



Mungret Residential Development
Stage 1 Road Safety Audit

Proposed Development at Dromdarrig, Mungret, Co. Limerick

January 2021

Application prepared with



Limerick City and County Council

Proposed Residential Development at Mungret, Co. Limerick

Stage 1 Road Safety Audit

January 2021



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SECTION 1: Introduction

1.1 Background

This report results from a Stage 1 Road Safety Audit (RSA) of a Proposed Residential Development at Mungret, Co. Limerick. It is proposed to construct residential units as well as a community building and creche on the north side of a proposed new spine road. This spine road is being designed separately by others and a separate RSA was carried out for that scheme which included the access junctions to the subject site. Therefore, this audit is based on the internal site layout only and does not include these access junctions. The external road network and access junctions to serve the subject site have already been assessed under the previous and separate RSA.

Arup prepared the drawings on behalf of their Client, Limerick City and County Council. Arup commissioned this RSA on behalf of their Client.

The audit has been prepared in accordance with TII GE-STY-01024 (December 2017) - Road Safety Audit. The Audit Team has examined and reported on only the road safety implications of the design submitted by the Design Team and has not examined or verified the compliance of the design to any other criteria. The members of the Road Safety Audit Team are independent of the Design Team, and include:

Road Safety Audit Team Leader:
Mr. Adrian O'Neill
BEng MSc CEng MIEI
J.B. Barry & Partners

Road Safety Audit Team Member:
Mr. Tim Delaney
BEng CEng MIEI
J.B. Barry & Partners

The Documents/Drawings audited are as detailed on the drawing issue schedule contained in **Appendix A**. A copy of the RSA Feedback Form is contained in **Appendix B**.

1.2 Road Collision History

No historical road collision data for the study area was made available to the Audit Team.

An online check on the Road Safety Authority website shows that there were no recorded collisions between 2005 and 2016 within the immediate vicinity of the site.

There was a cluster of 8 separate collisions at the roundabout between the R859 and the R510 regional roads. Two of these collisions were classified as serious. One involved a cyclist and the other was a head-on collision. Refer to Figure 1.1.

