one part of the view this location. This visibility will occur in the context of a significantly developed are in the middle distance.

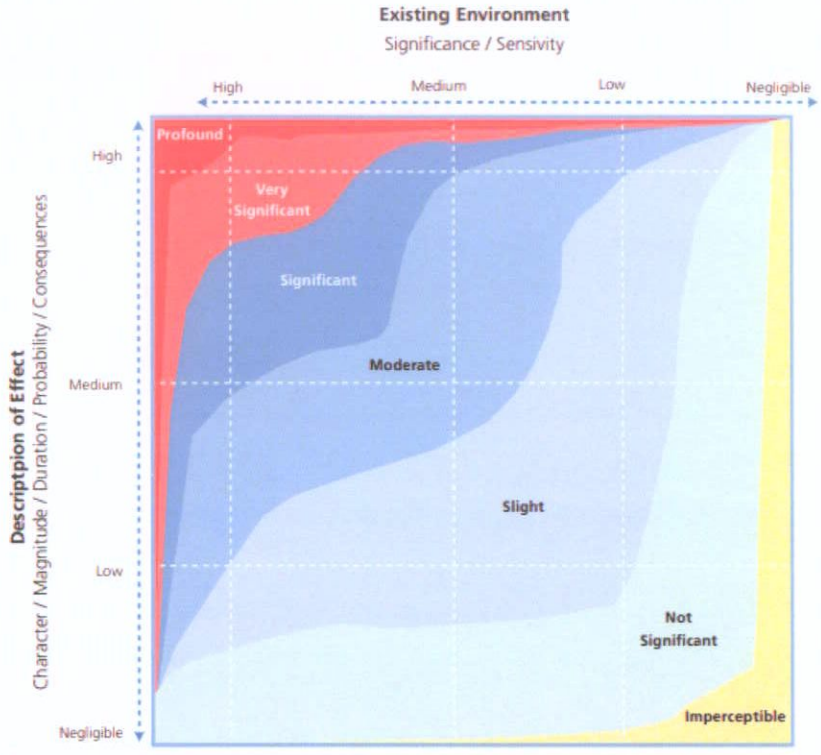
This impact will not alter the context or setting of this Castel in any way that differs from the existing established character as a developed urban fringe area.

Having regard to the distance, context and lack of public access, this is classified as an imperceptible impact

Table 11.2 Summary of visibility and context of effect for viewing points

View	Initial Visibility of the Proposed Development	Impact [ie impact following completion of construction and removal of temporary construction equipment, such as cranes]	Significance of Context	Effect on Context	Residual Visibility [ie impact after end of construction and establishment of screening at Year 10]	Residual Impact
1	Taller scaffolding, equipment and cranes visible during construction period. Areas of bare earth visible and construction fencing visible during construction.	Limited and localised partial visibility of upper portions of some buildings and roof-mounted plant and exhaust structure. Aircraft warning lights and general building environs partially and locally visible at night - increased visibility through winter foliage	Local residential significance Low general significance A regionally abundant landscape type	Impacts will be confined to the vicinity of this opening. Little or no visibility from other adjoining areas on account of height and density of existing mature hedgerows.	Very low visibility of the proposed development or of any associated development – such as the GIS	**Not Significant** because of very low impact on the appearance and character of the landscape
2	Taller scaffolding, equipment and cranes visible during construction period. Areas of bare earth visible and construction fencing visible during construction.	Limited and localised partial visibility of upper portions of some buildings and roof-mounted plant and exhaust structure. Aircraft warning lights and general building environs partially and locally visible at night - increased visibility through winter foliage	Local residential significance Low general significance A regionally abundant landscape type	Impacts will be confined to the vicinity of this opening. Little or no visibility from other adjoining areas on account of height and density of existing mature hedgerows.	Very low visibility of the proposed development or of any associated development – such as the GIS	**Not Significant** because of very low impact on the appearance and character of the landscape
3	Taller scaffolding, equipment and cranes visible during construction period. Areas of bare earth visible and construction fencing visible during construction.	Visibility of upper portions of some buildings and roof-mounted plant and exhaust structure. Aircraft warning lights and general building environs partially and locally visible at night - increased visibility through winter foliage	Medium general significance on account of elevated vista Elevated views are relatively scarce in this flat landscape	Impacts will be confined to the immediate vicinity of this elevated viewing position. Little from other adjoining areas on account of height and density of existing mature hedgerows. No significant visibility from nearby N2 on account of lower level and existing roadside vegetation.	Moderate-Significant visibility of the proposed development or of any associated development – such as the GIS	**Moderate - Significant** Impact on the local appearance and character of the landscape in the immediate vicinity of this elevated viewing point.
4	Upper-most portions of tallest cranes visible during construction period.	No visibility because of intervening vegetation and distance	Local residential significance Low general significance A regionally abundant landscape type	No effect on account of lack of visibility	No visibility of any part of the development	**Imperceptible** No Impact because of no visibility

5	No visibility during construction	No visibility because of intervening vegetation and distance	Low general significance A regionally abundant landscape type	No effect on account of lack of visibility	No visibility of any part of the development	**Imperceptible** No Impact because of no visibility
6	No visibility during construction	No visibility because of intervening vegetation and distance	Low general significance A regionally abundant landscape type	No effect on account of lack of visibility	No visibility of any part of the development	**Imperceptible** No Impact because of no visibility
7	No visibility during construction	No visibility because of intervening vegetation and distance	Low general significance A regionally abundant landscape type	No effect on account of lack of visibility	No visibility of any part of the development	**Imperceptible** No Impact because of no visibility
8	Taller scaffolding, equipment and cranes distanty visible during construction period.	Visibility of upper portions of some buildings and roof-mounted plant and exhaust structure. Aircraft warning lights and general building environs distantly visible	Low general significance on account of highly developed context for foreground and middle distance	Impacts will be distant and minor	Low visibility of the proposed development	**Imperceptible** Impact on the local appearance and character of the landscape in the immediate vicinity of this elevated viewing point.



