

CAHERLINE NEWTOWN GROUP WATER SCHEME NETWORK UPGRADE



VOLUME E INFORMATION PACK



JULY 2026

Volume E – Information Pack

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 - GWS Watermains

Volume E1 - Preliminary Safety & Health Plan

PRELIMINARY SAFETY & HEALTH PLAN

This Preliminary Safety and Health Plan has been prepared in accordance with Article 12(1)(a) of SI 291 of 2013 of the Safety, Health and Welfare at Work (Construction) Regulations 2013.

1 GENERAL DESCRIPTION OF PROJECT

1.1 *Project Name :*

Caherline Newtown GWS - Network Upgrade

1.2 *Project Reference:*

25023

1.3 *Client:*

Caherline Newtown GWS

1.4 *Project Supervisor Appointed for Design Process:*

T.J.O'Connor & Associates

1.5 *Project Description:*

This contract is designed to provide for the construction of 3,522 m of new 110mm O.D. distribution mains and all associated works.

1.6 *Site Location*

The townlands of Ballybrood and Gallaboola, south of Caherline Village and townland of Caherline, west of Caherline Village, Co. Limerick.

1.7 *Drawings/Specifications*

- Instructions to Tenderers
- Volume A: Works Requirements consisting of:
 - Volume A1: Book of Drawings
 - Volume A2: Specification for Civil Engineering Works
- Volume B: Form of Tender and Schedules
- Volume C: Pricing Document
- Volume D: Conditions of Contract & Model Forms
- Volume E: Information Pack
- Pre-Qualification Questionnaire

Intended Contract Commencement Date

September 2026*

1.9 *Intended Contract Completion Date*

January 2026*

1.10 *Basis for Timeframe*

The anticipated timeframe for the Works is 14 weeks, which is inclusive of an allowance of up to 3 weeks for Road Opening Licence application duration. It has been assumed that at least 50 - 75m per day is achievable with horizontal directional drilling, or trench excavation, including allowance for chambers, testing, etc. In parallel, a second crew can be following with valve installation and consumer connections which can all be completed safely within the specified timeframe.

1.11 Site for Contractors and Engineers Representatives Accommodation

The Contractor will make arrangements for his own office and welfare accommodations.

**Note: The intended commencement and completion dates advised above are provisional and pending confirmation by the Project Supervisor Construction Stage that the timeframes are practicable.*

2 KNOWN EXISTING ENVIRONMENT AND ANY RELATED RESTRICTIONS

2.1 Known Existing Underground Services

The presence of Eircom rural fibre broadband cables is noted on the site (R513) and existing utilities drawings contained in Volume E.

The Contractor is advised to consult with all relevant authorities to ascertain the most up to date details prior to start of any construction works and to carry out further site investigations as deemed necessary to confirm the presence or otherwise of other underground services.

2.2 Known Existing Overground Services (Visible or Hidden)

The presence of electricity supply cables is noted on the existing utilities drawings contained in Volume E.

2.3 Known Available Drawings or Safety File Prepared for Any Existing Structures

None available

2.4 Restrictions of Working Hours

Normal working hours shall be 08:00 to 18:00 Monday to Friday and 08:00 to 13:00 on Saturdays. Otherwise works shall only be permitted outside these hours with the written permission of the Engineer.

2.5 Relevant Adjoining Land Uses

Amenity, commercial, residential, and agricultural

2.6 Restrictions and difficulties Concerning Site Access, Layout, etc.

Some works are to be completed on narrow single lane roads.

2.7 Restrictions relating to surrounding Land Uses

None Known

2.8 Restrictions Relating to Phasing of Works

Timing constraints and phasing requirements are detailed in the Specification.

2.9 Any Other Known Restrictions

Refer to Section 2.2 of the Specification for noise, vibration, settlement and dust limits.

Otherwise, none that would not be evident and reasonably deducible from drawings or other support documentation to a competent Project Supervisor (Construction Stage)

3 SITE OCCUPATION OR WORK ACTIVITIES BY THE CLIENT OR OTHERS

3.1 General Details of Site Occupation (if partly or fully occupied) by the Client or Others

The works are to be completed within Public Roads.

3.2 Other contracts which may affect the Works

- Routine maintenance of sewers and drains by Local Authority / landowners
- Routine maintenance of watermain by Caherline Newtown GWS
- Road maintenance works on roadways and footpaths by TII / Local Authority

- Diversion and other works on their services by the various service authorities.

4 INFORMATION ON THE PRESENCE OF PARTICULAR RISKS TO SAFETY & HEALTH

The following is the non exhaustive list of particular risks to the safety and health of persons as set out in Schedule 1 of SI 291 of 2013, together with the opinion of the Project Supervisor for Design Process on what elements if any of the works may fall within each particular risk category. It should be noted that many of the risks on the project may arise out of working methods which are at the discretion of the Contractor and as such cannot be determined by the Project Supervisor for Design Process.

4.1 *Works which puts persons at risk of burial under earthfalls, engulfment in swampland or falling from a height, where the risk is particularly aggravated by the nature of the work or processes used or by the environment at the place of work or site:*

- | | | |
|-------|-------------------------|--|
| 4.1.1 | Falling from a height | As far as it is known, the project does not involve any particular risks beyond what would be regarded as normal risks. These risks include: <ul style="list-style-type: none"> - Deep excavations along pipe trench routes - Deep excavations at directional drilling pits and valve chamber construction |
| 4.1.2 | Burial Under Earthfalls | As far as it is known, the project does not involve any particular risks beyond what would be regarded as normal risks. These risks include :

Deep excavations along pipe trench routes and valve chamber construction |
| 4.1.3 | Engulfment in Swampland | As far as it is known, the works associated with the Project do not involve any particular risks beyond those which would be considered normal risks arising from such activities. |

4.2 *Work which puts persons at risk from chemical or biological substances constituting a particular danger to the safety and health of such persons or involving a statutory requirement for health monitoring:*

None Known

4.3 *Work with ionising radiation requiring the designation of controlled or supervised areas as defined in Directive 92/29/Euratom*

None known

4.4 *Work near high voltage power lines*

Electricity supply cables - overground and underground high and low voltage cables are evident throughout the site. Information of existing underground and overhead services has been obtained and is included in Volume E as noted in Section 2 of this document.

Before commencing the works the Contractor must satisfy himself as to the location, number, type, etc. of all cables by means of consultation with the relevant authorities.'

4.4.1 *Works near Other Services*

The following services may be present throughout the site :

- Watermains
- Land-drains
- Masonry culverts

- Telecommunications lines and cables including co-axial and fibre optic cables
- Low voltage powerlines and cables

The Contractor shall satisfy himself as regards the location, size, type, etc. of any service by means of consultation with the relevant authorities and if necessary ensure that these have been isolated prior to commencing any works.

4.5 Work exposing persons at work to the risk of drowning

The following works will be carried out adjacent to / in watercourses :

- Deep excavations along pipe trench routes
- Deep excavations at valve chamber construction
- Excavations along pipeline routes crossing over culvert arches constructed at stream crossings.

Otherwise, as far as it is known, the works associated with the Project do not involve any particular risks beyond those which would be considered normal risks arising from such activities.

4.6 Work on wells, underground earthwork and tunnels

None known

4.7 Work carried out by divers at work having a system of air supply

None known

4.8 Work carried out in a caisson with a compressed air atmosphere

None known

4.9 Work involving the use of explosives

None known

4.10 Work involving the assembly or dismantling of heavy prefabricated components.

None known

5 CONTINUING LIAISON

5.1 Procedures for Dealing with Unforeseen eventualities during the project execution resulting in substantial design change and which might affect particular risks, contract period, or have other safety and health liabilities

It is proposed that HSA template for permanent design certificates and temporary design certificates will be utilized in this contract.

Any unforeseen eventualities that become apparent to the Contractor/PSCS that may necessitate a change to the permanent design must be communicated to the PSDP and Employers Representative immediately. The Contractor/PSCS shall provide detailed information of the occurrence.

Project Supervisor Design Process to assess and advise of any change and any further risk considerations arising from the occurrence.

5.2 Procedure for considering the safety and health implications of design elements and where appropriate communicating these to the Project Supervisor (Construction Stage)

Discussion at site meetings of any issues arising, leading where necessary to further consideration as per 5.1 above.

6 THE DESIGN RESPONSIBILITIES

6.1 *The Client*

Caherline Newtown Group Water Scheme

6.2 *The Civil Engineering Consultant*

T.J.O'Connor & Associates

6.3 *The Main Contractor*

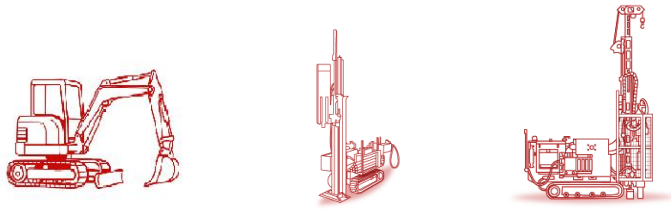
TBC

7 DECLARATION OF T.J.O'CONNOR & ASSOCIATES

The information contained in this Preliminary Safety and Health Plan has been prepared prior to the commencement of the work on site. It does not take account of any matters or information which may come to light after that time.

Date: 19/07/2026

Volume E2 - Site Investigation Report



Our Ref: GH/Rp/P26029 +attachments (*.pdf)

27th May, 2026

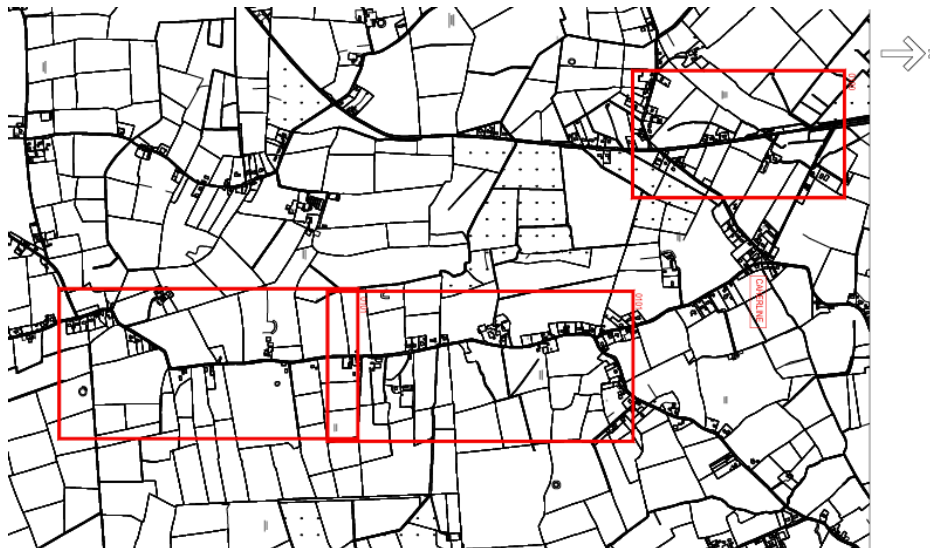
TJ O'Connor & Assoc

Corrig House,
Corrig Rd,
Sandyford,
Dublin 18

Re: Caherline - Newtown Group Water Scheme, Factual site investigation report.

Introduction

In January 2026, Priority Geotechnical were requested by TJ O'Connor & Assoc. acting as Employer's Representative on behalf of Caherline Newtown Group Water Scheme, to undertake a site investigation for the Caherline Newtown GWS – Network Upgrade, Co. Limerick. The proposed new pipeline route is in the road and roadside margins in the townland of Ballybrood/Galaboola south of Caherline Village and along the R513 road margins west of Caherline Village, Co. Limerick.



Objectives

This site investigation contract is required to determine subsoil conditions and depths to rock, where encountered, along the proposed watermain route for the group water scheme upgrade works.

Scope

The scope of works as determined by TJ O'Connor shall include the following:

- Trial Pits, 13 no., at approximately 100 – 300m centres, Excavated in road verges and fields to a depth of 2.5m or refusal, along local road in townland of Ballybrood/ Galaboola south of Caherline Village, Co. Limerick;
- Trial Pits, 4 no., at approximately 100 – 300m centres, Excavated in road verges and fields to a depth of 2.5m or refusal, along the R513 road west of Caherline Village, Co. Limerick;
- Topographical survey at 10m intervals, recording elevation (m.O.D. Malin Head) and coordinates (I.N.G); e)
- Topographical survey of Reservoir Site, recording site elevations, structure elevations (top of structure & invert level) (m.O.D. Malin Head) and coordinates (I.N.G) and
- Factual reporting.

The final site works as completed is outlined, herein. This geotechnical data report presents the fieldworks records with regard to the site investigation for the Caherline Newtown GWS – Network Upgrade, Co. Limerick. The report should be read in conjunction with the exploratory and photographic records, laboratory data and digital *.dwg topographical data accompanying this report.

Site works

This site investigation was carried out between the 30th April and the 01st May, 2026, under the supervision of PGL, Engineering Geologist(s) in accordance with Eurocode 7- Geotechnical Design Part 2, ground investigation and testing (BS EN 1997-2: 2007) and the relevant British Standards (BS 5930 (2015) Code of Practice for Site Investigation and BS 1377, Method of Tests for Soil for Civil Engineering Purposes, *in situ* Tests Parts 1 to 9). Details of the plant and equipment used are detailed on the relevant exploratory records, accompanying this factual report.

Trial excavations

A total of twenty three (23) trial pits were excavated to depths 0.2m below existing ground level (bgl) to 2.8m bgl using a 3t and 5.5t tracked mini-excavators. The exploratory logs accompany this factual report and are summarized as follows:

Location	Depth, m bgl	Remarks	
		Stability	Groundwater
TP01	2.0	Good	None encountered.
TP02	2.0	Moderate	1.60m, Slow rate of flow.
TP03	0.7	Good	None encountered.
TP04	0.6	Good	None encountered.
TP04A	1.2	Good	None encountered.
TP05	1.2	Good	None encountered.
TP06	1.1	Good	None encountered.
TP07	1.6	Good	None encountered.
TP08	0.8	Good	None encountered.
TP09	0.9	Good	None encountered.
TP10	1.4	Good	None encountered.
TP11	0.7	Good	None encountered.
TP11A	0.8	Good	None encountered.
TP11B	0.2	Good	None encountered.
TP12	0.9	Moderate	0.70m, Slow rate of flow.
TP13	0.2	Good	None encountered.
TP14	1.9	Good. Moderate after 1.60m	0.90m, Slow rate of flow.
TP15	1.1	Good	1.10m, See shift data.
TP15A	1.6	Good	None encountered.
TP16	0.8	Good	None encountered.
TP16A	2.1	Good	1.1m, Fast rate of flow.
TP17	2.8	Good	None encountered.
TP17A	0.3	Moderate	None encountered.

Sampling

Two (2) bulk disturbed samples (B) and fifteen (15) rock lump specimen (D/ C) were recovered from trial pit excavations in accordance with Geotechnical Investigation and Sampling – Sampling Methods and Groundwater Measurements (EN ISO 22475-1:2006).

