

CS CONSULTING  
GROUP

LIMERICK  
LONDON  
DUBLIN

## Road Infrastructure Design Report

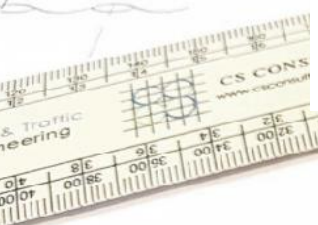
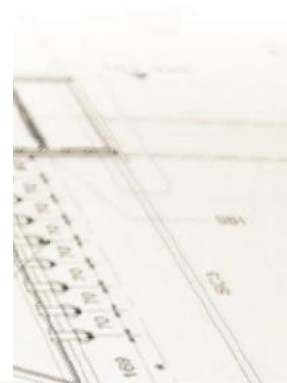
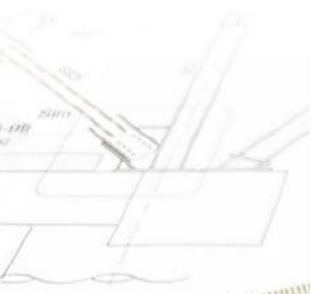
### Park West SHD

### Park West Avenue and Park West Road, Park West, Dublin 12

Client: Greenseed Limited

Job No. H085

December 2021







**ROAD INFRASTRUCTURE DESIGN REPORT**

**PARK WEST SHD**

**PARK WEST AVENUE AND PARK WEST ROAD, PARK WEST, DUBLIN 12**

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**Appendix A:** DMURS Statement

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## 1.0 INTRODUCTION

Cronin & Sutton Consulting Engineers (CS Consulting) have been commissioned by Greenseed Limited to prepare a Road Infrastructure Design Report to accompany a planning application for a proposed Strategic Housing Development (SHD) on a site at Park West Avenue and Park West Road, Park West, Dublin 12.

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

- Dublin City Development Plan 2016–2022
- Park West - Cherry Orchard Local Area Plan 2019
- Design Manual for Urban Roads and Streets (DMURS) 2019
- The Institution of Structural Engineers (IStructE) Design Recommendations for Multi-Storey and Underground Car Parks (2011)

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 site of the proposed development is located in Dublin 12, immediately to the north-east of the existing Park West development, approximately 400m to the east of the M50 motorway (between junctions 7 and 9), and immediately to the east of Park West & Cherry Orchard railway station. The development site has a gross area of approx. 9.4ha and is located in the operational area of Dublin City Council (DCC).

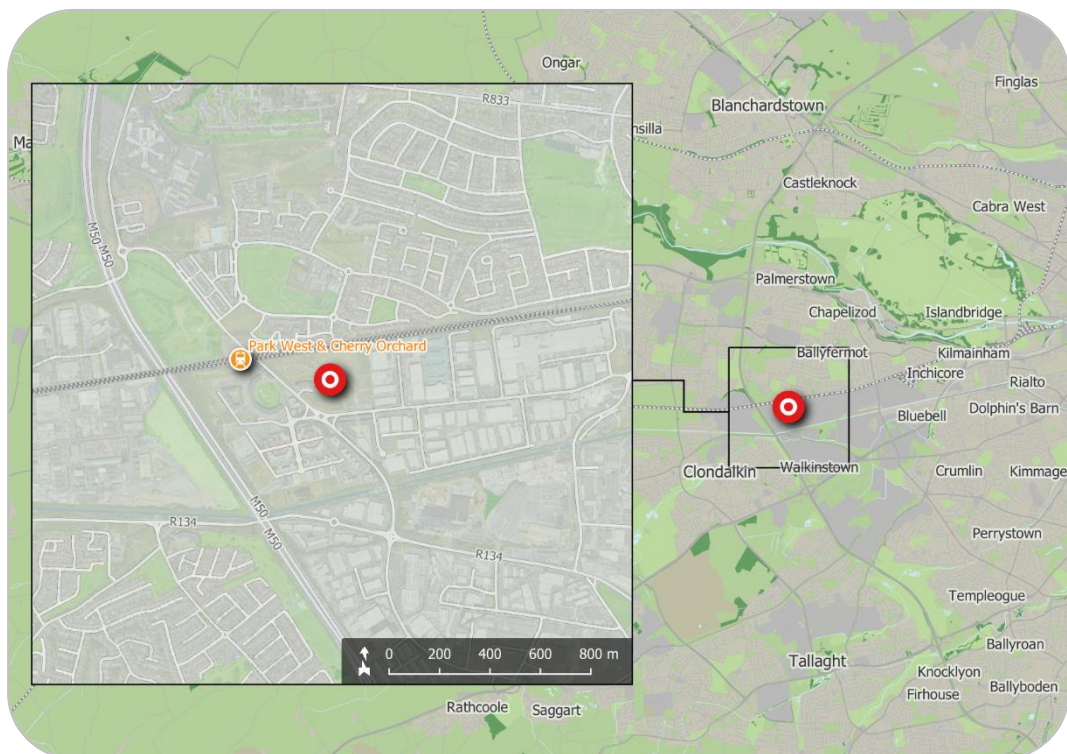


Figure 1 – Location of proposed development site  
(map data and imagery: EPA, OSi, OSM Contributors, Google)

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 to the north by the Dublin-Kildare railway line, to the east by an existing industrial estate, to the south by Park West Road (along a road frontage of approx. 180m), and to the west by Park West Avenue (along a road frontage of approx. 300m).

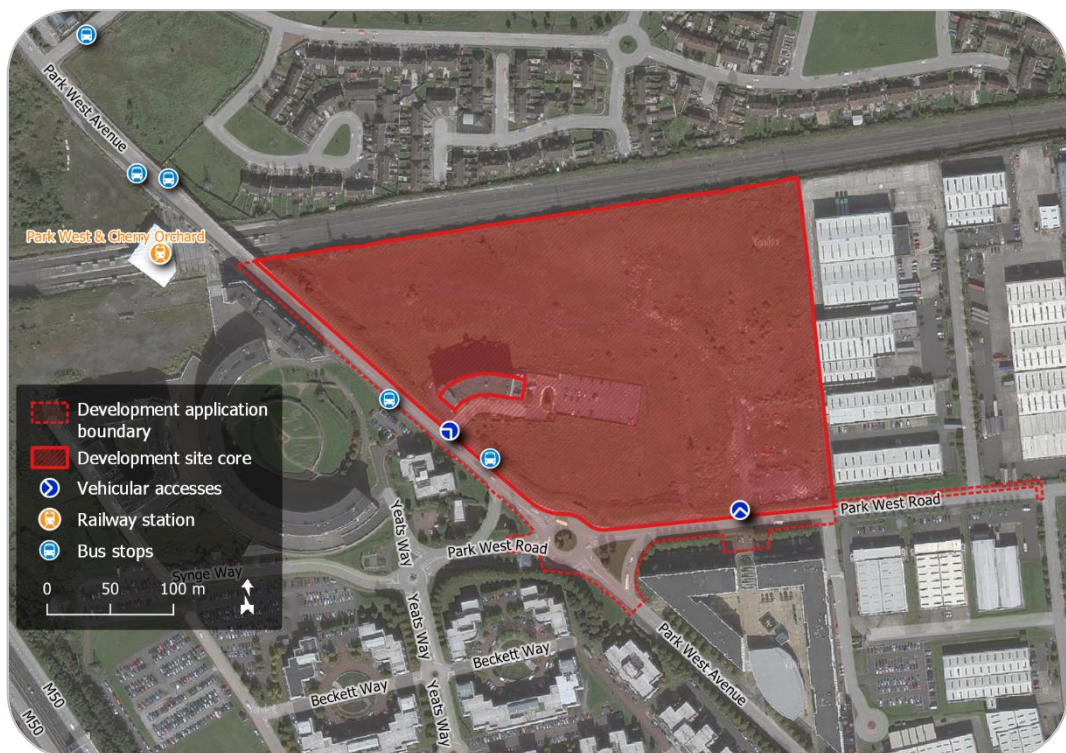


Figure 2 – Site extents and transport context  
(map data and imagery: NTA, OSi, OSM Contributors, Yandex)

## 2.2 Existing Land Use

The site of the proposed development is predominantly greenfield and has never been fully developed. The car park and access road of the existing Aspect Hotel form part of the development site, though the hotel building itself is excluded from the development application boundary. Limited vehicular traffic is currently generated by the Aspect Hotel, the existing access to which shall also serve as one of the proposed development's 2no. vehicular access junctions.



## 2.3 Description of Proposed Development

The proposed development (70,649 sqm gross floor area - GFA) will consist of:

- 750no. residential units (Blocks A to G) comprising a mix of one, two and three bed apartments and all associated ancillary accommodation (69,989sqm GFA)
- Non-residential uses (705sqm GFA) including a retail unit, a creche community space, café/ bar.

The proposed development is described below on a block-by-block basis.

- Block A (11,563sq.m GFA): - A 2 to 15 storey with 109no. residential units and 1no. retail/ commercial unit of 156sq.m.
- Block B (4,180sq.m GFA): - A 2 to 8 storey block with 44no. residential units and resident services and amenities of 84sq.m.
- Block C (8,865sq.m GFA): - A 2 to 8 storey block with 100no. residential units.
- Block D (16,403sq.m GFA): - A 2 to 8 storey block with 179no. residential units in. Residential services and amenities of 403sq.m are proposed at ground, first and second floor levels.
- Block E (15,995sq.m GFA): - A 2 to 8 storey block with 179no. residential units.
- Block F (9,629sq.m): - A 2 to 8 storey block with 99no. residential units.
- Block G (4,059sq.m): - A 1 to 8 storey block with 40no. apartments, a creche of 410sq.m with associated external play area, a café/ bar unit of 91sq.m and a community space of 48sq.m.
- Public Open Space: - c.1.3ha (16%) of public open space is provided and comprises a linear park orientated west to east and functioning as a link to the established residential areas to the west of Park West



Avenue and a public plaza/ square including Multi-Use Games Area (MUGA) located centrally within the site.

- Communal Amenity Space: - Communal amenity spaces totalling 6,175sq.m are provided at podium level within each of the proposed Blocks A to F and at roof levels within Block G and include passive open spaces that are visually and functionally accessible to the future residents of the development.
- Private Open Spaces: - Will be in the form of balconies for the apartments and duplexes and terraces for ground floor units.

Vehicular access to serve the proposed development will be provided via access roads off Park West Road and Park West Avenue. Tie-in works are required to Park West Avenue and Park West Road to provide for suitable junctions and pedestrian crossings at the proposed access points.

In addition to pedestrian and cycle access at the above two locations there will be a pedestrian and cycle access at the north western corner of the site adjoining Park West Avenue and providing access to the proposed west to east street along the northern boundary of the site. This access to Park West Avenue will facilitate safe and efficient access for pedestrians and cyclists to Park West and Park West - Cherry Orchard Train Station located directly to the north west across Park West Avenue.

Car parking is provided at ground floor/ undercroft level beneath Blocks A, B, C, D, E and F and at street level. A total of 487no. car parking spaces are proposed including 482no. residential car parking spaces at ratio of 0.64 per residential unit. The remaining 5no. car parking spaces will serve the proposed non-residential uses.

An additional 70no. car parking relating to the existing Aspect Hotel are included within the current application site. The Aspect Hotel is a pre-existing building located centrally within the site. Permission was granted for



an extension to this hotel in February 2019 (Reg. Ref. 3436/18). Condition 3 attached to Reg. Ref. 3436/18 addresses a legacy issue relating to the Aspect Hotel car park which is located on the site of the proposed Block G. The current application provides for the relocation of the hotel car park to facilitate the development of Block G. It is proposed that the car parking (totalling 70no. spaces) to serve the hotel will be located beneath Blocks A-B-C (36no. spaces) and at street level to the south of the existing Aspect Hotel (34no. spaces).

A total of 1,276 cycle parking spaces are proposed. The cycle parking is provided at ground floor/ undercroft level beneath Blocks A to F to serve the proposed residential units and integrated into the public realm at street level for visitors.

The residual lands within Site 6, identified as development Stages 2 and 3, are sites for future development and will be seeded/ grassed and fenced until such time as development proposals for those sites are advanced. The Stage 2 lands include a site for a proposed school as identified within the LAP and to be brought forward by the Department of Education and Skills.

Permission is also sought for associated hard and soft landscaping, boundary treatments and all associated site and development works.



### **3.0 ROAD INFRASTRUCTURE DESIGN**

The objectives of the development's 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:

- Dublin City Development Plan 2016–2022
- 2019 DCC Park West- Cherry Orchard Local Area Plan
- Traffic Signs Manual 2019
- DN-GEO-03060: Geometric Design of Junctions
- National Cycle Manual 2011

#### **3.1 Road Classification**

The existing Park West Road and Park West Avenue, in the vicinity of the development, are arterial streets 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

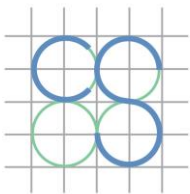


Figure 3.3: FUNCTION AND THE IMPORTANCE OF MOVEMENT

HIGHER



ARTERIAL STREETS



These are the major routes via which major centres/nodes are connected. They may also include orbital or cross metropolitan routes within cities and larger towns.



LINK STREETS



These provide the links to Arterial streets, or between Centres, Neighbourhoods, and/or Suburbs.



LOCAL STREETS



These are the streets that provide access within communities and to Arterial and Link streets.

LOWER

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

Based on the above, there are 3no. local streets within the proposed development:

- The primary north south aligned street which originates at Park West Road access and connects the other two streets within the development.
- An east west street which originates at Park West Avenue and connects to the primary north south street.
- An east west street at the northern perimeter of the development which connects the primary north south street to the undercroft parking entrances, this road also has a small north south section at the north east corner of the development, connected solely to an undercroft parking area.

Table 3.1 of DMURS, reproduced in **Figure 4** below, outlines how road hierarchy terminology used in DMURS relates to other relevant publications.

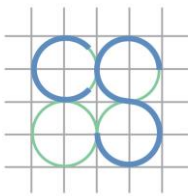
DMURS Description	Roads Act/ DN-GEO-03031	Traffic Management Guidelines	National Cycle Manual
Arterial	National	Primary Distributor Roads	Distributor
Link	Regional (see note 1)	District Distributor Local Collector (see Notes 1 and 2)	Local Collector
Local	Local	Access	Access

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



### 3.2 Road Design Speeds

Park West Road and Park West Avenue are existing arterial streets with a posted speed of 50km/h.

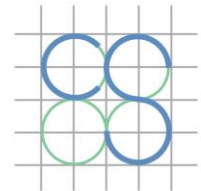
All internal roads within the development have been designed for a max vehicular traffic speed of 30km/h in order to prioritise movement of vulnerable road users. In accordance with DMURS, kerb radii at internal junctions have been restricted to a maximum of 4.0m, in order to discourage high vehicle speeds.

		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/ INDUSTRIAL	RURAL FRINGE
		CONTEXT				

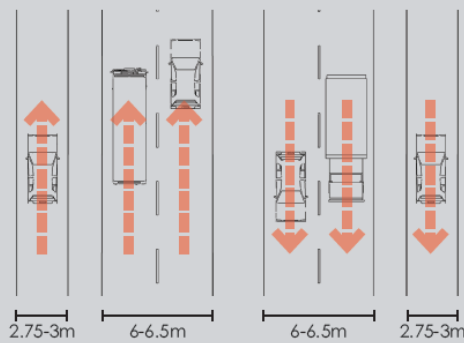
Figure 5 – Design Speed Selection Matrix  
(source: Design Manual for Urban Roads and Streets)

### 3.3 Road Cross-Section

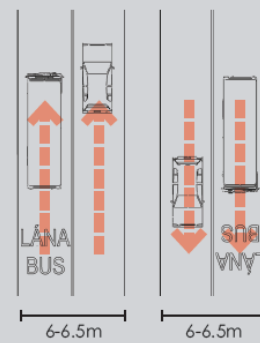
The road carriageway widths within the development have been determined in accordance with DMURS. Local streets within the subject development shall have a typical carriageway width of 5.5m, comprising one traffic lane in either direction, and shall include the provision of a minimum 2.0m-wide pedestrian footpath. A lane width of 3.0m was chosen in accordance with Figure 4.55 of DMURS so as the streets within the development will comfortably carry a moderate amount of traffic. Refer to section 4.2 for a detailed description of internal road cross sections within the development.



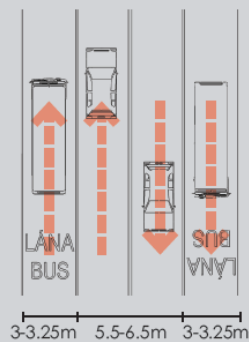
**FIGURE 4.55: CARRIAGEWAY WIDTHS**  
(note: Illustrations do not include cycle facilities)



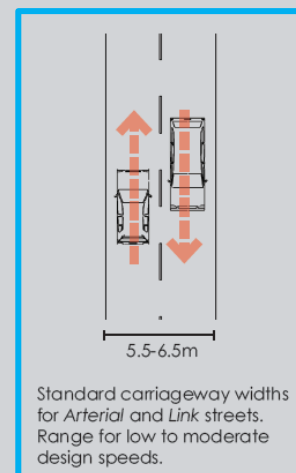
Carriageway widths for heavily-trafficked *Arterial* and *Link* streets in boulevard configuration. Main carriageway suitable for moderate design speeds. Includes access lanes with a lower design speed.



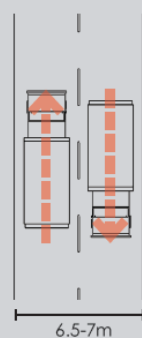
Standard carriageway widths for multi lane *Arterial* and *Link* streets in boulevard configuration, including bus lanes.



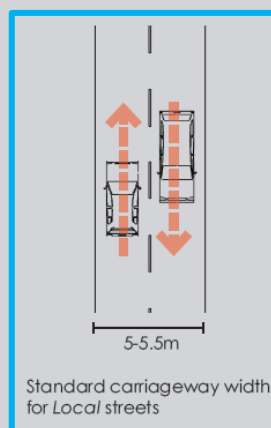
Standard lane/carriageway widths for multi lane *Arterial* and *Link* streets, including bus lanes. Range for low to moderate design speeds.



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 6 – 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 minimum footpath width of 2.0m along all internal roads within the proposed development to allow desirable space for two people to pass comfortably in areas of low pedestrian activity.

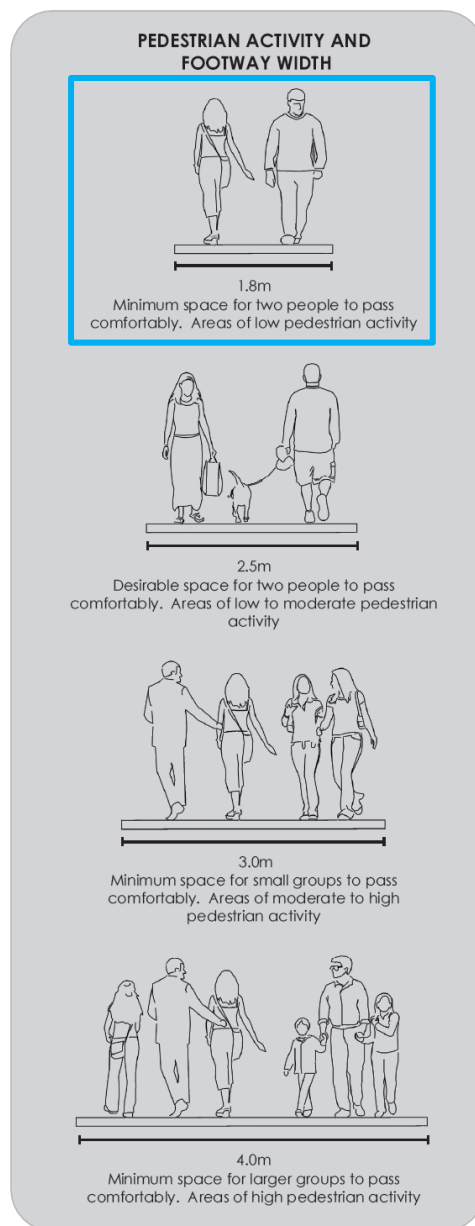


Figure 7 – Recommended footpath width  
(source: Design Manual for Urban Roads and Streets)

### 3.5 Undercroft Car Parking

The layout of the undercroft car parking areas within the proposed development has 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>	–

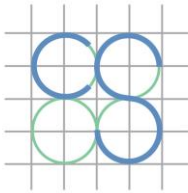
**Notes**

- 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 8 – Car bay dimensions

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

A minimum width of 6.6m is provided for sections of 2-way circulation aisle from which parking spaces are accessed. 17no. disabled-accessible spaces are provided within the undercroft car parks; a minimum vertical clearance of 2.6m is maintained at these spaces and along their approach



routes, as required by the *Design Recommendations for Multi-Storey and Underground Car Parks*.

Refer to CS Consulting drawing no. **PWT-CSC-XX-XX-DR-C-0021** (Road Layout) for development undercroft 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. The development's access junctions and internal junctions 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.



## 4.0 DEVELOPMENT LAYOUT, PEDESTRIANS AND CYCLISTS



Figure 9 – Development layout and access provisions  
(map data & imagery: Murray & Associates, NTA, OSi, OSM Contributors, Yandex)

### 4.1 Development Access

Vehicular access to the proposed development from the surrounding public road network shall be via 2no. access junctions (see **Figure 9**):

- the existing Aspect Hotel access junction on Park West Avenue, at the site's western boundary, which shall be upgraded to a signal-controlled junction; and
- a new access junction on Park West Road, at the site's southern boundary, which shall also be configured as a 3-arm signal-controlled junction.

The minor arm of each development access junction shall have a carriageway width of 6.0m, allowing 2-way traffic flow into and out from



the development. Maximum kerb radii of 6.0m are provided at these junctions, to discourage excessive vehicle speeds on entry to or exit from the development.

In accordance with the requirements of the *Design Manual for Urban Roads and Streets* (DMURS), unobstructed sightlines of 49m in either direction along Park West Avenue and Park West Road are ensured for vehicles exiting the development at either access junction, measured from a setback of 2.4m behind the major carriageway edge. Raised tables are provided at both access junctions, both to ensure low vehicle speeds and to emphasise pedestrian and cyclist priority across the mouth of the junction.

For further details of the development's vehicular access arrangements, refer to the following CS Consulting drawings:

- **PWT-CSC-XX-XX-DR-C-0021** (Road Layout)
- **PWT-CSC-XX-XX-DR-C-0025** (Road Markings & Signage)
- **PWT-CSC-XX-XX-DR-C-0030** (Visibility Splay)

## 4.2 Internal Site Layout and Road Hierarchy

The proposed development's internal road layout comprises a network of local access streets with carriageway widths of between 5.5m and 6.0m. On-street car parking is provided along several sections of the development's internal road network, in the form of banks of perpendicular and parallel parking spaces. Turning heads are provided at the ends of internal cul-de sac streets, to facilitate the movements of larger vehicles.

