Passive Dynamics
SUSTAINABILITY CONSULTANTS

IGBC
MEMBER | 2022

Project: Calmount Road Development

Document Title: Space Extensive Enterprises Statement (CFI Stage)

Report By: Passive Dynamics Sustainability Consultants

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Client: Blackwin Limited

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1. INTRODUCTION

This document sets out our response to Item 3(a) and 3(f) of the Clarification of Further Information (CFI) Request, which requires the applicant to address 'EDE7 Objective 2', indicate compliance with Section 12.9.4 Space Extensive Enterprises of the South Dublin Development Plan 2022-2028 and Section 12.10.4 Solar Photovoltaic Buildings.

This response statement has been prepared by Passive Dynamics with input from the applicant, TOT Architects, DBFL Consulting Engineers, PMEP M&E Engineers and John Spain Associates.

A Glint and Glare assessment by MacroWorks is provided separate to this document which has been prepared by Passive Dynamics.

2. EDE7 OBJECTIVE 2

The following outlines the requirements of EDE7 Objective 2 of the Development Plan and provides a response to each of the relevant criteria.

EDE7 Objective 2: To require that space extensive enterprise demonstrates the following:

The appropriateness of the site for the proposed use having regard to EDE7 Objective 1;

Project Team Response: The Planning Authority have acknowledged in their assessment of the application to date, and in the CFI request, that the proposal is acceptable in light of EDE7 Objective 1 and that the element of this objective relating to data centres is not relevant to the proposed development on the subject site.

Strong energy efficiency measures to reduce their carbon footprint in support of national targets towards a net zero carbon economy, including renewable energy generation;

Project Team Response: Each proposed building will comply in full with NZEB (Nearly Zero Energy Buildings) as prescribed in TGD Part L 2021 of the Irish Building Regulations. The NZEB definition, as defined in Article 9 of the EU Energy Performance of Buildings Directive Recast (EPBD Recast) 2010/31/EU of 19 May 2010, will be achieved by complying with the Energy, Carbon and Renewable targets as set out in TGD Part L of the Irish Building Regulations which act as the national targets.

It is the intent of our client to align, where possible, with the EU Taxonomy requirements in relation to contribution to climate mitigation. The EU taxonomy is a classification system, establishing a list of environmentally sustainable economic activities. The EU taxonomy provide companies, investors and policymakers with appropriate definitions for which economic activities can be considered environmentally sustainable. To align with EU taxonomy our client commits to achieving a further 10% reduction in Primary Energy Demand (PED) compared to the national TGD Part L (NZEB) baseline. The buildings do not use any fossil fuels such as natural gas.

It is the intent of our client, where possible, to carry out a whole building lifecycle analysis / embodied carbon assessment for each building. It is the design intent to specify as many building products as possible that have Environmental Product Declarations (EPDs) and manufacturers that facilitate the "Take Back Scheme". A "Take Back Scheme" is an initiative organised by a manufacturer or retailer, to collect used products or materials from consumers and reintroduce them to the original processing and manufacturing cycle. A company may implement this program in collaboration with end-of-life logistics and material processing firms. These design measures such as specifying materials with low embodied carbon and high recycled content will be proposed during the detailed design stage. Manufacturers such as Kingspan, Gyproc and British Gypsum offer this scheme.

The renewable energy technologies currently proposed for this development include solar photovoltaic panels (producing on site renewable electricity) and air source heat pumps providing space heating to the offices. Air source heat pumps qualify as a renewable energy source (described as aerothermal in TGD Part L). The Warehouse storage spaces are unheated and should the end user require heating in these specific zones, TGD Part L (NZEB) compliance will be required in full.

It is the design intent that the proposed development will align where possible with the Irish Green Building Councils "Building a Zero Carbon Ireland: A Roadmap to decarbonise Ireland's Built Environment across its Whole Life Cycle". This plan sets out transitional milestones to help decarbonise Irelands Built Environment.

By committing to the 10% reduction compared to the national NZEB baseline and carrying out a Life Cycle analysis our client makes a firm commitment to measure, analyse, reduce and disclose the carbon footprint for these proposed buildings in support of national targets towards a net zero carbon economy, including renewable energy generation.

