

Appendix 12A  
Flood Risk Assessment

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# Proposed Derrygreenagh Power Project

Flood Risk Assessment

Bord na Móna Powergen Limited

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# 1. Introduction

AECOM has been appointed by Bord na Móna Powergen Limited to undertake a flood risk assessment as part of an assessment of the environmental impact of the Derrygreenagh Power Project. The proposal includes for a Power Plant Area with a lower carbon generation capacity of c. 710MW with an Electricity Grid Connection facilitating power output to the national electricity grid via the Oldstreet-Woodland line (Proposed Development'). The majority of the Proposed Development is on land within a subset of Bogs within the Derrygreenagh bog group with the exception of a section of agricultural lands required for the Electricity Grid Connection; the Proposed Development is entirely within the county of Offaly. The Overall Project for assessment includes a Gas Connection Corridor from the Dublin-Galway high pressure line (BGE/77) via an Above Ground Installation (AGI) at tie-in location on the high-pressure line connecting via underground pipeline connection to an onsite Derrygreenagh AGI within the Power Plant Area (c. 9.7km north of the Power Plant Area). The location of the Proposed Development and Overall Project is shown below in Figure 1.1.

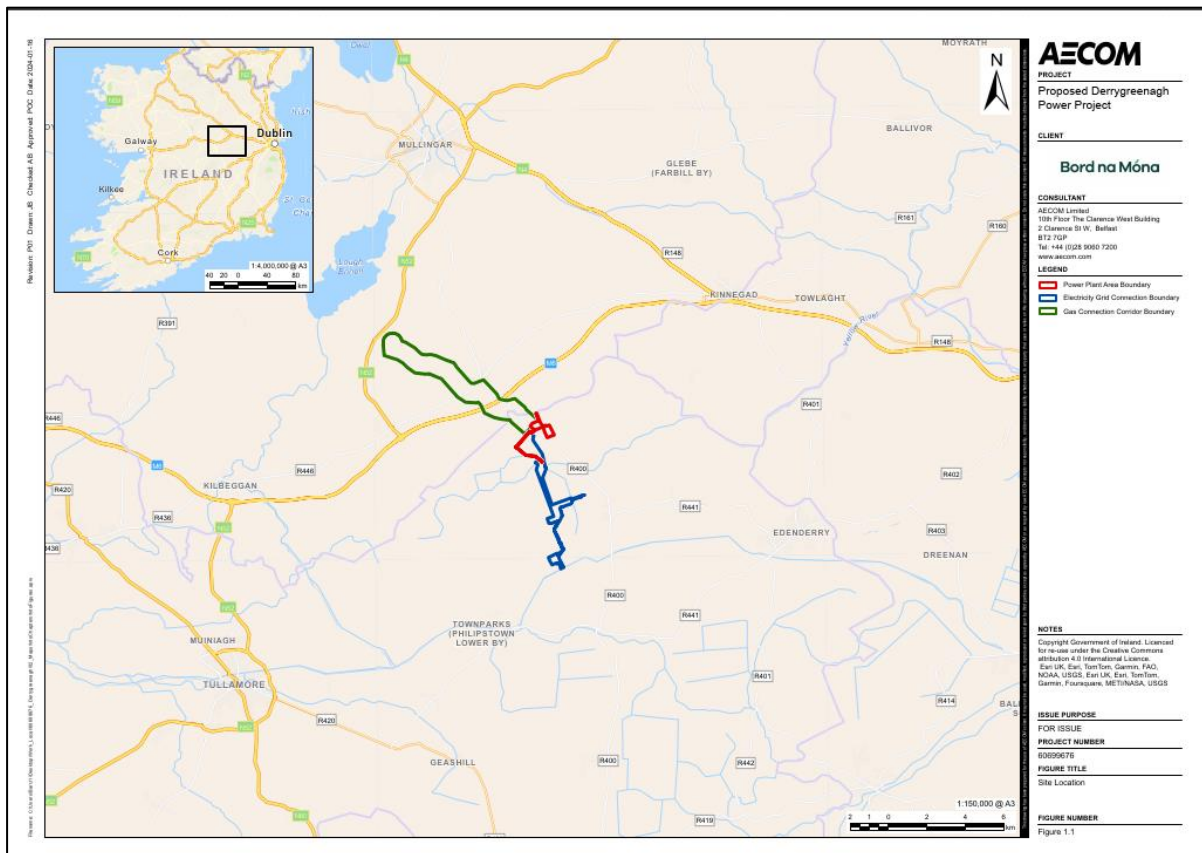


Figure 1.1: Proposed Development and Overall Project Location

## 1.1 Scope of Services

AECOM is required to undertake a Site-Specific Flood Risk Assessment (FRA) for the Proposed Development only. The Gas Connection Corridor is subject to a baseline assessment based on desktop information available in the Water Environment Chapter for third party lands identified for assessment, it is noted that the Gas Connection Corridor will be subject of detailed design and separate consenting processes led by Gas Networks Ireland (GNI).

This FRA study has been undertaken in consideration of the following guidance document:

- Department of Housing, Local Government and Heritage (DOEHLG) & Office of Public Works (OPW) (2009), *The Planning System and Flood Risk Management – Guidelines for Planning Authorities*<sup>1</sup>.

The assessment will demonstrate that the Proposed Development will:

1. Not increase flood risk elsewhere and, if practical, will reduce overall flood risk.
2. Include measures to minimise flood risk to people, property, the economy and the environment as far as reasonably possible.
3. Include measures to ensure that residual risks to the area and/or development can be managed to an acceptable level.

## 2. Site Information

The Power Plant Area of the Proposed Development is located approximately 2.5 km from Junction 3 of the M6 motorway and 4 km from Rochfortbridge town. The Electricity Grid Connection of the Proposed Development extends from the Power Plant Area (649450, 738251), south through Derryarkin bog to Ballybeg bog (650760, 731271) before final tie-in with the national electricity grid at the Oldstreet-Woodland line.

Surface water pumping is at Ballybeg Bog only. There are several silt ponds to the east of the Electricity Grid Connection site. Ballybeg Bog contains outfalls on the eastern side (SW11, 12, 13 and 13A) which discharge water into the Yellow River (per agreement with the Agency under Condition 6.2 of IPC Licence P0501-01). Upstream of outfall SW13 is a pump site located in the centre of the bog which houses two submersible 22kW pumps that operate on a duty and assist basis.

### 2.1 Summary of the Proposed Development and Overall Project

The Proposed Development is shown in below in Figure 2.1 and Figure 2.2 and will comprise of the following main components (for construction, operation and decommissioning phases):

- Combined Cycle Gas Turbine (CCGT) Unit, including CCGT Turbine Hall and buildings, Heat Recovery Steam Generator (HRSG);
- Open Cycle Gas Turbine (OCGT) Unit and emissions stack;
- Secondary Fuel Storage and Unloading Facility;
- Gas Connection Above Ground Installation (AGI) Compound (Derrygreenagh AGI);
- Associated buildings and infrastructure and subsidiary items of plant/equipment; and
- Electricity Grid Connection, including 220 kV Substation, 220 kV double circuit Overhead Line (OHL), 220 kV Line-Cable Interface Compound, 220 kV double circuit Underground cable (UGC) connection and 220/400 kV 'Loop-in' Substation (400kV substation) at entry point to the 400 kV transmission network on the Oldstreet-Woodland line.

<sup>1</sup> Available at: <https://www.opr.ie/wp-content/uploads/2019/08/2009-Planning-System-Flood-Risk-Mgmt-1.pdf>  
Prepared for: Bord na Móna Powergen Limited



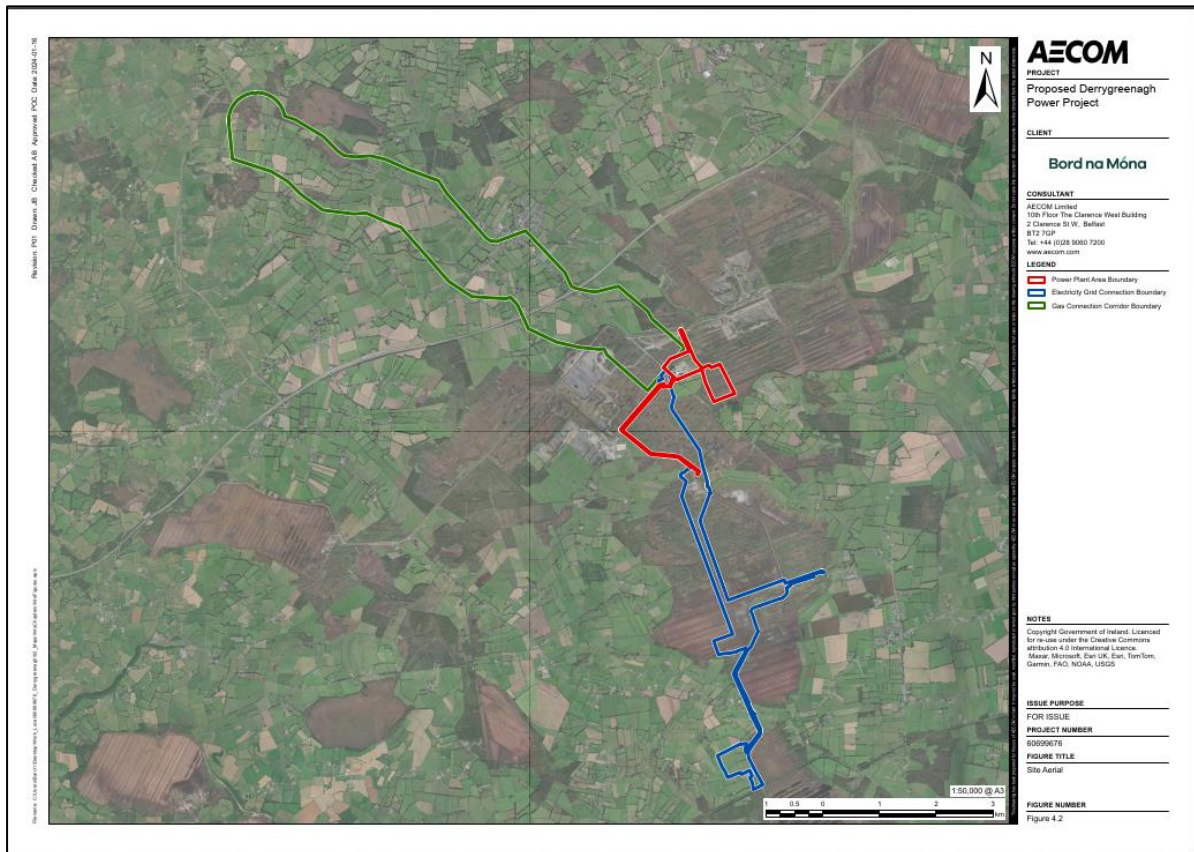


Figure 2.1: Proposed Development Site Layout

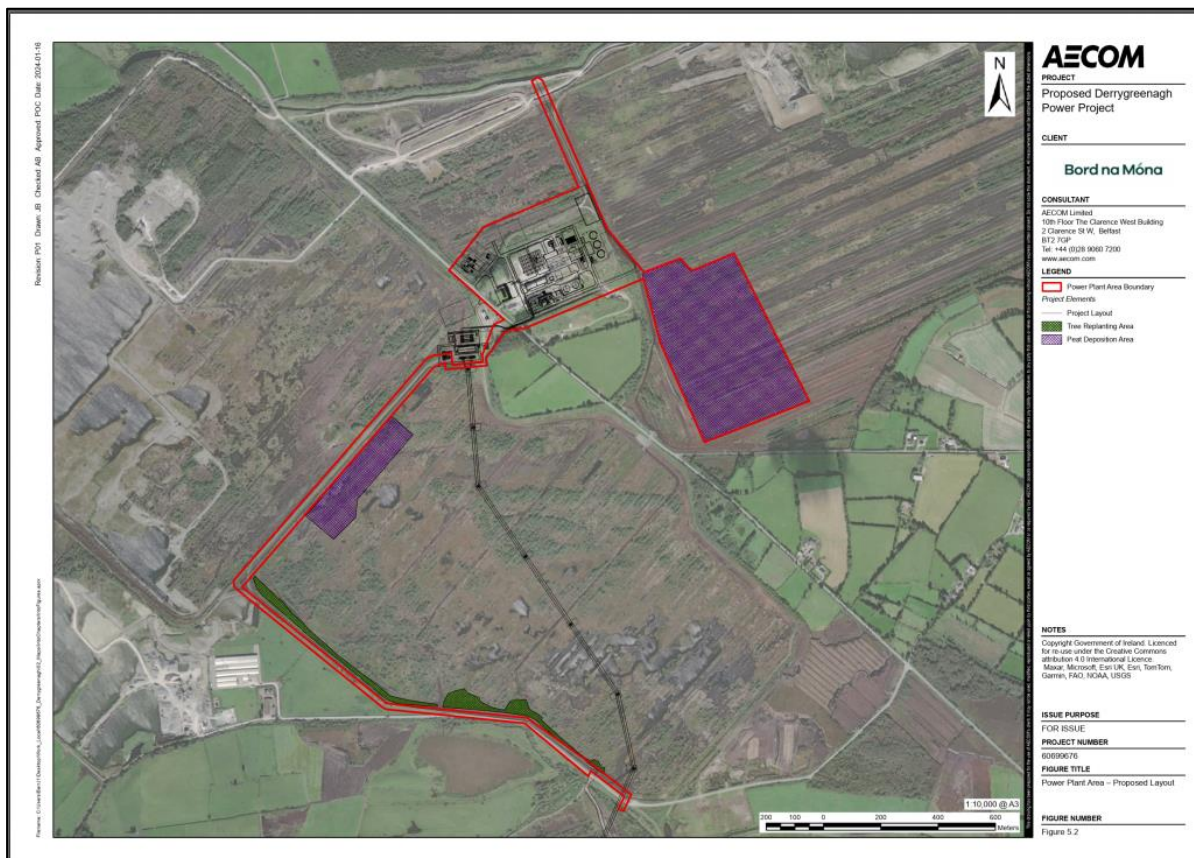


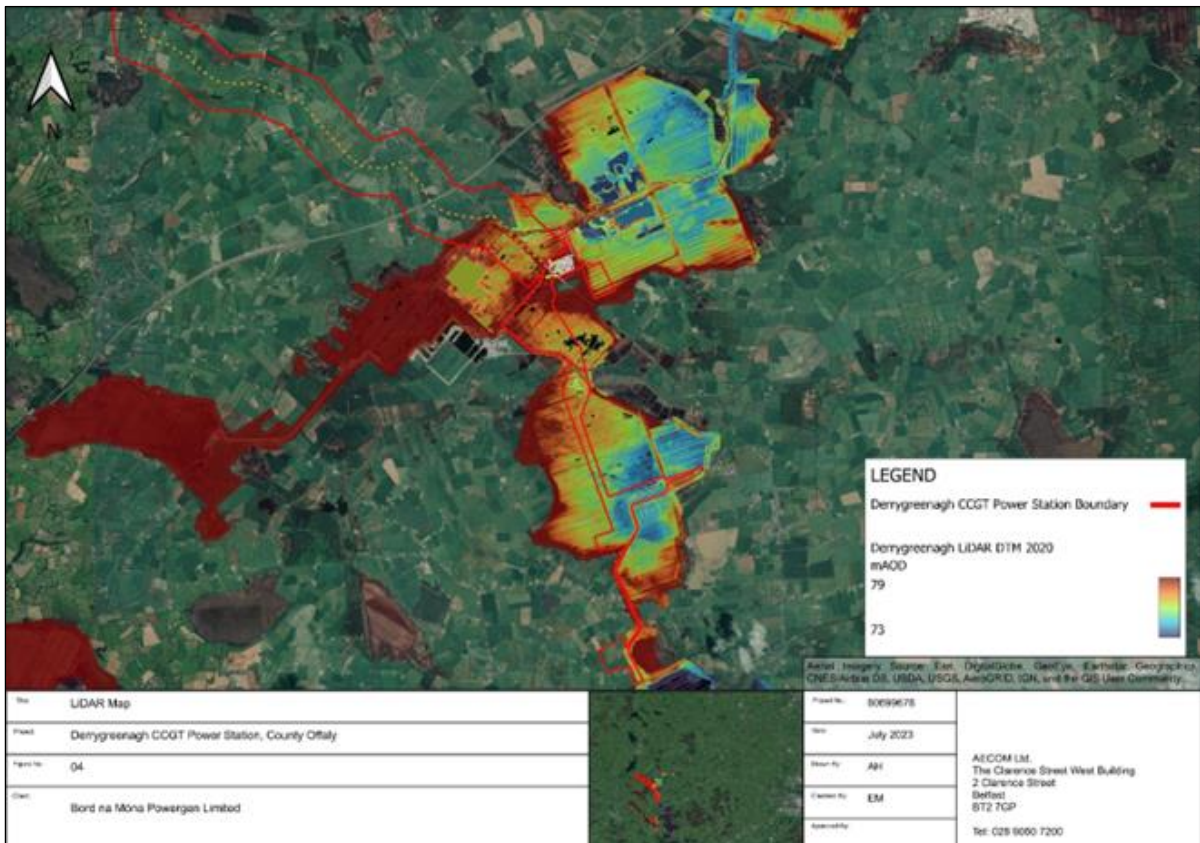
Figure 2.2: Proposed Power Plant Area and 220 kV Substation Site (west of R400 road)



## 2.2 Land Surveys

### 2.2.1 Light Detection and Ranging (LiDAR)

A LiDAR survey has been completed for the Proposed Development and surrounding bog sites as shown in Figure 2.3 below. The outputs demonstrate that the main site and 220 kV substation are located within an elevated area relative to the surrounding elevations. The discharge pipe route remains in an area of up to 79.0 m AOD until discharging to the watercourse.



**Figure 2.3: LiDAR Survey for Proposed Development Area**

The route of the proposed 220 kV overhead line shows various elevations with the southern section having ordinance datum as low as 73.0 m AOD. The 220 kV services become buried (see Figure 2.1) until reaching the southern 400 kV substation where LiDAR data was not available.

### 2.2.2 Topographic Survey

A topographic survey was conducted by Murphy Geospatial in June 2023 for the Proposed Development area as shown in 2.4 with the full topographic survey in Appendix A.



**Figure 2.4: Topographic Survey: Power Plant Area, 220 kV Substation, process water discharge pipe and section of OHL**

The topographic survey outputs inform the assessment by showing that the Power Plant Area and 220kV substation are approximately 84.0 mAOD and 77.0 mAOD respectively. The 220kV OHL location does reduce in elevation southwards as previously illustrated in Figure 2.3 with the northern section of the line ranging from 76.2 mAOD to 78.6 mAOD whereas the southern section ranges from 73.2 mAOD to 75.7 mAOD.

The proposed location of the 400 kV substation indicates elevation ranging from 76.2 mAOD to 81.0 mAOD with a gradual incline towards the northwest as shown Figure 2.5.

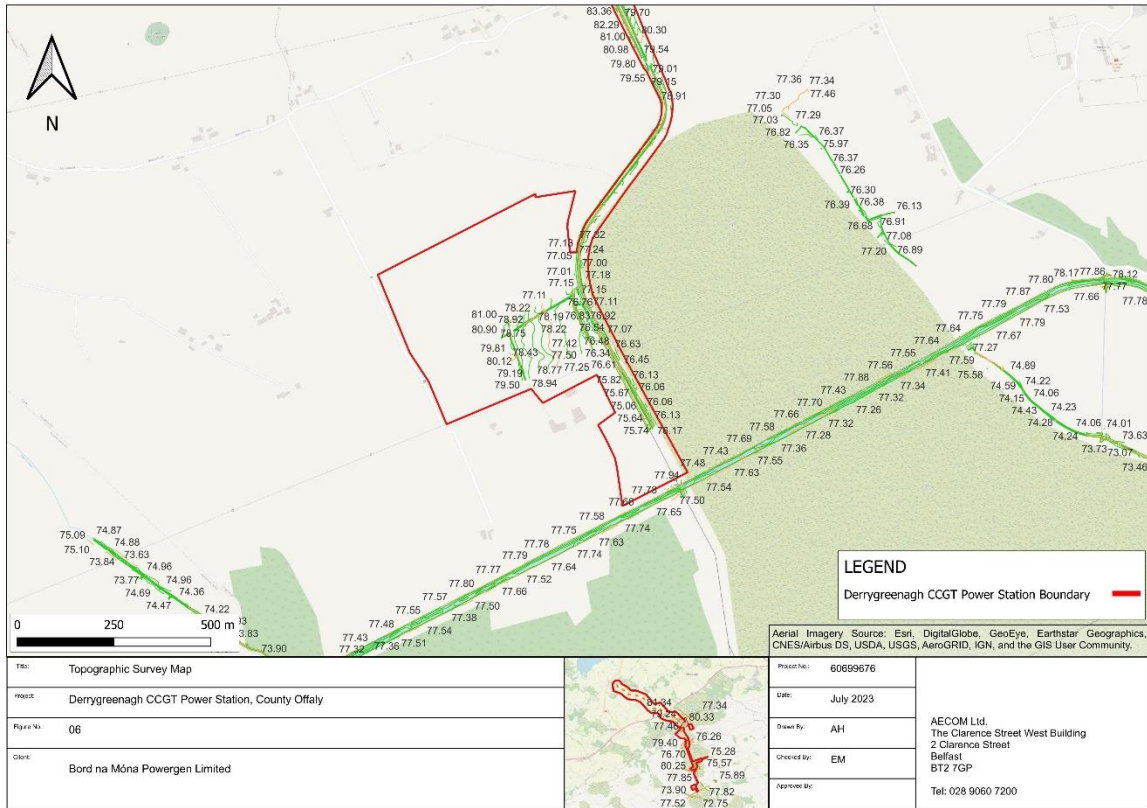


Figure 2.5: Topographic Survey; 400kV Substation and section of UGC

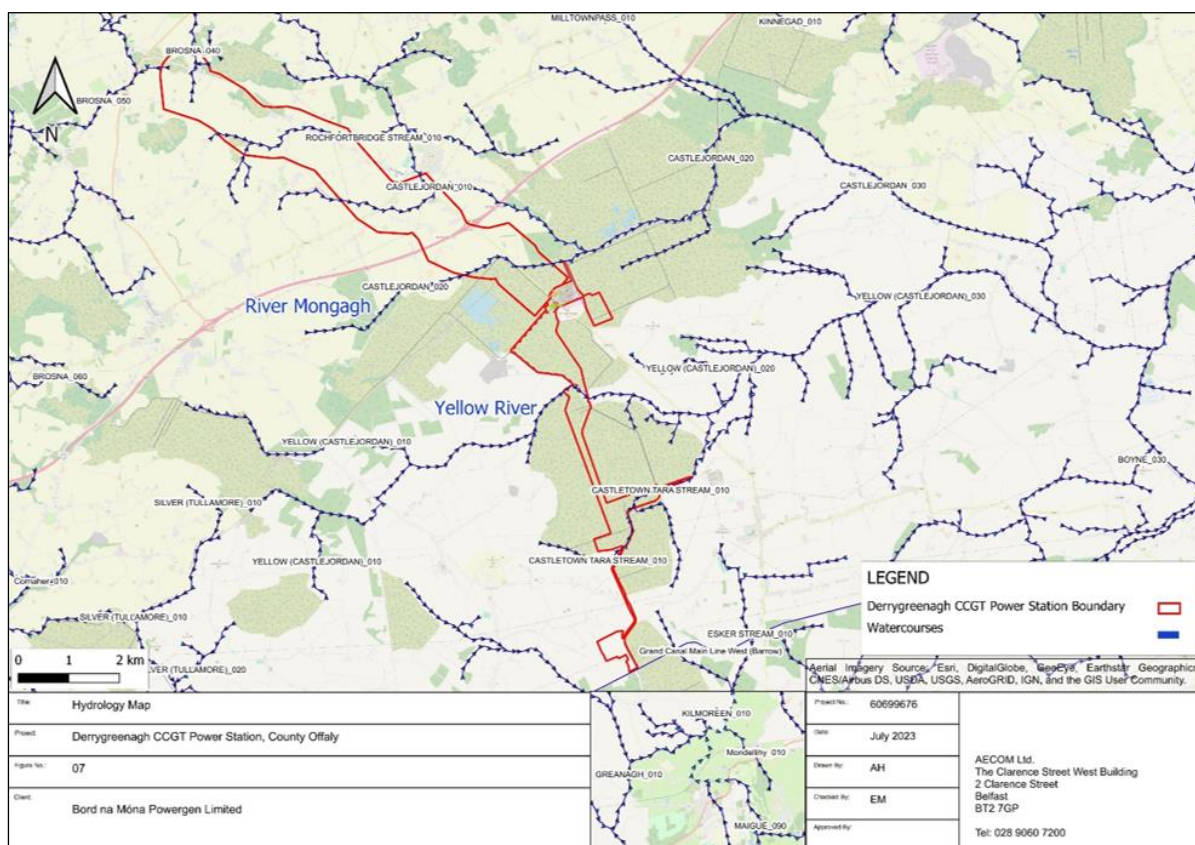
### 2.2.3 Bog Rehabilitation Plans

Under Condition 10 of the Licence, Bord na Móna are developing the Rehabilitation Plans for Drumman, Derryarkin, Ballybeg Bogs within which the majority of the Proposed Development is located. See Appendix 9J in Volume III of the EIAR for rehabilitation plans around future use with Derrygreenagh Power.

### 2.3 Local Hydrology

The Yellow River flows eastwards and is a tributary of the River Boyne as shown in Figure 2.6. The river joins the River Boyne west of Longwood and eventually enters the Irish Sea via Drogheda, Co. Louth.





**Figure 2.6: Watercourses intersecting the Proposed Development and Overall Project**

North of the Power Plant Area is the Mongagh River/Castlejordan River which joins the Yellow River downstream at Clongall Bridge as shown.

### 3. Stage 1 - Flood Risk Identification

The purpose of Stage 1 is to establish whether a flood-risk issue exists or may exist in the future. If there is a potential flood risk issue then, in accordance with DOEHLG & OPW Guidelines (2009), the flood risk assessment procedure should move to 'Stage 2 – Initial Flood Risk Assessment'. If no potential flood risk is identified during Stage 1 then the overall flood risk assessment can be concluded.

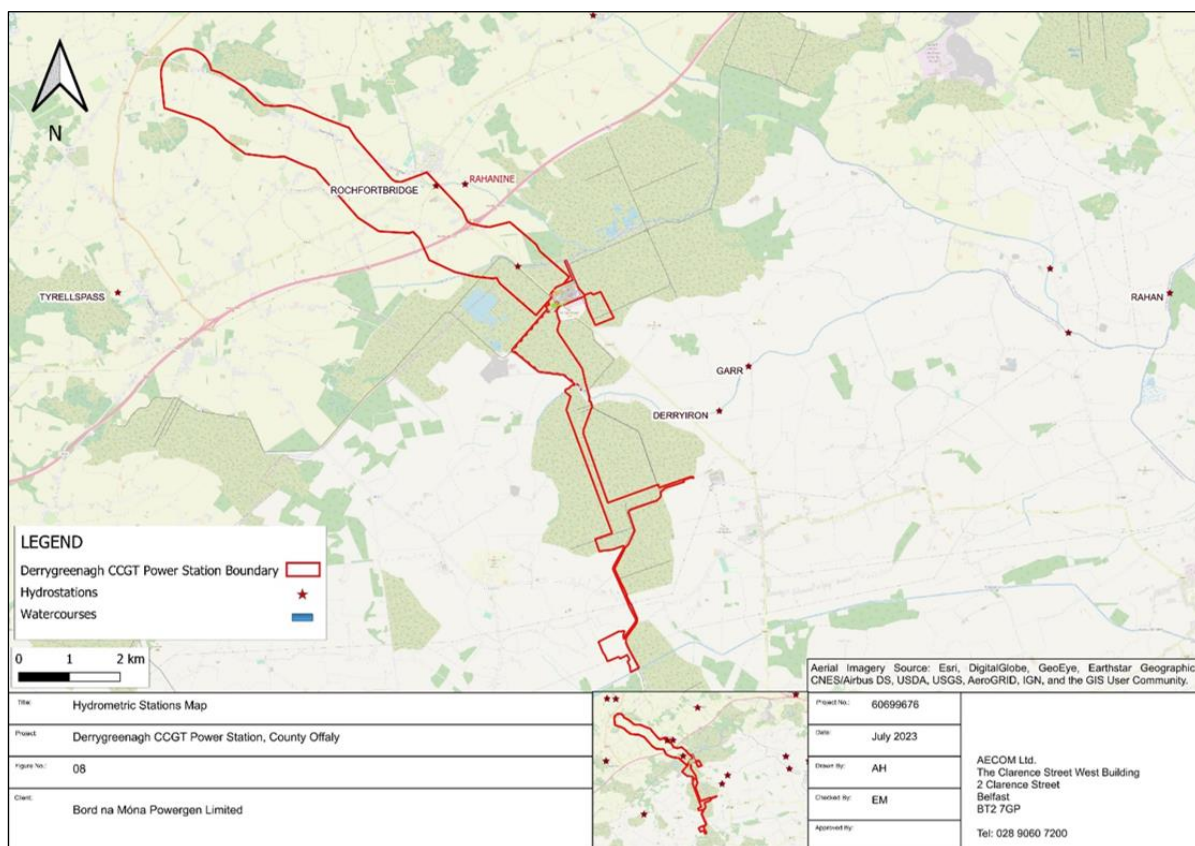
The potential flood risk mechanisms are also discussed in this Section. Such mechanisms include the risk of:

- Flooding from fluvial sources which result from the overtopping of river embankments and streams.
- Coastal and Tidal flooding.
- Pluvial sources which occur when the ground becomes saturated and surface water runoff from rainfall events cannot effectively infiltrate the ground or when surface water drainage systems become overwhelmed.
- Flood risk from groundwater which may be exacerbated by high groundwater levels.

The following information and data have been collated as part of the screening assessment for the Proposed Development and Overall Project.

### 3.1 Hydrometric Data

Sources of hydrometric data is available from the EPA<sup>2</sup> and noted two gauges within proximity of the Proposed Development, located downstream on Yellow River. The hydrometric gauges are shown in Figure 3.1 below.



**Figure 3.1: Hydrometric Gauge Locations**

Insufficient data was recorded for the Derrygreenagh hydrometric gauge, therefore the Derryiron gauge (Table 3.1) was extracted to illustrate stage and discharge downstream of the proposed development as shown in Figure 3.2 and Figure 3.3. Both data sets use daily mean data and show a significant event in winter 2015/16.

**Table 3.1: Hydrometric Gauge**

<b>County</b>	Offaly
<b>Station Number</b>	07108
<b>Station Name</b>	DERRYIRON
<b>Gauge datum (mOD)</b>	70.651
<b>Easting</b>	252556.00
<b>Northing</b>	236000.00
<b>Operational</b>	Inactive

<sup>2</sup> Available at: <https://gis.epa.ie/EPAMaps/Water>  
Prepared for: Bord na Móna Powergen Limited

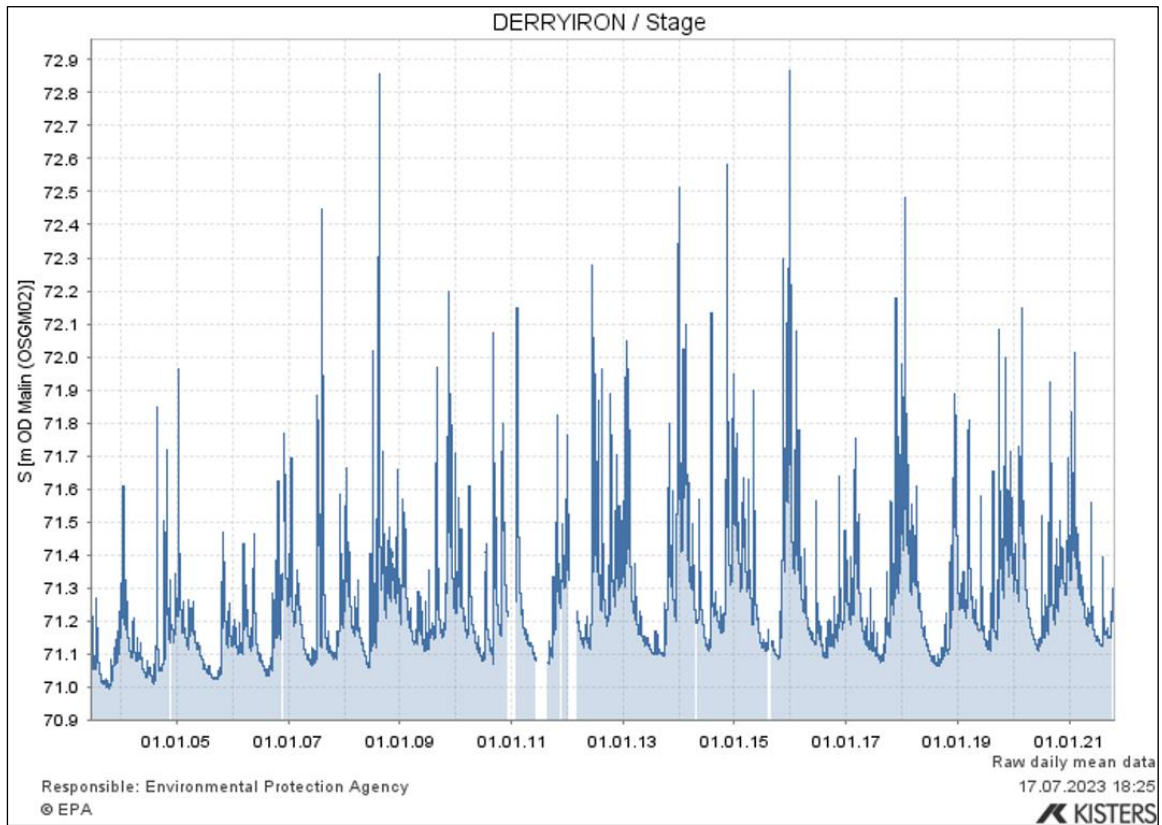


Figure 3.2: Hydrometric Gauge Stage Data

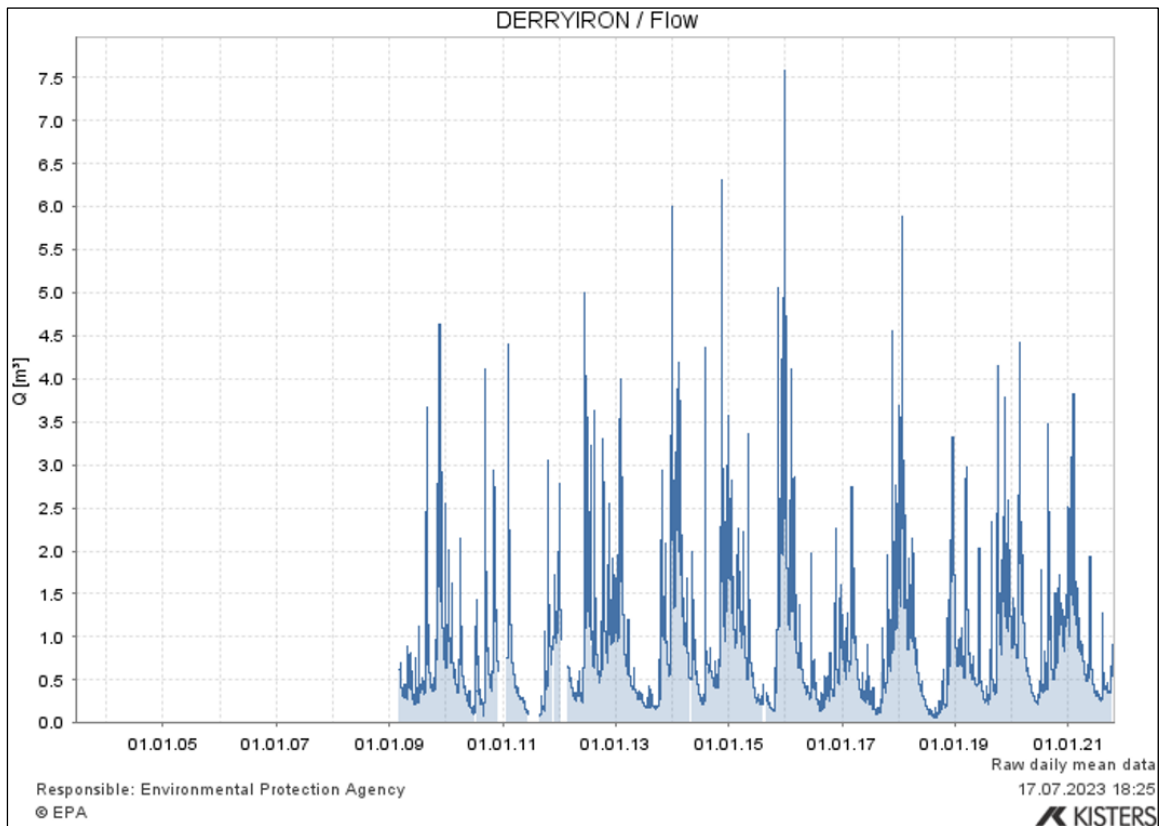


Figure 3.3: Hydrometric Gauge Flow Data

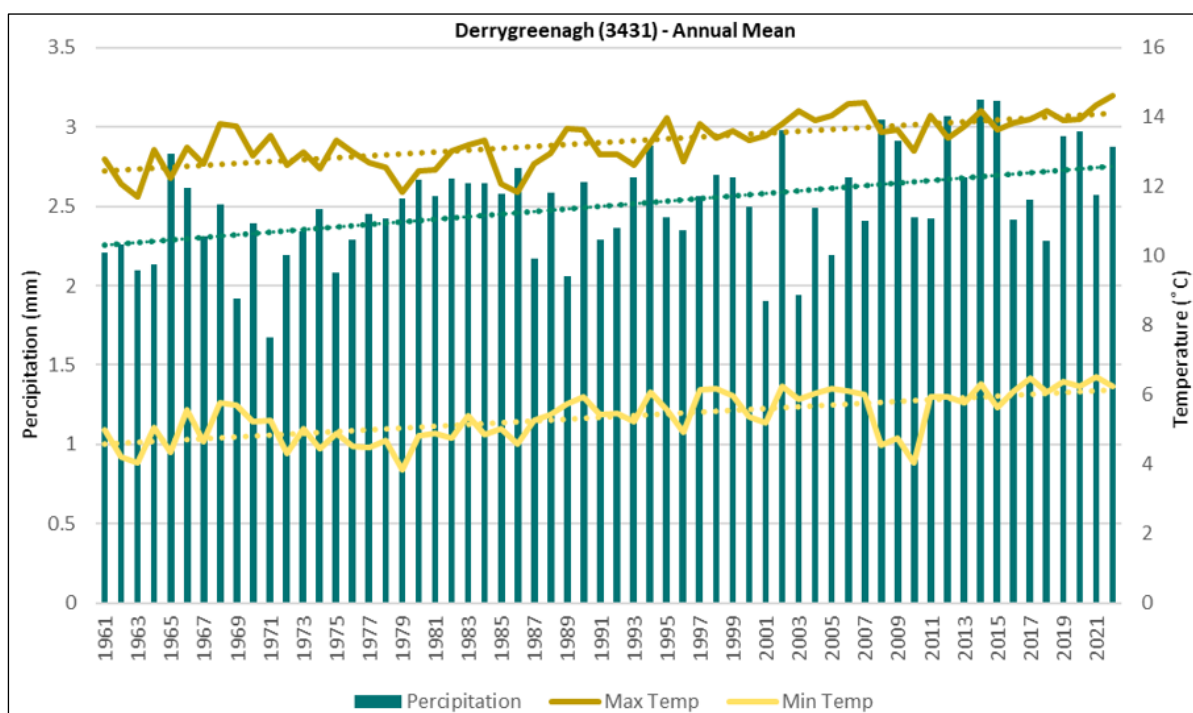
### 3.2 Meteorological Data

Historic meteorological data was sourced from Met Éireann (Historical Data - Met Éireann) and obtained data from Derrygreenagh weather station, see Table 3.2.

**Table 3.2: Weather Station**

<b>County</b>	Offaly
<b>Station Number</b>	3431
<b>Station Name</b>	DERRYGREENAGH
<b>Height (m)</b>	90
<b>Latitude</b>	53.39167
<b>Longitude</b>	-7.25833
<b>Operational</b>	1955 to present

The weather station data provides daily temperature and precipitation data sets and indicates a steady incline of all parameters, as shown in Figure 3.4.



**Figure 3.4: Weather Station Data**

The Derrygreenagh weather station experienced an annual mean rainfall peak during 2014 and 2015, 3.17 mm and 3.16 mm respectively. August 2014 experienced unprecedented levels with a monthly mean of 4.5 mm compared to 2.6 mm the previous month.

Correlation can be noted between the hydrometric data and meteorological data, in particular peaks during 2008/2009 and again 2015/2016.



### 3.3 OPW Hazard Maps

The OPW Flood Mapping website<sup>3</sup> was consulted in relation to available historical or anecdotal information on any flooding incidences or occurrence in the vicinity of the Proposed Development and overall project. No historical flooding has been recorded within the area of the Proposed Development and overall project; however, a reoccurring flood was recorded approximately 7 km eastwards as shown in Figure 3.5 below.

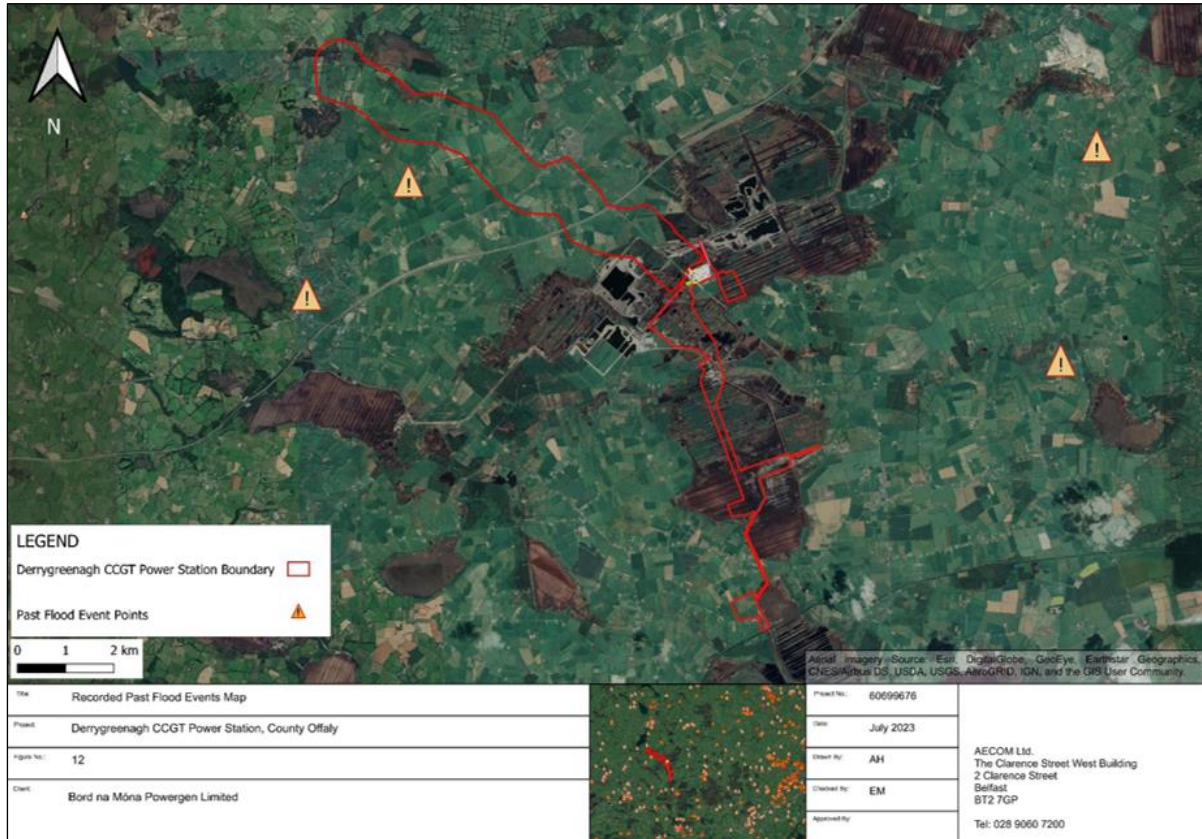


Figure 3.5: OPW Past Flood Events Map

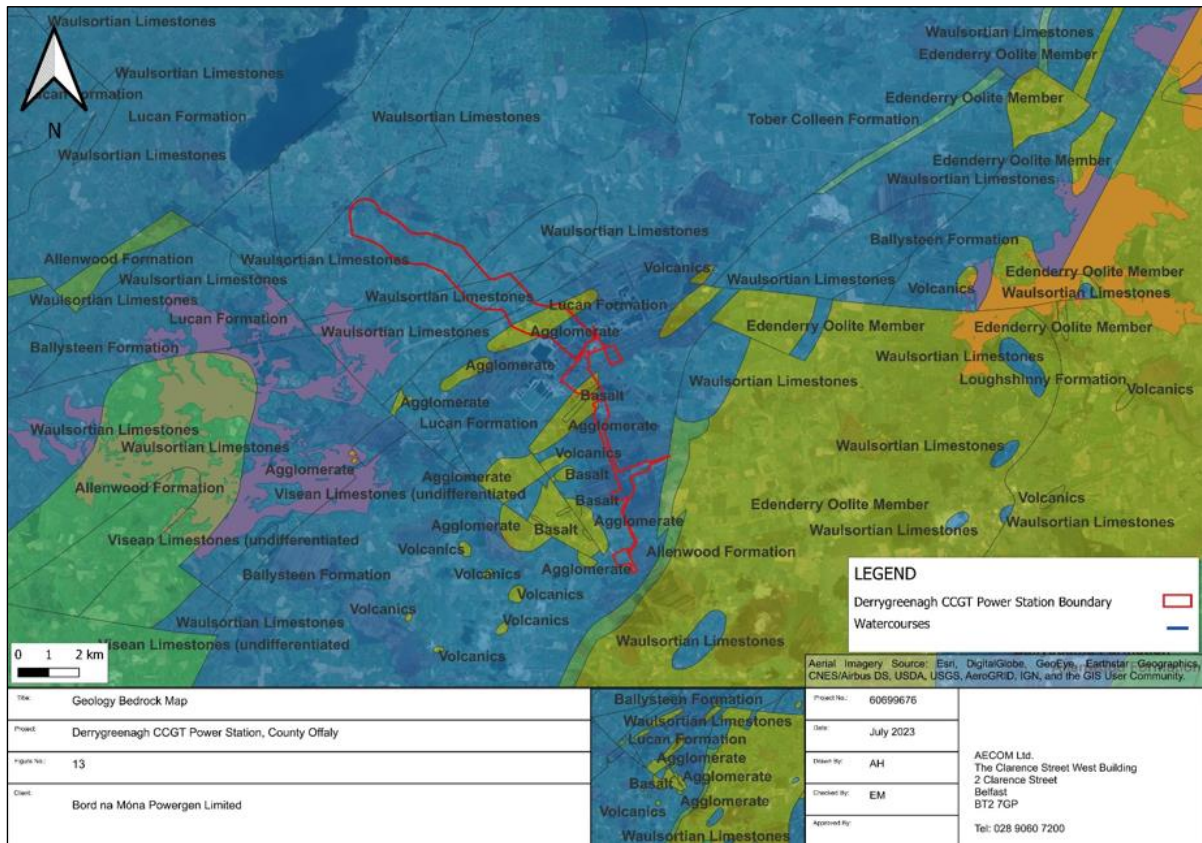
The 'recurring' flood event was recorded in 2005 by OPW and was attributed to low lying land after heavy rainfall.

### 3.4 Geological Survey Mapping

The Geological Survey Ireland Spatial Resources (Geological Survey Ireland) mapping was utilised to determine the underlying geology bedrock (Figure 3.6) as dark Limestone and shale with areas of volcanoclastic agglomerate which is moderately productive. The Teagasc Soils layer classified the Proposed Development area as predominately cutover/cutaway peat.

<sup>3</sup> Available at: <https://www.floodinfo.ie/>  
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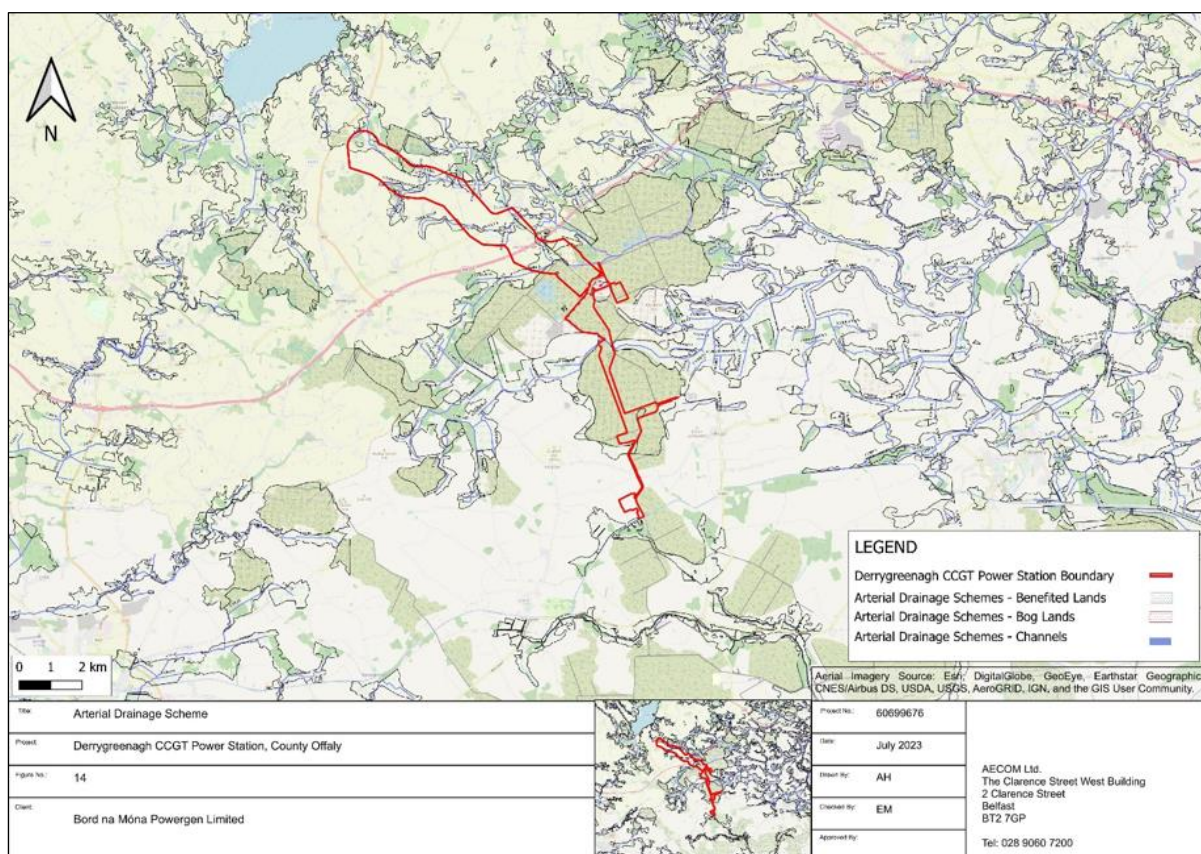
**Figure 3.6: Geological Survey Map (Source: Geological Survey Ireland) of Proposed Development and Overall Project**

The Proposed Development is mainly within an area of low ground water vulnerability and low soil permeability which indicates there is potentially low seepage (infiltration) of the surface water to the ground and where applicable, seepage into underlying aquifers or streams.

According to the mentioned data source no borehole is within the extent of the Proposed Development however groundwater well or spring(s) were identified within proximity of the proposed 400 kV substation. In addition, records indicate that there is a hostel well located south of the main station while a borehole was inserted in 2008 named 'PW1'.

### 3.5 OPW Land Benefitting Maps

According to OPW (Flood Maps - Floodinfo.ie) the Proposed Development is located within an area of "Benefitting Land" due to the Arterial Drainage Scheme (ADS) embankments. The Proposed Development and Overall Project is designated bogland and benefitted by Boyne C1/64 ADS channel as shown in Figure 3.7.



**Figure 3.7: Arterial Drainage Schemes - Channel and Benefited Lands within the Proposed Development Area**

### 3.6 Catchment Flood Risk Assessment and Management Mapping

Mapping has been produced under the Catchment Flood Risk Assessment and Management (CFRAM) project by OPW. The CFRAM mapping provides maps for both present day coastal and fluvial flooding events. AECOM have reviewed the GIS layers from the OPW Flood Maps and it was identified that the CFRAM mapping for coastal, fluvial and pluvial does not extend to the Derrygreenagh area.

#### 3.6.1 Coastal Mapping

The Proposed Development and Overall Project is approximately 70 km from the nearest coastline and GIS layers from <https://www.floodinfo.ie/> for coastal flood risk mapping does not extend to the Proposed Development location.

#### 3.6.2 Pluvial Mapping

AECOM have reviewed the CFRAM GIS layers from the OPW Flood Maps and it was identified that the pluvial flood risk mapping does not extend to the Proposed Development location. There are no known historic instances of pluvial flooding on the site.

### 3.7 National Indicative Fluvial Mapping

National Indicative Fluvial Maps (NIFIM) were developed by OPW under the EU Floods Directive and national flood policy. As part of the programme, OPW has produced mapping which provides indicative flood risk maps for present day and future scenarios for fluvial flooding events. The modelled extent of land that may be flooded by rivers (fluvial flooding) during a theoretical or ‘design’ flood event with an estimated probability of occurrence, rather than information for actual floods that have occurred in the past. AECOM have reviewed the GIS layers from the OPW Flood Maps and discussed these below.

The NIFM mapping provides present day flooding extents for two different categories of probability: Medium Probability (1% Annual Exceedance Probability (AEP)) and Low Probability (0.1% AEP). Figure



3.8 and Figure 3.9 illustrate the NIFM fluvial flood extents for Medium and Low probability for present day flood extents for the Proposed Development.

As per DOEHLG & OPW Guidelines (2009), three levels of flood zone should be identified:

- Flood Zone A (Fluvial) – High Probability of Flood (Greater than a 1 in 100 year. (Greater than 1% Annual Exceedance Probability (AEP))).
- Flood Zone B (Fluvial) – Moderate Probability of Flood (Between 1 in 100 year and 1 in 1000 year flood event. (between 0.1% and 1% AEP)).
- Flood Zone C (Fluvial) – Low Probability of Flood (Less than a 1 in 1000 year flood event. (Less than 0.1% AEP) Based on the below flood extents it could be determined that the Proposed Development would be located in Flood Zone A.



**Figure 3.8: Present Day Fluvial Flood Extents: Proposed Development and Overall Project Area**

The NIFM extents indicate potential flooding within areas of the proposed discharge pipe route and sections of the OHL route through Derryarkin Bog and north of Ballybeg Bog. Figure 3.9 shows that the discharge pipe only intersects the 1% AEP extent (Medium Probability) at the point of discharge and intersects the 0.1% AEP extent at the boundary of Drumman bog. The overhead cable intersects with the 0.1% AEP and 1% AEP extents through Drumman bog, Yellow River and Ballybeg bog. The Gas Connection Corridor is within Flood Zone C however the route is within close proximity of the 0.1% AEP extent.

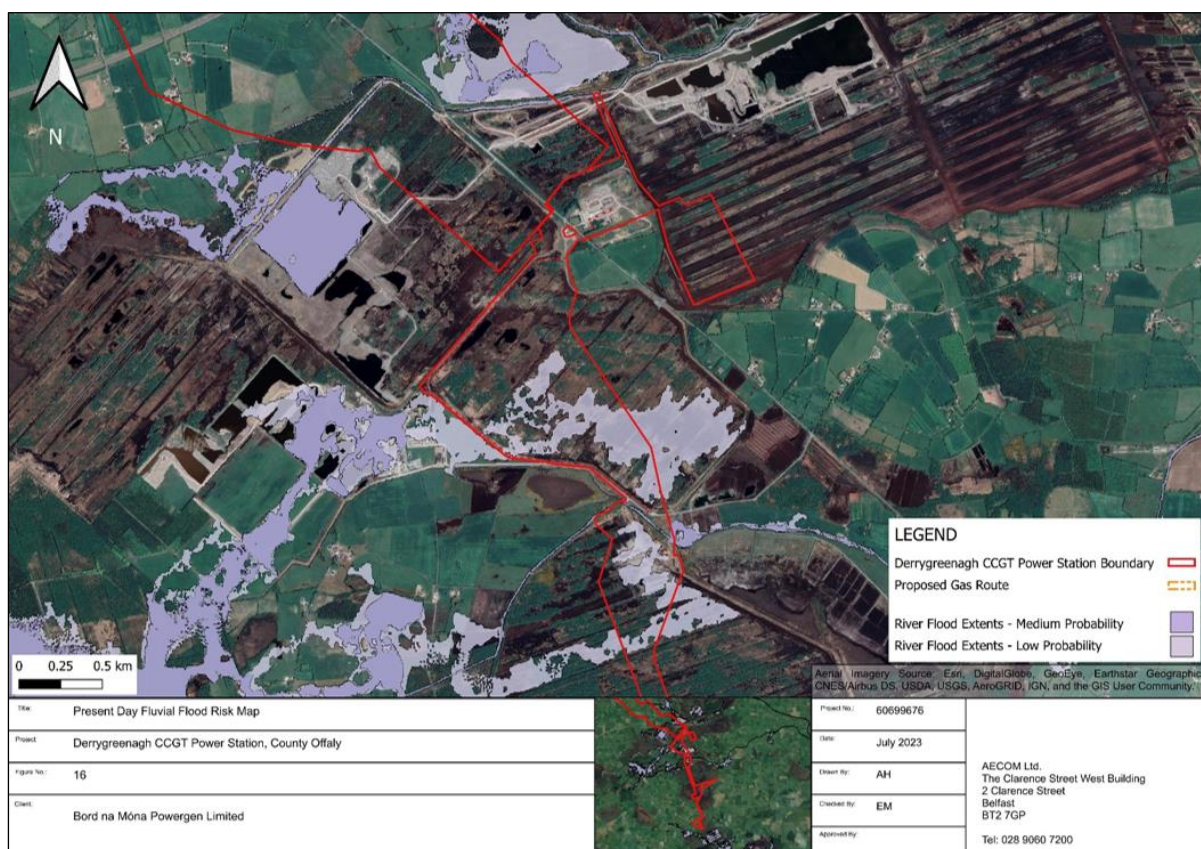


Figure 3.9: Present Day Fluvial Flood Extents: Section of Proposed Development

### 3.8 Reservoirs / Artificial Sources

There are no reservoirs within the vicinity of the Proposed Development and Overall Project therefore the risks from this source has been assessed as low.

### 3.9 Groundwater

The Groundwater Flooding Data Viewer<sup>4</sup> was utilised to view the Groundwater Flood Probability Maps which show the probabilistic flood extent of groundwater flooding as well as historic groundwater flooding extents. According to the groundwater mapping, there are areas within the bogs that show historic flooding, which is to be expected. The mapping shows no predicted or historic flooding at the Power Plant Area, 220 kV substation or southern 400kV substation. Additionally, from review of the site topography the Power Plant Area and 220kV substation are elevated in relation to the surrounding ground and therefore it is unlikely groundwater or overland flows will be directed towards these locations. Similarly, the 400kV substation is elevated in relation to the adjacent bog land.

### 3.10 Screen Assessment Conclusion

The possible flooding mechanisms in consideration of the Proposed Development are summarised in Table 3.3. The purpose of this screening assessment was to identify whether a potential risk of flooding exists and to what extent within the Proposed Development site. This assessment is based on the collation and analysis of existing information current information, historical information and data which may indicate the level or extent of any flood risk.

<sup>4</sup> Groundwater Flood Probability Maps (Geological Survey Ireland, 2023), available at: <https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=848f83c85799436b808652f9c735b1cc>  
Prepared for: Bord na Móna Powergen Limited

**Table 3.3: Possible Flood Mechanisms**

Source of Flooding	Significant?	Comment / Reason
Tidal / Coastal	No	The Proposed Development and Overall Project is not within a coastal Flood Zone and therefore is deemed low risk from flooding due to tidal and coastal sources
Fluvial	Yes	Elements of the Proposed Development and Overall Project infrastructure is shown to be in Flood Zone A and therefore is deemed high risk from flooding due to fluvial sources.
Pluvial	Yes	No OPW pluvial flood risk mapping data is available therefore it is difficult to determine the pluvial flood risk to the Proposed Development and Overall Project. There has been no record of any previous pluvial flooding on the site however this will be reviewed further at Stage 2.
Groundwater	No	There is no evidence of historical groundwater flooding within the station area(s) and the critical infrastructure is located in elevated parts of the site, therefore the Proposed Development and Overall Project is deemed to be low risk. Additionally, it is unlikely the works will have any impact on groundwater in the area.
Reservoirs / Artificial Sources	No	The Proposed Development and Overall Project is not located within proximity to a reservoir, the risk from this source has been assessed as low.

In consideration of the data sources assessment discussed within the first part of this report, this flood risk assessment is therefore required to proceed to 'Stage 2 - Initial Flood Risk Assessment' which is detailed in Section 4 of this report.

## 4. Stage 2 – Initial Flood Risk Assessment

In order to undertake the initial flood assessment a determination of the flood zone in which the Proposed Development and Overall Project is located along with a determination of the vulnerability is required.

### 4.1 Determination of Vulnerability

The vulnerability of the Proposed Development is classified into three classes as given below in Table 4.1.

**Table 4.1: Classification of Vulnerability**

Vulnerability class	Land uses and types of development*
Highly vulnerable development (including essential infrastructure).	Garda, ambulance and fire stations and command centres required to be operational during flooding, Hospitals, Emergency access and egress points, Schools, Dwelling houses, student halls of residence and hostels, Residential institutions such as residential care homes, children's homes and social services homes, Caravans and mobile home parks, Dwelling houses designed, constructed or adapted for the elderly or, other people with impaired mobility, and Essential infrastructure, such as primary transport and utilities distribution, including electricity generating power stations and sub-stations, water and sewage treatment, and potential



Vulnerability class	Land uses and types of development*
	significant sources of pollution (SEVESO sites, First Schedule of EPA Act as amended sites, etc.) in the event of flooding.
Less vulnerable development.	Buildings used for: retail, leisure, warehousing, commercial, industrial and non-residential institutions, Land and buildings used for holiday or short-let caravans and camping (subject to specific warning and evacuation plans), Land and buildings used for agriculture and forestry, Waste treatment (except landfill and hazardous waste), Mineral working and processing, and Local transport infrastructure.
Water-compatible development.	Flood control infrastructure, Docks, marinas and wharves, Navigation facilities, Ship building, repairing and dismantling, Dockside fish processing and refrigeration and compatible activities requiring a waterside location, Water-based recreation and tourism (excluding sleeping accommodation), Lifeguard and coastguard stations, Amenity open space, Outdoor sports and recreation and essential facilities such as changing rooms, and essential ancillary sleeping or residential accommodation for staff required by uses in this category (subject to a specific warning and evacuation plan).

\* Uses not listed here should be considered on their own merits

Source: DOEHLG & OPW Guidelines (2009)

The guidelines would indicate that the Proposed Development should be considered to be a **highly vulnerable development**.

## 4.2 Determination of Flood Zone

In accordance with DOEHLG & OPW Guidelines (2009), there are three flood zones designated in the consideration of flood risk to a particular site. The three flood zones are described in Table 4.2 below.

**Table 4.2: Flood Zone Description**

Flood Zone	Description
Flood Zone A	Where the probability of flooding from watercourses is the highest (greater than 1% or 1 in 100 year for watercourse flooding or 0.5% or 1 in 200 for coastal flooding).
Flood Zone B	Where the probability of flooding from watercourses is moderate (between 0.1% or 1 in 1000 year and 1% or 1 in 100 year for watercourse flooding and between 0.1% or 1 in 1000 year and 0.5% or 1 in 200 for coastal flooding).
Flood Zone C	Where the probability of flooding from watercourses and the sea is low or negligible (less than 0.1% or 1 in 1000 year for both watercourse and coastal flooding). Flood Zone C covers all areas which are not in Zones A or B.

The planning implications for each of the flood zones are:

- Zone A - High probability of flooding. Most types of development would be considered inappropriate in this zone. Development in this zone should be avoided and/or only considered in exceptional circumstances, such as in city and town centres, or in the case of essential infrastructure that cannot be located elsewhere, and where the Justification Test has been applied. Only water-compatible development, such as docks and marinas, dockside activities that require a waterside location, amenity open space, outdoor sports and recreation, would be considered appropriate in this zone.
- Zone B - Moderate probability of flooding. Highly vulnerable development, such as hospitals, residential care homes, Garda, fire and ambulance stations, dwelling houses and primary strategic transport and utilities infrastructure, would generally be considered inappropriate in this zone,

unless the requirements of the Justification Test can be met. Less vulnerable development, such as retail, commercial and industrial uses, sites used for short- let for caravans and camping and secondary strategic transport and utilities infrastructure, and water-compatible development might be considered appropriate in this zone. In general, however, less vulnerable development should only be considered in this zone if adequate lands or sites are not available in Zone C and subject to an FRA to the appropriate level of detail to demonstrate that flood risk to and from the development can or will adequately be managed.

- Zone C - Low probability of flooding. Development in this zone is appropriate from a flood risk perspective (subject to assessment of flood hazard from sources other than rivers and the coast) but would need to meet the normal range of other proper planning and sustainable development considerations.

In consideration of the above guidelines, the 0.1% AEP fluvial event is to be considered in order to assess whether any parts of the site are located within Flood Zone 'A' or Flood Zone 'B'.

### 4.3 Justification Test Requirement

The requirement for a justification test was reviewed for this study to determine whether the Proposed Development would be considered acceptable in terms of flood risk. The conclusion of 'Stage 1 – Flood Risk Identification' noted that the works may be impacted by fluvial, coastal and pluvial flooding.

The requirement for a Justification Test is determined based on the type of development and flood zone designation as indicated in Table 4.3 below.

**Table 4.3: Justification Test Matrix**

	Flood Zone A	Flood Zone B	Flood Zone C
Highly Vulnerable Development:	Justification Test	Justification Test	Appropriate
Less Vulnerable Development:	Justification Test	Appropriate	Appropriate
Water-Compatible Development:	Appropriate	Appropriate	Appropriate

Source: DOEHLG & OPW Guidelines (2009)

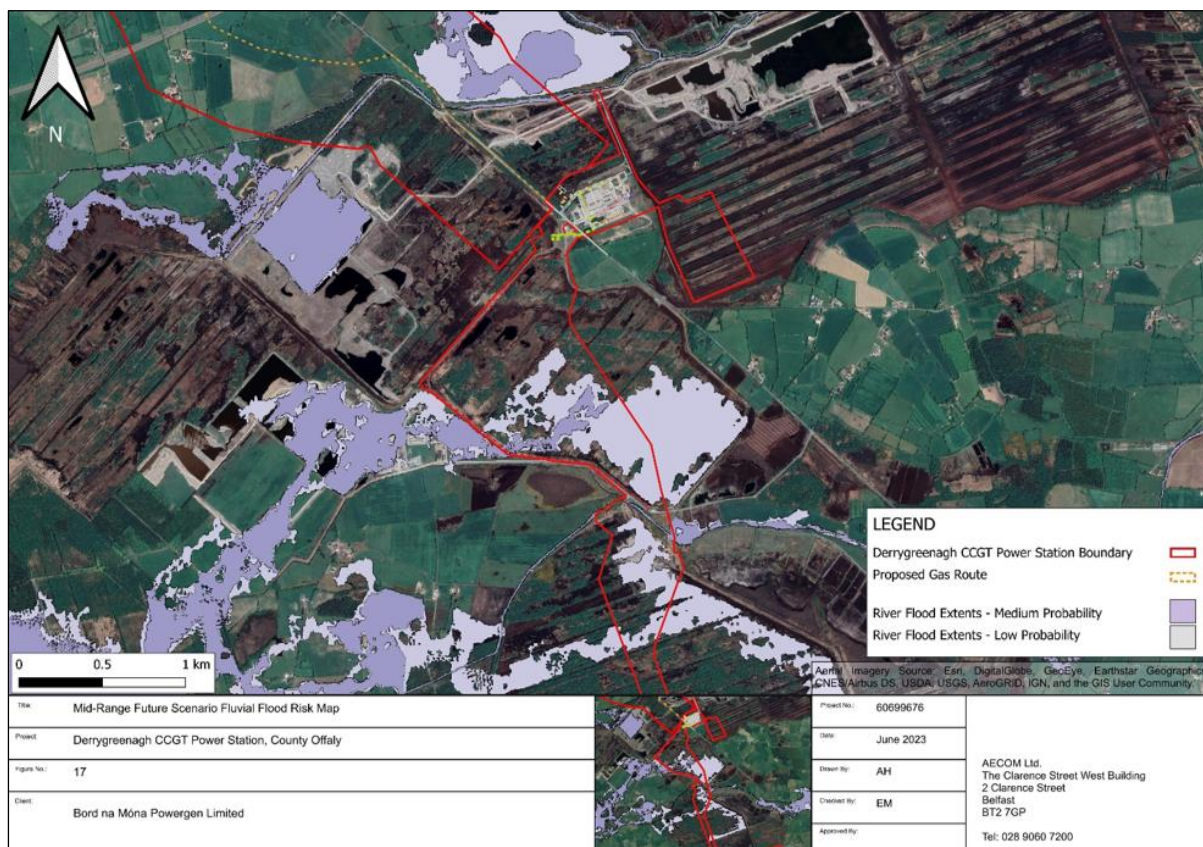
The Proposed Development and Overall Project has elements that are considered highly vulnerable, and elements considered water-compatible therefore, as the highly vulnerable elements are in Flood Zone C, the development is determined as appropriate. As per 2009 Guidelines, the detailed proposals will need to account for future proofing of flood risk and surface water management.

#### 4.3.1 Fluvial Flooding

The Stage 1 – Flood Risk Identification determined the risk of fluvial and pluvial flooding to the Proposed Development and Overall Project is high.

##### 4.3.1.1 Climate Change Mapping

In order to take a precautionary approach, it is necessary to understand the flood risk when accounting for climate change. Figure 4.1 below shows the mid-range future fluvial flood extents and illustrates that the Derrygreenagh site is situated within the predicted future flooding zones of low and medium probability (Flood Zone A).

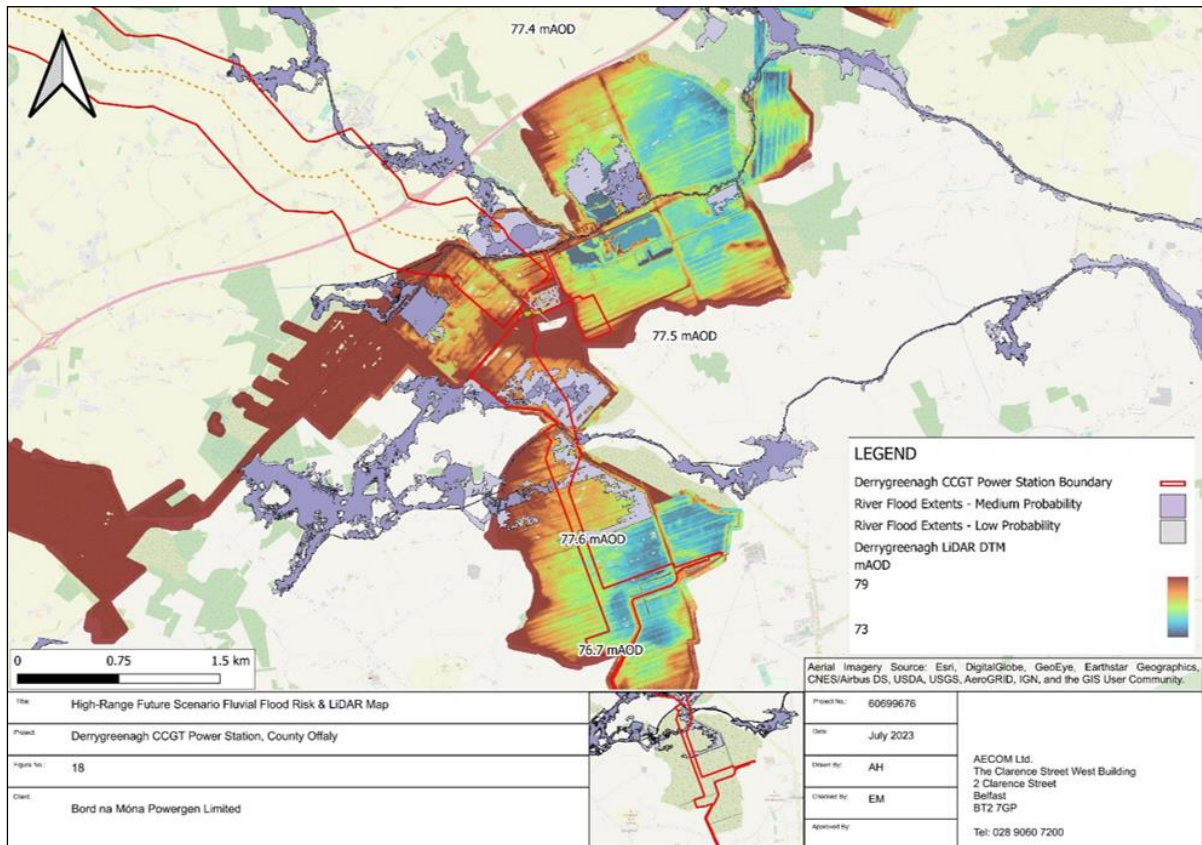


**Figure 4.1: Mid-Range Future Climate Change Scenario Fluvial Flood Map**

Figure 4.1 shows during the mid-range climate change event, the Proposed Development main station and substation remain outside of the extents (Flood Zone C) while the overhead line and discharge pipe route remain under the same level of risk as the present-day scenario.

Figure 4.2 illustrates an increase of flood risk, as the 1% AEP extent reaches the overhead line location within Drumman bog during the high-range climate change event. The Proposed Development main station and 220 kV substation remain outside of the extents during this scenario (Flood Zone C).



