



Title: **STAGE 1&2 ROAD SAFETY AUDIT**

For;

Colpe Road, Drogheda, Co. Meath

Client: **DBFL Consulting Engineers.**

Date: **October 2019**

Report reference: **0583R02**

VERSION: **FINAL**

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1.0 Introduction

This report was prepared in response to a request from Ms. Deirdre Walsh, DBFL Consulting Engineers for a Stage 1&2 Road Safety Audit of the proposed Colpe Road/Mill Road Commercial development, Drogheda, Co. Meath.

The Road Safety Audit Team comprised of;

Team Leader: **Norman Bruton**, BE CEng FIEI, Cert Comp RSA, MSoRSA

TII approval number: NB 168446

Team Member: **Jane Hennaghan** BEng (Hons), CEng MIEI

TII approval number: JH 1343493

The Road Safety Audit comprised an examination of the information provided and a site visit by the Audit Team, together, on the 3rd May 2019.

The weather at the time of the site visit was dry and the road surface was dry.

This Stage 1&2 Road Safety Audit has been carried out in accordance with the requirements of TII Publication Number GE-STY-01024, dated December 2017.

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. 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 for road users.

If any of the recommendations within this 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 Observation are intended to be for information only. Written responses to Observations are not required.

The information supplied is listed in **Appendix A**.

A problem location map is contained in **Appendix B**.

The feedback form to be completed by the Design Team Leader is contained in **Appendix C**.

2.0 Background

It is proposed to upgrade the road network at Colpe Drogheda to facilitate new residential and commercial development.

To facilitate access to this development and to provide for future developments including a new school it is proposed to upgrade the road network in the area.

The main elements of the proposal are to provide;

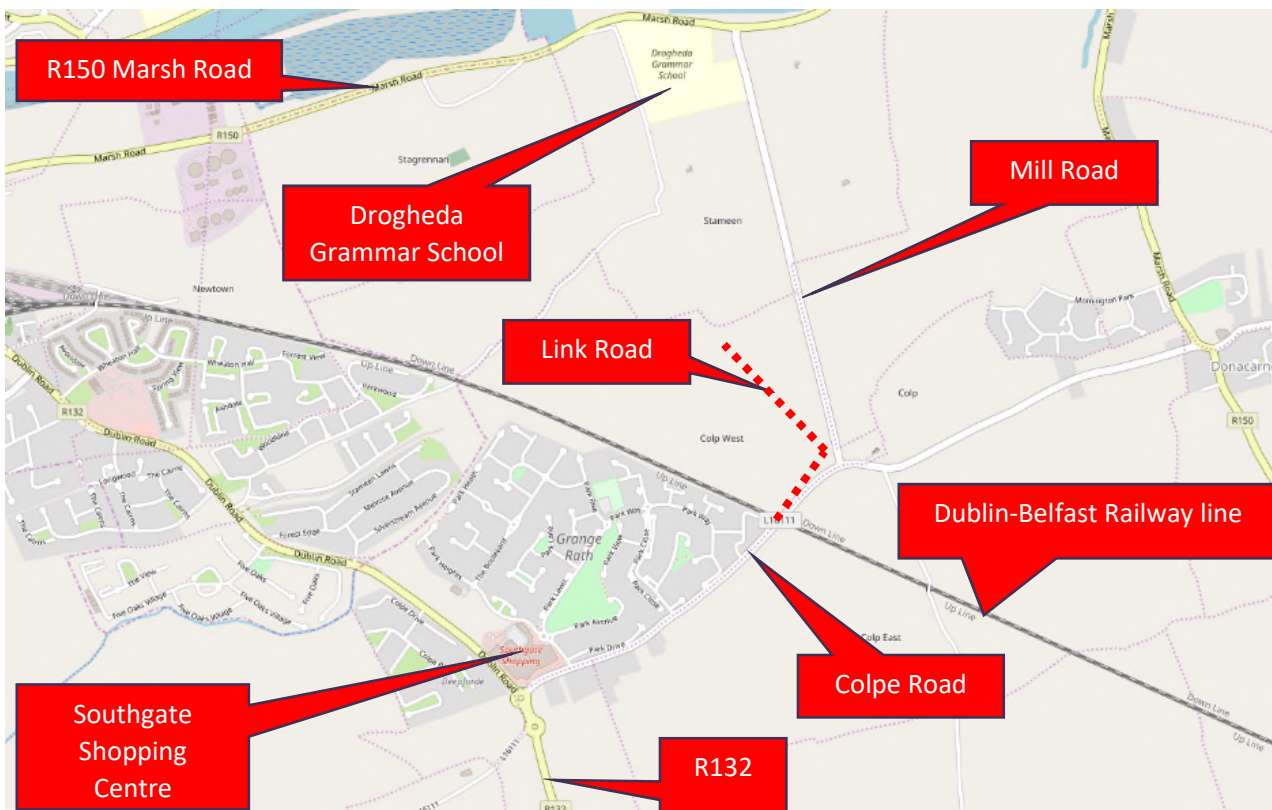
- A roundabout at the Colpe Road/Mill Road junction
- Realign Colpe road on approach to the roundabout
- Realign Mill Road on approach to the roundabout
- Upgrade facilities for vulnerable road users
- Construct part of the future link road including three priority junctions and a signalised junction.

