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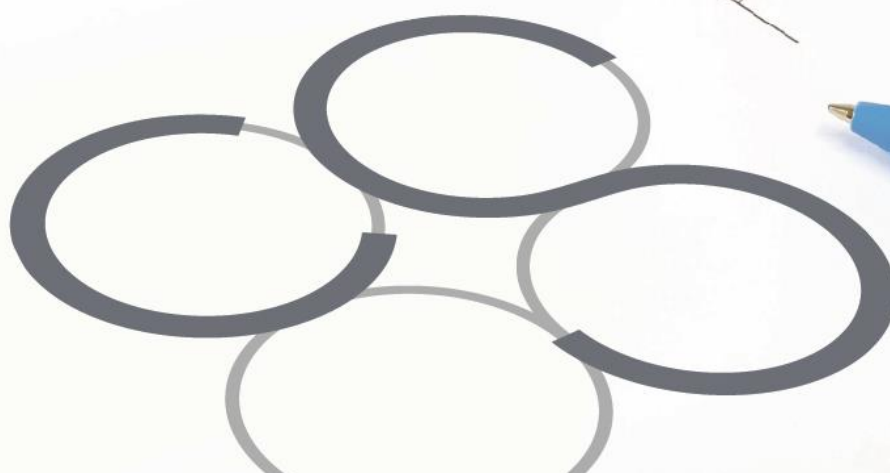
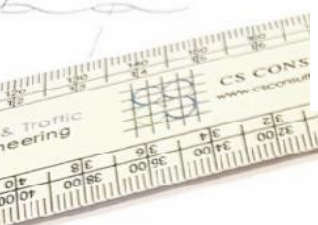
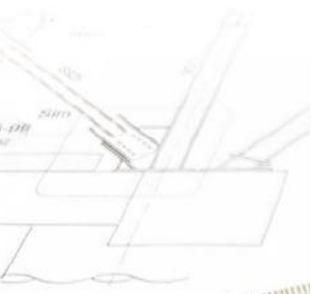
LIMERICK  
LONDON  
DUBLIN

**Road Infrastructure Design Report**  
**Strategic Housing Development**  
**Baldoyle-Stapolin Growth Area 3,**  
**Baldoyle, Dublin 13**

Client: The Shoreline Partnership

Job No. R090

July 2021





**ROAD INFRASTRUCTURE DESIGN REPORT**

**STRATEGIC HOUSING DEVELOPMENT, BALDOYLE-STAPOLIN GROWTH AREA 3,  
BALDOYLE, DUBLIN 13**

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**Appendix A:** DMURS Statement

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**BS 1192 FIELD**      **BD-CSC-ZZ-G3-RP-C-0007-P4**

| Job Ref. | Author | Reviewed By | Authorised By | Issue Date | Rev. No. |
|----------|--------|-------------|---------------|------------|----------|
| R090     | FB     | GF          | OS            | 08.07.2021 | P4       |
| R090     | FB     | GF          | OS            | 07.07.2021 | P3       |
| R090     | FB     | GF          | OS            | 23.06.2021 | P2       |
| R090     | FB     | NB          | OS            | 18.11.2020 | P1       |



## 1.0 INTRODUCTION

Cronin & Sutton Consulting Engineers (CS Consulting) have been commissioned by The Shoreline Partnership to prepare a Road Infrastructure Design Report to accompany a planning application for a residential development at Baldoyle-Stapolin Growth Area 3, Baldoyle, Dublin 13.

In preparing this report, CS Consulting has made reference to the following:

- Fingal Development Plan 2017–2023
- Baldoyle-Stapolin Local Area Plan 2013–2019
- Design Manual for Urban Roads and Streets
- The Institution of Structural Engineers (IStructE)  
Design recommendations for multi-storey and underground car parks

The Road Infrastructure Design Report is to be read in conjunction with the engineering drawings and documents submitted by CS Consulting and with the various additional information submitted by the other members of the design team, which forms part of the planning submission.

## 2.0 SITE LOCATION AND PROPOSED DEVELOPMENT

### 2.1 Site Location

The proposed development site is located at Baldoyle-Stapolin Growth Area 3, Baldoyle, Dublin 13, in the administrative jurisdiction of Fingal County Council. The area enclosed by the application boundary extends to 6.89ha.

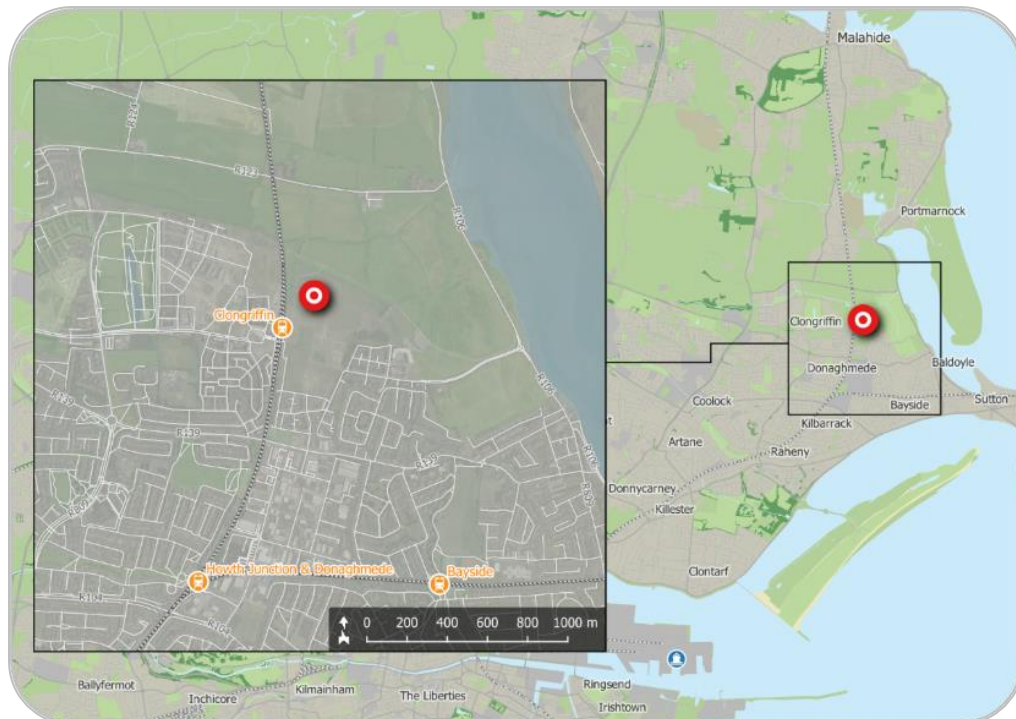


Figure 1 – Location of proposed development site  
(map data & imagery: EPA, OSM Contributors, Google)

The location of the proposed development site is shown in Figure 1 above; the indicative extents of the development site, as well as relevant elements of the surrounding road network, are shown in more detail in Figure 2. The site is bounded generally to the west by The Dublin-Belfast rail line, to the south and east by further zoned development lands, and to the north by lands zoned as High Amenity. There is currently no vehicular access to the subject site from the public road network. However, permitted and planned developments to the east and south propose to extend both Longfield

Road and Red Arches Avenue northward, providing access to the subject site via these two roads. Longfield Road connects to Grange Road (R139) approx. 650m to the south of the subject site; Red Arches Avenue connects to Red Arches Road, which in turn connects to Coast Road (R106) approx. 950m to the east of the subject site.



Figure 2 – Site extents and environs  
(map data & imagery: NTA, OSM Contributors, Google)

## 2.2 Existing Site Condition

The subject lands are currently undeveloped; however, works were carried out previously to install infrastructure. These works included removal of vegetation/topsoil, construction of a road network interlinked with partially prepared site areas, and installation of underground services.

The existing infrastructure has been unmaintained for some years.



## 2.3 Description of Proposed Development

The proposed development will consist of the development of 1,221 no. residential apartment/duplex dwellings in 11 no. blocks ranging in height from 2 to 15 storeys and including for residential tenant amenity, restaurant/cafe, crèche, car and bicycle parking and public realm. Residential Tenant Amenity Facilities are located in Blocks E3, E4, G3, G4 & G5 and external communal amenity space is provided at ground, podium and terrace levels throughout the scheme. Car Parking is provided in a mix of undercroft for Blocks E1-E2, F1 and F2 and at basement level for Blocks G1-G3 and G4-G5. Cycle parking spaces are provided for residents, visitors and commercial uses, in secure locations and within the public realm throughout the scheme. A new central public space between Blocks E1-E2 and E3 and E4 and a new linear space between Blocks G2-G3 and G4-G5 provides pedestrian and cycle connectivity from Longfield Road to the proposed future Racecourse Park to the north. A proposed new bus, cycle, pedestrian and taxi ramp to the south of the site and north of Stapolin Square provides access from Longfield Road to Clongriffin Train Station. For a full description of the development please see the Statutory Notices.



### 3.0 ROAD INFRASTRUCTURE DESIGN

The objectives of the evolving site layout design are:

- to ensure ease of access for emergency services and for refuse collection and servicing operations;
- to encourage walking and cycling;
- to create short walking routes to shops, public transport, etc.;
- to create a safe, secure, and pleasant environment for people, particularly vulnerable road users (VRUs) such as children.

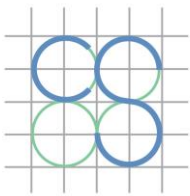
Design measures have been implemented to support the above objectives in accordance with the core principles of the *Design Manual for Urban Roads and Streets* (DMURS).

The design of the road infrastructure within the subject development is primarily informed by principles contained within the DMURS manual. However, reference has also been made to the following documents:

- Fingal Development Plan 2017–2023
- Baldoyle-Stapolin Local Area Plan 2013–2019
- Traffic Signs Manual 2019
- DN-GEO-03060: Geometric Design of Junctions
- Sustainable Urban Housing: Design Standards for New Apartments (Guidelines for Planning Authorities)
- The Institution of Structural Engineers (IStructE) Design recommendations for multi-storey and underground car parks
- National Cycle Manual 2011
- Greater Dublin Area Cycle Network Plan

#### 3.1 Road Classification

The existing Longfield Road and Red Arches Drive are local access roads with a speed limit of 50km/h.



DMURS uses a hierarchy system to classify the movement function of a street. This system classifies streets into the following categories:

- Arterial Streets
- Link Streets
- Local Streets

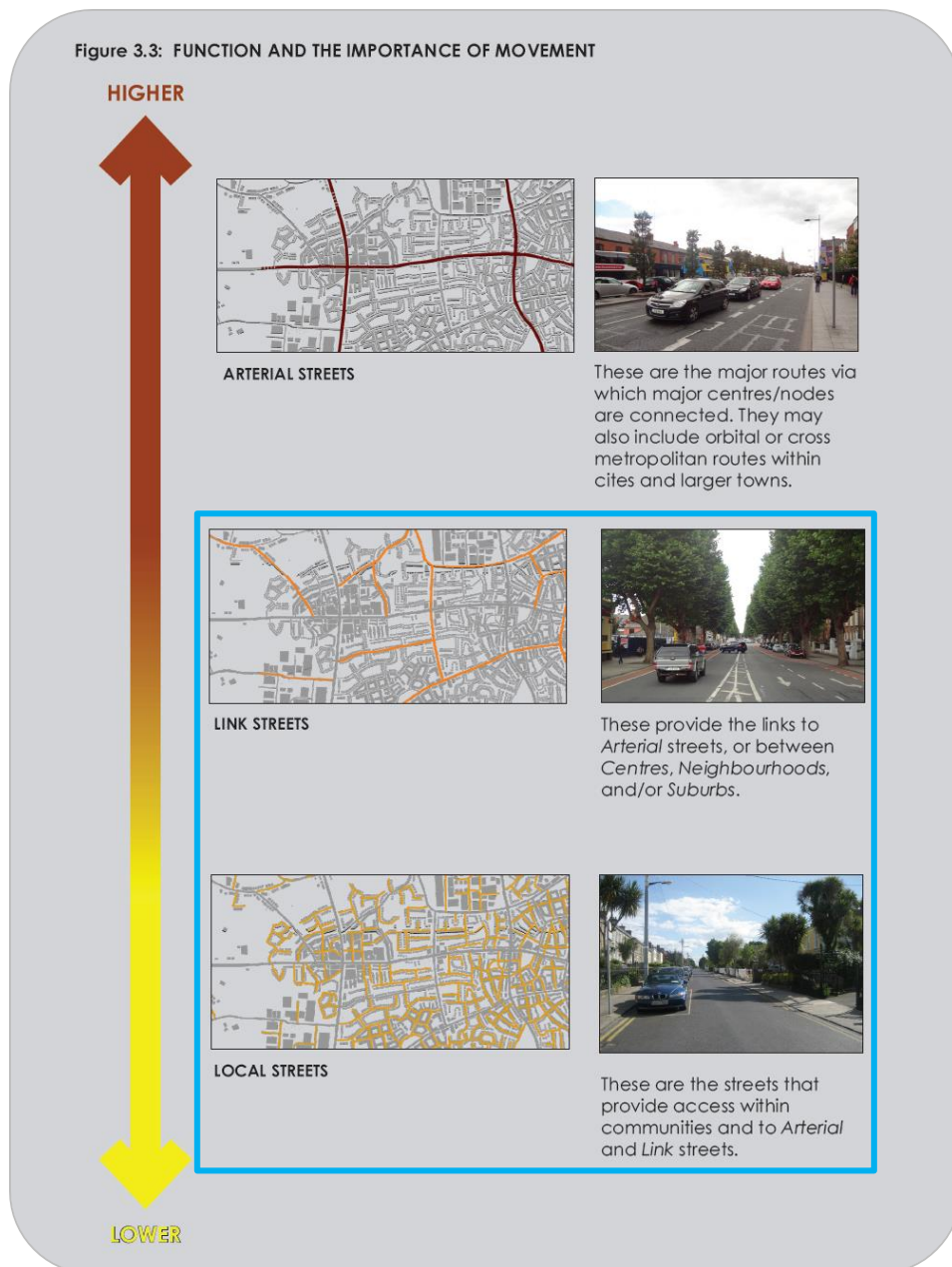


Figure 3 – DMURS Street Classification  
(source: Design Manual for Urban Roads and Streets)

Based on the above, there are 2no. link streets within the proposed development:

- the continuation of Longfield Road
- the westward continuation of Red Arches Drive/Longfield Road

All other internal roads within the development are classed as local streets (green) and primarily serve a local access function.