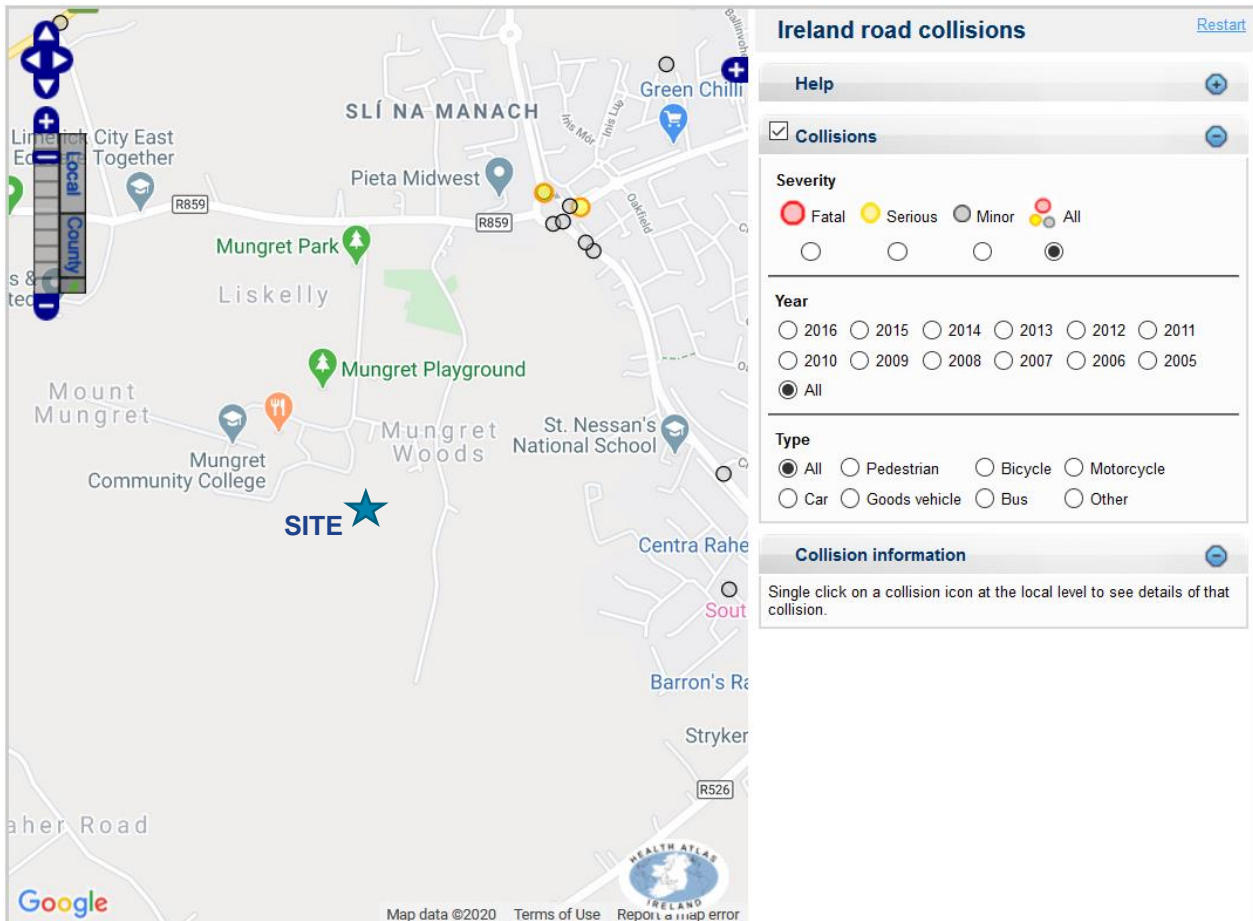


Figure 1.1: RSA collision history (2005 to 2016)

1.3 Site Visit

The audit was carried out between Wednesday 5 August 2020 and Wednesday 20 January 2021. The Road Safety Audit site visit was carried out on Wednesday 5 August 2020 during daylight. It did not rain during the site visit and the road surfaces were dry.

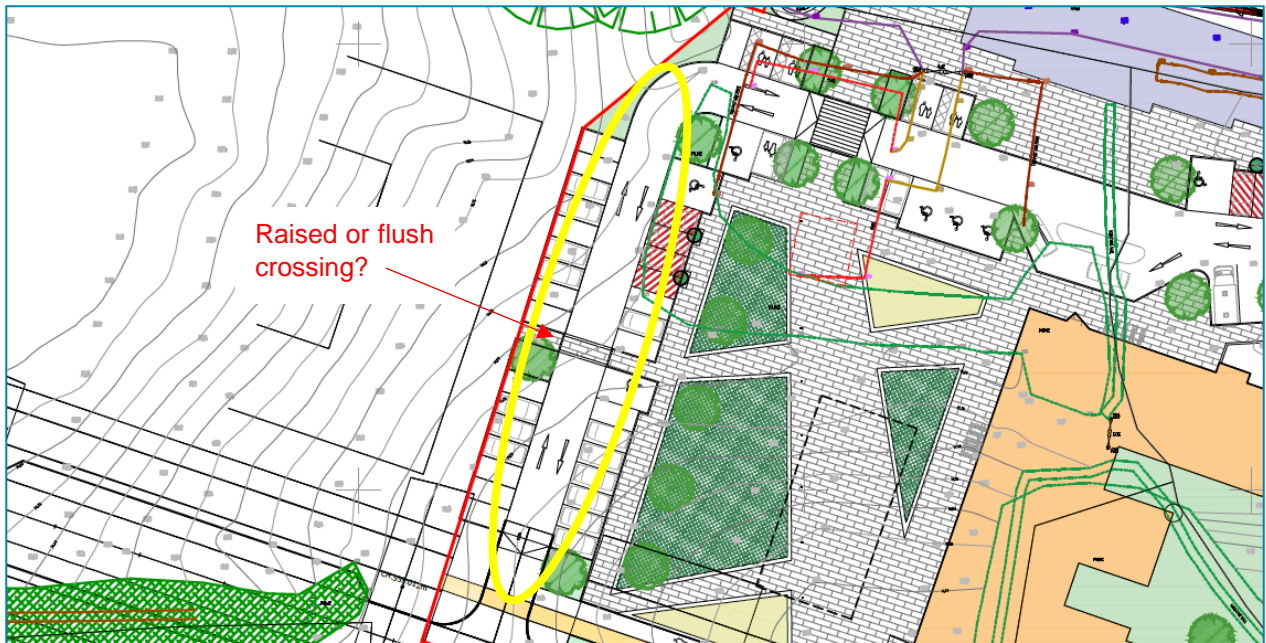
The site is currently a green field site and the proposed spine road was not constructed at the time of the site visit. Access to the site was gained via a distributor road which runs south from its junction with the R859 and which currently provides access to Mungret Community College, a large playground and the neighbouring Mungret Woods housing estate. During the site visit, it was observed that part of the proposed spine road serving the newly built Mungret Gate development was completed.

Traffic volumes, pedestrian activity and cycling activity were low at the time of the site visit.

SECTION 2: Audit Issues Identified

2.1 Problem: Traffic Calming

The western site access road which will provide the most direct access to the creche from the spine road has a very straight alignment which could be conducive to higher traffic speeds. It is not clear from the proposed site layout, if the crossing point located mid-way along the access road is to be raised or not. The likelihood and severity of all collisions is greatly exacerbated by higher speeds increasing the risk of a fatality and creating an unsafe environment for all road users especially pedestrians and cyclists.