Colpe road is a single carriageway road which crosses over the Dublin Belfast railway line. The speed limit at the existing Mill Road junction is 80km/hr. There are no cycle facilities at the junction and only on-road facilities for pedestrians.

During the site visit traffic speeds were observed to be high on Colpe Road.

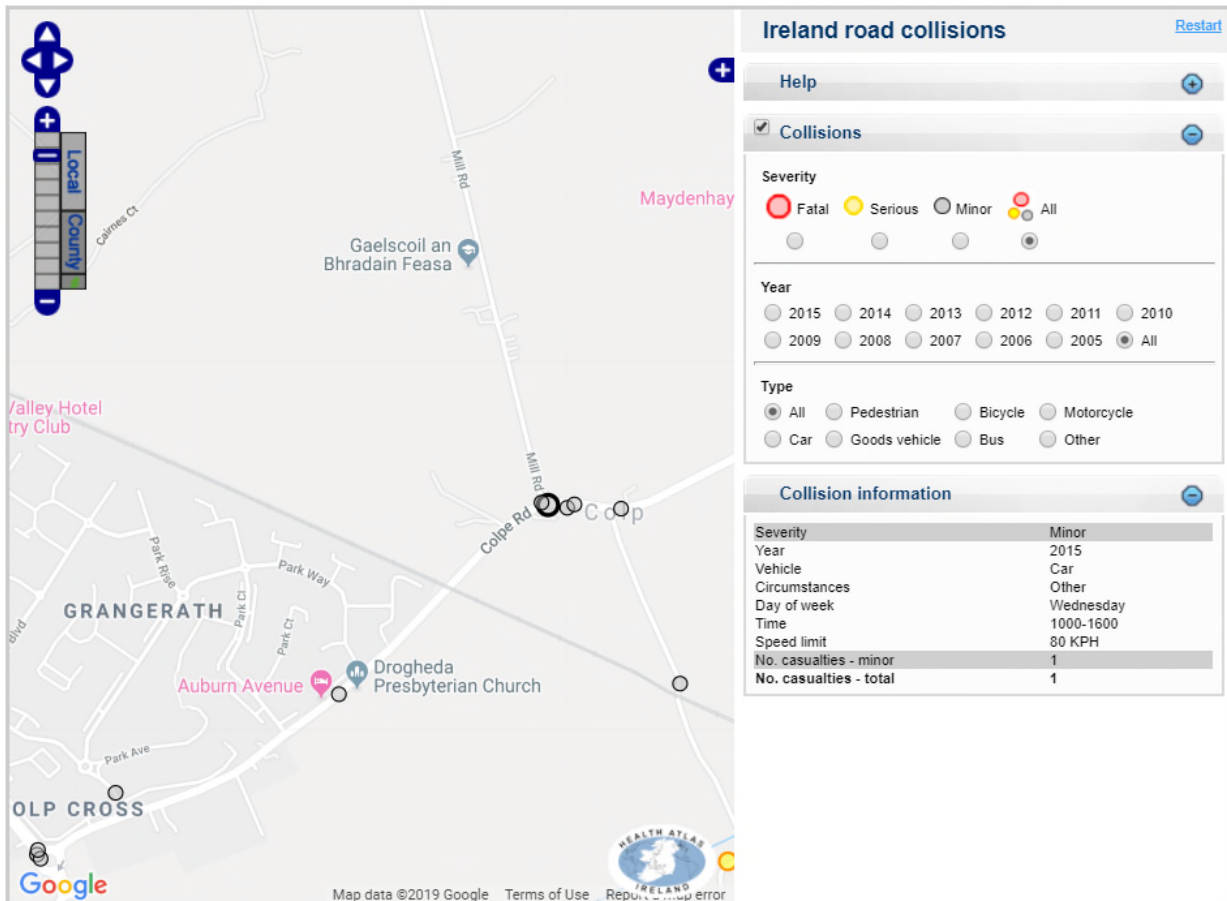
The scope of this audit only includes the road network not the housing or and commercial units.