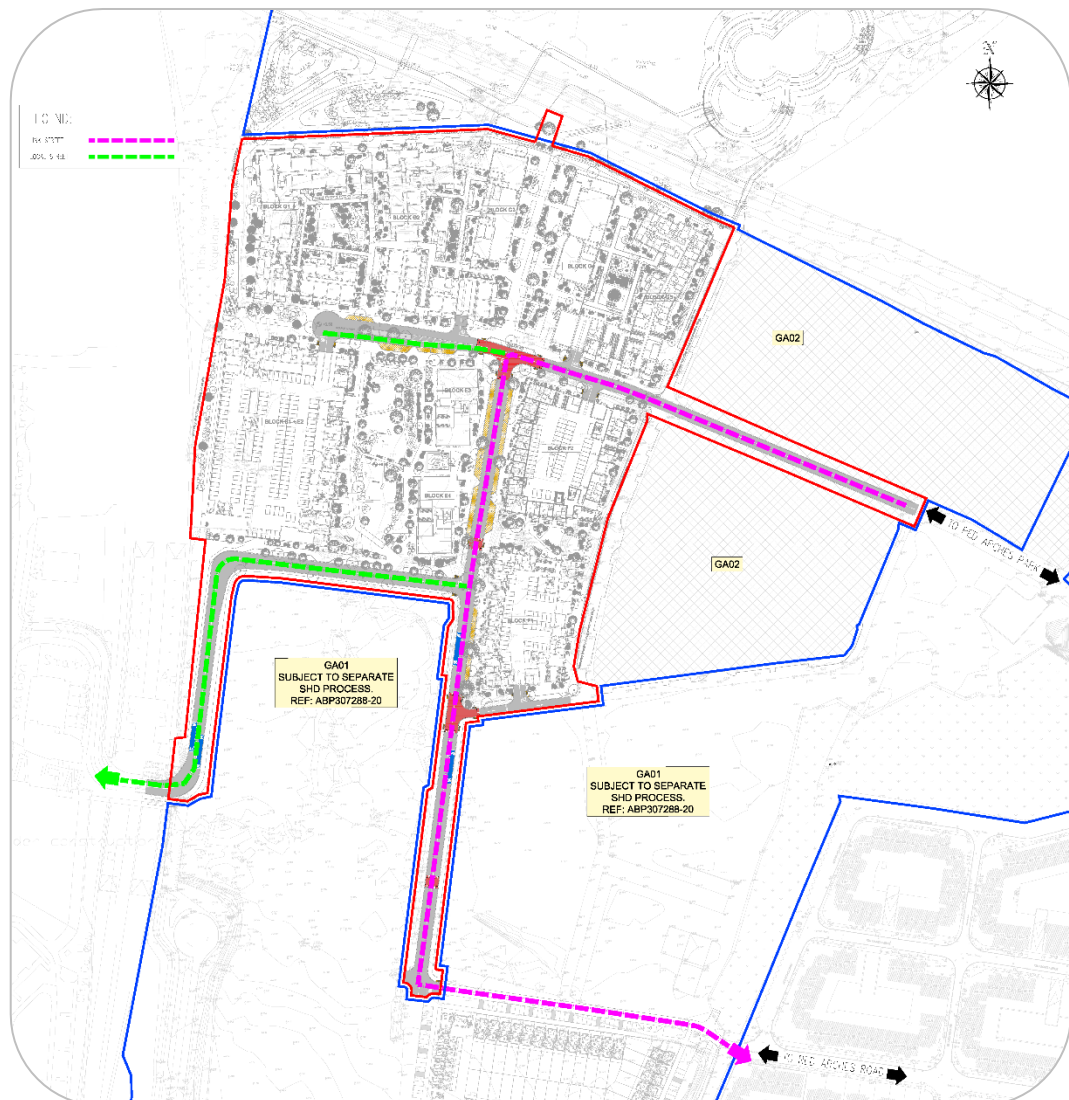


Figure 4 – Road Hierarchy



Table 3.1 of DMURS outlines how road hierarchy terminology used in DMURS relates to other relevant publications.

| DMURS Description | Roads Act/<br>DN-GEO-03031 | Traffic Management<br>Guidelines                               | National Cycle<br>Manual |
|-------------------|----------------------------|--|--------------------------|
| Arterial          | National                   | Primary Distributor<br>Roads                                   | Distributor              |
| Link              | Regional<br>(see note 1)   | District Distributor<br>Local Collector<br>(see Notes 1 and 2) | Local Collector          |
| Local             | Local                      | Access   | Access                   |

**Notes**

Note 1: Larger Regional/District Distributors may fall into the category of *Arterial* where they are the main links between major centres (i.e. towns) or have an orbital function.

Note 2: Local Distributors may fall into the category of *Local* street where they are relatively short in length and simply link a neighbourhood to the broader street network.

Figure 5 – DMURS terminology compared to other key publications  
(source: *Design Manual for Urban Roads and Streets*)

### 3.2 Road Design Speeds

Longfield Road and Red Arches Drive are existing local roads with a posted speed of 50km/h. No alteration to the current posted speed on these sections of road is proposed within the subject development.

All internal roads within the development have been designed for a vehicular traffic speed of 30km/h in order to prioritise movement of vulnerable road users. In accordance with DMURS, kerb radii at internal junctions have been restricted to a maximum of 4.5m, in order to discourage high vehicle speeds, except where larger radii are required to facilitate bus movements (kerb radii of 6.0m, at the junction of Longfield Road with Red Arches Road only).

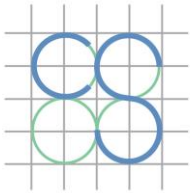
|          |          | PEDESTRIAN PRIORITY |            | VEHICLE PRIORITY |                         |                 |
|----------|----------|---------------------|------------|------------------|-------------------------|-----------------|
| FUNCTION | ARTERIAL | 30-40 KM/H          | 40-50 KM/H | 40-50 KM/H       | 50-60 KM/H              | 60-80 KM/H      |
|          | LINK     | 30 KM/H             | 30-50 KM/H | 30-50 KM/H       | 50-60 KM/H              | 60-80 KM/H      |
|          | LOCAL    | 10-30 KM/H          | 10-30 KM/H | 10-30 KM/H       | 30-50 KM/H              | 60 KM/H         |
|          |          | CENTRE              | N'HOOD     | SUBURBAN         | BUSINESS/<br>INDUSTRIAL | RURAL<br>FRINGE |
|          |          | CONTEXT             |            |                  |                         |                 |

Figure 6 – Design Speed Selection Matrix  
(source: *Design Manual for Urban Roads and Streets*)

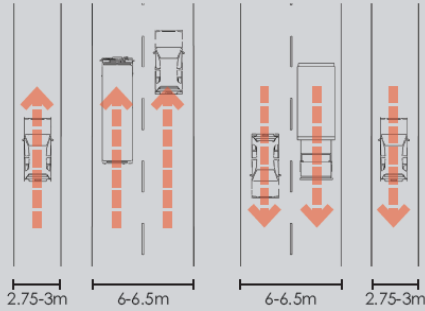
### 3.3 Road Cross-Section

The road carriageway widths have been determined in accordance with DMURS. Link roads within the subject development shall have a carriageway width of 6.0m-7.0m, comprising one traffic lane in either direction, and shall be flanked to either side by a 2.6m-wide pedestrian footpath. A lane width of between 3.0m and 3.5m was chosen in accordance with Figure 4.55 of DMURS as the link streets within the development will frequently carry buses.

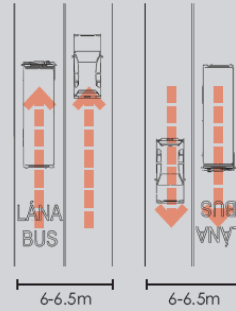
Stapolin Way is classed as a local street. Stapolin Way consists of a 3.5m carriageway either side of a central median and shall also be flanked by 2.6m-wide footpaths.



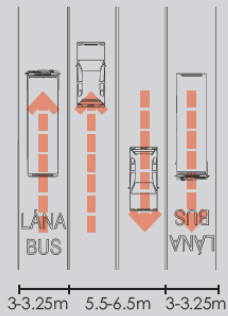
**FIGURE 4.55: CARRIAGEWAY WIDTHS**  
(note: Illustrations do not include cycle facilities)



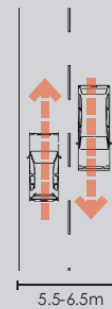
Carriageway widths for heavily-trafficked *Arterial* and *Link* streets in boulevard configuration. Main carriageway suitable for moderate design speeds. Includes access lanes with a lower design speed.



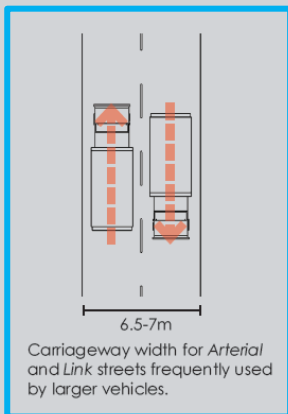
Standard carriageway widths for multi-lane *Arterial* and *Link* streets in boulevard configuration, including bus lanes.



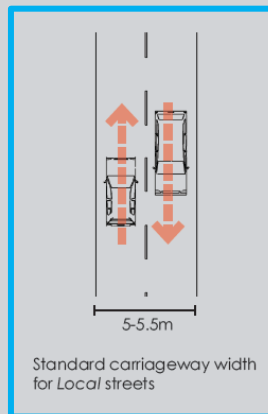
Standard lane/carrigeway widths for multi-lane *Arterial* and *Link* streets, including bus lanes. Range for low to moderate design speeds.



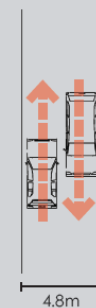
Standard carriageway widths for *Arterial* and *Link* streets. Range for low to moderate design speeds.



Carriageway width for *Arterial* and *Link* streets frequently used by larger vehicles.



Standard carriageway width for *Local* streets



Carriageway width for *Local* streets with a shared surface carriageway.

Figure 7 – Carriageway Widths  
(source: *Design Manual for Urban Roads and Streets*)

### 3.4 Footpaths

Footpath widths within the proposed development have been designed in accordance with DMURS. It is proposed to provide a footpath width of 2.6m along all internal roads within the proposed development to allow desirable space for two people to pass comfortably.

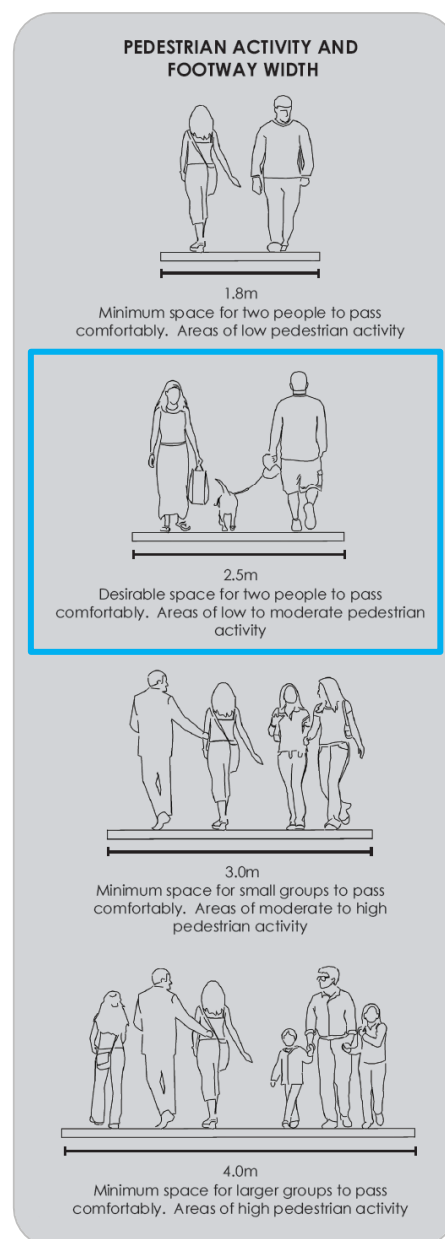
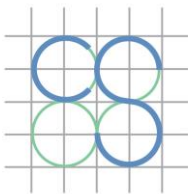


Figure 8 – Pedestrian Activity and Footpath Widths  
(source: *Design Manual for Urban Roads and Streets*)



### 3.5 Undercroft and Basement Car Parking

The layout of the undercroft and basement car parking areas within the proposed development have been designed in accordance with the IStructE *Design Recommendations for Multi-Storey and Underground Car Parks*. All car parking bays shall have a width of 2.4m and a length of 4.8m in accordance with Table 4.2 of the Design Recommendations.

