20125-01-001 - Rev A

Quins Cross to Raheen Roundabout Cycle Scheme, Limerick

ROAD SAFETY AUDIT STAGE 1

November 2021



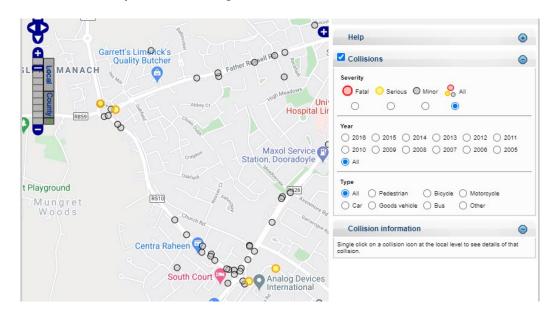
CONSULTING

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1. INTRODUCTION

- 1.1 This report describes a Stage 1 Road Safety Audit carried out at Quinn's Cross to Raheen Roundabout Cycle Scheme on behalf of Limerick City & County Council. The audit was carried out on 10th June 2021 in the offices of Roadplan Consulting, Kilkenny.
- 1.2 The audit team members were as follows:
 - George Frisby, BE CEng MIEI
 Auditor Number GF51255
 - Patrick Brennan, BEng MIEI.
 Auditor Number PB1321187
- 1.3 Both audit team members visited the site on the 26th February 2021. The audit comprised an examination of the drawings relating to the scheme supplied by Limerick City and County Council and an examination of the site.
- 1.4 The speed limit of road at the site is 50 km/h.
- 1.5 An analysis of the Road Safety Authority Collision Map 2005-2016 indicates that there were a number of collisions along the R510 Raheen Road over the years see Fig 1 below.



The collisions consisted of 15 minor injury collisions of which 3 involved pedestrians, 2 cyclists, 1 motor cycle and 9 cars. No serious or fatal injury collisions were recorded in that time period.

- 1.6 This Stage 1 Audit has been carried out in accordance with the relevant sections of TII GE-STY-01024. The 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.
- 1.7 All 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.
- 1.8 It is assumed that all appropriate dropped kerbs and tactile paving details will be provided during the detailed design stage.
- 1.9 It is assumed that adequate street lighting will be provided during the detailed design stage and that the lighting columns will either be passively safe or located outside of the clearzone and to the rear of the footpath.
- 1.10 The location of signal poles at the signalised junctions and posts for all road signage are not indicated on the drawings provided. It is assumed that at detailed design stage, the position of this street furniture and clearance to sign faces will be taken into consideration so as to avoid any conflict with pedestrians or cyclists on the proposed cyclepaths and footpaths.
- 1.11 Appendix A describes the audited drawings.

2. STAGE 1 AUDIT

2.1 **Problem**

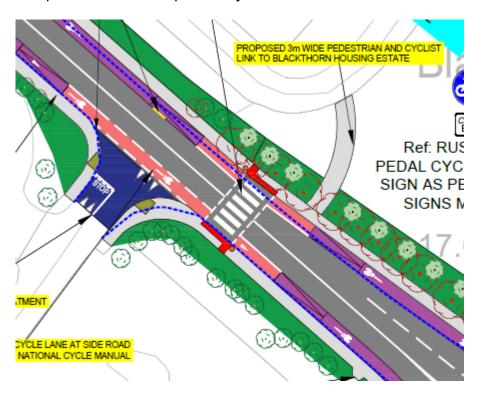
It is unclear how it is intended that cyclists on the existing carriageway, exiting the Raheen Roundabout onto the R510 Raheen Road, can safely access the start of the proposed off road cyclepath. A lack of an adequate safe access point may result in cyclists remaining on the narrowed carriageway where they would be at an increased risk of being struct by a passing vehicle.

Recommendation

Provide an adequate access point at the commencement of the off road cyclepath to allow cyclists exiting the roundabout to safely access the cycle facility. When considering the layout of the access point, the designer should take cognise of the existing pedestrian crossing at Raheen Roundabout to avoid any conflict with pedestrians crossing at this location.

2.2 Problem

It is unclear how it is intended that cyclists on the proposed cycle link from Blackthorn Housing Estate can directly access the on-road cycle lanes where the pedestrian and cycle link meet the R519 Raheen Road. A lack of an adequate safe access point may result in conflicts at this location.

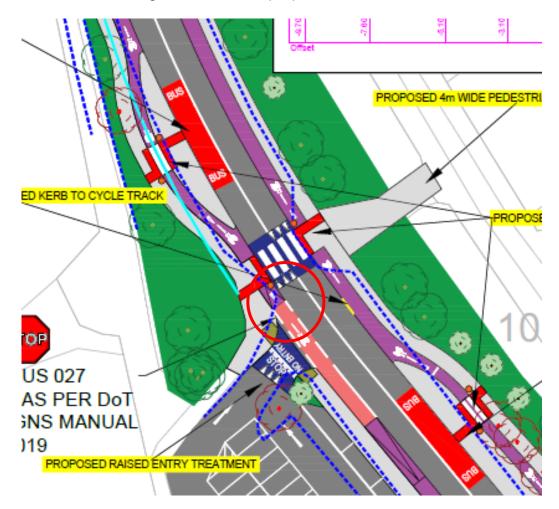


Recommendation

Layout should be revised to ensure cyclists have safe access to the proposed cycle facility.

2.3 **Problem**

Visibility at the proposed exit from the existing parking area at the front of St. Nessan's National school may be restricted by vegetation and parked vehicles in the school car park to the southeast and buses stopped at the on-road bus stop to the northwest. A lack of adequate visibility may contribute to turning conflicts at the proposed exit.

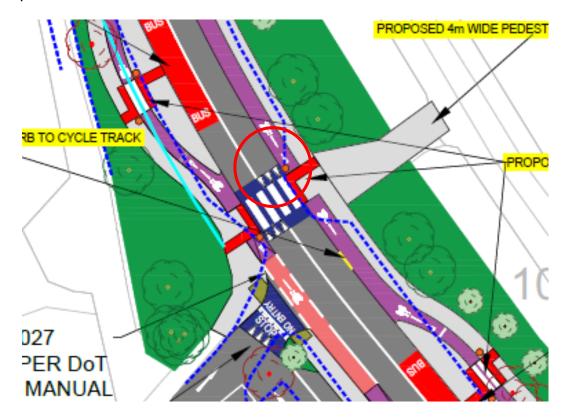


Recommendation

Ensure that adequate visibility splays are provided at the proposed exit from the existing parking area at the front of St. Nessan's National school.

2.4 **Problem**

Inter-visibility between pedestrians crossing at the proposed pedestrian crossing and drivers of vehicles approaching the crossing may be restricted by buses stopped on the on-road bus stops on either side of the pedestrian crossing. A lack of adequate visibility splays may contribute to a pedestrian collision at this location.



Recommendation

Ensure that adequate inter-visibility splays are provided between pedestrians crossing at the proposed pedestrian crossing and drivers of vehicles approaching the crossing.

2.5 **Problem**

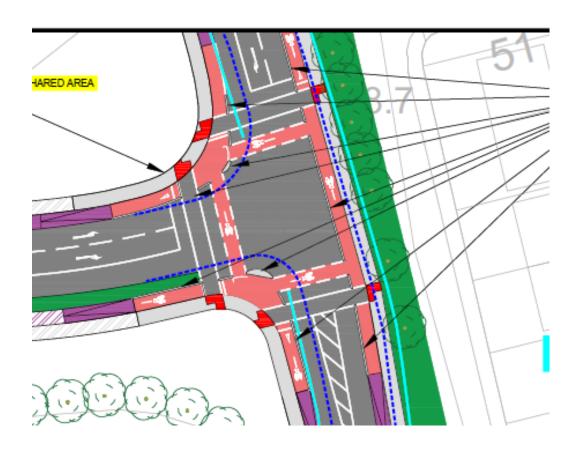
A continuous white centreline is proposed along the scheme extents. Such a road marking prohibits overtaking along sections where overtaking a slow moving or stationery vehicle is feasible. This may lead to driver frustration and carrying out dangerous overtaking manoeuvres elsewhere.

Recommendation

Provide a broken line marking where appropriate.

2.6 **Problem**

Details of the proposed signals and phasing has not been provided for the Mungret Gate junction. The layout of the cycle facilities coupled with inadequate signal and phasing design could lead to collisions between cyclists, pedestrians and vehicles.