A site location map is provided below.



Scheme Location Plan (Image courtesy of Openstreetmap.org)

The Road Safety Authority’s website www.rsa.ie shows the recorded injury collisions between 2005 and 2015. There were 4 minor injury collisions at or beside the Mill Road/Colpe Road junction over that 11-year period.



3.0 Main Report

3.1 Problem

LOCATION

Colpe Road.

PROBLEM

The existing speed limit on Colpe Road is 80km/hr outside the existing developed area where it is 60km/hr. It is noted that the posted speed limit on the new link Road is to be 50km/hr. A speed limit of 80km/hr on Colpe Road would lead to risks for the cyclists and pedestrians along that route. Especially with the hog curve over the Dublin Belfast railway line with has a low K- value.



RECOMMENDATION

It is recommended that the speed limit be reduced to 50km/hr on Colpe Road until a point West of the proposed Roundabout and continued all the way to Southgate Shopping Centre. Mill Road speed limit should also be reduced to 50km/hr.

3.2 Problem

LOCATION

Drawing 170092-2054, Colpe Road, pedestrian & cyclist crossings.

PROBLEM

There are no facilities for cyclists and pedestrians to cross Colpe Road East of the railway Bridge to access the areas on the opposite side of the road. The footpaths and cycle tracks are set back behind grassed verges. Without adequate crossing provision these vulnerable road users may attempt to mount/dismount the high kerbs and may trip and fall or may slip in the grassed area.



RECOMMENDATION

It is recommended that suitable uncontrolled crossing points be provided.

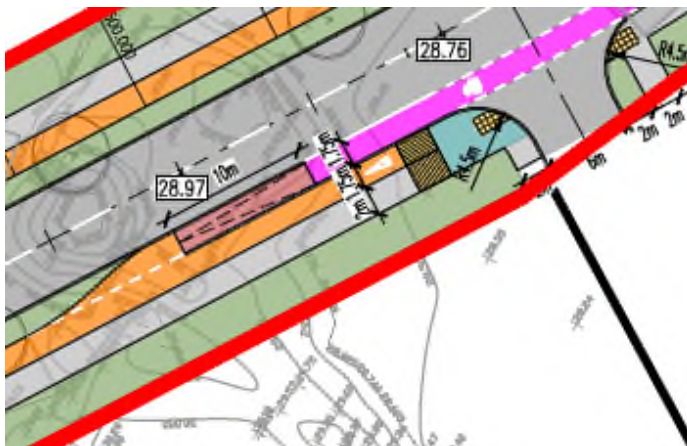
3.3 Problem

LOCATION

Drawing 170092 – 2054, Colpe Road, Chainage 1510.

PROBLEM

It is unclear if the cycle track on the southern side of Colpe Road is to be a two-way cycle track. The detail at the junction may be confusing for some cyclists. The cycle track does not appear to be wide enough to cater for two-way cycling and could lead to collisions between cyclists and pedestrians.



RECOMMENDATION

It is recommended that the cycle track be one-way only. Similar details have been provided at junctions on the link road.

3.4 Problem

LOCATION

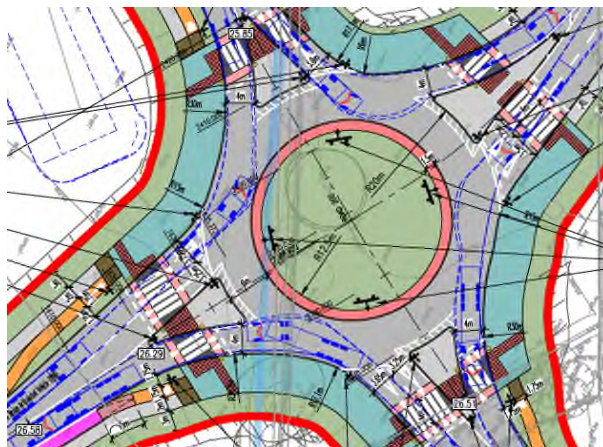
Drawing 170092-2054.

