

TOBIN

**MAYO COUNTY COUNCIL
12197 – R315 LAHARDAUN TO
CROSSMOLINA REGIONAL ROAD
IMPROVEMENT SCHEME**

**GROUND PENETRATING RADAR
SURVEY AND SITE
INVESTIGATION
REQUEST FOR TENDER, WORKS
SPECIFICATIONS AND PRICING
DOCUMENT**



Comhairle Contae Mhaigh Eo
Mayo County Council



BUILT ON KNOWLEDGE

Document Control Sheet

Document Reference	12197 – R315 Lahardaun to Crossmolina Regional Road Improvement Scheme
Client:	Mayo County Council
Project Reference	12197

Rev	Description	Author	Date	Reviewer	Date	Approval	Date
D01	Draft	JL	19/05/2026	RG	19/05/2026	RG	19/05/2026
A01	Final	JL	19/06/2026	RG	19/06/2026	RG	19/06/2026
A02	Final	JL	16/07/2026	RG	16/07/2026	RG	16/07/2026
A03	Final	JL	20/07/2026	RG	20/07/2026	RG	20/07/2026

Disclaimer

This Document is Copyright of Patrick J Tobin & Co. Ltd. trading as TOBIN. This document and its contents have been prepared for the sole use of our client. No liability is accepted by TOBIN for the use of this report, or its contents for any other use than for which it was prepared.



ACEI ASSOCIATION OF
CONSULTING ENGINEERS
OF IRELAND



Table of Contents

1.	GENERAL REQUIREMENTS	3
1.1	Health and Safety.....	3
1.2	Landowners, Occupiers and Entry	3
1.3	Insurances.....	3
1.4	Tax Clearance	3
1.5	Site Investigation Works Requirements	3
2.	TENDER.....	4
2.1	Tender Deadline	4
2.2	Award Criteria.....	4
2.3	Conditions of Contract.....	4
2.4	Information to be Contained within the Tender Submission:.....	4
3.	SPECIFICATION.....	5
3.1	Name of Contract.....	5
3.2	Investigation Project Supervisor Design Process	5
3.3	Description of the Site/Background	5
3.4	Main Works Proposed and Purpose of the Contract.....	5
3.5	Scope of Investigation	6
3.6	Geology and Ground Conditions	7
3.7	Schedules of Drawings and Documents	7
3.8	Particular Contract Restrictions.....	7
3.9	Particular General Requirements (Section 3)	7
3.10	Ground Penetrating Radar Survey (Specification Section 4)	10
3.11	Percussion Boring (Specification Section 5)	11
3.12	Rotary Drilling Requirements (Specification Section 6)	11
3.13	Pitting and Trench Requirements (Specification Section 7).....	11
3.14	VMS Requirements (Specification Section 8).....	12
3.15	Sampling & Monitoring of Intrusive Investigations (Specification Section 9)	12
3.16	Probing and Cone Penetration Testing (Specification Section 10).....	12
3.17	Geophysical Surveying (Specification Section 11).....	12
3.18	In Situ Testing (Specification Section 12).....	12
3.19	Instrumentation (Specification Section 13)	12

3.20	Installation, Monitoring and Sampling (Specification Section 14)	12
3.21	Daily Records (Specification Section 15)	12
3.22	Geotechnical Laboratory Testing (Specification Section 16).....	13
3.23	Geoenvironmental Laboratory Testing (Specification Section 17)	13
3.24	Particular Reporting Requirements (Section 18).....	13
4.	SCHEDULE2: EXPLORATORY HOLES	16
4.1	Slit Trenches (ITM).....	16
4.2	Trial Pits With CBR (ITM)	16
4.3	Bore Holes (ITM)	16
4.4	Corings (ITM)	18
4.5	CBRS (ITM)	19
5.	BILL OF QUANTITIES.....	20
6.	DRAWINGS.....	23

Appendices

Appendix A Contract Drawings



1. GENERAL REQUIREMENTS

1.1 HEALTH AND SAFETY

Site Investigation Contractor to be responsible for all Health & Safety aspects in relation to the fieldwork. Site Investigation Contractor shall forward their company H&S statement and Project Specific Health & Safety Plan for Mayo County Council (MCC) and TOBIN (PSDP) approval prior to start of work. The Health & Safety Plan shall include Site Specific Traffic Management Plan in compliance with Chapter 8 of the Traffic Signs Manual.

1.2 LANDOWNERS, OCCUPIERS AND ENTRY

The Site Investigation Contractor will need to obtain permission to enter onto lands for the purposes of carrying out the Site Investigation works and some of the lands may be third party interests. MCC will initiate contact, after which the Site Investigation Contractor will assume responsibility for managing the process. The Site Investigation Contractor is to arrange and agree access with all land occupiers prior to gaining entry to lands. Where access to the lands is refused by the land occupier, the Site Investigation Contractor shall immediately notify the Client.

1.3 INSURANCES

Site Investigation Contractor is required to submit Insurance details including levels of cover for Public Liability and Employers Liability.

1.4 TAX CLEARANCE

Site Investigation Contractor is required to produce a current Tax Clearance Certificate.

1.5 SITE INVESTIGATION WORKS REQUIREMENTS

Fully in compliance with the specification requirements.

2. TENDER

2.1 TENDER DEADLINE

Tenders shall be submitted through the eTenders portal: (<https://www.etenders.gov.ie/>) only and must be received no later than 5:00 pm on Wednesday, 5th August 2026.

2.2 AWARD CRITERIA

The award criteria for works contract awarded will be as follows:

- 70% Price
- 30% Quality and should be scored as follows:
 - There shall be a maximum of **(10 % equivalent to 10 marks)** awarded for technical merit which demonstrates green/sustainable practices having regard to one or all of the following:
 - Demonstration of an Energy Management System.
 - Demonstration of sustainable technologies or practices proposed during the contract. For example, but not limited to, use of low emissions vehicles, waste minimisation plans, use of technology to host team meetings etc. Candidates must provide a methodology (2 page maximum) outlining how their proposal will contribute to reducing their environmental impact over the lifetime of the contract.
 - There shall be a maximum of **(10 marks)** awarded for demonstrating Programme compliance – 1 page summary, Gantt chart or simplified task table with milestone delivery.
 - There shall be a maximum of **(10 marks)** awarded for Safety and safer approach to Traffic management – Certified Safety Management System and protocols for safer systems of work.
- Confirmation that Site Investigation Works and associated documentation will be delivered within 30 days of award of contract.
- Requirement for Successful compliance with Mayo County Council competency questionnaire before consideration for any appointment.