Maximise on site renewable energy generation to ensure as far as possible 100% powered by renewable energy, where on site demand cannot be met in this way, provide evidence of engagement with power purchase agreements in Ireland (PPA);

Project Team Response: Based on the nature of the proposed development and the scale of the likely associated electricity demand, it is considered that PPA's would be of limited relevance to this development (and it is further considered likely that this element of the objective was included particularly for data centre developments).

Notwithstanding the above, it should be noted that 100% of the heating and cooling energy requirements will be supplied via systems that operate as air source heat pumps (VRF systems). An air source heat pump, described as aerothermal in TGD Part L of the building regulations, provides renewable energy. In addition to using air source heat pumps solar PV, which will produce on site renewable energy, has been specified for both the warehouse buildings and the own door offices. The solar PV systems have been sized in accordance with LEED (Leadership in Energy and Environmental Design) v4 requirements under the Renewable Energy category. The PV systems will be designed to allow for flexibility for future tenants to add further panels as part of their individual fitout works / requirements.

The combination of air source heat pumps and Solar Photovoltaics will ensure that a significant portion of the energy demands will be provided via technology generating onsite renewables which will exceed the national TGD Part L baseline requirements.

Sufficient capacity within the relevant water, wastewater and electricity network to accommodate the use proposed;

Project Team Response: The capacity within the existing wastewater and watermain networks to supply potable water and receive foul effluent has been assessed by Irish Water and afforded a confirmation of feasibility under pre-connection enquiry reference no. CDS22002565. It was noted that a water supply connection was "Feasible without infrastructure upgrade by Irish Water", and the wastewater connection was "Feasible subject to upgrades". These upgrades consist of installation of approximately 130m of 300mm diameter sewer to make a connection to the existing receiving 300mm diameter sewer in Calmount Road, as detailed in the Foul Water Layout drawing 210175-DBFL-FW-SP-DR-C-1302. The proposed network extension is not included within the capital investment plan (CIP) for Irish Water, as such the cost of the network

extension will be borne by the developer. The details of same will be confirmed as part of the connection agreement process with Irish Water prior to occupation of the development.

Confirmation of sufficient capacity from the electrical utility company, being the ESB, will not be possible due to the process required from the ESB, which requires a final grant of permission in the first instance. This process consists of an official application, with a planning approval reference number. Based on the design of the development, taking into account the renewable energy design initiatives, it is not envisaged that the expected designed maximum Import Capacity (MIC), will be onerous on the area's ESB network.

Measures to support the just transition to a circular economy;

Project Team Response: Our client will use (where possible) the metrics contained within the EU Taxonomy requirements and LEED to ensure the proposed activities support a circular economy. The design intent for this project will be to segregate various construction waste on site into various waste streams in order to achieve a recycling and recovery rate of greater than 90% in an effort to reduce waste going to landfill.

Our client intends in carrying out a whole building lifecycle analysis / embodied carbon assessment for each building. It is the design intent to specify as many building products as possible that have Environmental Product Declarations (EPDs) and manufacturers that facilitate the "Take Back Scheme". A "Take Back Scheme" is an initiative organised by a manufacturer or retailer, to collect used products or materials from consumers and reintroduce them to the original processing and manufacturing cycle. A company may implement this program in collaboration with end-of-life logistics and material processing firms. These design measures such as specifying materials with low embodied carbon and high recycled content will be proposed during the detailed design stage. Manufacturers such as Kingspan, Gyproc and British Gypsum offer this scheme.

In line with the EU Taxonomy the design intent will be to develop the building designs and construction techniques to support circularity by assessing the disassembly or adaptability of buildings, designing for more resource efficiency, adaptable, flexible and ability to dismantle to enable reuse and recycling.

The proposed design of the buildings will include suitable space for operational waste segregation which will help to encourage end users to reduce, reuse and recycle.

Measures to facilitate district heating or heat networks where excess heat is produced;

Project Team Response: There are no large-scale district heating facility in a feasible and close-proximity location to the development. It is however the design intent to consider the possibility of integration to future nearby district heating networks. Having reviewed and considered the City Edge Project – Strategy Framework (in particular Section 10.7.4 Energy Strategy) the viability and future adaptability of integrating a district heating system shall be considered during the detailed design phase. Underground infrastructure (piping, etc) can be considered for future connections for a central district heating facility to the individual buildings, but this would be further investigated and studied during the development's detail design / implementation stage.