There are seven generalised degrees of effect significance that are commonly used in EIA. Imperceptible, Not Significant, Slight, Moderate, Significant, Very Significant and Profound. Generalised definitions of each of these are provided in Table 3.4. When more specific definitions exist within a specialised factor or topic, e.g. biodiversity, these should be used in preference to these generalised definitions. (ref. Advice Notes[68].)

Figure 11.17 Calibration of impact significance against EPA guidelines[31]

11.5 MITIGATION AND MONITORING MEASURES

The layout avoids locations near the more sensitive northern and western parts of the site. It also retains much of the existing perimeter vegetation that provides good visual screening. The proposed development includes extensive re-use of excavated material to form screening berms while a comprehensive site planting plan will augment the screening that is already provided by the existing perimeter vegetation that has been retained.

11.6 RESIDUAL IMPACTS

The analysis provided in Table 11.2 above demonstrates that the majority of the landscape and visual impacts arising will consist of imperceptible or not significant residual impacts – with the exception of one localised moderate - significant impact on the local appearance and character of the landscape in the immediate vicinity of this elevated viewing point at View 3 where there will be localised visibility of the proposed development from an bridge across the N2.

The assessment of landscape impacts by reference to the effects on these examined views provides the evidence for a more holistic description of the overall residual impacts on the appearance and character of the area. The project will have visual impacts that will be largely confined to the immediate viscinity of the development. The main areas of such visibility will be confined to a short length [78m] of L3120 Kilshane Rd. beside site boundary as well as areas of the existing and realigned public road in the immediate vicinity of the site entrance.

[31] Information to be contained in Environmental impact Assessment Reports, 2022, EPA

The impacts on the character will be confined to a similar area. These will consist of an extension and intensification of the pattern of development that changes old agricultural land into areas of development that principally consist of areas of industry and infrastructure. These are the changes in character that are envisaged by the zoning of these lands for these purposes. According such change in appearance and character constitutes. orderly development because of this compliance with zoning

11.7 CUMULATIVE ASSESSMENT

The cumulative impact of the proposed development with any/all relevant other planned or permitted developments including the proposed GIS (as outlined in Chapter 17 - *Interactions & Cumulative Effects*) are discussed below.

The proposed development, in combination with all other developments in the area that consist primarily of a concentration existing and emerging commercial, industrial and infrastructural development represents a continuation and consolidation of the established land-use patterns of the area as envisioned by the zoning of the Fingal County Development Plan.

12 MATERIAL ASSETS

12.1 INTRODUCTION

The prescribed environmental factor of Material Assets is described in the 2022 EPA Guidelines as including built services and infrastructure.

The related topics of water (supply and waste water) and roads and traffic are separately addressed in other chapters of this EIAR, principally:

- Chapter 8 *Water & Hydrology*
- Chapter 13 *Traffic & Transportation*
- Chapter 14 *Waste Management*

This chapter covers the proposals for built services (except traffic) – comprising, energy demand and supply (electrical and gas) and water services.

12.2 ENERGY DEMAND

During the operational phase there will be energy resource requirements for operation of the proposed development in the form of natural gas and electricity.

During construction, resources consumed will mainly include use of fuels for construction related machinery, electricity to light the site and power tools.

12.2.1 ELECTRICAL SUPPLY

The proposed development will connect to a 220kV transmission system. The high voltage transmission line will supply back feed (import) power for facility loads when the combustion turbine is offline, and will serve as the transmission line for the combustion turbine when it is generating and exporting power to the grid.

Maximum import and export capacity are defined in the EirGrid Transmission Connection Agreement. Export power will meet EirGrid Grid Code requirements for voltage, frequency, and power factor.

When operational the plant will supply 293 MW of electricity to the National Grid via a GIS and grid connection which is subject to a separate SID consent approval by An Bord Pleanála. An Environmental Report for this project is provided as Appendix 17.2 of this EIAR.

12.2.2 GAS CONNECTION

Gas will be provided from the proposed gas yard (AGI) to be owned and operated by Gas Networks Ireland (GNI). This has been sized to accommodate the demand from this proposal which is predicted to be a maximum hourly quantity of c.850 MWt.

GNI and Kilshane Energy Ltd have executed a Large Network Connection Agreement for the design and construction of the pipeline route from the gas transmission network to the site and the AGI to deliver the gas supply needed to operate the gas fired power station. This project has been considered in the assessment of cumulative effects in relevant sections of this EIAR and will be subject to separate assessment procedures as required for the separate Commissioner for Regulation of Utilities consent process.

12.3 WATER

12.3.1 FOUL WATER

There is no existing foul water connection on the site for the proposed development. It is proposed that an 80mm diameter rising main will be constructed from the on-site pumping station for a distance of 1,823m to the existing gravity foul network on Mitchelstown Road. A pre-connection enquiry has submitted to Irish Water with a reference number of CDS22004080, Irish Water are currently assessing this submission. As this connection will be a routine IW connection underneath existing roadways, significant environmental effects are not likely to occur and the project will be subject to separate assessment processes as applicable.

12.3.2 WATER SUPPLY

Calculation in the Engineering Planning Report indicate that the water demand of the proposed development will be 2,200l/day. It is proposed to connect to the 110mm Ø MOPVC watermain located to the southwest of the site on Kilshane Road to the 50.8 uPVC watermain adjacent to the site via a new 150mm Ø watermain.

