

Roughan & O'Donovan

Housing Development,  
Mooreville, Rathdowney, Co Laois

Stage 1 Road Safety Audit

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# Housing Development, Mooreville, Rathdowney, Co Laois

## Stage 1 Road Safety Audit

<b>Document Ref:</b>	<b>P20-060-RSA-PD-RP-001</b>
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Rev	Prepared By	Reviewed By	Approved By	Issue Date	Reason for Revision
2.0	AOR	MAH	TAG	1 <sup>st</sup> July 2020	Final Report
1.0	AOR	MAH	TAG	19 <sup>th</sup> June 2020	Draft Report

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# 1 Introduction

## 1.1 General

This report results from a Stage 1 Road Safety Audit on the proposed Housing Development, Mooreville, Rathdowney, Co Laois carried out at the request of Mr. Stephen Shortall of Roughan & O'Donovan.

The members of the Road Safety Audit Team are independent of the design team, and include:

**Mr. Alan O'Reilly**

(BA BAI MSc CEng MIEI RSACert)  
Road Safety Audit Team Leader

**Mr. Mazen Al Hosni**

(BEng, MIEI)  
Road Safety Audit Team Member

The Road Safety Audit took place during June 2020 and comprised an examination of the documents provided by the designers (see Appendix B). In addition to examining the documents supplied the Road Safety Audit Team visited the site of the proposed measures on the 17<sup>th</sup> and 18<sup>th</sup> of June 2020. Weather conditions during the site visit were dry; the road surface was wet, traffic volumes were considered to be low and speeds were considered to be within the posted speed limit. Pedestrian and cyclist volumes were low.

Where problems are relevant to specific locations these are shown on drawing extracts within the main body of the report and their locations are shown in Appendix D. Where problems are general to the proposals sample drawing extracts are within the main body of the report where considered necessary.

This Stage 1 Road Safety Audit has been carried out in accordance with the requirements of GE-STY-01024 - Road Safety Audit (December 2017), contained on the Transport Infrastructure Ireland (TII) Publications website.

The scheme has been examined and this report compiled in respect of the consideration of those matters that have an adverse effect on road safety and considers the perspective of all road users. It has not been examined or verified for compliance with any other standards or criteria. The problems identified in this report are considered to require action in order to improve the safety of the scheme and minimise collision occurrence.

If any of the recommendations within this road safety audit report are not accepted, a written response is required, stating reasons for non-acceptance. Comments made within the report under the heading of Observations are intended to be for information only. Written responses to Observations are not required.

## 1.2 Items Not Submitted for Auditing

Details of the following items were not submitted for audit; therefore no specific problems have been identified at this stage relating to these design elements, however where the absence of this information has given rise to a safety concern it has been commented upon in Section 3: -