2.3 CONDITIONS OF CONTRACT

Any works awarded under this Competition shall comply with the [PW-CF7 Public Works Investigation Contract](#) v1.7 25-11-2025.

2.4 INFORMATION TO BE CONTAINED WITHIN THE TENDER SUBMISSION:

- Completed Pricing Schedule – PRICING SCHEDULE
- Letter noting Tender Sum, availability to commence Works, proposed duration of Site Investigation and proposed timeframe for issuing of Site Investigation data as specified.
- Copies of latest insurances (PL, EL & PI).
- Copy of your latest Tax Clearance Certificate confirmation.

3. SPECIFICATION

The specification shall be the Specification for Ground Investigation 2nd Edition, published by The Institution of Engineers of Ireland (2016) with information, amendments and additions as described in the Schedules.

- Schedule 1: Information and site-specific requirements
- Schedule 2: Exploratory holes
- Schedule 3: Investigation Supervisor's facilities
- Schedule 4: Specification amendments
- Schedule 5: Specification additions

3.1 NAME OF CONTRACT

Site Investigations for R315 Lahardaun to Crossmolina Regional Road Improvement Scheme, Lahardaun, Co. Mayo.

3.2 INVESTIGATION PROJECT SUPERVISOR DESIGN PROCESS

The Investigation Project Supervisor Design Process for this ground investigation is TOBIN. The Project Supervisor for Construction Stage shall be the Contractor subject to assessment of competency.

3.3 DESCRIPTION OF THE SITE/BACKGROUND

Nestled in the verdant landscapes of County Mayo, Ireland, Lahardaun epitomizes the serene beauty and rich heritage of rural Irish villages. Tucked amidst rolling hills and meandering streams, Lahardaun exudes a tranquil charm that captivates visitors from near and far. Its name, rooted in Gaelic tradition as "Leathardán," meaning "half hill," speaks to the picturesque setting of the village, where quaint cottages dot the landscape against a backdrop of lush greenery. Lahardaun's community is renowned for its warm hospitality and strong sense of community, welcoming travellers with open arms and inviting them to partake in the simple joys of rural life. The R315 regional road grapples with several pressing issues, including inadequate infrastructure, congestion and road safety concerns. Narrow lanes and lack of modern amenities pose challenges for both commuters and businesses, hindering efficient travel and economic growth. By widening lanes, constructing a realignment, improving signage, and enhancing safety features, an upgraded R315 would not only streamline traffic flow but also enhance road safety, reducing the risk of accidents and improving overall connectivity. A modernized road network would bolster economic development, attracting investment and stimulating local businesses. Upgrading the R315 regional road represents a pivotal step towards realizing Lahardaun's full potential, fostering sustainable growth and enhancing the quality of life for generations to come.

3.4 MAIN WORKS PROPOSED AND PURPOSE OF THE CONTRACT

Upgrading the R315 regional road holds immense potential to address these issues and unlock numerous benefits for Lahardaun and its residents. By widening lanes, constructing a realignment, improving signage, and enhancing safety features an upgraded R315 would not only streamline traffic flow but also enhance road safety, reducing the risk of accidents and improving overall connectivity.

The proposed location for the project is as shown in Figure 3-1 and these locations are described as above. The overall extent of the areas to be surveyed are shown in the graphic below. Access to all lands is available to the contractor subject to approval from MCC.

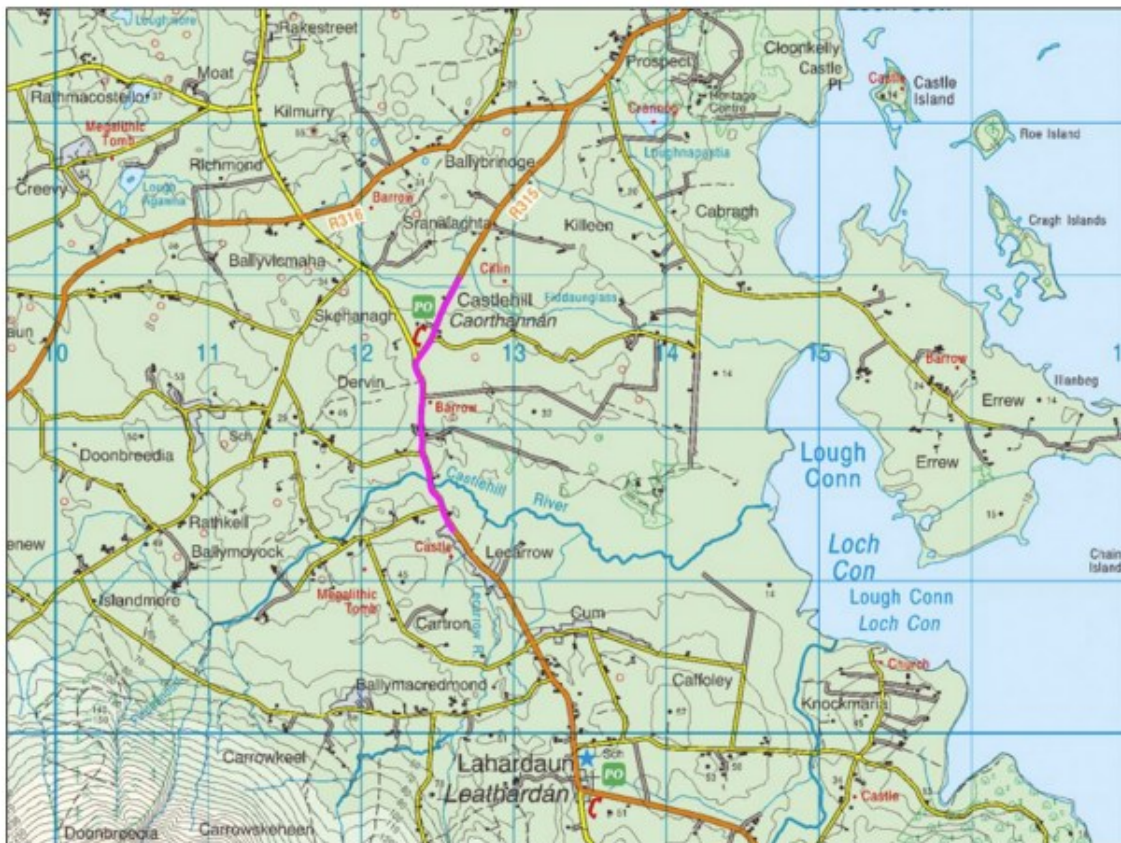


Figure 3-1 Site location (Source: TOBIN)

