APPENDIX 7-2

GROUND INVESTIGATION REPORT, CAUSEWAY 2025

CAUSEWAY GEOTECH

24-0211

KINGSTON LANDS, GALWAY
GROUND INVESTIGATION REPORT

Client:
KING CONSTRUCTION

Client's Representative:
TOBIN / MKO

Date:
AUGUST 2025

Status:
FINAL

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DOCUMENT CONTROL SHEET

REPORT NO:		**24-0211**			
PROJECT TITLE:		**KINGSTON LANDS, GALWAY**			
CLIENT:		**KING CONSTRUCTION**			
CLIENT'S REPRESENTATIVE:		**TOBIN / MKO**			
REVISION:	**A00**	**STATUS**	**FINAL**	**ISSUE DATE**	**18/08/2025**
PREPARED BY:		**REVIEWED BY:**		**APPROVED BY:**	
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This report presents a factual account of the ground investigation in accordance with the Specification and Related Documents for Ground Investigation in Ireland 2nd Edition, published by Engineers Ireland (2016), along with a preliminary geotechnical assessment.

METHODS OF DESCRIBING SOILS AND ROCKS

Soil and rock descriptions are based on the guidance in BS5930:2015+A1:2020, The Code of Practice for Ground Investigation.

Abbreviations used on exploratory hole logs	
U	Nominal 100mm diameter undisturbed open tube sample (thick walled sampler).
UT	Nominal 100mm diameter undisturbed open tube sample (thin walled sampler).
P	Nominal 100mm diameter undisturbed piston sample.
B	Bulk disturbed sample.
LB	Large bulk disturbed sample.
SB	Sonic bulk disturbed sample.
D	Small disturbed sample.
C	Core sub-sample (displayed in the Field Records column on the logs).
L	Liner sample from dynamic sampled borehole.
W	Water sample.
ES / EW	Soil sample for environmental testing / Water sample for environmental testing.
SPT (s)	Standard penetration test using a split spoon sampler (small disturbed sample obtained).
SPT (c)	Standard penetration test using 60 degree solid cone.
(x,x/x,x,x,x)	Blows per increment during the standard penetration test. The initial two values relate to the seating drive (150mm) and the remaining four to the 75mm increments of the test length.
(Y for Z/ Y for Z)	Incomplete standard penetration test where the full test length was not achieved. The blows 'X' represent the total blows for the given seating or test length 'Z' (mm).
N=X	SPT blow count 'N' given by the summation of the blows 'X' required to drive the full test length (300mm).
HVP / HVR	Uncorrected in situ hand vane peak (HVP) and residual (HVR) result presented in kPa. Vane calibration factor has been applied, but no correction made for soil type.
V VR	Shear vane test (borehole). Shear strength stated in kPa. V: undisturbed vane shear strength VR: remoulded vane shear strength
Soil consistency description	In cohesive soils, where samples are disturbed and there are no suitable laboratory tests, N values may be used to indicate consistency on borehole logs – a median relationship of Nx5=Cu is used (as set out in Stroud & Butler 1975).
dd-mm-yyyy	Date at the end and start of shifts, shown at the relevant borehole depth. Corresponding casing and water depths shown in the adjacent columns.
▽	Water strike: initial depth of strike.
▼	Water strike: depth water rose to.
Abbreviations relating to rock core – reference Clause 36.4.4 of BS 5930: 2015+A1:2020	
TCR (%)	Total Core Recovery: Ratio of rock/soil core recovered (both solid and non-intact) to the total length of core run.
SCR (%)	Solid Core Recovery: Ratio of solid core to the total length of core run. Solid core has a full diameter, uninterrupted by natural discontinuities, but not necessarily a full circumference and is measured along the core axis between natural fractures.
RQD (%)	Rock Quality Designation: Ratio of total length of solid core pieces greater than 100mm to the total length of core run.
FI	Fracture Index: Number of natural discontinuities per metre over an indicated length of core of similar intensity of fracturing.
NI	Non Intact: Used where the rock material was recovered fragmented, for example as fine to coarse gravel size particles.
AZCL	Assessed zone of core loss: The estimated depth range where core was not recovered.
DIF	Drilling induced fracture: A fracture of non-geological origin brought about by the rock coring.
(xxx/xxx/xxx)	Spacing between discontinuities (minimum/average/maximum) measured in millimetres.

1 AUTHORITY

On the instructions of TOBIN / MKO (the "Client's Representative"), acting on the behalf of King Construction (the "Client"), a ground investigation was undertaken at the site to provide geotechnical and environmental information for input to the design and construction of a proposed residential development.

This report details the work carried out both on site and in the geotechnical and chemical testing laboratories; it contains a description of the site and the works undertaken, the exploratory hole logs and the laboratory test results.

All information given in this report is based upon the ground conditions encountered during the ground investigation works, and on the results of the laboratory and field tests performed. However, there may be conditions at the site that have not been taken into account, such as unpredictable soil strata, contaminant concentrations, and water conditions between or below exploratory holes. It should be noted that groundwater levels usually vary due to seasonal and/or other effects and may at times differ to those recorded during the investigation. No responsibility can be taken for conditions not encountered through the scope of work commissioned, for example between exploratory hole points, or beneath the termination depths achieved.

This report was prepared by Causeway Geotech Ltd for the use of the Client and the Client's Representative in response to a particular set of instructions. Any other parties using the information contained in this report do so at their own risk and any duty of care to those parties is excluded.

2 PURPOSE, RATIONALE & SCOPE OF THE INVESTIGATION

The purpose of this investigation is to assess the ground conditions and to allow an evaluation of the geotechnical and environmental issues with the current site and proposed development.

The rationale has been determined by the Client's Representaive, with the extent of the investigation including boreholes, trial pits, soil and rock core sampling, environmental sampling, groundwater and ground gas monitoring, in-situ and laboratory testing, and the preparation of a report on the findings including recommendations for construction.

3 DESCRIPTION OF SITE

The site is located at Irish Transverse Mercator 526525 724784 in an undeveloped area near Kingston Road in western Galway. The site location is presented in Appendix A and a summary of the surrounding land uses is provided in Table 1.

Table 1: Summary of surrounding land uses

Location	Description
North	Residential properties, Western Distributor Road, and commercial premises.
East	Residential properties.
South	Residential properties, Kingston Road, and a golf course.
West	Fields, Galway City Baptist Church and a national school with residential properties beyond

4 SITE OPERATIONS

4.1 SUMMARY OF SITE WORKS

Site operations, which were conducted between 22nd May and 20th June 2025, comprised:

- twenty-one light cable percussion boreholes
- five rotary drilled boreholes
- a standpipe installation in fifteen boreholes
- thirty-three machine-dug trial pits
- fifteen sampling locations
- eighteen machine-dug soakaway pits
- in-situ testing, including:
    - Standard Penetration Tests
    - eighteen infiltration tests
    - indirect CBR (DCP) tests at forty-two locations
- GPS survey of all completed locations
- groundwater and ground gas monitoring

The exploratory holes and in-situ tests were located as instructed by the Client's Representative, and as shown on the exploratory hole location plan in Appendix A.

4.2 BOREHOLES

A total of twenty-six boreholes were put down through soils and rock strata to their completion depths by a combination of methods, including light percussion boring using light cable percussion boring by Dando 2000 and 2500 rigs and rotary drilling by Comacchio 602 tracked rotary drilling rig.

The borehole logs state the methodology and plant used for each location, as well as the appropriate depth ranges.

A summary of the boreholes, subdivided by category in accordance with the methods employed for their completion, is presented in the following sub-sections.

4.2.1 LIGHT CABLE PERCUSSION BOREHOLES

Twenty-one boreholes (BH02-BH18, BH20, BH23, BH24, and BH26) were put down to completion in minimum 200mm diameter using Dando 2000 and 2500 light cable percussion boring rigs. All boreholes were terminated either at their scheduled completion depths, or else on encountering virtual refusal on obstructions, such as large boulders or weathered bedrock.

Hand dug inspection pits were carried out between ground level and 1.20m depth (or refusal) to ensure boreholes were put down at locations clear of services or subsurface obstructions.

Disturbed (bulk and small tub) samples were taken within the encountered strata. Environmental samples were taken at standard intervals, as directed by the Client.

Any water strikes encountered during boring were recorded along with any changes in their levels as the borehole proceeded.

Where water was added to assist with boring, a note has been added to the log to account for same.

Appendix B presents the borehole logs.

4.2.2 ROTARY DRILLED BOREHOLES

Five boreholes (BH01, BH19, BH19A, BH25, and BH25A) were put down to their completion by rotary drilling techniques only. The boreholes were completed using a Comacchio 602 tracked rotary drilling rig.

Hand dug inspection pits were carried out between ground level and 1.20m depth (or refusal) to ensure boreholes were put down at locations clear of services or subsurface obstructions.

Symmetrix-cased full hole rotary percussive drilling techniques were employed to advance the boreholes to bedrock, after which rotary coring was employed to recover core samples of the bedrock. SPTs were carried out at standard intervals throughout the overburden, with small and bulk disturbed samples obtained where possible through the soil strata.

Where coring was carried out within bedrock strata, Geobor S Coring was used. The core was extracted in up to 1.50m lengths using an SK6L core barrel, which produced core of nominal 102mm diameter, and was placed in single channel wooden core boxes.

The core was subsequently photographed and examined by a qualified and experienced Engineering Geologist, thus enabling the production of an engineering log in accordance with BS 5930: 2015+A1:2020: Code of practice for ground investigations.

Appendix B presents the borehole logs, with core photographs presented in Appendix C.

4.3 STANDARD PENETRATION TESTS

Standard penetration tests were carried out in accordance with BS EN 22476-3:2005+A1:2011 (BSI, 2011) at standard depth intervals using the split spoon sampler ($SPT_{(s)}$) and solid cone attachment ($SPT_{(c)}$). The penetrations are stated for those tests for which the full 150mm seating drive or 300mm test drive was not possible.

The N-values provided on the borehole logs are uncorrected and no allowance has been made for energy ratio corrections. The SPT hammer energy measurement report is provided in Appendix N.

4.4 STANDPIPE INSTALLATIONS

A groundwater monitoring standpipe was installed in boreholes BH01-BH03, BH06-BH09, BH15-BH16, BH18-BH19, BH19A, BH23, BH25A, and BH26.

Details of the installations, including the depth range of the response zone, are provided in Appendix B on the individual borehole logs.

4.5 TRIAL PITS

Thirty-three trial pits (TP01-TP10, TP10A, TP11-TP13, TP13A, TP14-TP20, and ETP01-ETP11) were excavated using a 29t tracked excavator fitted with a 600mm wide bucket, to depths of up to 4.50m.

Where depth permitted, environmental samples were taken at depths of 0.5m and 1.00m in each trial pit and at 1.50, 2.00 and 2.50m in ETP1-11. Disturbed (small jar and bulk bag) samples were taken at standard depth intervals and at change of strata.

Any water strikes encountered during excavation were recorded and the stability of the trial pit walls was noted on completion.

Appendix D presents the trial pit logs with photographs of the pits and arisings provided in Appendix E.

4.6 SAMPLING LOCATION LOGS

Fifteen sampling locations (SL01-SL15) were excavated using a 29t tracked excavator fitted with a 600mm wide bucket, to depths up to 2.80m. These locations were aimed primarily at sampling stockpiled material.

Environmental samples were taken as directed at each sampling location. Disturbed (bulk bag) samples were taken at standard depth intervals and at change of strata.

Any water strikes encountered during excavation were recorded and the stability of the trial pit walls was noted on completion.

Appendix F presents the trial pit logs with photographs of the pits and arisings provided in Appendix G.

4.7 INFILTRATION TESTS

Eighteen trial pits (SA01-SA13, SA15-SA16, SA18-SA20) were excavated using a 29t tracked excavator fitted with a 600mm wide bucket, to depths of 0.65-2.90m to allow completion of an infiltration test.

The infiltration/soakaway tests were carried out in accordance with DG 365 Soakaway Design (BRE, 2016). The absence of the outflow from the pits precluded calculation of infiltration coefficients.

Any water strikes encountered during excavation were recorded and the stability of the trial pit walls was noted on completion.

The results and analysis of the infiltration tests as well as the trial pit logs are presented in Appendix H with photographs of the pits and arisings provided in Appendix I.

4.8 INDIRECT CBR TESTS (DCP)

An indirect CBR test was conducted at forty-two locations (DCP01-09,11-43) using a Dynamic Cone Penetrometer (DCP). The equipment was developed in conjunction with the UK Transport Research Laboratory, and is discussed in CS229 (Highways England, 2020) which follows the methodology described in TRL Overseas Road Note 18 (TRL, 1999).

The test results are presented in Appendix J as plots showing the variation of penetration per blow with depth. Straight lines have been fitted to the plots, and the CBR for each depth range has been estimated using the following relationship, taken from TRRL Overseas Road Note 8 (TRRL, 1990).

Log CBR = 2.48-1.057 Log (mm/blow)

Dynamic Cone Penetrometer tests frequently yield elevated CBR values at certain depths. It should be noted that these may be due to the coarse-grained component of the penetrated soils, rather than the properties of the finer soil matrix.

4.9 SURVEYING

The as-built exploratory hole positions were surveyed following completion of site operations by a Site Engineer from Causeway Geotech. Surveying was carried out using a Trimble R10 GPS system employing VRS and real time kinetic (RTK) techniques.

The plan coordinates (Irish Transverse Mercator) and ground elevation (mOD Malin) at each location are recorded on the individual exploratory hole logs. The exploratory hole location plan presented in Appendix A shows these as-built positions.

4.10 GROUNDWATER AND GROUND GAS MONITORING

Following completion of site works, three rounds of groundwater and ground gas monitoring were conducted. Groundwater monitoring was carried out using a water interface probe. Ground gas measurements were carried out using a GA5000 gas meter.

The monitoring records are presented in Appendix K.

5 LABORATORY WORK

Laboratory testing was carried out between 4th June and 24th July 2025.

5.1 GEOTECHNICAL LABORATORY TESTING OF SOILS

Laboratory testing of soils comprised:

- **soil classification:** moisture content measurement, Atterberg Limit tests and particle size distribution analysis.
- **soil chemistry:** pH, water-soluble sulphate content, and organic content

Laboratory testing of soils samples was carried out in accordance with BS 1377, Methods of test for soils for civil engineering purposes; Part 1 (BSI, 2016), and Part 2 (BSI, 2022).

The test results are presented in Appendix L.

5.2 GEOTECHNICAL LABORATORY TESTING OF ROCK

Laboratory testing of rock sub-samples comprised:

- point load index
- unconfined compressive strength (UCS) tests

Laboratory testing of rock sub-samples was carried out in accordance with the testing standards presented below in Table 2.

Table 2: Rock testing standards

Test	Test carried out in accordance with
Point load index	International Society for Rock Mechanics (IRSM). (1985) ISRM Suggested Methods: Suggested method for determining point-load strength. Int. J. Rock Mech. Min. Sci. Geomech. Abstr. 22, pp. 53–60
Uniaxial compression strength tests	International Society for Rock Mechanics (IRSM). (1981) ISRM Suggested Methods: Suggested method for determining deformability of rock materials in uniaxial compression, Part 2 International Society for Rock Mechanics (IRSM). (2007) The complete ISRM suggested methods for rock characterization, testing and monitoring.

The test results are presented in Appendix L.

5.3 ENVIRONMENTAL LABORATORY TESTING OF SOIL

Environmental testing, as specified by the Client, was conducted on selected environmental soil by Normec DETS in Consett, Durham.

Rilta suite of analysis was carried out on samples for landfill disposal criteria as well as a range of determinants, including:

- Metals
- Speciated total petroleum hydrocarbons (TPH)
- Speciated polycyclic aromatic hydrocarbons (PAH)
- BTEX compounds
- Volatile Organic Compounds (VOCs)
- Semi-Volatile Organic Compounds (SVOCs)
- Polychlorinated biphenyls (PCBs)
- Phenols
- Organic matter
- Cyanides
- Asbestos screen
- Sulphate and sulphide
- Sulphur
- Phosphate

- Calcium
- pH
- Waste acceptance criteria (WAC)

Results of environmental laboratory testing are presented in Appendix M.

6 GROUND CONDITIONS

6.1 GENERAL GEOLOGY OF THE AREA

Published geological mapping from the online Geological Survey Ireland spatial resources database indicate the superficial deposits underlying the site comprise glacial till derived from granites. These deposits are shown to be underlain by the Murvey Granite and Errisbeg Townland Granite.

6.2 GROUND TYPES ENCOUNTERED DURING INVESTIGATION OF THE SITE

A summary of the ground types encountered in the exploratory holes is listed below, in approximate stratigraphic order:

- **Topsoil:** encountered in 300-500mm thickness across the site.
- **Made Ground (fill):** reworked sandy gravelly clay fill typically encountered, extending to a depth of 3.00m.
- **Recent deposits:** Firm black amorphous peat
- **Glacial Till:** Medium dense sands and gravels interspersed with firm to stiff sandy gravelly silt/clay frequently with low cobble content, becoming very stiff with increasing depth.
- **Bedrock (granite):** Rockhead was confirmed at depths ranging from 0.70m in BH19 to about 3.30m in borehole BH01. The greatest depth reached before encountering refusal on possible competent rockhead was BH02 at 3.80m and TP11 was excavated to 4.50m without encountering rockhead.

Further details of these ground types, including their specific depths and descriptions, can be found on the individual exploratory hole logs accompanying this report.

6.3 GROUNDWATER & GROUND GAS

Details of the individual groundwater strikes, along with any relative changes in levels as works proceeded, are presented on the exploratory hole logs for each location. Water strikes were encountered in 20 of the trial pits at depths ranging from 0.60m to 4.00m.

Groundwater was not noted during drilling at any of the other exploratory hole locations. However, it should be noted that the casing used in supporting the borehole walls during drilling may have sealed out additional groundwater strikes and the possibility of encountering groundwater during excavation works at these locations should not be ruled out.

In addition, any groundwater strikes within bedrock may have been masked by the fluid used as the drilling flush medium.

A groundwater monitoring standpipe was installed in boreholes BH01-BH03, BH06-BH09, BH15-BH16, BH18-BH19, BH19A, BH23, BH25A, and BH26. The results of subsequent groundwater monitoring, as well as results of gas monitoring, are presented in K.

Continued monitoring of the fifteen installed standpipes will give an indication of the seasonal variation in groundwater level which should be factored into design considerations.

7 DISCUSSION

7.1 PROPOSED CONSTRUCTION

It is proposed to construct a residential development on the site.

No further details were available to Causeway Geotech at the time of preparing this report and any designs based on the recommendations or conclusions within this report should be completed in accordance with the current design codes, taking into account the variation and the specific details contained within the exploratory holes. Causeway Geotech were commissioned to provide a geotechnical report, and it is outwith our remit to advise on structure design.

7.2 RECOMMENDATIONS FOR CONSTRUCTION

7.2.1 SUMMARY

Based on the presence of medium dense to dense sands and gravels at relatively shallow depths across the footprint of the proposed building, the implementation of traditional shallow (spread) foundations (strip/pad and trench fill) are considered suitable.

7.2.2 SOIL STRENGTH PARAMETERS

When estimating the shear strength of fine soils (silt/clay), reference is made to the results of Standard Penetration Tests (SPT's) carried out within the boreholes. The undrained shear strength of fine soils can be estimated using the correlation developed by Stroud & Butler:

$C_u = f_1 \times N$

where f_1 is typically in the range 4 to 6. A median f_1 value of 5 is adopted for this report.

For granular soils (sand/gravel), a graphical relationship between SPT "N" value and angle of shearing resistance, φ, has been developed by Peck, Hanson and Thorburn. This is published in *Foundation Design and Construction* (Tomlinson, 2001) and is referenced in this report when deriving angles of shearing resistance for the gravel soils.

7.2.3 FOUNDATIONS AND GROUND FLOOR CONSTRUCTION

Foundations should transfer loading to below any Made Ground or soft/loose subsoil. The recommended foundation construction and allowable bearing pressure (ABP) at the borehole locations are presented in Table 3.

