

Proposed Active Travel Scheme on the R207, Dowra Road, Drumshanbo, Co. Leitrim

Stage 1 Road Safety Audit

Final Report

5th April 2023

Prepared for

Leitrim County Council

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Document Control Sheet

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Leitrim County Council	1 Electronic (pdf) copy

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1 Introduction

This report presents the findings of a Stage 1 Road Safety Audit (RSA) of proposed Active Travel Scheme on the R207, Dowra Road, Drumshanbo, Co. Leitrim.

This RSA was commissioned by Leitrim County Council, who also prepared the scheme design.

This RSA has been undertaken by Traffic Transport and Road Safety Associates Limited (TTRSA) in accordance with the requirements of Transport Infrastructure Ireland (TII) GE-STY-01024 Road Safety Audit standard (including residual TII COVID-19 guidance). The Audit Team members comprised: Matthew Steele (TII Auditor Ref. No. MS88315) and Pamela Townley (TII Auditor Ref. No. PT90300). A brief for this audit, provided by Leitrim County Council in accordance with the requirements of TII GE-STY-01024, is included as Appendix A of this report.

A site visit for this RSA was undertaken by both Audit Team members during the afternoon of 28th March 2023. During the RSA site visit the weather was rain showers and the road surface was wet. The RSA was undertaken by the aforementioned Audit Team during the time period 22nd March 2023 to 4th April 2023.

This RSA examines the documents relating to the proposed scheme and on-site observations at the time of the audit site visit, and identifies issues which may have an adverse impact on road safety. The RSA does not examine or verify: the proposed scheme for compliance with any other standards or criteria; nor, the spatial accuracy of the design information provided.

Issues which impact on road safety are listed as problems within this report, and relate to the documentation provided upon commencement of the RSA and associated clarification. The problems identified are considered to require action in order to improve the safety of the scheme and minimise collision occurrence.

The scheme employer and designer are required to respond to this RSA by completing a Road Safety Audit Feedback Form, included as Appendix B of this report. If any of the recommendations within this RSA are not accepted, a written response is required within the feedback form stating the reasons for non-acceptance.

Where the scheme employer and designer amend the scheme design in response to their completion of the Audit Feedback Form, such design amendments are not assessed within this Road Safety Audit. Where changes are made to a scheme design following, or as a result of, a Stage 1 Road Safety Audit, a Stage 2 Road Safety Audit should be undertaken prior to construction.

2 Scheme Background

2.1 The proposed scheme

The scope of this RSA comprises the design of a proposed Active Travel Scheme over a length of approximately 505m, on the R207, Dowra Road in Drumshanbo, Co. Leitrim. As depicted within the Road Layout Plan drawings for the proposed scheme contained in Appendix A, and associated public lighting, drainage and standard detail drawings, the scheme comprises:

- Construction of a footpath, approximately 505 meters in length, including dropped sections of footpath at vehicle crossovers, to connect two existing footpaths;
- Boundary fencing to tie-in to existing; and,
- Provision of public lighting over a length of approximately 505m.

2.2 The existing situation

The characteristics of the R207 Dowra Road in the vicinity of the proposed scheme, as observed at the time of the audit site visit, included the following:

- This section of Dowra Road has a carriageway width of between 6.45m and 7.20m which is aligned by kerbs on its western side over the southern 315m of the scheme extent and by a kerbed footpath over the northern 175m of the scheme extent. The carriageway is demarcated by a solid centreline and dashed edge-lining;
- The horizontal alignment of this section of Dowra Road is formed from a series of sweeping curves, whilst vertically it falls from north to south.
- Vehicle accesses/cross-overs are present for a number of premises including a civil defence building, and a junction providing access to the Radharc Na Baile residential estate;
- No public lighting is present on the R207 over the extent of the scheme;
- Road gullies are present on the western side of the R207 carriageway, mainly out-falling into roadside drains; and,
- The posted speed limit varies from 80km at the northern extent of the scheme, through a 60km/h buffer zone, and to 50 km/h at the southern extent of the scheme.