3.5 SCOPE OF INVESTIGATION

The ground investigation works consists of the following:

- Conduct GPR survey at the locations as per contract drawings Ref: 12197-1015_R315 Lahardaun - Site Investigation D01 (see Appendix A).
- Excavate 15 No. trial pits at locations on attached drawing to a depth of 1.2m, unless rock is encountered. Trial pits to be positioned so that a min of 3m clearance is maintained between the building and edge of Trial Hole.
- Carry out 21 No. Road Cores of the existing pavement at the locations shown in contract drawings Ref: 12197-1015_R315 Lahardaun - Site Investigation D01 (see Appendix A).
- Carry out 37 No. boreholes by Cable Percussion using a tripod rig (Shell and Auger) (locations indicated on attached drawing). The casing shall be 200mm diameter. The boreholes shall be taken to refusal. If refusal is not met within 6m of ground level the contractor shall inform the Engineer immediately and seek an instruction for additional work. Where refusal is met within 6m of the ground level using cable percussion (Shell and Auger), then, rotary drilling with core recovery shall be used until a depth of penetration into rock of 3m is achieved.
- Excavate 5 No. Slit Trenches to a depth of 1.2m at the locations as per contract drawings Ref: 12197-1015_R315 Lahardaun - Site Investigation D01 (see Appendix A).
- Provision of traffic management to Chapter 8 to accommodate the investigation and to include Road Opening License for works on public road;
- Liaison with Local Authority and the other public and private bodies as necessary;
- Preparation & presentation of detailed factual reports & drawings as per IS EN 1997 (Eurocode 7) the Specification and the Scope of Works;

In addition, this investigation will include for analysis and documentation of the results, and reporting on the geology, strata and soil conditions encountered to a professional standard. The Contractor shall provide all plant, labour and materials necessary to carry out the site Investigation.

The works are to be conducted in accordance with BS5930: 1999 incorporating Amendment No. 1 dated 31st December 2007, BS10175: 2001 and BS1377:1990.

3.6 GEOLOGY AND GROUND CONDITIONS

There is no current knowledge about the geology and ground conditions of the sites, or if the ground is contaminated or not.

3.7 SCHEDULES OF DRAWINGS AND DOCUMENTS

Schedule of the R315 R315 Lahardaun to Crossmolina Regional Road Improvement Scheme Contract Drawings are as follows:

- As per Appendix A

Documents:

- Contract Conditions, Tender and Schedule
- Ground Investigation Specification and Schedules
- Bill of Quantities

Drawings:

- 12197-1015_R315 Lahardaun -Site Investigation D01

3.8 PARTICULAR CONTRACT RESTRICTIONS

The Contractor shall examine the job site and be familiar with all existing conditions. The contractor shall be responsible for any damage to services caused by the execution of the Contract. Where necessary, to avoid services, trial pits and borehole locations shall be moved subject to agreement with the Engineer.

The Contractor shall secure right of access to the work site through the Employer and their representative, and confine operations to the minimum of ground required for the works and access to the works.

The Contractor shall secure all necessary permits before the work is started.

The Programme for the execution of the fieldwork and the date of submission of the report are to be agreed with the Engineer however the following shall apply:

Field Work shall commence within 10 working days of notification of the award of contract.

A completed report shall be submitted to the Engineer within 5 working days of the completion of the sitework.

3.9 PARTICULAR GENERAL REQUIREMENTS (SECTION 3)

The Contractor shall be competent, experienced, and qualified to perform the works required.

Professional attendance by a Chartered Geotechnical Engineer/ Engineering Geologist on site shall be such as to ensure the proper execution of the work in accordance with the specification and relevant codes of practice, to ensure that accurate geotechnical information is obtained, and information is reported to the Engineer as required.

Professional attendance by a Geophysical Engineer with at least 5 years post graduate experience in the undertaking of ground penetrating radar surveys and recording/interpretation results on site shall be required to undertake the GPR surveys.

Any services or pipes damaged during the Works are to be immediately repaired or replaced by the Contractor at the Contractors expense to the satisfaction of the Employers Representative and the Service Provider, including completion of all testing necessary to confirm that the services are in full working order.

Areas disturbed during the works shall be immediately repaired with secure temporary fencing or barriers. The Contractor shall permanently reinstate all such areas to their pre-investigation condition. All remediate works whatsoever shall be completed to the satisfaction of the Employers Representative and all costs for this work shall be borne solely by the Contractor with no extras being allowed to his tender price as per current edition of Guidelines for Managing Openings in Public Roads (purple book).

Access to Site:

The Contractor shall be responsible for coordinating site access requirements for the purpose of carrying out investigations with the Employer and the Employer's Representative, prior to beginning works. The Contractor shall provide sufficient notice to the Employer to arrange access to Site. The Contractor shall provide details of dates when access is required to carry out the investigations and any method statements required to perform the Works, for approval. The Contractor is required to submit programmes in advance, including a minimum notice period of five working days before entry is required, so as to obtain the necessary permissions.

The Contractor will comply with the following conditions for access:

- The Contractor must provide a minimum of five days' notice before accessing the site.
- All ground disturbed by the work shall be made good
- Any damage to walls, gates or any other property found to be due to the execution of the work shall be made good.
- The owner shall be fully indemnified against any claim arising from or relating to the carrying out of this work.
- The Contractor shall include in his rates for all access difficulties and for reinstatement of access routes damaged during the course of the investigations. the Contractor is deemed to have included for difficult access and set up in his rates.
- Payment for any additional work shall not be permitted without agreement through a change order issued by the Employer's Representative.

