

Dalradian Gold Ltd

Public Inquiry

Proposed Road Abandonment

(PAC Ref: DR001)

Technical Report

September 2024

HoyDorman

Document Information

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Version	Date	Description	Created by:	Verified by:	Approved by:
0	26/09/24	Proposed Road Abandonment Technical Report	MH / KD	KD	MH

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1 Introduction

This Technical Report (TR) considers the proposed new road to be constructed as part of the proposed Abandonment Order.

2 Statement of Authority

Martin Hoy: BEng ‘Hons’, CEng, FIEI, FICE, FCIHT

Mr Hoy is a Chartered Civil/Traffic Engineer, he holds a BEng Honours Degree in Civil Engineering with a Diploma in Industrial Studies, a Fellow of Engineers Ireland; a Fellow of the Institution of Civil Engineers; and a Fellow of the Chartered Institution of Highways and Transportation.

Mr Hoy is joint Managing Director of Hoy Dorman, a civil engineering consulting practice based in Northern Ireland with works interests extending throughout the UK, Europe and United Arab Emirates. His career has extended to both private and public within DfI Roads Service and private practice with over 35 years’ experience in the construction industry. Mr Hoy’s areas of expertise include large scale infrastructure projects; infrastructure planning of public and private developments; transportation engineering; roads design; traffic and transportation modelling; Transportation Assessments; Expert Witness; land acquisition; infrastructure economics and Statutory Processes.

Mr Hoy has extensive experience in major civil engineering planning applications, planning appeals, Court proceedings, Public Inquires, advising the legal profession on technical civil and transportation engineering issues.

Karl Dorman: MEng, CEng, Eur Ing, FICE, FIEI, FCIHT

Mr Dorman is a Chartered Civil Engineer, accredited European Engineer (Eur Ing) and a joint Managing Director within Hoy Dorman. Mr Dorman is a Fellow of the Institution of Engineers of Ireland (FIEI), a Fellow of the Institution of Civil Engineers (FICE) and a Fellow of the Institution of Highways and Transportation (FCIHT).

Mr Dorman has over 20 years’ experience of the design and management of major highways schemes, residential/industrial developments and road safety engineering in Europe, North America and Asia. He is RoSPA (Royal Society for the Protection of Accidents) Accident Investigation and Prevention trained and a qualified Road Safety Auditor in accordance with the UK Design Manual for Roads and Bridges (DMRB) GG 119 standard, holding a Certificate of Competency issued by National Highways.

Mr Dorman has extensive experience in carrying out road safety audits, road safety assessment and road accident investigation on highway schemes across UK, Ireland, Europe and Asia.

3 Relevant Documentation

Proposed Road Abandonment

The relevant documentation relating to the proposed Abandonment Order is set out in the Planning Appeals Commission website.

The Proposed New Road

There are a series of documents, design reports, assessments and drawings associated with the design of the Proposed New Road. Set out below are the relevant documents.

2020 Further Environmental Information (“FEI2”) – the Second Addendum to the ES

Design development of the Proposed New Road progressed in consultation with DfI Roads up to the submission of FEI 2. The key design documents and drawings are listed below.

1. Correspondence with DfI Roads (ES Vol 3, Appendix E8a)
2. Scheme Design Overview (SDO) – Proposed New Road – REV A (ES Vol 3, Appendix E8e)
3. Road Restraint System Risk Assessment (ES Vol 3, Appendix E8b)
4. Road Safety Audit UK (ES Vol 3, Appendix E8c)

The further materials were considered by DfI Roads, and resulted in a series of additional design proposals and plans:

5. PSD Dwg No 53 Rev 3 date stamped 12th February 2020 - (20016-P-CIV-101)
6. PSD Dwg No 116 RevA date stamped 19th October 2020 - (20016-P-CIV-130)
7. Cross Sections Dwg 70-71RevB date stamped 19th October 2020 - (20016-P-CIV-118 & 119)
8. Stopping up Dwg 120 date stamped 19th October 2020 - (20016-P-CIV-1050)
9. Abandoned Road Dwg 119 date stamped 31st July 2019 - (20016-P-CIV-170)