Table 3: Construction Recommendations

Borehole	Depth below EGL* to suitable bearing stratum	Estimated ABP (kPa)	Stratum description	Foundation type	Ground floor construction	Groundwater
BH01	1.20m	150	Gravelly sand	Strip & pad (with possible active dewatering)	Ground bearing	2.82-3.30mbgl
BH02	3.00m	250	Sandy gravel	Trench fill (with required trench support and possible active dewatering)	Suspended	2.81-3.20mbgl
BH03	2.90m	250	Gravel	Trench fill (with required trench support and possible active dewatering)	Suspended	0.74-1.02mbgl
BH04	1.60m	250	Gravel	Strip & pad	Ground bearing	Not encountered
BH05	Base of made ground not identified#					
BH06	Base of made ground not identified#					
BH07	2.00m	250	Sandy gravel	Trench fill (with required trench support and possible active dewatering)	Suspended	0.13-0.43mbgl
BH08	1.20m	250	Sandy gravel	Strip & pad (with possible active dewatering)	Suspended	1.53mbgl
BH09	1.20m	250	Sandy gravel	Strip & pad (with possible active dewatering)	Suspended	1.50mbgl
BH10	1.20m	250	Gravel	Strip & pad	Suspended	Not encountered
BH11	1.20m	250	Sandy gravel	Strip & pad	Suspended	Not encountered
BH12	1.20m	250	Gravel	Strip & pad	Suspended	Not encountered
BH13	1.20m	250	Cobbles	Strip & pad	Ground bearing	Not encountered
BH14	1.20m	250	Gravel	Strip & pad	Suspended	Not encountered
BH15	1.40m	250	Sandy gravelly silt	Strip & pad (with possible active dewatering)	Ground bearing	1.46mbgl
BH16	1.20m	250	Gravel	Strip & pad	Ground bearing	Not encountered
BH17	1.20m	250	Gravel	Strip & pad	Suspended	Not encountered
BH18	1.20m	250	Sandy gravel	Strip & pad	Suspended	Not encountered

Borehole	Depth below EGL* to suitable bearing stratum	Estimated ABP (kPa)	Stratum description	Foundation type	Ground floor construction	Groundwater
BH19	0.70m	>250	Bedrock	Strip & pad (with possible active dewatering)	Ground bearing	1.11-1.42mbgl
BH20	Terminated on a possible boulder. Foundation recommendation not possible.					
BH23	1.20m	190	Sandy gravel	Strip & pad (with possible active dewatering)	Suspended	2.64mbgl
BH24	1.20m	250	Gravel	Strip & pad	Suspended	Not encountered
BH25A	1.20m	250	Sandy gravel	Strip & pad (with possible active dewatering)	Ground bearing	1.80mbgl
BH26	1.20m	>250	Sandy gravel	Strip & pad (with possible active dewatering)	Suspended	2.01mbgl

**Existing Ground Level*

#Borehole BH05 met refusal and the base of made ground at that location was therefore not identified. Further ground investigation works would be required to provide a recommended foundation design.

Based on the findings of the ground investigation, spread foundations (strip/pad and trench fill) are considered suitable with estimated allowable bearing pressures between 150kPa and >250kPa at depths between 1.20m and 3.00m on medium dense to dense sands and gravels or possible weathered bedrock.

The base of foundation excavations should be thoroughly inspected in accordance with the Earthworks Specification; any soft soils and Made Ground should be removed with the resultant void backfilled with ST1 concrete. A consistent bearing stratum should be provided for any building unit to limit differential settlements.

Given the predominance of granular strata, excavations for foundations are not likely to be stable. Where space allows, instability can be minimised by battering the side slopes at 1 vertical to 2 horizontal and by limiting the duration that the excavation is open.

Given the high groundwater table within permeable sand and gravel, temporary dewatering may be required to facilitate foundation construction. Options such as wellpoints or deep wells may be appropriate depending on excavation depth and inflow rates. It is recommended that a specialist dewatering contractor be consulted at an early stage to assess the most suitable system and to design measures that minimise settlement risk and control sediment discharge.

7.2.4 FLOOR SLABS

Floor slabs should not be placed directly on Made Ground or soft soils. Therefore, ground-bearing floor slabs are considered appropriate only after removing any surface Made Ground and soft clay layers, and replacing them with well-graded, well-compacted granular fill. However, if the difference in levels between the proposed floor and the base of the Made Ground or soft soils exceeds 900mm, a

suspended floor slab should be used.

Therefore, given the depth to the base of Made Ground and relative low strength of upper soil layers, a suspended floor slab may be required over parts of the site. The use of intermediate lines of support stub walls would reduce the spans required for flooring units.

7.2.5 EXCAVATIONS FOR SERVICES

For the installation of services ducts/trenches, it is suggested that open trenching will be the most practicable construction method. Generally speaking, the ground conditions should render the use of open trenching by backhoe excavator possible, with some trench support required for the uppermost granular stratum.

Much of the site (particularly the southern half) is likely to have shallow rockhead (<1.00mbgl) which may cause issues for excavations.

Where working in open trenches, it is thought that trench support systems, by way of a trench box (or possibly sheet piles), will be required to maintain trench stability and safe working conditions. Groundwater control at these locations should be possible by means of sump pumping.

To preclude the eventuality of differential settlements in pipes, they should be laid on a consistent stratum of appropriate allowable bearing capacity and protected with appropriate fill cover.

Where ducts and chambers must be installed in areas where localised soft spots are encountered, the use of geogrid reinforcement along the base of the excavation is recommended. This will stiffen the base of the trench and help control longitudinal differential settlement.

Backfilling of trenches may be completed by using compacted Cl 804 granular fill and reinstated as appropriate.

7.2.6 EXCAVATIONS IN PEAT

Generally speaking, where peat is present in excess of 2.5m thickness, it is known to pose problems in excavations. The thickness of peat present across the site typically falls well below this threshold, and as such the proposed locations should be considered viable, with insignificant risk ratings with regard to peat slide potential.

Given the range of peat thickness across the locations on site (0.40-1.70m thickness), there should be no significant impact on the proposed construction.

7.2.7 ROCK EXCAVATABILITY

Given that the depth to rockhead on site is very shallow, particularly in the southern region, it is expected that excavation in bedrock may be required.

Rotary drilling established the depth to rockhead, as summarised below in Table 4.

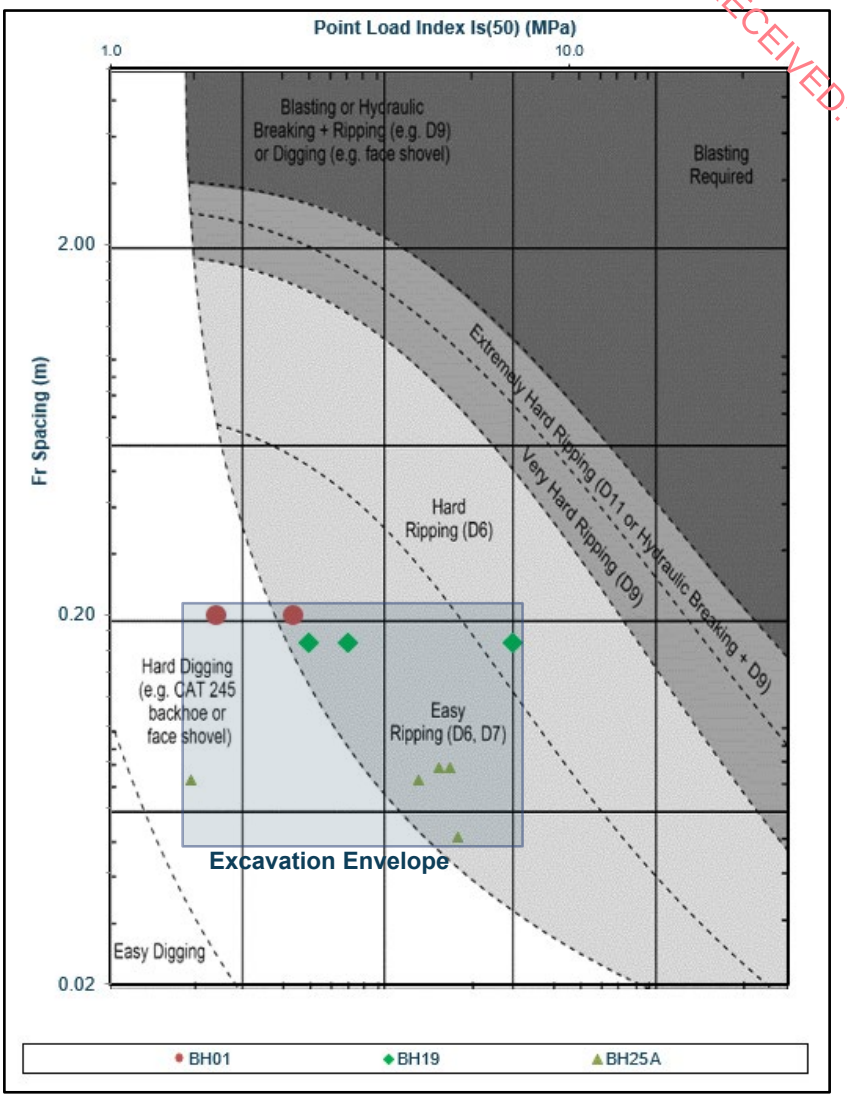
Table 4: Depth to rockhead

Exploratory hole location	Rockhead Depth
BH01	3.30m
BH19	0.70m
BH25A	2.20m

As shown above, rockhead depth is between 0.70m-3.30m. Assuming an invert level of approximately 2.00m, it is anticipated that rock excavations will be required in parts of the site.

Figure 1 presents an assessment of rock excavatability (after Pettifer and Fookes) based on boreholes BH01, BH19, and BH25A. It provides an assessment on excavatability using the parameters of point load strength Is(50) and fracture spacing. It can be seen that the "excavation envelope" derived from the point load test data and fracture spacing suggests that the majority of rock will be excavated by easy ripping with the possibility of some hard ripping. Due to the variability of the bedrock, hydraulic breaking should therefore not be ruled out, and given the quantity of rock to be excavated, it will almost certainly be required.

Figure 1: Rock Excavation Chart (after Pettifer and Fookes



These estimates of rock excavatability are based on a very large 65t excavator. In practice, a smaller machine is likely to be used on site. Expectations of excavatability should therefore be modified accordingly, and the need for hydraulic breaking should be considered likely.

Where hydraulic breaking of rock is required, a plan for control of noise and vibration should be produced in advance of construction activities. This should outline the extent and type of monitoring required for the duration of site works, as well as the requirement for respite periods to punctuate breaking activities.

7.2.8 SOIL AGGRESSIVITY

An assessment of the Aggressive Chemical Environment for Concrete (ACEC) was undertaken through reference to the Building Research Establishment (BRE) Special Digest 1 (2017).

As noted by BRE Special Digest 1, sulphates in the soil and groundwater are the chemical agents most likely to attack concrete. The extent to which sulphates affect concrete is linked to their concentrations, the type of ground, the presence of groundwater, the type of concrete and the form of construction in which concrete is used.

BRE Special Digest 1 identifies four different categories of site which require specific procedures for investigation for aggressive ground conditions:

- Sites not subjected to previous industrial development and not perceived as containing pyrite;
- Sites not subjected to previous industrial development and perceived as containing pyrite;
- Brownfield sites not perceived as containing pyrite;
- Brownfield sites perceived as containing pyrite.

For the purposes of this report the site was classified as not having been subject to previous industrial development and not perceived as containing pyrite.

The results of chemical tests (pH and water soluble sulphate contents) on soil samples indicate Design Sulphate Class DS-1 and ACEC Class AC-1s – reference Table C1 of BRE Special Digest 1 (Building Research Establishment, 2005). The selection of the concrete Design Chemical (DC) Class and Additional Protective Measures (APMs) should be based on the ACEC Class of the ground, taking into account a number of factors including the type of concrete element, its mode of exposure to the aggressive ground and the required durability. The options for limiting values of concrete required to satisfy various DC Classes are presented in Section D5 of BRE Special Digest 1 (2005).

7.2.9 ACCESS ROADS, CAR PARKS AND HARD STANDING

Based on a summary of the CBR tests undertaken at the site, it is envisaged that the upper glacial deposits at the site would be suitable for the placement of road make up layers. All tested areas across the site have CBR values in excess of 15% at 0.40mbgl.

Table 2.1 of volume 7 section 2 of the Design Manual for Roads and Bridges (Figure 2), gives guidance on the average thickness of the pavement layers in relation to the CBR results. As can be seen, a CBR in excess of 15% does not require any capping layers, however a sub-base thickness of 200mm is suggested.

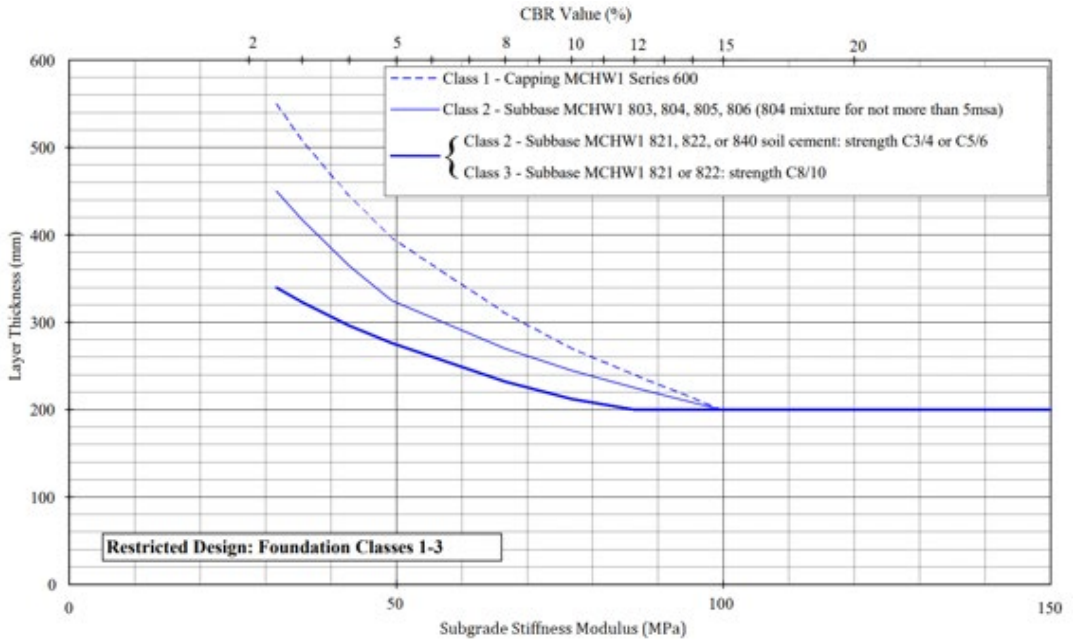


Figure 2: Table 2.1 (DMRB Vol.7 Sec2) 2009

The above plot should be used to determine the thicknesses of any capping or sub-base layers that may need to be placed in these areas.

In areas of the site with depths of peat or made ground present, subgrade replacement (dig & replace) or improvement may be necessary, such a mechanical stabilisation using geogrids. The use of geosynthetics and geogrids in the construction of paved areas, will be beneficial. These could include a geosynthetic at subgrade level with further benefit gained by incorporating further layer(s) of geogrid within the capping/sub-base layer. Pavement foundation design should be undertaken by a specialist earthworks contractor/designer.

It is recommended that a testing regime is established during the course of construction works at intervals as set out in the Earthworks Specification, and should any areas indicate lower than expected value, it is recommended that action shall be taken by either improvement of the subgrade or by reviewing the design subgrade modulus and pavement foundation design.

7.3 INFILTRATION DRAINAGE

The infiltration tests performed on site returned multiple infiltration rates too low to be calculated. While many exploratory holes encountered predominantly sand and gravel, many locations noted thin beds of sandy gravelly clay at relatively shallow depths along with possible shallow rockhead. These low-permeability fine-grained soils are poor infiltration media and would be deemed unsuitable for the implementation of infiltration drainage systems.

Higher rates of infiltration were recorded in SA01 and SA02 (NE portion of the site); SA08, SA18, and SA20 (Western edge of the site); and SA12 (SE corner of the site). The rate of infiltration at these locations ranged from 2.50 x 10^{-5}m/s (SA20) to 5.76 x 10^{-4}m/s (SA08-1). In these areas of the site, the rate of infiltration coupled with the soil descriptions imply that the subsoil may be considered suitable for the design of an infiltration drainage system.

Groundwater monitoring records also suggest a relatively high water table in parts of the site. Borehole BH07 monitoring records record the shallowest water levels on site ranging between 0.13-0.43m below ground level.

Reference should be made to Sustainable Drainage Systems (SuDS) design guidance, considering meteorological conditions, a hydrogeological assessment, and other site-specific factors. The designer should evaluate potential maximum groundwater levels when designing any proposed infiltration systems. A minimum distance of 1m between the base of the infiltration system and the maximum likely groundwater level should be maintained.