In addition to these local access streets, a shared surface road (Road 3) is provided between Road 2 and Road 4, through the centre of the development. This shall be primarily for pedestrian and cyclist use but shall

also be open to use by taxis and servicing vehicles (e.g. deliveries or refuse collection). No other motor vehicles will be permitted to use this road.

The development's internal road layout has been designed for a maximum vehicular speed of 30km/h, and signage to this effect is provided on entry to the development. Several traffic-calming features have been incorporated into the internal road network design. These include kerb radii at internal junctions restricted to 4.0m, as well as raised table treatments and raised pedestrian crossings at internal junctions. The presence of on-street parking bays along significant portions of the internal road network shall also 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.

At all internal road junctions, it has been ensured that forward visibility splays of at least 23m are achieved, in compliance with the requirements of the *Design Manual for Urban Roads and Streets (DMURS)*.



Figure 10 – Internal road network  
(annotated extract of CS Consulting drawing PWT-CSC-XX-XX-DR-C-0021)



The primary local street through the development is Internal Road 2: the north-south aligned street originating from the Park West Road access. The southern section of this road, between Park West Road and Internal Road 1, has a carriageway width of 6.0m, comprising one traffic lane in either direction. The carriageway is flanked to the west by a 1.75m-wide cycle track, a 2.0m-wide pedestrian footpath, and a 5.0m-wide grass verge. On the eastern side, a 1.75m-wide cycle track and a 2.8m-wide pedestrian footpath are provided behind a grass verge of varying width.

The northern section of Internal Road 2, to the north of Internal Road 1, will comprise a 5.5m-wide carriageway, flanked to either side by 2.5m-wide parallel parking bays and a footpath/buffer with a total width of 3.5m.

The development's second road in hierarchical order is Internal Road 1: this east-west road connects the development's Park West Avenue access to Internal Road 2. This road has a carriageway width of 6.0m, with both parallel and perpendicular parking bays located along it. Footpaths are provided along both sides of the street, varying in width between 2.1m and 3.8m.

Internal Road 4 runs parallel to the development's northern boundary, extending to the west and east of Internal Road 2, and providing access to the undercroft parking areas. This has a carriageway width of 5.5m, with perpendicular parking spaces arranged generally along the northern side and parallel parking spaces along the southern side. A footpath with a minimum width of 2.0m is provided behind the parking spaces on the southern side.

At the eastern end of Internal Road 4 is Internal Road 8. This is a short spur extending southward, providing access to an undercroft parking area and accommodating additional on-street parking. This street comprises a 6.0m-wide carriageway, with 5.0m-wide perpendicular parking spaces to either

side. A footpath with a minimum width of 2.0m is provided behind the parking spaces on the western side.

For further details of the development's internal road network, refer to the accompanying Road Infrastructure Design Report and to the following CS Consulting drawings:

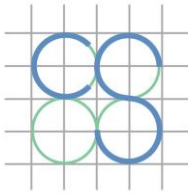
- **PWT-CSC-XX-XX-DR-C-0021** (Road Layout)
- **PWT-CSC-XX-XX-DR-C-0022/0023/0024** (Road Profiles)
- **PWT-CSC-XX-XX-DR-C-0025** (Road Markings & Signage)
- **PWT-CSC-XX-XX-DR-C-0029** (Road Cross-Sections)
- **PWT-CSC-XX-XX-DR-C-0030** (Visibility Splay)
- **PWT-CSC-XX-XX-DR-C-0040** (Access & Permeability)
- **PWT-CSC-XX-XX-DR-C-0042** (Parking Arrangement)
- **PWT-CSC-XX-XX-DR-C-0043** (Quality Audit)

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

### 4.3 Design Speeds and Traffic Calming Measures

The development's internal road layout has been designed for a maximum vehicular speed of 30km/h, and signage to this effect is provided on entry to the development. Several traffic-calming features have been incorporated into the internal road network design. These include kerb radii at internal junctions restricted to 4.0m, as well as raised table treatments and raised pedestrian crossings at internal junctions. The presence of on-street parking bays along significant portions of the internal road network shall also 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.





At all internal road junctions, it has been ensured that forward visibility splays of at least 23m are achieved, in compliance with the requirements of the *Design Manual for Urban Roads and Streets (DMURS)*.

#### 4.4 Pedestrian and Cyclist Access

Pedestrian and cyclist access to the proposed development shall be possible at the following locations (see **Figure 9**):

- via the development's western access junction on Park West Avenue (the existing Aspect Hotel access junction);
- via the development's proposed new southern access junction on Park West Road; and
- at multiple points along the development's western boundary, where the development's internal footpaths tie in to the existing footpath along Park West Avenue.

As part of the proposed development, its access junctions on Park West Avenue and Park West Road shall both incorporate signal-controlled pedestrian crossings on all arms.

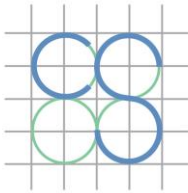
In addition to these initial access provisions, the development's internal road network and footpaths are continued up to the site's eastern boundary. This facilitate future access to lands to the east, should these be put to residential or retail use in future, ensuring east-west pedestrian permeability through the development.

For further details of pedestrian and cyclist access to and permeability through the development, refer to the following CS Consulting drawings:

- **PWT-CSC-XX-XX-DR-C-0021** (Road Layout)
- **PWT-CSC-XX-XX-DR-C-0040** (Access & Permeability)

#### **4.5 Adjacent External Roads**

Sections of Park West Avenue and Park West Road along the development site boundary, as well as the roundabout junction of these two roads, are currently in private ownership and not yet taken in charge by Dublin City Council. As part of the proposed development, this existing road infrastructure within the application boundary shall be brought up to DCC taking-in-charge standards and be taken in charge by the Local Authority as part of this application.



## 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 components:

- Stage 1/2 Road Safety Audit
- DMURS Street Design Audit
- Accessibility, Cycling, and Walking Audits

The Quality Audit was completed in September 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 drawing **PWT-CSC-XX-XX-DR-C-0043** 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.

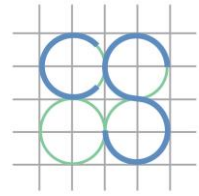


## **6.0 COMMENTS RECEIVED FROM PLANNING AUTHORITIES**

Both An Bord Pleanála and Dublin City 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 Dublin City Council.

The relevant opinions of An Bord Pleanála that pertain to traffic and transport matters, as communicated to the applicant, are reproduced in Section 8 of the accompanying Traffic and Transport Assessment report. This also examines the transport-related recommendations of Dublin City Council, which were issued to An Bord Pleanála, and describes measures taken by the design team in response to these opinions and recommendations.





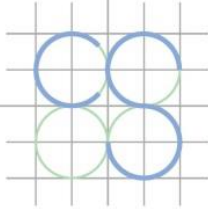
CS CONSULTING  
GROUP

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## Appendix A

### **DMURS Statement**





**CS CONSULTING  
GROUP**  
DUBLIN - LONDON - LIMERICK

Planning & Property Development Department  
Dublin City Council, Block 4, Floor 3  
Wood Quay  
Dublin 8

**Sent By:** Email

**Job Ref:** H085

A - NB

**Date:** 6-Dec-21

**RE: Residential Apartment Development, Site 6, Parkwest, Dublin 12**  
**Pre-Planning Application DMURS Statement of Consistency to Dublin City Council**

**Doc. Ref: PWT-CSC-XX-ZZ-LT-C-0001-P1**

Cronin & Sutton Consulting Engineers (CS Consulting), as part of a multi-disciplinary design team, have been commissioned by Greenseed Ltd to develop a DMURS Statement of Consistency to accompany a planning application for a proposed residential apartment development with car parking, an internal access road, and ancillary works at Site 6, Parkwest, Dublin 12.

### Traffic & Transportation

The proposed scheme is designed in compliance with the following:

- Design Manual for Urban Roads and Streets (2019)
- Dublin City Development Plan 2016–2022
- National Cycle Manual (2011)
- Greater Dublin Area Cycle Network Plan

**Limerick Office:**

45 O'Connell Street  
Limerick, V94 XE18  
Ireland

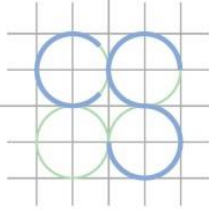
T: 353 (0)61 594988  
E: info@csconsulting.ie  
W: www.csconsulting.ie

**London Office:**

45 Beech Street  
London, EC2Y 8AD  
UK

T: +44 (0) 207 070 3660  
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### **Internal Road Layout**

The internal road layout of the proposed development is designed in accordance with the guidance provided in the *Design Manual for Urban Roads and Streets* (DMURS). As stated in the introduction to the DMURS:

*“Better street design in urban areas will facilitate the implementation of policy on sustainable living by achieving a better balance between all modes of transport and road users. It will encourage more people to choose to walk, cycle or use public transport by making the experience safer and more pleasant.”*

Given the location, shape and topography of the site, and the scale and type of the development proposed, we submit that the proposed site layout is well suited to this infill site.

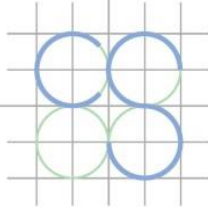
The development layout design put forward improves the existing roads environs with plantings and with enhanced pedestrian facilities. The development design ensures pedestrian permeability to the west and to the south, while also providing for future pedestrian connectivity to the east.

The final development layout shall incorporate features that benefit vulnerable road users by encouraging low vehicle speeds (such as reduced road corner radii, raised tables, plantings, etc.), following the principle that roads should serve a community and not dominate it. The provision of good permeability for pedestrians, cyclists & public transport are all key objectives of the proposed site layout.

Dated design elements that reflect poor design standards (such as wide roads, long straights or sweeping curves, unnecessarily large junction corner radii, and large junction visibility splays) shall be omitted to the extent possible within the final site layout, to reduce vehicle speeds within the development.

The objectives of the evolving site layout design are:

- to ensure ease of access for emergency services;
- 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.

Traffic calming and VRU protection measures to be implemented in the design include:

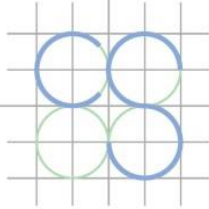
- designated and marked pedestrian crossing points;
- smaller corner radii;
- cul-de-sac road layout;
- horizontal alignment constraints to restrict vehicle speeds;
- landscaping to frame vehicle sightlines internally;
- a road design for a maximum vehicle speed of 30km/h;

The proposed internal service road shall have a minimum width of 5.5m, to permit safe access for service and emergency vehicles, with a vehicle turning head provided at cul-de-sacs. Car parking areas are arranged so as to minimise conflicts with pedestrian movements.

Raised footpaths shall flank the service road to either side, separated from it by car parking spaces and planting, connecting to footpaths along Parkwest Road and Parkwest Avenue. Further footpaths connecting directly to the adjacent development to the east shall provide alternatives to access the site via the service road.

The internal layout of the proposed development shall incorporate numerous design features such as distinctive surface materials and colours, strong landscaping proposals and modern furniture structures, in order to establish a sense of place within an urban neighbourhood environment. The quantum of car parking provision within the scheme will also improve safety.

For more information on the road infrastructure and cross sections please review the CS Consulting Road Infrastructure Design Report submitted.



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### Upgrading of Existing Infrastructure

Sections of Park West Avenue and Park West Road along the development site boundary are currently in private ownership and not yet taken in charge by Dublin City Council. As part of the proposed development, this existing road infrastructure within the application boundary shall be brought up to DCC taking-in-charge Standards, to enable its future transfer to DCC.

In addition, upgrade works to adjoining road infrastructure shall include a signalled controlled development access junctions along Parkwest Avenue and at Parkwest Road. The proposed upgrade shall improve pedestrian and cyclist permeability and safety to other amenities in the vicinity of the site.



Development Layout and Access Provisions

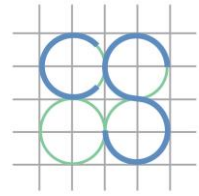
(map data & imagery: Murray & Associates, NTA, OSi, OSM Contributors, Yandex)

### Niall Barrett

BEng (Hons), CEng, MIEI, Cert Health & Safety, Cert PSDP, Cert RSA

Civil Engineer for Cronin & Sutton Consulting





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## Appendix B

### **Independent Quality Audit**



21108-01-001

**Proposed Residential SHD Development at  
Park West, Park West Avenue/Road Dublin 12**

**STAGE 1 QUALITY AUDIT  
(Incorporating a DMURS Street Design Audit, and  
Audits of Accessibility, Cycling, Walking  
and Road Safety)**

for

**CS Consulting Group**

November 2021

**ROADPLAN**  
CONSULTING

7, Ormonde Road  
Kilkenny.  
R95 N4FE

Tel: 056 7795800  
info@roadplan.ie

## 1. INTRODUCTION

- 1.1 Roadplan Consulting has been commissioned by CS Consulting Group (and Darmody Architecture) to carry out a Quality Audit of a proposed SHD residential development at the junction of Park West Road and Park West Avenue Park West, Dublin 12.
- 1.2 The scheme consists of 763 residential units and 530 car parking spaces, mostly underground.
- 1.3 Figure 1 below contains a Site Location Map and a Layout Drawing of the development. The proposed development is located immediately North-east of the junction of Park West Avenue and Park West Road. Both of these streets have a speed limit of 50km/h.



**Figure 1 – Site Location Map and Site Layout for the development**

- 1.4 The roads within the site are numbered 1 to 13. Road 1 extends from Parkwest Avenue eastwards to Road 2, which itself extends from Parkwest Road north to Road 4. Road 4 is a road that runs east west along the northern boundary of the site. Road 3 links Roads 2 and 4. All other roads are minor.
- 1.5 The site is in an edge of city centre location but is within easy walking distance of the local shops, schools and other amenities. The site is highly accessible as it is in walking distance of local bus stops which provides access to the city centre.

1.6 An analysis of the Road Safety Authority Collision Map 2005-2016 indicates that there was one collision close to a proposed access to the SHD site (outlined in red for reference) from Park West Avenue (details provided on Figure 2). A fatal collision occurred east of the site along Park West Road in 2013 and a number of minor-injury collisions are recorded at the adjacent Park West Business Park Roundabout.

1.7

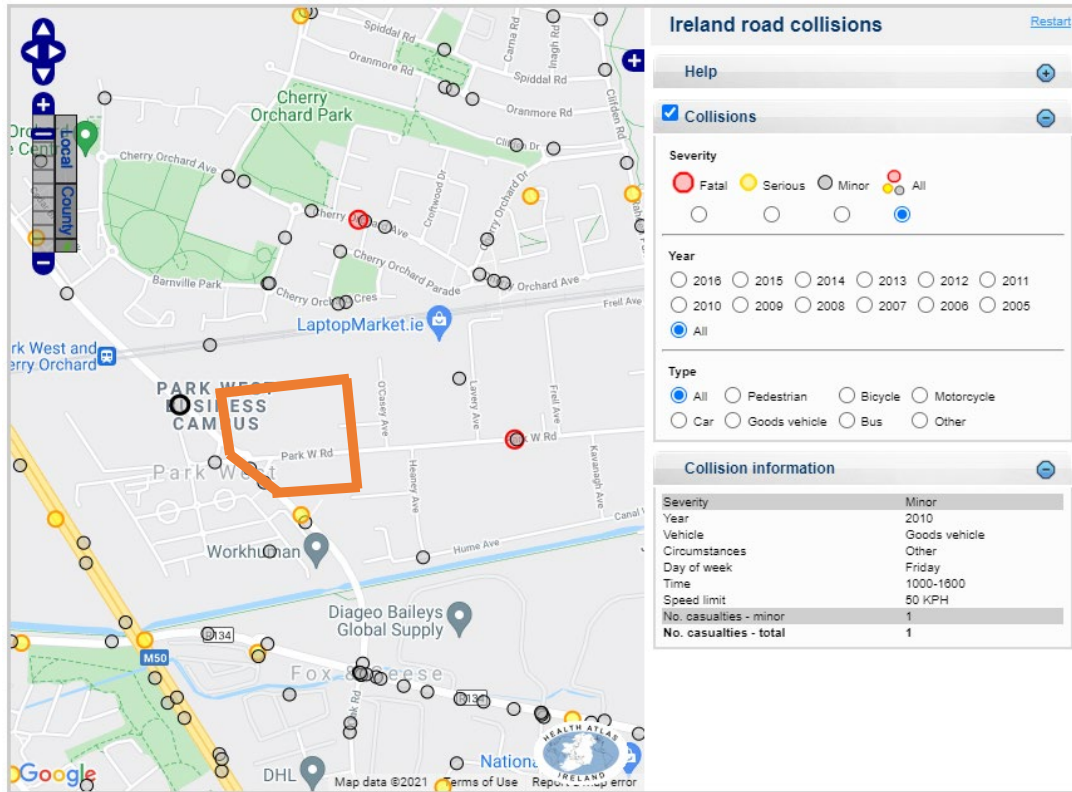


Figure 2 – Road Safety Authority Collision Map 2005-2016.

## 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.
- 2.6 DMURS states that Quality Audits should consist of the following parts:
- DMURS Street Design Audit
  - Individual Design Audits
  - Quality Audit Report

In the case of this report the individual design audits comprise an RSA, an Accessibility audit, a Walking audit and a Cycle audit.

### 3. METHODOLOGY

3.1 The Audit Team was as follows:

- Dermot Donovan Chartered Engineer MIEI
- Glenn Hingerty Chartered Engineer MIEI

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 site visit for this quality audit was carried out on 27/08/2021. The weather was sunny with clear skies. Following a week of dry weather, it was not possible to ascertain the occurrence of ponding of water following rainfall at any location on the visit.

3.4 The documents provided for the audit were:

Drawing number	Rev	Drawing Title
PWT-CSC-ZZ-XX-DR-D-0021	P1	Proposed Road Layout
PWT-CSC-ZZ-XX-DR-C-0025	P2	Proposed Road Markings & Signage Sheet 1 of 2
PWT-CSC-ZZ-XX-DR-C-0026	P2	Proposed Road Markings & Signage Sheet 2 of 2
PWT-CSC-ZZ-XX-DR-C-0030	P2	Proposed Visibility Splay
PWT-CSC-ZZ-XX-DR-C-0031	P2	Swept Path Analysis Fire Tender Sheet 1 of 2
PWT-CSC-ZZ-XX-DR-C-0032	P2	Swept Path Analysis Fire Tender Sheet 2 of 2
PWT-CSC-ZZ-XX-DR-C-0033	P2	Swept Path Analysis Refuse Sheet 1 of 2
PWT-CSC-ZZ-XX-DR-C-0034	P2	Swept Path Analysis Refuse Sheet 2 of 2
PWT-CSC-ZZ-XX-DR-C-0035	P2	Swept Path Analysis Light Goods Vehicles Sheet 1 of 2
PWT-CSC-ZZ-XX-DR-C-0036	P2	Swept Path Analysis Light Goods Vehicles Sheet 2 of 2
PWT-CSC-ZZ-XX-DR-C-0037	P2	Swept Path Analysis Large Car Sheet 1 of 2
PWT-CSC-ZZ-XX-DR-C-0038	P2	Swept Path Analysis Large Car Sheet 2 of 2
PWT-CSC-ZZ-XX-DR-C-0040	P2	Site Development Access Strategy And Permeability

Copies of these audited drawings are contained in Appendix A.



- 3.5 In accordance with DMURS Advice Note No. 4 May 2019 (contained on <https://www.dmurs.ie/supplementary-material>) a Quality Audit should always contain a DMURS Street Design Audit and Other Design Audits (as required). Section 4 of this report contains the Street Design Audit and Section 5 contains the Other Design Audits (Road Safety, Walking, Cycling, Accessibility). The Street Design Audit is in the format provided as a template on the DMURS website.

#### 4. STREET DESIGN AUDIT

<b>Connectivity</b>		
<b>Key Issues</b>	<b>Key DMURS Reference</b>	<b>Audit Comment and Suggestion</b>
Strategic routes/major desire lines been identified and are clearly incorporated into the design.	3.1 – Integrated Street Network 3.2.1 – Movement Function 3.3.1 – Street layouts 3.3.4 - Wayfinding	3.3.4 wayfinding is compromised for cyclists, particularly at main access junctions due to a lack of clear cyclist route for movements entering/exiting the development and how they will join to the external cycle network.
Multiple points of access are provided to the site/place, in particular for sustainable modes.	3.3.1 – Street Layouts 3.3.3 – Retrofitting <sup>1</sup>	3.3.1 – 2 vehicular entrances to the site are provided but once the relocated hotel car park has been served they merge together into a single access route.
Accessibility throughout the site is maximised for pedestrians and cyclists, ensuring route choice.	3.3.1 – Street Layouts 3.3.2 – Block Sizes 3.4.1 – Vehicle Permeability	3.3.1 – pedestrian and cyclist permeability has been considered with raised tables/crossings and tactile paving in many locations, but they have not been used exhaustively throughout the site.
Through movements by private vehicles on local streets are discouraged by an appropriate level of traffic calming measures.	3.2.1 – Movement Function 3.2.3 – Place Context 3.4.1 – Vehicle Permeability	No Comment

<sup>1</sup> When connecting with existing communities a detailed analysis and extensive community consultation should be carried out to identify the optimal location for connections (refer also to the NTA Permeability in Existing Urban Areas: Best Practice Guide).

<b>Self-Regulating Street Environment</b>		
<b>Key Issues</b>	<b>Key DMURS Reference.</b>	<b>Design Suggestion</b>
A suitable range of design speeds have been applied with regard to context and function.	3.2.1 – Movement Function. 3.2.3 – Place Context. 4.1.1 – A Balanced Approach to Speed <sup>2</sup>	3.2.1 – Park West Road and Park West Avenue would possibly be classified as Link Roads (though Park West Avenue could be of Arterial classification) and the roads within the Park West Business Park SHD are Local Roads.  3.2.3 – Place Context: Place context is Business Park.  The adjacent road network speed limit is 50km/h
The street environment will facilitate the creation of a traffic calmed environment via the use of 'softer' or passive measures. <sup>3</sup>	4.2.1 – Building Height and Street Width 4.2.2 – Street Trees 4.2.3 – Active Street Edges 4.2.4 – Signage and Line Marking 4.2.7 – Planting 4.4.2 – Carriageway Surfaces 4.4.9 - On-Street Parking Advice Note 1 – Transitions and Gateways	4.2.3 – Car Park kerbing in new hotel car park: in some locations square kerb corners are shown instead of rounded kerbs or cheese block (quadrant) kerbs. The latter is considered more appropriate  4.2.4 – Signage and Line Marking. The STOP sign at the egress fulfils the same function as the STOP road marking. Given the requirement of DMURS to reduce signage clutter in the urban area, removal of any proposed Stop Signs could be considered for some of the minor internal junctions in favour of the option of retaining the proposed Stop marking maintained in good condition.

<sup>2</sup> Refer also to the National Speed Limit Guidelines

<sup>3</sup> In retrofit situations a detailed analysis should be carried out to establish what measures exist, what their likely effectiveness is and level of intervention required to achieve the designed design speed.