**Table 4.2 Car bay dimensions**

| Type of parking | Length <sup>b</sup> (m) | Width (m)         | Comment                                      |
|-----------------|-------------------------|-------------------|--|
| Mixed use       | 4.80                    | 2.40              | Mixed occupancy                              |
| Short-stay      | 4.80                    | 2.50              | Typically less than two hours                |
| Long-stay       | 4.80                    | 2.30              | One movement per day, e.g. business car park |
| Disabled user   | 4.80                    | 3.60 <sup>c</sup> | –  |
| Parent/child    | 4.80                    | 3.20 <sup>d</sup> | –  |

**Notes**

- a All the dimensions are to be clear of any projections, but see Section 4.3.4.
- b The preferred dimension is 4.80m for all bay lengths. However, with restricted space and appropriate signage, this can sometimes be reduced for small/city vehicles (see Section 4.4.1).
- c The bay width for use by disabled persons allows for the door to be fully opened to improve movement in and out of the car and to provide greater room for assistance to be given to those less mobile. Additional details are given in Traffic Advisory Leaflet 5/95 *Parking for Disabled*<sup>4.3</sup> and the Building Regulations<sup>4.4,4.5</sup>.
- d The bay width for use by parent and child allows for the door to be opened more fully for access to child seats.

Figure 9 – Car bay dimensions

(source: *Design Recommendations for Multi-storey and Underground Car Parks*)

A minimum aisle width of 7.0m for two-way vehicle movement has been provided generally, in accordance with Table 4.3 of the *Design Recommendations for Multi-Storey and Underground Car Parks*.



**Table 4.3 Recommended aisle and bin widths**

| Parking angle | Preferred aisle width (m) | Bay width (m) | Preferred bin width for 4.80m bay length (m) |
|---------------|---------------------------|---------------|--|
| 90°           | Two-way aisle: 6.95       | All           | 16.55  |
| 90°           | One-way aisle: 6.00       | All           | 15.60  |
| 60°           | 4.20                      | 2.30          | 14.85  |
|               |                           | 2.40          | 14.95  |
|               |                           | 2.50          | 15.05  |
| 45°           | 3.60                      | 2.30          | 13.65  |
|               |                           | 2.40          | 13.80  |
|               |                           | 2.50          | 13.95  |

Figure 10 – Aisle width dimensions

(source: *Design Recommendations for Multi-storey and Underground Car Parks*)

Refer to CS Consulting drawing no. BD-CSC-ZZ-G3-DR-C-0130 for development undercroft and basement parking layout.

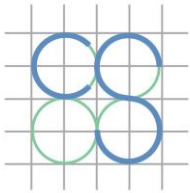
### 3.6 Road Junctions

The primary principle of the development's road junction design is to provide safe and consistent junction layouts for drivers and other road users. Road junction geometry has been designed in accordance with DMURS. Junctions within the development have been designed with sufficient capacity to accommodate design year peak traffic flows.

The primary objectives of the development junction design are as follows:

- To ensure capacity for the design year;
- To provide safe crossing facilities for pedestrians and cyclists;
- To ensure adequate visibility and consistency for road safety;
- To function as traffic calming measures.

Traffic modelling software has been used to assess the operation of road junctions within the road network surrounding the subject development.



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Refer to the Traffic Impact Assessment submitted under separate cover within this planning application for further details of road junction operations.

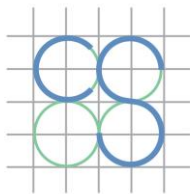
## 4.0 DEVELOPMENT LAYOUT, PEDESTRIANS AND CYCLISTS

### 4.1 Development Access



Figure 11 – Vehicular access points to subject development  
(map data & imagery: OSi, OSM Contributors, Henry J Lyons, Microsoft)

The subject development's internal road network shall tie into the existing surrounding road network at a total of 4no. locations to the south and west to give vehicular access to the development (see Figure 11), with provision made for a further connection to future road infrastructure immediately to the east.



The development's 3no. primary vehicular access points are:

- (A) the northward continuation of Longfield Road (via adjacent GA1 lands), which originates at Grange Road approx. 440m to the south;
- (B) the westward continuation of Red Arches Road (via adjacent GA1 lands), which originates at Coast Road approx. 1,000m to the east; and
- (C) the continuation to the north and west of the existing Red Arches Avenue (via adjacent GA1 lands), which connects to Red Arches Road.

A further vehicular access point shall be located on the western boundary of the development:

- (D) a ramp rising to meet the existing podium-level roadway at Clongriffin railway station, providing a link to Station Hill and to Clongriffin Main Street (this shall be restricted to use by public service vehicles, cyclists, and pedestrians – see sub-section 4.5).

In addition to the above connections to the existing road network and to roads currently under construction, provision has also been made for:

- (E) future connectivity to adjacent development lands in Growth Area 2, immediately to the east of the subject site.

All connections between the development's internal road network and the existing external road network have been designed in accordance with the requirements of the *Design Manual for Urban Roads and Streets*.

For further detail of the development's proposed internal road network and provisions for vehicular access to/from the surrounding road network, refer to the following to CS Consulting drawings:

- BD-CSC-ZZ-G3-DR-C-0100 (Overall Site Layout)
- BD-CSC-ZZ-G3-DR-C-0116 & BD-CSC-ZZ-G3-DR-C-0117 (Road Layouts)
- BD-CSC-ZZ-G3-DR-C-0118 & BD-CSC-ZZ-G3-DR-C-0119 (Road Markings)

## 4.2 Internal Site Layout and Road Hierarchy

The internal road network of the proposed development comprises link roads along the north-south and east-west axes, allowing circulation into and through the development site, as well as a local access spur (Stapolin Way) in the north of the site which provide access to the individual blocks within the development.

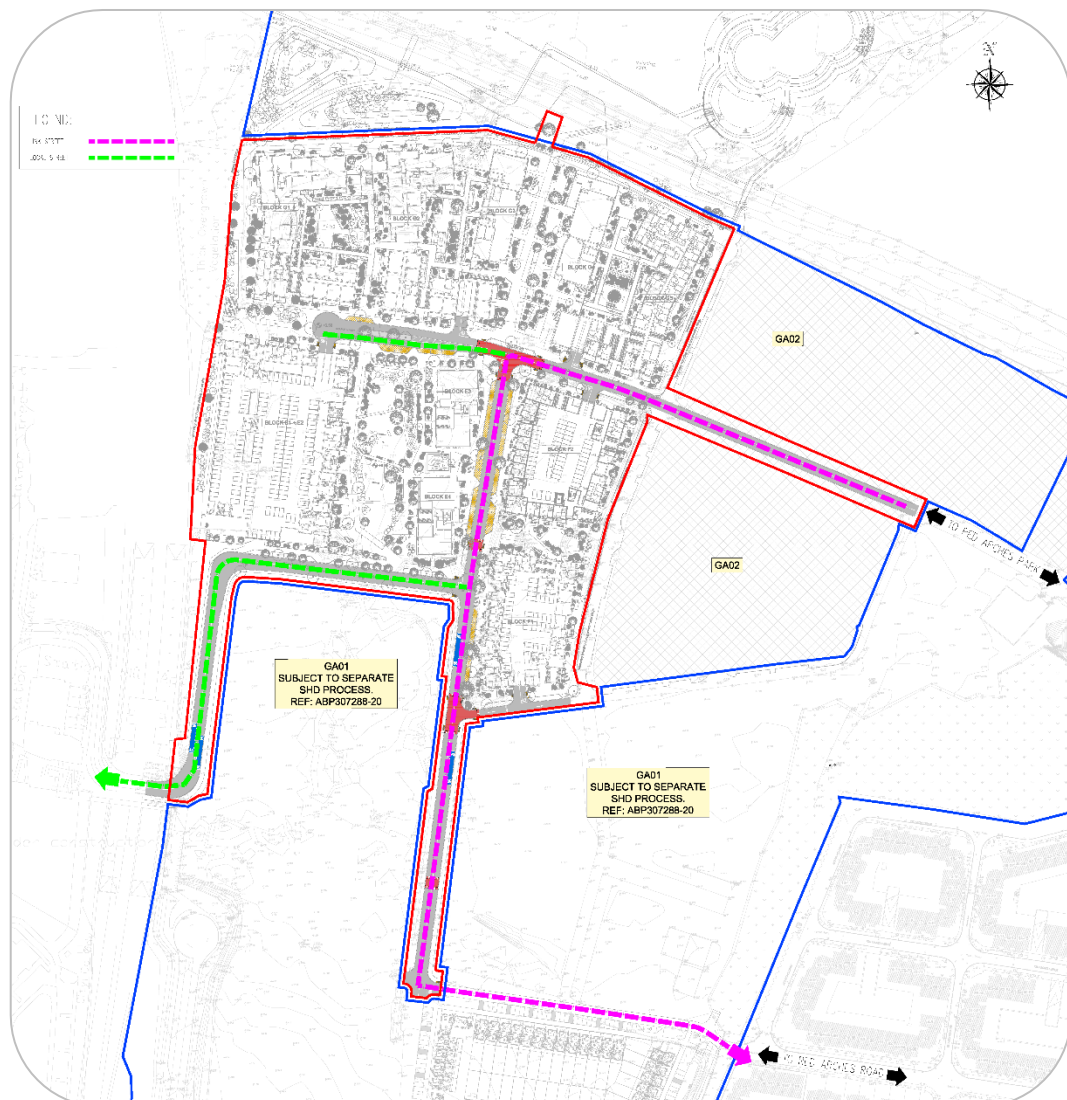


Figure 12 – Road Hierarchy



The primary link road through the development is the continuation of Longfield Road, which shall extend northward through the site from its current termination at the site's southern boundary. This shall have a carriageway width of 7.0m, comprising one traffic lane in either direction, and shall be flanked to either side by a 2.6m-wide pedestrian footpath. Limited on-street car parking shall be provided along Longfield Road in the form of recessed parallel parking bays.

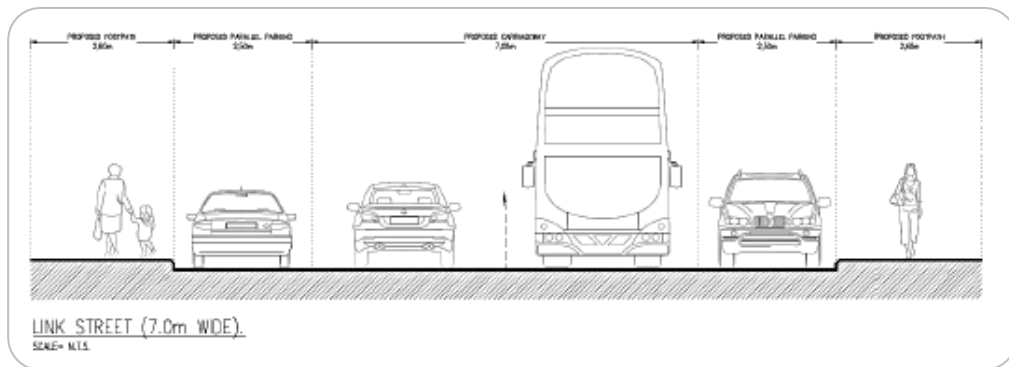


Figure 13 – Typical link road cross section (Longfield Road)

The second link road is the westward continuation of Red Arches Park, which shall be extended to meet Longfield Road. The third link road is that which extends westward from Longfield Road, along the northern side of Stapolin Square (immediately within the southern boundary of the development site) and continues along the western side of Stapolin Square. This provides the connection between Longfield Road and the proposed bus ramp up to the podium level of Clongriffin railway station.

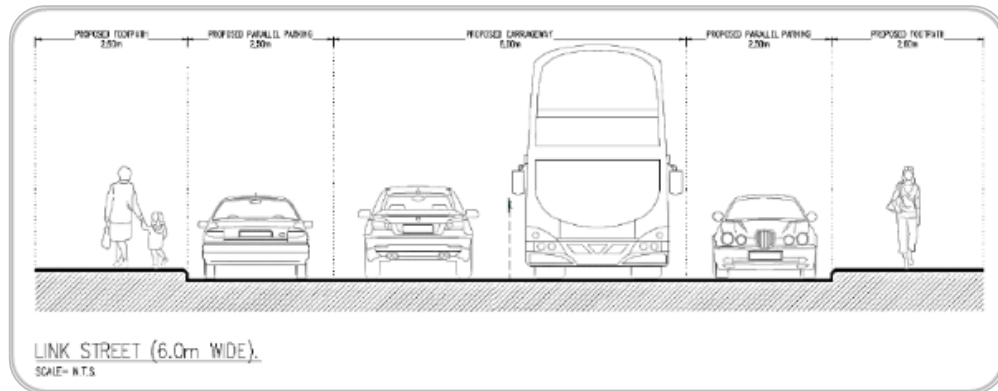


Figure 14 – Typical link street cross section (Red Arches Park)

Stapolin Way is classed as a local street. Stapolin Way consists of a 3.5m carriageway either side of a central median and shall also be flanked by 2.6m-wide footpaths. Perpendicular on-street car parking spaces shall be arranged to either side of the road at suitable locations, between the carriageway and the footpath (see Figure 15).