- Landscaping
- Visibility splays
- Lighting
- Signs and Roadmarkings

## 2 Project Description

### 2.1 Proposed Works and Site Description

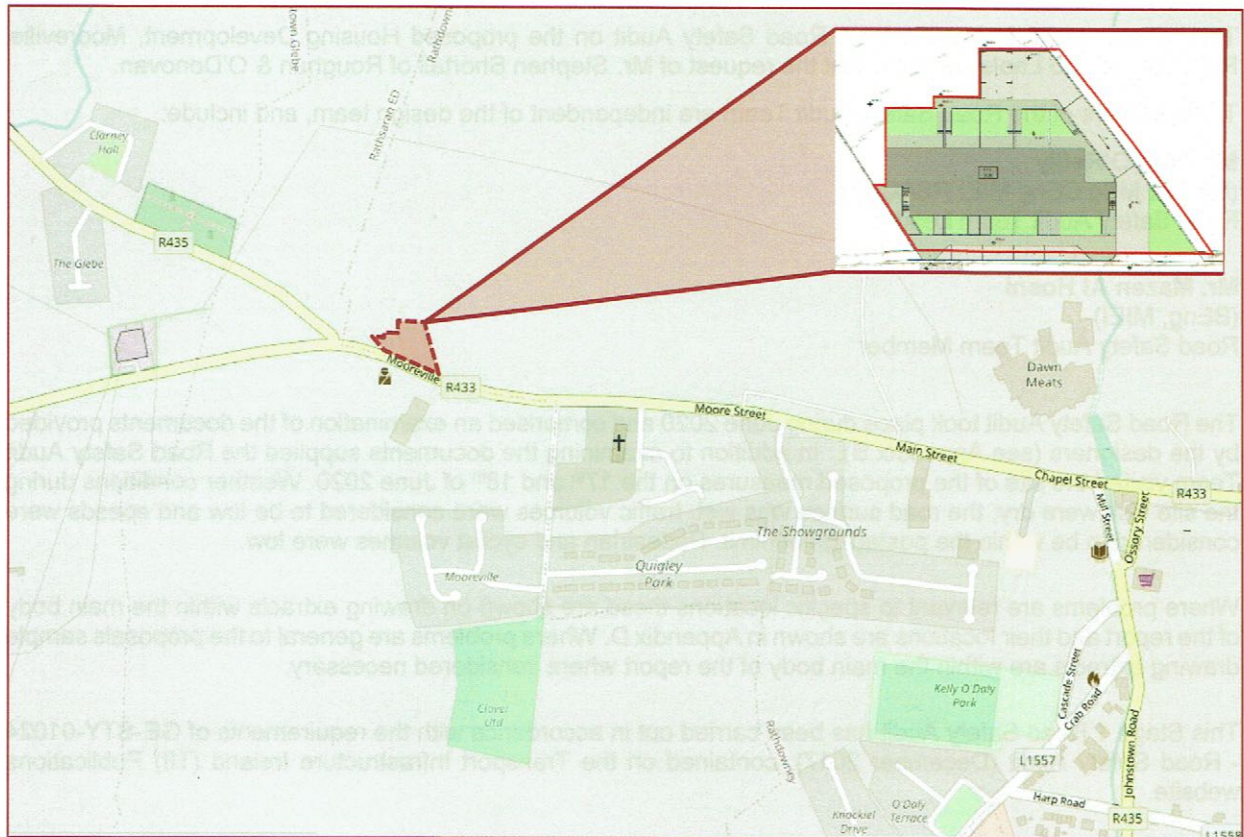


FIGURE 2-1: SITE LOCATION PLAN (SOURCE: WWW.OPENSTREETMAP.ORG)

It is proposed to construct a residential development on a greenfield site on the northern side of the R435 regional road in Rathdowney, Co. Laois. A new access junction with the R435 is proposed at the eastern extent of the site. A total of 4No parallel parking spaces are proposed on the northern side of the R435 and 3No on-curtilage parking spaces are proposed at the northern boundary of the site.

There is an existing raised signalised pedestrian crossing adjacent the western boundary of the site. The R435 is a two-way single carriageway road with one traffic lane in each direction and a posted speed limit of 50kph. There are existing footpaths on both sides of the carriageway with the footpath on the northern side tying into a proposed widened footpath to the front of the residential development.

Scoil Bhríde is located on the southern side of the R435 opposite the site of the proposed development.

### 2.2 Available Collision Data

The Road Safety Authority website ([www.rsa.ie](http://www.rsa.ie)) was consulted to identify historical collisions in the vicinity of the proposed works. The website includes summary information on collision occurrence for the period 2005 to 2016 (see Figure 2-2).

Two collisions were recorded on the R435 in the vicinity of the site of the proposed development. A head-on collision involving a car resulting in Minor Injury occurred on the R435 occurred in 2014 between 10am and 4pm while a Serious Injury collision involving a car and a pedestrian occurred in 2006 between 7pm and 11pm.

No pattern in collision occurrence has been identified in the vicinity of the site of the proposed development.



FIGURE 2-2: COLLISIONS RECORDED IN THE VICINITY OF THE SITE OF THE PROPOSED RESIDENTIAL DEVELOPMENT (SOURCE: ROAD SAFETY AUTHORITY)

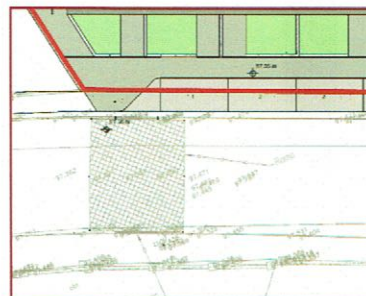
### 3 Main Report

#### 3.1 Problem

*Location: Drawing MV-ROD-00-XX-DR-C-0005 (Rev. P01)*

*Summary: Proposed parallel parking provision encroaches on the existing raised signalised pedestrian crossing on the R435.*

The proposed parallel parking is indicated in close proximity to and, in relation to space no. 1, encroaching onto the existing raised signalised pedestrian crossing on the R435. It is unclear if it is proposed to remove this crossing. If this crossing is not removed vehicles entering and exiting the parallel parking spaces, particularly spaces 1 and 2, will conflict with the operation of the crossing which could lead to driver discomfort as they ascend/descend the ramp or to collisions with vulnerable road users crossing the R435.