Health & Safety:

The Contractor is expected to establish store and hygiene facilities appropriate to the duration of the scheme and complying with the Safety Health and Welfare Act 2005 and the Safety Health and Welfare (Constructions) regulations 2013 and other relevant legislation, suitable for the number of people proposed to be on site.

TOBIN have been appointed as Project Supervisor Design Process (PSDP) in accordance with the provision of Safety, Health and Welfare at Work (Construction) Regulations, 2013.

In addition to the above, provisions for the safety of all personnel engaged in duties shall be made by the Contractor and shall include for the use of suitable hand, face and body protection, and first aid and cleaning facilities. All personnel on site shall use waterproof footwear with steel toecaps and reinforced shanks. Brightly coloured safety jackets in accordance with BS 6629 shall be worn by all personnel whilst within the site or on public highways.

Quality Management System:

All work shall be carried out in accordance with a with a quality management system established in accordance with I.S. EN ISO 9001, I.S. EN ISO 14001 and I.S. OHSAS 18001. Records to demonstrate compliance shall be made available to the Investigation Supervisor on request. INAB or UKAS accreditation will be required for all laboratory testing undertaken under this contract.

Programme:

The Contractor shall provide a Programme of works at the outset of the Contract.

Professional attendance on site:

The contractor is required to provide the following minimum levels of superintendence.

- Professional attendance by a Chartered Geotechnical Engineer/ Engineering Geologist for logging of all subsoil conditions and separately a Geophysical Engineer with at least 5 years post graduate experience in the undertaking of ground penetrating radar surveys and recording/interpretation results on site shall be required to undertake the GPR surveys.
- 1 person of at least 3 years' experience in the management of temporary Traffic Management (at each work site if works are progressed while traffic management is in place).

Should the Employers Representatives be dissatisfied with the conduct of such supervisor or foreman or any workman or other employed by the Contractor on the site, he may order his or their immediate dismissal from the work and replacement with suitable personnel. The Contractor shall comply with such order without delay.

The Geophysical Engineer shall be in attendance to carry out the following work:-

- Full time supervision of GPR Surveys

Method Statements:

The Contractor shall submit Method Statements to the Employer's Representative not less than seven working days prior to commencement of the operation to which the Method Statement refers. Method Statements may include, but not be limited to, the following operations:

- GPR Survey
- Trial Holes
- Boreholes / Rotary Coring
- Slit Trenches

Traffic management measures

Traffic Management arrangements will be appropriate to the requirements of the site. A risk assessment shall be undertaken to determine the extent traffic management required and submitted to the Employer's Representative.

The Contractor shall be responsible for proper control of traffic on active roadways throughout the course of the works. Requirements are set out in the particular requirements below.

Prior to commencement of the Works, the Contractor shall appoint a Traffic Safety and Control Officer who shall make all arrangements necessary for traffic safety and control. The Contractor shall be required to safely maintain traffic flow in both directions for the duration of the site operations, where his works are carried out on or in the vicinity of the existing road network.

The Contractor will be responsible for the preparation of traffic management plans as well as the provision and proper positioning of all warning and advisory signs, traffic cones, signals and warning lamps which may be necessary for the proper control of traffic and to minimise inconvenience to the general public caused by his operations. The Contractor shall be responsible for the planning, design, implementation, maintenance and removal of all traffic safety and management measures required in order to facilitate the Works, this shall include all temporary and permanent works. All such measures shall be in accordance with:

- Chapter 8 of the Department of Transport Temporary Traffic Measures and Signs for Roadworks, current version at the date one week prior to the Tender Date,
- Guidance for the Control & Management of Traffic at Road Works (2nd Edition 2010), and
- this Schedule.

Without prejudice to the Specification, at least 7 Working Days prior to any work impacting on National, Regional and Local Road traffic and any public or private access, the Contractor shall prepare and submit to the Investigation Supervisor and Employer's Representative a Detailed Temporary Traffic Management Plan.

The Contractor shall provide and maintain access to all existing properties adjacent to the Works.

The Contractor must maintain at least one line of traffic in each direction at all times. In addition, pedestrian traffic along footways and pedestrian access to any place of business must not be impeded. A temporary road closure will not be permitted.

TTM Constraints:

- Lane closures will not be permitted between 07:00 and 09:30 hours, or between 15:30 and 18:30 hours on Monday to Thursday and 15:00 and 18:30 hours on Friday;
- Flagmen instead of actuated traffic lights shall be used when lengthy queues build up (i.e. when the length of queuing traffic does not pass through the signals in within one cycle).
- Additional Traffic Management Operatives (TMOs) shall be provided through any bad bends to ensure safety of survey personnel and road users and ensure an adequate flow of traffic at all times.

3.10 GROUND PENETRATING RADAR SURVEY (SPECIFICATION SECTION 4)

The site location and survey areas are shown on the contract drawing attached in Appendix A.

The survey is required to locate and identify all underground utility services and determine the depth and extent of peat across the survey area, with the results presented in map format.

The Contractor shall submit to the Employer's Representative a full description of the proposed Ground Penetrating Radar (GPR) equipment, survey methodology and procedures. The scope and method statement shall be prepared and certified by the geophysical specialist detailed in Section 1.10.

The Contractor shall allow for orthogonal GPR transects in urban areas, with sufficient penetration and resolution to detect buried pipes, ducts, cables and other underground utilities to an accuracy of $\pm 5\%$ under normal ground conditions.

The underground utility survey shall be undertaken in accordance with PAS 128:2022 – Underground Utility Detection, Verification and Location. The survey shall utilise Ground Penetrating Radar (GPR) in conjunction with electromagnetic locating techniques, where appropriate, to achieve the specified PAS 128 Quality Level. Any limitations affecting the survey accuracy or utility detection shall be clearly identified within the survey report.

Where Ground Penetrating Radar is used to assess peat depth and extent, the Contractor shall provide details of the proposed survey methodology, interpretation techniques and any calibration or verification measures used to validate the geophysical results.

The survey equipment shall comply with the Radio Equipment Directive (RED) 2014/53/EU (or any subsequent amendments), and all survey activities shall be undertaken in accordance with current industry best practice.