PROBLEM

No directional signage has been proposed on approach to, and at the roundabout. This could lead to sudden braking on the circulating carriageway and rear-end shunts. This may particularly be the case as the existing through route is to Donacarne/Bettystown and the straight through at the roundabout now leads to Mill Road and Marsh Road.

It is important that signs can be accommodated in the verges and splitter islands of the roundabout such that they have adequate 'x' height text to be clearly legible, have adequate off set clearance to passing vehicles and do not obscure visibility.

Sign poles in footways and cycle tracks can be hazards to pedestrians and cyclists.



RECOMMENDATION

It is recommended that directional signs are designed and their locations agreed and assessed in advance of construction. Where required the splitter island layouts should be revised or localised verge widening should be undertaken.

3.5 Problem

LOCATION

Drawing 170092-2056

PROBLEM

The cycle lane on Colpe road inbound towards Southgate shopping centre terminates at the end of the scheme and cyclists have to share the carriageway with vehicular traffic. Drivers may not be fully aware that they have to share the space with cyclists and may not take due cognisance of those vulnerable road users.



RECOMMENDATION

It is recommended that a warning sign (TSM Ref W143) is placed in advance of the merge point.

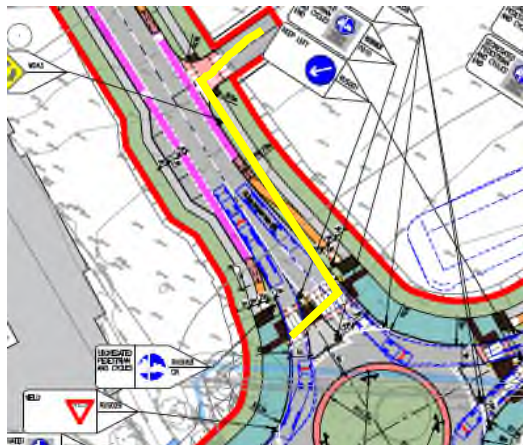
3.6 Problem

LOCATION

Drawing 170092-2057

PROBLEM

Cyclists travelling northbound wishing to access the proposed school site will have to cross at the toucan crossing and travel contra flow along the southbound cycle lane. This could lead to collisions with southbound cyclists as the facility is only wide enough to cater for one-way cycling.



RECOMMENDATION

It is recommended that the cycle track be made two-way between the toucan crossing and the entrance to the school site.

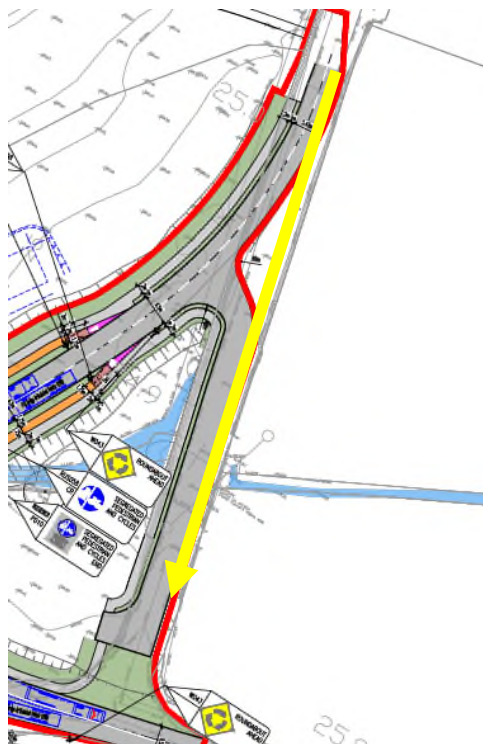
3.7 Problem

LOCATION

Drawing 170092-2057

PROBLEM

There may be a potential sight-through for southbound drivers on Mill road onto the dead-leg cul-de sac depending on the landscaping and warning provided. This could lead to sudden braking and rear-end shunts.



RECOMMENDATION

It is recommended that suitable landscaping and chevron signage be provided at the new horizontal bend on Mill Road.