#### Recommendation

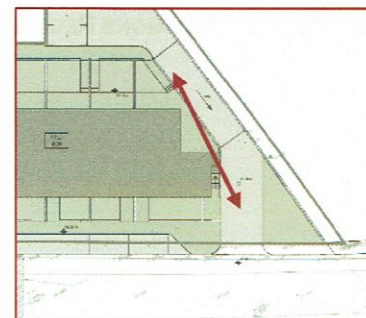
To facilitate the proposed parallel parking spaces the existing signalised crossing should be relocated.

#### 3.2 Problem

*Location: Drawing MV-ROD-00-XX-DR-C-0005 (Rev. P01)*

*Summary: It is unclear if there is sufficient space within the access road carriageway for safe two-way traffic.*

The width of the internal access road within the proposed development has not been specified and it is therefore unclear if the carriageway will be sufficiently wide enough for two vehicles to pass each other safely. The swept path drawings provided indicate that while sufficient space for two-way traffic may be available on the immediate approach to the site access it is unlikely that two vehicles will be able to pass each other safely within the carriageway adjacent the site's eastern boundary which could lead to low speed head-on collisions.



This problem may be exacerbated by the potential for the corner of the easternmost residential unit to restrict a driver's forward visibility thus increasing the risk of head-on collisions.

#### Recommendation

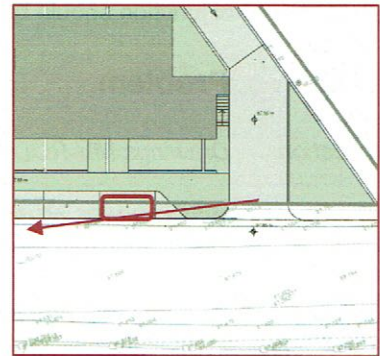
Ensure sufficient forward visibility is maintained within the development.

### 3.3 Problem

*Location: Drawing MV-ROD-00-XX-DR-C-0005 (Rev. P01)*

*Summary: Vehicles parked in the proposed parallel parking spaces may restrict a driver's visibility to the west when exiting the site.*

The proposed parallel parking spaces to the west of the site access, when occupied, may restrict a driver's visibility in this direction when exiting the site. This could lead to drivers exiting the site onto the R435 when it is unsafe to do so resulting in side-on collisions with vehicles on the R435.



### Recommendation

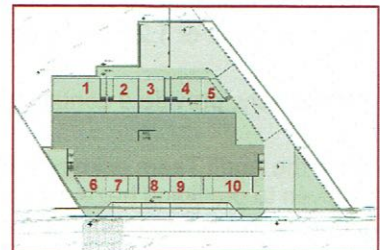
Ensure vehicles parked in the parallel parking spaces do not impede a driver's visibility when exiting the site of the proposed development.

### 3.4 Problem

*Location: Drawing MV-ROD-00-XX-DR-C-0005 (Rev. P01)*

*Summary: It is unclear if the proposed parking provision will be sufficient for the number of residential units within the proposed development.*

A total of 7No parking spaces have been indicated within the proposed development, 3No on-curtilage spaces to the rear of the proposed residential units and 4No parallel parking spaces on the R435 adjacent the development. The number of units proposed within the development is unclear although the Audit Team have assumed that there will be a minimum of 10No units due to the number of accesses indicated within the site.



It is therefore unclear if the proposed parking provision will sufficiently cater for the number of residents and any visitors which may visit the development. If sufficient parking is not provided this could lead to residents, or visitors, parking in unsafe locations within the site or on the R435 resulting in an increased risk of collisions.

### Recommendation

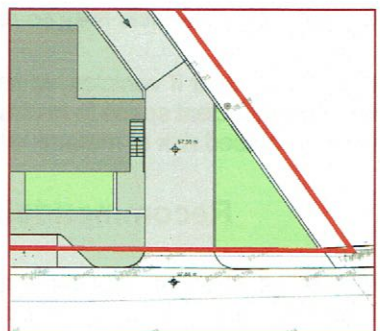
Ensure the proposed parking provision is sufficient for residents and visitors.