8 REFERENCES

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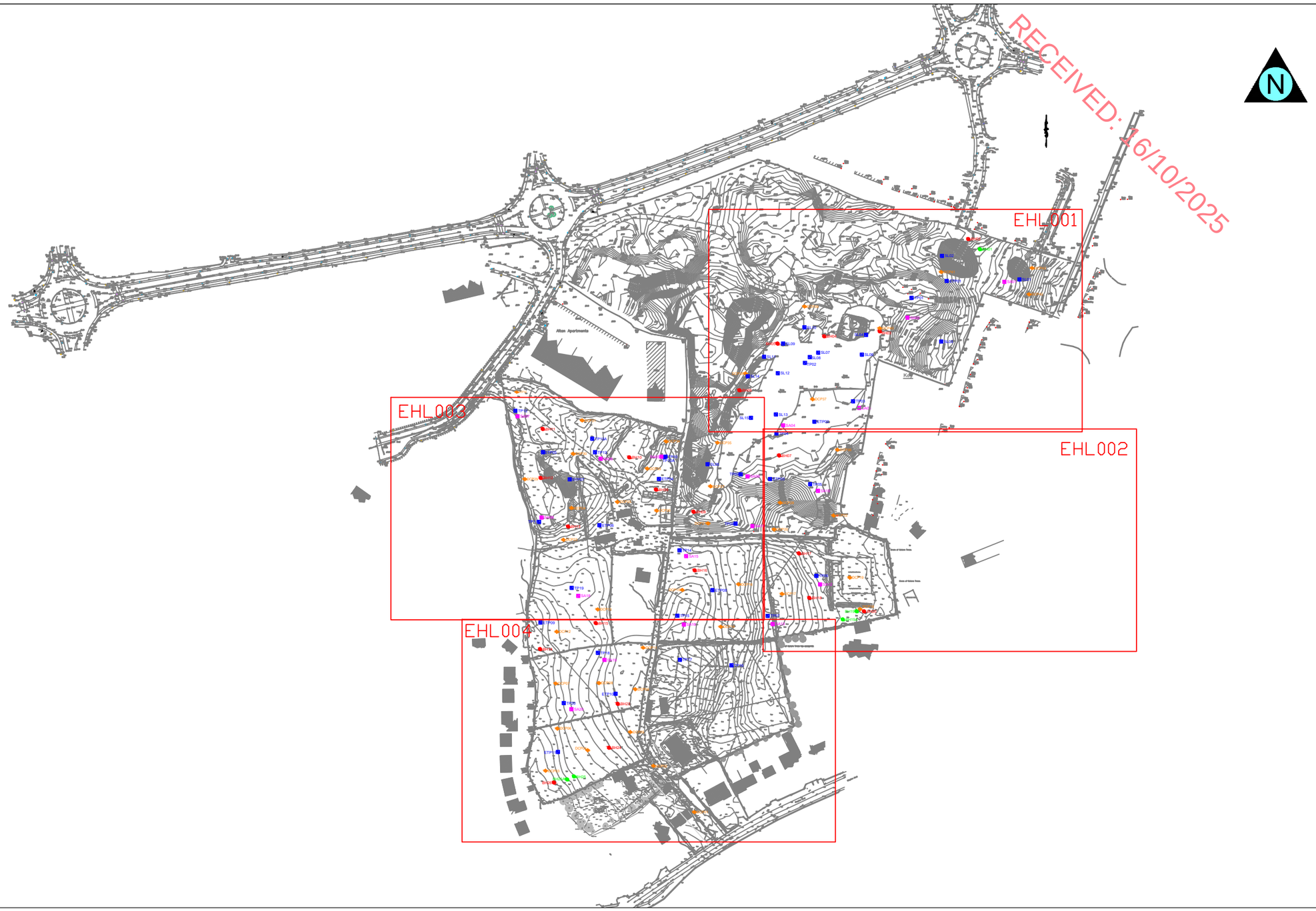
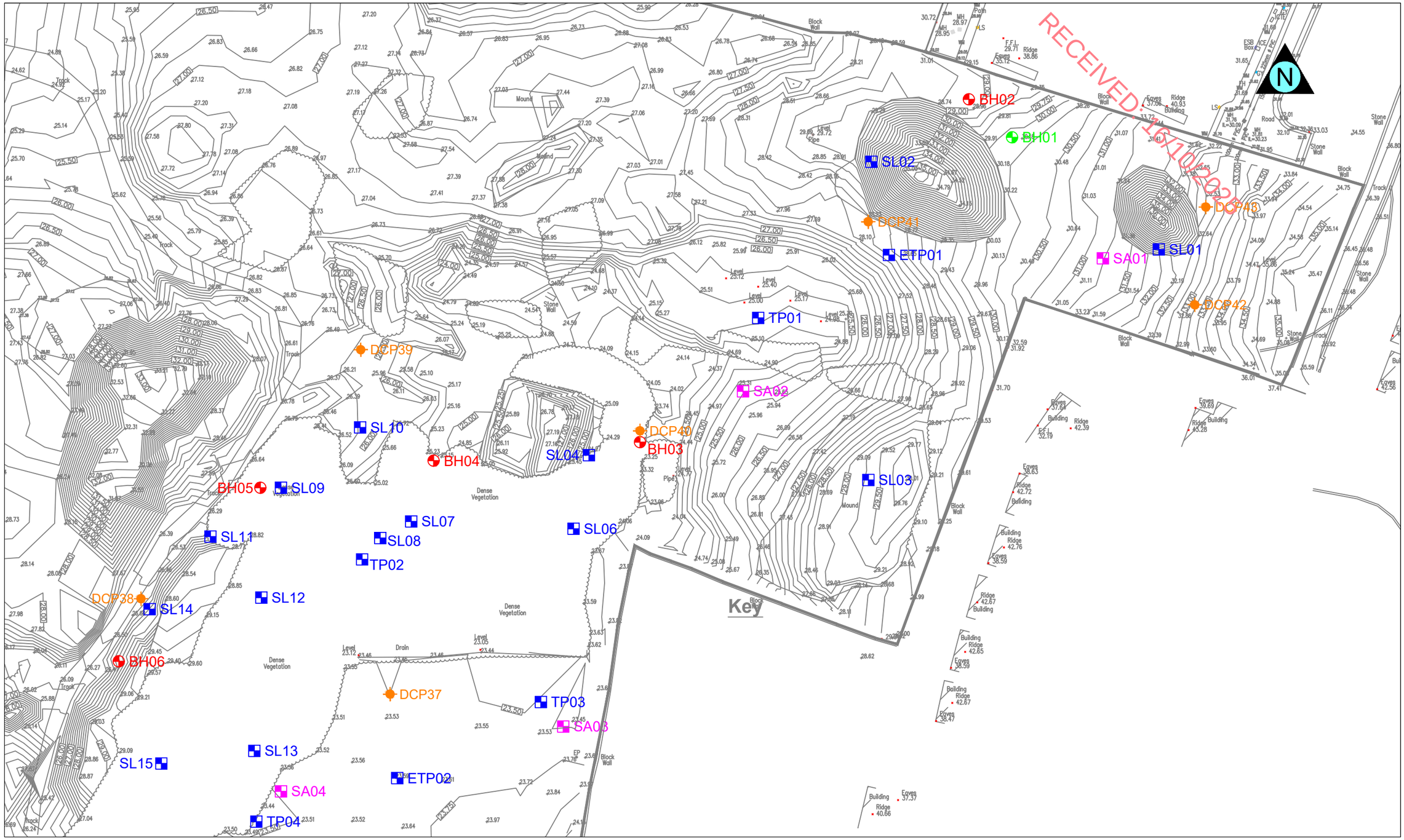
APPENDIX A – SITE AND EXPLORATORY HOLE LOCATION PLANS



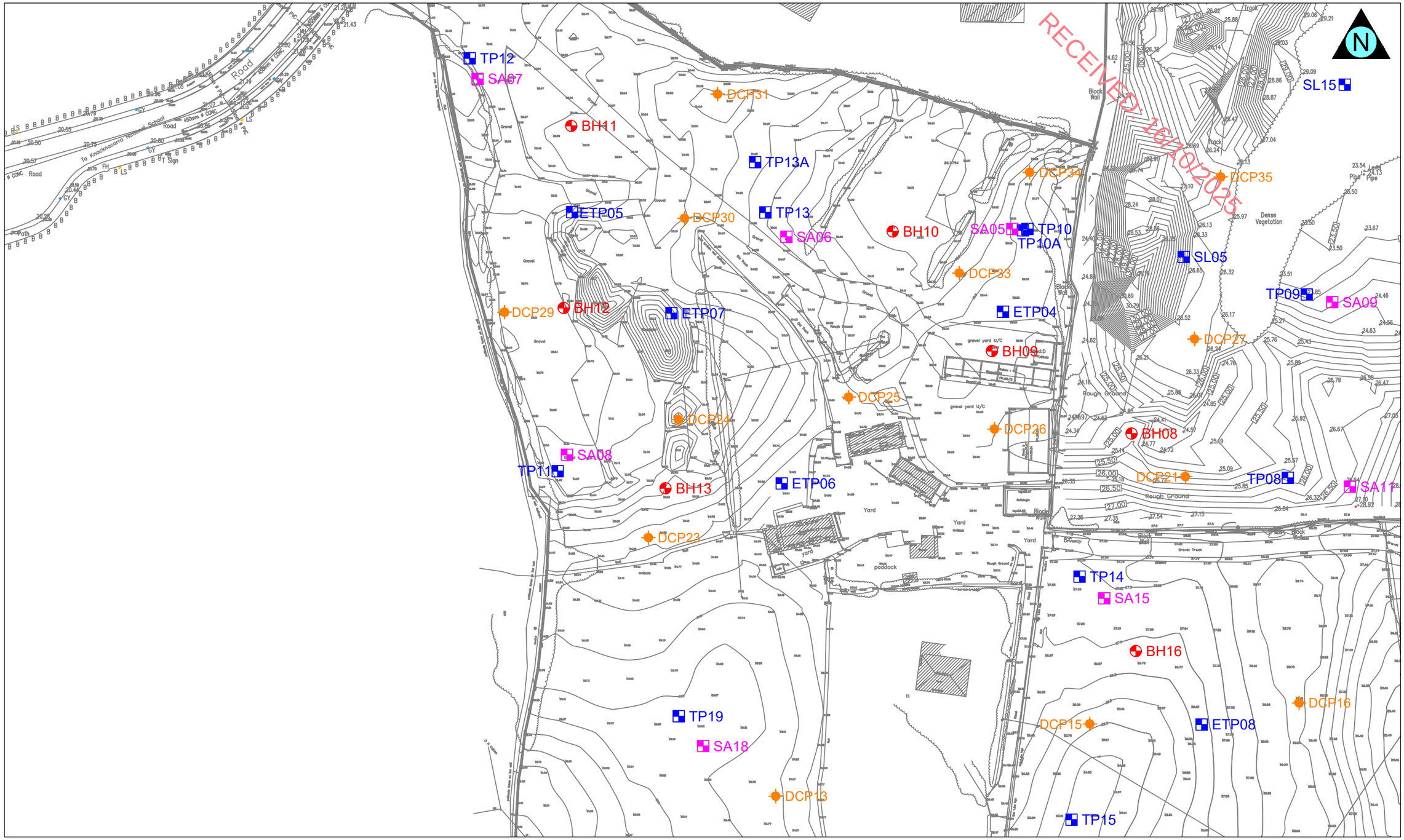
PROJECT: Kingston Lands			TITLE: Exploratory Hole Overview Plan		
CLIENT: King Construction	BH = Percussive Borehole BH = Rotary Borehole TP/SL/ETP = Trial Pit DCP = Dynamic Cone Penetrometer SA = Soakaway Tests	CAUSEWAY GEOTECH	SCALE: NTS	DATE: 06/08/2025	
ENGINEER: TOBIN / MKO			DRWN: JD CHCK: MG	SERIES: 1 of 1	DWG No: 24-0211EHL-OV-001



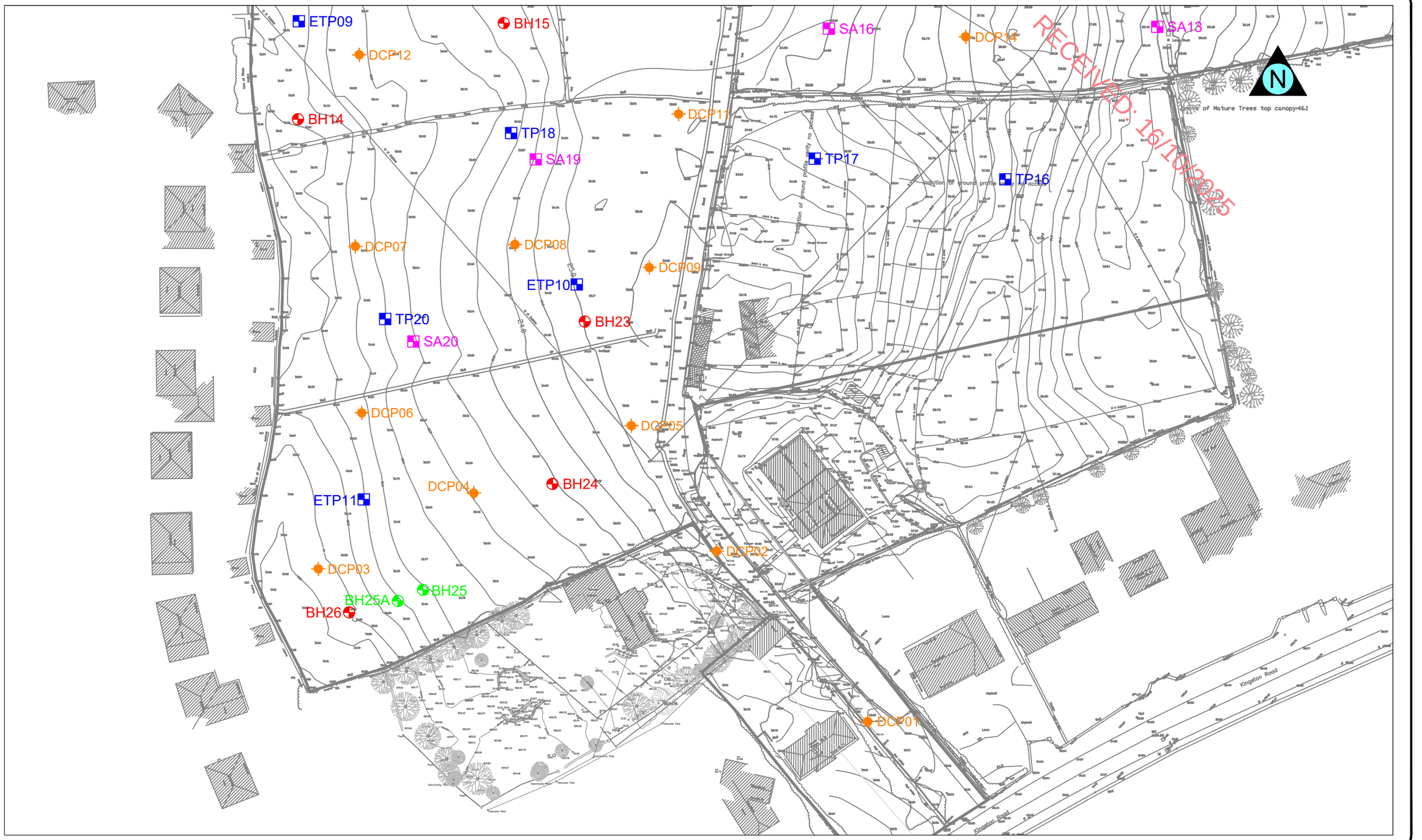
PROJECT: Kingston Lands		TITLE: Exploratory Hole Plan			
CLIENT: King Construction	BH = Percussive Borehole BH = Rotary Borehole TP/SL/ETP = Trial Pit DCP = Dynamic Cone Penetrometer SA = Soakaway Tests	CAUSEWAY GEOTECH	SCALE: NTS	DATE: 06/08/2025	
ENGINEER: TOBIN / MKO			DRWN: JD CHCK: MG	SERIES: 1 of 4	DWG No: 24-0211EHL-001

RECEIVED: 16/10/2025

PROJECT: Kingston Lands		TITLE: Exploratory Hole Plan			
CLIENT: King Construction	BH = Percussive Borehole BH = Rotary Borehole TP/SL/ETP = Trial Pit DCP = Dynamic Cone Penetrometer SA = Soakaway Tests	CAUSEWAY GEOTECH	SCALE: NTS	DATE: 06/08/2025	
ENGINEER: TOBIN / MKO			DRWN: JD CHCK: MG	SERIES: 2 of 4	DWG No: 24-0211EHL-002

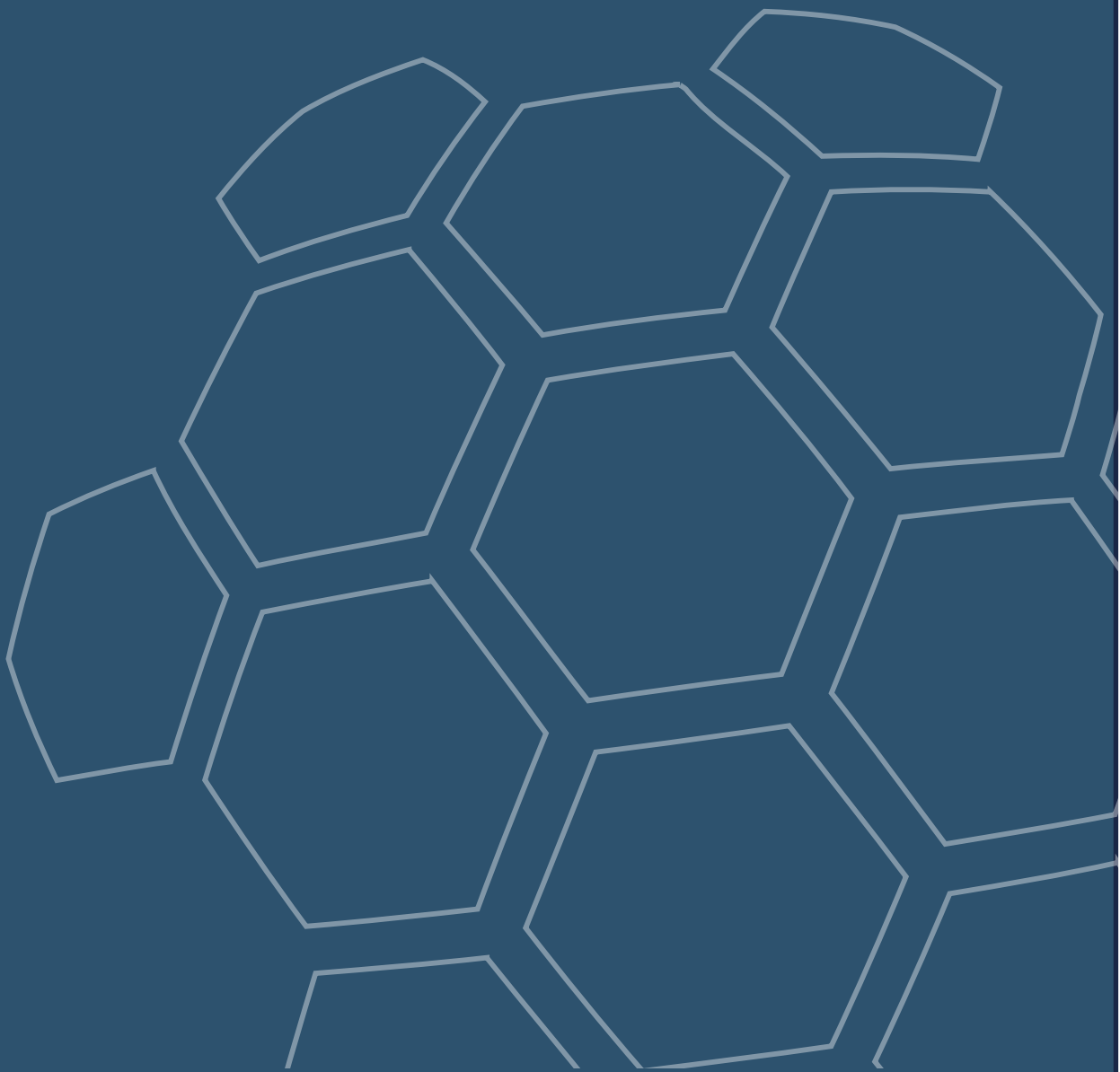


PROJECT: Kingston Lands			TITLE: Exploratory Hole Plan		
CLIENT: King Construction	BH = Percussive Borehole BH = Rotary Borehole TP/SL/ETP = Trial Pit DCP = Dynamic Cone Penetrometer SA = Soakaway Tests	CAUSEWAY GEOTECH	SCALE: NTS	DATE: 06/08/2025	
ENGINEER: TOBIN / MKO			DRWN: JD CHCK: MG	SERIES: 3 of 4	DWG No: 24-0211EHL-003



PROJECT: Kingston Lands			TITLE: Exploratory Hole Plan		
CLIENT: King Construction	BH = Percussive Borehole BH = Rotary Borehole TP/SL/ETP = Trial Pit DCP = Dynamic Cone Penetrometer SA = Soakaway Tests	CAUSEWAY GEOTECH	SCALE: NTS	DATE: 06/08/2025	
ENGINEER: TOBIN / MKO			DRWN: JD CHCK: MG	SERIES: 4 of 4	DWG No: 24-0211EHL-004

APPENDIX B – BOREHOLE LOGS



CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
24-0211	Kingston Lands, Galway	BH01
	Client: King Construction	
	Client's Rep: TOBIN / MKO	

Method	Plant Used	Top (m)	Base (m)
Rotary Percussion	Comacchio 602	0.00	3.90
Rotary Coring	Comacchio 602	3.90	7.70

Coordinates: 526895.44 E, 724927.54 N

Final Depth: 7.70 m | Start Date: 04/06/2025 | Driller: SMCW | Logger: EL | Elevation: 30.11 mOD | End Date: 05/06/2025

Sheet 1 of 2 | Scale: 1:40 | FINAL

Depth (m)	Samples / Field Records	TCR	SCR	RQD	FI	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Description
0.00 - 0.60	B2							29.91	0.20	MADE GROUND: Dark brownish black COBBLES with much gravelly sand. Gravel is subangular fine to coarse. Sand is fine to coarse.
										Soft light brown slightly gravelly sandy CLAY with medium cobble content. Sand is fine to coarse. Gravel is subangular fine to coarse.
0.60 - 1.20	B3							29.51	0.60	Medium dense yellowish brown gravelly fine to coarse SAND with medium cobble content. Gravel is subangular fine to coarse.
1.20 - 2.50	B4					0.00	0.00			
1.20 - 1.29	SPT(S) 50 (25 for 50mm/50 for 40mm) Hammer SN = 1377									
2.50	D1					2.50	0.00			
2.50 - 3.90	B5									
2.50 - 2.95	SPT(S) N=15 (3,6/3,3,7,2) Hammer SN = 1377									
								26.81	3.30	Weathered GRANITE (Driller's description)
								26.21	3.90	Strong (locally medium strong) light greyish pink speckled green and black GRANITE. Slightly weathered: slightly reduced strength, slightly closer fracture spacing and faint orangish brown discolouration on some fracture surfaces. Discontinuities: 1. 10-30 degree joints, closely spaced (50/130/210), planar, smooth, with faint orangish brown staining on some joint surfaces.
		100	70	47	5					
4.90		100	100	91						
6.40		92	92	89	4					
		TCR	SCR	RQD	FI					

Water: Backfill

Water Strikes			
Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Remarks

Inspection pit hand dug to 1.20m.
No noticeable groundwater strikes. Water added during drilling.

