southern scientific services ltd

Ecological Report to Inform an Application for Derogation Licence Under the European Communities (Birds and Natural Habitats) Regulations 2011–2021 pertaining to Kerry slug (*Geomalacus maculosus*)

Requested For:	**Kerry County Council**
Prepared By:	**Colette Murray B.Sc. M.Sc.** **Southern Scientific Services Ltd**
Our Reference:	**SSS-SKG-053**

Report Prepared By	Colette Murray
Report Reviewed By	Monica Kane
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4park business centre|farranfore|county kerry |ireland |telephone+353 66 9763588 fax +353 66 9763589
email: info@southernscientificireland.com

Registered in Ireland No. 323196 VAT Reg. No. IE 6343196M

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1 Background to the Current Application

1.1 Introduction

Southern Scientific Services Ltd (SSSL) have been appointed by Kerry County Council as Project Ecologist for the South Kerry Greenway (SKG) project.

The project is 27km in length and will be completed in stages over a 4-year period.

In 2024 the Minister for Arts, Heritage and the Gaeltacht in exercise of the powers granted by Regulation 54 of the Habitats Regulations, then pertaining, granted Kerry County Council (KCC) a licence (Licence no. DER-KERRY-SLUG-2024-46) in respect of the Kerry slug authorising works. The works in question relate to the Gabions engineering based structures. The current licence is valid until 31st December 2024. However, the works as described in Section 1.2 have not taken place this year. This new application for a derogation licence for Kerry slug is for the period 2025 when the works are expected to get underway.

Sections of the Greenway will be constructed above the road level on suitable Kerry Slug habitat using a substructure of rock filled gabions that will be supported by the existing profile over a length of approximately 850m east of Drung Hill tunnels, and over a length of approximately 200m west of Drung Hill tunnels. Furthermore, the licence is required to remove an old stone wall supporting suitable Kerry slug habitat also included in the previous licence application.

1.2 Subject of Current Application

The current revised application pertains to a permitted Greenway which, when constructed, will stretch from Caherciveen, to the village of Glenbeigh, will comprise an approximately 27km long trail with a two-way shared cycling and walking route for use by walkers and cyclists. For part of its route the Greenway will occupy the footprint of the now dismantled and abandoned Great Southern & Western Railway's (GS&WR) branch line that operated between Killorglin and Valentia Harbour, in the period from December 1893 to January 1960 including the sections that ran through the old railway tunnels at Drung Hill. While some of the route will use the original railway track alignment, use will also be made of urban paths, forest roads, and minor diversions on adjacent land and while not aligned with the existing N70 the abandoned rail line closely follows its route.

Sections of the Greenway will be constructed above the road level on a substructure of rock filled gabions that will be supported by the existing profile over a length of approximately 850m east of Drung Hill tunnels and over a length of approximately 200m west of Drung Hill tunnels (see Figure 1 below and Appendix 1, Plates 11-16). Due to the engineering design, rock breaking is envisaged, therefore, it will not be possible to translocate the existing habitat to another location. While this will occur outside the adjacent Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC, because the species is listed in Annex IV of the Habitats Directive it is strictly protected from injury, or disturbance or damage to any breeding or resting place wherever it occurs (see Section 2, below). The gabions occur within the Iveragh Peninsula SPA. The gabion solution will require the use of shotcrete concrete in some sections above the upper slope where fractured rock occurs to stabilise the rock for health and safety reasons. As a result, it will be necessary to provide mitigatory habitat to achieve a like for like exchange of habitat created for habitat destroyed. When constructed the gabions, which will extend over a 1km long footprint, will provide a surface area of approximately 5,000m^2 suitable for development as Kerry slug habitat.

An old stone wall associated with the original railway traverses the route in the townland of Gortaforia (see Figure 1 below, and Appendix 3). The wall at its closest point is 1km outside the Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC. Approximately, 240m of the stone wall will be have to permanently removed to accommodate the Greenway (see Appendix 4). The wall provides suitable Kerry slug habitat and the species has been recorded on the wall. The stone from the stone wall will be temporarily stored at Golden's old quarry site compound before being placed in a permanent location on the western slope of the SKG track between Golden's and the Top of the Rock stream in the townland of Knockaneyouloo approximately 400m south of the original location (see Appendix 4).

It is for the above described that the application for a Derogation Licence under the European Communities (Birds and Natural Habitats) Regulations 2011–2021 is submitted. As the work set out in the previous application was not undertaken in 2024, this application for 2025 is effectively a renewal of the 2024 derogation licence.

The content of this report is largely based on a previous ecological report submitted by MWP to inform the 2023 derogation licence application: MWP (2023). Ecological Report to Inform an Application for Derogation Licence Under the European Communities (Birds and Natural Habitats) Regulations 2011–2021 pertaining to Kerry slug (*Geomalacus maculosus*). Prepared by MWP on behalf of KCC, February 2023.

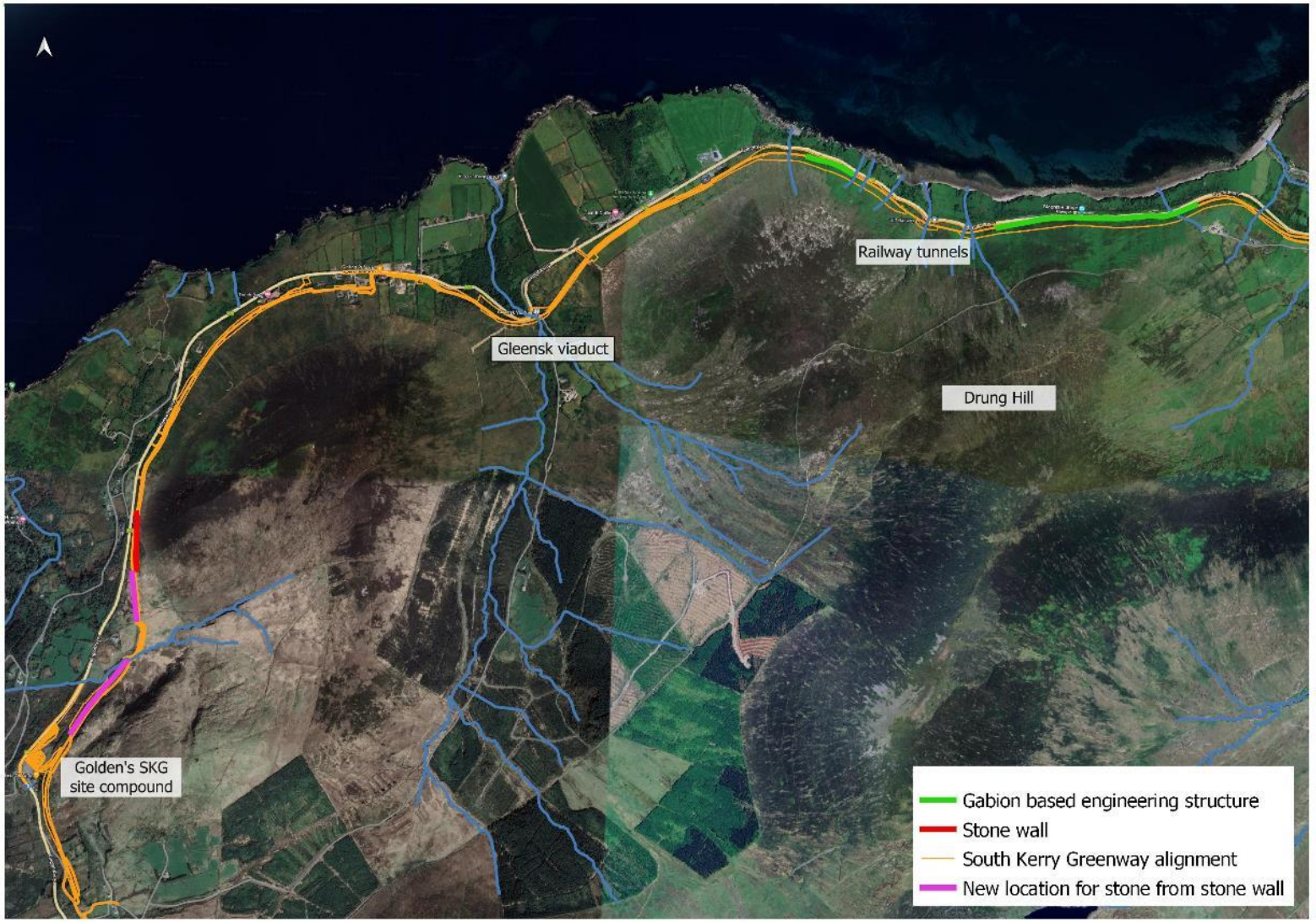


Figure 1. Location of Gabion structures and stone wall along with new locations for stone from the dismantled wall