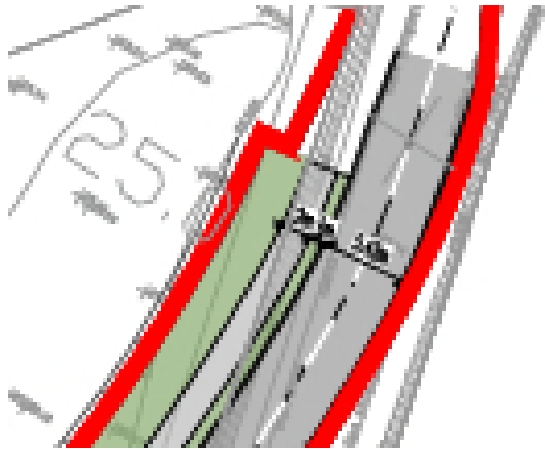
3.8 Problem

LOCATION

Drawing 170092-2057

PROBLEM

The existing Mill Road has no pedestrian facilities. The proposed realigned section has a footpath behind a narrow grassed verge. Without a suitable transition from off-road to on-road there may be cases where pedestrians step onto the carriageway and cannot be seen by approaching drivers. There could also be slips and falls where pedestrians have to dismount high kerbs.



RECOMMENDATION

It is recommended that suitable visibility is provided to the crossing point/termination of the footpath and that a dropped kerb is provided.

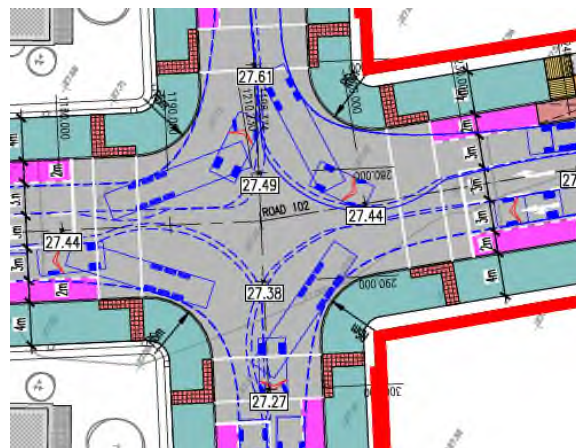
3.9 Problem

LOCATION

Drawing 170092-2051

PROBLEM

Cyclists wishing to turn right at the signalised junction will not get a chance to start their manoeuvre in advance of vehicular traffic. This could lead to cyclists being squeezed by turning vehicles and possibly being knocked from their bicycles.



RECOMMENDATION

It is recommended that advance stop lines be provided for cyclists.

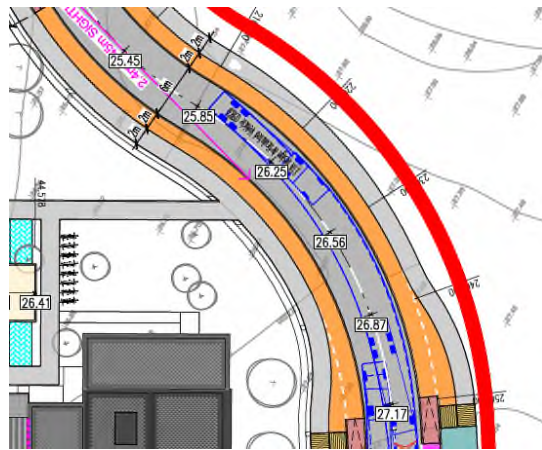
3.10 Problem

LOCATION

Drawing 170092-2051, chainage 220, East -West Side road to link Road

PROBLEM

The swept path analysis for a HGV travelling West towards the link road signalised junction shows that it crosses the centerline of the carriageway for a substantial distance. It appears that a car could not pass a HGV at this location. This could lead to side-swipe collisions. It is assumed that when the link road is complete there may be a substantial number of HGVs including this route. This is also an area where queuing would occur on approach to the junction and this may lead to a road block leading to drivers having to reverse which could lead to collisions with other vehicles.



RECOMMENDATION

It is recommended that the horizontal alignment be modified at this location and possibly East where a swept path analysis has not been shown.