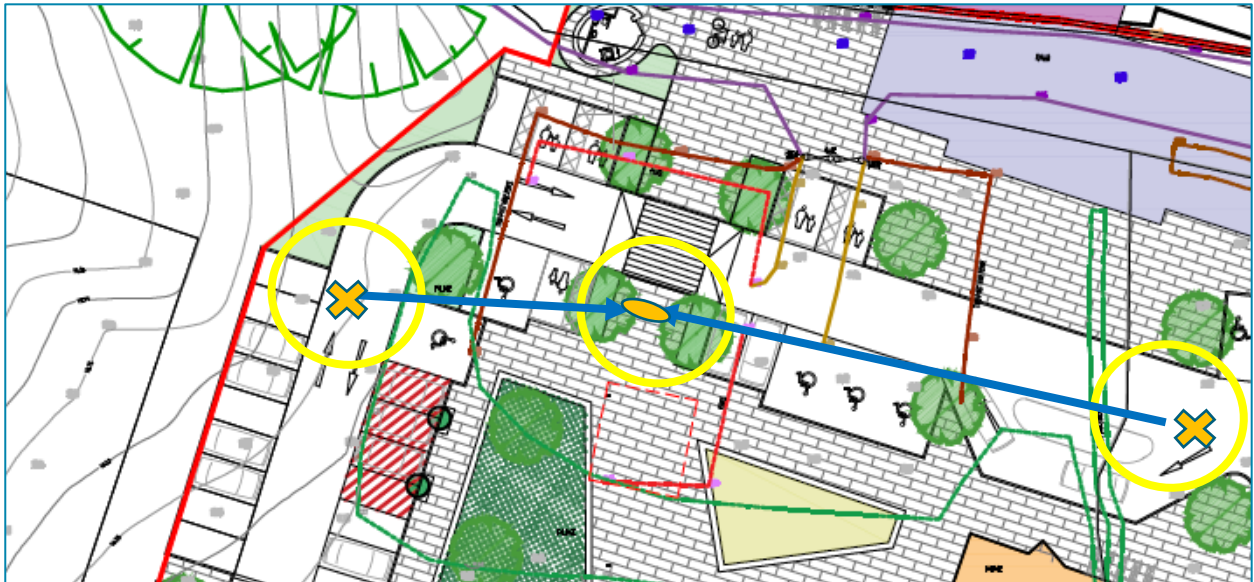


Recommendation

Include a vertical traffic calming measure mid-way along the straight section of the access road to slow vehicles

2.2 Problem: Forward Visibility

It is proposed to locate trees adjacent to the raised pedestrian crossing which provides access to the crèche. These trees will reduce the forward visibility of the crossing increasing the risk of a collision with a pedestrian. Maximising visibility is an important safety measure especially consider the adjacent sharp bend in the approaching road.