Casing Details	
To (m)	Diam (mm)
3.90	200

Core Barrel: SK6L

Flush Type: Polymer

Termination Reason: Terminated on Engineer's instruction.

Last Updated: 05/08/2025

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
24-0211	Kingston Lands, Galway	BH01
	Client: King Construction	
	Client's Rep: TOBIN / MKO	

Method	Plant Used	Top (m)	Base (m)
Rotary Percussion	Comacchio 602	0.00	3.90
Rotary Coring	Comacchio 602	3.90	7.70

Coordinates: 526895.44 E, 724927.54 N

Final Depth: 7.70 m | Start Date: 04/06/2025 | Driller: SMCW | Logger: EL | Elevation: 30.11 mOD | End Date: 05/06/2025

Sheet 2 of 2 | Scale: 1:40 | FINAL

Depth (m)	Samples / Field Records	TCR	SCR	RQD	FI	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
7.70								22.41	7.70		End of Borehole at 7.70m		

Water Strikes			
Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Remarks

Inspection pit hand dug to 1.20m.
No noticeable groundwater strikes. Water added during drilling.

Casing Details	
To (m)	Diam (mm)
3.90	200

Core Barrel: SK6L

Flush Type: Polymer

Termination Reason: Terminated on Engineer's instruction.

Last Updated: 05/08/2025

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
24-0211	Kingston Lands, Galway	BH02
	Client: King Construction	
	Client's Rep: TOBIN / MKO	

Method	Plant Used	Top (m)	Base (m)	Coordinates
Cable Percussion	Dando 2000	0.00	3.80	526885.89 E 724935.94 N

Final Depth:	3.80 m	Start Date: 28/05/2025	Driller: BM	Sheet 1 of 1
Elevation:	28.59 mOD	End Date: 29/05/2025	Logger: SMC	Scale: 1:40
				FINAL

RECEIVED: 16/10/2025

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
								MADE GROUND: Soft brown sandy gravelly CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
0.30 - 0.50	B1				28.29	0.30		Brownish grey COBBLES with some sandy gravelly clay. Sand is fine to coarse. Gravel is subangular fine to coarse.		
0.50	D4									
0.50	ES3									
0.80 - 1.00	B2									
1.20 - 1.65	D5									
1.20 - 1.65	SPT (C)	N=8 (3,2/2,2,2,2) Hammer SN = 1532	1.20	Dry						
					27.09	1.50		Medium dense becoming dense greyish brown very sandy silty subangular fine to coarse GRAVEL with low cobble content. Sand is fine to coarse. (Possible weathered bedrock)		
1.80 - 2.00	B6									
2.00 - 2.45	D7									
2.00 - 2.45	SPT (C)	N=10 (2,2/3,2,2,3) Hammer SN = 1532	2.00	Dry						
2.80 - 3.00	B9									
3.00 - 3.45	D8									
3.00 - 3.45	SPT (S)	N=43 (10,12/9,12,11,11) Hammer SN = 1532	1.50	Dry						
3.70		28-05-2025	3.00	0.00						
3.80 - 4.00	SPT (C)	50 (25 for 75mm/50 for 125mm) Hammer SN = 1532	3.80	Dry	24.79	3.80		End of Borehole at 3.80m		

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details

To (m)	Diameter
3.00	200

Water Added

From (m)	To (m)

Chiselling Details

From (m)	To (m)	Time (hh:mm)
1.00	1.60	01:00
3.50	3.80	01:00

Remarks

Inspection pit hand dug to 1.20m.

Termination Reason

Terminated at refusal on boulder / possible bedrock.

Last Updated

05/08/2025

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
24-0211	Kingston Lands, Galway	BH03
	Client: King Construction	
	Client's Rep: TOBIN / MKO	

Method	Plant Used	Top (m)	Base (m)	Coordinates
Cable Percussion	Dando 2000	0.00	3.00	526813.22 E 724860.19 N

Final Depth:	Start Date:	Driller:	Sheet 1 of 1
3.00 m	29/05/2025	BM	Scale: 1:40
Elevation: 24.05 mOD	**End Date:** 29/05/2025	**Logger:** SMC	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description
0.30 - 0.50	B1							MADE GROUND: Soft becoming firm brown sandy gravelly CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.
0.50	D5							
0.50	ES3							
0.80 - 1.00	B2							
1.00	ES4							
1.20 - 1.65	D6							
1.20 - 1.65	SPT (S)	N=6 (1,1/2,1,1,2) Hammer SN = 1532	1.20	Dry				
					22.45	1.60		Soft greyish brown slightly gravelly sandy CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.
1.80 - 2.00	B7							
2.00 - 2.45	D10							
2.00 - 2.45	SPT (C)	N=5 (0,1/1,1,1,2) Hammer SN = 1532	2.00	Dry				
2.50 - 2.70	B8							
					21.45	2.60		[Recovered through chiselling as] Dense grey angular fine to coarse GRAVEL. (Possible weathered bedrock.)
2.70 - 2.90	B9							
2.90 - 3.00	D11							
2.90 - 3.20	SPT (C)	50 (8,17/50 for 150mm) Hammer SN = 1532	2.90	1.80	21.05	3.00		End of Borehole at 3.00m

Water | Backfill

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0 6.5 7.0

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details

To (m)	Diameter
3.00	200

Water Added

From (m)	To (m)

Chiselling Details

From (m)	To (m)	Time (hh:mm)
2.70	2.90	01:00

Remarks

Inspection pit hand dug to 1.20m.

Termination Reason

Terminated at refusal on boulder / possible bedrock.

Last Updated

05/08/2025

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
24-0211	Kingston Lands, Galway	BH04
	Client: King Construction	
	Client's Rep: TOBIN / MKO	

Method	Plant Used	Top (m)	Base (m)	Coordinates
Cable Percussion	Dando 2000	0.00	1.70	526767.60 E 724856.09 N

Final Depth:	1.70 m	**Start Date:** 01/06/2025	**Driller:** CB	Sheet 1 of 1
				Scale: 1:40
Elevation:	24.98 mOD	**End Date:** 01/06/2025	**Logger:** SMC	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
0.00 - 1.20	B5				24.68	0.30		MADE GROUND: Light greyish brown COBBLES with much sandy gravel. Sand is fine to coarse. Gravel is subangular fine to coarse.		
0.50	ES1							Soft dark brownish sandy gravelly SILT with high cobble content and medium boulder content. Gravel is subangular fine to coarse.		
1.00	D2									
1.00	ES3									
1.20 - 1.70	B6									
1.20 - 1.27	SPT (S)	50 (25 for 60mm/50 for 12mm) Hammer SN = 1532	0.00	Dry						
					23.38	1.60		[Recovered through chiselling as] Dense grey angular fine to coarse GRAVEL. (Possible weathered bedrock.)		
1.70	D4				23.28	1.70		End of Borehole at 1.70m		

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details

To (m)	Diameter
1.70	200

Water Added

From (m)	To (m)

Chiselling Details

From (m)	To (m)	Time (hh:mm)
1.20	1.70	02:00

Remarks

Inspection pit hand dug to 1.20m.

Termination Reason

Terminated at refusal on boulder / possible bedrock.

Last Updated

05/08/2025

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
24-0211	Kingston Lands, Galway	BH05
	Client: King Construction	
	Client's Rep: TOBIN / MKO	

Method	Plant Used	Top (m)	Base (m)	Coordinates
Cable Percussion	Dando 2000	1.30	1.50	526729.31 E 724850.12 N

Final Depth:	1.50 m	Start Date:	01/06/2025	Driller:	CB
Elevation:	26.38 mOD	End Date:	01/06/2025	Logger:	SMC

Sheet 1 of 1
Scale: 1:40
FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
0.00 - 1.20	B4							MADE GROUND: Brownish grey COBBLES with many boulders and much sandy clayey gravel. Sand is fine to coarse. Gravel is subangular fine to coarse.		
0.50	ES1									
1.00	D3									
1.00	ES2									
1.20 - 1.50	B5									
1.20 - 1.36	SPT (S)	50 (2,5/50 for 14mm) Hammer SN = 1532	0.00	Dry	24.88	1.50		End of Borehole at 1.50m		

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0 6.5 7.0

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details

To (m)	Diameter
1.50	200

Water Added

From (m)	To (m)

Chiselling Details

From (m)	To (m)	Time (hh:mm)
1.40	1.50	01:00

Remarks

Inspection pit hand dug to 1.20m.

Termination Reason

Terminated at refusal on boulder / possible bedrock.

Last Updated

05/08/2025

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
24-0211	Kingston Lands, Galway	BH06
	Client: King Construction	
	Client's Rep: TOBIN / MKO	

Method	Plant Used	Top (m)	Base (m)	Coordinates
Cable Percussion	Dando 2000	0.00	3.00	526698.02 E 724811.76 N

Final Depth:	Start Date:	Driller:	Sheet 1 of 1
3.00 m	01/06/2025	CB	Scale: 1:40
Elevation: 26.19 mOD	**End Date:** 02/06/2025	**Logger:** SMC	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
0.00 - 1.20	B3							MADE GROUND: Dark brownish grey COBBLES with some boulders and a little clayey sandy gravel. Sand is fine to coarse. Gravel is subangular fine to coarse.		
0.50	ES1									
1.00	D4									
1.00	ES2									
1.20 - 1.30	SPT (C)	50 (25 for 36mm/50 for 63mm) Hammer SN = 1532	1.20	Dry	24.99	1.20		POSSIBLE MADE GROUND: Brownish grey COBBLES with many boulders and a little sandy gravel. Sand is fine to coarse. Gravel is angular fine to coarse.		
2.00 - 2.45	SPT (C)	N=37 (6,8/9,9,11,8) Hammer SN = 1532	2.00	Dry						
3.00 - 3.03	SPT (C)	50 (25 for 11mm/50 for 21mm) Hammer SN = 1532	3.00	Dry	23.19	3.00		End of Borehole at 3.00m		

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details

To (m)	Diameter
2.80	200

Water Added

From (m)	To (m)

Chiselling Details

From (m)	To (m)	Time (hh:mm)
2.80	3.00	01:00

Remarks

Inspection pit hand dug to 1.20m.

Termination Reason

Terminated at refusal on boulder / possible bedrock.

Last Updated

05/08/2025

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
24-0211	Kingston Lands, Galway	BH07
	Client: King Construction	
	Client's Rep: TOBIN / MKO	

Method	Plant Used	Top (m)	Base (m)	Coordinates
Cable Percussion	Dando 2000	0.00	2.80	526730.58 E 724758.31 N

Final Depth:	Start Date:	Driller:	Sheet 1 of 1
2.80 m	01/06/2025	RA	Scale: 1:40
Elevation: 23.41 mOD	**End Date:** 01/06/2025	**Logger:** MFG	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description
0.00 - 1.20	B4							Spongy dark brown pseudofibrous PEAT.
0.50	ES1							
1.00	D3							
1.00	ES2							
1.20 - 1.65	SPT (S)	N=3 (1,0/0,1,1,1) Hammer SN = 1529	1.20	Dry				
1.70	D5				21.71	1.70		Dense sandy slightly silty subangular fine to coarse GRAVEL with high cobble content. Sand is fine to coarse.
2.00 - 2.80	B6							
2.00 - 2.45	SPT (C)	N=41 (5,7/8,10,11,12) Hammer SN = 1529		2.00				
					20.81	2.60		[Recovered through chiselling as] Dense grey angular fine to coarse GRAVEL. (Possible weathered bedrock.)
2.80 - 2.86	SPT (C)	50 (25 for 30mm/50 for 35mm) Hammer SN = 1529	2.80	2.00	20.61	2.80		End of Borehole at 2.80m

Water

Backfill

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0 6.5 7.0

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details

To (m)	Diameter
2.80	200

Water Added

From (m)	To (m)
1.70	2.80

Chiselling Details

From (m)	To (m)	Time (hh:mm)
2.60	2.80	01:00

Remarks

Inspection pit excavated to 1.20m.

Termination Reason

Terminated at refusal on boulder / possible bedrock.

Last Updated

05/08/2025

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
24-0211	Kingston Lands, Galway	BH08
	Client: King Construction	
	Client's Rep: TOBIN / MKO	

Method	Plant Used	Top (m)	Base (m)	Coordinates
Cable Percussion	Dando 2000	0.00	1.70	526660.32 E 724712.09 N

Final Depth:	1.70 m	Start Date: 28/05/2025	Driller: RA	Sheet 1 of 1
Elevation:	24.78 mOD	End Date: 28/05/2025	Logger: MFG	Scale: 1:40
				FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
0.00 - 1.00	B3							Soft dark brown slightly sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
0.50	ES1									
1.00	D4				23.78	1.00				
1.00	ES2							[Recovered through chiselling as] Very dense grey sandy angular fine to coarse GRAVEL. Sand is fine to coarse. (Possible weathered bedrock.)		
1.20 - 1.60	B5									
1.20 - 1.54	SPT (S)	50 (7,9/50 for 185mm) Hammer SN = 1529	1.20	0.60						
1.70 - 1.82	SPT (C)	50 (25 for 60mm/50 for 65mm) Hammer SN = 1529	1.70	0.50	23.08	1.70		End of Borehole at 1.70m		

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0 6.5 7.0

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details

To (m)	Diameter
1.70	200

Water Added

From (m)	To (m)
1.20	1.60

Chiselling Details

From (m)	To (m)	Time (hh:mm)
1.60	1.70	01:30

Remarks

Inspection pit hand dug to 1.20m

Termination Reason

Terminated at refusal on boulder / possible bedrock.

Last Updated

05/08/2025

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
24-0211	Kingston Lands, Galway	BH09
	Client: King Construction	
	Client's Rep: TOBIN / MKO	

Method	Plant Used	Top (m)	Base (m)	Coordinates
Cable Percussion	Dando 2000	0.00	1.60	526629.48 E 724730.31 N

Final Depth:	Start Date:	Driller:	Sheet 1 of 1
1.60 m	28/05/2025	KP	Scale: 1:40
Elevation: 25.45 mOD	**End Date:** 28/05/2025	**Logger:** MFG	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description
0.00 - 1.20	B3							Soft brown slightly gravelly sandy CLAY with low cobble content. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.
0.50	ES1							
1.00	D4							
1.00	ES2							
1.20 - 1.60	B5				24.25	1.20		Dense brownish grey sandy subangular fine GRAVEL. Sand is fine to coarse.
1.20 - 1.54	SPT (S)	50 (7,10/50 for 190mm) Hammer SN = 1529	1.20	Dry	24.05	1.40		[Recovered through chiselling as] Very dense grey angular fine to coarse GRAVEL with high cobble content. Cobbles are subangular. (Possible weathered bedrock.)
1.60 - 1.62	SPT (S)	50 (25 for 5mm/50 for 10mm) Hammer SN = 1529	1.60	Dry	23.85	1.60		End of Borehole at 1.60m

Water | Backfill

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0 6.5 7.0

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details

To (m)	Diameter
1.40	200

Water Added

From (m)	To (m)
1.20	1.60

Chiselling Details

From (m)	To (m)	Time (hh:mm)
1.40	1.60	01:00

Remarks

Inspection pit hand dug to 1.20m

Termination Reason

Terminated at refusal on boulder / possible bedrock.

Last Updated

05/08/2025

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
24-0211	Kingston Lands, Galway	BH10
	Client: King Construction	
	Client's Rep: TOBIN / MKO	

Method	Plant Used	Top (m)	Base (m)	Coordinates
Cable Percussion	Dando 2000	0.00	1.40	526607.54 E 724756.73 N

Final Depth:	1.40 m	Start Date:	27/05/2025	Driller:	KP	Sheet 1 of 1 Scale: 1:40
Elevation:	26.69 mOD	End Date:	27/05/2025	Logger:	MFG	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
0.00 - 0.30	B3							TOPSOIL		
0.30 - 1.10	B5				26.39	0.30		MADE GROUND: Soft brown sandy gravelly CLAY with low cobble content. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
0.50	ES1									
1.00	D4									
1.00	ES2				25.59	1.10		[Recovered through chiselling as] Dense grey angular fine to coarse GRAVEL with low cobble and boulder content. Cobbles and boulders are subangular. (Possible weathered bedrock.)		
1.20 - 1.40	B6									
1.20 - 1.30	SPT (C)	50 (25 for 50mm/50 for 55mm) Hammer SN = 1529	1.20	Dry	25.29	1.40		End of Borehole at 1.40m		

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0 6.5 7.0

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Chiselling Details

From (m)	To (m)	Time (hh:mm)
1.20	1.40	01:00

Casing Details

To (m)	Diameter
1.40	200

Water Added

From (m)	To (m)

Remarks

Inspection pit hand dug to 1.20m

Termination Reason

Terminated at refusal on boulder / possible bedrock.

Last Updated

05/08/2025

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
24-0211	Kingston Lands, Galway	BH11
	Client: King Construction	
	Client's Rep: TOBIN / MKO	

Method	Plant Used	Top (m)	Base (m)	Coordinates
Cable Percussion	Dando 2000	0.00	1.40	526536.50 E 724780.06 N

Final Depth:	1.40 m	**Start Date:** 27/05/2025	**Driller:** KP	Sheet 1 of 1
				Scale: 1:40
Elevation:	22.60 mOD	**End Date:** 27/05/2025	**Logger:** MFG	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
0.00 - 0.20	B1							TOPSOIL		
0.20 - 1.20	B2				22.40	0.20		Possible MADE GROUND: Soft grey slightly sandy gravelly CLAY with low cobble content. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
0.50	ES1									
1.00	D3									
1.00	ES2									
1.20 - 1.40	B4				21.40	1.20				
1.20 - 1.58	SPT (C)	50 (4,9/50 for 235mm) Hammer SN = 1529	1.20	Dry	21.20	1.40		[Recovered through chiselling as] Dense grey sandy slightly silty angular fine to coarse GRAVEL with high cobble and boulder content. (Sand is fine to coarse. Possible weathered bedrock.)		
1.40 - 1.49	SPT (C)	50 (25 for 40mm/50 for 50mm) Hammer SN = 1529	1.40	Dry				End of Borehole at 1.40m		

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0 6.5 7.0

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details

To (m)	Diameter
1.40	200

Water Added

From (m)	To (m)

Chiselling Details

From (m)	To (m)	Time (hh:mm)
1.20	1.40	01:00

Remarks

Inspection pit hand dug to 1.20m

Termination Reason

Terminated at refusal on boulder / possible bedrock.

Last Updated

05/08/2025

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
24-0211	Kingston Lands, Galway	BH12
	Client: King Construction	
	Client's Rep: TOBIN / MKO	

Method	Plant Used	Top (m)	Base (m)	Coordinates
Cable Percussion	Dando 2000	0.00	1.30	526534.83 E 724739.83 N

Final Depth:	1.30 m	Start Date:	31/05/2025	Driller:	RA	Sheet 1 of 1
						Scale: 1:40
Elevation:	22.50 mOD	End Date:	31/05/2025	Logger:	MFG	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
0.00 - 1.30	B2							Possible MADE GROUND: Soft brown gravelly sandy CLAY with low cobble content. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
0.50	ES1									
1.20 - 1.30	SPT (C)	50 (25 for 40mm/50 for 55mm) Hammer SN = 1529	1.20	Dry	21.30 21.20	1.20 1.30		[Recovered through chiselling as] Dense grey angular fine to coarse GRAVEL with medium cobble content. Cobbles are subangular. (Possible weathered bedrock.)		
								End of Borehole at 1.30m		

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0 6.5 7.0

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details

To (m)	Diameter
1.30	200

Water Added

From (m)	To (m)

Chiselling Details

From (m)	To (m)	Time (hh:mm)
1.20	1.30	01:00

Remarks

Inspection pit hand dug to 1.20m

Termination Reason

Terminated at refusal on boulder / possible bedrock.