Location drawings

Upon completion of the fieldworks, the 'as built' exploration locations were surveyed using Trimble 5700/5800 GPS equipment to the Ordinance Survey Irish Transverse Mercator system of co-ordinates (ITM) and elevations to Malin Head datum. The locations are presented on the exploratory layout and location plans; PGL drawing ref: P26029-SI-A and P26029-SI-01 to 07, attached.

Location	Easting	Northing	Ground level, mOD Malin	Final depth, m bgl	Start date, dd/mm/yyyy
TP01	569602.250	643317.600	109.480	2.00	01/05/2026
TP02	569609.050	643512.600	105.860	2.00	01/05/2026
TP03	569709.360	643646.640	111.760	0.70	01/05/2026
TP04	569817.880	643748.250	113.430	0.60	01/05/2026
TP04A	569833.050	643779.660	114.620	1.20	01/05/2026
TP05	569802.230	643962.190	117.760	1.20	30/04/2026
TP06	569810.750	644137.510	111.010	1.10	30/04/2026
TP07	569776.970	644436.130	108.750	1.60	30/04/2026
TP08	569768.700	644685.310	109.380	0.80	30/04/2026
TP09	569717.400	645084.110	101.240	0.90	30/04/2026
TP10	569736.860	645257.780	111.140	1.40	01/05/2026
TP11	569687.040	645493.540	124.280	0.70	30/04/2026
TP11A	569683.720	645593.920	132.340	0.80	01/05/2026
TP11B	569690.980	645495.650	124.210	0.20	30/04/2026
TP12	569683.350	645637.420	134.700	0.90	01/05/2026
TP13	569755.090	645740.420	140.390	0.20	01/05/2026
TP14	568831.160	645957.120	83.810	1.90	30/04/2026
TP15	568810.900	646195.430	79.500	1.10	01/05/2026
TP15A	568782.360	646325.240	75.710	1.60	01/05/2026
TP16	568736.490	646644.650	72.450	0.80	01/05/2026
TP16A	568736.530	646653.180	72.180	2.10	01/05/2026
TP17	568728.050	646743.290	73.300	2.80	30/04/2026
TP17A	568729.200	646751.530	73.400	0.30	30/04/2026

Laboratory testing

Laboratory testing was scheduled by PGL on behalf of TJO'C in accordance with tender values and carried out by PGL in accordance with BS1377 (1990), Methods of test for soils for civil engineering purposes and the ISRM suggested methods for rock characterisation, testing and monitoring. The laboratory data accompanies this report and was summarised as follows;

Type	Quantity, Nr.	Remarks
Point load index, I_{s50}	13	0.1MPa to 17.3MPa

Please note that all samples shall be retained for a period no longer than 28 days from the date of this report. Thereafter all remaining samples shall be appropriately disposed of unless a written instruction to the contrary is received by PGL prior to the date of this reporting and within the 28day period outlined above. Laboratory testing will result in a reduction of sample quantity and in some cases the use of the full sample mass. Samples already tested may not be suitable or available for further testing.

Ground and groundwater conditions

The full details of the ground conditions encountered are provided for on the exploratory records accompanying this factual report. The records provide descriptions, in accordance with BS 5930 (2015) and Eurocode 7, Geotechnical Investigation and Testing, Identification and classification of soils, Part 1, Identification and description (EN ISO 14688-1: 2002),– Identification and Classification of Soil, Part 2: Classification Principles (EN ISO 14688-2:2004) and Identification and Classification of Rock, Part 1: Identification & Description (EN ISO 14689-1:2004) of the materials encountered, *in situ* testing and details of the samples taken, together with any observations made during the site investigation.

The trial pit excavations encountered variable ground conditions across the route, generally comprising:

- Topsoil 50mm to 500mm thick, where encountered;
- Made ground 400mm to 650mm thick (TP14 and TP17);
- Bituminous surfacing 30mm and 100mm thick and Fill 100mm to 170mm cl. 804 or similar associated with pavement construction, noting overlay at TP04A;
- Firm to stiff glacial tills, sandy gravelly CLAY with cobble and boulder contents (TP01, TP02, TP03, TP05, TP06, TP10, TP12, TP14, TP15 and TP17). Cobbles and Boulders were 140mm to 700mm in size;
- Peat, 1.0m thick and organic deposits in low-lying areas to depths up to 2.8m bgl (TP16, TP16A and TP17) and
- Shallow weathered bedrock, MUDSTONE, 0.2m bgl and 1.6m bgl (TP03, TP04, TP07, TP08, TP09, TP10, TP11, TP11A, TP12, TP13, TP14 and TP15A).

The duration a trial excavation remains open may not allow for low volume equilibrium groundwater levels to be established. Groundwater levels may be subject to diurnal, seasonal and climatic variations and can also be affected by drainage conditions, tidal variations etc.

Groundwater was generally limited, although locally present within lower-lying soft ground areas. Groundwater was identified/ encountered during the period of works at depths between 0.7m bgl and 1.6m bgl.

Location	Depth groundwater strike, m bgl	Remarks
TP01	-	None encountered.
TP02	1.6	1.60m, Slow rate of flow.
TP03	-	None encountered.
TP04	-	None encountered.
TP04A	-	None encountered.
TP05	-	None encountered.
TP06	-	None encountered.
TP07	-	None encountered.
TP08	-	None encountered.
TP09	-	None encountered.
TP10	-	None encountered.
TP11	-	None encountered.
TP11A	-	None encountered.
TP11B	-	None encountered.
TP12	0.7	0.70m, Slow rate of flow.
TP13	-	None encountered.
TP14	0.9	0.90m, Slow rate of flow.
TP15	1.1	1.10m, See shift data.
TP15A	-	None encountered.
TP16	-	None encountered.
TP16A	1.1	1.1m, Fast rate of flow.
TP17	-	None encountered.
TP17A	-	None encountered.

The exploratory locations were backfilled with their arisings and road surfacing, verges reinstated.



ARISINGS Backfill

Should you have any queries in relation to the data collected and presented herein, please do not hesitate to contact our office.

Yours sincerely,
For **Priority Geotechnical**,



Greg Hayes BE MEngSc PG Dip CEng MIEI
Geotechnical Specialist

This report has been prepared for Caherline Newtown GWS and their Representative TJ O'Connor and Assoc., as outline, herein. The information provided should not be used by Third Parties without their prior written permission and notification to PGL or possible Third Party liabilities.

The contents of this report have been presented based on the scope of works. Where additional information becomes available the contents of this report may be subject to change.

No responsibility can be held by PGL for ground conditions between exploratory locations. The exploratory logs provide for ground profiles and configuration of strata relevant to the investigation depths achieved during the fieldworks.

Caution shall be taken when extrapolating between such exploratory locations.

No account has been taken of potential subsidence or ground movement due to mineral extraction, mining works or karstification below or in proximity to the site, unless specifically addressed.

KEY TO SYMBOLS ON EXPLORATORY HOLE RECORDS

All linear dimensions are in metres or millimetres

DESCRIPTIONS

** Drillers Description
Friable Easily crumbled

SAMPLES

U() Undisturbed 102mm diameter sample, () denotes number of blows to drive sampler
U()F, U()P F- not recovered, P-partially recovered
U38 Undisturbed 38mm diameter sample
P(F), (P) Piston sample - disturbed
B Bulk sample - disturbed
D Jar Sample - disturbed
W Water Sample
CBR California Bearing Ratio mould sample
ES Chemical Sample for Contamination Analysis
SPTLS Standard Penetration Test S lump sample from split sampler

CORE RECOVERY AND ROCK QUALITY

TCR Total Core Recovery (% of Core Run)
SCR Solid Core Recovery (length of core having at least one full diameter as % of core run)
RQD Rock Quality Designation (length of solid core greater than 100mm as % of core run)
Where there is insufficient space for the TCR, SCR and RQD, the results may be found in the remarks column
If Fracture Spacing in mm (Minimum/Average/Maximum) NI - non intact, NR - no recovery
AZCL Assumed Zone of Core Loss
NI Non intact

GROUNDWATER

▽ Groundwater strike
▼ Groundwater level after standing period
Date/Water Date of shift (day/month)/Depth to water at end of previous shift shown above the date and depth to water at beginning of shift given below the date

INSITU TESTING

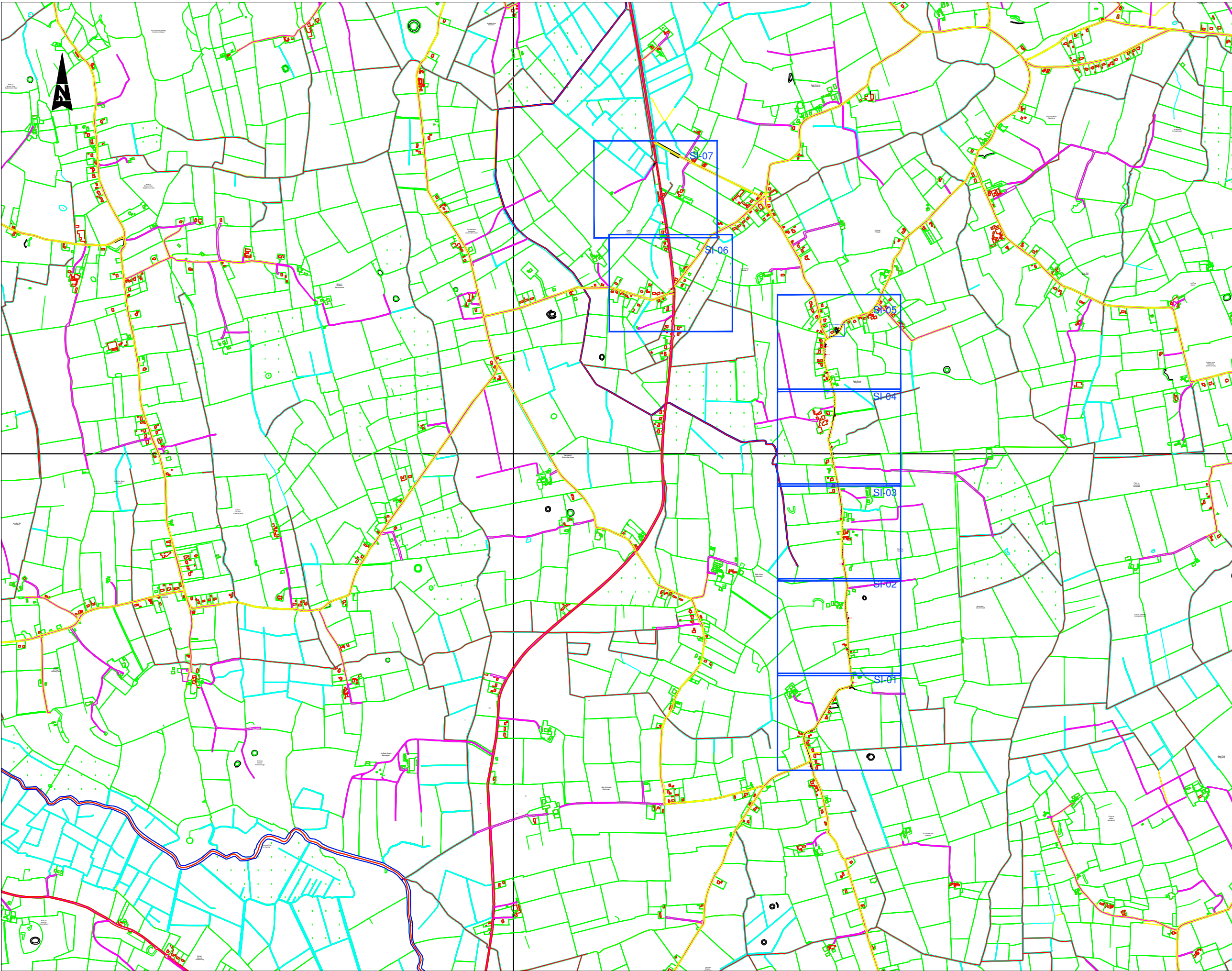
S Standard Penetration Test - split barrel sampler
C Standard Penetration Test - solid 60° cone
SW Self Weight Penetration
Ivp, HVp (R) In Situ Vane Test, Hand Vane Test (R) demonstrates remoulded strength
K(F), (C), (R), (P) Permeability Test
HP Hand Penetrometer Test

MEASURED PROPERTIES

N Standard Penetration Test - blows required to drive 300mm after seating drive
x/y Denotes x blows for y mm within the Standard Penetration Test
x*/y Denotes x blows for y mm within the seating drive
 c_u Undrained Shear Strength (kN/m²)
CBR California Bearing Ratio

ROTARY DRILLING SIZES

Index Letter	Nominal Diameter (mm)	
	Borehole	Core
N	75	54
H	99	76
P	120	92
S	146	113



Priority Geotechnical Site

Site Location

JOB NAME:

Caherline Newtown GWS,
Co. Limerick.

Sheet Title:

Exploratory Location Layout

JOB NUMBER:

P26029

DRAWING NUMBER:

P26029-SI-A

DRAWN BY:

Gary Curtin

DATE:

12/05/2026

SCALE:

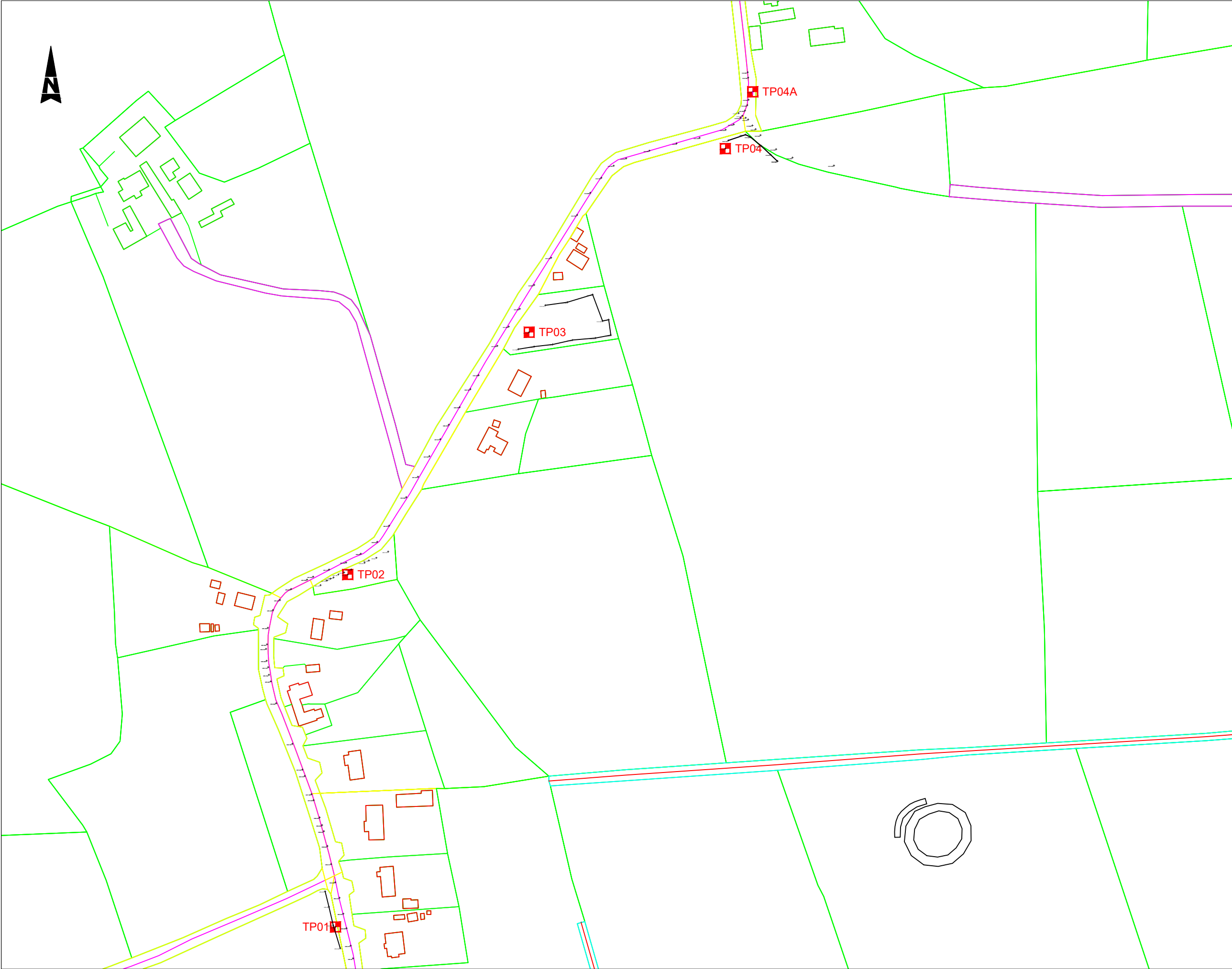
1:20,000 ON A3

APPROVED:

GH

REVISION:

D01



KEY:
TP00 Denotes Trial Pit location

JOB NAME:
Caherline Newtown GWS,
Co. Limerick.