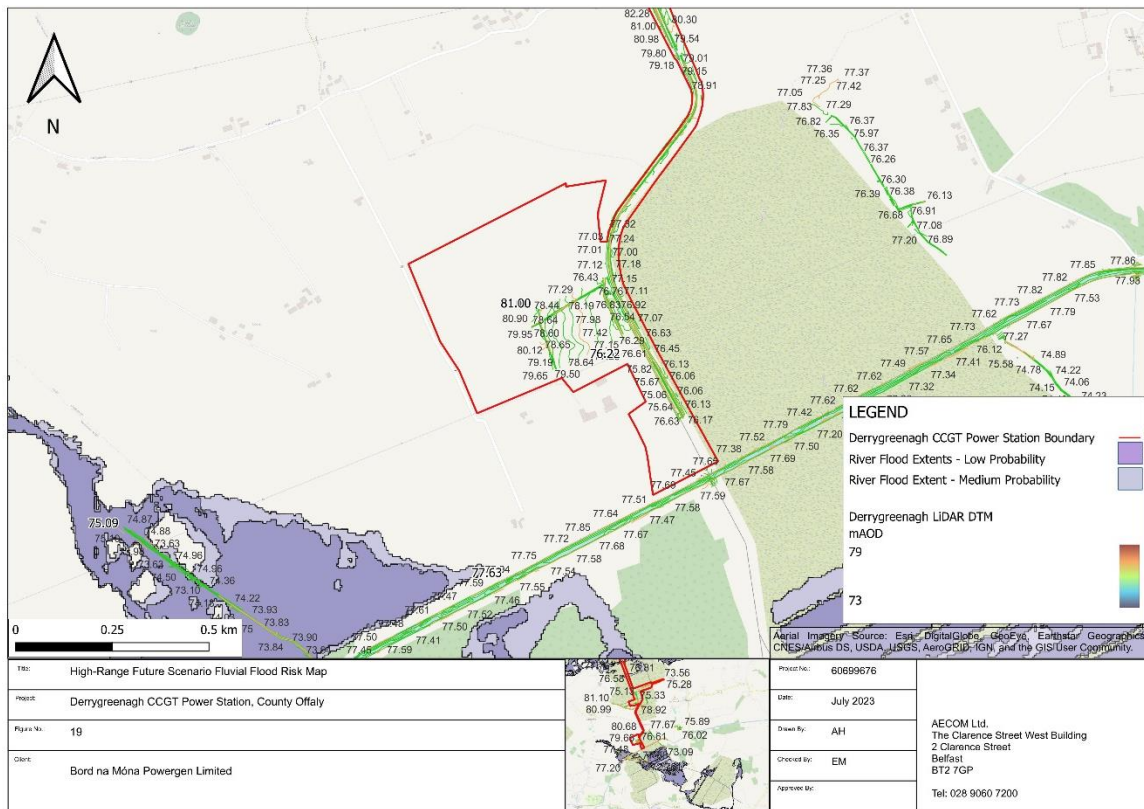


**Figure 4.2: High Range Future Climate Change Scenario and LiDAR Fluvial Flood Map**

The NIFM maps indicate that elements of the Proposed Development are located in fluvial Flood Zone A for present day and therefore the risk of fluvial flooding to these elements (which have been defined as flood-compatible) is considered to be high. As previously shown in Figure 4.1 and Figure 4.2, the NIFM extents estimate that the Proposed Development overhead, and discharge pipe intersects both the 0.1% AEP and 1% AEP extents, but the stations and substations remain at low risk of fluvial flooding.

Taking into consideration the Proposed Development, the overhead line will be negatively impacted from fluvial flooding if maintenance or emergency access is required during a flooding event. Additionally, some additional loading could be caused by the flood and this should be incorporated into the foundation design. The 0.1% AEP High Range Future Climate Change Scenario (HEFS) extents flood levels are estimated to be up to 77.6 mAOd. It is advised that the detail design consider access routes to avoid the flood extents as shown in Figure 4.2 and to raise access routes to an appropriate height to minimise impacts to access where possible.

The discharge pipe route intersects with the fluvial flood extents; however, the discharge pipe is to be buried. Therefore, the Proposed Development shall not increase the fluvial flood risk and flood capacity is not reduced. It is advised that the methodology of works incorporate mitigation measures to reduce the risk of flooding during the construction phase.



**Figure 4.3: High Range Future Climate Change Scenario and LiDAR Fluvial Flood Map**

The risk of fluvial flooding within the boundary of the 400 kV substation is negligible during the 0.1% AEP HEFS event as shown in Figure 4.3. The levels recorded at the substation reach 81.0 mAO D which is significantly higher than the NIFM flood levels which are estimated to be approximately 77.6 mAO D within this area due to the fluvial extents and topographic data available.

The Grand Canal is approximately 90 meters from the red boundary while approximately 600 m from the proposed 400 kV substation (Figure 4.3). It is advised that Waterways Ireland (operator and owner of the Grand Canal) are notified of the Proposed Development to allow them to carry out maintenance/inspections of the canal along this stretch and ensure adequate access is maintained. It is noted that if a breach were to occur, based on the topographical information currently available, that flow paths would direct flows from east to west toward the fluvial flood cell shown in Figure 4.3.

Overall, due to the positioning of the infrastructure and the land elevation, the Proposed Development is deemed to be at low risk of fluvial flooding.

### 4.3.2 Pluvial Flooding

The Stage 1 – Flood Risk Identification determined the risk of pluvial flooding to the Proposed Development is unknown.

The Proposed Development design should aim to utilise suitable drainage solutions to manage surface water runoff. The design should be sufficient to allow for 20% increase in rainfall intensities to allow for climate change. The drainage system should be designed to ensure no surcharging during the 30-year event and the designer should carry out checks for the 1 in 100-year return period to ensure that an adequate level of protection against the flooding of properties internally is achieved.

The design should also look to utilise Sustainable drainage systems (SuDs) if possible, within the development boundary.

The comprehensive and detailed design of the surface water system, ground levels, finished slab levels, and SuDs measures will mitigate pluvial flood risk to the Proposed Development and ensure that the Proposed Development does not increase the pluvial flood risk to neighbouring properties.

## 4.4 Stage 2 Flood Assessment Conclusion

The purpose of the scoping stage is to identify possible flood risks and to implement the necessary level of detail required to assess these possible flood risks, and to ensure these can be adequately addressed in the FRA.

The NIFM maps indicate that elements of the Proposed Development and Overall Project are in Flood Zone A for present day and future scenario extents and therefore the risk of fluvial flooding is high to these elements. It is noted these elements are considered water compatible. There are elements of the development that are considered highly vulnerable, but these are located in flood Zone C and considered low risk in relation to fluvial flooding. As an initial and conservative estimation, and without the presence of a hydraulic model, it can be estimated that the main station and corresponding 220 kV substation should have a minimum finish level of 78.2 mAOD (0.1% AEP HEFS + 0.6m) to reduce the risk of fluvial flood damage. The finished floor levels for the 400 kV substation are estimated to be 78.2 mAOD (0.1% AEP HEFS + 0.6m).

It should be noted that the recommended levels above do not remove all flood risk and that the accuracy of the indicative flood modelling and the freeboard should be reviewed by the client and the design team to determine if this is appropriate for the Proposed Development infrastructure.

## 5. Conclusion

The Site-Specific Flood Risk Assessment for the Proposed Development and Overall Project of Derrygreenagh Power and all associated works was undertaken in accordance with the requirements of “The Planning System and Flood Risk Management – Guidelines for Planning Authorities” to demonstrate that the Proposed Development will:

- Not increase flood risk elsewhere and, if practical, will reduce overall flood risk.
- Include measures to minimise flood risk to people, property, the economy, and the environment as far as reasonably possible.
- Include measures to ensure that residual risk to the area and/or development can be managed to an acceptable level.

The **Stage 1 – Flood Risk Identification** determined possible risk of flooding to the Proposed Development from fluvial, coastal/tidal and pluvial sources. Fluvial flood risk is considered due to NIFM flood extends for low (0.1% AEP) and medium (1% AEP) probability. Pluvial flood risk was also considered as there is minimal data on these.

The **Stage 2 – Initial Flood Risk Assessment** has shown that the Proposed Development, based on the NIFM extents, has elements (water compatible) which are situated within Flood Zone A for present day and future scenarios, however all highly vulnerable elements of the development have been located outside of the present day and future scenarios, therefore the overall risk of fluvial flooding is considered to be low.

It can be estimated that any vulnerable infrastructure should have a minimum finish level of 78.2 mod (0.1% AEP HEFS + 0.6m) for the main station and corresponding 220 kV substation while the 400 kV substation finished floor level is estimated to be 78.2 mAOD (0.1% AEP HEFS + 0.6m) to reduce the risk of fluvial flood damage. Noting that the given floor levels do not remove all flood risk and that the accuracy of the indicative flood modelling and the freeboard should be reviewed by the client and the design team to determine if this is appropriate for the Proposed Development infrastructure.

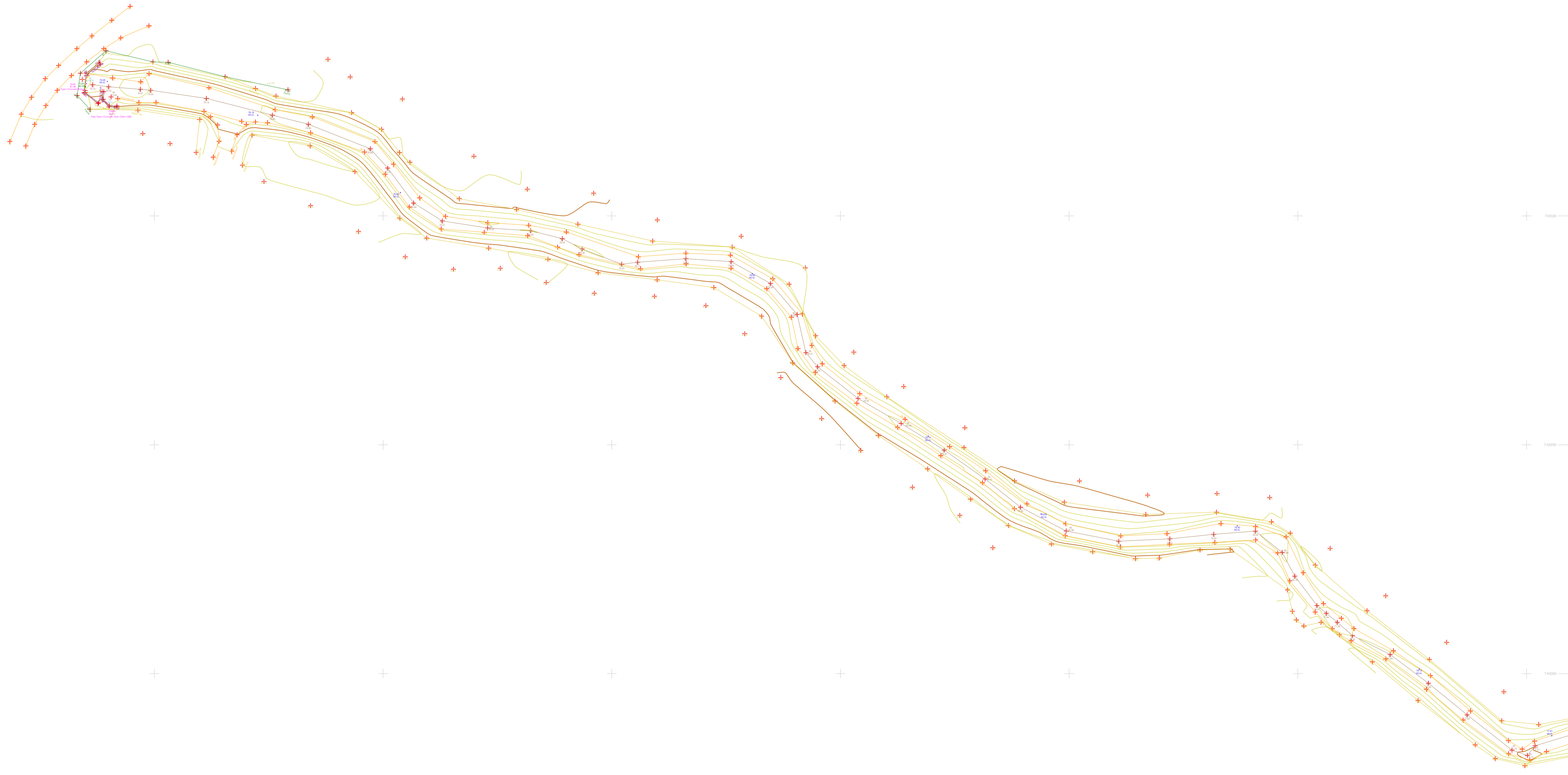
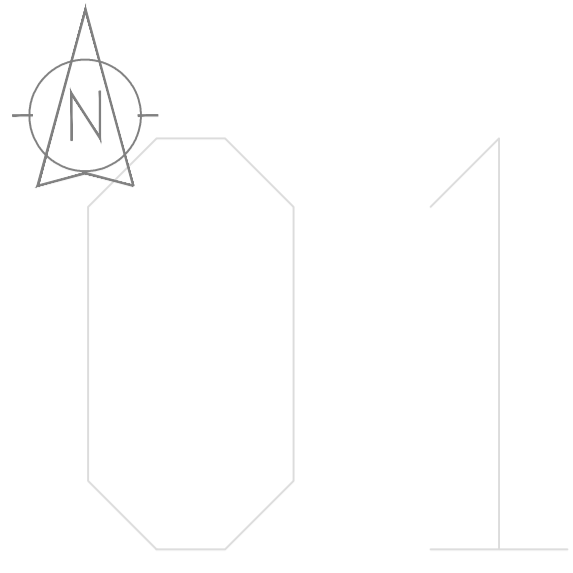
Suitable drainage systems shall be provided and designed to manage any surface water to reduce pluvial flood risk.

## Appendix A Topographic Survey









### LEGEND

#### Street furniture & Services

Over Head Wires (LUAS) - Pylon ESB	Phone Box
Powerbed	Bench Seat
Ball	Bus Stop
BEA Beacon	Bus Stop Shelter
CH Coalhole Cover	Electric Pole
BH Bore Hole	Electric Pole
EP Electricity Pole	Electric Pole
EPCTV CCTV Camera Pole	Electric Pole
LP Lamp Post	Electric Pole
Gas Valve	Electric Pole
Sluice Valve	Electric Pole
Air Valve	Electric Pole
Stop Cook	Electric Pole
C P Post	Electric Pole
Marker Post	Electric Pole
Traffic Light	Electric Pole
Parking Meter	Electric Pole
Flare Area Mark	Electric Pole
Smart Card Validator	Electric Pole
Unknown Valve	Electric Pole
Ballast	Electric Pole
Gully	Electric Pole
Waste Bin	Electric Pole
Hydrant	Electric Pole
Fire Hydrant	Electric Pole
ESS Box	Electric Pole
ESS Inspection Cover	Electric Pole
Traffic Control Box	Electric Pole
LIAS Technical Cubicle	Electric Pole
LIAS Vending Machine	Electric Pole
Water Meter Cover	Electric Pole
Telecom Inspection Cover	Electric Pole
Monument / Toilets	Electric Pole
Tank Storage	Electric Pole
Basement MH Cover & Pipe	Electric Pole
Dead Aerial Mark	Electric Pole
Stay for pole	Electric Pole
Pipe Protection	Electric Pole
Washout	Electric Pole

#### Natural Features

Surface Change	Water Level	Golf
Land Drain	Water Level	Fair Way
Bottom of Slope	Water Level	Green
Top of Slope	Water Level	Tea Box
Ditch	Water Level	Other
Water Edge / Lake / Pond	Water Level	Survey Station
Hedge / Trees Drip Line / Vegetation	Water Level	Photo point
Tree Coniferous	Water Level	Top of Tree

#### Built Features

##### Roads & Road Markings

Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Soft Elevation
Bridge Deck	Property Line	Step Level
Bridge Pierhead	Road Sign	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform Train & Tram	Wall / Retaining Wall	
Damp Proof Course / Verge	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pile / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

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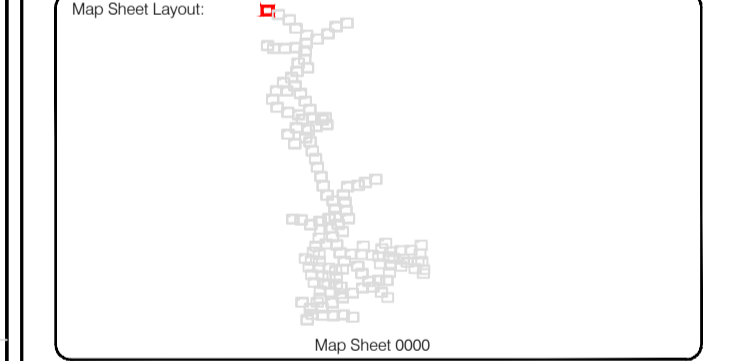
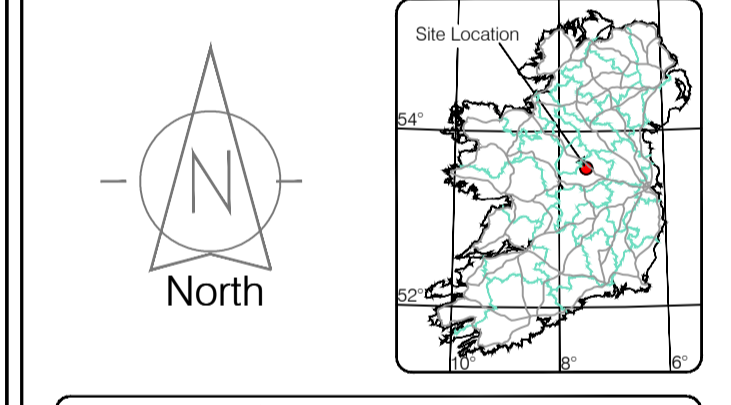
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Reviewed by: ST	Date: 26/07/2023	Datum: Irish National Grid	Main Head
Drawn by: ST	Date: 26/07/2023	Grid System: Irish National Grid	ITM 8
Checked by: PK	Date: 26/07/2023		

No	Date	Description	Revisors
0	26.07.2023	First Drawing	
1	08.08.2023	Layouts added	
2	06.09.2023	Additional road survey added	



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<b>Client :</b>	AECOM Dublin
<b>Project :</b>	BNN Site Derrygreenagh Rhode
<b>Date :</b>	26.07.2023
<b>Scale :</b>	1:500@A1
<b>Description :</b>	Topographical Survey
<b>Drawing Number :</b>	MGS52335_T_ITM_Rev2-01





### LEGEND

#### Street furniture & Services

Over Head Wires (LUAS) - Pylon ESB	Ballast	Road Sign	Phone Box
Powerbed	Beacon	Bench Seat	Duct
Bus Stop	Coalhole Cover	Bus Stop	Gas Cover
Pipe	Boys Hole	Bus Stop Shelter	Gas Cover
Lift	Electricity Pole	Electricity Pole	Gas Cover
Barrier	Electricity Pole	Electricity Pole	Gas Cover
Pump	Electricity Pole	Electricity Pole	Gas Cover
Trail Pit	Electricity Pole	Electricity Pole	Gas Cover
Bus/Tram Shelter	Electricity Pole	Electricity Pole	Gas Cover
Postbox	Electricity Pole	Electricity Pole	Gas Cover
Water - General	Electricity Pole	Electricity Pole	Gas Cover
Water Valve	Electricity Pole	Electricity Pole	Gas Cover
Gas Valve	Electricity Pole	Electricity Pole	Gas Cover
Sluice Valve	Electricity Pole	Electricity Pole	Gas Cover
Air Valve	Electricity Pole	Electricity Pole	Gas Cover
Stop Cock	Electricity Pole	Electricity Pole	Gas Cover
C/P Post	Electricity Pole	Electricity Pole	Gas Cover
Marker Post	Electricity Pole	Electricity Pole	Gas Cover
Traffic Light	Electricity Pole	Electricity Pole	Gas Cover
Parking Meter	Electricity Pole	Electricity Pole	Gas Cover
Plane Asset Mark	Electricity Pole	Electricity Pole	Gas Cover
Smart Card Validator	Electricity Pole	Electricity Pole	Gas Cover
Unknown Valve	Electricity Pole	Electricity Pole	Gas Cover

#### Natural Features

Surface Change	Water Level	Golf
Land Drain	Water Level	Fair Way
Bottom of Slope	Water Level	Green
Top of Slope	Water Level	Tea Box
Ditch	Water Level	Other
Water Edge / Lake / Pond	Water Level	Survey Station
Hedge / Trees Drip Line / Vegetation	Water Level	Photo point
Tree Coniferous	Water Level	Top of Tree

#### Built Features

##### Roads & Road Markings

Building	Fence	Floor Level
Edge of Road	Fence	Apex Height
Kerb Bottom	Fence	Eaves Height
Kerb Top	Fence	Parapet Height
Bridge Abutment	Fence	Soft Level
Bridge Deck	Fence	Step Level
Bridge Pier	Fence	Concrete Pad
Building Facade	Fence	Track
Footpath / Platform Train & Tram	Fence	Wall / Retaining Wall
Damp Proof Course / Verge	Fence	Railway / Tram Rail / Gating / Ramp
Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Fence	Building Canopy / Roof / Overhang
Cycleway / Private Landing Area	Fence	

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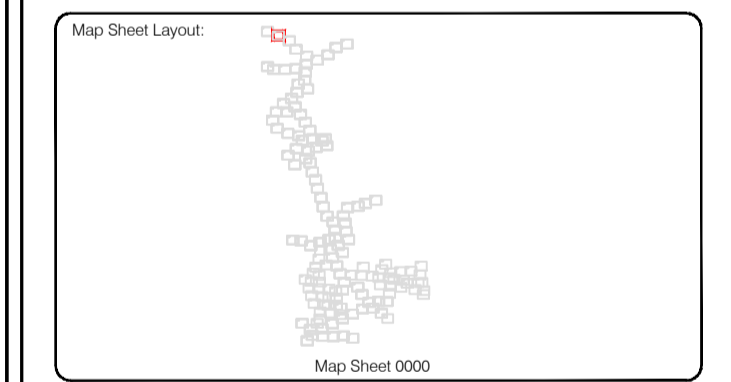
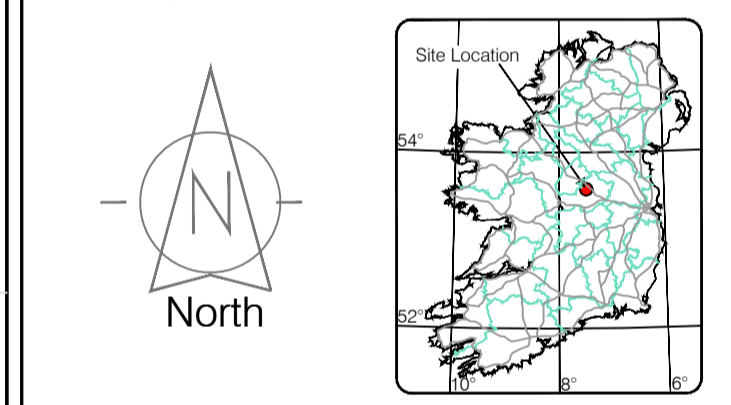
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Checked by: PK	Date: 26/07/2023	Date: 26/07/2023	Date: 26/07/2023

No	Date	Description	Revisions
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### LEGEND

#### Street furniture & Services

Over Head Wires (LUAS) - Pylon ESB	Phone Box
Powerbed	Bench Seat
Bus Stop	Duct
Pipe	Keek
Light	Gas Cover
Beacon	Gully
Coalhole Cover	USG Car Park Vent
Boys Hole	Waste Bin
Electricity Pole	Hydrant
Telegraph pole	Fire Hydrant
OCS Pole	ESS Box
OCS Camera Pole	ESB Inspection Cover
Lamp Post	Traffic Control Box
Gas Valve	LUAS Technical Cubicle
Surface Water MH	LUAS Vending Machine
Manholes	Water Meter Cover
Air Conditioning Vents	Telecom Inspection Cover
Services Inspection Cover	Monument / Toilets
Traffic Inspection Cover	Tank Storage
Cable TV Inspection Cover	Basement MH Cover & Pipe
ESAT Inspection Cover	Dead End Mark
NL Inspection Cover	Stay for pole
Elcom Inspection Cover	Stay for pole
Rocking Eye	Washout

#### Natural Features

Surface Change	Water Level	Golf
Land Drain	Crown Level	Fair Way
Bottom of Slope	Invert level	Green
Top of Slope	Bed Level	Tree Box
Ditch	Spotheight	Other
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Hedge / Trees Drip Line / Vegetation	Spotheight	Photo point
Tree Continuous	Top of Tree	

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Building Facade	Top of Fence	Track
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Cycleway / Private Landing Area		

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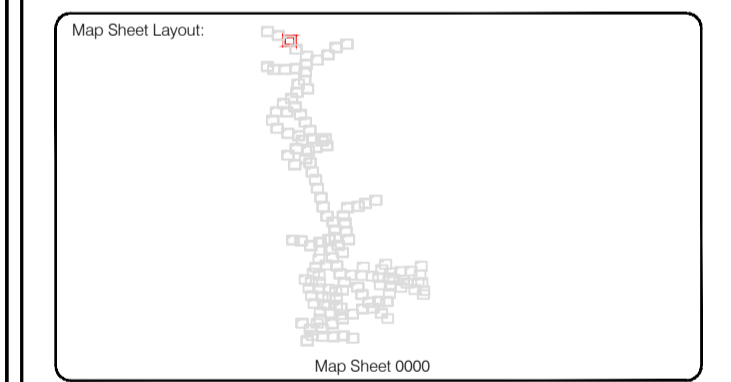
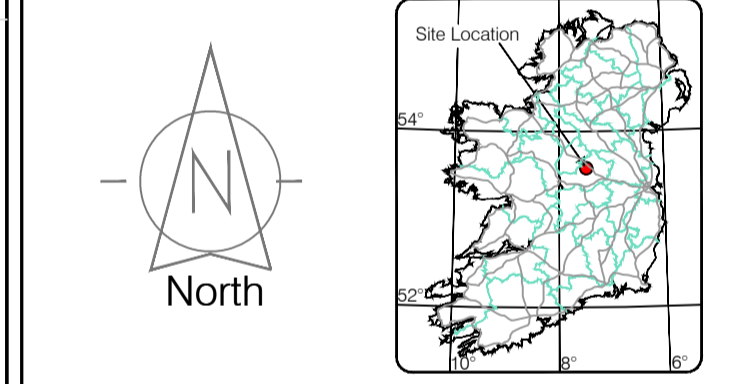
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Surveyed by: ST	Date: 26.07.2023	Datum: Irish National Grid	Main Head
Drawn by: ST	Date: 26.07.2023	Grid System: Irish National Grid	ITM 8
Checked by: PK	Date: 26.07.2023		

No.	Date	Description	Revisions
0	26.07.2023	First Drawing	
1	08.08.2023	Layouts added	
2	06.09.2023	Additional road survey added	



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**Phone:** (+353) 045 484040  
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**Email:** info@murphyge.ie

<b>Client :</b>	AECOM Dublin
<b>Project :</b>	BNN Site Derrygreenagh Rhode
<b>Date :</b>	26.07.2023
<b>Scale :</b>	1:500@A1
<b>Description :</b>	Topographical Survey
<b>Drawing Number :</b>	MG552335_T_ITM_Rev2-03

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**LEGEND**  
Street furniture & Services

Over Head Wires (LUAS) - Pylon ESB	Bus Stop	Bench Seat	Duct	Phone Box
Powerbed	Ballast	Keek	Gas Cover	Gas Cover
Pipe	Beacon	Gully	CPFlow	P Box
Lift	Coalhole Cover	USG W	USG Car Park Vent	
Barrier	Boys Hole	Waste Bin	Hydrant	
Pump	Electricity Pole	Fire Hydrant	Fire Hydrant	
Bus/Tram Shelter	Telegraph pole	ESS Box	ESS Box	
Postbox	OCS Pole	ESS Box	ESS Box	
Water - General	OCTV Camera Pole	ESS Inspection Cover	ESS Inspection Cover	
Water Valve	Lamp Post	Traffic Control Box	Traffic Control Box	
Gas Valve	Foul Manhole	LUAS Technical Cabinet	LUAS Technical Cabinet	
Sluice Valve	Surface Water MH	Ticket Vending Machine	Ticket Vending Machine	
Air Valve	Manholes	Water Meter Cover	Water Meter Cover	
Stop Cook	Air Conditioning Vents	Telecom Inspection Cover	Telecom Inspection Cover	
C/P Post	Services Inspection Cover	Monument / Toilets	Monument / Toilets	
Marker Post	Traffic Inspection Cover	Tank Storage	Tank Storage	
Traffic Light	Cable TV Inspection Cover	Basement MH Cover & Pipe	Basement MH Cover & Pipe	
Parking Meter	ESAT Inspection Cover	Disposal Aerial Mark	Disposal Aerial Mark	
Flare Asset Mark	NL Inspection Cover	Stay for pole	Stay for pole	
Smart Card Validator	Elcom Inspection Cover	PP	Pipe Protection	
Unknown Valve	Rocking Eye	Washout	Washout	

**Natural Features**

Surface Change	Water Level	Golf	Golf
Land Drain	Down Level	Fair Way	Fair Way
Bottom of Slope	Invert level	Green	Green
Top of Slope	Bed Level	Tree Box	Tree Box
Ditch	Spotheight	Other	Other
Water Edge / Lake / Pond		Survey Station	Survey Station
Hedge / Trees Drip Line / Vegetation		Photo point	Photo point
Tree Coniferous	Tree Deciduous	Top of Tree	Top of Tree

**Built Features**

**Roads & Road Markings**

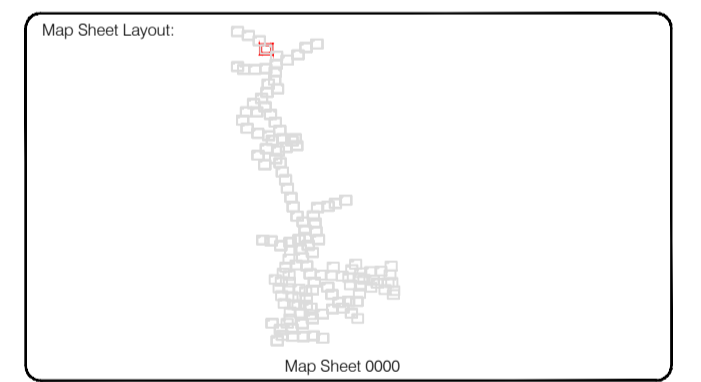
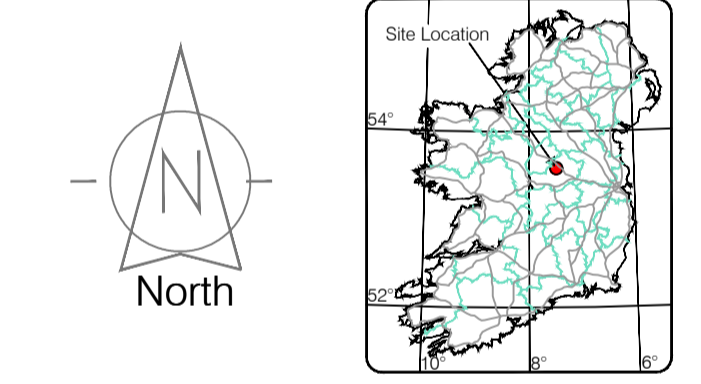
Building	Fence	Floor Level	Floor Level
Edge of Road	Gate	Apex Height	Apex Height
Kerb Bottom	Road Centreline	Eaves Height	Eaves Height
Kerb Top	Top of Wall	Parapet Height	Parapet Height
Bridge Abutment	Hoarding	Soft Elevation	Soft Elevation
Bridge Deck	Property Line	Step Level	Step Level
Bridge Pier	Road Sign	Concrete Pad	Concrete Pad
Building Facade	Top of Fence	Track	Track
Footpath / Platform Train & Tram	Wall / Retaining Wall		
Damp Proof Course / Verge	Railway / Tram Rail / Gating / Ramp		
Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Building Canopy / Roof / Overhang		
Cycleway / Private Landing Area			

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Drawn by: ST	Date: 26/07/2023	Grid System: Irish National Grid	ITM 8
Checked by: PK	Date: 26/07/2023		

No	Date	Description	Revisions
0	26.07.2023	First Drawing	
1	08.08.2023	Layouts added	
2	06.09.2023	Additional road survey added	



Topographic surveys, Measured Building Surveys, Setting-out, As-Built Surveys, Hydrographic Surveys, Legal Mapping, Pipeline Surveys, Service Location, Ground Penetrating Radar, Laser Scanning, Aerial Photography

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Email: info@murphyge.ie

<b>Client :</b>	AECOM Dublin
<b>Project :</b>	BNN Site Derrygreenagh Rhode
<b>Date :</b>	26.07.2023
<b>Scale :</b>	1:500@A1
<b>Description :</b>	Topographical Survey
<b>Drawing Number :</b>	MGS52335_T_ITM_Rev2-04





### LEGEND

#### Street furniture & Services

Over Head Wires (LUAS) - Pylon ESB	Ballast	Road Sign	Phone Box
Powerbed	Beacon	Bench Seat	Duct
Pipe	Beacon	Keek	Gas Cover
Light	Coalhole Cover	Gully	C/P Box
Barrier	Boys Hole	Waste Bin	Waste Bin
Pump	Electricity Pole	Hydrant	Hydrant
Bus/Tram Shelter	Telegraph pole	Fire Hydrant	Fire Hydrant
Postbox	OCS Pole	ESS Box	ESS Box
Water - General	OCTV Camera Pole	ESB Inspection Cover	ESB Inspection Cover
Water Valve	Lamp Post	Traffic Control Box	Traffic Control Box
Gas Valve	Foul Manhole	LUAS Technical Cubicle	LUAS Technical Cubicle
Sluice Valve	Surface Water MH	Ticket Vending Machine	Ticket Vending Machine
Air Valve	Manholes	Water Meter Cover	Water Meter Cover
Stop Cook	Air Conditioning Vents	Telecom Inspection Cover	Telecom Inspection Cover
C/P Post	Services Inspection Cover	Monument / Toilets	Monument / Toilets
Marker Post	Traffic Inspection Cover	Tank Storage	Tank Storage
Traffic Light	Cable TV Inspection Cover	Basement MH Cover & Pipe	Basement MH Cover & Pipe
Parking Meter	ESAT Inspection Cover	Disposal Aerial Mark	Disposal Aerial Mark
Flare Area Mark	NL Inspection Cover	Stay for pole	Stay for pole
Smart Card Validator	Elcom Inspection Cover	PP	Pipe Protection
Unknown Valve	Rocking Eye	Washout	Washout

#### Natural Features

Surface Change	Water Level	Golf	Golf
Land Drain	Crown Level	Fair Way	Fair Way
Bottom of Slope	Invert level	Green	Green
Top of Slope	Bed Level	Tea Box	Tea Box
Ditch	Spotheight	Other	Other
Water Edge / Lake / Pond		Survey Station	Survey Station
Hedge / Trees Drip Line / Vegetation		Photo point	Photo point
Tree Coniferous	Tree Deciduous	Top of Tree	Top of Tree

#### Built Features

##### Roads & Road Markings

Building	Fence	Floor Level	Floor Level
Edge of Road	Gate	Apex Height	Apex Height
Kerb Bottom	Road Centreline	Eaves Height	Eaves Height
Kerb Top	Top of Wall	Parapet Height	Parapet Height
Bridge Abutment	Hoarding	Soffit Elevation	Soffit Elevation
Bridge Deck	Property Line	Step Level	Step Level
Bridge Parapet	Road Sign	Concrete Pad	Concrete Pad
Building Facade	Top of Fence	Track	Track
Footpath / Platform Train & Tram	Wall / Retaining Wall		
Damp Proof Course / Verge	Railway / Tram Rail / Gating / Ramp		
Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Building Canopy / Roof / Overhang		
Cycleway / Private Landing Area			

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North

Site Location

Map Sheet 0000

Reviewed by: ST	Date: 26.07.2023	Datum: Irish National Grid	Main Head
Drawn by: ST	Date: 26.07.2023	Grid System: Irish National Grid	ITM 8
Checked by: PK	Date: 26.07.2023		

No.	Date	Description	Revisions
0	26.07.2023	Final Drawing	
1	08.08.2023	Layouts added	
2	06.09.2023	Additional road survey added	

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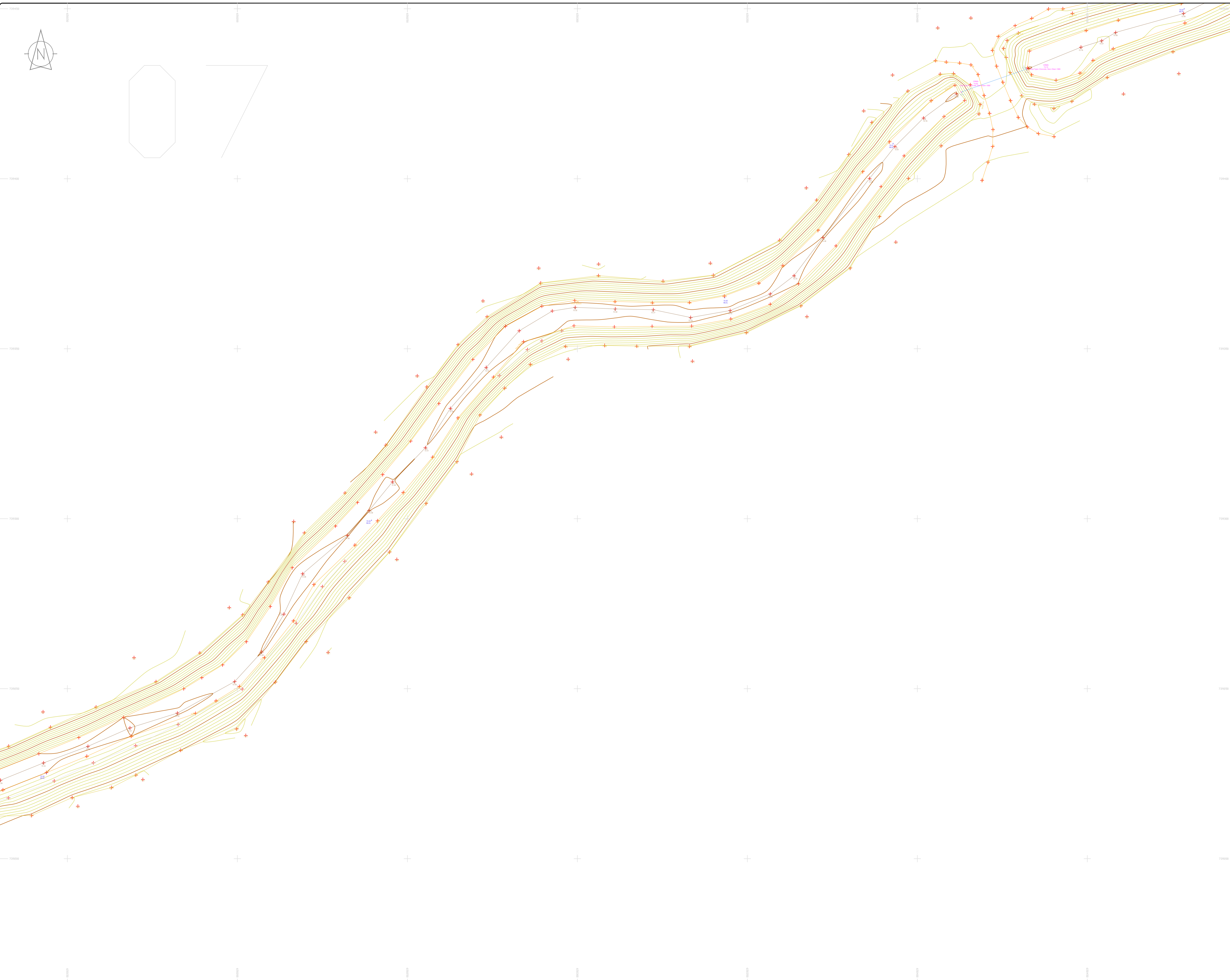
<b>Client:</b>	AECOM Dublin
<b>Project:</b>	BNN Site Derrygreenagh Rhode
<b>Date:</b>	26.07.2023
<b>Scale:</b>	1:500@A1
<b>Description:</b>	Topographical Survey
<b>Drawing Number:</b>	MGS52335_T_ITM_Rev2-05

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### LEGEND

#### Street furniture & Services

Over Head Wires (LUAS) - Pylon ESB	Road Sign	Phone Box
Powerbed	Bench Seat	Duct
Pipe	Ballast	Keek
Light	Beacon	Gully
Barrier	Coalhole Cover	USG Car Park Vase
Pump	Boys Hole	Waste Bin
Trial Pit	Electricity Pole	Hydrant
Bus/Tram Shelter	Telegraph pole	Fire Hydrant
Postbox	OCS Pole	ESB Box
Water - General	OCTV Camera Pole	ESB Inspection Cover
Water Valve	Lamp Post	Traffic Control Box
Gas Valve	Foul Manhole	LUAS Technical Cubicle
Sluice Valve	Surface Water MH	Ticket Vending Machine
Air Valve	Manholes	Water Meter Cover
Stop Cook	Air Conditioning Vents	Telecom Inspection Cover
C/P Post	Services Inspection Cover	Monument / Toilets
Marker Post	Traffic Inspection Cover	Tank Storage
Tram Light	Cable TV Inspection Cover	Basement MH Cover & Pipe
Parking Meter	ESAT Inspection Cover	Dead Aerial Mark
Pole Area Mark	NL Inspection Cover	Stay for pole
Smart Card Validator	EScom Inspection Cover	Stay for pole
Unknown Valve	Rocking Eye	Washout

#### Natural Features

Surface Change	Water Level	Golf
Land Drain	Crown Level	Fair Way
Bottom of Slope	Invert level	Green
Top of Slope	Bed Level	Tea Box
Ditch	Spotheight	Other
Water Edge / Lake / Pond		Survey Station
Hedge / Trees Drip Line / Vegetation		Photo point
Tree Coniferous	Tree Deciduous	Top of Tree

#### Built Features

##### Roads & Road Markings

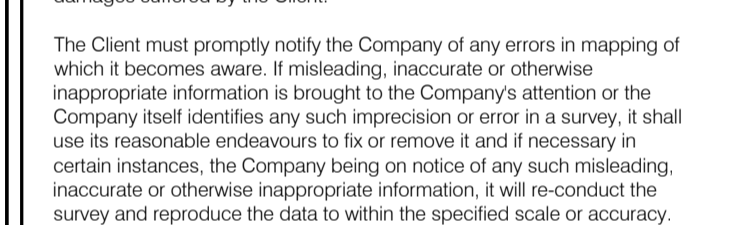
Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Soft Elevation
Bridge Deck	Property Line	Step Level
Bridge Pier/Abutment	Road Bar	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform Train & Tram	Wall / Retaining Wall	
Damp Proof Course / Vege	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

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Map Sheet Layout

Map Sheet 0000

Reviewed by: ST	Date: May/June 2023	Datum: Main Head
Drawn by: ST	Date: June/July 2023	Grid System: Irish National Grid
Checked by: PK	Date: 26.07.2023	Irish National Grid: ITM 8

No	Date	Description	Revisors
0	26.07.2023	Final Drawing	
1	08.08.2023	Layouts added	
2	06.09.2023	Additional road survey added	

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THE SURVEY  
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<b>Kilcullen Co. Kildare, Ireland</b>	

**Client :** AECOM Dublin

**Project :** BNM Site Derrygreenagh Rhode

**Date :** 26.07.2023 **Scale :** 1:500@A1

**Description :** Topographical Survey

**Drawing Number :** MGS52335\_T\_ITM\_Rev2-07

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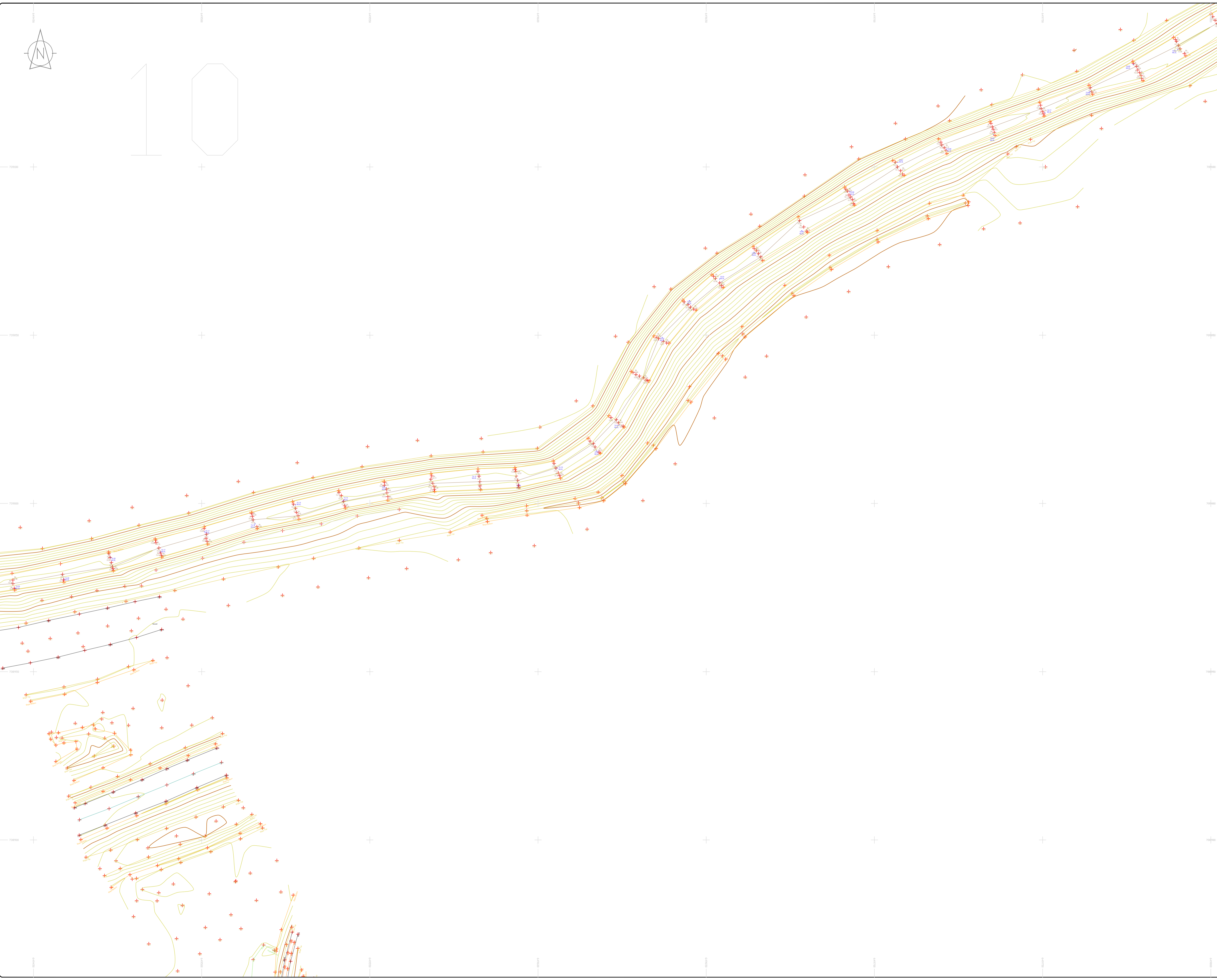
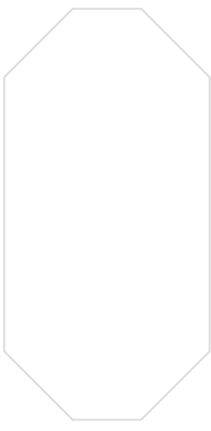








1



### LEGEND

#### Street furniture & Services

Over Head Wires (LUAS) - Pylon ESB	Ballast	Road Sign	Phone Box
Powerbed	Bench Seat	Bench Seat	Duct
Pipe	Beacon	Keek	Gas Cover
Lift	Coalhole Cover	Gully	C/P Box
Barrier	Boys Hole	Waste Bin	Waste Bin
Pump	Electricity Pole	Hydrant	Hydrant
Bus/Tram Shelter	Telegraph pole	Fire Hydrant	Fire Hydrant
Postbox	OCS Pole	ESS Box	ESS Box
Water - General	CCTV Camera Pole	ESS Inspection Cover	ESS Inspection Cover
Water Valve	Lamp Post	Traffic Control Box	Traffic Control Box
Gas Valve	Foul Manhole	LUAS Technical Cabinet	LUAS Technical Cabinet
Sluice Valve	Surface Water MH	Ticket Vending Machine	Ticket Vending Machine
Air Valve	Manholes	Water Meter Cover	Water Meter Cover
Stop Cook	Air Conditioning Vents	Telecom Inspection Cover	Telecom Inspection Cover
C/P Post	Services Inspection Cover	Monument / Toilets	Monument / Toilets
Marker Post	Traffic Inspection Cover	Tank Storage	Tank Storage
Trailing Light	Cable TV Inspection Cover	Basement MH Cover & Pipe	Basement MH Cover & Pipe
Parking Meter	ESAT Inspection Cover	Disposal Aerial Mark	Disposal Aerial Mark
Plane Area Mark	NTL Inspection Cover	Stay for pole	Stay for pole
Smart Card Validator	Elcom Inspection Cover	PP	Pipe Protection
Unknown Valve	Rocking Eye	Washout	Washout

#### Natural Features

Surface Change	Water Level	Fair Way	Fair Way
Land Drain	Down Level	Green	Green
Bottom of Slope	Invert level	Tree Box	Tree Box
Top of Slope	Bed Level	Other	Other
Ditch	Spotheight	Survey Station	Survey Station
Water Edge / Lake / Pond		Photo point	Photo point
Hedge / Trees Drip Line / Vegetation			
Tree Coniferous	Tree Deciduous	Top of Tree	Top of Tree

#### Built Features

##### Roads & Road Markings

Building	Fence	Floor Level	Floor Level
Edge of Road	Gate	Apex Height	Apex Height
Kerb Bottom	Road Centreline	Eaves Height	Eaves Height
Kerb Top	Top of Wall	Parapet Height	Parapet Height
Bridge Abutment	Hoarding	Soffit Elevation	Soffit Elevation
Bridge Deck	Property Line	Step Level	Step Level
Bridge Pier	Road Bar	Concrete Pad	Concrete Pad
Building Facade	Top of Fence	Track	Track
Footpath / Platform Train & Tram	Wall / Retaining Wall		
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Cycleway / Private Landing Area			

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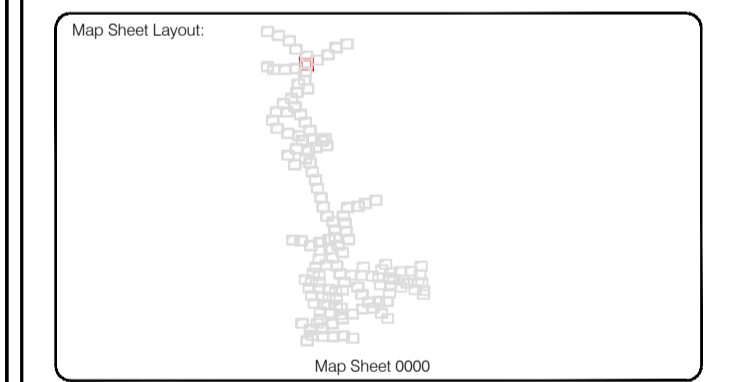
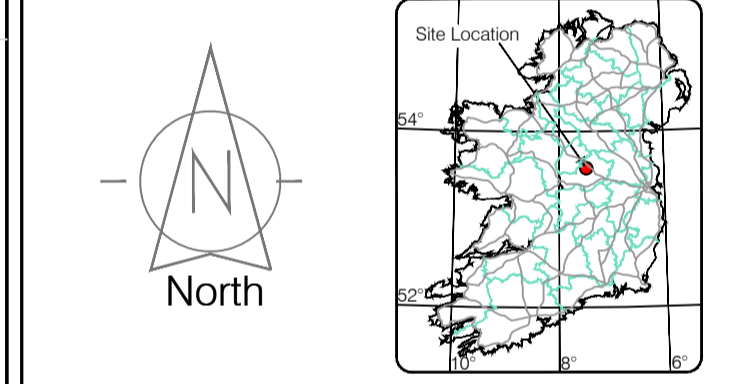
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Drawn by: ST	Date: 26/07/2023	Date: 26/07/2023	Date: 26/07/2023
Checked by: PK	Date: 26/07/2023	Date: 26/07/2023	Date: 26/07/2023

No	Date	Description	Revisors
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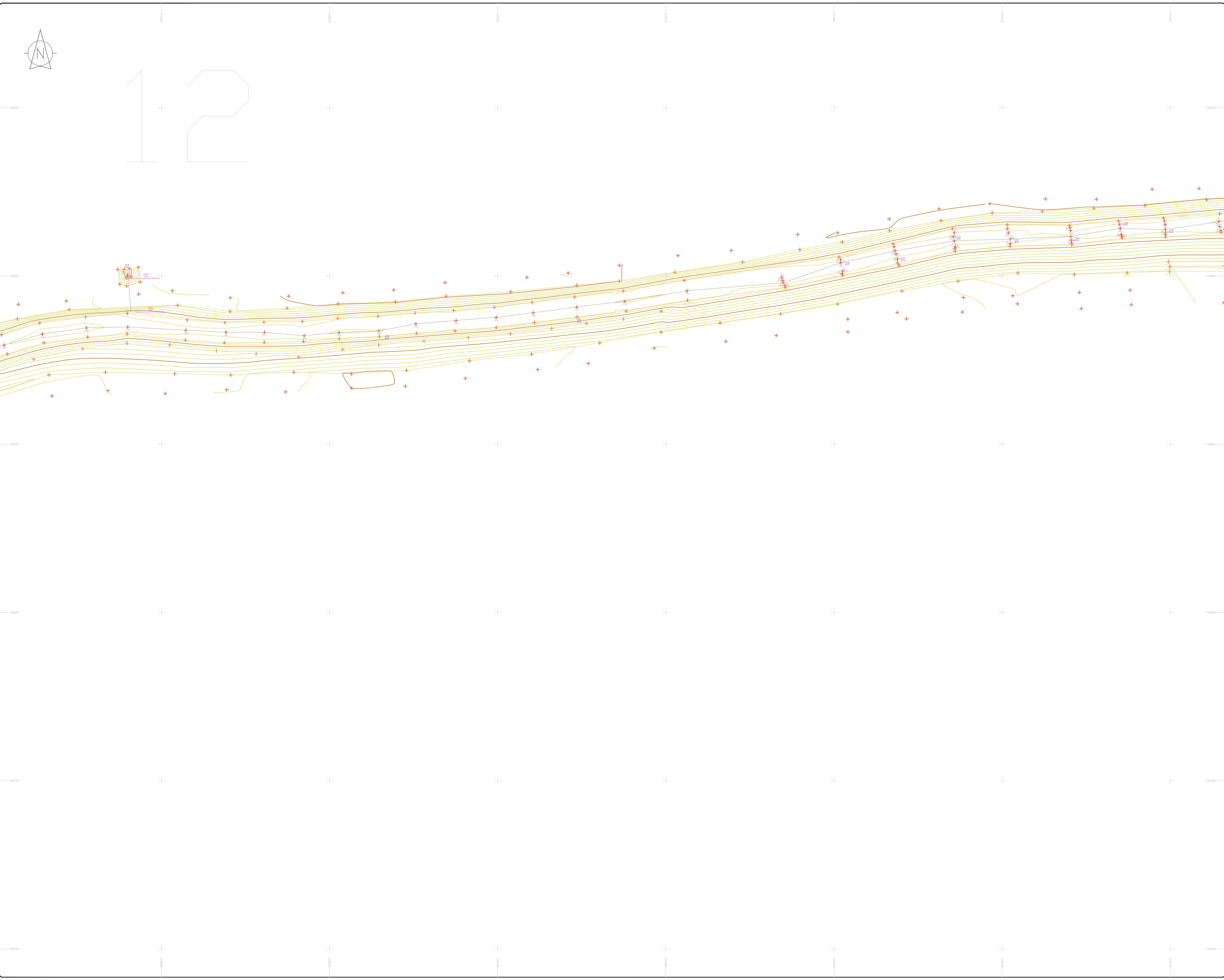
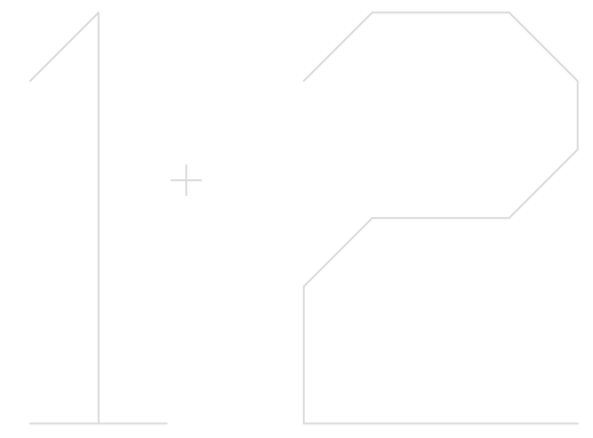
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<b>Date :</b>	26.07.2023
<b>Scale :</b>	1:500@A1
<b>Description :</b>	Topographical Survey
<b>Drawing Number :</b>	MGS52335_T_ITM_Rev2-10









**LEGEND**  
Street furniture & Services

Over Head Wires (LUAS) - Python ESB	Ballast	Phone Box
Powerbed	Beacon	Bench Seat
Bus Stop	Coalhole Cover	Bus Stop
Pipe	Electricity Pole	Bus/Tram Shelter
Light	Gas Valve	Bus Stop
Barrier	Gas Valve	Bus Stop
Pump	Gas Valve	Bus Stop
Trail Pit	Gas Valve	Bus Stop
Postbox	Gas Valve	Bus Stop
Water - General	Gas Valve	Bus Stop
Water Valve	Gas Valve	Bus Stop
Gas Valve	Gas Valve	Bus Stop
Sluice Valve	Gas Valve	Bus Stop
Air Valve	Gas Valve	Bus Stop
Stop Cook	Gas Valve	Bus Stop
C/P Post	Gas Valve	Bus Stop
Marker Post	Gas Valve	Bus Stop
Traffic Light	Gas Valve	Bus Stop
Parking Meter	Gas Valve	Bus Stop
Plane Asset Mark	Gas Valve	Bus Stop
Smart Card Validator	Gas Valve	Bus Stop
Unknown Valve	Gas Valve	Bus Stop
Surface Change	Water Level	Golf
Land Drain	Water Level	Fair Way
Bottom of Slope	Water Level	Green
Top of Slope	Water Level	Tea Box
Ditch	Water Level	Other
Water Edge / Lake / Pond	Water Level	Survey Station
Hedge / Trees Drip Line / Vegetation	Water Level	Photo point
Tree Coniferous	Water Level	Top of Tree
Tree Deciduous	Water Level	

**Natural Features**

**Built Features**

**Roads & Road Markings**

**Other**

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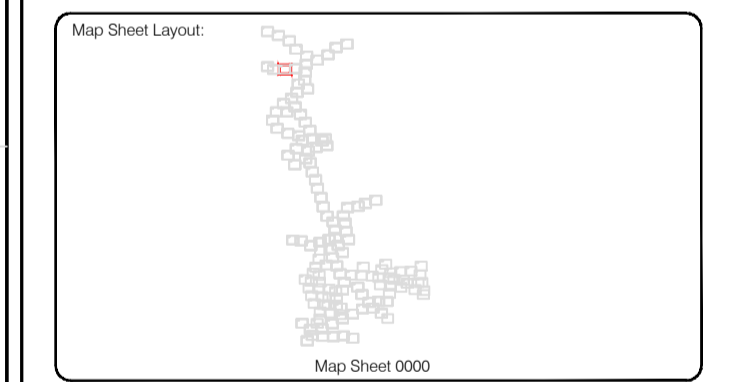
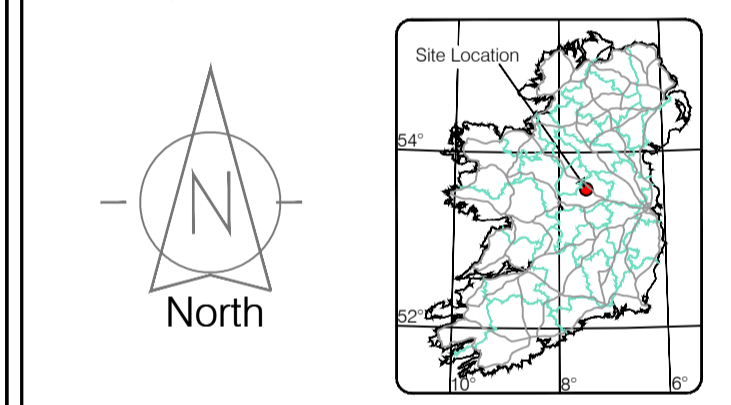
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Reviewed by: ST	Date: 26.07.2023	Date: 26.07.2023	Date: 26.07.2023
Drawn by: ST	Date: 26.07.2023	Date: 26.07.2023	Date: 26.07.2023
Checked by: PK	Date: 26.07.2023	Date: 26.07.2023	Date: 26.07.2023

No.	Date	Description	Revisions
0	26.07.2023	First Drawing	
1	08.08.2023	Layouts added	
2	06.09.2023	Additional road survey added	



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Topographic surveys, Measured Building Surveys, Setting-out, As-Built Surveys, Hydrographic Surveys, Legal Mapping, Pipeline Surveys, Heritage Location, Ground Penetrating Radar, Laser Scanning, Aerial Photography

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**Phone:** (+353) 045 484040  
**Fax:** (+353) 045 484004  
**Email:** info@murphyge.ie

<b>Client :</b>	AECOM Dublin
<b>Project :</b>	BNN Site Derrygreenagh Rhode
<b>Date :</b>	26.07.2023
<b>Scale :</b>	1:500@A1
<b>Description :</b>	Topographical Survey
<b>Drawing Number :</b>	MGS52335_T_ITM_Rev2-12

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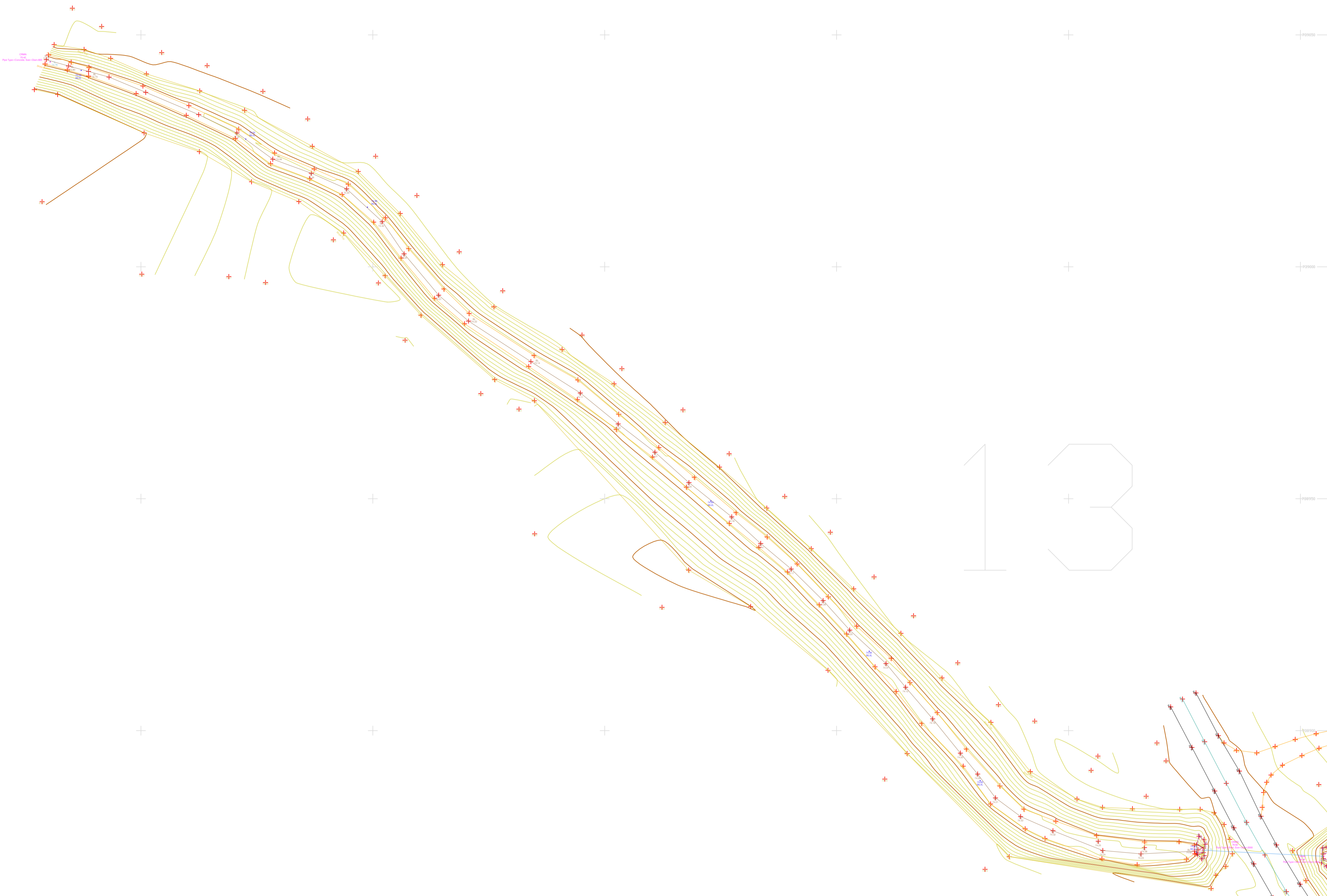






14

13



**LEGEND**  
**Street furniture & Services**

Over Head Wires (LUAS) - Pylon ESB	Ballast	Phone Box
Powerbed	Bench Seat	Duct
Ball	Bus Stop	Gas Cover
Pipe	Bus Stop	Gas Cover
Light	Beacon	Gully
Barrier	Coalhole Cover	USG Car Park Vent
Pump	Bore Hole	Waste Bin
Trial Pit	Electricity Pole	Hydrant
Bus/Tram Shelter	Telegraph pole	Fire Hydrant
Postbox	OCS Pole	ESB Box
Water - General	OCTV Camera Pole	ESB Inspection Cover
Water Valve	Lamp Post	Traffic Control Box
Gas Valve	Foul Manhole	LUAS Technical Cubicle
Sluice Valve	Surface Water MH	Water Meter Cover
Air Valve	Manholes	Water Meter Cover
Stop Cook	Air Conditioning Vents	Telecom Inspection Cover
C/P Post	Services Inspection Cover	Monument / Toilets
Marker Post	Traffic Inspection Cover	Tank Storage
Traffic Light	Cable TV Inspection Cover	Basement MH Cover & Pipe
Parking Meter	ESAT Inspection Cover	Dead Aerial Mark
Flare Area Mark	NL Inspection Cover	Stay for pole
Smart Card Validator	Elcom Inspection Cover	PP
Unknown Valve	Rocking Eye	Washout

**Natural Features**

Surface Change	Water Level	Golf
Land Drain	Down Level	Fair Way
Bottom of Slope	Invert level	Green
Top of Slope	Bed Level	Tree Box
Ditch	Spotheight	Other
Water Edge / Lake / Pond		Survey Station
Hedge / Trees Drip Line / Vegetation		Photo point
Tree Contourous	Tree Deciduous	Top of Tree

**Built Features**

**Roads & Road Markings**

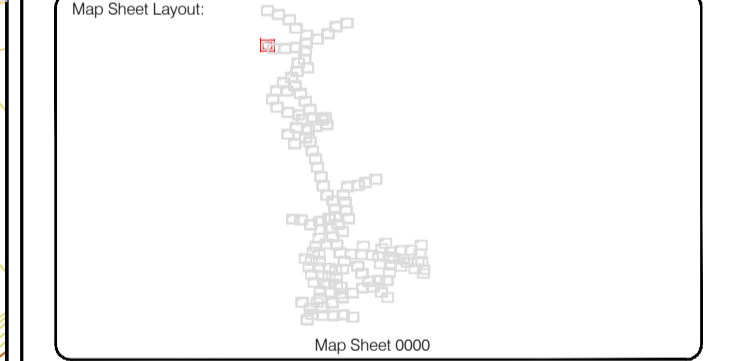
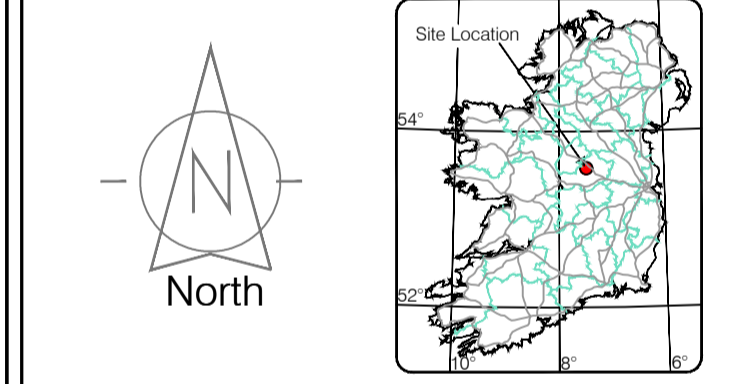
Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Soft Elevation
Bridge Deck	Property Line	Step Level
Bridge Parapet	Road Sign	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform / Tram	Wall / Retaining Wall	
Damp Proof Course / Verge	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

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Checked by: PK	Date: 26.07.2023	Date: 26.07.2023	Date: 26.07.2023

Revisions

No	Date	Description
0	26.07.2023	Final Drawing
1	08.08.2023	Layouts added
2	06.09.2023	Additional road survey added



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Phone: (+353) 045 484040  
Fax: (+353) 045 484004  
Email: info@murphy.ie

**Client:** AECOM Dublin

**Project:** BNM Site Derrygreenagh Rhode

**Date:** 26.07.2023 **Scale:** 1:500@A1

**Description:** Topographical Survey

**Drawing Number:** MGS52335\_T\_ITM\_Rev2-14

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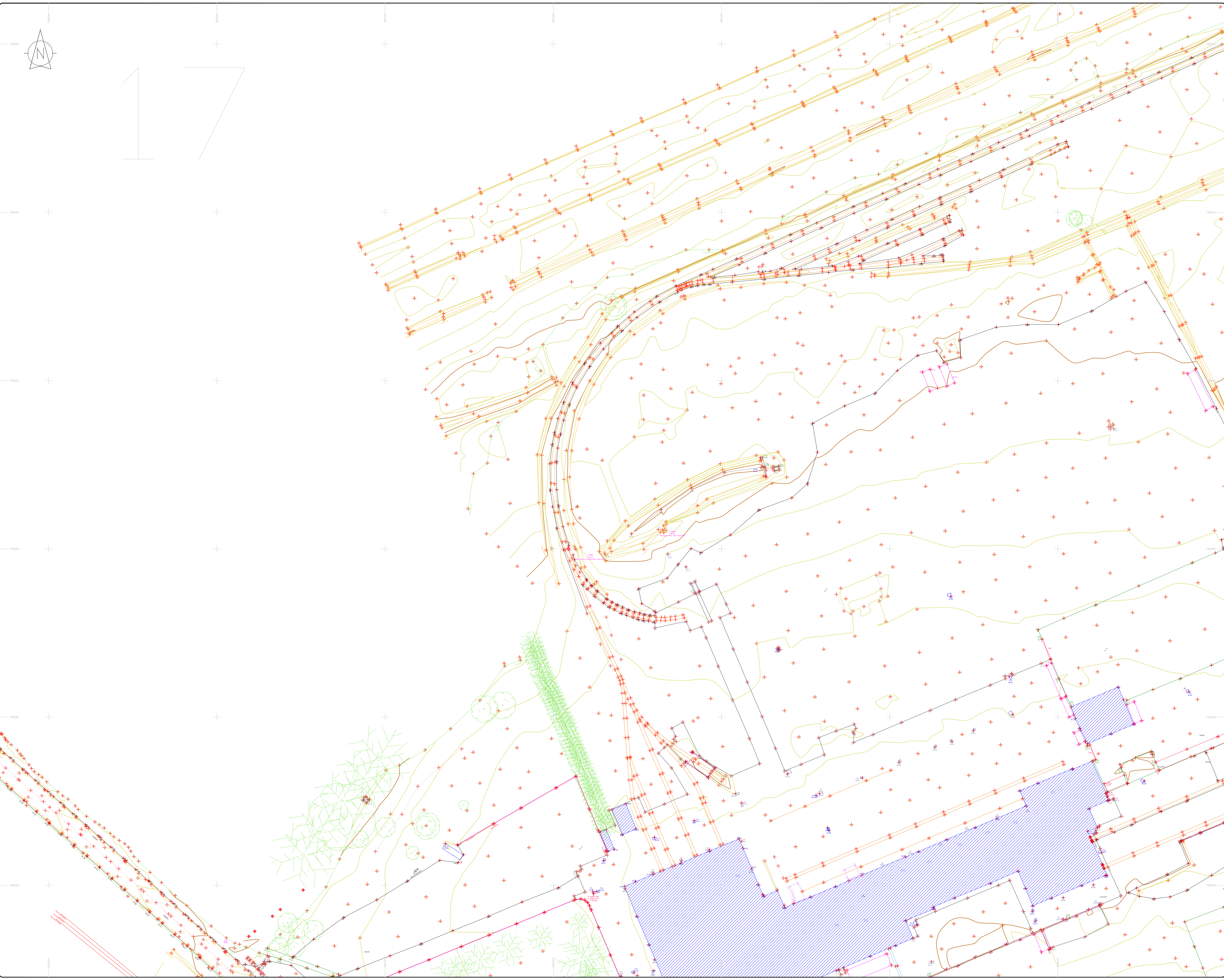
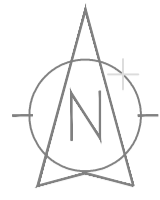












### LEGEND

#### Street furniture & Services

Over Head Wires (LUAS) - Pylon ESB	Street Sign	Phone Box
Powerbed	Ballast	Bench Seat
Pipe	Beacon	Keek
Light	Coalhole Cover	Gully
Barrier	Boys Hole	Waste Bin
Pump	Electricity Pole	Hydrant
Trail Pit	Telegraph pole	Fire Hydrant
Bus/Tram Shelter	OCS Pole	ESB Box
Postbox	CCTV Camera Pole	ESB Inspection Cover
Water - General	Lamp Post	Traffic Control Box
Water Valve	Foul Manhole	LUAS Technical Cabinet
Gas Valve	Surface Water MH	Ticket Vending Machine
Sluice Valve	Manholes	Water Meter Cover
Air Valve	Air Conditioning Vents	Telecom Inspection Cover
Stop Cook	Services Inspection Cover	Monument / Toilets
C/P Post	Traffic Inspection Cover	Tank Storage
Marker Post	Cable TV Inspection Cover	Basement MH Cover & Pipe
Tram Light	ESAT Inspection Cover	Dead End Mark
Parking Meter	NTL Inspection Cover	Stay for pole
Pole Area Mark	Elcom Inspection Cover	Stay for pole
Smart Card Validator	Rocking Eye	Washout
Unknown Valve		

#### Natural Features

Surface Change	Water Level	Fair Way
Land Drain	Clown Level	Green
Bottom of Slope	Invert level	Tree Box
Top of Slope	Bed Level	Other
Ditch	Spotheight	Survey Station
Water Edge / Lake / Pond		Photo point
Hedge / Trees Drip Line / Vegetation		
Tree Contourous	Tree Deciduous	Top of Tree

#### Built Features

##### Roads & Road Markings

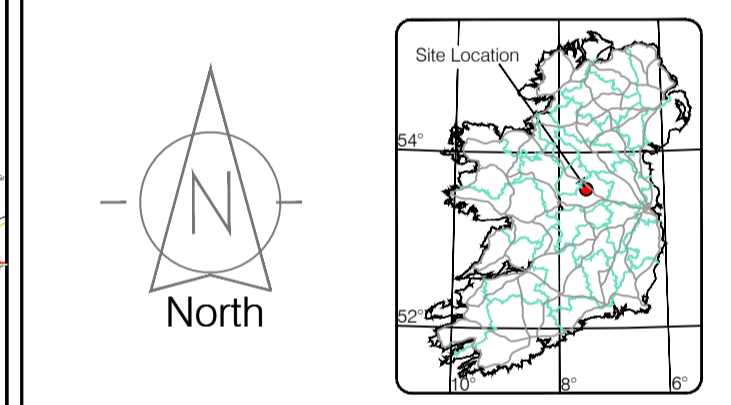
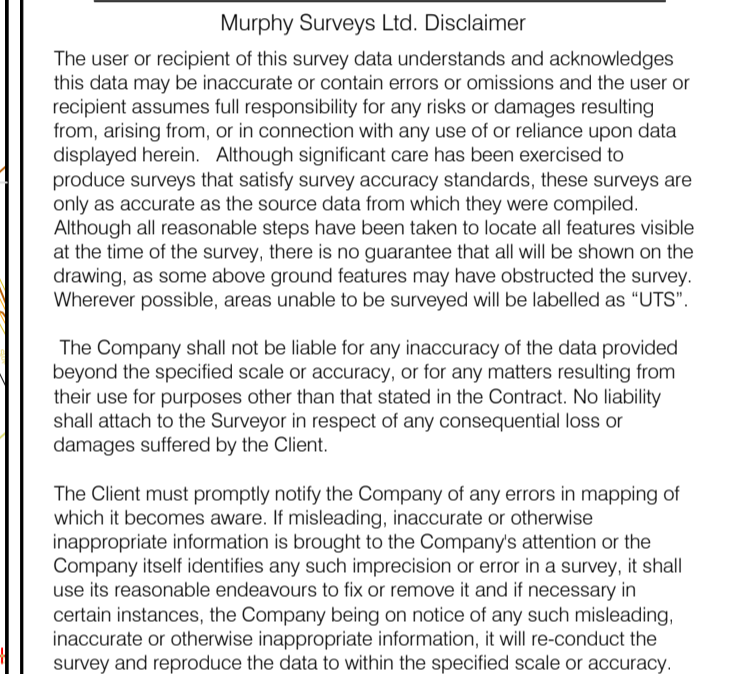
Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Soft Elevation
Bridge Deck	Property Line	Step Level
Bridge Piering	Road Bar	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform Train & Tram	Wall / Retaining Wall	
Damp Proof Course / Vege	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

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Map Sheet Layout

Map Sheet 0000

Drawn by: ST	Date: May/June 2023	Datum: Main Head
Drawn by: ST	Date: June/July 2023	Grid System:
Checked by: PK	Date: 26.07.2023	Irish National Grid: ITM 8

No	Date	Description	Revisions
0	26.07.2023	Final Drawing	
1	08.08.2023	Layout & addit.	
2	06.09.2023	Additional road survey added.	