Last Updated

05/08/2025

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
24-0211	Kingston Lands, Galway	BH13
	Client: King Construction	
	Client's Rep: TOBIN / MKO	

Method	Plant Used	Top (m)	Base (m)	Coordinates
Cable Percussion	Dando 2000	0.00	1.40	526557.33 E 724699.98 N

Final Depth:	1.40 m	Start Date:	31/05/2025	Driller:	CB	Sheet 1 of 1 Scale: 1:40
Elevation:	24.49 mOD	End Date:	31/05/2025	Logger:	SMC	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
0.00 - 1.20	B1							Brownish grey COBBLES with many boulders and much sandy gravel. Sand is fine to coarse. Gravel is subangular fine to coarse.		
0.50	ES2									
1.20 - 1.23	SPT (S)	50 (25 for 11mm/50 for 23mm) Hammer SN = 1532	0.00	Dry						
					23.09	1.40		End of Borehole at 1.40m		

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0 6.5 7.0

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details

To (m)	Diameter
1.40	200

Water Added

From (m)	To (m)

Chiselling Details

From (m)	To (m)	Time (hh:mm)
1.20	1.20	01:00

Remarks

Inspection pit hand dug to 1.20m.

Termination Reason

Terminated at refusal on boulder / possible bedrock.

Last Updated

05/08/2025

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
24-0211	Kingston Lands, Galway	BH14
	Client: King Construction	
	Client's Rep: TOBIN / MKO	

Method	Plant Used	Top (m)	Base (m)	Coordinates
Cable Percussion	Dando 2000	0.00	1.20	526534.36 E 724599.36 N

Final Depth:	1.20 m	Start Date:	30/05/2025	Driller:	KP
Elevation:	21.14 mOD	End Date:	30/05/2025	Logger:	MFG

Sheet 1 of 1
Scale: 1:40
FINAL

RECEIVED: 16/10/2025

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
0.00 - 0.30	B3							TOPSOIL		
0.30 - 1.00	B4				20.84	0.30		MADE GROUND: Soft brown sandy gravelly SILT. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
0.50	ES1									
1.00	D6									
1.00	ES2				20.04	1.10		[Recovered through chiselling as] dense angular fine to coarse GRAVEL. (Possible weathered bedrock)		
1.20 - 1.54	SPT (C)	50 (3,6/50 for 195mm) Hammer SN = 1529		Dry	19.94	1.20		End of Borehole at 1.20m		

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0 6.5 7.0

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details

To (m)	Diameter
1.20	200

Water Added

From (m)	To (m)

Chiselling Details

From (m)	To (m)	Time (hh:mm)
1.10	1.20	01:00

Remarks

Inspection pit hand dug to 1.20m

Termination Reason

Terminated at refusal on boulder / possible bedrock.

Last Updated

05/08/2025

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
24-0211	Kingston Lands, Galway	BH15
	Client: King Construction	
	Client's Rep: TOBIN / MKO	

Method	Plant Used	Top (m)	Base (m)	Coordinates
Cable Percussion	Dando 2000	0.00	1.50	526580.10 E 724620.71 N

Final Depth:	1.50 m	Start Date:	30/05/2025	Driller:	CB
Elevation:	23.66 mOD	End Date:	30/05/2025	Logger:	SMC

Sheet 1 of 1
Scale: 1:40
FINAL

RECEIVED: 16/10/2025

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
0.20 - 1.20	B1				23.46	0.20		TOPSOIL with very fine roots (<0.5mm).		
0.50	ES2				23.16	0.50		MADE GROUND: PAVING COBBLES		
1.00	D3							Firm to stiff light brownish grey slightly gravelly sandy SILT with high cobble and medium boulder content. Sand is fine to coarse. Gravel is subangular fine to coarse.		
1.20 - 1.25	SPT (C)	50 (25 for 13mm/50 for 34mm) Hammer SN = 1532	0.00	Dry						
1.50	D4				22.26	1.40		[Recovered through chiselling as] Dense grey angular fine to coarse GRAVEL. (Possible weathered bedrock.)		
1.50 - 1.50	SPT (C)	50 (25 for 0mm/50 for 0mm) Hammer SN = 1532	1.50	1.00	22.16	1.50		End of Borehole at 1.50m		

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details

To (m)	Diameter
1.50	200

Water Added

From (m)	To (m)

Chiselling Details

From (m)	To (m)	Time (hh:mm)
1.40	1.50	01:00

Remarks

Inspection pit hand dug to 1.20m.

Termination Reason

Terminated at refusal on boulder / possible bedrock.

Last Updated

05/08/2025

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
24-0211	Kingston Lands, Galway	BH16
	Client: King Construction	
	Client's Rep: TOBIN / MKO	

Method	Plant Used	Top (m)	Base (m)	Coordinates
Cable Percussion	Dando 2000	0.00	1.40	526661.28 E 724664.02 N

Final Depth:	1.40 m	Start Date:	31/05/2025	Driller:	CB	Sheet 1 of 1 Scale: 1:40
Elevation:	26.75 mOD	End Date:	01/06/2025	Logger:	SMC	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description
0.20 - 1.20	B2							MADE GROUND: Grey COBBLES with much sandy clayey gravel. Sand is fine to coarse. Gravel is subangular fine to coarse.
0.50	ES1				26.25	0.50		Firm grey slightly sandy gravelly CLAY with medium cobble content. Sand is fine to coarse. Gravel is subangular fine to coarse.
1.00	D3							
1.20 - 1.22	SPT (S)	50 (25 for 6mm/50 for 10mm) Hammer SN = 1532	1.20	Dry	25.55	1.20		[Recovered through chiselling as] Dense grey angular fine to coarse GRAVEL. (Possible weathered bedrock.)
					25.35	1.40		End of Borehole at 1.40m

Water

Backfill

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0 6.5 7.0

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details

To (m)	Diameter
1.40	200

Water Added

From (m)	To (m)

Chiselling Details

From (m)	To (m)	Time (hh:mm)
1.20	1.40	01:00

Remarks

Inspection pit hand dug to 1.20m.

Termination Reason

Terminated at refusal on boulder / possible bedrock.

Last Updated

05/08/2025

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
24-0211	Kingston Lands, Galway	BH17
	Client: King Construction	
	Client's Rep: TOBIN / MKO	

Method	Plant Used	Top (m)	Base (m)	Coordinates
Cable Percussion	Dando 2000	0.00	1.40	526746.88 E 724677.95 N

Final Depth:	1.40 m	Start Date:	01/06/2025	Driller:	RA	Sheet 1 of 1
						Scale: 1:40
Elevation:	28.59 mOD	End Date:	01/06/2025	Logger:	MFG	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
0.00 - 1.20	B4							MADE GROUND: Soft brown slightly sandy gravelly CLAY with high cobble content. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
0.50	ES1									
1.00	D3									
1.00	ES2									
1.20 - 1.30	SPT (C)	50 (25 for 30mm/50 for 75mm) Hammer SN = 1529	1.20	Dry	27.39	1.20		[Recovered through chiselling as] Dense grey angular fine to coarse GRAVEL. (Possible weathered bedrock.)		
1.40 - 1.45	SPT (C)	50 (25 for 20mm/50 for 30mm) Hammer SN = 1529	1.40	Dry	27.19	1.40		End of Borehole at 1.40m		

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details

To (m)	Diameter
1.40	200

Water Added

From (m)	To (m)

Chiselling Details

From (m)	To (m)	Time (hh:mm)
1.20	1.40	01:00

Remarks

Inspection pit hand dug to 1.20m

Termination Reason

Terminated at refusal on boulder / possible bedrock.

Last Updated

05/08/2025

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
24-0211	Kingston Lands, Galway	BH18
	Client: King Construction	
	Client's Rep: TOBIN / MKO	

Method	Plant Used	Top (m)	Base (m)	Coordinates
Cable Percussion	Dando 2000	0.00	3.00	526755.39 E 724641.40 N

Final Depth:	3.00 m	**Start Date:** 01/06/2025	**Driller:** KP	Sheet 1 of 1
				Scale: 1:40
Elevation:	27.52 mOD	**End Date:** 01/06/2025	**Logger:** MFG	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description
0.00 - 0.30	B1							TOPSOIL
0.30 - 1.20	B2				27.22	0.30		MADE GROUND: Soft brown slightly gravelly sandy CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.
1.00	D3							
1.20 - 1.65	SPT (C)	N=34 (7,7/8,9,8,9) Hammer SN = 1529	1.20	1.20	26.32	1.20		Dense light brown very sandy silty subangular fine to coarse GRAVEL. Sand is fine to coarse.
1.65 - 2.00	B4							
2.00	D5							
2.00 - 2.45	SPT (C)	N=36 (9,9/10,8,9,9) Hammer SN = 1529	2.00	2.00				
2.65 - 3.00	B6							
3.00	D7				24.57	2.95		
3.00 - 3.11	SPT (C)	50 (25 for 50mm/50 for 60mm) Hammer SN = 1529	3.00	3.00	24.52	3.00		[Recovered through chiselling as] Dense grey angular fine to coarse GRAVEL. (Possible weathered bedrock.)
								End of Borehole at 3.00m

Water

Backfill

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0 6.5 7.0

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details

To (m)	Diameter

Water Added

From (m)	To (m)

Chiselling Details

From (m)	To (m)	Time (hh:mm)
2.95	3.00	01:00

Remarks

Inspection pit hand dug to 1.20m

Termination Reason

Terminated at refusal on boulder / possible bedrock.

Last Updated

05/08/2025

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
24-0211	Kingston Lands, Galway	BH19
	Client: King Construction	
	Client's Rep: TOBIN / MKO	

Method	Plant Used	Top (m)	Base (m)
Rotary Percussion	Comacchio 602	0.00	2.30
Rotary Coring	Comacchio 602	2.30	6.30

Coordinates: 526794.21 E, 724630.37 N

Final Depth: 6.30 m | Start Date: 03/06/2025 | Driller: SMCW | Logger: ER | Elevation: 30.00 mOD | End Date: 03/06/2025

Sheet 1 of 1 | Scale: 1:40 | FINAL

Depth (m)	Samples / Field Records	TCR	SCR	RQD	FI	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description
											MADE GROUND: Soft dark greyish brown slightly gravelly sandy organic CLAY with very fine roots (<0.5mm) and low cobble content. Sand is fine to coarse. Gravel is subrounded fine to coarse of various lithologies, predominantly granite. Cobbles are of granite. (Probably reworked topsoil.)
0.70 - 2.30	B1							29.30	0.70		Weathered GRANITE (Driller's description).
		100	68	50				27.70	2.30		Very strong (locally strong) dark grey pink speckled GRANITE. Slightly weathered: slightly reduced strength dark brown discolouration on joint surfaces. Discontinuities: 1. 0-20 degree joints, closely spaced (60/100/150), planar, smooth, with patchy dark brown staining on some joint surfaces. 2. 25 to 45 degree joints, closely spaced (140/185/230), planar, smooth. 3. 80 degree joints at 4.30m to 4.80m and 5.70m to 6.10m, planar, smooth.
3.30		100	81	77	6						
4.80		90	88	83	2						
6.30								23.70	6.30		End of Borehole at 6.30m
		TCR	SCR	RQD	FI						

Water | Backfill

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0 6.5 7.0

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Remarks

Inspection pit hand dug to 0.70m onto rock.
No groundwater encountered.

Casing Details

To (m)	Diam (mm)
2.30	200

Core Barrel: SK6L

Flush Type: Polymer

Termination Reason: Terminated on Engineer's instruction.

Last Updated: 05/08/2025

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
24-0211	Kingston Lands, Galway	BH19A
	Client: King Construction	
	Client's Rep: TOBIN / MKO	

Method	Plant Used	Top (m)	Base (m)	Coordinates
Hand Digging	Hand Tools	0.00	0.60	526782.85 E 724623.69 N

Final Depth:	Start Date:	Driller:	Sheet 1 of 1
0.60 m	03/06/2025	SMcW	Scale: 1:40
Elevation: 29.67 mOD	**End Date:** 03/06/2025	**Logger:**	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
0.00 - 0.60	B1				29.07	0.60		MADE GROUND: Soft dark greyish slightly sandy slightly gravelly organic CLAY with with coarse roots (>5mm) and low cobble content. Sand is fine to coarse. Gravel is subrounded fine to coarse of various lithologies, predominantly granite. Cobbles are of granite. (Reworked topsoil).		
								End of Borehole at 0.60m		

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0 6.5 7.0

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details

To (m)	Diam (mm)

Water Added

From (m)	To (m)

Remarks

Inspection pit hand dug to 0.60m for shallow install.

Core Barrel	Flush Type	Termination Reason	Last Updated
		Terminated at refusal on boulder / possible bedrock.	05/08/2025

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
24-0211	Kingston Lands, Galway	BH20
	Client: King Construction	
	Client's Rep: TOBIN / MKO	

Method	Plant Used	Top (m)	Base (m)	Coordinates
Cable Percussion	Dando 2000	0.00	0.60	526800.32 E 724630.35 N

Final Depth:	0.60 m	**Start Date:**	28/05/2025	**Driller:**	BM
Elevation:	30.03 mOD	**End Date:**	28/05/2025	**Logger:**	SMC

Sheet 1 of 1
Scale: 1:40
FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
					29.83	0.20		TOPSOIL		
0.30 - 0.50	B1							Grey BOULDERS of granite. (Possibly weathered bedrock.)		
0.50	D3									
0.50	ES2				29.43	0.60		End of Borehole at 0.60m		

0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
4.5
5.0
5.5
6.0
6.5
7.0

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details

To (m)	Diameter

Water Added

From (m)	To (m)

Chiselling Details

From (m)	To (m)	Time (hh:mm)

Remarks

Inspection pit hand dug to 1.20m.

Termination Reason

Terminated at refusal on boulder / possible bedrock.

Last Updated

05/08/2025

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
24-0211	Kingston Lands, Galway	BH23
	Client: King Construction	
	Client's Rep: TOBIN / MKO	

Method	Plant Used	Top (m)	Base (m)	Coordinates
Cable Percussion	Dando 2000	0.00	3.00	526598.10 E 724554.43 N

Final Depth:	Start Date:	Driller:	Sheet 1 of 1
3.00 m	29/05/2025	KP	Scale: 1:40
Elevation: 25.00 mOD	**End Date:** 30/05/2025	**Logger:** MFG	FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description
0.00 - 0.50	B3							MADE GROUND: Soft brown slightly sandy slightly gravelly organic CLAY. Sand is fine to coarse. Gravel is subangular fine to coarse of various lithologies, predominantly granite.
0.50	ES1				24.50	0.50		
0.50 - 1.20	B4							MADE GROUND: Soft to firm brown slightly sandy gravelly CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.
1.00	D5							
1.00	ES2							
1.20 - 1.65	SPT (S)	N=19 (7,4/5,5,5,4) Hammer SN = 1529	1.20	Dry	23.80	1.20		Medium dense brownish grey sandy slightly silty angular fine to coarse GRAVEL with medium cobble content. Sand is fine to coarse.
1.65 - 2.00	B6							
2.00	D7							
2.00 - 2.45	SPT (S)	N=33 (7,8/8,7,9,9) Hammer SN = 1529	2.00	Dry				
					22.70	2.30		
2.45 - 3.00	B8							Dense grey angular slightly sandy fine to coarse GRAVEL with high cobble content. Sand is fine to coarse. (Possible weathered bedrock.)
3.00 - 3.17	SPT (S)	50 (25 for 40mm/50 for 130mm) Hammer SN = 1529	3.00	Dry	22.00	3.00		End of Borehole at 3.00m

Water | Backfill

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0 6.5 7.0

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details

To (m)	Diameter

Water Added

From (m)	To (m)

Chiselling Details

From (m)	To (m)	Time (hh:mm)
2.90	3.00	01:00

Remarks

Inspection pit excavated to 1.20m

Termination Reason

Terminated at refusal on boulder / possible bedrock.

Last Updated

05/08/2025

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
24-0211	Kingston Lands, Galway	BH24
	Client: King Construction	
	Client's Rep: TOBIN / MKO	

Method	Plant Used	Top (m)	Base (m)	Coordinates
Cable Percussion	Dando 2000	0.00	1.40	526590.92 E 724518.37 N

Final Depth:	1.40 m	Start Date:	29/05/2025	Driller:	KP	Sheet 1 of 1 Scale: 1:40
Elevation:	23.42 mOD	End Date:	29/05/2025	Logger:	MFG	FINAL

RECEIVED: 16/10/2025

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
0.00 - 0.50	B3							MADE GROUND: Soft brown slightly gravelly sandy CLAY with fine roots (0.5-2.0mm). Sand is fine to coarse. Gravel is subrounded fine to coarse of various lithologies, predominantly granite. (Reworked topsoil).		
0.50	ES1				22.92	0.50		MADE GROUND: Soft light brown sandy gravelly CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
0.50 - 1.20	B4									
1.00	D5									
1.00	ES2									
1.20 - 1.31	SPT (S)	50 (25 for 50mm/50 for 60mm) Hammer SN = 1529	1.20		22.22	1.20		[Recovered through chiselling as] Dense grey angular fine to coarse GRAVEL with high cobble content. Cobbles are subangular. (Possible weathered bedrock.)		
					22.02	1.40		End of Borehole at 1.40m		

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details

To (m)	Diameter
1.20	200

Water Added

From (m)	To (m)
1.23	1.40

Chiselling Details

From (m)	To (m)	Time (hh:mm)
1.20	1.40	01:00

Remarks

Inspection pit hand dug to 1.20m

Termination Reason

Terminated at refusal on boulder / possible bedrock.

Last Updated

05/08/2025

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
24-0211	Kingston Lands, Galway	BH25
	Client: King Construction	
	Client's Rep: TOBIN / MKO	

Method	Plant Used	Top (m)	Base (m)	Coordinates
Hand Digging	Hand Tools	0.00	0.60	526562.15 E 724494.83 N

Final Depth:	Start Date:	Driller:	Sheet 1 of 1
0.60 m	05/06/2025	SMcW	Scale: 1:40
Elevation: mOD	**End Date:** 05/06/2025	**Logger:** OR	FINAL

Depth (m)	Samples / Field Records	TCR	SCR	RQD	FI	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
									0.20		TOPSOIL		
0.50	B1								0.55		Soft dark greyish brown slightly sandy gravelly CLAY with high cobble content. Sand is fine to coarse. Gravel is subangular fine to coarse of granite. Cobbles are of granite.		
									0.60		Grey COBBLES and BOULDERS of granite. End of Borehole at 0.60m		
		TCR	SCR	RQD	FI								

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0 6.5 7.0

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details

To (m)	Diam (mm)

Core Barrel

Flush Type

Remarks

Inspection pit hand dug to refusal at 0.60m. Borehole location was moved.

Termination Reason

Terminated at refusal on boulder / possible bedrock.

Last Updated

05/08/2025

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
24-0211	Kingston Lands, Galway	BH25A
	Client: King Construction	
	Client's Rep: TOBIN / MKO	

Method	Plant Used	Top (m)	Base (m)	Coordinates
Rotary Percussion	Comacchio 602	0.00	2.30	
Rotary Coring	Comacchio 602	2.30	6.30	526556.58 E
				724492.37 N

Final Depth:	6.30 m	Start Date:	05/06/2025	Driller:	SMCW	Sheet 1 of 1
Elevation:	20.97 mOD	End Date:	06/06/2025	Logger:	EL	Scale: 1:40
						FINAL

RECEIVED: 16/10/2025

Depth (m)	Samples / Field Records	TCR	SCR	RQD	FI	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description
								20.77	0.20		TOPSOIL
0.50	B1							20.37	0.60		Dark greyish brown very sandy silty subangular fine to coarse GRAVEL with medium cobble content. Sand is fine to coarse.
1.00	B2										Dense light yellowish brown very sandy silty subangular fine to coarse GRAVEL with medium cobble and low boulder content. Sand is fine to coarse. Cobbles and boulders are of granite.
1.20 - 2.50	B3					1.20	0.00				
1.20 - 1.24	SPT(S) 50 (25 for 10mm/50 for 25mm) Hammer SN = 1377										
								18.77	2.20		Weathered GRANITE (Driller's description).
		100	28	12	>20			18.67	2.30		Strong pink speckled dark grey GRANITE. Moderately weathered: slightly reduced strength, much closer fracture spacing and faint orangish brown discolouration on some joint surfaces. Discontinuities: 1. 0-20 degree joints, probably very closely spaced, planar, smooth, with faint orangish brown staining on some joint surfaces. 2. 30-50 degree joints, probably closely spaced, planar, smooth, with faint orangish brown staining on joint surfaces. 3. 90 degree joint at 2.75-2.90m, planar, smooth and unstained (possibly drilling induced).
3.30		100	90	31	13			17.67	3.30		Strong pink speckled dark grey GRANITE. Slightly weathered: slightly reduced strength, closer fracture spacing and faint greenish brown discolouration on some joint surfaces. Discontinuities: 1. 0-20 degree joints, very closely spaced (30/50/120), planar, smooth, with faint greenish brown staining on some joint surfaces. 2. 45 degree joint at 5.55-5.65m, planar, smooth and unstained. 3. 80 degree joint at 5.60-5.70m, planar, smooth and unstained.
4.80		100	79	48	14						
6.30								14.67	6.30		End of Borehole at 6.30m
		TCR	SCR	RQD	FI						

Water: Backfill

Water Strikes			
Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Remarks

Inspection pit hand dug to 1.20m.
No groundwater encountered. Water added during drilling.