The holistic design intent for this development is to apply a "Fabric First" approach to reduce the demands for heating. The current renewable heating systems proposed, using air source heat pumps will provide a very efficient solution with reduced carbon emissions.

A high-quality design approach to buildings which reduces the massing and visual impact;

Project Team Response: The architectural design of the proposed development, as demonstrated by the elevations and artistic impressions, create a high-quality contemporary aesthetic. The proposed warehouse / logistics units' elevations consist of a spectrum of light grey three-crown profile panels laid vertically. The selection of subtle light grey tones serves to dissipate the massing of the main warehouse elements, allowing it to blend with the skyline while also providing visual interest. A clearly defined lower band of the main warehouse is clad in dark grey flat panels to visually anchor the building and reduce its perceived height. It also contrasts and provides a backdrop for the brighter colours above. The same panels span full height at intervals, visually breaking down the elevations, stepping the parapet line and reducing the overall perceived mass.

The office accommodation within the warehouse / logistics units is further expressed in two primary treatments to additionally break down the massing and draw the eye to a more human scale which is in keeping with the urban streetscape aims of the City Edge Strategic Framework plan. These features are a premium cladding finish with feature colour used together with high performance curtain walling systems which express the double height reception areas and office floorplates. Additionally, to provide for greater façade articulation, a full height vertical feature green wall has been included in each of the logistic/warehouse units.

The own-door offices' massing has been broken down with their use of curtain walling and the geometric use of 2 separate render finishes. This again helps to create a human scale around the site perimeter and tie into the urban streetscape defined in the City Edge Strategic Framework plan.

For further information please refer to the previously issued Architects Design Statement.

A comprehensive understanding of employment once operational;

The likely employment densities for the completed development, based on the 'Employment Density Guide, 3rd Edition, published by the Homes and Communities Agency in the UK (as we are not aware of any equivalent Irish guidance), is set out in the table below. Based on the GFA of the proposed development and the uses proposed, we have calculated the likely employment numbers as follows:

Use	Gross Floor Area	Average Employment Density Per Sq.m	Projected Employment Numbers
Warehouse / Logistics (5 no. units)	17,986 sq.m	80 (average of the densities suggested)	225 persons
Office (3 no. buildings)	4,194 sq.m	12 (average of the densities suggested)	350 persons
Café / Restaurant (1 no. unit)	213 sq.m	15 (lower range of density suggested)	14 persons

Thus, it is estimated that the proposed development could deliver employment figures of c. 589 persons once operational.

A comprehensive understanding of levels of traffic to and from the site at construction and operation stage;

Please Refer to Appendix A for the project team response to this heading.

Provide evidence of sign up to the Climate Neutral Data Centre Pact

Project Team Response: Not relevant as confirmed in the Clarification of Further Information request issued by SDCC, as the proposal does not involve a Data Centre development.

3. 12.9.4 SPACE EXTENSIVE ENTERPRISES

The following outlines the requirements of S. 12.9.4 of the Development Plan and provides a response to each, albeit we do note there is a considerable degree of overlap with the response provided to EDE7 Objective 2 in the preceding section.

Insofar as possible, space extensive enterprise should be located on lands which are outside the M50 and which do not compromise labour intensive opportunity on zoned lands adjacent to public transport, as per EDE7 Objective 1.

Project Team Response: As noted above, the Planning Authority have accepted the principle of the proposed warehouse / logistics, office and café / restaurant use development on the subject site in the context of EDE7 Objective 1 of the CDP.

To require that space extensive enterprises demonstrate the following:

Strong energy efficiency measures to reduce their carbon footprint in support of national targets towards a net zero carbon economy, including renewable energy generation;

Project Team Response: Each proposed building will comply in full with NZEB (Nearly Zero Energy Buildings) as prescribed in TGD Part L 2021 of the Irish Building Regulations. The NZEB definition, as defined in Article 9 of the EU Energy Performance of Buildings Directive Recast (EPBD Recast) 2010/31/EU of 19 May 2010, will be achieved by complying with the Energy, Carbon and Renewable targets as set out in TGD Part L of the Irish Building Regulations which act as the national targets.