Sheet Title:
Exploratory Location Layout

JOB NUMBER:
P26029

DRAWING NUMBER:
P26029-SI-01

DRAWN BY:
Gary Curtin

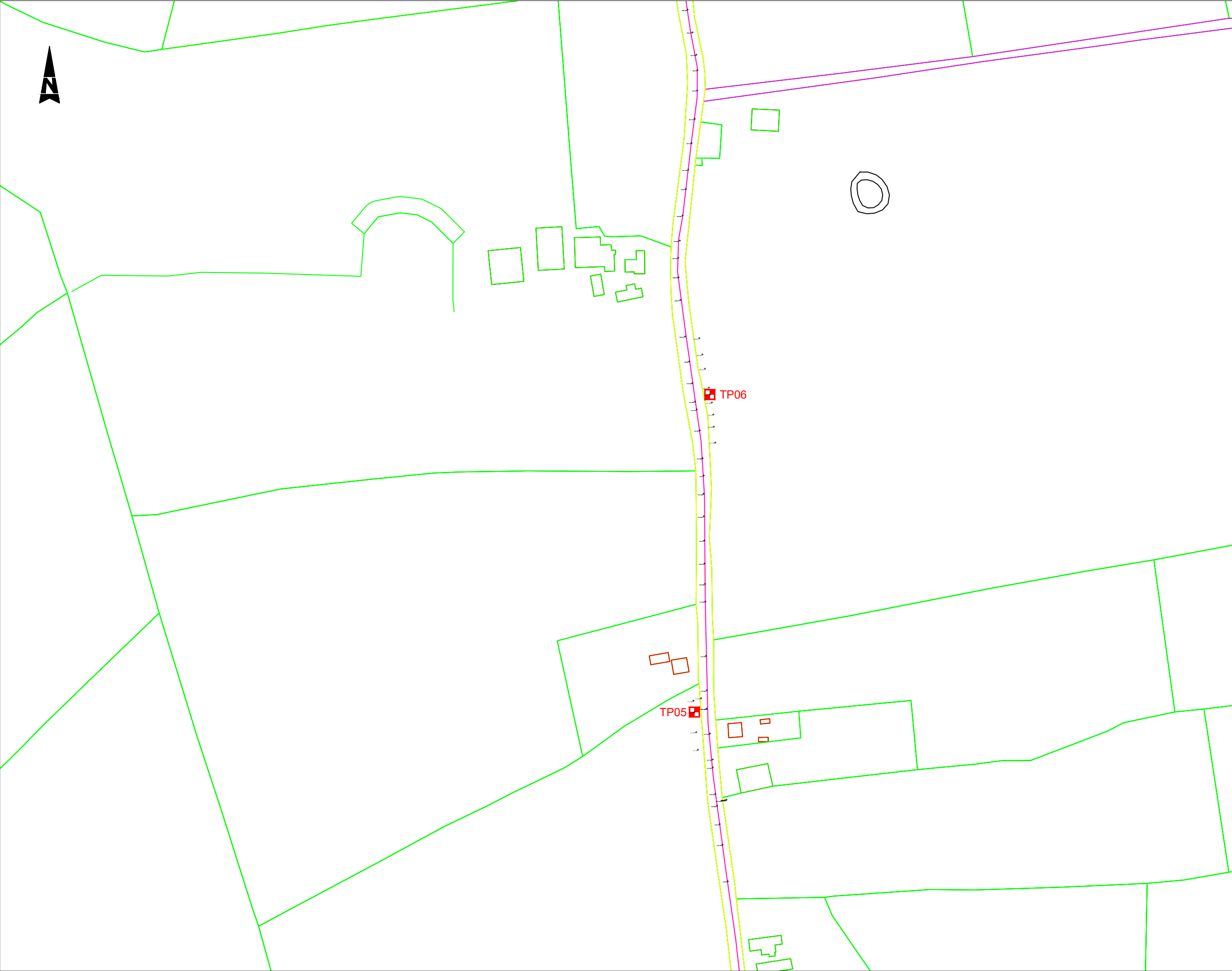
DATE:
06/05/2026

SCALE:
1:250 ON A3

APPROVED:
GH

REVISION:
D01

pgl priority
geotechnical



KEY:

 **TP00** Denotes Trial Pit location

JOB NAME:

Caherline Newtown GWS,
Co. Limerick.

Sheet Title:

Exploratory Location Layout

JOB NUMBER:

P26029

DRAWING NUMBER:

P26029-SI-02

DRAWN BY:

Gary Curtin

DATE:

06/05/2026

SCALE:

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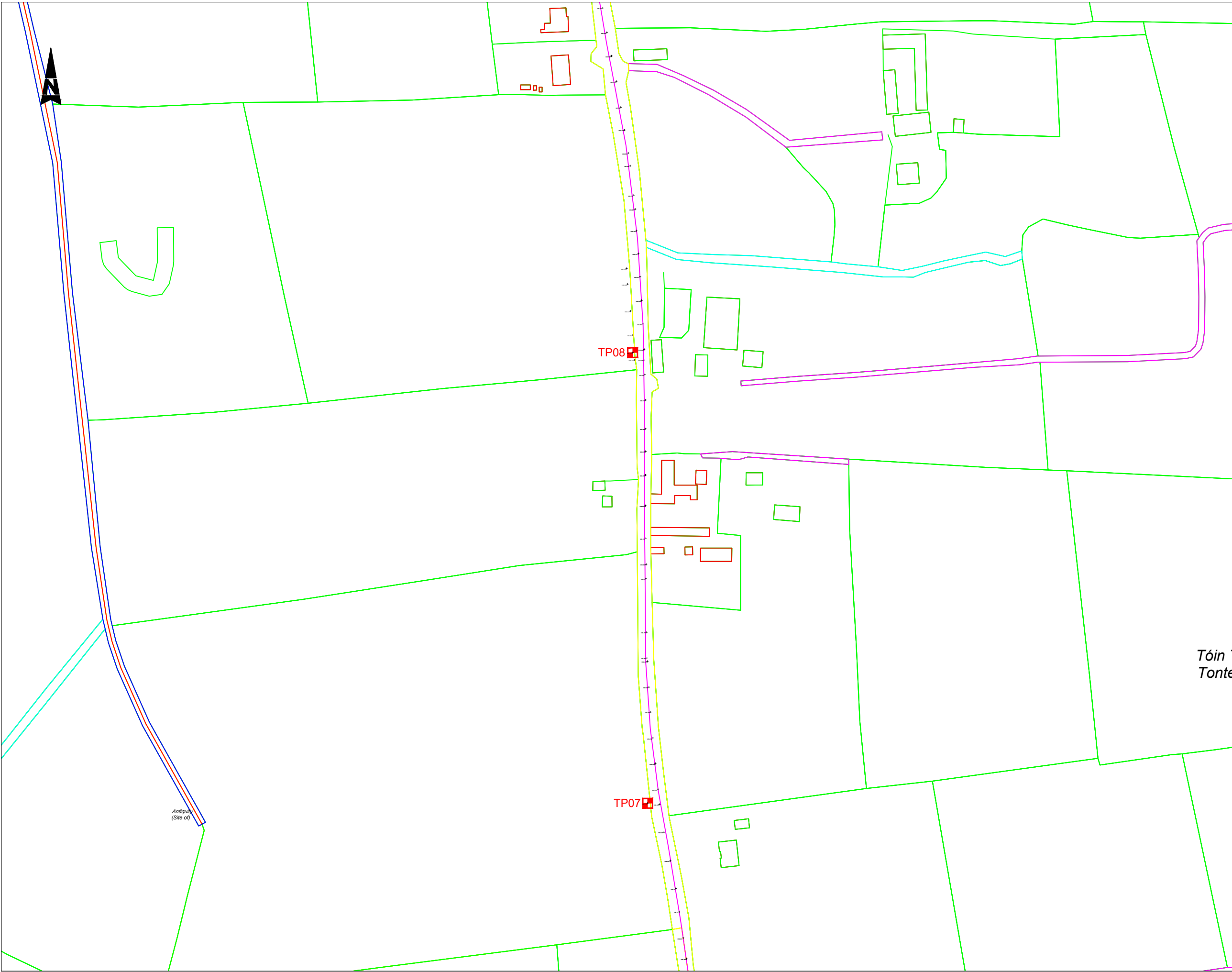
APPROVED:

GH

REVISION:

D01





KEY:
TP00 Denotes Trial Pit location

JOB NAME:
Caherline Newtown GWS,
Co. Limerick.

Sheet Title:
Exploratory Location Layout

JOB NUMBER:
P26029

DRAWING NUMBER:
P26029-SI-03

DRAWN BY:
Gary Curtin

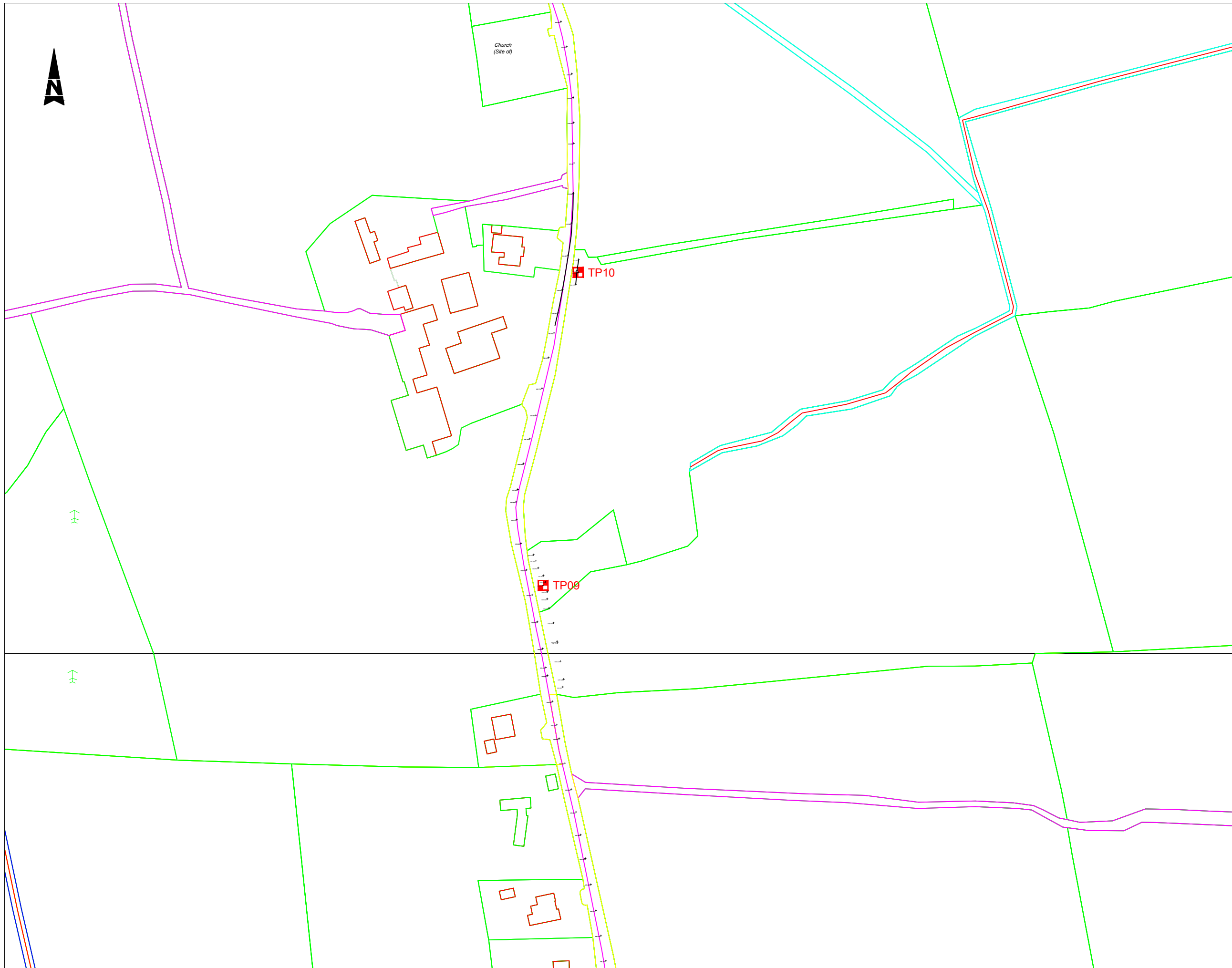
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06/05/2026