Casing Details	
To (m)	Diam (mm)
2.30	200

Core Barrel: SK6L

Flush Type: Water

Termination Reason: Terminated on Engineer's instruction.

Last Updated: 05/08/2025

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Borehole ID
24-0211	Kingston Lands, Galway	BH26
	Client: King Construction	
	Client's Rep: TOBIN / MKO	

Method	Plant Used	Top (m)	Base (m)	Coordinates
Cable Percussion	Dando 2000	0.00	2.00	526545.73 E 724489.83 N

Final Depth:	2.00 m	**Start Date:**	29/05/2025	**Driller:**	KP
Elevation:	19.83 mOD	**End Date:**	29/05/2025	**Logger:**	MFG

Sheet 1 of 1
Scale: 1:40
FINAL

Depth (m)	Sample / Tests	Field Records	Casing Depth (m)	Water Depth (m)	Level mOD	Depth (m)	Legend	Description	Water	Backfill
0.00 - 0.50	B3							MADE GROUND: Soft dark brown slightly sandy gravelly CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.		
0.50	ES1				19.33	0.50		MADE GROUND: Brownish grey lightly sandy subangular fine to coarse GRAVEL. Sand is fine to coarse.		
0.50 - 1.20	B4									
1.00	D5									
1.00	ES2									
1.20 - 2.00	B6				18.63	1.20		Medium dense light brown sandy silty subangular fine to coarse GRAVEL. Sand is fine to coarse.		
1.20 - 1.65	SPT (C)	N=29 (4,5/7,8,7,7) Hammer SN = 1529	1.20							
					18.13	1.70		[Recovered through chiselling as] Dense grey angular fine to coarse GRAVEL with high cobble content. Cobbles are subangular. (Possible weathered bedrock.)		
2.00	D7				17.83	2.00		End of Borehole at 2.00m		
2.00 - 2.09	SPT (C)	50 (25 for 40mm/50 for 50mm) Hammer SN = 1529	2.00							

Water Strikes

Struck at (m)	Casing to (m)	Time (min)	Rose to (m)

Casing Details

To (m)	Diameter
2.00	200

Water Added

From (m)	To (m)
1.40	2.00

Chiselling Details

From (m)	To (m)	Time (hh:mm)
1.70	2.00	01:30

Remarks

Inspection pit hand dug to 1.20m

Termination Reason

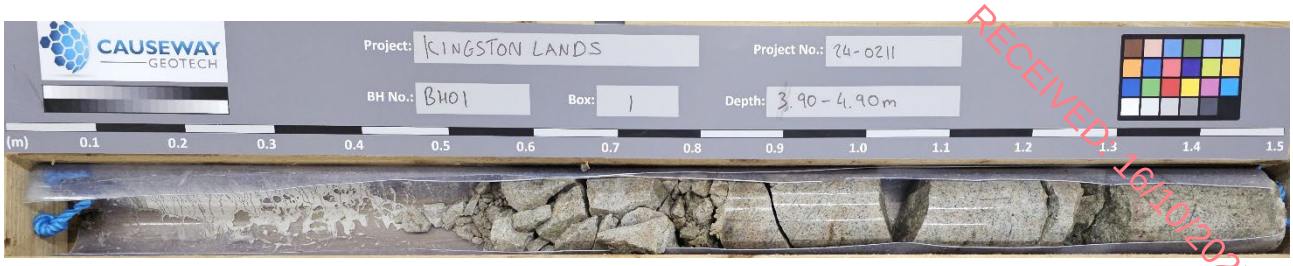
Terminated at refusal on boulder / possible bedrock.

Last Updated

05/08/2025

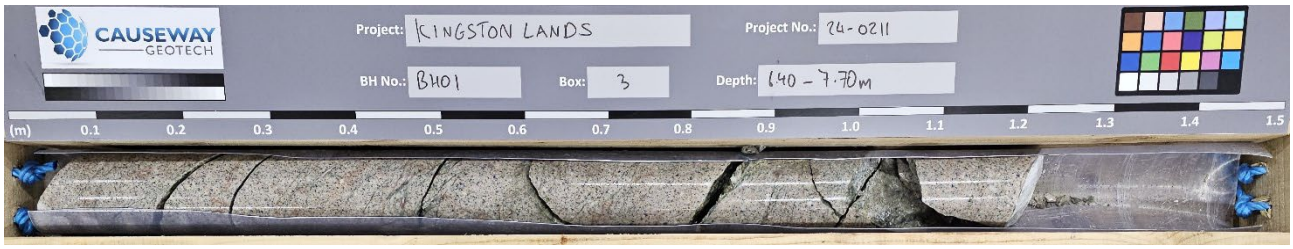
AGS

APPENDIX C – CORE PHOTOGRAPHS



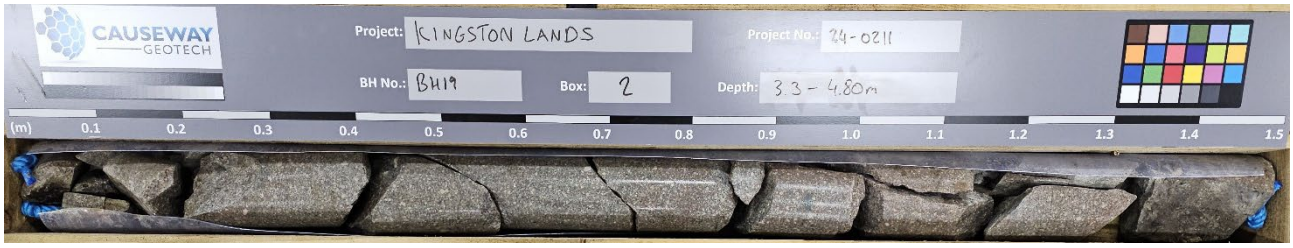
BH01 3.90m – 4.90m

BH01 4.90m – 6.40m

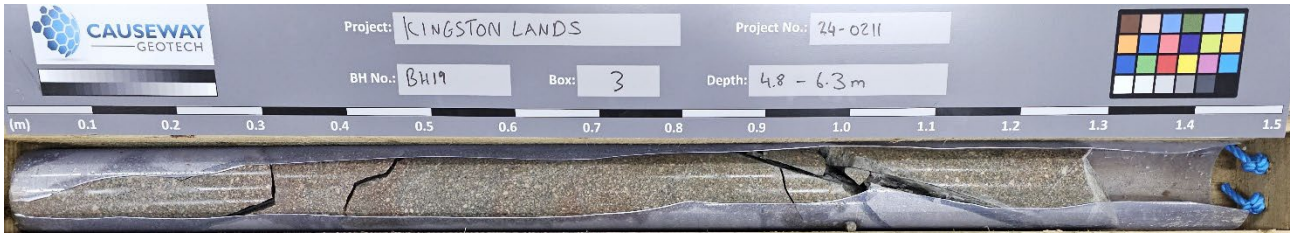


BH01 6.40m – 7.70m

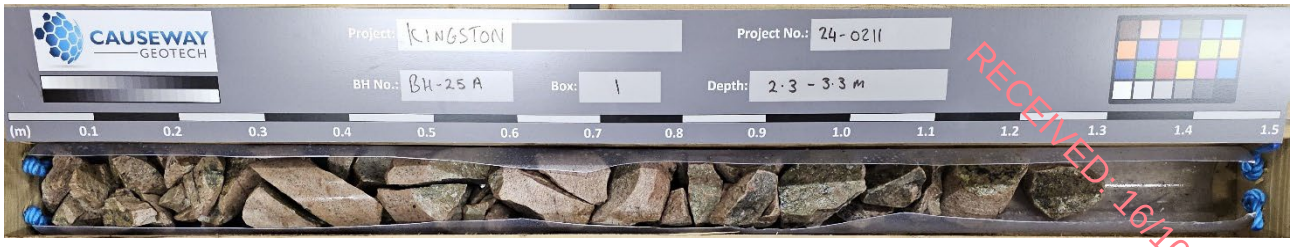
BH19 2.30m – 3.30m



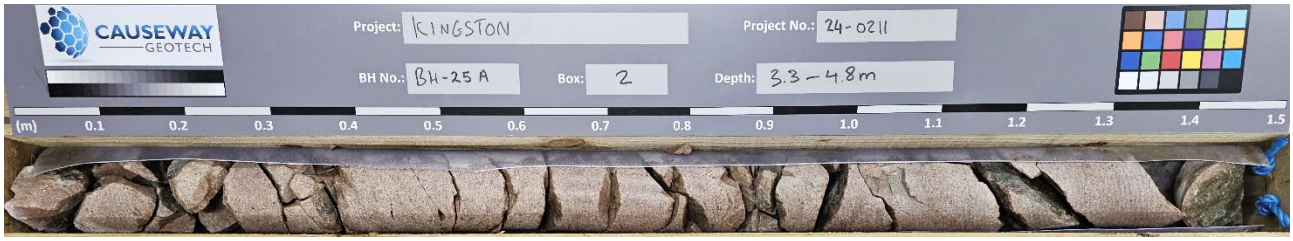
BH19 3.30m – 4.80m



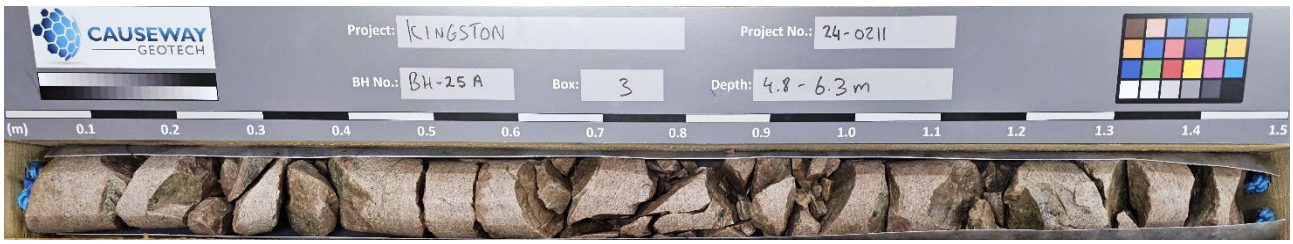
BH19 4.80m – 6.30m



BH25A 2.30m – 3.30m



BH25A 3.30m – 4.80m



BH25A 4.80m – 6.30m

APPENDIX D – TRIAL PIT LOGS

CAUSEWAY GEOTECH

Project No. 24-0211	**Project Name:** Kingston Lands, Galway		**Trial Pit ID** TP01
Coordinates 526839.33 E 724887.64 N	**Client:** King Construction		
Method: Trial Pitting	**Client's Representative:** TOBIN / MKO		Sheet 1 of 1 Scale: 1:25
Plant: 29t Tracked Excavator	**Elevation** 24.76 mOD	**Date:** 27/05/2025	**Logger:** OR	FINAL

Depth (m)	Sample / Tests	Field Records	Level (mOD)	Depth (m)	Legend	Description	Water
			24.71	0.05		TOPSOIL with fine roots (0.5-2.0mm).	
						Light greyish brown slightly gravelly slightly silty fine to coarse SAND. Gravel is angular to subangular.	
0.50	ES1						
			24.06	0.70		Very stiff light grey slightly gravelly sandy CLAY. Sand is fine to coarse. Gravel is angular to subangular fine to coarse.	
			23.86	0.90		Light greyish brown very sandy silty angular to subangular fine to coarse GRAVEL with low cobble and boulder content. Sand is fine to coarse. Cobbles and boulders are angular.	
1.00	B4						
1.00	D3						
1.00	ES2						
2.00	B6						
2.00	D5						
		upwelling from base	22.26	2.50		End of trial pit at 2.50m	▼

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5

Water Strikes

Struck at (m)	Remarks
2.50	upwelling from base

Depth: 2.50
Width: 1.90
Length: 3.90

Remarks:

Stability: Moderately stable

Termination Reason: Terminated at refusal on boulder / possible bedrock.

Last Updated: 13/08/2025

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Trial Pit ID
24-0211	Kingston Lands, Galway	TP02
Coordinates	**Client:**	
526751.79 E 724834.28 N	King Construction	
Method:	**Client's Representative:**	Sheet 1 of 1
Trial Pitting	TOBIN / MKO	Scale: 1:25
Plant:	**Elevation**	**Date:** / **Logger:**	FINAL
29t Tracked Excavator	23.48 mOD	27/05/2025 / OR	

Depth (m)	Sample / Tests	Field Records	Level (mOD)	Depth (m)	Legend	Description	Water
						Firm black amorphous PEAT with fine roots (0.5-2.0mm) and medium roots (2.0-5.0mm).	
0.50	ES1		22.98	0.50		Very stiff light grey slightly gravelly sandy CLAY with medium cobble content. Sand is fine to coarse. Gravel is angular to subangular fine to coarse. Cobbles are angular.	
1.00	B5						
1.00	D3						
1.00	ES2						
2.00	B6						
2.00	D4						
		Upwelling from base of pit					▼
			20.88	2.60		End of trial pit at 2.60m	

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5

Water Strikes

Struck at (m)	Remarks
2.40	Upwelling from base of pit

Depth: 2.60
Width: 1.60
Length: 3.80

Remarks:

Stability: Unstable

Termination Reason: Terminated at refusal on boulder / possible bedrock.

Last Updated: 13/08/2025

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Trial Pit ID
24-0211	Kingston Lands, Galway	TP03
Coordinates	**Client:**	
526791.30 E 724802.76 N	King Construction	
Method:	**Client's Representative:**	Sheet 1 of 1
Trial Pitting	TOBIN / MKO	Scale: 1:25
Plant:	**Elevation** / **Date:** / **Logger:**	
29t Tracked Excavator	23.64 mOD / 27/05/2025 / OR	FINAL

Depth (m)	Sample / Tests	Field Records	Level (mOD)	Depth (m)	Legend	Description	Water
						Firm black amorphous PEAT with medium roots (2.0-5.0mm).	
0.50	ES1						
			22.89	0.75		Very stiff light grey slightly sandy slightly gravelly CLAY with high cobble content. Sand is fine to coarse. Gravel is angular to subangular fine to coarse. Cobbles are angular.	
1.00	B5						
1.00	D3						
1.00	ES2						▼
2.00	B6						
2.00	D4						
			20.79	2.85		End of trial pit at 2.85m	

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5

Water Strikes	
Struck at (m)	Remarks
1.50	

Depth: 2.85
Width: 1.90
Length: 3.00

Remarks:

Stability: Unstable

Termination Reason: Terminated at refusal on boulder / possible bedrock.

Last Updated: 13/08/2025

AGS

CAUSEWAY GEOTECH

Project No. 24-0211	**Project Name:** Kingston Lands, Galway		**Trial Pit ID** TP04
Coordinates 526728.42 E 724776.33 N	**Client:** King Construction		
Method: Trial Pitting	**Client's Representative:** TOBIN / MKO		Sheet 1 of 1 Scale: 1:25
Plant: 29t Tracked Excavator	**Elevation** 23.63 mOD	**Date:** 26/05/2025	**Logger:** OR	FINAL

Depth (m)	Sample / Tests	Field Records	Level (mOD)	Depth (m)	Legend	Description	Water
0.50	ES1					MADE GROUND: Soft brown slightly gravelly sandy CLAY with fine roots (0.5-2.0mm). Sand is fine to coarse. Gravel is subrounded fine to coarse of various lithologies, predominantly granite. (Reworked topsoil.)	
1.00 1.00 1.00	B3 D5 ES2		22.63	1.00		Light grey very sandy clayey angular to subangular fine to coarse GRAVEL of granite with high cobble and boulder content. Sand is fine to coarse. Cobbles and boulders are angular.	▼
2.00 2.00	B4 D6						
			20.73	2.90		End of trial pit at 2.90m	▼

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5

Water Strikes

Struck at (m)	Remarks
2.90	
1.00	

Depth: 2.90
Width: 2.30
Length: 3.20

Remarks:
Water is rushing into pit between topsoil and leached clayey gravel, washing the leached layer into the pit.

Stability:
Unstable below 1.00m

Termination Reason
Terminated at refusal on boulder / possible bedrock.

Last Updated
13/08/2025

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Trial Pit ID
24-0211	Kingston Lands, Galway	TP05
Coordinates	**Client:**	
526756.04 E 724734.69 N	King Construction	
Method:	**Client's Representative:**	Sheet 1 of 1
Trial Pitting	TOBIN / MKO	Scale: 1:25
Plant:	**Elevation** / **Date:** / **Logger:**	FINAL
29t Tracked Excavator	25.13 mOD / 26/05/2025 / OR	

Depth (m)	Sample / Tests	Field Records	Level (mOD)	Depth (m)	Legend	Description	Water
						Firm black amorphous PEAT with medium roots (2.0-5.0mm).	
			24.73	0.40			
0.50	ES1					Reddish brown gravelly slightly silty fine to coarse SAND with low cobble content. Gravel is angular to subangular fine to coarse. Cobbles are angular.	
			24.23	0.90			
1.00	B5					Grey very sandy clayey angular to subangular fine to coarse GRAVEL with medium cobble and boulder content. Sand is fine to coarse. Cobbles and boulders are angular.	
1.00	D3						
1.00	ES2						
2.00	B6		23.13	2.00			
2.00	D4					End of trial pit at 2.00m	

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5

Water Strikes	
Struck at (m)	Remarks

Depth: 2.00
Width: 2.00
Length: 5.30

Remarks:

Stability: Stable

Termination Reason: Terminated at refusal on boulder / possible bedrock.

Last Updated: 13/08/2025

AGS

CAUSEWAY GEOTECH	**Project No.** 24-0211	**Project Name:** Kingston Lands, Galway	**Trial Pit ID** TP06
	Coordinates 526761.14 E 724659.49 N	**Client:** King Construction	
Method: Trial Pitting		**Client's Representative:** TOBIN / MKO	Sheet 1 of 1 Scale: 1:25
Plant: 29t Tracked Excavator	**Elevation** 29.19 mOD	**Date:** 28/05/2025	**Logger:** OR FINAL

Depth (m)	Sample / Tests	Field Records	Level (mOD)	Depth (m)	Legend	Description	Water
						TOPSOIL with fine roots (0.5-2.0mm).	
			28.94	0.25			
0.45	B4					Light reddish brown very sandy slightly clayey angular to subangular fine to coarse GRAVEL with medium cobble content. Sand is fine to coarse. Cobbles are angular.	
0.45	D3						
0.50	ES1						
1.00	B6						
1.00	D5						
1.00	ES2		28.04	1.15			
						Light brownish grey gravelly slightly clayey fine to coarse SAND with high cobble content. Gravel is angular to subangular fine to coarse. Cobbles are angular.	
2.00	B8						
2.00	D7						
			26.49	2.70		End of trial pit at 2.70m	

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5

Water Strikes	
Struck at (m)	Remarks

Depth: 2.70
Width: 2.00
Length: 2.90

Remarks:

Stability: Stable

Termination Reason: Terminated at refusal on boulder / possible bedrock.