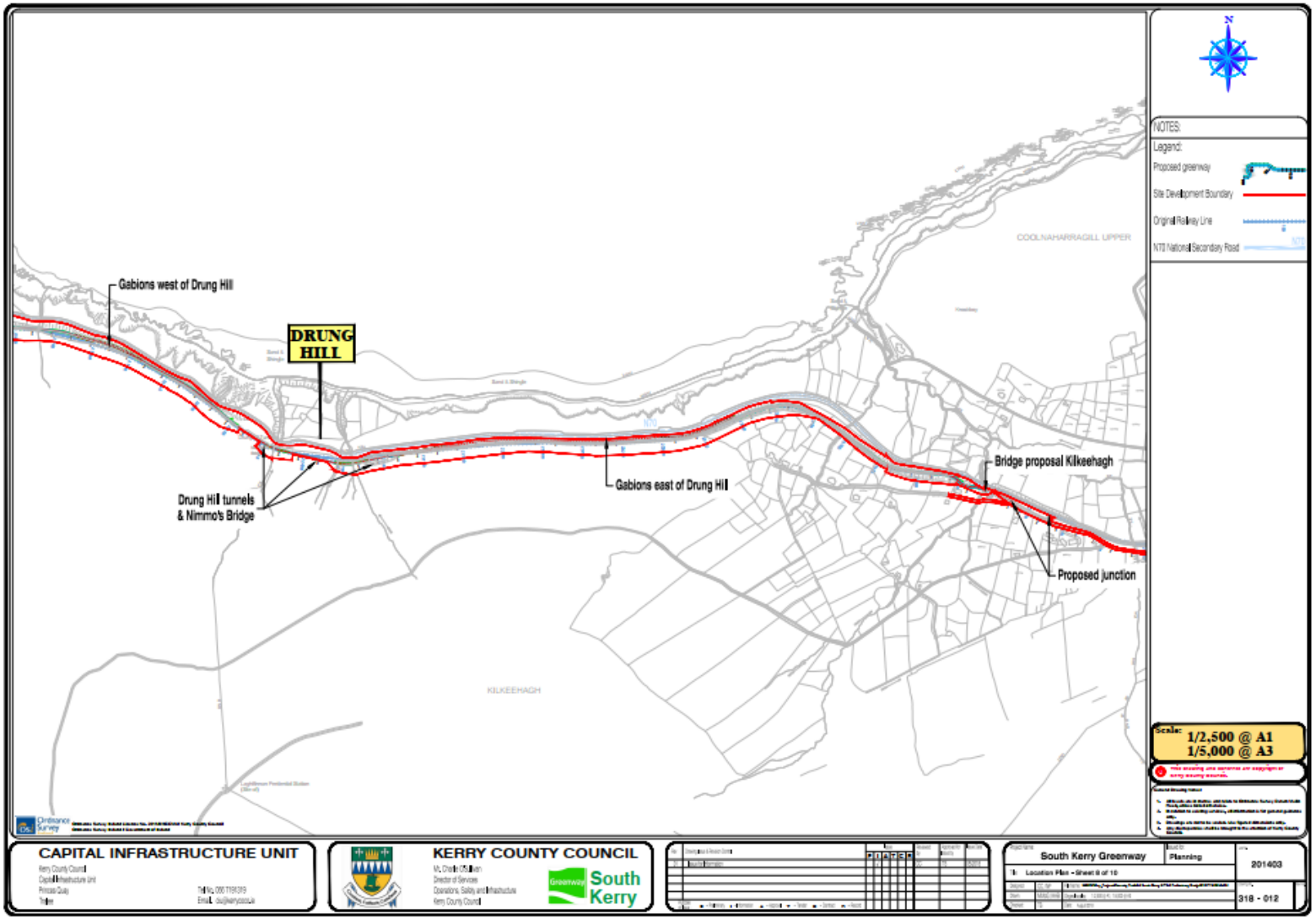


Figure 2. Location of Gabions west and east of Drung Hill tunnels

1.3 Derogation Licence Granted (2023)

In 2023 the Minister for Arts, Heritage and the Gaeltacht in exercise of the powers granted by Regulation 54 of the Habitats Regulations, then pertaining, granted Kerry County Council (KCC) a licence (Licence no. DER-KERRY-SLUG-2023-49) in respect of the Kerry slug authorising at the location specified above:

a) disturbance.

b) damage or destruction of breeding places.

Condition 2 of said licence stipulated that the authorised actions were to be carried out, on behalf of the licencee namely, KCC, by Malachy Walsh and Partners (MWP). Condition 7 stipulated that the authorised actions were to be completed between 5th of May 2023 and the 1st of May 2026.

Southern Scientific Service Ltd are the current Project Ecologists for this project. Therefore, a name change on the current derogation licence is required. Named Ecologists include: Colette Murray, Diarmuid O'Leary, Monica Kane.

2 Kerry slug: conservation status & legal protection

The Kerry slug, a gastropod of the family Arionidae, is protected by the Wildlife Acts 1976 to 2023 and is listed under Annex II and Annex IV of the Habitats Directive.

Because of its status as an Annex IV species, it is strictly protected from injury, or disturbance or damage to any breeding or resting place wherever it occurs. Therefore, its natural range, or area of occupancy, cannot be reduced. Under the Habitat Regulations 2011-2021, any person who, in regard to the animal species listed in Annex IV of the Habitats Directive,

a. deliberately captures or kills any specimen of these species in the wild,

b. deliberately disturbs these species particularly during the period of breeding, rearing, hibernation and migration,

c. deliberately takes or destroys eggs of those species from the wild,

d. damages or destroys a breeding site or resting place of such an animal, or

e. keeps, transports, sells, exchanges, offers for sale or offers for exchange any specimen of these species taken in the wild, other than those taken legally as referred to in Article 12(2) of the Habitats Directive

shall be guilty of an offence.

The conservation status of a species is defined as the sum of the influences acting on the species concerned that may affect the long-term distribution and abundance of its populations within the territory of the member states.

NPWS (2019) concludes that, across the applicable parameters, the species has a Favourable Conservation Status. The Long-Term Trend Direction for Range, Population, and Habitat is, in each case, Stable. Future Prospects for all Attributes are Favourable and there are no significant threats and pressures.

In light of the Favourable Conservation Status the population is considered to be maintaining itself on a long-term basis as a viable component of its natural habitats, its natural range is neither being reduced nor is likely to be reduced for the foreseeable future, and there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

The species has a resilience to disturbance that occurs under, or because of, natural processes. While the undertaking that is the subject matter of this application is an anthropogenic disturbance, considering its scale and scope, it is unlikely to cause changes in biotic and/or abiotic variables in excess of what could reasonably be envisaged under natural processes within the 6-year reporting cycle. The capacity of the species to recover from changes, natural or anthropogenic, is an important consideration. Therefore, the current Conservation Status, the evidence provided in NPWS (2019) that its range is increasing, that it is highly likely also that the population is increasing and that the habitat available nationally is sufficient for long-term survival suggests that the structure and function of the ecological resources that support and maintain the population nationally will ameliorate any effects on the species and its Conservation Status that might ensue from the undertaking that is the subject matter of this application.