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Phone: (+353) 045 484040  
 Fax: (+353) 045 484004  
 Email: info@murphyge.ie

Client: AECOM Dublin

Project: BNM Site Derrygreenagh Rhode

Date: 26.07.2023 Scale: 1:500@A1

Description: Topographical Survey

Drawing Number: MGS52335\_T\_ITM\_Rev2-17

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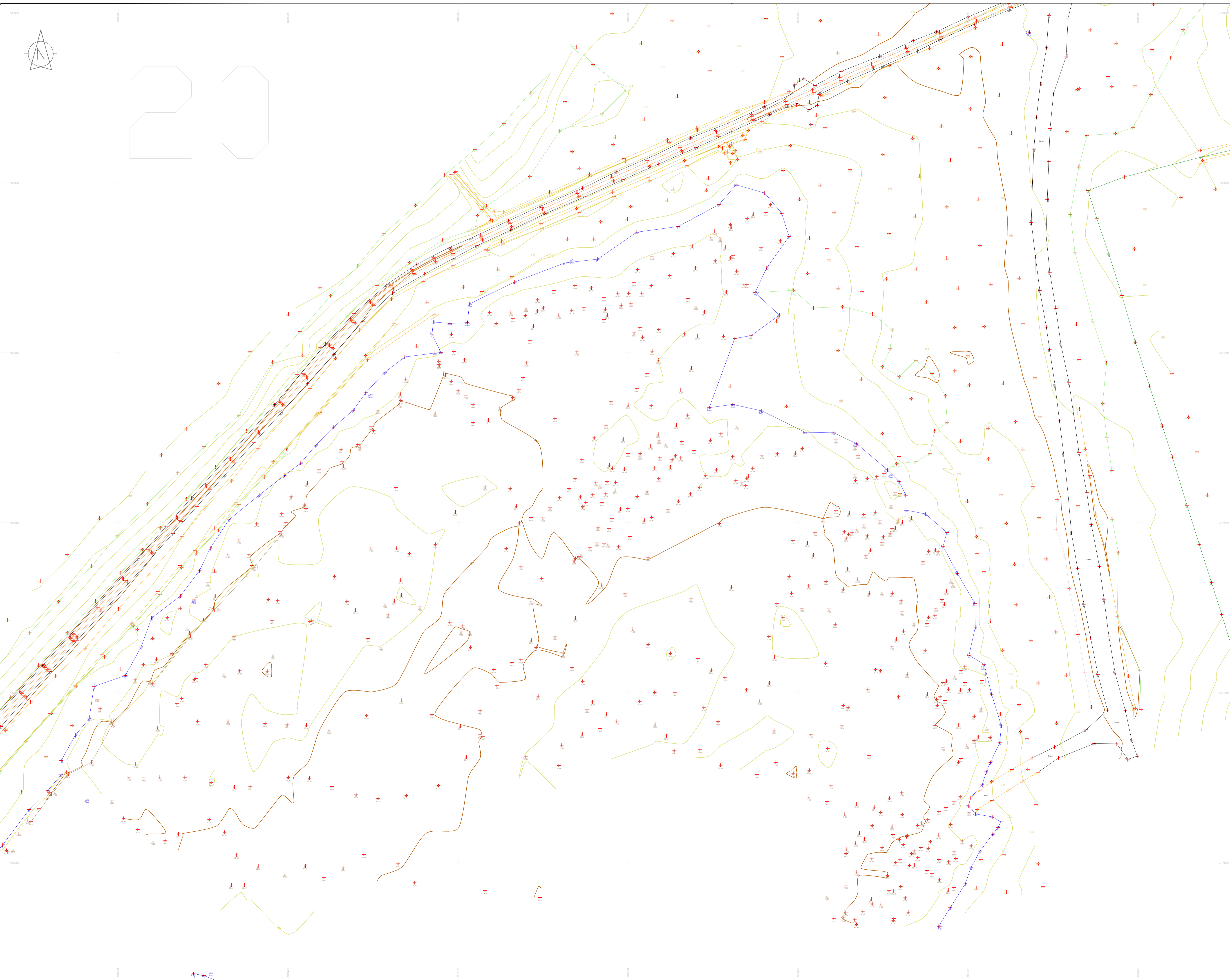












### LEGEND

#### Street furniture & Services

Over Head Wires (LUAS) - Pylon ESB	Street Light	Phone Box
Powerbed	Ballast	Bench Seat
Pipe	Beacon	Keek
Light	Coalhole Cover	Waste Bin
Barrier	Boys Hole	Hydrant
Pump	Electricity Pole	Fire Hydrant
Bus/Tram Shelter	Telegraph pole	Fire Hydrant
Postbox	OCS Pole	ESS Box
Water - General	CCTV Camera Pole	ESS Inspection Cover
Water Valve	Lamp Post	Trains Control Box
Gas Valve	Foul Manhole	LUAS Technical Cabinet
Sluice Valve	Surface Water MH	Ticket Vending Machine
Air Valve	Manholes	Water Meter Box
Stop Cook	Air Conditioning Vents	Telecom Inspection Cover
C/P Post	Services Inspection Cover	Monument / Toilets
Marker Post	Traffic Inspection Cover	Tank Storage
Traffic Light	Cable TV Inspection Cover	Basement MH Cover & Pipe
Parking Meter	ESAT Inspection Cover	Dead End Aerial Mark
Pole Area Mark	NPL Inspection Cover	Stay for pole
Smart Card Validator	Elcom Inspection Cover	PP
Unknown Valve	Rocking Eye	Washout

#### Natural Features

Surface Change	Water Level	Fair Way
Land Drain	Crown Level	Green
Bottom of Slope	Invert level	Tree Box
Top of Slope	Bed Level	Other
Ditch	Spotheight	Survey Station
Water Edge / Lake / Pond	Spotlight	Photo point
Hedge / Trees Drip Line / Vegetation	Tree Deciduous	Top of Tree
Tree Coniferous		

#### Built Features

##### Roads & Road Markings

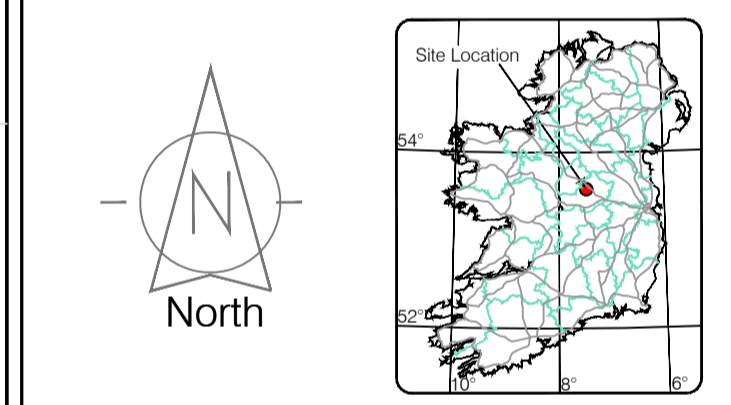
Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Softly Elevation
Bridge Deck	Property Line	Step Level
Bridge Parapet	Road Bar	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform Train & Tram	Wall / Retaining Wall	
Damp Proof Course / Verge	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

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Map Sheet Layout

Map Sheet 0000

Surveyed by: ST	Date: 26/07/2023	Datum: Irish National Grid	Main Head
Drawn by: ST	Date: 26/07/2023	Grid System: Irish National Grid	ITM 25
Checked by: PK			

No	Date	Description	Revisions
0	26.07.2023	First Drawing	
1	08.08.2023	Layouts added	
2	06.09.2023	Additional road survey added	



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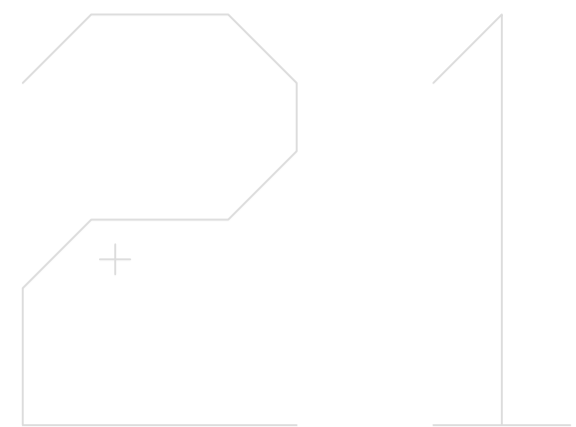
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 Kiltullen Business Campus  
 Kiltullen Co. Kildare, Ireland

Phone: (+353) 045 484040  
 Fax: (+353) 045 484004  
 Email: info@murphyge.ie

<b>Client :</b>	AECOM Dublin
<b>Project :</b>	BNN Site Derrygreenagh Rhode
<b>Date :</b>	26.07.2023
<b>Scale :</b>	1:500@A1
<b>Description :</b>	Topographical Survey
<b>Drawing Number :</b>	MGS52335_T_ITM_Rev2-20

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**LEGEND**  
Street furniture & Services

Over Head Wires (LUAS) - Python	Bus Stop	Ballast	Phone Box
Powerbed	Beacon	Beach Seat	Duct
Pipe	Beacon	Keek	Gas Cover
Light	Coalhole Cover	Gully	CP Box
Barrier	Boys Hole	Waste Bin	USG Car Park Vane
Pump	Electricity Pole	Hydrant	Fire Hydrant
Trail Pit	Telegraph pole	ESB Box	ESB Inspection Cover
Bus/Tram Shelter	OCS Pole	ESB Box	ESB Inspection Cover
Postbox	CCTV Camera Pole	ESB Box	ESB Inspection Cover
Water - General	Lamp Post	ESB Box	ESB Inspection Cover
Water Valve	Gas Valve	ESB Box	ESB Inspection Cover
Gas Valve	Surface Water MH	ESB Box	ESB Inspection Cover
Sluice Valve	Manholes	ESB Box	ESB Inspection Cover
Air Valve	Manholes	ESB Box	ESB Inspection Cover
Stop Cook	Air Conditioning Vents	ESB Box	ESB Inspection Cover
C/P Post	Services Inspection Cover	ESB Box	ESB Inspection Cover
Marker Post	Traffic Inspection Cover	ESB Box	ESB Inspection Cover
Traffic Light	Cable TV Inspection Cover	ESB Box	ESB Inspection Cover
Parking Meter	ESAT Inspection Cover	ESB Box	ESB Inspection Cover
Flare Area Mark	NFL Inspection Cover	ESB Box	ESB Inspection Cover
Smart Card Validator	EScom Inspection Cover	ESB Box	ESB Inspection Cover
Unknown Valve	Rocking Eye	ESB Box	ESB Inspection Cover

**Natural Features**

Surface Change	Water Level	Fair Way
Land Drain	Coast Level	Green
Bottom of Slope	Invert level	Tea Box
Top of Slope	Bed Level	Other
Ditch	Spotheight	Survey Station
Water Edge / Lake / Pond		Photo point
Hedge / Trees Drip Line / Vegetation		
Tree Contour	Tree Deciduous	Top of Tree

**Built Features**

**Roads & Road Markings**

Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Soft Elevation
Bridge Deck	Property Line	Step Level
Bridge Pier	Road Sign	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform Train & Tram	Wall / Retaining Wall	
Damp Proof Course / Vee	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

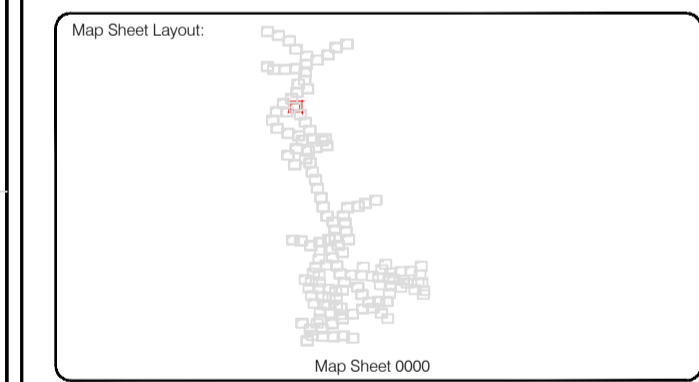
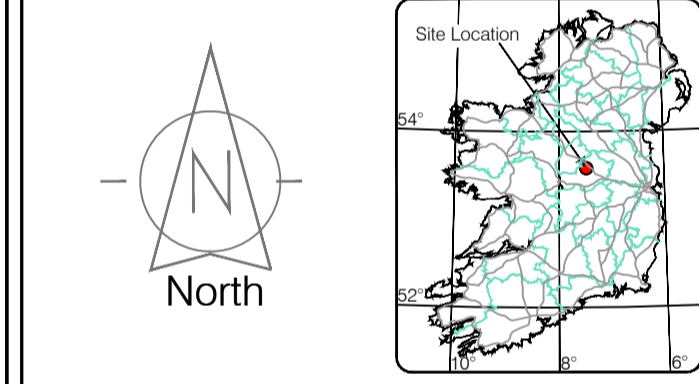
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Site Location



Surveyed by: ST	Date: 26/07/2023	Date: 26/07/2023	Date: 26/07/2023
Drawn by: ST	Date: 26/07/2023	Date: 26/07/2023	Date: 26/07/2023
Checked by: PK	Date: 26/07/2023	Date: 26/07/2023	Date: 26/07/2023

No	Date	Description	Revisors
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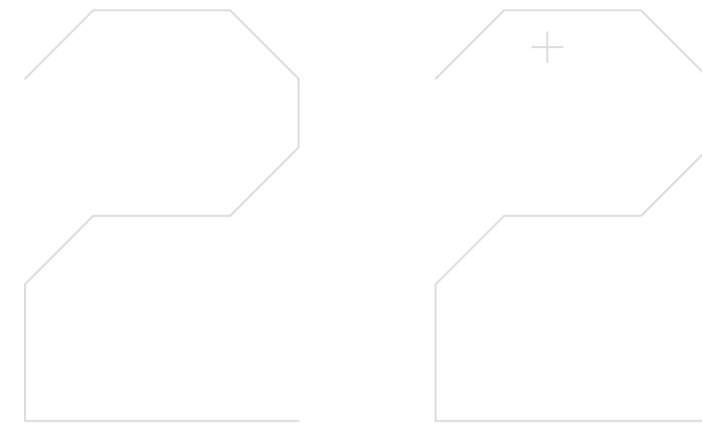
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<b>Project :</b>	BNN Site Derrygreenagh Rhode
<b>Date :</b>	26.07.2023
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<b>Description :</b>	Topographical Survey
<b>Drawing Number :</b>	MGS52335_T_ITM_Rev2-21

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**LEGEND**  
Street furniture & Services

Over Head Wires (LUAS) - Pylon ESB	Phone Box
Powerbed	Bench Seat
Bus Stop	Duct
Pipe	Keek
Light	Gas Cover
Beacon	Gully
Coalhole Cover	USG Car Park Vane
Boys Hole	Waste Bin
Electricity Pole	Hydrant
Telegraph pole	Fire Hydrant
OCS Pole	ESS Box
OCTV Camera Pole	ESB Inspection Cover
Lamp Post	Traffic Control Box
Gas Valve	LUAS Technical Cubicle
Foul Manhole	LUAS Ticket Vending Machine
Surface Water MH	Water Meter Cover
Manholes	Water Meter
Air Conditioning Vents	Monument / Toilets
Services Inspection Cover	Monument / Toilets
Traffic Inspection Cover	Tank Storage
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ESAT Inspection Cover	Disposal Aerial Mark
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**Natural Features**

Surface Change	Water Level	Golf
Land Drain	Crown Level	Fair Way
Bottom of Slope	Invert level	Green
Top of Slope	Bed Level	Tree Box
Ditch	Spotheight	Other
Water Edge / Lake / Pond	Survey Station	Photo point
Hedge / Trees Drip Line / Vegetation	Top of Tree	
Tree Coniferous		
Tree Deciduous		

**Built Features**  
Roads & Road Markings

Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Soft Level
Bridge Deck	Property Line	Step Level
Bridge Pier	Road Sign	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform Tann & Tram	Wall / Retaining Wall	
Damp Proof Course / Verge	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

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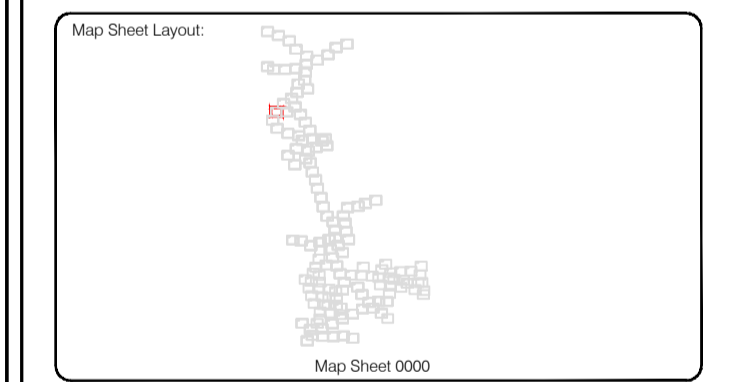
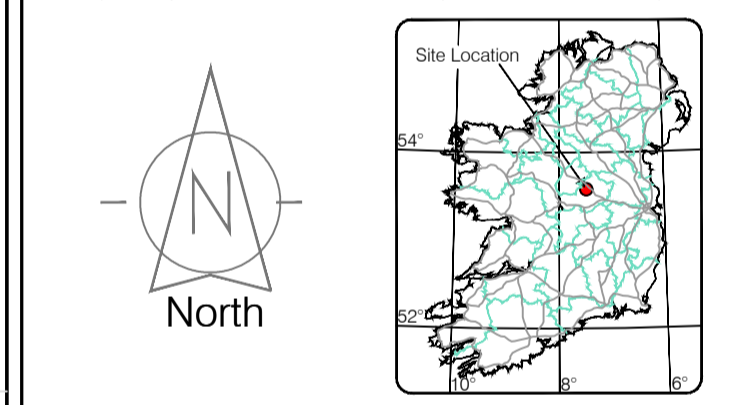
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Reviewed by: ST	Date: 26/07/2023	Datum: Irish National Grid	Main Head
Drawn by: ST	Date: 26/07/2023	Grid System: Irish National Grid	ITM 8
Checked by: PK	Date: 26/07/2023		

No	Date	Description	Revisions
0	26.07.2023	Final Drawing	
1	08.08.2023	Layouts added	
2	06.09.2023	Additional road survey added	



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Topographic surveys, Measured Building Surveys, Setting-out, As-Built Surveys, Hydrographic Surveys, Legal Mapping, Pipeline Surveys, Heritage Location, Ground Penetrating Radar, Laser Scanning, Aerial Photography

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Kilcullen Co. Kildare, Ireland

**Phone:** (+353) 045 484040  
**Fax:** (+353) 045 484004  
**Email:** info@murphyge.ie

<b>Client:</b>	AECOM Dublin
<b>Project:</b>	BNN Site Derrygreenagh Rhode
<b>Date:</b>	26.07.2023
<b>Scale:</b>	1:500@A1
<b>Description:</b>	Topographical Survey
<b>Drawing Number:</b>	MGS52335_T_ITM_Rev2-22

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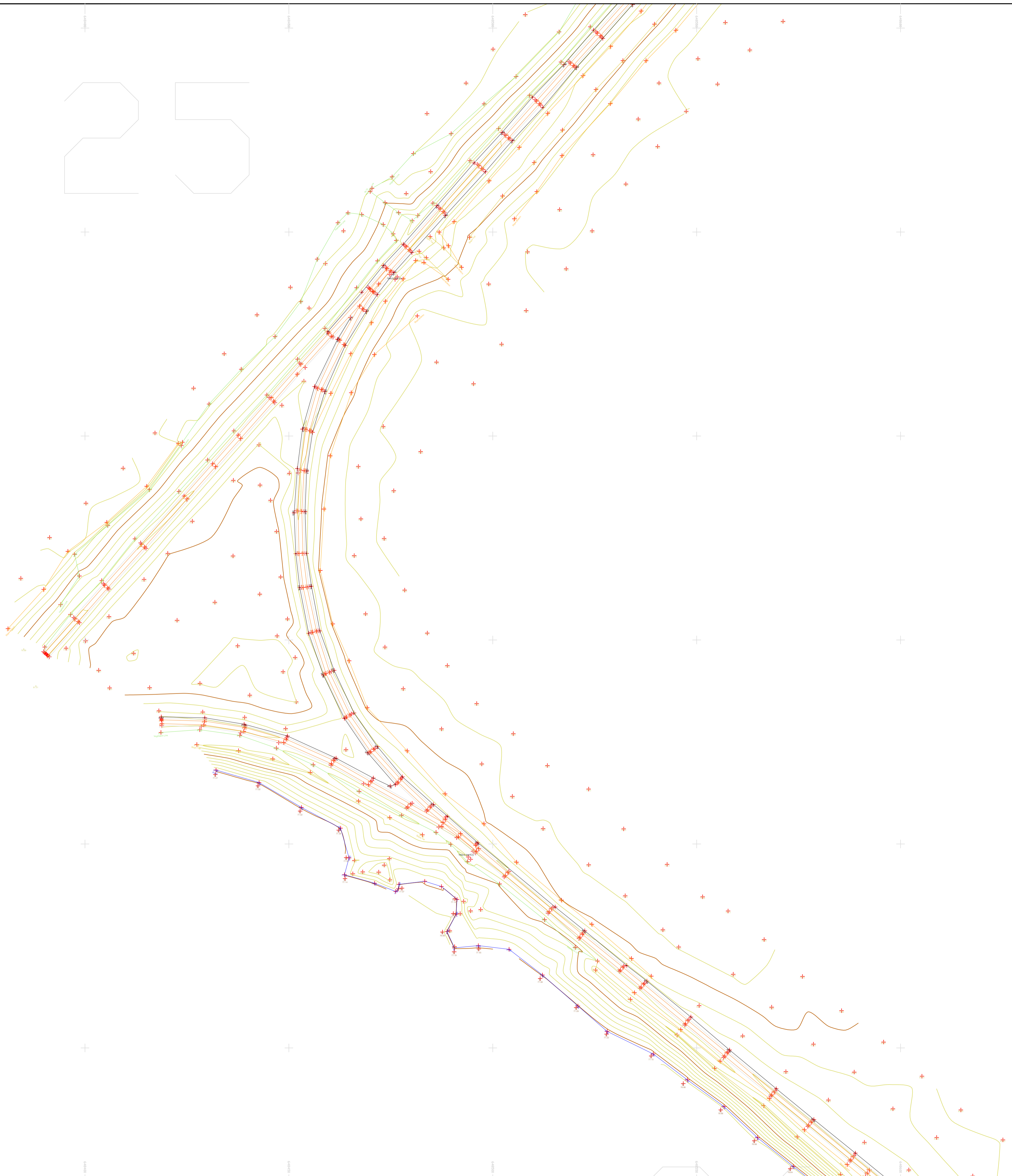








# 25



### LEGEND

#### Street furniture & Services

Over Head Wires (LUAS) - Python ESB	Bus Stop	Bench Seat	Duct	Phone Box
Powerbed	Ballast	Keek	Gas Cover	Gas Cover
Pipe	Beacon	Gully	CP100	CP Box
Light	Coalhole Cover	Waste Bin	Waste Bin	Waste Bin
Barrier	Boys Hole	Hydrant	Hydrant	Hydrant
Pump	Electricity Pole	Fire Hydrant	Fire Hydrant	Fire Hydrant
Trail Pit	Telegraph pole	ESS Box	ESS Box	ESS Box
Bus/Tram Shelter	OCS Pole	ESS Box	ESS Box	ESS Box
Postbox	OCTV Camera Pole	ESS Box	ESS Box	ESS Box
Water - General	Lamp Post	ESS Box	ESS Box	ESS Box
Water Valve	Gas Valve	ESS Box	ESS Box	ESS Box
Gas Valve	Foul Manhole	ESS Box	ESS Box	ESS Box
Sluice Valve	Surface Water MH	ESS Box	ESS Box	ESS Box
Air Valve	Manholes	ESS Box	ESS Box	ESS Box
Stop Cook	Air Conditioning Vents	ESS Box	ESS Box	ESS Box
C/P Post	Services Inspection Cover	ESS Box	ESS Box	ESS Box
Marker Post	Traffic Inspection Cover	ESS Box	ESS Box	ESS Box
Traffic Light	Cable TV Inspection Cover	ESS Box	ESS Box	ESS Box
Parking Meter	ESAT Inspection Cover	ESS Box	ESS Box	ESS Box
Flare Area Mark	NFL Inspection Cover	ESS Box	ESS Box	ESS Box
Smart Card Validator	Elcom Inspection Cover	ESS Box	ESS Box	ESS Box
Unknown Valve	Rocking Eye	ESS Box	ESS Box	ESS Box

#### Natural Features

Surface Change	Water Level	Fair Way
Land Drain	Coast Level	Green
Bottom of Slope	Invert level	Tree Box
Top of Slope	Bed Level	Other
Ditch	Spotheight	Survey Station
Water Edge / Lake / Pond		Photo point
Hedge / Trees Drip Line / Vegetation		
Tree Contourous	Tree Deciduous	Top of Tree

#### Built Features

##### Roads & Road Markings

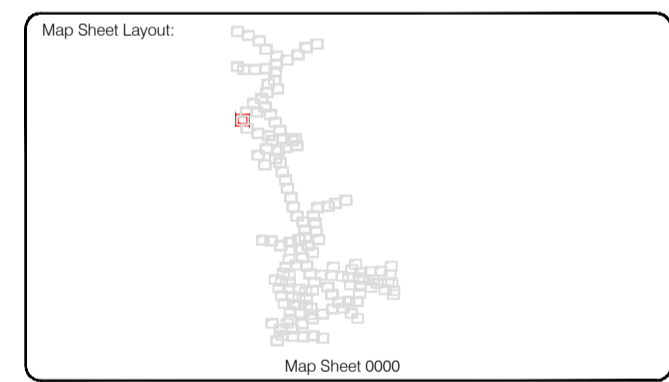
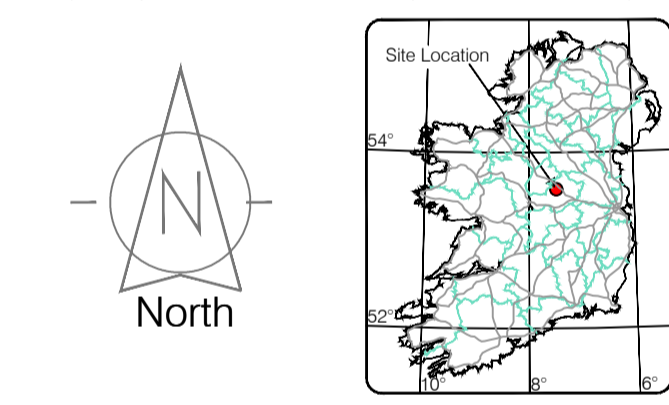
Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Soffit Elevation
Bridge Deck	Property Line	Step Level
Bridge Pier	Road Box	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform Train & Tram	Wall / Retaining Wall	
Damp Proof Course / Verge	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

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Map Sheet Layout	Map Sheet 0000		
Surveyed by: ST	Date: 26.07.2023	Datum: Irish National Grid	ITM 8
Drawn by: ST	Date: 26.07.2023	Grid System: Irish National Grid	ITM 8
Checked by: PK	Date: 26.07.2023	Grid System: Irish National Grid	ITM 8

No	Date	Description	Revisors
0	26.07.2023	First Drawing	
1	08.08.2023	Layouts added	
2	06.09.2023	Additional road survey added	



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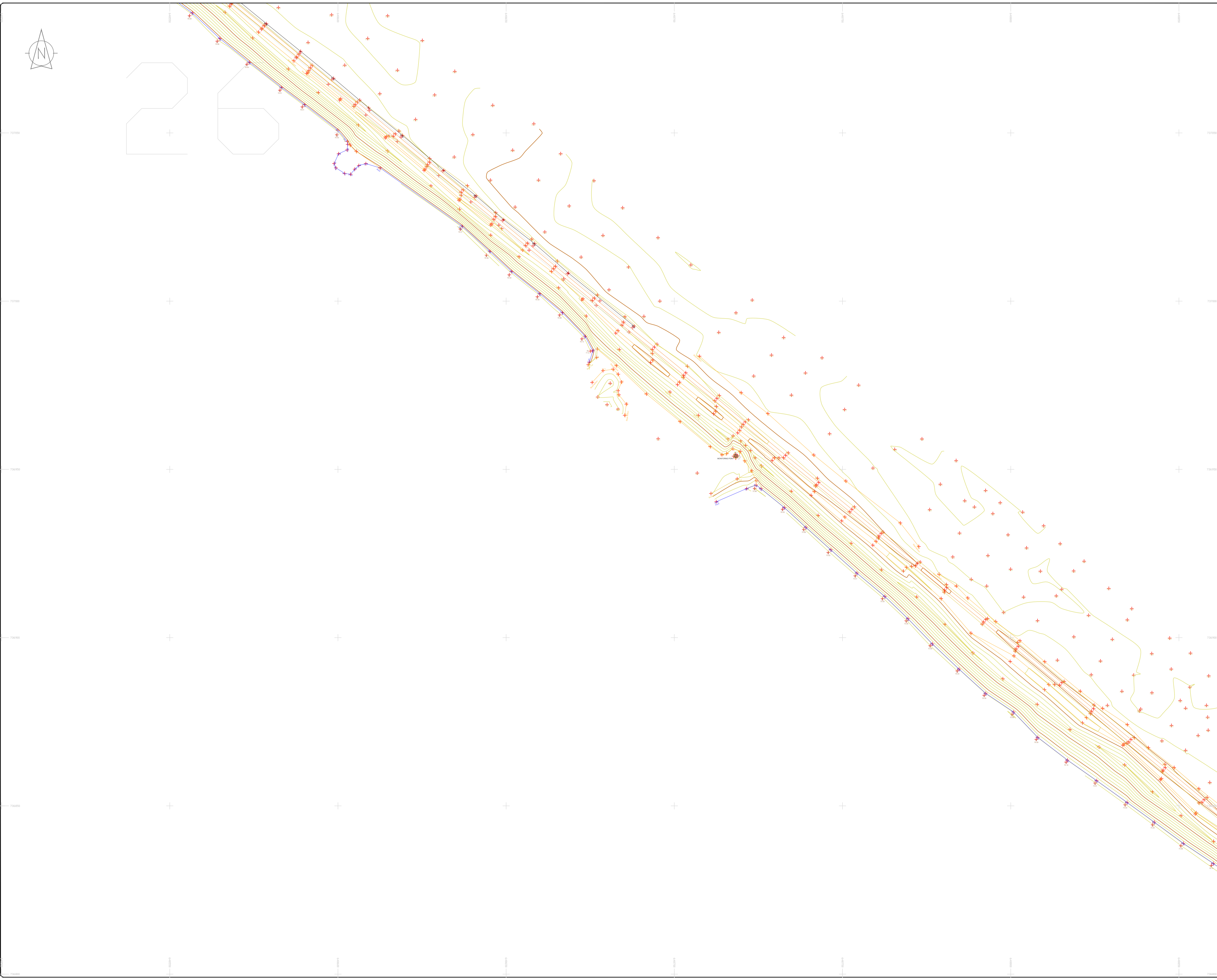
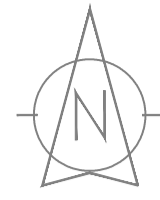
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 Kilsallan Business Campus  
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Phone: (+353) 045 484040  
 Fax: (+353) 045 484004  
 Email: info@murphyge.ie

<b>Client :</b>	AECOM Dublin
<b>Project :</b>	BNN Site Derrygreenagh Rhode
<b>Date :</b>	26.07.2023
<b>Scale :</b>	1:500@A1
<b>Description :</b>	Topographical Survey
<b>Drawing Number :</b>	MGS52335_T_ITM_Rev2-25

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**LEGEND**

**Street furniture & Services**

5.12 Over Head Wires (LIAS) - Plain ESB	5.12 Bus Stop	5.12 Road Sign	5.12 Phone Box
5.12 Fossicked	5.12 Bench Seat	5.12 Bench Seat	5.12 Bus
5.12 Pole	5.12 Kerb	5.12 Gas	5.12 Gas Cover
5.12 Lift	5.12 Gully	5.12 CP Box	5.12 CP Box
5.12 Barrier	5.12 Waste Bin	5.12 Waste Bin	5.12 Waste Bin
5.12 Pump	5.12 Hydrant	5.12 Hydrant	5.12 Hydrant
5.12 Trial Pit	5.12 Fire Hydrant	5.12 Fire Hydrant	5.12 Fire Hydrant
5.12 Bus/Tram Shelter	5.12 Fire Hydrant	5.12 Fire Hydrant	5.12 Fire Hydrant
5.12 Postbox	5.12 Fire Hydrant	5.12 Fire Hydrant	5.12 Fire Hydrant
5.12 Water - General	5.12 Fire Hydrant	5.12 Fire Hydrant	5.12 Fire Hydrant
5.12 Water Valve	5.12 Fire Hydrant	5.12 Fire Hydrant	5.12 Fire Hydrant
5.12 Gas Valve	5.12 Fire Hydrant	5.12 Fire Hydrant	5.12 Fire Hydrant
5.12 Sluice Valve	5.12 Fire Hydrant	5.12 Fire Hydrant	5.12 Fire Hydrant
5.12 Air Valve	5.12 Fire Hydrant	5.12 Fire Hydrant	5.12 Fire Hydrant
5.12 Stop Cook	5.12 Fire Hydrant	5.12 Fire Hydrant	5.12 Fire Hydrant
5.12 CP Post	5.12 Fire Hydrant	5.12 Fire Hydrant	5.12 Fire Hydrant
5.12 Marker Post	5.12 Fire Hydrant	5.12 Fire Hydrant	5.12 Fire Hydrant
5.12 Traffic Light	5.12 Fire Hydrant	5.12 Fire Hydrant	5.12 Fire Hydrant
5.12 Parking Meter	5.12 Fire Hydrant	5.12 Fire Hydrant	5.12 Fire Hydrant
5.12 Plane Aerial Mark	5.12 Fire Hydrant	5.12 Fire Hydrant	5.12 Fire Hydrant
5.12 Smart Card Validator	5.12 Fire Hydrant	5.12 Fire Hydrant	5.12 Fire Hydrant
5.12 Unknown Valve	5.12 Fire Hydrant	5.12 Fire Hydrant	5.12 Fire Hydrant

**Natural Features**

5.12 Surface Change	5.12 Water Level	5.12 Fair Way
5.12 Land Drain	5.12 Crown Level	5.12 Green
5.12 Bottom of Slope	5.12 Invert Level	5.12 Tee Box
5.12 Top of Slope	5.12 Bed Level	5.12 Other
5.12 Ditch	5.12 Spotheight	5.12 Survey Station
5.12 Water Edge / Lake / Pond	5.12 Spotheight	5.12 Photo point
5.12 Hedge / Trees Dip Line / Vegetation	5.12 Tree Deciduous	5.12 Top of Tree
5.12 Tree Coniferous	5.12 Tree Deciduous	5.12 Top of Tree

**Built Features**

**Roads & Road Markings**

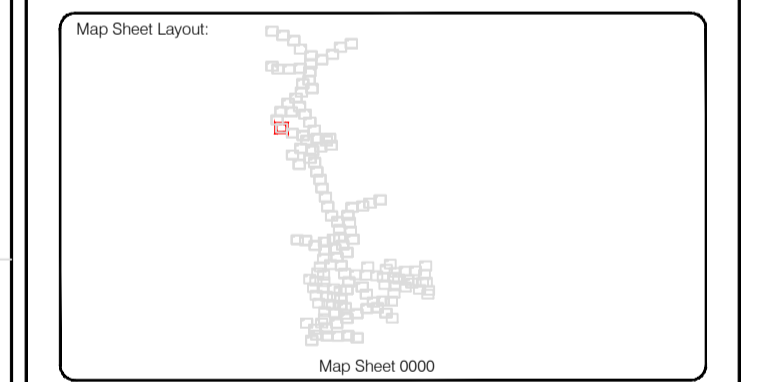
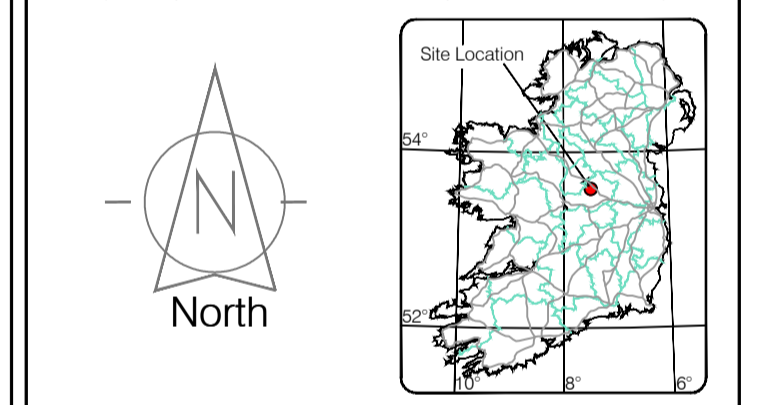
5.12 Building	5.12 Fence	5.12 Floor Level
5.12 Edge of Road	5.12 Gate	5.12 Apex Height
5.12 Kerb Bottom	5.12 Road Centreline	5.12 Eaves Height
5.12 Kerb Top	5.12 Top of Wall	5.12 Parapet Height
5.12 Bridge Abutment	5.12 Hoarding	5.12 Soft Elevation
5.12 Bridge Deck	5.12 Property Line	5.12 Step Level
5.12 Bridge Parapet	5.12 Road Scar	5.12 Concrete Pad
5.12 Building Facade	5.12 Top of Fence	5.12 Track
5.12 Footpath / Platform Train & Tram	5.12 Wall / Retaining Wall	5.12 Railway / Tram Rail / Grating / Ramp
5.12 Damp Proof Course / Verge	5.12 Railway / Tram Rail / Grating / Ramp	5.12 Building Canopy / Roof / Overhang
5.12 Bridge Pier / Wall & Gate Piler / LIAS Trackbed	5.12 Building Canopy / Roof / Overhang	5.12 Cycleway / Private Landing Area

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Surveyed by: ST	Date: May/June 2023	Datum: Main Head
Drawn by: ST	Date: June/July 2023	Grid System: Contract
Checked by: PK	Date: 26.07.2023	Irish National Grid: ITM B

No.	Date	Description	Revisions
0	26.07.2023	First Drawing	
1	08.08.2023	Layout added	
2	08.09.2023	Additional road survey added.	



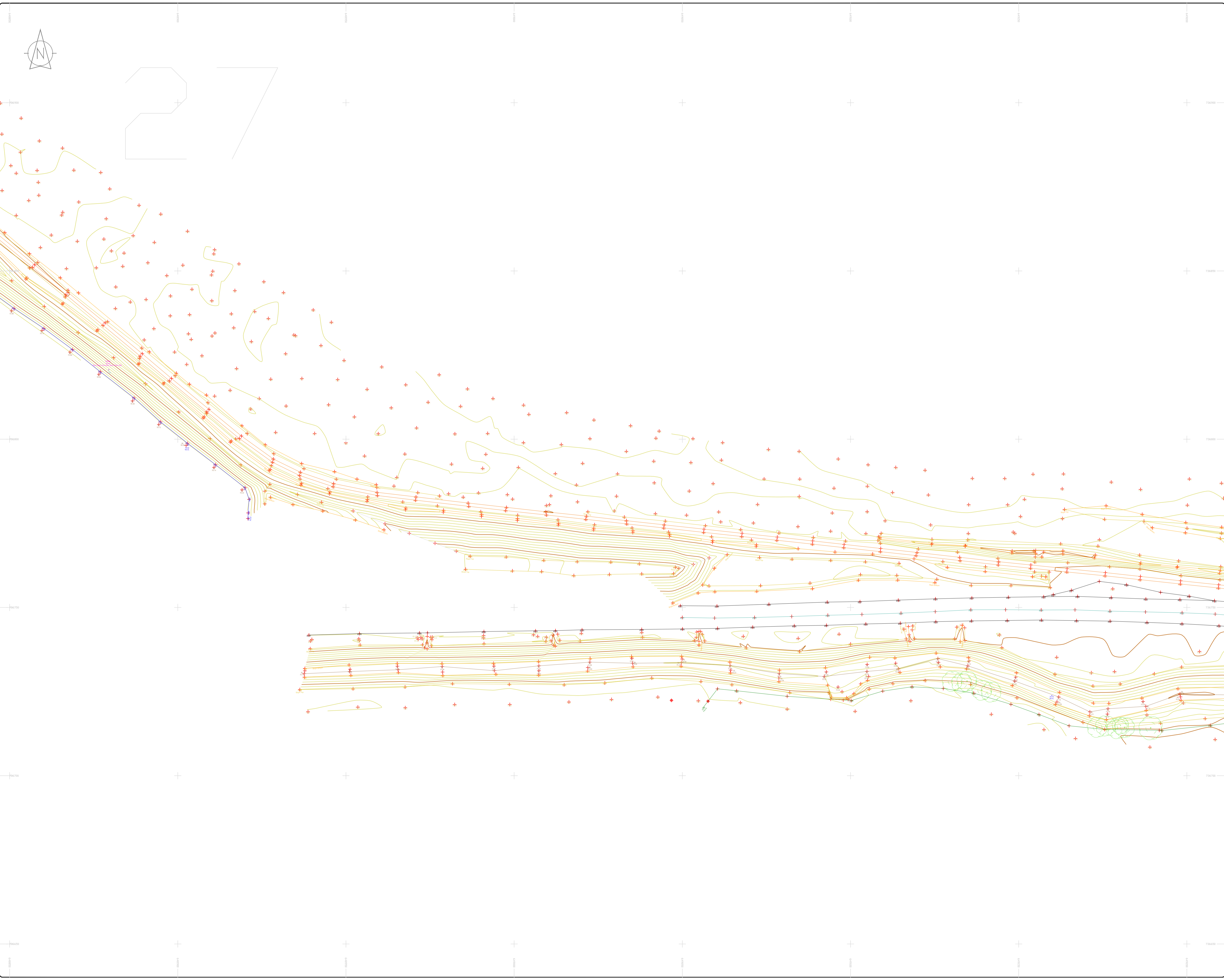
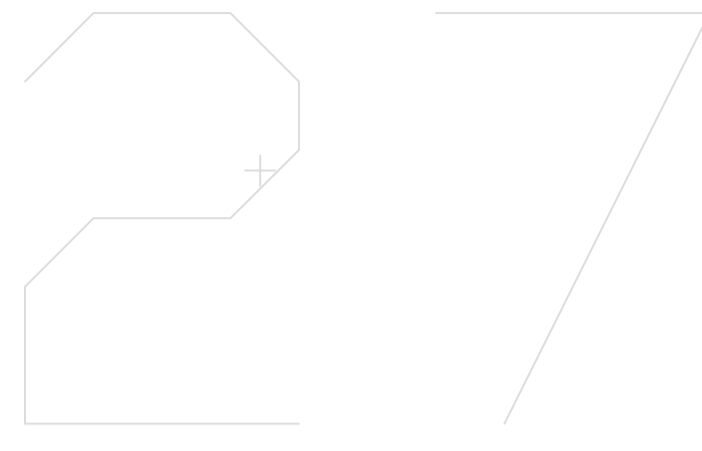
**Kildare Cork Dublin Belfast Glasgow Manchester London**

**Head Office**  
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 Kilsculen Co. Kildare, Ireland

**Phone:** (+353) 045 484040  
**Fax:** (+353) 045 484004  
**Email:** info@murphyge.ie

<b>Client:</b>	AECOM Dublin
<b>Project:</b>	BNM Site Derrygreenagh Rhode
<b>Date:</b>	26.07.2023
<b>Scale:</b>	1:500@A1
<b>Description:</b>	Topographical Survey
<b>Drawing Number:</b>	MGS52335_T_ITM_Rev2-26





**LEGEND**  
Street furniture & Services

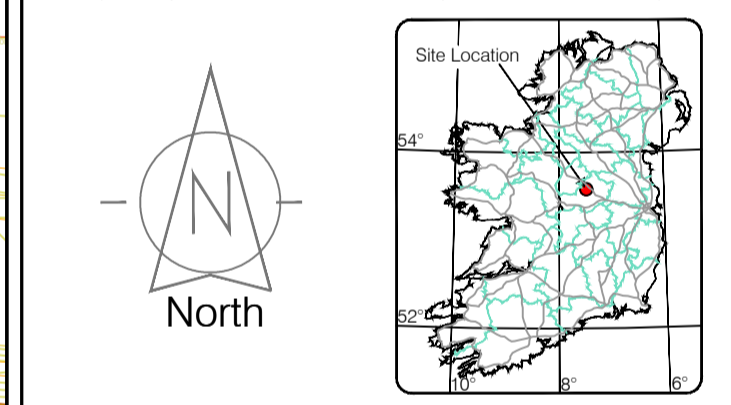
Over Head Wires (LUAS) - Pylon ESB	Phone Box
Powerbed	Phone Box
Bus Stop	Phone Box
Pipe	Phone Box
Lift	Phone Box
Barrier	Phone Box
Pump	Phone Box
Trial Pit	Phone Box
Bus/Tram Shelter	Phone Box
Postbox	Phone Box
Water - General	Phone Box
Water Valve	Phone Box
Gas Valve	Phone Box
Sluice Valve	Phone Box
Air Valve	Phone Box
Stop Cook	Phone Box
C/P Post	Phone Box
Marker Post	Phone Box
Traffic Light	Phone Box
Parking Meter	Phone Box
Plane Area Mark	Phone Box
Smart Card Validator	Phone Box
Unknown Valve	Phone Box
Ballast	Phone Box
Beacon	Phone Box
Coalhole Cover	Phone Box
Bore Hole	Phone Box
Electricity Pole	Phone Box
Telegraph pole	Phone Box
OCTV Camera Pole	Phone Box
Lamp Post	Phone Box
Foul Manhole	Phone Box
Surface Water MH	Phone Box
Manholes	Phone Box
Air Conditioning Vents	Phone Box
Services Inspection Cover	Phone Box
Traffic Inspection Cover	Phone Box
Cable TV Inspection Cover	Phone Box
ESAT Inspection Cover	Phone Box
NFL Inspection Cover	Phone Box
Electric Inspection Cover	Phone Box
Rolling Eye	Phone Box
Water Level	Phone Box
Crown Level	Phone Box
Invert level	Phone Box
Bed Level	Phone Box
Spotheight	Phone Box
Water Level	Phone Box
Crown Level	Phone Box
Invert level	Phone Box
Bed Level	Phone Box
Spotheight	Phone Box
Water Level	Phone Box
Crown Level	Phone Box
Invert level	Phone Box
Bed Level	Phone Box
Spotheight	Phone Box

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Map Sheet Layout

Map Sheet 0000

Surveyed by: ST	Date: 26/07/2023	Datum: Irish National Grid	Main Head
Drawn by: ST	Date: 26/07/2023	Grid System: Irish National Grid	ITM 28
Checked by: PK	Date: 26/07/2023		

No.	Date	Description	Revisions
0	26.07.2023	First Drawing	
1	08.08.2023	Layouts added	
2	06.09.2023	Additional road survey added	



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Kilcullen Business Campus  
Kilcullen Co. Kildare, Ireland

Phone: (+353) 045 484040  
Fax: (+353) 045 484004  
Email: info@murphyge.ie

**Client:** AECOM Dublin

**Project:** BNM Site Derrygreenagh Rhode

**Date:** 26.07.2023 **Scale:** 1:500@A1

**Description:** Topographical Survey

**Drawing Number:** MGS52335\_T\_ITM\_Rev2-27

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**LEGEND**  
Street furniture & Services

Over Head Wire (LUAS) - Pylon ESB	Phone Box
Powerbed	Bench Seat
Bus Stop	Duct
Pipe	Kiosk
Light	Gas Cover
Beacon	Gully
Coalhole Cover	USG Car Park Vane
Boys Hole	Waste Bin
Electricity Pole	Hydrant
Telegraph pole	Fire Hydrant
OCS Pole	ESS Box
OCTV Camera Pole	ESS Inspection Cover
Lamp Post	Traffic Control Box
Foul Manhole	LUAS Technical Cabinet
Surface Water MH	Ticket Vending Machine
Manholes	Water Meter Cover
Air Conditioning Vents	Telecom Inspection Cover
Services Inspection Cover	Monument / Toilets
Traffic Inspection Cover	Tank Storage
Cable TV Inspection Cover	Basement MH Cover & Pipe
ESAT Inspection Cover	Dead Aerial Mark
RTN Inspection Cover	Stay for pole
Electric Inspection Cover	Stay for pole
Rocking Eye	Washout

**Natural Features**

Surface Change	Water Level	Fair Way
Land Drain	Crown Level	Green
Bottom of Slope	Invert level	Tree Box
Top of Slope	Bed Level	Other
Ditch	Spotheight	Survey Station
Water Edge / Lake / Pond		Photo point
Hedge / Trees Drip Line / Vegetation		Top of Tree
Tree Contourous		

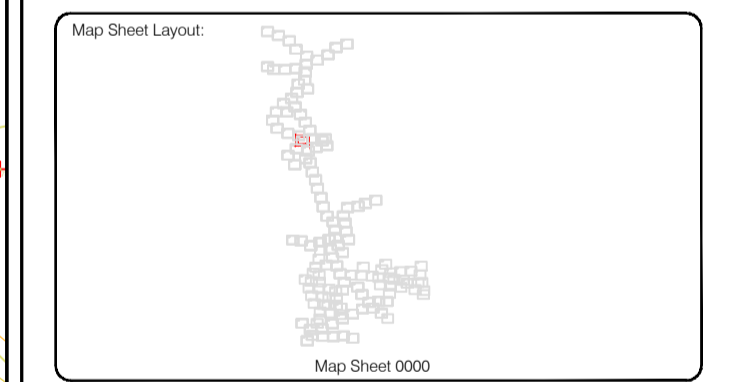
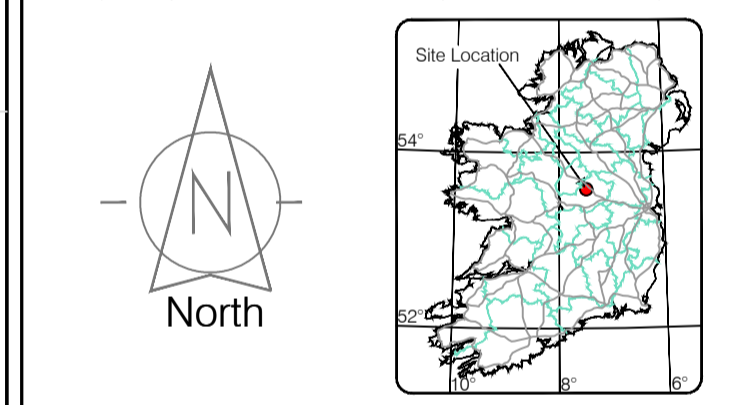
**Built Features**  
Roads & Road Markings

Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
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Kerb Top	Top of Wall	Parapet Height
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Bridge Pier/Abutment	Road Bar	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform Train & Tram	Wall / Retaining Wall	
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Cycleway / Private Landing Area		

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Drawn by: ST	Date: 26/07/2023	Checked by: PK	Date: 26/07/2023	Date: 26/07/2023	Date: 26/07/2023
Drawn by: ST	Date: 26/07/2023	Checked by: PK	Date: 26/07/2023	Date: 26/07/2023	Date: 26/07/2023



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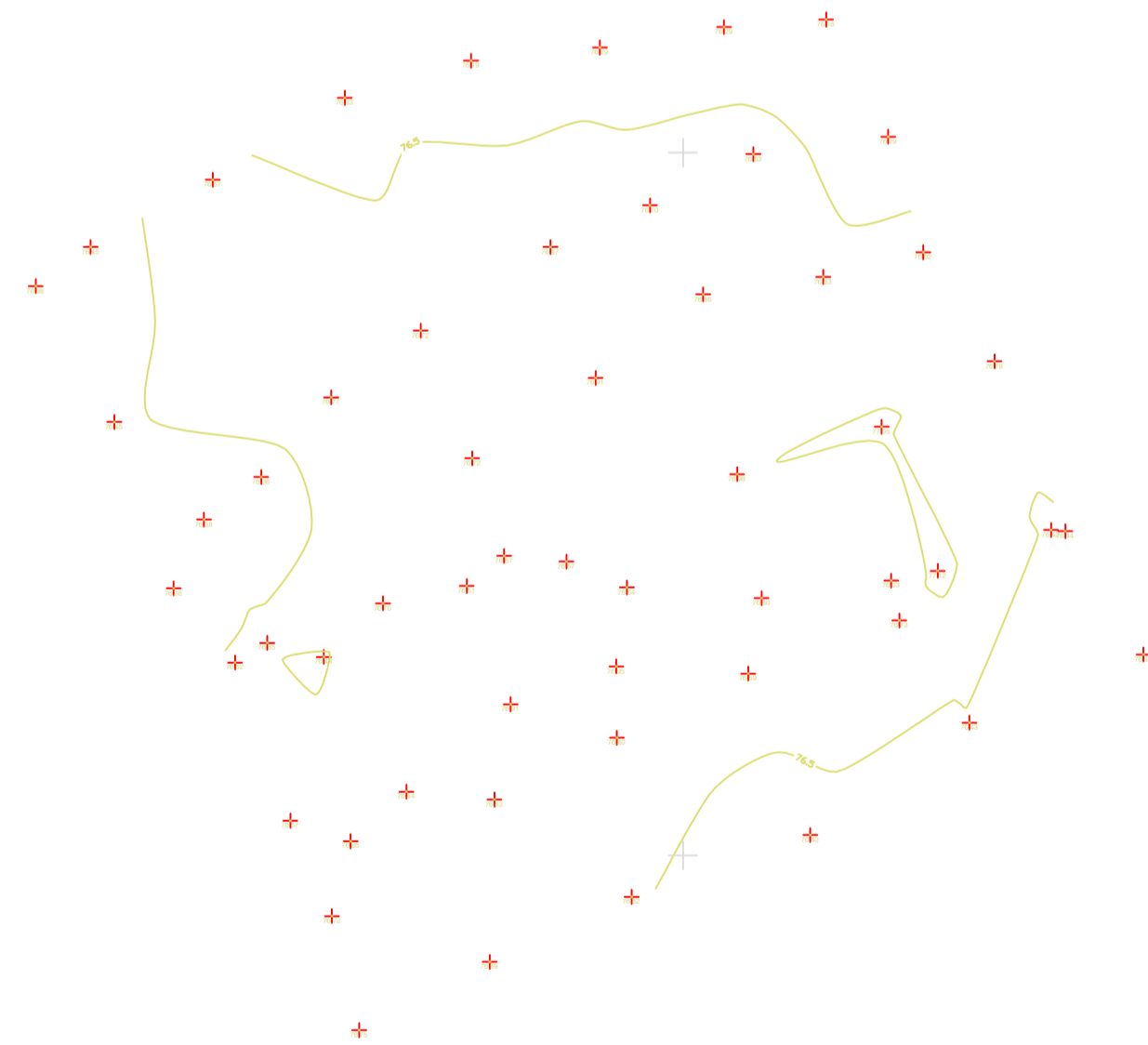
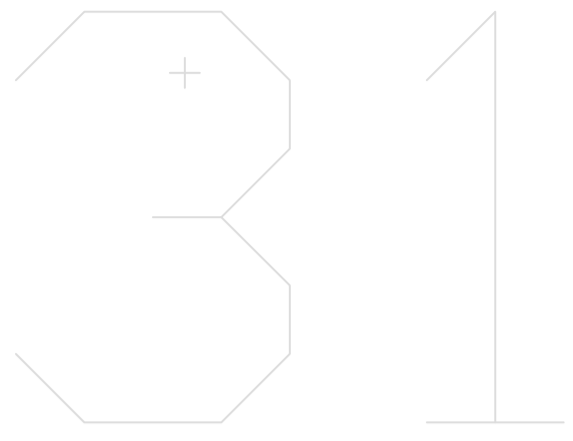
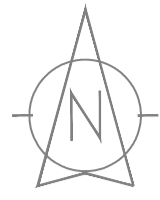
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<b>Project :</b>	BNN Site Derrygreenagh Rhode
<b>Date :</b>	26.07.2023
<b>Scale :</b>	1:500@A1
<b>Description :</b>	Topographical Survey
<b>Drawing Number :</b>	MGS52335_T_ITM_Rev2-28











LEGEND

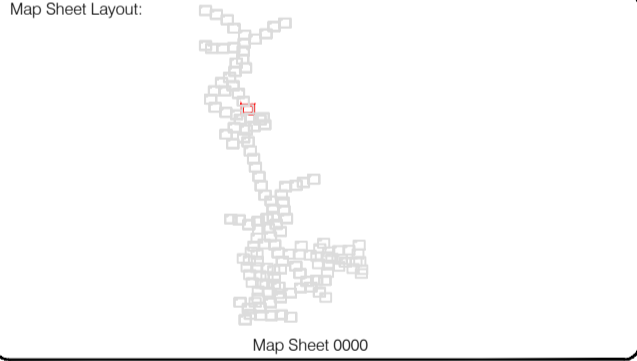
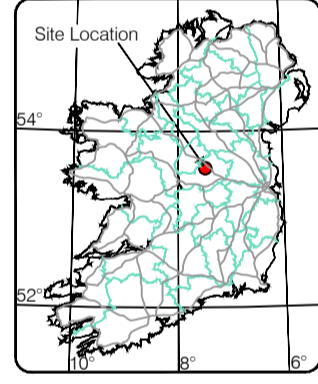
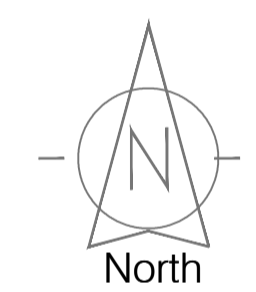
- Over Head Wires (LUAS) - Pylon ESB
- Powerbed
- Pipe
- Light
- Barrier
- Pump
- Trial Pit
- Postbox
- Water - General
- Water Valve
- Gas Valve
- Sluice Valve
- Air Valve
- Stop Cock
- C/P Post
- Marker Post
- Tracked Light
- Parking Meter
- Plane Asset Mark
- Smart Card Validator
- Unknown Valve
- Ballast
- Beacon
- Coalhole Cover
- Bore Hole
- Electricity Pole
- OCS Pole
- CCTV Camera Pole
- Lamp Post
- Foul Manhole
- Surface Water MH
- Manholes
- Air Conditioning Vents
- Services Inspection Cover
- Traffic Inspection Cover
- Cable TV Inspection Cover
- ESAT Inspection Cover
- NFL Inspection Cover
- Elcom Inspection Cover
- Rocking Eye
- Water Level
- Crown Level
- Invert level
- Bed Level
- Spotheight
- Water Level
- Fair Way
- Green
- Tree Box
- Other
- Survey Station
- Photo point
- Top of Tree
- Fence
- Gate
- Road Centreline
- Top of Wall
- Hoarding
- Property Line
- Road Box
- Top of Fence
- Wall / Retaining Wall
- Railway / Tram Rail / Gating / Ramp
- Building Canopy / Roof / Overhang
- Cycleway / Private Landing Area
- Floor Level
- Apex Height
- Eaves Height
- Parapet Height
- Soffit Elevation
- Step Level
- Concrete Pad
- Track

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Drawn by: ST	Date: 26.07.2023	Date: 26.07.2023	Date: 26.07.2023
Checked by: PK	Date: 26.07.2023	Date: 26.07.2023	Date: 26.07.2023

No	Date	Description	Revisions
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Topographic surveys, Measured Building Surveys, Setting-out, As-Built Surveys, Hydrographic Surveys, Legal Mapping, Pipeline Surveys, Heritage Location, Ground Penetrating Radar, Laser Scanning, Aerial Photography

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 Email: info@murphyge.ie

**Client :** AECOM Dublin

**Project :** BNM Site Derrygreenagh Rhode

**Date :** 26.07.2023 **Scale :** 1:500@A1

**Description :** Topographical Survey

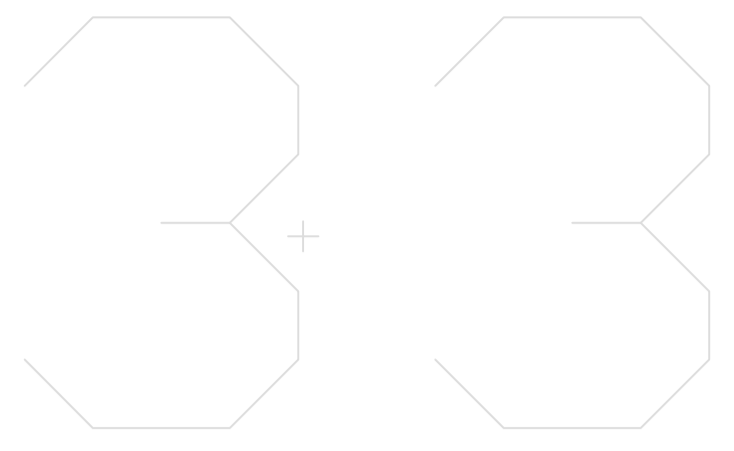
**Drawing Number :** MGS52335\_T\_ITM\_Rev2-01

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**LEGEND**  
Street furniture & Services

Over Head Wires (LUAS) - Pylon ESB	Bus Stop	Ballast	Road Sign	Phone Box
Powerbed	BEA Beacon	Coalhole Cover	Waste Bin	Bench Seat
Pipe	CH Coalhole Cover	Electricity Pole	Hydrant	Duct
Lift	Electricity Pole	Telegraph pole	Fire Hydrant	Gas Cover
Barrier	Electricity Pole	Telegraph pole	Fire Hydrant	Gas Cover
Pump	Electricity Pole	Telegraph pole	Fire Hydrant	Gas Cover
Bus/Tram Shelter	Electricity Pole	Telegraph pole	Fire Hydrant	Gas Cover
Postbox	Electricity Pole	Telegraph pole	Fire Hydrant	Gas Cover
Water - General	Electricity Pole	Telegraph pole	Fire Hydrant	Gas Cover
Water Valve	Electricity Pole	Telegraph pole	Fire Hydrant	Gas Cover
Gas Valve	Electricity Pole	Telegraph pole	Fire Hydrant	Gas Cover
Sluice Valve	Electricity Pole	Telegraph pole	Fire Hydrant	Gas Cover
Air Valve	Electricity Pole	Telegraph pole	Fire Hydrant	Gas Cover
Stop Cook	Electricity Pole	Telegraph pole	Fire Hydrant	Gas Cover
C/P Post	Electricity Pole	Telegraph pole	Fire Hydrant	Gas Cover
Marker Post	Electricity Pole	Telegraph pole	Fire Hydrant	Gas Cover
Traffic Light	Electricity Pole	Telegraph pole	Fire Hydrant	Gas Cover
Parking Meter	Electricity Pole	Telegraph pole	Fire Hydrant	Gas Cover
Flare Area Mark	Electricity Pole	Telegraph pole	Fire Hydrant	Gas Cover
Smart Card Validator	Electricity Pole	Telegraph pole	Fire Hydrant	Gas Cover
Unknown Valve	Electricity Pole	Telegraph pole	Fire Hydrant	Gas Cover
Water Level	Water Level	Water Level	Water Level	Water Level
Land Drain	Land Drain	Land Drain	Land Drain	Land Drain
Bottom of Slope	Bottom of Slope	Bottom of Slope	Bottom of Slope	Bottom of Slope
Top of Slope	Top of Slope	Top of Slope	Top of Slope	Top of Slope
Ditch	Ditch	Ditch	Ditch	Ditch
Water Edge / Lake / Pond	Water Edge / Lake / Pond	Water Edge / Lake / Pond	Water Edge / Lake / Pond	Water Edge / Lake / Pond
Hedge / Trees Drip Line / Vegetation	Hedge / Trees Drip Line / Vegetation	Hedge / Trees Drip Line / Vegetation	Hedge / Trees Drip Line / Vegetation	Hedge / Trees Drip Line / Vegetation
Tree Coniferous	Tree Coniferous	Tree Coniferous	Tree Coniferous	Tree Coniferous
Tree Deciduous	Tree Deciduous	Tree Deciduous	Tree Deciduous	Tree Deciduous
Top of Tree	Top of Tree	Top of Tree	Top of Tree	Top of Tree
Building	Building	Building	Building	Building
Edge of Road	Edge of Road	Edge of Road	Edge of Road	Edge of Road
Kerb Bottom	Kerb Bottom	Kerb Bottom	Kerb Bottom	Kerb Bottom
Kerb Top	Kerb Top	Kerb Top	Kerb Top	Kerb Top
Bridge Abutment	Bridge Abutment	Bridge Abutment	Bridge Abutment	Bridge Abutment
Bridge Deck	Bridge Deck	Bridge Deck	Bridge Deck	Bridge Deck
Building Facade	Building Facade	Building Facade	Building Facade	Building Facade
Footpath / Platform / Tram	Footpath / Platform / Tram	Footpath / Platform / Tram	Footpath / Platform / Tram	Footpath / Platform / Tram
Damp Proof Course / Verge	Damp Proof Course / Verge	Damp Proof Course / Verge	Damp Proof Course / Verge	Damp Proof Course / Verge
Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Bridge Pier / Wall & Gate Pillar / LUAS Trackbed
Cycleway / Private Landing Area	Cycleway / Private Landing Area	Cycleway / Private Landing Area	Cycleway / Private Landing Area	Cycleway / Private Landing Area
Fence	Fence	Fence	Fence	Fence
Road Centreline	Road Centreline	Road Centreline	Road Centreline	Road Centreline
Top of Wall	Top of Wall	Top of Wall	Top of Wall	Top of Wall
Hoarding	Hoarding	Hoarding	Hoarding	Hoarding
Property Line	Property Line	Property Line	Property Line	Property Line
Road Sign	Road Sign	Road Sign	Road Sign	Road Sign
Top of Fence	Top of Fence	Top of Fence	Top of Fence	Top of Fence
Wall / Retaining Wall	Wall / Retaining Wall	Wall / Retaining Wall	Wall / Retaining Wall	Wall / Retaining Wall
Railway / Tram Rail / Gating / Ramp	Railway / Tram Rail / Gating / Ramp	Railway / Tram Rail / Gating / Ramp	Railway / Tram Rail / Gating / Ramp	Railway / Tram Rail / Gating / Ramp
Building Canopy / Roof / Overhang	Building Canopy / Roof / Overhang	Building Canopy / Roof / Overhang	Building Canopy / Roof / Overhang	Building Canopy / Roof / Overhang
Floor Level	Floor Level	Floor Level	Floor Level	Floor Level
Apex Height	Apex Height	Apex Height	Apex Height	Apex Height
Eaves Height	Eaves Height	Eaves Height	Eaves Height	Eaves Height
Parapet Height	Parapet Height	Parapet Height	Parapet Height	Parapet Height
Step Level	Step Level	Step Level	Step Level	Step Level
Concrete Pad	Concrete Pad	Concrete Pad	Concrete Pad	Concrete Pad
Track	Track	Track	Track	Track
Water Level	Water Level	Water Level	Water Level	Water Level
Fair Way	Fair Way	Fair Way	Fair Way	Fair Way
Green	Green	Green	Green	Green
Tree Box	Tree Box	Tree Box	Tree Box	Tree Box
Other	Other	Other	Other	Other
Survey Station	Survey Station	Survey Station	Survey Station	Survey Station
Photo point	Photo point	Photo point	Photo point	Photo point

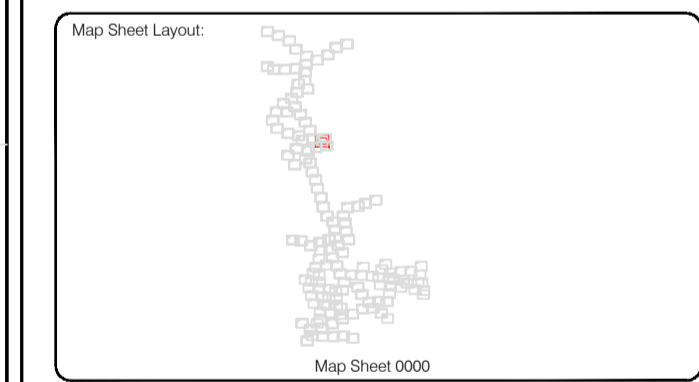
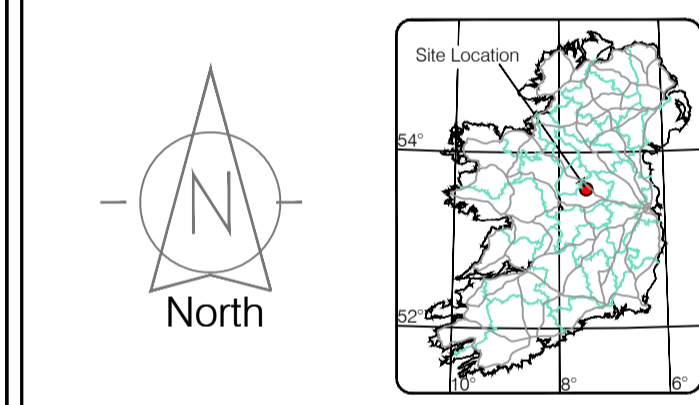
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Site Location



Drawn by: ST	Date: 26.07.2023	Checked by: PK	Date: 26.07.2023	Date: 26.07.2023	Date: 26.07.2023	Date: 26.07.2023	Date: 26.07.2023																
Surveyed by: ST		Date: 26.07.2023		Datum: Irish National Grid		Grid System: ITM 8																	
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**Phone:** (+353) 045 484040  
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**Client:** AECOM Dublin

**Project:** BNM Site Derrygreenagh Rhode

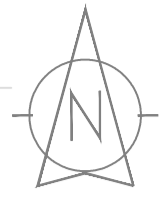
**Date:** 26.07.2023 **Scale:** 1:500@A1

**Description:** Topographical Survey

**Drawing Number:** MGS52335\_T\_ITM\_Rev2-33

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# 34



### LEGEND

#### Street furniture & Services

Over Head Wires (LUAS) - Pylon ESB	Phone Box
Powerbed	Bench Seat
Bus Stop	Duct
Pipe	Keek
Lit	Gas Cover
Beacon	Gully
Coalhole Cover	USG Car Park Vent
Bore Hole	Waste Bin
Electricity Pole	Hydrant
Telegraph pole	Fire Hydrant
OCS Pole	ESS Box
CCTV Camera Pole	ESB Inspection Cover
Lamp Post	Traffic Control Box
Foul Manhole	LUAS Technical Cabinet
Surface Water MH	Ticket Vending Machine
Manholes	Water Meter Cover
Air Conditioning Vents	Telecom Inspection Cover
Services Inspection Cover	Monument / Toilets
Traffic Inspection Cover	Tank Storage
Cable TV Inspection Cover	Basement MH Cover & Pipe
ESAT Inspection Cover	Disjunct Aerial Mark
NL Inspection Cover	Stay for pole
Elcom Inspection Cover	PP
Rocking Eye	Washout

#### Natural Features

Surface Change	Water Level	Golf
Land Drain	Crown Level	Fair Way
Bottom of Slope	Invert level	Green
Top of Slope	Bed Level	Tree Box
Ditch	Spotheight	Other
Water Edge / Lake / Pond	Survey Station	Photo point
Hedge / Trees Drip Line / Vegetation	Top of Tree	
Tree Coniferous		