		<p>4.4.9 – Cul-de-sacs at the Northeast and Northwest corners of the site feature section kerblines without parallel parking. There are no preventative measures here to ensure parking does not occur which will compromise proposed swept path movements.</p>
<p>A suitable range of design standards/measures have been applied that are consistent with the applied design speeds.</p>	<p>4.4.1 - Carriageway Widths                  4.4.4 – Forward Visibility                  4.4.5 – Visibility Splays                  4.4.6 – Alignment and curvature                  4.4.7 – Horizontal and Vertical Deflections                  Advice Note 1 – Transitions and Gateways</p>	<p>4.4.5 – The proposed visibility splays outlined in drawings are of 49 metres, representative of a 50kph speed limit. DMURS however recommends a further reduced splay of 45 metres on 50kph roads featuring bus routes, which both Park West Road and Park West Avenue do.</p> <p>4.4.6 – Both Vehicular entrances appear to be proposed for priority movements with adjacent pedestrian crossings. Based on swept path analysis, it is clear that refuse trucks and fire tenders can't enter the development if a stopped vehicular is waiting to exit. Designer should consider full junction signalisation with recessed stop lines on minor arms to maintain 6m cross section.</p>

<b>Pedestrian and Cycling Environment</b>		
<b>Key Issues</b>	<b>Key DMURS Reference.</b>	<b>Design Suggestion</b>
The built environment contributes to the creation of a safe and comfortable pedestrian environment.	4.2.1 – Building Height and Street Width 4.2.3 – Active Street Edges 4.2.5 – Street Furniture 4.4.9 - On-Street Parking	4.2.1 – no building height information has been provided.  4.2.5 – Street Furniture: While swept path analysis for bin truck movements have been provided, it is not clear where the intended bin storage is and where they are to be stored or left out for collection. Bins could impede pedestrian and vehicular movements where left informally.  4.4.9 – On-Street Parking: Parallel parking is provided at locations throughout the development. However, at a number of locations within the development the parking spaces are located adjacent to the grass verge within close proximity to the dwelling building. Vehicle occupants may have difficult accessing / egressing the vehicle at these locations.
Footpaths are continuous and wide enough to cater for the anticipated number of pedestrian movements.	3.2.1 – Movement Function. 3.2.2 – Place Context. 4.2.5 – Street Furniture 4.3.1 - Footways, Verges and Strips 4.3.2 - Pedestrian Crossings	3.2.1 – There is no clear pedestrian movement facilitation throughout the new hotel car park.  4.3.1 – There is a pedestrian access to the site to facilitate the desire line to the nearby railway station with a large new public plaza matching the one across the road outside the railway station which is used informally for rail passengers parking. Ample street furniture should ensure informal parking doesn't occur.  4.3.2 – There is a pedestrian access to the site to facilitate the desire line to the nearby railway station however no pedestrian crossing has been proposed here to access

		<p>the station. The Local Authority has proposed a pedestrian crossing nearby, but it is not clear when/if this will be installed.</p>
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<b>Pedestrian and Cycling Environment (cont)</b>		
<b>Key Issues</b>	<b>Key DMURS Reference.</b>	<b>Design Suggestion</b>
<p>The particular needs of visually and mobility impaired users been identified and incorporated in the design.</p>	<p>4.2.5 - Street Furniture 4.3.1 - Footways, Verges and Strips 4.3.2 - Pedestrian Crossings</p>	<p>4.3.1 - The cycle/pedestrian access to the station at the Northeast corner of the site features wheelchair ramps but the gradient of these ramps is not clear. There is also no usage of tactile paving indicating the presence of ramps and steps here.</p> <p>There is no apparent designated wheelchair parking at the development.</p> <p>4.3.2 – The Park West Avenue vehicular access features different footway and cycleway arrangements on either side of the minor arm. There is no tactile Paving indicating to pedestrians that they are access a shared space area here or that the cycleway and footway becoming reversed.</p>
<p>Cycling facilities will cater for cyclists of all ages and abilities.<sup>4</sup></p>	<p>3.2.1 – Movement Function. 3.2.3 – Place Context.</p>	

<sup>4</sup> Refer also to the National Cycle Manual (2011)

	4.3.5 - Cycle facilities.	4.3.5 – The cycle/pedestrian access to the station at the Northeast corner of the site features cycle ramps but the gradient of these ramps is not clear.
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<b>Visual Quality</b>		
<b>Key Issues</b>	<b>Key Considerations and DMURS Ref:</b>	<b>Design Response</b>
The landscape plan responds to the street hierarchy and the value of the place.	3.2.1 – Movement Function. 3.2.2 – Place Context. 4.2.2 – Street Trees 4.2.7 – Planting Advice Note 1 – Transitions and Gateways	As above
Street furniture is orderly placed.	3.2.1 – Movement Function. 3.2.2 – Place Context. 4.2.5 - Street Furniture. 4.3.1 Footways, Verges and Strips	As above
The use of signage and line marking has been minimised.	3.2.1 – Movement Function. 3.2.3 – Place Context. 4.2.4 - Signage and Line Marking.	As above
Materials and finishes used throughout the scheme have been selected from a limited	3.2.1 – Movement Function. 3.2.2 – Place Context. 4.2.6 – Materials and Finishes	4.2.6 – Raised Tables in the development: Drawings indicate a herringbone-style arrangement of paving brick on raised tables. Assuming the intention is to use paving bricks with butted joints, there is potential for greater



<p>palette and respond to the value of the place?</p>	<p>4.2.8 – Historic Contexts.                  4.3.2 – Pedestrian Crossings                  4.4.2 – Carriageway Surfaces                  Advice Note 2 – Materials and Specifications</p>	<p>levels of degradation through regular turning movements on these (due to number of parking spaces etc) and also pavement ants removing sand and reducing the quality of the intended level paved surface in this location.</p> <p>4.3.2 – Tactile paving proposed at signalised pedestrian crossings is of a colour that is at variance to guidance.</p>
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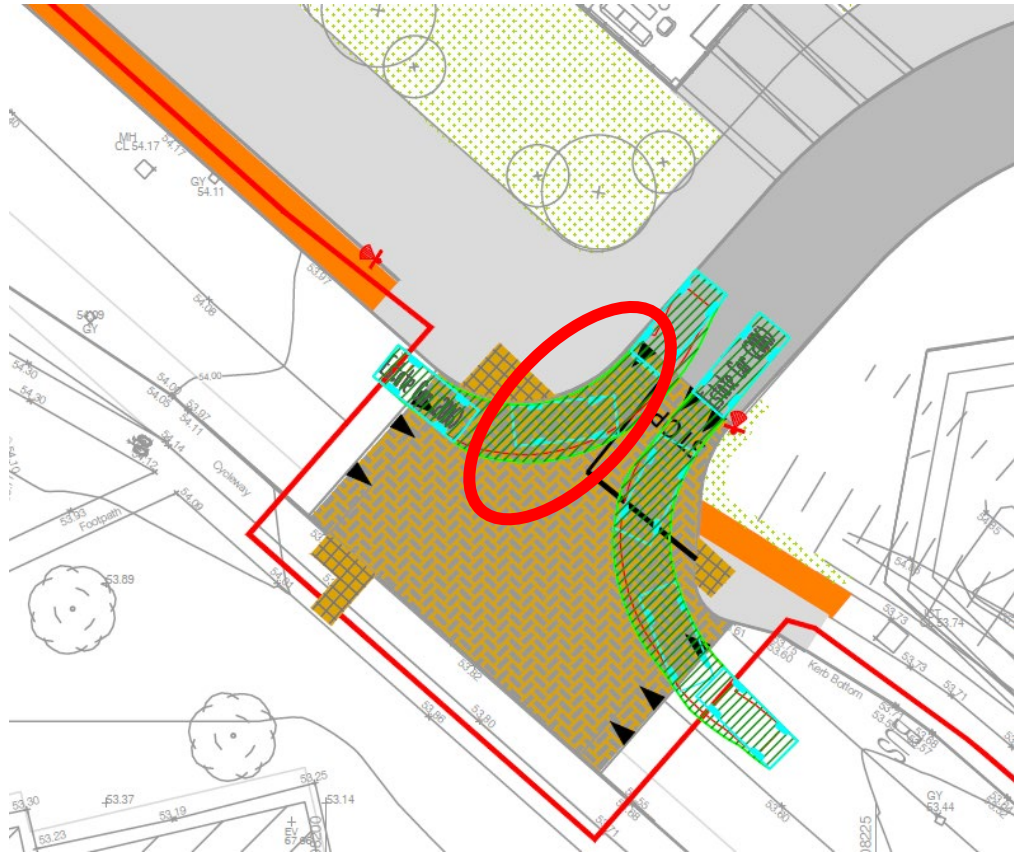
**Additional Comments**

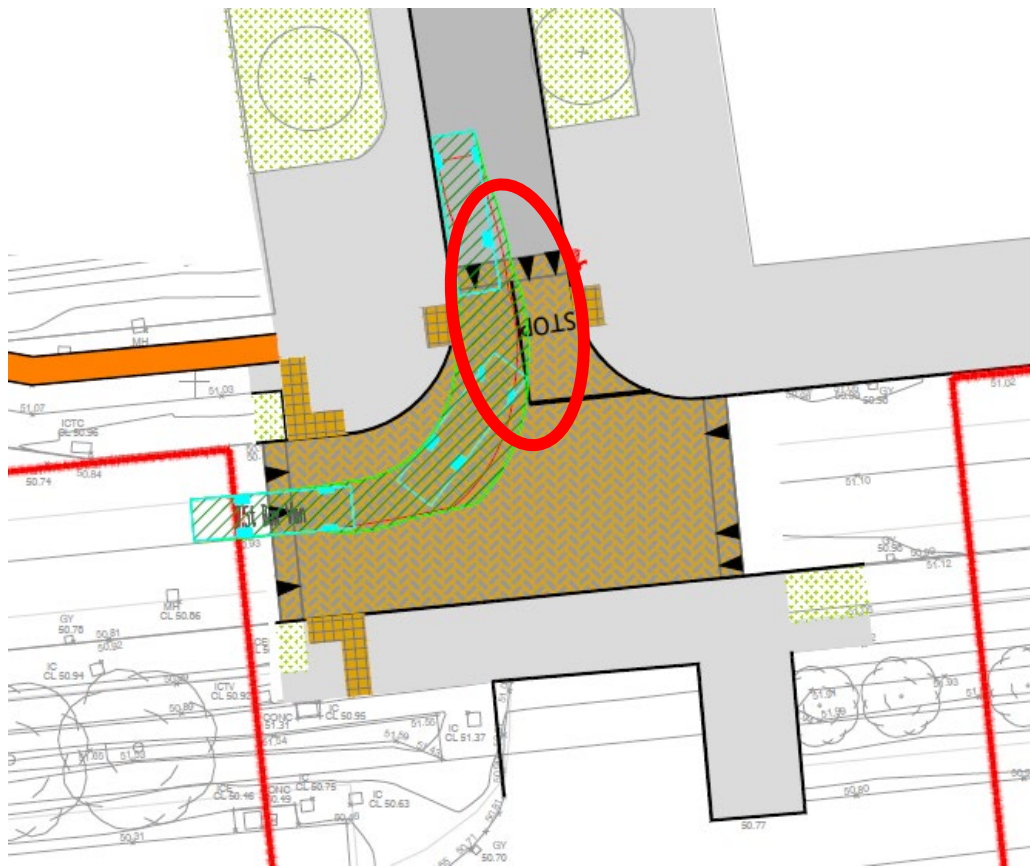
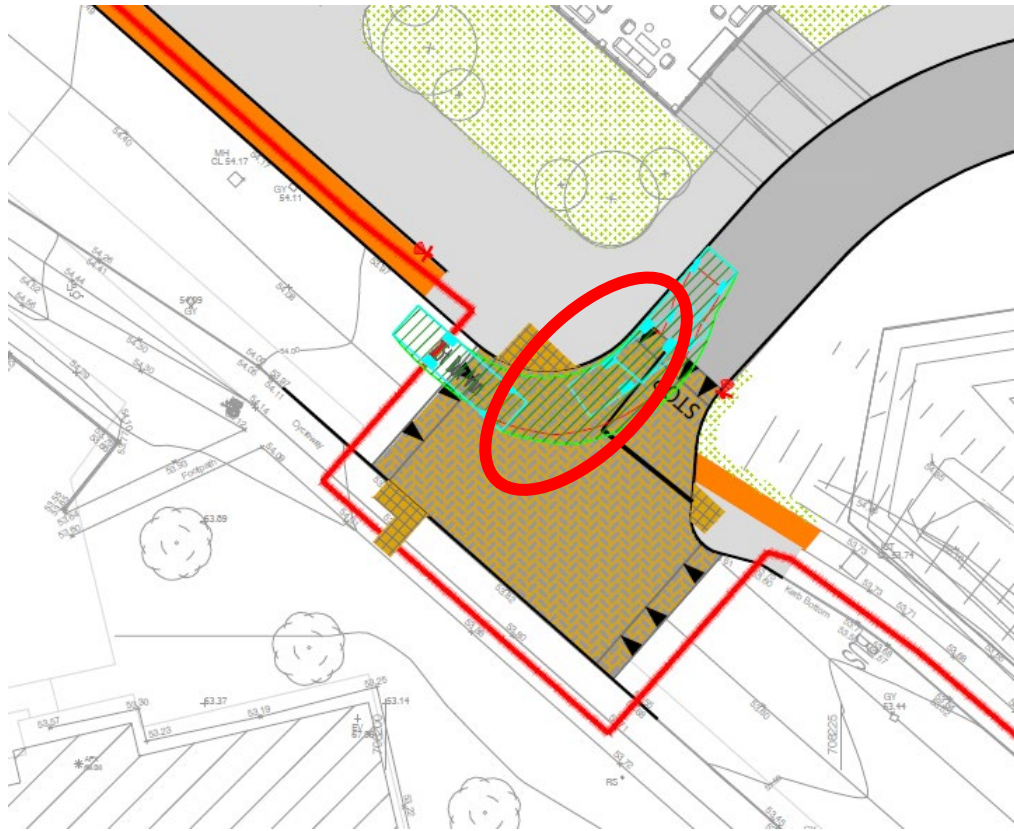
**Please consider usage of:** *Guidance on the use of Tactile Paving Surfaces.*

## 5 ROAD SAFETY

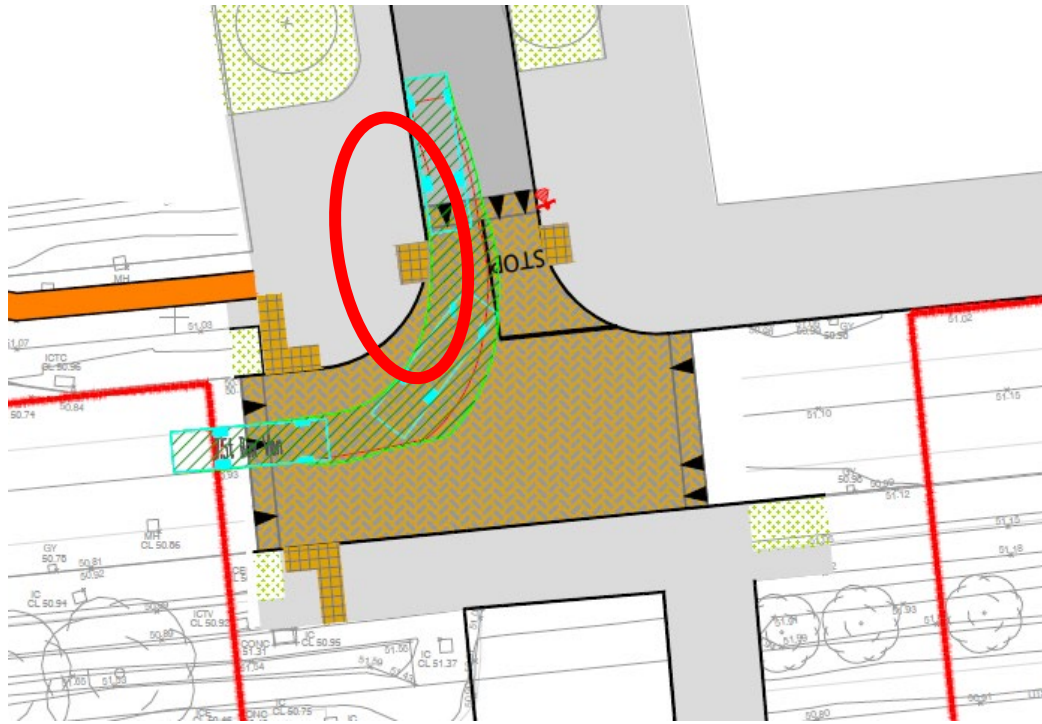
### 5.1 Issue:

The swept-path analyses provided show vehicles overrunning the kerblines and the tactile paving or crossing the centrelines at both junctions that provide access to the development. During the site visit it was noted that vehicles using the existing access scuff/damage the kerbs. A vehicle mounting kerbs could strike a vulnerable road user. Given the size of the development the accesses may be busy at certain time with traffic entering and exiting simultaneously.









**Figures 5-8 - Swept-path analysis**



**Figures 9-10 – Kerbs Damaged by HGVs**

**Suggestion:**

Revise the layouts of these junctions to ensure that all vehicles can pass each other and can make turning movements without the need to routinely overrun kerb lines.

## 5.2 Issue:

The existing hotel entrance is to be retained. Shrubbery is currently covering the entirety of the southbound cycle lane at this location. This may result in cyclist /pedestrian collisions or collisions between vulnerable road users and vehicles exiting the hotel.



**Figure 11- Hotel Entrance with Shrubbery**

## Suggestion:

Cut back the vegetation so that it does not obstruct the cycle path or visibility splays at the junction.

## 5.3 Issue:

There is a crest in the road over the railway bridge on Park West Avenue. The drawings indicate the potential for a signalised pedestrian crossing to be installed by the Local Authority. A pedestrian using the crossing may not be adequately conspicuous to an approaching motorist.



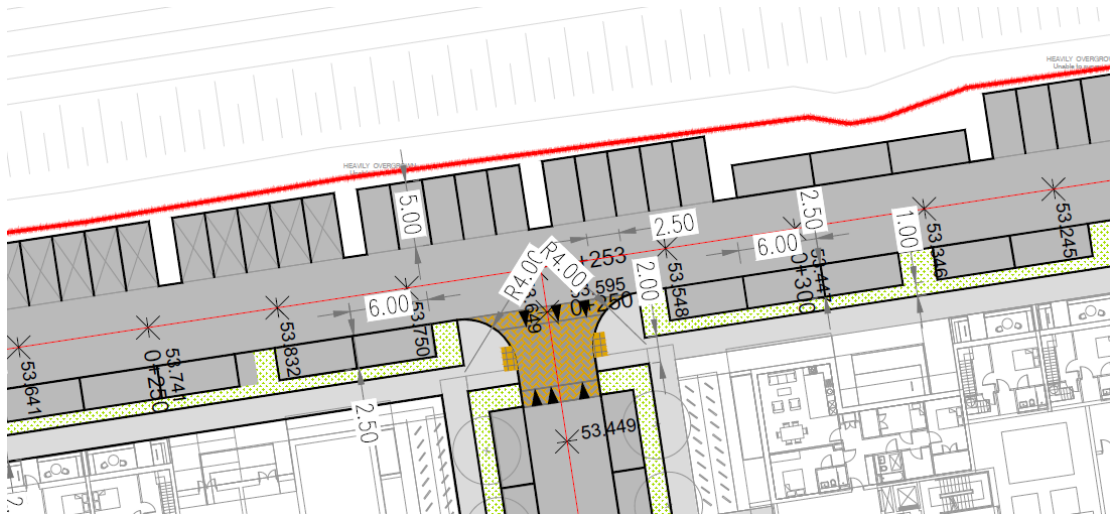
**Figure 14- Crest in road for railway bridge**

Suggestion:

The pedestrian crossing should be located and designed such that it, and pedestrians using it, will be clearly visible to approaching drivers.

5.4 Issue:

Perpendicular parking is provided opposite minor roads at internal junctions and car park accesses. The junction of Road 2 and Road 4 will be busy. Drivers exiting a parking space at the junction need to check in three directions for conflicting traffic. Drivers turning at the junction may not be alert to the possibility of a vehicle reversing from a parking space. These factors increase the risk of collisions between vehicles or with other road users.

Suggestion

Omit parking within the junction or change to use of parallel parking.

5.5 Issue:

The priority of the various turning movements at the junction of Road 2 and Road 4 is not shown to be regulated (see image above). It will be a busy junction, and given the layout of the development, most traffic movements will be between the west and south arms. It is not clear how it is intended that the junction should be used. Driver uncertainty increases collision risk.

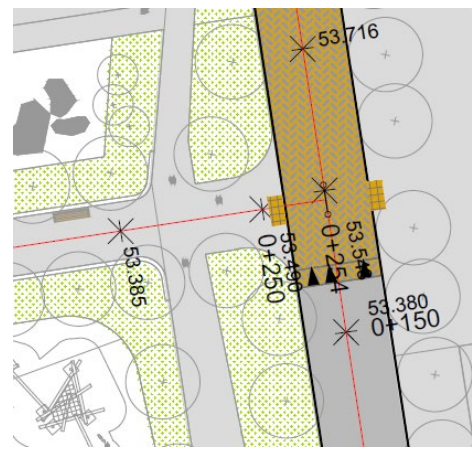
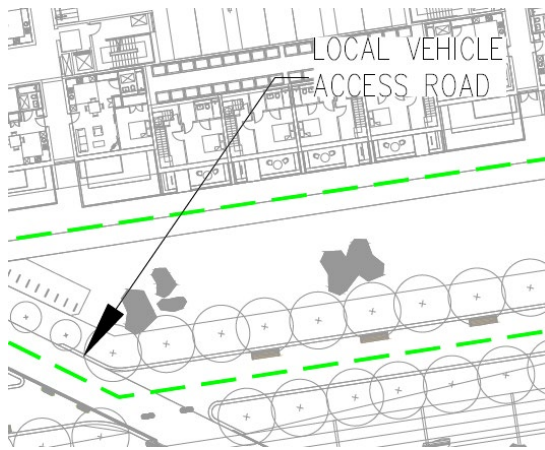
Suggestion

Provide measures to regulate traffic at the junction.

5.6 Issue:

It is not clear what road users are permitted to use Road 3. It is labelled "Local Vehicle Access Road" but tactile paving is shown to be provided within the bell-mouth of the junction with Road 2, suggesting that Road 3 is for use only by pedestrians and cyclists. The road runs alongside open space and play areas. The presence of vehicular traffic could pose a road safety risk to vulnerable road users.