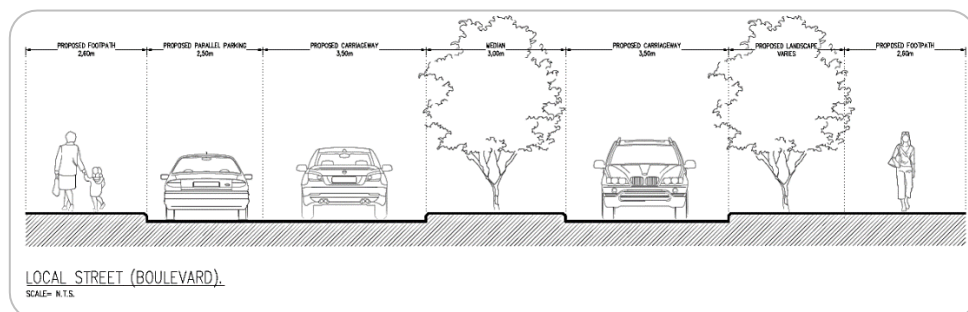
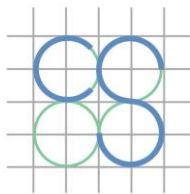


Figure 15 – Typical local street cross section (Stapolin Way)

For further details of the development's internal road network and road hierarchy, refer to the following to CS Consulting drawings:

- BD-CSC-ZZ-G3-DR-C-0100 (Overall Site Layout)
- BD-CSC-ZZ-G3-DR-C-0116 & BD-CSC-ZZ-G3-DR-C-0117 (Road Layouts)
- BD-CSC-ZZ-G3-DR-C-0118 & BD-CSC-ZZ-G3-DR-C-0119 (Road Markings)
- BD-CSC-ZZ-G3-DR-C-0120 (Road Profiles)
- BD-CSC-ZZ-G3-DR-C-0121 & BD-CSC-ZZ-G3-DR-C-0122 (Road Details)
- BD-CSC-ZZ-G3-DR-C-0123 (Road Cross Sections)



- BD-CSC-ZZ-G3-DR-C-0124 to BD-CSC-ZZ-G3-DR-C-0128 (Swept Paths)
- BD-CSC-ZZ-G3-DR-C-0129 & BD-CSC-ZZ-G3-DR-C-0130 (Parking Layouts)

All road infrastructure within the development shall be designed and constructed to Fingal County Council taking-in-charge standards.

#### **4.3 Road Alignments and Traffic Calming Measures**

All internal roads within the development have been designed for a vehicular traffic speed of 30km/h. Kerb radii at internal junctions have been restricted to a maximum of 4.5m, in order to discourage high vehicle speeds, except where larger radii are required to facilitate bus movements. At all internal road junctions, it has been ensured that forward visibility splays of at least 24m are achieved, in compliance with the *Design Manual for Urban Roads and Streets* (DMURS) requirements.

The presence of parallel on-street parking bays along significant portions of the internal road network shall have a natural traffic calming effect, as through traffic shall have to be alert to (and accommodate) parking manoeuvres into and out of these spaces. Kerb buildouts, which shall be provided at key points to prevent informal on-street parking, shall likewise perform a traffic calming function by forming a horizontal constraint to the carriageway.

#### **4.4 Pedestrians & Cyclists**

The development layout ensures a high degree of pedestrian and cyclist permeability into and through the site. Pedestrian and cyclist access to the development shall be possible along the full length of the site's southern boundaries, as well as via the proposed bus ramp (and associated lift) to/from Clongriffin railway station at the site's western boundary. The development layout also allows for convenient future pedestrian and cyclist access to the lands north of the subject site where a future cycle link



is proposed as part of the *Baldoyle-Stapolin Local Area Plan 2013–2019* (as extended).

Access to Clongriffin railway station for pedestrians and cyclists from the eastern side of the railway line is currently possible via lifts and stairs located adjacent to the subject site. As part of the associated development of these adjacent Growth Area 1 lands (refer to Traffic Impact Assessment report for further details), new lifts and stairs shall be provided to give access to the railway station. The existing lifts and stairs shall be maintained in operation until such time as the proposed new lifts and stairs have been completed.

Raised pedestrian footpaths are provided along all internal roads within the development, as well as a comprehensive network of off-street footpaths ensuring effective pedestrian permeability through the site. A total of 2,333no. bicycle parking spaces shall initially be provided within the development; these shall include 2,021no. secure and sheltered internal cycle storage spaces for development residents, as well as 306no. publicly accessible short-stay visitor bicycle parking spaces at surface level (of which 154no. shall be covered), 4no. bicycle parking spaces to serve the development's crèche, and 2no. bicycle parking spaces to serve its café unit.

#### **4.5 Bus Ramp**

As noted in the Traffic Impact Assessment associated with this planning application, the *Fingal Development Plan 2017–2023* and the *Baldoyle/Stapolin Local Area Plan* provide for a road link across the railway line at Clongriffin railway station, between Clongriffin and Stapolin, to allow for the east-west passage of public transport. The existing road on the western side is ramped up to the level of the railway station podium (approx. 16m AOD), where it terminates. As part of the subject



development, it is proposed to provide a similar ramped road connection on the eastern side to complete the road link.

The proposed ramp shall begin immediately to the north of Stapolin Square turning to the left to run along the western side of Stapolin Square before turning right and connecting to the existing railway station podium. The ramp shall have a maximum gradient of 1:20 and shall be restricted to the use of pedestrians, cyclists, and public service vehicles. In compliance with TII design standard DN-REQ-03034, a high containment vehicle restraint barrier shall be provided along either side of the bus ramp, extending a minimum distance of 45m from the existing station podium.

Refer to CS Consulting drawing BD-CSC-ZZ-G3-DR-C-0133 for further details of the proposed bus ramp connection. CS Consulting has liaised with Irish Rail as part of the design process for the bus ramp, to ensure that Irish Rail requirements are integrated into the design.

## **5.0 INDEPENDENT QUALITY AUDIT**

An independent Quality Audit of the proposed development layout and access arrangements has been conducted by Roadplan Consulting on behalf of CS Consulting. This incorporates the following four components:

- access audit
- cycling audit
- walking audit
- road safety audit

The Quality Audit was completed in March 2021. Design changes have been made in response to the recommendations of the Quality Audit and the measures adopted have been accepted by the audit team. Refer to CS Consulting drawings BD-CSC-ZZ-G3-DR-C-0135 and BD-CSC-ZZ-G3-DR-C-0136 for details of these design changes.

The Quality Audit report document issued by Roadplan Consulting, together with the audit response form, are provided as Appendix B to this report.



## 6.0 COMMENTS RECEIVED FROM PLANNING AUTHORITIES

Both An Bord Pleanála and Fingal County Council have reviewed the planning documentation submitted in respect of the proposed development during the pre-application consultation phase of the SHD process. A tripartite pre-application consultation meeting has also been held with An Bord Pleanála and Fingal County Council.

The relevant opinions of An Bord Pleanála that pertain to traffic and transport matters, as communicated to the applicant, are reproduced below; also examined in this section are the recommendations of Fingal County Council's Transportation Planning Department, which were issued to An Bord Pleanála. In each case, we describe measures taken by the design team in response to these opinions and recommendations.

### 6.1 Opinions Issued by An Bord Pleanála

An Bord Pleanála has in March 2021 issued an opinion enumerating the items of specific information that should be submitted with any application for permission. The following item among these is of relevance to this Traffic Impact Assessment:

12. *"A report addressing the issues raised in the planning authority's Transportation Planning Section's report dated 10th December 2020."*

#### 6.1.1 Response to ABP Item 12

Responses to points raised by Fingal County Council's Transportation Planning Division are provided in sub-section 6.2.

## 6.2 Recommendations of Fingal County Council

Fingal County Council has issued an opinion, informed by the internal report of its Transportation Planning Department, making the following recommendations relating to transportation.

### 6.2.1 FCC Point 1 – visitor parking

*“Given the scale of development it is considered that some level of visitor parking that is properly integrated into the design and that avoids the potential for ad-hoc on-street parking that may cause issue particularly with regard to access for emergency services on the narrower internal roads should be provided.”*

#### Response to FCC Point 1

The omission of visitor parking from the proposed development is intended as a demand control measure, and is consistent with the overall goal of deterring unnecessary private car trips to and from the development.

As noted in the accompanying Traffic Impact Assessment report, it is recognised that there is potential for undisciplined informal parking along the development's internal road network. The development's internal road network therefore includes physical design features such as kerb buildouts to prevent such informal parking, as well as double yellow line road markings where necessary.

### 6.2.2 FCC Point 2 – crèche parking provision

*“Additional staff car-parking and a larger set down area to serve the creche is required. Given the scale of the creche the provision of a 4 car set down area is considered to be very small. The entrance to the creche is also relatively distant from the set-down facility which would*



*increase the drop-off turnaround for young children which may further reduce the availability of set down spaces. The applicant should be requested to address these concerns."*

#### Response to FCC Point 2

As described in the accompanying Traffic Impact Assessment report, 4no. car parking spaces for crèche staff shall be provided within the basement car park of Block G. This represents the maximum car parking provision permitted by the *Fingal Development Plan 2017–2023*.

The proposed development shall have a relatively high residential density and it is anticipated that its crèche facility will almost exclusively serve residents of the development itself (as well as some residents of existing adjacent developments), all of whom will live within convenient walking distance of the crèche. It is therefore submitted that the 4no. proposed crèche set-down spaces are sufficient to meet the demand for truly necessary vehicular drop-off and collection trips to and from the crèche, while also deterring unnecessary private car trips. We further note that the provision of DMURS-compliant sightlines at internal junctions (see CS Consulting drawing BD-CSC-ZZ-G3-DR-C-0135) precludes the extension of the current crèche set-down area beyond 4no. parallel bays in length.

#### 6.2.3 FCC Point 3 – Clongriffin Station ramp

*"Similar to the consecutive SHD application, the proposed development includes the remaining section of the ramp providing a connection for the bus service to Clongriffin station is to be constructed. Construction details of the ramp including build up and construction methods need to be provided. There is insufficient information provided in the current submission. The ramp will be taken*

*in charge by the Council and so must meet the Council's Standards in this regard. The applicant should also liaise with Dublin Bus and Irish Rail as part of the construction of the ramp as works may be restricted at certain times by Irish Rail."*

#### Response to FCC Point 3

Refer to CS Consulting drawing BD-CSC-ZZ-G3-DR-C-0133 for structural and road build-up details of the proposed bus ramp to Clongriffin Station. The construction methodology and scheduling for this ramp will be discussed in detail with both Iarnród Éireann and Dublin Bus prior to the commencement of works, as described in the accompanying Outline Construction Management Plan.

#### 6.2.4 FCC Point 4 – Donaghmede roundabout assessment

*"The Transportation Planning Section has concerns that the roundabout junction at Donaghmede (the junction of the R139/R809 and the Hole-in-the-wall Road) has not been assessed fully as part of the submitted Traffic & Transport Assessment. A revised Traffic & Transport Assessment with an assessment of the capacity of this junction should be carried out."*

#### Response to FCC Point 4

The accompanying Traffic Impact Assessment report now includes the operational assessment of the existing roundabout junction at Donaghmede (the junction of the R139/R809 and the Hole-in-the-Wall Road).

It is noted also that the internal report of the Transportation Planning Department states:

*"It is likely that most AM traffic will head west and south for links to the M1, M50, Dublin Airport and the City Centre direct particularly*



*as travel to these destinations via junction 2 (the existing roundabout junction of Red Arches Road and Coast Road) would add significantly to journey time and distance. Consequently, the scenario where the majority of all new, committed and existing development heads to Junction 1 (Longfield Road with Grange Road (R809) and Grange Rise) should also be assessed as a stress test."*

A supplementary stress test of Junction 1, which corresponds to the above scenario, has been conducted and the results of this are provided as an appendix to the accompanying Traffic Impact Assessment report.

#### 6.2.5 FCC Point 5 – Road Safety Audit

*"Road Safety Audits should be carried out as part of the proposed development at the relevant stages as outlined in current edition of Transportation Infrastructure Ireland guidelines GE-STY-1027."*

##### Response to FCC Point 5

As described in Section 5 of this report, an independent Quality Audit of the proposed development layout and access arrangements (incorporating a Road Safety Audit) has been conducted by Roadplan Consulting on behalf of CS Consulting.

Design changes have been made in response to the recommendations of the Quality Audit and the measures adopted have been accepted by the audit team. Refer to CS Consulting drawings BD-CSC-ZZ-G3-DR-C-0135 and BD-CSC-ZZ-G3-DR-C-0136 for details of these design changes.



#### 6.2.6 FCC Point 5 – basement and undercroft car park design

*“Basement car park should be designed in accordance with the requirements of the latest edition of the Design recommendations for multi-storey and underground car parks published by the IStructE. It is noted that the Transportation Planning Section have highlighted a number of concerns over the layout and design of all the basement and podium levels. This needs further consideration.”*

The internal report of the Transportation Planning Department identifies the following specific concerns with regard to the design of the development's basement and undercroft parking areas:

- (a) Parking spaces 4.8m long by 2.4m wide are not considered sufficient to accommodate larger cars; spaces 5.0m long by 2.5m wide should instead be provided.
- (b) Details should be provided in respect of the access ramps to basement car parks, in particular clearance heights and gradients (including transitions); sectional views of these ramps should be provided.