3 Previously Recorded Data

3.1 Presence Absence & Refuge Trap Surveys 2014

As part of the ecological surveys for the Greenway project a non-destructive Presence/Absence survey was initially carried out, in October 2014, in the Drung Hill area where two tunnels and a Retaining Shed associated with the, now abandoned, railway line are situated. The area of overlap between the route corridor and the Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC site and the area to the east and west, outside the Natura 2000 site boundary, was surveyed for the species and for the availability of suitable habitat for the rock dwelling variety of Kerry slug (black with white spots). The methodology was adapted from the National Road Authority's (NRA) guidelines on ecological surveying techniques for the Kerry slug (NRA, 2009).

While this initial survey was focussed on the area around the tunnels and the Retaining Shed, that survey was supplemented, in November, 2014, by a Refuge Trap Survey in the tunnels area and in two areas of woodland, one to the west of Glenbeigh (Behy Woodland) and the other to the west of Gleensk Viaduct that are situated outside the Drung Hill Tunnel/SAC overlap but located on the proposed Greenway route. This Refuge Trap Survey was undertaken under licence within optimal habitat types preferred by Kerry slug along the route corridor between Cahersiveen and Glenbeigh in order to establish presence/absence and, therefore, the potential distribution of the species.

No Kerry slugs were recorded during the initial surveys, in October 2014, and none were recorded under any of the Refuge Traps deployed in November, 2014. However, seven Kerry slugs were observed on exposed rocks and boulders to the east of the Retaining Shed on the 28th of November, 2014 when the Refuge Traps were being retrieved. The Kerry slugs were recorded in open view on remnant sections of the foundations and the stone walls built as part of a dismantled railway line. The area where the specimens were recorded is outside but in close proximity (20m north) to Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC site boundary and, while within the CPO (Compulsory Purchase Order) land, is not within the works area or the pavement's footprint. This area is one of the proposed translocation areas (see Appendix 2).

3.2 Habitat Surveys 2015

The species was also recorded in low numbers in an area of wet heath near the Gleensk Viaduct during habitat site walkover surveys conducted in October 2015 when <5 individuals were recorded. This location is not within the permitted development.

3.3 Metric Trapping Survey 2019

A Metric Trapping Survey, which commenced on the 22nd August, 2019, was carried out to the east of the Drung Hill Tunnels that is the subject of Derogation Licence No: DER/KERRY SLUG-2018-29. Following the methodology approved by licence 16 traps were deployed on the 22nd and 23rd of August. These were retrieved at the end of the fifth week. No specimens were found under any mat on any of the weekly site visits.

However, on each of the two days during which mats were being deployed specimens were recorded in plain sight. In total 3 individuals were recorded; one on the 22nd of August and two on the 23rd. One of the individuals recorded on the 23rd was observed at the same location as the specimen had been recorded on the previous day. This latter location and one of the specimens recorded are shown in Photograph 7 to Photograph 10, inclusive, in Appendix 1.

3.4 Metric Trapping Survey 2023

Flynn Furney Environmental Consultants were the Project Ecologists appointed to the trial section of the Gabions, which is now completed. They completed metric trapping as part of the conditions of a Kerry slug licence (Licence no. DER-KERRY-SLUG-2023-49) of the trial area of Gabions constructed in Kilkeehagh on the lower slopes of Drung Hill. Trapping was undertaken prior to the commencement of the works and no Kerry slug were detected during the trapping.

3.5 Kerry slug Observations on Stone Wall 2023

A total of 3No. Kerry slugs were observed along stone walls during pre-clearance ecological walkover surveys. Of these, two observations were on the old stone wall associated with the railway boundary and within the Greenway CPO temporary land take boundary. Refer to the map and associated photographs in Appendix 3 of this report. The stone wall is evident on the historic 6 inch mapping showing the railway on the eastern side and running in a north-south direction. It lies on a steep slope of roughly 60 degrees, is approximately 1-1.5m in height and up to 0.5m in width and supports lichen, moss and ample crevices for shelter and while it has collapsed in parts, for the most part it is structurally intact. The habitat on either side consists of bracken and scrub.

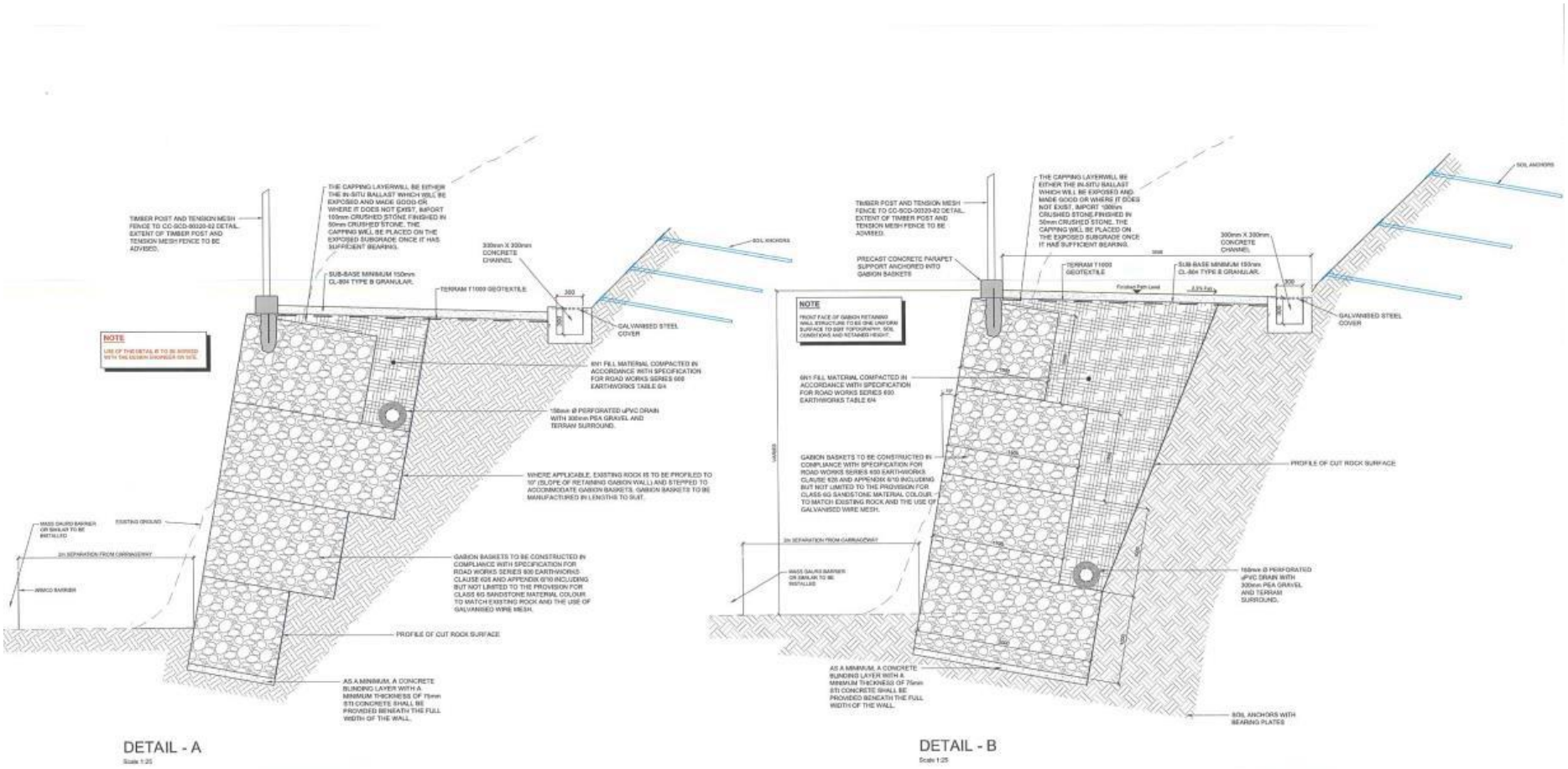


Figure 3. Typical Gabion Detail

4 Mitigation

4.1 Appointment of Project Ecologist

A Project Ecologist (PE) with appropriate experience and expertise will be employed on site for the duration of the construction phase to ensure that all the mitigation measures outlined are implemented. The Project Ecologist will be awarded a level of authority and will be allowed to stop construction activity if there is potential for adverse environmental/ecological effects. The PE will provide all personnel involved in the construction with an ecological toolbox talks and to ensure that the proposed mitigation measures are adhered to. The PE will document the safe construction and implementation of the mitigation measures through the use of a SOWOR system (schedule of works operation record). An example of a SOWOR spreadsheet is presented in Appendix 2.