A pre-connection enquiry has been submitted to Irish Water and has received a reference number of CDS22004080.

The levels of the changes in demand for these services relative to available network capacities are further discussed in Chapter 8 *Water & Hydrology*.

The detailed design for these water services is described in the separately submitted engineering reports. Due to the nature and scale of this work, significant environmental effects can be considered to be unlikely to occur.

13 TRAFFIC & TRANSPORTATION

13.1 INTRODUCTION/METHODOLOGY

This chapter of the EIAR assesses the likely traffic and transportation impacts on the receiving environment during the construction and operational phases of the Proposed Development. The existing and proposed transport infrastructure in the area is described, and an assessment of the current and the future traffic environment is made. The impact of the development in terms of public transportation, pedestrian and cycle is also assessed.

The chapter describes: the methodology; the receiving environment at the application site and surroundings; the characteristics of the proposal in terms of physical infrastructure; the potential impacts that proposals of this kind are likely to produce; the predicted impact of the proposal examining the effects of the Proposed Development on the local road network; the remedial or reductive measures required to prevent, reduce, or offset any significant adverse effects; and the monitoring.

This Chapter was completed by Luke Byrne, BEng, MEng, Traffic Engineer, Waterman Moylan Consulting Engineers.

The following methodology has been adopted for this assessment:

- Review of relevant available information including, current Fingal County Development Plan 2017-2023, existing traffic information and other relevant studies;
- Site visit to gain an understanding of the site access and observe the existing traffic situation.
- Consultations with Fingal County Council Roads Department to agree the site access arrangements and determine the scope of the traffic analysis required to accompany a planning application.
- Detailed estimation of the transport demand that will be generated by the Proposed Development. The morning and evening peak times will be addressed as well as an estimation of under-construction and potential future developments in the surrounding area.
- Assessment of the impact of traffic on local junctions, car parking requirements and accessibility of the site by sustainable modes including walking, cycling and public transport.

13.2 RECEIVING ENVIRONMENT

This section reviews the baseline conditions, providing backing information for the site in order to determine the significance of any traffic implications. It also considers the existing accessibility of the site by sustainable modes of transpor.

13.2.1 SITE LOCATION

The site is located at Kilshane, Dublin 11, just west of the N2 Primary Road as shown in Figure 13.1 and is located approximately 2 km northwest of the M50.

The site is comprised of 5 agricultural fields (tillage), a farmhouse and associated structures. It totals c. 13.56 ha in area.

It is bound partially to the north and west by the Kilshane Road, it is further bound to the west by PD Flaherty logistics and agricultural lands, which also form the south-west part of the boundary. The remainder of the southern boundary is with the Roadstone quarry, Huntstown. The eastern and north-eastern boundary are again with agricultural land.

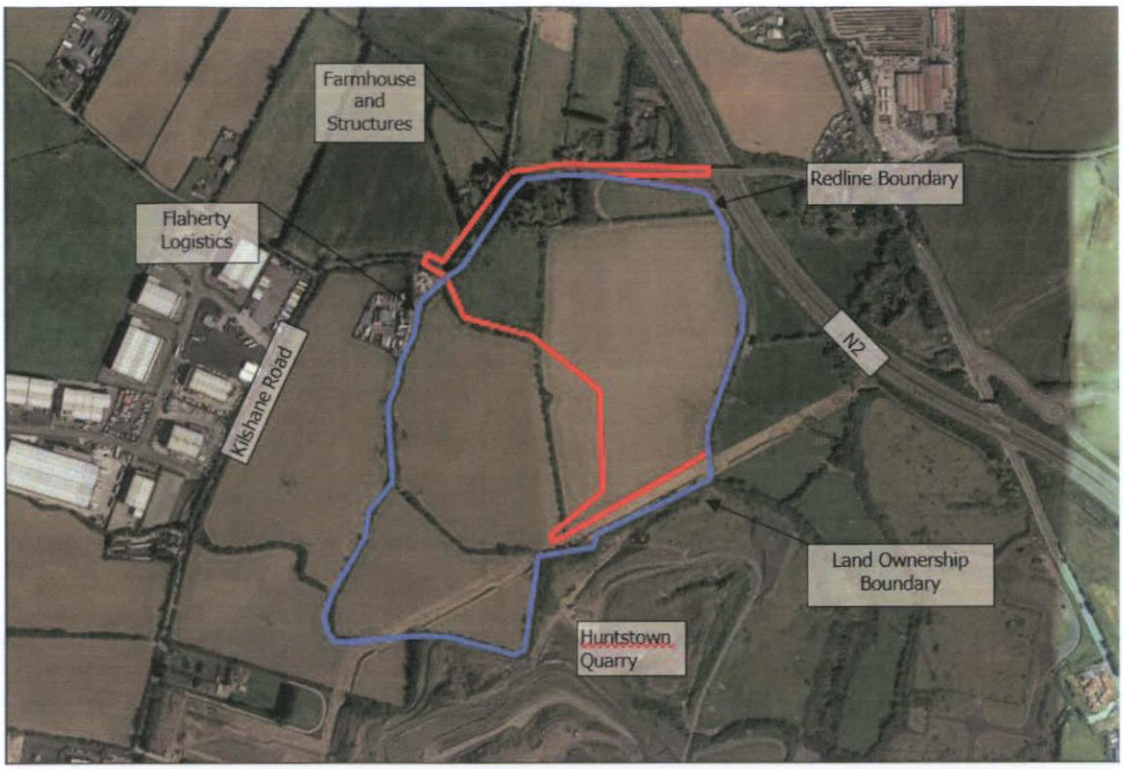


Figure 13.1 Site Location (Source Google Maps)

13.2.2 Local Road Network

There are three site access points to the subject site lands. The primary access point is current from Kilshane Road. - refer to Figure 13.2 below (facing east). The Kilshane Road at this location is a 2-lane carriageway with a posted speed limit of 80 km/hr. There are no dedicated cycle facilities at this location. The pedestrian footpath, on the northern side of the road, ends slightly out of image on the foreground, but extends east over the N2 flyover for approx. 385m. Refer to Figure 13.3, which outlines its extents.