2.3 Design Standards and Departures from Standards

The design standards applied for the proposed scheme are: the Traffic Management Guidelines; Transport Infrastructure Ireland (TII) Specification & Standard Construction Details; Design Manual for Urban Roads & Streets (DMURS); and, the Traffic Signs Manual. No departures from standards were reported to the audit team.

2.4 Traffic Collision Information

Information included within the RSA brief contained in Appendix A indicates that three collisions have been reported within the extent of the proposed scheme, two material damage collisions occurring in 1994 and 1995, and one head on collision in December 2003 which resulted in minor injury to one casualty.

2.5 Information provided for the audit

Documents and information provided for this audit are detailed with the RSA brief contained in Appendix A.

3 Stage 1 Road Safety Audit Findings

3.1 Problem: Potential for pedestrian slip injury on ponding at dropped kerb crossing

During the RSA site visit ponding was observed across the southern dropped kerb of the proposed crossing at the southern extent of the scheme. Inadequate surface water drainage at this crossing point can increase the risk of pedestrian slip injury including during icing conditions.

Recommendation:

Ensure that adequate surface water drainage is provided for this pedestrian crossing, providing appropriate surface water drainage measures as required.

3.2 Problem: Misguidance of tactile paving at dropped crossing at southern extent of scheme

The alignment the proposed dropped kerbed and tactile paving crossing at the southern extent of the scheme will misguide pedestrians with visual impairments, increasing the risk of injury to these pedestrians as they potentially trip whilst guided to traverse non-dropped kerbs.

Recommendation:

Provide appropriate parallel alignment of dropped kerbs and tactile paving for the proposed crossing on the southern extent of the scheme.

3.3 Problem: Potential deformation of footpath route due to broken out kerbing at northern junction adjacent to proposed dropped crossing of southern extent of scheme

There is potential for the existing damaged kerbing of the northern junction radius adjacent to the proposed dropped kerb crossing (at the southern extent of the scheme) to lead to deformation of the proposed adjacent footpath, increasing the risk of pedestrian trip and fall injuries.

Recommendation:

Ensure that the existing kerbing of the northern junction radius adjacent to the dropped kerb crossing is adequately repaired prior to the construction of the proposed footpath route.



3.4 Problem: Potential deformation of proposed footpath adjacent to lighting column, road signing and fence infrastructure on section of footpath route adjacent to the filter drain and the open drain channel

It is unclear from the drawing information provided for this RSA of how the proposed lighting columns, relocated position of existing road signing to the back of the footpath, and proposed fencing will have adequate stability in the context of the potential construction of the filter drain and the level difference of the open drain channel located immediate to the rear of the proposed footpath. Inadequate stability for this highway infrastructure can lead to the deformation of the footpath in the vicinity of this infrastructure with increased potential for pedestrian trip and fall injuries and potential for this highway infrastructure to subside and lean into the adjacent traffic lane increasing the risk of road-users colliding with this subsiding infrastructure.

Recommendation:

Ensure that the proposed lighting column, road signing and fence infrastructure will have adequate stability on the section of proposed footpath located adjacent to the filter drain and the open drain channel. It should be ensured that the positioning of this infrastructure does not create inadequate width of footpath which can adversely impact on the safety of pedestrians with mobility impairments or those utilising mobility aids.

3.5 **Problem: Potential for pedestrian injury due to degraded fence at tie-in at food development site access point**

The section of existing fence aligning the southern radius of the food development site access point was observed during the RSA site visit as significantly degraded, reducing pedestrian safety for those using the adjacent proposed footpath.

Recommendation:

Provide adequate fencing infrastructure for the footpath route tie-in at this location.