#### Built Features

##### Roads & Road Markings

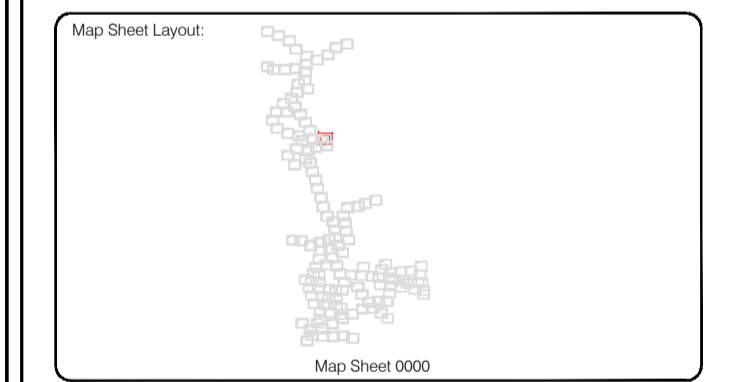
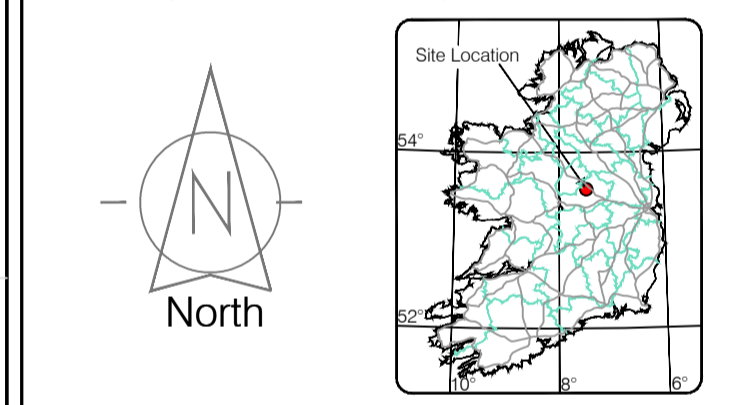
Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Softly Elevation
Bridge Deck	Property Line	Step Level
Bridge Pier	Road Sign	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform Train & Tram	Wall / Retaining Wall	
Damp Proof Course / Verge	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

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Checked by: PK	Date: 26.07.2023	Date: 26.07.2023	Date: 26.07.2023

No	Date	Description	Revisors
0	26.07.2023	Final Drawing	
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2	06.09.2023	Additional road survey added	



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<b>Client :</b>	AECOM Dublin
<b>Project :</b>	BNN Site Derrygreenagh Rhode
<b>Date :</b>	26.07.2023
<b>Scale :</b>	1:500@A1
<b>Description :</b>	Topographical Survey
<b>Drawing Number :</b>	MGS52335_T_ITM_Rev2-34









**LEGEND**  
**Street furniture & Services**

Over Head Wires (LUAS) - Pylon ESB	Phone Box
Powerbed	Duct
Ball	Gas Cover
BEA Beacon	Waste Bin
Coalhole Cover	Hydrant
Boys Hole	Fire Hydrant
Electricity Pole	ESS Box
Telegraph pole	ESB Inspection Cover
OCS Pole	ESB Inspection Cover
OCTV Camera Pole	ESB Inspection Cover
Lamp Post	ESB Inspection Cover
Gas Valve	ESB Inspection Cover
Sluice Valve	ESB Inspection Cover
Air Valve	ESB Inspection Cover
Stop Cook	ESB Inspection Cover
C/P Post	ESB Inspection Cover
Marker Post	ESB Inspection Cover
Marker Light	ESB Inspection Cover
Parking Meter	ESB Inspection Cover
Flare Area Mark	ESB Inspection Cover
Smart Card Validator	ESB Inspection Cover
Unknown Valve	ESB Inspection Cover

**Natural Features**

Surface Change	Water Level	Golf
Land Drain	Crown Level	Fair Way
Bottom of Slope	Invert level	Green
Top of Slope	Bed Level	Tree Box
Ditch	Spotheight	Other
Water Edge / Lake / Pond	Spotheight	Survey Station
Hedge / Trees Drip Line / Vegetation	Spotheight	Photo point
Tree Coniferous	Spotheight	Top of Tree

**Built Features**  
**Roads & Road Markings**

Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Soft Elevation
Bridge Deck	Property Line	Step Level
Bridge Pier/Abutment	Road Sign	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform / Tram	Wall / Retaining Wall	
Damp Proof Course / Verge	Railway / Tram Rail / Gating / Ramp	
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Cycleway / Private Landing Area		

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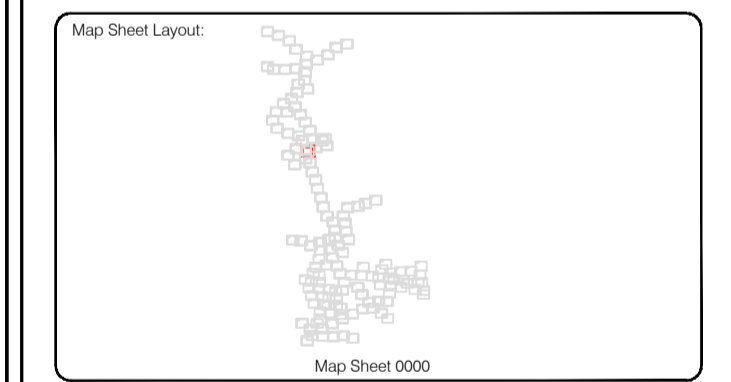
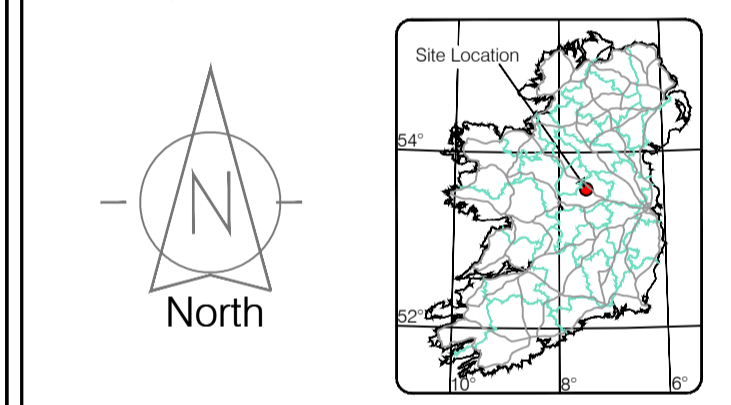
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Drawn by: ST	Date: 26/07/2023	Grid System: Irish National Grid	ITM 8
Checked by: PK	Date: 26/07/2023		

No	Date	Description	Revisions
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<b>Kilcullen Co. Kildare, Ireland</b>	<b>Email:</b> info@murphyge.ie

<b>Client:</b>	AECOM Dublin
<b>Project:</b>	BNN Site Derrygreenagh Rhode
<b>Date:</b>	26.07.2023
<b>Scale:</b>	1:500@A1
<b>Description:</b>	Topographical Survey
<b>Drawing Number:</b>	MGS52335_T_ITM_Rev2-36

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### LEGEND

#### Street furniture & Services

Over Head Wires (LUAS) - Python ESB	Bus Stop	Road Sign	Phone Box
Flowerbed	Bench Seat	Duct	Gas Cover
Pipe	Ballast	Keek	Gas Cover
Light	Beacon	Gully	CP Box
Barrier	Coalhole Cover	USG W	USG Car Park Mark
Pump	Boys Hole	Waste Bin	Hydrant
Trail Pit	Electricity Pole	Hydrant	Fire Hydrant
Bus/Tram Shelter	Telegraph pole	Fire Hydrant	Fire Hydrant
Postbox	OCS Pole	ESS Box	ESS Box
Water - General	OCS Camera Pole	ESS Inspection Cover	ESS Inspection Cover
Water Valve	Lamp Post	Tras Control Box	Tras Control Box
Gas Valve	Foul Manhole	LUAS Technical Cubicle	LUAS Technical Cubicle
Sluice Valve	Surface Water MH	Ticket Vending Machine	Ticket Vending Machine
Air Valve	Manholes	Water Meter Cover	Water Meter Cover
Stop Cook	Air Conditioning Vents	Telecom Inspection Cover	Telecom Inspection Cover
C/P Post	Services Inspection Cover	Monument / Toilets	Monument / Toilets
Marker Post	Traffic Inspection Cover	Tank Storage	Tank Storage
Traffic Light	Cable TV Inspection Cover	Basement MH Cover & Pipe	Basement MH Cover & Pipe
Parking Meter	SAT Inspection Cover	Dislod Aerial Mark	Dislod Aerial Mark
Pipes Area Mark	NL Inspection Cover	Stay for pole	Stay for pole
Smart Card Validator	Elcom Inspection Cover	PP	Pipe Protection
Unknown Valve	Rocking Eye	Washout	Washout

#### Natural Features

Surface Change	Water Level	Fair Way	Fair Way
Land Drain	Down Level	Green	Green
Bottom of Slope	Invert level	Tee Box	Tee Box
Top of Slope	Bed Level	Other	Other
Ditch	Spotheight	Survey Station	Survey Station
Water Edge / Lake / Pond		Photo point	Photo point
Hedge / Trees Drip Line / Vegetation			
Tree Continuous	Tree Deciduous	Top of Tree	Top of Tree

#### Built Features

##### Roads & Road Markings

Building	Fence	Floor Level	Floor Level
Edge of Road	Gate	Apex Height	Apex Height
Kerb Bottom	Road Centreline	Eaves Height	Eaves Height
Kerb Top	Top of Wall	Parapet Height	Parapet Height
Bridge Abutment	Hoarding	Soft Elevation	Soft Elevation
Bridge Deck	Property Line	Step Level	Step Level
Bridge Parapet	Road Bar	Concrete Pad	Concrete Pad
Building Facade	Top of Fence	Track	Track
Footpath / Platform Train & Tram	Wall / Retaining Wall		
Damp Proof Course / Vege	Railway / Tram Rail / Gating / Ramp		
Bridge Pier / Wall & Gate Piler / LUAS Trackbed	Building Canopy / Roof / Overhang		
Cycleway / Private Landing Area			

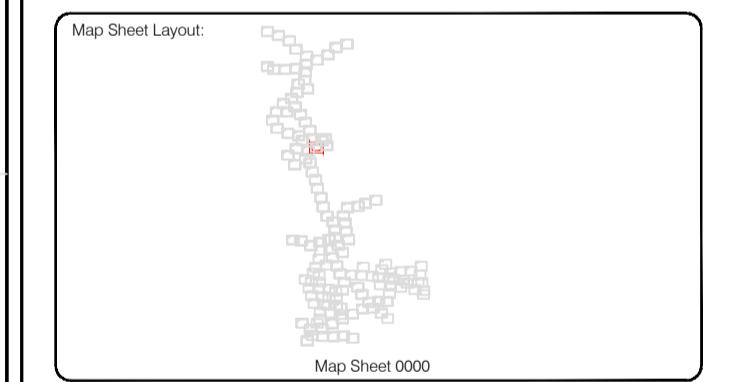
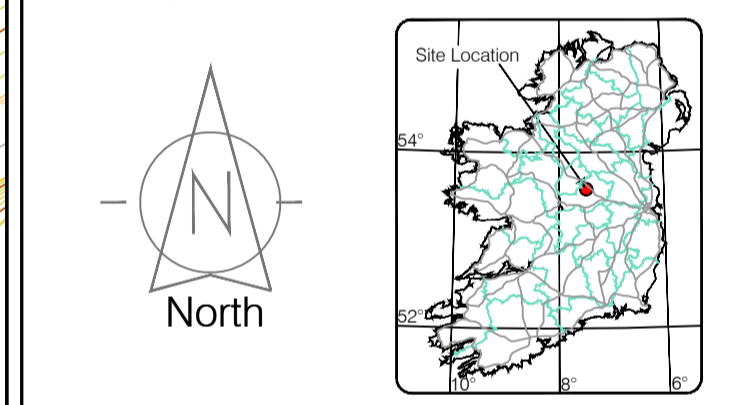
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North



Drawn by: ST	Date: 26/07/2023	Drawn by: ST	Date: 26/07/2023	Checked by: PK	Date: 26/07/2023	Checked by: PK	Date: 26/07/2023
Revisions		Revisions		Revisions		Revisions	
No	Date	Description	No	Date	Description	No	Date
0	26.07.2023	Final Drawing					
1	08.08.2023	Layouts added					
2	06.09.2023	Additional road survey added					



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 Email: info@murphyge.ie

<b>Client :</b>	AECOM Dublin
<b>Project :</b>	BNN Site Derrygreenagh Rhode
<b>Date :</b>	26.07.2023
<b>Scale :</b>	1:500@A1
<b>Description :</b>	Topographical Survey
<b>Drawing Number :</b>	MGS52335_T_ITM_Rev2-37













**LEGEND**  
Street furniture & Services

Over Head Wires (LUAS) - Pylon ESB	Street Sign	Phone Box
Powerbed	Bench Seat	Duct
Pipe	Ballast	Keek
Light	Beacon	Gas Cover
Barrier	Coalhole Cover	USG Car Park Vase
Pump	Bore Hole	Waste Bin
Manhole	Electricity Pole	Hydrant
Bus/Tram Shelter	Telegraph pole	Fire Hydrant
Postbox	OCS Pole	ESB Box
Water - General	OCTV Camera Pole	ESB Inspection Cover
Water Valve	Lamp Post	Traffic Control Box
Gas Valve	Foul Manhole	LUAS Technical Cabinet
Sluice Valve	Surface Water MH	Ticket Vending Machine
Air Valve	Manholes	Water Meter Cover
Stop Cook	Air Conditioning Vents	Telecom Inspection Cover
C/P Post	Services Inspection Cover	Monument / Toilets
Marker Post	Traffic Inspection Cover	Tank Storage
Traffic Light	Cable TV Inspection Cover	Basement MH Cover & Pipe
Parking Meter	ESAT Inspection Cover	Dead End Mark
Flare Area Mark	NL Inspection Cover	Stay for pole
Smart Card Validator	Elcom Inspection Cover	Stay for pole
Unknown Valve	Rocking Eye	Washout

**Natural Features**

Surface Change	Water Level	Fair Way
Land Drain	Crown Level	Green
Bottom of Slope	Invert level	Tree Box
Top of Slope	Bed Level	Other
Ditch	Spotheight	Survey Station
Water Edge / Lake / Pond		Photo point
Hedge / Trees Drip Line / Vegetation		
Tree Continuous	Tree Deciduous	Top of Tree

**Built Features**  
Roads & Road Markings

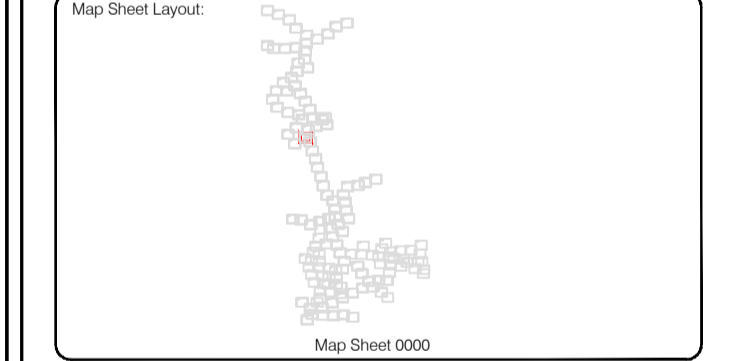
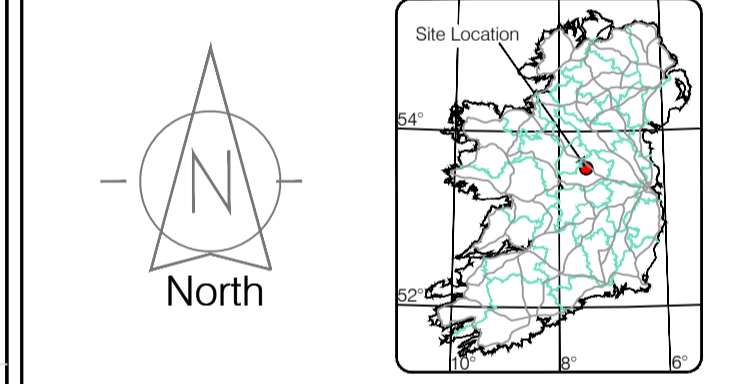
Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Soffit Elevation
Bridge Deck	Property Line	Step Level
Bridge Pier	Road Sign	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform / Tram / Vege	Wall / Retaining Wall	
Damp Proof Course / Verge	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

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Drawn by: ST	Date: 26.07.2023	Grid System: Irish National Grid	ITM 8
Checked by: PK	Date: 26.07.2023		

No	Date	Description	Revisions
0	26.07.2023	Final Drawing	
1	08.08.2023	Layouts added	
2	06.09.2023	Additional road survey added	



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Email: info@murphyge.ie

<b>Client :</b>	AECOM Dublin
<b>Project :</b>	BNN Site Derrygreenagh Rhode
<b>Date :</b>	26.07.2023
<b>Scale :</b>	1:500@A1
<b>Description :</b>	Topographical Survey
<b>Drawing Number :</b>	MGS52335_T_ITM_Rev2-40

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**LEGEND**  
**Street furniture & Services**

Over Head Wires (LUAS) - Python ESB	Phone Box
Powerbed	Duct
Bus Stop	Bench Seat
Pipe	Keek
Light	Gas Cover
Beacon	Gully
Coalhole Cover	USG Car Park Vase
Boys Hole	Waste Bin
Electricity Pole	Hydrant
Telegraph pole	Fire Hydrant
OCS Pole	ESS Box
OCTV Camera Pole	ESS Inspection Cover
Lamp Post	Traffic Control Box
Foul Manhole	LUAS Technical Cubicle
Surface Water MH	Ticket Vending Machine
Manholes	Water Meter Cover
Air Conditioning Vents	Telecom Inspection Cover
Services Inspection Cover	Monument / Toilets
Traffic Inspection Cover	Tank Storage
Cable TV Inspection Cover	Basement MH Cover & Pipe
ESAT Inspection Cover	Disposal Aerial Mark
NTL Inspection Cover	Stay for pole
Elcom Inspection Cover	Stay for pole
Rocking Eye	Washout

**Natural Features**

Surface Change	Water Level	Fair Way
Land Drain	Down Level	Green
Bottom of Slope	Invert level	Tree Box
Top of Slope	Bed Level	Other
Ditch	Spotheight	Survey Station
Water Edge / Lake / Pond		Photo point
Hedge / Trees Drip Line / Vegetation		
Tree Coniferous	Tree Deciduous	Top of Tree

**Built Features**  
**Roads & Road Markings**

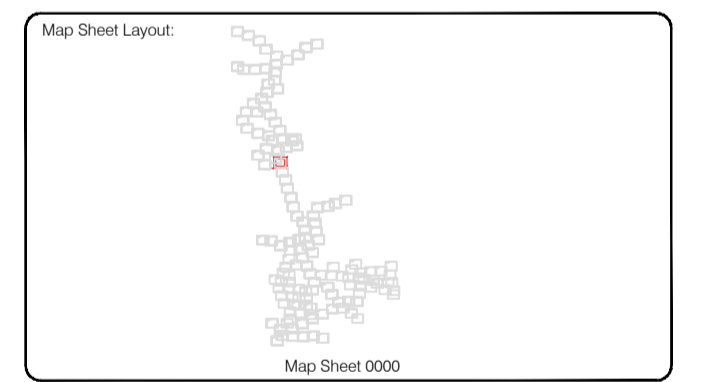
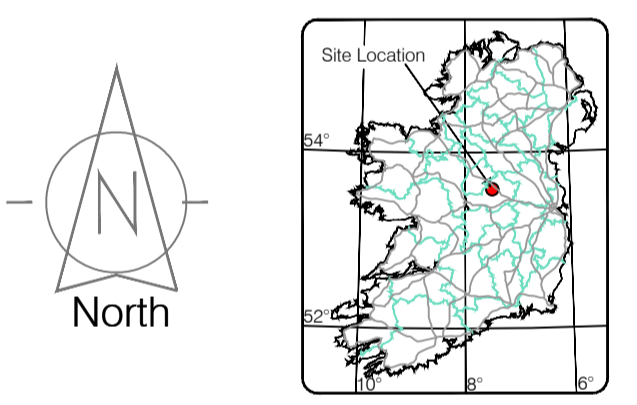
Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Soft Elevation
Bridge Deck	Property Line	Step Level
Building Facade	Road Spur	Concrete Pad
Footpath / Platform Tread & Tread	Top of Fence	Track
Damp Proof Course / Verge	Wall / Retaining Wall	
Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Railway / Tram Rail / Gating / Ramp	
Cycleway / Private Landing Area	Building Canopy / Roof / Overhang	

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Map Sheet Layout

Reviewed by	ST	Date	26/07/2023	Datum	Main Head
Drawn by	ST	Date	26/07/2023	Grid System	
Checked by	PK	Date	26/07/2023	Irish National Grid	ITM 8

Revisions

No	Date	Description
0	26.07.2023	First Drawing
1	08.08.2023	Layouts added
2	06.09.2023	Additional road survey added

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**Phone:** (+353) 045 484040  
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**Project:** BNM Site Derrygreenagh Rhode

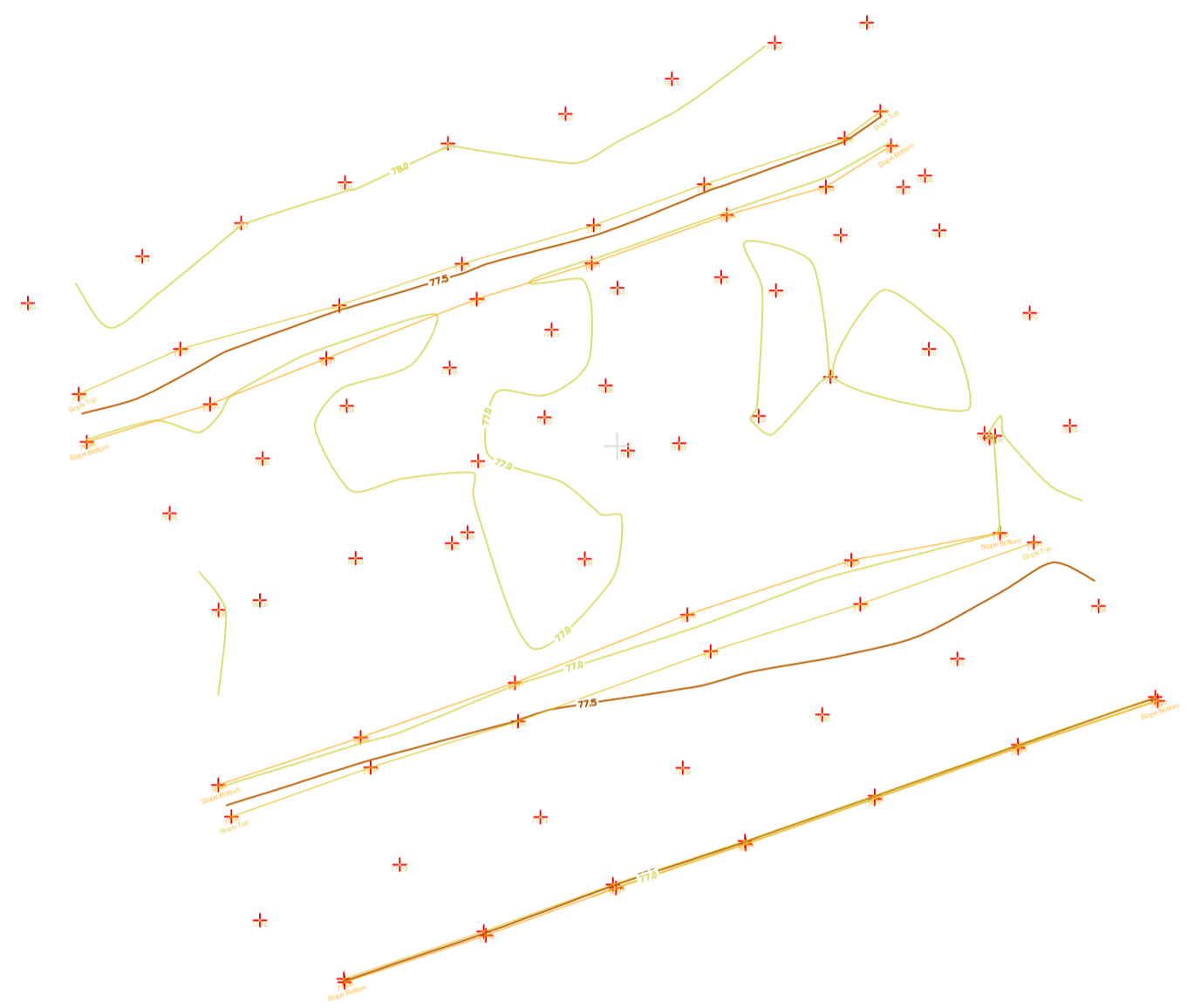
**Date:** 26.07.2023 **Scale:** 1:500@A1

**Description:** Topographical Survey

**Drawing Number:** MGS52335\_T\_ITM\_Rev2-42

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**LEGEND**  
**Street furniture & Services**

Over Head Wires (LIAS) - Pylon ESB	Ball	Ball	Road Sign	Phone Box
Powerbed	Ball	Ball	Bench Seat	Duct
Pipe	Ball	Ball	Keek	Gas Cover
Lift	Ball	Ball	Gully	C/P Box
Barrier	Ball	Ball	USG Car Park Vek	
Pump	Ball	Ball	Waste Bin	
Trial Pit	Ball	Ball	Hydrant	
Bus/Tram Shelter	Ball	Ball	Fire Hydrant	
Postbox	Ball	Ball	ESS Box	
Water - General	Ball	Ball	ESB Inspection Cover	
Water Valve	Ball	Ball	Traffic Control Box	
Gas Valve	Ball	Ball	LIAS Technical Cubicle	
Sluice Valve	Ball	Ball	LIAS Vending Machine	
Air Valve	Ball	Ball	Water Meter Cover	
Stop Cock	Ball	Ball	Telecom Inspection Cover	
C/P Post	Ball	Ball	Monument / Toilets	
Marker Post	Ball	Ball	Tank Storage	
Traffic Light	Ball	Ball	Basement MH Cover & Pipe	
Parking Meter	Ball	Ball	Basement MH Cover & Pipe	
Plane Asset Mark	Ball	Ball	Stay for pole	
Smart Card Validator	Ball	Ball	Stay for pole	
Unknown Valve	Ball	Ball	Washout	

**Natural Features**

Surface Change	Water Level	Golf
Land Drain	Water Level	Fair Way
Bottom of Slope	Invert level	Green
Top of Slope	Bed Level	Tree Box
Ditch	Spotheight	Other
Water Edge / Lake / Pond		Survey Station
Hedge / Trees Drip Line / Vegetation		Photo point
Tree Contourous		Top of Tree

**Built Features**

**Roads & Road Markings**

Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Soft Elevation
Bridge Deck	Property Line	Step Level
Bridge Pier	Road Bar	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform Toss / Tram	Wall / Retaining Wall	
Damp Proof Course / Verge	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pillar / LIAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

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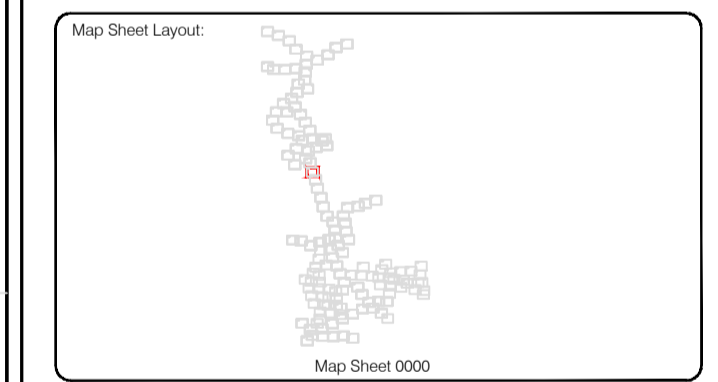
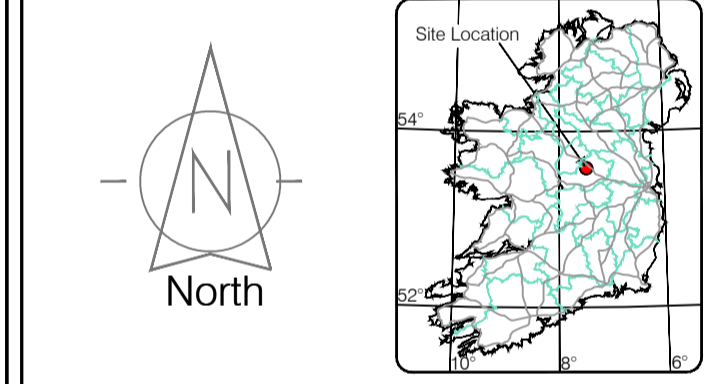
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Surveyed by: ST	Date: 26.07.2023	Datum: Irish National Grid	Main Head
Drawn by: ST	Date: 26.07.2023	Grid System: Irish National Grid	ITM 8
Checked by: PK	Date: 26.07.2023		

No	Date	Description	Revisors
0	26.07.2023	First Drawing	
1	08.08.2023	Layouts added	
2	06.09.2023	Additional road survey added	



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<b>Client :</b>	AECOM Dublin
<b>Project :</b>	BNN Site Derrygreenagh Rhode
<b>Date :</b>	26.07.2023
<b>Scale :</b>	1:500@A1
<b>Description :</b>	Topographical Survey
<b>Drawing Number :</b>	MGS52335_T_ITM_Rev2-43

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### LEGEND

Street furniture & Services	
Over Head Wires (LIAS) - Pylon ESB	Road Sign
Powerbed	Beach Seat
Ball	Keek
Beacon	Gully
Coalhole Cover	Waste Bin
Boys Hole	Waste Bin
Electricity Pole	Hydrant
Telegraph pole	Fire Hydrant
OCS Pole	ESS Box
OCTV Camera Pole	ESS Inspection Cover
Lamp Post	Traffic Control Box
Foul Manhole	LIAS Technical Cubicle
Surface Water MH	Ticket Vending Machine
Manholes	Water Meter Cover
Air Conditioning Vents	Telecom Inspection Cover
Services Inspection Cover	Monument / Toilets
Traffic Inspection Cover	Tank Storage
Cable TV Inspection Cover	Basement MH Cover & Pipe
ESAT Inspection Cover	Disposal Aerial Mark
NTL Inspection Cover	Stay for pole
Elcom Inspection Cover	PP
Rocking Eye	Washout

Natural Features	
Water Level	Fair Way
Crown Level	Green
Invert level	Tree Box
Bed Level	Other
Spotheight	Survey Station
Photo point	Photo point

Built Features	
Fence	Floor Level
Road Centreline	Apex Height
Top of Wall	Eaves Height
Hoarding	Parapet Height
Property Line	Soffit Elevation
Road Sign	Step Level
Top of Fence	Concrete Pad
Track	Track
Wall / Retaining Wall	
Railway / Tram Rail / Gating / Ramp	
Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area	

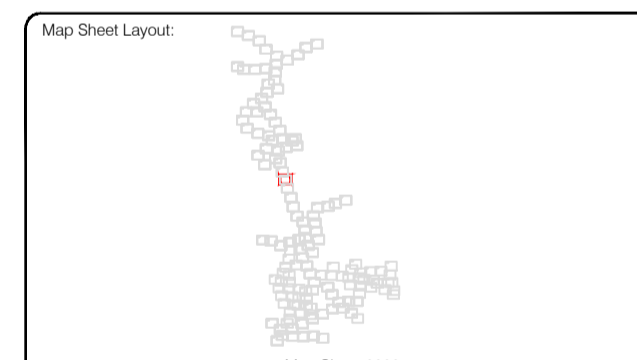
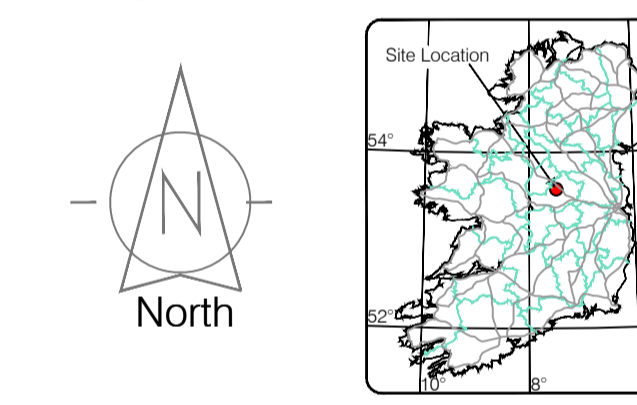


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Checked by: PK	Date: 26.07.2023	Grid System: Irish National Grid	ITM 8

No	Date	Description	Revisions
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<b>Client :</b>	AECOM Dublin
<b>Project :</b>	BNN Site Derrygreenagh Rhode
<b>Date :</b>	26.07.2023
<b>Scale :</b>	1:500@A1
<b>Description :</b>	Topographical Survey
<b>Drawing Number :</b>	MGS52335_T_ITM_Rev2-44









**LEGEND**  
Street furniture & Services

Over Head Wires (LUAS) - Python ESB	Phone Box
Powerbed	Bench Seat
Ball	Bus Stop
Pipe	Bus Stop
Light	Bus Stop
Barrier	Bus Stop
Pump	Bus Stop
Trial Pit	Bus Stop
Bus/Tram Shelter	Bus Stop
Postbox	Bus Stop
Water - General	Bus Stop
Water Valve	Bus Stop
Gas Valve	Bus Stop
Sluice Valve	Bus Stop
Air Valve	Bus Stop
Stop Cock	Bus Stop
C/P Post	Bus Stop
Marker Post	Bus Stop
Tram Light	Bus Stop
Parking Meter	Bus Stop
Plane Asset Mark	Bus Stop
Smart Card Validator	Bus Stop
Unknown Valve	Bus Stop
Ballast	Bus Stop
Beacon	Bus Stop
Coalhole Cover	Bus Stop
Bore Hole	Bus Stop
Electricity Pole	Bus Stop
Telegraph pole	Bus Stop
OCS Pole	Bus Stop
OCTV Camera Pole	Bus Stop
Lamp Post	Bus Stop
Foul Manhole	Bus Stop
Surface Water MH	Bus Stop
Manholes	Bus Stop
Air Conditioning Vents	Bus Stop
Services Inspection Cover	Bus Stop
Traffic Inspection Cover	Bus Stop
Cable TV Inspection Cover	Bus Stop
ESAT Inspection Cover	Bus Stop
NL Inspection Cover	Bus Stop
Elcom Inspection Cover	Bus Stop
Rocking Eye	Bus Stop
Water Level	Bus Stop
Crown Level	Bus Stop
Invert level	Bus Stop
Bed Level	Bus Stop
Spotheight	Bus Stop
Water Level	Bus Stop
Fair Way	Bus Stop
Green	Bus Stop
Tee Box	Bus Stop
Survey Station	Bus Stop
Photo point	Bus Stop
Tree Deciduous	Bus Stop
Tree Top of Tree	Bus Stop

**Built Features**  
Roads & Road Markings

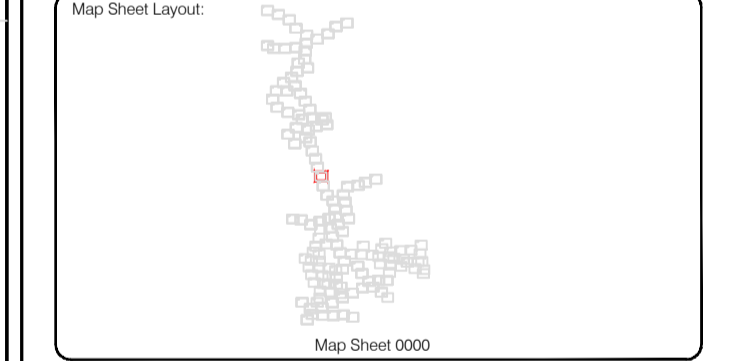
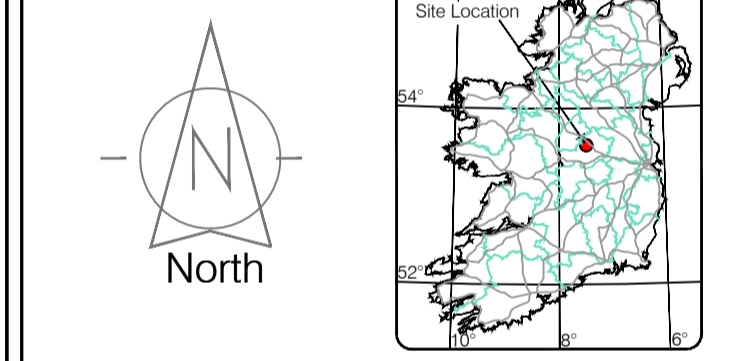
Building	Fence	Floor Level
Edge of Road	Fence Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Soffit Elevation
Bridge Deck	Property Line	Step Level
Bridge Pier/Abutment	Road Sign	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform Train & Tram	Wall / Retaining Wall	
Damp Proof Course / Verge	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

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Drawn by: ST	Date: 26.07.2023	Grid System: Irish National Grid	ITM 28
Checked by: PK	Date: 26.07.2023		
Surveyed by: ST	Date: May/June 2023	Datum: Main Head	

No	Date	Description	Revisors
0	26.07.2023	First Drawing	
1	08.08.2023	Layouts added	
2	06.09.2023	Additional road survey added	



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Email: info@murphyge.ie

<b>Client :</b>	AECOM Dublin
<b>Project :</b>	BNN Site Derrygreenagh Rhode
<b>Date :</b>	26.07.2023
<b>Scale :</b>	1:500@A1
<b>Description :</b>	Topographical Survey
<b>Drawing Number :</b>	MGS52335_T_ITM_Rev2-46





**LEGEND**  
Street furniture & Services

Over Head Wires (LUAS) - Pylon ESB	Ballast	Phone Box
Powerbed	Beacon	Bench Seat
Ball	Beacon	Bus Stop
Pipe	Coalhole Cover	Bus Stop Shelter
Light	Boys Hole	Electric Pole
Barrier	Electric Pole	Electric Pole
Pump	Electric Pole	Electric Pole
Trials Pit	Electric Pole	Electric Pole
Water - General	Electric Pole	Electric Pole
Water Valve	Electric Pole	Electric Pole
Gas Valve	Electric Pole	Electric Pole
Sluice Valve	Electric Pole	Electric Pole
Air Valve	Electric Pole	Electric Pole
Stop Cock	Electric Pole	Electric Pole
C/P Post	Electric Pole	Electric Pole
Marker Post	Electric Pole	Electric Pole
Tracing Meter	Electric Pole	Electric Pole
Plane Area Mark	Electric Pole	Electric Pole
Smart Card Validator	Electric Pole	Electric Pole
Unknown Valve	Electric Pole	Electric Pole
Surface Change	Water Level	Golf
Land Drain	Water Level	Fair Way
Bottom of Slope	Water Level	Green
Top of Slope	Water Level	Tea Box
Ditch	Water Level	Other
Water Edge / Lake / Pond	Water Level	Survey Station
Hedge / Trees Drip Line / Vegetation	Water Level	Photo point
Tree Coniferous	Water Level	Top of Tree
Tree Deciduous	Water Level	Top of Tree

**Natural Features**

**Built Features**

**Roads & Road Markings**

**Fence**

**Gate**

**Road Centreline**

**Top of Wall**

**Hoarding**

**Property Line**

**Road Spur**

**Top of Fence**

**Damp Proof Course / Verge**

**Relay / Tram Rail / Gating / Ramp**

**Building Canopy / Roof / Overhang**

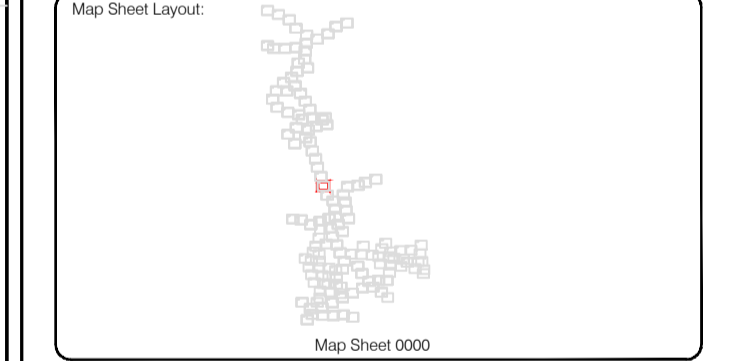
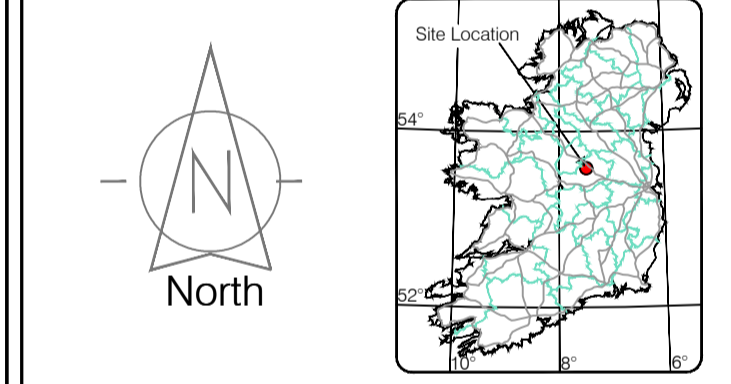
**Cycleway / Private Landing Area**

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Drawn by: ST	Date: 26.07.2023	Grid System: Irish National Grid	ITM 8
Checked by: PK	Date: 26.07.2023		
Surveyed by: ST	Date: May/June 2023	Datum: Main Head	

No	Date	Description	Revisions
0	26.07.2023	Final Drawing	
1	08.08.2023	Layouts added	
2	06.09.2023	Additional road survey added	



Topographic surveys, Measured Building Surveys, Setting-out, As-Built Surveys, Hydrographic Surveys, Legal Mapping, Pipeline Surveys, Heritage Location, Ground Penetrating Radar, Laser Scanning, Aerial Photography

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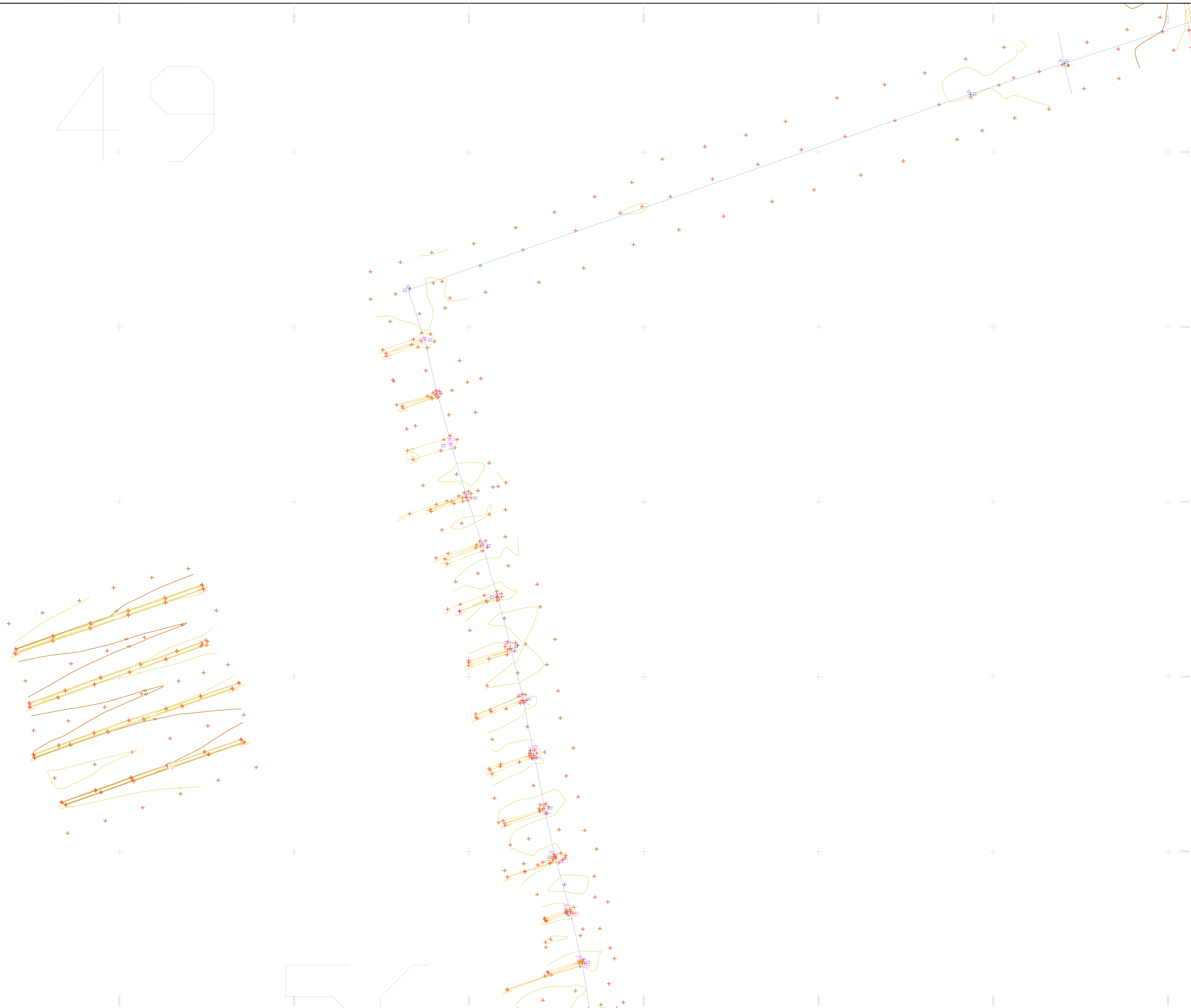
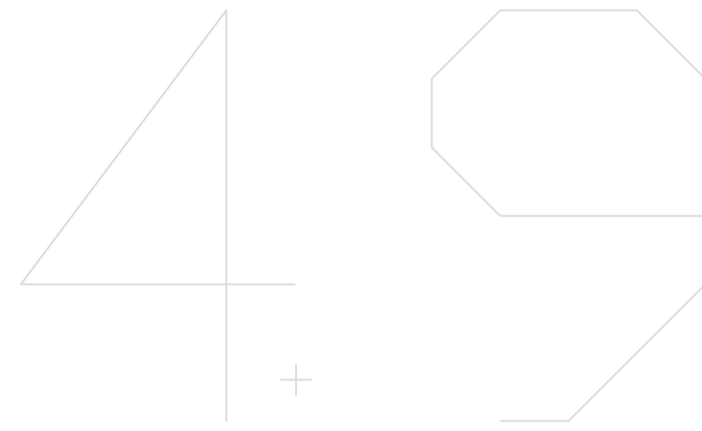
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Phone: (+353) 045 484040  
Fax: (+353) 045 484004  
Email: info@murphyge.ie

<b>Client :</b>	AECOM Dublin
<b>Project :</b>	BNN Site Derrygreenagh Rhode
<b>Date :</b>	26.07.2023
<b>Scale :</b>	1:500@A1
<b>Description :</b>	Topographical Survey
<b>Drawing Number :</b>	MGS52335_T_ITM_Rev2-47







**LEGEND**  
Street furniture & Services

Over Head Wires (LUAS) - Pylon ESB	Bus Stop	Ballast	Road Sign	Phone Box
Powerbed	BEA Beacon	Coalhole Cover	USG W	USG Car Park V
Pipe	CH Coalhole Cover	Electricity Pole	Telegraph pole	Waste Bin
Light	BH Bore Hole	EP	Hydrant	Fire Hydrant
Barrier	EP	Electricity Pole	Hydrant	Fire Hydrant
Pump	EP	Electricity Pole	Hydrant	Fire Hydrant
Trial Pit	EP	Electricity Pole	Hydrant	Fire Hydrant
Bus/Tram Shelter	EP	Electricity Pole	Hydrant	Fire Hydrant
Postbox	EP	Electricity Pole	Hydrant	Fire Hydrant
Water - General	EP	Electricity Pole	Hydrant	Fire Hydrant
Water Valve	EP	Electricity Pole	Hydrant	Fire Hydrant
Gas Valve	EP	Electricity Pole	Hydrant	Fire Hydrant
Sluice Valve	EP	Electricity Pole	Hydrant	Fire Hydrant
Air Valve	EP	Electricity Pole	Hydrant	Fire Hydrant
Stop Cook	EP	Electricity Pole	Hydrant	Fire Hydrant
C P Post	EP	Electricity Pole	Hydrant	Fire Hydrant
Marker Post	EP	Electricity Pole	Hydrant	Fire Hydrant
Marker Light	EP	Electricity Pole	Hydrant	Fire Hydrant
Parking Meter	EP	Electricity Pole	Hydrant	Fire Hydrant
Flare Asset Mark	EP	Electricity Pole	Hydrant	Fire Hydrant
Smart Card Validator	EP	Electricity Pole	Hydrant	Fire Hydrant
Unknown Valve	EP	Electricity Pole	Hydrant	Fire Hydrant
Rocking Eye	EP	Electricity Pole	Hydrant	Fire Hydrant
Surface Change	EP	Electricity Pole	Hydrant	Fire Hydrant
Land Drain	EP	Electricity Pole	Hydrant	Fire Hydrant
Bottom of Slope	EP	Electricity Pole	Hydrant	Fire Hydrant
Top of Slope	EP	Electricity Pole	Hydrant	Fire Hydrant
Ditch	EP	Electricity Pole	Hydrant	Fire Hydrant
Water Edge / Lake / Pond	EP	Electricity Pole	Hydrant	Fire Hydrant
Hedge / Trees Drip Line / Vegetation	EP	Electricity Pole	Hydrant	Fire Hydrant
Tree Coniferous	EP	Electricity Pole	Hydrant	Fire Hydrant
Tree Deciduous	EP	Electricity Pole	Hydrant	Fire Hydrant
Top of Tree	EP	Electricity Pole	Hydrant	Fire Hydrant
Water Level	EP	Electricity Pole	Hydrant	Fire Hydrant
Down Level	EP	Electricity Pole	Hydrant	Fire Hydrant
Invert level	EP	Electricity Pole	Hydrant	Fire Hydrant
Bed Level	EP	Electricity Pole	Hydrant	Fire Hydrant
Spotheight	EP	Electricity Pole	Hydrant	Fire Hydrant
Survey Station	EP	Electricity Pole	Hydrant	Fire Hydrant
Photo point	EP	Electricity Pole	Hydrant	Fire Hydrant
Washout	EP	Electricity Pole	Hydrant	Fire Hydrant
Washout	EP	Electricity Pole	Hydrant	Fire Hydrant
Fair Way	EP	Electricity Pole	Hydrant	Fire Hydrant
Green	EP	Electricity Pole	Hydrant	Fire Hydrant
Tea Box	EP	Electricity Pole	Hydrant	Fire Hydrant
Other	EP	Electricity Pole	Hydrant	Fire Hydrant
Survey Station	EP	Electricity Pole	Hydrant	Fire Hydrant
Photo point	EP	Electricity Pole	Hydrant	Fire Hydrant

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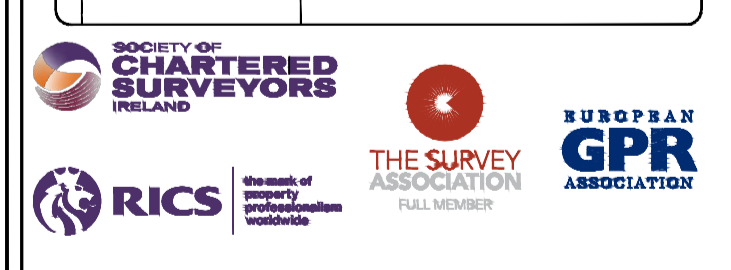
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**Map Sheet Layout**

Map Sheet 0000

Drawn by: ST	Date: 26.07.2023	Checked by: PK	Date: 26.07.2023	Drawn by: ST	Date: 26.07.2023	Checked by: PK	Date: 26.07.2023
Drawn by: ST	Date: 26.07.2023	Checked by: PK	Date: 26.07.2023	Drawn by: ST	Date: 26.07.2023	Checked by: PK	Date: 26.07.2023
Drawn by: ST	Date: 26.07.2023	Checked by: PK	Date: 26.07.2023	Drawn by: ST	Date: 26.07.2023	Checked by: PK	Date: 26.07.2023
Drawn by: ST	Date: 26.07.2023	Checked by: PK	Date: 26.07.2023	Drawn by: ST	Date: 26.07.2023	Checked by: PK	Date: 26.07.2023

Drawn by: ST	Date: 26.07.2023	Checked by: PK	Date: 26.07.2023	Drawn by: ST	Date: 26.07.2023	Checked by: PK	Date: 26.07.2023
Drawn by: ST	Date: 26.07.2023	Checked by: PK	Date: 26.07.2023	Drawn by: ST	Date: 26.07.2023	Checked by: PK	Date: 26.07.2023
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Drawn by: ST	Date: 26.07.2023	Checked by: PK	Date: 26.07.2023	Drawn by: ST	Date: 26.07.2023	Checked by: PK	Date: 26.07.2023



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Phone: (+353) 045 484040  
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**Client:** AECOM Dublin

**Project:** BNM Site Derrygreenagh Rhode

**Date:** 26.07.2023 **Scale:** 1:500@A1

**Description:** Topographical Survey

**Drawing Number:** MGS52335\_T\_ITM\_Rev2-49

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### LEGEND

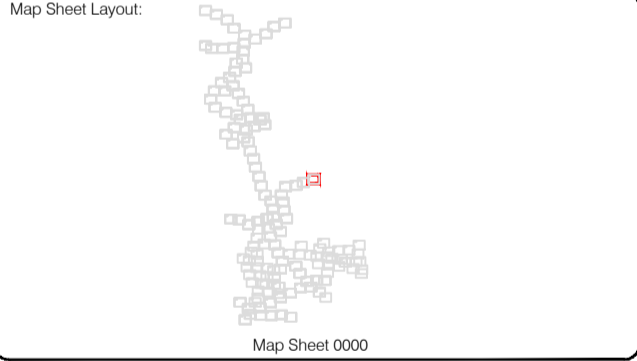
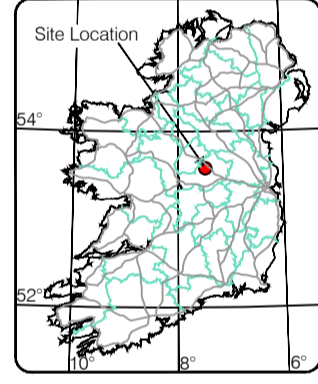
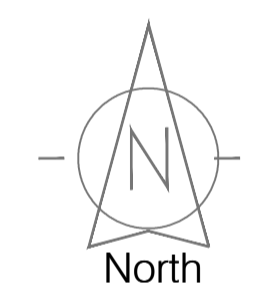
- Street furniture & Services**
- Over Head Wires (LUAS) - Pylon ESB
  - Powerbed
  - Pipe
  - Lit
  - Barrier
  - Pump
  - Trail Pit
  - Bus/Tram Shelter
  - Postbox
  - Water - General
  - Water Valve
  - Gas Valve
  - Sluice Valve
  - Air Valve
  - Stop Cook
  - C P Post
  - Marker Post
  - Traffic Light
  - Parking Meter
  - Flare Area Mark
  - Smart Card Validator
  - Unknown Valve
  - Bench Seat
  - Bullet
  - Beacon
  - Coalhole Cover
  - Boys Hole
  - Electricity Pole
  - Telegraph pole
  - OCS Pole
  - CCTV Camera Pole
  - Lamp Post
  - Foul Manhole
  - Surface Water MH
  - Manholes
  - Air Conditioning Vents
  - Services Inspection Cover
  - Traffic Inspection Cover
  - Cable TV Inspection Cover
  - SMAT Inspection Cover
  - NL Inspection Cover
  - Elcom Inspection Cover
  - Roading Eye
  - Phone Box
  - Bus Stop
  - Gas Cover
  - C P Box
  - Waste Bin
  - Hydrant
  - Fire Hydrant
  - ESS Box
  - ESB Inspection Cover
  - Traffic Control Box
  - LUAS Technical Cubicle
  - Ticket Vending Machine
  - Water Meter Cover
  - Telecom Inspection Cover
  - Monument / Toilets
  - Tank Storage
  - Basement MH Cover & Pipe
  - Disposal Aerial Mark
  - Stay for pole
  - Pipe Protection
  - Washout
- Natural Features**
- Surface Change
  - Land Drain
  - Bottom of Slope
  - Top of Slope
  - Ditch
  - Water Edge / Lake / Pond
  - Hedge / Trees Drip Line / Vegetation
  - Tree Coniferous
  - Water Level
  - Crown Level
  - Invert level
  - Bed Level
  - Spotheight
  - Top of Tree
  - Fair Way
  - Green
  - Tea Box
  - Other
  - Survey Station
  - Photo point
- Built Features**
- Roads & Road Markings**
- Building
  - Edge of Road
  - Kerb Bottom
  - Kerb Top
  - Bridge Abutment
  - Bridge Deck
  - Bridge Pier
  - Building Facade
  - Footpath / Platform Train & Tram
  - Damp Proof Course / Verge
  - Bridge Pier / Wall & Gate Pillar / LUAS Trackbed
  - Cycleway / Private Landing Area
  - Fence
  - Gate
  - Road Centreline
  - Top of Wall
  - Hoarding
  - Property Line
  - Road Bar
  - Top of Fence
  - Wall / Retaining Wall
  - Railway / Tram Rail / Gating / Ramp
  - Building Canopy / Roof / Overhang
  - Floor Level
  - Apex Height
  - Eaves Height
  - Parapet Height
  - Soft Elevation
  - Step Level
  - Concrete Pad
  - Track

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Surveyed by: ST	Date: 26/07/2023	Datum: Irish National Grid	Main Head
Drawn by: ST	Date: 26/07/2023	Grid System: Irish National Grid	ITM 25
Checked by: PK	Date: 26/07/2023		

No	Date	Description	Revisions
0	26.07.2023	First Drawing	
1	08.08.2023	Layouts added	
2	06.09.2023	Additional road survey added	



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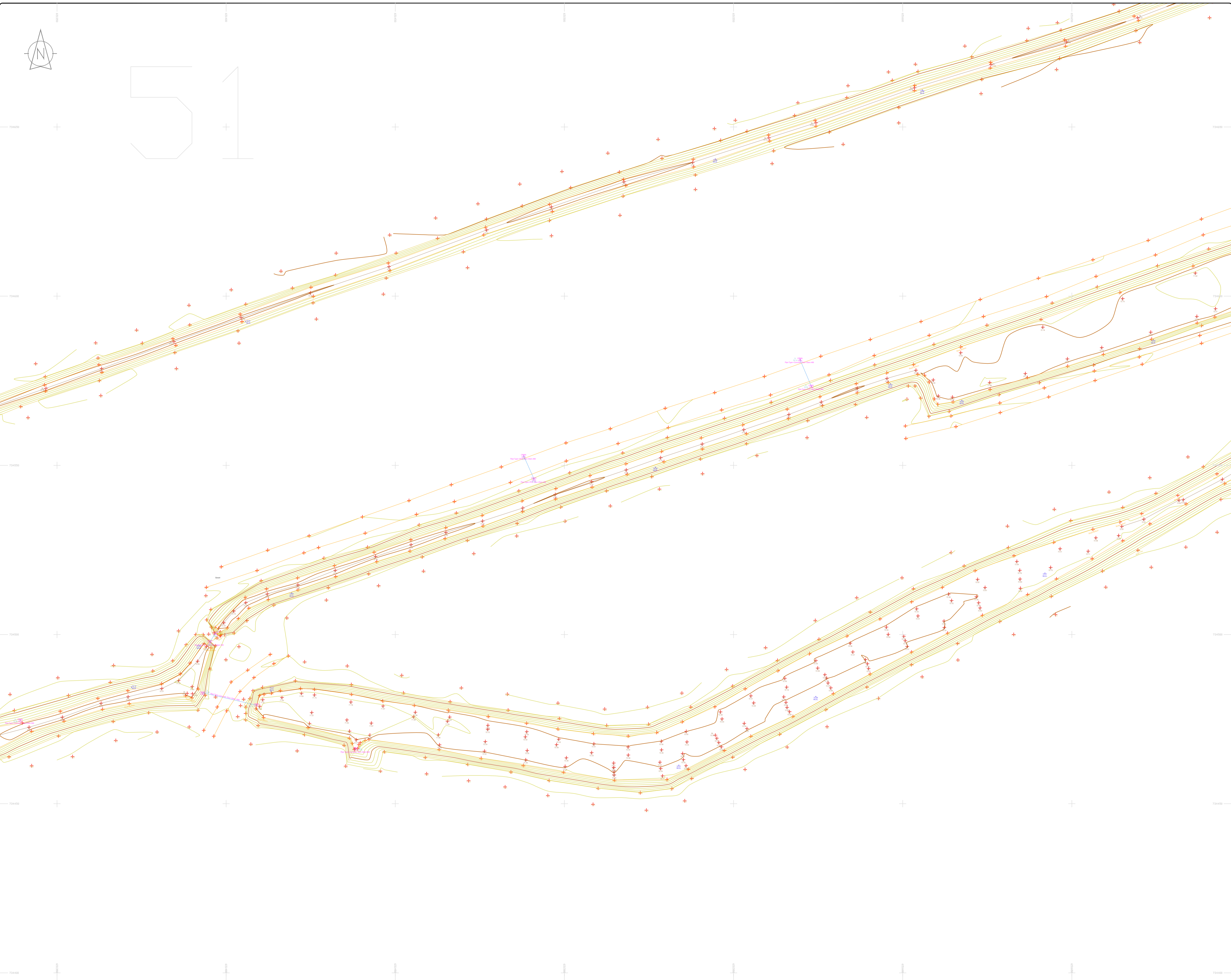
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Phone: (+353) 045 484040  
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 Email: info@murphyge.ie

<b>Client :</b>	AECOM Dublin
<b>Project :</b>	BNN Site Derrygreenagh Rhode
<b>Date :</b>	26.07.2023
<b>Scale :</b>	1:500@A1
<b>Description :</b>	Topographical Survey
<b>Drawing Number :</b>	MGS52335_T_ITM_Rev2-50





### LEGEND

#### Street furniture & Services

Over Head Wires (LUAS) - Pylon ESB	Street Light	Phone Box
Powerbed	Ballast	Bench Seat
Pipe	Beacon	Keek
Lift	Coalhole Cover	Waste Bin
Barrier	Bore Hole	Hydrant
Pump	Electricity Pole	Fire Hydrant
Trail Pit	Telegraph pole	ESS Box
Bus/Tram Shelter	OCS Pole	ESS Inspection Cover
Postbox	CCTV Camera Pole	Traffic Control Box
Water - General	Lamp Post	Traffic Control Box
Water Valve	Gas Valve	LIAS Technical Cubicle
Gas Valve	Surface Water MH	Ticket Vending Machine
Sluice Valve	Surface Water MH	Water Meter Cover
Air Valve	Manholes	Water Meter Cover
Stop Cook	Air Conditioning Vents	Telecom Inspection Cover
C/P Post	Services Inspection Cover	Monument / Toilets
Marker Post	Traffic Inspection Cover	Tank Storage
Marker Post	Cable TV Inspection Cover	Basement MH Cover & Pipe
Parking Meter	ESAT Inspection Cover	Disposal Aerial Mark
Flare Aerial Mark	NFL Inspection Cover	Stay for pole
Smart Card Validator	Elcom Inspection Cover	Stay for pole
Unknown Valve	Rocking Eye	Washout

#### Natural Features

Surface Change	Water Level	Golf
Land Drain	Down Level	Fair Way
Bottom of Slope	Invert level	Green
Top of Slope	Bed Level	Tea Box
Ditch	Spotheight	Other
Water Edge / Lake / Pond	Survey Station	Photo point
Hedge / Trees Drip Line / Vegetation	Tree Deciduous	Top of Tree

#### Built Features

##### Roads & Road Markings

Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Soft Level
Bridge Deck	Property Line	Step Level
Bridge Pierhead	Road Sign	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform / Tram	Wall / Retaining Wall	
Damp Proof Course / Verge	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

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Site Location

Map Sheet Layout

Map Sheet 0000

Drawn by: ST	Date: 26.07.2023	Datum: Irish National Grid	Main Head
Checked by: PK	Date: 26.07.2023	Grid System: Irish National Grid	ITM 2
Revisions			
0	26.07.2023	First Drawing	
1	08.08.2023	Layouts added	
2	06.09.2023	Additional road survey added	



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Client : AECOM Dublin

Project : BNM Site Derrygreenagh Rhode

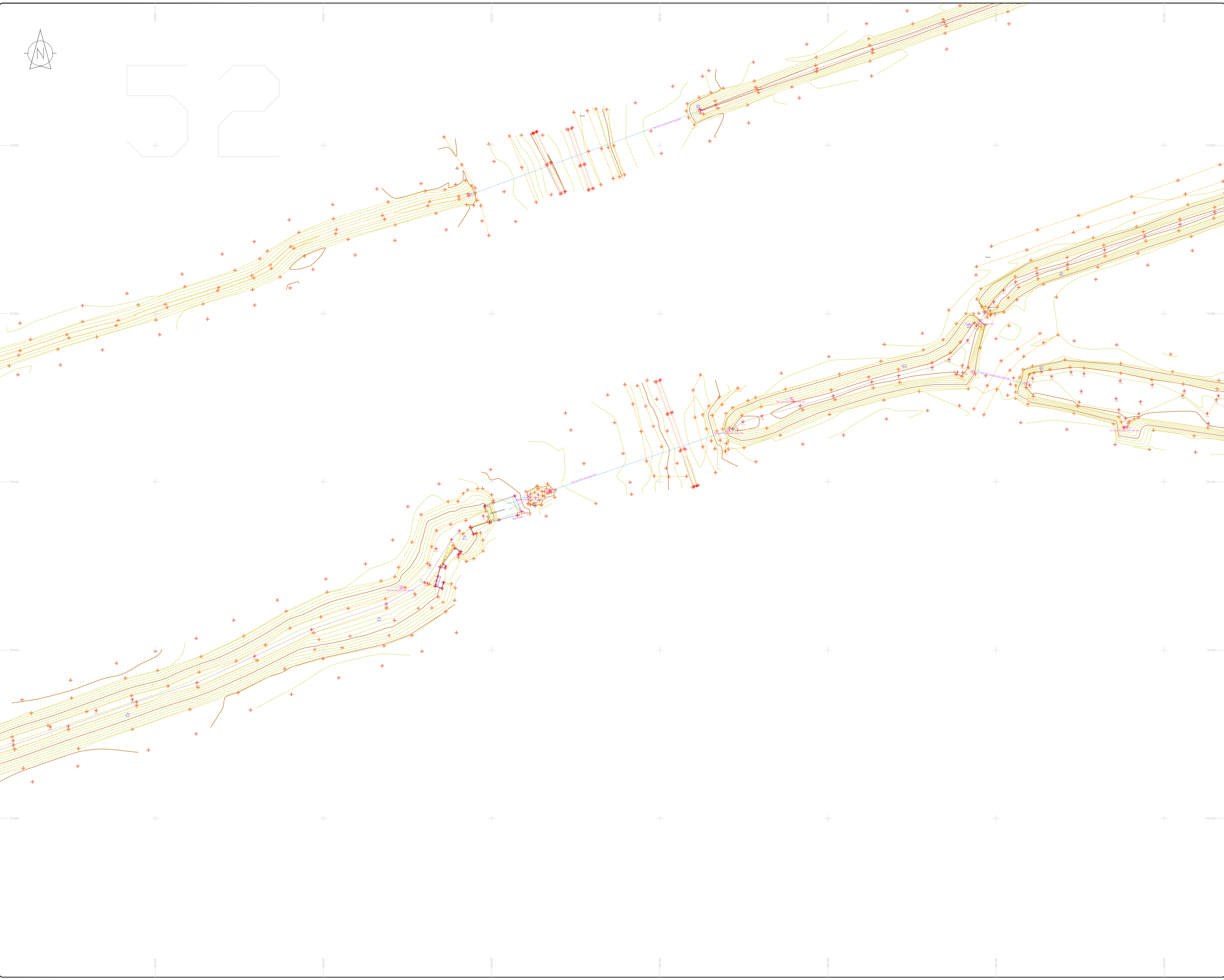
Date : 26.07.2023 Scale : 1:500@A1

Description : Topographical Survey

Drawing Number : MGS52335\_T\_ITM\_Rev2-51

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**LEGEND**  
**Street furniture & Services**

Over Head Wires (LUAS) - Pylon ESB	Phone Box
Powerbed	Bench Seat
Bus Stop	Bus Stop
Pipe	Keek
Light	Gully
Barrier	Waste Bin
Pump	Waste Bin
Trial Pit	Hydrant
Bus/Tram Shelter	Fire Hydrant
Postbox	ESS Box
Water - General	Water Inspection Cover
Water Valve	Traffic Control Box
Gas Valve	LUAS Technical Cubicle
Sluice Valve	Ticket Vending Machine
Air Valve	Water Meter Cover
Stop Cook	Telecom Inspection Cover
C/P Post	Monument / Toilets
Marker Post	Tank Storage
Tracker Light	Basement MH Cover & Pipe
Parking Meter	Street Light
Pole Area Mark	Stay for pole
Smart Card Validator	Stay for pole
Unknown Valve	Washout

**Natural Features**

Surface Change	Water Level	Golf
Land Drain	Down Level	Fair Way
Bottom of Slope	Invert level	Green
Top of Slope	Bed Level	Tree Box
Ditch	Spotheight	Other
Water Edge / Lake / Pond	Survey Station	Photo point
Hedge / Trees Drip Line / Vegetation	Top of Tree	
Tree Contourous		

**Built Features**  
**Roads & Road Markings**

Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Softly Elevation
Bridge Deck	Property Line	Slope Level
Bridge Pier/Abut	Road Box	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform Train & Tram	Wall / Retaining Wall	
Damp Proof Course / Verge	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

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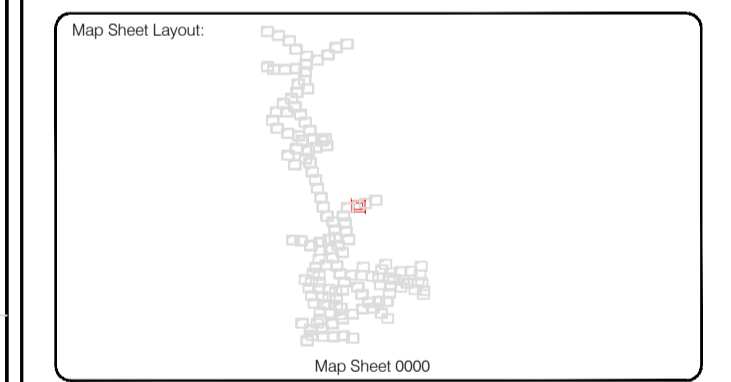
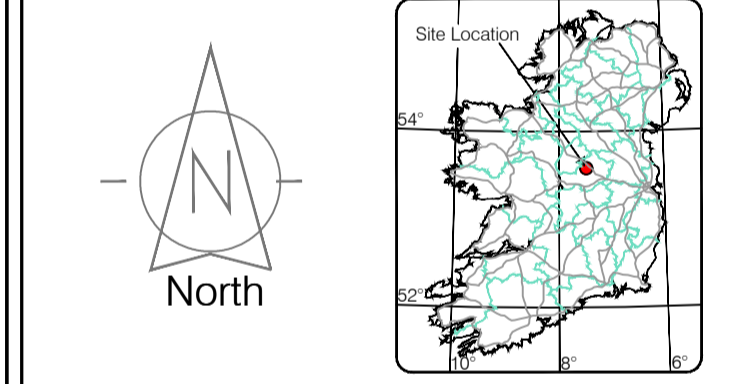
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Surveyed by: ST	Date: 26/07/2023	Datum: Irish National Grid	Main Head
Drawn by: ST	Date: 26/07/2023	Grid System: Irish National Grid	ITM 8
Checked by: PK	Date: 26/07/2023		

No	Date	Description	Revisors
0	26.07.2023	First Drawing	
1	08.08.2023	Layouts added	
2	06.09.2023	Additional road survey added	



Topographic surveys, Measured Building Surveys, Setting-out, As-Built Surveys, Hydrographic Surveys, Legal Mapping, Pipeline Surveys, Service Location, Ground Penetrating Radar, Laser Scanning, Aerial Photography

**Kildare Cork Dublin Belfast Glasgow Manchester London**

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Kilcullen Co. Kildare, Ireland

Phone: (+353) 045 484040  
Fax: (+353) 045 484004  
Email: info@murphyge.ie

<b>Client :</b>	AECOM Dublin
<b>Project :</b>	BNN Site Derrygreenagh Rhode
<b>Date :</b>	26.07.2023
<b>Scale :</b>	1:500@A1
<b>Description :</b>	Topographical Survey
<b>Drawing Number :</b>	MGS52335_T_ITM_Rev2-52





**LEGEND**  
Street furniture & Services

Over Head Wires (LUAS) - Pylon ESB	Street Sign	Phone Box
Powerbed	Bench Seat	Duct
Pipe	Ballast	Keek
Lift	Beacon	Gully
Barrier	Coalhole Cover	USG Car Park Vent
Pump	Bore Hole	Waste Bin
Trial Pit	Electricity Pole	Hydrant
Bus/Tram Shelter	Telegraph pole	Fire Hydrant
Postbox	OCS Pole	ESS Box
Water - General	CCTV Camera Pole	ESB Inspection Cover
Water Valve	Lamp Post	Traffic Control Box
Gas Valve	Foul Manhole	LUAS Technical Cubicle
Sluice Valve	Surface Water MH	Ticket Vending Machine
Air Valve	Manholes	Water Meter Cover
Stop Cook	Air Conditioning Vents	Telecom Inspection Cover
C/P Post	Services Inspection Cover	Monument / Toilets
Marker Post	Traffic Inspection Cover	Tank Storage
Traffic Light	Cable TV Inspection Cover	Basement MH Cover & Pipe
Parking Meter	ESAT Inspection Cover	Dead End Mark
Plane Assent Mark	NL Inspection Cover	Stay for pole
Smart Card Validator	Elcom Inspection Cover	PP
Unknown Valve	Rocking Eye	Washout

**Natural Features**

Surface Change	Water Level	Golf
Land Drain	Crown Level	Fair Way
Bottom of Slope	Invert level	Green
Top of Slope	Bed Level	Tea Box
Ditch	Spotheight	Other
Water Edge / Lake / Pond		Survey Station
Hedge / Trees Drip Line / Vegetation		Photo point
Tree Coniferous	Tree Deciduous	Top of Tree

**Built Features**

**Roads & Road Markings**

Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Soft Elevation
Bridge Deck	Property Line	Step Level
Bridge Pierhead	Road Box	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform Train & Tram	Wall / Retaining Wall	
Damp Proof Course / Verge	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pile / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

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**Map Sheet Layout**

Map Sheet 0000

Drawn by: ST	Date: 26.07.2023	Date: 26.07.2023	Date: 26.07.2023
Checked by: PK	Date: 26.07.2023	Date: 26.07.2023	Date: 26.07.2023

Revisions

No.	Date	Description
0	26.07.2023	Final Drawing
1	08.08.2023	Layouts added
2	06.09.2023	Additional road survey added

Drawn by: ST	Date: 26.07.2023	Date: 26.07.2023	Date: 26.07.2023
Checked by: PK	Date: 26.07.2023	Date: 26.07.2023	Date: 26.07.2023

Revisions

No.	Date	Description
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Drawn by: ST	Date: 26.07.2023	Date: 26.07.2023	Date: 26.07.2023
Checked by: PK	Date: 26.07.2023	Date: 26.07.2023	Date: 26.07.2023