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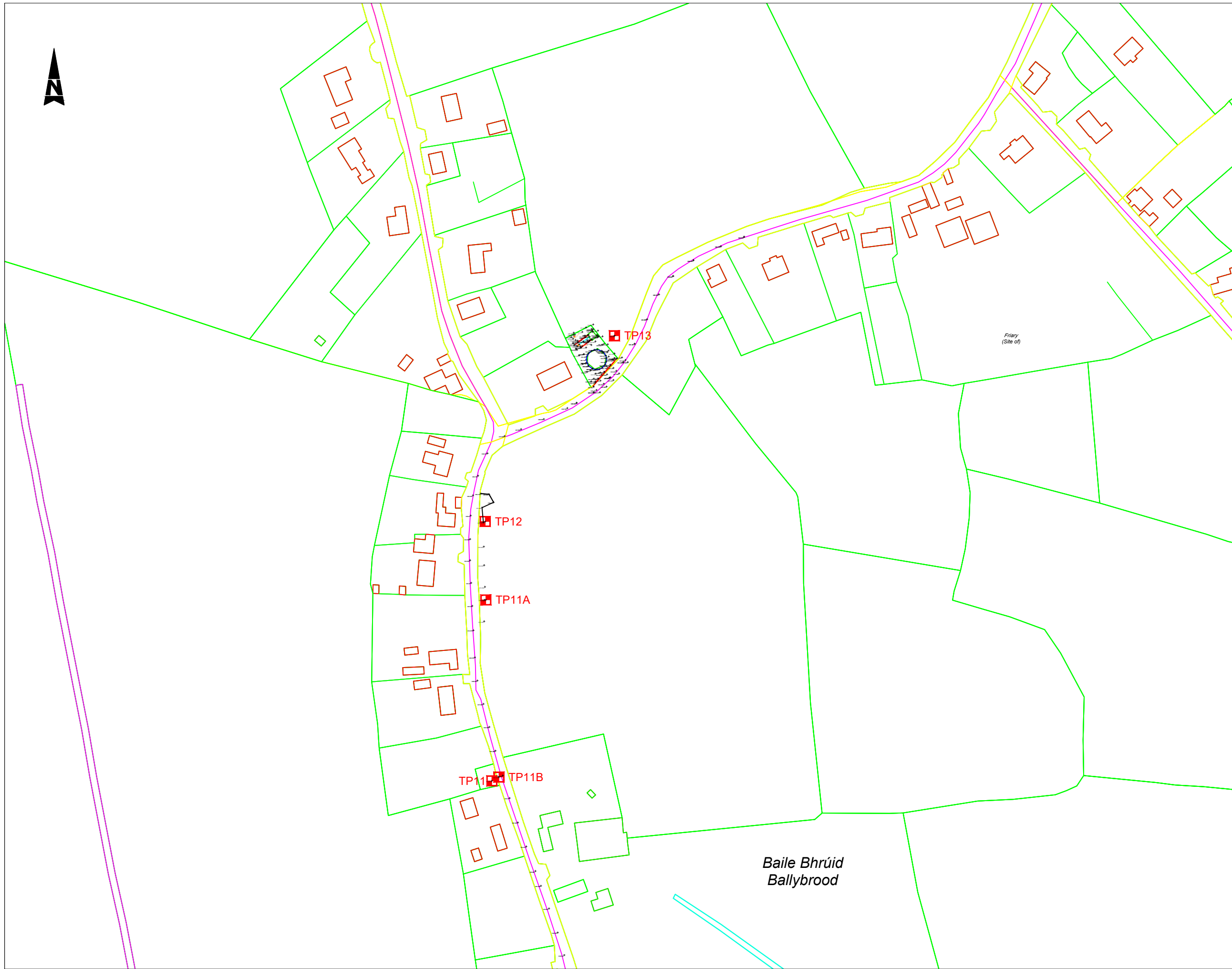
APPROVED:
GH

REVISION:
D01

pgl priority
geotechnical



KEY: TP00 Denotes Trial Pit location	
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Sheet Title: Exploratory Location Layout	
JOB NUMBER: P26029	
DRAWING NUMBER: P26029-SI-04	
DRAWN BY: Gary Curtin	
DATE: 06/05/2026	
SCALE: 1:250 ON A3	APPROVED: GH
REVISION: D01	



KEY:
TP00 Denotes Trial Pit location

JOB NAME:
Caherline Newtown GWS,
Co. Limerick.

Sheet Title:
Exploratory Location Layout

JOB NUMBER:
P26029

DRAWING NUMBER:
P26029-SI-05

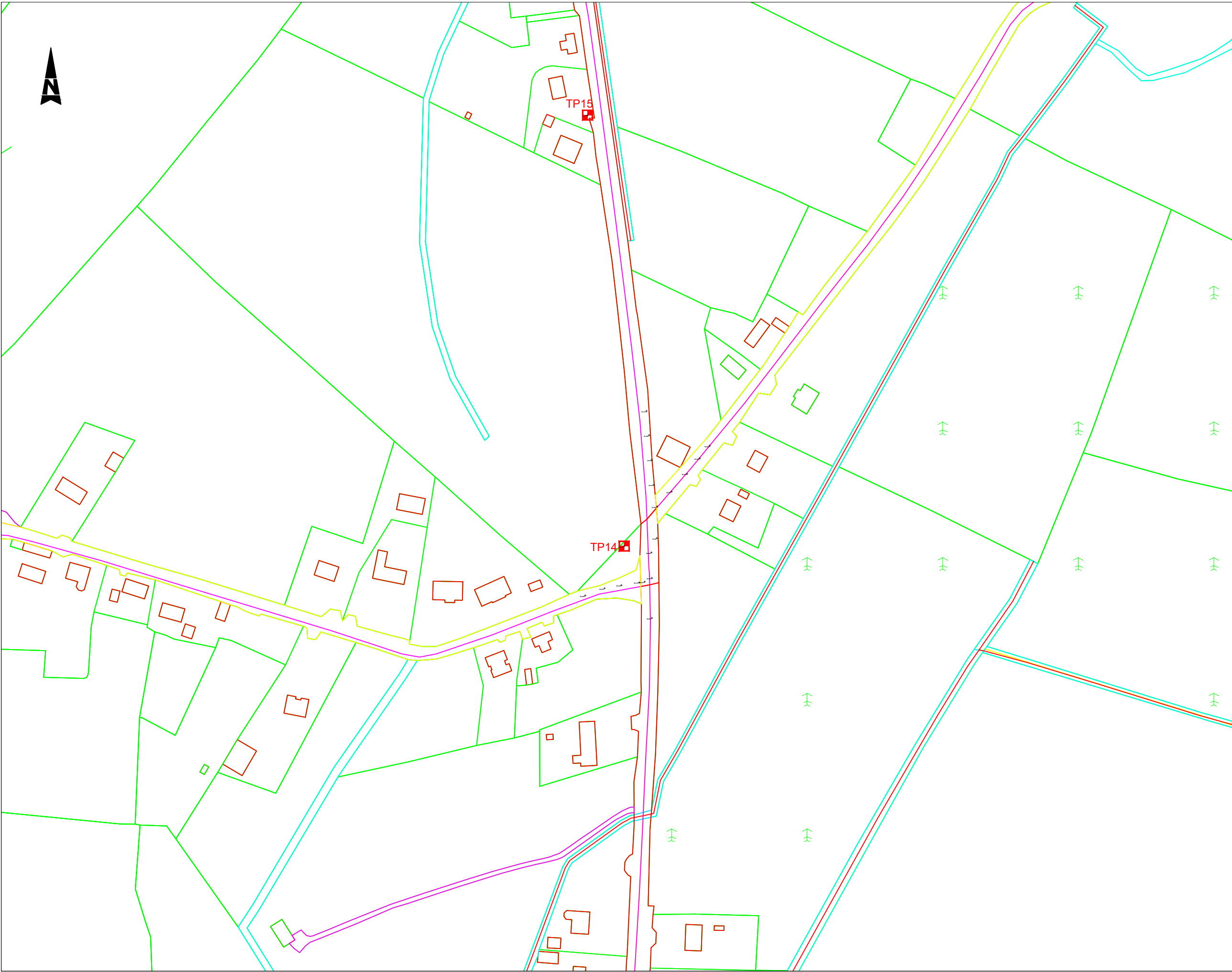
DRAWN BY:
Gary Curtin

DATE:
06/05/2026

SCALE: 1:250 ON A3	APPROVED: GH
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REVISION:
D01





KEY:

■ TP00 Denotes Trial Pit location

JOB NAME:

Caherline Newtown GWS,
Co. Limerick.

Sheet Title:

Exploratory Location Layout

JOB NUMBER:

P26029

DRAWING NUMBER:

P26029-SI-06

DRAWN BY:

Gary Curtin

DATE:

06/05/2026

SCALE:

1:250 ON A3

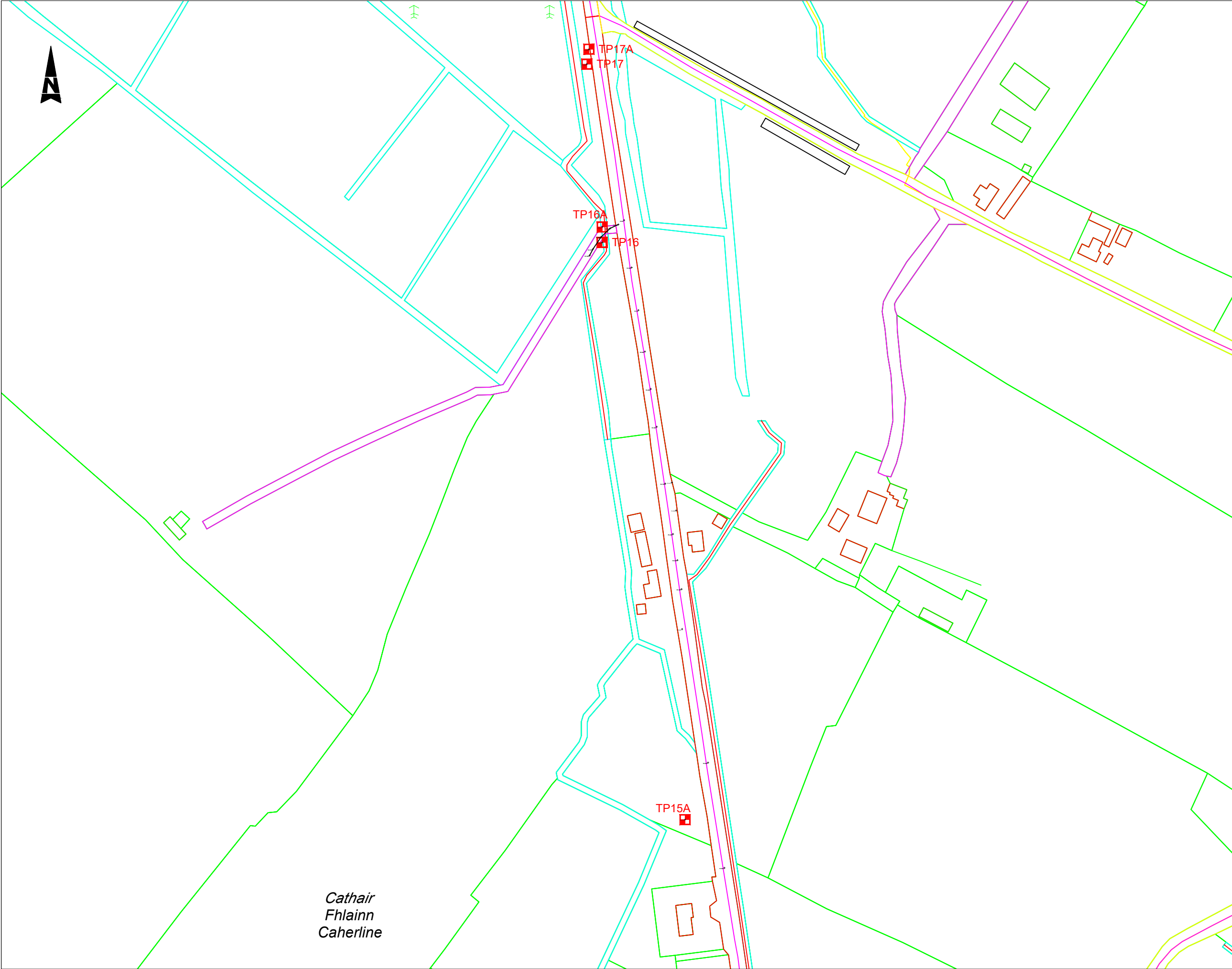
APPROVED:

GH

REVISION:

D01





KEY:
TP00 Denotes Trial Pit location

JOB NAME:
Caherline Newtown GWS,
Co. Limerick.

Sheet Title:
Exploratory Location Layout

JOB NUMBER:
P26029

DRAWING NUMBER:
P26029-SI-07

DRAWN BY:
Gary Curtin

DATE:
06/05/2026

SCALE:
1:250 ON A3

APPROVED:
GH

REVISION:
D01

pgl priority
geotechnical



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Trial Pit No
TP01
Sheet 1 of 1

Project Name: Caherline Newtown GWS – Network Upgrade

Project No.
P26029

Co-ords: 569602.25E - 643317.60N
Level: 109.48m OD

Date
01/05/2026

Location: Co. Limerick

Dimensions (m): 2.20
Depth: 2.00m BGL

Scale
1:25

Logged
DOC

Client: Caherline Newtown GWS

Water Strike & Backfill	Samples & In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description	
	Depth (m)	Type	Results					
				0.20	109.28		TOPSOIL. Soft, brown, sandy CLAY with organic material (plant matter). Sand is fine to coarse.	
							Firm, reddish brown, sandy CLAY with low cobble content. Sand is fine to coarse. Cobbles are sub-angular to sub-rounded, of siltstone lithology and 63-200mm in diameter.	1
				1.20	108.28		Grey, sandy gravelly CLAY with low boulder content. Sand is fine to coarse. Gravel is fine to coarse and angular to sub-angular. Boulders are sub-angular to sub-rounded, of mudstone lithology and up to 320mm in diameter.	
	2.00 2.00	D D		2.00	107.48		End of Pit at 2.00m	2
								3
								4
								5

Stability: Good

Plant: 3t track machine

Backfill: Arisings.

Groundwater: None encountered.

Remarks: Trial pit terminated at 2.00m bgl, refusal., Boulder obstruction.



Number:

TP01

**Project
Project No
Engineer**

Caherline – Newtown GWS Upgrade
P26029
TJ O'Connor & Assoc.



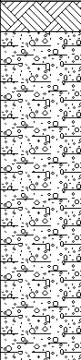
Number:

TP01

**Project
Project No
Engineer**

Caherline – Newtown GWS Upgrade
P26029
TJ O'Connor & Assoc.

		Priority Geotechnical Ltd. Tel: 021 4631600 Fax: 021 4638690 www.prioritygeotechnical.ie			Trial Pit No TP02 Sheet 1 of 1	
Project Name: Caherline Newtown GWS – Network Upgrade		Project No. P26029	Co-ords: 569609.05E - 643512.60N Level: 105.86m OD		Date 01/05/2026	
Location: Co. Limerick			Dimensions (m): 0.80 2.10		Scale 1:25	
Client: Caherline Newtown GWS			Depth: 2.00m BGL		Logged DOC	

Water Strike & Backfill	Samples & In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description	
	Depth (m)	Type	Results					
				0.10	105.76		TOPSOIL. Firm to stiff, brown, slightly gravelly sandy CLAY with low cobble content. Sand is fine to coarse. Gravel is fine to coarse and angular to sub-angular. Cobbles are sub-angular to sub-rounded, of siltstone lithology and 63-200mm in diameter.	1
				1.20	104.66			Stiff, pale greyish brown, slightly sandy slightly gravelly CLAY with low to moderate cobble content and low to moderate boulder content. Sand is fine to coarse. Gravel is fine to coarse and angular to sub-angular. Cobbles are sub-rounded, of siltstone lithology and 63-200mm in diameter. Boulders are sub-rounded, of siltstone lithology and up to 250mm in diameter.
					2.00	103.86		End of Pit at 2.00m
								3
								4
								5

Stability: Moderate Plant: 3t track machine Backfill: Arisings.		Groundwater: 1.60m, Slow rate of flow.
Remarks: Trial pit terminated at 2.00m bgl, refusal., Boulder obstruction.		