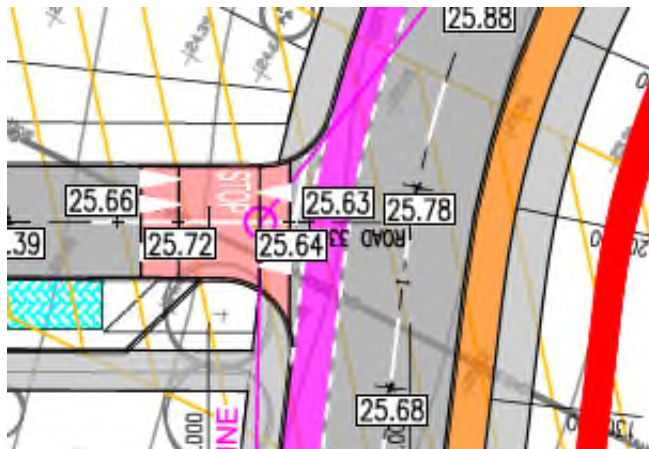
3.11 Problem

LOCATION

Drawing 170092-2051, chainage 120.

PROBLEM

There is no pedestrian crossing provided across the priority junction at Chainage 120 on the Link Road. This could lead to pedestrians crossing on the ramp of the raised table and losing balance as they cross or having to mount high kerbs and not being able to do so if they are mobility impaired.



RECOMMENDATION

It is recommended that the layout is changed so that the mobility impaired can cross easily.

4.0 Observations

4.1 Observation

The cross section over the Dublin-Belfast railway line on Colpe road shows a proposed 1.5m cycle track. The Audit Team are aware from the site visit of the cross-sectional restrictions due to the bridge parapet walls. It is important that the maximum available space is provided for cyclists as there was a high volume of HGV's observed on Colpe road travelling at high speeds which could lead to cyclists being blown from their bicycles. The space may be maximized by the use of suitable safety barrier systems with low working widths.

4.2 Observation

The roundabout ahead signs, on the Donacarne approach to the proposed roundabout and on approach to the first roundabout along the link road are orientated in the incorrect direction.

4.3 Observation

During the site visit the Audit Team met with a landowner whose land is along the dead-leg of Mill Road. The landowner had a fear of antisocial behavior including fly tipping at the cul-de-sac. The Audit Team accept that access to the pond is required for maintenance purposes but perhaps a gated facility with keys for the landowners and Local Authority would be feasible.

4.4 Observation

Details of boundary fencing or fencing around the ponds have not been provided to the Audit Team. The use of post and rail fencing should not be provided within the Clear Zone.

4.5 Observation

The Audit Team have not been provided with details of the pavement proposals, public lighting proposals, drainage proposals and earthworks (slope heights etc.)

5.0 Audit Statement

We certify that we have examined the information provided and the site on the 3rd May 2019. The examination has been carried out with the sole purpose of identifying any features of the design which 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. The audit has been carried out by the persons named below who have not been involved in any design work on this scheme as a member of the Design Team.