SSSL have been appointed as Project Ecologist for the SKG project by KCC. An external contractor will be appointed in 2025 to construct the section of Greenway between Griffin's cottage and Kells Post Office and will appoint their own Project Ecologist. SSS will have an oversight role on this contract ensuring that all mitigation measures as set out in the project EIAR, NIS and planning conditions as well as any derogation or wildlife licences are implemented.

4.2 Ensuring Appropriate Mitigation is Undertaken

For all aspects of construction that relate to the Kerry slug including the gabion structures and stone wall, a contractor's Method Statement (MS) will be approved by a competent malacologist and the work supervised by a suitably qualified clerk of works with a full understanding of the malacological requirements. Dr. Evelyn Moorkens, a suitably qualified malacologist, was appointed by Flynn Furney to review the MS for the trial area of gabions, which are now constructed.

4.3 Mitigatory Habitat

4.3.1 Gabions

When constructed, the gabions, which will extend over a 1km long footprint, will provide a surface area of approximately 5,000m^2 suitable for development as Kerry slug habitat. The gabions will be constructed using sandstone blocks which will provide good gaps for the species and will be partially painted with yoghurt (containing live bacterial cultures) to encourage early colonisation with moss and lichen. Where practical, during the proposed pre-construction survey any loose vegetation or moss will be removed and stockpiled within suitable Kerry slug habitat for the duration of the construction. This will be translocated to the new gabion walls when construction is complete in order to assist with the development of suitable slug habitat.

4.3.2 Mitigatory Habitat for Stone Wall

The stone from the stone wall will be temporarily stored at Golden's old quarry site compound before being placed in a permanent location on the western slope of the SKG track between Golden's and the Top of the Rock stream in the townland of Knockaneyouloo approximately 400m south of the original location (see Figure 1 above, and Appendix 4).

The stone wall will be carefully dismantled to ensure the protection of lichen and attached moss. The stone will be placed right side up to ensure preservation of the lichen and moss where feasible. The dismantling, transport and temporary storage of the stone will be done under the supervision of the Project Ecologist.

The stone will be moved from the temporary storage area at Golden's SKG site compound to the new permanent location west of the Greenway north of the site compound and placed right side up. This work will be done under the supervision of the Project Ecologist.

4.4 Preconstruction Surveys

4.4.1 Gabions

The construction phase, without mitigation works, could result in the death of low numbers of Kerry slug due to the placement of the gabions and machinery movements in areas of suitable habitat. Measures outlined in the following paragraphs are recommended to minimise this potential impact on the local Kerry slug population.

It is proposed that pre-construction surveys should be conducted where the placement of the gabion baskets will result in the loss of existing Kerry slug habitat. The gabion wall construction will be completed in stages and each works stage will be influenced by the ground conditions, stability and access. Two 75m sections will be constructed at the same time rather than one 75m sections so works along the N70 can be completed sooner. Dr. Evelyn Moorkens has reviewed this proposal and is satisfied that it will not pose additional risk to the Kerry slug. A letter from her to this effect including a number of conditions is presented in Appendix 5. Each section will be constructed from road level from the southern verge of the N70 upwards. As the gabion wall reaches design height the works area will move accordingly.

The pre-construction surveys will investigate the presence/absence of Kerry slug in each works stage in advance of the works and will comprise a 6 week programme of metric trapping followed by hand searching.

The construction works will not progress without the express permission of the PE and will not advance along the footprint into unsurveyed areas under any circumstances.

4.4.2 Stone wall

During dismantling of the wall, without mitigation works could result in the death of low numbers of Kerry slug. Measures outlined in the following paragraphs are recommended to minimise this potential impact on the local Kerry slug population.

It is proposed that pre-construction surveys should be conducted along the stone wall prior to it being dismantled and removed.

The pre-construction surveys will investigate the presence/absence of Kerry slug in the wall in advance of the works and will comprise a 6 week programme of metric trapping followed by hand searching.

The dismantling of the wall will not progress without the express permission of the PE.

4.5 Metric Outcrop Trapping

These traps were developed and described in recent studies by McDonnell and Gormally (2011a and 2011b); detailed trap specifications are provided in McDonnell and Gormally (2011a). The traps comprise synthetic mats designed to attract slugs. The mats are double-sided LDPE polymer, with one side perforated to absorb heat and the other side composed of an aluminium coating to reflect heat. The lining of the mats is composed of synthetic wool. The mats are soaked in water prior to placement in selected areas that may contain Kerry slugs. The mats are pegged to ground surfaces or fixed to

boulders. Kerry slugs, where present, crawl under the mats and are attracted to the heat given off when the moisture in the mat warms up, due to the composition of the material.

Six weeks prior to the commencement of works at both the gabions and stone wall metric outcrop traps will be baited with organic carrot and installed, under the supervision and control of the PE, to determine the presence/absence of this species within each 75 m section. Traps will then be checked on a weekly basis and the inspections will be timed to occur in the morning; the bait will be replaced each week and the underside of each trap will be moistened for 15 seconds using a mist gun filled with deionised water after each inspection as per Reich *et al*. (2012). For the gabions, the trapping will advance in tandem with construction.

If the metric trapping is undertaken during the period spring to autumn, if no Kerry slugs are found beneath the traps after 4 – 6 weeks it is likely the species is not present within the section surveyed (McDonnell & Gormally, 2011a).

4.6 Hand Searching

4.6.1 Gabions

On the basis of the precautionary principle, the pre-construction survey will include a hand search of the exposed rock and glacial till and scree within each 75 m section which will be undertaken in suitable weather (damp and mild). The hand search will involve checking any crevices present and any mosses or other vegetation present as per Reich *et al*. (2012). Where practical, during the pre-construction survey any loose vegetation or moss will be removed and stockpiled within suitable Kerry slug habitat for the duration of the construction. This will be translocated to the new gabion walls when construction is complete in order to assist with the development of suitable slug habitat.

4.6.2 Stone wall

Similarly, hand searching of the wall will be undertaken at the stone wall in suitable weather conditions and will involve checking any crevices present and any mosses or other vegetation present as per Reich *et al*. (2012). Where practical, during the pre-construction survey any loose vegetation or moss will be removed and stockpiled within suitable Kerry slug habitat until the stone is placed in the permanent new location and will be translocated as appropriate.

4.7 Translocation

4.7.1 Gabions

Any Kerry slugs found during the surveys described above will be translocated under a 'Section 23 and 34-licence to capture or humanely kill a protected wild animal for educational, scientific or other purposes. As the newly created mitigatory habitat for the Kerry slug will take time to develop, the Kerry slugs will need to be translocated to the two areas where a population had been identified previously. Any specimens captured during the surveys will be moved to the translocation area as shown in Appendix 2. Two translocation sites are identified:

- Translocation Site No. 1: this is an area of exposed rock on the western side of the middle tunnel. See Plates 1-6, Appendix 1.
- Translocation Site No. 2: this is a more extensive area of exposed rock and heath habitat on the upper slope of the planned Greenway. See Plates 7-10, Appendix 1.

These have been identified as the most suitable translocation areas and the closest to the survey corridor, and Kerry slug has been found in these areas during previous surveys. As these locations are

within the SKG CPO, but outside the works footprint, and are in relatively close proximity to the area that will be the subject of the surveys it will minimise the level of disturbance to any specimens found. As per Reich et al. (2012) any specimens captured will be temporarily stored in a plastic container filled with moss and fed on a diet of carrots until translocation takes place on the same day.

4.7.2 Stone wall

Any Kerry slug found during trapping and hand searching of the stone wall will be removed to the translocation sites described above.