Number:

TP02

**Project
Project No
Engineer**

Caherline – Newtown GWS Upgrade
P26029
TJ O'Connor & Assoc.



Number:

TP02

Project
Project No
Engineer

Caherline – Newtown GWS Upgrade
P26029
TJ O'Connor & Assoc.



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Trial Pit No
TP03
Sheet 1 of 1

Project Name: Caherline Newtown GWS – Network Upgrade

Project No.
P26029

Co-ords: 569709.36E - 643646.64N
Level: 111.76m OD

Date
01/05/2026

Location: Co. Limerick

Dimensions (m): 2.30

Scale
1:25

Client: Caherline Newtown GWS

Depth:
0.70m BGL

Logged
DOC

Water Strike & Backfill	Samples & In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description	
	Depth (m)	Type	Results					
	0.50	D		0.05	111.71		TOPSOIL. Soft, dark brown, CLAY.	
				0.50	111.26		Firm, brown, slightly gravelly sandy CLAY with low cobble content. Sand is fine to coarse. Gravel is fine to coarse and sub-angular to sub-rounded. Cobbles are sub-angular to sub-rounded, of mudstone lithology and 63-140mm in diameter.	
				0.70	111.06		Gravelly CLAY. Gravel is fine to coarse and sub-angular to sub-rounded. 0.70m, Bedrock. Weathered blue-grey MUDSTONE. End of Pit at 0.700m	
								1
								2
								3
								4
								5

Stability: Good

Plant: 3t track machine

Backfill: Arisings.

Groundwater: None encountered.

Remarks: Trial pit terminated at 0.70m bgl, refusal, bedrock.



Number:

TP03

**Project
Project No
Engineer**

Caherline – Newtown GWS Upgrade
P26029
TJ O'Connor & Assoc.



Number:

TP03

Project
Project No
Engineer

Caherline – Newtown GWS Upgrade
P26029
TJ O'Connor & Assoc.



Number:

TP04

Project
Project No
Engineer

Caherline – Newtown GWS Upgrade
P26029
TJ O'Connor & Assoc.



Number:

TP04

Project
Project No
Engineer

Caherline – Newtown GWS Upgrade
P26029
TJ O'Connor & Assoc.

Project Name: Caherline Newtown GWS – Network Upgrade

Project No.
P26029

Co-ords: 569833.05E - 643779.66N
Level: 114.62m OD

Date
01/05/2026

Location: Co. Limerick

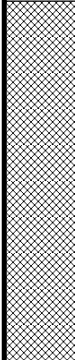
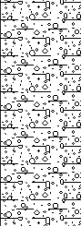
Dimensions (m): 1.40

Scale
1:25

Client: Caherline Newtown GWS

Depth:
1.20m BGL

Logged
DOC

Water Strike & Backfill	Samples & In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description	
	Depth (m)	Type	Results					
				0.03	114.59		BITUMINOUS material.	
				0.20	114.42		FILL, grey, sandy GRAVEL. Sand is fine to coarse. Gravel is fine to coarse and angular to sub-angular. Clause 804 or similar.	
				0.30	114.32		BITUMINOUS material.	
							Firm, brown, slightly sandy gravelly CLAY with organic material (plant matter) and low cobble content. Sand is fine to coarse. Gravel is fine to coarse and sub-angular to sub-rounded. Cobbles are sub-rounded, of mudstone lithology and 63-200mm in diameter.	
							100mm dia. PVC agri- water pipe 0.95 - 1.1m.	1
				1.20	113.42		End of Pit at 1.200m	
								2
								3
								4
								5

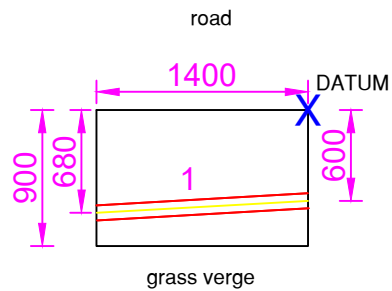
Stability: Good

Plant: 3t track machine

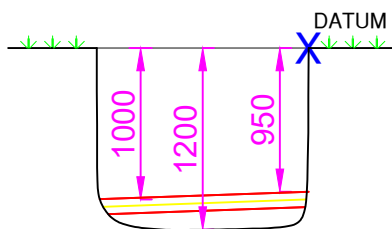
Backfill: Bituminous material.

Groundwater: None encountered.

Remarks: Trial pit terminated at 1.20m bgl, obstruction, 100mm dia water pipe.

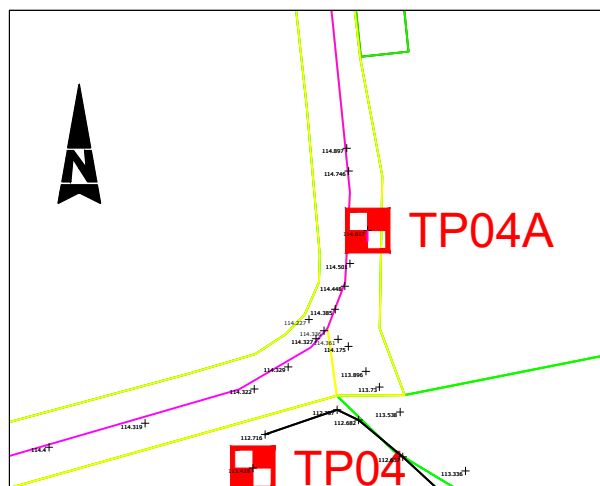


TRIAL PIT PLAN, 1:100 ON A4



1. 100MMØ black PVC water pipe

TRIAL PIT SECTION, 1:50 ON A4



TRIAL PIT LOCATION PLAN, 1:1000 on A4

DATUM COORDINATES: EASTING: 569833.048 NORTHING: 643779.662 LEVEL: 114.61mAOD		TRIAL PIT NUMBER: TP04A
KEY: DATUM: X		JOB NAME: Caherline Newtown GWS, Co. Limerick.
TRIAL PIT DIMENSIONS: LENGTH: 1.40m WIDTH: 0.90m DEPTH: 1.20m		JOB NUMBER: P26029
STRATA SHOWN ON DETAILED LOG		DRAWING NUMBER: P26029-TP04A
DRAWN BY: Gary Curtin	DATE: 11/05/2026	
LOGGED BY: D.O'C.	DATE: 01/05/2026	
SCALE: AS STATED	APPROVED: GH	
REVISION: D01		



Number:

TP04A

**Project
Project No
Engineer**

Caherline – Newtown GWS Upgrade
P26029
TJ O'Connor & Assoc.



Number:

TP04A

Project
Project No
Engineer

Caherline – Newtown GWS Upgrade
P26029
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Trial Pit No

TP05

Sheet 1 of 1

Project Name: Caherline Newtown GWS – Network Upgrade

Project No.
P26029

Co-ords: 569802.23E - 643962.19N
Level: 117.76m OD

Date
30/04/2026

Location: Co. Limerick

Dimensions (m):

2.10

Scale
1:25

Client: Caherline Newtown GWS

Depth:
1.20m BGL

Logged
DOC

Water Strike & Backfill	Samples & In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description	
	Depth (m)	Type	Results					
	0.80	D		0.10	117.66		TOPSOIL.	1
							Firm, pale brown, sandy gravelly CLAY. Sand is fine to coarse. Gravel is fine to coarse and angular to rounded.	
				0.90	116.86		Dark grey, CLAY with low cobble content. Cobbles are sub-angular to sub-rounded, of mudstone lithology and 63-200mm in diameter.	
				1.20	116.56		End of Pit at 1.200m	5

Stability: Good

Plant: 5.5t track machine

Backfill: Arisings.

Groundwater: None encountered.

Remarks: Trial pit terminated at 1.20m bgl, refusal, bedrock.



Number:

TP05

Project
Project No
Engineer

Caherline – Newtown GWS Upgrade
P26029
TJ O'Connor & Assoc.



Number:

TP05

Project
Project No
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Trial Pit No

TP06

Sheet 1 of 1

Project Name: Caherline Newtown GWS – Network Upgrade

Project No.
P26029

Co-ords: 569810.75E - 644137.51N
Level: 111.01m OD

Date
30/04/2026

Location: Co. Limerick

Dimensions (m):

3.00

Scale
1:25

Client: Caherline Newtown GWS

Depth:
1.10m BGL

Logged
DOC

Water Strike & Backfill	Samples & In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description	
	Depth (m)	Type	Results					
	1.00	D		0.50	110.51		TOPSOIL. Reddish brown, very sandy CLAY with organic material. Sand is fine to coarse.	1
							Firm, reddish brown, sandy CLAY. Sand is fine to coarse.	
				0.90	110.11		Firm to stiff, whitish grey, sandy gravelly CLAY with low cobble content. Sand is fine to coarse. Gravel is fine to coarse and angular to sub-angular. Cobbles are sub-rounded, of mudstone lithology and 63-170mm in diameter.	
				1.10	109.91		End of Pit at 1.100m	
								2
								3
								4
								5

Stability: Good

Plant: 5.5t track machine

Backfill: Arisings.

Groundwater: None encountered.

Remarks: Trial pit terminated at 1.10m, refusal., bedrock.



Number:

TP06

**Project
Project No
Engineer**

Caherline – Newtown GWS Upgrade
P26029
TJ O'Connor & Assoc.



Number:

TP06

Project
Project No
Engineer

Caherline – Newtown GWS Upgrade
P26029
TJ O'Connor & Assoc.



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Trial Pit No
TP07
Sheet 1 of 1

Project Name: Caherline Newtown GWS – Network Upgrade

Project No.
P26029

Co-ords: 569776.97E - 644436.12N
Level: 108.75m OD

Date
30/04/2026

Location: Co. Limerick

Dimensions (m): 1.70
0.80
Depth: 1.60m BGL

Scale
1:25

Logged
DOC

Client: Caherline Newtown GWS

Water Strike & Backfill	Samples & In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description	
	Depth (m)	Type	Results					
	1.20	D		0.20	108.55		TOPSOIL.	1
							Firm, light brown, sandy CLAY. Sand is fine to coarse.	
				1.00	107.75		Possible MUDSTONE, recovered as: Grey GRAVEL. Gravel is fine to coarse, angular to sub-angular and of mudstone lithology.	
				1.60	107.15		End of Pit at 1.600m	2
								3
								4
								5

Stability: Good

Plant: 5.5t track machine

Backfill: Arisings.

Groundwater: None encountered.

Remarks: Trial pit terminated at 1.60m bgl, refusal, bedrock.



Number:

TP07

**Project
Project No
Engineer**

Caherline – Newtown GWS Upgrade
P26029
TJ O'Connor & Assoc.



Number:

TP07

**Project
Project No
Engineer**

Caherline – Newtown GWS Upgrade
P26029
TJ O'Connor & Assoc.



Number:

TP08

**Project
Project No
Engineer**

Caherline – Newtown GWS Upgrade
P26029
TJ O'Connor & Assoc.



Number:

TP08

**Project
Project No
Engineer**

Caherline – Newtown GWS Upgrade
P26029
TJ O'Connor & Assoc.



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Trial Pit No

TP09

Sheet 1 of 1

Project Name: Caherline Newtown GWS – Network Upgrade

Project No.
P26029

Co-ords: 569717.40E - 645084.11N
Level: 101.24m OD

Date
30/04/2026

Location: Co. Limerick

Dimensions (m):

2.50

Scale
1:25

Client: Caherline Newtown GWS

Depth:
0.90m BGL

Logged
DOC

Water Strike & Backfill	Samples & In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description	
	Depth (m)	Type	Results					
	0.80	D		0.20	101.04		TOPSOIL.	1
				0.40	100.84		Firm, brown, sandy gravelly SILT with organic material (plant matter). Sand is fine to coarse. Gravel is fine to coarse and sub-angular to sub-rounded. Blueish grey, sandy SILT. Sand is fine to coarse.	
				0.70	100.54		Fractured, weathered, MUDSTONE.	
				0.90	100.34		End of Pit at 0.900m	
								2
								3
								4
								5

Stability: Good

Plant: 5.5t track machine

Backfill: Arisings.

Groundwater: None encountered.

Remarks: Trial pit terminated at 0.90m bgl, refusal, bedrock.



Number:

TP09

**Project
Project No
Engineer**

Caherline – Newtown GWS Upgrade
P26029
TJ O'Connor & Assoc.



Number:

TP09

Project
Project No
Engineer

Caherline – Newtown GWS Upgrade
P26029
TJ O'Connor & Assoc.



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Trial Pit No

TP10

Sheet 1 of 1

Project Name: Caherline Newtown GWS – Network Upgrade

Project No.
P26029

Co-ords: 569736.86E - 645257.78N
Level: 111.14m OD

Date
01/05/2026

Location: Co. Limerick

Dimensions (m):

2.10

Scale
1:25

Client: Caherline Newtown GWS

Depth:
1.40m BGL

Logged
DOC

Water Strike & Backfill	Samples & In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description	
	Depth (m)	Type	Results					
	1.20	D		0.10	111.04		TOPSOIL. <i>0.00-1.10m, Boulders present. Boulders are sub-rounded, of siltstone lithology and 200mm in diameter.</i> Soft, brown, slightly gravelly sandy CLAY with low cobble content. Sand is fine to coarse. Gravel is fine to coarse and angular to sub-angular.	1
				0.80	110.34		Firm brown, slightly sandy gravelly CLAY Sand is fine to coarse. Gravel is fine to coarse and angular to sub-angular.	
				1.20	109.94		Fractured, weathered MUDSTONE.	
				1.40	109.74		End of Pit at 1.400m	2
								3
								4
								5

Stability: Good

Plant: 3t track machine

Backfill: Arisings.

Groundwater: None encountered.

Remarks: Trial pit terminated at 1.40m bgl, refusal, bedrock.



Number:

TP10

**Project
Project No
Engineer**

Caherline – Newtown GWS Upgrade
P26029
TJ O'Connor & Assoc.



Number:

TP10

Project
Project No
Engineer

Caherline – Newtown GWS Upgrade
P26029
TJ O'Connor & Assoc.



Number:

TP11

Project
Project No
Engineer

Caherline – Newtown GWS Upgrade
P26029
TJ O'Connor & Assoc.



Number:

TP11

Project
Project No
Engineer

Caherline – Newtown GWS Upgrade
P26029
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Trial Pit No

TP11A

Sheet 1 of 1

Project Name: Caherline Newtown GWS – Network Upgrade

Project No.
P26029

Co-ords: 569683.72E - 645593.92N
Level: 132.34m OD

Date
01/05/2026

Location: Co. Limerick

Dimensions (m):

2.20

Scale
1:25

Client: Caherline Newtown GWS

Depth:
0.80m BGL

Logged
DOC

Water Strike & Backfill	Samples & In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description	
	Depth (m)	Type	Results					
	0.70	D		0.30	132.04		TOPSOIL. Soft, dark brown, CLAY with organic material (plant matter).	1
							Firm, light brown, slightly gravelly CLAY. Gravel is fine to coarse and angular to sub-rounded.	
				0.70	131.64		Fractured, weathered MUDSTONE.	
				0.80	131.54		End of Pit at 0.80m	
								2
								3
								4
								5

Stability: Good

Plant: 5.5t track machine

Backfill: Arisings.