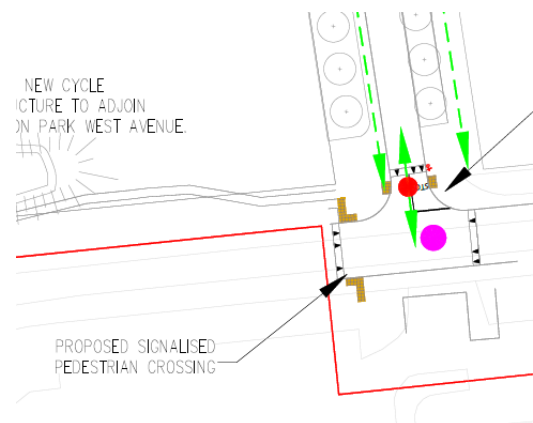
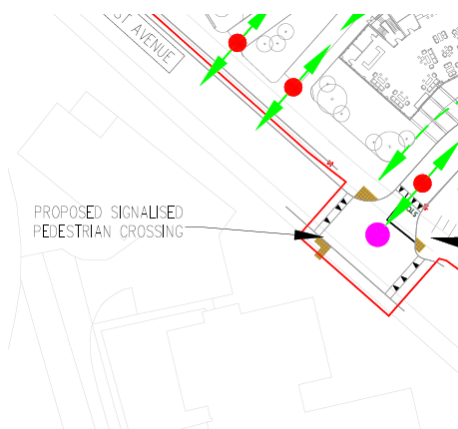


**Suggestion**

Restrict its use to non-motorised users.

**5.7 Issue:**

The proposed signalised pedestrian crossings shown to be provided at each of the two accesses to the development are located too close to the adjacent junctions. Crossings should be located away from conflict points at uncontrolled junctions. When the vehicular stage changes from red to green at the signals conflict between mainline ahead traffic and traffic exiting the adjacent minor road could occur.



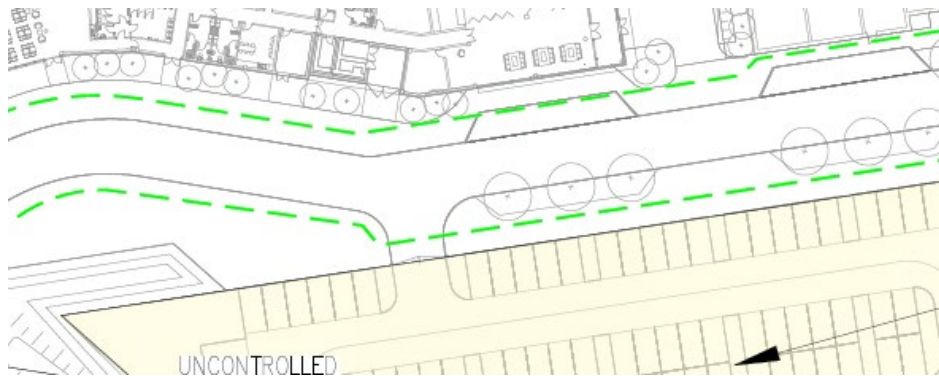
**Suggestion**

Amend the layouts. The signalised crossings could be moved away from the junction turning area or the complete junctions could be signalised.

**5.8 Issue:**

There is an abrupt change in the alignment of the mainline on Road 1 at the access to the new car park for the hotel. Drivers may fail to stay in lane and could conflict with traffic turning at the car park access.





### Suggestion

Amend the layout to provide adequate horizontal curvature.

### 5.9 Issue:

Crossing facilities are not shown to be provided for pedestrian trips between the hotel and its new car park (see above image). This may increase the risk of pedestrian collisions.

### Suggestion

Provide a suitable pedestrian crossing.

### 5.10 Issue:

Road 1 is long, straight and has no features to calm traffic. Speeds may be excessive.

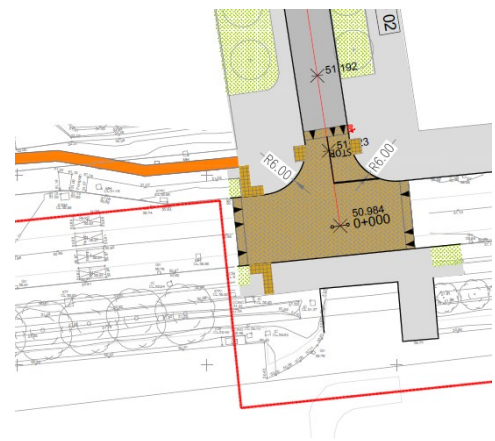
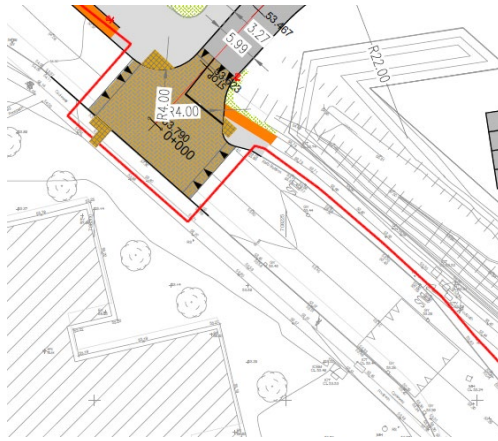


### Suggestion

Provide traffic calming measures, as have been provided on Roads 2 and 4.

### 5.11 Issue:

Park West Road and Park West Avenue are traffic calmed by a series of regularly spaced ramps. Raised table junctions at both accesses are to be added and the resulting layout may be viewed by motorists as having an unreasonable number of ramps, although it is not expected to present a road safety hazard.

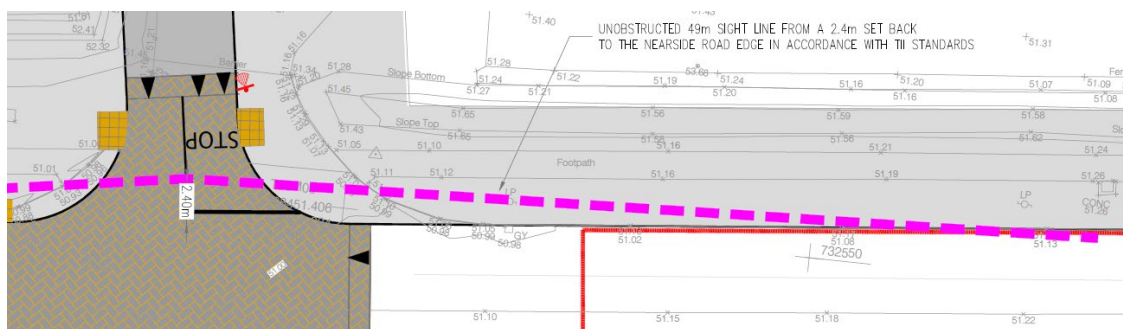
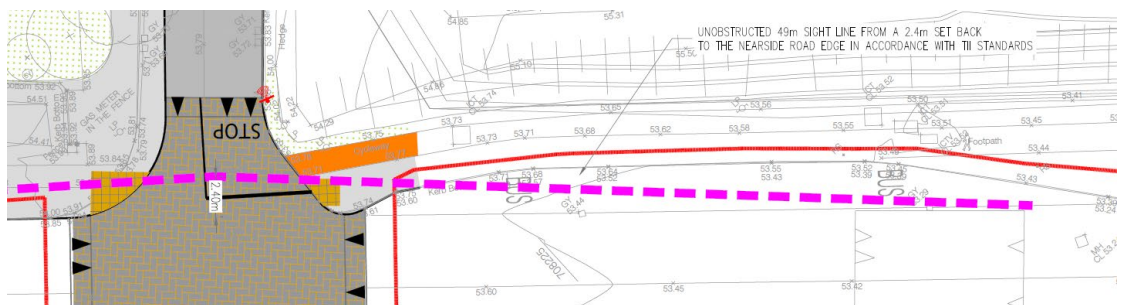


**Suggestion**

In conjunction with the road authority, rationalise the spacing of ramps.

**5.12 Issue:**

There are existing bus bays beside the accesses on both Park West Road and Park West Avenue. The visibility splays of the accesses slightly encroach into the bays with the result that visibility could be restricted by a parked bus. The accesses will be busy at peak times and drivers exiting the development may feel under pressure to turn onto the mainline even when visibility is restricted.



**Suggestion**

Modify the layout to ensure that visibility splays are clear even if a bus is stopped in a bay. Alternatively, signalise the accesses.

## 6 WALKING

### 6.1 Issue:

A mixture of controlled and uncontrolled pedestrian crossings is proposed at the main entrances. For both types, the same colour of tactile paving has been used which may result in confusion for visually impaired pedestrians. In addition, tactile paving warning of the presence of cyclists is not shown to be provided.



**Figure 16 – Crossing Facilities**

### Suggestion

Revised colours of tactile paving as per 'Guidance on the use of Tactile Paving'. Provide tactile paving to inform the pedestrian of the presence of the cycle track.

### 6.2 Issue:

On the footway/cycleway adjacent to the new pedestrian/cycle entrance to the northwest of the site, there is a chamber lid (Figure 17/18) that is dislodged/damaged posing a tripping hazard. In addition tactile paving is not shown to be provided at the intersection of the paths and cycle track.





**Figure 17/18 – Damaged Chamber lid**

**Suggestion:**

Ensure all chamber lids are located and maintained in such a way as to negate tripping hazards. Ensure all pedestrian access/egresses and shared space areas have appropriate tactile paving as per 'Guidance on the Use of Tactile Paving' Documentation.

### 6.3 Issue:

On the northwest corner of the site a paved plaza entrance is proposed similar to that at the railway station opposite. It is noted that informal car parking occurs at the railway station plaza, probably by railway passengers. This is causing damage to pavements resulting in a tripping hazard. Informal parking may also occur at the proposed plaza.



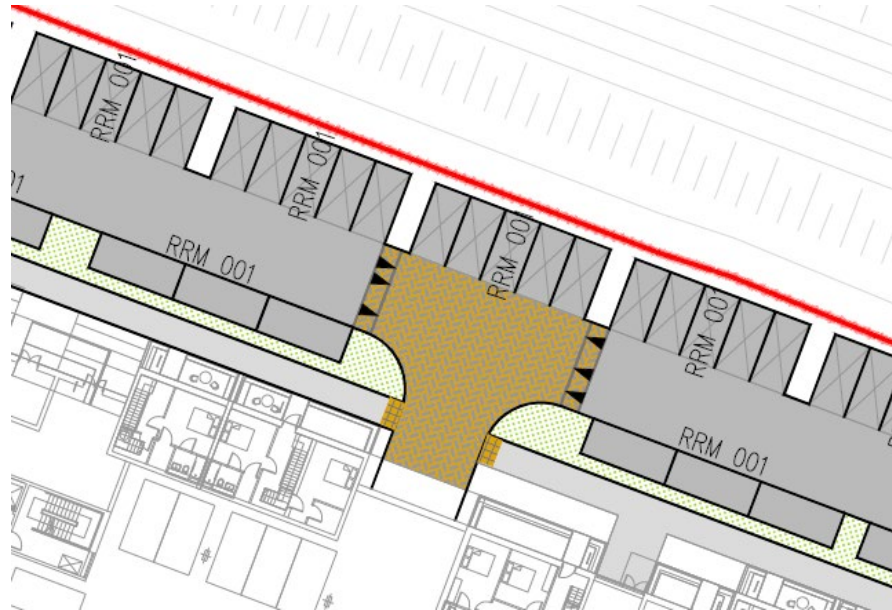
**Figure 19 – Damaged paving caused by informal parking**

### Suggestion:

Provide measures to prevent parking on the proposed plaza.

### 6.4 Issue:

There is no footpath connection provided between the perpendicular car parking on the northern perimeter of the site and the dwellings opposite. It is not clear how pedestrians are intended to travel between the car parking and the dwellings. There is a continuous landscaped verge along the south side of Road 4 which would be an impediment to easy pedestrian movement, particularly for the mobility impaired.



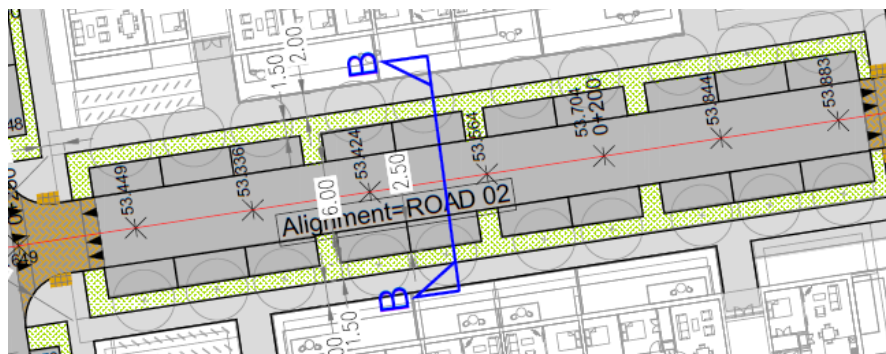
**Figure 13- On Street Formal parking**

**Suggestion:**

Revise the layout to provide facilities for pedestrians to travel with ease between the dwellings and the car parking.

**6.5 Issue:**

A landscaped verge is shown to be provided between parallel parking spaces and the footpath; in some cases it is shown to contain trees. Passengers will alight onto the verge, which may provide unsuitable footing, particularly during the winter.



**Suggestion**

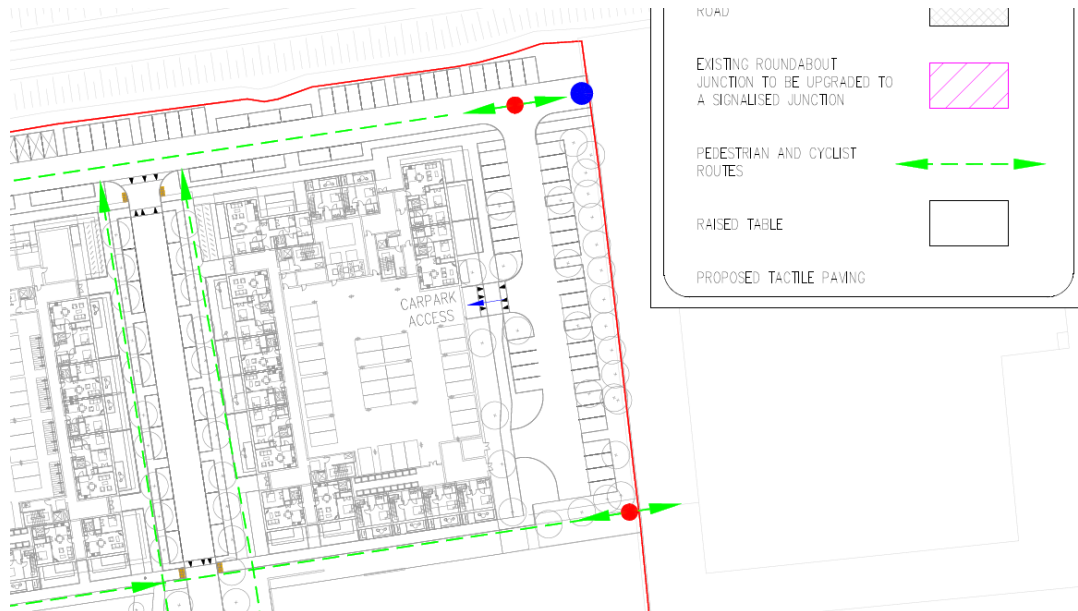
Use hard landscaping wherever regular pedestrian traffic will be present.



## 7 CYCLING

### 7.1 Issue:

Two “Proposed Permeability Links – Pedestrian and Cyclist” are shown to be provided on the eastern boundary of the site, one for future provision. It is assumed that the other is to be provided with the development. The link is shown to connect to the yard of an adjacent industrial premises and would appear to be of little use.

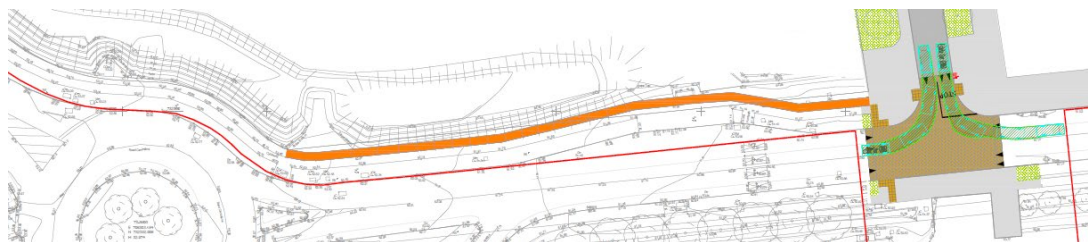


### Suggestion

If a connection is to be provided at this location it should extend to link to the publicly accessible footpath network east of the site.

### 7.2 Issue:

Along the western boundary of the site the existing footway is located on the carriageway side of the cycle track (the footway and the cycle track change sides at the railway bridge). This layout is unconventional, and the drawings show it to be changed on the section north of the hotel access. However, the section south of the access is to be retained, and a new section is to be built between the roundabout and the Park West access that is to have the same unconventional layout. This may be confusing for cyclists and may increase the potential for conflict with pedestrians.



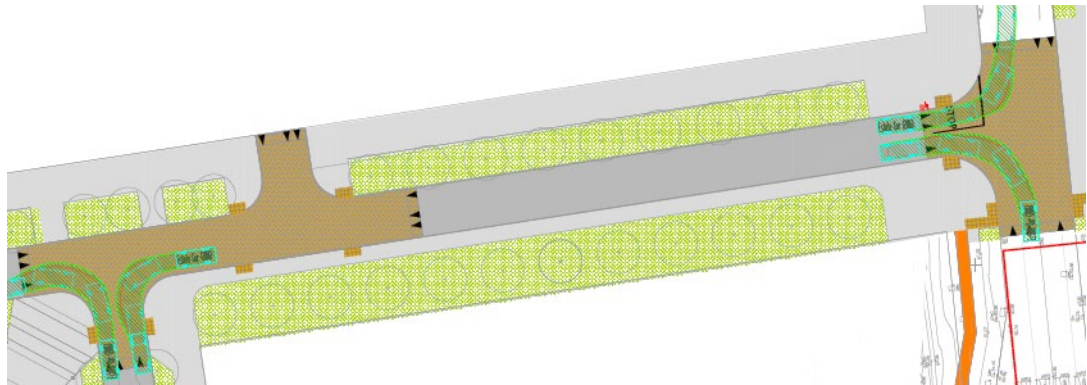


### Suggestion

At all locations along the boundary of the site, place the cycle track between the carriageway and the footway, to provide a layout that is in line with the guidance of the National Cycle Manual.

### 7.3 Issue:

The accesses will be busy in peak periods and there may be queued traffic on the exits from the development. Cyclists may choose to use the footpath rather than wait in the queue, and this could affect pedestrian safety. It is likely that this would apply mainly to Road 2 (cyclists travelling to the north of the railway and to the west would use the pedestrian and cycle access at the bridge).

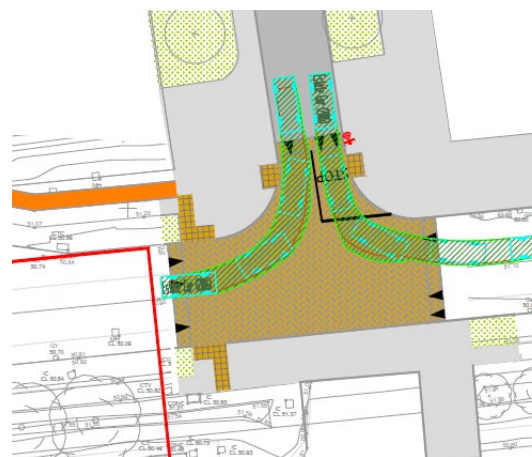


### Suggestion

Provide cycle facilities on the section of Road 2 south of its junction with Road 3.

### 7.4 Issue:

At both accesses the cycle lanes are shown to be terminated across the mouths of the junction. This would require cyclists to stop and give way to traffic exiting the development, and would negatively impact on the level of service provided by the cycle facility.



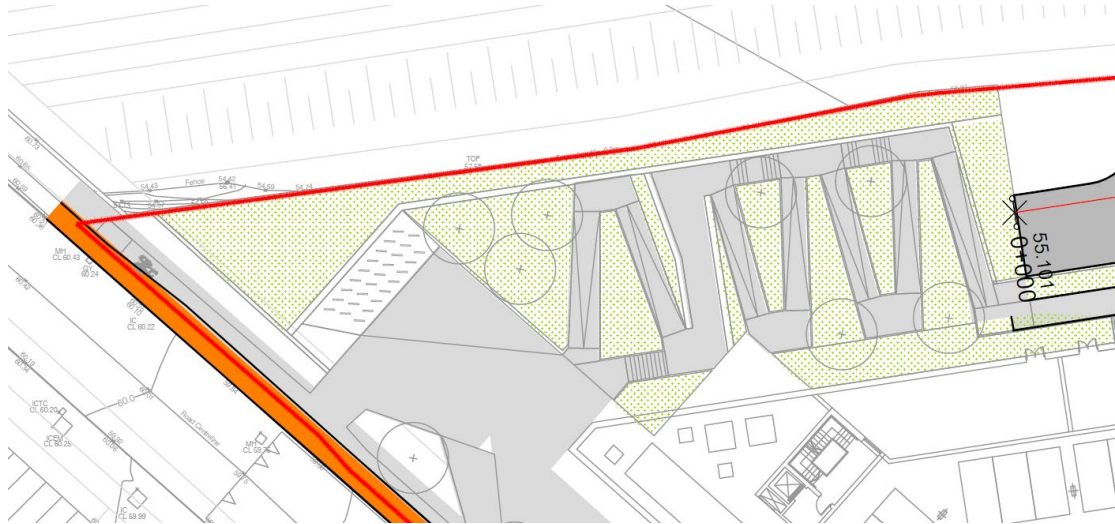
Suggestion

Make the cycle facilities continuous across the mouths of the accesses, as shown in the National Cycle Manual (detail: Side Road Joining Street with Segregated Cycle Facility, or similar)

## 8 ACCESSIBILITY

### 8.1 Issue:

The new pedestrian/cycle entrance to the northwest of the site features steps and ramps. The locations where tactile paving is to be provided has been shown on drawings (at junctions and accesses within the development). None is shown at the location of the steps and ramps. Visually impaired users may not be provided with sufficient warning of the hazards associated with the steps, ramps and landings.



### Suggestion

Provide tactile paving in accordance with 'Guidance on the use of Tactile Paving' and 'Building for Everyone'.

### 8.2 Issue:

Accessible parking is not shown to be provided in the development.

### Suggestion

Accessible parking should be provided for residents and visitors. EV charging points should also be provided.