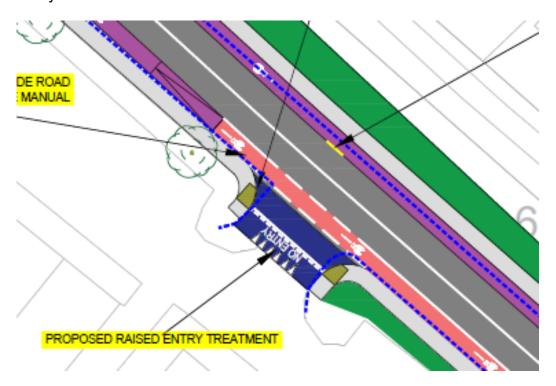


Recommendation

Adequate signals and signal phasing design should be provided to ensure all users can navigate the junction safely.

2.7 Problem

Drop kerb has been show opposite the Courtfield shopping centre exit. However, the extent of the dropped kerb is short and in line with vehicles wishing to exit to the left. Right turning cyclists would take up a position on the right of the exit to turn to the right. Cyclists would need to double back to enter the tight access point for the cycle facility. This may contribute to cyclist injury if struck by a vehicle when attempting to access the cycle facility.



Recommendation

Provide adequate cycle facilities at all priority T-junctions to allow cyclists to turn right.

2.8 **Problem**

Drop kerbs have been shown opposite priority junctions throughout the scheme. However, the dropped kerbs appear short. This results in a tight angle that cyclists have to navigate to exit the carriageway quickly. This may contribute to cyclist injury due to loss of control or if struck by a vehicle when attempting to access the cycle facility.

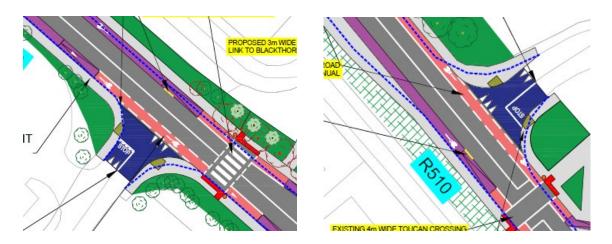


Recommendation

Provide adequate cycle facilities at all priority T-junctions to allow cyclists to turn right.

2.9 **Problem**

Drop kerbs have been shown opposite the priority junctions for Courtfield shopping centre and Chruch Road. However, the dropped kerbs appear short and are located on the cycle facility ramp. This results in a tight angle that cyclists have to navigate combined with an undesirable gradients in the surface at the cycle facility. Cyclists using the facility or wishing to access the facility at these locations could lose control increasing the risk of cyclist injury.



Recommendation

Provide adequate cycle facilities at all priority T-junctions to allow cyclists to turn right.

2.10 **Problem**

Belisha beacons as shown to be provided at the proposed toucan crossing adjacent to the junction with Church Road. The proposed belisha beacons are inconsistant with the proposed toucan crossing which could cause confusion and lead to collisions at this location.

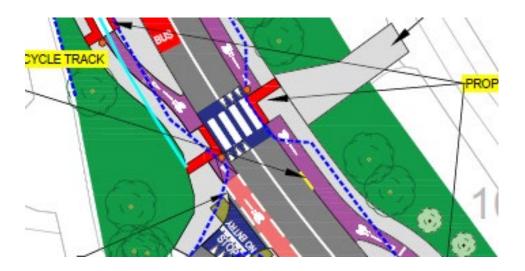


Recommendation

Replace the belisha beacons with pedestrian signals at this location.

2.11 **Problem**

The cycle facility is shown to ramp up to footpath level at its intersection with the pedestrian crossing imediately north of St Nessans school on both sides of the road however corduroy hazard warning tactile has not been provided to warn users of the crossover between cyclists and pedestrians at these locations. This could increase the risk of cyclist / pedestrian collisions.

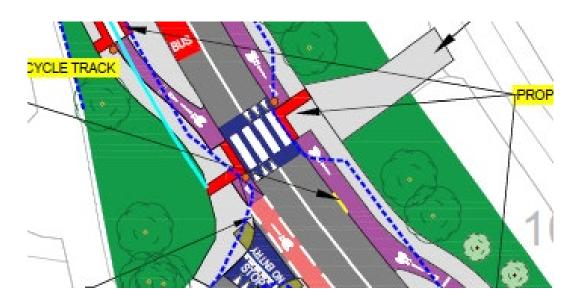


Recommendation

Adequate tactile paving should be provided to ensure all users are aware of the crossover between pedestrians and cyclists.

2.12 **Problem**

Proposed Belisha Beacons are located within the proposed cycle facility at its intersection with the pedestrian crossing imediately north of St Nessans school on both sides of the road. This may reduce the available width for cyclists which could increase the risk of cyclist collisions.



Recommendation

Belisha Beacons should be positioned to avoid any conflict with pedestrians or cyclists on the proposed cyclepaths and footpaths.

3. **AUDIT TEAM STATEMENT**

3.1 We certify that we have examined the drawings listed in Appendix A and have inspected the site. 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.

Signed	George Frisby
Date 10 th June 2021	
Signed	Patrick Brennan

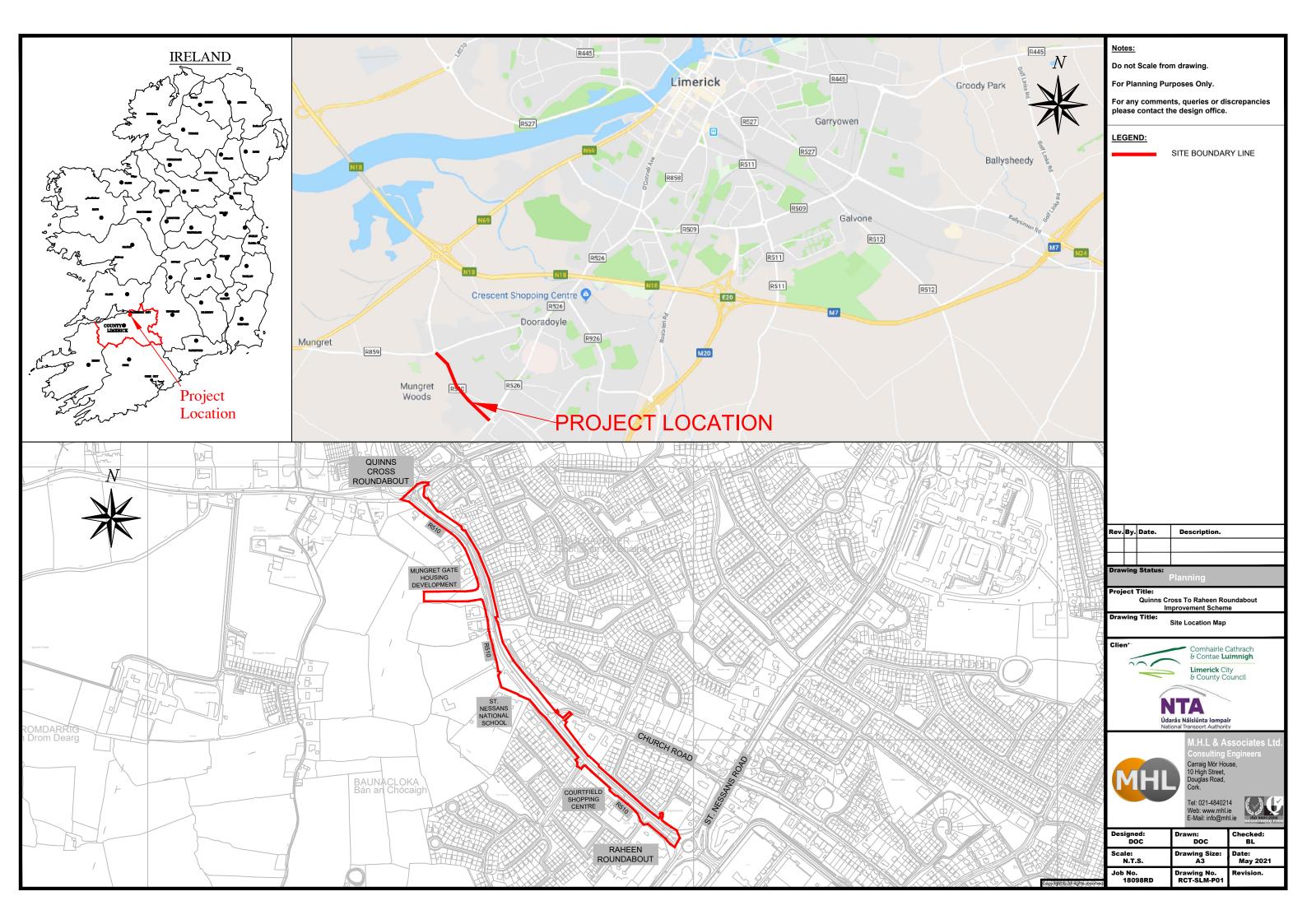
Date10th June 2021.....