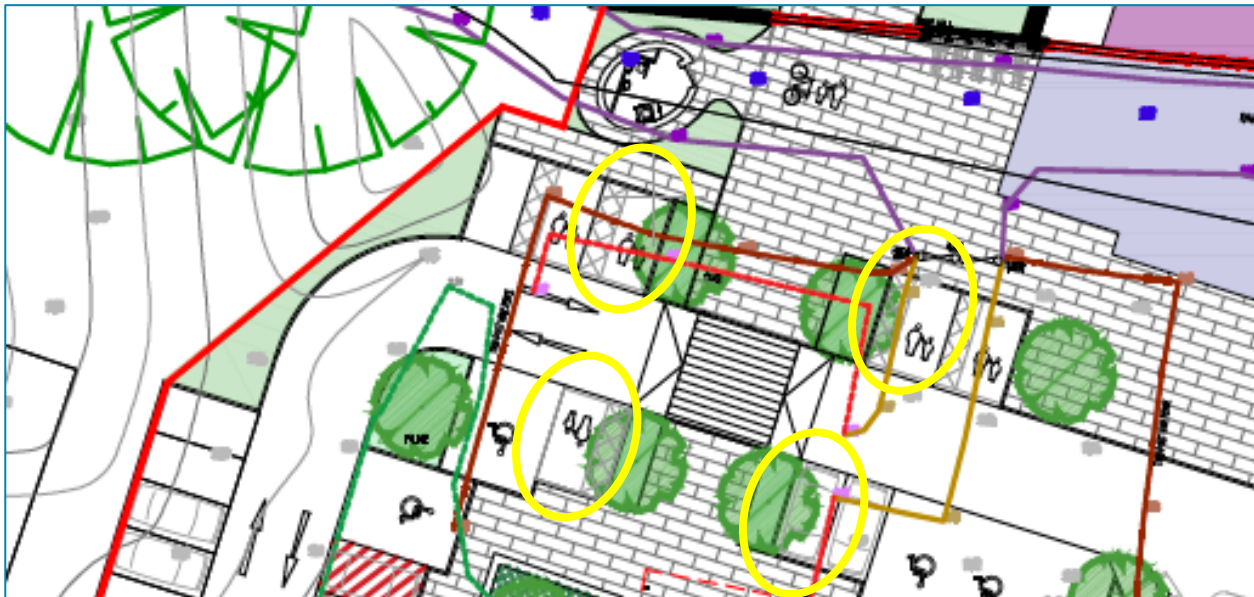


Recommendation

Ensure that the trees (and parking) do not reduce the forward visibility of motorists to see a pedestrian (especially a small child) about to cross. Tree types should be of a slender girth when mature and have a truck clear of side growth to a height of 1.8m. Also refer to Problem 2.3.

2.3 Problem: Parking close to Pedestrian Crossing

Parking bays are located very close to a significant pedestrian crossing, providing access to the creche from the set-down area. There is a danger that a motorist might need to reverse onto the crossing in order to exit a parking space increasing the risk of a collision with a pedestrian. Also, some of the parking bays to the south of the crossing may reduce the forward visibility of the crossing. Also refer to Problem 2.2.

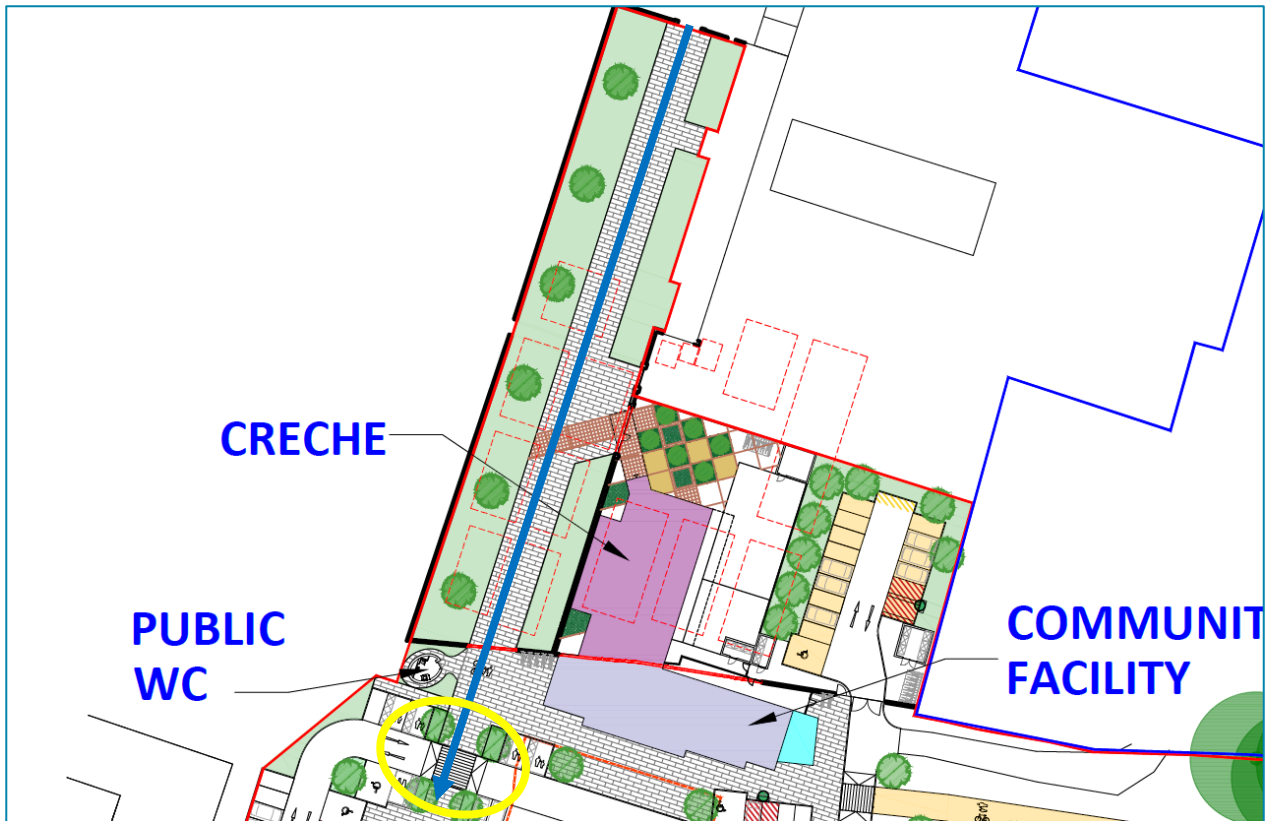


Recommendation

Increase the buffer between the crossing and the adjacent parking spaces. This may require removing some of the parking bays. Remove all of the parking to the southwest of the crossing.