#### Response to FCC Point 5

- (a) The development's basement and undercroft car parking areas have been designed in accordance with the current (4<sup>th</sup>) edition of the IStructE *Design recommendations for multi-storey and underground car parks*, which state that: “recommended practice is to design for normal use by the standard car and for occasional use by the large car”.

Table 4.2 of this guidance document stipulates a standard car parking bay length of 4.8m under all circumstances, and a standard bay width of 2.4m for mixed occupancy use (increasing to 2.5m use for short-stay use of less than 2 hours, and



potentially decreasing to 2.3m for long-stay use involving only one movement per day). See sub-section 3.5 of this report.

(b) Longitudinal sections of the 2no. access ramps to the Block G basement car parks are shown on CS Consulting drawing BD-CSC-ZZ-G3-DR-C-0123. These provide details of ramp gradients and perpendicular clearances.

#### 6.2.7 FCC Point 6 – bus stop locations, crossing facilities, and junction priority

*“The proposed location of the bus stops at the end of the ramp coming from Clongriffin Station needs some consideration. The stops are perhaps too close to the end of the ramp and the bend of the ramp as well as the slope of the ramp may cause issue with the sightlines on the approach the stops when approaching from the station side. The applicant should liaise with Dublin Bus in this regard as there may be further issues with regard to passengers alighting from the busses and crossing into the proposed development that need to be addressed. The provision of a signalised pedestrian crossing or at the very least an uncontrolled pedestrian and bicycle crossing should be incorporated into the design at a suitable location close to the bus stops and the bottom of the ramp. Details of the access road tie-in junctions illustrating which road has priority should be provided to ensure there is no ambiguity in the final design for road users.”*

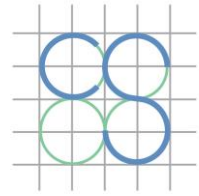
#### Response to FCC Point 6

The locations of the bus stops on the ramp up to Clongriffin railway station are those proposed under the GA1 SHD amendment application (ABP ref. TA06F.310418). To ensure consistency, it is not proposed to change these locations under the present application. Existing pedestrian crossings with dropped kerbs and tactile paving are in place at the top of the ramp, facing the railway station; as these are on the level but are also close to the proposed bus stops, they

provide the most suitable designated crossing locations. The ramp itself shall be restricted to use by public service vehicles and shall therefore carry very limited vehicular traffic; the provision of further pedestrian crossing points along its length is therefore not considered necessary on safety grounds.

As shown on CS Consulting drawing BD-CSC-ZZ-G3-DR-C-0119, a stop-controlled junction is indicated where Longfield Avenue meets Stapolin Avenue; this is the only junction at which the development's internal road network ties in to the existing/permitted external road network.





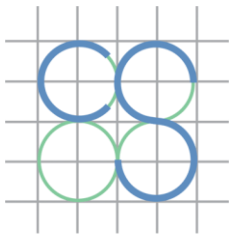
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## Appendix A

### **DMURS Statement**





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## CS CONSULTING GROUP

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Strategic Housing Unit

An Bord Pleanála

64 Marlborough St

Rotunda

Dublin 1

**Sent By:** Email

**Job Ref:** R090

A-NB

**Date:** 17-Jun-21

**RE: Strategic Housing Development (SHD) at Stapolin Growth Area 3, Baldoyle, Co. Dublin**  
**DMURS Statement of Consistency to An Bord Pleanála.**

Cronin & Sutton Consulting Engineers (CS Consulting), as part of a multi-disciplinary design team, have been commissioned by The Shoreline Partnership to develop a DMURS Statement of Consistency to accompany a planning application for a proposed Strategic Housing Development at Baldoyle, Dublin 13.

### Traffic & Transportation

The proposed scheme is designed in compliance with the following:

- Design Manual for Urban Roads and Streets (2019)
- Fingal Development Plan 2017–2023
- Baldoyle-Stapolin Local Area Plan 2013–2019
- National Cycle Manual (2011)
- Greater Dublin Area Cycle Network Plan

KP & Associates Consulting Engineers Ltd. T/A Cronin & Sutton Consulting  
Company No. 505303 | Registered Office: 19-22 Dame Street, Dublin 2, Ireland  
Directors: N. Barrett, K. Cronin, R. Fitzmaurice, M. McEntee, L. McNamee,  
D. Rehill, O. Sullivan, C. Sutton-Smith, E. Sutton, P. Sutton  
Associate Directors: C. Barry, C. Twomey | Associates: D. Byrne, G. Lindsay

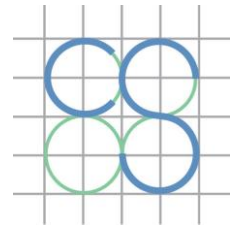
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## Internal Street Layout

The internal road network of the proposed development comprises link roads along the north-south and east-west axes, allowing circulation into and through the development site, as well as a network of connecting local streets that serve the individual blocks within the development. The primary link road through the development is the continuation of Longfield Road, which shall extend northward through the site from its current termination at the site's southern boundary. This shall have a carriageway width of 7.0m, comprising one traffic lane in either direction, and shall be flanked to either side by a 2.6m-wide pedestrian footpath. Limited on-street car parking shall also be provided along Longfield Road in the form of recessed parallel parking bays.

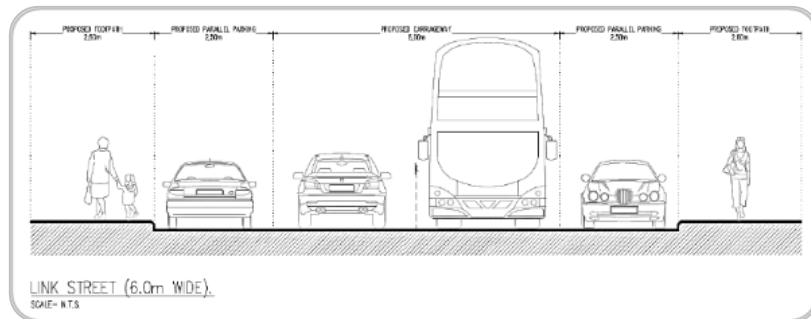


Figure 1 – Typical link road cross section (Longfield Road)

The second link road is the westward continuation of Red Arches Park, which shall be extended to meet Longfield Road. The third link road is that which extends westward from Longfield Road, along the northern side of Stapolin Square (immediately within the southern boundary of the development site) and continues along the western side of Stapolin Square. This provides the connection between Longfield Road and the proposed bus ramp up to the podium level of Clongriffin railway station.

All three link roads have been designed to permit the regular passage of buses, as illustrated in Figure 1. On-line bus stops are provided on both roads, in proximity to Stapolin Square and to the proposed bus ramp by Clongriffin railway station.

All other internal roads within the development are classed as local streets and primarily serve a local access function. These shall generally have a carriageway width of 5.5m, comprising one traffic lane in either direction, and shall also be flanked by 2.6m-wide footpaths. Along those sections of local streets on which dwellings are located, perpendicular on-street car parking spaces shall be arranged to either side of the road, between the carriageway and the footpath (see Figure 2).



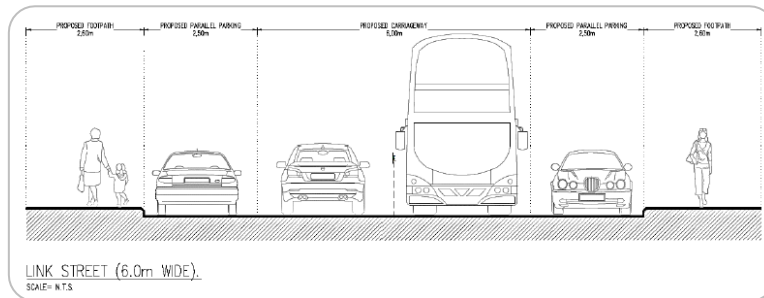
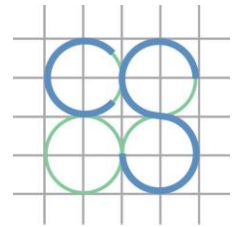


Figure 2 – Typical link road cross section (Red Arches Park/Longfield Road)

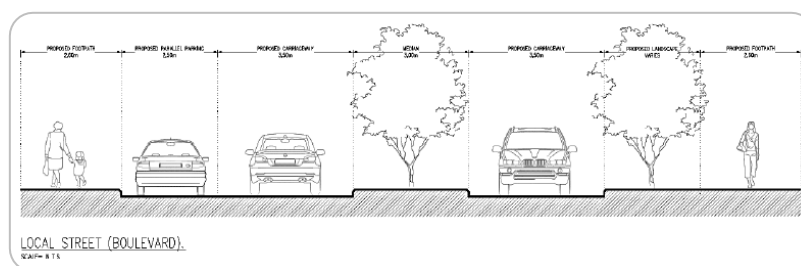


Figure 3 – Typical local street cross section (Stapolin Way)

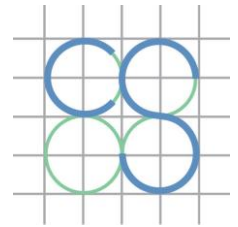
The provision of good permeability for pedestrians and cyclists, as well as efficient access to public transport, are all key objectives of the proposed site layout. The development layout ensures a high degree of pedestrian and cyclist permeability into and through the site. Pedestrian and cyclist access to the development shall be possible along the full length of the site's eastern and southern boundaries, as well as via the proposed bus ramp (and associated lift) to/from Clongriffin railway station at the site's western boundary. The development layout also allows for convenient future pedestrian and cyclist access to the lands north of the subject site, once these are developed.

Access to Clongriffin railway station for pedestrians and cyclists from the eastern side of the railway line is currently possible via lifts and stairs located within the subject site. As part of the proposed development, new lifts and stairs shall be provided at Stapolin Square, providing access to the railway station. The existing lifts and stairs shall be maintained in operation until such time as the proposed new lifts and stairs have been completed.

Raised pedestrian footpaths are provided along all internal roads within the development.

The objectives of the evolving site layout design are:

- to ensure ease of access for emergency services and for refuse collection and servicing operations;
- to encourage walking and cycling;
- to create short walking routes to shops, public transport, etc.;
- to create a safe, secure, and pleasant environment for people, particularly vulnerable road users (VRUs) such as children.



## **Road Alignments and Traffic Calming Measures**

All internal roads within the development have been designed for a vehicular traffic speed of 30km/h. Kerb radii at internal junctions have been restricted to a maximum of 4.5m, in order to discourage high vehicle speeds, except where larger radii are required to facilitate bus movements. At all internal road junctions, it has been ensured that forward visibility splays of at least 24m are achieved, in compliance with the Design Manual for Urban Roads and Streets (DMURS) requirements.

The presence of perpendicular and parallel on-street parking bays along significant portions of the internal road network shall have a natural traffic calming effect, as through traffic shall have to be alert to (and accommodate) parking manoeuvres into and out of these spaces. Kerb buildouts, which shall be provided at key points to prevent informal on-street parking, shall likewise perform a traffic calming function by forming a horizontal constraint to the carriageway.

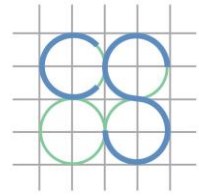
### **Niall Barrett**

Director

Chartered Civil & Traffic Engineer

B.Eng (Hons), CEng, M.I.E.I, Cert Health & Safety, Cert RSA

**for Cronin & Sutton Consulting**



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## Appendix B

### **Independent Quality Audit**



20117-02-001

**Proposed Residential Development  
at Baldoyle GA03**

**STAGE 1 QUALITY AUDIT  
(incorporating an access, cycling, walking  
and road safety audit)**

**for**

**CS Consulting**

**July 2021**

**ROADPLAN**  
CONSULTING

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## 1. INTRODUCTION

- 1.1 Roadplan Consulting has been commissioned by CS Consulting to carry out a Quality Audit of proposed residential development at Baldoyle (GA03)
- 1.2 The proposed development will consist of the development of 1,221 no. residential apartment/duplex dwellings in 11 no. blocks and will include residential tenant amenity, restaurant/cafe, crèche, car and bicycle parking, and public realm. A proposed new bus, cycle, pedestrian and taxi ramp to the south of the site and north of Stapolin Square provides access from Longfield Road to Clongriffin Train Station.
- 1.3 The subject development comprises the following principal elements:
- 1,221 no. apartments (including studios and duplex units);
  - a crèche with a gross floor area of 452m<sup>2</sup>; and
  - a café unit with a gross floor area of 205m<sup>2</sup>.
- 1.4 There are 669 no. car parking spaces in total in the development:
- 665 no. spaces for residents; and
  - 4 no. spaces for crèche staff
- 1.5 The development shall also initially include:
- 2,021 no. long-term bicycle parking spaces for residents;
  - 306 no. short-stay bicycle parking spaces for visitors; and
  - 6 no. bicycle parking spaces to serve the proposed crèche and café.
- 1.6 Areas within the external landscaping have been reserved for the potential future provision of 306 no. additional visitor bicycle parking spaces.
- 1.7 Vehicular and pedestrian access to the development shall be via the existing access roads serving the neighbouring established residential developments.