4 Scheme Design Overview

The Scheme Design Overview (SDO) is a comprehensive document that sets out the design, planning, development, and implementation of a specific road project. The SDO is an essential component in the road design process, serving multiple purposes including the coordination of design elements, communication with DfI Roads, and ensuring an acceptable compliance with design standards. The SDO Proposed New Road Rev A document (referenced above) addresses the amendments to design in FEI 2.

Acceptance of the SDO by DfI Roads confirms that the roads design is acceptable in all aspects.

5 The Proposed New Road Design

Reason for the Proposed New Road

The proposed new road is an alternative route of a section of the existing adopted track (known as the U1244 ref: schedule of public roads) that is to be abandoned as part of the proposed development.

The section of the U1244 that is proposed to be abandoned is single track, constructed of unbound material, it is littered with large / deep manholes, with limited verges, the existing track is approximately 3m wide. There are several informal passing bays which, in places are not intervisible and therefore unsafe as vehicles meeting may have to reverse. The condition of the existing adopted track is assessed in greater detail by Mr McVitty's Report.

The Proposed New Road Design

The Proposed New Road is 1,380m long, 3m wide with intervisible passing bays. The overall design objective was to retain the character of the existing road to be abandoned and its distinctiveness. In general terms, the existing road presented as a form of track. It is narrow, minor track at 5.5 metres wide at its widest point. It has sporadic informal passing points along the route. As a result, the design of the Proposed New Road is an improved uniform width with formal fixed-point passing bays. As a result, the character of the road remains similar within the local setting but will be constructed to a much higher design in terms of appearance, finish, utility and safety.

The proposed new road is 3.0m wide, and with 1.5m grass verges either side, intervisible passing bays at 5.5m width. These verges are widened locally in places to facilitate the Road Restraint System and Forward Sight Distance considered immediately below.

Road Restraint System

A 'Road Restraint System' refers to safety features installed on roads to reduce the impact of accidents and protect road users. A Road Restraint Assessment is conducted and involves assessment and input from DfI Roads. These systems can include barriers, guardrails, crash cushions, and other protective installations designed to prevent vehicles from leaving the road. In relation to the Proposed New Road the Road Restraint System Risk Assessment recommended a barrier in several locations along the road.

Forward Sight Distance (FSD)

The Forward Sight Distance (FSD) is a crucial concept in road design, referring to the distance over which a driver has an unobstructed view of the road ahead. It is essential for ensuring that drivers have sufficient time to see, react, and safely manoeuvre their vehicles to avoid potential hazards. In terms of road design, FSD is a key factor in determining road alignment, geometry, and safety measures. These were the subject of discussion and agreement with DfI Roads through an iterative process and are reflected in the SDO Rev A drawing.

Passing Bays

The passing bays are 5.5m wide and 20m long. Importantly, passing bays have intervisibility between them to further improve road awareness ahead. This increase in the road width from 3m to 5.5m throughout the 20m length of the passing bays increases safety, enabling vehicles to pass. Intervisible passing bays are a desirable design feature on narrow, minor roads that allow vehicles to safely pass each other. These passing bays are strategically placed at intervals to ensure that drivers can see from one bay to the next, allowing drivers to safely pull over and wait if another vehicle is approaching. Compared to the existing adopted track, the design standard for the Proposed New Road is significantly better in terms of design and safety.

Use of Bound Material for Road Construction

The Proposed New Road will be constructed using a bound material such as asphalt, that is combined with binding agents like bitumen to create a cohesive, solid surface for roadways.

These materials provide structural integrity, durability, and resistance to weathering and traffic loads, ensuring a stable and long-lasting road surface.

