Stage 1 Road Safety Audit

Residential Development, Rosshill, Galway

On behalf of **Kegata Ltd**

Prepared By:

CST Group Chartered Consulting Engineers
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December 2019

Civil
Structural
Traffic

Table of Contents

Document History

Revision	R0	R0							
Purpose of Issue: P=Preliminary PG=Progress C=Comment I=Information PL=Planning T=Tender CN=Construction	C	PL							
Date:	02 12 19	06 12 19							
Originator:	SS	SS							
Checked By:	MR	MR							
Approved By:	SS	SS							

1. Introduction

1.1. This report describes a Stage 1 Road Safety Audit carried out on behalf of Kegata Ltd on a proposed residential development at Rosshill, Galway. The development involves the construction of an upgraded road junction with the Old Dublin Road and realignment of the Rosshill Road. The audit was carried out between 19th and 21st November 2019.

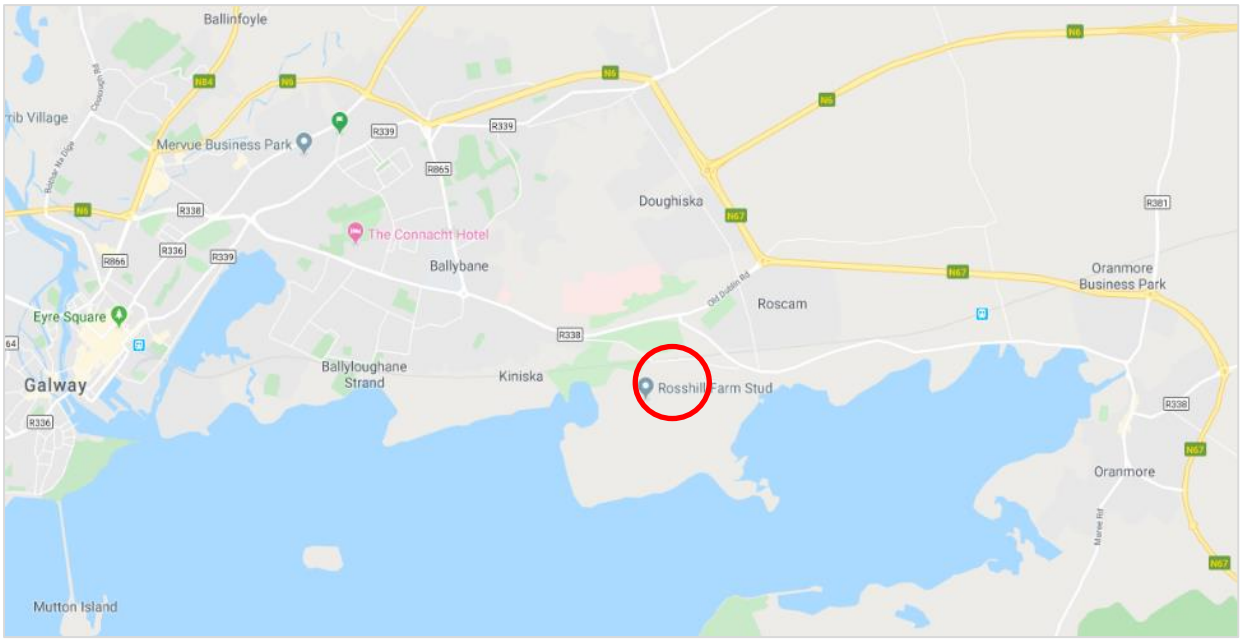


Figure 1.1 Site Location

1.2. The audit team were as follows:

Team Leader:

Stuart Summerfield, HNC (Civil) MCIHT FSoRSA, Partner
Certificate of Competency in Road Safety Audits (SoRSA, Jul 2015)
TII Auditor Ref. SS73290

Team Members:

Maria Rooney –BEng (Hons) Civil Eng., MEng, MIEI. Design Engineer for Roads & Transportation, TOBIN Consulting Engineers. – TII Reference MR3384505

Laura Gaffney - MSc. Env. Eng., BEng (Hons) Civil Eng., CEng., MIEI, Project Engineer for Roads & Transportation, TOBIN Consulting Engineers. – TII Reference LG338650

1.3. The audit comprised an examination of the drawings relating to the scheme supplied by the design office. A site visit was carried out by both audit team members together on 19th November between the hours of 14:20 – 15:15. Weather conditions during the inspection were overcast and the road surface was dry. Photographs were taken during the inspection.