The GPR survey outputs shall be supplied with the factual reports in both hard copy and electronic CAD (DWG) format, referenced to the Irish Transverse Mercator (ITM) coordinate system and Malin Head Datum. Drawings shall generally be produced at a scale of 1:200. In areas of high utility congestion, drawings shall be produced at a scale of 1:100 to ensure sufficient clarity and legibility. The factual report shall include the survey methodology, equipment used, data interpretation, utility confidence levels, survey limitations and any assumptions made during the interpretation process.

3.11 PERCUSSION BORING (SPECIFICATION SECTION 5)

It is required to excavate a total of 34 No. boreholes by cable percussion (Shell and Auger) within the site boundaries with the locations indicated on award if contract. The boreholes shall be taken 200mm diameter, to refusal. If refusal is not met within 6m of ground level the contractor shall inform the Engineer immediately and seek an instruction for additional work. Ground level at each borehole location shall be given in relation to Malin Head (OD).

3.12 ROTARY DRILLING REQUIREMENTS (SPECIFICATION SECTION 6)

Where refusal is met using cable percussion (Shell and Auger), then rotary drilling with core recovery shall be used until a depth of penetration into rock of 3m is achieved. Ground level at each rotary drilling location shall be given in relation to Malin Head (OD). Rotary drilling is to follow on from boreholes in same holes.

It is also required that 20 No. pavement core sample are drilled to a depth of 1.2m and recovered for laboratory testing. To establish the pavement composition, depths and strength.

3.13 PITTING AND TRENCH REQUIREMENTS (SPECIFICATION SECTION 7)

It shall also be required to excavate 15 No. trial pits on the site (locations indicated on the drawings are subject to change) to a depth of 1.2m, unless rock is encountered. Trial pits should where possible, be done in advance of the percussion boring. Trial pits to be positioned so that a min of 3m clearance is maintained between the building and edge of Trial Hole.

Trial pits will also be required for the purpose of carrying out soakaway tests to BRE 365 Digest "Soakaway Design" requirements.

It shall also be required to excavate 5 No. Slit Trenches to a depth of 1.2m. The trenches are to be excavated by a combination of hand digging and mechanical excavation to locate and identify buried services at the site. The location of the Slit Trenches Slit Trenches at the locations as per contract drawings Ref: 12197-1015_R315 Lahardaun -Site Investigation D01 (see Appendix A).

Note: The number, location and depth of the boreholes, pavement core samples, trial pits and slit trenches are indicative only and may be varied by the Employer's Representative to suit the Project requirements.

3.14 VMS REQUIREMENTS (SPECIFICATION SECTION 8)

The VMS will operate on a three-week schedule: one week of advance notice followed by two weeks during the works.

3.15 SAMPLING & MONITORING OF INTRUSIVE INVESTIGATIONS (SPECIFICATION SECTION 9)

No special sampling is required.

3.16 PROBING AND CONE PENETRATION TESTING (SPECIFICATION SECTION 10)

Normal SPT testing is required. No special in situ testing is required

3.17 GEOPHYSICAL SURVEYING (SPECIFICATION SECTION 11)

Not required

3.18 IN SITU TESTING (SPECIFICATION SECTION 12)

The following in situ tests shall be carried out and reported in accordance with the current appropriate standards

1. Standard Penetration Test (SPT) (IS EN ISO 22476-3)
2. California Bearing Ratio (CBR) (BS 1377)

3.19 INSTRUMENTATION (SPECIFICATION SECTION 13)

There are no specific requirements with regard to instrumentation

3.20 INSTALLATION, MONITORING AND SAMPLING (SPECIFICATION SECTION 14)

Groundwater monitoring is required

Gas monitoring is required

Groundwater samples are required

3.21 DAILY RECORDS (SPECIFICATION SECTION 15)

Daily records taken on site shall be submitted to the Investigation Supervisor by email on the following day.

3.22 GEOTECHNICAL LABORATORY TESTING (SPECIFICATION SECTION 16)

The following geotechnical laboratory testing may be required.

- Moisture content
- Atterburg limits
- Particle size distribution
- SO₃ acid and water soluble
- PH
- Organic
- Oedometer
- Shear box residual
- Large shear box 300
- Triaxial single
- CBR
- Waste Acceptance Criteria (WAC)

3.23 GEOENVIRONMENTAL LABORATORY TESTING (SPECIFICATION SECTION 17)

No testing for contamination is required

3.24 PARTICULAR REPORTING REQUIREMENTS (SECTION 18)

Variations to final digital data supply requirements (Clause 16.5.3)

See Clauses included in The Specification.

Preliminary digital data (Clause 16.5.3)

On submission of the Draft Factual Report, the Contractor shall issue to the Employer's Representative a copy of the digital clearly marked "Draft" by email.

Type(s) of report required (Clause 16.6)

The Contractor will be responsible for the preparation of:

- (a) Factual Report

Electronic report requirements (Clause 16.6.3)

See Clauses included in The Specification.

Contents of Ground Investigation Factual Report (Clause 16.8)

See Clauses included in The Specification.

Times for supply of electronic information (Clause 16.11.1).

The period for review of the draft factual report by the Employer's Representative shall be a maximum of 5 days duration. The period for subsequent modification and finalisation of the factual report by the Contractor shall be of 3 days duration. The Contractors' programme shall make allowance for these periods within the overall time for completion of the Works.

Electronic information transmission media (Clause 16.11.2)

Information can be provided by email.

Report approval (Clause 16.12)

See Clauses included in The Specification.

The number of reports shall be as follows:

Draft Report

- 1 no digital copy

Final Report

- 1 no digital copy.

Reporting shall be carried out in accordance with Clause 16 of the Specification. Amendments and additions to Clause 16 are detailed below

1.1.1. Form of exploratory hole logs (Clauses 16.1 and 16.2.1)

Exploratory hole logs shall be prepared in accordance with the requirements of relevant IS EN ISO standards and the format shall be agreed with the Investigation Supervisor.

1.1.2. Information on exploratory hole logs (Clause 16.2.2)

The information on exploratory hole logs shall be in accordance with Clause 16.2 of the Specification. Fracture spacing should be stated on the exploratory hole logs and soil classification is required.

1.1.3. Variations on Exploratory Hole Logs

No particular restrictions or relaxations.