Figure 13.2 Kilshane Road Site Access Point (East View)

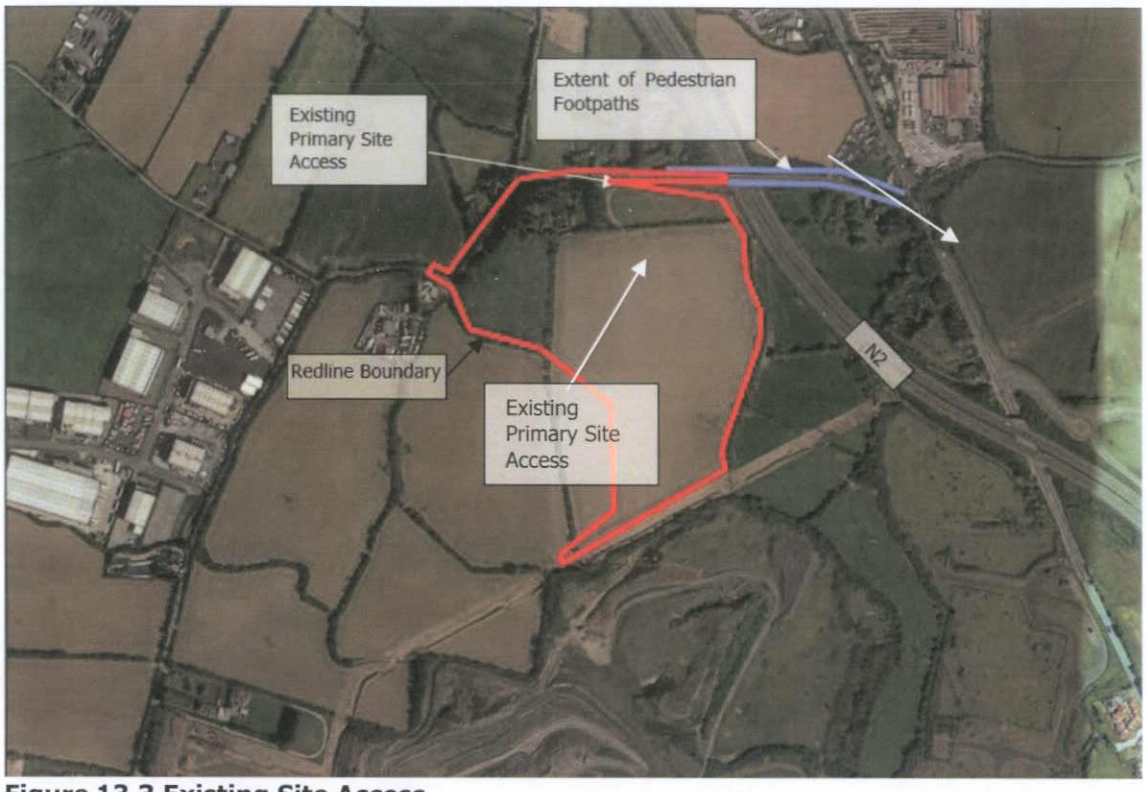


Figure 13.3 Existing Site Access

13.2.3 PUBLIC TRANSPORT FACILITIES

There are currently no public transport facilities to avail of on the Kilshane Road. The nearest public bus stops are located on the R135 and on the Mitchelstown Road at Northwest Business Park, to the east and southwest of the site, respectively. Details on current bus services and walking routes to/from the site are provided below.

- **Suncourt (Stop 101121)** on the R135. This is 650m (approx. 7 min walk) away from the existing site entrance. This stop is served by bus routes 103 & 105X in a southbound direction only – refer to figure 13.4.
- **Kilshane Cross (Stop 134321)** on the R135. This is 840m (approx. 9 min walk) away from the existing site entrance. This stop is served by bus routes 103 & 105X in a northbound direction only – refer to figure 13.4.
- **Northwest bus (Stops 7680 & 7676)** on the Mitchelstown Road at Northwest Business Park, serve route 40E (refer to figure 13.4) in both directions and are 1.9km (approx. 23 min walk) away from the existing site entrance.