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Thus, it is estimated that the proposed development could deliver employment figures of c. 589 persons once operational.

A comprehensive understanding of levels of traffic to and from the site at construction and operation stage;

Please Refer to Appendix A for the project team response to this heading.

Provide evidence of sign up to the Climate Neutral Data Centre Pact

Project Team Response: Not relevant as confirmed in the Clarification of Further Information request issued by SDCC, as the proposal does not involve a Data Centre development.

4. **12.10.4 SOLAR PHOTOVOLTAIC BUILDINGS**
Development proposals for solar energy development on buildings must, unless feasibility is otherwise demonstrated:

Prioritise south facing aspects and have an inclination of between approximately 35 and 50 degrees depending on the use of solar PV or solar thermal technologies;

Project Team Response: For the proposed 5 Warehouse / Logistics Buildings the solar PV panels will be roof mounted and as such will match the angle of the roof inclination. Due to wind loading it would not be practical or safe to install the PV panels at an angle of 35-50 degrees. The PV solar panels need to be fixed directly to the roof. Given that the PV on the Warehouses will be installed at the roof angle rather than 35 – 50 degrees there will be approximately an 8% reduction in PV output. To account for this, additional PV has been specified to overcome the 8% reduction in output. The PV systems will be designed to allow for flexibility for future tenants to add further panels as part of their individual fitout works / requirements.

For the own door offices (Units 5A, B &C) the design intent will be to position the PV to the Southeast. The proposed angle of inclination will be 15 degrees as it is not be practical or safe to install the PV panels at an angle of 35-50 degrees due to the impact of wind loading. For Southeast facing PV the renewable energy outputs (in kWh) at 15 and 35 degrees are similar.

Be designed to take account of over-shadowing from other solar installations on site, from existing elements of the built environment such as chimneys, parapets, roof plant equipment and taller buildings and structures in the immediate vicinity;

Project Team Response: Not applicable for this proposed development as there is no significant over-shadowing from existing nearby buildings. The proposed PV output performance will not be affected by either nearby buildings or structures within the proposed scheme. Suitable spacing has been allowed for in terms of the proposed solar PV array to avoid self-shadowing of the panels themselves.

Ensure sufficient space for access, installation and maintenance;

Project Team Response: The proposed solar PV layout ensures suitable spacing for installation, cleaning and that maintenance can be easily accommodated. Each panel is easily accessible. Maintenance access to the roof space is proposed to be through access hatches within the stair cores (indicated as AOV's within the roof plan). One such AOV will be accessible via internal ladder access. This design decision was made to omit the need for providing a full stair access to the roof space and risk increasing the overall mass of the building and subsequent visual impact.

Ensure that the siting and design of proposals have regard to the visual amenities of the surrounding area;

Project Team Response: The proposed solar PV layout will not be visually obtrusive and therefore will not impact on the visual amenities of the surrounding area, which is an established commercial / employment area of the County. The proposed low inclination angle of the solar PV panels will ensure that the visibility of the panels will be greatly minimised. The parapet height has been set such that the PV's and roof body is not visible from the ground level as illustrated within the below artistic impression of Unit 6.

Water Framework Directive, Habitats Directive and other environmental and built heritage issues and glint and glare near airports

Project Team Response: The application was accompanied by an Ecological Impact Assessment and AA Screening Report, both of which were prepared by Enviroguide. These reports addressed the provisions of the Water Framework Directive (WFD) and Habitats Directive as it relates to the subject site and proposed development. It was demonstrated that the proposals did not have the potential to adversely impact on these environmental considerations.

The aim of the WFD is to prevent any deterioration in the existing status of water quality, including the protection of good and high quality elements in the waterbody where it exists. There are no watercourses within or immediately adjacent to the site of the proposed development. It is proposed to extend the public surface water sewer on Ballymount Avenue 200m south to connect the site to this existing surface water drainage network. The surface water from the site will travel approximately 1.4km throughout the existing surface water network before reaching the River Camac. The Preliminary Construction and Environmental Management Plan accompanying the application outlines best practise measures which will be put in place to control surface water discharge during the construction phase. The Sustainable Drainage System (SuDS) measures proposed within the project design will control surface water run-off from the proposed development and remove pollutants from surface water discharged from the site during the operational phase. The proposed development does not have the potential to significantly negatively impact any watercourses in the surrounding landscape.