Groundwater: None encountered.

Remarks: Trial pit terminated at 0.80m bgl, refusal, bedrock.



Number:

TP11A

**Project
Project No
Engineer**

Caherline – Newtown GWS Upgrade
P26029
TJ O'Connor & Assoc.

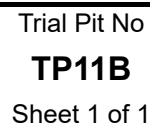


Number:

TP11A

Project
Project No
Engineer

Caherline – Newtown GWS Upgrade
P26029
TJ O'Connor & Assoc.



Date
30/04/2026

Scale
1:25

Logged
DOC

Remarks: Trial pit terminated at 0.20m bgl to profile road construction.



Number:

TP11B

**Project
Project No
Engineer**

Caherline – Newtown GWS Upgrade
P26029
TJ O'Connor & Assoc.

(verge)



Number:

TP11B

**Project
Project No
Engineer**

Caherline – Newtown GWS Upgrade
P26029
TJ O'Connor & Assoc.

(verge)



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Trial Pit No

TP12

Sheet 1 of 1

Project Name: Caherline Newtown GWS – Network Upgrade

Project No.
P26029

Co-ords: 569683.35E - 645637.42N
Level: 134.70m OD

Date
01/05/2026

Location: Co. Limerick

Dimensions (m):
2.40
0.80

Scale
1:25

Client: Caherline Newtown GWS

Depth:
0.90m BGL

Logged
DOC

Water Strike & Backfill	Samples & In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description	
	Depth (m)	Type	Results					
	0.80	D		0.20	134.50		TOPSOIL.	
				0.70	134.00		Grey orange brown, clayey BOULDERS. Boulders are angular to sub-rounded, of mudstone lithology and up to 600mm in diameter. - transition to weathered rock.	
							MUDSTONE.	
							End of Pit at 0.900m	
				0.90	133.80			

Stability: Moderate

Plant: 3t track machine

Backfill: Arisings.

Groundwater: 0.70m, Slow rate of flow.

Remarks: Trial pit terminated at 0.90m bgl, refusal, bedrock.



Number:

TP12

Project
Project No
Engineer

Caherline – Newtown GWS Upgrade
P26029
TJ O'Connor & Assoc.



Number:

TP12

Project
Project No
Engineer

Caherline – Newtown GWS Upgrade
P26029
TJ O'Connor & Assoc.



Number:

TP13

**Project
Project No
Engineer**

Caherline – Newtown GWS Upgrade
P26029
TJ O'Connor & Assoc.



Number:

TP13

Project
Project No
Engineer

Caherline – Newtown GWS Upgrade
P26029
TJ O'Connor & Assoc.

Project Name: Caherline Newtown GWS – Network Upgrade

Project No.
P26029

Co-ords: 568831.16E - 645957.12N
Level: 83.81m OD

Date
30/04/2026

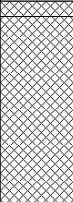
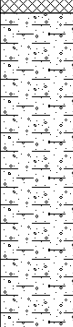
Location: Co. Limerick

Dimensions (m):
2.60
1.00
Depth:
1.90m BGL

Scale
1:25

Logged
DOC

Client: Caherline Newtown GWS

Water Strike & Backfill	Samples & In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description	
	Depth (m)	Type	Results					
				0.05	83.76		TOPSOIL/ MADE GROUND. MADE GROUND) Dark brownish grey, sandy gravelly CLAY with low boulder content and fill materials. Sand is fine to coarse. Gravel is fine to coarse and sub-angular to sub-rounded. Boulders are sub-angular to sub-rounded, of limestone lithology and up to 520mm in diameter.	
				0.70	83.11		Soft to firm brown sandy gravelly CLAY. Sand fine to coarse, Gravel fine to coarse angular to sub-angular. <i>3/4" black agri-water pipe present below 0.7m.</i>	1
				1.80	82.01		Weathered LIMESTONE.	
	1.90	D		1.90	81.91		End of Pit at 1.900m	2
								3
								4
								5

Stability: Good. Moderate after 1.60m bgl.

Plant: 5.5t track machine

Backfill: Arisings.

Groundwater: 0.90m, Slow rate of flow.

Remarks: Trial pit terminated at 1.90m bgl, refusal, bedrock.



Number:

TP14

**Project
Project No
Engineer**

Caherline – Newtown GWS Upgrade
P26029
TJ O'Connor & Assoc.



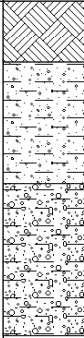
Number:

TP14

Project
Project No
Engineer

Caherline – Newtown GWS Upgrade
P26029
TJ O'Connor & Assoc.

 Priority Geotechnical Ltd. Tel: 021 4631600 Fax: 021 4638690 www.prioritygeotechnical.ie						Trial Pit No TP15 Sheet 1 of 1			
Project Name: Caherline Newtown GWS – Network Upgrade				Project No. P26029		Co-ords: 568810.90E - 646195.43N Level: 79.50m OD		Date 01/05/2026	
Location: Co. Limerick						Dimensions (m): 1.10 1.50		Scale 1:25	
Client: Caherline Newtown GWS						Depth: 1.10m BGL		Logged DOC	

Water Strike & Backfill	Samples & In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description	
	Depth (m)	Type	Results					
				0.20	79.30		TOPSOIL.	1 2 3 4 5
				0.60	78.90		Firm, greyish brown, sandy gravelly CLAY. Sand is fine to coarse. Gravel is fine to coarse and sub-angular to sub-rounded. <i>0.20-0.90m, Boulders present. Boulders are sub-rounded, of varied lithology and 200mm in diameter.</i>	
				1.10	78.40		Stiff, blueish grey, sandy gravelly CLAY with low cobble content. Sand is fine to coarse. Gravel is fine to coarse and sub-angular to sub-rounded. Cobbles are sub-rounded, of mudstone lithology and 63-120mm in diameter.	
	End of Pit at 1.100m							

Stability: Good Plant: 3t track machine Backfill: Arisings.				Groundwater: 1.10m, See shift data.				
Remarks: Trial pit terminated at 1.10m bgl, refusal, Boulder obstructions.- Move to TP15A upon instruction.								



Number:

TP15

**Project
Project No
Engineer**

Caherline – Newtown GWS Upgrade
P26029
TJ O'Connor & Assoc.



Number:

TP15

Project
Project No
Engineer

Caherline – Newtown GWS Upgrade
P26029
TJ O'Connor & Assoc.

Backfill: Ansilings.	
Remarks:	Trial pit terminated at 1.60m bgl. obstruction, unable to define due to surface water ingress.



Number:

TP15A

**Project
Project No
Engineer**

Caherline – Newtown GWS Upgrade
P26029
TJ O'Connor & Assoc.



Number:

TP15A

Project
Project No
Engineer

Caherline – Newtown GWS Upgrade
P26029
TJ O'Connor & Assoc.



Number:

TP16

Project
Project No
Engineer

Caherline – Newtown GWS Upgrade
P26029
TJ O'Connor & Assoc.



Priority Geotechnical Ltd.
Tel: 021 4631600
Fax: 021 4638690
www.prioritygeotechnical.ie

Trial Pit No
TP16A
Sheet 1 of 1

Project Name: Caherline Newtown GWS – Network Upgrade

Project No.
P26029

Co-ords: 568736.53E - 646653.18N
Level: 72.18m OD

Date
01/05/2026

Location: Co. Limerick

Dimensions (m): 2.00
Depth: 2.10m BGL

Scale
1:25

Logged
DOC

Client: Caherline Newtown GWS

Water Strike & Backfill	Samples & In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description	
	Depth (m)	Type	Results					
				0.50	71.68		Soft, black, clayey PEAT with organic material (plant matter).	
							Soft, pale grey, organic SILT.	1
				1.20	70.98		Firm whitish grey, CLAY/ SILT.	2
				2.10	70.08		End of Pit at 2.100m	3
								4
								5

Stability: Good

Plant: 3t track machine

Backfill: Arisings.

Groundwater: 1.1m, Fast rate of flow.

Remarks: Trial pit terminated at 2.10m bgl due to groundwater ingress.



Number:

TP16A

**Project
Project No
Engineer**

Caherline – Newtown GWS Upgrade
P26029
TJ O'Connor & Assoc.



Number:

TP16A

Project
Project No
Engineer

Caherline – Newtown GWS Upgrade
P26029
TJ O'Connor & Assoc.

		Priority Geotechnical Ltd. Tel: 021 4631600 Fax: 021 4638690 www.prioritygeotechnical.ie			Trial Pit No TP17 Sheet 1 of 1	
Project Name: Caherline Newtown GWS – Network Upgrade		Project No. P26029		Co-ords: 568728.05E - 646743.29N Level: 73.30m OD		Date 30/04/2026
Location: Co. Limerick				Dimensions (m): 0.80 2.40		Scale 1:25
Client: Caherline Newtown GWS				Depth: 2.80m BGL		Logged DOC

Water Strike & Backfill	Samples & In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description	
	Depth (m)	Type	Results					
				0.10	73.20		TOPSOIL/ MADE GROUND.	
				0.50	72.80		MADE GROUND. Brown, slightly gravelly sandy CLAY with low boulder content. Sand is fine to coarse. Gravel is fine to coarse and sub-angular to sub-rounded. Boulders are sub-angular, mudstone lithology and up to 700mm in diameter.	
							Brown, clayey PEAT.	
				1.60	71.70		Soft, grey, organic SILT.	
				1.90	71.40		Firm blueish grey, CLAY.	
	2.00	B		2.80	70.50		End of Pit at 2.800m	

Stability: Good Plant: 3t track machine Backfill: Arisings.		Groundwater: None encountered.
Remarks: Trial pit terminated at 2.80m bgl, scheduled depth.		



Number:

TP17

**Project
Project No
Engineer**

Caherline – Newtown GWS Upgrade
P26029
TJ O'Connor & Assoc.



Number:

TP17

**Project
Project No
Engineer**

Caherline – Newtown GWS Upgrade
P26029
TJ O'Connor & Assoc.



Number:

TP17A

Project
Project No
Engineer

Caherline – Newtown GWS Upgrade
P26029
TJ O'Connor & Assoc.



Number:

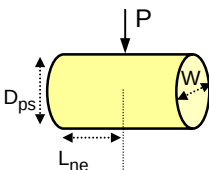
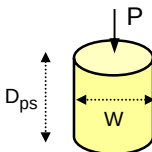
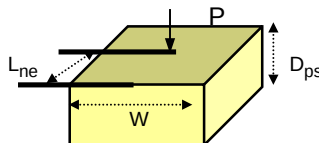
TP17A

Project
Project No
Engineer

Caherline – Newtown GWS Upgrade
P26029
TJ O'Connor & Assoc.

KEY TO SYMBOLS - LABORATORY TEST RESULT

U	Undisturbed Sample	
P	Piston Sample	
TWS	Thin Wall Sample	
B	Bulk Sample - Disturbed	
D	Jar Sample - Disturbed	
W	Water Sample	
pH	Acidity/Alkalinity Index	
SO ₃	% - Total Sulphate Content (acid soluble)	
SO ₃	g/ltr - Water Soluble Sulphate (Water or 2:1 Aqueous Soil Extract)	
+	Calcareous Reaction	
Cl	Chloride Content	
PI	Plasticity Index	
<425	% of material in sample passing 425 micron sieve	
LL	Liquid Limit	
PL	Plastic Limit	
MC	Water Content	
NP	Non Plastic	
Y _b	Bulk Density	
Y _d	Dry Density	
Ps	Particle Density	
U/D	Undrained/Drained Triaxial	
U/C	Unconsolidated/Consolidated Triaxial	
T/M	Single Stage/Multistage Triaxial	
100/38	Sample Diameter (mm)	
REM	Remoulded Triaxial Test Specimen	
TST	Triaxial Suction Test	
V	Vane Test	
DSB	Drained Shear Box	
RSB	Residual Shear Box	
RS	Ring Shear	
σ ₃	Cell Pressure	
σ ₁ -σ ₃	Deviator Stress	
c	Cohesion	
c ₋	Effective Cohesion Intercept	
φ	Angle of Shearing Resistance - Degrees	
φ ₋	Effective Angle of Shearing Resistance	
ε _f	Strain at Failure	
*	Failed under 1 st Load	
**	Failed under 2 nd Load	
#	Untestable	
##	Excessive Strain	
p _{-o}	Effective Overburden Pressure	
m _v	Coefficient of Volume Decrease	
c _v	Coefficient of Consolidation	
Opt	Optimum	
Nat	Natural	
Std	Standard Compaction - 2.5kg Rammer	(¶ CBR)
Hvy	Heavy Compaction - 4.5kg Rammer	(§ CBR)
Vib	Vibratory Compaction	
CBR	California Bearing Ratio	
Sat m.c.	Saturation Moisture Content	
MCV	Moisture Condition Value	

						Point Load Strength Index Tests Summary of Results												
Project No. P26029						Project Name Caherline												
Borehole No.	Sample			Specimen		Rock Type and Test condition	Test Type see ISRM		Failure Valid (Y/N)	Dimensions				Force P kN	Equivalent diameter, De mm	Point Load Strength Index		Remarks (including water content if measured)
	Depth	Ref.	Type	Ref.	Depth		Type (D, A, I, B)	Direction (L, P or U)		Lne	W	Dps	Dps'			Is	Is(50)	
	m				m					mm	mm	mm	mm			MPa	MPa	
TP01	2.00		C		2.00	Mudstone	I	P	YES	50.0	100.0	16.0	14.0	1.8	42.2	1.0	0.9	Stepped Smooth
TP03	0.50		C		0.50	Mudstone	I	P	YES	65.0	120.0	20.0	19.0	2.2	53.9	0.8	0.8	Undulating Smooth
TP04	0.60		C		0.60	Mudstone	I	U	YES	50.0	95.0	17.0	15.0	1.2	42.6	0.7	0.6	Undulating Smooth
TP05	0.90		C		0.90	Mudstone	I	U	YES	55.0	110.0	31.0	15.0	1.0	45.8	0.5	0.5	Stepped Rough
TP06	1.00		C		1.00	Mudstone	I	U	YES	45.0	120.0	14.0	12.0	2.0	42.8	1.1	1.0	Undulating Smooth
TP07	1.20		C		1.20	Shale	I	P	YES	31.0	85.0	16.0	15.0	1.3	40.3	0.8	0.7	Stepped Smooth
TP08	0.50		C		0.50	Mudstone	I	P	YES	50.0	100.0	17.0	16.0	2.6	45.1	1.3	1.2	Planar Smooth
TP09	0.80		C		0.80	Shale	I	P	YES	110.0	21.0	16.0	15.0	3.4	20.0	8.5	5.6	Stepped Smooth
TP10	1.20		C		1.20	Shale	I	P	YES	28.0	55.0	13.0	12.0	2.1	29.0	2.5	2.0	Planar Smooth
TP11	0.50		C		0.50	Shale	I	L	YES	88.0	104.0	51.0	45.0	0.6	77.2	0.1	0.1	Planar Smooth
TP11A	0.70		C		0.70	Shale	I	P	YES	130.0	65.0	12.0	10.0	7.4	28.8	8.9	6.9	Planar Smooth
TP12	0.80		C		0.80	Shale	I	P	YES	110.0	16.0	20.0	17.0	9.3	18.6	26.9	17.3	Stepped Smooth
TP13	0.20		C		0.20	Shale	I	P	YES	112.0	23.0	16.0	20.0	10.1	24.2	17.3	12.5	Planar Rough
Test Type D - Diametral, A - Axial, I - Irregular Lump, B - Block Direction L - parallel to planes of weakness P - perpendicular to planes of weakness U - unknown or random Dimensions Dps - Distance between platens (platen separation) Dps' - at failure (see ISRM note 6) Lne - Length from platens to nearest free end W - Width of shortest dimension perpendicular to load, P										Diametral 			Axial 			Block/irregular lump 		
Test performed in accordance with ISRM Suggested Methods : 2007, unless noted otherwise Detailed legend for test and dimensions, based on ISRM, is shown above. Size factor, F = (De/50)0.45 for all tests.										Date Printed 05/12/2026 00:00			Approved By Vasco		Table sheet 1 1			