## QUALITY AUDIT FEEDBACK FORM

**Scheme:** Proposed SHD Residential Development at Parkwest, Dublin 12.

**Audit Reference No.:** 21108-1 Park West, Dublin 12 QA– Draft 1

**Date Audit Completed:** 27<sup>th</sup> August 2021

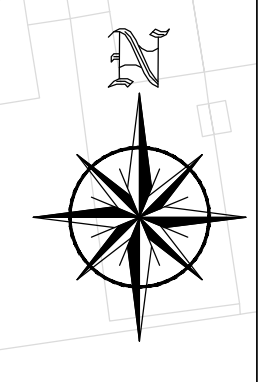
Paragraph No. in Safety Audit Report	To Be Completed By Designer			To Be Completed by Audit Team Leader
	Problem accepted (yes/no)	Recommended measure accepted (yes/no)	Describe alternative measure(s). Give reasons for not accepting recommended measure. Only complete if recommended measure is not accepted.	Alternative measures or reasons accepted by auditors (yes/no)
5.1	Yes	Yes	-----	-----
5.2	Yes	Yes	-----	-----
5.3	Yes	Yes	-----	-----
5.4	Yes	Yes	-----	-----
5.5	Yes	Yes	-----	-----
5.6	No	No	The proposed route is for local servicing such as maintenance, delivery vehicles, courier, and taxi etc.... The proposed junction arrangement has been revised on foot of the recommendation proposed with pedestrian priority provided across the mouth of the proposed junction.	Yes - if measures are provided in the detailed design to ensure that the volume and speed of traffic are both low.
5.7	Yes	Yes	-----	-----
5.8	Yes	Yes	-----	-----
5.9	Yes	Yes	-----	-----
5.10	Yes	Yes	-----	-----
5.11	Yes	Yes	-----	-----
5.12	Yes	Yes	-----	-----
6.1	Yes	Yes	-----	-----
6.2	Yes	Yes	-----	-----
6.3	Yes	Yes	-----	-----
6.4	Yes	Yes	-----	-----
6.5	Yes	Yes	-----	-----
7.1	No	No	The proposed permeability links provided are for the availability to connect to lands zoned for future development.	Yes



## **Appendix A - Drawings**

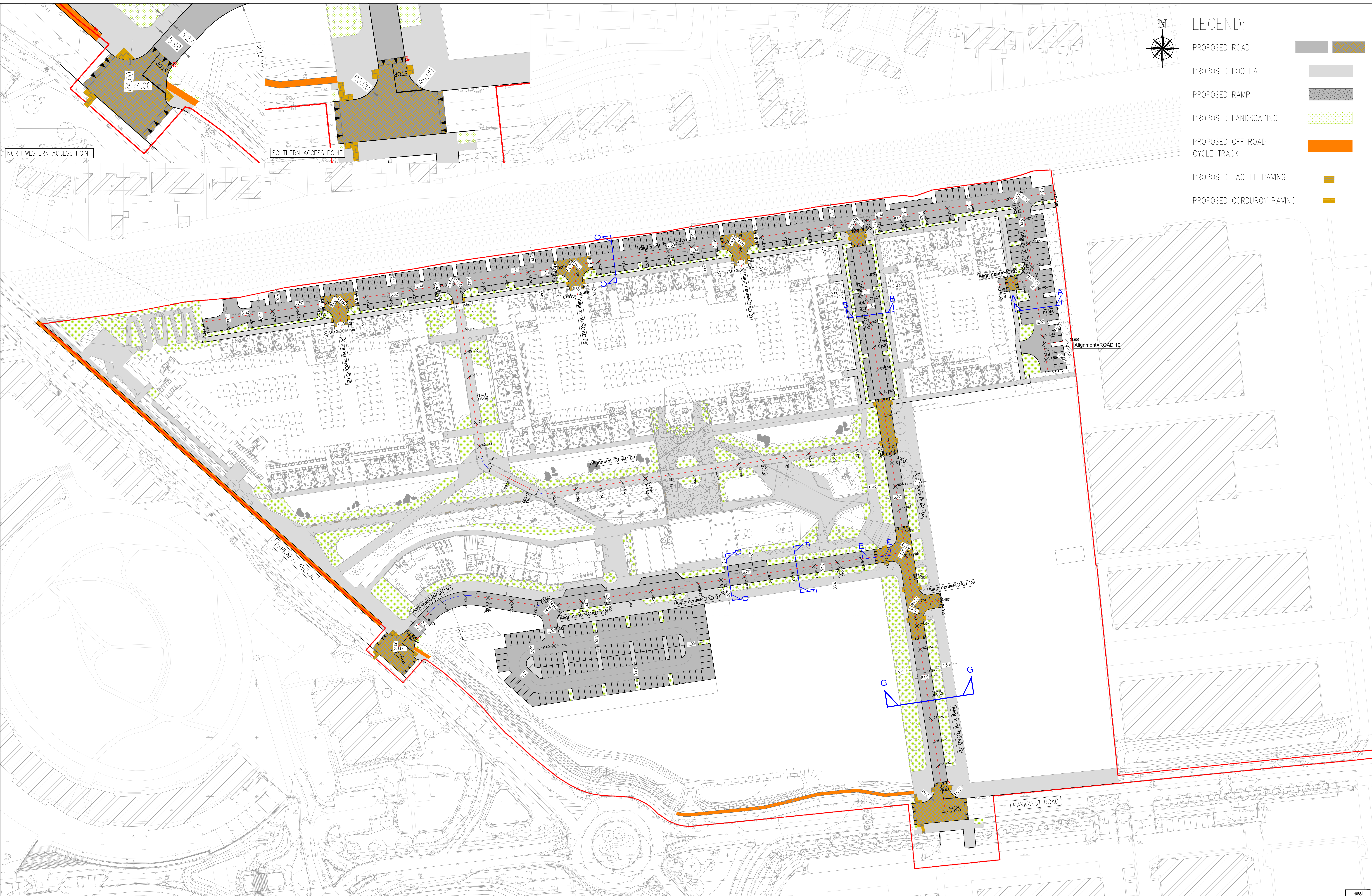
## **Appendix A - Drawings**





**LEGEND:**

- PROPOSED ROAD
- PROPOSED FOOTPATH
- PROPOSED RAMP
- PROPOSED LANDSCAPING
- PROPOSED OFF ROAD CYCLE TRACK
- PROPOSED TACTILE PAVING
- PROPOSED CORDUROY PAVING



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P1	10.12.2020	REVISED SITE LAYOUT	AB / NB

Architect: **Darmody Architecture**  
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 T: +353 (0)1 5460863 F: +353 (0)1 9011355  
 E: info@darmody.ie W: www.darmody.ie

Title: **Proposed Road Layout**

Proj No: **PWT-CSC-ZZ-XX-DR-C-0021**

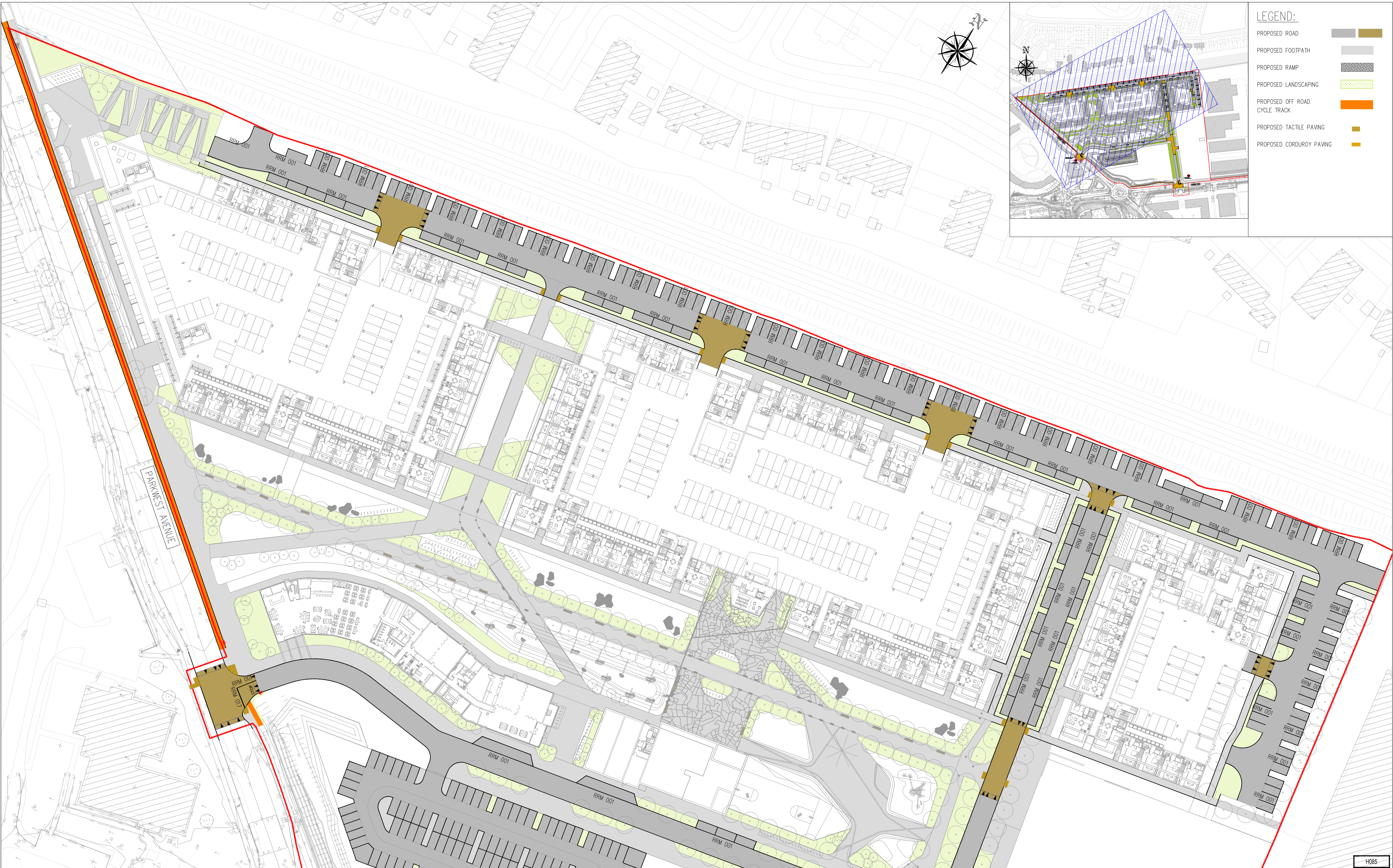
Date: Nov 2020 Dn By: AB Chk By: NB

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Head Office: 15, EN 600 1001 2000  
 Quality: Environment 15, EN 600 14001 2004  
 Health & Safety: 15, EN 600 80001 2011  
 ISO 9001:2015 Certified

H085





**LEGEND:**

PROPOSED ROAD	
PROPOSED FOOTPATH	
PROPOSED RAMP	
PROPOSED LANDSCAPING	
PROPOSED OFF ROAD CYCLE TRACK	
PROPOSED TACTILE PAVING	
PROPOSED CORDUROY PAVING	

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P2	15.12.2020	REVISED DRAWING

Rev. No.	Date	REVISION NOTE	Dim. By	Chkd. By
			AB	NB
			AB	NB

**Architect**  
 Darnody Architecture  
 Residential Development at Park West  
 Avenue & Park West Road, Park West, D12.

**Title**  
 Proposed Road Markings & Signage  
 Sheet 1 OF 2  
 PWT-CSC-ZZ-XX-DR-C-0025

**Date**  
 Nov 2020

**Dim by**  
 AB

**Chkd by**  
 AB

**Aprvd by**  
 NB

**Scale**  
 1:500@A1

**Revision**  
 P2

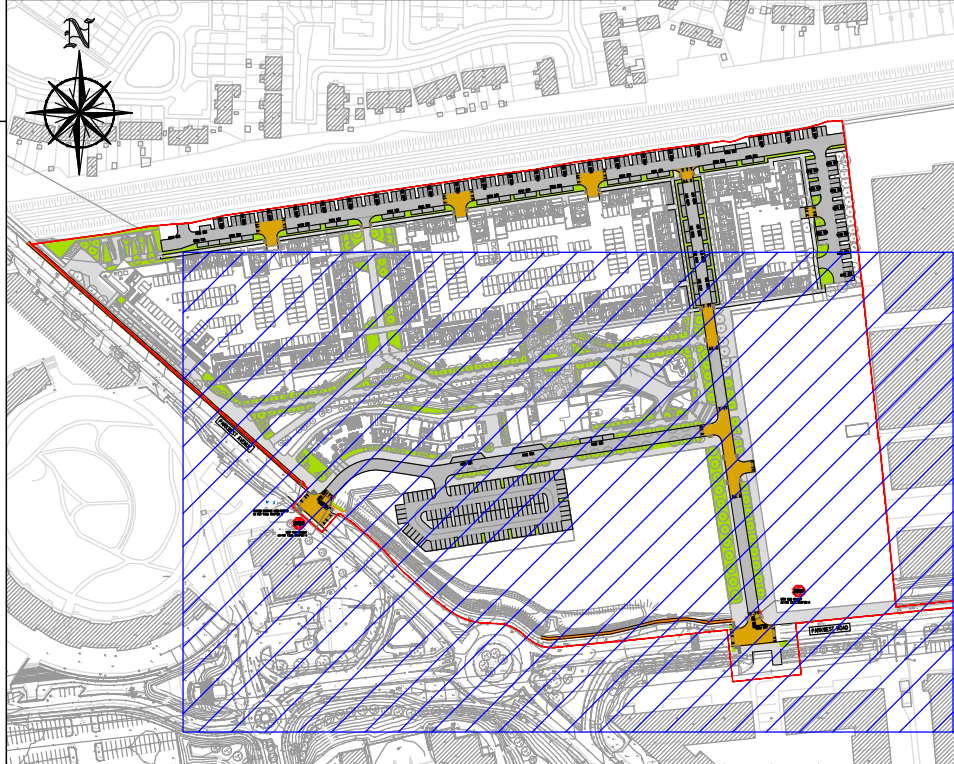
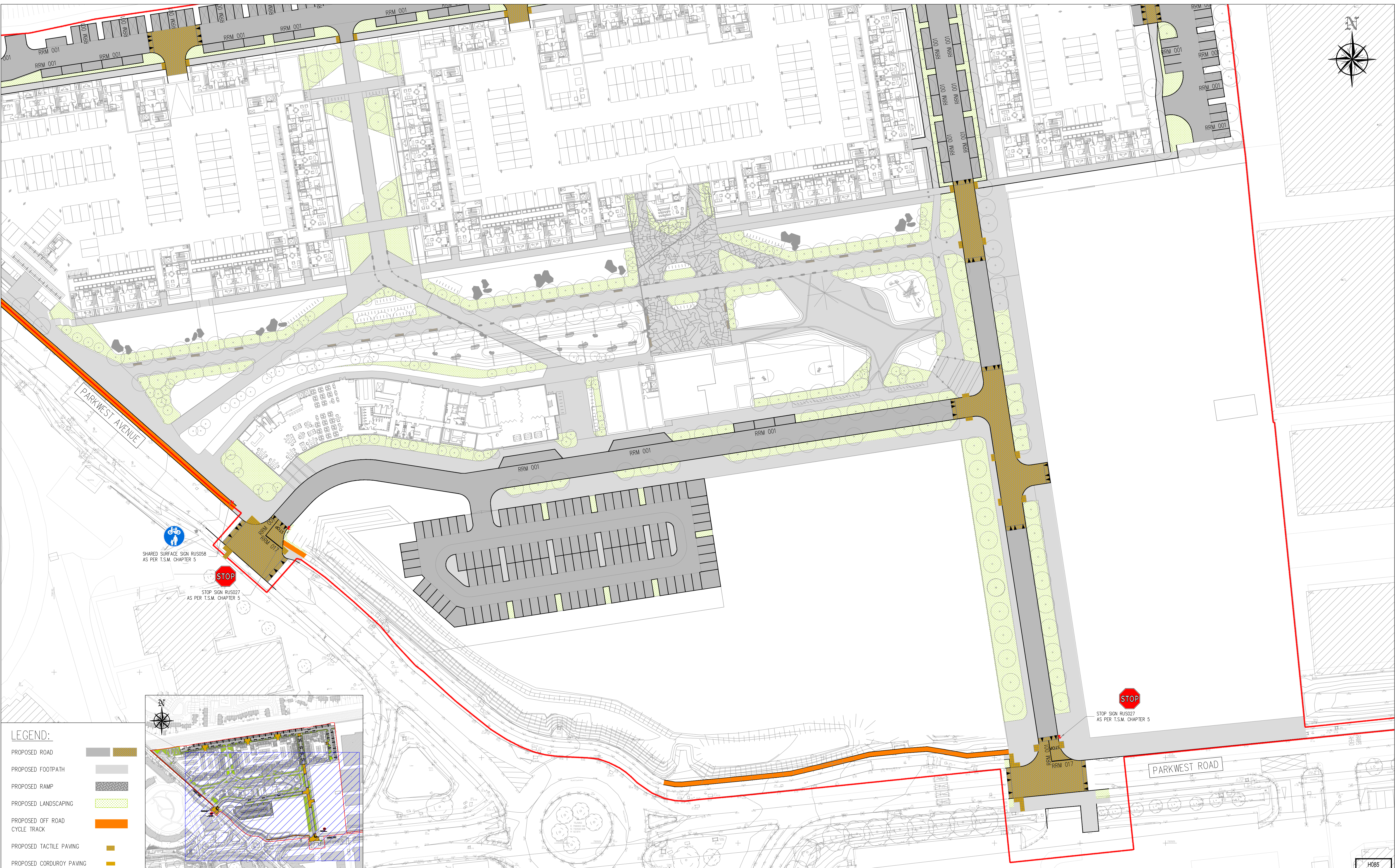
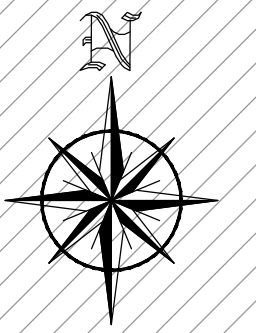
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**LEGEND:**

PROPOSED ROAD	
PROPOSED FOOTPATH	
PROPOSED RAMP	
PROPOSED LANDSCAPING	
PROPOSED OFF ROAD CYCLE TRACK	
PROPOSED TACTILE PAVING	
PROPOSED CORDUROY PAVING	

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P1	10.12.2020	REVISED SITE LAYOUT	AB	NB
P2	15.12.2020	REVISED DRAWING	AB	NB

Architect	Darmody Architecture			
Project	Residential Development at Park West Avenue & Park West Road, Park West, D12.			
Title	Proposed Road Markings & Signage Sheet 2 OF 2			
Dwg. No.	PWT-CSC-ZZ-XX-DR-C-0026			
Date	Drn. by	Chkd. by	Aprvd. by	Scale
Nov 2020	AB	AB	NB	1:500@A1
Revision	<b>P2</b>			

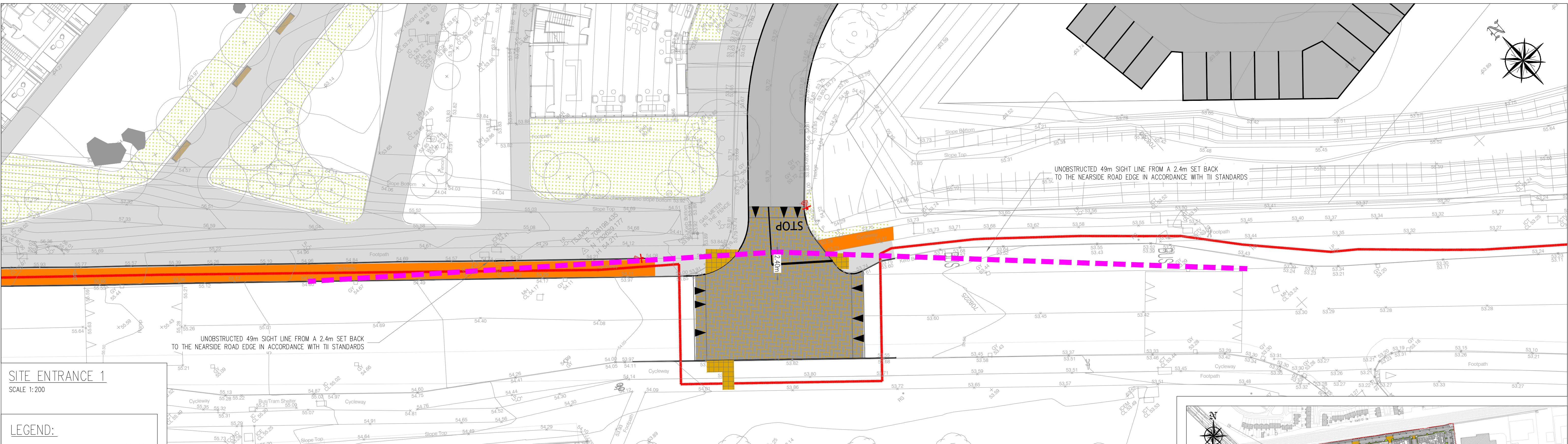
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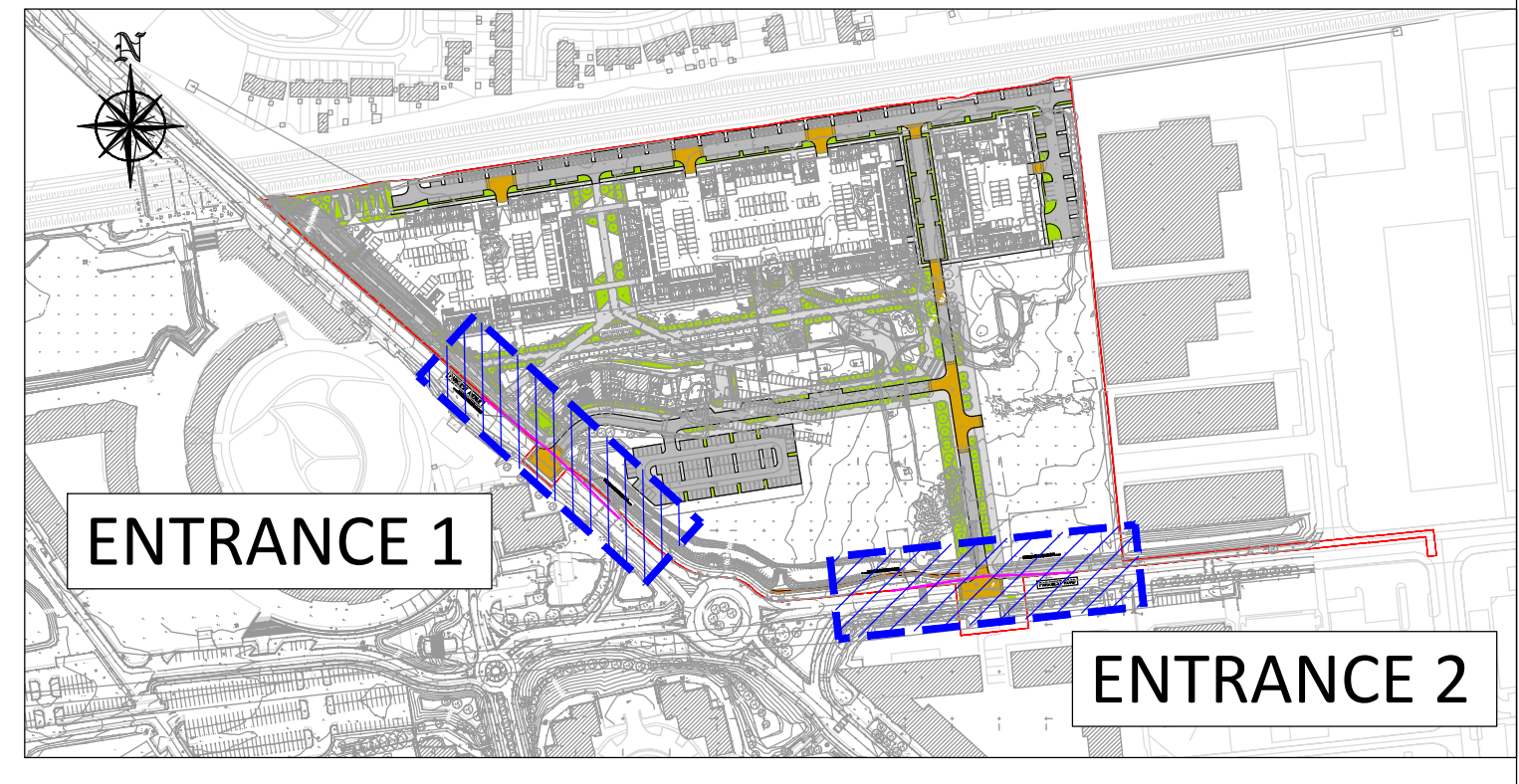
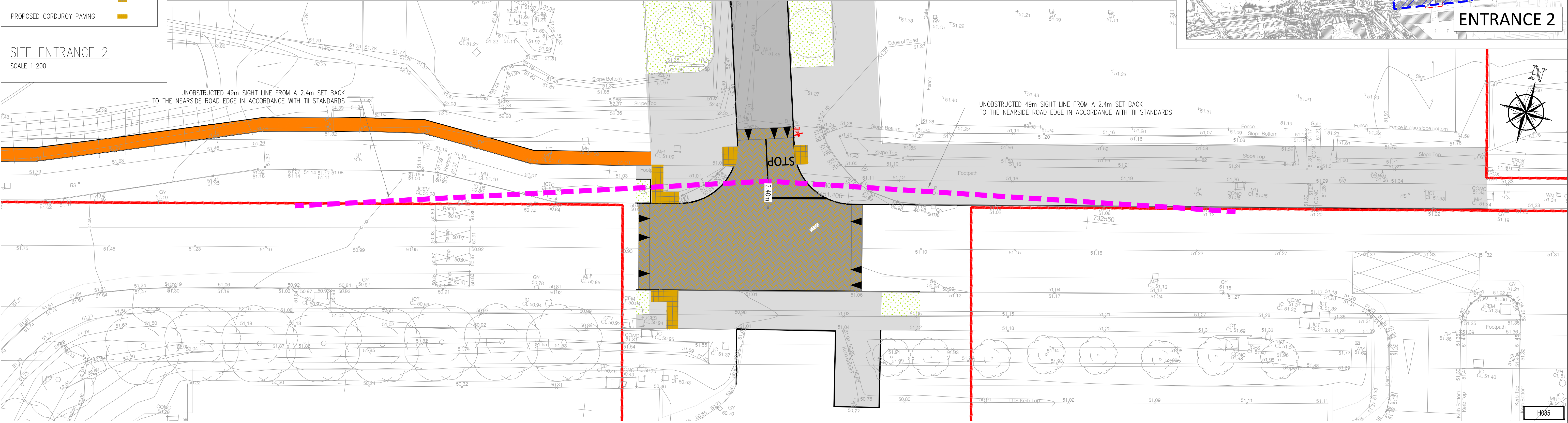