## 2. QUALITY AUDIT

- 2.1 Quality Audit is a defined process, independent of, but involving, the design team that, through planning, design, construction and management stages of a project provides a check that high quality places are delivered and maintained by all relevant parties, for the benefit of all end users. Quality Audit is a process, applied to urban roads, traffic management or development schemes, which systematically reviews projects using a series of discrete but linked evaluations and ensures that the broad objectives of place, functionality, maintenance and safety are achieved.
- 2.2 Quality Audit was introduced in the publication *Design Manual for Urban Roads and Streets* following concerns that in the design of new streets provisions made for motor vehicles frequently led to a poorly-designed public realm. In an urban area there is a high level of competing demand from different classes of road users. A well-balanced street will have minimal visual clutter and obstacles; it will use durable materials and most importantly, will encourage a degree of negotiation between road users as they make their way through it.
- 2.3 Quality Audit involves various assessments of the impacts of a street scheme in terms of road safety, visual quality and the use of streets by the community. Access for disabled people, pedestrians, cyclists and drivers of motor vehicles is considered.
- 2.4 In the context of a Quality Audit, road safety assessment is considered to be an appropriate method of examining road safety issues as it incorporates both the hazard identification techniques used in road safety audit and formal risk assessment techniques. This allows the opportunity at an early stage for road safety issues to be considered in a more dynamic way within the design process, and to ensure that safety issues are considered as part of the design rather than after design work is completed.
- 2.5 The Quality Audit Team reports findings with suggestions for future action. It should be noted that, in a Quality Audit, it is not the intention that suggestions would be binding on the design team; they are offered for detailed consideration in the design process.

### 3. METHODOLOGY

3.1 The Audit Team was as follows:

- George Frisby           Chartered Engineer MIEI  
Auditor Number GF51255
- Richard Frisby         BSc AEng MIEI.  
Auditor Number RF13337391

3.2 Road safety, non-motorised users, visual quality, access for disabled and functionality were considered in the Quality Audit. This exercise focused on issues such as:

- the design rationale as it related to vehicle, cycle and pedestrian movements;
- pedestrian desire lines both to and through the site;
- access requirements for all modes of transport;
- access requirements for disabled people and other vulnerable users;
- any road safety concerns associated with the scheme;
- the visual appearance of the scheme as it is experienced by those entering it and moving around within the street, including how this affects road user behaviour; and
- any other issues considered relevant to each constituent element of the Quality Audit process.

3.3 The documents provided for the audit were:

| Drawing number         | Rev | Drawing Title                      |
|------------------------|-----|------------------------------------|
| BD-CSC-ZZ-G3-DR-C-0126 | -   | Swept Path Analysis Refuse Vehicle |
| BD-CSC-ZZ-G3-DR-C-0127 | -   | Swept Path Analysis Refuse Vehicle |
| BD-CSC-ZZ-G3-DR-C-0128 | -   | Swept Path Analysis Car Park       |

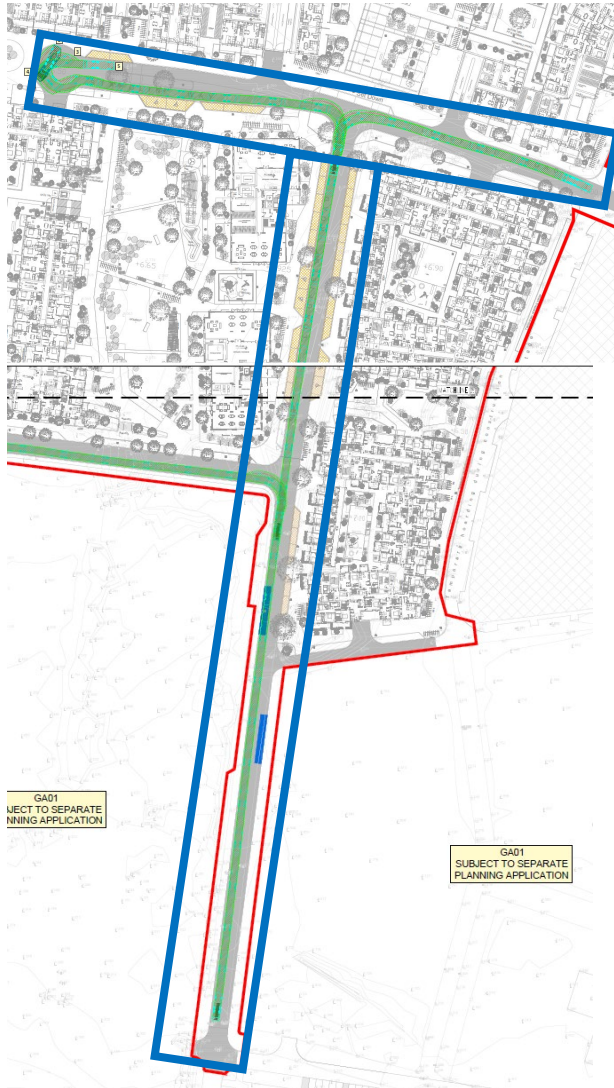
Copies of these audited drawings are contained in Appendix A.



## 4. KEY FINDINGS, SUGGESTED ACTIONS AND COMMENTS

### 4.1 Issue:

A number of the internal access roads within the proposed development are relatively long and straight. This may encourage high speeds on these sections of road which may increase collision risk.

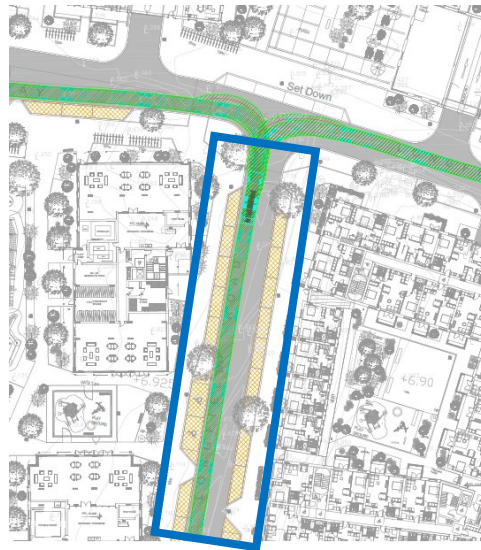


### Suggestion:

Provide speed reduction measures along these sections of road.

### 4.2 Issue:

There are no pedestrian crossing facilities provided to cater for pedestrians accessing the proposed footpath on the east and west side of Longfield Road. A lack of an adequate pedestrian crossing may contribute to a pedestrian collision at this location.



**Suggestion:**

Provide pedestrian crossing facilities to cater for the desired route for pedestrians.

**4.3 Issue:**

Priority at this junction is unclear and may cause confusion for drivers which may lead to a collision at this location.



**Suggestion:**

Priority at the junction should be clearly defined.

**4.4 Issue:**

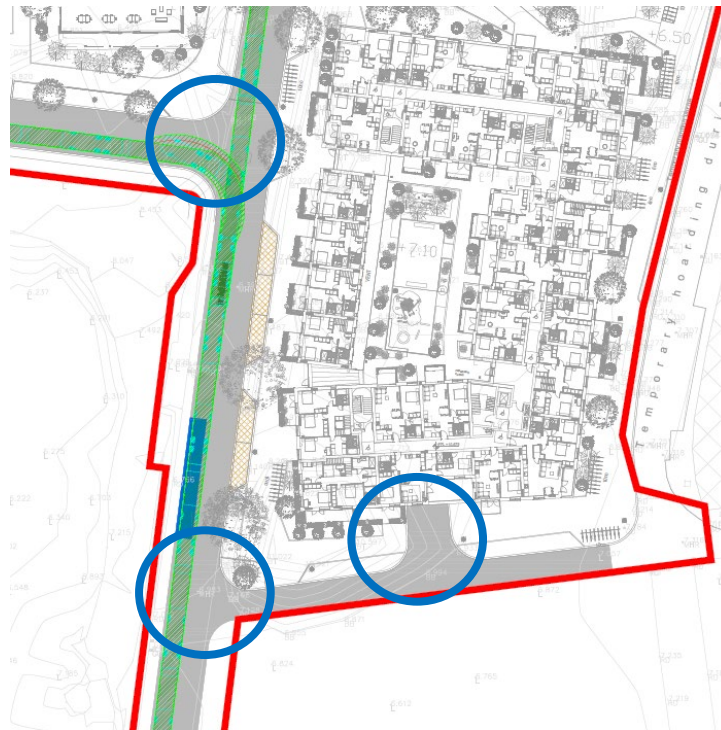
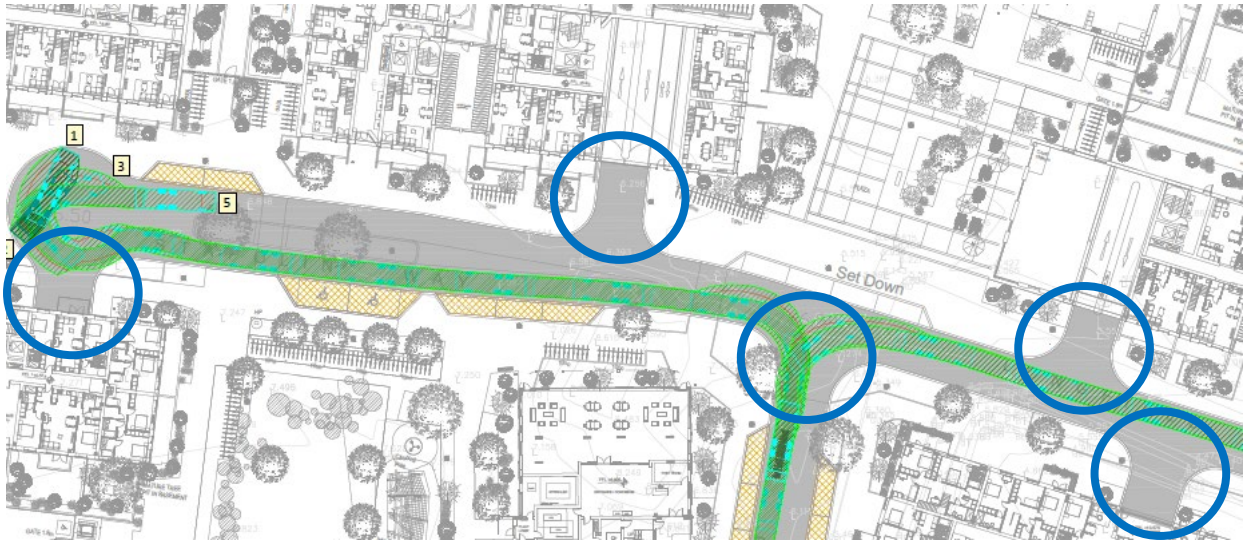
Crossing facilities such as dropped kerbs and tactile paving are not shown to be provided within the proposed development. A lack of an adequate pedestrian crossing may contribute to a pedestrian stepping out onto the carriageway at an unsafe location which may increase the risk of a collision between and pedestrian and drivers of vehicles.

**Suggestion:**

Provide tactile paving and dropped kerbs at all crossing location to cater for the desired route for pedestrians.

**4.5 Issue:**

No junction control is proposed at the internal junction and the exits from the underground car park. This may lead to collisions at the junction as priority at these junctions may be unclear.

**Suggestion:**

Provide adequate junction control to clearly define vehicular priority at these junctions.

4.6 Issue:  
Bicycle parking is provided throughout the proposed development. However it is unclear how a cyclist's can safely access the bicycle spaces from the proposed internal carriageway.

Suggestion:

Ensure provisions are provided to allow cyclists to access the bicycle parking.

4.7 Issue:

It is unclear from the drawings provided if adequate footpath widths are provided throughout the development to enable access to all parts of the development. A lack of adequate footpath width may restrict access to certain parts of the development to mobility impaired pedestrians.

Suggestion:

Ensure that adequate footpath width is provided throughout.

4.8 Issue:

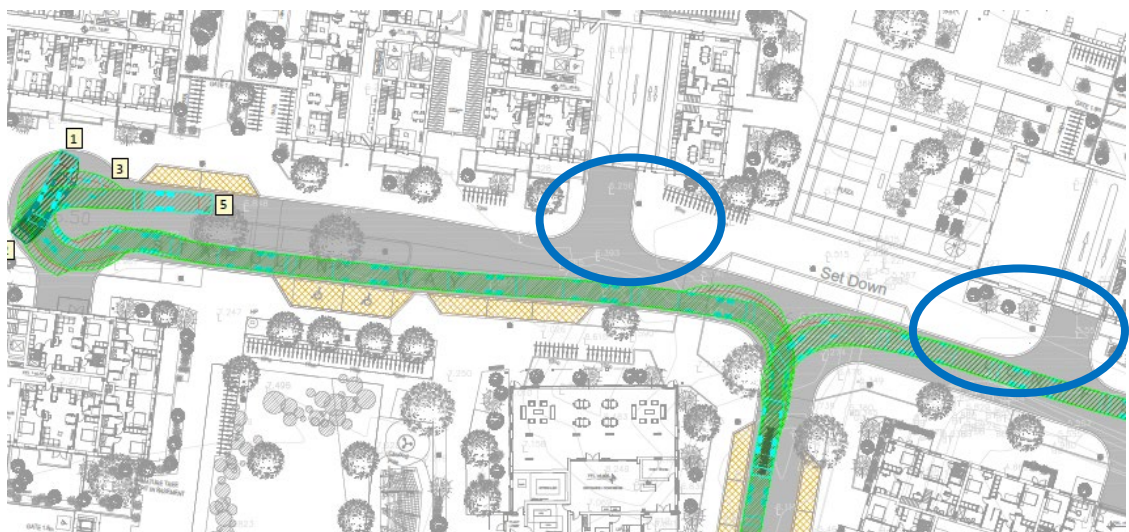
Street lighting is not shown to be provided within the proposed development. Road safety would be enhanced with the provision of street lighting.