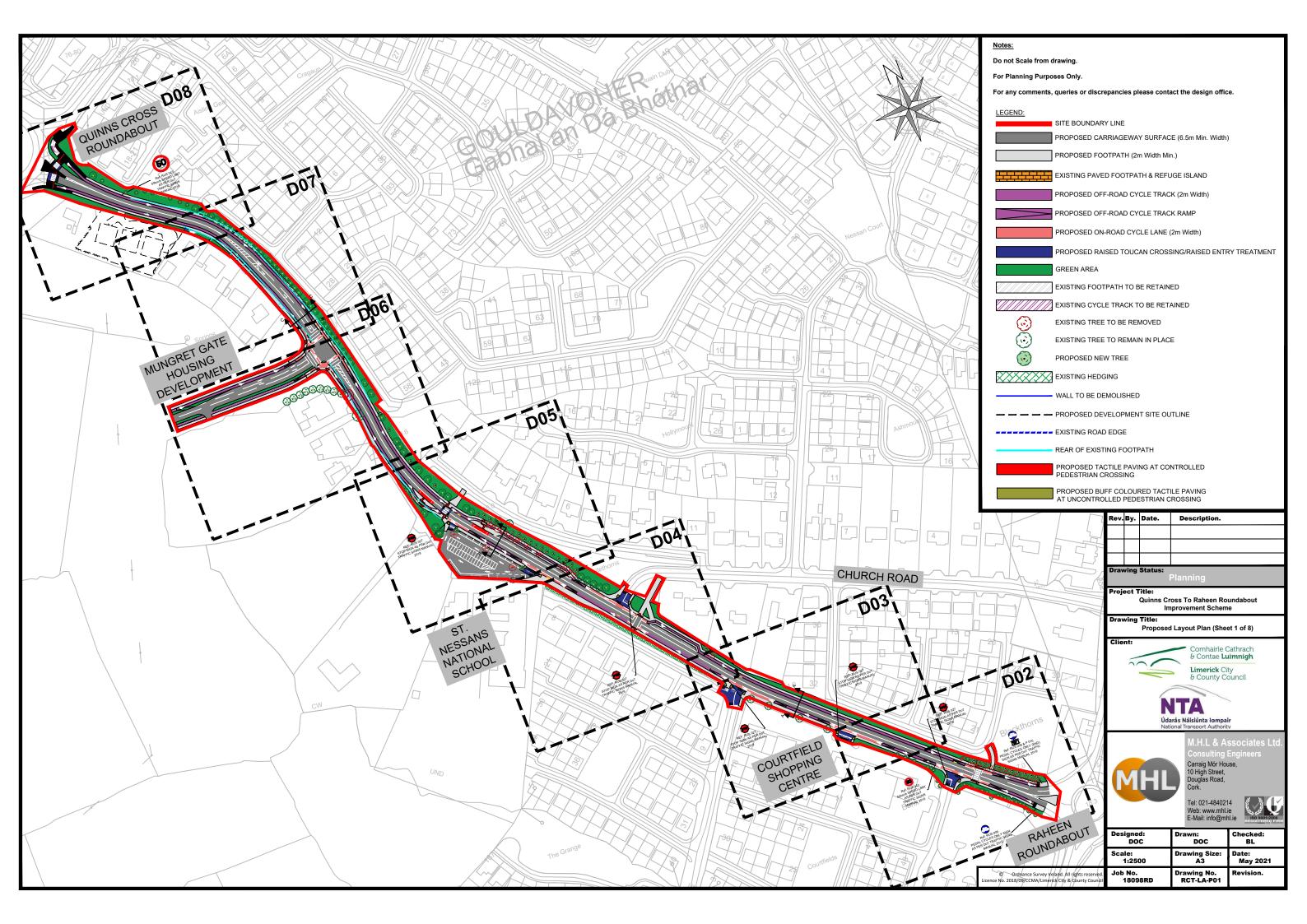
APPENDIX A

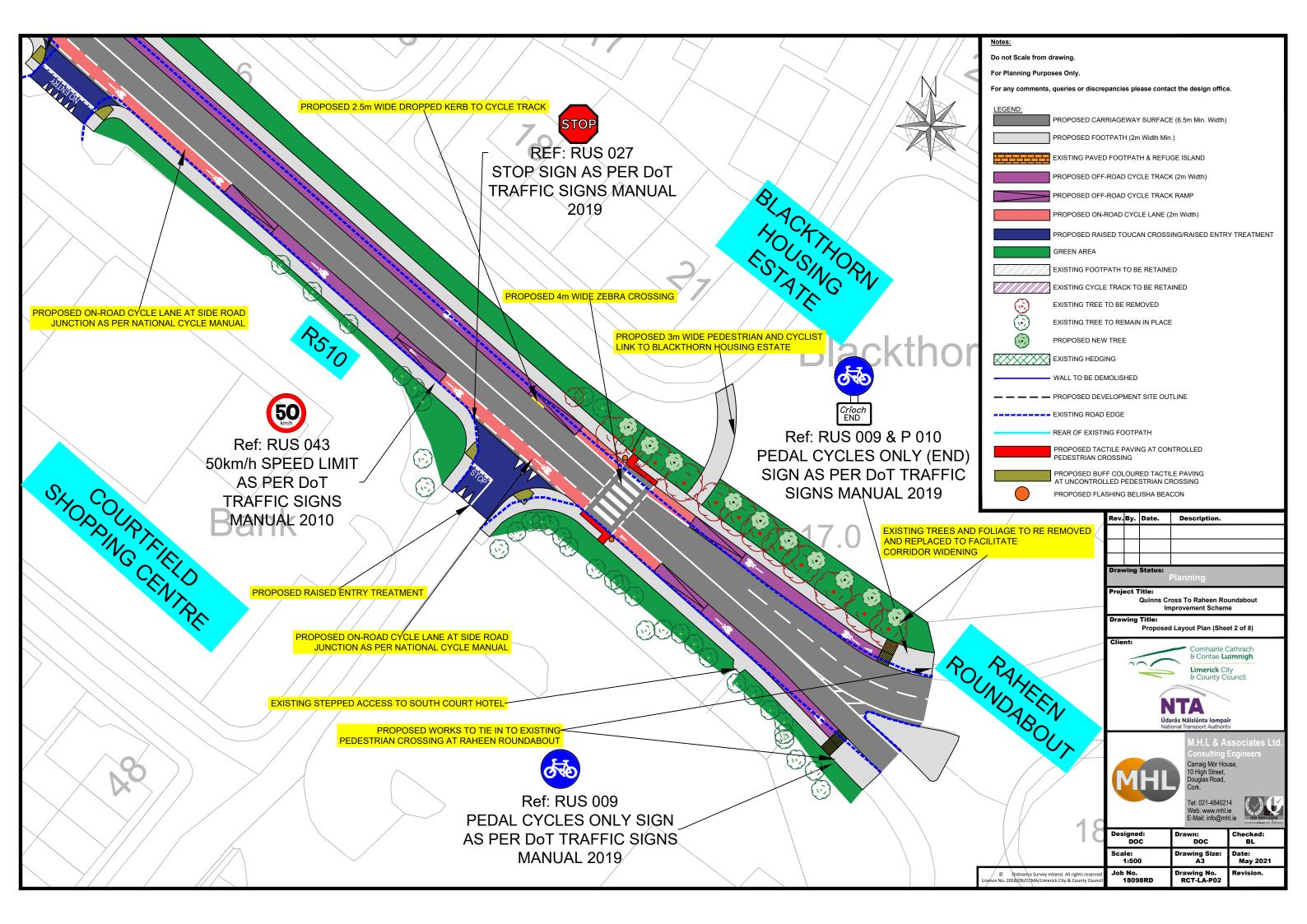
List of Drawings Examined

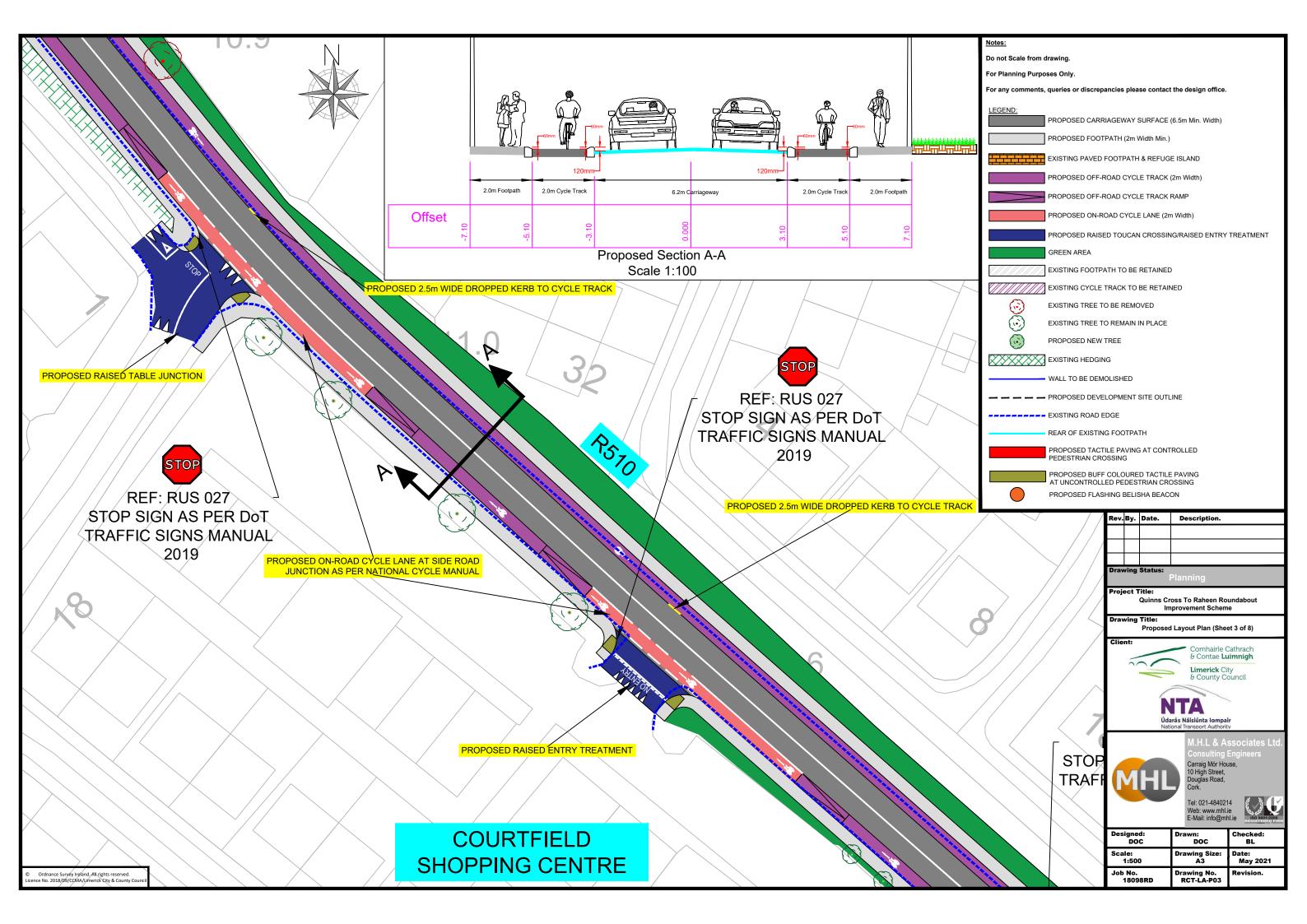
The following drawing numbered have been provided electronically in PDF format by Limerick City & County Council.

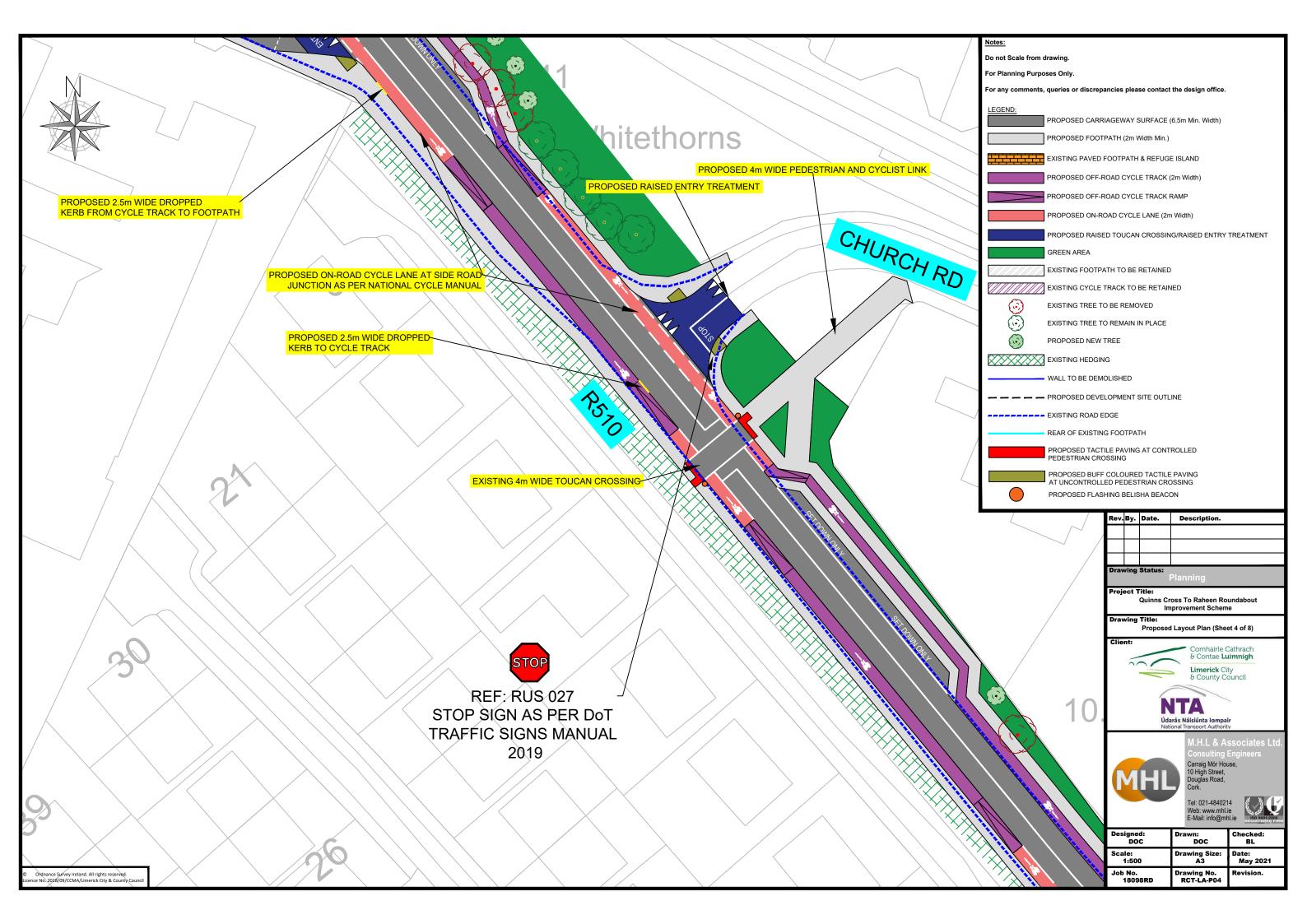
Drawing number	Rev	Drawing title	
RCT-SLM-P01	-	Site Location Map	
RCT-LA-P01	-	Proposed Layout Plan (Sheet 1 of 8)	
RCT-LA-P02	-	Proposed Layout Plan (Sheet 2 of 8)	
RCT-LA-P03	-	Proposed Layout Plan (Sheet 3 of 8)	
RCT-LA-P04	-	Proposed Layout Plan (Sheet 4 of 8)	
RCT-LA-P05	-	Proposed Layout Plan (Sheet 5 of 8)	
RCT-LA-P06	-	Proposed Layout Plan (Sheet 6 of 8)	
RCT-LA-P07	-	Proposed Layout Plan (Sheet 7 of 8)	
RCT-LA-P08	-	Proposed Layout Plan (Sheet 8 of 8)	
RCT-AT-P01	-	Auto Turn Analysis (Sheet 1 of 1)	
RCT-PAS-P01	-	Public Access Sightlines (Sheet 1 of 4)	
RCT-PAS-P02	-	Public Access Sightlines (Sheet 2 of 4)	
RCT-PAS-P03	-	Public Access Sightlines (Sheet 3 of 4)	
RCT-PAS-P04	-	Public Access Sightlines (Sheet 4 of 4)	