This construction represents a significant improvement when compared to the existing adopted track roadbed material condition.

The Proposed New Road Junctions with Adopted Road

The Proposed New Road will adjoin the public road network at either end, submitted as part of the drawing package (REF: FEI2 - 2016021-P-CIV-004(A) and 2016021-P-CIV-004(B) (DfI Ref Drawing 06 REV A – General Site Layout – sheet (1 & 2)). The design of the road junctions is standard for minor roads of this nature and agreed with DfI Roads through the design process and SDO's referred to in Section 4 of this report.

Access from the Proposed New Road

There are no public accesses along the Proposed New Road, with the only private access being via a crossroads leading from the applicant's main access road with its junction with the Crockanboy Road. The private access road will have security gates positioned and controlled to prevent straight through movements on both sides of the proposed road to be adopted. There will be no impediment to the proposed new road itself, but rather traffic will be controlled on either side of that proposed new road.

Proposed development traffic will not use the Proposed New Road to access the proposed site (except at the crossroads). All development traffic will access the proposed site via the access road from the Crockanboy Road.

Drainage

It is proposed to use an 'over the edge drainage system'. This is a combined surface / sub-surface drainage system in the form of filter carrier pipes (perforations on upmost side of pipe only) placed in filter media trenches along the verge. This approach is typically used in rural area and has been designed to ensure the drainage system works and is appropriate to the road design including attenuation of storm water within the drainage system.

Access chambers are provided at approximately every 100m, make it simple and easy to investigate and clear blockages in drainage systems.

Cut off drains are provided on top and bottom of earthworks to ensure that water does not run onto adopted road. The drainage will outfall to a watercourse (Pollanroe Burn) with attenuation (rainwater water storage) to green field runoff. The attenuation storage will be a series of oversized pipes either under the road or within the verge with controlled valves releasing the stored rainwater.

The proposed drainage system is standard for minor roads of this nature and has been agreed with DfI Roads.

Boundary Treatment

The boundary treatment on the proposed infrastructure side of the proposed new road shall be security fencing 2.234m high (or similar). The opposite boundary treatment will be rails and post fence.

6 Comparison of Both Roads

The existing adopted track has no bound material, has significant potholes, is not designed to any standards, has no formal passing bays nor designed intervisibility of passing bays. The condition of the existing adopted track is assessed in greater detail by Mr McVitty' s Report.

In contrast the Proposed New Road has been designed to an appropriate standard for a road in this location and nature of potential traffic. It is a significantly safer design; it will be constructed using a bound material i.e. blacktop, has standard size passing bays that are intervisible, appropriate forward sight distances and an appropriate vehicle restraint system.

7 DfI Position

The SDO process for any proposed roads design ensures the designers and DfI Roads work through the design in a manner which is acceptable to DfI Roads as the adopting authority of the road and Hoy Dorman as the Designer.

The SDO, PSD, drainage, vehicle restraint system, forward sight distance, provision and intervisibility of passing bays, and general principles of the Proposed New Road are all agreed with DfI Roads. This is the conclusion of the SDO and PSD process.

DfI Roads has presented proposed planning conditions as part of its consultation response, confirming acceptance of all elements of the Proposed New Roads Design subject to details requested within the draft conditions, that are accepted.

The Consultation response dated 15th February 2021 is contained within Appendix A.

8 Residual Effects

There are no residual effects expected from the development of the New Proposed Road.