### 3.5 Problem

*Location: Drawing MV-ROD-00-XX-DR-C-0005 (Rev. P01)*

*Summary: Junction control has not been indicated at the junction of the site access and the R435.*

The control of the junction of the site access and the R435 has not been indicated. It is therefore unclear if the junction will operate under Stop, or Yield, control. Each type of junction control requires different visibility requirements on approach to the junction, with a Yield control junction requiring more onerous requirements. It is unclear if the visibility requirements for a Yield junction will be achieved on the approach due to the adjacent property boundary to the east and the proposed residential units to the west. If sufficient visibility, for the necessary type of junction control, is not provided this could lead to driver's being insufficiently aware of the junction on the approach, and the need to slow their vehicle or stop completely, with an increased risk of overshooting into the R435 carriageway and side-on collisions.





## Recommendation

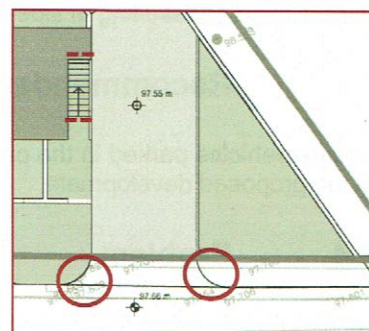
A Stop control junction should be provided at the site access.

### 3.6 Problem

*Location: Drawings MV-ROD-00-XX-DR-C-0005 (Rev. P01) & MV-ROD-00-XX-DR-C-0070 (Rev. P01)*

*Summary: While details of dropped kerbs and tactile paving have been provided, they have not been indicated within the proposed development.*

While details of dropped kerbs and tactile paving have been provided, they have not been indicated within the proposed development. It is therefore unclear if they will be provided where necessary, for example at the crossing of the site access. A failure to provide dropped kerbs and tactile paving could lead to mobility impaired pedestrians being unable to descend the footpath when crossing the carriageway and to visually impaired pedestrians unknowingly entering the carriageway at a crossing with an increased risk of being struck by a vehicle.



## Recommendation

Dropped kerbs and tactile paving should be provided on both sides of the crossing of the site access. Ensure the tactile paving is of the sufficient colour for an uncontrolled crossing and of the required depth (0.8m for inset crossings or 1.2m for inline crossings).

Alternatively, provide a continuous footway across the access, whereby drivers must yield to pedestrians.

While the Audit Team acknowledge that the residential units will be privately owned, consideration should also be given to providing hazard warning paving at the top and bottom of steps within the development, especially at any locations accessible by the public.

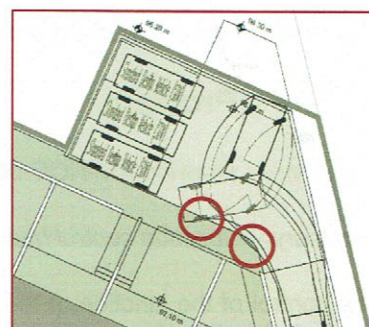
### 3.7 Problem

*Location: Drawing MV-ROD-00-XX-DR-C-0090 (Rev. P01)*

*Summary: Swept path of a reversing vehicle is indicated as mounting the footpath.*

The swept path analysis drawings indicate the wheel of a vehicle mounting the footpath at the rear of the proposed development when entering and reversing within the site. There is a risk of material damage to the kerb/footpath and vehicles should a vehicle mount/strike the footpath when reversing.

Also, there is an increased risk of collisions between vehicles and pedestrians should a vehicle overhang the footpath, particularly when undertaking a reversing manoeuvre as a driver's visibility to a pedestrian to the rear of their vehicle may be restricted.



It is also unclear if vehicles, which park nose-in at the 3No parking spaces to the rear of the residential units will have sufficient space to reverse out of a parking space if the adjacent parking spaces are occupied resulting in an increased risk of material damage collisions.

## Recommendation

Ensure all vehicles can undertake turning manoeuvres within the proposed development safely without impeding on adjacent footpaths or striking other vehicles or boundary walls.

A swept path analysis should be undertaken to determine if all of the parking spaces are sufficiently accessible within the space available, particularly when adjacent spaces are occupied.

#### 4 Road Safety Audit Team Statement

We certify that we have examined the drawings referred to in this report. The examination has been carried out with the sole purpose of identifying any features of the design that could be removed or modified in order to improve the safety of the scheme.