1.4. This Stage 1 audit has been carried out generally in accordance with the relevant sections of the Transport Infrastructure Ireland (TII) Publication (Standard) GE-STY-01024 (Dec 2017) 'Road Safety Audit'. The audit team has examined only those issues within the design relating to the road safety implications of the scheme and has therefore not examined or verified the compliance of the design to any other criteria.

1.5. Appendix A describes the documents examined by the audit team.

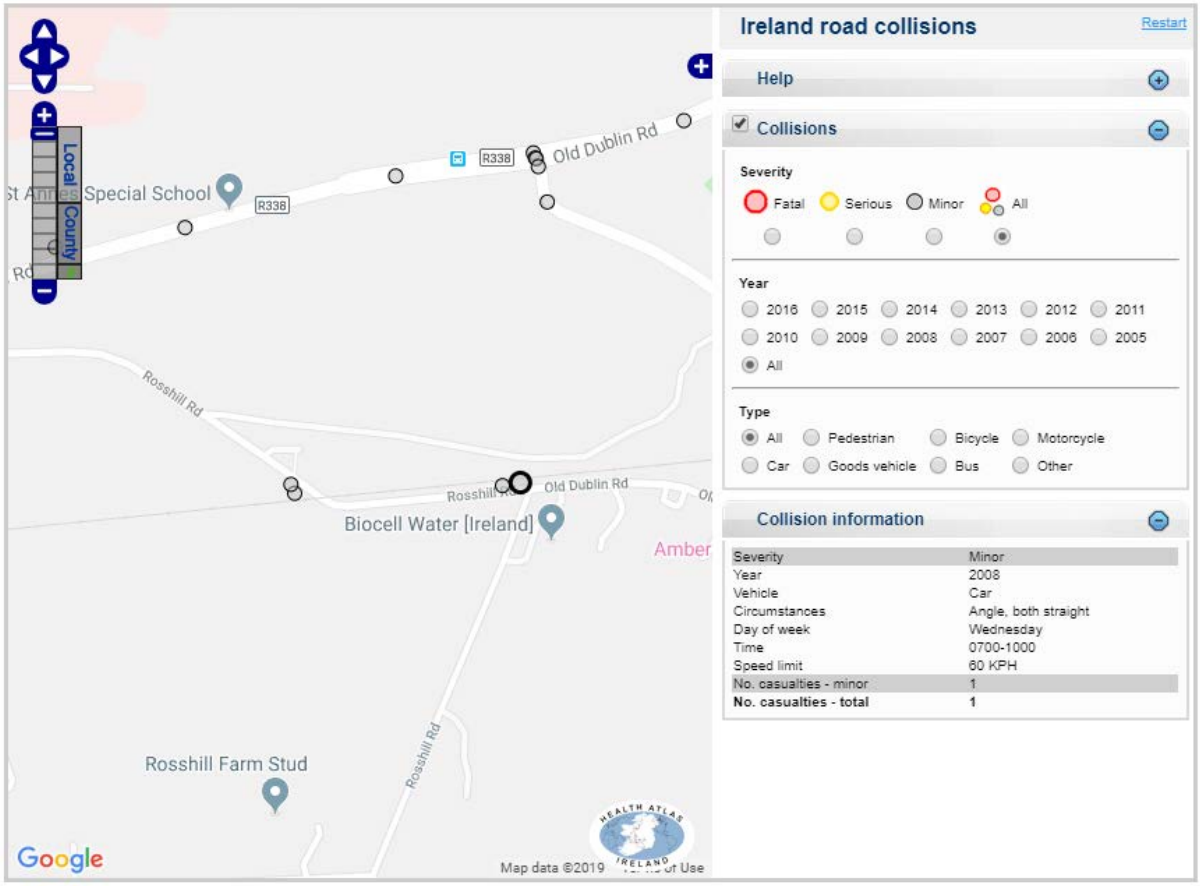
1.6. All of the problems described in this report are considered by the audit team to require action in order to improve the safety of the scheme and minimise accident occurrence.