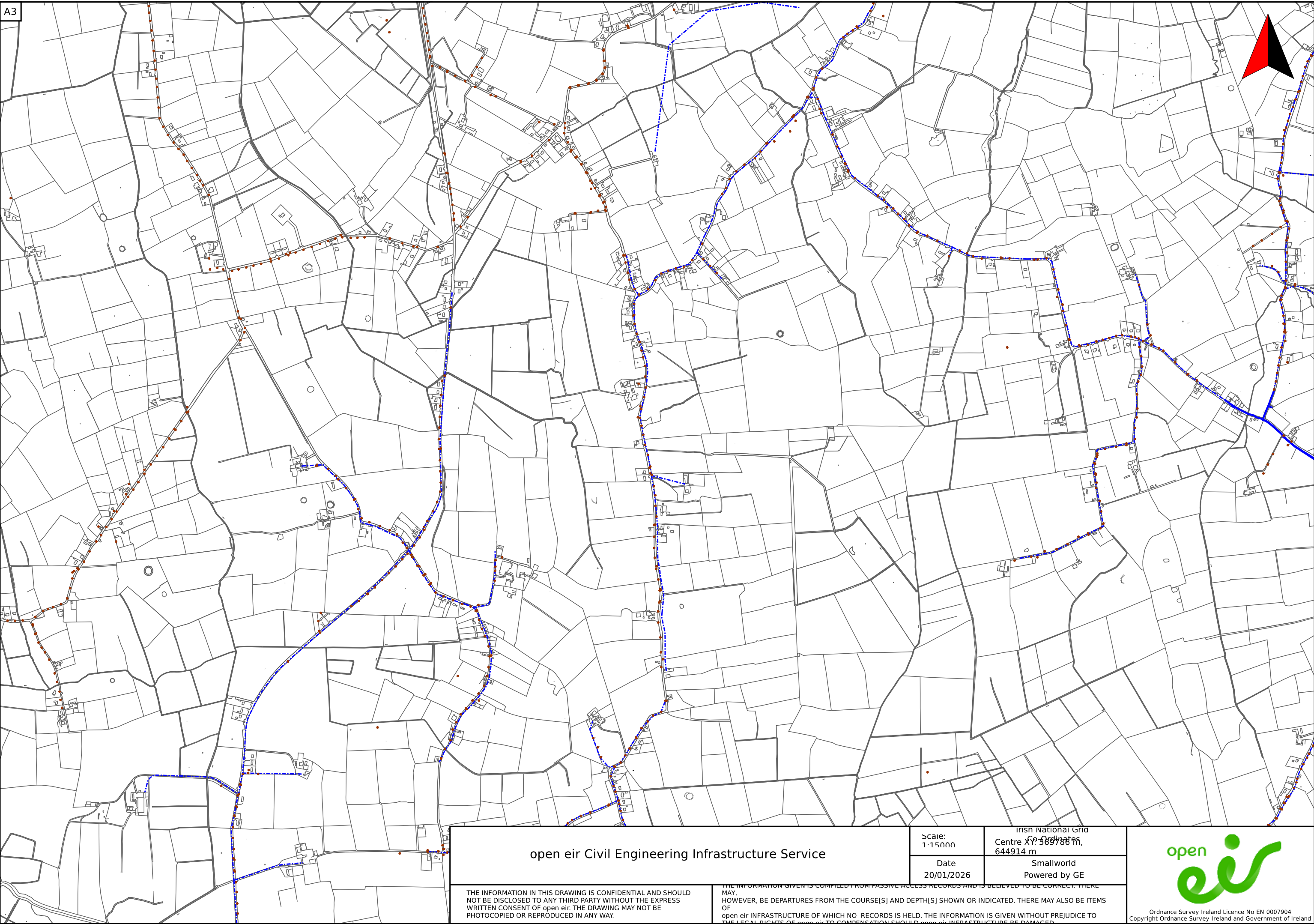
Volume E3 - Existing Utility Services



open eir Civil Engineering Infrastructure Service		Scale: 1:5000	Irish National Grid Centre XY: 588987 m, 646363 m
		Date 20/01/2026	Smallworld Powered by GE
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open eir Civil Engineering Infrastructure Service

Scale: 1:15000	Irish National Grid Centre XY: 589788 m, 644914 m
Date 20/01/2026	Smallworld Powered by GE

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TITLE:

20260120-173_A0

COLOUR CODE:

- BLACK - 38KV & HIGHER VOLTAGE OVERHEAD LINES
- GREEN - MV(10KV/20KV) OVERHEAD LINES
- BLUE - LV (400V/230V) OVERHEAD LINES
- CYAN - 38KV & HIGHER VOLTAGE UNDERGROUND CABLE ROUTES
- RED - MV/LV (10KV/20KV/400V/230V) UNDERGROUND CABLE ROUTES

DATE: 20-Jan-2026

** SCALE: 1:2500

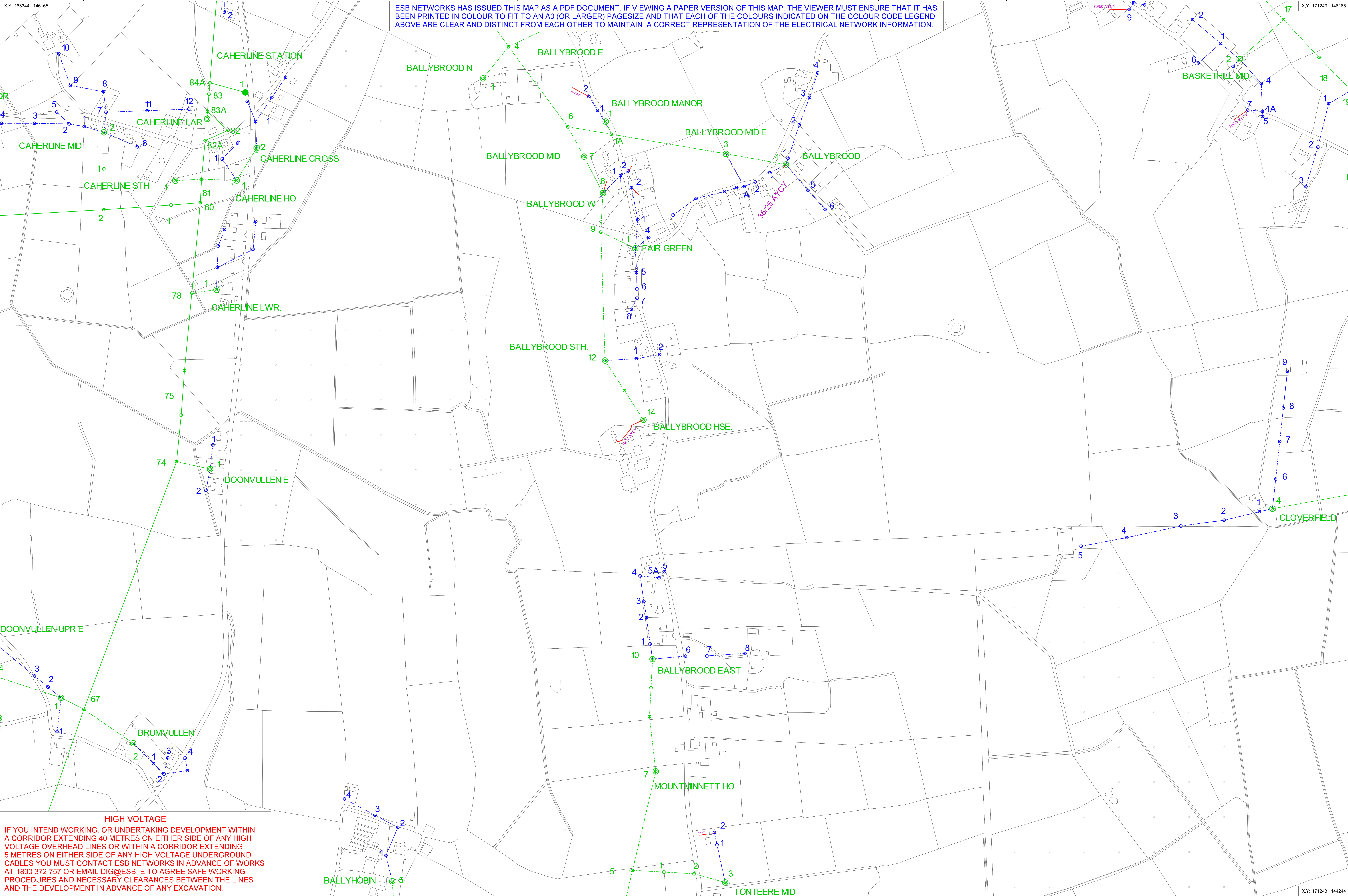
** SCALE WHEN PRINTED ON AN A0 PAGE
XY COORDINATES DISPLAYED IN IRISH GRID COORDINATE
SYSTEM

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WARNING

THIS MAP INDICATES THE APPROXIMATE LOCATION OF ESB TRANSMISSION (400KV, 220KV, 110KV, 38KV) AND DISTRIBUTION (20KV, 10KV, 230V/400V) UNDERGROUND CABLES AND OVERHEAD LINES IN THE GENERAL AREA OF THE PROPOSED WORKS. ESB NETWORKS TAKES NO RESPONSIBILITY FOR THE ACCURACY OR COMPLETENESS OF THE MAP. IT IS THE USER'S RESPONSIBILITY TO INDEPENDENTLY VERIFY THE INFORMATION AND THE LOCATION OF UNDERGROUND CABLES AND OVERHEAD LINES. LOW VOLTAGE (230V/400V) SERVICE CABLES (E.G. HOUSE SERVICES, FACTORY/SHOP SERVICES, PUBLIC LIGHTING LAMP SERVICES, ETC) ARE NOT INCLUDED BUT THEIR PRESENCE SHOULD BE ANTICIPATED. THE DEPTHS OF UNDERGROUND CABLES MUST NEVER BE ASSUMED BEFORE ANY MECHANICAL EXCAVATION IS UNDERTAKEN. THE ACTUAL LOCATION OF ALL UNDERGROUND ELECTRICITY CABLES MUST BE ESTABLISHED AND VERIFIED ON THE SITE USING:
(A) UP-TO-DATE MAP RECORDS;
(B) CABLE LOCATER EQUIPMENT OPERATED IN BOTH POWER AND RADIO MODES;
(C) CAREFUL HAND DIGGING OF TRIAL HOLES USING 'SAFE DIGGING PRACTICE'.
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HIGH VOLTAGE

IF YOU INTEND WORKING, OR UNDERTAKING DEVELOPMENT WITHIN A CORRIDOR EXTENDING 40 METRES ON EITHER SIDE OF ANY HIGH VOLTAGE OVERHEAD LINES OR WITHIN A CORRIDOR EXTENDING 5 METRES ON EITHER SIDE OF ANY HIGH VOLTAGE UNDERGROUND CABLES YOU MUST CONTACT ESB NETWORKS IN ADVANCE OF WORKS AT 1800 372 757 OR EMAIL DIG@ESB.IE TO AGREE SAFE WORKING PROCEDURES AND NECESSARY CLEARANCES BETWEEN THE LINES AND THE DEVELOPMENT IN ADVANCE OF ANY EXCAVATION.



TITLE:
20260120-173_A0_01

COLOUR CODE:	BLACK - 38KV & HIGHER VOLTAGE OVERHEAD LINES
	GREEN - MV(10KV/20KV) OVERHEAD LINES
	BLUE - LV (400V/230V) OVERHEAD LINES
	CYAN - 38KV & HIGHER VOLTAGE UNDERGROUND CABLE ROUTES
	RED - MV/LV (10KV/20KV/400V/230V) UNDERGROUND CABLE ROUTES

DATE: 20-Jan-2026

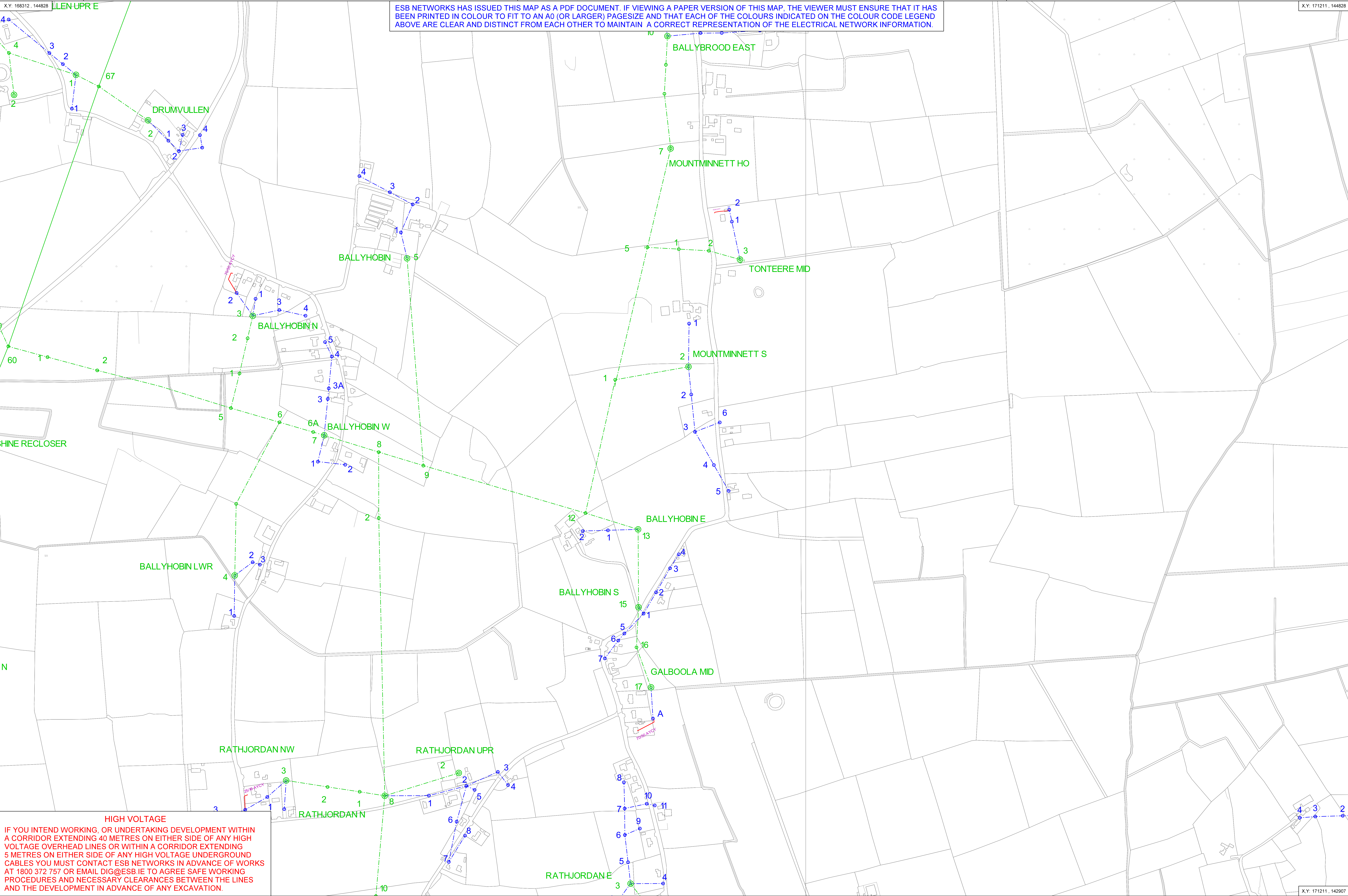
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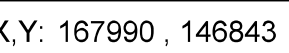
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XY COORDINATES DISPLAYED IN IRISH GRID COORDINATE
SYSTEM

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WARNING

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20260120-173_A0_02

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BLUE - LV (400V/230V) OVERHEAD LINES
CYAN - 38KV & HIGHER VOLTAGE UNDERGROUND CABLE ROUTES
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- (A) UP-TO-DATE MAP RECORDS;
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- (C) HAND DIGGING OF TRIAL HOLES USING "SAFE DIGGING PRACTICE".