1.1.4. Preliminary digital data (Clause 16.5.3)

As specified in Clause 16.5, the Contractor must provide the digital data in AGS version 4.0. The preliminary data shall be supplied 5 days after completion of site works.

The Contractor shall provide exploratory hole, in-situ test, groundwater, and laboratory test data in AGS digital form and locations in AutoCAD dwg format.

Prior to the Date for Commencement of the Investigation the Contractor shall submit to the Investigation Supervisor a dummy set of data in the required format.

At the end of Site Operations, the Contractor shall issue to the Investigation Supervisor a set of digital data containing Preliminary Hole Records, sample schedule and in-situ test records, fully checked and edited, and incorporating the Investigation Supervisor's amendments if instructed.

On submission of the final Ground Investigation Report, the Contractor shall issue to the Investigation Supervisor a full set of digital data.

1.1.5. Type(s) of report required (Clause 16.6)

A Ground Investigation Factual Report shall be prepared and supplied 10 days after receipt of lab testing results.

1.1.6. Electronic report requirements (Clause 16.6.3)

Electronic reports shall be delivered by file transfer or flash drive.

Photographs shall be in JPG format.

AGS data is to be in AGS version 4.0 format. Coordinates shall be to ITM and ground levels relative to the Malin head Datum. Photographs shall be cross-referenced within the AGS data as associated files. The AGS data file shall be provided both as a stand-alone file or files and shall be embedded within the report (PDF format).

The results of all laboratory tests shall also be provided in MS Excel format.

All drawings shall be provided in PDF and AutoCAD format (in Irish Transverse Mercator Co-ordinates).



1.1.7. Format and contents of Desk Study Report (Clause 16.7)

Not required.

1.1.8. Contents of Ground Investigation Report (or specified part thereof)

The Ground Investigation Factual Report shall be in accordance with Clause 16.8.

1.1.9. Contents of Geotechnical Interpretative Report or Geotechnical Design Report (or specified part thereof) (Clause 16.9)

Not required.

1.1.10. Time for supply of electronic information (Clause 16.11.1)

To be supplied at the same time as PDF reports.

1.1.11. Electronic information transmission media (Clause 16.11.2)

AGS version 4.0 format data shall be issued as a single file. However, subject to the agreement of the

Investigation Supervisor, separate files may be permitted. Using AGS checking software; all data must be checked for AGS format errors / integrity, and corrections are to be made prior to issue.

Preliminary and draft data shall be submitted by email to the Investigation Supervisor. Where data files are too large for practical transmission by email, alternative methods of transmittal may be agreed with the Investigation Supervisor which may include flash drives, FTP transfer or distribution via extranet. The media shall be clearly labelled with project information and issue details, including unique sequence numbers.

Files shall not be compressed (zipped) without the agreement of the Investigation Supervisor.

1.1.12. Report approval (Clause 16.12)

As per Clause 16.12

The requires approval periods are given in Table 1.

Table 1 – Reporting Requirements

Items to be submitted by the Contractor	Required submission date
Preliminary exploratory hole logs	2 working days from the completion of the explorations to which they refer
Draft Ground Investigation Factual Report	10 working days from the completion of all site work
Final Ground Investigation Factual Report	The greater of 10 working days from the completion of all site work or 5 working days from the submission of comments on the Draft Ground Investigation Factual Report by the Investigation Supervisor

4. SCHEDULE2: EXPLORATORY HOLES

4.1 SLIT TRENCHES (ITM)

Description	Easting	Northing	Depth (m)
ST 01	512606.4659	811306.3592	1.2
ST 02	512525.5170	811433.4666	1.2
ST 03	512394.5312	811799.2625	1.2
ST 04	512331.1621	812399.8356	1.2
ST 05	512593.2948	812955.0143	1.2

4.2 TRIAL PITS WITH CBR (ITM)

Description	Easting	Northing	Depth (m)
TP 01	512500.6111	811439.0125	1.2
TP 02	512457.3829	811520.1820	1.2
TP 03	512405.7865	811631.2818	1.2
TP 04	512377.8343	811747.7804	1.2
TP 05	512351.3739	811961.6795	1.2
TP 06	512346.5700	812106.1942	1.2
TP 07	512383.1115	812128.1721	1.2
TP 08	512353.6899	812243.8015	1.2
TP 09	512389.5252	812360.9887	1.2
TP 10	512416.9352	812492.9500	1.2
TP 11	512450.7986	812617.8149	1.2
TP 12	512491.2784	812737.6312	1.2
TP 13	512535.3337	812822.0780	1.2
TP 14	512576.5192	812903.3426	1.2
TP 15	512387.1166	812459.0227	1.2

4.3 BORE HOLES (ITM)

Description	Easting	Northing	Depth (m)
-------------	---------	----------	-----------

BH 01	512591.8500	811317.3760	6.0
BH 02	512554.4595	811364.8098	6.0
BH 03	512493.2987	811435.8111	6.0
BH 04	512506.2600	811439.4370	6.0
BH 05	512450.1730	811514.0328	6.0
BH 06	512463.7427	811520.3513	6.0
BH 07	512484.9555	811552.9268	6.0
BH 08	512398.8681	811630.1336	6.0
BH 09	512412.3645	811631.5369	6.0
BH 10	512424.6233	811688.3807	6.0
BH 11	512370.3316	811747.4391	6.0
BH 12	512384.2628	811748.6168	6.0
BH 13	512371.7232	811847.9746	6.0
BH 14	512379.6502	811945.6436	6.0
BH 15	512356.6613	811962.0068	6.0
BH 16	512368.2132	812004.3455	6.0
BH 17	512367.0343	812078.4465	6.0
BH 18	512351.8010	812107.0638	6.0
BH 19	512388.3989	812128.4994	6.0
BH 20	512380.4031	812224.5455	6.0
BH 21	512359.0457	812243.4711	6.0
BH 22	512375.1979	812306.9365	6.0
BH 23	512346.2851	812372.9751	6.0
BH 24	512394.8126	812361.3160	6.0
BH 25	512422.2226	812493.2773	6.0
BH 26	512435.0789	812588.2508	6.0
BH 27	512456.0974	812615.5931	6.0
BH 28	512487.5786	812715.1871	6.0
BH 29	512497.4485	812737.7520	6.0