Revisions

No.	Date	Description
0	26.07.2023	Final Drawing
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Phone: (+353) 045 484040  
Fax: (+353) 045 484004  
Email: info@murphyge.ie

<b>Client:</b>	AECOM Dublin
<b>Project:</b>	BNN Site Derrygreenagh Rhode
<b>Date:</b>	26.07.2023
<b>Scale:</b>	1:500@A1
<b>Description:</b>	Topographical Survey
<b>Drawing Number:</b>	MGS52335_T_ITM_Rev2-53

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**LEGEND**  
Street furniture & Services

Over Head Wires (LUAS) - Pylon ESB	Street Sign	Phone Box
Powerbed	Bench Seat	Duct
Pipe	Keek	Gas Cover
Lit	Gully	C/P Box
Barrier	Waste Bin	USG Car Park Vex
Pump	Hydrant	Fire Hydrant
Trail Pit	Electricity Pole	Hydrant
Bus/Tram Shelter	Telegraph pole	Fire Hydrant
Postbox	OCS Pole	ESB Box
Water - General	OCTV Camera Pole	ESB Inspection Cover
Water Valve	Lamp Post	Traffic Control Box
Gas Valve	Foul Manhole	LUAS Technical Cubicle
Sluice Valve	Surface Water MH	Ticket Vending Machine
Air Valve	Manholes	Water Meter Cover
Stop Cook	Air Conditioning Vents	Telecom Inspection Cover
C/P Post	Services Inspection Cover	Monument / Toilets
Marker Post	Traffic Inspection Cover	Tank Storage
Marker Light	Cable TV Inspection Cover	Basement MH Cover & Pipe
Parking Meter	ESAT Inspection Cover	Disposal Aerial Mark
Plane Area Mark	N/L Inspection Cover	Stay for pole
Smart Card Validator	EScom Inspection Cover	Stay for pole
Unknown Valve	Rocking Eye	PP
		Washout

**Natural Features**

Surface Change	Water Level	Golf
Land Drain	Crown Level	Fair Way
Bottom of Slope	Invert level	Green
Top of Slope	Bed Level	Tea Box
Ditch	Spotheight	Other
Water Edge / Lake / Pond		Survey Station
Hedge / Trees Drip Line / Vegetation		Photo point
Tree Coniferous	Tree Deciduous	Top of Tree

**Built Features**  
Roads & Road Markings

Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Soft Elevation
Bridge Deck	Property Line	Step Level
Bridge Parapet	Road Sign	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform Train & Tram	Wall / Retaining Wall	
Damp Proof Course / Verge	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

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**Map Sheet Layout**

Map Sheet 0000

Drawn by: ST	Date: 26.07.2023	Datum: Irish National Grid	Main Head
Checked by: PK	Date: 26.07.2023	Grid System: Irish National Grid	ITM 8

No	Date	Description	Revisions
0	26.07.2023	Final Drawing	
1	08.08.2023	Layouts added	
2	06.09.2023	Additional road survey added	

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Kilcullen Co. Kildare, Ireland

**Phone:** (+353) 045 484040  
**Fax:** (+353) 045 484004  
**Email:** info@murphyge.ie

**Client:** AECOM Dublin

**Project:** BNM Site Derrygreenagh Rhode

**Date:** 26.07.2023 **Scale:** 1:500@A1

**Description:** Topographical Survey

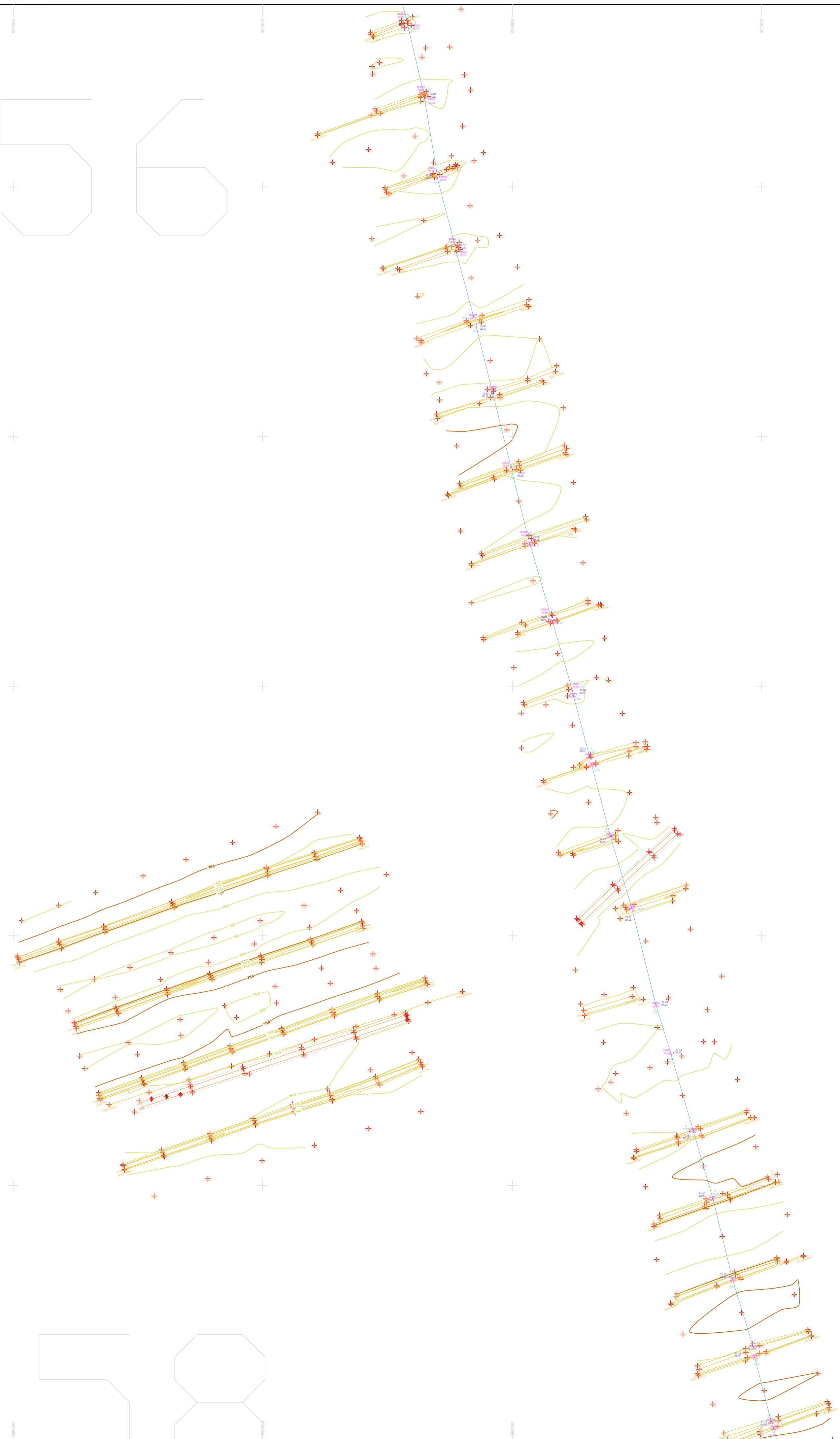
**Drawing Number:** MGS52335\_T\_ITM\_Rev2-54

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LEGEND

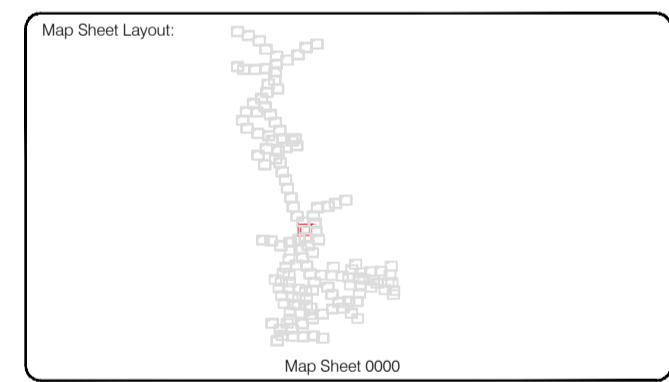
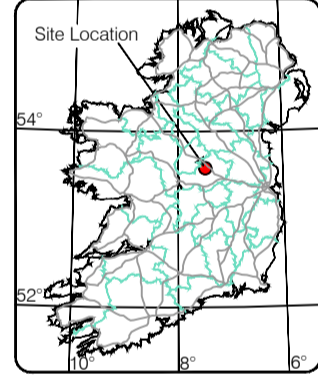
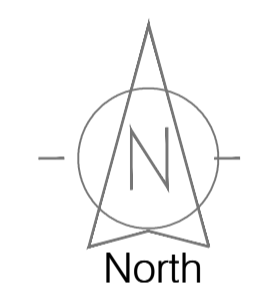
- Over Head Wires (LUAS) - Pylon ESB
- Powerbed
- Pipe
- Lift
- Barrier
- Pump
- Trial Pit
- Bus/Tram Shelter
- Postbox
- Water - General
- Water Valve
- Gas Valve
- Sluice Valve
- Air Valve
- Stop Cook
- C/P Post
- Marker Post
- Traffic Light
- Parking Meter
- Flare Asset Mark
- Smart Card Validator
- Unknown Valve
- Surface Change
- Land Drain
- Bottom of Slope
- Top of Slope
- Ditch
- Water Edge / Lake / Pond
- Hedge / Trees Drip Line / Vegetation
- Tree Coniferous
- Tree Deciduous
- Top of Tree
- Natural Features
- Water Level
- Fair Way
- Green
- Tea Box
- Other
- Survey Station
- Photo point
- Built Features
- Roads & Road Markings
- Fence
- Floor Level
- Apex Height
- Eaves Height
- Parapet Height
- Soft Elevation
- Slope Level
- Concrete Pad
- Track
- Wall / Retaining Wall
- Railway / Tram Rail / Gating / Ramp
- Building Canopy / Roof / Overhang
- Cycleway / Private Landing Area

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Reviewed by: ST	Date: 26.07.2023	Datum: Irish National Grid	Main Head
Drawn by: ST	Date: 26.07.2023	Grid System: Irish National Grid	ITM 98
Checked by: PK	Date: 26.07.2023		

Revisions	
No.	Description
0	First Drawing
1	Layouts added
2	Additional road survey added



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**Head Office**  
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 Kluicullen Co. Kildare, Ireland

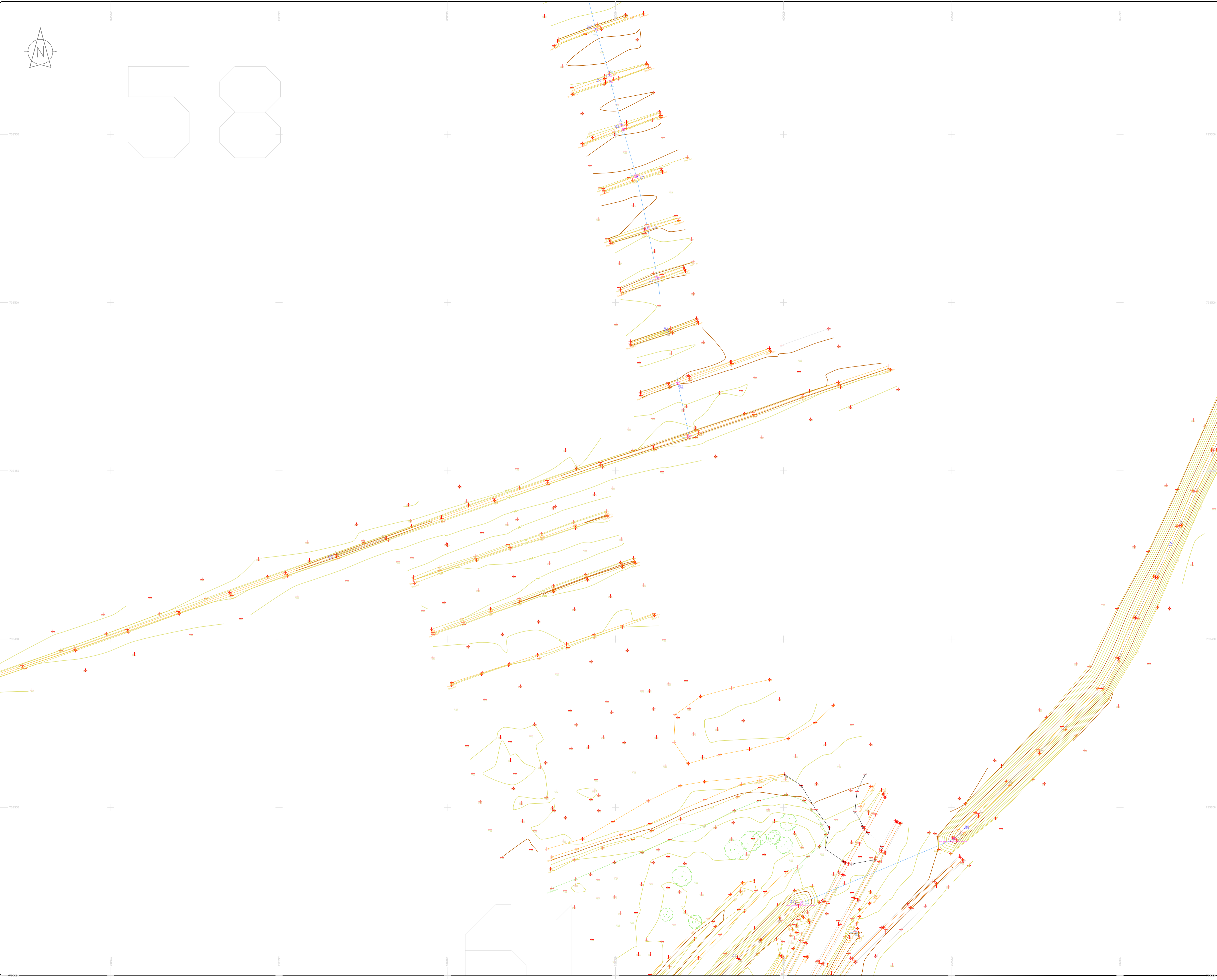
Phone: (+353) 045 484040  
 Fax: (+353) 045 484004  
 Email: info@murphyge.ie

<b>Client :</b>	AECOM Dublin
<b>Project :</b>	BNN Site Derrygreenagh Rhode
<b>Date :</b>	26.07.2023
<b>Scale :</b>	1:500@A1
<b>Description :</b>	Topographical Survey
<b>Drawing Number :</b>	MGS52335_T_ITM_Rev2-56









### LEGEND

#### Street furniture & Services

Over Head Wire (LUAS) - Pylon ESB	Bus Stop	Road Sign	Phone Box
Flowerbed	Bollard	Bench Seat	Duct
Pipe	Beacon	Kiosk	Gas Cover
Lift	Coastline Cover	Gully	Cable Box
Barrier	Bore Hole	UG Ver	UG Car Park Vent
Pump	Electricity Pole	Hydrant	Waste Bin
Trail Pit	Telegraph pole	Fire Hydrant	
Bus/Tram Shelter	CCTV Pole	ESB Box	
Postbox	CCTV Camera Pole	ESB Inspection Cover	
Valve - General	Lamp Post	Traffic Control Box	
Water Valve	Foul Manhole	LUAS Technical Cubicle	
Gas Valve	Surface Water MH	Ticket Vending Machine	
Sluice Valve	Manholes	Water Meter Cover	
Air Valve	Air Conditioning Vents	Telecom Inspection Cover	
Stop Cock	Services Inspection Cover	Monument / Toilets	
C/P Post	Traffic Inspection Cover	Tank Storage	
Meter Post	Cable TV Inspection Cover	Basement MH Cover & Pipe	
Motor Light	ESAT Inspection Cover	Dissect Aerial Mark	
Parking Meter	NTL Inspection Cover	Stay for pole	
Smart Card Validator	Encom Inspection Cover	Pipe Protection	
Unknown Valve	Rodding Eye	Washout	

#### Natural Features

Surface Change	Water Level	Fair Way
Land Drain	Crown Level	Green
Bottom of Slope	Invert level	Tree Box
Top of Slope	Bed Level	Other
Ditch	Spotheight	Survey Station
Water Edge / Lake / Pond		Photo point
Hedge / Trees Dip Line / Vegetation		
Tree Coniferous	Tree Deciduous	Top of Tree

#### Built Features

##### Roads & Road Markings

Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hardening	Soft Elevation
Bridge Deck	Property Line	Step Level
Bridge Pier	Road Scar	Concrete Pad
Building Façade	Top of Fence	Track
Footpath / Platform Train & Tram	Wall / Retaining Wall	
Damp Proof Course / Verge	Railway / Tram Rail / Grating / Ramp	
Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cyclway / Private Landing Area		

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North

Map Sheet Layout:

Map Sheet 0000

Drawn by	ST	Date	26/07/2023	Datum	Main Head
Checked by	PK	Date	26/07/2023	Grid System	Irish National Grid

No	Date	Description
0	26/07/2023	First Drawing
1	08/08/2023	Layouts added
2	09/09/2023	Additional road survey added

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**Client:** AECOM Dublin

**Project:** BNM Site Derrygreenagh Rhode

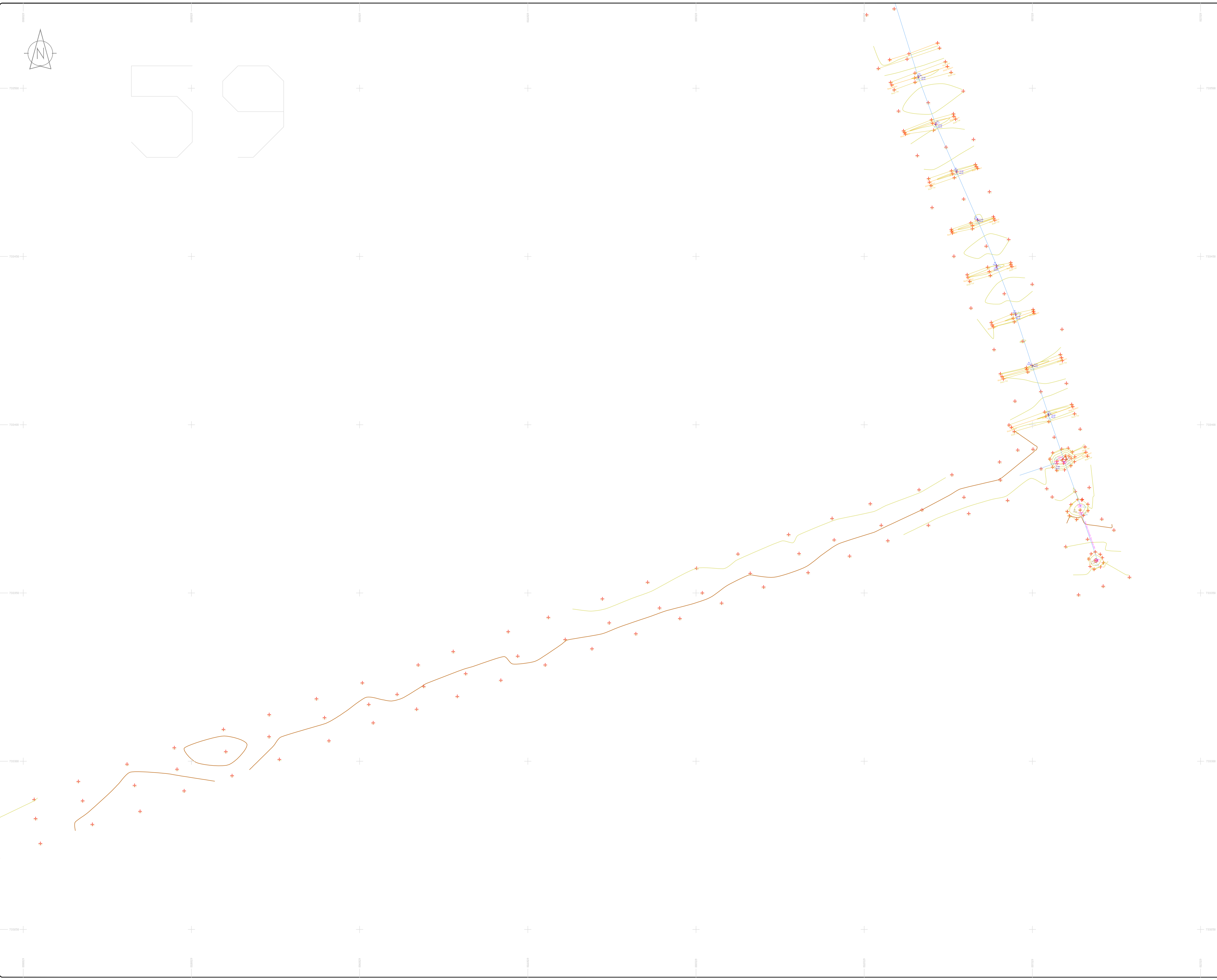
**Date:** 26.07.2023 **Scale:** 1:500@A1

**Description:** Topographical Survey

**Drawing Number:** MGS52335\_T\_ITM\_Rev2-58

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**LEGEND**  
Street furniture & Services

Over Head Wires (LUAS) - Pylon ESB	Ball Sign	Road Sign	Phone Box
Powerbed	Ballast	Bench Seat	Duct
Pipe	Beacon	Keek	Gas Cover
Light	Coalhole Cover	Gully	CP Box
Barrier	Boys Hole	Waste Bin	USG Car Park Sign
Pump	Electricity Pole	Hydrant	Fire Hydrant
Bus/Tram Shelter	Telegraph pole	Fire Hydrant	Fire Hydrant
Postbox	OCS Pole	ESS Box	ESS Box
Water - General	OCTV Camera Pole	ESS Inspection Cover	ESS Inspection Cover
Water Valve	Lamp Post	Trails Control Box	Trails Control Box
Gas Valve	Foul Manhole	LUAS Technical Cubicle	LUAS Technical Cubicle
Sluice Valve	Surface Water MH	Water Meter Cover	Water Meter Cover
Air Valve	Manholes	Water Meter Cover	Water Meter Cover
Stop Cook	Air Conditioning Vents	Telecom Inspection Cover	Telecom Inspection Cover
C/P Post	Services Inspection Cover	Monument / Toilets	Monument / Toilets
Marker Post	Traffic Inspection Cover	Tank Storage	Tank Storage
Traffic Light	Cable TV Inspection Cover	Basement MH Cover & Pipe	Basement MH Cover & Pipe
Parking Meter	ESAT Inspection Cover	Basement MH Cover & Pipe	Basement MH Cover & Pipe
Plane Asses Mark	NL Inspection Cover	Stay for pole	Stay for pole
Smart Card Validator	Elcom Inspection Cover	PP	Pipe Protection
Unknown Valve	Rocking Eye	Washout	Washout

**Natural Features**

Surface Change	Water Level	Fair Way
Land Drain	Down Level	Green
Bottom of Slope	Invert level	Tree Box
Top of Slope	Bed Level	Other
Ditch	Spotheight	Survey Station
Water Edge / Lake / Pond		Photo point
Hedge / Trees Drip Line / Vegetation		
Tree Coniferous	Tree Deciduous	Top of Tree

**Built Features**  
Roads & Road Markings

Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Soffit Elevation
Bridge Deck	Property Line	Step Level
Bridge Pierhead	Road Sign	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform Train & Tram	Wall / Retaining Wall	
Damp Proof Course / Verge	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

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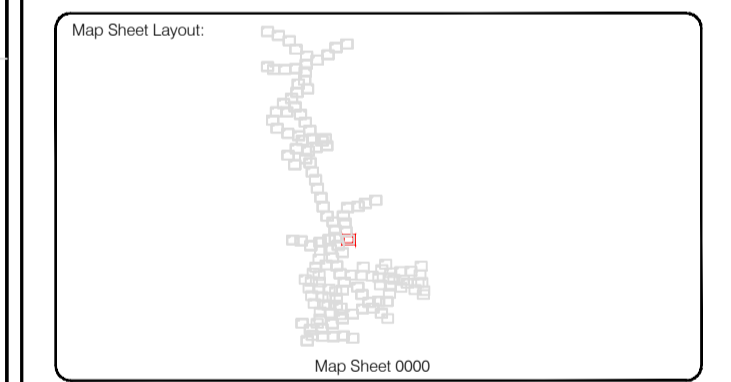
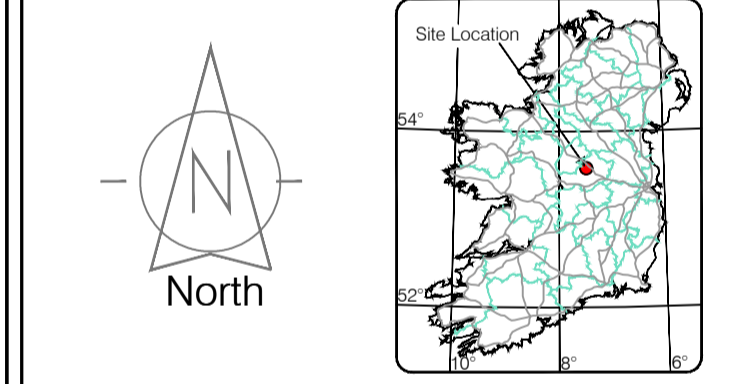
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Drawn by: ST	Date: 26.07.2023	Grid System: Irish National Grid	ITM 8
Checked by: PK	Date: 26.07.2023		

No	Date	Description	Revisions
0	26.07.2023	First Drawing	
1	08.08.2023	Layouts added	
2	06.09.2023	Additional road survey added	



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Email: info@murphy.ie

<b>Client :</b>	AECOM Dublin
<b>Project :</b>	BNN Site Derrygreenagh Rhode
<b>Date :</b>	26.07.2023
<b>Scale :</b>	1:500@A1
<b>Description :</b>	Topographical Survey
<b>Drawing Number :</b>	MGS52335_T_ITM_Rev2-59

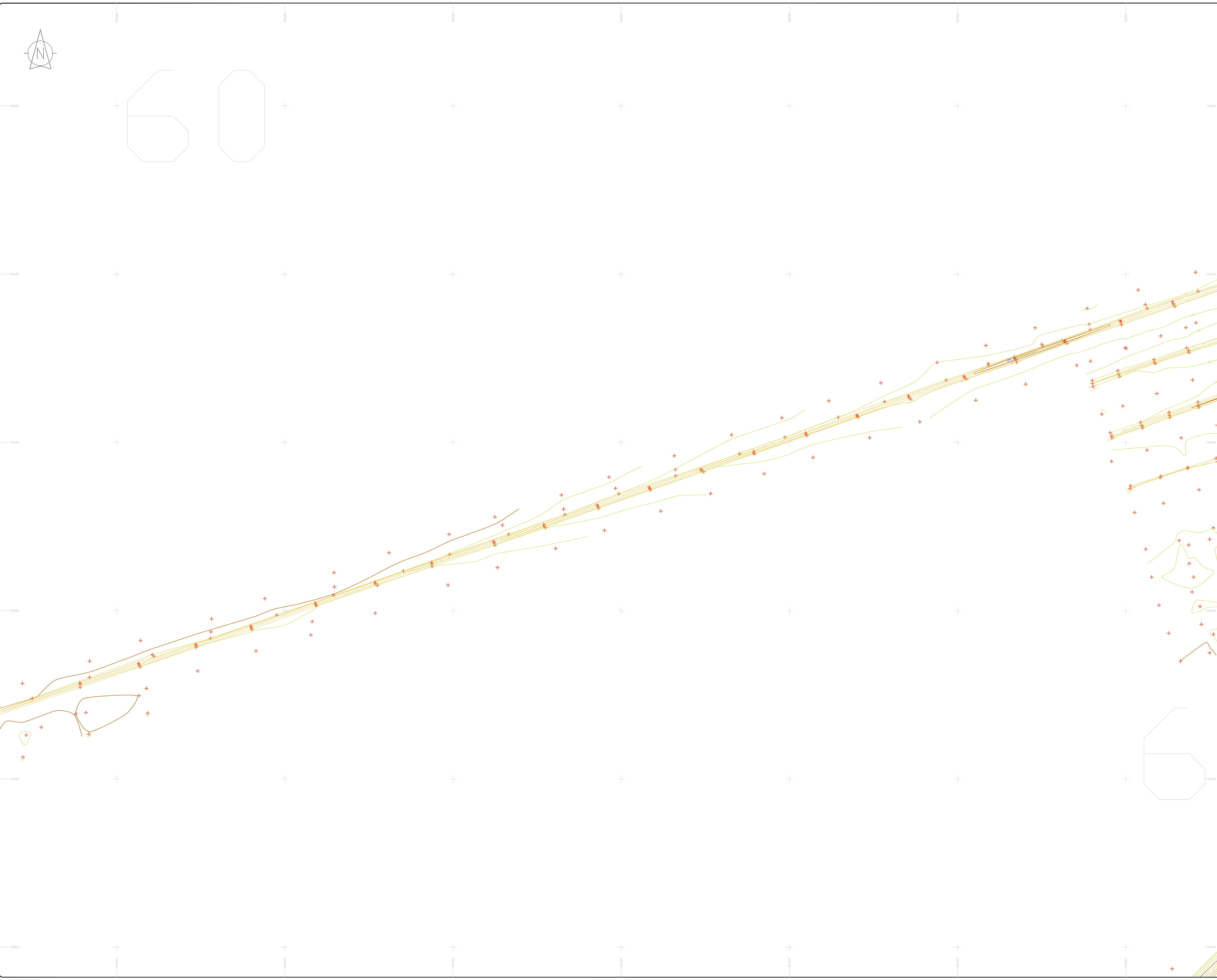
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LEGEND

- Street furniture & Services**
- Over Head Wires (LUAS) - Pylon ESB
  - Powerbed
  - Pipe
  - Lit
  - Barrier
  - Pump
  - Bus/Tram Shelter
  - Postbox
  - Water - General
  - Water Valve
  - Gas Valve
  - Sluice Valve
  - Air Valve
  - Stop Cock
  - C/P Post
  - Marker Post
  - Traffic Light
  - Parking Meter
  - Plane Asset Mark
  - Smart Card Validator
  - Unknown Valve
  - Ballast
  - Beacon
  - Coalhole Cover
  - Bore Hole
  - Electricity Pole
  - OCCV Camera Pole
  - Lamp Post
  - Foul Manhole
  - Surface Water MH
  - Manholes
  - Air Conditioning Vents
  - Services Inspection Cover
  - Traffic Inspection Cover
  - Cable TV Inspection Cover
  - ESAT Inspection Cover
  - NL Inspection Cover
  - Elcom Inspection Cover
  - Rolling Eye
  - Bench Seat
  - Duct
  - Keok
  - Gas Cover
  - Gully
  - C/P Box
  - Waste Bin
  - Hydrant
  - Fire Hydrant
  - ESB Box
  - ESB Inspection Cover
  - Traffic Control Box
  - LUAS Technical Cubicle
  - Water Meter Cover
  - Telecom Inspection Cover
  - Monument / Toilets
  - Tank Storage
  - Basement MH Cover & Pipe
  - Disjunct Aerial Mark
  - Stay for pole
  - Pipe Protection
  - Washout
- Natural Features**
- Surface Change
  - Land Drain
  - Bottom of Slope
  - Top of Slope
  - Ditch
  - Water Edge / Lake / Pond
  - Hedge / Trees Drip Line / Vegetation
  - Tree Coniferous
  - Water Level
  - Crown Level
  - Invert level
  - Bed Level
  - Spotheight
  - Top of Tree
- Built Features**
- Roads & Road Markings**
- Building
  - Edge of Road
  - Kerb Bottom
  - Kerb Top
  - Bridge Abutment
  - Bridge Deck
  - Bridge Pier
  - Building Facade
  - Footpath / Platform Train & Tram
  - Damp Proof Course / Verge
  - Bridge Pier / Wall & Gate Pillar / LUAS Trackbed
  - Cycleway / Private Landing Area
  - Fence
  - Gate
  - Road Centreline
  - Top of Wall
  - Hoarding
  - Property Line
  - Road Spur
  - Top of Fence
  - Wall / Retaining Wall
  - Railway / Tram Rail / Gating / Ramp
  - Building Canopy / Roof / Overhang
  - Floor Level
  - Apex Height
  - Eaves Height
  - Parapet Height
  - Soffit Elevation
  - Step Level
  - Concrete Pad
  - Track



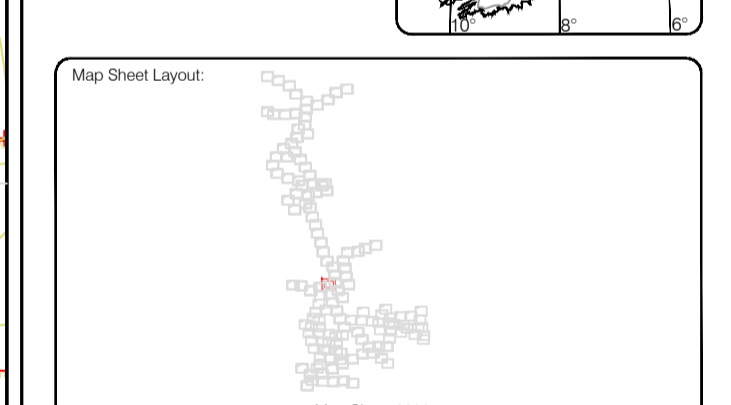
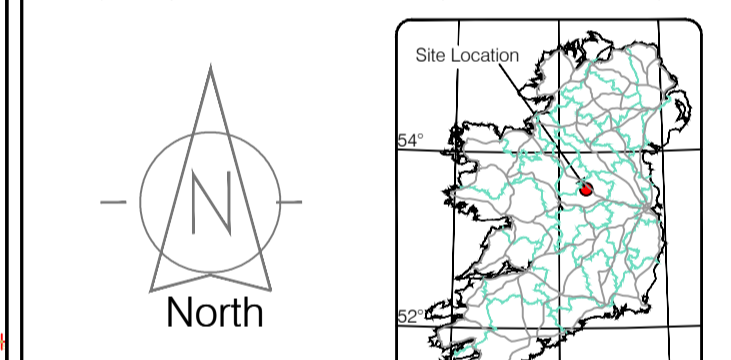
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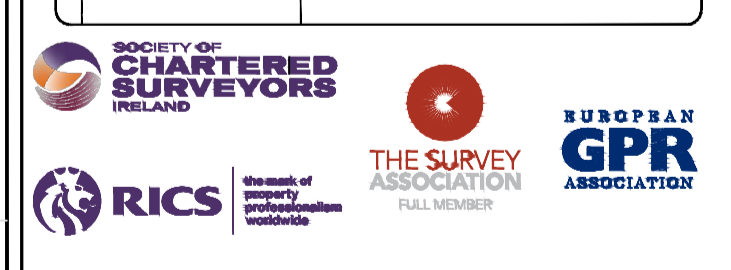
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Site Location



Reviewed by: ST	Date: 26/07/2023	Date: 26/07/2023	Date: 26/07/2023
Drawn by: ST	Date: 26/07/2023	Date: 26/07/2023	Date: 26/07/2023
Checked by: PK	Date: 26/07/2023	Date: 26/07/2023	Date: 26/07/2023



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**Client:** AECOM Dublin

**Project:** BNM Site Derrygreenagh Rhode

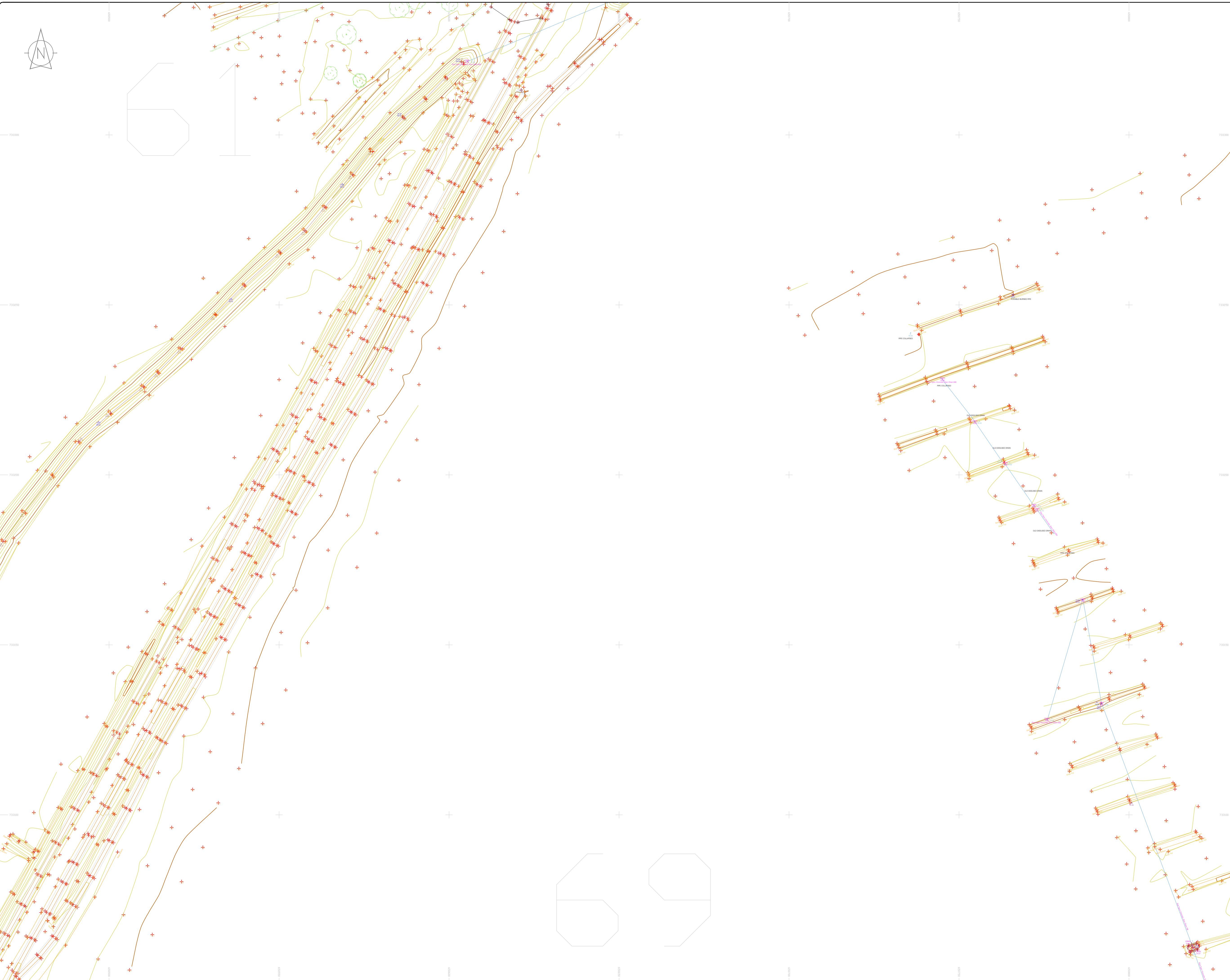
**Date:** 26.07.2023 **Scale:** 1:500@A1

**Description:** Topographical Survey

**Drawing Number:** MGS52335\_T\_ITM\_Rev2-60

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### LEGEND

#### Street furniture & Services

Over Head Wires (LUAS) - Pylon ESB	Bus Stop	Phone Box
Flowerbed	Bench Seat	Duct
Pipe	Boiler	Kiosk
Lift	Beacon	Guilty
Barrier	Crash Cover	UG Car Park Vent
Pump	Bore Hole	Waste Bin
Trail Pit	Electric Pole	Hydrant
Bus/Tram Shelter	Telegraph pole	Free Hydrant
Postbox	Electric Pole	Fire Box
Water Valve - General	CCTV Camera Pole	ESS Inspection Cover
Gas Valve	Lamp Post	Traffic Control Box
Sluice Valve	Four Manhole	LUAS Technical Cubicle
Air Valve	Surface Water MH	Water Meter Cover
Stop Cock	Manholes	Water Meter Cover
C/P Post	Air Conditioning Vents	Telecom Inspection Cover
Marker Post	Services Inspection Cover	Monument / Toilets
Traffic Light	Traffic Inspection Cover	Tank Storage
Parking Meter	Cable TV Inspection Cover	Basement, MH, Cover & Pipe
Plane Aerial Mark	ESAT Inspection Cover	Dated Aerial Mark
Smart Card Validator	NTL Inspection Cover	Stay for pole
Unknown Valve	Escom Inspection Cover	PP
	Rodding Eye	Washout

#### Natural Features

Surface Change	Water Level	Fair Way
Land Drain	Clown Level	Green
Bottom of Slope	Invert level	Teal Box
Top of Slope	Bed Level	Other
Ditch	Spotheight	Survey Station
Water Edge / Lake / Pond		Photo point
Hedge / Trees Dip Line / Vegetation		
Tree Coniferous	Tree Deciduous	Top of Tree

#### Built Features

##### Roads & Road Markings

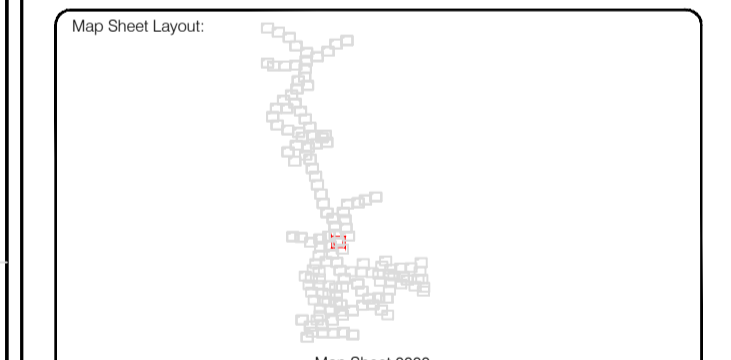
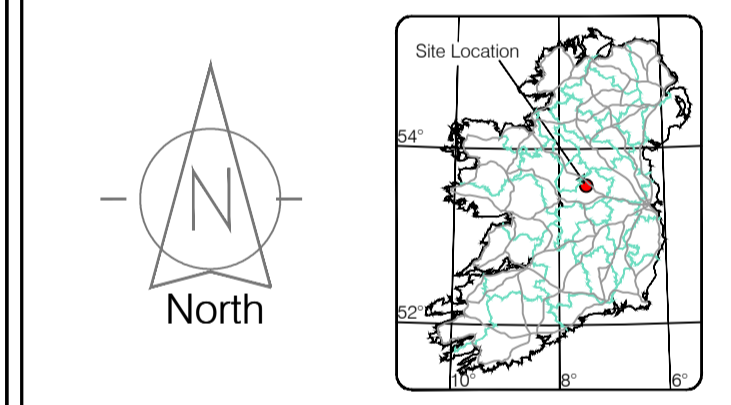
Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Sub Elevation
Bridge Deck	Property Line	Shop Level
Bridge Pier/Post	Road Scar	Concrete Post
Building Facade	Top of Fence	Track
Footpath / Platform Train / Tram	Wall / Retaining Wall	
Damp Proof Course / Verge	Railway / Tram Rail / Grating / Ramp	
Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cyclway / Private Landing Area		

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Approved by: ST	Date: May/June 2023	Datum: Mean Head
Drawn by: ST	Date: June/July 2023	Grid System: Irish National Grid
Checked by: PK	Date: 26.07.2023	Irish National Grid: ITM 8

No.	Date	Description
0	26.07.2023	Field Drawing
1	08.08.2023	Layouts added
2	06.09.2023	Additional road survey added.

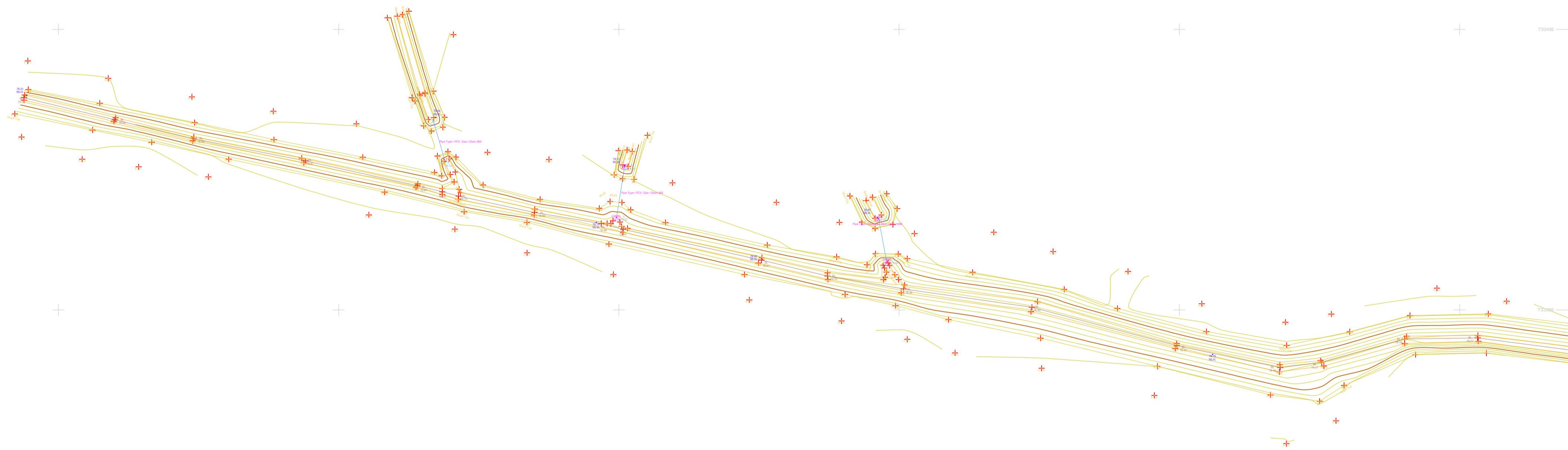
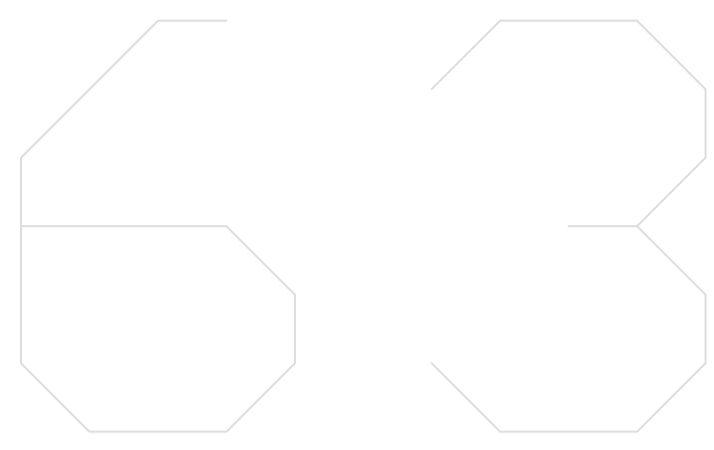


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**Phone:** (+353) 045 484040  
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**Email:** info@murphygs.ie

<b>Client:</b>	AECOM Dublin
<b>Project:</b>	BNN Site Derrygreenagh Rhode
<b>Date:</b>	26.07.2023
<b>Scale:</b>	1:500@A1
<b>Description:</b>	Topographical Survey
<b>Drawing Number:</b>	MQS52335_T_ITM_Rev2-61





**LEGEND**  
Street furniture & Services

Over Head Wires (LUAS) - Python ESB	Street Sign	Phone Box
Powerbed	Bench Seat	Duct
Pipe	Ballast	Keek
Light	Beacon	Gully
Barrier	Coalhole Cover	Waste Bin
Pump	Boys Hole	Waste Bin
Manhole	Electricity Pole	Hydrant
Bus/Tram Shelter	Telegraph pole	Fire Hydrant
Postbox	OCS Pole	ESS Box
Water - General	CCTV Camera Pole	ESS Inspection Cover
Water Valve	Lamp Post	Traffic Control Box
Gas Valve	Foul Manhole	LUAS Technical Cubicle
Sluice Valve	Surface Water MH	Ticket Vending Machine
Air Valve	Manholes	Water Meter Cover
Stop Cook	Air Conditioning Vents	Telecom Inspection Cover
C/P Post	Services Inspection Cover	Monument / Toilets
Marker Post	Traffic Inspection Cover	Tank Storage
Traffic Light	Cable TV Inspection Cover	Basement MH Cover & Pipe
Parking Meter	ESAT Inspection Cover	Disposal Aerial Mark
Plane Aerial Mark	NL Inspection Cover	Stay for pole
Smart Card Validator	Elcom Inspection Cover	Stay for pole
Unknown Valve	Rocking Eye	Washout

**Natural Features**

Surface Change	Water Level	Fair Way
Land Drain	Crown Level	Green
Bottom of Slope	Invert level	Tree Box
Top of Slope	Bed Level	Other
Ditch	Spotheight	Survey Station
Water Edge / Lake / Pond		Photo point
Hedge / Trees Drip Line / Vegetation		
Tree Coniferous	Tree Deciduous	Top of Tree

**Built Features**  
Roads & Road Markings

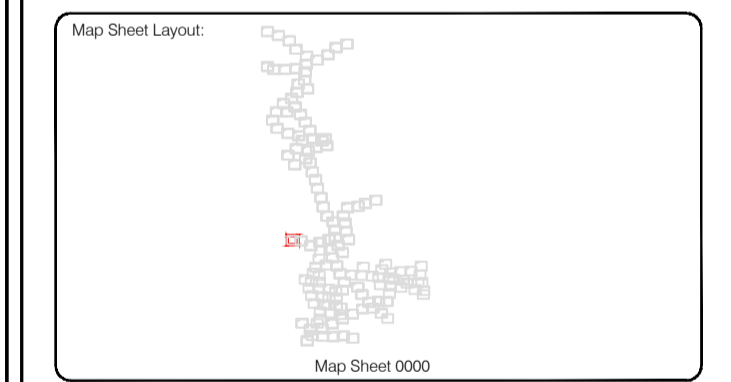
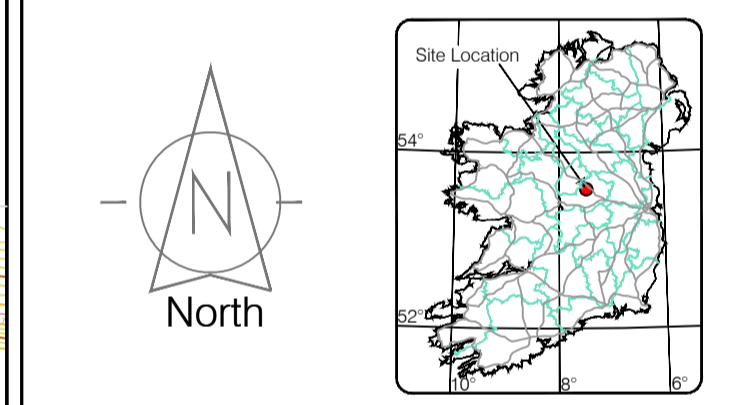
Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Soft Elevation
Bridge Deck	Property Line	Step Level
Bridge Pier/Abutment	Road Sign	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform Train & Tram	Wall / Retaining Wall	
Damp Proof Course / Verge	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pile / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

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Reviewed by: ST	Date: 26/07/2023	Datum: Irish National Grid	Main Head
Drawn by: ST	Date: 26/07/2023	Grid System: Irish National Grid	ITM 8
Checked by: PK	Date: 26/07/2023		

Revisions	
No	Description
0	26.07.2023 First Drawing
1	08.08.2023 Layouts added
2	06.09.2023 Additional road survey added



Topographic surveys, Measured Building Surveys, Setting-out, As-Built Surveys, Hydrographic Surveys, Legal Mapping, Pipeline Surveys, Heritage Location, Ground Penetrating Radar, Laser Scanning, Aerial Photography

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<b>Client :</b>	AECOM Dublin
<b>Project :</b>	BNN Site Derrygreenagh Rhode
<b>Date :</b>	26.07.2023
<b>Scale :</b>	1:500@A1
<b>Description :</b>	Topographical Survey
<b>Drawing Number :</b>	MGS52335_T_ITM_Rev2-63





LEGEND

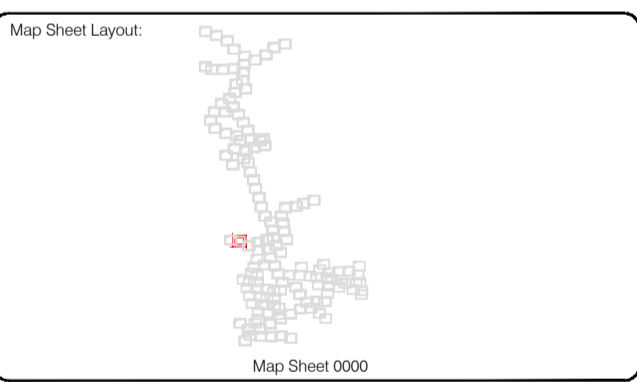
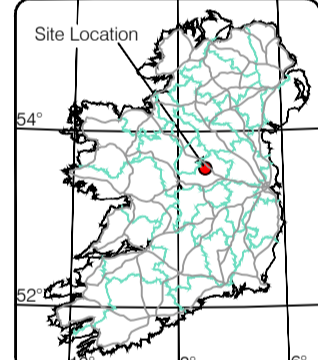
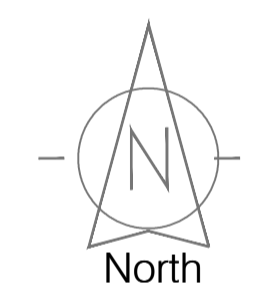
Street furniture & Services			
Over Head Wires (LUAS) - Pylon ESB	Ballast	Ballast	Phone Box
Powerbed	Ballast	Bench Seat	Duct
Ballast	Ballast	Keek	Gas Cover
Pipe	BEA Beacon	Gully	CP Box
Lift	CH Coalhole Cover	USG W	USG Car Park Vent
Barrier	BH Bore Hole	Waste Bin	Waste Bin
Pump	EP Electricity Pole	Hydrant	Hydrant
Bus/Tram Shelter	TP Telegraph pole	Fire Hydrant	Fire Hydrant
Postbox	OCS CCTV Camera Pole	ESS Box	ESS Box
Water - General	LP Lamp Post	TSB Inspection Cover	TSB Inspection Cover
Water Valve	Gas Valve	TSB Control Box	TSB Control Box
Gas Valve	SH Surface Water M/H	LUAS Technical Cubicle	LUAS Technical Cubicle
Sluice Valve	MH Manholes	Water Meter Cover	Water Meter Cover
Air Valve	AC Air Conditioning Vents	Telecom Inspection Cover	Telecom Inspection Cover
Stop Cook	ICM Services Inspection Cover	Monument / Toilets	Monument / Toilets
C P Post	KTG Traffic Inspection Cover	Tank Storage	Tank Storage
Marker Post	KTG Cable TV Inspection Cover	Basement M/H Cover & Pipe	Basement M/H Cover & Pipe
Tram Light	ESAT Inspection Cover	Dead End Antenna	Dead End Antenna
Parking Meter	ESAT Inspection Cover	Stay for pole	Stay for pole
Plane Asset Mark	ESAT Inspection Cover	Stay for pole	Stay for pole
Smart Card Validator	ESAT Inspection Cover	PP Pipe Protection	PP Pipe Protection
Unknown Valve	Rocking Eye	Washout	Washout
Natural Features			
Surface Change	Water Level	Fair Way	Fair Way
Land Drain	Water Level	Green	Green
Bottom of Slope	Invert level	Tree Box	Tree Box
Top of Slope	Bed Level	Other	Other
Ditch	Spotheight	Survey Station	Survey Station
Water Edge / Lake / Pond	Spotheight	Photo point	Photo point
Hedge / Trees Drip Line / Vegetation	Tree Deciduous	Top of Tree	Top of Tree
Tree Coniferous	Tree Deciduous	Top of Tree	Top of Tree
Built Features			
Roads & Road Markings			
Building	Fence	Floor Level	Floor Level
Edge of Road	Gate	Apex Height	Apex Height
Kerb Bottom	Road Centreline	Eaves Height	Eaves Height
Kerb Top	Top of Wall	Parapet Height	Parapet Height
Bridge Abutment	Hoarding	Soft Elevation	Soft Elevation
Bridge Deck	Property Line	Step Level	Step Level
Bridge Pierhead	Road Sign	Concrete Pad	Concrete Pad
Building Facade	Top of Fence	Track	Track
Footpath / Platform Train & Tram	Wall / Retaining Wall		
Damp Proof Course / Verge	Railway / Tram Rail / Gating / Ramp		
Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Building Canopy / Roof / Overhang		
Cycleway / Private Landing Area			

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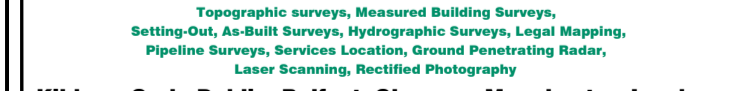
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Drawn by: ST	Date: 26.07.2023	Checked by: PK	Date: 26.07.2023	Date: 26.07.2023	Datum: Irish National Grid	Grid System: ITM	Main Head: ITM
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No.	Date	Description	Revisions
0	26.07.2023	First Drawing	
1	08.08.2023	Layouts added	
2	06.09.2023	Additional road survey added	



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**Client:** AECOM Dublin  
**Project:** BNM Site Derrygreenagh Rhode  
**Date:** 26.07.2023 **Scale:** 1:500@A1  
**Description:** Topographical Survey  
**Drawing Number:** MGS52335\_T\_ITM\_Rev2-64  
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### LEGEND

Street furniture & Services			
Over Head Wires (LUAS) - Pylon ESB	Ballast	Road Sign	Phone Box
Powerbed	Beacon	Bench Seat	Duct
Pipe	Beacon	Keek	Gas Cover
Lit	Coalhole Cover	Gully	CP Box
Barrier	Boys Hole	Waste Bin	Waste Bin
Pump	Electricity Pole	Hydrant	Hydrant
Bus/Tram Shelter	Telegraph pole	Fire Hydrant	Fire Hydrant
Postbox	OCS Pole	ESS Box	ESS Box
Water - General	OCTV Camera Pole	Water Inspection Cover	Water Inspection Cover
Water Valve	Lamp Post	Traffic Control Box	Traffic Control Box
Gas Valve	Foul Manhole	LUAS Technical Cubicle	LUAS Technical Cubicle
Sluice Valve	Surface Water MH	Ticket Vending Machine	Ticket Vending Machine
Air Valve	Manholes	Water Meter Cover	Water Meter Cover
Stop Cock	Air Conditioning Vents	Telecom Inspection Cover	Telecom Inspection Cover
C P Post	Services Inspection Cover	Monument / Toilets	Monument / Toilets
Marker Post	Traffic Inspection Cover	Tank Storage	Tank Storage
Traffic Light	Cable TV Inspection Cover	Basement MH Cover & Pipe	Basement MH Cover & Pipe
Parking Meter	ESAT Inspection Cover	Dead End Antenna	Dead End Antenna
Phone Asset Mark	NL Inspection Cover	Stay for pole	Stay for pole
Smart Card Validator	Elcom Inspection Cover	PP	Pipe Protection
Unknown Valve	Rocking Eye	Washout	Washout
Natural Features			
Surface Change	Water Level	Fair Way	Fair Way
Land Drain	Crown Level	Green	Green
Bottom of Slope	Invert level	Tee Box	Tee Box
Top of Slope	Bed Level	Other	Other
Ditch	Spotheight	Survey Station	Survey Station
Water Edge / Lake / Pond		Photo point	Photo point
Hedge / Trees Drip Line / Vegetation			
Tree Coniferous	Tree Deciduous	Top of Tree	Top of Tree
Built Features			
Roads & Road Markings			
Building	Fence	Floor Level	Floor Level
Edge of Road	Gate	Apex Height	Apex Height
Kerb Bottom	Road Centreline	Eaves Height	Eaves Height
Kerb Top	Top of Wall	Parapet Height	Parapet Height
Bridge Abutment	Hoarding	Soft Elevation	Soft Elevation
Bridge Deck	Property Line	Step Level	Step Level
Bridge Parapet	Road Bar	Concrete Pad	Concrete Pad
Building Facade	Top of Fence	Track	Track
Footpath / Platform Train & Tram	Wall / Retaining Wall		
Damp Proof Course / Verge	Railway / Tram Rail / Gating / Ramp		
Bridge Pier / Wall & Gate Pile / LUAS Trackbed	Building Canopy / Roof / Overhang		
Cycleway / Private Landing Area			

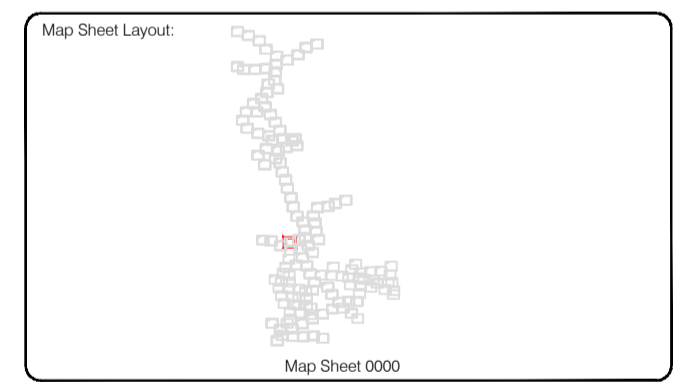
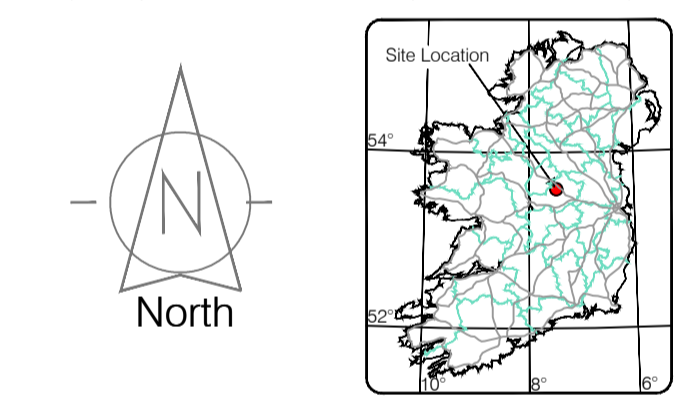


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Drawn by: ST	Date: 26.07.2023	Checked by: PK	Date: 26.07.2023	Drawn by: ST	Date: 26.07.2023	Checked by: PK	Date: 26.07.2023
Reviewed by:		Date:		Reviewed by:		Date:	
0	26.07.2023	1	08.08.2023	2	06.09.2023		



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**Fax:** (+353) 045 484004  
**Email:** info@murphyge.ie

**Client:** AECOM Dublin

**Project:** BNM Site Derrygreenagh Rhode

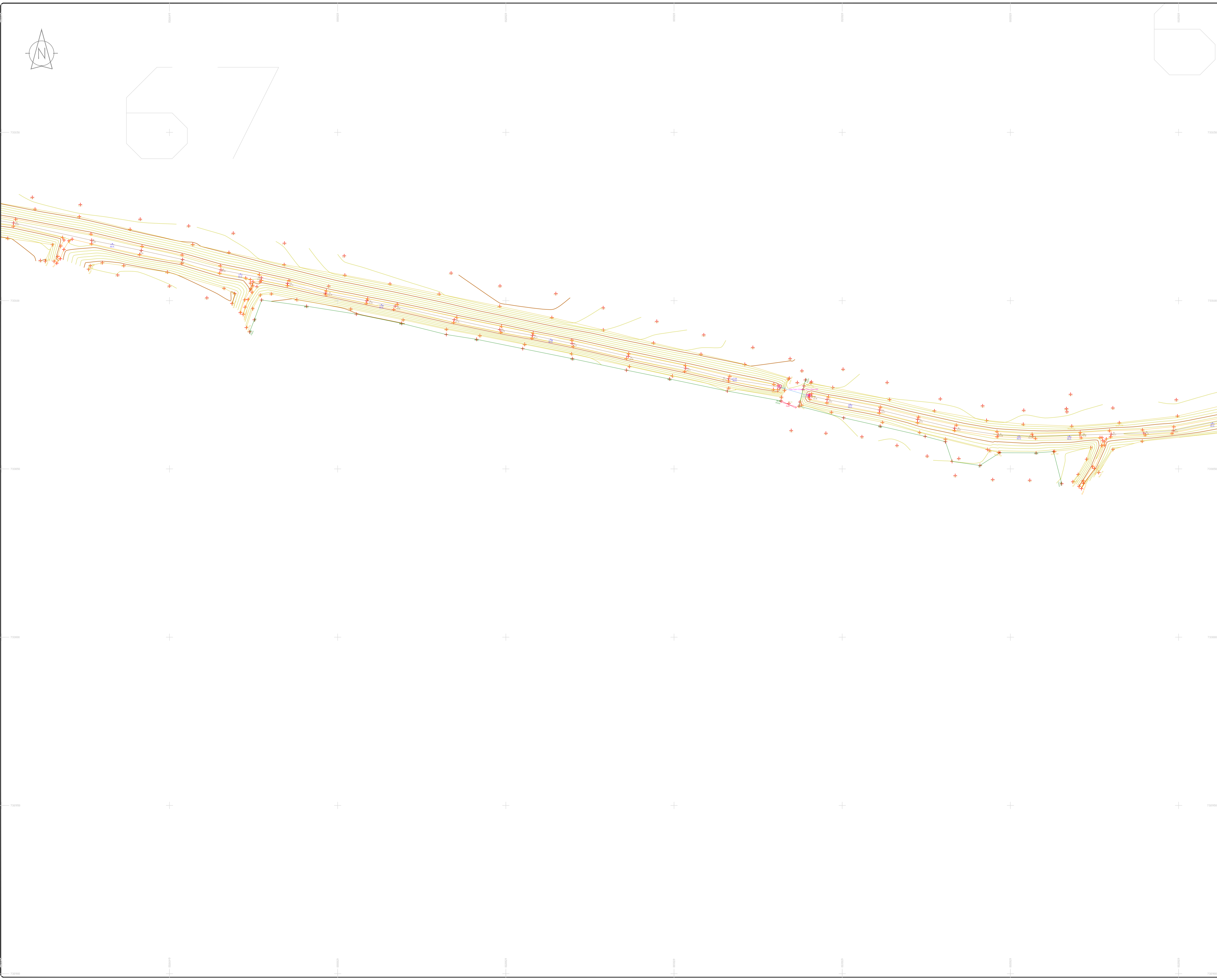
**Date:** 26.07.2023 **Scale:** 1:500@A1

**Description:** Topographical Survey

**Drawing Number:** MGS52335\_T\_ITM\_Rev2-66

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**LEGEND**  
Street furniture & Services

5.12 Over Head Wires (LIAS) - Plain ESB	5.12 Bus Stop	5.12 Bench Seat	5.12 Door
5.12 Fossended	5.12 Bench	5.12 Kiosk	5.12 Gas Cover
5.12 Pipe	5.12 Beacon	5.12 Gully	5.12 CP Box
5.12 Lift	5.12 Bore Hole	5.12 USG Car Park Vent	5.12 Waste Bin
5.12 Barrier	5.12 Electricity Pole	5.12 Hydrant	5.12 Hydrant
5.12 Pump	5.12 Telegraph pole	5.12 Face Hydrant	5.12 ESB Box
5.12 Bus/Tram Shelter	5.12 CCTV Pole	5.12 ESB Inspection Cover	5.12 Traffic Control Box
5.12 Postbox	5.12 CCTV Camera Pole	5.12 Traffic Control Box	5.12 Traffic Control Box
5.12 Valve - General	5.12 Lamp Post	5.12 Traffic Control Box	5.12 Traffic Control Box
5.12 Water Valve	5.12 Gas Valve	5.12 Foul Manhole	5.12 LIAS Technical Cubicle
5.12 Gas Valve	5.12 Surface Water MH	5.12 Ticket Vending Machine	5.12 Water Meter Cover
5.12 Sluice Valve	5.12 Air Valve	5.12 Water Meter Cover	5.12 Water Meter Cover
5.12 Stop Cock	5.12 Air Conditioning Vents	5.12 Telecom Inspection Cover	5.12 Monument / Toilets
5.12 CP Post	5.12 Services Inspection Cover	5.12 Monument / Toilets	5.12 Tank Storage
5.12 Marker Post	5.12 Traffic Inspection Cover	5.12 Tank Storage	5.12 Basement: MH, Cover & Pipe
5.12 Traffic light	5.12 Cable TV Inspection Cover	5.12 Basement: MH, Cover & Pipe	5.12 Basement: MH, Cover & Pipe
5.12 Parking Meter	5.12 ESB Inspection Cover	5.12 Basement: MH, Cover & Pipe	5.12 Basement: MH, Cover & Pipe
5.12 Power Aerial Mark	5.12 NTL Inspection Cover	5.12 Basement: MH, Cover & Pipe	5.12 Basement: MH, Cover & Pipe
5.12 Smart Card Validator	5.12 Elcom Inspection Cover	5.12 Basement: MH, Cover & Pipe	5.12 Basement: MH, Cover & Pipe
5.12 Unknown Valve	5.12 Rodding Eye	5.12 Basement: MH, Cover & Pipe	5.12 Basement: MH, Cover & Pipe

**Natural Features**

5.12 Surface Change	5.12 Water Level	5.12 Fair Way
5.12 Land Drain	5.12 Crown Level	5.12 Green
5.12 Bottom of Slope	5.12 Invert level	5.12 Tee Box
5.12 Top of Slope	5.12 Bed Level	5.12 Other
5.12 Ditch	5.12 Spotlight	5.12 Survey Station
5.12 Water Edge / Lake / Pond	5.12	5.12 Photo point

5.12 Hedge / Trees Drip Line / Vegetation

5.12 Tree Coniferous

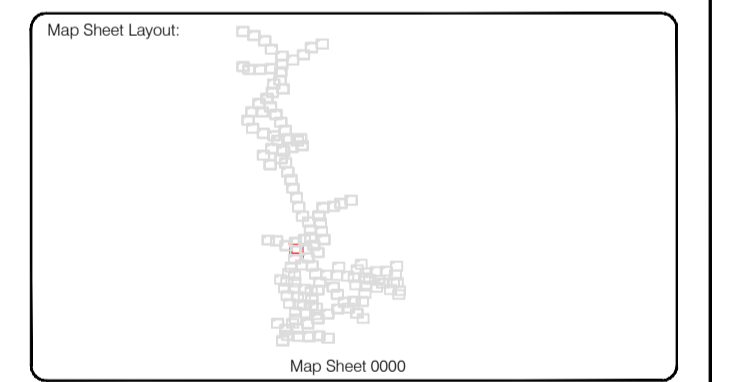
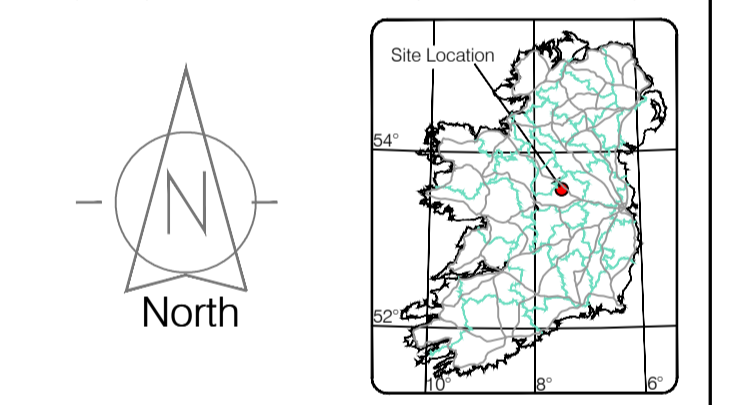
5.12 Tree Deciduous

5.12 Top of Tree

**Built Features**

**Roads & Road Markings**

5.12 Building	5.12 Fence	5.12 Floor Level
5.12 Edge of Road	5.12 Gate	5.12 Apex Height
5.12 Kerb Bottom	5.12 Road Centreline	5.12 Eaves Height
5.12 Kerb Top	5.12 Top of Wall	5.12 Parapet Height
5.12 Bridge Abutment	5.12 Hoarding	5.12 Soft Elevation
5.12 Bridge Deck	5.12 Property Line	5.12 Spot Level
5.12 Bridge Parapet	5.12 Road Edge	5.12 Concrete Pad
5.12 Building Frontage	5.12 Top of Fence	5.12 Track
5.12 Footpath / Platform Train & Tram	5.12 Wall / Retaining Wall	
5.12 Damp Proof Course / Verge	5.12 Railway / Tram Rail / Gating / Ramp	
5.12 Bridge Pier / Wall & Gate Piler / LIAS Trackbed	5.12 Building Canopy / Roof / Overhang	
5.12 Cycleway / Private Landing Area		



Surveyed by: ST	Date: May/June 2023	Datum: Mean Head
Drawn by: ST	Date: June/July 2023	Grid System:
Checked by: PK	Date: 26.07.2023	Irish National Grid: ITM

Revisions	
No.	Description
0	26.07.2023 First Drawing
1	08.08.2023 Layout added
2	08.09.2023 Additional road survey added



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<b>Client:</b>	AECOM Dublin
<b>Project:</b>	BNM Site Derrygreenagh Rhode
<b>Date:</b>	26.07.2023
<b>Scale:</b>	1:500@A1
<b>Description:</b>	Topographical Survey
<b>Drawing Number:</b>	MQS52335_T_ITM_Rev2-67

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### LEGEND

#### Street furniture & Services

Over Head Wires (LUAS) - Pylon ESB	Phone Box
Powerbed	Duct
Bus Stop	Bench Seat
Pipe	Keek
Light	Gas Cover
Beacon	Gully
Coalhole Cover	USG Car Park Vase
Boys Hole	Waste Bin
Electricity Pole	Hydrant
Telegraph pole	Fire Hydrant
Bus/Tram Shelter	ESS Box
Postbox	ESS Box
Water - General	Water Inspection Cover
Water Valve	Traffic Control Box
Gas Valve	LUAS Technical Cabinet
Sluice Valve	Surface Water MH
Air Valve	Water Meter Cover
Stop Cook	Air Conditioning Vents
C/P Post	Services Inspection Cover
Marker Post	Traffic Inspection Cover
Traffic Light	Cable TV Inspection Cover
Parking Meter	ESAT Inspection Cover
Flare Area Mark	NFL Inspection Cover
Smart Card Validator	Elcom Inspection Cover
Unknown Valve	Rocking Eye

#### Natural Features

Surface Change	Water Level	Golf
Land Drain	Down Level	Fair Way
Bottom of Slope	Invert level	Green
Top of Slope	Bed Level	Tree Box
Ditch	Spotheight	Other
Water Edge / Lake / Pond	Survey Station	Photo point
Hedge / Trees Drip Line / Vegetation	Tree Deciduous	Top of Tree

#### Built Features

##### Roads & Road Markings

Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Soft Elevation
Bridge Deck	Property Line	Step Level
Bridge Pier	Road Bar	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform Train & Tram	Wall / Retaining Wall	
Damp Proof Course / Veep	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pile / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

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North

Site Location

Map Sheet 0000

Drawn by: ST	Date: 26.07.2023	Grid System: Irish National Grid	ITM 18
Checked by: PK	Date: 26.07.2023		

No	Date	Description	Revisions
0	26.07.2023	First Drawing	
1	08.08.2023	Layouts added	
2	06.09.2023	Additional road survey added	