The problems identified have been noted in this report together with associated safety improvement suggestions, which we would recommend should be studied for implementation.

No one on the Road Safety Audit Team has been involved with the design of the scheme.

**ROAD SAFETY AUDIT TEAM LEADER**

Alan O'Reilly

Signed:

Alan O'Reilly

Dated:

1st July 2020

**ROAD SAFETY AUDIT TEAM MEMBER**

Mazen Al Hosni

Signed:

Mazen AlHosni

Dated:

1st July 2020

## **Appendix A – Road Safety Audit Brief Checklist**

Have the following been included in the audit brief?: (if 'No', reasons should be given below)

	Yes	No
1. The Design Brief	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Departures from Standard	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Scheme Drawings	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. Scheme Details such as signs schedules, traffic signal staging	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Collision data for existing roads affected by scheme	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6. Traffic surveys	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7. Previous Road Safety Audit Reports and Designer's Responses/Feedback Form	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8. Previous Exception Reports	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9. Start date for construction and expected opening date	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10. Any elements to be excluded from audit	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Any other information?**

(if 'Yes', describe below)

<input type="checkbox"/>	<input checked="" type="checkbox"/>
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## **Appendix B – Documents Submitted to the Road Safety Audit Team**

DOCUMENT/DRAWING TITLE	DOCUMENT/DRAWING NO.	REVISION
Existing Site Layout	MR-ROD-00-XX-DR-C-0001	P01
Proposed Site Layout	MV-ROD-00-XX-DR-C-0005	P01
Proposed Drainage Layout	MV-ROD-00-XX-DR-C-0031	P01
Proposed Watermain Layout	MV-ROD-00-XX-DR-C-0041	P01
Surface Water Details Sheet 1 of 4	MV-ROD-00-XX-DR-C-0060	P02
Surface Water Details Sheet 2 of 4	MV-ROD-00-XX-DR-C-0061	P01
Surface Water Details Sheet 3 of 4	MV-ROD-00-XX-DR-C-0062	P01
Surface Water Details Sheet 4 of 4	MV-ROD-00-XX-DR-C-0063	P01
Road and Pavement Details	MV-ROD-00-XX-DR-C-0070	P01
Vehicle Tracking	MV-ROD-00-XX-DR-C-0090	P01

## Appendix C – Feedback Form

### Road Safety Audit Feedback Form

Scheme: Housing Development, Mooreville, Rathdowney, Co Laois

Route No.: R435

Audit Stage: Stage 1 Road Safety Audit Date Audit Completed: 19<sup>th</sup> June 2020

To Be Completed By Designer				To Be Completed By Audit Team Leader
Paragraph No. in Safety Audit Report	Problem Accepted (Yes/No)	Recommended Measure(s) Accepted (Yes/No)	Describe Alternative Measure(s). Give reasons for not accepting recommended measure	Alternative Measures or Reasons Accepted by Auditors (Yes/No)
3.1	Yes	Yes	Pedestrian crossing to be moved to north-west (approx. 2.5m) so the parking does not encroach on the crossing.	
3.2	Yes	Yes	The 3 No. spaces at the rear of the site will be assigned to each house, therefore only drivers who know the road should be using it. Cars will travel slowly on the road. Drivers at the top of the road (parking side) will give way to oncoming traffic (line markings and signage to be shown at detailed design stage). Mirrors to be included to provide drivers with enhanced sightlines.	
3.3	Yes	Yes	Car parking to move to north-west to provide sufficient sightlines (approx 2.5m).	
3.4	Yes	No	Laois CoCo have requested that the number of parking spaces be kept to a minimum.	Yes
3.5	Yes	Yes	Stop road markings and Stop signs to be shown on drawings at detailed design stage.	
3.6	Yes	Yes	Dropped kerbs and tactile paving to be provided on both sides of the crossing. They will be shown at detailed design stage.	
3.7	Yes	Yes	Turnabout area to be increased to allow more comfortable turning and to ensure all spaces are accessible.	