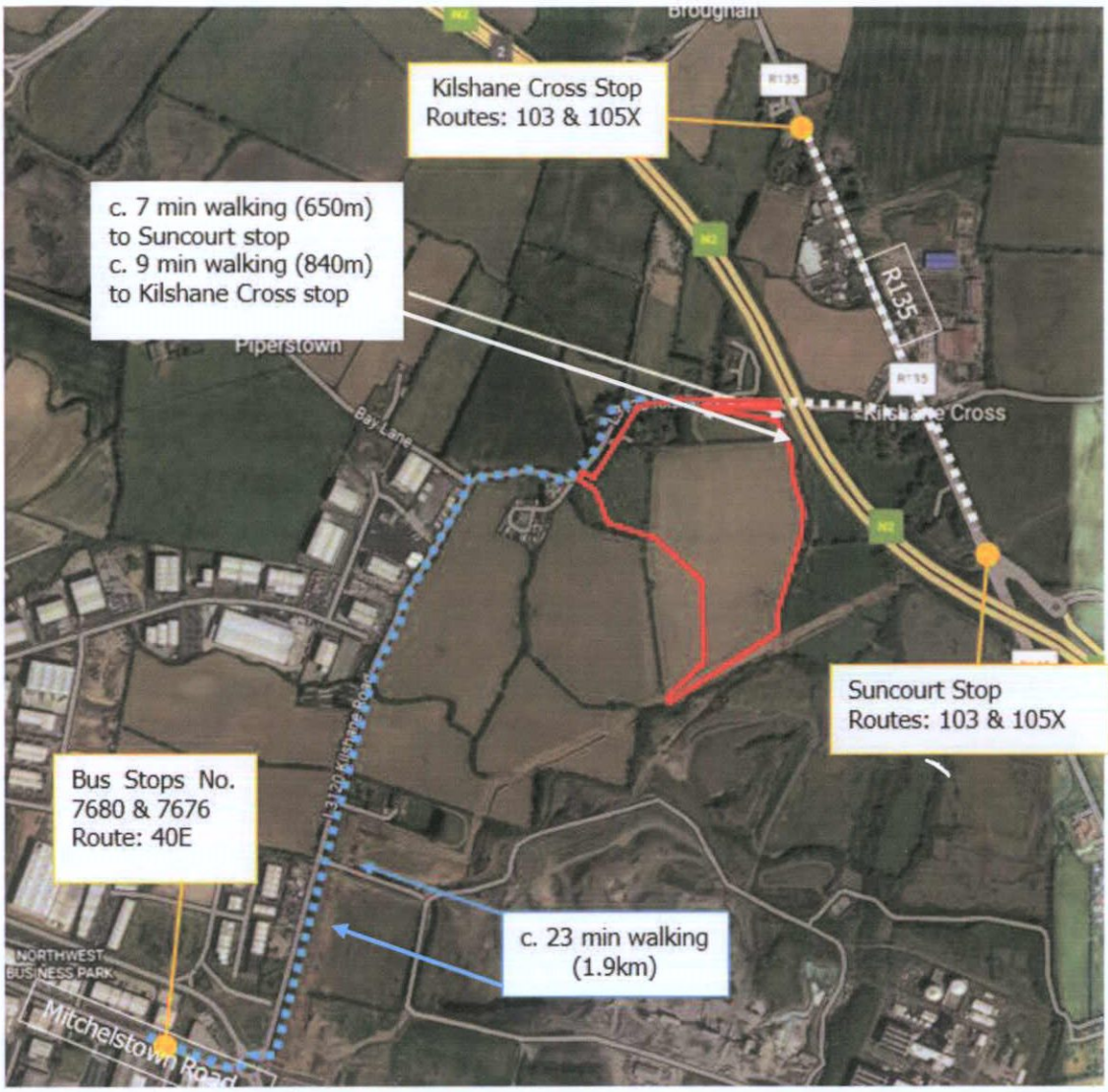


Figure 13.4 Kilshane Road

A summary of the Monday to Friday operational services of the abovementioned routes is provided in Table 13.1.

Table 13.1 Bus services

Route No.	Direction	Weekday Frequencies	
		AM (07:00 to 09:00)	PM (17:00 to 19:00)
103	Dublin City Centre to Ratoath	Every 20 minutes (5 services)	Every 20 minutes (6 services)
	Ratoath to Dublin City Centre	Every 20 minutes (6 services)	Every 20 minutes (6 services)
105X	Dublin City Centre to Fairyhouse Cross	-	Every 30 minutes (3 services)
	Fairyhouse Cross to Dublin City Centre	Every 30 minutes (3 services)	-
40E	Tyrrelstown to Broombridge Luas	Every 30 minutes (4 services)	Every 30 minutes (4 services)
	Broombridge Luas to Tyrrelstown	Every 30 minutes (4 services)	Every 30 minutes (4 services)

It should be noted that a continuous pedestrian footpath to all the closest bus stops from the subject site is currently not available and therefore would not be a very attractive mode of transportation for those traveling to/from the proposed development due to distance and safety concerns for pedestrians on sections of these roads.

13.3 PROPOSED DEVELOPMENT

The development proposals comprise of the following three projects each under separate planning applications:

13.3.1 KILSHANE POWER STATION & ROAD REALIGNMENT

The subject site is located at lands at Kilshane Road, Kilshane, Finglas, Dublin 11. The proposed development consists of the following:

- The construction of a new Gas Turbine Power Generation Station with an output of up to 293 Megawatts. The proposed station will consist of 1 no. Gas Turbine and 1 no. 28 m high Exhaust Stack partially enclosed by a 12 m high acoustic wall. 1 no. single storey Admin Building and Warehouse (c. 926 m^2), 1 no. single storey Packaged Electronic/Electrical Control Compartment (PEECC) (c. 72 m^2), 1 no. single storey Continuous Emission Monitoring System (CEMS) Shelter (c. 14.8 m^2), 1 no. 16.20m high x ⌀24.4m Fuel Oil Tank, 1 no. 15.30m high x ⌀9.2m Raw/Fire Water Tank, 1 no. 16.20m high x ⌀18.3m Demin Water Tank, and miscellaneous plant equipment.
- The demolition of a detached residential dwelling (c. 142 m^2 GFA) and associated farm buildings (c. 427 m^2 GFA) located in the north west corner of the subject site to facilitate the proposed development.
- Road improvement works to 493.34 m Kilshane Road (L3120), including the realignment of a portion of the road (293.86 m) within the subject site boundary and the provision of new footpaths, off-road cycle ways, together with the construction of a new roundabout linking the proposed realignment of Kilshane Road back to the existing road network to the northeast of the subject site and to the proposed internal road network to serve the proposed development.
- The construction of entrance gates, low wall and railings fronting the realigned Kilshane Road and a private internal road network providing for vehicular, cyclist and pedestrian access to serve the development. Construction of 3 m high security fencing within development.
- Total provision of 26 no. car parking spaces including 1 no. disabled persons parking space and 2 no. EV electrical charging points.
- Provision of security lighting columns to serve the development and the installation of Closed-Circuit Television System (CCTV) for surveillance and security purposes.
- Provision of 20 no. sheltered bicycle parking spaces.
- Provision of hard and soft landscaping works, tree planting and boundary treatments including 3 m high security fence along Kilshane Road and the perimeter of the subject site boundary.
- Provision of new on-site foul sewer pumping station to serve the development.
- Provision of underground surface water attenuation areas to serve the development.
- All associated site development and excavation works, above and below ground, necessary to facilitate the development.