3.6 **Problem: Hazardous positioning of proposed public lighting columns**

There is the potential for the positioning of proposed public lighting columns at the following locations to adversely affect road-user safety:

- The positioning of a proposed public light column within the northern immediate vicinity of the proposed repositioned route confirmatory road sign may adversely affect road-users' ability to read this road sign due to public lighting luminance contrast, with subsequent potential for collisions as drivers apply sharp braking manoeuvres whilst attempting to read this sign;
- The positioning of a proposed public light column within the food development site access point will increase the potential for vehicles to directly collide into this light column, with resultant injury to occupants of these vehicles;
- There is potential for the proposed public light columns to obstruct the visibility splay to/from vehicle access points and junctions, increasing the risk of a range of collision types;
- There is potential for the luminance of the proposed public lighting column located to the northern extent of the scheme to be masked by the existing adjacent utility pole. Inadequate luminance levels of public lighting can increase the risk of collisions and pedestrian injuries.

Recommendation:

Ensure that the proposed public lighting for this scheme does not adversely affect road-user safety, relocating the proposed public lighting columns to safe locations as necessary outside of the visibility splay of vehicle access points and junctions, whilst ensuring that the detailed design of public lighting provides adequate luminance levels for the proposed footpath and vehicle access points and takes full account of the existing public lighting columns located in the vicinity of the Radharc Na Baile residential estate junction and to the southern extent of the footpath scheme.

3.7 **Problem: Potential mounting height of repositioned signing to adversely affect road-user safety**

It is unclear from the drawing information provided for this RSA of the mounting height of the proposed repositioned road signs. Inadequate or inappropriate mounting height can lead to a range of road safety hazards including pedestrians colliding with the sign face, or reduced visual awareness and interpretation of these road sign for approaching drivers with resultant collisions or injuries associated with sharp braking or non-adherence of these road signs.



Recommendation:

Ensure that all proposed repositioned road signs are appropriately mounted.

3.8 Problem: Service covers located within pedestrian and vehicle routes

Service covers will be located within the proposed footpath route including within the vehicle entry route of the food development site access point, increasing the risk of pedestrian slip/trip injuries and collisions due to differential skid resistance. It was also observed during the RSA site visit that an additional utility cover will be present within the footpath route northwards of the access point of the Civil Defence site.

Recommendation:

Ensure that all service covers located within the proposed footpath route are provided with appropriate surface skid resistance and are positioned at appropriate surface levels within the pedestrian route.

3.9 Problem: Potential for pedestrian trip/slip injury at footpath tie-in point

It is unclear from the drawing information provided for this RSA of how the northern extent of the proposed footpath will tie-in with the existing section of footpath at this location. Differential surface levels including cross-fall at the tie-in point can increase the risk of pedestrian trip/slip injury.

Recommendation:

Ensure that adequate surface levels are provided at the tie-in point between the northern extent of the proposed footpath and the existing footpath.

4 Audit Statement

We certify that we have examined the documentation provided for the audit as detailed in Section 2 of this report, and visited the site as detailed in Section 1 of this report. The audit has been carried out in accordance with TII GE-STY-01024 (including residual TII COVID-19 guidance) 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 that we have identified have been noted in this report, together with suggestions for safety improvement that in our opinion should be studied for implementation. The Audit has been conducted by the persons named below who are independent from the design team for the scheme.

Matthew Steele
(Audit Team Leader)

Signed:



Date:

4th April 2023

Pamela Townley
(Audit Team Member)

Signed:



Date:

4th April 2023

Appendix A – Stage 1 Road Safety Audit Brief

Proposed scheme: Active Travel Scheme
 Scheme location: Dowra Road, Drumshanbo
 Stage of RSA: 1