**SITE ENTRANCE 1**  
SCALE 1:200

**LEGEND:**

PROPOSED ROAD	
PROPOSED FOOTPATH	
PROPOSED RAMP	
PROPOSED LANDSCAPING	
PROPOSED OFF ROAD CYCLE TRACK	
PROPOSED TACTILE PAVING	
PROPOSED CORDUROY PAVING	

**SITE ENTRANCE 2**  
SCALE 1:200



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P2	15.12.2020	REVISED DRAWING

Dim. By	Chkd. By
AB	NB
AB	NB

Architect	Darmody Architecture
Project	Park West SHD, Park West Avenue and Park West Road, Park West, Dublin 12
Title	Proposed Visibility Splay
Dwg. No.	PWT-CSC-ZZ-XX-DR-C-0030
Date	Nov 2020
Dim by	AB
Chkd by	AB
Apprv by	NB
Scale	1:200@A1
Revision	P2

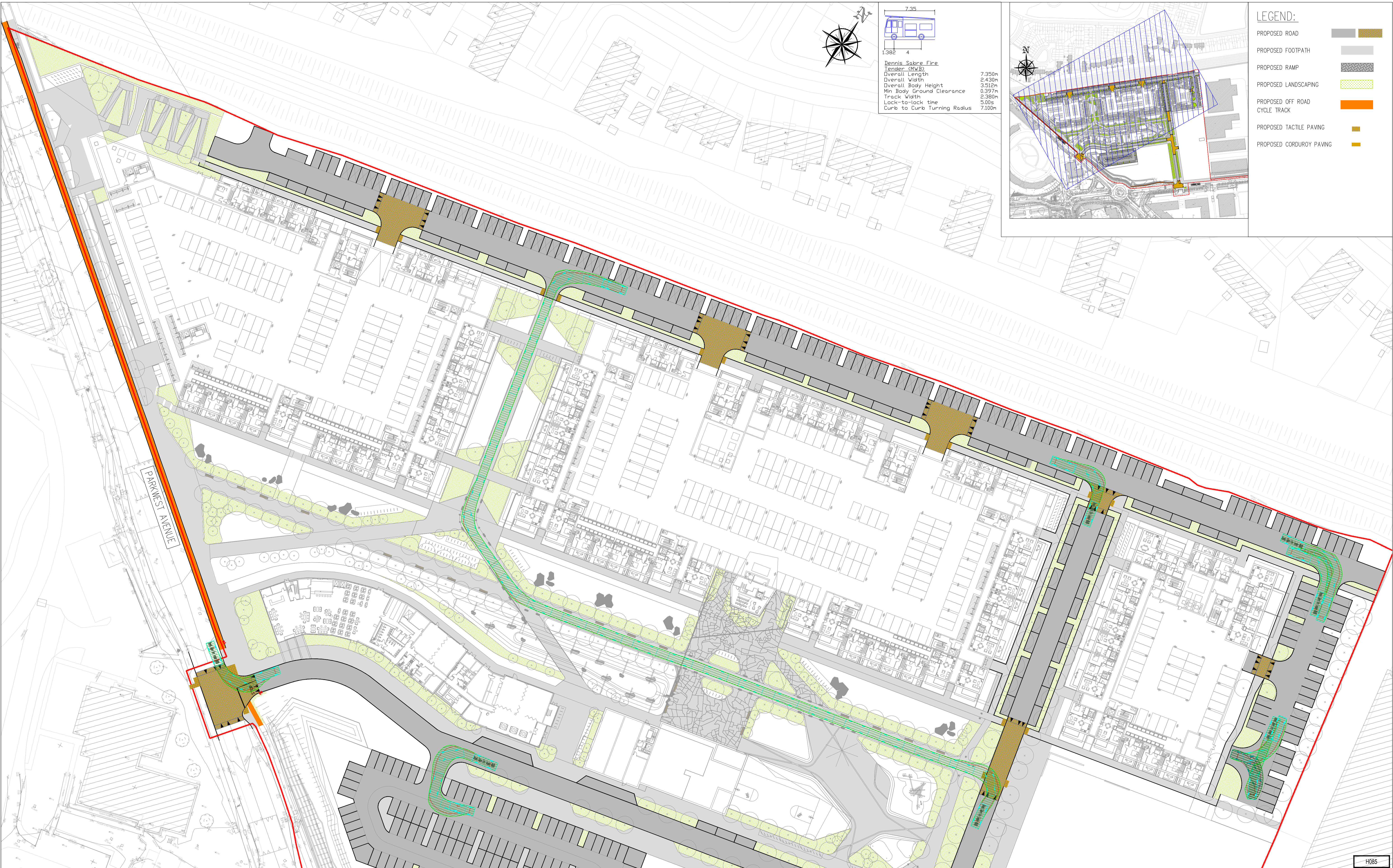
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P1	10.12.2020	REVISED SITE LAYOUT	AB	NB
P2	15.12.2020	REVISED DRAWING	AB	NB

Architect	Darmody Architecture
Project	Park West SHD, Park West Avenue and Park West Road, Park West, Dublin 12
Title	Swept Path Analysis Fire Tender Sheet 1 OF 2
Dwg. No.	PWT-CSC-ZZ-XX-DR-C-0031
Date	Nov 2020
Drn. by	AB
Chkd. by	AB
Aprvd. by	NB
Scale	1:500@A1
Revision	<b>P2</b>

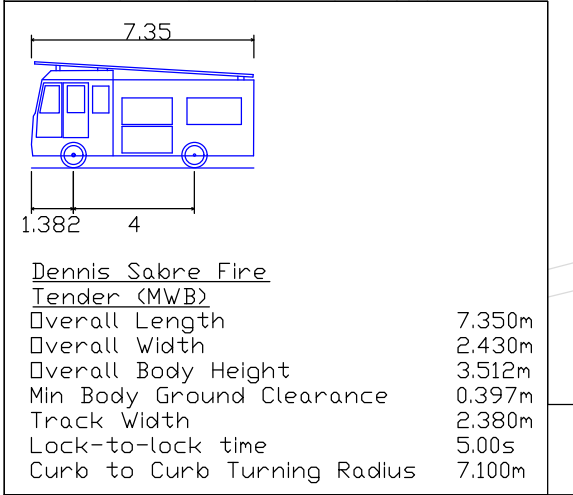
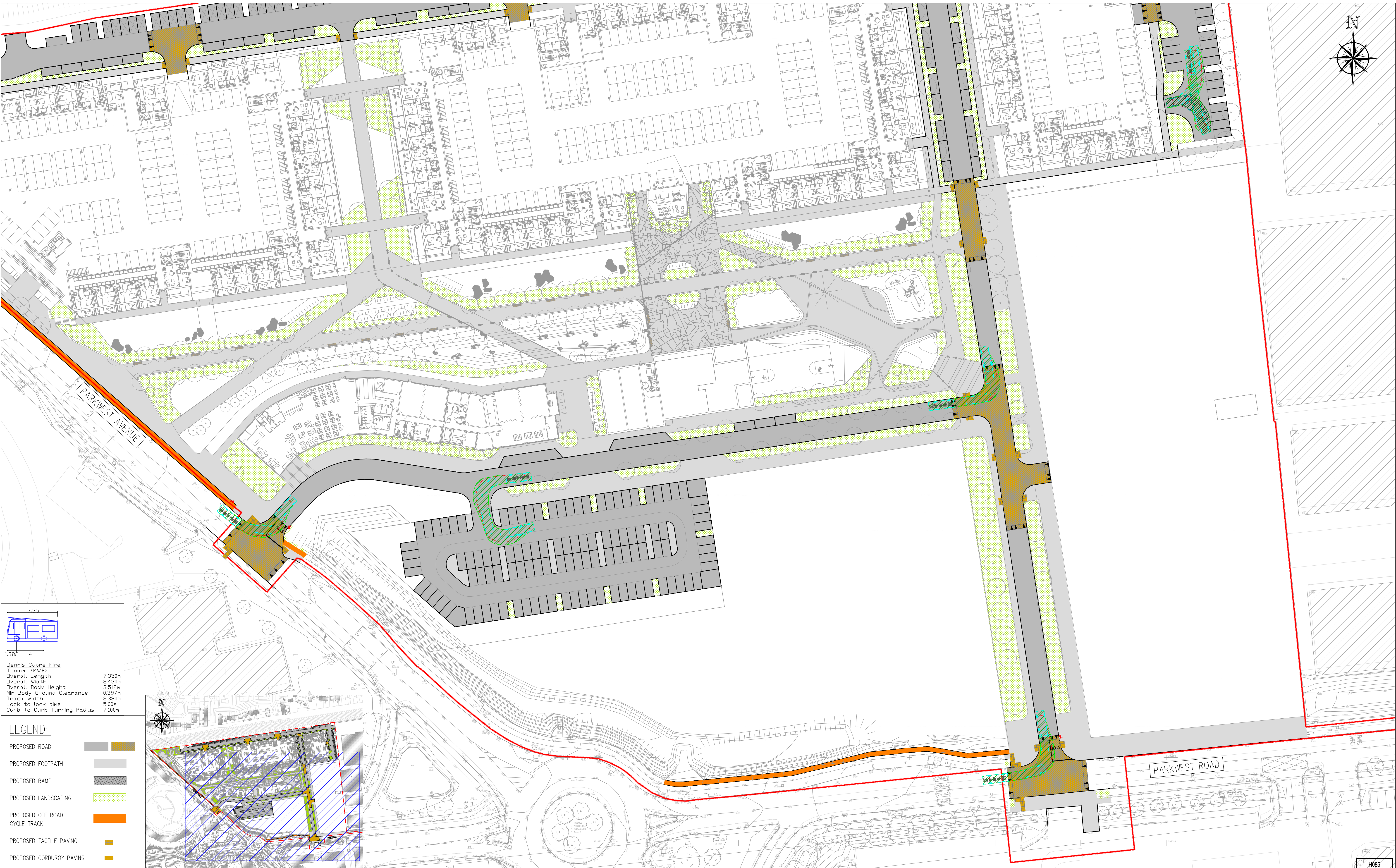
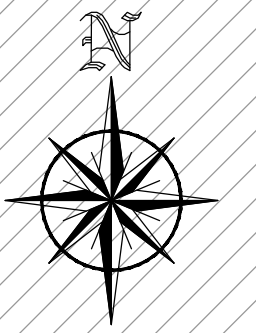
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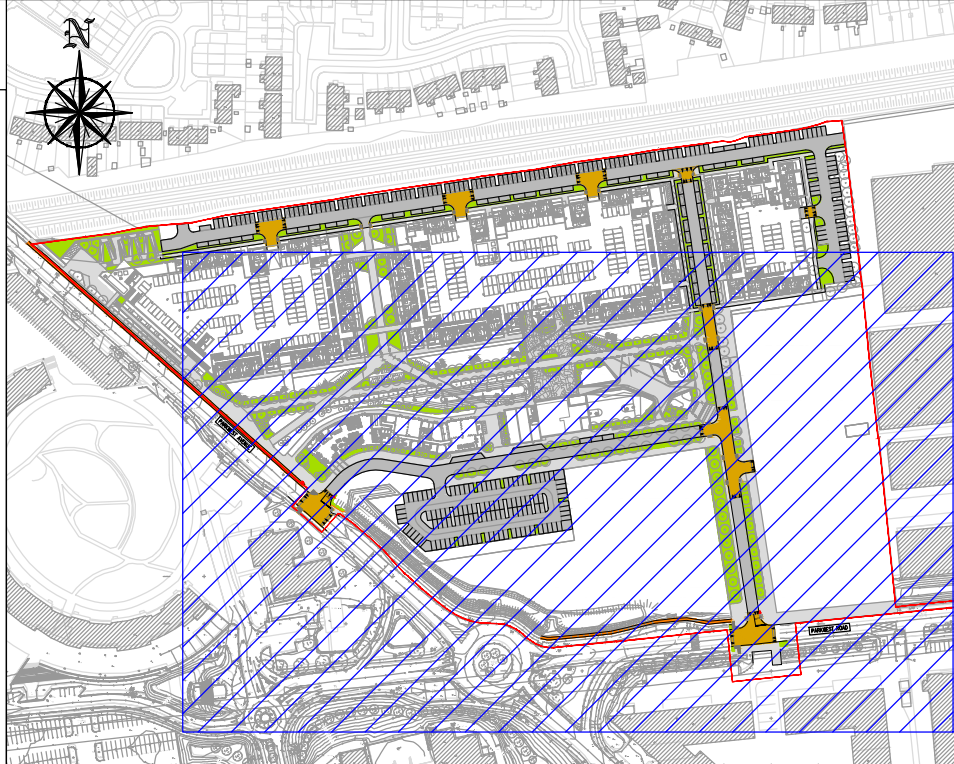
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**LEGEND:**

- PROPOSED ROAD
- PROPOSED FOOTPATH
- PROPOSED RAMP
- PROPOSED LANDSCAPING
- PROPOSED OFF ROAD CYCLE TRACK
- PROPOSED TACTILE PAVING
- PROPOSED CORDOUPY PAVING



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P2	15.12.2020	REVISED DRAWING	AB	NB

Architect	Darmody Architecture			
Project	Park West SHD, Park West Avenue and Park West Road, Park West, Dublin 12			
Title	Swept Path Analysis Fire Tender Sheet 2 OF 2			
Dwg. No.	PWT-CSC-ZZ-XX-DR-C-0032			
Date	Drn by	Chkd by	Aprvd by	Scale
Nov 2020	AB	AB	NB	1:500@A1
Revision				<b>P2</b>

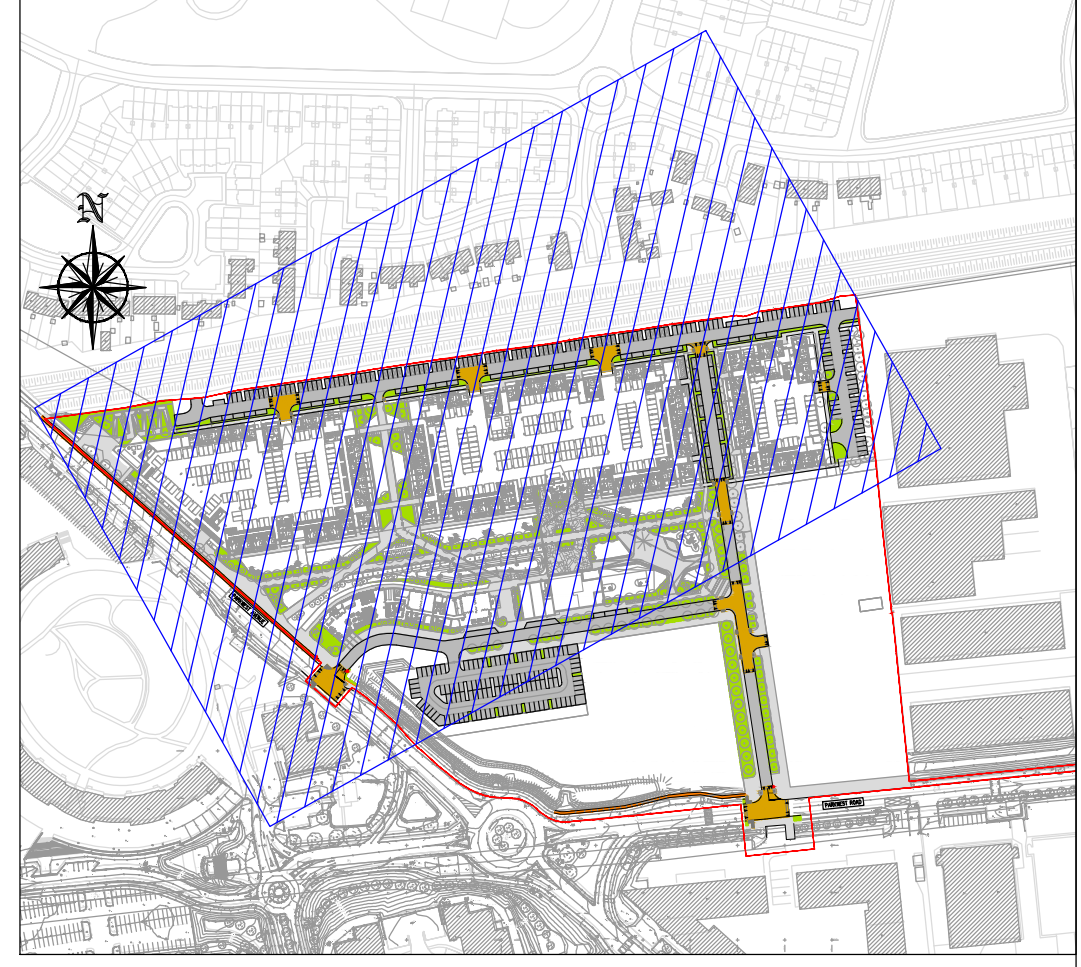
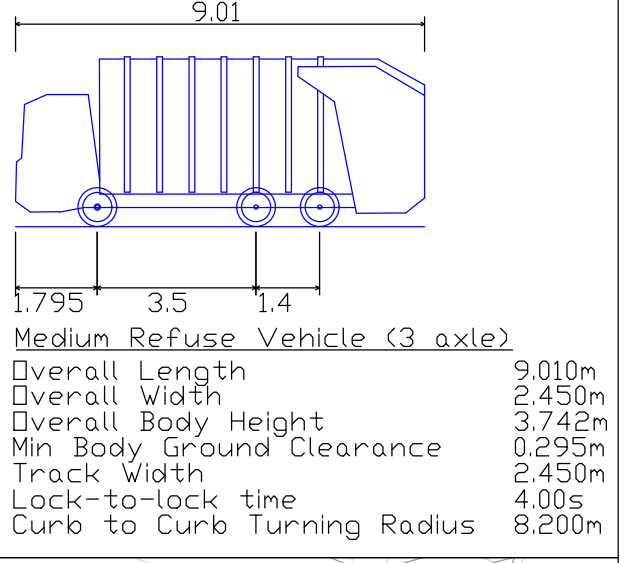
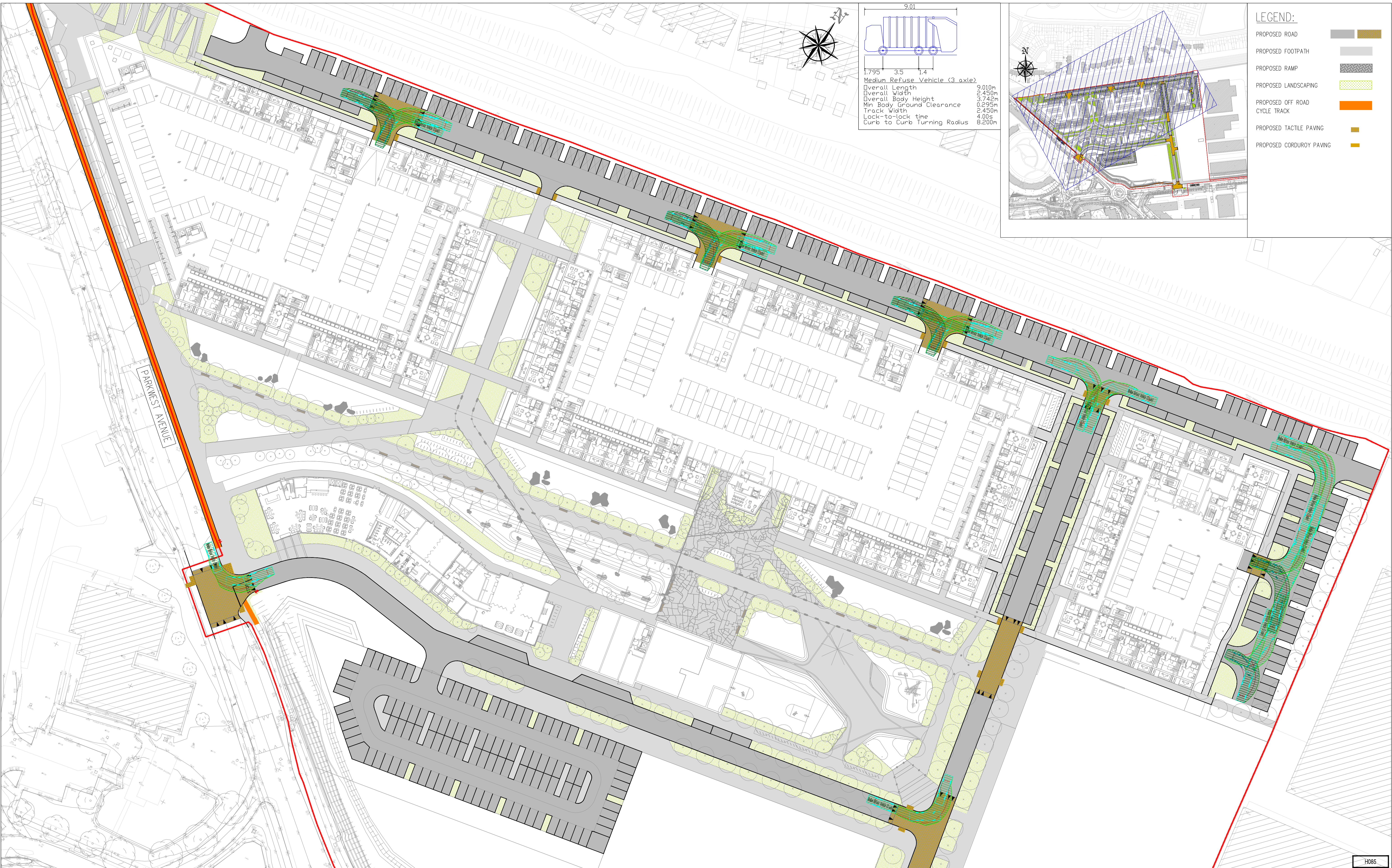
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 Health & Safety OHSAS 18001:2007