Last Updated: 13/08/2025

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Trial Pit ID
24-0211	Kingston Lands, Galway	TP07
Coordinates	**Client:**	
526721.20 E	King Construction	
724626.63 N	**Client's Representative:** TOBIN / MKO	Sheet 1 of 1
		Scale: 1:25
Method: Trial Pitting		
Plant: 29t Tracked Excavator	**Elevation** 25.46 mOD	**Date:** 28/05/2025
		Logger: OR
		FINAL

Depth (m)	Sample / Tests	Field Records	Level (mOD)	Depth (m)	Legend	Description	Water
						TOPSOIL with fine roots (0.5-2.0mm).	
			25.16	0.30			
0.50	ES1					Reddish brown slightly sandy slightly clayey subangular to subrounded fine to coarse GRAVEL of granite with low cobble content. Sand is fine to coarse. Cobbles are angular.	
0.60	B8						
0.60	D3						
			24.56	0.90			
1.00	B9					Black clayey subangular fine to coarse GRAVEL of granite.	
1.00	D4						
1.00	ES2						
			24.26	1.20			
						Brownish grey slightly sandy slightly clayey subangular fine to coarse GRAVEL of granite. Sand is fine to coarse.	
1.55	B10						
1.55	D5						
			23.56	1.90			
2.00	B11					Dark greyish black slightly sandy angular to subangular fine to coarse GRAVEL with high cobble and boulder content. Sand is fine to coarse. Cobbles and boulders are angular.	
2.00	D6						
3.00	B12						
3.00	D7						
			21.86	3.60		End of trial pit at 3.60m	

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5

Water Strikes	
Struck at (m)	Remarks

Depth: 3.60
Width: 2.70
Length: 5.00

Remarks:

Stability: Moderately stable

Termination Reason: Terminated at refusal on boulder / possible bedrock.

Last Updated: 13/08/2025

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Trial Pit ID
24-0211	Kingston Lands, Galway	TP08
Coordinates	**Client:**	
526694.85 E	King Construction	
724702.30 N	**Client's Representative:**	Sheet 1 of 1
	TOBIN / MKO	Scale: 1:25
Method: Trial Pitting		
Plant: 29t Tracked Excavator	**Elevation** 25.62 mOD	**Date:** 26/05/2025
		Logger: OR
		FINAL

Depth (m)	Sample / Tests	Field Records	Level (mOD)	Depth (m)	Legend	Description	Water
						MADE GROUND: Soft brown slightly gravelly sandy CLAY with fine roots (0.5-2.0mm). Sand is fine to coarse. Gravel is subrounded fine to coarse of various lithologies, predominantly granite. (Reworked topsoil).	
0.40	B4		25.22	0.40			
0.40	B5					Light greyish brown slightly gravelly clayey fine to coarse SAND. Gravel is angular fine to coarse of granite.	
0.40	D3						
0.50	ES1						
			24.82	0.80		Reddish brown slightly gravelly clayey fine to coarse SAND with low cobble and boulder content. Gravel is angular fine to coarse of granite. Cobbles and boulders are angular to subrounded of granite.	
1.00	D6						
1.00	ES2						
			24.32	1.30		End of trial pit at 1.30m	

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5

Water Strikes	
Struck at (m)	Remarks

Depth: 1.30
Width: 1.90
Length: 3.50

Remarks:

Stability: Stable

Termination Reason: Terminated at refusal on boulder / possible bedrock.

Last Updated: 13/08/2025

AGS

CAUSEWAY GEOTECH	**Project No.** 24-0211	**Project Name:** Kingston Lands, Galway	**Trial Pit ID** TP09
	Coordinates 526699.04 E 724742.82 N	**Client:** King Construction	
Method: Trial Pitting		**Client's Representative:** TOBIN / MKO	Sheet 1 of 1 Scale: 1:25
Plant: 29t Tracked Excavator	**Elevation** 23.94 mOD	**Date:** 26/05/2025	**Logger:** OR — FINAL

Depth (m)	Sample / Tests	Field Records	Level (mOD)	Depth (m)	Legend	Description	Water
						Firm black amorphous PEAT with medium roots (2.0-5.0mm).	
			23.54	0.40			
0.50	B3					Light greyish brown very gravelly clayey fine to coarse SAND with medium cobble content. Gravel is angular fine to coarse of granite. Cobbles are angular to subangular of granite.	
0.50	D4						
0.50	ES1						
1.00	ES2		22.94	1.00		Light grey slightly sandy clayey angular fine to coarse GRAVEL with high cobble and boulder content. Sand is fine to coarse. Cobbles and boulders are angular to subangular of granite.	
1.40	B5		22.54	1.40		End of trial pit at 1.40m	
1.40	D6						

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5

Water Strikes	
Struck at (m)	Remarks

Depth: 1.40
Width: 1.50
Length: 3.80

Remarks:

Stability: Stable

Termination Reason: Terminated at refusal on boulder / possible bedrock.

Last Updated: 13/08/2025

AGS

CAUSEWAY GEOTECH

Project No. 24-0211	**Project Name:** Kingston Lands, Galway		**Trial Pit ID** TP10
Coordinates 526637.31 E 724757.28 N	**Client:** King Construction		
Method: Trial Pitting	**Client's Representative:** TOBIN / MKO		Sheet 1 of 1 Scale: 1:25
Plant: 29t Tracked Excavator	**Elevation** 25.20 mOD	**Date:** 23/05/2025	**Logger:** OR	FINAL

Depth (m)	Sample / Tests	Field Records	Level (mOD)	Depth (m)	Legend	Description	Water
						MADE GROUND: Soft brown slightly gravelly sandy CLAY with fine roots (0.5-2.0mm). Sand is fine to coarse. Gravel is subrounded fine to coarse of various lithologies, predominantly granite. (Reworked topsoil).	
			24.80	0.40			
0.50	ES1					Reddish brown slightly gravelly silty fine to coarse SAND. Gravel is angular fine to coarse of granite.	
0.60	B3						
0.60	D2						
			24.40	0.80			
						Light grey very sandy silty angular fine to coarse GRAVEL with high cobble and boulder content. Sand is fine to coarse of granite. Cobbles and boulders are angular of granite	
1.00	B5		24.20	1.00		End of trial pit at 1.00m	
1.00	D6						
1.00	ES4						

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5

Water Strikes	
Struck at (m)	Remarks

Depth: 1.00
Width: 2.00
Length: 4.70

Remarks:

Stability: Stable

Termination Reason: Terminated at refusal on boulder / possible bedrock.

Last Updated: 13/08/2025

AGS

CAUSEWAY GEOTECH

Project No. 24-0211	**Project Name:** Kingston Lands, Galway		**Trial Pit ID** TP10A
Coordinates 526636.31 E 724756.99 N	**Client:** King Construction		
Method: Trial Pitting	**Client's Representative:** TOBIN / MKO		Sheet 1 of 1 Scale: 1:25
Plant: 29t Tracked Excavator	**Elevation** 25.11 mOD	**Date:** 23/05/2025	**Logger:** OR	FINAL

Depth (m)	Sample / Tests	Field Records	Level (mOD)	Depth (m)	Legend	Description	Water
0.40	ES1		24.61	0.50		MADE GROUND: Soft brown slightly gravelly sandy CLAY with fine roots (0.5-2.0mm). Sand is fine to coarse. Gravel is subrounded fine to coarse of various lithologies, predominantly granite. (Reworked topsoil).	
						End of trial pit at 0.50m	

0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
4.5

Water Strikes	
Struck at (m)	Remarks

Depth: 0.50
Width: 1.80
Length: 3.60

Remarks:
Boulder sloping down from surface on one side.

Stability:
Stable

Termination Reason
Terminated at refusal on boulder / possible bedrock.

Last Updated
13/08/2025

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Trial Pit ID
24-0211	Kingston Lands, Galway	TP11
Coordinates 526533.51 E 724703.78 N	**Client:** King Construction	
Method: Trial Pitting	**Client's Representative:** TOBIN / MKO	Sheet 1 of 1 Scale: 1:25
Plant: 29t Tracked Excavator	**Elevation** 23.30 mOD / **Date:** 22/05/2025 / **Logger:** AR	FINAL

Depth (m)	Sample / Tests	Field Records	Level (mOD)	Depth (m)	Legend	Description	Water
						MADE GROUND: Light grey sandy subangular fine to medium GRAVEL. Sand is fine to coarse.	
			23.10	0.20		Firm light greyish brown slightly sandy gravelly CLAY with high cobble and boulder content. Sand is fine to coarse. Gravel is subangular fine to coarse. Cobbles and boulders are subangular up to 0.7m in diameter.	
0.50	ES1						
1.00	B8						
1.00	D5						
1.00	ES2						
3.00	B6		20.30	3.00		Stiff dark brownish black slightly gravelly sandy CLAY with high cobble and boulder content with occasional rootlets. Sand is fine to coarse. Gravel is subangular fine to coarse. with occasional rootlets. Cobbles and boulders are subangular up to 0.7m in diameter.	
3.00	D4						
3.50	B7		19.80	3.50		Light grey very gravelly very silty fine to coarse SAND. Gravel is subangular fine to medium.	
3.50	D3						
			18.80	4.50		End of trial pit at 4.50m	

Water Strikes	
Struck at (m)	Remarks
4.00	

Depth: 4.50
Width: 3.00
Length: 5.00

Remarks:

Stability: Moderately stable

Termination Reason: Terminated at scheduled depth.

Last Updated: 13/08/2025

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CAUSEWAY GEOTECH

Project No. 24-0211	**Project Name:** Kingston Lands, Galway		**Trial Pit ID** TP12
Coordinates 526514.06 E 724795.00 N	**Client:** King Construction		
Method: Trial Pitting	**Client's Representative:** TOBIN / MKO		Sheet 1 of 1 Scale: 1:25
Plant: 29t Tracked Excavator	**Elevation** 21.87 mOD	**Date:** 22/05/2025	**Logger:** AR	FINAL

Depth (m)	Sample / Tests	Field Records	Level (mOD)	Depth (m)	Legend	Description	Water
						TOPSOIL with fine roots (0.5-2.0mm).	
			21.67	0.20			
0.50	ES6					Light orangish brown very gravelly silty fine to coarse SAND with low cobble content. Gravel is subangular fine to coarse. Cobbles are subangular.	
1.00	B1						
1.00	D3						
1.00	ES5		20.77	1.10			
						Light grey very sandy silty subangular fine to coarse GRAVEL with medium cobble and boulder content. Sand is fine to coarse. Cobbles and boulders are subangular up to .45m in diameter.	
2.00	B2						
2.00	D4						
			19.37	2.50		End of trial pit at 2.50m	

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5

Water Strikes	
Struck at (m)	Remarks

Depth: 2.50
Width: 2.10
Length: 3.30

Remarks:

Stability: Moderately stable

Termination Reason: Terminated at refusal on boulder / possible bedrock.

Last Updated: 13/08/2025

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CAUSEWAY GEOTECH

Project No. 24-0211	**Project Name:** Kingston Lands, Galway		**Trial Pit ID** TP13
Coordinates 526579.40 E 724760.94 N	**Client:** King Construction		
Method: Trial Pitting	**Client's Representative:** TOBIN / MKO		Sheet 1 of 1 Scale: 1:25
Plant: 29t Tracked Excavator	**Elevation** 24.80 mOD	**Date:** 23/05/2025	**Logger:** OR	FINAL

Depth (m)	Sample / Tests	Field Records	Level (mOD)	Depth (m)	Legend	Description	Water
			24.70	0.10		TOPSOIL with fine roots (0.5-2.0mm).	
						Firm dark brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of granite.	
0.40	D2		24.40	0.40		End of trial pit at 0.40m	
0.40	ES1						

0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
4.5

Water Strikes	
Struck at (m)	Remarks

Depth: 0.40
Width: 1.97
Length: 3.20

Remarks:

Stability: Stable

Termination Reason: Terminated at refusal on boulders / possible bedrock.

Last Updated: 13/08/2025

AGS

CAUSEWAY GEOTECH

Project No. 24-0211	**Project Name:** Kingston Lands, Galway		**Trial Pit ID** TP13A
Coordinates 526577.14 E 724772.05 N	**Client:** King Construction		
Method: Trial Pitting	**Client's Representative:** TOBIN / MKO		Sheet 1 of 1 Scale: 1:25
Plant: 29t Tracked Excavator	**Elevation** 24.17 mOD	**Date:** 23/05/2025	**Logger:** OR	FINAL

Depth (m)	Sample / Tests	Field Records	Level (mOD)	Depth (m)	Legend	Description	Water
						TOPSOIL with fine roots (0.5-2.0mm).	
			23.82	0.35			
0.50	ES1					Reddish brown slightly gravelly slightly clayey fine to coarse SAND. Gravel is angular to subrounded fine to coarse of granite.	
			23.62	0.55			
1.00	ES2					Light grey slightly gravelly silty fine to coarse SAND. Gravel is subangular to subrounded fine to coarse of granite.	
			21.87	2.30		End of trial pit at 2.30m	

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5

Water Strikes	
Struck at (m)	Remarks

Depth: 2.30
Width: 2.00
Length: 2.20

Remarks:

Stability: Stable

Termination Reason: Terminated at scheduled depth.

Last Updated: 13/08/2025

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CAUSEWAY GEOTECH

Project No. 24-0211	**Project Name:** Kingston Lands, Galway		**Trial Pit ID** TP14
Coordinates 526648.83 E 724680.46 N	**Client:** King Construction		
Method: Trial Pitting	**Client's Representative:** TOBIN / MKO		Sheet 1 of 1 Scale: 1:25
Plant: 29t Tracked Excavator	**Elevation** 27.47 mOD	**Date:** 26/05/2025	**Logger:** OR	FINAL

Depth (m)	Sample / Tests	Field Records	Level (mOD)	Depth (m)	Legend	Description	Water
						TOPSOIL with fine roots (0.5-2.0mm).	
			27.17	0.30		Reddish brown very sandy silty subangular to subrounded fine to coarse GRAVEL. Sand is fine to coarse.	
0.50	ES3						
0.90	B2		26.57	0.90		End of trial pit at 0.90m	
0.90	D1						

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5

Water Strikes	
Struck at (m)	Remarks

Depth: 0.90
Width: 1.70
Length: 3.50

Remarks:

Stability: Stable

Termination Reason: Terminated at refusal on boulder / possible bedrock.

Last Updated: 13/08/2025

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CAUSEWAY GEOTECH

Project No.	Project Name:	Trial Pit ID
24-0211	Kingston Lands, Galway	TP15
Coordinates	**Client:**	
526647.06 E 724626.75 N	King Construction	
Method:	**Client's Representative:**	Sheet 1 of 1
Trial Pitting	TOBIN / MKO	Scale: 1:25
Plant:	**Elevation** / **Date:** / **Logger:**	FINAL
29t Tracked Excavator	25.04 mOD / 28/05/2025 / OR	

Depth (m)	Sample / Tests	Field Records	Level (mOD)	Depth (m)	Legend	Description	Water
			24.94	0.10		TOPSOIL with fine roots (0.5-2.0mm).	
0.30	B3					Dark greyish brown slightly gravelly clayey fine to coarse SAND with low cobble content. Gravel is angular to subangular fine to coarse. Cobbles are angular.	
0.30	D4						
0.50	ES1		24.54	0.50		Reddish brown slightly gravelly silty fine to coarse SAND with medium cobble content. Gravel is angular to subangular fine to coarse. Cobbles are angular.	
0.65	B5						
0.65	D6						
			24.24	0.80		Light greyish brown very sandy silty angular to subangular fine to coarse GRAVEL with high cobble and low boulder content. Sand is fine to coarse. Cobbles and boulders are angular.	
1.00	B7						
1.00	D8						
1.00	ES2						
2.00	B9						
2.00	D10						
3.00	B11						
3.00	D12						
			21.64	3.40		End of trial pit at 3.40m	

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5

Water Strikes	
Struck at (m)	Remarks
3.40	

Depth: 3.40
Width: 1.60
Length: 4.00

Remarks:

Stability: Stable

Termination Reason: Terminated at refusal on boulder / possible bedrock.

Last Updated: 13/08/2025

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CAUSEWAY GEOTECH

Project No.	Project Name:	Trial Pit ID
24-0211	Kingston Lands, Galway	TP16
Coordinates	**Client:**	
526691.52 E 724586.02 N	King Construction	
Method:	**Client's Representative:**	Sheet 1 of 1
Trial Pitting	TOBIN / MKO	Scale: 1:25
Plant:	**Elevation** / **Date:** / **Logger:**	FINAL
29t Tracked Excavator	mOD / 29/05/2025 / OR	

Depth (m)	Sample / Tests	Field Records	Level (mOD)	Depth (m)	Legend	Description	Water
						MADE GROUND: Soft brown slightly gravelly sandy CLAY with fine roots (0.5-2.0mm). Sand is fine to coarse. Gravel is subrounded fine to coarse of various lithologies, predominantly granite. (Reworked topsoil).	
0.50	ES1						
				0.90		Reddish brown very sandy clayey angular fine to coarse GRAVEL with low cobble content. Sand is fine to coarse. Cobbles are angular.	
1.00	B3						
1.00	D5						
1.00	ES2						
				1.50		Light grey gravelly slightly clayey fine to coarse SAND with medium cobble content. Gravel is angular fine to coarse. Cobbles are angular.	
1.90	B4			1.90		End of trial pit at 1.90m	
1.90	D6						

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5

Water Strikes	
Struck at (m)	Remarks

Depth: 1.90
Width: 1.60
Length: 2.90

Remarks:
No access to survey as-built position - the coordinates shown above are estimated.

Stability:
Stable

Termination Reason
Terminated at refusal on boulder / possible bedrock.

Last Updated
13/08/2025

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CAUSEWAY GEOTECH

Project No.	Project Name:	Trial Pit ID
24-0211	Kingston Lands, Galway	TP17
Coordinates 526649.18 E 724590.60 N	**Client:** King Construction	
Method: Trial Pitting	**Client's Representative:** TOBIN / MKO	Sheet 1 of 1 Scale: 1:25
Plant: 29t Tracked Excavator	**Elevation** mOD / **Date:** 28/05/2025 / **Logger:** OR	FINAL

Depth (m)	Sample / Tests	Field Records	Level (mOD)	Depth (m)	Legend	Description	Water
				0.30		TOPSOIL with fine roots (0.5-2.0mm).	
0.50	ES1			0.75		Dark reddish brown slightly gravelly clayey fine to coarse SAND with low cobble content. Gravel is angular to subangular. Cobbles are angular.	
1.00	B4					Light greyish brown very sandy clayey angular fine to coarse GRAVEL with medium cobble content. Sand is fine to coarse. Cobbles are angular.	
1.00	D3						
1.00	ES2						
2.00	B6						
2.00	D5			2.30		End of trial pit at 2.30m	

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5

Water Strikes	
Struck at (m)	Remarks

Depth: 2.30
Width: 1.60
Length: 3.00

Remarks:
No access to survey as-built position - the coordinates shown above are estimated.

Stability:	Termination Reason	Last Updated
Stable	Terminated at refusal on boulder / possible bedrock.	13/08/2025

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CAUSEWAY GEOTECH

Project No.	Project Name:	Trial Pit ID
24-0211	Kingston Lands, Galway	TP18
Coordinates	**Client:**	
526581.72 E 724596.30 N	King Construction	
Method:	**Client's Representative:**	Sheet 1 of 1
Trial Pitting	TOBIN / MKO	Scale: 1:25
Plant:	**Elevation** / **Date:** / **Logger:**	
29t Tracked Excavator	23.22 mOD / 30/05/2025 / OR	FINAL

Depth (m)	Sample / Tests	Field Records	Level (mOD)	Depth (m)	Legend	Description	Water
						MADE GROUND: Soft brown slightly gravelly sandy CLAY with fine roots (0.5-2.0mm). Sand is fine to coarse. Gravel is subrounded fine to coarse of various lithologies, predominantly granite. (Reworked topsoil).	
0.50	ES1						
			22.52	0.70			
0.80	B5					Light grey slightly gravelly silty fine to coarse SAND with high cobble content. Gravel is angular fine to coarse. Cobbles are angular.	
0.80	D3		22.32	0.90			
1.00	ES2					Dark reddish brown very sandy slightly silty angular fine to coarse GRAVEL with high cobble content. Sand is fine to coarse. Cobbles are angular.	
2.00	B6						
2.00	D4						
			21.07	2.15		End of trial pit at 2.15m	

Water Strikes	
Struck at (m)	Remarks

Depth: 2.15
Width: 1.65
Length: 3.00

Remarks:

Stability: Stable

Termination Reason: Terminated at refusal on boulder / possible bedrock.