TII Checklist Item	Yes/No/Not Applicable (N/A)	Comment
Design Brief	Yes	Conduct a Stage 1 Road Safety Audit (RSA) of the design of the Active Travel Scheme on the R207, Dowra Road, Drumshanbo
Design Standards Applied	Yes	Traffic Management Guidelines, Transport Infrastructure Ireland (TII) Specification & Standard Construction Details, Design Manual for Urban roads & Streets (DMURS), Traffic Signs Manual etc.
Design Speed Applied	Yes	50/60/80km/h
Departures from Standards	No	
Scheme Drawings	Yes	<ol style="list-style-type: none"> 1) Site Location Map - LM23-0002-PDV_SB-00_ML_00-DR-CR-01_S2.L03 2) Road Layout Plan-Sheet 1 - LM23-0002-PAV_PV-00_ML_00-DR-CR-01_1_S2.L02 3) Road Layout Plan-Sheet 2 - LM23-0002-PAV_PV-00_ML_00-DR-CR-01_2_S2.L02 4) Road Layout Plan-Sheet 3 - LM23-0002-PAV_PV-00_ML_00-DR-CR-01_3_S2.L02 5) Road Layout Plan-Sheet 4 - LM23-0002-PAV_PV-00_ML_00-DR-CR-01_4_S2.L02 6) Drainage Layout Plan-Sheet 1 - LM23-0002-DNG_ZZ-00_ML_00-DR-CR-01_1_S2.L01 7) Drainage Layout Plan-Sheet 2 - LM23-0002-DNG_ZZ-00_ML_00-DR-CR-01_2_S2.L01 8) Preliminary Road Lighting Plan-Sheet 1 - LM23-0002-LHT_RL-00_ML_00-DR-CR-01_1_S2.L02 9) Preliminary Road Lighting Plan-Sheet 2 - LM23-0002-LHT_RL-00_ML_00-DR-CR-01_2_S2.L02 10) Preliminary Road Lighting Plan-Sheet 3 - LM23-0002-LHT_RL-00_ML_00-DR-CR-01_3_S2.L02 11) Preliminary Road Lighting Plan-Sheet 4 - LM23-0002-LHT_RL-00_ML_00-DR-CR-01_4_S2.L02 12) Preliminary Road Lighting Plan-Sheet 5 - LM23-0002-LHT_RL-00_ML_00-DR-CR-01_5_S2.L02 13) Preliminary Road Lighting Plan-Sheet 6 - LM23-0002-LHT_RL-00_ML_00-DR-CR-01_6_S2.L02 14) LM23-0002-GEO_CS-00_ML_00-DR-CR-01_1_S2.L02 Construction Details-Sheet 1 of 2 15) LM23-0002-GEO_CS-00_ML_00-DR-CR-01_2_S2.L01 Construction Details-Sheet 2 of 2
Other scheme details, e.g. signs schedules, traffic signal staging	No	
Collision data for existing roads affected by the scheme		There are three collisions recorded on the R207 within the site boundary of the proposed scheme. The collision types were 2 material damages occurring in 1994 and 1995 and one minor injury on 01/12/2003 from a head on collision.

Traffic surveys	No	
Previous Road Safety Audit Reports and Designer Responses/Feedback Form	No	
Previous Exception Reports	N/A	
Start date for construction and expected opening date	Yes	2023
Any elements to be excluded from audit	No	
Any other information (list separately)	No	