4.7.3 The Greenway outside of these areas

In the unlikely event of finding a Kerry slug elsewhere within the Greenway CPO, outside of areas of suitable Kerry slug habitat, namely the gabion areas and the stone wall as described above, it will be translocated to one of the two translocation sites.

4.8 Monitoring and Reporting

A monitoring and reporting programme for the mitigation proposed shall be undertaken, subject to the terms of any derogation licence for this project.

5 References

McDonnell, R. and Gormally, M. (2011a). Distribution and Population Dynamics of the Kerry slug, *Geomalacus maculosus* (Arionidae), Irish Wildlife Manuals No. 54, National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin

McDonnell, R.J. and Gormally, M.J., (2011b) A live trapping method for the protected European Slug, *Geomalacus maculosus* Allman, 1843 (Arionidae). Journal of Conchology, 40 (4): 483-485

National Parks and Wildlife Service (NPWS) (2019). The Status of EU Protected Habitats and Species in Ireland. Species Assessments Volume 3. Unpublished NPWS rreport. Edited by: Deirdre Lynn and Fionnuala O'Neill.

National Roads Authority (NRA) (2009). Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of national Road Schemes. National Roads Authority.

Reich, I., O'Meara, K., Mc Donnell, R.J. and Gormally, M.J. (2012). An assessment of the use of conifer plantations by the Kerry slug (*Geomalacus maculosus*) with reference to the impact of forestry operations. Irish Wildlife Manuals, No. 64. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Ireland.

Appendix 1

Gabion based engineering structures: site photographs

Plate 1: View of Proposed Translocation Site 1 (To right of red line).

Plate 2: View (i) of loose rock present (Proposed Translocation Site 1).

Plate 3: View (ii) of rocky substrate (Proposed Translocation Site 1 to left of red Line).

Plate 4: Kerry slug recorded within Proposed Translocation Site 1 in 2014.

Plate 5: Proposed Translocation Site 1.

Plate 6: Proposed Translocation Site 1.

Plate 7: View of exposed bedrock at Proposed Translocation Site 2.

Plate 8: Arrow indicates location of specimens recorded in 2019 at Proposed Translocation Site 2.

Plate 9: 1 of 2 specimens recorded in 2019 at Proposed Translocation Site 2 (circled).

Plate 10: Zoom view of specimen shown in Plate 9.

Plate 11: View west (towards Drung Hill Tunnels) showing N70 and existing profile where gabions will be constructed.

Plate 12: View west (towards Drung Hill Tunnels) showing existing profile with exposed rock and N70.

Plate 13: Exposed bedrock

Plate 14: Till and scree mix (note N70 carriageway in foreground).

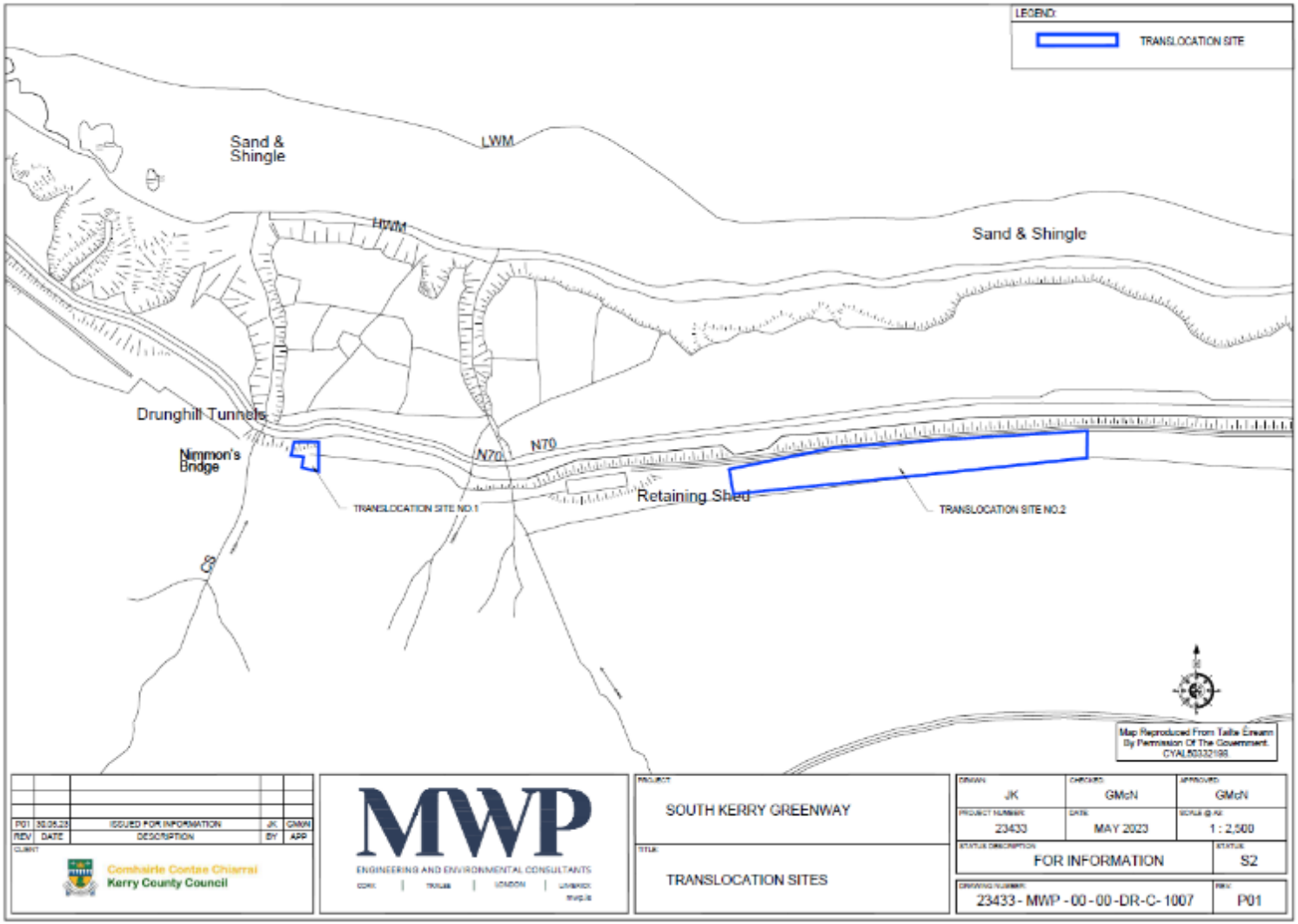
Plate 15: Exposed bedrock and heath.