13.3.2 KILSHANE POWER 220KV SUBSTATION & UNDERGROUND CABLE

The separate application is comprised of a GIS compound and c. 4.7km of 220Kv underground cabling to connect to the existing 220Kv Substation located at Cruiserath, as specified by EirGrid as part of the connection agreement. The proposed GIS compound is comprised of a single storey structure, 26m long by 19.5m wide, and will contain the switchgear room, control room, workshop, battery room, generator room, and staff welfare facilities, and all ancillary service connections. The perimeter of the building will be formed by a circulatory footpath and access road Internal to the compound which will be provided security by 2.6m high green galvanised steel palisade fencing. The subject application is separate from, but associated with, a planning application for a gas-fired power

generation plan. The subject application provides the infrastructure required for the delivery of the electricity generated to the national grid.

13.3.3 AGI Gas Connection

The separate AGI application will comprise a connection to the gas transmission network and supply pipework from the transmission network to the secure AGI compound. The options for the final connection route of the supply pipework as part of this separate application are currently being assessed by Gas Networks Ireland but will be c. 570m to 590m in length. The AGI compound comprises an internal access roadway and surface water drainage system, PIG Trap (launch and receiving point for inspection and maintenance modules), heat exchangers, meters and boilers, regulators and instrument housing and all ancillary service connections. The compound will be secured by means of security fencing. The AGI application is separate from but associated with the subject planning application for a gas-fired power generation plant. The AGI application provides the infrastructure required for the delivery of gas to the power plant facility.

13.3.4 Physical Infrastructure

13.3.4.1 Proposed Site Access Arrangement and Realignment of Kilshane Road

Access to the subject development is proposed via a new roundabout on Kilshane Road – See Figure 13.5. The Kilshane Road forms the northern and western approaches of the roundabout whilst the Site Access Road forms the eastern approach.

It is expected that due to the nature of the Kilshane Road – a "country" 2-lane carriageway with an 80 kph speed limit in a generally industrial area and subject to heavy HGV usages, and its history of collisions that upgrade works to the Kilshane Road may be required as part of any development of the subject site.

As part of the subject development works a portion of the Kilshane Road bounding the site on the north-western boundary is proposed to be realigned and upgraded. The upgraded layout consists of the construction of dedicated footpaths and cycle lanes along both sides of the road. Cycle lanes and footpaths are both 2m wide and are separated from the road by a 2m wide grass verge and swale. Access to existing residential units to the west of Kilshane Road where the realignment is proposed, will be provided via a new access from the realigned road. Details of the proposal are show on Waterman Moylan Drawing No. 21-099-P121 and 21-099-P122 accompanying the documentation package. The realignment and upgrade of the Kilshane Road are proposed to occur simultaneously with the construction of the proposed gas turbine power generation station.

The existing site access to the site (off Kilshane Road on the northern boundary) is proposed to be retained as it also serves the lands to the east of the subject development site.

13.3.4.2 Internal Pedestrian and Cycling Infrastructure

All footpaths for the proposed development will be provided in accordance with Section 4.3.1 of the DMURS which suggests that a minimum 1.8m footpath should be provided. It should be noted that the internal layout of the proposed development provides 2m wide pedestrian pathways on both sides of the roads, separated from the road by a 2m wide grass verge and swale

Cycle paths along the realigned section of the Kilshane Road (within the subject site) have been designed in accordance with the National Cycle Manual.

13.3.4.3 Car Parking

Car parking standard for new developments are set out in Table 12.8 of the current Fingal Development Plan 2017 – 2023, which states that general industrial developments should comprise of one car parking space per every 40 sqm of GFA.

The proposed development will comprise of 26 no. staff car parking spaces on site (including 1 no. disabled parking space and 2 no. electrical charging points) and given the number of employees working on a typical and on the busiest days of the development, it is considered appropriate. For average and maximum number of staff working on site on a typical and on the busiest days, refer to Section 4.1 of TTA

13.3.4.4 Cycle Parking

Cycle parking standards for new developments are set out in Table 12.9 of the current Fingal Development Plan 2017 – 2023, which state that general industrial developments should comprise of one cycle parking space per every 80 sqm of GFA.

The proposed development will comprise of 40 no. sheltered bicycle parking spaces on site and given the number of employees working on a typical and on the busiest days of the development, it is considered appropriate. For average and maximum number of staff working on site on a typical and on the busiest days, refer to section 4.1 of TTA

13.3.4.5 Overall Site Outline

The subject application for the power station is a small section of the 13.56 ha lands. As part of the application, a potential future development is included on the remaining lands to the south of development within the site ownership boundary. The 13.56 lands are currently under the ownership of the project client. This indicative Outline includes the construction of several industrial units in line with the Fingal County Council Zoning.