2.4 Problem: Shared Route to Creche

The shared pedestrian/cyclist route which provides access to the creche has a straight alignment, bounded by a row of trees and leads directly onto a pedestrian crossing. There is a danger that small children might run or cycle straight across the road without paying due caution to traffic. The adjacent parking spaces (refer also to Problem 2.3) form a kind of tunnel effect and reduces inter-visibility between motorists and pedestrians. This could lead a child running/cycling in front of a passing vehicle and being struck.

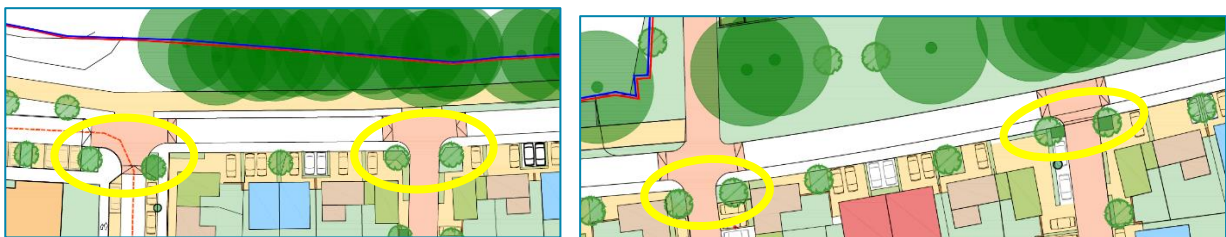


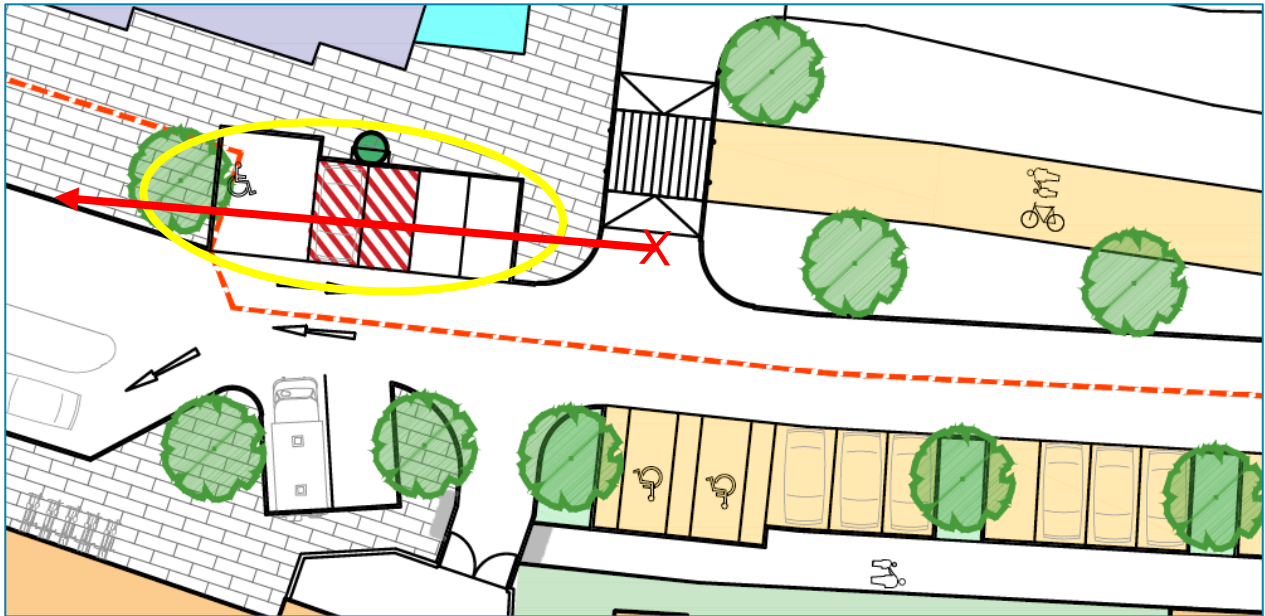
Recommendation

The Design Team should consider installing two or three bollards to encourage children to slow down and be more cautious on approach to the crossing. Ensure that different surface materials of varying contrast are used to clearly distinguish the crossing from the other shared pedestrian/cyclist areas. Ensure that the crossing is well lit with the appropriate tactile paving.

2.5 Problem: Sight Lines at Junctions

It is unclear from the scheme drawing if the necessary sight lines can be achieved at many of the internal junctions due to proposed tree planting or car parking close by. Reduced visibility increases the risk of 'side-seep' or 'rear-end shunt' type collisions.