NOTES

1. THIS DRAWING IS TO BE USED IN CONNECTION WITH THE CONTRACT ENGINEERS, ARCHITECT'S AND SPECIALIST'S DRAWINGS AND THE SPECIFICATION.
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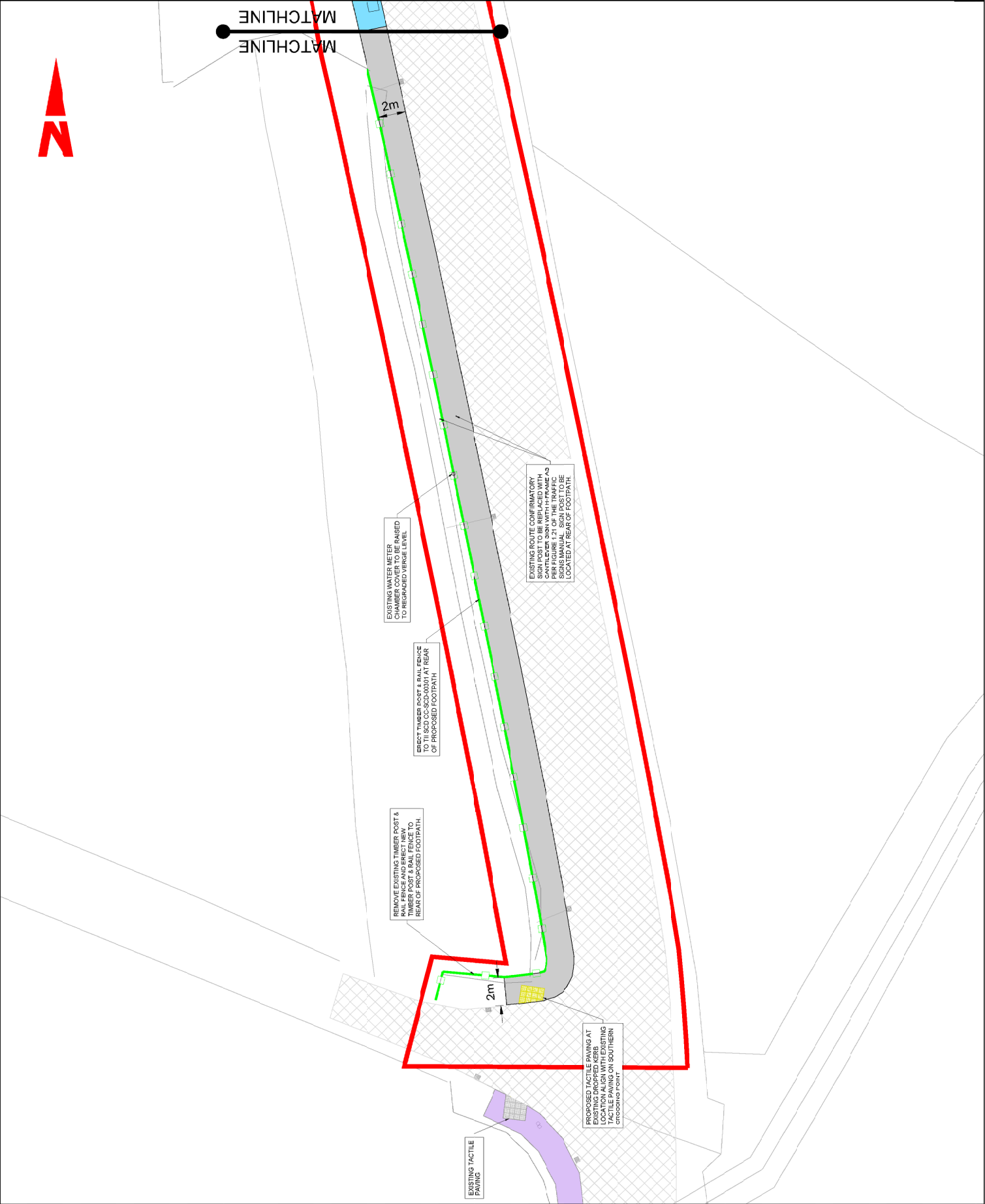


EXISTING FEATURES KEY

- ROAD SURFACE
- BITUMINOUS FOOTPATH
- SITE BOUNDARY

PROPOSED FEATURES KEY

- FOOTPATH TO REAR OF EXISTING KERB
- FOOTPATH TO REAR OF EXISTING DROPPED KERB FOR VEHICULAR ACCESS
- TIMBER POST & RAIL FENCE
- CONCRETE POST & WIRE FENCE



Issue	Date	Location/Amendment	By	CR
LD1	10.03.23	FIRST ISSUE	JH	ED

Drawn By: _____ Date: _____
 Checked: _____ Date: _____

PLANNING



LEITRIM COUNTY COUNCIL
 Park Lane House, Priests Lane, Carrick on Shannon, Co. Leitrim, R373
 Tel: 071 9620065
 Website: www.leitrimoco.ie

Section

**ROADS DEPARTMENT
 ACTIVE TRAVEL**

Project

**FOOTPATH LINK, DOWRA ROAD,
 DRUMSHANBO, CO. LEITRIM**

Drawing Title

**ROAD LAYOUT PLAN
 SHEET 1 OF 4**

Drawn/Design	Checked	Date	Scale	Sheet	Total
JH/JH	ED	10.03.23	1:125	1	4

Drawing No: LM23-0002-PAV_PV-00_ML_00-DR-CK-01_1
 Scale: 1:125
 Date: 10.03.23
 Sheet: 1 of 4