The indicative Outline includes the additional area for expansion. Table 13.2 below shows the Outline schedule of accommodation. The Outline includes the gas turbine power station and 11 industrial commercial units. The gas power plant is the existing subject application and is shown on the Outline shown in the figure below.

Table 13.2 Outline Schedule of Accommodation

Building	Area - GFA (sqm)	Car Parking Spaces*	
		Required	Provided
Unit 1	2,800	28	28
Unit 2	3,400	34	40
Unit 3	4,000	40	40
Unit 4	6,500	65	71
Unit 5	6,500	65	65
Unit 6	3,400	34	40
Unit 7	3,400	34	38
Unit 8	6,500	65	66
Unit 9	3,900	39	40
Unit 10	1,200	12	12
Unit 11	1,000	10	10
Total	42,600	426	450

*Car parking standards are based on the Fingal County Council Development Plan 2023 – 2029 Draft

Figure 13.5 Indicative Outline Site (Masterplan)

13.3.4.6 Kilshane Road/Bay Lane Junction

There is a potential future development near the proposed development at the junction of Kilshane Road/Bay Lane west of the subject development. The nature of the development is confidential however through coordination with the neighbouring developers engineers (Clifton Scannell Emerson) there will be upgrade to the junction at Kilshane Road and Bay Lane junction. A new priority roundabout is proposed.

If both projects get approval, there is potential that both the Kilshane proposal and junction upgrade at Kilshane Road/Bay Lane will begin concurrently. Coordination between both engineering teams has been agreed prior to the submission of either planning application. Both projects are independent of each other and refusal of permission for the neighbouring project will not impact the ability on the subject application to be delivered.

A coordinated design has been prepared by Waterman Moylan and Clifton Scannell Emerson as shown on accompanying Waterman Moylan Drawings P140 and P141.

Figure 13.6 Kilshane Road/Bay Lane Junction Upgrade

13.4 PREDICTED IMPACTS

The potential impacts of the Proposed Development from a traffic and transport perspective at both construction and operational stage are outlined in the following sections.

13.4.1 CONSTRUCTION PHASE

13.4.1.1 Construction Traffic Impact

The construction traffic for all three development proposals from section 13.3 have been considered as part of the construction traffic impact. All three development proposals will occur at the same time.

During the construction period for the proposed development, there will be a number of high activity periods where construction related traffic will be highest. The most active of these periods are likely to be:

- Demolition of the existing building and removal of demolition waste off site.
- Excavation to reduced levels including the road realignment (approximately 64,500m3).
- Construction of the actual buildings.
- Excavation and installation of the GIS Grid Connection pipes.
- Excavation and installation of the AGI Gas Connection pipes.

The nature of the construction process is such that the traffic generated will comprise short periods of high activity interspersed with longer periods with relatively low level of truck movements into and out of the site over the 3-year construction period

13.4.1.2 Car Parking During Construction

Due to the location of the proposed site and lack of access from public transport and pedestrian cycling car parking will be provided during the construction stage. A total of 216 construction parking spaces will be provided.

13.4.1.3 Trip Generation – Construction Traffic

In order to calculate the maximum peak hour trips for the proposed site, all three development proposals have been considered. A preliminary construction programme was created in order to determine the maximum peak hour for the site. The construction traffic there will be combination of cars, light goods vehicles (LGVs) and heavy goods vehicles (HGVs). See Appendix 13.1 for the full construction programme.

The peak construction traffic for the AM and PM peak hours are outlined below:

- Maximum number of construction staff is 271 (246 construction personnel and 25 HGV staff)
- Assuming a 1.5 vehicle occupancy for construction personnel vehicles this will give a total of 164 vehicles (Cars and LGVs) arriving and departing the site for the daily traffic movements, respectively.
- HGV Movements will assume one driver per HGV Vehicle.
- 75% of the personnel construction vehicles will arrive/depart during the AM and PM peak hours. It is assumed that there will be 0 trips departing the site in the AM peak hour and 0 trips arriving in the PM peak hour.
- For HGV movements during the peak hours in is assumed that 15% of the daily HGVs will arrive and depart in the AM and PM peak hours.

Therefore, the trips used for the potential impact junction assessment is set out in the table below.

Table 13.3 Construction Trips Generated – AM and PM Hours

Peak Hour	AM Peak Hour		PM Peak Hour	
	Inbound	Outbound	Inbound	Outbound
Trips	132	0	0	125

Junction modelling software normally utilises a common unit to represent general mixed-traffic on a road network – known as Passenger Car Unit (pcu). The conversion factor assigned to Heavy Goods Vehicles (HGV), so that an equivalent pcu value is generated, is 2.3. This is in line with TII 'Project Appraisal Guidelines for National Roads Unit 5.2 – Data Collection' which references the typical pcu values suggested by Transport for London (TfL). As such, for modelling purposes and in order to obtain the equivalent pcu values, the HGV trips as summarised above were expanded by a 2.3 factor. The construction traffic in the figure below includes cars and HGV and accounts for this expansion.

13.4.1.4 Trip Assignment – Construction Traffic

It is anticipated that the construction traffic access to the site will be provided via the existing entrance only once for the site clearance phase. Construction traffic is then proposed to access the site from the west via a priority-controlled junction just west of where the proposed roundabout is

projected. At that stage, the proposed roundabout and the realigned section of the Kilshane Road are likely to be under construction and the baseline flows/construction traffic will use the existing alignment of the Kilshane Road. Based on that, trip distribution for the construction traffic via the western construction access is presented in the figure below.