The Habitats Directive aims to protect some 220 habitats and approximately 1000 species throughout Europe. The habitats and species are listed in the Directives annexes, where Annex I covers habitats and Annex II, IV and V cover species. No habitats or species listed in the Directives annexes were recorded on or adjacent to the site of the proposed development.

Other environmental issues, separate from the WFD and Habitats Directive, are addressed in the ECIA with reference to accompanying application documentation, and demonstrates that the proposed development will not result in adverse environmental impacts.

The proposed site is currently undeveloped and has no significant history in terms of built heritage. The broader locality is predominantly industrial / commercial in nature and of an older building stock. The developments' design has evolved with consideration to the boarder context of building stock in the area and is in keeping with this industrial background together with the

objectives of the EE zoning under the Development Plan. The façade treatments, the building massing and feature treatments within the proposal are considered to be a large improvement in terms of quality design when viewed against the existing surrounding context. This sets the development firmly within it's the built context of its surroundings while also looking ahead to the future aims of the Council for the area, as identified within the Development Plan and City Edge Strategic Framework Plan.

A Glint and Glare assessment by MacroWorks in response to this point included separate to this document which has been prepared by Passive Dynamics.

5. CONCLUSIONS

This Statement, which has been prepared in consultation with the wider design team, demonstrates how the proposals for the subject site meet / address the relevant criteria under EDE7 Objective 2, Section 12.9.4 – Space Extensive Enterprises and Section 12.10.4 Solar Photovoltaic of the County Development Plan 2022-2028.

APPENDIX A CLARIFICATION RESPONSE – CONSTRUCTION AND OPERATION

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Technical Note 210175-DBFL-TR-XX-TN-C-0003

Project:	Warehousing / Logistics, Office and Café / Restaurant Development at Calmount Road	**Prepared by:**	VJ
Title:	Clarification Response – Construction and Operation Traffic	**Checked by:**	TJ
Client:	Blackwin Limited	**Date:**	18th Nov. 2022
Job No:	210175	**Revision:**	P02

1.0 INTRODUCTION

This technical note has been compiled to provide the response to a Clarification of Further Information (CFI) request issued by the South Dublin County City Council (DCC) Planning and Development Department with regard to the proposals for mixed-use commercial development on a site located north of Calmount Road and west of Ballymount Avenue, Ballymount Industrial Estate, Dublin 12 (SDCC Planning Ref no. SD22A/0099).

Item 3 of the CFI (or Item 8 of the FI) requests clarification in regard to EDE7 Objective 2 and 12.9.4 Space Extensive Enterprises as detailed in the new County Development Plan (CDP). The following specifically outlines the levels of traffic predicted to be generated traveling to and from the site at both Constriction and the Operational stages

2.0 CONSTRUCTION TRAFFIC

2.1 CONTEXT

The level of construction traffic generated by the proposed commercial development will fluctuate over the period of construction works in response to (i) the specific construction stage being undertaken, and (ii) the number of units being constructed in parallel at the same time. It is noted

that it is the applicant's objective to roll out a phased delivery programme resulting in the construction of no more than one unit (of the proposed 6 commercial units / plots) as any one time Accordingly following the initial site clearance and construction of the internal access road the scale of construction activities and associated construction traffic movements will be a function of the size of the unit being constructed. In reference to the proposed development schedule, it is noted that Unit 6 at criteria 3,997 m^2 GIA is the largest unit / plot. Accordingly, with the objective of presenting a robust and potentially worst case scenario, this unit / plot has been adopted for the following analysis of construction traffic.

The construction schedule, which is estimated to be approximately 12 months for the subject largest Unit 6 block; will incorporate a number of key stages during each of which construction staff numbers and the quantum material being imported / exported will vary. The key construction stages include;

- Site Clearance and compound setup.
- Ground works including drainage, foundations, concreting and steel fixing.
- Warehouse frame erection
- Office building
- Building Fit-out
- Site Clearance

In terms of the level of construction activity on site with different teams working in parallel on-site at the same time it is predicted that the busiest period of works will be during the Ground Works stage closely followed by the fit-out stage.