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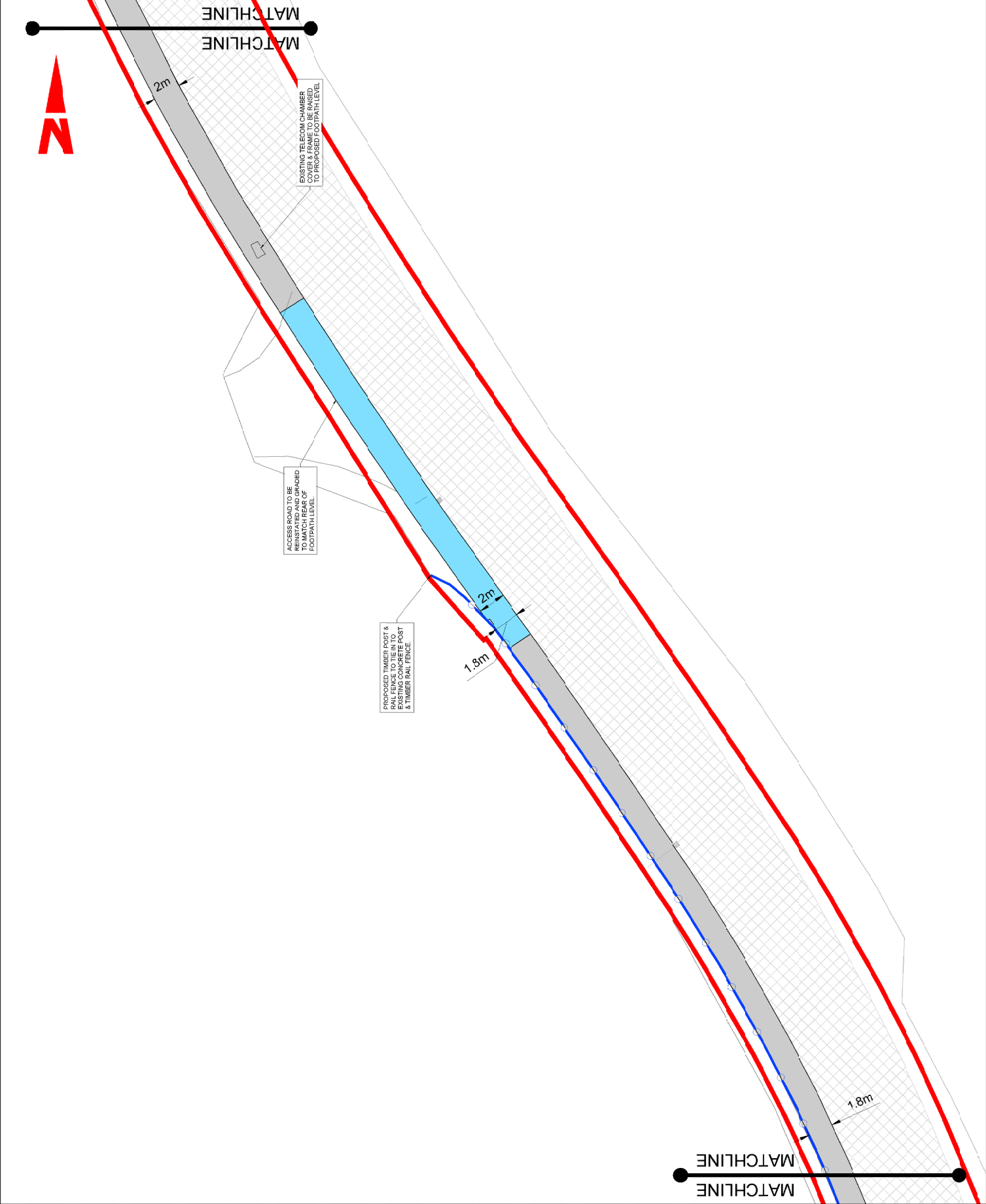