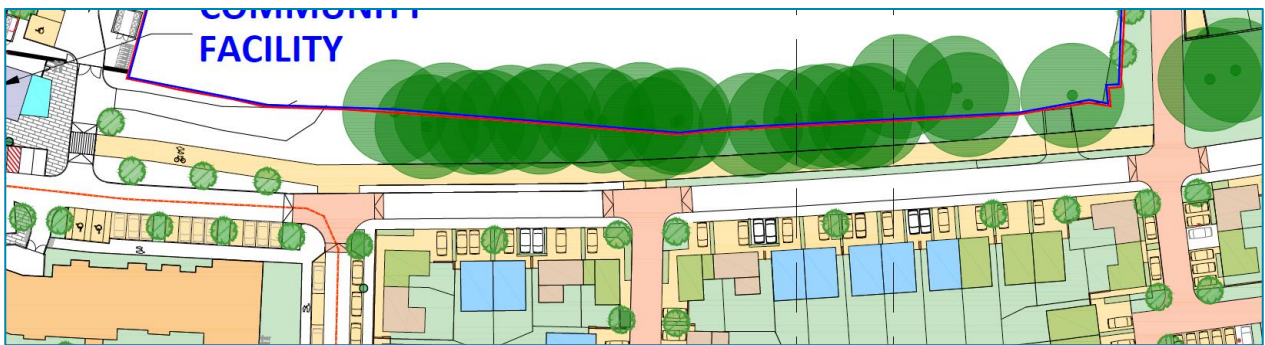


Recommendation

Ensure that all internal junctions have the necessary sightlines in accordance with DMURS.

2.6 Problem: Lack of Uncontrolled Crossings

There appears to be a lack of uncontrolled crossings for pedestrians wanting to access the 'Shared Leisure Route' which runs along the northern boundary from other parts of the development. This may lead to pedestrians crossing the street at unsafe locations.

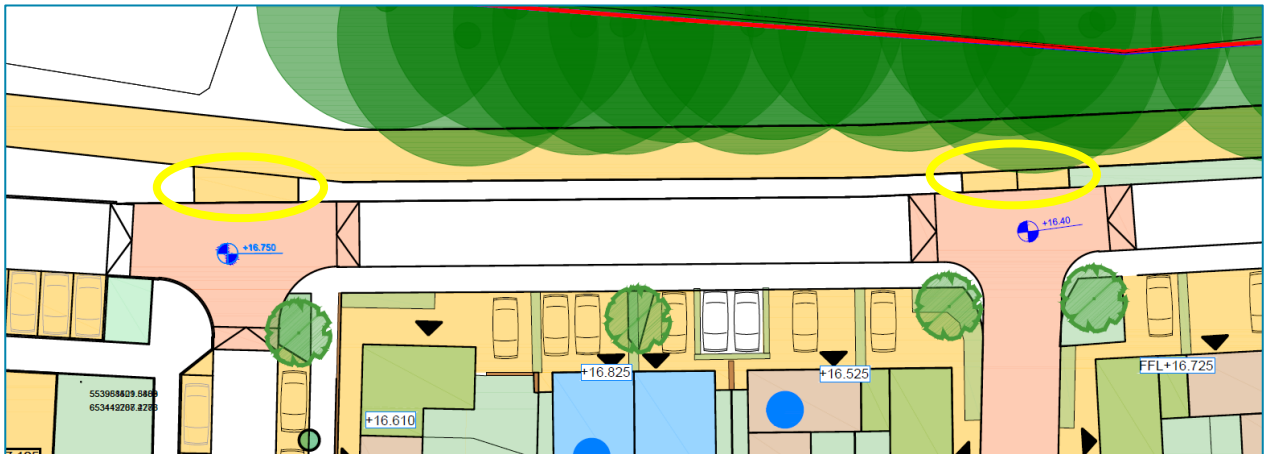
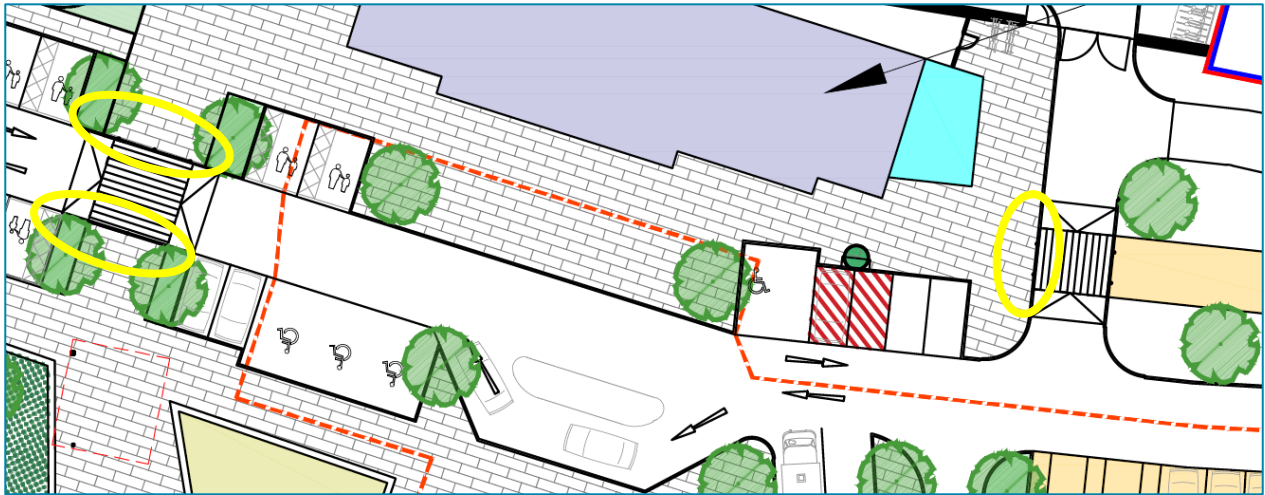