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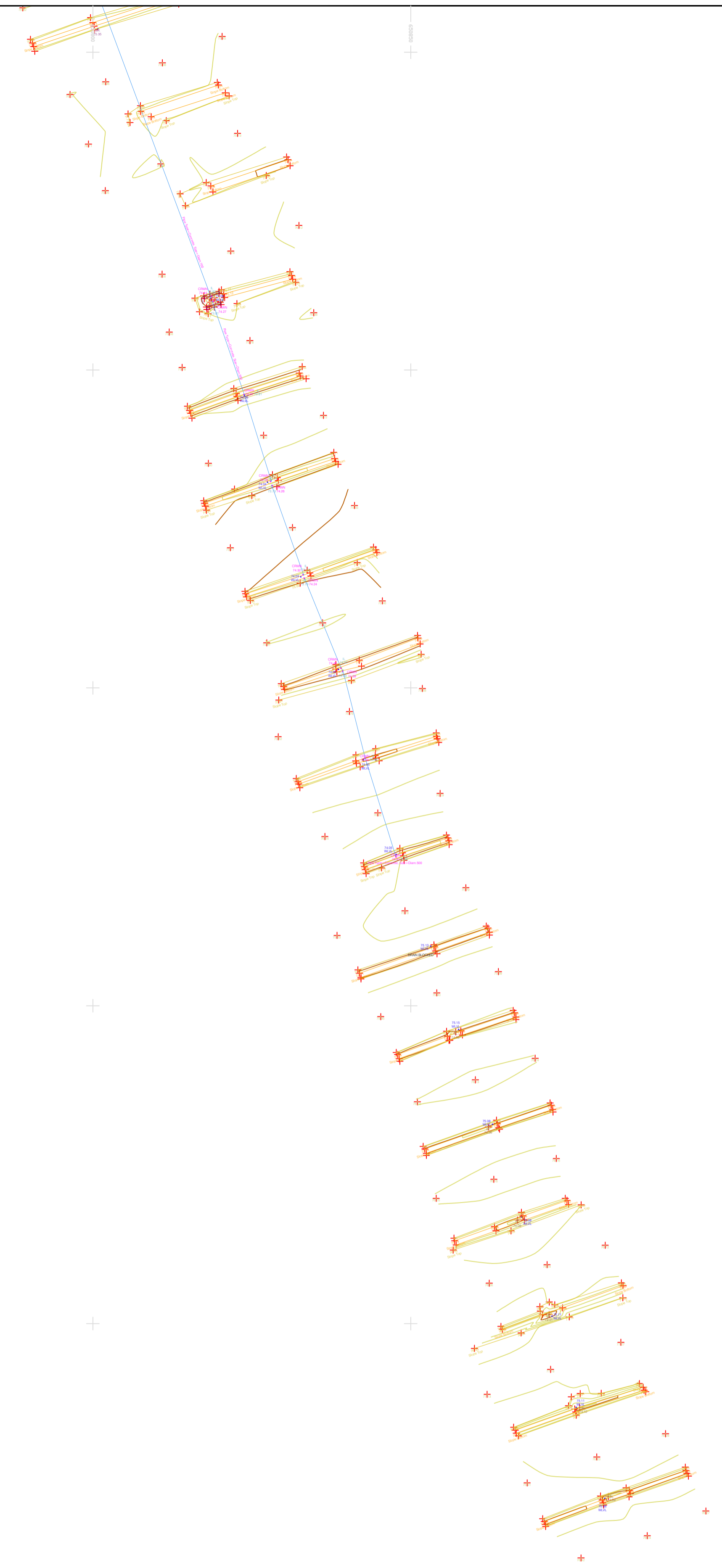
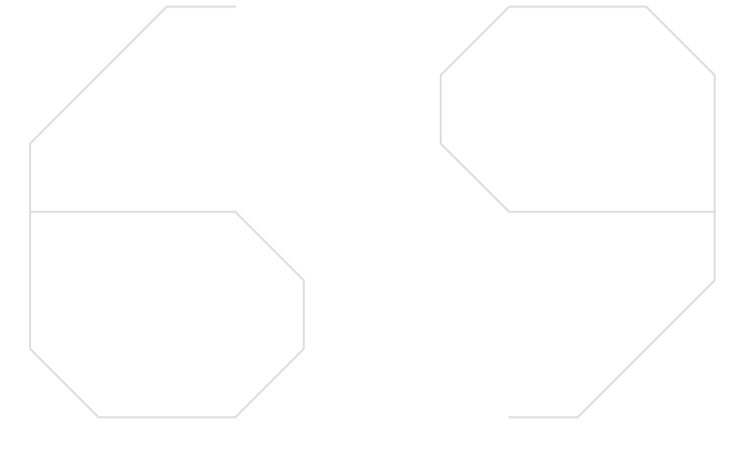
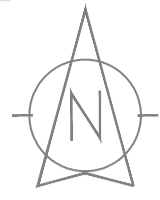
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<b>Kilcullen Business Campus</b>	Email: info@murphyge.ie
<b>Kilcullen Co. Kildare, Ireland</b>	

<b>Client :</b>	AECOM Dublin
<b>Project :</b>	BNN Site Derrygreenagh Rhode
<b>Date :</b>	26.07.2023
<b>Scale :</b>	1:500@A1
<b>Description :</b>	Topographical Survey
<b>Drawing Number :</b>	MGS52335_T_ITM_Rev2-68

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**LEGEND**  
**Street furniture & Services**

Over Head Wires (LUAS) - Pylon ESB	Ballast	Road Sign	Phone Box
Powerbed	Beacon	Bench Seat	Duct
Ball	Coalhole Cover	Keek	Gas Cover
Pipe	Boys Hole	Gully	CPN%
Light	Electricity Pole	Waste Bin	P Box
Barrier	Telegraph pole	Hydrant	
Pump	ESB Box	Fire Hydrant	
Trial Pit	ESB Box	ESB Box	
Bus/Tram Shelter	OCTV Camera Pole	ESB Box	
Postbox	Lamp Post	ESB Box	
Water - General	Gas Valve	ESB Box	
Water Valve	Sluice Valve	ESB Box	
Gas Valve	Air Valve	ESB Box	
Sluice Valve	Stop Cook	ESB Box	
Air Valve	C P Post	ESB Box	
Stop Cook	Marker Post	ESB Box	
C P Post	Traffic Light	ESB Box	
Marker Post	Parking Meter	ESB Box	
Traffic Light	Flare Asses Mark	ESB Box	
Parking Meter	Smart Card Validator	ESB Box	
Flare Asses Mark	Unknown Valve	ESB Box	
Smart Card Validator		ESB Box	
Unknown Valve		ESB Box	

**Natural Features**

Surface Change	Water Level	Golf
Land Drain	Invert level	Fair Way
Bottom of Slope	Top of Slope	Green
Top of Slope	Ditch	Tea Box
Ditch	Water Edge / Lake / Pond	Other
Water Edge / Lake / Pond	Hedge / Trees Drip Line / Vegetation	Survey Station
Hedge / Trees Drip Line / Vegetation	Tree Deciduous	Photo point
Tree Deciduous	Tree Deciduous	Top of Tree

**Built Features**  
**Roads & Road Markings**

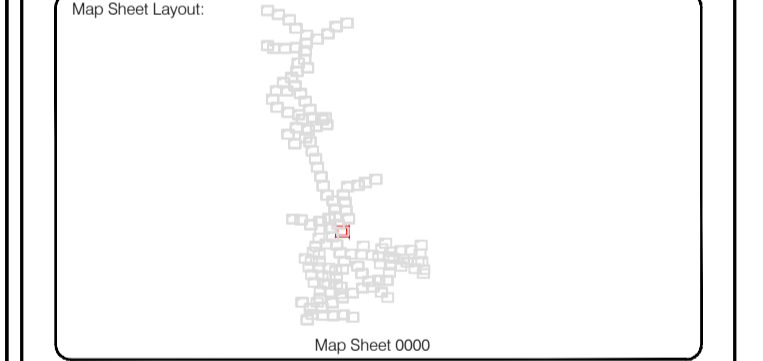
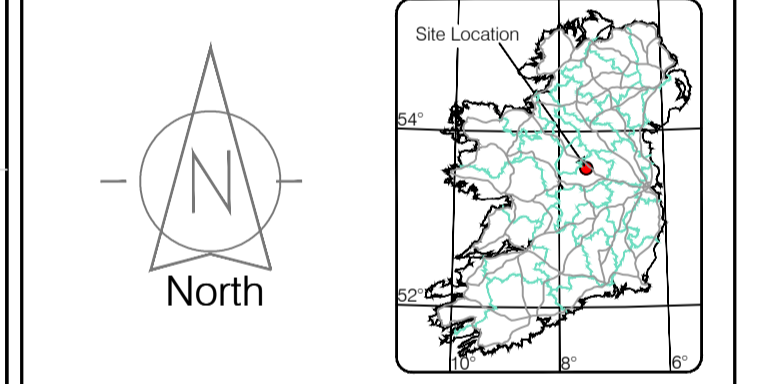
Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Soft Elevation
Bridge Deck	Property Line	Step Level
Bridge Pier	Road Bar	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform Train & Tram	Damp Proof Course / Verge	Wall / Retaining Wall
Damp Proof Course / Verge	Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Railway / Tram Rail / Gating / Ramp
Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Cycleway / Private Landing Area	Building Canopy / Roof / Overhang
Cycleway / Private Landing Area		

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Drawn by: ST	Date: 26.07.2023	Date: 26.07.2023	Date: 26.07.2023
Checked by: PK	Date: 26.07.2023	Date: 26.07.2023	Date: 26.07.2023

No	Date	Description	Revisions
0	26.07.2023	First Drawing	
1	08.08.2023	Layouts added	
2	06.09.2023	Additional road survey added	



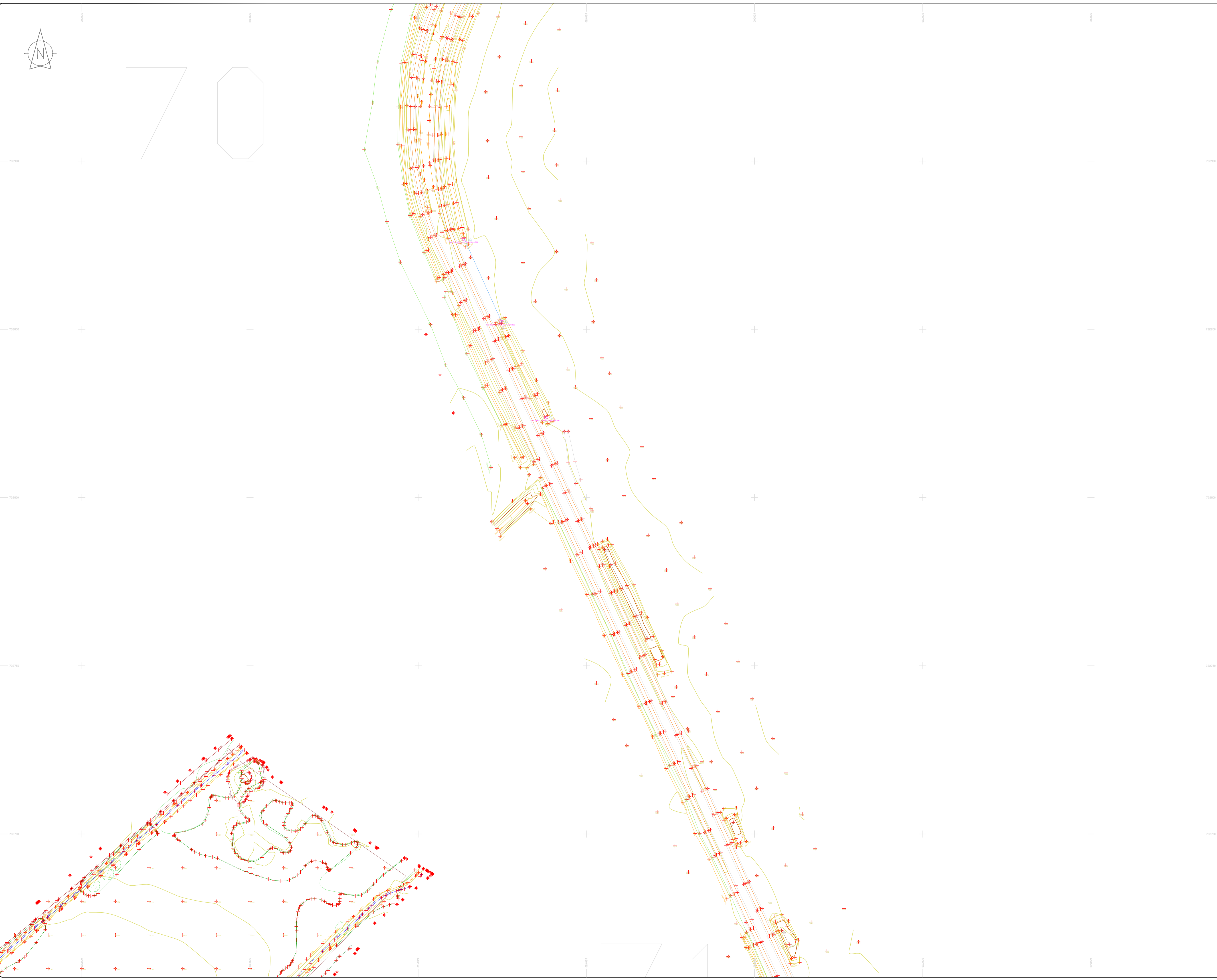
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<b>Client :</b>	AECOM Dublin
<b>Project :</b>	BNN Site Derrygreenagh Rhode
<b>Date :</b>	26.07.2023
<b>Scale :</b>	1:500@A1
<b>Description :</b>	Topographical Survey
<b>Drawing Number :</b>	MGS52335_T_ITM_Rev2-69





### LEGEND

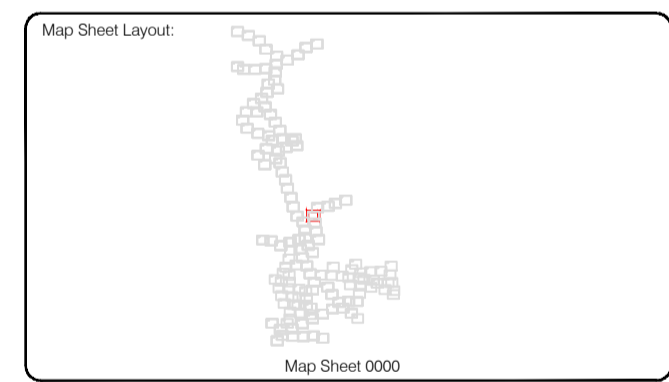
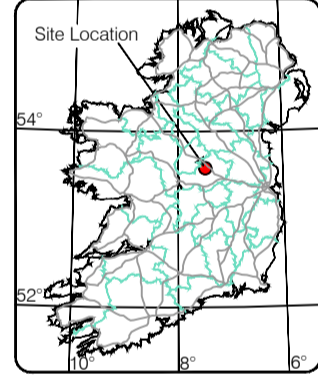
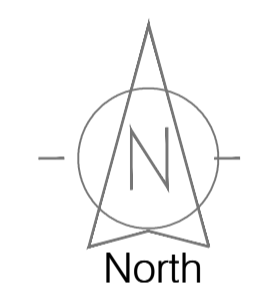
- Street furniture & Services**
- Over Head Wires (LUAS) - Pylon ESB
  - Powerbed
  - Pipe
  - Lift
  - Barrier
  - Pump
  - Trial Pit
  - Bus/Tram Shelter
  - Postbox
  - Water - General
  - Water Valve
  - Gas Valve
  - Sluice Valve
  - Air Valve
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  - Traffic Light
  - Parking Meter
  - Flare Area Mark
  - Smart Card Validator
  - Unknown Valve
  - Ballast
  - Beacon
  - Coalhole Cover
  - Boys Hole
  - Electricity Pole
  - OCIS Pole
  - OCIS Camera Pole
  - Lamp Post
  - Foul Manhole
  - Surface Water MH
  - Manholes
  - Air Conditioning Vents
  - Services Inspection Cover
  - Traffic Inspection Cover
  - Cable TV Inspection Cover
  - ESAT Inspection Cover
  - NTL Inspection Cover
  - Elcom Inspection Cover
  - Rocking Eye
  - Bench Seat
  - Duct
  - Keek
  - Gas Cover
  - Gully
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  - ESB Inspection Cover
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  - Monument / Toilets
  - Tank Storage
  - Basement MH Cover & Pipe
  - Disposal Aerial Mark
  - Stay for pole
  - Pipe Protection
  - Washout
- Natural Features**
- Surface Change
  - Land Drain
  - Bottom of Slope
  - Top of Slope
  - Ditch
  - Water Edge / Lake / Pond
  - Hedge / Trees Drip Line / Vegetation
  - Tree Contourous
  - Water Level
  - Crown Level
  - Invert level
  - Bed Level
  - Spotheight
  - Top of Tree
  - Fair Way
  - Green
  - Tea Box
  - Other
  - Survey Station
  - Photo point
- Built Features**
- Roads & Road Markings**
- Building
  - Edge of Road
  - Kerb Bottom
  - Kerb Top
  - Bridge Abutment
  - Bridge Deck
  - Bridge Piering
  - Building Facades
  - Footpath / Platform Train & Tram
  - Damp Proof Course / Verge
  - Bridge Pier / Wall & Gate Piler / LUAS Trackbed
  - Cycleway / Private Landing Area
  - Fence
  - Gate
  - Road Centreline
  - Top of Wall
  - Hoarding
  - Property Line
  - Road Sign
  - Top of Fence
  - Wall / Retaining Wall
  - Railway / Tram Rail / Gating / Ramp
  - Building Canopy / Roof / Overhang
  - Floor Level
  - Apex Height
  - Eaves Height
  - Parapet Height
  - Soffit Elevation
  - Step Level
  - Concrete Pad
  - Track

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Drawn by: ST	Date: 26.07.2023	Datum: Irish National Grid	Main Head
Checked by: PK	Date: 26.07.2023	Grid System: Irish National Grid	ITM 8
Revisions			
No	Date	Description	Revisions
0	26.07.2023	Final Drawing	
1	08.08.2023	Layouts added	
2	06.09.2023	Additional road survey added	



Topographic surveys, Measured Building Surveys, Setting-out, As-Built Surveys, Hydrographic Surveys, Legal Mapping, Pipeline Surveys, Service Location, Ground Penetrating Radar, Laser Scanning, Aerial Photography

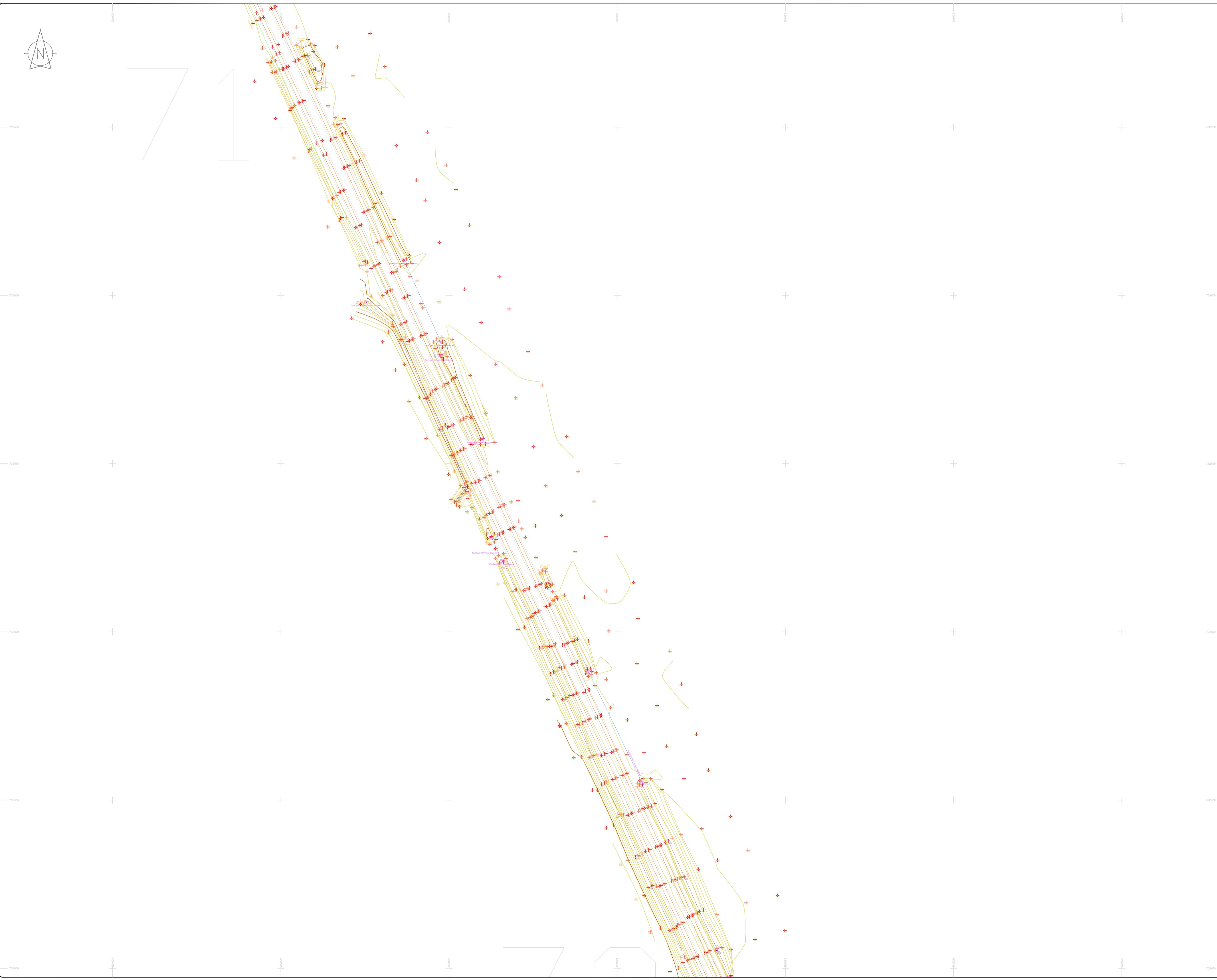
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<b>Date :</b>	26.07.2023
<b>Scale :</b>	1:500@A1
<b>Description :</b>	Topographical Survey
<b>Drawing Number :</b>	MGS52335_T_ITM_Rev2-70





**LEGEND**  
**Street furniture & Services**

Over Head Wires (LUAS) - Python ESB	Phone Box
Powerbed	Bench Seat
Bus Stop	Duct
Pipe	Keek
Light	Gas Cover
Beacon	Gully
Coalhole Cover	USG Car Park Vase
Boys Hole	Waste Bin
Electricity Pole	Hydrant
Telegraph pole	Fire Hydrant
OCS Pole	ESS Box
CCTV Camera Pole	ESS Inspection Cover
Lamp Post	Traffic Control Box
Foul Manhole	LUAS Technical Cubicle
Surface Water MH	Ticket Vending Machine
Manholes	Water Meter Cover
Air Conditioning Vents	Telecom Inspection Cover
Services Inspection Cover	Monument / Toilets
Traffic Inspection Cover	Tank Storage
Cable TV Inspection Cover	Basement MH Cover & Pipe
ESAT Inspection Cover	Dislod Aerial Mark
NTL Inspection Cover	Stay for pole
Elcom Inspection Cover	PP
Rocking Eye	Washout

**Natural Features**

Surface Change	Water Level	Golf
Land Drain	Crown Level	Fair Way
Bottom of Slope	Invert level	Green
Top of Slope	Bed Level	Tree Box
Ditch	Spotheight	Other
Water Edge / Lake / Pond	Survey Station	Photo point
Hedge / Trees Drip Line / Vegetation	Top of Tree	
Tree Contourous		

**Built Features**  
**Roads & Road Markings**

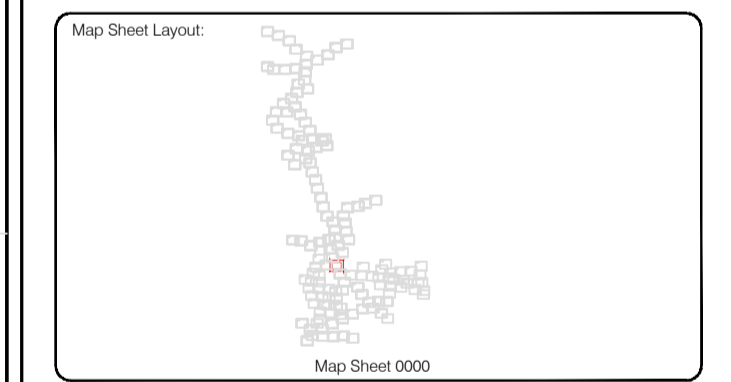
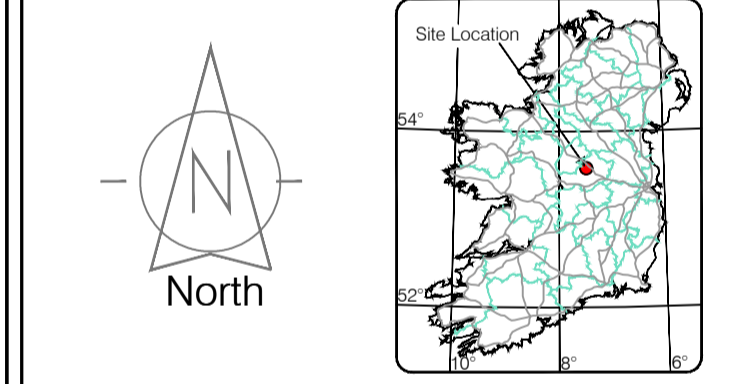
Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Softly Elevation
Bridge Deck	Property Line	Step Level
Bridge Parapet	Road Box	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform Train & Tram	Wall / Retaining Wall	
Damp Proof Course / Verge	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Piler / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

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Drawn by: ST	Date: 26.07.2023	Grid System: Irish National Grid	ITM 8
Checked by: PK	Date: 26.07.2023		
Reviewed by: ST	Date: 26.07.2023		
Drawn by: ST	Date: 26.07.2023		
Checked by: PK	Date: 26.07.2023		



Topographic surveys, Measured Building Surveys, Setting-out, As-Built Surveys, Hydrographic Surveys, Legal Mapping, Pipeline Surveys, Heritage Location, Ground Penetrating Radar, Laser Scanning, Aerial Photography

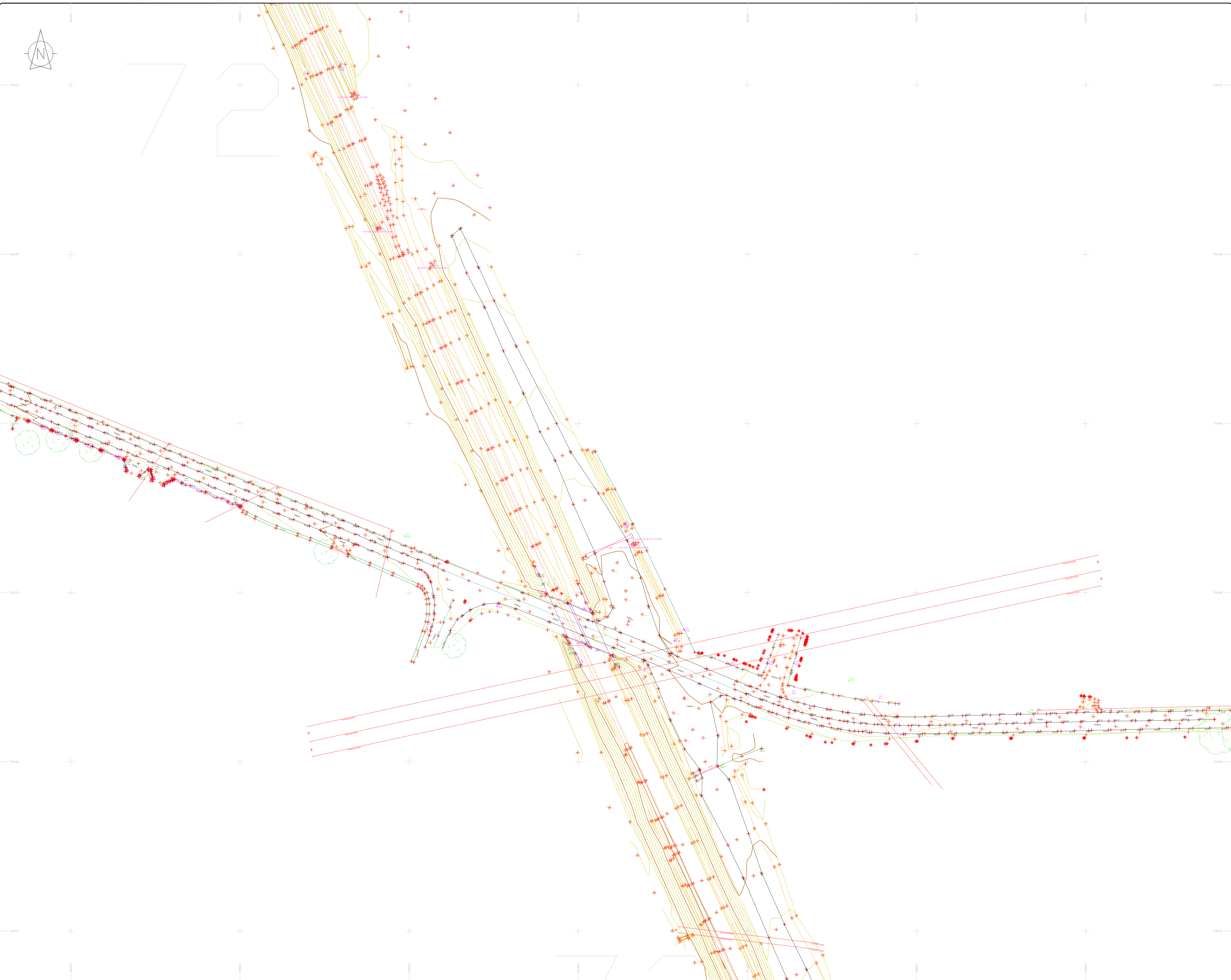
**Kildare Cork Dublin Belfast Glasgow Manchester London**

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Kilcullen Business Campus  
Kilcullen Co. Kildare, Ireland

Phone: (+353) 045 484040  
Fax: (+353) 045 484004  
Email: info@murphyge.ie

<b>Client:</b>	AECOM Dublin
<b>Project:</b>	BNN Site Derrygreenagh Rhode
<b>Date:</b>	26.07.2023
<b>Scale:</b>	1:500@A1
<b>Description:</b>	Topographical Survey
<b>Drawing Number:</b>	MGS52335_T_ITM_Rev2-71





LEGEND

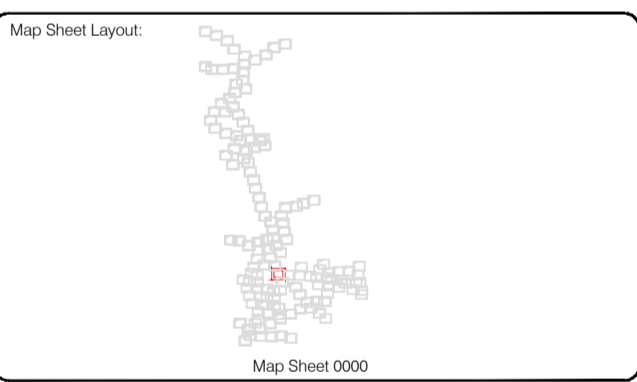
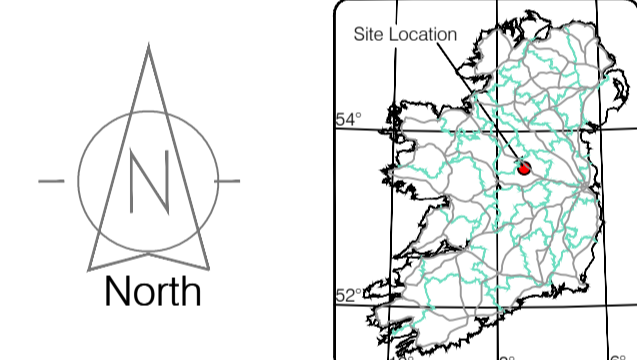
- Street furniture & Services**
- Over Head Wires (LUAS) - Pylon ESB
  - Powerbed
  - Pipe
  - Lift
  - Barrier
  - Pump
  - Trial Pit
  - Bus/Tram Shelter
  - Postbox
  - Water - General
  - Water Valve
  - Gas Valve
  - Sluice Valve
  - Air Valve
  - Stop Cook
  - C/P Post
  - Marker Post
  - Tracking Meter
  - Parking Meter
  - Flare Asset Mark
  - Smart Card Validator
  - Unknown Valve
  - Ballast
  - Beacon
  - Coalhole Cover
  - Boss Hole
  - Electricity Pole
  - Telegraph pole
  - OCS Pole
  - OCTV Camera Pole
  - Lamp Post
  - Foul Manhole
  - Surface Water MH
  - Manholes
  - Air Conditioning Vents
  - Services Inspection Cover
  - Traffic Inspection Cover
  - Cable TV Inspection Cover
  - ESAT Inspection Cover
  - NL Inspection Cover
  - Elcom Inspection Cover
  - Rocking Eye
  - Bench Seat
  - Keek
  - Gully
  - Waste Bin
  - Hydrant
  - Fire Hydrant
  - ESB Box
  - ESB Inspection Cover
  - Traffic Control Box
  - LIAS Technical Cabinet
  - Ticket Vending Machine
  - Water Meter Cover
  - Telecom Inspection Cover
  - Monument / Toilets
  - Tank Storage
  - Basement MH Cover & Pipe
  - Dead Aerial Mark
  - Stay for pole
  - Pipe Protection
  - Washout
- Natural Features**
- Surface Change
  - Land Drain
  - Bottom of Slope
  - Top of Slope
  - Ditch
  - Water Edge / Lake / Pond
  - Hedge / Trees Drip Line / Vegetation
  - Tree Coniferous
  - Water Level
  - Crown Level
  - Invert level
  - Bed Level
  - Spotheight
  - Fair Way
  - Green
  - Tree Box
  - Other
  - Survey Station
  - Photo point
  - Top of Tree
- Built Features**
- Roads & Road Markings**
- Building
  - Edge of Road
  - Kerb Bottom
  - Kerb Top
  - Bridge Abutment
  - Bridge Deck
  - Bridge Pier
  - Building Facade
  - Footpath / Platform Train / Tram
  - Damp Proof Course / Verge
  - Bridge Pier / Wall & Gate Pillar / LUAS Trackbed
  - Cycleway / Private Landing Area
  - Fence
  - Gate
  - Road Centreline
  - Top of Wall
  - Hoarding
  - Property Line
  - Road Sign
  - Top of Fence
  - Wall / Retaining Wall
  - Railway / Tram Rail / Gating / Ramp
  - Building Canopy / Roof / Overhang
  - Floor Level
  - Apex Height
  - Eaves Height
  - Parapet Height
  - Step Level
  - Concrete Pad
  - Track

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Drawn by: ST	Date: 26.07.2023	Grid System: Irish National Grid	ITM 28
Checked by: PK	Date: 26.07.2023		
Revisions			
No	Date	Description	
0	26.07.2023	Final Drawing	
1	08.08.2023	Layouts added	
2	06.09.2023	Additional road survey added	



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Phone: (+353) 045 484040  
 Fax: (+353) 045 484004  
 Email: info@murphyge.ie

**Client:** AECOM Dublin

**Project:** BNM Site Derrygreenagh Rhode

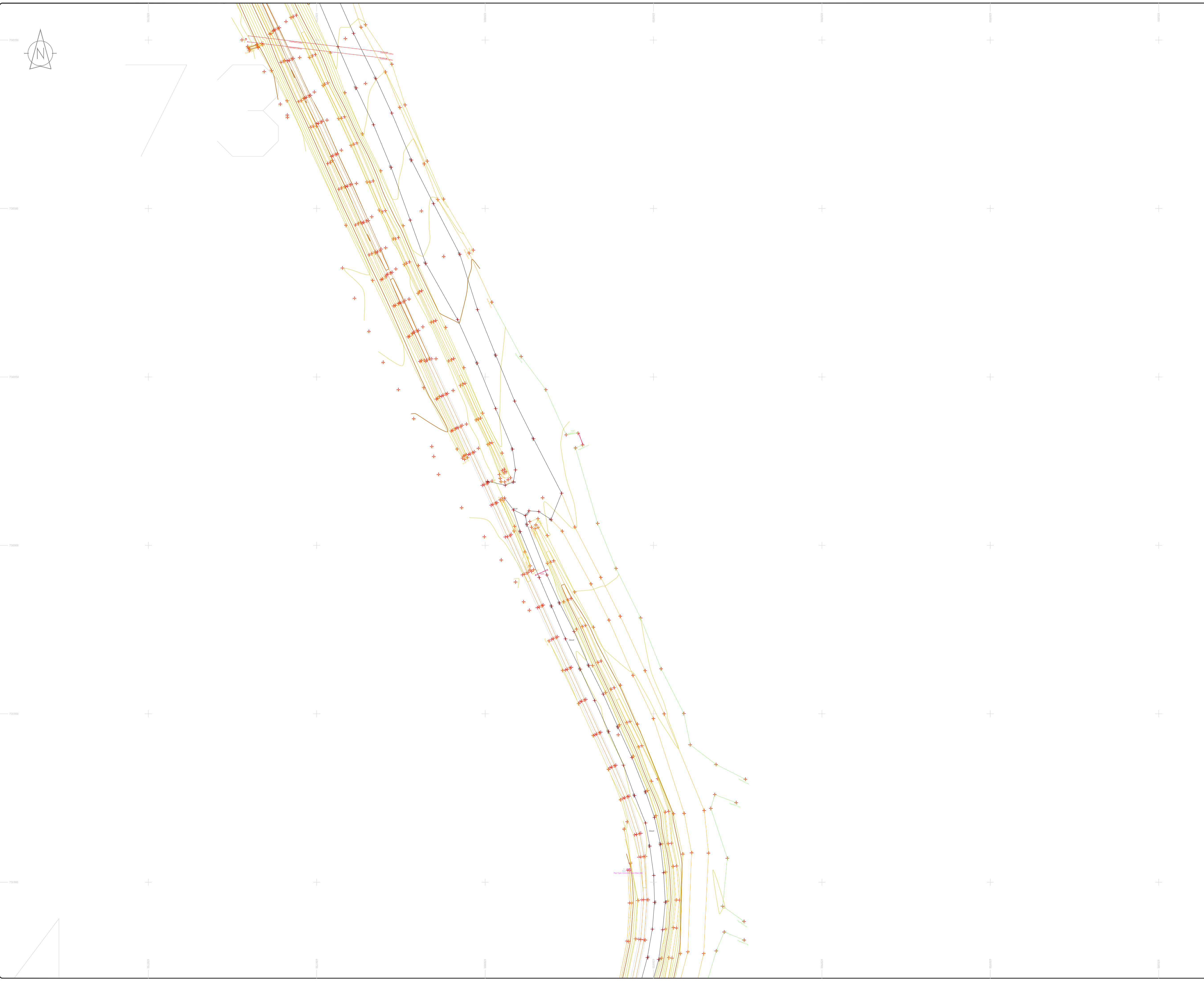
**Date:** 26.07.2023 **Scale:** 1:500@A1

**Description:** Topographical Survey

**Drawing Number:** MGS52335\_T\_ITM\_Rev2-72

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**LEGEND**  
Street furniture & Services

Over Head Wires (LUAS) - Python ESB	Street Sign	Phone Box
Powerbed	Bench Seat	Duct
Pipe	Ballast	Keek
Light	Beacon	Gully
Barrier	Coalhole Cover	USG Car Park Vek
Pump	Boys Hole	Waste Bin
Trail Pit	Electricity Pole	Hydrant
Bus/Tram Shelter	Telegraph pole	Fire Hydrant
Postbox	OCS Pole	ESS Box
Water - General	OCTV Camera Pole	ESB Inspection Cover
Water Valve	Lamp Post	Traffic Control Box
Gas Valve	Foul Manhole	LUAS Technical Cubicle
Sluice Valve	Surface Water MH	Ticket Vending Machine
Air Valve	Manholes	Water Meter Cover
Stop Cook	Air Conditioning Vents	Telecom Inspection Cover
C/P Post	Services Inspection Cover	Monument / Toilets
Marker Post	Traffic Inspection Cover	Tank Storage
Tram Light	Cable TV Inspection Cover	Basement MH Cover & Pipe
Parking Meter	ESAT Inspection Cover	Dislod Aerial Mark
Flare Asset Mark	NL Inspection Cover	Stay for pole
Smart Card Validator	Elcom Inspection Cover	PP
Unknown Valve	Rocking Eye	Washout

**Natural Features**

Surface Change	Water Level	Fair Way
Land Drain	Crown Level	Green
Bottom of Slope	Invert level	Tree Box
Top of Slope	Bed Level	Other
Ditch	Spotheight	Survey Station
Water Edge / Lake / Pond		Photo point
Hedge / Trees Drip Line / Vegetation		
Tree Coniferous	Tree Deciduous	Top of Tree

**Built Features**  
Roads & Road Markings

Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Soft Elevation
Bridge Deck	Property Line	Step Level
Bridge Pier	Road Bar	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform Train & Tram	Wall / Retaining Wall	
Damp Proof Course / Verge	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

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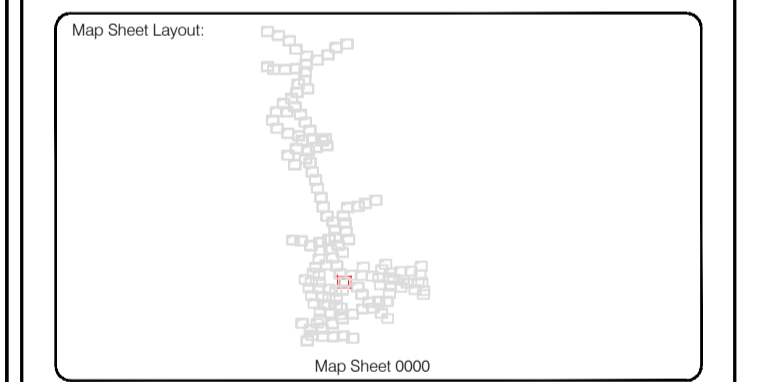
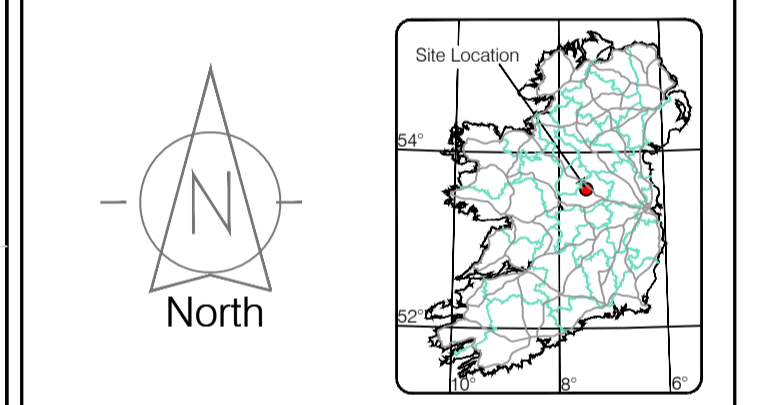
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Drawn by: ST	Date: 26/07/2023	Grid System: Irish National Grid	ITM 8
Checked by: PK	Date: 26/07/2023		
Reviewed by: ST	Date: 26/07/2023		
Drawn by: ST	Date: 26/07/2023		
Checked by: PK	Date: 26/07/2023		
Reviewed by: ST	Date: 26/07/2023		



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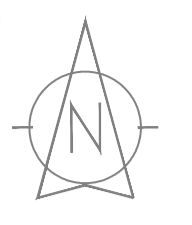
Kildare Cork Dublin Belfast Glasgow Manchester London

**Head Office**  
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Kilcullen Business Campus  
Kilcullen Co. Kildare, Ireland

Phone: (+353) 045 484040  
Fax: (+353) 045 484004  
Email: info@murphyge.ie

<b>Client:</b>	AECOM Dublin
<b>Project:</b>	BNN Site Derrygreenagh Rhode
<b>Date:</b>	26.07.2023
<b>Scale:</b>	1:500@A1
<b>Description:</b>	Topographical Survey
<b>Drawing Number:</b>	MGS52335_T_ITM_Rev2-73





### LEGEND

#### Street furniture & Services

Over Head Wires (LUAS) - Pylon ESB	Bus Stop	Ballast	Road Sign	Phone Box
Powerbed	Beacon	Coalhole Cover	Electricity Pole	Telegraph pole
Pipe	Light	Barrier	Pump	Manhole
Bus/Tram Shelter	Postbox	Water - General	Water Valve	Gas Valve
Sluice Valve	Air Valve	Stop Cook	C/P Post	Marker Post
Unknown Valve	Surface Change	Land Drain	Bottom of Slope	Top of Slope
Ditch	Water Edge / Lake / Pond	Hedge / Trees Drip Line / Vegetation	Tree Coniferous	Tree Deciduous

#### Natural Features

Water Level	Fair Way
Crown Level	Green
Invert level	Tea Box
Bed Level	Other
Spotheight	Survey Station
Photo point	

#### Built Features

##### Roads & Road Markings

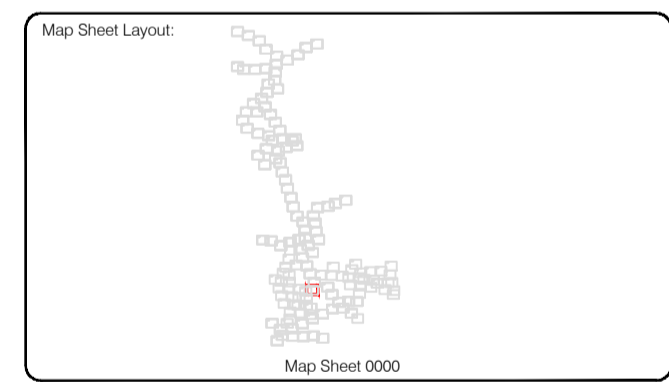
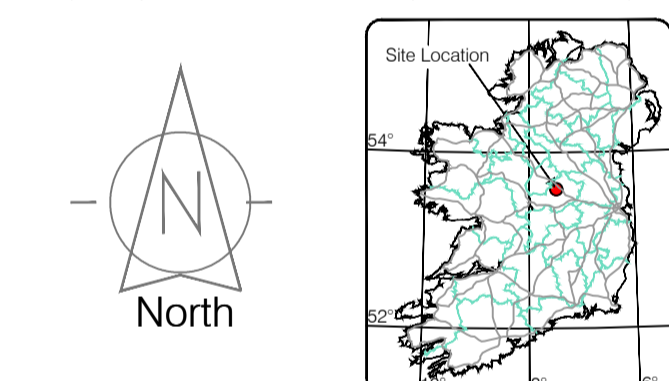
Fence	Floor Level
Gate	Apex Height
Road Centreline	Eaves Height
Top of Wall	Parapet Height
Hoarding	Soffit Elevation
Property Line	Step Level
Road Bar	Concrete Pad
Top of Fence	Track
Wall / Retaining Wall	
Railway / Tram Rail / Gating / Ramp	
Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area	

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Reviewed by: ST	Date: 26/07/2023	Datum: Irish National Grid	Main Head
Drawn by: ST	Date: 26/07/2023	Grid System: Irish National Grid	ITM 8
Checked by: PK	Date: 26/07/2023		

No	Date	Description	Revisions
0	26.07.2023	Final Drawing	
1	08.08.2023	Layouts added	
2	06.09.2023	Additional road survey added	

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**EUROPEAN GPR ASSOCIATION**

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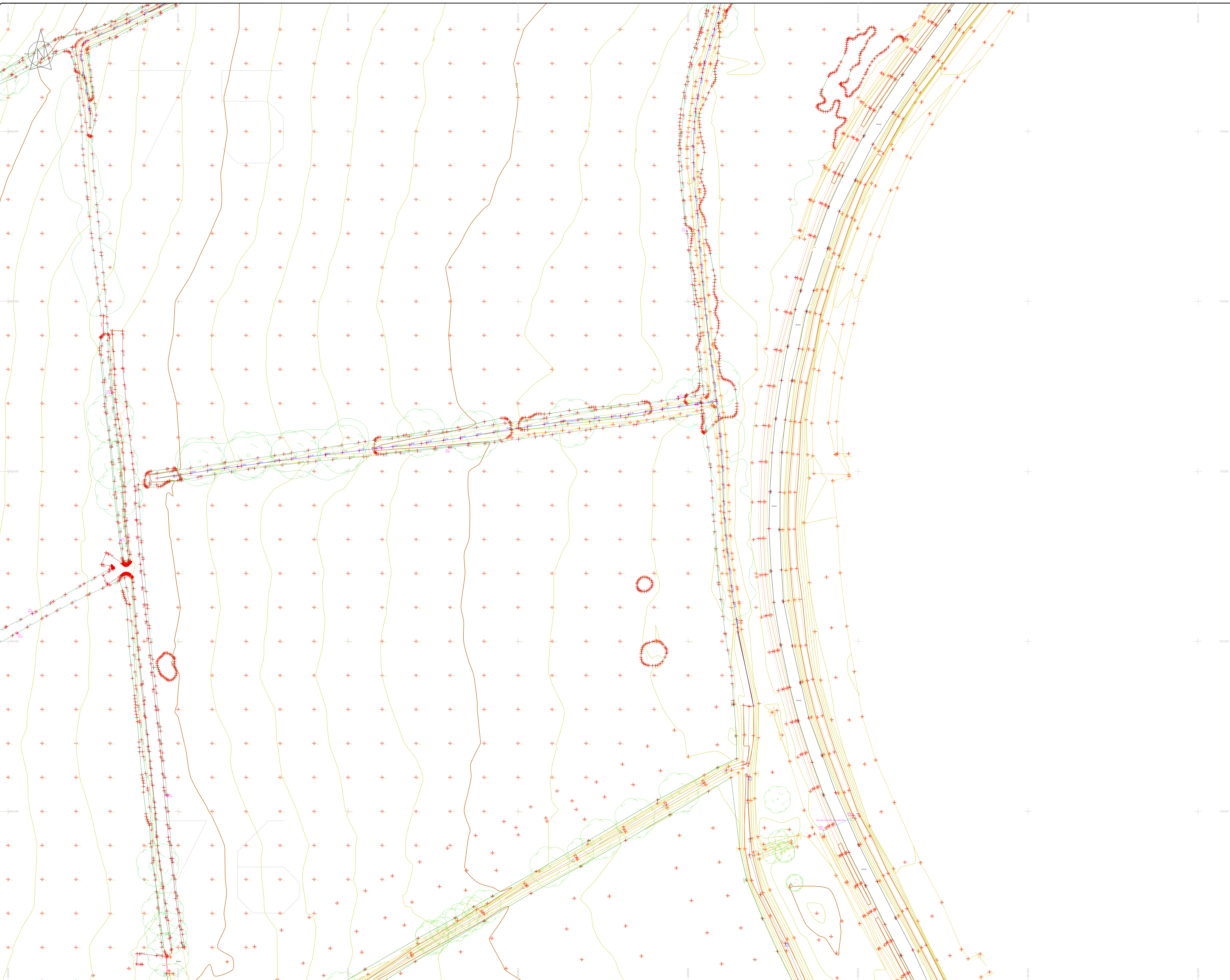
**Head Office**  
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 Kiltullen Co. Kildare, Ireland

**Phone:** (+353) 045 484040  
**Fax:** (+353) 045 484004  
**Email:** info@murphyge.ie

<b>Client:</b>	AECOM Dublin
<b>Project:</b>	BNN Site Derrygreenagh Rhode
<b>Date:</b>	26.07.2023
<b>Scale:</b>	1:500@A1
<b>Description:</b>	Topographical Survey
<b>Drawing Number:</b>	MGS52335_T_ITM_Rev2-74

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### LEGEND

#### Street furniture & Services

Over Head Wires (LUAS) - Pylon ESB	Bus Stop	Road Sign	Phone Box
Flowerbed	Ballast	Bench Seat	Dust
Pipe	Beacon	Keok	Gas Cover
Lit	Coalhole Cover	Gully	C/P Box
Barrier	Boys Hole	Waste Bin	USG Car Park Vent
Pump	Electricity Pole	Hydrant	Fire Hydrant
Bus/Tram Shelter	Telegraph Pole	ESB Box	ESB Box
Postbox	OCS Pole	ESB Box	ESB Box
Water - General	CCTV Camera Pole	ESB Box	ESB Box
Water Valve	Lamp Post	ESB Box	ESB Box
Gas Valve	Foul Manhole	ESB Box	ESB Box
Sluice Valve	Surface Water MH	ESB Box	ESB Box
Air Valve	Manholes	ESB Box	ESB Box
Stop Cook	Air Conditioning Vents	ESB Box	ESB Box
C/P Post	Services Inspection Cover	ESB Box	ESB Box
Marker Post	Traffic Inspection Cover	ESB Box	ESB Box
Traffic Light	Cable TV Inspection Cover	ESB Box	ESB Box
Parking Meter	SAT Inspection Cover	ESB Box	ESB Box
Flare Area Mark	N/L Inspection Cover	ESB Box	ESB Box
Smart Card Validator	ESCOM Inspection Cover	ESB Box	ESB Box
Unknown Valve	Rocking Eye	ESB Box	ESB Box

#### Natural Features

Surface Change	Water Level	Golf
Land Drain	Clown Level	Fair Way
Bottom of Slope	Invert level	Green
Top of Slope	Bed Level	Tea Box
Ditch	Spotheight	Other
Water Edge / Lake / Pond	Tree Deciduous	Survey Station
Hedge / Trees Drip Line / Vegetation	Tree Deciduous	Photo point

#### Built Features

##### Roads & Road Markings

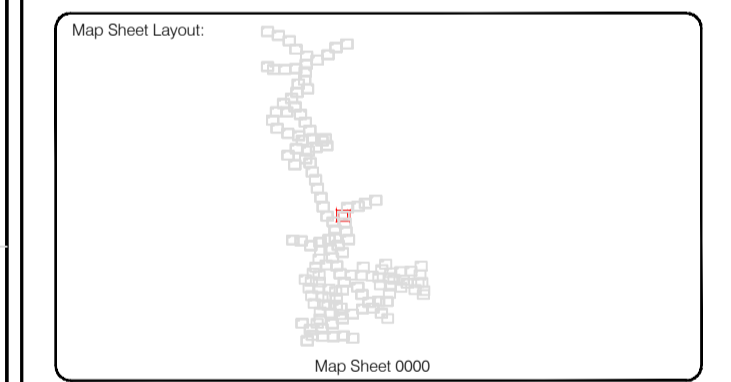
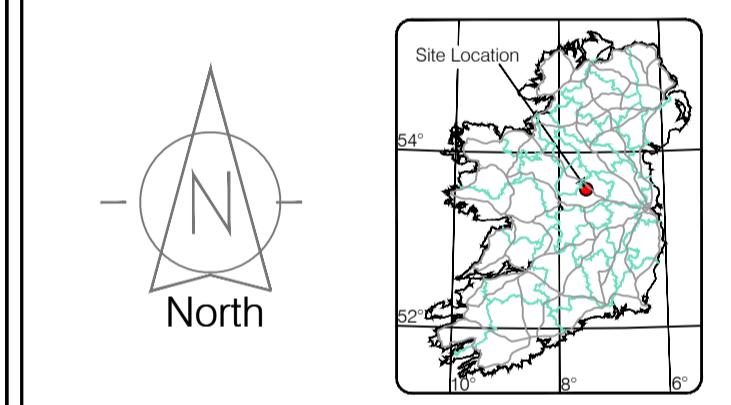
Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Soffit Elevation
Bridge Deck	Property Line	Step Level
Bridge Parapet	Road Bow	Concrete Pad
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Footpath / Platform Train & Tram	Wall / Retaining Wall	
Damp Proof Course / Veep	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

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Drawn by: ST	Date: 26.07.2023	Date: 26.07.2023	Date: 26.07.2023
Checked by: PK	Date: 26.07.2023	Date: 26.07.2023	Date: 26.07.2023

No.	Date	Description	Revisions
0	26.07.2023	Final Drawing	
1	08.08.2023	Layouts added	
2	06.09.2023	Additional road survey added	



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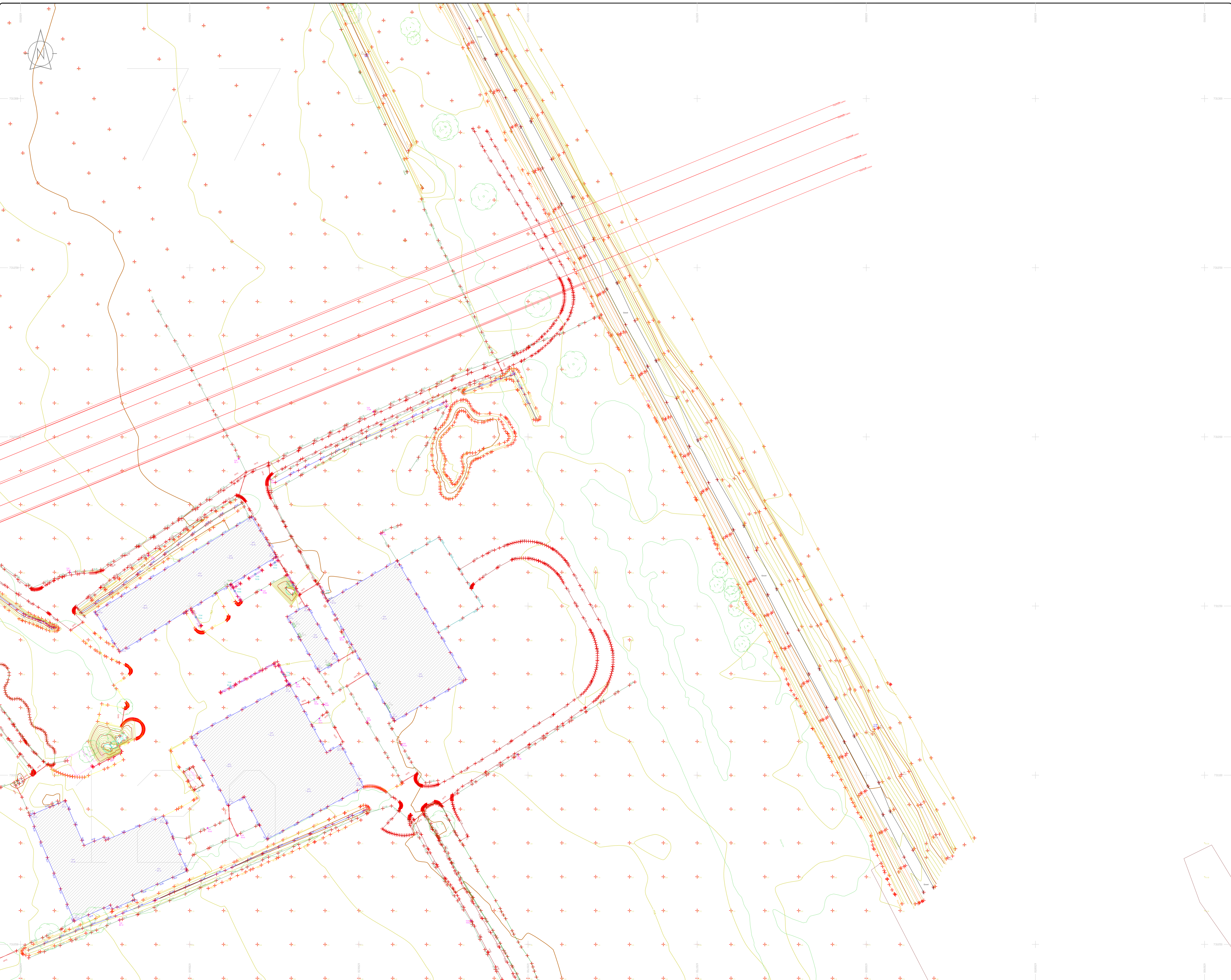
<b>Client :</b>	AECOM Dublin
<b>Project :</b>	BNN Site Derrygreenagh Rhode
<b>Date :</b>	26.07.2023
<b>Scale :</b>	1:500@A1
<b>Description :</b>	Topographical Survey
<b>Drawing Number :</b>	MGS52335_T_ITM_Rev2-75

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### LEGEND

#### Street furniture & Services

Over Head Wires (LUAS) - Pylon ESB	Bus Stop	Ballast	Road Sign	Phone Box
Powerbed	Beacon	Coalhole Cover	Electricity Pole	Telegraph pole
Pipe	Beacon	Coalhole Cover	Electricity Pole	Telegraph pole
Light	Beacon	Coalhole Cover	Electricity Pole	Telegraph pole
Barrier	Beacon	Coalhole Cover	Electricity Pole	Telegraph pole
Pump	Beacon	Coalhole Cover	Electricity Pole	Telegraph pole
Trial Pit	Beacon	Coalhole Cover	Electricity Pole	Telegraph pole
Bus/Tram Shelter	Beacon	Coalhole Cover	Electricity Pole	Telegraph pole
Water - General	Beacon	Coalhole Cover	Electricity Pole	Telegraph pole
Water Valve	Beacon	Coalhole Cover	Electricity Pole	Telegraph pole
Gas Valve	Beacon	Coalhole Cover	Electricity Pole	Telegraph pole
Sluice Valve	Beacon	Coalhole Cover	Electricity Pole	Telegraph pole
Air Valve	Beacon	Coalhole Cover	Electricity Pole	Telegraph pole
Stop Cook	Beacon	Coalhole Cover	Electricity Pole	Telegraph pole
C/P Post	Beacon	Coalhole Cover	Electricity Pole	Telegraph pole
Marker Post	Beacon	Coalhole Cover	Electricity Pole	Telegraph pole
Tracing Meter	Beacon	Coalhole Cover	Electricity Pole	Telegraph pole
Flare Area Mark	Beacon	Coalhole Cover	Electricity Pole	Telegraph pole
Smart Card Validator	Beacon	Coalhole Cover	Electricity Pole	Telegraph pole
Unknown Valve	Beacon	Coalhole Cover	Electricity Pole	Telegraph pole
Beach Seat	Beacon	Coalhole Cover	Electricity Pole	Telegraph pole
Keek	Beacon	Coalhole Cover	Electricity Pole	Telegraph pole
Gas Cover	Beacon	Coalhole Cover	Electricity Pole	Telegraph pole
Guily	Beacon	Coalhole Cover	Electricity Pole	Telegraph pole
USG Car Park View	Beacon	Coalhole Cover	Electricity Pole	Telegraph pole
Waste Bin	Beacon	Coalhole Cover	Electricity Pole	Telegraph pole
Hydrant	Beacon	Coalhole Cover	Electricity Pole	Telegraph pole
Fire Hydrant	Beacon	Coalhole Cover	Electricity Pole	Telegraph pole
ESS Box	Beacon	Coalhole Cover	Electricity Pole	Telegraph pole
Basement MH Cover & Pipe	Beacon	Coalhole Cover	Electricity Pole	Telegraph pole
Basement MH Cover & Pipe	Beacon	Coalhole Cover	Electricity Pole	Telegraph pole
Basement MH Cover & Pipe	Beacon	Coalhole Cover	Electricity Pole	Telegraph pole
Basement MH Cover & Pipe	Beacon	Coalhole Cover	Electricity Pole	Telegraph pole
Basement MH Cover & Pipe	Beacon	Coalhole Cover	Electricity Pole	Telegraph pole

#### Natural Features

Surface Change	Water Level	Fair Way
Land Drain	Crown Level	Green
Bottom of Slope	Invert level	Tree Box
Top of Slope	Bed Level	Other
Ditch	Spotheight	Survey Station
Water Edge / Lake / Pond		Photo point
Hedge / Trees Drip Line / Vegetation		
Tree Coniferous	Tree Deciduous	Top of Tree

#### Built Features

##### Roads & Road Markings

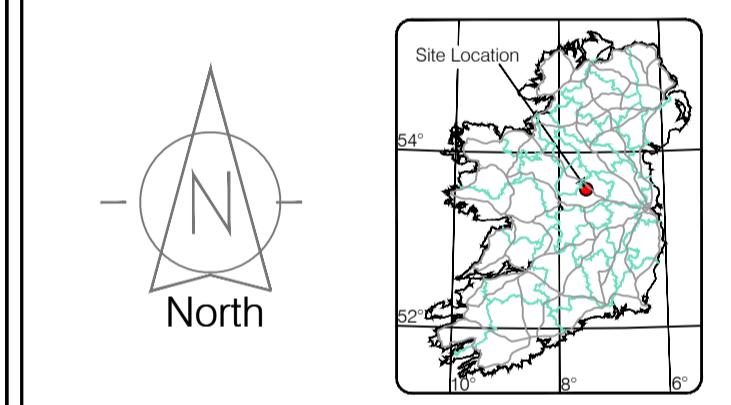
Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Soffit Elevation
Bridge Deck	Property Line	Step Level
Bridge Parapet	Road Sign	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform / Tram	Wall / Retaining Wall	
Damp Proof Course / Veep	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate/Pillar / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

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Map Sheet Layout

Map Sheet 0000

Drawn by: ST	Date: 26.07.2023	Date: 26.07.2023	Date: 26.07.2023
Checked by: PK	Date: 26.07.2023	Date: 26.07.2023	Date: 26.07.2023

No.	Date	Description	Revisors
0	26.07.2023	Final Drawing	
1	08.08.2023	Layouts added	
2	06.09.2023	Additional road survey added	



Topographic surveys, Measured Building Surveys, Setting-out, As-Built Surveys, Hydrographic Surveys, Legal Mapping, Pipeline Surveys, Service Location, Ground Penetrating Radar, Laser Scanning, Aerial Photography

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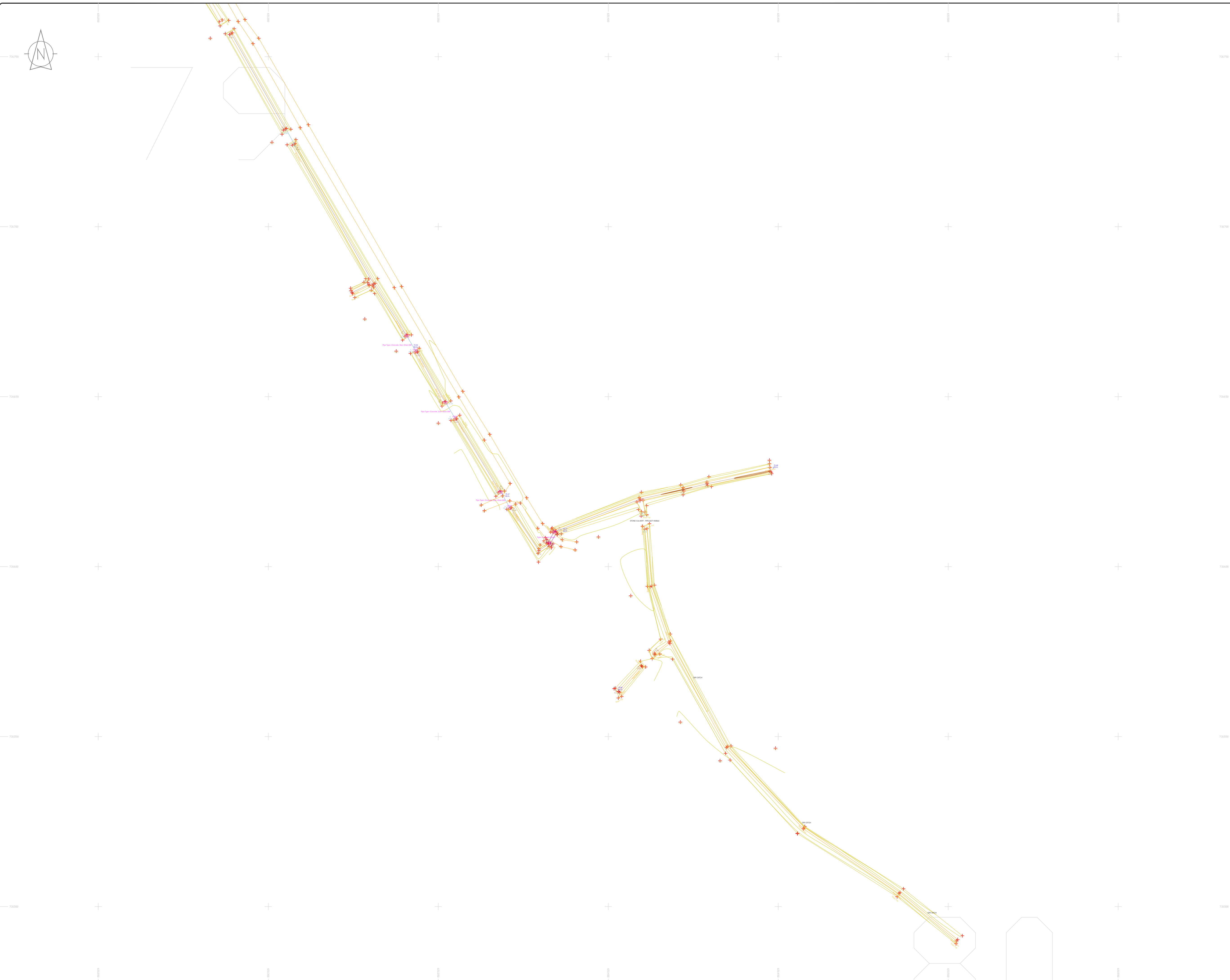
Client:	AECOM Dublin
Project:	BNN Site Derrygreenagh Rhode
Date:	26.07.2023
Scale:	1:500@A1
Description:	Topographical Survey
Drawing Number:	MGS52335_T_ITM_Rev2-77

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### LEGEND

#### Street furniture & Services

Over Head Wires (LUAS) - Python ESB	Street Sign	Phone Box
Powerbed	Bench Seat	Duct
Bus Stop	Ballast	Keek
Pipe	Beacon	Gas Cover
Lit	Coalhole Cover	Gully
Barrier	Boys Hole	Waste Bin
Pump	Electricity Pole	Hydrant
Bus/Tram Shelter	Telegraph pole	Fire Hydrant
Postbox	OCS Pole	ESS Box
Water - General	OCTV Camera Pole	Water Inspection Cover
Water Valve	Lamp Post	Traffic Control Box
Gas Valve	Foul Manhole	LUAS Technical Cubicle
Sluice Valve	Surface Water MH	Ticket Vending Machine
Air Valve	Manholes	Water Meter Cover
Stop Cook	Air Conditioning Vents	Telecom Inspection Cover
C/P Post	Services Inspection Cover	Monument / Toilets
Marker Post	Traffic Inspection Cover	Tank Storage
Traffic Light	Cable TV Inspection Cover	Basement MH Cover & Pipe
Parking Meter	ESAT Inspection Cover	Disposal Aerial Mark
Flare Aerial Mark	NL Inspection Cover	Stay for pole
Smart Card Validator	Elcom Inspection Cover	Stay for pole
Unknown Valve	Rocking Eye	Washout

#### Natural Features

Surface Change	Water Level	Golf
Land Drain	Down Level	Fair Way
Bottom of Slope	Invert level	Green
Top of Slope	Bed Level	Tee Box
Ditch	Spotheight	Other
Water Edge / Lake / Pond		Survey Station
Hedge / Trees Drip Line / Vegetation		Photo point
Tree Coniferous	Tree Deciduous	Top of Tree

#### Built Features

##### Roads & Road Markings

Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Softi Elevation
Bridge Deck	Property Line	Step Level
Bridge Parapet	Road Sign	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform Train & Tram	Wall / Retaining Wall	
Damp Proof Course / Verge	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pile / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

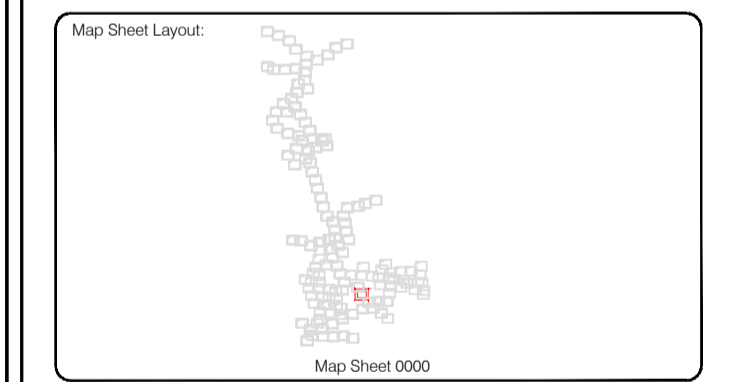
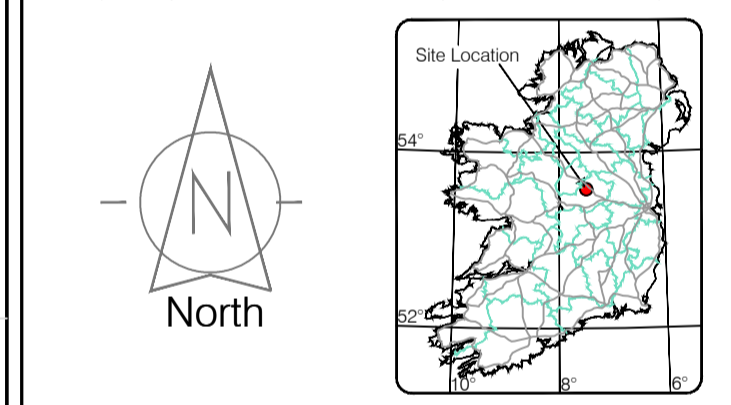
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Site Location



Reviewed by: ST	Date: 26.07.2023	Datum: Irish National Grid	Main Head
Drawn by: ST	Date: 26.07.2023	Grid System: Irish National Grid	ITM 8
Checked by: PK	Date: 26.07.2023		

Revisions	
No.	Description
0	First Drawing
1	Layouts added
2	Additional road survey added



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<b>Client :</b>	AECOM Dublin
<b>Project :</b>	BNN Site Derrygreenagh Rhode
<b>Date :</b>	26.07.2023
<b>Scale :</b>	1:500@A1
<b>Description :</b>	Topographical Survey
<b>Drawing Number :</b>	MGS52335_T_ITM_Rev2-79

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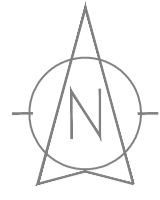