EXISTING FEATURES KEY

- ROAD SURFACE
- BITUMINOUS FOOTPATH
- SITE BOUNDARY

PROPOSED FEATURES KEY

- FOOTPATH TO REAR OF EXISTING KERB
- FOOTPATH TO REAR OF EXISTING DROPPED KERB FOR VEHICULAR ACCESS
- TIMBER POST & RAIL FENCE
- CONCRETE POST & WIRE FENCE



Issue	Date	Description	By	Checked
1.0	10.03.23	FIRST ISSUE	JH	ED

PLANNING

NTA
 Údarás Náisiúnta tairbhí
 National Transport Authority

Leitrim County Council
 Comhairle Chontae Leitrim

FITTIMM COUNTY COUNCIL
 Park Lane House, Pigeon Lane, Carrick on Shannon, Co. Leitrim, R3K3
 Tel: 071 9620005
 Website: www.leitrimco.ie

Section
ROADS DEPARTMENT
ACTIVE TRAVEL

Project
FOOTPATH LINK, DOWRA ROAD, DRUMSHANBO, CO. LEITRIM

Drawing Title
ROAD LAYOUT PLAN
SHEET 3 OF 4

Drawn/Design	Checked	Date	Scale	Sheet	Total
JH/ML	ED	10.03.23	1:125	3	4

Drawing No: **LM23-0002-PAV_PV-00_ML_00-DR-CK-01_3**

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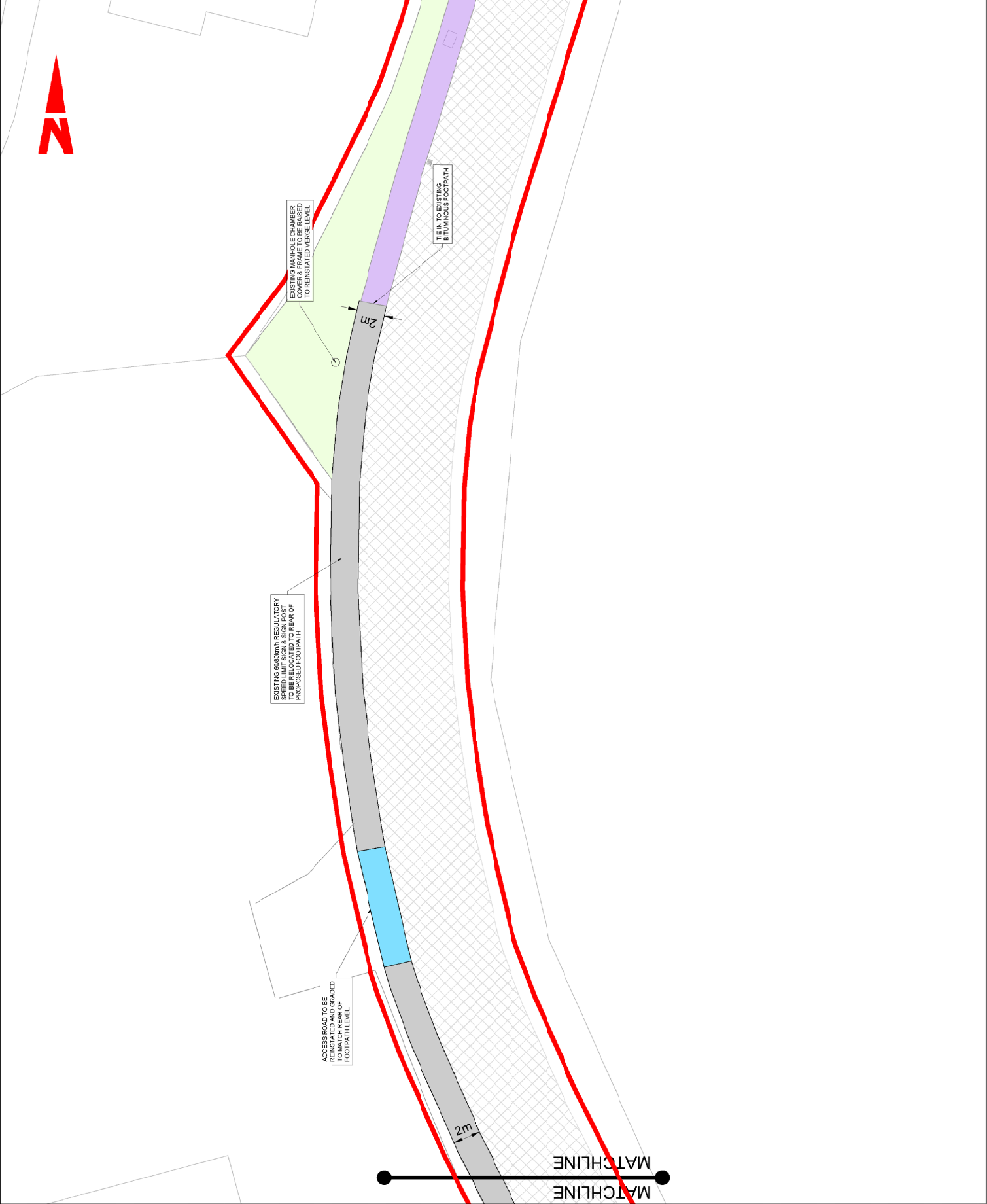