Recommendation

The Design Team should ensure that there is appropriate crossing points and connectivity from the development to the Shared Leisure Route.

2.7 Problem: Lack of Tactile Paving at Pedestrian Crossings

No tactile paving is prescribed at pedestrian crossings which could lead to pedestrians with a visual impairment stepping out onto the carriageway and in front of a passing vehicle.

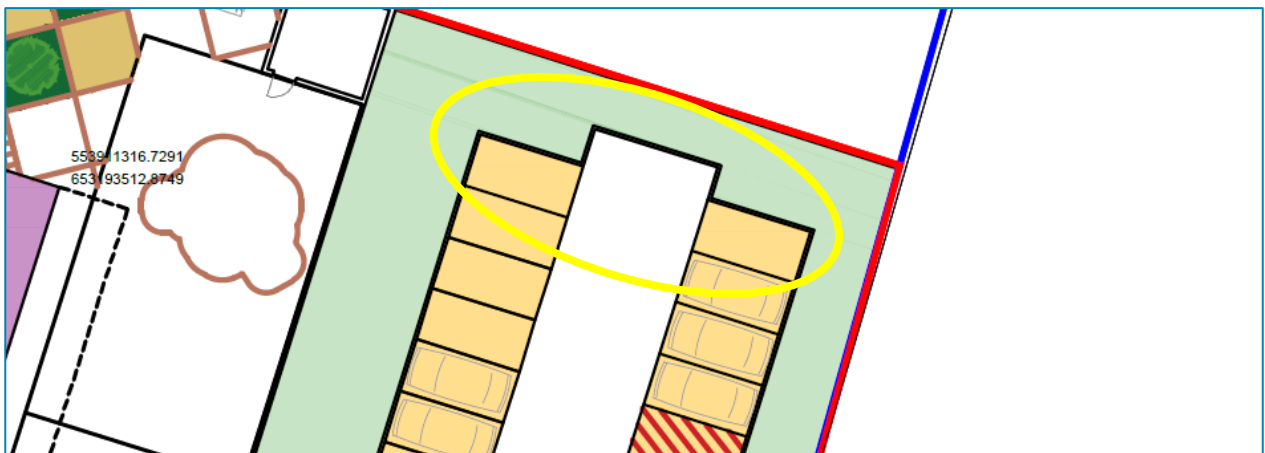


Recommendation

Ensure that the correct tactile paving is used at the correct location (i.e. on the desire line) at each pedestrian crossing for the entire scheme.

2.8 Problem: Turning Area in Carpark

It is not clear if motorists can safely egress from the end parking spaces when all other parking spaces are occupied by a vehicle. This could lead to an increased risk of collision with another vehicle.



Recommendation

Carry out a vehicle path sweep assessment to ensure that motorists can safely park and vacate the end parking spaces and if not, design accordingly.

2.9 Problem: General Parking Movements

It is not clear from the drawings, if there is sufficient space for vehicles to carry out the required movements, particularly for parking. Some parking spaces appear tight and may take several movements to access/egress the spaces. Parking spaces which are difficult to use may increase the risk of an incident.