2. Items Resulting from This Stage 1 Audit

2.1 Collision Data

Collision data has not been supplied with this scheme.

Road Collision Data available on the Road Safety Authority Database, within the period 2005 to 2016, recorded four collisions in the immediate vicinity of the proposed site. Three of these collisions occurred in 2008 and one in 2010. Zero collisions have been recorded since 2010.



2.2 General Problems / Problems at Multiple Locations

2.2.1 Old Dublin Road – Rosshill Road: Pedestrian Access to the Development

Problem: Neither the Old Dublin Road or the Rosshill Road have suitable pedestrian or cycle facilities. The proposed development is likely to generate substantial pedestrian and cyclist numbers.

We have been informed that the Old Dublin Road in particular gets very busy during the AM and PM peak hours with commuting traffic.

Hazard: Pedestrians may decide to walk in the carriageway due to the poor-quality footpaths. Additionally, motorists may not give sufficient space for cyclists on the road. Impact between users may result.

Recommendation: Provide upgraded facilities for non-motorised users.

2.2.2 Pedestrian Connectivity

Problem: There are no safe crossing points to the existing footway.

Hazard: Impact with crossing pedestrians and vehicles may result.

Recommendation: Provision of suitable safe crossing facility to existing footway or provision of continuous footways

2.2.3 Cyclist Provision

Problem: The proposals indicate a short section of cycle path running adjacent to the revised Rosshill Road. There are no details given to indicate if this is intended to operate as a bi-directional cycle path or details of how the cyclists is meant to join the carriageway at either end.

Hazard: Cyclists may impact with motorised traffic at either end, or pedestrians or other opposing cyclists on route.

Recommendation: Provide facilities for cyclists that are easily understood by the users and caters for access and egress to the development.

2.2.4 Equestrians

Problem: There are numerous signs on Rosshill Road warning of equestrian use of the road.

Hazard: The increased traffic numbers due to the development increase the risk of vehicle / horse impacts.

Recommendation: The design team should undertake investigations to the use of the Rosshill Road and provide segregated equestrian facilities if deemed necessary.

2.2.5 Development Roads: Horizontal Alignment

Problem: The long straight and near straight sections of the internal road network does not promote slow driving.

Hazard: High vehicle speeds generally result in increased injuries when impacts with pedestrians occur.

Recommendation: Ensure long straight lengths of carriageway are removed from the design. DMURS chapter 4.4.7 can be used as a reference document for the design of the internal roads.

2.2.6 Development Roads: Visibility

Problem: Visibility at some of the bends on the internal roads have structures to the inside of the bend. These structures limit driver visibility around the bend.

Hazard: Motorists may collide with pedestrians who are crossing the road or opposing traffic.

Recommendation: Ensure suitable forward visibility is achieved.
DMURS chapter 4.4.4 can be used as a reference document for the design of the internal roads.

2.2.7 Development Roads: Width

Problem: The internal road network appears to utilise a narrow carriageway width. Although the narrow carriageway will assist in the control of vehicle speed, passage of opposing vehicles needs to be accommodated.

Hazard: Motorists make use of the footpath for passing opposing traffic.

Recommendation: Ensure opposing vehicles have room to pass. This should include the refuse collection vehicle, without the need to drive on the footpath.

2.2.8 Development Roads: Turning Heads

Problem: The internal turning heads seem short. Refuse collection vehicles may reverse back to make use of the road junctions for turning.

Hazard: Impact with crossing pedestrians, cyclists or other road users may result.

Recommendation: Ensure the turning heads are of sufficient size for turning of large vehicles.

2.2.9 Development Roads: Pedestrian Crossing

Problem: There are no crossing points allocated within the internal road network of the development nor at the proposed junctions onto the Old Dublin Road and Rosshill Road.

Hazard: Impact with crossing pedestrians and vehicles may result.

Recommendation: Ensure adequate crossing facilities are provided to facilitate safe crossing points for vulnerable road users.