Norman Bruton
(Audit Team Leader)
Signed: 
Dated: 4/10/2019

Jane Hennaghan
(Audit Team Member)
Signed: 
Dated: 4/10/2019

Appendix A

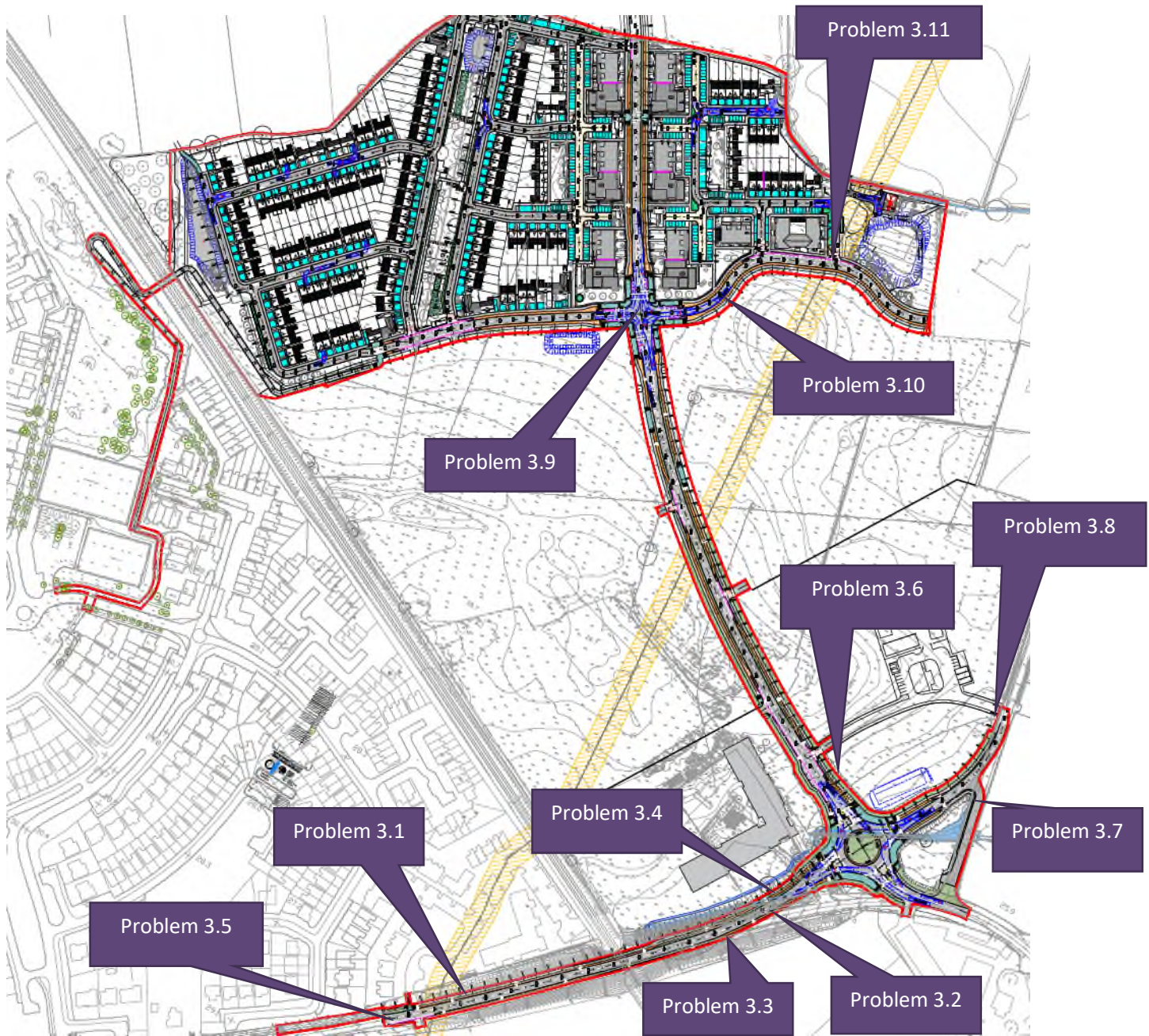
List of Material Supplied for this Stage 1&2 Road Safety Audit;

- Drawing 170092-2050
- Drawing 170092-2051
- Drawing 170092-2054
- Drawing 170092-2056
- Drawing 170092-2057

List of Background Material Supplied for this Stage 1&2 Road Safety Audit;

- Traffic and Transport Assessment, DBFL

Appendix B – Problem Location Map.



Appendix C- Feedback Form

SAFETY AUDIT FORM – FEEDBACK ON AUDIT REPORT

Scheme: Colpe Road, Drogheda

Stage: 2 Road Safety Audit

Date Audit (Site visit) Completed: 3rd May, 2019

Paragraph No. in Safety Audit Report	Problem accepted (yes/no)	Recommended measure accepted (yes/no)	Alternative measures (describe)	Alternative measures accepted by Auditors (Yes/No)
3.1	Yes	Yes	This is outside of the scope of works of the applicant. However, the recommendation is noted and will be forwarded to the local Authority.	Yes
3.2	Yes	Yes		
3.3	Yes	Yes		
3.4	Yes	Yes		
3.5	Yes	Yes		
3.6	Yes	Yes		
3.7	Yes	Yes		
3.8	Yes	Yes		
3.9	Yes	Yes		
3.10	Yes	No	The tracking shown on the drawing was for an FTA Design Articulated Vehicle (1998). This road will service the existing school and residential development and it is anticipated that the largest frequent vehicle using this road would be a large bin refuse vehicle. An updated tracking sequence showing a bin refuse vehicle will be shown here.	Yes
3.11	Yes	Yes		

Signed Dermot Grogan
Design Team Leader

Date 4/10/2019

Signed Norman Bruton
Audit Team Leader

Date:4/10/2019..

Signed Phil Kelly
Employer

Date: 4/10/19.