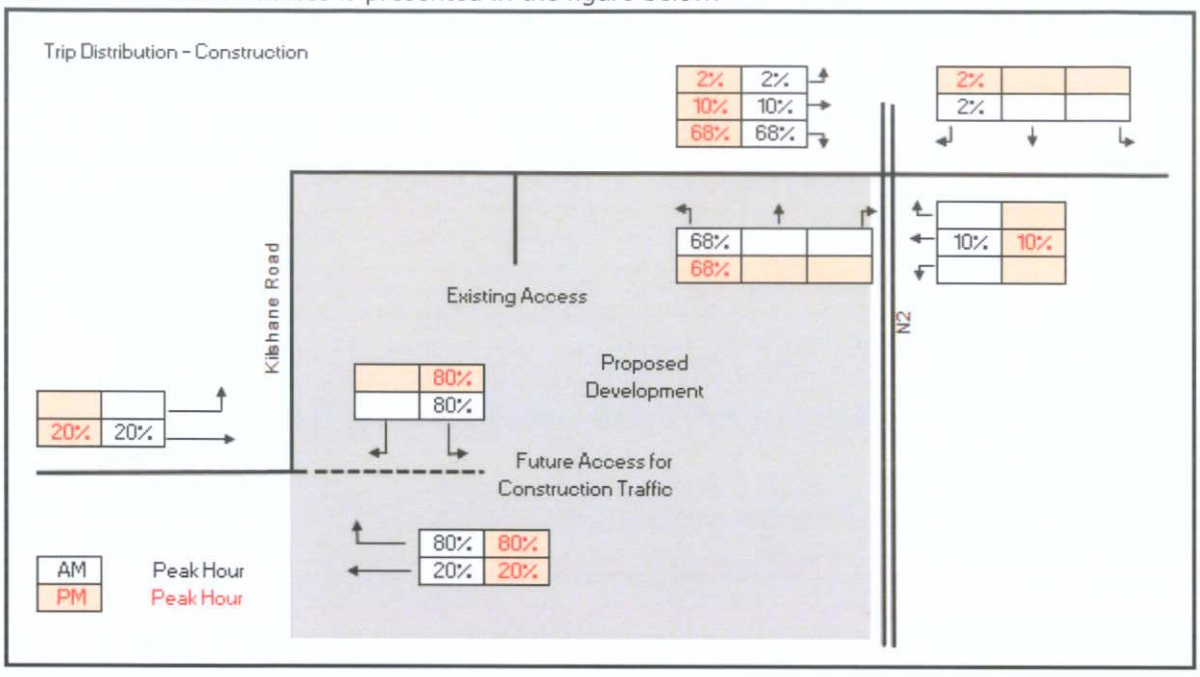


Figure 13.7 Construction Traffic – Trip Distribution

Using the trips generated and the figure above, the trip assignment can be completed for the busiest construction days. Figure 13-9 below shows the trips assignment for the construction site.

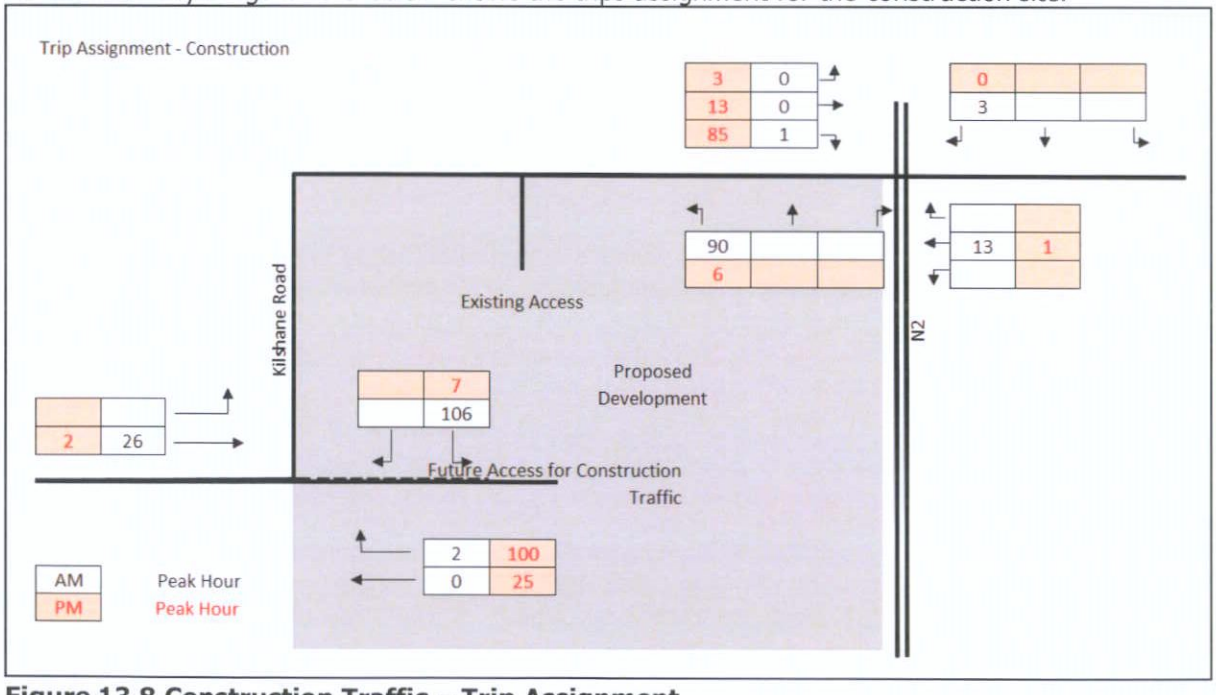


Figure 13.8 Construction Traffic – Trip Assignment