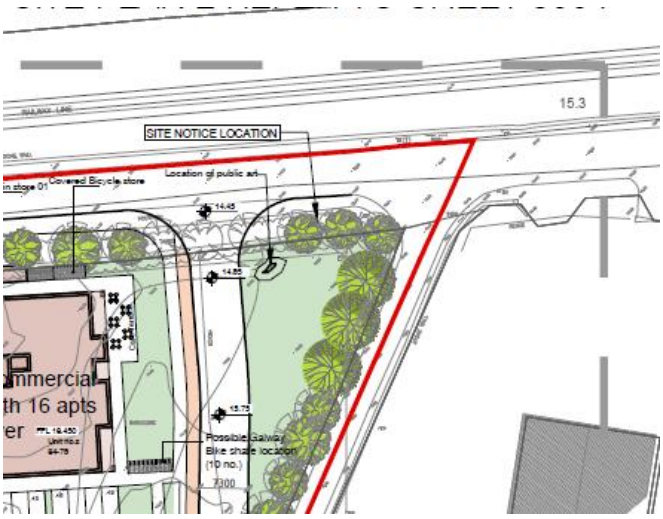
2.3 Problems at Specific Locations

2.3.1 Existing Rosshill Road / Old Dublin Road Junction.

Problem: The proposed new junction is in close proximity to the existing junction.

Hazard: Old Dublin Road traffic arriving from the east may errantly turn into the redundant road junction. These users may be required to reverse back onto the public road. Rear end impacts may result.

Recommendation: Ensure the existing road and junction is removed and suitably landscaped to avoid any confusion that a road exists at this location. Ensure adequate signage is provided to inform drivers of new junction layout.



2.3.2 Redundant Section of Rosshill Road

Problem: Northbound Rosshill Road traffic may have see-through to the former section of road (to be closed). Users may errantly drive onto the closed section of road and be required to reverse back onto the revised road alignment.

Hazard: Rear-end shunts may result.

Recommendation: Ensure see-through to the former road is omitted.

2.3.3 Rosshill Road / Old Dublin Road: Junction Visibility

Problem: Visibility to the right when exiting the development may be restricted due to roadside vegetation. Vehicles approaching the proposed junction from the east do so at high speed.

Hazard: Users may proceed from the new junction into the Old Dublin Road into the path of oncoming vehicles. Impact may result.

Recommendation: Ensure the available junction visibility is suitable for the speed of traffic on the road.

2.3.4 Old Dublin Road: Retaining Wall

Problem: The internal road network is in close proximity to the high retaining wall at the CIÉ entrance to the railway.

Hazard: Errant vehicles may leave the road at the tight bend and fall over the retaining wall.

Recommendation: Provide measures to ensure vehicle access to the top of the wall is not possible.

2.3.5 Railway Bridge: Height

Problem: The railway bridge over the Old Dublin Road is signed as 4.0m clearance. Although unlikely to be a problem for the occupants of the development some construction traffic may be higher than this limit.

Hazard: Construction vehicles may strike the bridge and damage the structural integrity of the bridge.

Recommendation: Ensure the Construction Management Plan identifies a suitable access route for high vehicles.

2.3.6 Dublin Road: Drainage

Problem: The existing Old Dublin Road drainage is not working adequately. The development will generate increased traffic movements on this road.

Hazard: During times of extreme rainfall standing water may encroach into the carriageway. Risk of vehicular loss of control will be heightened by the increased use of this road.

Recommendation: Ensure adequate surface water drainage is provided.

2.3.7 Development Junction with Rosshill Road: Visibility

Problem: Large trees are proposed to the right of the new junction, within the visibility envelope.

Hazard: Users may pull out of the junction into the path of oncoming traffic.

Recommendation: Ensure all high landscaping is kept to the rear of the junction visibility splay.

2.3.8 Re-aligned Rosshill Road: Width

Problem: The realigned Rosshill Road seems to reduce in width to the north of the new development junction. Southbound traffic may not expect this road narrowing and keep a uniform distance from the road edge.

Hazard: Impact with users turning out of the development may result.