Appendix A – DfI Consultation Response dated 15th February 2020

DfI Roads



Department for

Infrastructure

An Roinn

Bonneagair

www.infrastructure-ni.gov.uk

Consultation Response

Application Reference	LA10/2017/1249/F
Proposal	Underground valuable minerals mining and exploration, surface level development including processing plant and other associated development and ancillary works, Greencastle, County Tyrone. Please see application form P1, sheet 1 for full project description
Location	Lands north west of Greencastle and east of Rouskey; north of the Crockanboy Road, mainly west of Mullydoo Road, north and south of Camcosy Road including lands approximately 165 metres west of no. 45 Camcosy Road to the junction of Camcosy Road and Crockanboy Road and lands 47m to the south east of 73 Crockanboy Road off the Lenagh Road (in the townlands of Crockanboy, Teebane West, Casorna, Rouskey, Attagh, Curraghinalt, Altcamcosy, Alworries Monanameal, Drumlea, Fallagh Lower and Glenmacoffer)
Date of Consultation	15 th February 2021
Date of Response	March 2021

Should planning authority decide to approve the above mentioned application the following draft conditions should be considered.

The layout and associated road improvement Works are subject to a Private Streets Determination. The following conditions / informatives should be included in any planning approval

Drawings to be referenced in any approval

PSD	Dwg No 53 Rev 3	date stamped 12 th February 2020
PSD	Dwg No 116 RevA	date stamped 19 th October 2020
Location Plan	Dwg No 01	date stamped 13 th December 2017
Passing bays	Dwg 73-98	date stamped 13 th December 2017
Stopping up	Dwg 120	date stamped 19 th October 2020
Cross Sections	Dwg 70-71RevB	date stamped 19 th October 2020
Carpark layout	Dwg 68	date stamped 13 th December 2017
Abandoned Road	Dwg 119	date stamped 31 st July 2019

CONDITIONS

1. The Private Streets (Northern Ireland) Order 1980 as amended by the Private Streets (Amendment) (Northern Ireland) Order 1992. The Council/Department hereby determines that the width, position and arrangement of the streets, and the land to be regarded as being comprised in the streets, shall be as indicated on Drawings
 - No. 53 Rev C bearing the date stamp 12th February 2021
 - No 116 Rev A bearing the date stamp 19th October 2020

REASON: To ensure there is a safe and convenient road system within the development and to comply with the provisions of the Private Streets (Northern Ireland) Order 1980.

2. The Private Streets (Northern Ireland) Order 1980 as amended by the Private Streets (Amendment) (Northern Ireland) Order 1992.

No other development hereby permitted shall be commenced until the Works necessary to provide the Right Turn Lane on the Crocknaboy Road have been completed in accordance with the details outlined blue on Drawing Number 53 Rev C bearing the date stamp 12th February 2021. The Department hereby attaches to the determination a requirement under Article 3(4A) of the above Order that such works shall be carried out in accordance with an agreement under Article 3 (4C).

REASON: To ensure that the road works considered necessary to provide a proper, safe and convenient means of access to the development are carried out.

3. The Private Streets (Northern Ireland) Order 1980 as amended by the Private Streets (Amendment) (Northern Ireland) Order 1992.
No development other than works associated with Drawing numbers 53 Rev 3, Drawing number 116 Rev A and drawing numbers 73 -98 shall commence until the proposed new replacement road as per drawing number 116 Rev A shall be in place and adopted by the Department and prior to the permanent closing up of Crockanboy Road as detailed on drawing number 119 date stamped 31st July 2019. The Department hereby attaches to the determination a requirement under Article 3(4A) of the above Order that such works shall be carried out in accordance with an agreement under Article 3 (4C).

REASON: To ensure that the road works considered necessary to provide a proper, safe and convenient means of access to the development are carried out

4. The vehicular access, including visibility splays of 4.5m x 140m at the junction of the Crockanboy Road, and any forward sight distance, shall be provided in accordance with Drawing No. 53 Rev C bearing the date stamp 12th February 2021 prior to the commencement of any other development hereby permitted. The area within the visibility splays and any forward sight line shall be cleared to provide a level surface no higher than 250mm above the level of the adjoining carriageway and such splays shall be retained and kept clear thereafter.

REASON: To ensure that the road works considered necessary to provide proper, safe and convenient means of access to the site are carried out at the appropriate time.