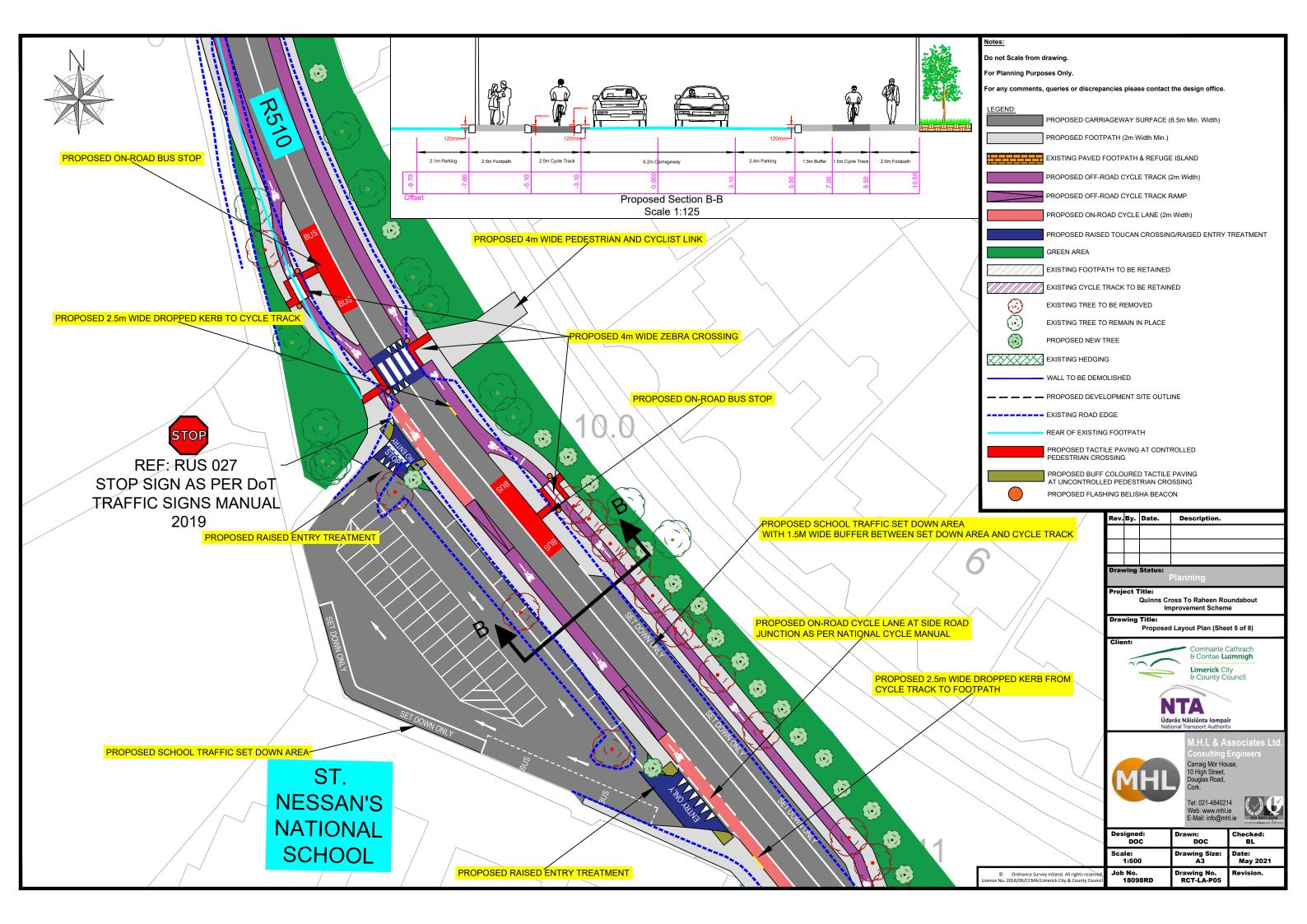


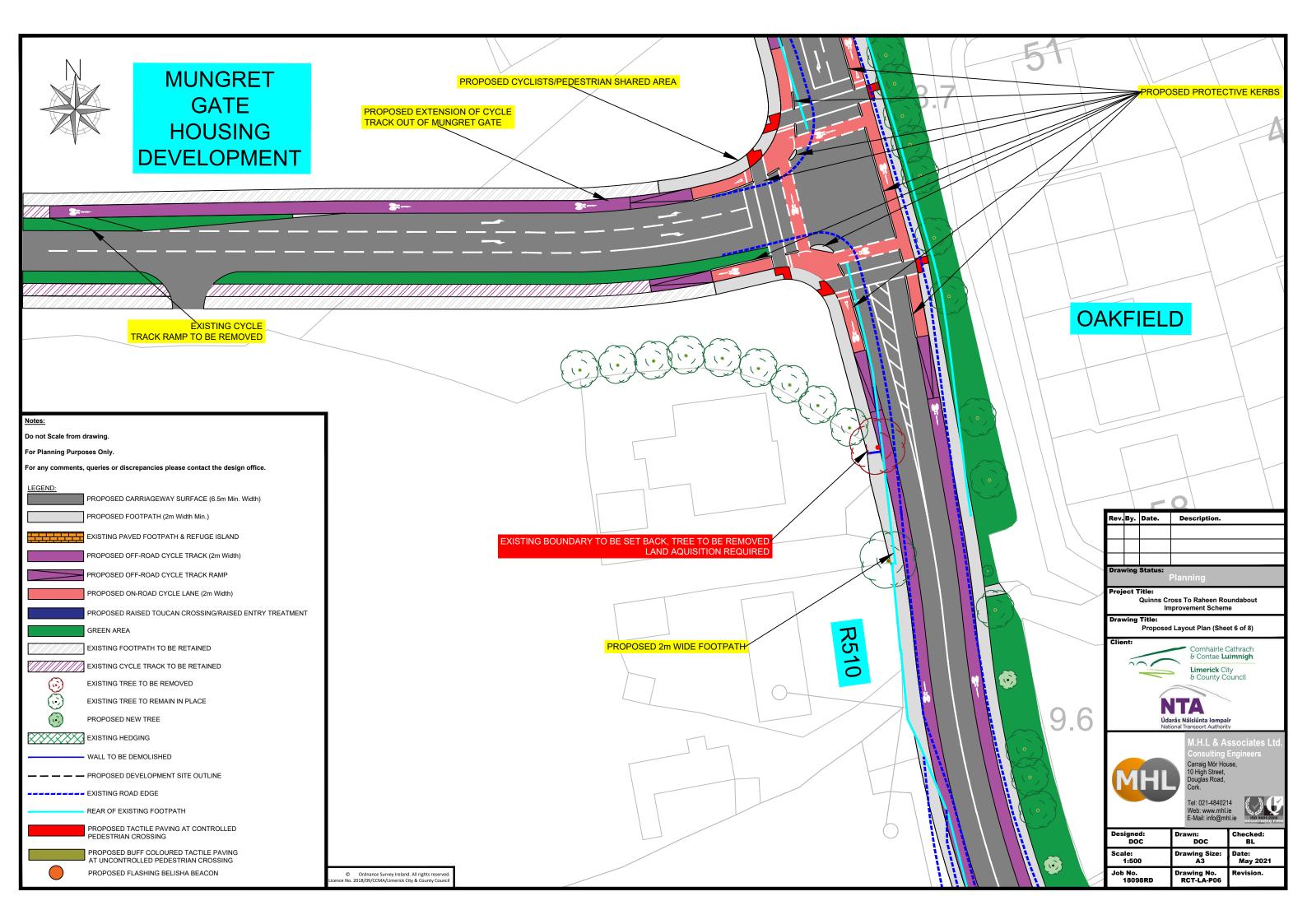


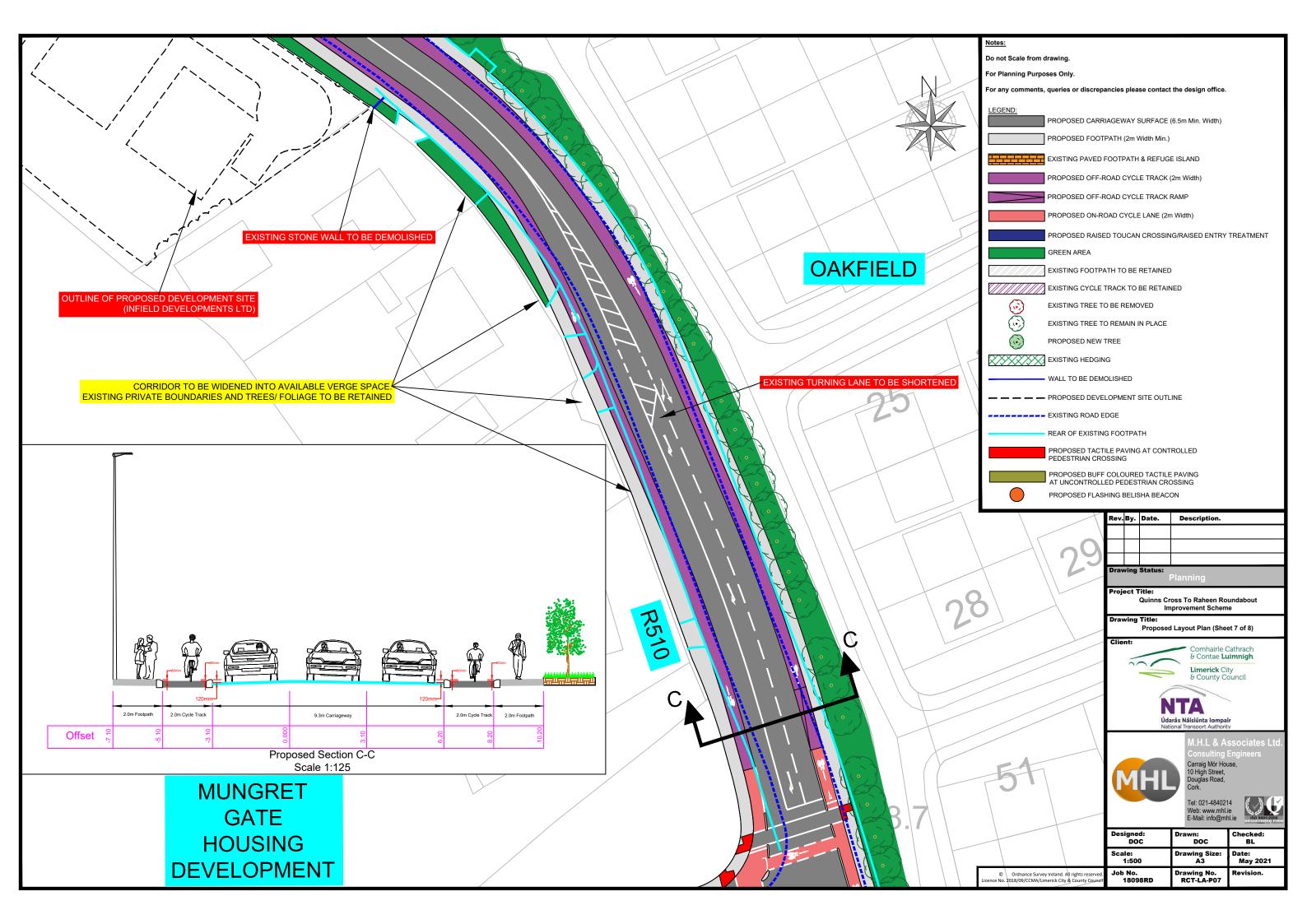


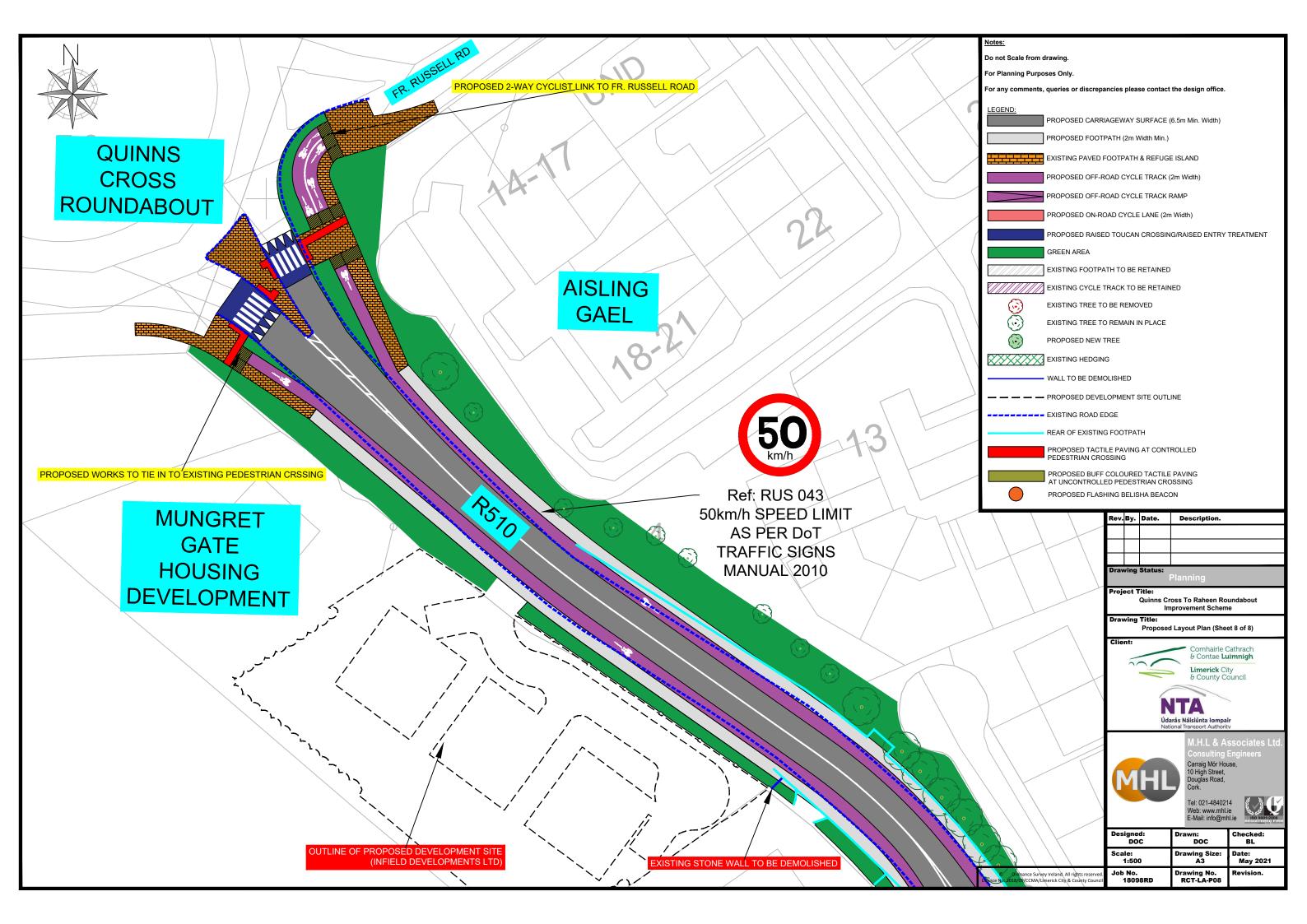


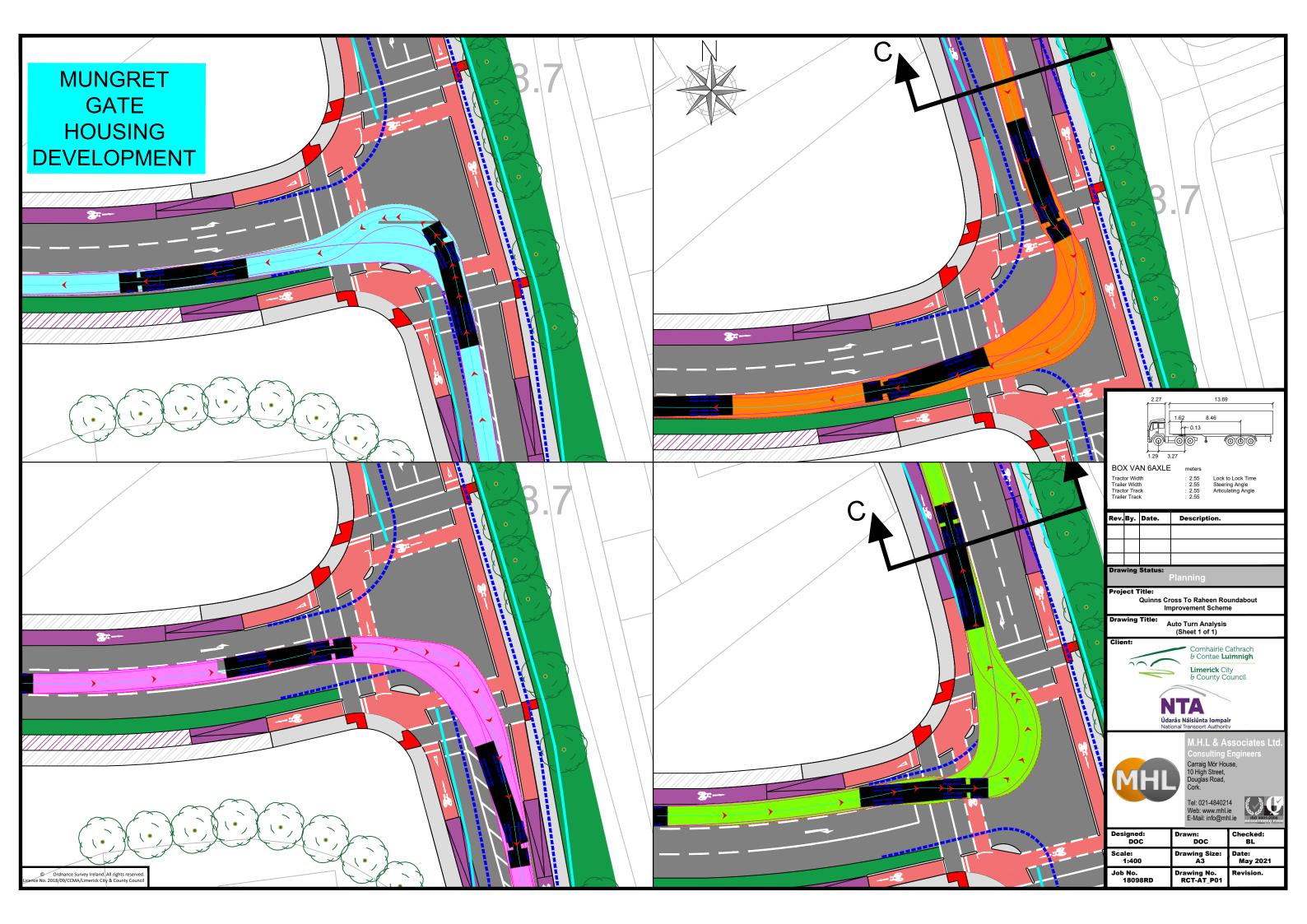


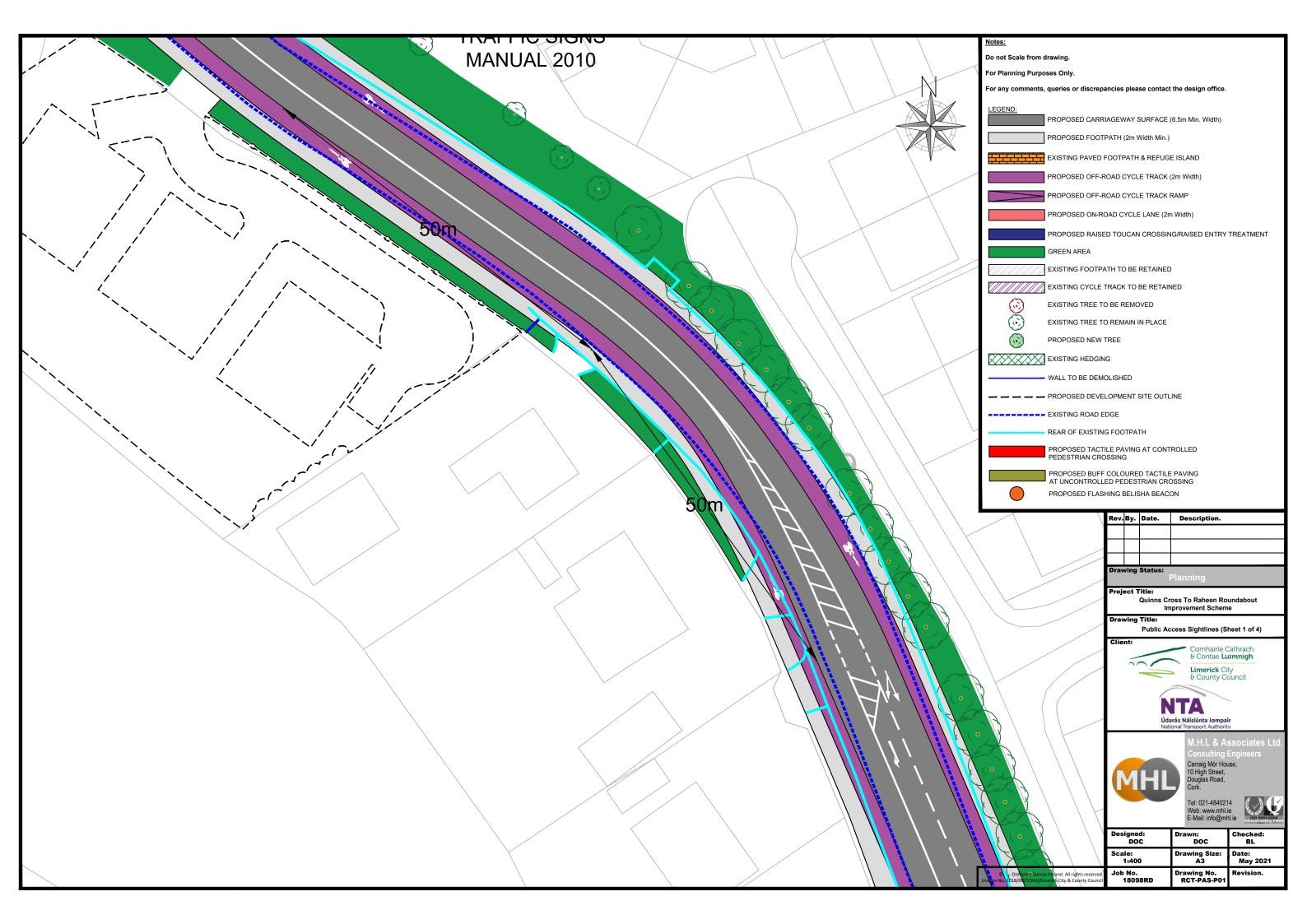


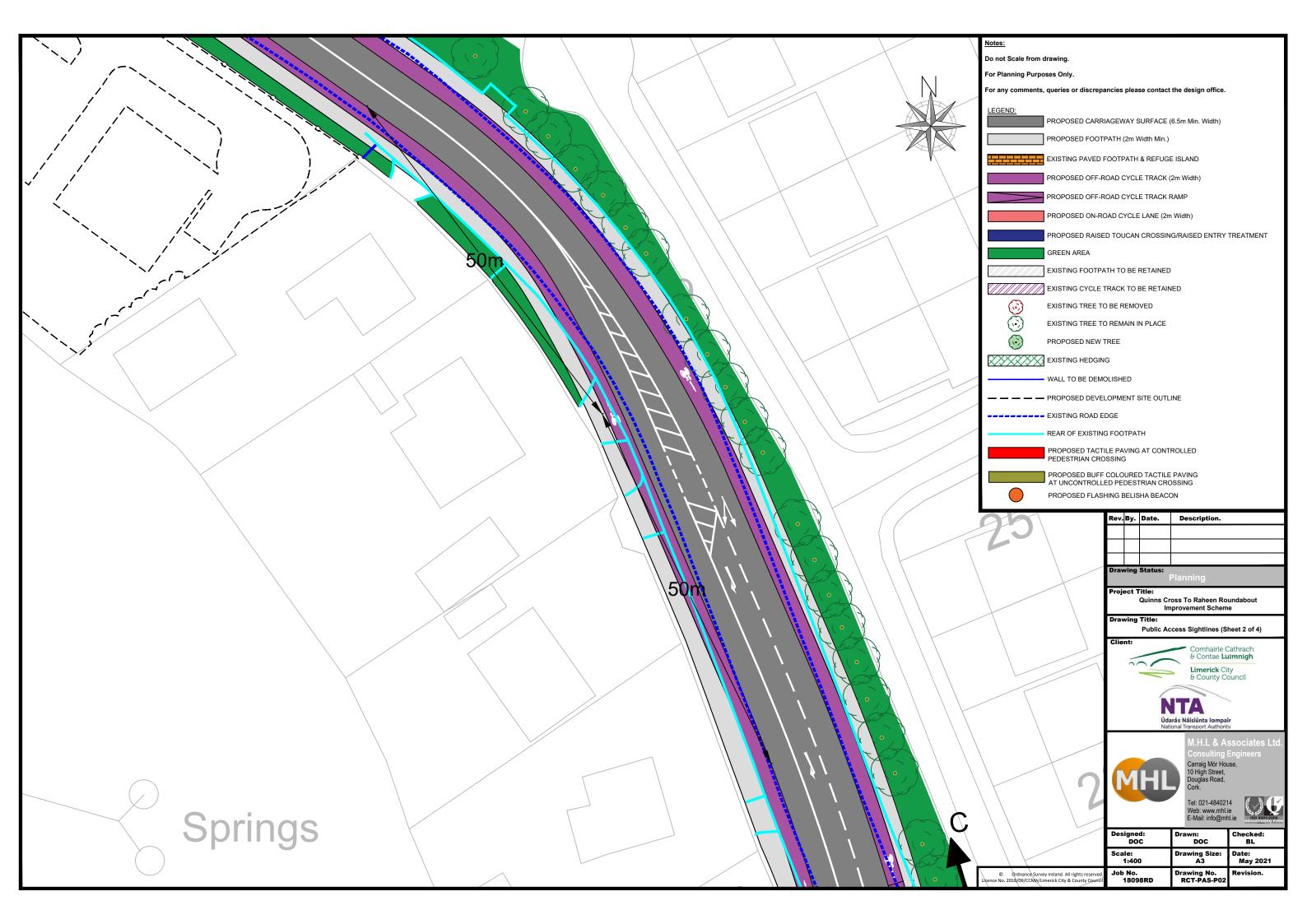


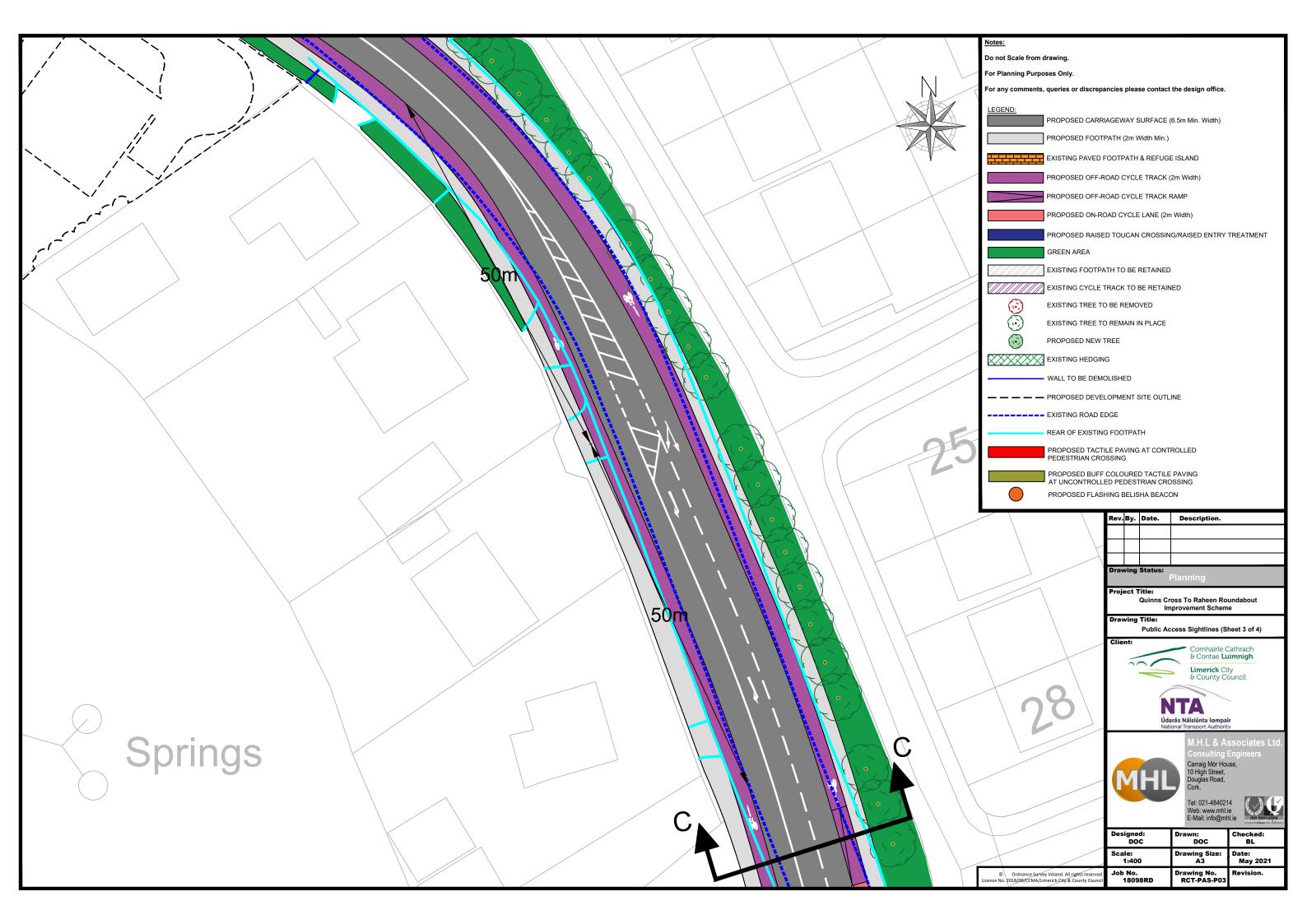


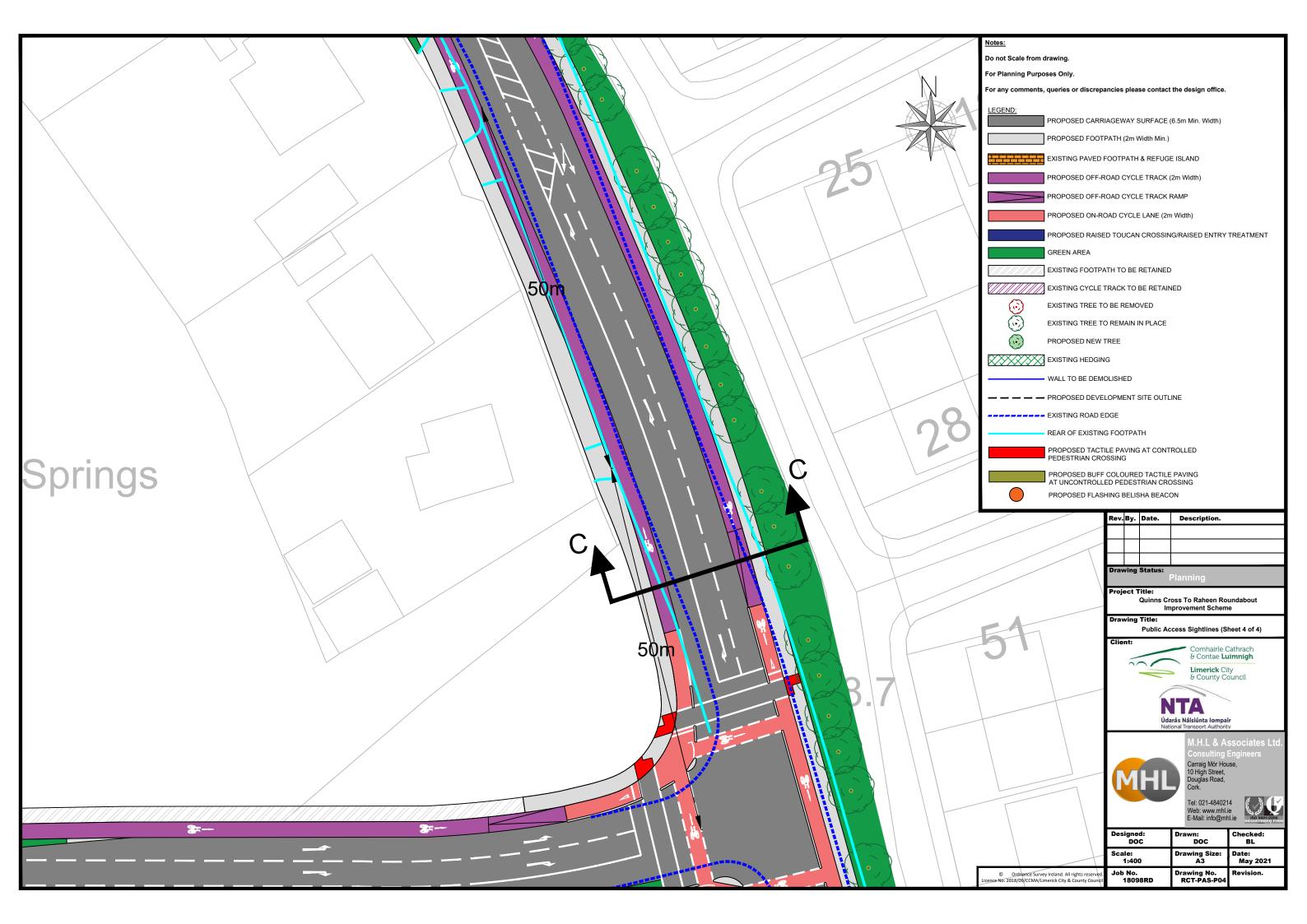












SAFETY AUDIT FEEDBACK FORM