Plate 16: Exposed bedrock

Appendix 2

Map of Kerry slug translocation sites, and example of SOWOR spreadsheet

Reference No: SSS-SKG-053



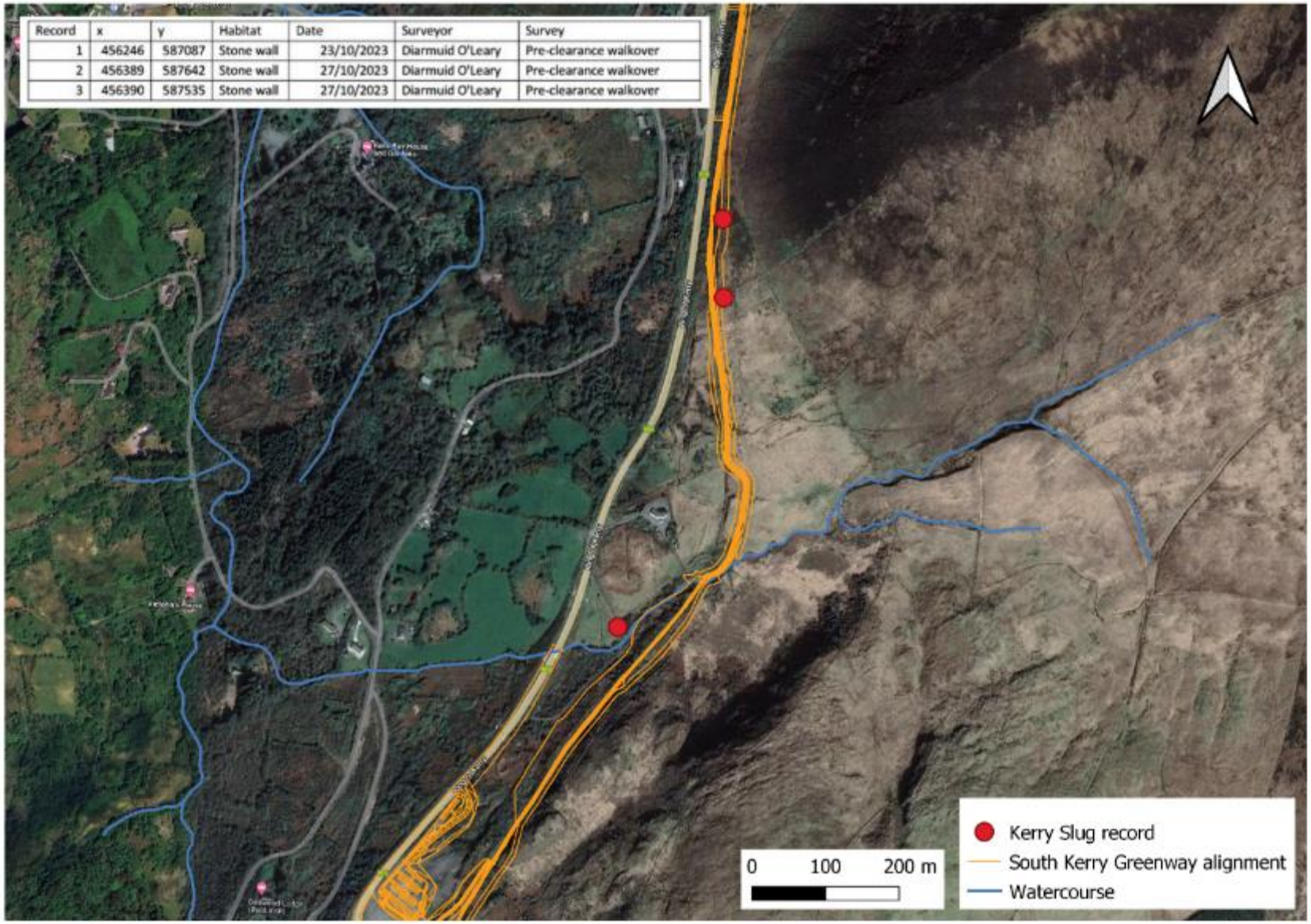
Method Statement Activity Number	Description	Location	Date	Estimated duration of activity	Comment	Kerry slug mitigation needed	Risk Schedule 1: very high risk Schedule 2: high risk Schedule 3: intermediate risk Schedule 4: Low risk	Commencement (Planning) Trigger	Abandonment (On site) Trigger
								Hand search survey completed within 25m section	Presence of Kerry Slug
MS1	Phase 1 Stage (iii): Backfilling of Previously Excavated area	Drung Hill (section 1)	26/05/2018	4 days (Monday to Thursday)	Gabion Construction	Tool box talk to avoid fenced off habitat	Schedule 3		Site mitigation measures. Project ecologist

Trigger: activities should not begin or should cease if the following occur	
Schedule 1 - Very high risk activities	Construction without metric and hand search surveys completed Construction without oversight of Project Ecologist Construction without express approval of Project Ecologist Construction while Kerry Slug present within works area
Schedule 2 - High risk activities	Construction of gabions without oversight of Project Ecologist Operatives employed directly on works prior to completing tool box talk Poor communication between stakeholders
Schedule 3 - Intermediate risk	Non compliance with Method Statements Non compliance with instructions of Project Ecologist
Schedule 4 - Low risk	

Appendix 3

Map and photographs of Kerry slug recorded from Stone Wall

Reference No: SSS-SKG-053



Reference No: SSS-SKG-053

Plate 1. View from upper side of stone wall facing south

Plate 2. View from upper side of stone wall facing north

Reference No: SSS-SKG-053

Plate 3. view of upper part of stone wall towards N70

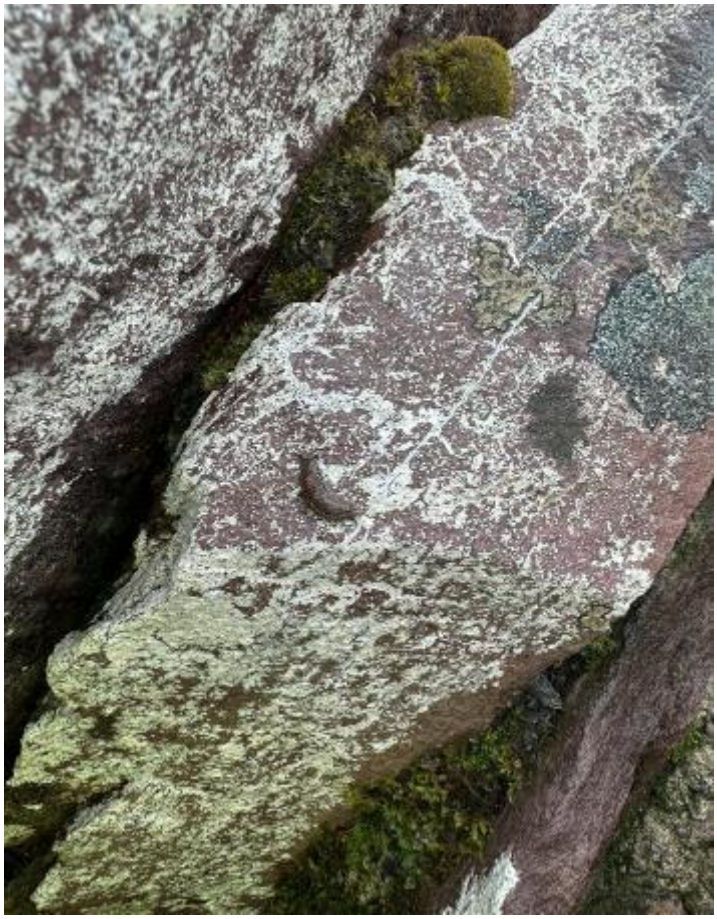


Plate 4. Kerry slug photographed on stone wall (27/10/2023)