During this Ground Works period, it is estimated the following personnel levels could be required (which could vary on any given day);

- Site Management / Coordination – 2 to 4 staff.
- Ground Works – 8 to 10 staff
- Steel fixing – 8 to 10 staff

Construction traffic will only be generated on weekdays (0700-1900, subject to conditions of a planning permission) and will consist of the following two principal categories:

- Private vehicles owned and driven by site construction staff and by full time supervisory staff.
- Excavation plant, dumper trucks and delivery vehicles involved in site development works and material delivery vehicles for the following: granular fill materials, concrete pipes, manholes, reinforcement steel, ready-mix concrete and mortar, concrete blocks, miscellaneous building materials, etc.

Upon completion of the first commercial block, construction works will then commence on the next unit as part of the phased delivery programme envisioned by the applicant.

2.2 VEHICLE GENERATION

Predicted Construction Schedule

The above construction personnel (Ground works stage) are predicted to generate no more than 35-40 two-way vehicle trips over the duration of a typical day. During the network peak hour periods this level of construction staff are predicted to generation in the region of 10-12 two-way vehicle trips.

On-site employees will generally arrive before 08:00, thus avoiding the morning peak hour traffic. These employees will generally depart between 16:00 and 1900. It should be noted that a large proportion of construction workers are anticipated to arrive in shared transport.

Based upon the experience of similar commercial developments, a development of this type (Warehouse) and scale would generate HGV movements involved in the export and import of materials. HGV movements during the ground works period will generally be evenly spread throughout the day and as such will not impact significantly during the peak traffic periods. For this scale of development, we do not expect HGV vehicle movements to exceed 3-4 vehicle movements per hour (e.g. concrete pour) or 8-10 two-way HGV trips over a typical day.

Worst Case Assessment

In the unlikely situation that the construction of the next commercial unit was to commence before the completion of the previous unit, or two units were to be constructed in parallel with a slight stagger in construction phasing; this potential worst-case situation (in terms of vehicle trip generation) could result in the generation of 70-80 two-way construction related vehicle trips over

the duration of a typical day. During the network peak hour periods this level of construction staff are predicted to generation in the region of 20-24 two-way vehicle trips.

The range of initiatives to be implemented as part of the developments Construction Management Plan (CMP) including the associated Construction Traffic Management Plan will ensure that all construction activities are undertaken / coordinated in a controlled and managed manner as per best practice thereby minimizing the impact otherwise generated by construction activities on-site and the above predicted construction traffic flows.

3.0 OPERATIONAL TRAFFIC

3.1 INTRODUCTION

The following sections will detail the predicted scale of vehicle trips that could be generated from each land uses in the subject development (Warehouse, Office and café) during its operational stage. Further details are provided in the applications Traffic and Transportation Assessment Report.

3.2 WAREHOUSE DEVELOPMENT

The warehouse development consists of 5 warehouse / logistics units (unit 1,2,3,4 and 6) including ancillary office use and entrance / reception areas over two levels, with maximum heights of c. 17.09 metres and a combined total gross floor area (GFA) of 17,986 sq.m.

Each warehouse / logistics unit includes car parking to the front, and service yards, including HGV loading bays and bin storage areas, to the rear of each unit.

The total trips generated during the local road networks AM and PM peak hours in/from the proposed warehouse development at operational stage are as illustrated in **Table 3-1.**

Warehouse Unit	GFA (sq.m)	AM (08:00-09:00)			PM (17:00-18:00)		
		Inbound	Outbound	Two Way	Inbound	Outbound	Two Way
Unit 1	3,026	3	1	4	1	2	3
Unit 2	3,616	3	1	5	1	3	4
Unit 3	3,520	3	1	5	1	2	4
Unit 4	3,827	4	2	5	2	3	4
Unit 6	3,997	4	2	5	2	3	4
Total	**17,986**	**17**	**7**	**24**	**7**	**13**	**20**

Table 3-1: Operational vehicle trips to/from Warehouse Development (Network Peak Periods)

It is noted that the above operational traffic relates to the peak hour periods of the external road network. The peak periods of a Warehouse development, in terms of vehicle generation, are influenced by the times of operation and shift patterns of the specific warehouse activities. Accordingly, the times of peak vehicle generation at a warehouse development do not correlate with that of the local road network.