**LEGEND**

**Street furniture & Services**

Over Head Wires (LUAS) - Nylon ESB	Bus Stop	Road Sign	Phone Box
Flowerbed	Bollard	Bench Seat	Dust
Pipe	Beacon	Kiosk	Gas Cover
Lift	Coalhole Cover	Guylt	C/P Box
Barrier	Bore Hole	Waste Bin	Waste Bin
Pump	Electricity Pole	Hydrant	Hydrant
Trial Pit	Telegraph pole	Fire Hydrant	Fire Hydrant
Bus/Tram Shelter	OCS Pole	ESB Box	ESB Box
Water - General	CCTV Camera Pole	ESB Inspection Cover	ESB Inspection Cover
Water Valve	Lamp Post	Traffic Control Box	Traffic Control Box
Gas Valve	Four Manhole	LUAS Technical Cubicle	LUAS Technical Cubicle
Sluice Valve	Surface Water MH	Ticket Vending Machine	Ticket Vending Machine
Air Valve	Manholes	Water Meter Cover	Water Meter Cover
Stop Cook	Air Conditioning Vents	Telecom Inspection Cover	Telecom Inspection Cover
C/P Box	Services Inspection Cover	Monument / Toilets	Monument / Toilets
Market Post	Traffic Inspection Cover	Tank Storage	Tank Storage
Traffic Light	Cable TV Inspection Cover	Basement MH Cover & Pipe	Basement MH Cover & Pipe
Parking Meter	ESAT Inspection Cover	Disabled Access Mark	Disabled Access Mark
Plane Access Mark	NTL Inspection Cover	Stay for pole	Stay for pole
Smart Card Validator	Escom Inspection Cover	PP	Pipe Protection
Unknown Valve	Rocking Eye	Washout	Washout

**Natural Features**

Surface Change	Water Level	Fair Way	Fair Way
Land Drain	Clown Level	Green	Green
Bottom of Slope	Invert level	Tree Box	Tree Box
Top of Slope	Bed Level	Other	Other
Ditch	Spotheight	Survey Station	Survey Station
Water Edge / Lake / Pond		Photo point	Photo point
Hedge / Trees Drip Line / Vegetation			
Tree Contour	Tree Deciduous	Top of Tree	Top of Tree

**Built Features**

**Roads & Road Markings**

Building	Fence	Floor Level	Floor Level
Edge of Road	Gate	Apex Height	Apex Height
Kerb Bottom	Road Centreline	Eaves Height	Eaves Height
Kerb Top	Top of Wall	Parapet Height	Parapet Height
Bridge Abutment	Hoarding	Soft Elevation	Soft Elevation
Bridge Deck	Property Line	Step Level	Step Level
Bridge Parapet	Road Scar	Concrete Pad	Concrete Pad
Building Facade	Top of Fence	Track	Track
Footpath / Platform Train & Tram	Wall / Retaining Wall		
Damp Proof Course / Verge	Railway / Tram Rail / Grating / Ramp		
Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Building Canopy / Roof / Overhang		
Cycleway / Private Landing Area			

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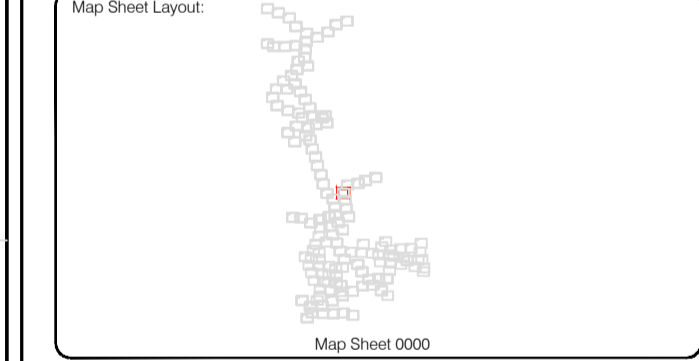
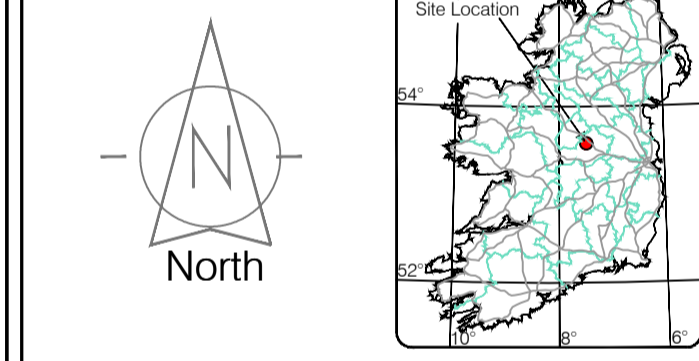
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Drawn by: ST	Date: 26/07/2023	Drawn by: ST	Date: 26/07/2023	Drawn by: ST	Date: 26/07/2023	Drawn by: ST	Date: 26/07/2023	Drawn by: ST	Date: 26/07/2023
Checked by: PK	Date: 26/07/2023	Checked by: PK	Date: 26/07/2023	Checked by: PK	Date: 26/07/2023	Checked by: PK	Date: 26/07/2023	Checked by: PK	Date: 26/07/2023

No	Date	Description
0	26.07.2023	Field Drawing
1	08.08.2023	Layout added
2	06.09.2023	Additional road survey added



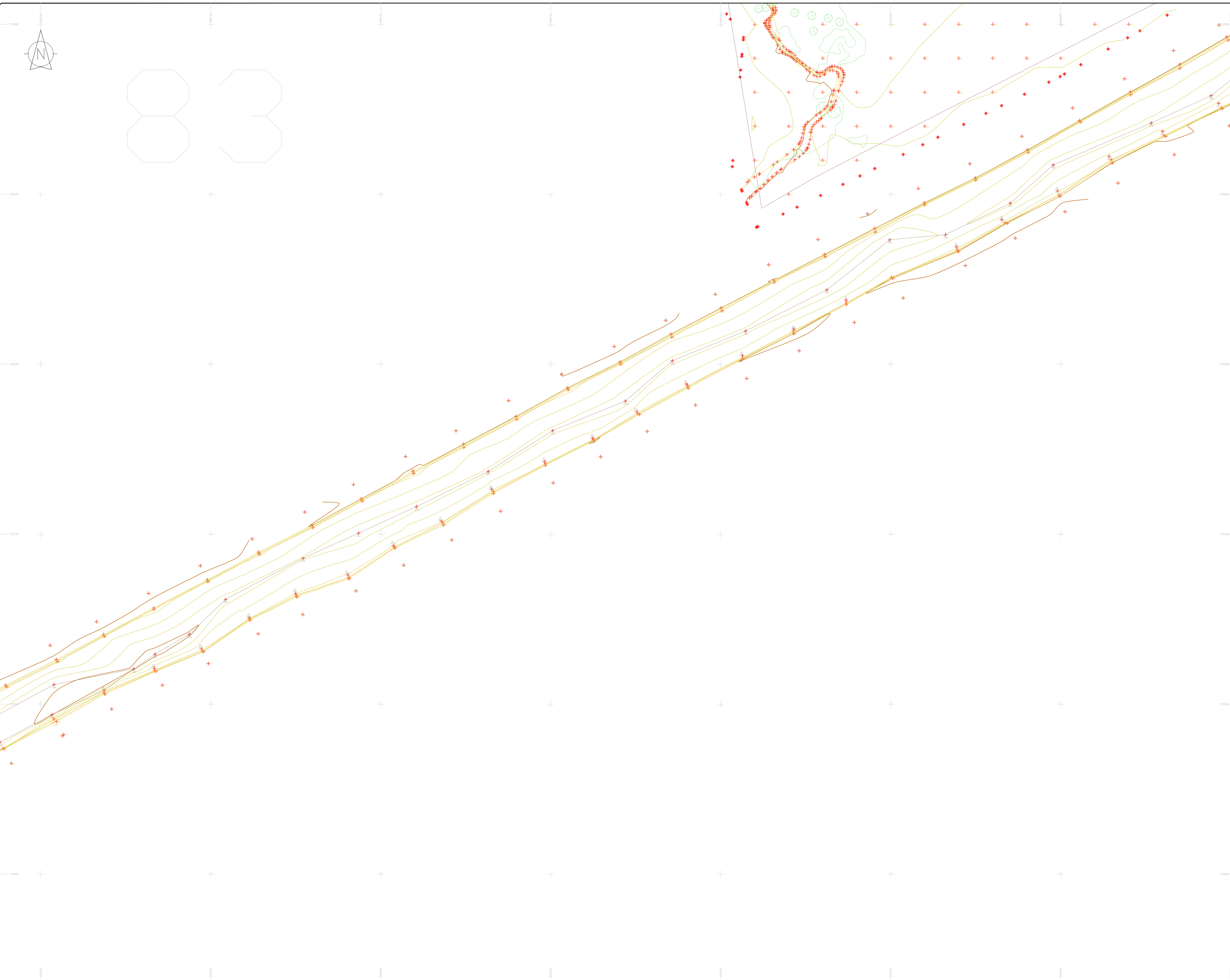
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<b>Client :</b>	AECOM Dublin
<b>Project :</b>	BNN Site Derrygreenagh Rhode
<b>Date :</b>	26.07.2023
<b>Scale :</b>	1:500@A1
<b>Description :</b>	Topographical Survey
<b>Drawing Number :</b>	MGS52335_T_ITM_Rev2-82





### LEGEND

#### Street furniture & Services

Over Head Wires (LUAS) - Python ESB	Street Sign	Phone Box
Powerbed	Bench Seat	Duct
Pipe	Keek	Gas Cover
Lit	Gully	C/P Box
Barrier	Waste Bin	Waste Bin
Pump	Hydrant	Fire Hydrant
Trial Pit	Electricity Pole	Hydrant
Bus/Tram Shelter	Telegraph pole	Fire Hydrant
Postbox	OCS Pole	ESS Box
Water - General	CCTV Camera Pole	ESS Inspection Cover
Water Valve	Lamp Post	Traffic Control Box
Gas Valve	Foul Manhole	LUAS Technical Cabinet
Sluice Valve	Surface Water MH	Water Meter Cover
Air Valve	Manholes	Water Meter Cover
Stop Cook	Air Conditioning Vents	Telecom Inspection Cover
C/P Post	Services Inspection Cover	Monument / Toilets
Marker Post	Traffic Inspection Cover	Tank Storage
Traffic Light	Cable TV Inspection Cover	Basement MH Cover & Pipe
Parking Meter	ESAT Inspection Cover	Basement MH Cover & Pipe
Flare Area Mark	NFL Inspection Cover	Stay for pole
Smart Card Validator	Elcom Inspection Cover	Stay for pole
Unknown Valve	Rocking Eye	Washout

#### Natural Features

Surface Change	Water Level	Fair Way
Land Drain	Down Level	Green
Bottom of Slope	Invert level	Tree Box
Top of Slope	Bed Level	Other
Ditch	Spotheight	Survey Station
Water Edge / Lake / Pond		Photo point
Hedge / Trees Drip Line / Vegetation		Top of Tree
Tree Contourous	Tree Deciduous	

#### Built Features

##### Roads & Road Markings

Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Soffit Elevation
Bridge Deck	Property Line	Step Level
Bridge Pier	Road Sign	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform Train & Tram	Wall / Retaining Wall	
Damp Proof Course / Verge	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

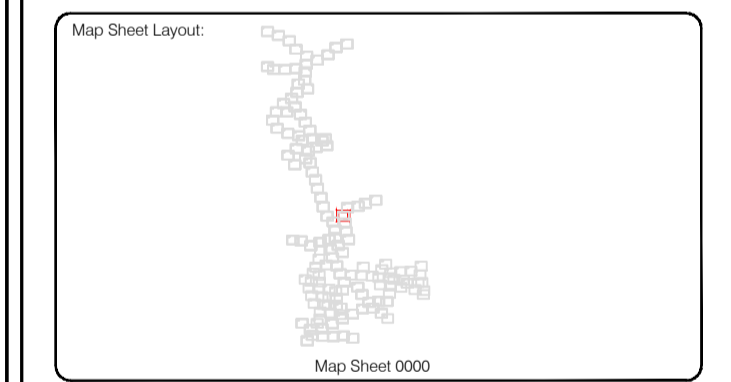
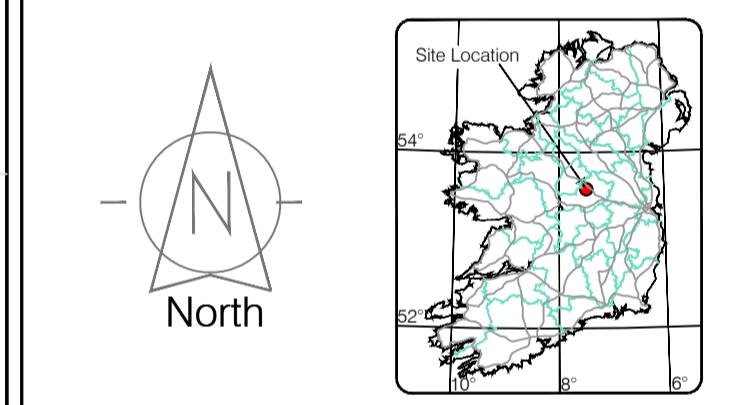
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Site Location



Drawn by: ST	Date: 26.07.2023	Grid System: Irish National Grid	ITM 8
Checked by: PK	Date: 26.07.2023		

No.	Date	Description	Revisions
0	26.07.2023	First Drawing	
1	08.08.2023	Layouts added	
2	06.09.2023	Additional road survey added	



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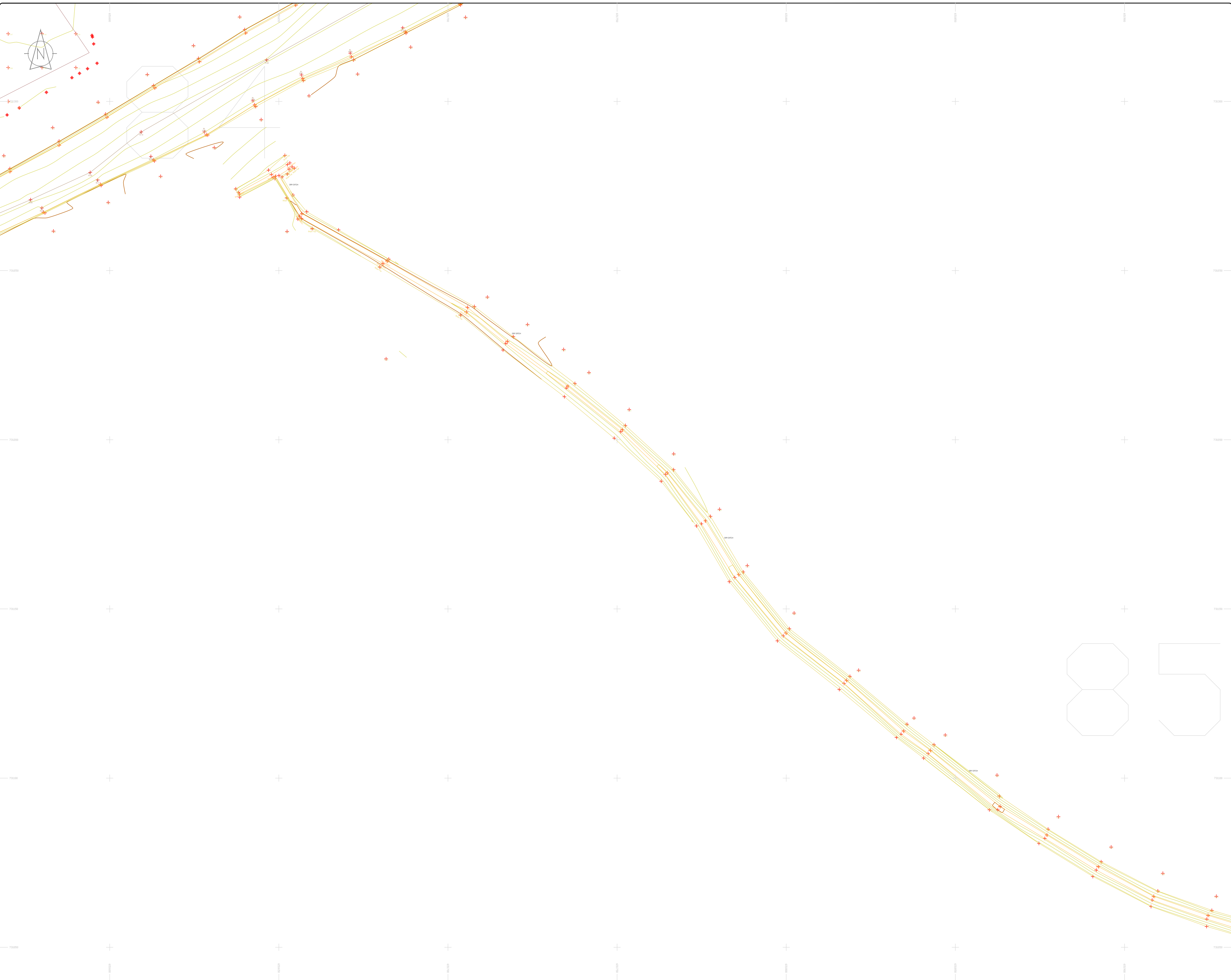
**Date :** 26.07.2023 **Scale :** 1:500@A1

**Description :** Topographical Survey

**Drawing Number :** MGS52335\_T\_ITM\_Rev2-83

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### LEGEND

#### Street furniture & Services

Over Head Wires (LUAS) - Pylon ESB	Bus Stop	Ballast	Beacon	Coalhole Cover	Boys Hole	Electricity Pole	Telegraph pole	Road Sign	Phone Box
Powerbed	BEA	CH	BH	EP	EP	EP	EP	Bench Seat	Duct
Pipe	CH	CH	EP	EP	EP	EP	EP	Keek	Gas Cover
Lit	CH	CH	EP	EP	EP	EP	EP	Gully	C/P Box
Barrier	CH	CH	EP	EP	EP	EP	EP	Waste Bin	USG Car Park View
Pump	CH	CH	EP	EP	EP	EP	EP	Hydrant	Fire Hydrant
Trail Pit	CH	CH	EP	EP	EP	EP	EP	ESB Box	ESB Box
Bus/Tram Shelter	CH	CH	EP	EP	EP	EP	EP	ESB Box	ESB Box
Postbox	CH	CH	EP	EP	EP	EP	EP	ESB Box	ESB Box
Water - General	CH	CH	EP	EP	EP	EP	EP	ESB Box	ESB Box
Water Valve	CH	CH	EP	EP	EP	EP	EP	ESB Box	ESB Box
Gas Valve	CH	CH	EP	EP	EP	EP	EP	ESB Box	ESB Box
Sluice Valve	CH	CH	EP	EP	EP	EP	EP	ESB Box	ESB Box
Air Valve	CH	CH	EP	EP	EP	EP	EP	ESB Box	ESB Box
Stop Cook	CH	CH	EP	EP	EP	EP	EP	ESB Box	ESB Box
C/P Post	CH	CH	EP	EP	EP	EP	EP	ESB Box	ESB Box
Marker Post	CH	CH	EP	EP	EP	EP	EP	ESB Box	ESB Box
Track Light	CH	CH	EP	EP	EP	EP	EP	ESB Box	ESB Box
Parking Meter	CH	CH	EP	EP	EP	EP	EP	ESB Box	ESB Box
Flare Area Mark	CH	CH	EP	EP	EP	EP	EP	ESB Box	ESB Box
Smart Card Validator	CH	CH	EP	EP	EP	EP	EP	ESB Box	ESB Box
Unknown Valve	CH	CH	EP	EP	EP	EP	EP	ESB Box	ESB Box

#### Natural Features

Surface Change	Water Level	Fair Way
Land Drain	Down Level	Green
Bottom of Slope	Invert level	Tree Box
Top of Slope	Bed Level	Other
Ditch	Spotheight	Survey Station
Water Edge / Lake / Pond	Spotheight	Photo point
Hedge / Trees Drip Line / Vegetation	Spotheight	Photo point
Tree Contourous	Spotheight	Photo point

#### Built Features

##### Roads & Road Markings

Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Soft Elevation
Bridge Deck	Property Line	Step Level
Bridge Pier	Road Sign	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform Train & Tram	Wall / Retaining Wall	
Damp Proof Course / Verge	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

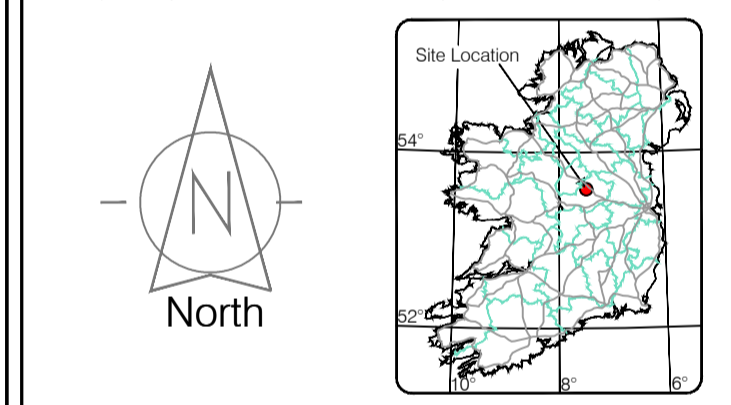
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Site Location



Map Sheet Layout

Map Sheet 0000

Reviewed by: ST	Date: 26/07/2023	Datum: Irish National Grid	Main Head
Drawn by: ST	Date: 26/07/2023	Grid System: Irish National Grid	ITM 8
Checked by: PK	Date: 26/07/2023		

No	Date	Description	Revisions
0	26.07.2023	First Drawing	
1	08.08.2023	Layouts added	
2	06.09.2023	Additional road survey added	



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Email: info@murphyge.ie

<b>Client :</b>	AECOM Dublin
<b>Project :</b>	BNN Site Derrygreenagh Rhode
<b>Date :</b>	26.07.2023
<b>Scale :</b>	1:500@A1
<b>Description :</b>	Topographical Survey
<b>Drawing Number :</b>	MGS52335_T_ITM_Rev2-84

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**LEGEND**  
Street furniture & Services

Over Head Wires (LUAS) - Pylon ESB	Ballast	Road Sign	Phone Box
Powerbed	Bench Seat	Bus Stop	Duct
Pipe	Beacon	Bus/Tram Shelter	Gas Cover
Lift	Coalhole Cover	Electricity Pole	Waste Bin
Barrier	Boys Hole	Telegraph pole	Hydrant
Pump	Electricity Pole	Postbox	Fire Hydrant
Water - General	OCCV Camera Pole	Water Valve	ESB Box
Water Valve	Lamp Post	Gas Valve	ESB Inspection Cover
Gas Valve	Foul Manhole	Sluice Valve	Traffic Control Box
Air Valve	Surface Water MH	Air Valve	LUAS Technical Cubicle
Stop Cook	Manholes	Stop Cook	Water Meter Cover
C/P Post	Air Conditioning Vents	C/P Post	Water Meter Cover
Marker Post	Services Inspection Cover	Marker Post	Telecom Inspection Cover
Traffic Light	Traffic Inspection Cover	Traffic Light	Monument / Toilets
Parking Meter	Cable TV Inspection Cover	Parking Meter	Tank Storage
Plane Area Mark	ESAT Inspection Cover	Plane Area Mark	Basement MH Cover & Pipe
Smart Card Validator	NL Inspection Cover	Smart Card Validator	Dead Aerial Mark
Unknown Valve	ELCOM Inspection Cover	Unknown Valve	Stay for pole
	Rocking Eye		PP
			Pipe Protection
			Washout

**Natural Features**

Surface Change	Water Level	Golf
Land Drain	Crown Level	Fair Way
Bottom of Slope	Invert level	Green
Top of Slope	Bed Level	Tea Box
Ditch	Spotheight	Other
Water Edge / Lake / Pond		Survey Station
Hedge / Trees Drip Line / Vegetation		Photo point
Tree Coniferous	Tree Deciduous	Top of Tree

**Built Features**

**Roads & Road Markings**

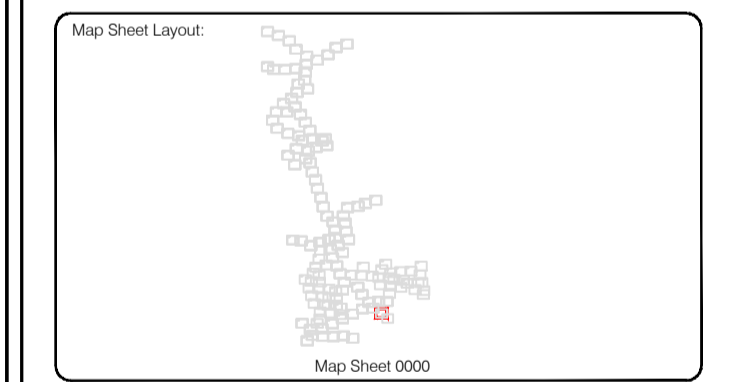
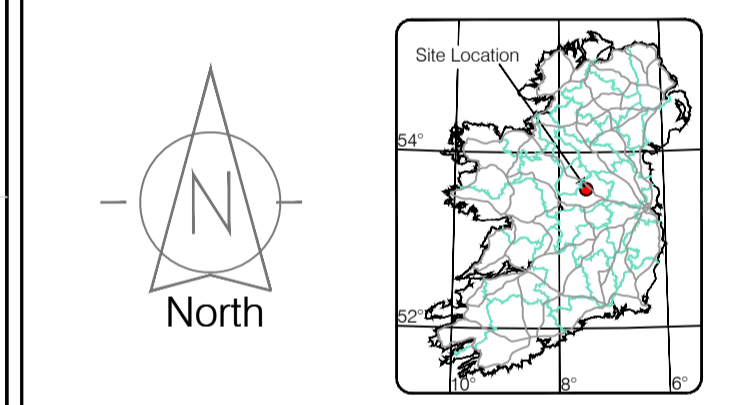
Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Soft Elevation
Bridge Deck	Property Line	Step Level
Bridge Pier	Road Bar	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform Train / Tram	Wall / Retaining Wall	
Damp Proof Course / Verge	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

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Reviewed by: ST	Date: 26.07.2023	Datum: Irish National Grid	Main Head
Drawn by: ST	Date: 26.07.2023	Grid System: Irish National Grid	ITM 8
Checked by: PK	Date: 26.07.2023		

Revisions	
No.	Description
0	26.07.2023 First Drawing
1	08.08.2023 Layouts added
2	06.09.2023 Additional road survey added

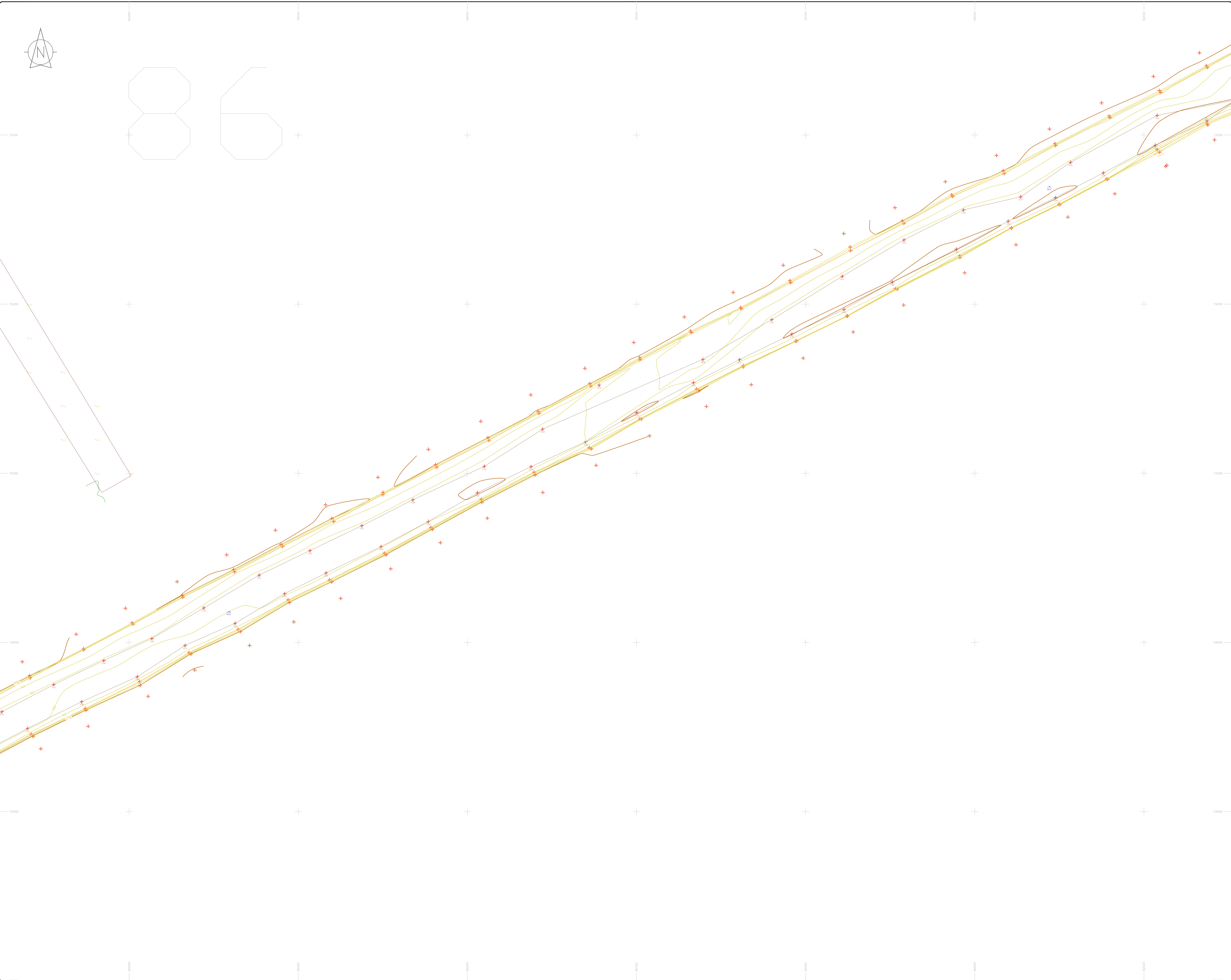


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<b>Client :</b>	AECOM Dublin
<b>Project :</b>	BNN Site Derrygreenagh Rhode
<b>Date :</b>	26.07.2023
<b>Scale :</b>	1:500@A1
<b>Description :</b>	Topographical Survey
<b>Drawing Number :</b>	MGS52335_T_ITM_Rev2-85





### LEGEND

#### Street furniture & Services

Over Head Wire (LUAS) - Pylon ESB	Bus Stop	Road Sign	Phone Box
Flowerbed	Bollard	Bench Seat	Duct
Pipe	Beacon	Kiosk	Gas Cover
Lift	Coatline Cover	UG Car Park Vent	P Box
Barrier	Bore Hole	Waste Bin	
Pump	Electricity Pole	Hydrant	
Trail Pit	Telegraph pole	Fire Hydrant	
Bus/Tram Shelter	CCTV Pole	ESB Box	
Postbox	CCTV Camera Pole	ESB Inspection Cover	
Valve - General	Lamp Post	Traffic Control Box	
Gas Valve	Foul Manhole	LUAS Technical Cubicle	
Sluice Valve	Surface Water MH	Ticket Vending Machine	
Air Valve	Manholes	Water Meter Cover	
Stop Cock	Air Conditioning Vents	Telecom Inspection Cover	
G P Post	Services Inspection Cover	Monument / Toilets	
Marker Post	Traffic Inspection Cover	Tank Storage	
Traffic Light	Gas TV Inspection Cover	Basement MH Cover & Pipe	
Parking Meter	ESAT Inspector Cover	Distorted Aerial Mark	
Smart Card Validator	Encom Inspector Cover	Stay for pole	
Unknown Valve	Rodding Eye	Pipe Protection	
		Washout	

#### Natural Features

Surface Change	Water Level	Fair Way
Land Drain	Crown Level	Green
Bottom of Slope	Invert level	Tree Box
Top of Slope	Bed Level	Other
Ditch	Spotheight	Survey Station
Water Edge / Lake / Pond		Photo point
Hedge / Trees Dip Line / Vegetation		
Tree Coniferous	Tree Deciduous	Top of Tree

#### Built Features

##### Roads & Road Markings

Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hearding	Subs Elevation
Bridge Deck	Property Line	Step Level
Bridge Pier	Road Scar	Concrete Pad
Building Façade	Top of Fence	Track
Footpath / Platform Train & Tram	Wall / Retaining Wall	
Damp Proof Course / Verge	Railway / Tram Rail / Grating / Ramp	
Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cyclway / Private Landing Area		

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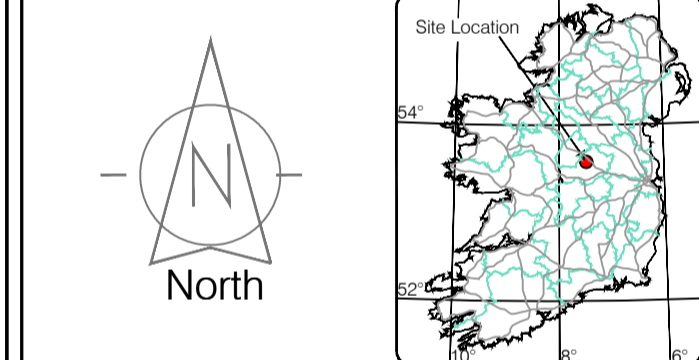
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Map Sheet Layout:

Map Sheet 0000

Approved by: ST	Date: 26/07/2023	Drawn by: ST	Date: 26/07/2023	Checked by: PK	Date: 26/07/2023
Revisions		Miles Head			
No	Date	Description	Grid System: Irish National Grid		
0	26.07.2023	First Drawing	ITM 8		
1	08.08.2023	Layouts added			
2	09.09.2023	Additional road survey added			



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 Fax: (+353) 045 484004  
 Email: info@murphys.ie

**Client:** AECOM Dublin

**Project:** BNM Site Derrygreenagh Rhode

**Date:** 26.07.2023 **Scale:** 1:500@A1

**Description:** Topographical Survey

**Drawing Number:** MGS52335\_T\_ITM\_Rev2-86

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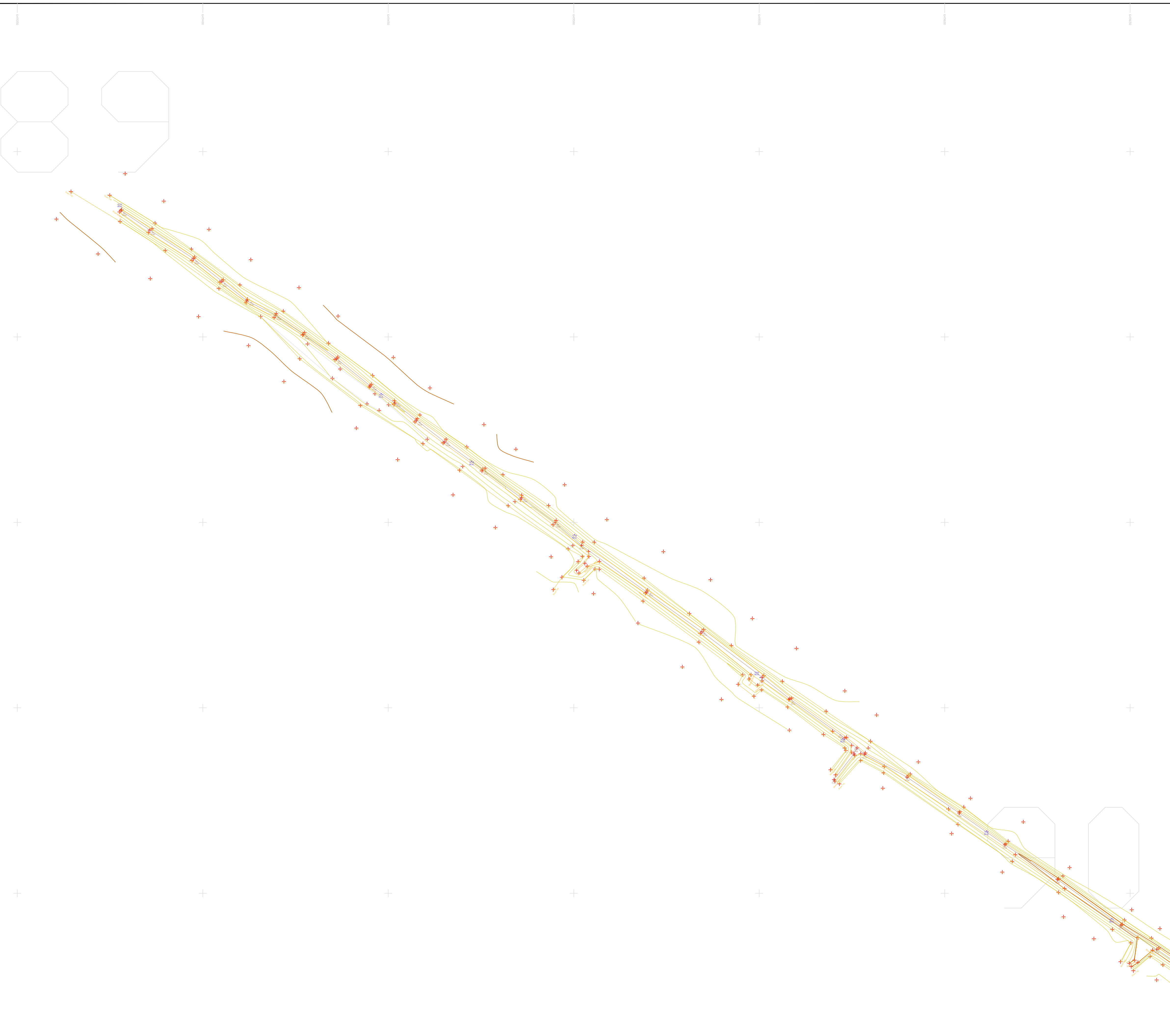












**LEGEND**  
Street furniture & Services

Over Head Wires (LUAS) - Pylon ESB	Ballast	Phone Box
Powerbed	Beacon	Bench Seat
Ball Stop	Coalhole Cover	Bus Stop
Pipe	Electricity Pole	Bus/Tram Shelter
Light	Telegraph pole	Waste Bin
Barrier	Electricity Pole	Waste Bin
Pump	Electricity Pole	Waste Bin
Trail Pit	Electricity Pole	Waste Bin
Bus/Tram Shelter	Electricity Pole	Waste Bin
Postbox	Electricity Pole	Waste Bin
Water - General	Electricity Pole	Waste Bin
Water Valve	Electricity Pole	Waste Bin
Gas Valve	Electricity Pole	Waste Bin
Sluice Valve	Electricity Pole	Waste Bin
Air Valve	Electricity Pole	Waste Bin
Stop Cock	Electricity Pole	Waste Bin
C P Post	Electricity Pole	Waste Bin
Marker Post	Electricity Pole	Waste Bin
Traffic Light	Electricity Pole	Waste Bin
Parking Meter	Electricity Pole	Waste Bin
Plane Asses Mark	Electricity Pole	Waste Bin
Smart Card Validator	Electricity Pole	Waste Bin
Unknown Valve	Electricity Pole	Waste Bin
Surface Change	Water Level	Golf
Land Drain	Water Level	Fair Way
Bottom of Slope	Water Level	Green
Top of Slope	Water Level	Tea Box
Ditch	Water Level	Other
Water Edge / Lake / Pond	Water Level	Survey Station
Hedge / Trees Drip Line / Vegetation	Water Level	Photo point
Tree Coniferous	Water Level	Top of Tree
Tree Deciduous	Water Level	Top of Tree

**Natural Features**

**Built Features**

**Roads & Road Markings**

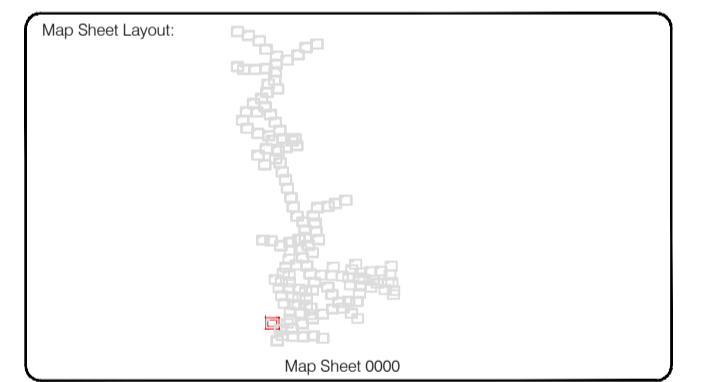
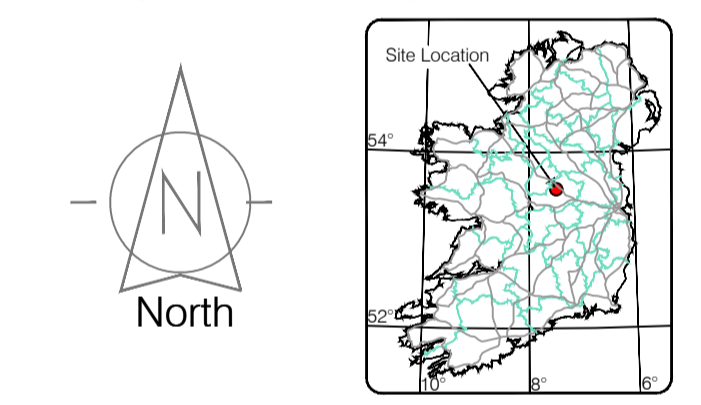
Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Soft Elevation
Bridge Deck	Property Line	Step Level
Bridge Pier	Road Sign	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform Train & Tram	Wall / Retaining Wall	
Damp Proof Course / Verge	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

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Reviewed by: ST	Date: 26/07/2023	Datum: Irish National Grid	Main Head
Drawn by: ST	Date: 26/07/2023	Grid System: Irish National Grid	ITM 8
Checked by: PK	Date: 26/07/2023		

No	Date	Description	Revisors
0	26.07.2023	Final Drawing	
1	08.08.2023	Layouts added	
2	06.09.2023	Additional road survey added	

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**EUROPEAN GPR ASSOCIATION** FULL MEMBER

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**Email:** info@murphy.ie

**Client:** AECOM Dublin

**Project:** BNM Site Derrygreenagh Rhode

**Date:** 26.07.2023 **Scale:** 1:500@A1

**Description:** Topographical Survey

**Drawing Number:** MGS52335\_T\_ITM\_Rev2-89

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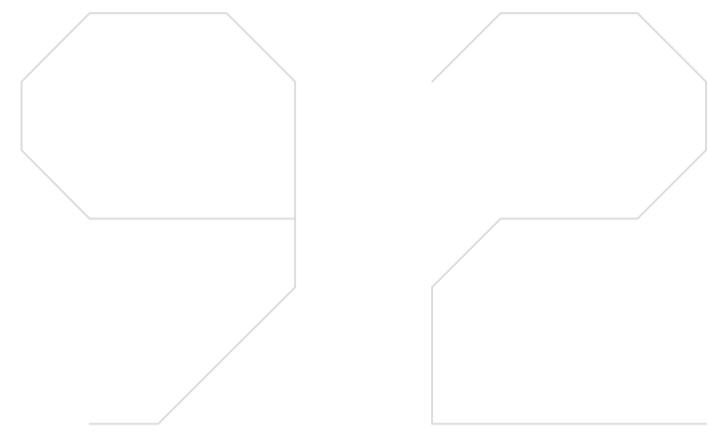












**LEGEND**  
Street furniture & Services

Over Head Wires (LIAS) - Pylon ESB	Bus Stop	Ballast	Road Sign	Phone Box
Powerbed	BEA Beacon	Coalhole Cover	Electricity Pole	Telegraph pole
Pipe	LIH Lint	Pump	Barrier	Trials Pit
Bus/Tram Shelter	Postbox	Water - General	Water Valve	Gas Valve
Sluice Valve	Air Valve	Stop Cook	C/P Post	Marker Post
Tracked Light	Parking Meter	Flare Area Mark	Smart Card Validator	Unknown Valve
Surface Change	Land Drain	Bottom of Slope	Top of Slope	Ditch
Water Edge / Lake / Pond	Hedge / Trees Drip Line / Vegetation	Tree Coniferous	Tree Deciduous	Top of Tree
Building	Edge of Road	Kerb Bottom	Kerb Top	Bridge Abutment
Bridge Deck	Bridge Pier	Building Facade	Footpath / Platform Train & Tram	Damp Proof Course / Vege
Bridge Pier / Wall & Gate Pillar / LIAS Trackbed	Cycleway / Private Landing Area	Fence	Gate	Road Centreline
Top of Wall	Hoarding	Property Line	Road Sign	Top of Fence
Damp Proof Course / Vege	Relayway / Tram Rail / Gating / Ramp	Building Canopy / Roof / Overhang	Floor Level	Apex Height
Eaves Height	Parapet Height	Softly Elevation	Step Level	Concrete Pad
Track	Wall / Retaining Wall	Relayway / Tram Rail / Gating / Ramp	Building Canopy / Roof / Overhang	

**Natural Features**

Water Level	Fair Way
Crown Level	Green
Invert level	Tea Box
Bed Level	Survey Station
Spotheight	Photo point

**Built Features**

**Roads & Road Markings**

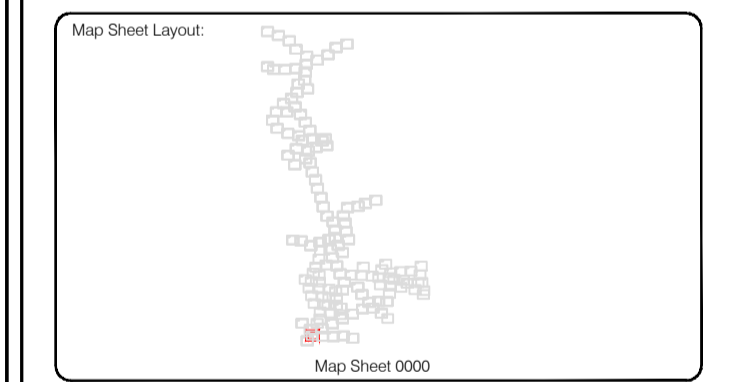
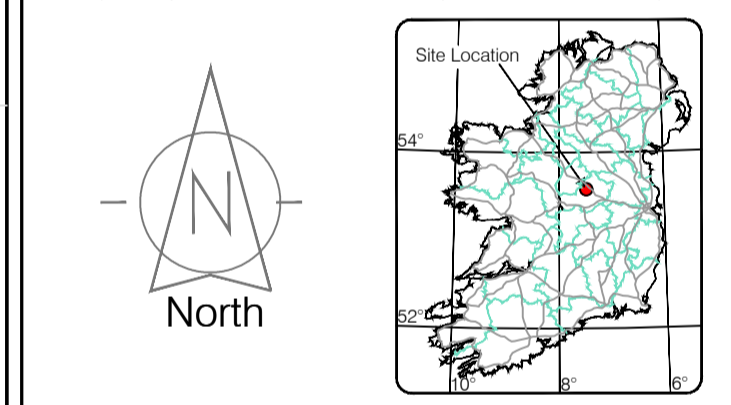
Fence	Floor Level
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Revisions							
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<b>Client :</b>	AECOM Dublin
<b>Project :</b>	BNN Site Derrygreenagh Rhode
<b>Date :</b>	26.07.2023
<b>Scale :</b>	1:500@A1
<b>Description :</b>	Topographical Survey
<b>Drawing Number :</b>	MGS52335_T_ITM_Rev2-92

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### LEGEND

#### Street furniture & Services

Over Head Wires (LUAS) - Pylon ESB	Street Sign	Phone Box
Powerbed	Bench Seat	Duct
Ball	Ballast	Gas Cover
Pipe	Beacon	Gas Cover
Light	Coalhole Cover	USG Car Park Vane
Barrier	Boys Hole	Waste Bin
Pump	Electricity Pole	Hydrant
Bus/Tram Shelter	Telegraph pole	Fire Hydrant
Postbox	OCS Pole	ESS Box
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C/P Post	Services Inspection Cover	Monument / Toilets
Marker Post	Traffic Inspection Cover	Tank Storage
Traffic Light	Cable TV Inspection Cover	Basement MH Cover & Pipe
Parking Meter	ESAT Inspection Cover	Dead End Mark
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Unknown Valve	Rocking Eye	Washout

#### Natural Features

Surface Change	Water Level	Golf
Land Drain	Down Level	Fair Way
Bottom of Slope	Invert level	Green
Top of Slope	Bed Level	Tree Box
Ditch	Spotheight	Other
Water Edge / Lake / Pond		Survey Station
Hedge / Trees Drip Line / Vegetation		Photo point
Tree Coniferous	Tree Deciduous	Top of Tree

#### Built Features

##### Roads & Road Markings

Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Soffit Elevation
Bridge Deck	Property Line	Step Level
Bridge Pierhead	Road Bar	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform / Tram	Wall / Retaining Wall	
Damp Proof Course / Verge	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

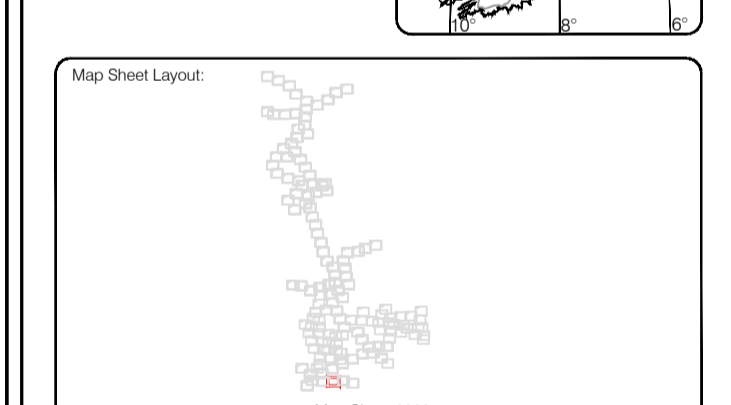
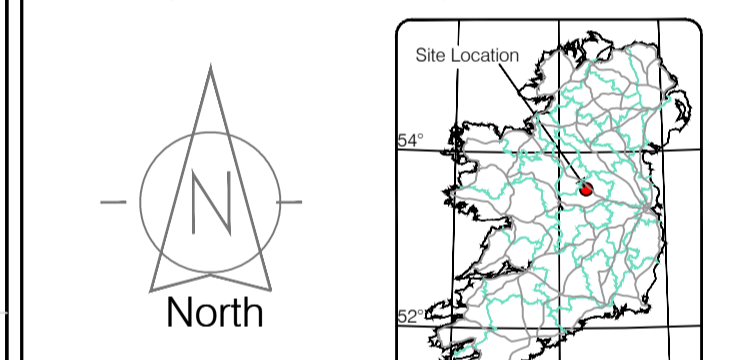
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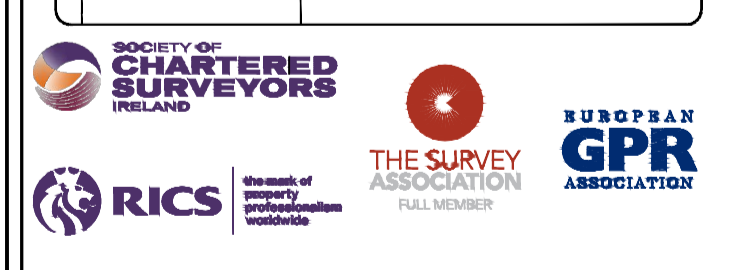
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Site Location



Drawn by: ST	Date: 26.07.2023	Date: 26.07.2023	Date: 26.07.2023	Date: 26.07.2023
Checked by: PK	Date: 26.07.2023	Date: 26.07.2023	Date: 26.07.2023	Date: 26.07.2023

No	Date	Description	Revisions
0	26.07.2023	Final Drawing	
1	08.08.2023	Layouts added	
2	06.09.2023	Additional road survey added	



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 Kiltullen Co. Kildare, Ireland

**Phone:** (+353) 045 484040  
**Fax:** (+353) 045 484004  
**Email:** info@murphyge.ie

**Client:** AECOM Dublin

**Project:** BNM Site Derrygreenagh Rhode

**Date:** 26.07.2023 **Scale:** 1:500@A1

**Description:** Topographical Survey

**Drawing Number:** MGS52335\_T\_ITM\_Rev2-95

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**LEGEND**  
Street furniture & Services

Over Head Wires (LUAS) - Python ESB	Powerbed	Ballast	Beach Sign	Phone Box
Bus Stop	Pipe	Beacon	Bench Seat	Duct
Lift	Barrier	Coalhole Cover	Bus Stop Shelter	Keek
Pump	Trail Pit	Boys Hole	Electricity Pole	Waste Bin
Postbox	Water - General	Water Valve	Gas Valve	Sluice Valve
Air Valve	Stop Cook	C/P Post	Marker Post	Traffic Light
Water - General	Water Valve	Gas Valve	Sluice Valve	Air Valve
Stop Cook	C/P Post	Marker Post	Traffic Light	Parking Meter
Water - General	Water Valve	Gas Valve	Sluice Valve	Air Valve
Stop Cook	C/P Post	Marker Post	Traffic Light	Parking Meter

**Natural Features**

Surface Change	Land Drain	Bottom of Slope	Top of Slope	Ditch	Water Edge / Lake / Pond	Hedge / Trees Drip Line / Vegetation	Tree Coniferous	Tree Deciduous	Top of Tree
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**Built Features**

**Roads & Road Markings**

Building	Edge of Road	Kerb Bottom	Kerb Top	Bridge Abutment	Bridge Deck	Building Facade	Footpath / Platform / Tram	Damp Proof Course / Verge	Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Cycleway / Private Landing Area	Fence	Gate	Road Centreline	Top of Wall	Hoarding	Property Line	Road Sign	Top of Fence	Wall / Retaining Wall	Railway / Tram Rail / Gating / Ramp	Building Canopy / Roof / Overhang	Floor Level	Apex Height	Eaves Height	Parapet Height	Softly Elevation	Step Level	Concrete Pad	Track
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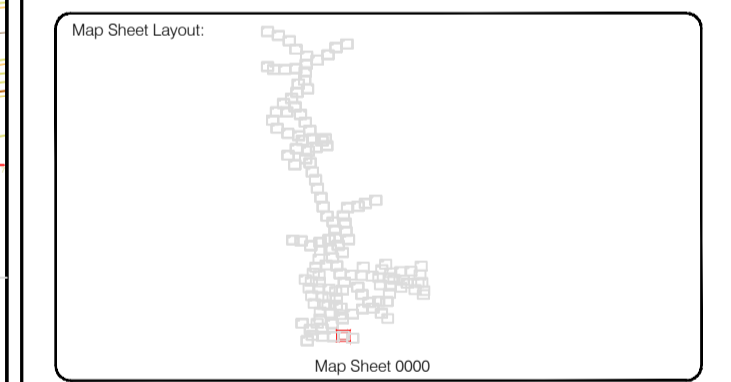
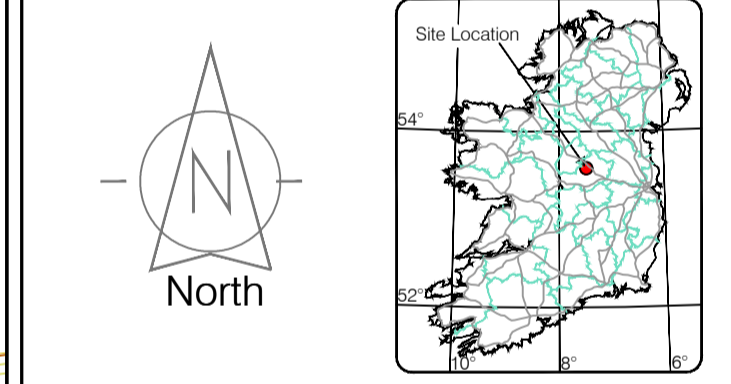
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Surveyed by: ST	Date: 26/07/2023	Date: 26/07/2023	Date: 26/07/2023
Drawn by: ST	Date: 26/07/2023	Date: 26/07/2023	Date: 26/07/2023
Checked by: PK	Date: 26/07/2023	Date: 26/07/2023	Date: 26/07/2023

Revisions

No.	Date	Description
0	26.07.2023	First Drawing
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2	06.09.2023	Additional road survey added



**Kildare Cork Dublin Belfast Glasgow Manchester London**

**Head Office**  
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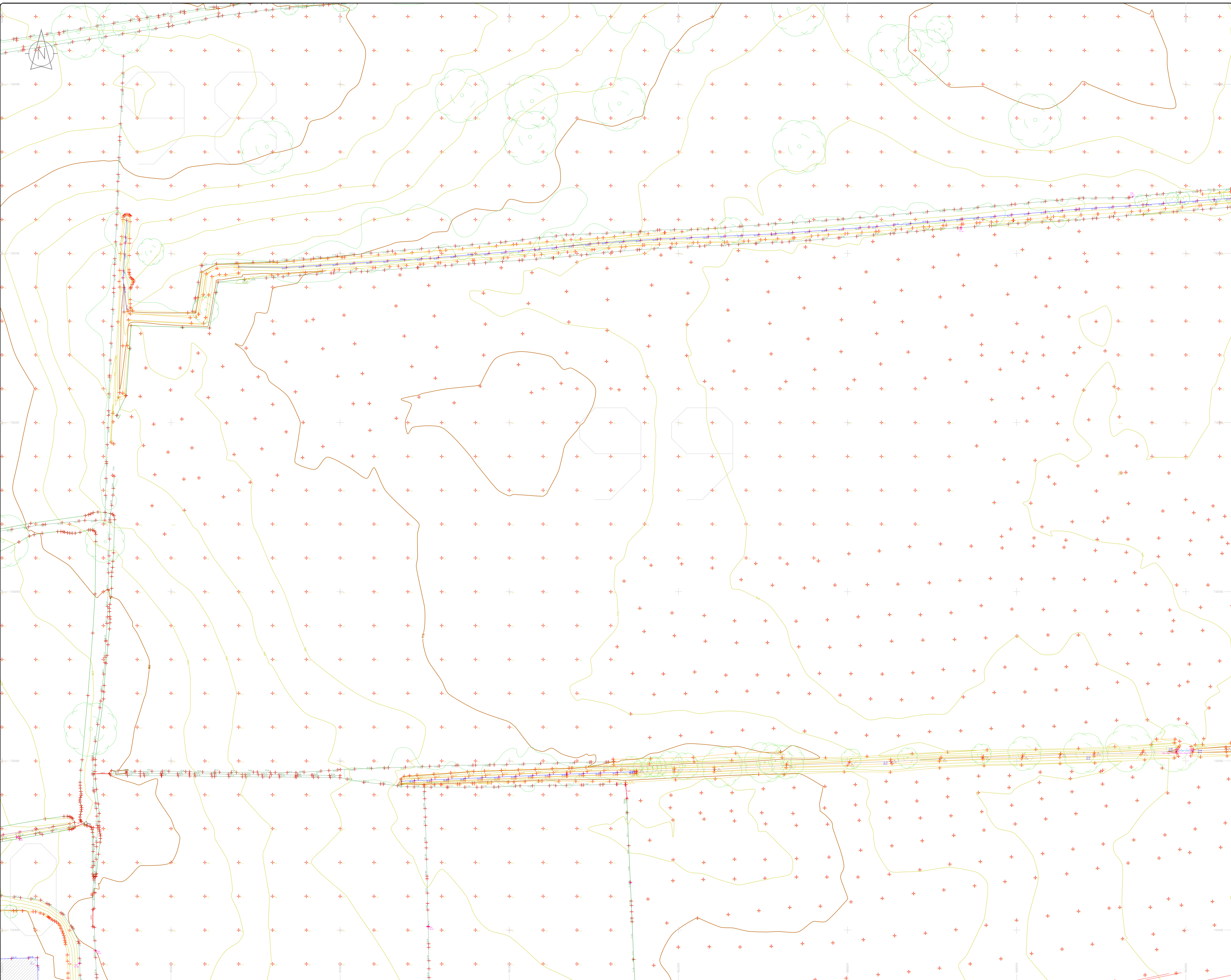
**Phone:** (+353) 045 484040  
**Fax:** (+353) 045 484004  
**Email:** info@murphyge.ie

<b>Client :</b>	AECOM Dublin
<b>Project :</b>	BNN Site Derrygreenagh Rhode
<b>Date :</b>	26.07.2023
<b>Scale :</b>	1:500@A1
<b>Description :</b>	Topographical Survey
<b>Drawing Number :</b>	MGS52335_T_ITM_Rev2-96









### LEGEND

#### Street furniture & Services

5.12 Over Head Wire (LIAS) - Pylon ESB	5.12 Bus Stop	5.12 Road Sign	5.12 Tree Box
5.12 Flowerbed	5.12 Bench Seat	5.12 Kiosk	5.12 Gas Cover
5.12 Pipe	5.12 Beacon	5.12 Gully	5.12 C/P Box
5.12 Lift	5.12 Coalhole Cover	5.12 Waste Bin	5.12 Hydrant
5.12 Barrier	5.12 Bore Hole	5.12 Hydrant	5.12 Fire Hydrant
5.12 Pump	5.12 Electricity Pole	5.12 Hydrant	5.12 ESB Box
5.12 Trial Pit	5.12 OCS Pole	5.12 ESB Inspection Cover	5.12 Traffic Control Box
5.12 Postbox	5.12 CCTV Camera Pole	5.12 Traffic Control Box	5.12 LIAS Technical Cabinet
5.12 Water - General	5.12 Lamp Post	5.12 Ticket Winding Machine	5.12 Water Meter Cover
5.12 Water Valve	5.12 Four Manhole	5.12 Water Meter Cover	5.12 Telecom Inspection Cover
5.12 Gas Valve	5.12 Surface Water MH	5.12 Water Meter Cover	5.12 Monument / Toilets
5.12 Sluice Valve	5.12 Manholes	5.12 Washout	5.12 Tank Storage
5.12 Air Valve	5.12 Air Conditioning Vents	5.12 Washout	5.12 Tank Storage
5.12 Stop Cook	5.12 Services Inspection Cover	5.12 Washout	5.12 Tank Storage
5.12 C/P Post	5.12 Traffic Inspection Cover	5.12 Washout	5.12 Tank Storage
5.12 Marker Post	5.12 Cable TV Inspection Cover	5.12 Washout	5.12 Tank Storage
5.12 Traffic Light	5.12 Street Inspection Cover	5.12 Washout	5.12 Tank Storage
5.12 Parking Meter	5.12 Street Inspection Cover	5.12 Washout	5.12 Tank Storage
5.12 Fire Alarm Bell	5.12 Street Inspection Cover	5.12 Washout	5.12 Tank Storage
5.12 Smart Card Validator	5.12 Street Inspection Cover	5.12 Washout	5.12 Tank Storage
5.12 Unknown Valve	5.12 Street Inspection Cover	5.12 Washout	5.12 Tank Storage

#### Natural Features

5.12 Surface Change	5.12 Water Level	5.12 Golf
5.12 Land Drain	5.12 Crown Level	5.12 Fair Way
5.12 Bottom of Slope	5.12 Invert level	5.12 Green
5.12 Top of Slope	5.12 Bed Level	5.12 Tee Box
5.12 Ditch	5.12 Spotlight	5.12 Other
5.12 Water Edge / Lake / Pond	5.12 Tree Dip Line / Vegetation	5.12 Survey Station
5.12 Tree Contourous	5.12 Tree Deciduous	5.12 Photo point

#### Built Features

##### Roads & Road Markings

5.12 Building	5.12 Fence	5.12 Floor Level
5.12 Edge of Road	5.12 Gate	5.12 Apex Height
5.12 Kerb Bottom	5.12 Road Centreline	5.12 Eaves Height
5.12 Kerb Top	5.12 Top of Wall	5.12 Parapet Height
5.12 Bridge Abutment	5.12 Hoarding	5.12 Soft Elevation
5.12 Bridge Deck	5.12 Property Line	5.12 Spot Level
5.12 Bridge Pier/Jetty	5.12 Road Stop	5.12 Concrete Pad
5.12 Building Facade	5.12 Top of Fence	5.12 Track
5.12 Footpath / Platform Tann & Tram	5.12 Wall / Retaining Wall	
5.12 Damp Proof Course / Verge	5.12 Railway / Train Rail / Gating / Ramp	
5.12 Bridge Pier / Wall & Gate Piler / LIAS Trackbed	5.12 Building Canopy / Roof / Overhang	
5.12 Cycleway / Private Landing Area		

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North

Map Sheet Layout

Map Sheet 0000

Surveyed by: ST	Date: 26.07.2023	Datum: Irish National Grid	Main Head
Drawn by: ST	Date: 26.07.2023	Grid System: Irish National Grid	ITM 8
Checked by: PK	Date: 26.07.2023		

No.	Date	Description	Revisions
0	26.07.2023	First Drawing	
1	08.08.2023	Layouts added	
2	08.09.2023	Additional road survey added	

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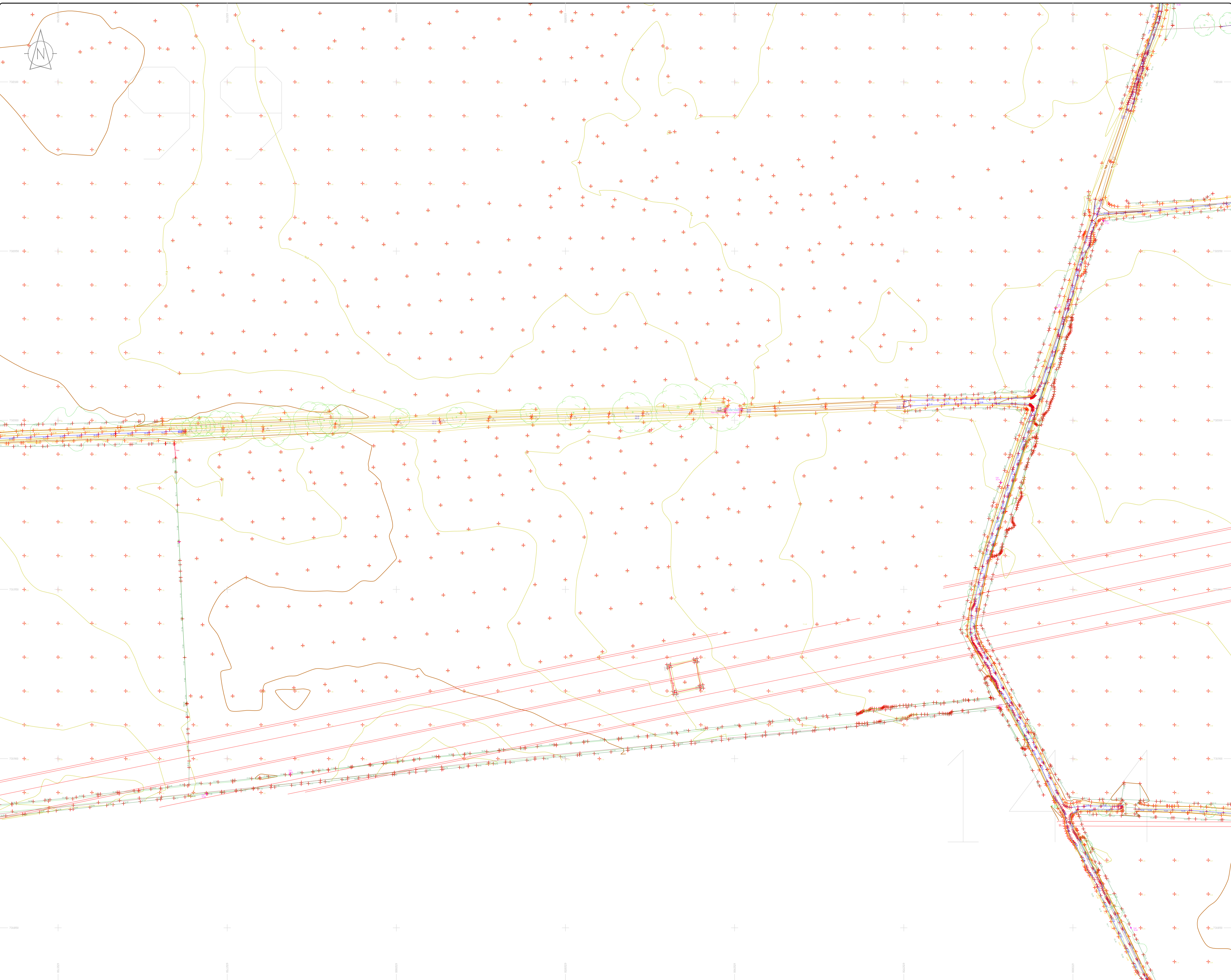
**Date:** 26.07.2023 **Scale:** 1:500@A1

**Description:** Topographical Survey

**Drawing Number:** MGS52335\_T\_ITM\_Rev2-98

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### LEGEND

#### Street furniture & Services

Over Head Wires (LIAS) - Pylon ESB	Ballast	Road Sign	Phone Box
Powerbed	Beacon	Bench Seat	Duct
Pipe	Beacon	Keek	Gas Cover
Light	Coalhole Cover	Gully	CP Box
Barrier	Boys Hole	Waste Bin	Waste Bin
Pump	Electricity Pole	Hydrant	Hydrant
Manhole	Electricity Pole	Fire Hydrant	Fire Hydrant
Bus/Tram Shelter	Telegraph pole	ESS Box	ESS Box
Postbox	OCS Pole	ESS Box	ESS Box
Water - General	OCTV Camera Pole	ESS Box	ESS Box
Water Valve	Lamp Post	ESS Box	ESS Box
Gas Valve	Foul Manhole	ESS Box	ESS Box
Sluice Valve	Surface Water MH	ESS Box	ESS Box
Air Valve	Manholes	ESS Box	ESS Box
Stop Cook	Air Conditioning Vents	ESS Box	ESS Box
C/P Post	Services Inspection Cover	ESS Box	ESS Box
Marker Post	Traffic Inspection Cover	ESS Box	ESS Box
Marker Light	Cable TV Inspection Cover	ESS Box	ESS Box
Parking Meter	SAT Inspection Cover	ESS Box	ESS Box
Flare Area Mark	NL Inspection Cover	ESS Box	ESS Box
Smart Card Validator	Elcom Inspection Cover	ESS Box	ESS Box
Unknown Valve	Rocking Eye	ESS Box	ESS Box

#### Natural Features

Surface Change	Water Level	Golf
Land Drain	Down Level	Fair Way
Bottom of Slope	Invert level	Green
Top of Slope	Bed Level	Tea Box
Ditch	Spotheight	Other
Water Edge / Lake / Pond	Spotheight	Survey Station
Hedge / Trees Drip Line / Vegetation	Spotheight	Photo point
Tree Contourous	Spotheight	Top of Tree

#### Built Features

##### Roads & Road Markings

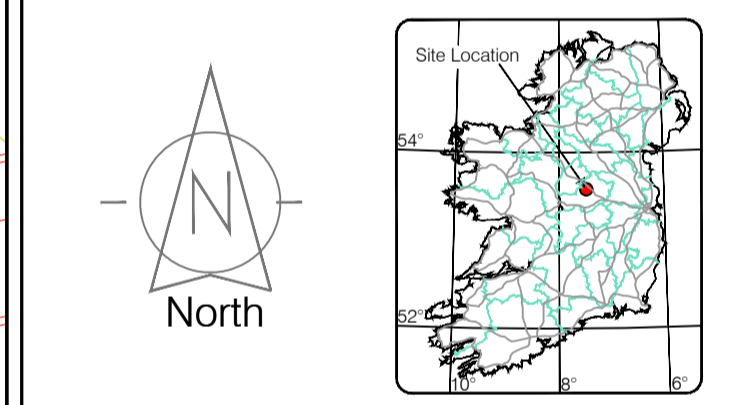
Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Soft Level
Bridge Deck	Property Line	Step Level
Bridge Pier	Road Bar	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform Train & Tram	Wall / Retaining Wall	
Damp Proof Course / Verge	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pillar / LIAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

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Map Sheet Layout

Map Sheet 0000

Drawn by: ST	Date: 26/07/2023	Checked by: PK	Date: 26/07/2023	Revision:
Drawn by: ST	Date: 26/07/2023	Checked by: PK	Date: 26/07/2023	Revision:
Drawn by: ST	Date: 26/07/2023	Checked by: PK	Date: 26/07/2023	Revision:



Topographic surveys, Measured Building Surveys, Setting-out, As-Built Surveys, Hydrographic Surveys, Legal Mapping, Pipeline Surveys, Heritage Location, Ground Penetrating Radar, Laser Scanning, Aerial Photography

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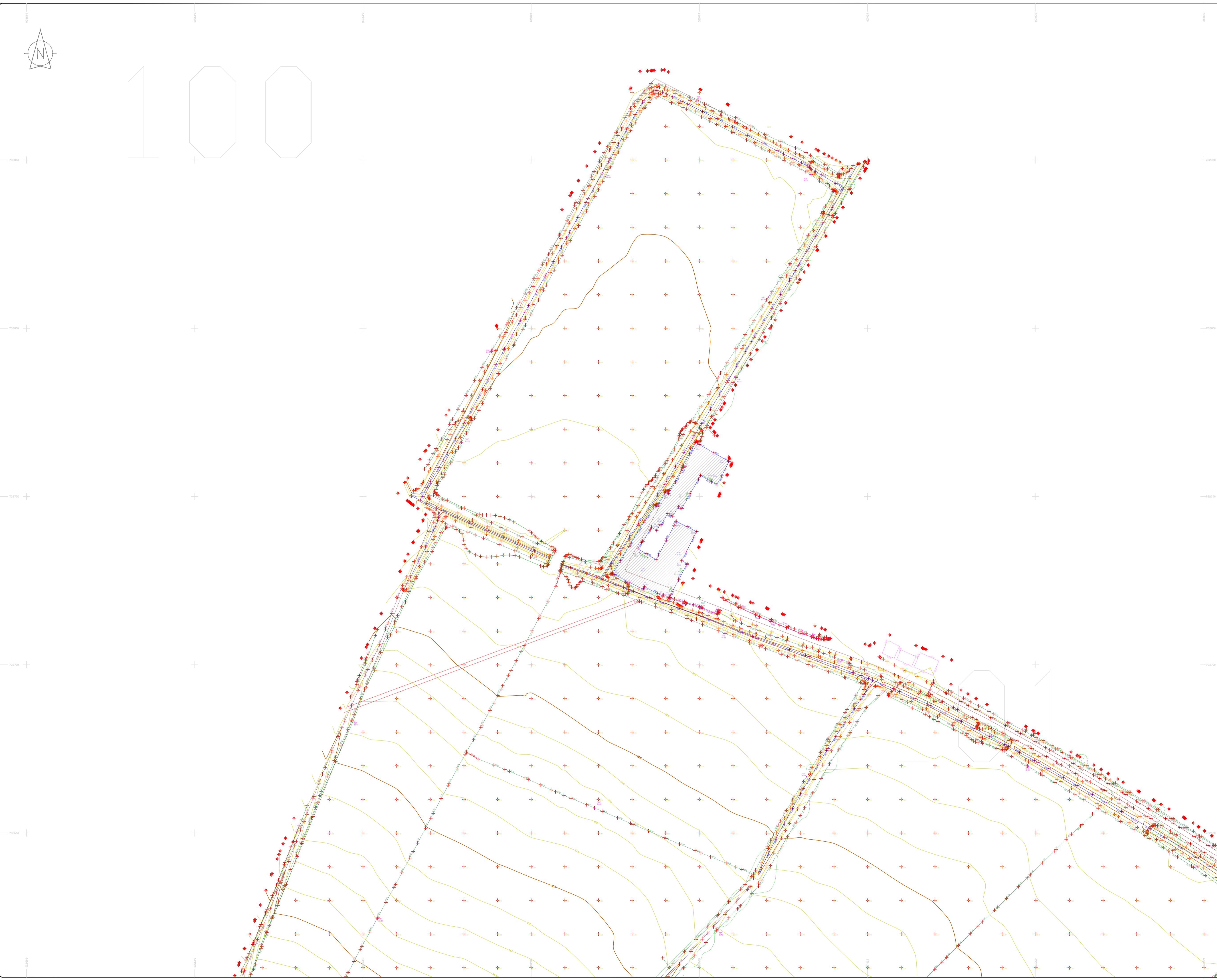
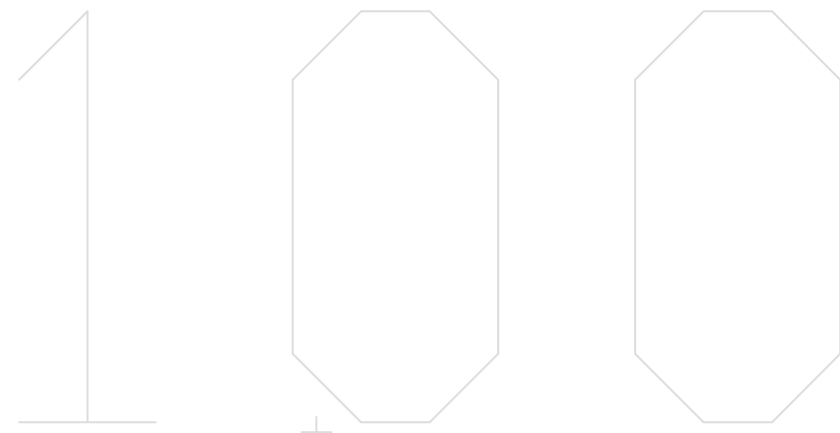
**Date:** 26.07.2023 **Scale:** 1:500@A1

**Description:** Topographical Survey

**Drawing Number:** MGS52335\_T\_ITM\_Rev2-99

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**LEGEND**  
Street furniture & Services

Over Head Wires (LUAS) - Pylon ESB	Bus Stop	Ballast	Beacon	Coalhole Cover	Boys Hole	Electricity Pole	Telegraph pole	Road Sign	Phone Box
Flowerbed	Pipe	Lint	Barrier	Pump	Trial Pit	Bus/Tram Shelter	Postbox	Water - General	Water Valve
Gas Valve	Sluice Valve	Air Valve	Stop Cook	C/P Post	Marker Post	Traffic Light	Parking Meter	Flare Area Mark	Smart Card Validator
Unknown Valve	Surface Change	Land Drain	Bottom of Slope	Top of Slope	Ditch	Water Edge / Lake / Pond	Hedge / Trees Drip Line / Vegetation	Tree Coniferous	Tree Deciduous
Building	Edge of Road	Kerb Bottom	Kerb Top	Bridge Abutment	Bridge Deck	Bridge Pier	Building Facade	Footpath / Platform / Tram	Damp Proof Course / Verge
Bridge Pier / Wall & Gate Pile	Cycleway / Private Landing Area	Fence	Gate	Road Centreline	Top of Wall	Hoarding	Property Line	Road Sign	Top of Fence
Water Level	Crown Level	Invert level	Bed Level	Spotheight	Top of Tree	Fair Way	Green	Tea Box	Survey Station
Water Level	Crown Level	Invert level	Bed Level	Spotheight	Top of Tree	Fair Way	Green	Tea Box	Survey Station
Water Level	Crown Level	Invert level	Bed Level	Spotheight	Top of Tree	Fair Way	Green	Tea Box	Survey Station

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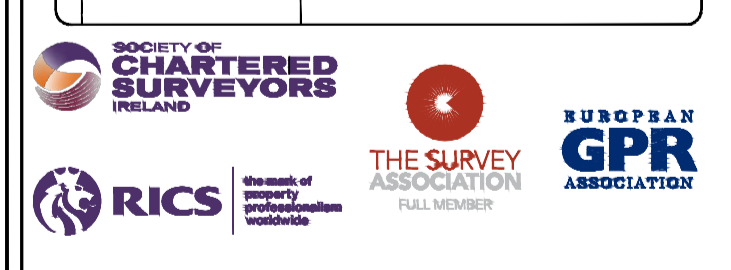
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**Map Sheet Layout**

Map Sheet 0000

Drawn by: ST	Date: 26.07.2023	Grid System: Irish National Grid	ITM
Checked by: PK	Date: 26.07.2023	ITM	

No	Date	Description	Revisions
0	26.07.2023	Final Drawing	
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2	06.09.2023	Additional road survey added	



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**Client:** AECOM Dublin

**Project:** BNM Site Derrygreenagh Rhode

**Date:** 26.07.2023 **Scale:** 1:500@A1

**Description:** Topographical Survey

**Drawing Number:** MGS52335\_T\_ITM\_Rev2-100

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### LEGEND

#### Street furniture & Services

Over Head Wires (LUAS) - Pylon ESB	Street Sign	Phone Box
Powerbed	Bench Seat	Duct
Pipe	Ballast	Kiosk
Light	Beacon	Gully
Barrier	Coalhole Cover	Waste Bin
Pump	Boys Hole	Hydrant
Manhole	Electricity Pole	Fire Hydrant
Bus/Tram Shelter	Telegraph pole	ESS Box
Postbox	OCS Pole	ESS Box
Water - General	CCTV Camera Pole	ESS Inspection Cover
Water Valve	Lamp Post	Traffic Control Box
Gas Valve	Foul Manhole	LUAS Technical Cabinet
Sluice Valve	Surface Water MH	Ticket Vending Machine
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Stop Cook	Air Conditioning Vents	Telecom Inspection Cover
C/P Post	Services Inspection Cover	Monument / Toilets
Marker Post	Traffic Inspection Cover	Tank Storage
Marker Post	Cable TV Inspection Cover	Basement MH Cover & Pipe
Parking Meter	ESAT Inspection Cover	Disposal Aerial Mark
Flare Area Mark	NL Inspection Cover	Stay for pole
Smart Card Validator	Elcom Inspection Cover	Washout
Unknown Valve	Rocking Eye	Washout

#### Natural Features

Surface Change	Water Level	Golf
Land Drain	Flow Level	Fair Way
Bottom of Slope	Invert level	Green
Top of Slope	Bed Level	Tree Box
Ditch	Spotheight	Other
Water Edge / Lake / Pond		Survey Station
Hedge / Trees Drip Line / Vegetation		Photo point
Tree Coniferous	Tree Deciduous	Top of Tree

#### Built Features

##### Roads & Road Markings

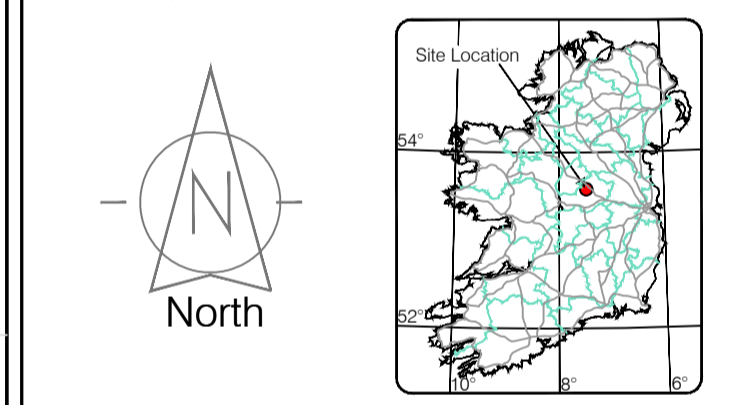
Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Soft Level
Bridge Deck	Property Line	Step Level
Bridge Parapet	Road Box	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform / Tram	Wall / Retaining Wall	
Damp Proof Course / Veep	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pile / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

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Map Sheet Layout

Map Sheet 0000

Drawn by: ST	Date: 26/07/2023	Date: 26/07/2023	Date: 26/07/2023
Checked by: PK	Date: 26/07/2023	Date: 26/07/2023	Date: 26/07/2023

No	Date	Description	Revisions
0	26.07.2023	Final Drawing	
1	08.08.2023	Layout & addit.	
2	06.09.2023	Additional road survey added.	