BH 30	512529.2118	812816.0369	6.0
BH 31	512541.3149	812822.1740	6.0
BH 32	512568.7157	812900.4260	6.0
BH 33	512582.0659	812903.2187	6.0
BH 34	512331.8298	812455.4808	6.0
BH 35	512378.8664	811710.9798	6.0
BH 36	512396.9493	811667.1158	6.0
BH37	512650.4751	813053.9806	6.0

4.4 CORINGS (ITM)

Description	Easting	Northing	Depth (m)
RC 01	512597.5789	811322.2363	1.2
RC 02	512561.6270	811367.4652	1.2
RC 03	512486.9359	811432.8696	1.2
RC 04	512443.6573	811512.2103	1.2
RC 05	512480.9012	811551.1600	1.2
RC 06	512392.8346	811629.5062	1.2
RC 07	512420.4392	811687.5283	1.2
RC 08	512364.3870	811746.3430	1.2
RC 09	512365.7995	811845.8760	1.2
RC 10	512373.9561	811942.9159	1.2
RC 11	512364.6525	812007.6909	1.2
RC 12	512362.7948	812078.4465	1.2
RC 13	512374.9631	812222.1868	1.2
RC 14	512370.1213	812304.9684	1.2
RC 15	512342.6973	812371.7097	1.2
RC 16	512430.1109	812586.5637	1.2
RC 17	512481.3741	812712.5301	1.2
RC 18	512522.3354	812813.7494	1.2

RC 19	512562.8740	812898.8822	1.2
RC 20	512644.5319	813052.1667	1.2
RC 21	512328.2420	812454.2155	1.2

4.5 CBRS (ITM)

Description	Easting	Northing	Depth (m)
CBR 01	512511.0213	811442.5681	1.2
CBR 02	512470.7659	811522.3453	1.2
CBR 03	512421.1532	811632.0626	1.2
CBR 04	512388.6577	811753.8723	1.2
CBR 05	512362.3547	811962.5767	1.2
CBR 06	512356.8909	812111.1730	1.2
CBR 07	512393.9048	812128.9295	1.2
CBR 08	512364.5582	812246.1535	1.2
CBR 09	512400.2895	812361.8769	1.2
CBR 10	512429.6770	812492.8970	1.2
CBR 11	512462.6644	812616.2965	1.2
CBR 12	512503.5141	812739.6279	1.2
CBR 13	512547.3992	812822.6490	1.2
CBR 14	512587.8473	812905.4095	1.2

5. BILL OF QUANTITIES

Ground Investigations – R315, Lahardaun, Co. Mayo					
Pricing Document					
Number	Item description	Unit	Quantity	Rate €	Amount €
A	Preliminaries				
A1	Provision and maintenance of insurances for the works as per Conditions of Contract	sum	1		
A2	Compliance with Health & Safety requirements including Obligation to accept the appointment as Project Supervisor for the Construction Stage as per Instruction to Tenderers and Specification	sum	1		
A3	Liaison with Mayo County Council, Statutory Undertakers and other Third Parties	sum	1		
A4	Professional attendance to meet the contract requirements and Liaison with Employer's Representative	sum	1		
A5	Provide for Temporary Traffic Management, including the provision of a detailed temporary traffic management plans	sum	1		
B	GPR Survey				
B1	Mobilisation of GPR equipment to site. Carry out site survey to calibrate GPR equipment. This item shall also include for all Health and Safety requirements and Traffic management requirements in consultation with the main Contractor and PSCS.	Item	1		
B2	Conduct GPR Survey as per contract drawings and Specification. This item is deemed to include all report and drawings as required under the specification.	ha.	12.5		
C	Trial Pits				
C1	Move equipment to the site of each trial pit of not greater than 4.5m depth	no.	15		
C2	Excavate to depth of 1.2m and reinstate to Guidelines for Managing Openings in Public Roads (purple book) as specification	no.	15		
D	Slit Trenches				
D1	Move equipment to the site of each trench of not greater than 4.5m depth	no.	5		
D2	Excavate Slit Trenches to a depth of 1.2m to locate and identify buried services at the site and reinstate to Guidelines for Managing Openings in Public Roads (purple book) as specification.	no.	5		
D	Boreholes	no.			
D1	Mobilise on site	Item	1		
D2	Move boring plant and equipment to the site of each exploratory hole and set up	no.	37		
D3	6m Borehole and reinstate to Guidelines for Managing	m	37		



	Openings in Public Roads (purple book) as specification.				
D4	Borehole/m after 6m (rate only)	no.	37		Rate only
E	<u>Rotary Core (Pavement Makeup)</u>				
E1	Mobilise on site	Item	1		
E2	Set Up at each location	no.	21		
E3	Rotary drill and recover samples of pavement make up to a depth of 1.2m. Pavement Core and reinstate to Guidelines for Managing Openings in Public Roads (purple book) as specification.	no.	21		
F	<u>VMS</u>				
F1	Allow for Variable Message Sign (VMS) boards	no.	2		
G	<u>Sampling</u>				
G1	Allow for Bulk soil sampling at 1m intervals	no.	10		
H	<u>Insitu Testing</u>				
H1	Standard penetration test to be carried out at 1.0m centres or each change of stratum	no.	10		
H2	California bearing ratio (CBR) by TRL DCP method (Test undertaken at the base of each exploratory Pavement Core Location).	no.	15		
I	<u>Soakaways</u>				
I1	Soakaway Test in accordance with BRE Digest 365 "Soakaway Design	no.	15		
Subtotal – Field Work					
Add Fieldwork VAT @ 13.5%					
Total Fieldwork					

J	<u>Laboratory Testing</u>				
J1	Sulphate content of groundwater (1 sample from each borehole)	no.	37		
J2	PH Test (1 sample from each borehole)	no.	37		
J3	Moisture Content & Atterburg Limits	no.	15		
J4	PSD by wet/ dry sieve as appropriate	no.	15		
J5	Undrained Shear Strength Test	no.	37		
J6	Waste Acceptance Criteria Test and Classification	no.	37		
J7	Determination of point load strength of rock specimen (axial and diametral)	no.	15		
J8	Uniaxial compressive strength of rock	no.	15		
	<u>Reporting at 23% VAT Rate</u>				