As an example, Warehouse operations generally have a morning peak somewhere between 0630 and 0800 in the morning compared to the subject Calmount Rd sites local road network AM peak hour being established as being between 0800 and 0900 e.g. some sixty minutes later or more. Similarly during the PM period the peak hours periods of Warehouse activities and that of the local road network do not do not correlate with the warehouses operational shift hours generally finishing before the local road networks 1700-1800 peak hour period.

3.3 OFFICE DEVELOPMENT

Construction of 3 no. 3 storey own-door office buildings (Block 5A, 5B and 5C) with maximum heights of c. 13.35 metres and a combined GFA of 4,194 sq.m. The total trips generated during the 'networks' AM and PM peak hours in/from the proposed office development at operational stage are as illustrated in **Table 3-2.**

Office Block	GFA (sq.m)	AM (08:00-09:00)			PM (17:00-18:00)		
		Inbound	Outbound	Two Way	Inbound	Outbound	Two Way
Block 5A	1,398	15	2	17	1	11	13
Block 5B	1,398	15	2	17	1	11	13
Block 5C	1,398	15	2	17	1	11	13
Total	**4,194**	**45**	**6**	**52**	**4**	**34**	**38**

Table 3-2: Operational Vehicle trips from Office Development

3.4 CAFÉ DEVELOPMENT

Construction of a café/restaurant unit with a maximum height of 5.29m and a GFA of 213 sq.m to be located in the south western section of the site. The proposal includes signage for the unit, associated outdoor seating and a bin store. 14 no. car parking spaces and 16 no. cycle spaces are provided for the café/restaurant unit;

The total trips generated during the local road networks AM and PM peak hours in/from the proposed cafe development at operational stage are as illustrated in **Table 3-3.**

Unit	GFA (sq.m)	AM (08:00-09:00)			PM (17:00-18:00)		
		Inbound	Outbound	Two Way	Inbound	Outbound	Two Way
Café	213	14	14	28	14	14	28
Total	**213**	**14**	**14**	**28**	**14**	**14**	**28**

Table 3-2: Development trips from Office Development

3.5 ENTIRE COMMERICAL DEVELOPMENT

The total level of operational vehicular traffic predicted to be generated by the entire scheme development at operational stage during each of the local road networks peak hour periods is summarised in **Table 3-4**.

Land Use	GFA (sq.m)	AM (08:00-09:00)			PM (17:00-18:00)		
		Inbound	Outbound	Two Way	Inbound	Outbound	Two Way
Warehouse	17,986	17	7	24	7	13	20
Office	4,194	45	6	52	4	34	38
Café	213	14	14	28	14	14	28
Total	**22,393**	**76**	**27**	**104**	**25**	**61**	**86**