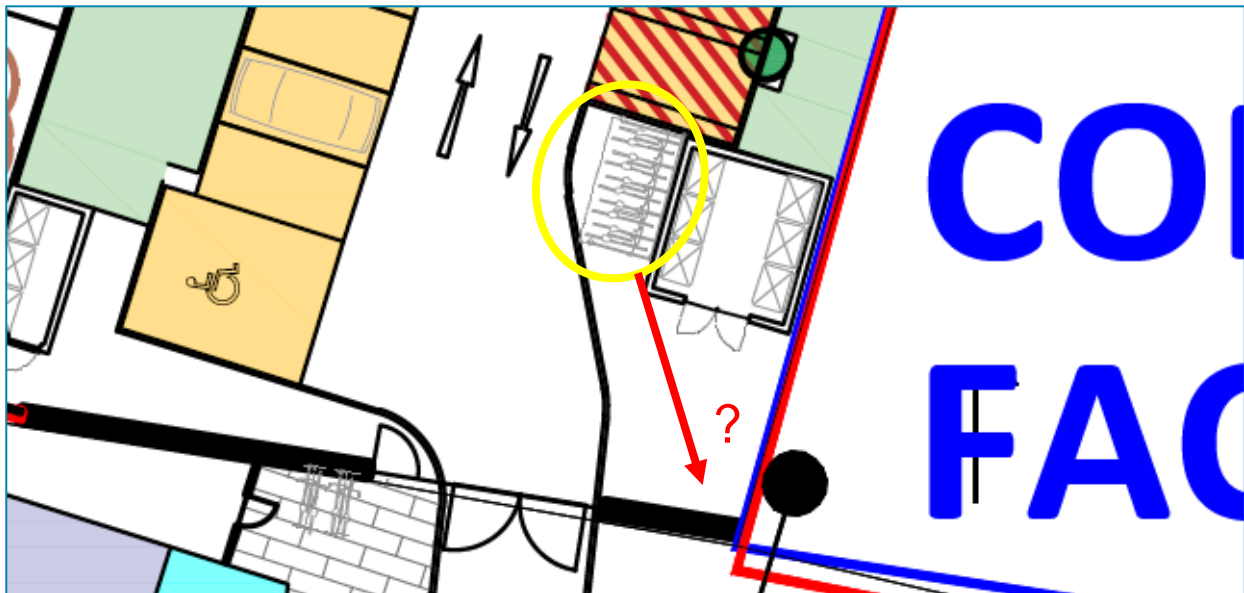


Recommendation

Review all of the parking areas within the site. Carry out a swept path analysis to illustrate that all spaces can be accessed and egressed safely. Consider keeping parking spaces away from junctions and raised tables / pedestrian crossings to increase safety and manoeuvrability.

2.10 Problem: Unsafe Bike Stand Location

The location of the bike parking area within the carpark has little space for cyclists to stand when using the bike-stand which could lead to a cyclist being struck by a vehicle within the carpark.



Recommendation

Relocate the bike parking area to a safe space with more room.

2.11 Observation: Preliminary to Final Stage Design

This report is a Stage 1 RSA based on a Preliminary Design Stage drawing. Ensure that tactile paving, continuous footpaths and cycle tracks through junctions, public lighting, road markings, signage and water gullies are all included to be audited under a Stage 2 RSA.

SECTION 3: Audit Team Statement

We certify that we have examined the drawings and documents listed in the appendices to this report.

The examination and subsequent report was made with the sole purpose of identifying any features of the scheme that could be removed or modified in order to improve the safety of the proposals.

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

No one on the Audit Team has been involved in the initial scheme design.

Assessment Team Leader

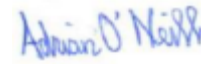
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Date: 21.01.21



Assessment Team Member

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Date: 21.01.21



Appendix 1: Drawings Provided

Appendix 2: Feedback Form

Road Safety Audit Feedback Form

Scheme: Proposed Development at Mungret, Co. Limerick

Audit Stage: Road Safety Audit Stage 1

Date Audit Completed: 20 January 2021

Paragraph No. in Report	To Be Completed by the Design Team			To Be Completed by the Audit Team
	Problem accepted (yes/no)	Recommended measure accepted (yes/no)	Alternative measure (describe)	Alternative measure accepted by Auditors (yes/no)
2.1	Yes	Yes		
2.2	Yes	Yes	All tree species will accommodate visibility at junctions and corners	Yes
2.3	Yes	No	Parking spaces will be relocated to create a larger buffer between the parking spaces and the crossing.	Yes
2.4	Yes	Yes		
2.5	Yes	Yes	All tree species will accommodate visibility at junctions and corners	Yes
2.6	Yes	Yes	This will be provided through the introduction a raised table at this junction.	Yes
2.7	Yes	Yes		
2.8	Yes	Yes	These spaces can be accessed and egressed safely and in one movement.	Yes
2.9	Yes	Yes	These spaces can be accessed and egressed safely and in one movement.	Yes

2.10	Yes	Yes	The bike stands will be moved	Yes
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Signed: Designer

Date 21-01-2021...

Signed: Audit Team Leader

Date ...21/01/2021..

Signed: Client

Date 21/01/21.....