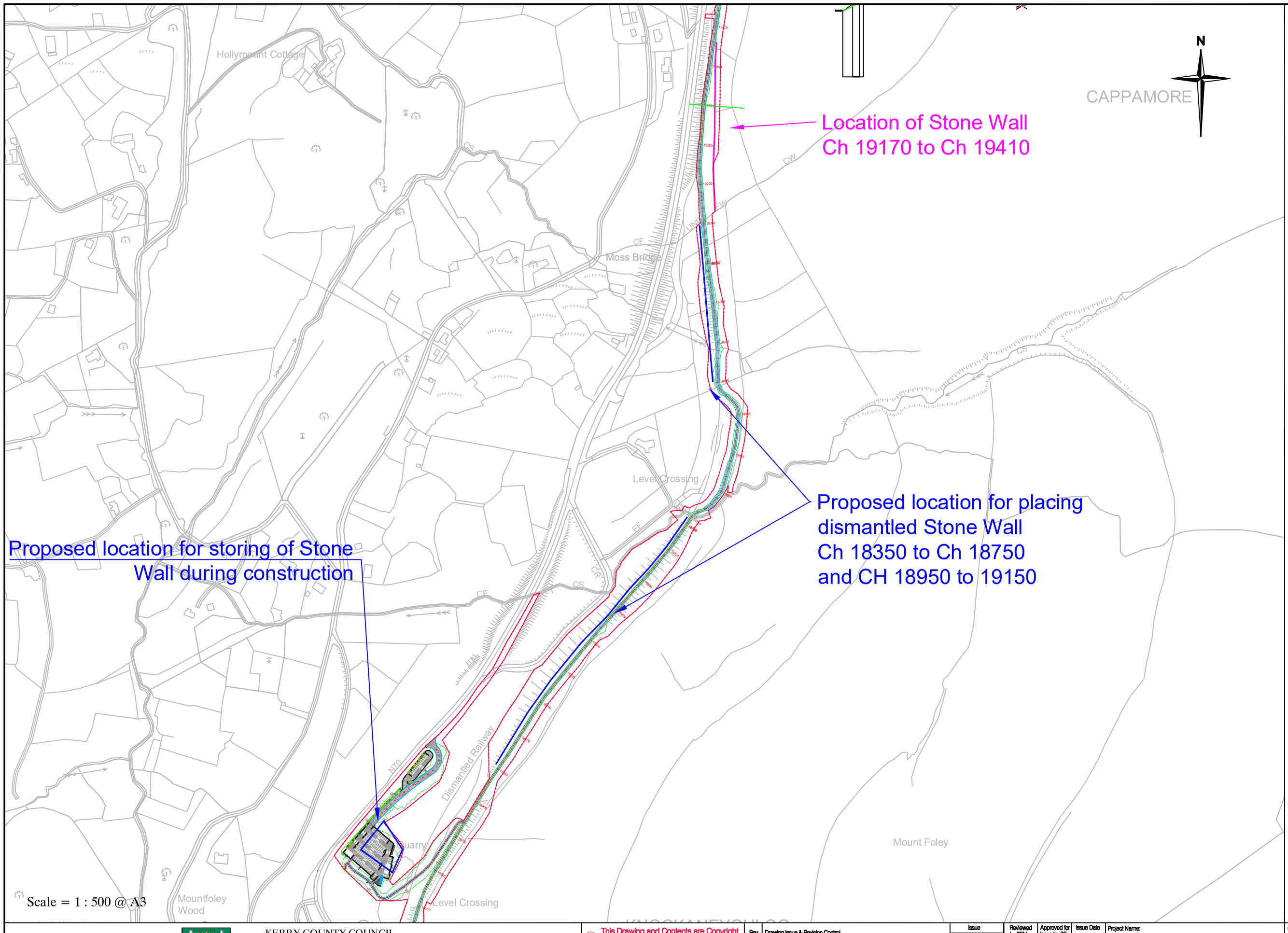
Reference No: SSS-SKG-053

Plate 4. Kerry slug photographed on stone wall (27/10/2023)

Appendix 4

Drawings relating to stone wall:

1. Location of Stone Wall and New Location for Stone
2. Cross section of existing wall
3. Cross section of new proposed location for stone



NOTES:

1.

Land Take Line

KERRY COUNTY COUNCIL
KERRY NATIONAL ROADS OFFICE,
THE ISLAND CENTRE,
CASTLEISLAND,
CO. KERRY.

Mr. Frank Hartnett,
Director of Services,
Roads and Transportation

(a) This Map is based on Irish Transverse Mercator (ITM) Coordinate System
(b) All Altitudes indicated are in Metres , and are referred to Ordnance Datum, which is Mean Sea Level at Malin Head, Co. Donegal (1970 Adjustment).
(c) These Maps are used under The Licensing Agreement between the Ordnance Survey Ireland and the County and City Manager's Association (CCMA) for 1998 to 2001, and of the Copyright Act ,1963.
Copyright No. 2023/08/CCMA/Kerry County Council

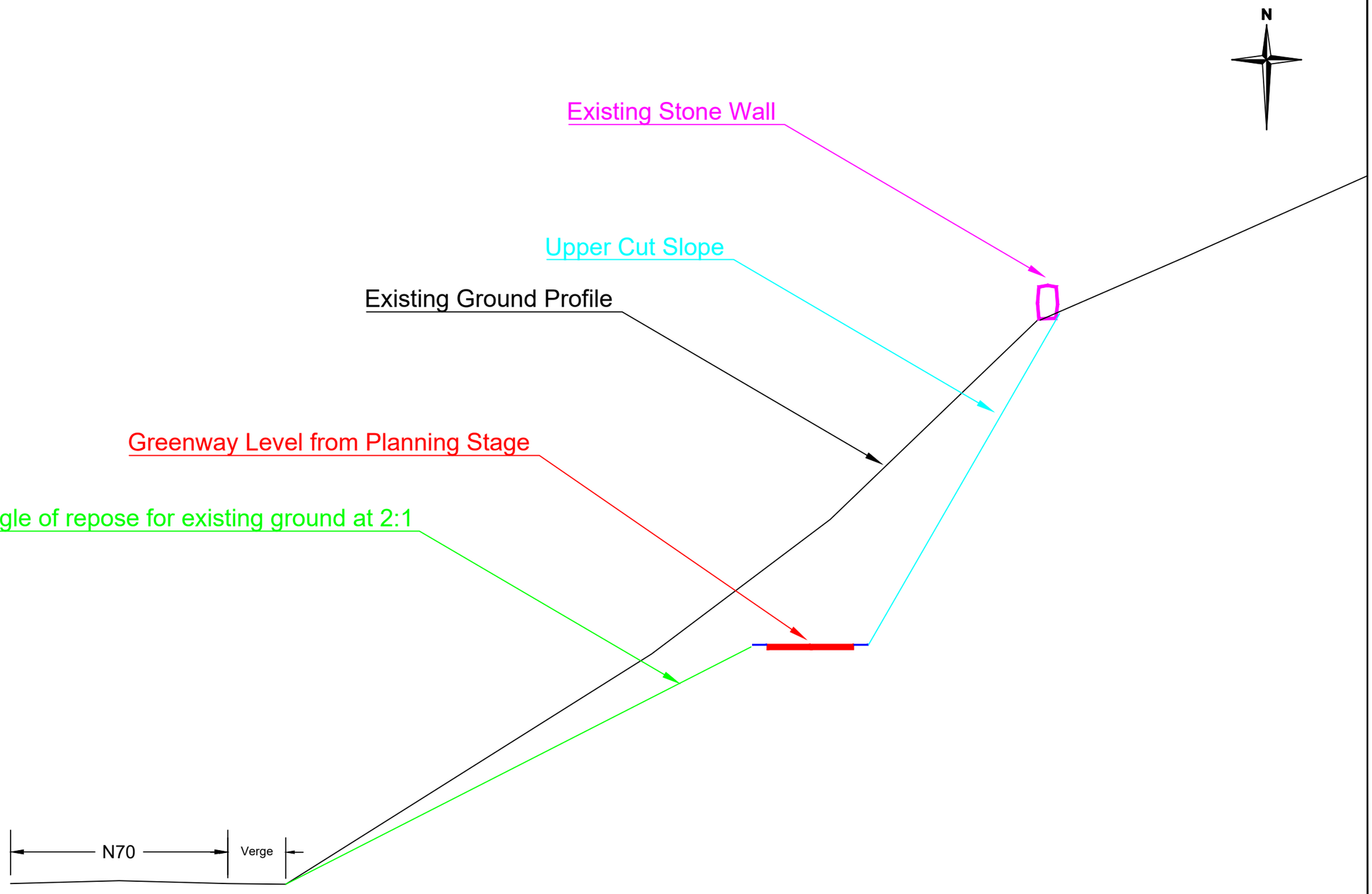
Rev	Drawing Issue & Revision Control	Issue P	I	A	T	C	R	Reviewed by PEM	Approved for Issue by PE	Issue Date
01	Issued for Information		✓							

Issue P I A T C R ✓

Purpose of Issue : P = Preliminary I = Information A = Approval T = Tender C = Contract R = Record

Title:

Project Name:	South Kerry Greenway	Component:	TII Project Ref. No. Text
Title:	Stone Wall Relocation at Kells Layout Plan		Job No. J407
Designed:	N/A	File Name:	Drawing No.
Drawn:	Kevin McSweeney KMS	Original scales: 1 : 500 @ A3	
Checked:		Date: Jan 2024	



NOTES:

1.