Last Updated: 13/08/2025

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Trial Pit ID
24-0211	Kingston Lands, Galway	TP19
Coordinates	**Client:**	
526560.26 E 724649.61 N	King Construction	
Method:	**Client's Representative:**	Sheet 1 of 1
Trial Pitting	TOBIN / MKO	Scale: 1:25
Plant:	**Elevation**	**Date:** / **Logger:**	
29t Tracked Excavator	23.29 mOD	30/05/2025	OR	FINAL

Depth (m)	Sample / Tests	Field Records	Level (mOD)	Depth (m)	Legend	Description	Water
						MADE GROUND: Soft brown slightly gravelly sandy CLAY with fine roots (0.5-2.0mm). Sand is fine to coarse. Gravel is subrounded fine to coarse of various lithologies, predominantly granite. (Reworked topsoil).	
0.50	ES1		22.84	0.45		Light greyish brown mottled reddish brown sandy clayey angular fine to coarse GRAVEL with low cobble content. Sans is fine to coarse. Cobbles are angular.	
1.00	B4						
1.00	D3						
1.00	ES2						
1.55	B6		22.09	1.20		Light yellowish grey slightly gravelly clayey fine to coarse SAND with medium cobble content. Gravel is angular fine to coarse. Cobbles are angular.	
1.55	D5						
			21.39	1.90		End of trial pit at 1.90m	

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5

Water Strikes	
Struck at (m)	Remarks

Depth: 1.90
Width: 1.60
Length: 2.70

Remarks:

Stability: Stable

Termination Reason: Terminated at refusal on boulder / possible bedrock.

Last Updated: 13/08/2025

AGS

CAUSEWAY GEOTECH

Project No. 24-0211	**Project Name:** Kingston Lands, Galway		**Trial Pit ID** TP20
Coordinates 526553.74 E 724555.00 N	**Client:** King Construction		
Method: Trial Pitting	**Client's Representative:** TOBIN / MKO		Sheet 1 of 1 Scale: 1:25
Plant: 29t Tracked Excavator	**Elevation** 22.04 mOD	**Date:** 30/05/2025	**Logger:** OR	FINAL

Depth (m)	Sample / Tests	Field Records	Level (mOD)	Depth (m)	Legend	Description	Water
						MADE GROUND: Soft brown slightly gravelly sandy CLAY with fine roots (0.5-2.0mm). Sand is fine to coarse. Gravel is subrounded fine to coarse of various lithologies, predominantly granite. (Reworked topsoil).	
0.50	ES1		21.54	0.50		Reddish brown slightly gravelly silty fine to coarse SAND with medium cobble content. Gravel is angular fine to coarse. Cobbles are angular.	
0.70	B5						
0.70	D3						
			21.14	0.90		Light grey very sandy silty angular fine to coarse GRAVEL with high cobble content. Sand is fine to coarse. Cobbles are angular.	
1.00	B6						
1.00	D4						
1.00	ES2						
			20.39	1.65		End of trial pit at 1.65m	

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5

Water Strikes	
Struck at (m)	Remarks

Depth: 1.65
Width: 1.65
Length: 2.30

Remarks:

Stability: Stable

Termination Reason: Terminated at refusal on boulder / possible bedrock.

Last Updated: 13/08/2025

AGS

CAUSEWAY GEOTECH

Project No.	Project Name:	Trial Pit ID
24-0211	Kingston Lands, Galway	ETP01
Coordinates 526868.22 E 724901.55 N	**Client:** King Construction	
Method: Trial Pitting	**Client's Representative:** TOBIN / MKO	Sheet 1 of 1 Scale: 1:25
Plant: 29t Tracked Excavator	**Elevation** 28.15 mOD / **Date:** 27/05/2025 / **Logger:** OR	FINAL

Depth (m)	Sample / Tests	Field Records	Level (mOD)	Depth (m)	Legend	Description	Water
						MADE GROUND: Soft brown slightly gravelly sandy CLAY with fine roots (0.5-2.0mm). Sand is fine to coarse. Gravel is subrounded fine to coarse of various lithologies, predominantly granite. (Reworked topsoil)	
			27.75	0.40			
0.50	ES1					Reddish brown slightly gravelly slightly clayey fine to coarse SAND with medium cobble and boulder content. Gravel is angular to subangular fine to coarse. Cobbles and boulders are angular.	
1.00	ES2						
			27.00	1.15		Light greyish brown slightly gravelly silty fine to coarse SAND with high cobble and boulder content. Gravel is angular to subangular fine to coarse. Cobbles and boulders are angular.	
1.50	ES3						
2.00	ES4						
			25.75	2.40		End of trial pit at 2.40m	

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5

Water Strikes	
Struck at (m)	Remarks

Depth: 2.40
Width: 1.80
Length: 3.60

Remarks:

Stability: Stable

Termination Reason: Terminated at refusal on boulder / possible bedrock.

Last Updated: 18/08/2025

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CAUSEWAY GEOTECH

Project No.	Project Name:	Trial Pit ID
24-0211	Kingston Lands, Galway	ETP02
Coordinates	**Client:**	
526759.56 E	King Construction	
724785.95 N	**Client's Representative:**	Sheet 1 of 1
Method:	TOBIN / MKO	Scale: 1:25
Trial Pitting		
Plant:	**Elevation**	**Date:** / **Logger:**
29t Tracked Excavator	23.43 mOD	27/05/2025 / OR

FINAL

Depth (m)	Sample / Tests	Field Records	Level (mOD)	Depth (m)	Legend	Description	Water
0.50	ES1					Firm black fibrous PEAT with fine roots (0.5-2.0mm) and medium roots (2.0-5.0mm).	
1.00	ES2		22.53	0.90		Very stiff light grey slightly gravelly sandy CLAY with medium cobble content. Sand is fine to coarse. Gravel is angular to subangular fine to coarse. Cobbles are angular.	
1.50	ES3		21.63	1.80		End of trial pit at 1.80m	▼

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5

Water Strikes	
Struck at (m)	Remarks
1.80	

Depth: 1.80
Width: 1.60
Length: 3.30

Remarks:

Stability: Moderately stable

Termination Reason: Terminated at refusal on boulder / possible bedrock.

Last Updated: 18/08/2025

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CAUSEWAY GEOTECH

Project No.	Project Name:	Trial Pit ID
24-0211	Kingston Lands, Galway	ETP03
Coordinates 526723.12 E 724738.96 N	**Client:** King Construction	
Method: Trial Pitting	**Client's Representative:** TOBIN / MKO	Sheet 1 of 1 Scale: 1:25
Plant: 29t Tracked Excavator	**Elevation** 24.07 mOD / **Date:** 26/05/2025 / **Logger:** OR	FINAL

Depth (m)	Sample / Tests	Field Records	Level (mOD)	Depth (m)	Legend	Description	Water
						MADE GROUND: Soft brown slightly gravelly sandy CLAY with medium roots (2.0-5.0mm). Sand is fine to coarse. Gravel is subrounded fine to coarse of various lithologies, predominantly granite. (Reworked topsoil)	
0.50	ES1		23.57	0.50		Light grey slightly gravelly slightly clayey fine to coarse SAND with medium cobble content. Gravel is subangular to subrounded fine to coarse. Cobbles are angular to subangular.	
1.00	ES2		23.17	0.90		Light grey slightly sandy clayey very angular to subangular fine to coarse GRAVEL with high cobble and boulder content. Sand is fine to coarse. Cobbles and boulders are angular.	
1.50	ES3						
			22.27	1.80		End of trial pit at 1.80m	▼

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5

Water Strikes	
Struck at (m)	Remarks
1.80	

Depth: 1.80
Width: 1.80
Length: 4.00

Remarks:

Stability: Moderately stable

Termination Reason: Terminated at refusal on boulder / possible bedrock.

Last Updated: 18/08/2025

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CAUSEWAY GEOTECH

Project No. 24-0211	**Project Name:** Kingston Lands, Galway		**Trial Pit ID** ETP04
Coordinates 526631.89 E 724738.99 N	**Client:** King Construction		
Method: Trial Pitting	**Client's Representative:** TOBIN / MKO		Sheet 1 of 1 Scale: 1:25
Plant: 29t Tracked Excavator	**Elevation** 25.40 mOD	**Date:** 23/05/2025	**Logger:** OR	FINAL

Depth (m)	Sample / Tests	Field Records	Level (mOD)	Depth (m)	Legend	Description	Water
0.30	ES1					MADE GROUND: Soft brown slightly gravelly sandy CLAY with fine roots (0.5-2.0mm). Sand is fine to coarse. Gravel is subrounded fine to coarse of various lithologies, predominantly granite. (Reworked topsoil.)	
0.50	ES2						
1.00	ES3		24.30	1.10		Light grey slightly gravelly silty fine to coarse SAND with medium cobble content. Gravel is subangular to subrounded fine to coarse of granite. Cobbles are granite.	
1.50	ES4						
2.00	ES5		23.45	1.95		Firm reddish brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of granite.	
2.50	ES6		23.15	2.25		Stiff greyish black slightly gravelly sandy CLAY with high cobble and boulder content. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse of granite. Cobbles and boulders are angular to subrounded of granite.	
			22.70	2.70		End of trial pit at 2.70m	

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5

Water Strikes	
Struck at (m)	Remarks

Depth: 2.70
Width: 2.00
Length: 3.70

Remarks:

Stability: Stable

Termination Reason: Terminated at scheduled depth.

Last Updated: 18/08/2025

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CAUSEWAY GEOTECH

Project No. 24-0211	**Project Name:** Kingston Lands, Galway		**Trial Pit ID** ETP05
Coordinates 526536.69 E 724761.00 N	**Client:** King Construction		
Method: Trial Pitting	**Client's Representative:** TOBIN / MKO		Sheet 1 of 1 Scale: 1:25
Plant: 29t Tracked Excavator	**Elevation** 22.22 mOD	**Date:** 29/05/2025	**Logger:** OR	FINAL

Depth (m)	Sample / Tests	Field Records	Level (mOD)	Depth (m)	Legend	Description	Water
			22.07	0.15		TOPSOIL with fine roots (0.5-2.0mm).	
			21.82	0.40		Possible MADE GROUND: Stiff dark greyish brown slightly gravelly sandy CLAY with low cobble content. Sand is fine to coarse. Gravel is angular fine to coarse. Cobbles are angular.	
0.50	ES1					Light yellowish greyish brown slightly gravelly silty fine to coarse SAND with low cobble content. Gravel is angular fine to coarse. Cobbles are angular.	
			21.37	0.85		Light grey slightly gravelly silty fine to coarse SAND with medium cobble content. Gravel is angular fine to coarse. Cobbles are angular.	
1.00	ES2		21.17	1.05		End of trial pit at 1.05m	

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5

Water Strikes	
Struck at (m)	Remarks

Depth: 1.05
Width: 1.70
Length: 2.80

Remarks:

Stability: Stable

Termination Reason: Terminated at refusal on boulder / possible bedrock.

Last Updated: 18/08/2025

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CAUSEWAY GEOTECH

Project No. 24-0211	**Project Name:** Kingston Lands, Galway		**Trial Pit ID** ETP06
Coordinates 526583.01 E 724701.06 N	**Client:** King Construction		
Method: Trial Pitting	**Client's Representative:** TOBIN / MKO		Sheet 1 of 1 Scale: 1:25
Plant: 29t Tracked Excavator	**Elevation** 24.74 mOD	**Date:** 22/05/2025	**Logger:** AR	FINAL

Depth (m)	Sample / Tests	Field Records	Level (mOD)	Depth (m)	Legend	Description	Water
0.50	ES1					Soft dark brown slightly sandy gravelly CLAY with medium cobble content and occasional rootlets. Sand is fine to coarse. Gravel is subangular fine to coarse. Cobbles are subangular	
1.00	ES2		23.74	1.00		Light grey slightly gravelly slightly clayey fine to coarse SAND with high cobble and boulder content. Gravel is subangular fine to coarse. Cobbles and boulders are subangular up to 0.8m in diameter.	
1.50	ES3						
2.00	ES4						
2.50	ES5		22.24	2.50		End of trial pit at 2.50m	

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5

Water Strikes	
Struck at (m)	Remarks

Depth: 2.50
Width: 3.00
Length: 3.80

Remarks:

Stability: Stable

Termination Reason: Terminated at scheduled depth.

Last Updated: 18/08/2025

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CAUSEWAY GEOTECH

Project No.	Project Name:	Trial Pit ID
24-0211	Kingston Lands, Galway	ETP07
Coordinates	**Client:**	
526558.63 E	King Construction	
724738.69 N	**Client's Representative:**	Sheet 1 of 1
	TOBIN / MKO	Scale: 1:25
Method: Trial Pitting		
Plant: 29t Tracked Excavator	**Elevation** 23.62 mOD	**Date:** 29/05/2025
		Logger: OR
		FINAL

Depth (m)	Sample / Tests	Field Records	Level (mOD)	Depth (m)	Legend	Description	Water
0.50	ES1					MADE GROUND: Firm brownish black slightly sandy slightly gravelly CLAY with low cobble content. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse. Cobbles are subrounded. (Probable reworked topsoil)	
1.00	ES2						
1.50	ES3						
2.00	ES4						
			21.52	2.10		Light brownish grey sandy slightly clayey angular to subrounded fine to coarse GRAVEL of granite with medium cobble and boulder content. Sand is fine to coarse. Cobbles and boulders are angular.	
			20.27	3.35		End of trial pit at 3.35m	

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5

Water Strikes	
Struck at (m)	Remarks
3.30	

Depth: 3.35
Width: 1.60
Length: 3.80

Remarks:
Situated between two piles of waste rock.

Stability:
Stable

Termination Reason
Terminated at scheduled depth.

Last Updated
18/08/2025

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CAUSEWAY GEOTECH

Project No. 24-0211	**Project Name:** Kingston Lands, Galway		**Trial Pit ID** ETP08
Coordinates 526675.81 E 724647.78 N	**Client:** King Construction		
Method: Trial Pitting	**Client's Representative:** TOBIN / MKO		Sheet 1 of 1 Scale: 1:25
Plant: 29t Tracked Excavator	**Elevation** 26.73 mOD	**Date:** 28/05/2025	**Logger:** OR	FINAL

Depth (m)	Sample / Tests	Field Records	Level (mOD)	Depth (m)	Legend	Description	Water
			26.63	0.10		TOPSOIL with fine roots (0.5-2.0mm).	
0.50	ES1					Soft dark greyish brown slightly gravelly sandy CLAY with low cobble content. Sand is fine to coarse. Gravel is angular to subangular fine to coarse. Cobbles are angular.	
			26.03	0.70		Light reddish brown slightly gravelly silty fine to coarse SAND with medium cobble content. Gravel is angular fine to coarse. Cobbles are angular.	
1.00	ES2						
1.50	ES3						
			24.83	1.90		Light greyish brown slightly gravelly slightly silty fine to coarse SAND with high cobble content. Gravel is angular fine to coarse. Cobbles are angular.	
2.00	ES4						
2.45	ES5		24.28	2.45		End of trial pit at 2.45m	

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5

Water Strikes	
Struck at (m)	Remarks

Depth: 2.45
Width: 1.60
Length: 3.80

Remarks:

Stability: Stable

Termination Reason: Terminated at refusal on boulder / possible bedrock.

Last Updated: 18/08/2025

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CAUSEWAY GEOTECH

Project No.	Project Name:	Trial Pit ID
24-0211	Kingston Lands, Galway	ETP09
Coordinates 526534.56 E 724621.13 N	**Client:** King Construction	
Method: Trial Pitting	**Client's Representative:** TOBIN / MKO	Sheet 1 of 1 Scale: 1:25
Plant: 29t Tracked Excavator	**Elevation** 21.08 mOD / **Date:** 30/05/2025 / **Logger:** OR	FINAL

Depth (m)	Sample / Tests	Field Records	Level (mOD)	Depth (m)	Legend	Description	Water
						MADE GROUND: Soft brown slightly gravelly sandy CLAY with fine roots (0.5-2.0mm). Sand is fine to coarse. Gravel is subrounded fine to coarse of various lithologies, predominantly granite. (Reworked topsoil)	
0.50	ES1		20.63	0.45		Light grey slightly gravelly clayey fine to coarse SAND with high cobble content. Gravel is angular fine to coarse. Cobbles are angular.	
1.00	ES2		19.88	1.20		Light reddish grey sandy slightly clayey angular fine to coarse GRAVEL with high cobble and boulder content. Sand is fine to coarse. Cobbles and boulders are angular.	
1.50	ES3		19.18	1.90		End of trial pit at 1.90m	▼

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5

Water Strikes	
Struck at (m)	Remarks
1.90	

Depth: 1.90
Width: 1.50
Length: 2.60

Remarks:

Stability: Stable

Termination Reason: Terminated at refusal on boulder / possible bedrock.

Last Updated: 18/08/2025

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CAUSEWAY GEOTECH

Project No.	Project Name:	Trial Pit ID
24-0211	Kingston Lands, Galway	ETP10
Coordinates	**Client:**	
526596.32 E 724562.66 N	King Construction	
Method:	**Client's Representative:**	Sheet 1 of 1
Trial Pitting	TOBIN / MKO	Scale: 1:25
Plant:	**Elevation** / **Date:** / **Logger:**	FINAL
29t Tracked Excavator	25.09 mOD / 30/05/2025 / OR	

Depth (m)	Sample / Tests	Field Records	Level (mOD)	Depth (m)	Legend	Description	Water
			24.84	0.25		TOPSOIL with fine roots (0.5-2.0mm).	
0.50	ES1					Light grey sandy slightly silty subangular to subrounded fine to coarse GRAVEL of granite with medium cobble content. Sand is fine to coarse. Cobbles are subrounded.	
			24.29	0.80		Reddish brown gravelly slightly silty fine to coarse SAND with medium cobble content. Gravel is subangular fine to coarse. Cobbles are angular to subangular.	
1.00	ES2						
1.50	ES3						
2.00	ES4						
2.50	ES5		22.59	2.50		Light grey gravelly slightly silty fine to coarse SAND with high cobble content. Gravel is subangular fine to coarse. Cobbles are subangular.	
			21.99	3.10		End of trial pit at 3.10m	

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5

Water Strikes	
Struck at (m)	Remarks

Depth: 3.10
Width: 1.60
Length: 3.45

Remarks:

Stability: Stable

Termination Reason: Terminated at scheduled depth.

Last Updated: 18/08/2025

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CAUSEWAY GEOTECH

Project No.	Project Name:	Trial Pit ID
24-0211	Kingston Lands, Galway	ETP11
Coordinates 526548.98 E 724514.92 N	**Client:** King Construction	
Method: Trial Pitting	**Client's Representative:** TOBIN / MKO	Sheet 1 of 1 Scale: 1:25
Plant: 29t Tracked Excavator	**Elevation** 21.05 mOD / **Date:** 30/05/2025 / **Logger:** OR	FINAL

Depth (m)	Sample / Tests	Field Records	Level (mOD)	Depth (m)	Legend	Description	Water
0.50	ES1		20.45	0.60		MADE GROUND: Soft brown slightly gravelly sandy CLAY with fine roots (0.5-2.0mm). Sand is fine to coarse. Gravel is subrounded fine to coarse of various lithologies, predominantly granite. (Reworked topsoil)	
1.00	ES2		19.95	1.10		Reddish brown slightly gravelly silty fine to coarse SAND with low cobble content. Gravel is angular fine to coarse. Cobbles are angular.	
1.50	ES3					Light grey gravelly slightly silty fine to coarse SAND with medium cobble and boulder content. Gravel is angular fine to coarse. Cobbles and boulders are angular.	
2.00	ES4						
2.50	ES5		18.55	2.50		End of trial pit at 2.50m	

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5

Water Strikes	
Struck at (m)	Remarks

Depth: 2.50
Width: 1.70
Length: 2.85

Remarks:

Stability: Moderately stable

Termination Reason: Terminated at scheduled depth.

Last Updated: 18/08/2025

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APPENDIX E – TRIAL PIT PHOTOGRAPHS

TP01

CAUSEWAY GEOTECH

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TP02

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