Signed:  Designer Date 01/07/2020

Signed:  Audit Team Leader Date 1st July 2020

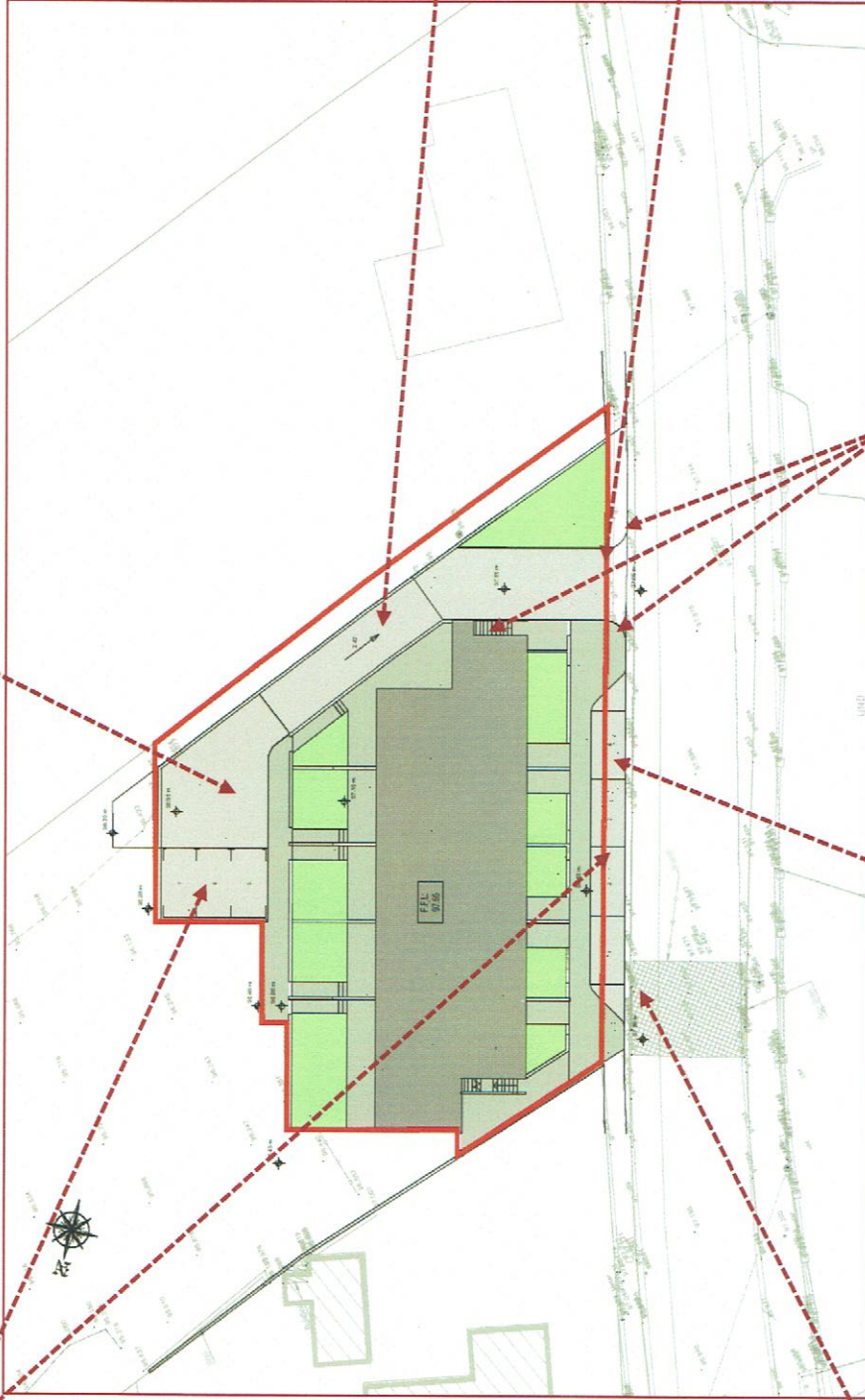
Signed:  Employer Date 6/7/20



## Appendix D – Problem Locations

**Problem 3.4:** It is unclear if the proposed parking provision will be sufficient for the number of residential units within the proposed development.

**Problem 3.7:** Swept path of a reversing vehicle is indicated as mounting the footpath.



**Problem 3.2:** It is unclear if there is sufficient space within the access road carriage-way for safe two-way traffic.

**Problem 3.5:** Junction control has not been indicated at the junction of the site access and the R435.

**Problem 3.1:** Proposed parallel parking provision encroaches on the existing raised signalised pedestrian crossing on the R435.

**Problem 3.3:** Vehicles parked in the proposed parallel parking spaces may restrict a driver's visibility to the west when exiting the site.

**Problem 3.6:** While details of dropped kerbs and tactile paving have been provided, they have not been indicated within the proposed development.