Land Take Line

Scale = 1 : 500 @ A3

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Mr. Frank Hartnett,
Director of Services,
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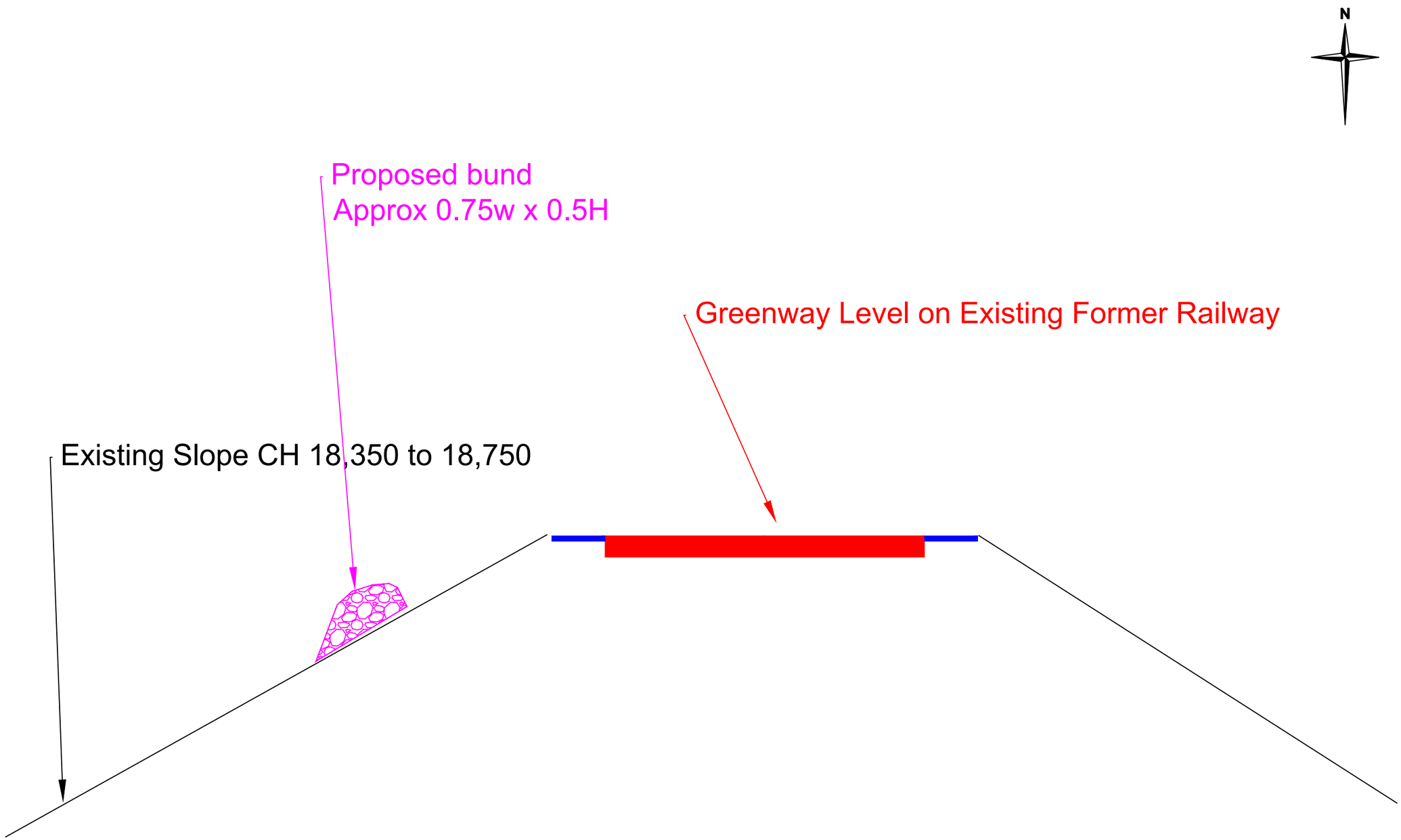
Rev	Drawing Issue & Revision Control	Issue P	I	A	T	C	R	Reviewed by PEM	Approved for Issue by PE	Issue Date
01	Issued for Information		✓							

Issue P I A T C R

Purpose of Issue : **P** = Preliminary **I** = Information **A** = Approval **T** = Tender ✓ **C** = Contract **R** = Record

Title:

Project Name:	**South Kerry Greenway**	Component:	TII Project Ref. No. **Text**
Title:	**Stone Wall Relocation at Kells Typical Cross Section**		Job No. **J407**
Designed:	N/A	File Name:	Drawing No.
Drawn:	Kevin McSweeney KMS	Original scales: 1 : 500 @ A3	
Checked:		Date: Jan 2024	



NOTES:

1.

Land Take Line

Scale = 1 : 500 @ A3

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(a) This Map is based on Irish Transverse Mercator (ITM) Coordinate System
(b) All Altitudes indicated are in Metres , and are referred to Ordnance Datum, which is Mean Sea Level at Malin Head, Co. Donegal (1970 Adjustment).
(c) These Maps are used under The Licensing Agreement between the Ordnance Survey Ireland and the County and City Manager's Association (CCMA) for 1998 to 2001, and of the Copyright Act ,1963.
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Rev	Drawing Issue & Revision Control	Issue P	I	A	T	C	R	Reviewed by PEM	Approved for Issue by PE	Issue Date
01	Issued for Information		✓							

Issue: P I A T C R ✓

Purpose of Issue : **P** = Preliminary **I** = Information **A** = Approval **T** = Tender **C** = Contract **R** = Record

Title:

Project Name: **South Kerry Greenway**		Component:	TII Project Ref. No. **Text**
Title: **Stone Wall Relocation at Kells Typical Cross Section-Proposed Area**			Job No. **J407**
Designed: N/A		File Name:	Drawing No.
Drawn: Kevin McSweeney	KMS	Original scales: 1 : 500 @ A3	
Checked:		Date: Jan 2024	

Appendix 5

Letter from Dr. Evelyn Moorkens, Qualified Malacologist

DR EVELYN A. MOORKENS B. A. (Mod.). H. Dip. (Ed.), M. Sc., PhD

123, Rathdown Park,
Greystones,
Country Wicklow A62 PO43
Ireland.
E-mail: emoorkens@eircom.net

Mob. +353 86 821 1385

Tel. +353 1 503 1581

Evelyn Moorkens
& Associates

Monica Kane BSc MSc MCIEEM
Kane Williams,
3 Godfrey Place,
Tralee,
Co. Kerry.

26/10/23

Dear Monica,

I am writing to provide an expert opinion as a specialist malacologist with over 30 years' experience in working with the Kerry slug *Geomalacus maculosus*.

The question you asked was whether the construction of the gabion section along the foothills of Drung Hills resulting in the destruction of potential habitat for the Kerry slug would need to be carried out sequentially in 75m sections, or whether it could be carried out with equal protection for allowing egress of slugs if it were done in two 75m sections at a time.

The planning conditions (p72 of the biodiversity chapter in the EIAR) require "*… a works area of approximately 75m in length at any one time with the eastern side reaching design height first, and moving sequentially*." The mitigation commitments also state "*For all aspects of construction that relate to the Kerry slug, a contractor's Method Statement would need to be approved by a competent malacologist and the work supervised by a suitably qualified clerk of works with a full understanding of the malacological requirements*."

I can state that from a malacological perspective that there would be no additional risk to the Kerry slug from working in two 75m sections at a time providing:

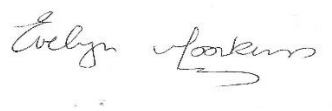
1) Both sections are undertaken sequentially from east to west with one beginning at the eastern end and the other beginning at the half way point.
2) All 75m sections are thoroughly checked for slugs in advance of working that section, as per the mitigation methodology.

3) Works are carried out using the SOWOR system (schedule of works operation record), operated by the project ecologist / ecological Clerk of Works, as per the mitigation methodology.

4) The project ecologist / ecological Clerk of Works needs to have competency in Kerry slug ecology and in the operation of a SOWOR, as per the mitigation methodology.
5) The Project Ecologist / ecological Clerk of Works should provide sufficient training to the construction staff to enable them to understand the ecological sensitivities relating to the Kerry slug.
6) As required, the contractor's Method Statement for this task would need to be approved by a competent malacologist in advance of the commencement of this work item.

Please do not hesitate to contact me if you have any queries or matters arising.

Yours sincerely,



Evelyn Moorkens