5. No development other than works associated with Drawing numbers 53 Rev 3, Drawing number 116 Rev A and drawing numbers 73 -98 hereby permitted shall be commenced until the road works indicated on Drawing No 73-98 bearing the date stamp 13th December 2017 have been fully completed in accordance with the approved plans. The Department hereby attaches to the determination a requirement under Article 3(4A) of the above Order that such works shall be carried out in accordance with an agreement under Article 3 (4C).

REASON: To ensure there is a satisfactory means of access in the interests of road safety and the convenience of road users.

6. Gates or security barriers at the access shall be located at a distance from the edge of the public road that will allow the largest expected vehicle to stop clear of the public road when the gates or barriers are closed.

REASON: To ensure waiting vehicles do not encroach onto the carriageway.

7. The gradient(s) of the access road shall not exceed 4% (1 in 25) over the first 10m outside the road boundary.

REASON: To ensure there is a satisfactory means of access in the interests of road safety and the convenience of road user.

8. No retailing or other operation in or from any building hereby permitted shall

commence until hard surfaced areas have been constructed and permanently marked in accordance with the approved drawing No 68 bearing date stamp 13th December 2017 to provide adequate facilities for parking, servicing and circulating within the site. No part of these hard surfaced areas shall be used for any purpose at any time other than for the parking and movement of vehicles.

REASON: To ensure that adequate provision has been made for parking, servicing and traffic circulation within the site.

9. A Road Safety Audit Stage 2 shall be carried out for the Right Hand Turning Lane on Crockanboy Road prior to any Works commencing on the public road network (as generally detailed under dwg No 53 Rev C bearing the date stamp 12 February 2021) and subsequently a Stage 3 and Stage 4 Road Safety Audits completed in accordance with the Design Manual for Roads and Bridges, Standard GG119 with any recommendations/remedial works shall be carried out in agreement with DFI Roads Authority.

REASON: In the interest of road safety.

10. A Road Safety Audit Stage 2 shall be carried out for the new road (as generally detailed under dwg No 116 Rev A bearing the date stamp 19 October 2020) and subsequently a Stage 3 and Stage 4 Road Safety Audits completed in accordance with the Design Manual for Roads and Bridges, Standard GG119. with any recommendations/remedial works shall be carried out in agreement with DFI Roads Authority.

REASON: In the interest of road safety.

11. A detailed programme of works and any associated traffic management proposals shall be submitted to and agreed by DFI Roads, prior to the commencement of any element of road works.

REASON: To facilitate the convenient movement of all road users and the orderly progress of work in the interests of road safety

12. Prior to commencement of any element of road works a detailed drainage plan in accordance with drawing number 53 Rev 3 shall be submitted to council planning and agreed by DFI Roads.

REASON: In the interest of road safety.

13. Prior to commencement of any element of road works as detailed on drawing number 53 Rev 3 Cross sections to be provided to planning council and

approved by DfI Roads.

REASON: In the interest of road safety.

14. Prior to the commencement of any Works the applicant shall submit to the Department one, single, composite video record of the haulage(s) route as identified in the Environment Impact Assessment from the application site to the nearest A class road. Such video record should allow establishment of the condition of the local road network. A further composite video record of the same haulage(s) routes to be carried out after the completion of enabling works and prior to operation, to establish the condition of the local road network.

REASON: In the interest of road safety.

INFORMATIVES

1. The Private Streets (Northern Ireland) Order 1980 and The Private Streets (Amendment) (Northern Ireland) Order 1992.

Under the above Orders the applicant is advised that before any work shall be undertaken for the purpose of erecting a building the person having an estate in the land on which the building is to be erected is legally bound to enter into a bond and an agreement under seal for himself and his successors in title with the DfI Roads to make the roads (including road drainage) in accordance with The Private Streets (Construction) Regulations (Northern Ireland) 1994 and The Private Streets (Construction) (Amendment) Regulations (Northern Ireland) 2001. Sewers require a separate bond from Northern Ireland Water to cover foul and storm sewers.