REFER ALSO TO HSA CODE OF PRACTICE FOR AVOIDING DAMAGE FROM UNDERGROUND SERVICES'. ESB TAKES NO RESPONSIBILITY FOR AND SHALL BEAR NO LIABILITY, HOWSOEVER ARISING, IN RELATION TO ANY DAMAGE, INJURY/DEATH OR LOSS OF SUPPLY AS A RESULT OF DAMAGE OR INTERFERENCE WITH ANY UNDERGROUND SERVICES.

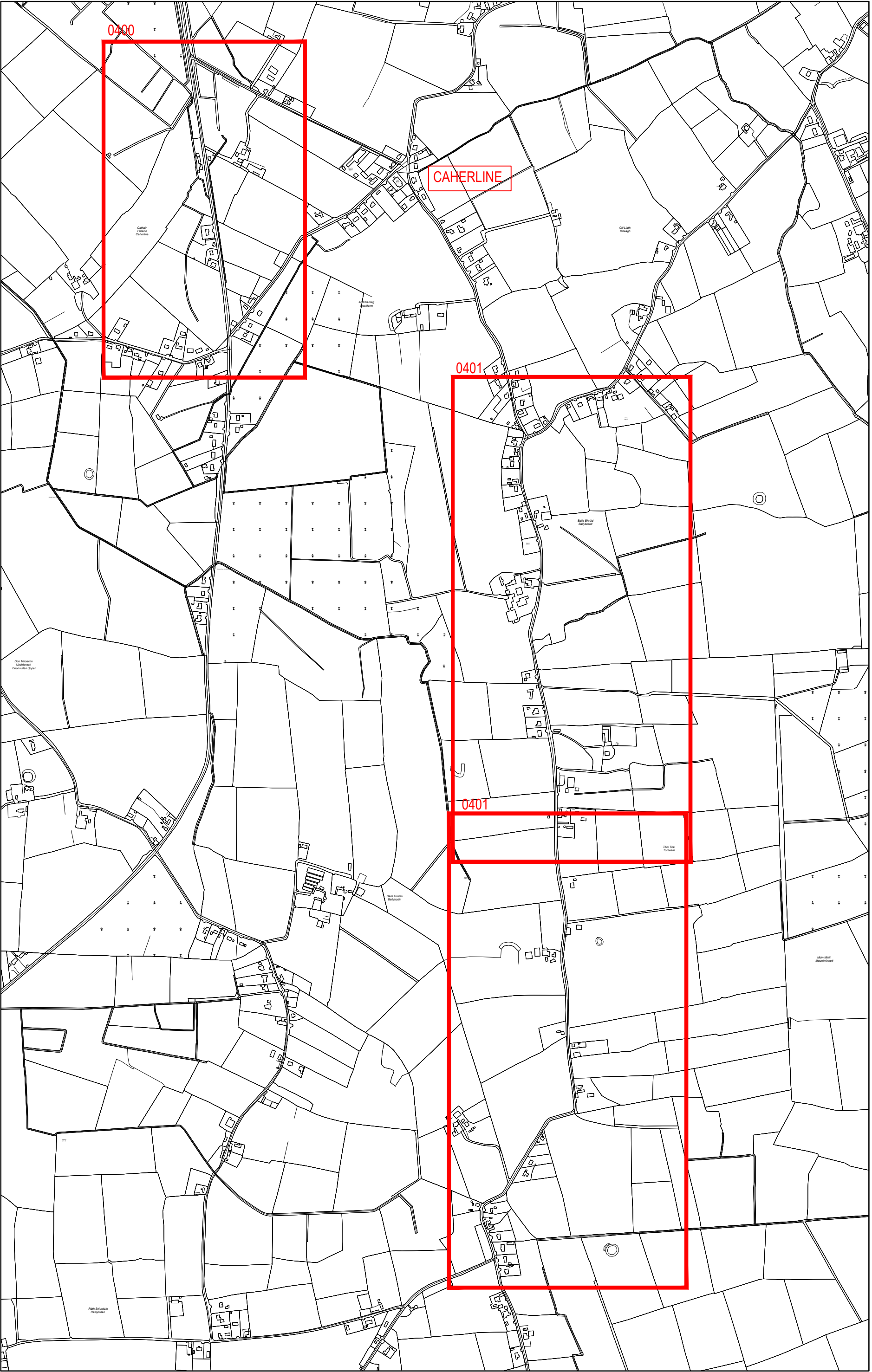
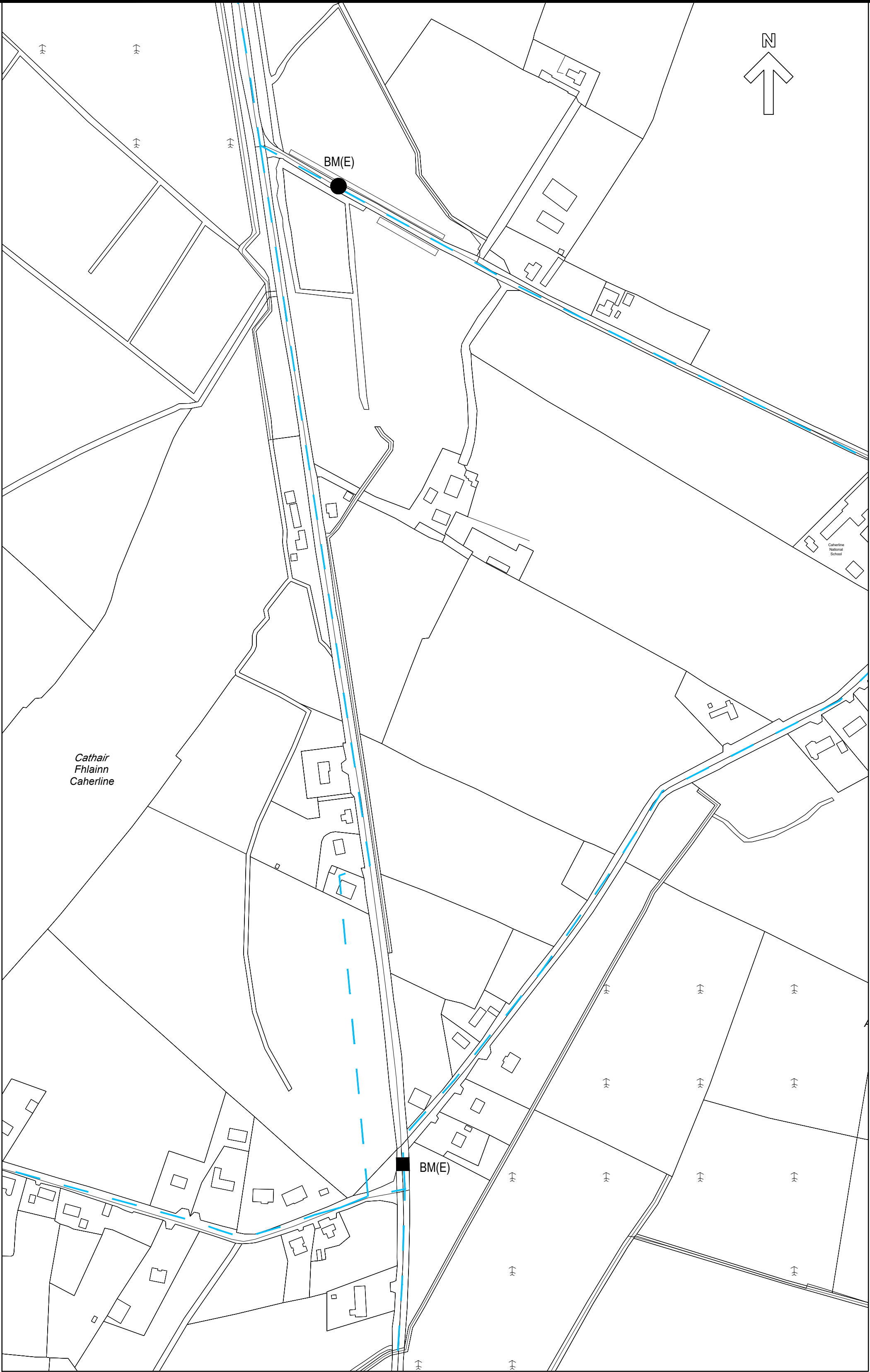
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X,Y: 169730 , 14684

BALLYBROOD W

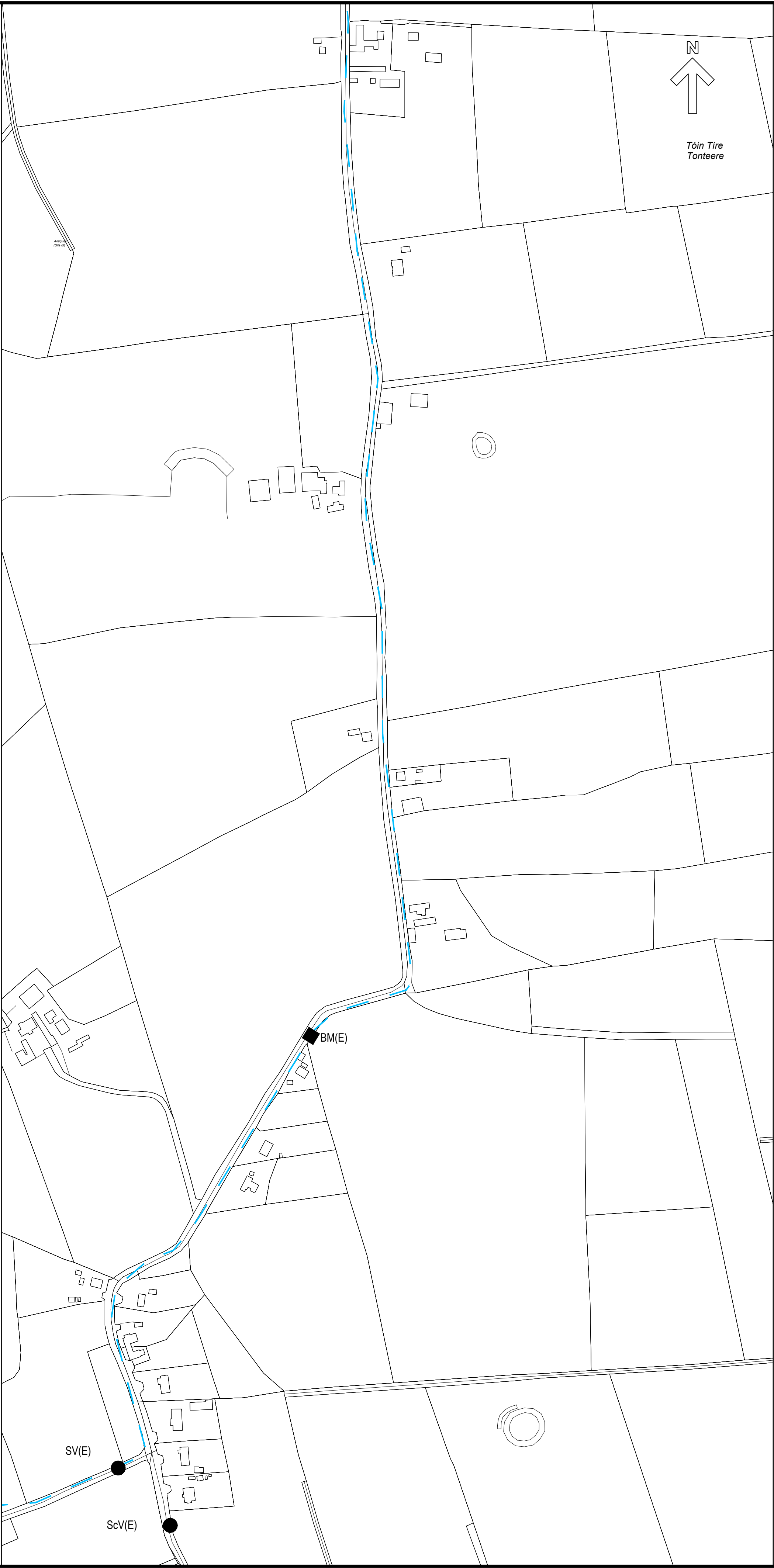
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X,Y: 169730 , 14569



LEGEND
EXISTING WATERMAIN - - - - -

P01	S1	ISSUED FOR INFORMATION	
REV	STAT	DESCRIPTION	DATE
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PROJECT: CAHERLINE NEWTOWN GWS NETWORK UPGRADE			
CLIENT: CAHERLINE NEWTOWN GWS			
DRAWING TITLE: EXISTING WATERMAIN LAYOUT			
SCALE: 1:2500			(A1)
PROJECT - ORIGINATOR - VOLUME - LOCATION - TYPE - ROLE - NUMBER 25023-TJOC-XX-XX-DR-C-0400			REV: P01



LEGEND
EXISTING WATERMAIN

FOR KEY PLAN REFER
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DRAWING STATUS: ISSUED FOR INFORMATION				
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