Table 3-4: Operational Vehicle trips from Entire Development

	Hourly total																	
	12A			12B			13			14			15A			15B		
	Unit 635 Northwest Logistics Park						Baldonnell Business Park			nestore & More, Baldonnell Busines			Harvey Norman, Kilnamanagh/ Ballymount					
AREA (SQM)	9044						11087			18617			13329					
	Enter	Exit	Two-Way	Enter	Exit	Two-Way	Enter	Exit	Two-Way	Enter	Exit	Two-Way	Enter	Exit	Two-Way	Enter	Exit	Two-Way
07:00-08:00	9	3	12	4	0	4	8	1	9	6	0	6	10	17	27	12	1	13
07:15-08:15	9	2	11	4	1	5	12	1	13	8	1	9	9	14	23	9	0	9
07:30-08:30	11	2	13	4	1	5	12	2	14	10	3	13	5	17	22	7	0	7
07:45:08:45	10	1	11	4	2	6	13	1	14	8	5	13	6	13	19	6	1	7
08:00:09:00	9	1	10	6	2	8	12	2	14	6	5	11	4	10	14	6	1	7
08:15:-09:15	6	1	7	5	2	7	8	3	11	9	6	15	4	10	14	3	1	4
08:30-09:30	4	2	6	4	2	6	9	3	12	13	5	18	6	5	11	3	2	5
08:45-08:45	1	3	4	2	3	5	10	4	14	21	4	25	10	6	16	3	1	4
09:00-10:00	2	4	6	1	3	4	11	6	17	36	5	41	14	7	21	5	2	7
09:15-10:15	2	4	6	1	5	6	12	6	18	33	4	37	13	8	21	5	3	8
09:30-10:30	2	3	5	1	5	6	10	5	15	29	3	32	14	9	23	7	2	9
09:45-10:45	2	3	5	1	3	4	6	4	10	21	2	23	11	11	22	5	4	9
10:00-11:00	0	3	3	1	4	5	3	2	5	8	2	10	11	12	23	2	4	6
10:15-11:15	1	3	4	1	2	3	3	3	6	8	2	10	13	13	26	2	4	6
10:30-11:30	3	3	6	2	2	4	3	6	9	7	2	9	14	13	27	1	5	6
10:45-11:45	5	4	9	2	2	4	4	7	11	7	2	9	14	14	28	2	6	8
11:00-12:00	7	3	10	1	2	3	4	7	11	5	4	9	10	14	24	5	5	10
11:15-12:15	6	4	10	2	1	3	2	5	7	5	3	8	11	12	23	5	4	9
11:30-12:30	4	4	8	1	1	2	3	3	6	5	5	10	13	12	25	4	4	8
11:45-12:45	4	2	6	1	2	3	4	3	7	7	6	13	13	9	22	3	1	4
12:00-13:00	3	1	4	1	1	2	4	4	8	8	4	12	17	11	28	0	3	3
12:15-13:15	3	2	5	1	2	3	7	6	13	6	6	12	19	10	29	0	4	4
12:30-13:30	4	3	7	2	3	5	7	9	16	6	7	13	14	10	24	0	5	5
12:45-13:45	5	5	10	2	2	4	6	10	16	3	9	12	12	13	25	1	8	9
13:00-14:00	4	5	9	2	4	6	7	10	17	3	9	12	12	9	21	1	7	8
13:15-14:15	5	3	8	2	4	6	4	9	13	6	7	13	11	12	23	1	7	8
13:30-14:30	4	3	7	3	3	6	4	5	9	5	6	11	17	12	29	1	5	6
13:45-14:45	4	3	7	3	3	6	3	4	7	9	13	22	17	9	26	1	6	7
14:00-13:00	5	3	8	4	3	7	1	2	3	8	15	23	16	10	26	2	11	13
14:15-15:15	5	5	10	4	2	6	1	1	2	6	20	26	17	10	27	2	10	12
14:30-15:30	5	8	13	3	2	5	0	2	2	7	20	27	11	8	19	2	11	13
14:45-15:45	2	7	9	3	3	6	1	2	3	3	10	13	9	8	17	2	10	12
15:00-16:00	2	8	10	2	2	4	3	4	7	5	8	13	7	7	14	1	7	8
15:15-16:15	1	8	9	2	2	4	3	11	14	6	5	11	7	5	12	1	8	9
15:30-16:30	1	7	8	2	4	6	3	10	13	6	3	9	8	4	12	2	10	12
15:45-16:45	1	8	9	2	3	5	3	11	14	7	9	16	9	3	12	1	16	17
16:00-17:00	0	9	9	3	2	5	1	10	11	5	11	16	12	2	14	1	14	15
16:15-17:15	0	8	8	4	3	7	2	9	11	4	12	16	7	4	11	1	16	17
16:30-17:30	0	6	6	4	1	5	2	9	11	4	13	17	8	4	12	0	13	13
16:45-17:45	0	5	5	6	2	8	2	7	9	4	9	13	8	3	11	0	11	11
17:00-18:00	0	3	3	6	2	8	3	9	12	5	6	11	6	4	10	0	11	11
17:15-18:15	0	3	3	4	1	5	2	8	10	8	6	14	7	2	9	0	10	10
17:30-18:30	1	2	3	4	2	6	2	8	10	12	8	20	5	2	7	0	10	10