Recommendation: Ensure a uniform road width is provided between the development access and the junction with the Old Dublin Road.

3. Audit Team Statement

We certify that we have examined the drawings and other information listed in Appendix A. This examination has been carried out with the sole purpose of identifying any features of the design that could be removed or modified to improve the safety of the scheme. The problems that we have identified have been noted in the report, together with suggestions for improvement which we recommend should be studied for implementation. No one in the audit team has been involved with the scheme design as shown in Appendix A.

Signed .....
Stuart Summerfield
Audit Team Leader

Date 02/12/2019

Signed .....
Maria Rooney
Audit Team Member

Date 02/12/2019

Signed .....
Laura Gaffney
Audit Team Member

Date 02/12/2019

Appendix A List of Documents Examined

DRAWING NO:	DRAWING NAME:	RECEIVED FROM:	DATE:
18128 3001	Site Location Plan	Tobin Consulting Engineers	18.11.2019
18128 3002	Master Site Layout Plan	Tobin Consulting Engineers	18.11.2019
18128 3002	Overall Site Survey	Tobin Consulting Engineers	18.11.2019

Appendix B RSA Feedback Form

ROAD SAFETY AUDIT FEEDBACK FORM

CST Group Chartered Consulting Engineers
1, O'Connell Street, Sligo, F91 W7YV, Ireland

Scheme: Residential Development, Rosshill, Galway on behalf of Kegata Ltd

Audit Stage: 1 **Date Audit Completed:** 02/12/19 **Route No.** **Our Ref :** 119209

TO BE COMPLETED BY DESIGNER				TO BE COMPLETED BY AUDIT TEAM LEADER
Paragraph No. in Safety Audit Report	**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)**
2.2.1	Y	Y	Repair works to be carried out to ex footpaths as identified on accompanying drawings 10690-2013 & 2014	
2.2.2	Y	Y	New crossing points to be provided as identified on drawings 10690-2013 & 2014	
2.2.3	Y	Y	Cycle route removed. Cyclists will utilise main carriageway	
2.2.4	Y	Y	To be reviewed at detailed design stage	
2.2.5	Y	Y	Road layout design reviewed, and speed calming measures implemented where required.	
2.2.6	Y	Y	All structures on bends will low level to ensure no impact on visibility	
2.2.7	Y	Y	Road layout design reviewed, and widths amended as required. Also, swept path analysis is being carried out to ensure vehicles have room to pass on the carriageway.	
2.2.8	Y	Y	Turning heads reviewed and redesigned as required. Also, swept path analysis is being carried out to ensure turning heads are of sufficient size.	
2.2.9	Y	Y	Pedestrian crossing points are being added to the site layout drawings and will be further review at detailed desire stage	
2.3.1	Y	Y	The existing junction will be decommissioned, and the length of existing access road blocked off.	
2.3.2	Y	Y	As per item 2.3.1	

ROAD SAFETY AUDIT FEEDBACK FORM

CST Group Chartered Consulting Engineers
1, O'Connell Street, Sligo, F91 W7YV, Ireland

TO BE COMPLETED BY DESIGNER				TO BE COMPLETED BY AUDIT TEAM LEADER
Paragraph No. in Safety Audit Report	**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)**
2.3.3	Y	Y	The relocation of the junction will enable the required sightline to be achieved.	
2.3.4	Y	Y	No retaining wall is required as the internal road is below the level of the boundary line and there is a landscaped bank on the boundary.	
2.3.5	Y	Y	The restriction will be communicated to the Contractor at the Tender Stage	
2.3.6	Y	Y	All surface water generated from the site will be catered for onsite.	
2.3.7	Y	Y	Low level planting is to be provided within the visibility envelope	
2.3.8	Y	Y	The design of the road has been amended to maintain a uniform width	

Signed: Micheál Geraghty — Designer — Date: 06/12/2019
Micheál Geraghty
TOBIN Consulting Engineers

Signed: — Audit Team Leader — Date: 06/12/19
Stuart Summerfield
CST Group Chartered Consulting Engineers

Signed: — Employer — Date: 6/12/19
On behalf of Kegata Ltd