Scheme: Quin's Cross to Raheen Roundabout Cycle Scheme, Limerick

Document Number: 20125-01

Audit Stage: Stage 1 RSA - Revision A

Date Audit Completed: 10th June 2021

Paragraph No. in		To Be Completed by Audit Team Leader		
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)
2.1	Υ	Y		
2.2	Y	Y	It is now being proposed to raise the zebra crossing and cycle facility above the road level leaving safe access for cyclists.	
2.3	N	N	Adequate visibility is being provided	Yes
2.4	Υ	Y	Adequate visibility is being provided for a 30kph Design Speed if buses are present, 50kph Design Speed visibility available if no buses are parked at the bus stops.	
2.5	Y	Y		
2.6	Υ	Υ	DETAILED DESIGN STAGE	
2.7	Υ	Υ	DETAILED DESIGN STAGE	
2.8	Υ	Υ	DETAILED DESIGN STAGE	
2.9	Y	Υ	DETAILED DESIGN STAGE	
2.10	Y	Y		
2.11	Y	Y		
2.12	Y	Y		

Safety Audit	Beigan	1.0	
Signed off	INCOM:	Loughrey	Design Team Leader

Print Name: BRIAN LOUGHREY Date 10/11/2021

Safety Audit

Signed off Employer

Print Name LIAM KENNEDY Date: 15/11/2021

Safety Audit (Teorge Saist)

Signed off Audit Team Leader

Print Name George Frisby Date 17/11/21

Please complete and return to: Roadplan Consulting Ltd.

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Kilkenny

E-mail: info@roadplan.ie