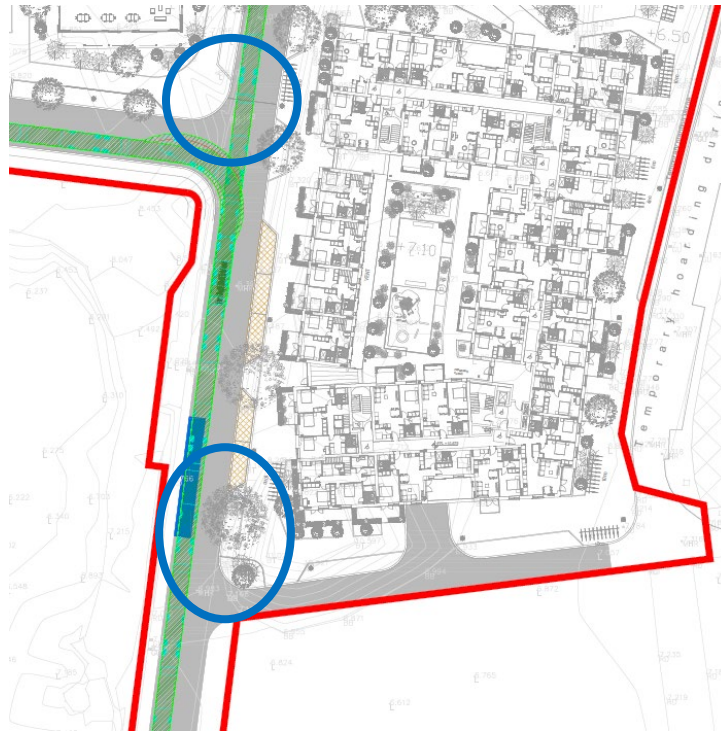
Suggestion:

Provide adequate street within the proposed development.

4.9 Issue:

Visibility splays at a number of junctions may be restricted by vehicles parked in the proposed parking spaces close to the junction. A lack of adequate visibility may contribute to a turning collision at these locations.



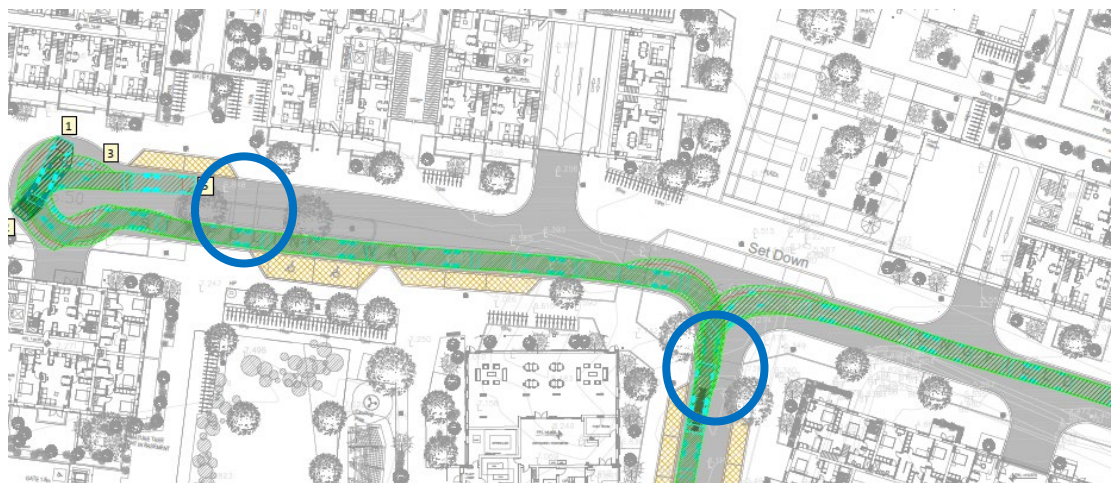


**Suggestion:**

Ensure adequate visibility splays in accordance with section 4.4.5 of the DMURS are provided.

**4.10 Issue:**

A number of pedestrian crossings are proposed adjacent to car parking spaces. However, it is unclear whether adequate inter-visibility is provided between drivers of vehicles approaching the pedestrian crossings and a pedestrian stopped waiting to cross at the pedestrian crossings. A lack of adequate inter-visibility may contribute to a collision at these locations.



**Suggestion:**

Ensure adequate inter-visibility is provided between drivers of vehicles approaching the pedestrian crossing and pedestrians stopped waiting to cross.

**4.11 Issue:**

Two-number on-street bus parking bays are provided along Longfield Road. Pedestrians will be required to cross the carriageway in order to access the bus stops. However, the exact location of the pedestrian crossing locations is not indicated on the drawings provided. Inter-visibility between drivers of vehicles approaching the pedestrian crossing along Longfield Road and a pedestrian stopped waiting to cross at the pedestrian crossings may be obstructed when a bus is stopped at the bus stop if the pedestrian crossing location is too close to the bus stops. A lack of adequate inter-visibility may contribute to a pedestrian collision at these locations.

**Suggestion:**

Care should be taken in locating the positions of the pedestrian crossing locations so as to ensure visibility splays are provided at the pedestrian crossings.

**4.12 Issue:**

It is unclear from the drawings provided if adequate pedestrians/cycle links will be provided from the surrounding existing footpath/cyclepath network to the proposed development. A lack of adequate pedestrian/cycle links to the proposed development may contribute to a collision.

**Suggestion:**

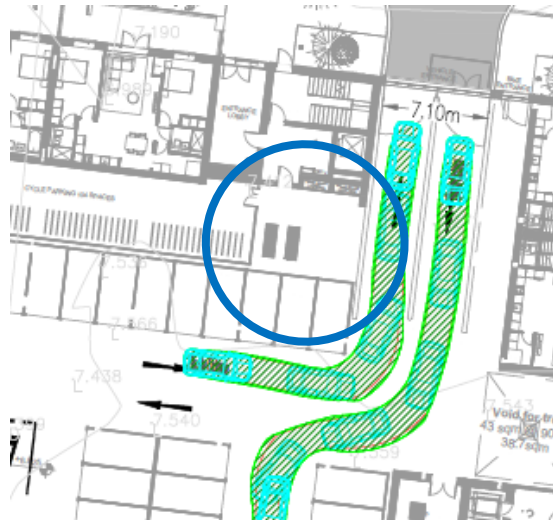
Ensure that adequate pedestrian/cycle links are provided from the surrounding existing footpath/cyclepath network to the proposed development.

### Basement Carpark

4.13 Issue:

There are a number of locations within the basement car park where access to the stairwell may be too narrow and vulnerable pedestrians may have difficulty accessing these stairwells as a result of vehicles parked in the proposed parking space.





**Suggestion:**

Ensure adequate width is provided at these locations to cater for vulnerable pedestrians.

**4.14 Issue:**

There are a number of locations within the basement carpark where visibility at the internal junctions may be restricted by vehicles parked in car parking spaces adjacent to the junction. A lack of adequate visibility may contribute to a side impact collision at these locations.



**Suggestion:**

Ensure that adequate visibility is provided at all locations.



**4.15 Issue:**

Pedestrian routes to and from stairwells and lift shafts are not clearly defined within the underground car park.

**Suggestion:**

Appropriate signs and markings should be provided to direct pedestrians to the nearest exit.

**4.16 Issue:**

No charging points for electric vehicles have been identified within the scheme extents. Over the coming years electric vehicles will become the norm and provision should be made for this at this time.

**Suggestion:**

Consideration should be given at this time to ensure that nothing in the design prevents extending the number charging points for electric vehicles, as may be required in the future.

# QUALITY AUDIT FEEDBACK FORM

**Scheme:** Proposed Residential Development at Baldoyle GA03

**Audit Reference No.:** 20117-02-001

**Date Audit Completed:** 19<sup>th</sup> March 2021

| Paragraph No. in Safety Audit Report | To Be Completed By Designer |                                       |   | To Be Completed by Audit Team Leader                          |
|--------------------------------------|-----------------------------|---------------------------------------|---|---|
|                                      | Problem accepted (yes/no)   | Recommended measure accepted (yes/no) | Describe alternative measure(s). Give reasons for not accepting recommended measure.<br>Only complete if recommended measure is not accepted. | Alternative measures or reasons accepted by auditors (yes/no) |
| 4.1                                  | Yes                         | Yes                                   | -----   | -----   |
| 4.2                                  | Yes                         | Yes                                   | -----   | -----   |
| 4.3                                  | Yes                         | Yes                                   | -----   | -----   |
| 4.4                                  | Yes                         | Yes                                   | -----   | -----   |
| 4.5                                  | Yes                         | Yes                                   | -----   | -----   |
| 4.6                                  | Yes                         | Yes                                   | -----   | -----   |
| 4.7                                  | Yes                         | Yes                                   | -----   | -----   |
| 4.8                                  | Yes                         | Yes                                   | -----   | -----   |
| 4.9                                  | Yes                         | Yes                                   | -----   | -----   |
| 4.10                                 | Yes                         | Yes                                   | -----   | -----   |
| 4.11                                 | Yes                         | Yes                                   | -----   | -----   |
| 4.12                                 | Yes                         | Yes                                   | -----   | -----   |
| 4.13                                 | Yes                         | Yes                                   | -----   | -----   |
| 4.14                                 | Yes                         | Yes                                   | -----   | -----   |
| 4.14                                 | Yes                         | Yes                                   | -----   | -----   |
| 4.16                                 | Yes                         | Yes                                   | -----   | -----   |

Signed  ..... Design Team Leader Date 07.07.2021

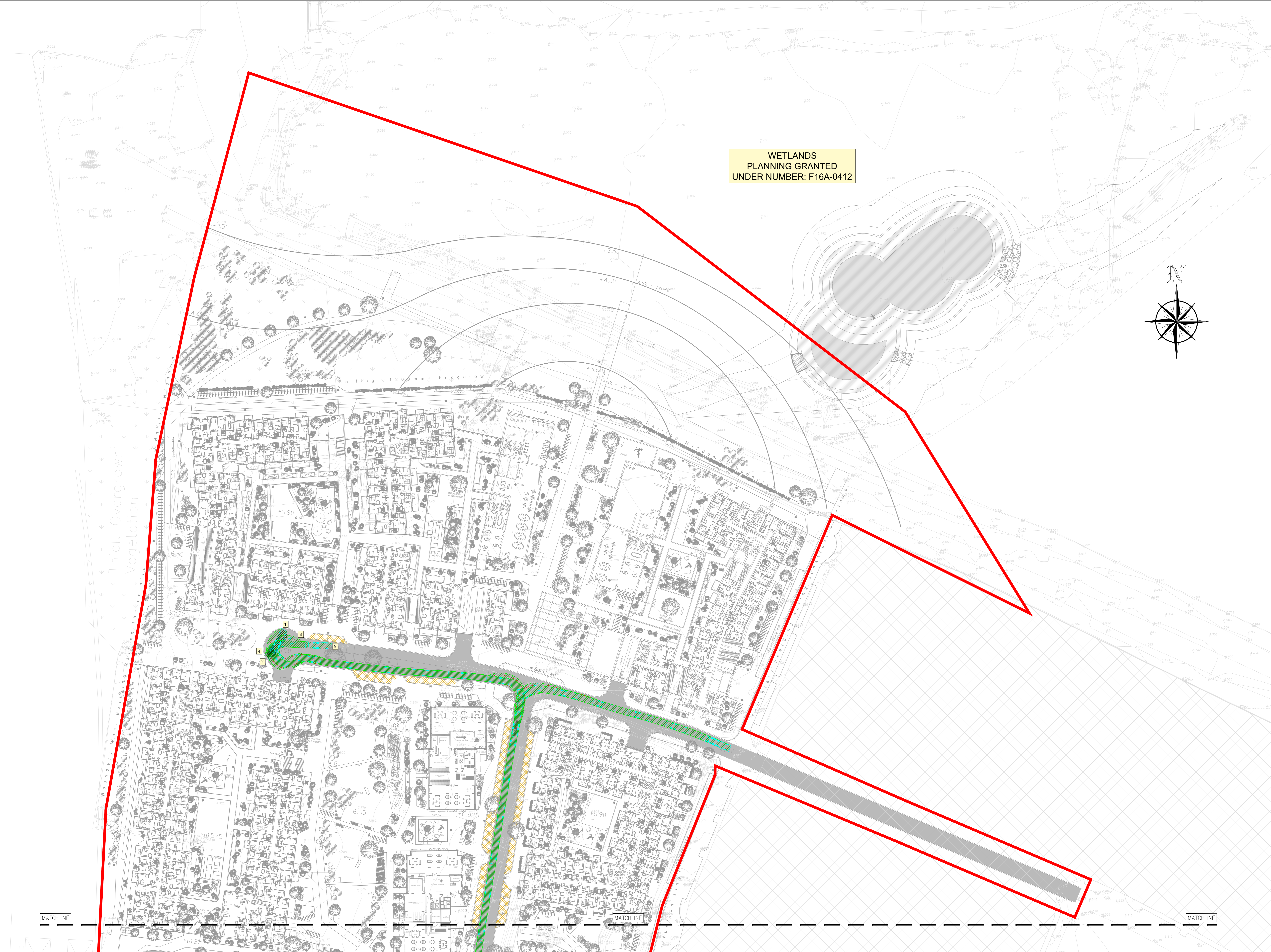
Print Name Gordon Finn .....