2. Extents and limits of bituminous resurfacing, position of bituminous wearing course joints and new crown lines shall be agreed and approved by DfI Roads prior to any works commencing on the public road network. Any bituminous longitudinal joints associated with the Works shall be kept clear from the wheel tracks of vehicular traffic. DfI Roads storm drain in the existing footway or verge that is affected by road widening shall be relocated behind the new road edge or kerb. Road Gullies shall be relocated to the new road edge. All road drainage details and works to be agreed with DfI Roads prior to works commencing. The developer is responsible for liaising with the Statutory Bodies in relation to any Services in the vicinity of any proposed Works

3. Construction details and specifications for works carried out on the public road network shall be in accordance with the Design Manual for Roads and Bridges
4. Road Safety Audits shall be carried out in accordance with the Design Manual For Road and Bridges Standard GG119
5. The developer, future purchasers and their successors in title should note that DfI Roads will not adopt any 'street' as defined in The Private Streets (Northern Ireland) Order 1980 as amended by the Private Streets (Amendment) (Northern Ireland) Order 1992 until such time an Article 161 agreement between the developer and NI Water for the construction of foul and storm sewers including any attenuation holding tanks and discharge pipes has been fully implemented and works upon completion approved by NI Water Service.
6. Separate approval must be received from DfI Roads in respect of detailed standards required for the construction of streets in accordance with The Private Streets (Construction) Regulations (Northern Ireland) 1994 and The Private Streets (Construction) (Amendment) Regulations (Northern Ireland) 2001.
7. The Applicant/Developer is also responsible for the cost of supervision of all street works determined under the Private Streets Order (Northern Ireland) 1980.
8. The approval does not empower anyone to build or erect any structure, wall or fence or encroach in any other manner on a public roadway (including a footway and verge) or on any other land owned or managed by the DfI Roads for which separate permissions and arrangements are required.
9. Precautions shall be taken to prevent the deposit of mud and other debris on the adjacent road by vehicles travelling to and from the construction site. Any mud, refuse, etc. deposited on the road as a result of the development, must be removed immediately by the operator/contractor.
10. Notwithstanding the terms and conditions of the Council's approval set out above, you are required under Articles 71-83 inclusive of the Roads (NI) Order 1993 to be in possession of the DfI Roads consent before any work is commenced which involves making or altering any opening to any boundary adjacent to the public road, verge, or footway or any part of said road, verge, or footway bounding the site. The consent is available on personal application to the DfI Roads Section Engineer whose address Arvalee Section Office, 32

Deverney Road, Omagh BT79 0NU. A monetary deposit will be required to cover works on the public road.

11. The applicant is advised that under Article 11 of the Roads Order (Northern Ireland) Order 1993, the Department for Infrastructure is empowered to take measures to recover any reasonably incurred expenses in consequence of any damage caused to the public road as a result of extraordinary traffic generated by the proposed development.
12. It is the responsibility of the Developer to ensure that water does not flow from the site onto the public road (including verge or footway) and that existing road side drainage is preserved and does not allow water from the road to enter the site. This planning approval does not give authority to discharge any drainage into a DfI Roads drainage system.
13. It is a DfI Roads requirement that all structures which fall within the scope of the current version of BD 2 Technical Approval of Highways Structures: Volume 1: Design Manual for Roads and Bridges shall require Technical Approval. Details shall be submitted to the Technical Approval Authority through the relevant Division.
14. All construction plant and materials shall be stored within the curtilage of the site.

Drawings to be returned to DfI

DfI require 4 No COPIES of ALL drawings referenced at the start to be returned with "GRANTED" stamp on along with 4 No COPIES OF ABOVE MENTIONED DRAWINGS.

*Issued on behalf of DfI Roads – Western Division
Development Control Section,*