A12	Master copies of the Factual Reports	sum	1		
A16.1	Digital data in AGS transfer format	sum	1		
A16.2	Copy of reports in PDF format	sum	1		
	Total section A carried to summary				
Subtotal - Laboratory/Reporting Work					
Add Laboratory/Reporting Work VAT @ 23%					
Total Laboratory/Reporting Work					
Total Tender (Fieldwork +Laboratory/ Reporting) excluding VAT					
Total Tender (Fieldwork +Laboratory/ Reporting) including VAT					

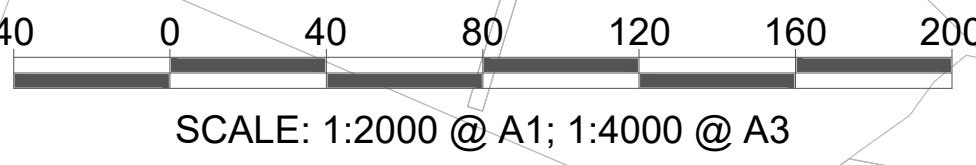
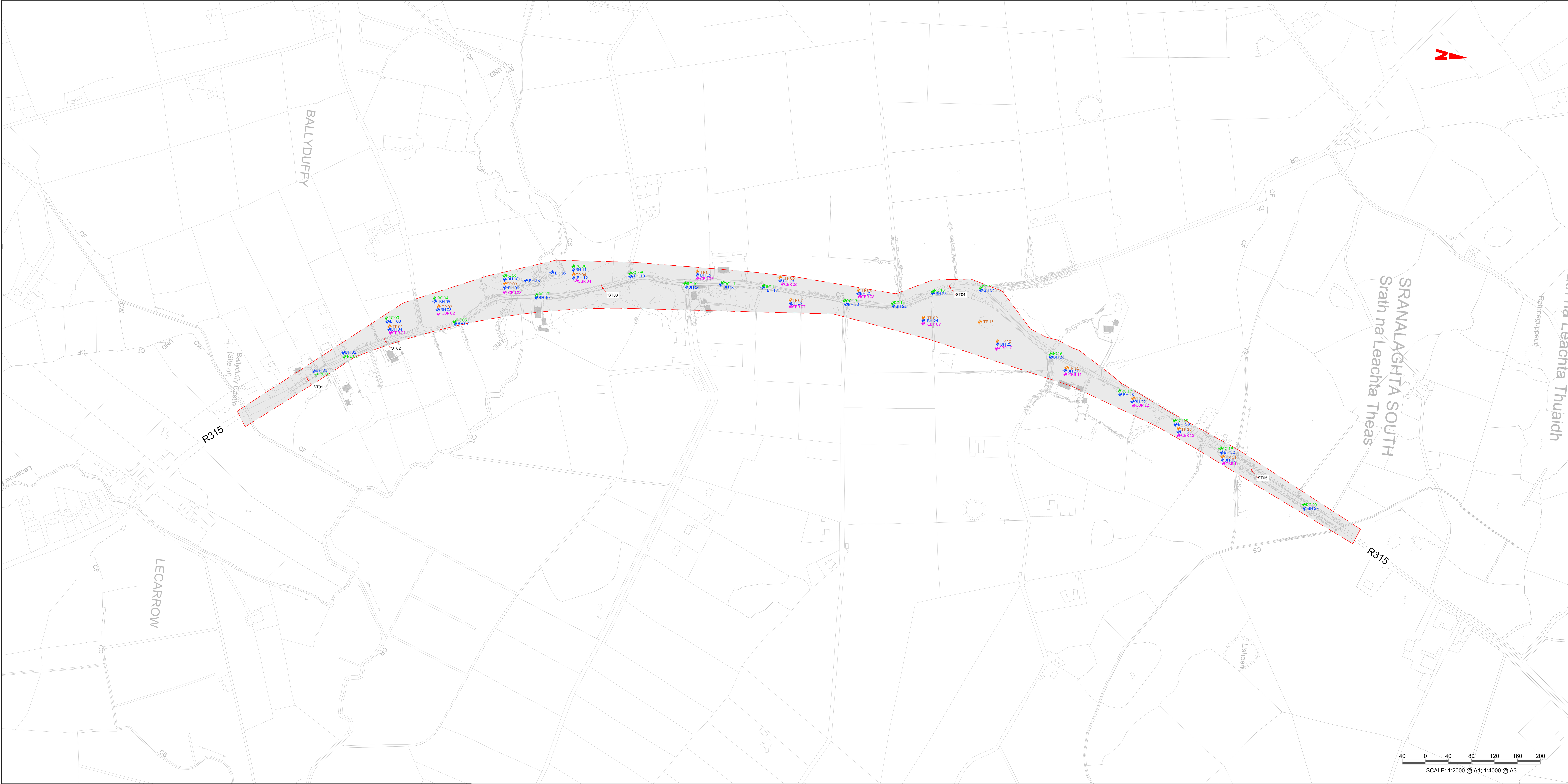
6. DRAWINGS

- 12197-1015_R315 Lahardaun -Site Investigation D01

Signature:

Date:

Site Investigation Contractor's Name and Address:



Legend

- Redline Boundary

GPR

Slit Trench

Trial Pit

Borehole Location
-
- Road Cores

CBR Test
-

A01	19/06/26	Final	JL	RG	
D01	15/05/26	Draft	JL	RG	
Rev	Date	Description	By	Chkd.	

Client:

Comhairle Contae Mhaigh Eo
Mayo County Council

Project:

R315 Lahardaun to Crossmolina
Regional Road Improvement

Title:

Site Investigation
Sheet 01 to 01

Prepared by:

JL

Checked by:

RG

Date:

February 2026

Drawing Status:

Feasibility & Constraints

Scale @ A1:

TOBIN

Tel: +353 (0)81 565 211

Email: info@tobin.ie

www.tobin.ie

Tobin will not be liable for any use of this document for any purpose other than that for which it was prepared, printed and/or issued. Users should ensure that they are aware of the limitations of the data and the accuracy of the information provided. The user of this document should be aware of the limitations of the data and the accuracy of the information provided.

Revision:

12197_GA-1015

A01

Appendix A CONTRACT DRAWINGS

- 12197-1015_R315 Lahardaun -Site Investigation