H085





**LEGEND:**

- PROPOSED ROAD
- PROPOSED FOOTPATH
- PROPOSED RAMP
- PROPOSED LANDSCAPING
- PROPOSED OFF ROAD CYCLE TRACK
- PROPOSED TACTILE PAVING
- PROPOSED CORDUROY PAVING

PARKWEST AVENUE

H085

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P1	10.12.2020	REVISED SITE LAYOUT	AB	NB
P2	15.12.2020	REVISED DRAWING	AB	NB

Architect	Darmody Architecture
Project	Park West SHD, Park West Avenue and Park West Road, Park West, Dublin 12
Title	Swept Path Analysis Refuse Sheet 1 OF 2
Dwg. No.	PWT-CSC-ZZ-XX-DR-C-0033
Date	Nov 2020
Drn. by	AB
Chkd. by	AB
Aprvd. by	NB
Scale	1:500@A1
Revision	<b>P2</b>

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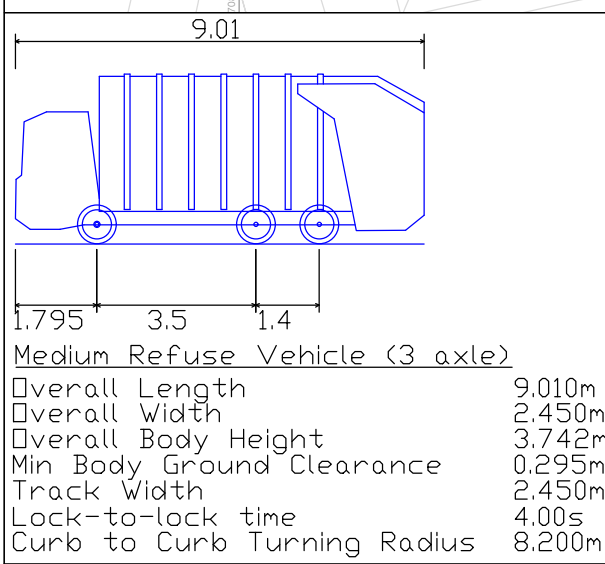
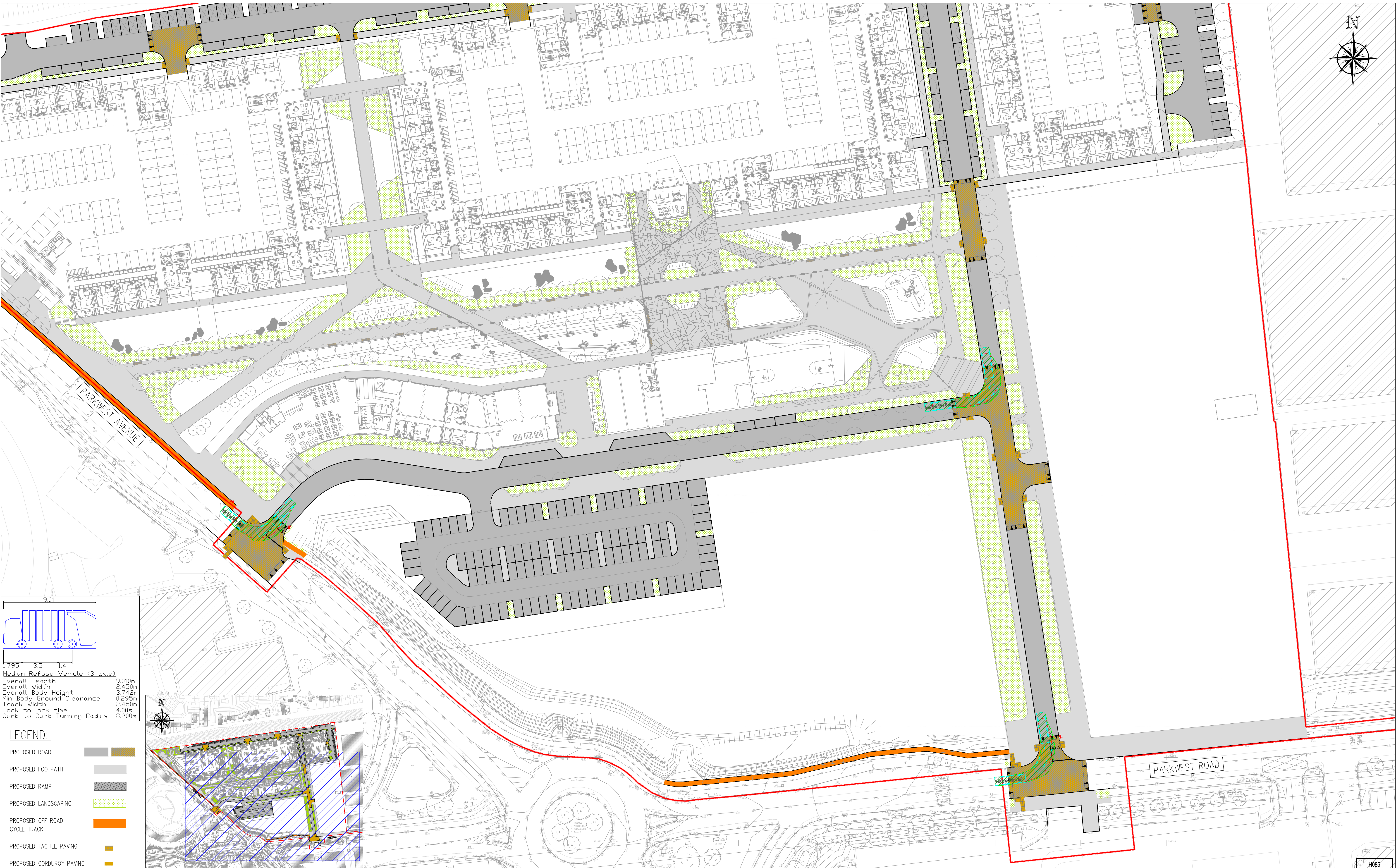
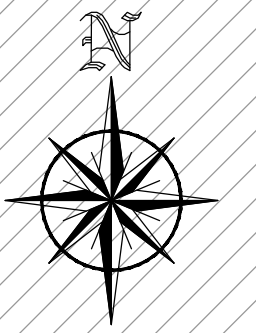
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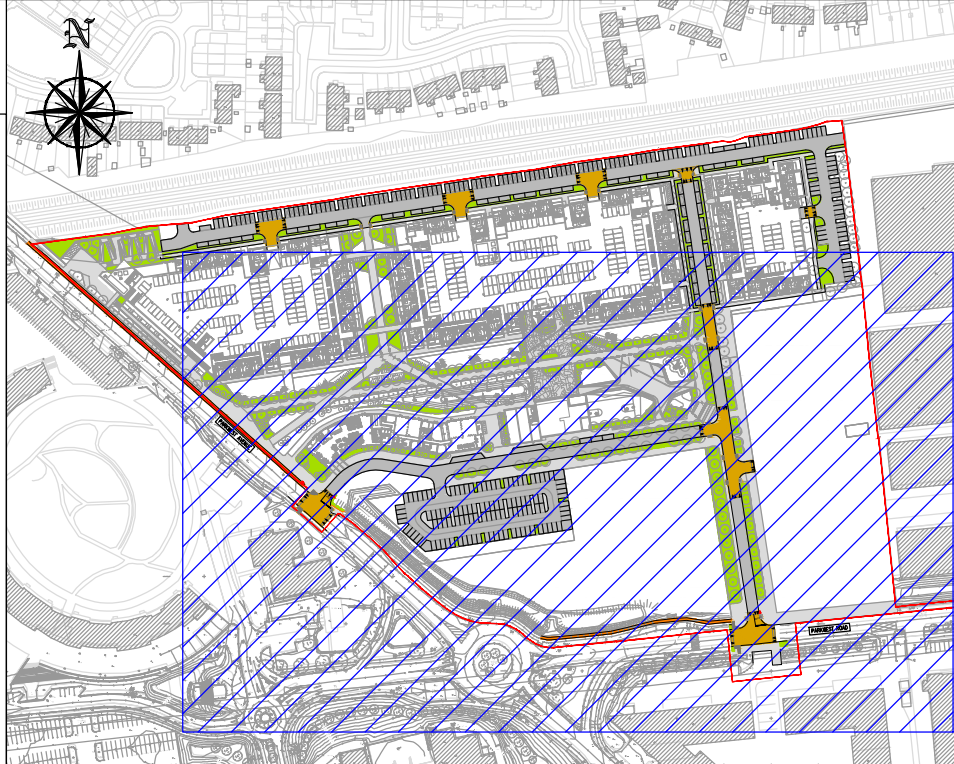
IS. EN ISO 9001:2008  
 IS. EN ISO 14001:2004  
 IS. EN ISO 50001:2011  
 OHSAS 18001:2007





**LEGEND:**

PROPOSED ROAD	
PROPOSED FOOTPATH	
PROPOSED RAMP	
PROPOSED LANDSCAPING	
PROPOSED OFF ROAD CYCLE TRACK	
PROPOSED TACTILE PAVING	
PROPOSED CORDOUIRY PAVING	



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Rev. No.	Date	REVISION NOTE	Des. By	Chkd. By
P1	10.12.2020	REVISED SITE LAYOUT	AB	NB
P2	15.12.2020	AB		

Architect	Darmody Architecture			
Project	Park West SHD, Park West Avenue and Park West Road, Park West, Dublin 12			
Title	Swept Path Analysis Refuse Sheet 2 OF 2			
Dwg. No.	PWT-CSC-ZZ-XX-DR-C-0034			
Date	Nov 2020	Des. by	AB	Chkd. by
		Aprvd. by	NB	Scale
				1:500@A1
				Revision
				<b>P2</b>

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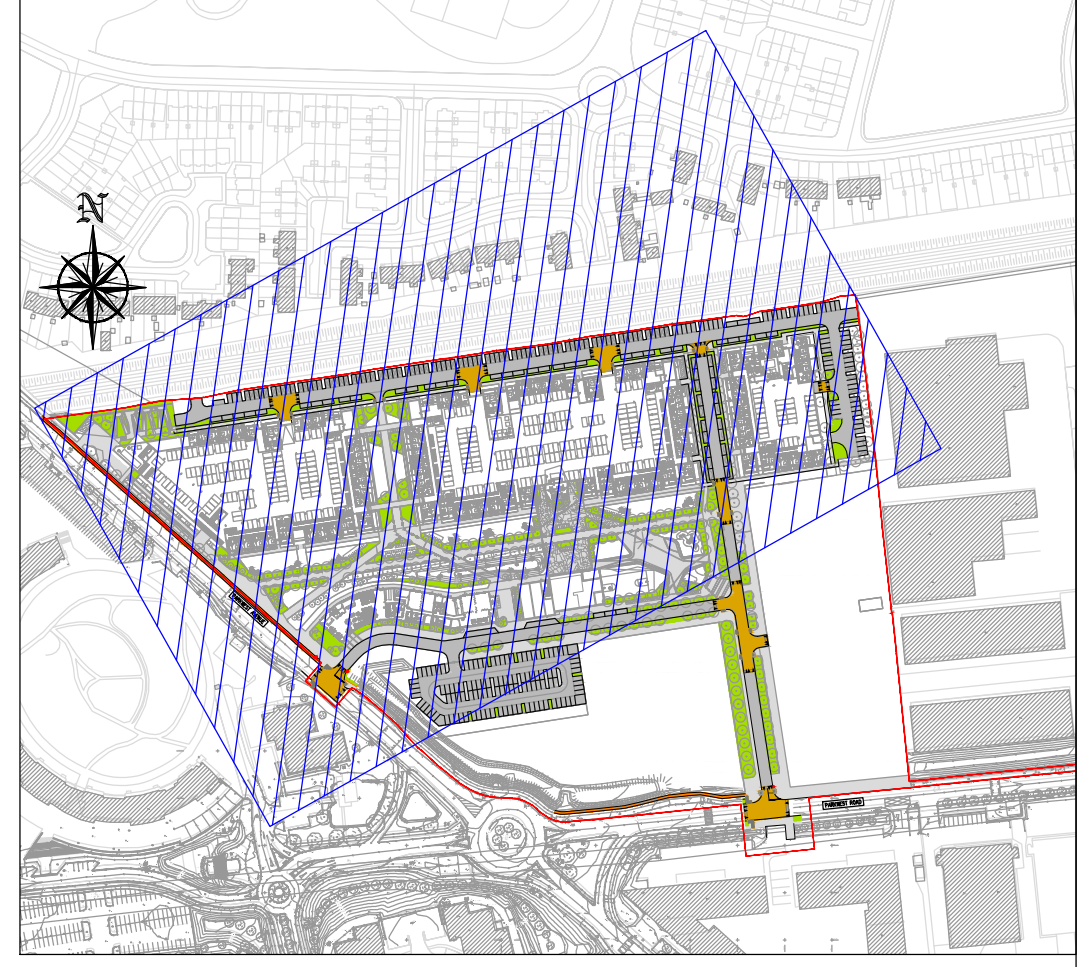
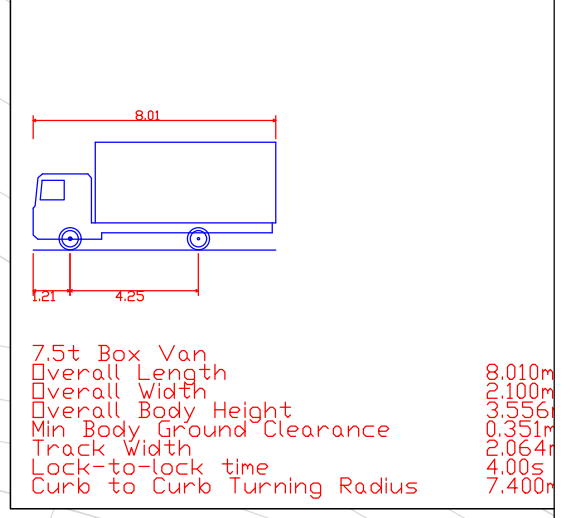
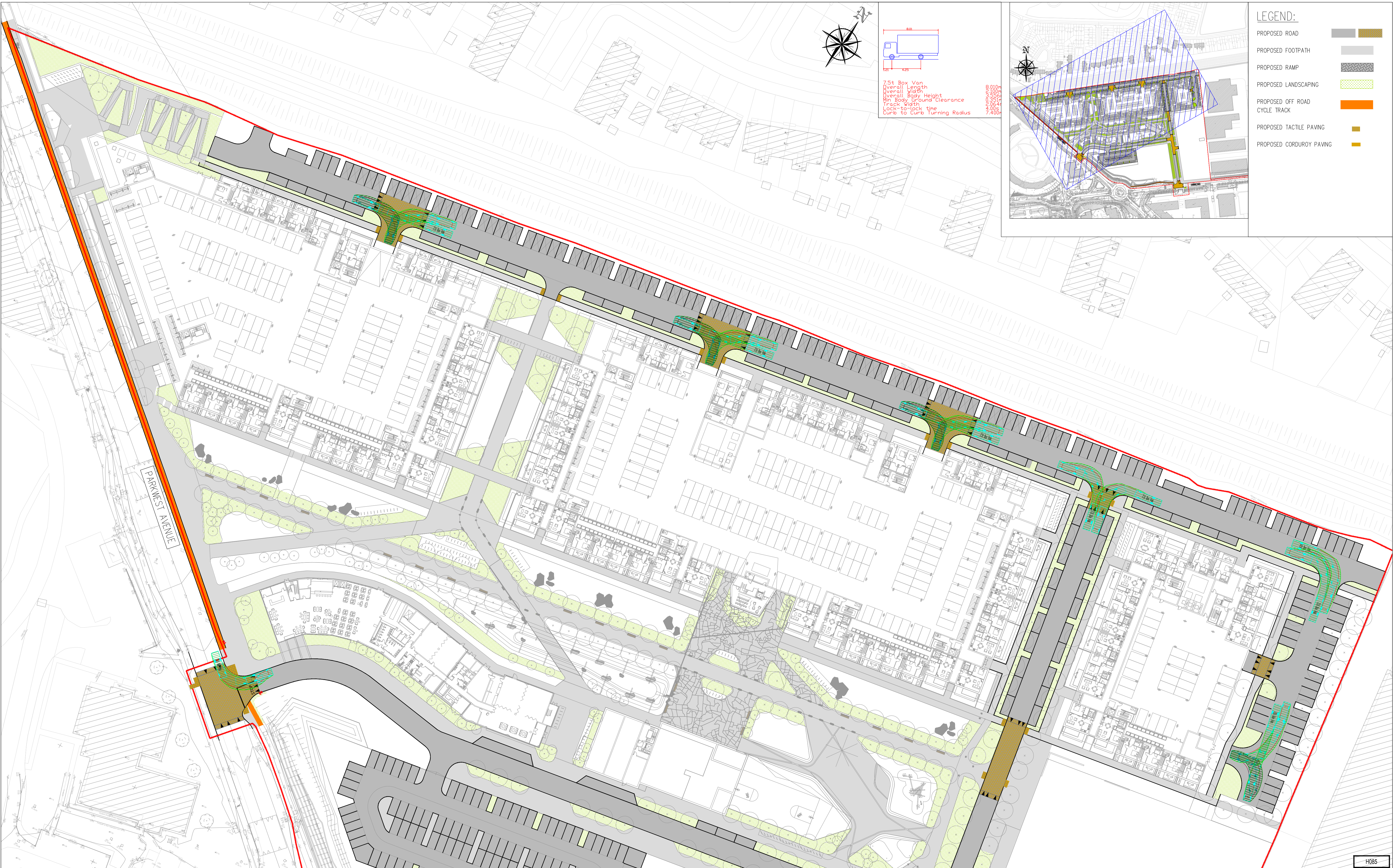
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 I.S. EN ISO 14001:2004  
 I.S. EN ISO 50001:2011  
 OHSAS 18001:2007

H085





**LEGEND:**

PROPOSED ROAD	
PROPOSED FOOTPATH	
PROPOSED RAMP	
PROPOSED LANDSCAPING	
PROPOSED OFF ROAD CYCLE TRACK	
PROPOSED TACTILE PAVING	
PROPOSED CORDUROY PAVING	

PARKWEST AVENUE

H085

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P1	10.12.2020	REVISED SITE LAYOUT	AB	NB
P2	15.12.2020	REVISED DRAWING	AB	NB

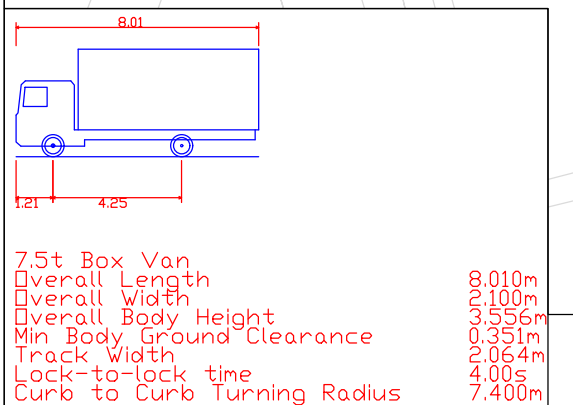
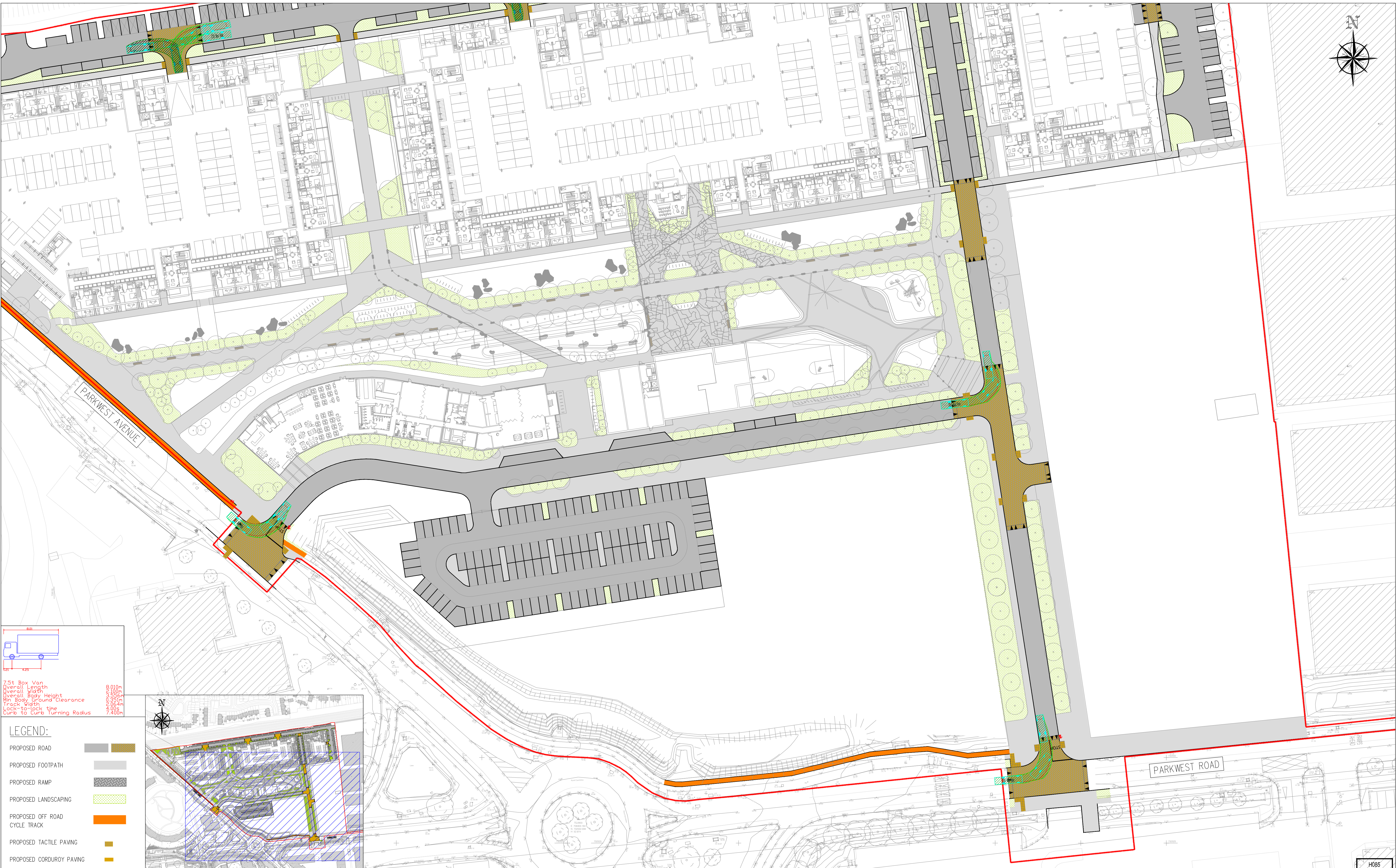
Architect	Darmody Architecture
Project	Park West SHD, Park West Avenue and Park West Road, Park West, Dublin 12
Title	Swept Path Analysis Light Goods Vehicle Sheet 1 OF 2
Dwg. No.	PWT-CSC-ZZ-XX-DR-C-0035
Date	Nov 2020
Drn. by	AB
Chkd. by	AB
Aprvd. by	NB
Scale	1:500@A1
Revision	<b>P2</b>