Quality Audit Signed off  ..... Audit Team Leader Date 7/7/21

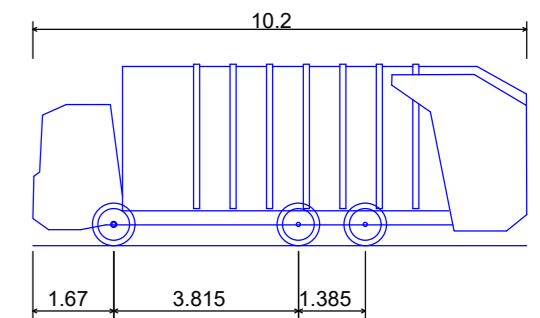
Print Name George Frisby .....

Please complete and return to: Roadplan Consulting Ltd.  
7, Ormonde Road  
Kilkenny  
Email: info@roadplan.ie

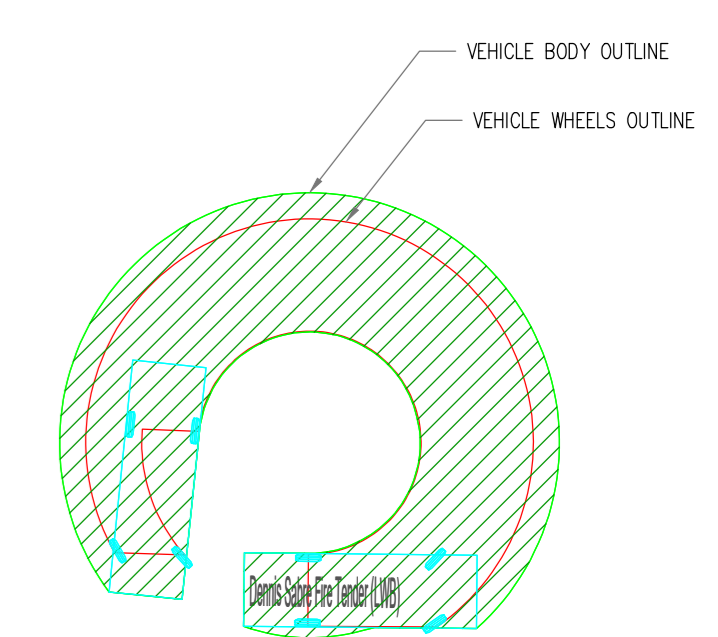
## **Appendix A - Drawings**



WETLANDS  
PLANNING GRANTED  
UNDER NUMBER: F16A-0412



Phoenix 2 Duo (P2-12W with Elite 6x4 chassis)  
Overall Length 10.200m  
Overall Width 2.530m  
Overall Body Height 3.751m  
Min Body Ground Clearance 0.304m  
Track Width 2.500m  
Lock-to-lock time 4.00s  
Curb to Curb Turning Radius 7.800m



SWEPT PATH PLAN.



MATCHLINE

MATCHLINE

R060

**PLANNING DRAWING.**  
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- NOTES**
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  - This drawing to be read in conjunction with all other Architectural and Engineering drawings and all other relevant drawings and Specifications.
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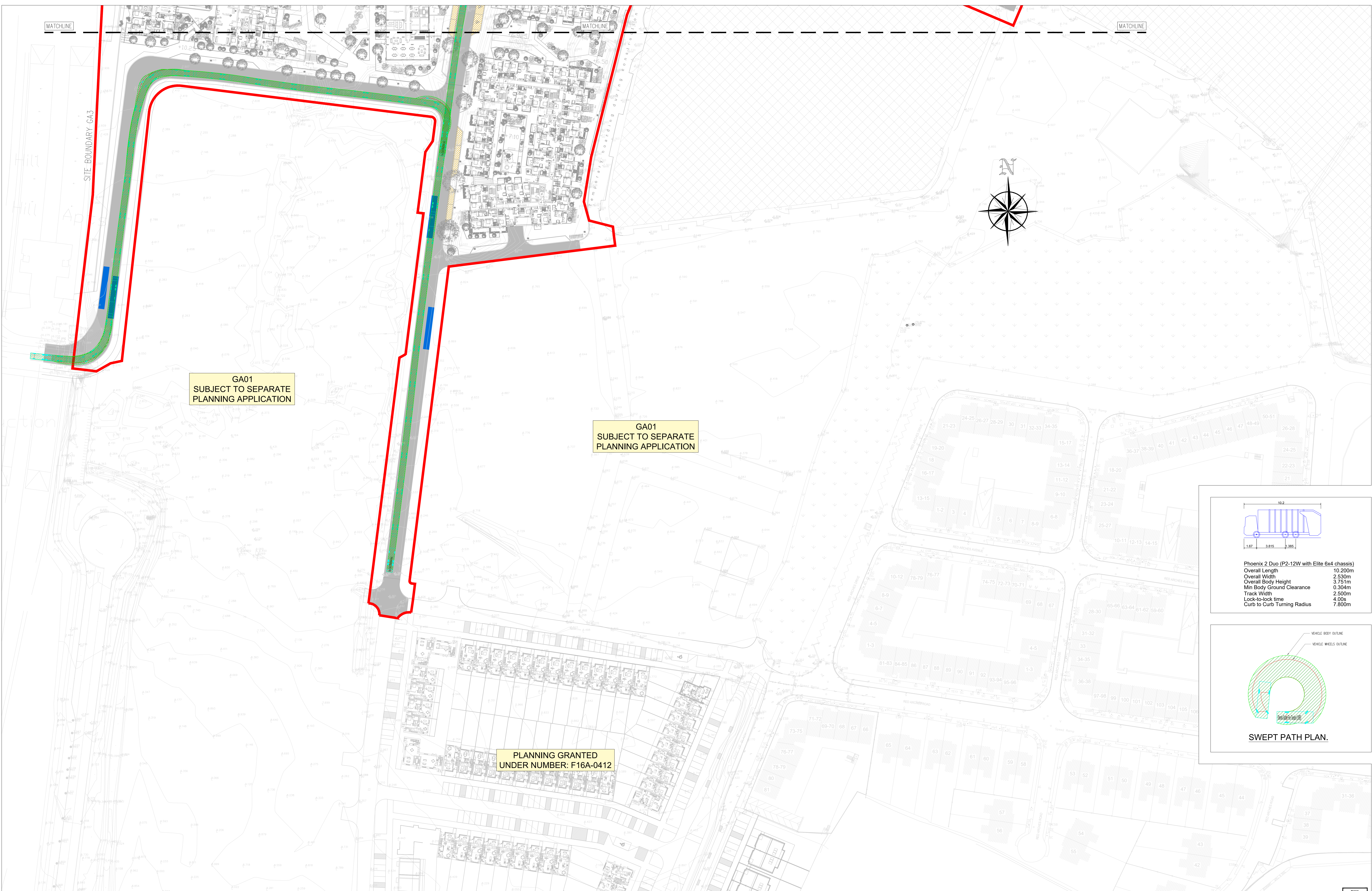
| Rev No. | Date | REVISION/NOTE | Drawn By | Checked By |
|---------|------|---------------|----------|------------|
|         |      |               |          |            |

|             |   |
|-------------|---|
| Architect   | Henry J. Lyons  |
| Project     | GA03 Project Shoreline, Baldoyle.                     |
| Title       | SWEPT PATH ANALYSIS<br>REFUSE VEHICLE<br>SHEET 1 OF 2 |
| Dep. No.    | BD-CSC-ZZ-G3-DR-C-0126                                |
| Date        | 13.10.2020  |
| Drawn by    | JS  |
| Checked by  | NB  |
| Approved by | OS  |
| Scale       | 1:500 (A3)  |
| Revision    |   |

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w: www.csconsulting.ie

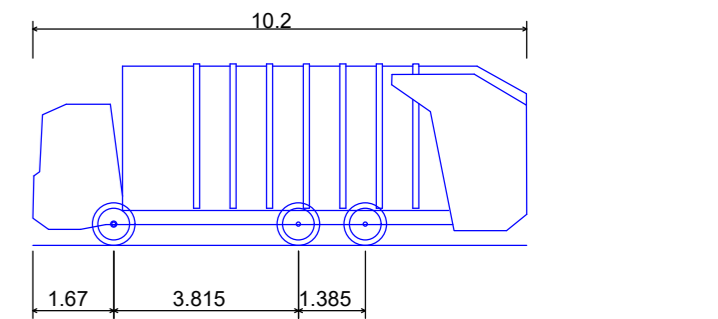
Quality Management ISO 9001:2008  
Health & Safety ISO 14001:2004  
NSAI Certified



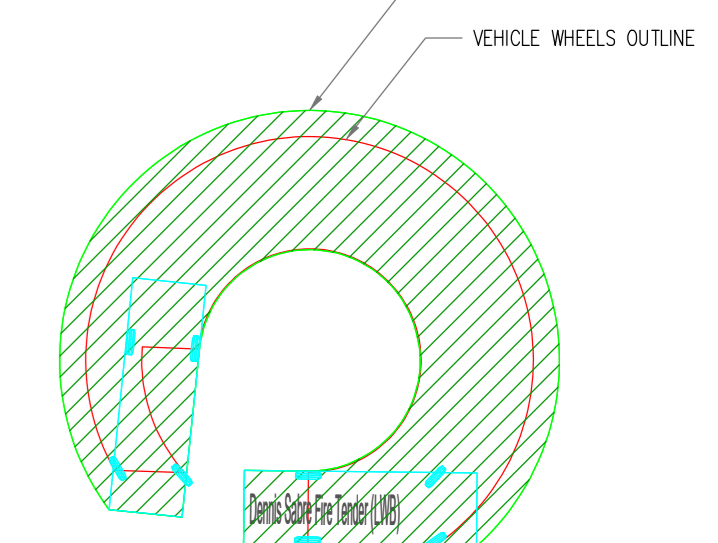
GA01  
SUBJECT TO SEPARATE  
PLANNING APPLICATION

GA01  
SUBJECT TO SEPARATE  
PLANNING APPLICATION

PLANNING GRANTED  
UNDER NUMBER: F16A-0412



Phoenix 2 Duo (P2-12W with Elite 6x4 chassis)  
 Overall Length 10.200m  
 Overall Width 3.751m  
 Overall Body Height 2.530m  
 Min Body Ground Clearance 0.304m  
 Track Width 2.500m  
 Lock-to-lock time 4.00s  
 Curb to Curb Turning Radius 7.800m



SWEPT PATH PLAN.

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|             |   |
|-------------|---|
| Architect   | Henry J. Lyons  |
| Project     | GA03 Project Shoreline, Baldoye.                      |
| Title       | SWEPT PATH ANALYSIS<br>REFUSE VEHICLE<br>SHEET 2 OF 2 |
| Drawn By    | BD-CSC-ZZ-G3-DR-C-0127                                |
| Date        | 13.10.2020  |
| Drawn By    | JS  |
| Checked By  | NB  |
| Approved By | CS  |
| Scale       | 1:500 @A0   |
| Revision    |   |

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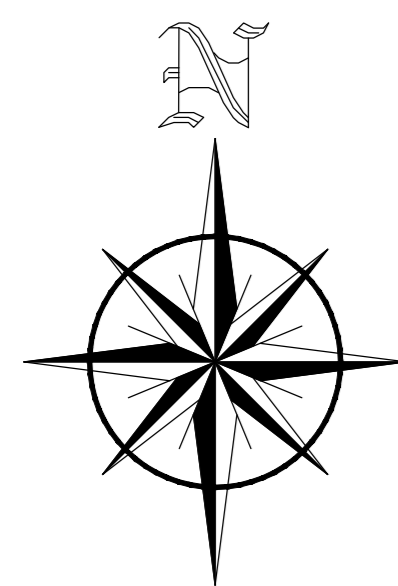
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 e: info@csconsulting.ie  
 w: www.csconsulting.ie

Quality  
 ISO 9001:2008

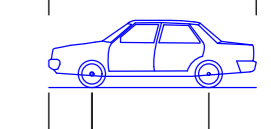
Health & Safety  
 ISO 45001:2018

CS Logo

R090



**LEGEND:**  
SITE BOUNDARY —

4.572  
  
 0.951 2.578  
 Skoda Octavia  
 Overall Length 4.572m  
 Overall Width 1.768m  
 Overall Body Height 1.488m  
 Min Body Ground Clearance 0.248m  
 Max Track Width 1.713m  
 Lock-to-lock time 6.02s  
 Curb to Curb Turning Radius 5.100m

**WETLANDS  
 PLANNING GRANTED  
 UNDER NUMBER: F16A-0412**

Thick Overgrown  
 Vegetation

**GA01  
 SUBJECT TO SEPARATE  
 PLANNING APPLICATION**

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|         |      |               |          |            |
|         |      |               |          |            |
|         |      |               |          |            |

|             |                                  |
|-------------|----------------------------------|
| Architect   | Henry J. Lyons                   |
| Project     | GA03 Project Shoreline, Baldoye. |
| Title       | SWEPT PATH ANALYSIS CARPARK      |
| Drawn By    | BD-CSC-ZZ-G3-DR-C-0128           |
| Date        | 13.10.2020                       |
| Drawn By    | JS                               |
| Checked By  | NB                               |
| Approved By | CS                               |
| Scale       | 1:500 @A0                        |
| Revision    |                                  |

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R030