EXISTING FEATURES KEY

-  ROAD SURFACE
-  BITUMINOUS FOOTPATH
-  SITE BOUNDARY

PROPOSED FEATURES KEY

-  FOOTPATH TO REAR OF EXISTING KERB
-  FOOTPATH TO REAR OF EXISTING DROPPED KERB FOR VEHICULAR ACCESS
-  TIMBER POST & RAIL FENCE
-  CONCRETE POST & WIRE FENCE



Item	Date	Description	Made	Checked
106	24.05.23	CONTRACT AMENDMENT	JH	CD
107	10.03.23	FIRST ISSUE	JH	ED

PLANNING

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 Údarás Náisiúnta tampaíl
 National Transport Authority

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Section
**ROADS DEPARTMENT
 ACTIVE TRAVEL**

Project
**FOOTPATH LINK, DOWRA ROAD,
 DRUMSHANBO, CO. LEITRIM**

Drawing Title
**ROAD LAYOUT PLAN
 SHEET 4 OF 4**

Drawn/Design	Checked	Date	Scale	Sheet	Total
JH/ED	CS	10.03.23	1:125	4	4

Drawing No: LM23-0002-PAV_PV-00_ML_00-DR-CK-01_4
 Scale: 1:125
 Sheet: 4 of 4

Appendix B – Road Safety Audit Feedback Form

Scheme: Proposed Active Travel Scheme
Location: R207 Dowra Road, Drumshanbo, Co. Leitrim
Audit Stage: 1

To be completed by Design Team				To be completed by Audit Team Leader
Paragraph Number in RSA Report	Problem accepted (Yes / No)	Recommended measures(s) accepted (Yes/ No)	Describe alternative measure(s). Give reasons for not accepting recommended measure. (Only to be completed if recommended measure is not accepted)	Alternative measures or reasons accepted by Audit Team (Yes / No)
3.1	Yes	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		

Design Team Representative:
 (Leitrim County Council)

Print Name: JOSEPH NOONE

Signature: 

Date: 05/04/2023

Scheme Client Representative:
 (Leitrim County Council)

Print Name: EMMA DONOHUE

Signature: 

Date: 5/4/2023

Road Safety Audit signed of by:
Matthew Steele
 BA(Hons) MSc FCILT FRGS MCIHT
 (Audit Team Leader)

Signature: 

Date: 5th April 2023

Audit sign-off note: In accordance with current TII guidance, no revised drawings are assessed as part of signing-off this feedback form. The information audited is limited to that contained within Appendix A of this Stage 1 RSA.