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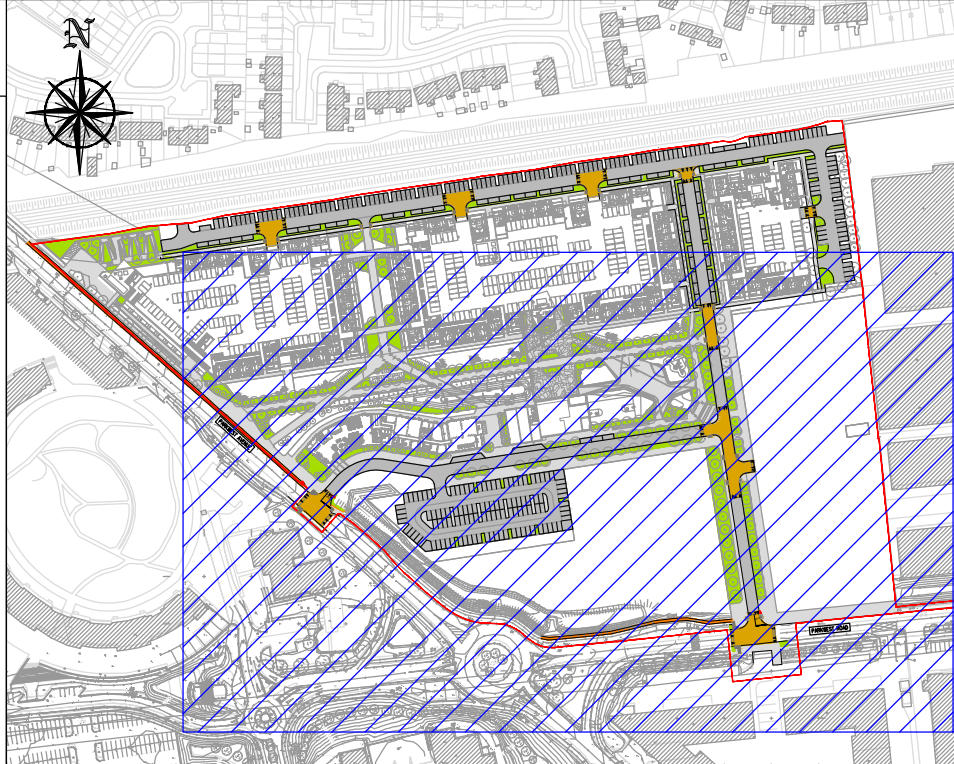
Quality Environment Health & Safety  
 I.S. EN ISO 9001:2008  
 I.S. EN ISO 14001:2004  
 I.S. EN ISO 50001:2011  
 OHSAS 18001:2007





**LEGEND:**

PROPOSED ROAD	
PROPOSED FOOTPATH	
PROPOSED RAMP	
PROPOSED LANDSCAPING	
PROPOSED OFF ROAD CYCLE TRACK	
PROPOSED TACTILE PAVING	
PROPOSED CORDUROY PAVING	



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P1	10.12.2020	REVISED SITE LAYOUT	AB	NB
P2	15.12.2020	REVISED DRAWING	AB	NB

Architect	Darmody Architecture			
Project	Park West SHD, Park West Avenue and Park West Road, Park West, Dublin 12			
Title	Swept Path Analysis Light Good Vehicle Sheet 2 OF 2			
Dwg. No.	PWT-CSC-ZZ-XX-DR-C-0036			
Date	Drn by	Chkd by	Aprvd by	Scale
Nov 2020	AB	AB	NB	1:500@A1
Revision				<b>P2</b>

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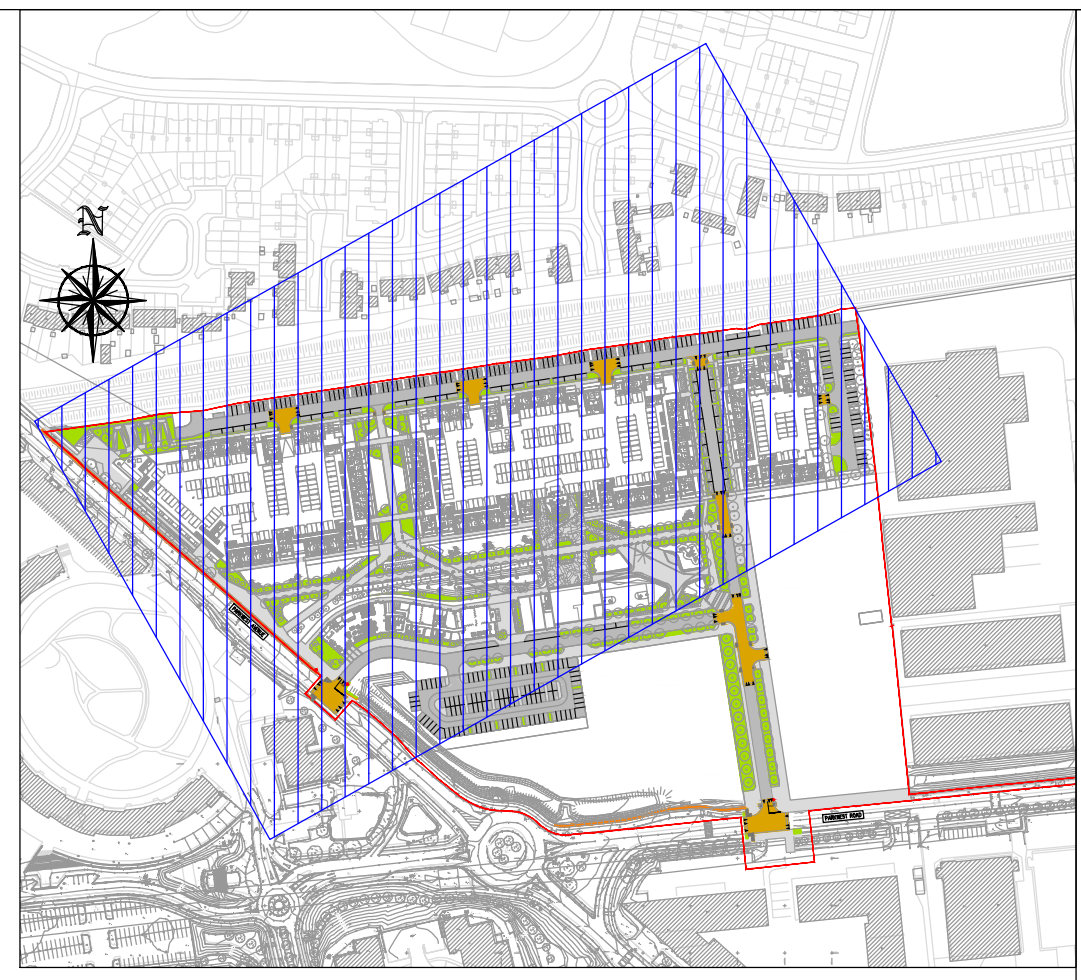
Quality Environment IS. EN ISO 9001:2008  
 NSAI Certified Energy IS. EN ISO 14001:2004  
 Health & Safety CHSAS 18001:2007

H085





4.71  
0.885 2.755  
Estate Car (2006)  
Overall Length 4.710m  
Overall Width 1.804m  
Overall Body Height 1.442m  
Min Body Ground Clearance 0.207m  
Max Track Width 1.756m  
Lock-to-lock time 4.00s  
Curb to Curb Turning Radius 5.950m



**LEGEND:**

PROPOSED ROAD	
PROPOSED FOOTPATH	
PROPOSED RAMP	
PROPOSED LANDSCAPING	
PROPOSED OFF ROAD CYCLE TRACK	
PROPOSED TACTILE PAVING	
PROPOSED CORDUROY PAVING	

PARKWEST AVENUE

H085

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P1	10.12.2020	REVISED SITE LAYOUT	AB	NB
P2	15.12.2020	REVISED DRAWING	AB	NB

Architect	Darmody Architecture			
Project	Park West SHD, Park West Avenue and Park West Road, Park West, Dublin 12			
Title	Swept Path Analysis Large Car Sheet 1 OF 2			
Dwg. No.	PWT-CSC-ZZ-XX-DR-C-0037			
Date	Drn by	Chkd by	Apprv by	Scale
Nov 2020	AB	AB	NB	1:500@A1
				Revision <b>P2</b>

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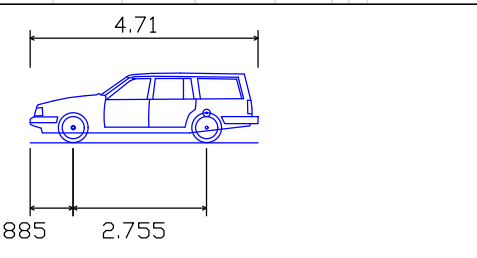
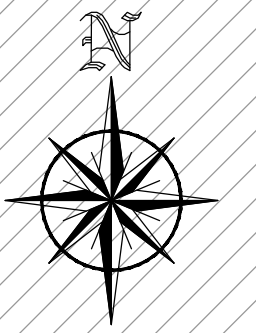
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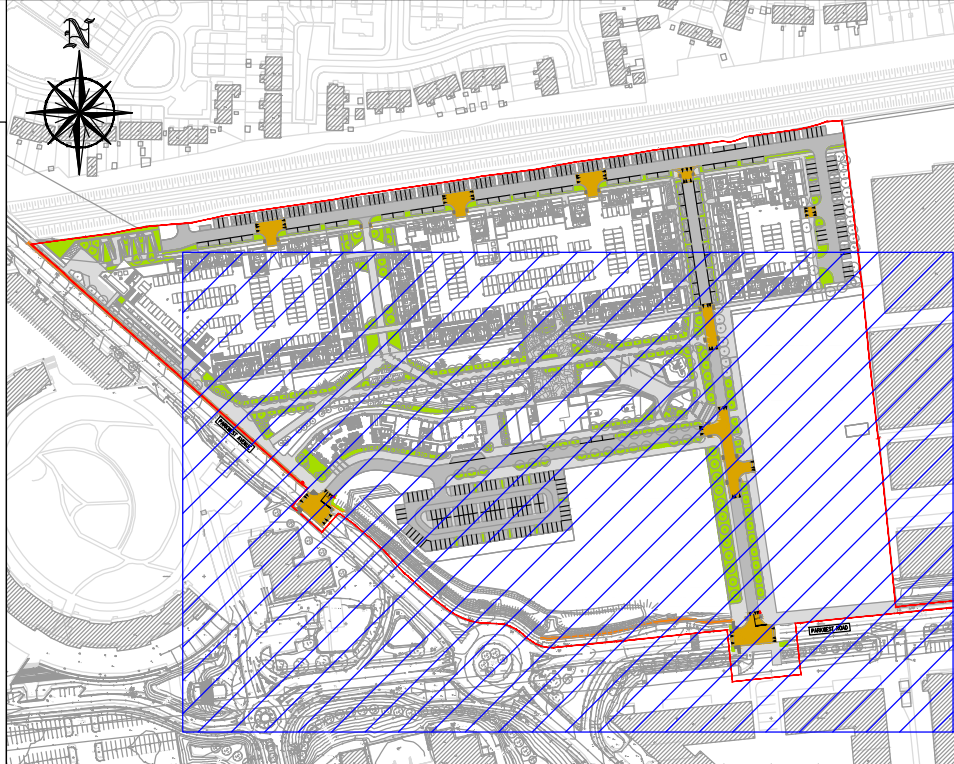
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IS. EN ISO 14001:2004  
IS. EN ISO 50001:2011  
OHSAS 18001:2007





Overall Length 4.710m  
 Overall Width 1.804m  
 Overall Body Height 1.442m  
 Min Body Ground Clearance 0.207m  
 Max Track Width 1.756m  
 Lock-to-lock time 4.00s  
 Curb to Curb Turning Radius 5.950m

- LEGEND:**
- PROPOSED ROAD
  - PROPOSED FOOTPATH
  - PROPOSED RAMP
  - PROPOSED LANDSCAPING
  - PROPOSED OFF ROAD CYCLE TRACK
  - PROPOSED TACTILE PAVING
  - PROPOSED CORDUROY PAVING



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P1	10.12.2020	REVISED SITE LAYOUT	AB	NB
P2	15.12.2020	REVISED DRAWING	AB	NB

Architect	Darmody Architecture			
Project	Park West SHD, Park West Avenue and Park West Road, Park West, Dublin 12			
Title	Swept Path Analysis Large Car Sheet 2 OF 2			
Dwg. No.	PWT-CSC-ZZ-XX-DR-C-0038			
Date	Drn by	Chkd by	Aprvd by	Scale
Nov 2020	AB	AB	NB	1:500@A1
Revision	<b>P2</b>			

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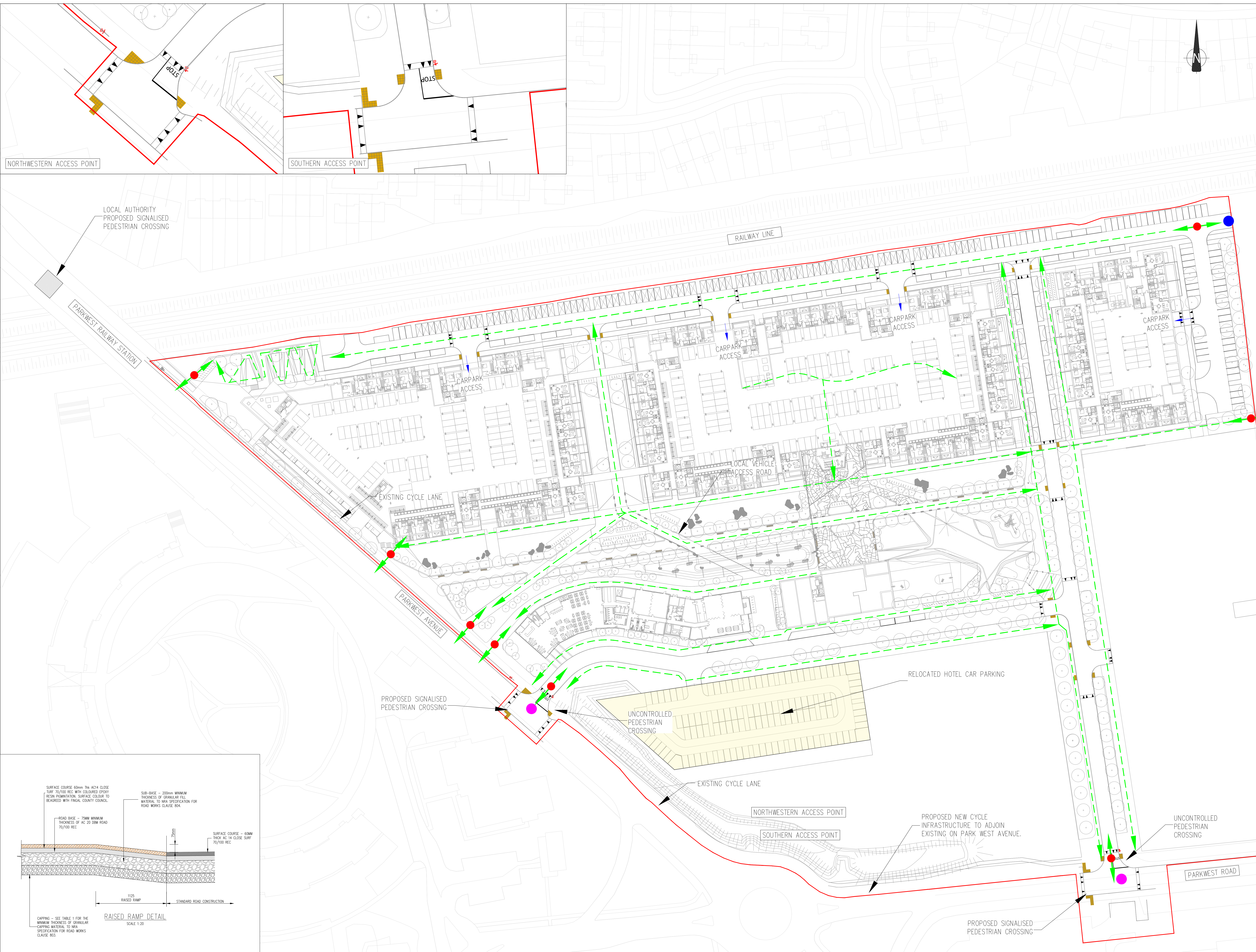
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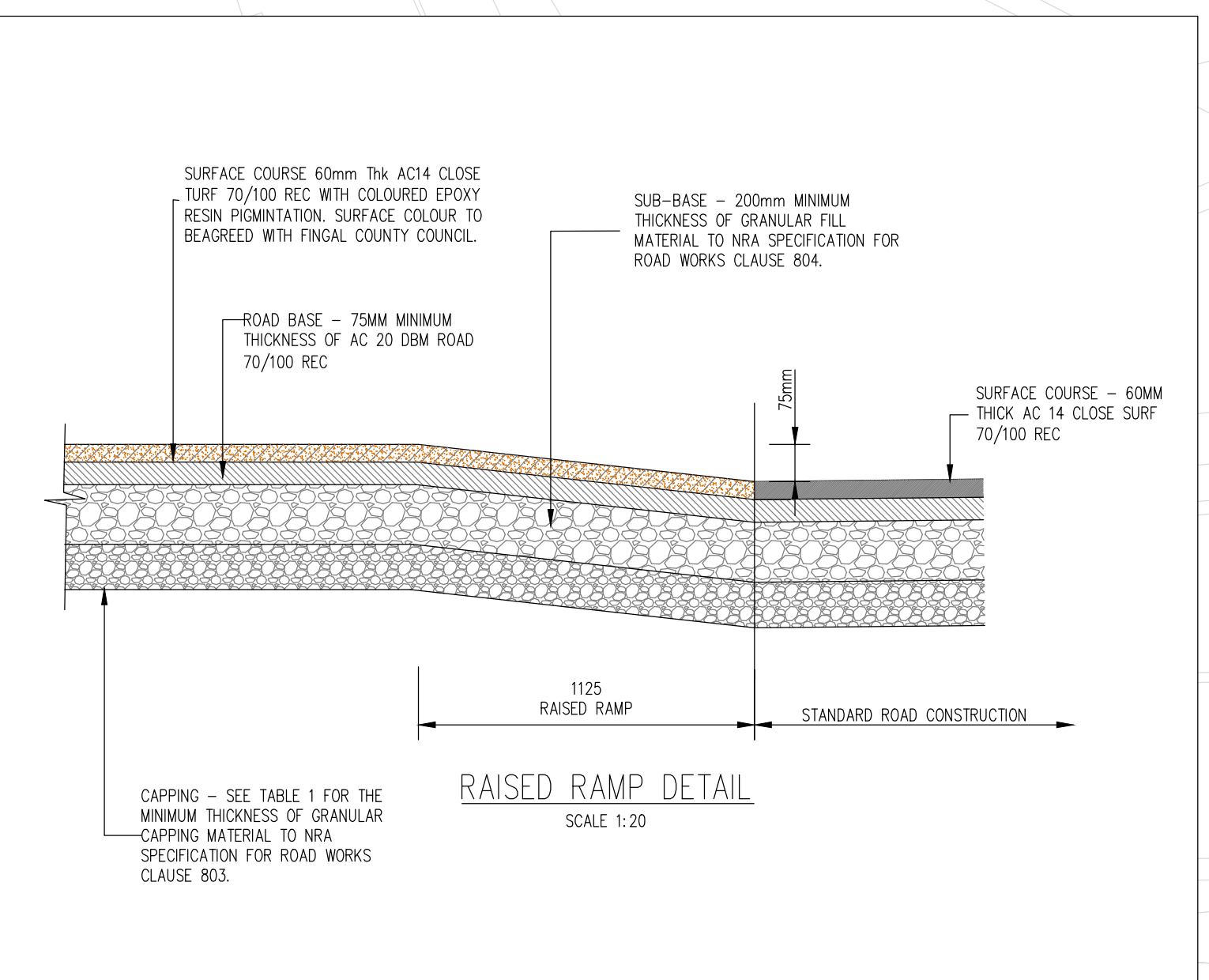
H085





**LEGEND:**

- PROPOSED PERMEABILITY LINKS PEDESTRIAN AND CYCLISTS
- INTERNAL SERVICE ROAD ARRANGEMENT
- VEHICLE ACCESS POINTS
- POTENTIAL FUTURE VEHICLE ACCESS POINTS
- EXISTING INTERNAL SERVICE ROAD
- EXISTING ROUNDABOUT JUNCTION TO BE UPGRADED TO A SIGNALISED JUNCTION
- PEDESTRIAN AND CYCLIST ROUTES
- RAISED TABLE
- PROPOSED TACTILE PAVING



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Rev. No.	Date	REVISION NOTE	Des. By	Chk. By

Darmodry Architecture  
 Parkwest Business Park  
 Title  
 Site Development Access  
 Strategy And Permeability  
 Drawn By: PWT-CSC-XX-XX-DR-C-0040  
 Date: Dec 2020  
 Drawn By: AB  
 Checked By: AB  
 Approved By: NB  
 Scale: 1:500 @ A0

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