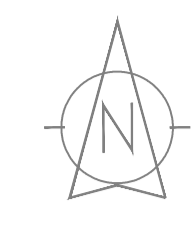
Kildare Cork Dublin Belfast Glasgow Manchester London

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Phone: (+353) 045 484040  
 Fax: (+353) 045 484004  
 Email: info@murphyge.ie

<b>Client :</b>	AECOM Dublin
<b>Project :</b>	BNN Site Derrygreenagh Rhode
<b>Date :</b>	26.07.2023
<b>Scale :</b>	1:500@A1
<b>Description :</b>	Topographical Survey
<b>Drawing Number :</b>	MGS52335_T_ITM_Rev2-101





102

**LEGEND**

**Street furniture & Services**

Over Head Wires (LUAS) - Pylon ESB	Bus Stop	Ballast	Beacon	Coalhole Cover	Electricity Pole	Telegraph pole	Phone Box
Powerbed	Pipe	Light	Barrier	Pump	Bus/Tram Shelter	Postbox	Water - General
Water Valve	Gas Valve	Sluice Valve	Air Valve	Stop Cook	C/P Post	Marker Post	Traffic Light
Parking Meter	Flare Asset Mark	Smart Card Validator	Unknown Valve	Surface Change	Land Drain	Bottom of Slope	Top of Slope
Ditch	Water Edge / Lake / Pond	Hedge / Trees Drip Line / Vegetation	Tree Deciduous	Tree Coniferous	Water Level	Coast Level	Invert level
Bed Level	Spotheight	Top of Tree	Fair Way	Green	Tea Box	Other	Survey Station
Photo point	Washout	Washout	Washout	Washout	Washout	Washout	Washout

**Natural Features**

**Built Features**

**Roads & Road Markings**

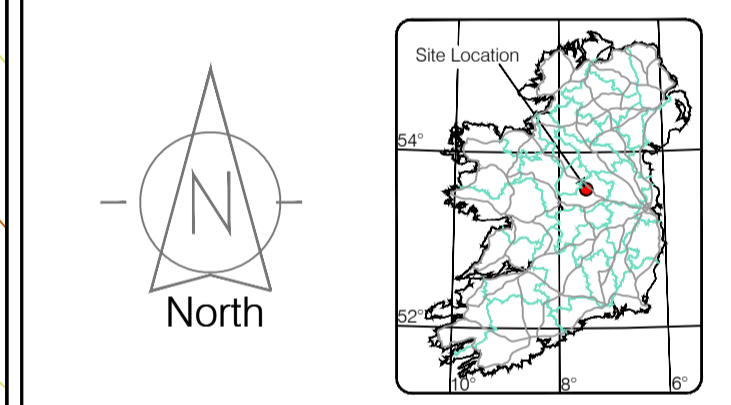
Building	Edge of Road	Kerb Bottom	Kerb Top	Bridge Abutment	Bridge Deck	Bridge Pierhead	Building Facade	Footpath / Platform / Train & Tram	Damp Proof Course / Vege	Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Cycleway / Private Landing Area	Fence	Gate	Road Centreline	Top of Wall	Hoarding	Property Line	Road Bar	Top of Fence	Wall / Retaining Wall	Railway / Tram Rail / Gating / Ramp	Building Canopy / Roof / Overhang	Floor Level	Apex Height	Eaves Height	Parapet Height	Roof Level	Concrete Pad	Track
----------	--------------	-------------	----------	-----------------	-------------	-----------------	-----------------	------------------------------------	--------------------------	--	---------------------------------	-------	------	-----------------	-------------	----------	---------------	----------	--------------	-----------------------	-------------------------------------	-----------------------------------	-------------	-------------	--------------	----------------	------------	--------------	-------

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Map Sheet Layout

Map Sheet 0000

Reviewed by	ST	Date	26/07/2023	Datum	Main Head
Drawn by	ST	Date	26/07/2023	Grid System	Irish National Grid
Checked by	PK	Date	26/07/2023	Irish National Grid	ITM 00

No	Date	Description	Revisions
0	26.07.2023	First Drawing	
1	08.08.2023	Layouts added	
2	06.09.2023	Additional road survey added	



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 Email: info@murphyge.ie

<b>Client :</b>	AECOM Dublin
<b>Project :</b>	BNN Site Derrygreenagh Rhode
<b>Date :</b>	26.07.2023
<b>Scale :</b>	1:500@A1
<b>Description :</b>	Topographical Survey
<b>Drawing Number :</b>	MGS52335_T_ITM_Rev2-102





**LEGEND**  
Street furniture & Services

Over Head Wires (LUAS) - Pylon ESB	Street Light	Phone Box
Powerbed	Ballast	Bench Seat
Pipe	Beacon	Keek
Light	Coalhole Cover	Gully
Barrier	Boys Hole	Waste Bin
Pump	Electricity Pole	Hydrant
Manhole	Telegraph pole	Fire Hydrant
Postbox	OCTV Camera Pole	ESB Box
Water - General	Lamp Post	Traffic Inspection Cover
Water Valve	Gas Valve	Traffic Control Box
Gas Valve	Surface Water MH	LUAS Technical Cabinet
Sluice Valve	Surface Water MH	Ticket Vending Machine
Air Valve	Manholes	Water Meter Cover
Stop Cook	Air Conditioning Vents	Telecom Inspection Cover
C/P Post	Services Inspection Cover	Monument / Toilets
Marker Post	Traffic Inspection Cover	Tank Storage
Traffic Light	Cable TV Inspection Cover	Basement MH Cover & Pipe
Parking Meter	ESAT Inspection Cover	Street Light
Flare Area Mark	ESAT Inspection Cover	Street Light
Smart Card Validator	ESAT Inspection Cover	Street Light
Unknown Valve	ESAT Inspection Cover	Street Light

**Natural Features**

Surface Change	Water Level	Fair Way
Land Drain	Coast Level	Green
Bottom of Slope	Invert level	Tea Box
Top of Slope	Bed Level	Other
Ditch	Spotheight	Survey Station
Water Edge / Lake / Pond		Photo point
Hedge / Trees Drip Line / Vegetation		Washout
Tree Contour		

**Built Features**

Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Soft Elevation
Bridge Deck	Property Line	Step Level
Bridge Pier	Road Bar	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform / Tram	Wall / Retaining Wall	
Damp Proof Course / Verge	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

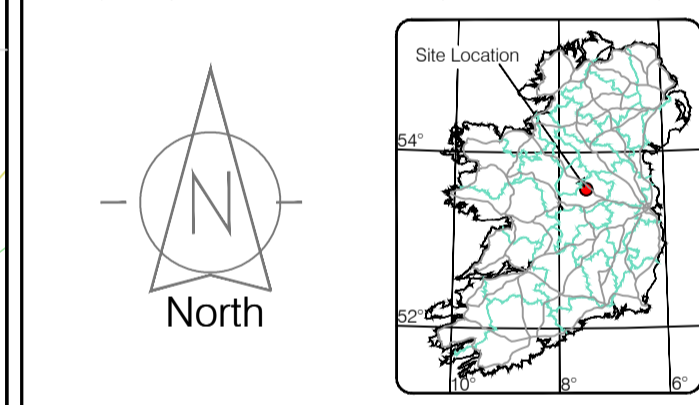
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North



Map Sheet Layout

Map Sheet 0000

Drawn by: ST	Date: 26/07/2023	Datum: Irish National Grid	Main Head
Checked by: PK	Date: 26/07/2023	Grid System: Irish National Grid	ITM 18
Revisions			
No	Date	Description	
0	26/07/2023	First Drawing	
1	08/08/2023	Layouts added	
2	06/09/2023	Additional road survey added	



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Email: info@murphyge.ie

**Client:** AECOM Dublin

**Project:** BNM Site Derrygreenagh Rhode

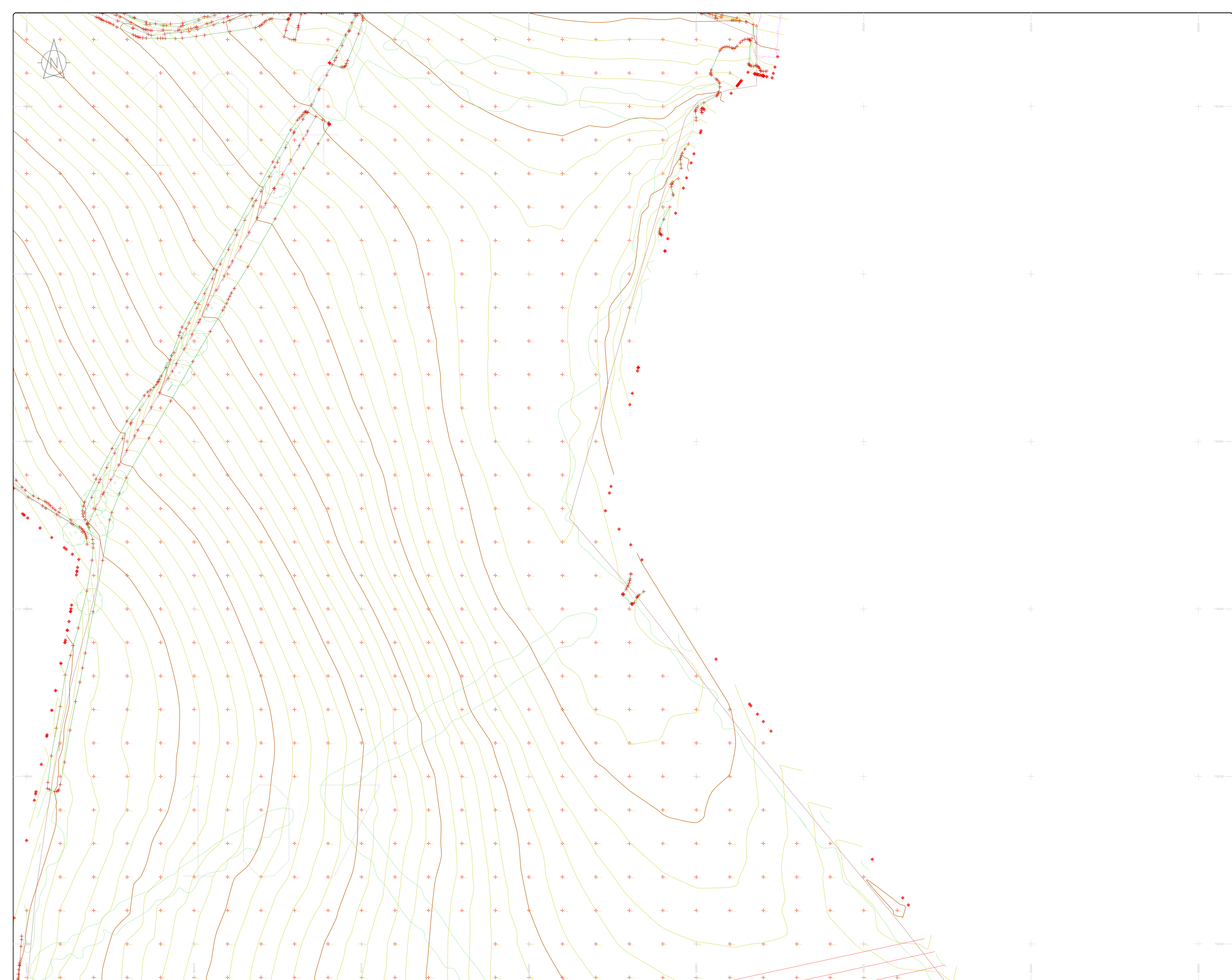
**Date:** 26.07.2023 **Scale:** 1:500@A1

**Description:** Topographical Survey

**Drawing Number:** MGS52335\_T\_ITM\_Rev2-103

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### LEGEND

#### Street furniture & Services

Over Head Wires (LUAS) - Pylon ESB	Ballast	Road Sign	Phone Box
Powerbed	Beacon	Beach Seat	Duct
Pipe	Beacon	Keek	Gas Cover
Light	Coalhole Cover	Gully	CPTW
Barrier	Boys Hole	Waste Bin	USG Car Park Vent
Pump	Electricity Pole	Hydrant	Fire Hydrant
Manhole	Telegraph pole	ESB Box	ESB Box
Postbox	OCS Pole	ESB Box	ESB Box
Water - General	OCTV Camera Pole	ESB Box	ESB Box
Water Valve	Lamp Post	ESB Box	ESB Box
Gas Valve	Foul Manhole	ESB Box	ESB Box
Sluice Valve	Surface Water MH	ESB Box	ESB Box
Air Valve	Manholes	ESB Box	ESB Box
Stop Cook	Air Conditioning Vents	ESB Box	ESB Box
C/P Post	Services Inspection Cover	ESB Box	ESB Box
Marker Post	Traffic Inspection Cover	ESB Box	ESB Box
Traffic Light	Cable TV Inspection Cover	ESB Box	ESB Box
Parking Meter	ESB Inspection Cover	ESB Box	ESB Box
Flora Area Mark	ESB Inspection Cover	ESB Box	ESB Box
Smart Card Validator	ESB Inspection Cover	ESB Box	ESB Box
Unknown Valve	ESB Inspection Cover	ESB Box	ESB Box

#### Natural Features

Surface Change	Water Level	Golf
Land Drain	Clown Level	Fair Way
Bottom of Slope	Invert level	Green
Top of Slope	Bed Level	Tea Box
Ditch	Spotheight	Other
Water Edge / Lake / Pond	Spotheight	Survey Station
Hedge / Trees Drip Line / Vegetation	Spotheight	Photo point
Tree Contourous	Spotheight	Top of Tree

#### Built Features

##### Roads & Road Markings

Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Softly Elevation
Bridge Deck	Property Line	Step Level
Bridge Parapet	Road Box	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform / Tram	Wall / Retaining Wall	
Damp Proof Course / Verge	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

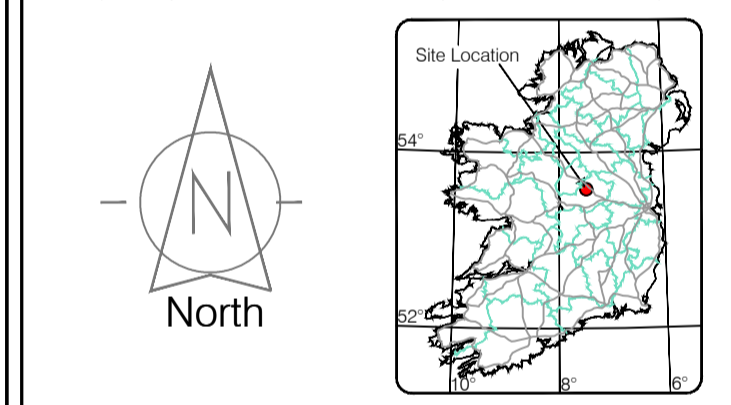
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Site Location



Map Sheet 0000

Drawn by: ST	Date: 26/07/2023	Datum: Irish National Grid	ITM 8
Checked by: PK	Date: 26/07/2023	Grid System: Irish National Grid	ITM 8

No.	Date	Description	Revisions
0	26.07.2023	First Drawing	
1	08.08.2023	Layouts added	
2	06.09.2023	Additional road survey added	



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 Email: info@murphyge.ie

Client: AECOM Dublin

Project: BNM Site Derrygreenagh Rhode

Date: 26.07.2023 Scale: 1:500@A1

Description: Topographical Survey

Drawing Number: MGS52335\_T\_ITM\_Rev2-104

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**LEGEND**  
Street furniture & Services

Over Head Wires (LIAS) - Pylon ESB	Bus Stop	Ballast	Road Sign	Phone Box
Powerbed	BEA Beacon	Coalhole Cover	Telegraph pole	Bench Seat
Pipe	CH Coalhole Cover	Electricity Pole	Waste Bin	Keek
Light	BH Bore Hole	Electricity Pole	Waste Bin	Gas Cover
Barrier	EPCT Electricity Pole	Telegraph pole	Waste Bin	Gully
Pump	EPCT Electricity Pole	Telegraph pole	Waste Bin	CP Box
Trail Pit	EPCT Electricity Pole	Telegraph pole	Waste Bin	USG Car Park Vent
Bus/Tram Shelter	EPCT Electricity Pole	Telegraph pole	Waste Bin	USG Car Park Vent
Postbox	EPCT Electricity Pole	Telegraph pole	Waste Bin	USG Car Park Vent
Water - General	EPCT Electricity Pole	Telegraph pole	Waste Bin	USG Car Park Vent
Water Valve	EPCT Electricity Pole	Telegraph pole	Waste Bin	USG Car Park Vent
Gas Valve	EPCT Electricity Pole	Telegraph pole	Waste Bin	USG Car Park Vent
Sluice Valve	EPCT Electricity Pole	Telegraph pole	Waste Bin	USG Car Park Vent
Air Valve	EPCT Electricity Pole	Telegraph pole	Waste Bin	USG Car Park Vent
Stop Cook	EPCT Electricity Pole	Telegraph pole	Waste Bin	USG Car Park Vent
C/P Post	EPCT Electricity Pole	Telegraph pole	Waste Bin	USG Car Park Vent
Marker Post	EPCT Electricity Pole	Telegraph pole	Waste Bin	USG Car Park Vent
Unknown Valve	EPCT Electricity Pole	Telegraph pole	Waste Bin	USG Car Park Vent
Surface Change	EPCT Electricity Pole	Telegraph pole	Waste Bin	USG Car Park Vent
Land Drain	EPCT Electricity Pole	Telegraph pole	Waste Bin	USG Car Park Vent
Bottom of Slope	EPCT Electricity Pole	Telegraph pole	Waste Bin	USG Car Park Vent
Top of Slope	EPCT Electricity Pole	Telegraph pole	Waste Bin	USG Car Park Vent
Ditch	EPCT Electricity Pole	Telegraph pole	Waste Bin	USG Car Park Vent
Water Edge / Lake / Pond	EPCT Electricity Pole	Telegraph pole	Waste Bin	USG Car Park Vent
Hedge / Trees Drip Line / Vegetation	EPCT Electricity Pole	Telegraph pole	Waste Bin	USG Car Park Vent
Tree Coniferous	EPCT Electricity Pole	Telegraph pole	Waste Bin	USG Car Park Vent
Tree Deciduous	EPCT Electricity Pole	Telegraph pole	Waste Bin	USG Car Park Vent
Top of Tree	EPCT Electricity Pole	Telegraph pole	Waste Bin	USG Car Park Vent
Water Level	EPCT Electricity Pole	Telegraph pole	Waste Bin	USG Car Park Vent
Crown Level	EPCT Electricity Pole	Telegraph pole	Waste Bin	USG Car Park Vent
Invert level	EPCT Electricity Pole	Telegraph pole	Waste Bin	USG Car Park Vent
Bed Level	EPCT Electricity Pole	Telegraph pole	Waste Bin	USG Car Park Vent
Spotheight	EPCT Electricity Pole	Telegraph pole	Waste Bin	USG Car Park Vent
Survey Station	EPCT Electricity Pole	Telegraph pole	Waste Bin	USG Car Park Vent
Photo point	EPCT Electricity Pole	Telegraph pole	Waste Bin	USG Car Park Vent
Washout	EPCT Electricity Pole	Telegraph pole	Waste Bin	USG Car Park Vent
Water Level	EPCT Electricity Pole	Telegraph pole	Waste Bin	USG Car Park Vent
Fair Way	EPCT Electricity Pole	Telegraph pole	Waste Bin	USG Car Park Vent
Green	EPCT Electricity Pole	Telegraph pole	Waste Bin	USG Car Park Vent
Tree Box	EPCT Electricity Pole	Telegraph pole	Waste Bin	USG Car Park Vent
Other	EPCT Electricity Pole	Telegraph pole	Waste Bin	USG Car Park Vent
Survey Station	EPCT Electricity Pole	Telegraph pole	Waste Bin	USG Car Park Vent
Photo point	EPCT Electricity Pole	Telegraph pole	Waste Bin	USG Car Park Vent

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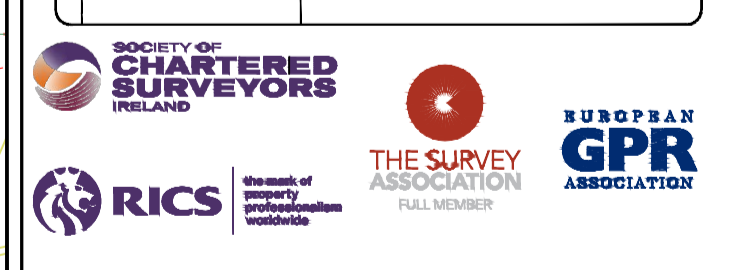
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**Map Sheet Layout**

Map Sheet 0000

Drawn by: ST	Date: 26/07/2023	Datum: Main Head
Checked by: PK	Date: 26/07/2023	Grid System: Irish National Grid
Revisions		
No	Date	Description
0	26.07.2023	First Drawing
1	08.08.2023	Layouts added
2	06.09.2023	Additional road survey added

Surveyed by: ST	Date: 26/07/2023	Datum: Main Head
Drawn by: ST	Date: 26/07/2023	Grid System: Irish National Grid
Checked by: PK	Date: 26/07/2023	Grid System: Irish National Grid



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**Client:** AECOM Dublin

**Project:** BNM Site Derrygreenagh Rhode

**Date:** 26.07.2023 **Scale:** 1:500@A1

**Description:** Topographical Survey

**Drawing Number:** MGS52335\_T\_ITM\_Rev2-105

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# 106

### LEGEND

#### Street furniture & Services

Over Head Wires (LUAS) - Pylon ESB	Bus Stop	Ballast	Road Sign	Phone Box
Powerbed	Beacon	Beacon	Bench Seat	Duct
Pipe	Coalhole Cover	Electricity Pole	Keek	Gas Cover
Lit	Boys Hole	Telegraph pole	Gully	C/P Box
Barrier	Electricity Pole	Electricity Pole	USG Car Park View	Waste Bin
Pump	Electricity Pole	Electricity Pole	USG Car Park View	Waste Bin
Trail Pit	Electricity Pole	Electricity Pole	USG Car Park View	Waste Bin
Bus/Tram Shelter	Electricity Pole	Electricity Pole	USG Car Park View	Waste Bin
Postbox	Electricity Pole	Electricity Pole	USG Car Park View	Waste Bin
Water - General	Electricity Pole	Electricity Pole	USG Car Park View	Waste Bin
Water Valve	Electricity Pole	Electricity Pole	USG Car Park View	Waste Bin
Gas Valve	Electricity Pole	Electricity Pole	USG Car Park View	Waste Bin
Sluice Valve	Electricity Pole	Electricity Pole	USG Car Park View	Waste Bin
Air Valve	Electricity Pole	Electricity Pole	USG Car Park View	Waste Bin
Stop Cook	Electricity Pole	Electricity Pole	USG Car Park View	Waste Bin
C/P Post	Electricity Pole	Electricity Pole	USG Car Park View	Waste Bin
Marker Post	Electricity Pole	Electricity Pole	USG Car Park View	Waste Bin
Tracing Meter	Electricity Pole	Electricity Pole	USG Car Park View	Waste Bin
Pipes Asset Mark	Electricity Pole	Electricity Pole	USG Car Park View	Waste Bin
Smart Card Validator	Electricity Pole	Electricity Pole	USG Car Park View	Waste Bin
Unknown Valve	Electricity Pole	Electricity Pole	USG Car Park View	Waste Bin

#### Natural Features

Surface Change	Water Level	Fair Way
Land Drain	Down Level	Green
Bottom of Slope	Invert level	Tree Box
Top of Slope	Bed Level	Other
Ditch	Spotheight	Survey Station
Water Edge / Lake / Pond	Spotheight	Photo point
Hedge / Trees Drip Line / Vegetation	Spotheight	Photo point
Tree Coniferous	Spotheight	Photo point
Tree Deciduous	Spotheight	Photo point

#### Built Features

##### Roads & Road Markings

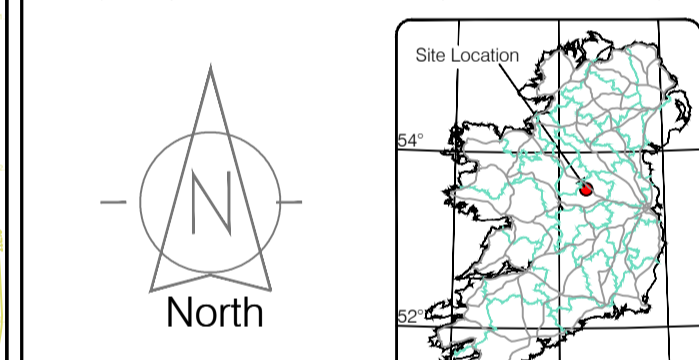
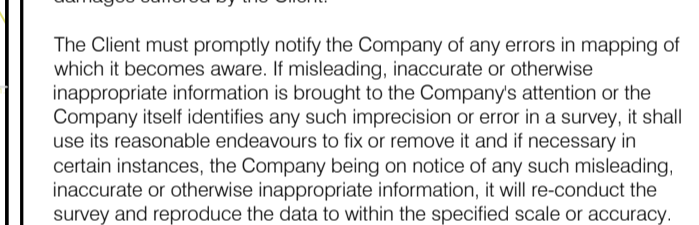
Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Soft Elevation
Bridge Deck	Property Line	Step Level
Bridge Pier	Road Sign	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform Tread & Form	Wall / Retaining Wall	
Damp Proof Course / Verge	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pile / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

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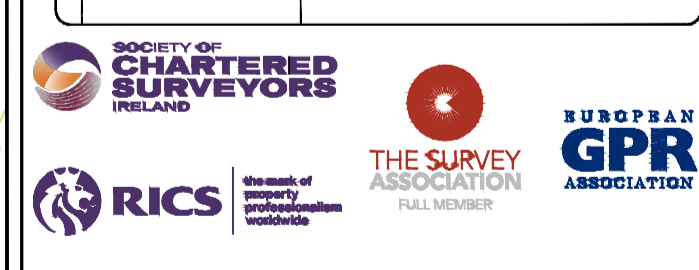


Map Sheet Layout

Map Sheet 0000

Surveyed by: ST	Date: May/June 2023	Datum: Main Head
Drawn by: ST	Date: June/July 2023	Grid System: Irish National Grid
Checked by: PK	Date: 26.07.2023	Irish National Grid: ITM

No.	Date	Description	Revisions
0	26.07.2023	Final Drawing	
1	08.08.2023	Layouts added	
2	06.09.2023	Additional road survey added	



## Murphy

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Topographic surveys, Measured Building Surveys, Setting-out, As-Built Surveys, Hydrographic Surveys, Legal Mapping, Pipeline Surveys, Service Location, Ground Penetrating Radar, Laser Scanning, Rectified Photography

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 Fax: (+353) 045 484004  
 Email: info@murphy.ie

**Client :** AECOM Dublin

**Project :** BNM Site Derygreenagh Rhode

**Date :** 26.07.2023 **Scale :** 1:500@A1

**Description :** Topographical Survey

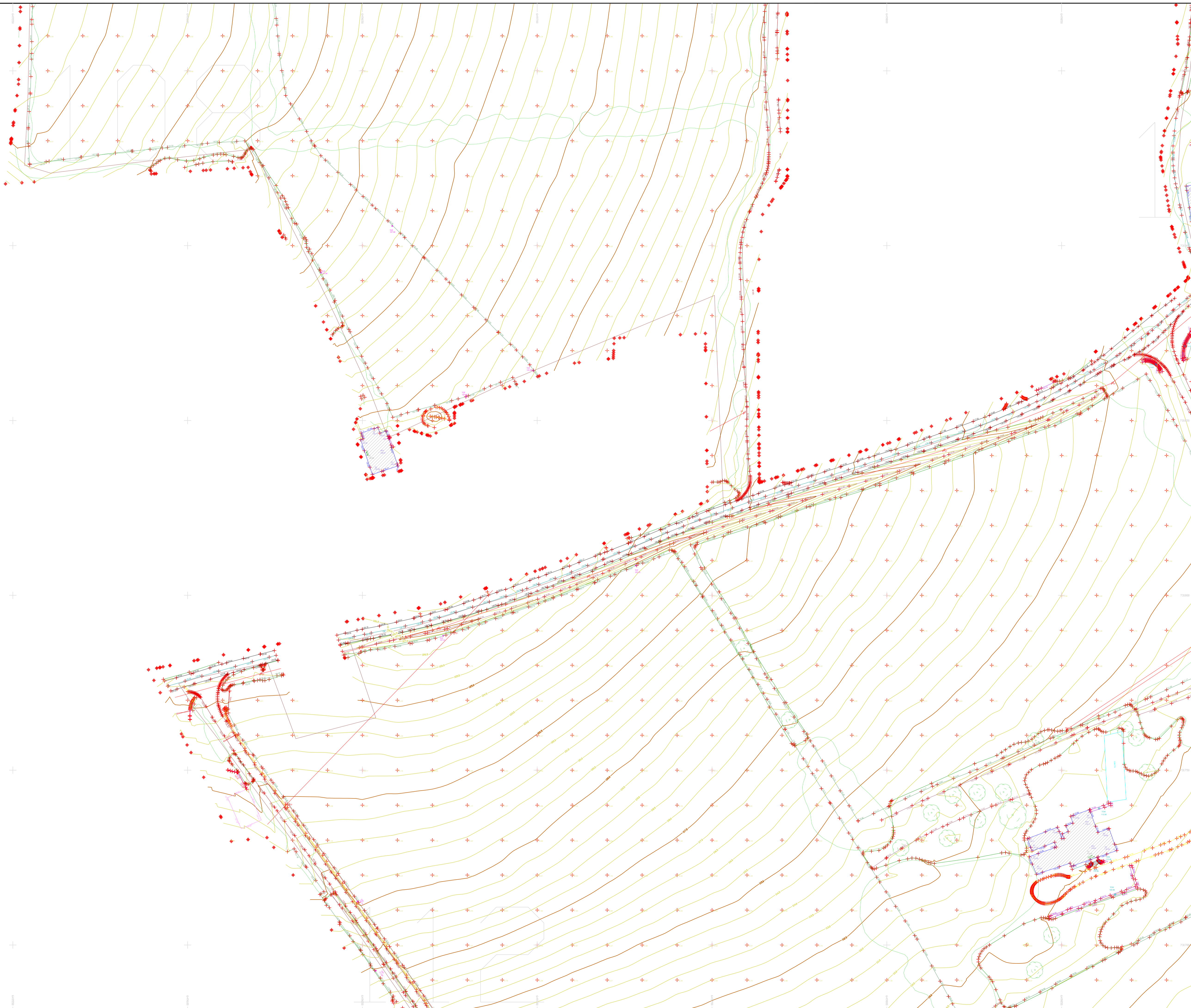
**Drawing Number :** MGS52335\_T\_ITM\_Rev2-106

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**LEGEND**

**Street furniture & Services**

Over Head Wires (LUAS) - Python	Bus Stop	Road Sign	Phone Box
Flowerbed	Ballast	Bench Seat	Dust
Pipe	Beacon	Keek	Gas Cover
Lit	Coalhole Cover	Gully	C/P Box
Barrier	Boys Hole	Waste Bin	US Car Park View
Pump	Electricity Pole	Hydrant	Fire Hydrant
Trail Pit	Bus/Tram Shelter	Telegraph pole	ESB Box
Postbox	OCS Pole	ESB Box	ESB Box
Water - General	CCTV Camera Pole	Water Inspection Cover	Water Inspection Cover
Water Valve	Lamp Post	Trails Control Box	Trails Control Box
Gas Valve	Four Manhole	LUAS Technical Cubicle	LUAS Technical Cubicle
Sluice Valve	Surface Water M/H	Water Meter Cover	Water Meter Cover
Air Valve	Manholes	Water Meter Cover	Water Meter Cover
Stop Cook	Air Conditioning Vents	Telecom Inspection Cover	Telecom Inspection Cover
C/P Post	Services Inspection Cover	Monument / Toilets	Monument / Toilets
Marker Post	Traffic Inspection Cover	Tank Storage	Tank Storage
Traffic Light	Cable TV Inspection Cover	Basement, M/H, Cover & Pipe	Basement, M/H, Cover & Pipe
Parking Meter	ESB Inspection Cover	ESB Inspection Cover	ESB Inspection Cover
Flora Area Mark	N/L Inspection Cover	Stay for pole	Stay for pole
Smart Card Validator	ESCOM Inspection Cover	PP	PP
Unknown Valve	Rocking Eye	Washout	Washout

**Natural Features**

Surface Change	Water Level	Golf
Land Drain	Clown Level	Fair Way
Bottom of Slope	Invert level	Green
Top of Slope	Bed Level	Tea Box
Ditch	Spotheight	Other
Water Edge / Lake / Pond	Survey Station	Survey Station
Hedge / Trees Drip Line / Vegetation	Photo point	Photo point
Tree Coniferous	Top of Tree	Top of Tree

**Built Features**

**Roads & Road Markings**

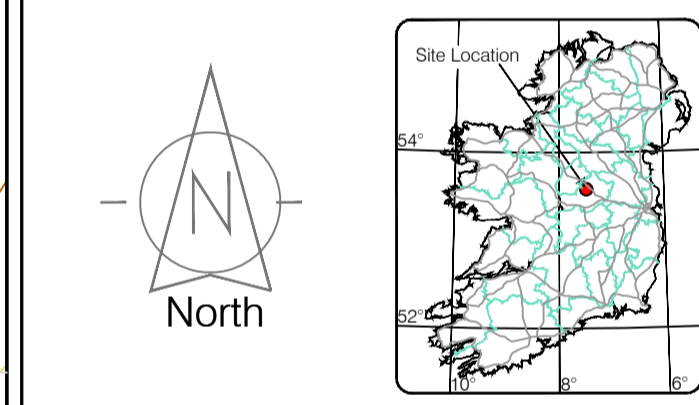
Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Soft Elevation
Bridge Deck	Property Line	Step Level
Bridge Pier	Road Box	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform / Tram	Wall / Retaining Wall	
Damp Proof Course / Veep	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

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Map Sheet Layout

Map Sheet 0000

Drawn by: ST	Date: 26.07.2023	Datum: Irish National Grid	Main Head
Checked by: PK	Date: 26.07.2023	Grid System: Irish National Grid	ITM 8

No	Date	Description	Revisions
0	26.07.2023	First Drawing	
1	08.08.2023	Layouts added	
2	06.09.2023	Additional road survey added	



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**Client:** AECOM Dublin

**Project:** BNM Site Derrygreenagh Rhode

**Date:** 26.07.2023 **Scale:** 1:500@A1

**Description:** Topographical Survey

**Drawing Number:** MGS52335\_T\_ITM\_Rev2-108

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### LEGEND

#### Street furniture & Services

Over Head Wires (LUAS) - Pylon ESB	Ballast	Road Sign	Phone Box
Flowerbed	Beacon	Bench Seat	Duct
Bus Stop	Coalhole Cover	Keek	Gas Cover
Pipe	Boys Hole	Gully	C/P Box
Light	Electricity Pole	Waste Bin	W/S Car Park View
Barrier	Telegraph pole	Hydrant	Fire Hydrant
Pump	Electricity Pole	ESB Box	ESB Box
Trail Pit	CCTV Camera Pole	ESB Inspection Cover	ESB Inspection Cover
Bus/Tram Shelter	Lamp Post	Traffic Control Box	Traffic Control Box
Postbox	Gas Valve	LIAS Technical Cabinet	LIAS Technical Cabinet
Water - General	Sluice Valve	Surface Water MH	Ticket Vending Machine
Water Valve	Air Valve	Water Meter MH	Water Meter Cover
Gas Valve	Stop Cook	Air Conditioning Vents	Telecom Inspection Cover
Sluice Valve	C/P Post	Services Inspection Cover	Monument / Toilets
Air Valve	Marker Post	Traffic Inspection Cover	Tank Storage
Stop Cook	Marker Post	Cable TV Inspection Cover	Basement MH Cover & Pipe
C/P Post	Marker Post	ESAT Inspection Cover	ESAT Inspection Cover
Marker Post	Marker Post	N/L Inspection Cover	N/L Inspection Cover
Marker Post	Marker Post	ESCOM Inspection Cover	ESCOM Inspection Cover
Marker Post	Marker Post	ESCOM Inspection Cover	ESCOM Inspection Cover
Marker Post	Marker Post	ESCOM Inspection Cover	ESCOM Inspection Cover

#### Natural Features

Surface Change	Water Level	Fair Way
Land Drain	Clown Level	Green
Bottom of Slope	Invert level	Tree Box
Top of Slope	Bed Level	Other
Ditch	Spotheight	Survey Station
Water Edge / Lake / Pond		Photo point
Hedge / Trees Drip Line / Vegetation		Top of Tree
Tree Coniferous		

#### Built Features

##### Roads & Road Markings

Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Soffit Elevation
Bridge Deck	Property Line	Step Level
Bridge Parapet	Road Box	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform / Tram	Wall / Retaining Wall	
Damp Proof Course / Verge	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

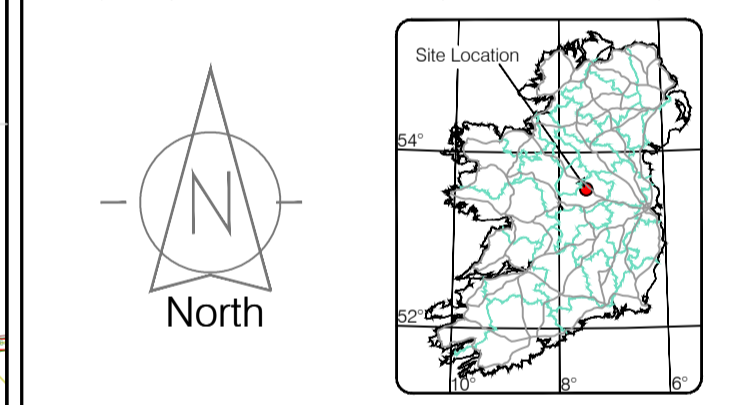
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Site Location



Map Sheet Layout

Map Sheet 0000

Drawn by: ST	Date: 26/07/2023	Datum: Irish Natural Grid	Main Head
Checked by: PK	Date: 26/07/2023	Grid System: Irish Natural Grid	ITM 10
Revisions			
No	Date	Description	
0	26.07.2023	First Drawing	
1	08.08.2023	Layouts added	
2	06.09.2023	Additional road survey added	



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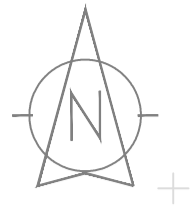
<b>Client :</b>	AECOM Dublin
<b>Project :</b>	BNN Site Derrygreenagh Rhode
<b>Date :</b>	26.07.2023
<b>Scale :</b>	1:500@A1
<b>Description :</b>	Topographical Survey
<b>Drawing Number :</b>	MGS52335_T_ITM_Rev2-109

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**LEGEND**  
Street furniture & Services

Over Head Wires (LUAS) - Pylon ESB	Ballast	Road Sign	Phone Box
Powerbed	BEA Beacon	Waste Bin	Bench Seat
Pipe	CH Coalhole Cover	Waste Bin	Duct
Light	BH Bore Hole	Waste Bin	Gas Cover
Barrier	Electricity Pole	Hydrant	Gas Box
Pump	Telegraph pole	Fire Hydrant	P Box
Trail Pit	OCS Pole	ESS Box	
Bus/Tram Shelter	CCTV Camera Pole	ESS Box	
Water - General	Lamp Post	ESS Box	
Water Valve	Gas Valve	ESS Box	
Gas Valve	Sluice Valve	ESS Box	
Air Valve	Air Valve	ESS Box	
Stop Cook	C P Post	ESS Box	
Marker Post	Marker Post	ESS Box	
Tracing Light	Tracing Light	ESS Box	
Parking Meter	Parking Meter	ESS Box	
Flare Area Mark	Flare Area Mark	ESS Box	
Smart Card Validator	Smart Card Validator	ESS Box	
Unknown Valve	Unknown Valve	ESS Box	

**Natural Features**

Surface Change	Water Level	Golf
Land Drain	Invert level	Fair Way
Bottom of Slope	Top of Slope	Green
Top of Slope	Ditch	Tea Box
Ditch	Water Edge / Lake / Pond	Other
Hedge / Trees Drip Line / Vegetation	Tree Deciduous	Survey Station
Tree Coniferous	Tree Deciduous	Photo point

**Built Features**

**Roads & Road Markings**

Building	Fence	Floor Level
Edge of Road	Kerb Bottom	Apex Height
Kerb Bottom	Kerb Top	Eaves Height
Kerb Top	Bridge Abutment	Parapet Height
Bridge Abutment	Bridge Deck	Soffit Elevation
Bridge Deck	Bridge Pier	Step Level
Building Footprint	Footpath / Platform / Tram & Vege	Concrete Pad
Damp Proof Course / Verge	Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Track
Building Canopy / Roof / Overhang	Cycleway / Private Landing Area	

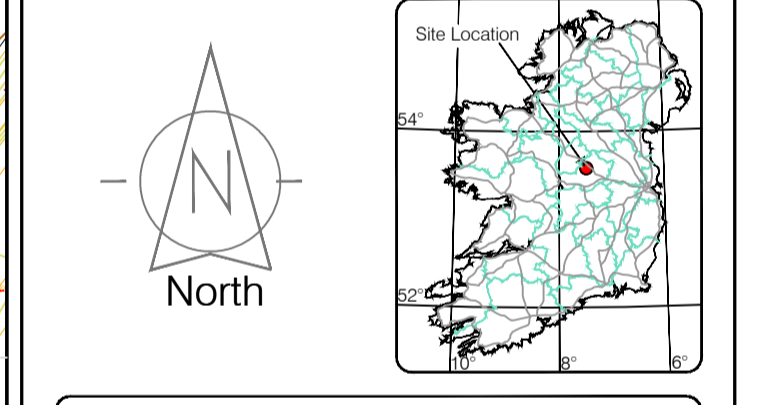
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Site Location



Map Sheet Layout

Map Sheet 0000

Drawn by: ST	Date: 26.07.2023	Datum: Irish National Grid	Main Head
Checked by: PK	Date: 26.07.2023	Grid System: Irish National Grid	ITM 8
Revisions			
No	Date	Description	Revisions
0	26.07.2023	First Drawing	
1	08.08.2023	Layout & addit.	
2	06.09.2023	Additional road survey added.	



Topographic surveys, Measured Building Surveys, Setting-out, As-Built Surveys, Hydrographic Surveys, Legal Mapping, Pipeline Surveys, Heritage Location, Ground Penetrating Radar, Laser Scanning, Aerial Photography

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**Client :** AECOM Dublin

**Project :** BNM Site Derrygreenagh Rhode

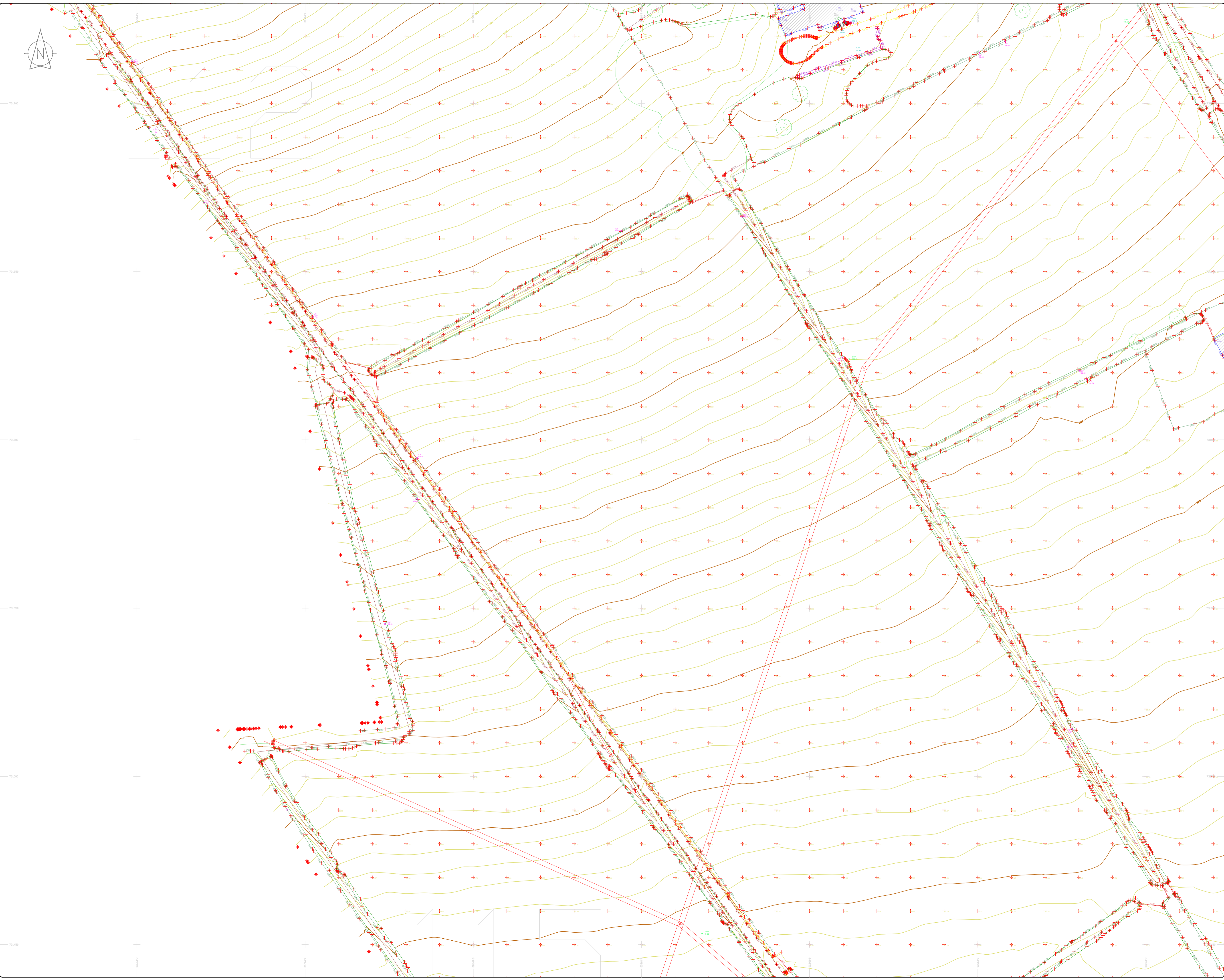
**Date :** 26.07.2023 **Scale :** 1:500@A1

**Description :** Topographical Survey

**Drawing Number :** MGS52335\_T\_ITM\_Rev2-111

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### LEGEND

#### Street furniture & Services

Over Head Wires (LUAS) - Pylon ESB	Street Sign	Phone Box
Flowerbed	Beach Bar	Dust
Pipe	Beacon	Keok
Light	Beacon	Gas Cover
Barrier	Coalhole Cover	UFG Car Park Sign
Pump	Bore Hole	Waste Bin
Trail Pit	Electricity Pole	Hydrant
Bus/Tram Shelter	Telegraph pole	Fire Hydrant
Postbox	OCS Pole	ESB Box
Water - General	CCTV Camera Pole	ESB Inspection Cover
Water Valve	Lamp Post	Trains Control Box
Gas Valve	Foul Manhole	LUAS Technical Cubicle
Sluice Valve	Surface Water MH	Ticket Vending Machine
Air Valve	Manholes	Water Meter Cover
Stop Cook	Air Conditioning Vents	Telecom Inspection Cover
C/P Post	Services Inspection Cover	Monument / Toilets
Marker Post	Traffic Inspection Cover	Tank Storage
Traffic Light	Cable TV Inspection Cover	Basement MH Cover & Pipe
Parking Meter	ESAT Inspection Cover	Dead End Mark
Pole Area Mark	NL Inspection Cover	Stay for pole
Smart Card Validator	EScom Inspection Cover	Stay for pole
Unknown Valve	EScom Inspection Cover	PP
		Washout

#### Natural Features

Surface Change	Water Level	Golf
Land Drain	Crown Level	Fair Way
Bottom of Slope	Invert level	Green
Top of Slope	Bed Level	Tree Box
Ditch	Spotheight	Other
Water Edge / Lake / Pond		Survey Station
Hedge / Trees Drip Line / Vegetation		Photo point
Tree Coniferous	Tree Deciduous	Top of Tree

#### Built Features

##### Roads & Road Markings

Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Soft Elevation
Bridge Deck	Property Line	Step Level
Bridge Pier/Abutment	Road Bar	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform Train & Tram	Wall / Retaining Wall	
Damp Proof Course / Veep	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pile / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

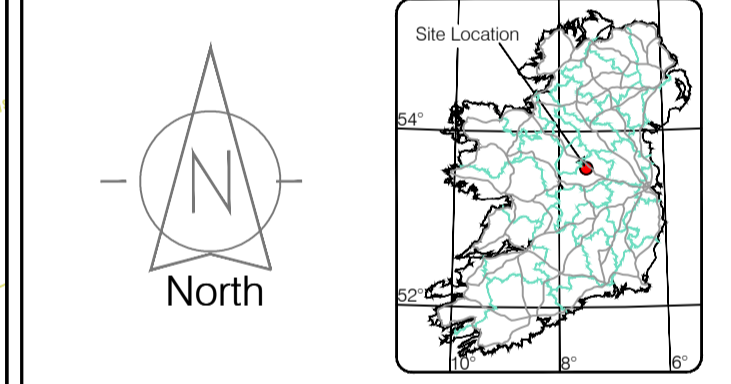
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Site Location



Map Sheet Layout

Map Sheet 0000

Drawn by: ST	Date: 26.07.2023	Grid System: Irish National Grid	ITM 25
Checked by: PK	Date: 26.07.2023		

No.	Date	Description	Revisors
0	26.07.2023	First Drawing	
1	08.08.2023	Layouts added	
2	06.09.2023	Additional road survey added	



Topographic surveys, Measured Building Surveys, Setting Out, As-Built Surveys, Hydrographic Surveys, Legal Mapping, Pipeline Surveys, Service Location, Ground Penetrating Radar, Laser Scanning, Aerial Photography

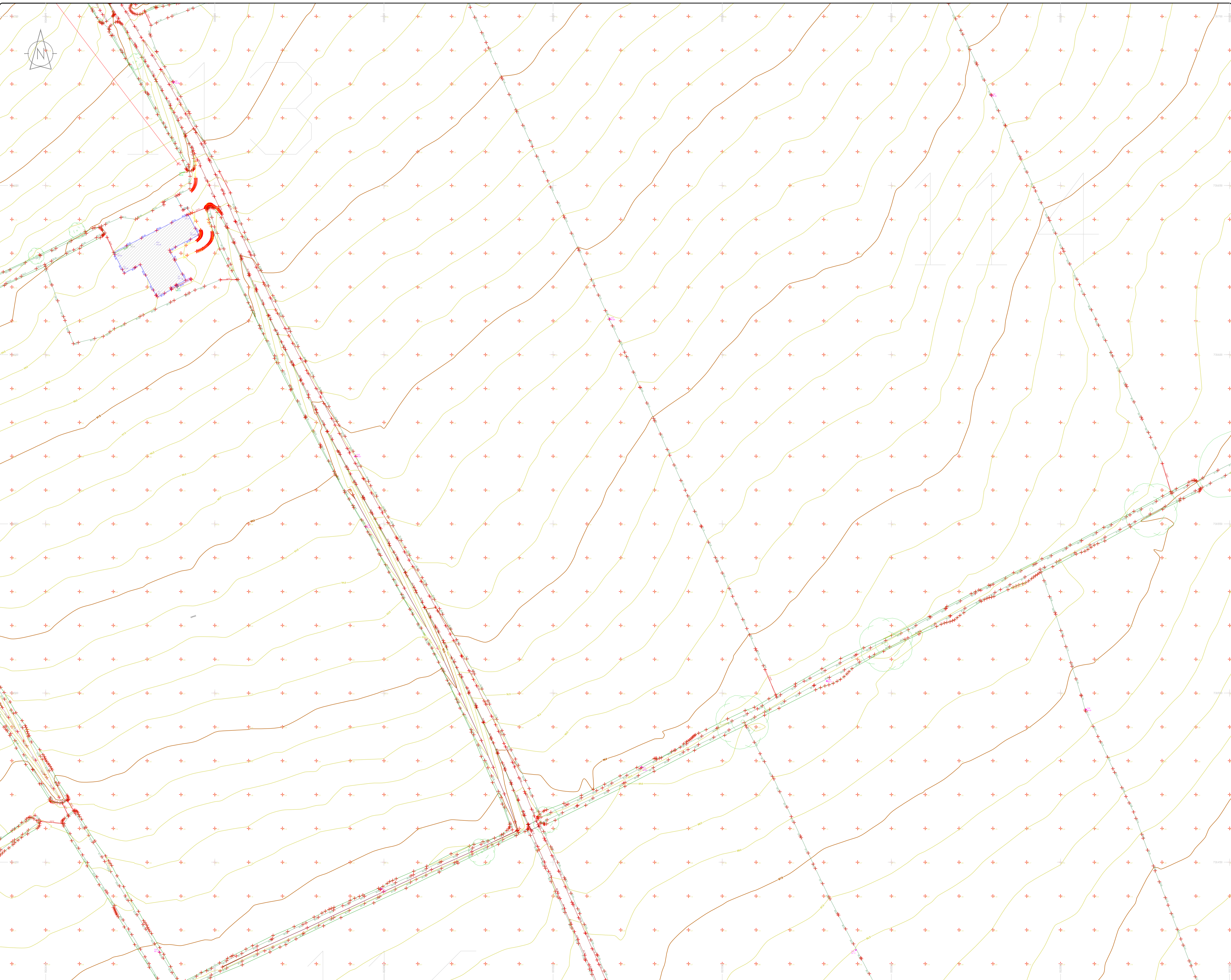
Kildare Cork Dublin Belfast Glasgow Manchester London

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<b>Client :</b>	AECOM Dublin
<b>Project :</b>	BNN Site Derrygreenagh Rhode
<b>Date :</b>	26.07.2023
<b>Scale :</b>	1:500@A1
<b>Description :</b>	Topographical Survey
<b>Drawing Number :</b>	MGS52335_T_ITM_Rev2-112





### LEGEND

#### Street furniture & Services

Over Head Wires (LUAS) - Pylon ESB	Bus Stop	Ballast	Road Sign	Phone Box
Powerbed	Beacon	Coalhole Cover	Waste Bin	Fire Hydrant
Pipe	Beacon	Electricity Pole	Telegraph pole	ESB Box
Light	Coalhole Cover	Electricity Pole	Telegraph pole	ESB Box
Barrier	Boys Hole	Electricity Pole	Telegraph pole	ESB Box
Pump	Electricity Pole	Electricity Pole	Telegraph pole	ESB Box
Trial Pit	Electricity Pole	Electricity Pole	Telegraph pole	ESB Box
Bus/Tram Shelter	Electricity Pole	Electricity Pole	Telegraph pole	ESB Box
Postbox	Electricity Pole	Electricity Pole	Telegraph pole	ESB Box
Water - General	Electricity Pole	Electricity Pole	Telegraph pole	ESB Box
Water Valve	Electricity Pole	Electricity Pole	Telegraph pole	ESB Box
Gas Valve	Electricity Pole	Electricity Pole	Telegraph pole	ESB Box
Sluice Valve	Electricity Pole	Electricity Pole	Telegraph pole	ESB Box
Air Valve	Electricity Pole	Electricity Pole	Telegraph pole	ESB Box
Stop Cook	Electricity Pole	Electricity Pole	Telegraph pole	ESB Box
C.P. Post	Electricity Pole	Electricity Pole	Telegraph pole	ESB Box
Marker Post	Electricity Pole	Electricity Pole	Telegraph pole	ESB Box
Marker Light	Electricity Pole	Electricity Pole	Telegraph pole	ESB Box
Parking Meter	Electricity Pole	Electricity Pole	Telegraph pole	ESB Box
Pole Area Mark	Electricity Pole	Electricity Pole	Telegraph pole	ESB Box
Smart Card Validator	Electricity Pole	Electricity Pole	Telegraph pole	ESB Box
Unknown Valve	Electricity Pole	Electricity Pole	Telegraph pole	ESB Box

#### Natural Features

Surface Change	Water Level	Fair Way
Land Drain	Water Level	Green
Bottom of Slope	Invert level	Tree Box
Top of Slope	Bed Level	Other
Ditch	Spotheight	Survey Station
Water Edge / Lake / Pond	Spotheight	Photo point
Hedge / Trees Drip Line / Vegetation	Spotheight	Photo point
Tree Contourous	Spotheight	Photo point
Tree Deciduous	Spotheight	Photo point
Tree Evergreen	Spotheight	Photo point

#### Built Features

##### Roads & Road Markings

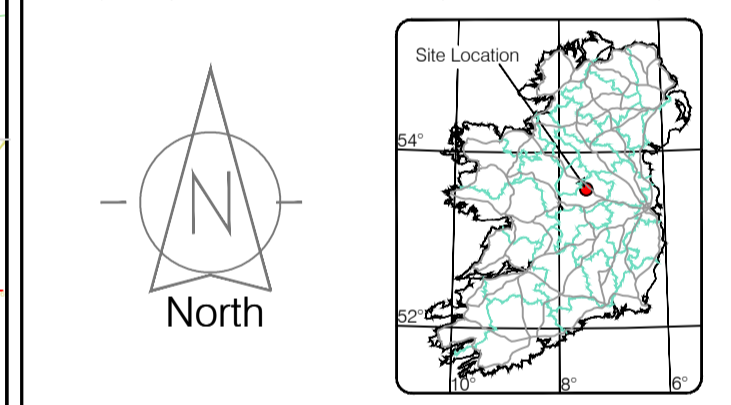
Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Softs Elevation
Bridge Deck	Property Line	Step Level
Bridge Parapet	Road Box	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform / Tram	Wall / Retaining Wall	
Damp Proof Course / Veep	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

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Map Sheet Layout

Map Sheet 0000

Drawn by: ST	Date: 26.07.2023	Datum: Irish National Grid	Main Head
Checked by: PK	Date: 26.07.2023	Grid System: Irish National Grid	ITM 8

No.	Date	Description	Revisions
0	26.07.2023	First Drawing	
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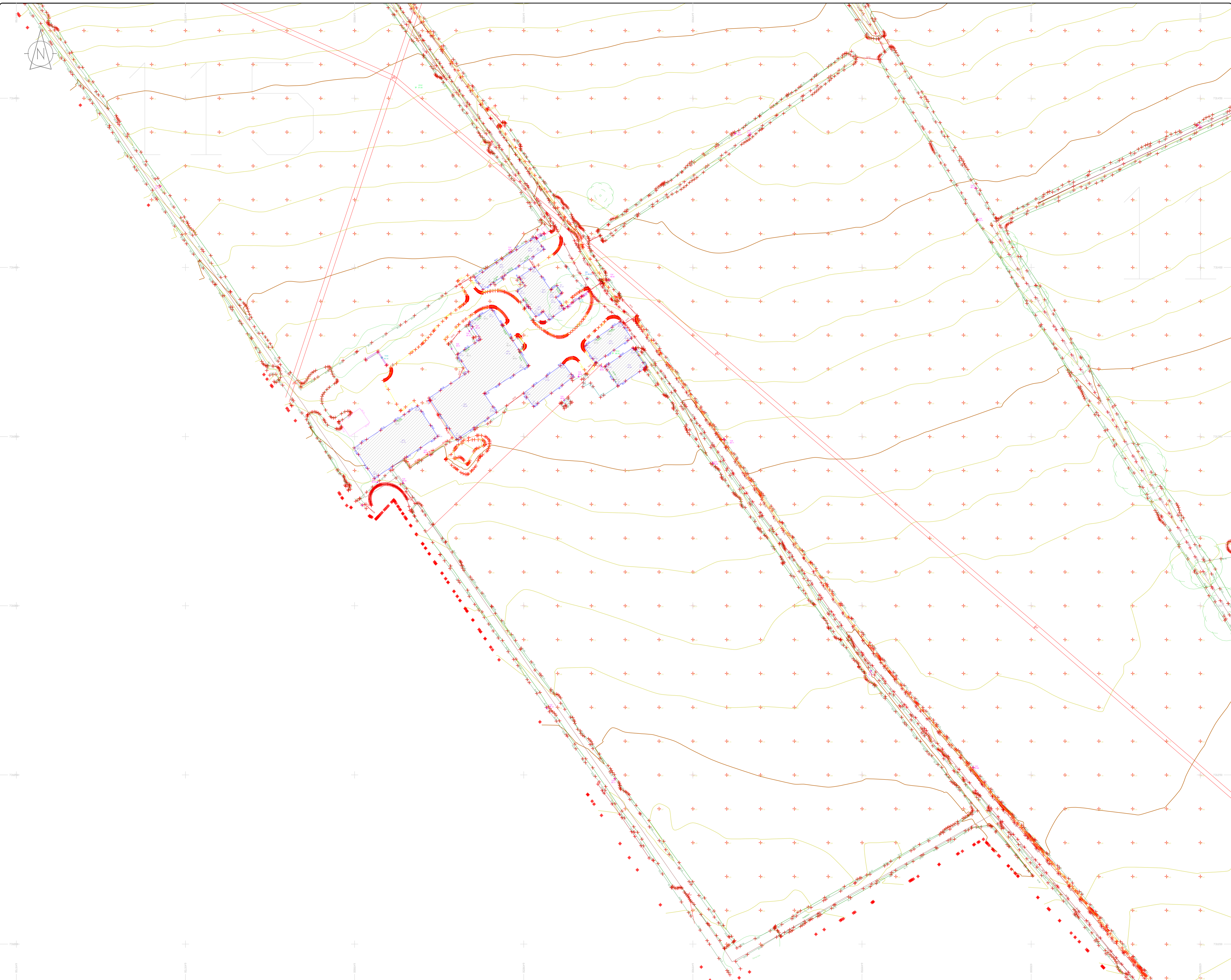
<b>Client :</b>	AECOM Dublin
<b>Project :</b>	BNN Site Derrygreenagh Rhode
<b>Date :</b>	26.07.2023
<b>Scale :</b>	1:500@A1
<b>Description :</b>	Topographical Survey
<b>Drawing Number :</b>	MGS52335_T_ITM_Rev2-113

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### LEGEND

#### Street furniture & Services

Over Head Wires (LUAS) - Pylon ESB	Ballast	Road Sign	Phone Box
Flowerbed	Beacon	Bench Seat	Dust
Pipe	Beacon	Keek	Gas Cover
Lift	Coalhole Cover	Gully	C/P Box
Barrier	Boys Hole	Waste Bin	US Car Park Vent
Pump	Electricity Pole	Hydrant	Hydrant
Manhole	Telegraph pole	Fire Hydrant	Fire Hydrant
Postbox	CCTV Camera Pole	ESS Box	ESS Box
Water - General	CCTV Camera Pole	ESS Inspection Cover	ESS Inspection Cover
Water Valve	Lamp Post	Trunk Control Box	Trunk Control Box
Gas Valve	Fuel Manhole	LUAS Technical Cabinet	LUAS Technical Cabinet
Sluice Valve	Surface Water MH	Ticket Vending Machine	Ticket Vending Machine
Air Valve	Manholes	Water Meter Cover	Water Meter Cover
Stop Cook	Air Conditioning Vents	Telecom Inspection Cover	Telecom Inspection Cover
C/P Post	Services Inspection Cover	Monument / Toilets	Monument / Toilets
Marker Post	Traffic Inspection Cover	Tank Storage	Tank Storage
Marker Post	Traffic Inspection Cover	Tank Storage	Tank Storage
Tram Light	Cable TV Inspection Cover	Basement MH Cover & Pipe	Basement MH Cover & Pipe
Parking Meter	ESAT Inspection Cover	Dead End Aerial Mark	Dead End Aerial Mark
Flare Area Mark	NFL Inspection Cover	Stay for pole	Stay for pole
Smart Card Validator	Elcom Inspection Cover	Pipe Protection	Pipe Protection
Unknown Valve	Roofing Eye	Washout	Washout

#### Natural Features

Surface Change	Water Level	Fair Way
Land Drain	Coast Level	Green
Bottom of Slope	Invert level	Tree Box
Top of Slope	Bed Level	Other
Ditch	Spotheight	Survey Station
Water Edge / Lake / Pond		Photo point
Hedge / Trees Drip Line / Vegetation		Top of Tree
Tree Contourous		

#### Built Features

##### Roads & Road Markings

Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Soft Elevation
Bridge Deck	Property Line	Step Level
Bridge Pier	Road Bar	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform Train & Tram	Wall / Retaining Wall	
Damp Proof Course / Verge	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pile / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

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Map Sheet Layout

Map Sheet 0000

Drawn by: ST	Date: 26/07/2023	Date: 26/07/2023	Date: 26/07/2023
Checked by: PK	Date: 26/07/2023	Date: 26/07/2023	Date: 26/07/2023

No	Date	Description	Revisors
0	26.07.2023	First Drawing	
1	08.08.2023	Layouts added	
2	06.09.2023	Additional road survey added	

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**THE SURVEY ASSOCIATION**

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Topographic surveys, Measured Building Surveys, Setting-out, As-Built Surveys, Hydrographic Surveys, Legal Mapping, Pipeline Surveys, Service Location, Ground Penetrating Radar, Laser Scanning, Aerial Photography

Kildare Cork Dublin Belfast Glasgow Manchester London

**Head Office**

Global House Phone: (+353) 045 484040  
 Kluicullen Business Campus Fax: (+353) 045 484004  
 Kluicullen Co. Kildare, Ireland Email: info@murphyge.ie

**Client:** AECOM Dublin

**Project:** BNM Site Derrygreenagh Rhode

**Date:** 26.07.2023 **Scale:** 1:500@A1

**Description:** Topographical Survey

**Drawing Number:** MGS52335\_T\_ITM\_Rev2-115

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### LEGEND

#### Street furniture & Services

Over Head Wires (LUAS) - Python ESB	Street Sign	Phone Box
Powerbed	Beach Sign	Duct
Pipe	Keek	Gas Cover
Lit	Gully	CPN
Barrier	Waste Bin	Hydrant
Pump	Electricity Pole	Fire Hydrant
Bus/Tram Shelter	Telegraph pole	Fire Hydrant
Postbox	OCS Pole	ESS Box
Water - General	CCTV Camera Pole	ESS Inspection Cover
Water Valve	Lamp Post	Traffic Control Box
Gas Valve	Foul Manhole	LUAS Technical Cabinet
Sluice Valve	Surface Water MH	Ticket Vending Machine
Air Valve	Manholes	Water Meter Cover
Stop Cook	Air Conditioning Vents	Telecom Inspection Cover
C/P Post	Services Inspection Cover	Monument / Toilets
Marker Post	Traffic Inspection Cover	Tank Storage
Traffic Light	Cable TV Inspection Cover	Basement MH Cover & Pipe
Parking Meter	SAT Inspection Cover	Disposal Aerial Mark
Flare Area Mark	NFL Inspection Cover	Stay for pole
Smart Card Validator	Excels Inspection Cover	PP
Unknown Valve	Rocking Eye	Washout

#### Natural Features

Surface Change	Water Level	Fair Way
Land Drain	Coast Level	Green
Bottom of Slope	Invert level	Tree Box
Top of Slope	Bed Level	Other
Ditch	Spotheight	Survey Station
Water Edge / Lake / Pond		Photo point
Hedge / Trees Drip Line / Vegetation		Top of Tree
Tree Coniferous		
Tree Deciduous		

#### Built Features

##### Roads & Road Markings

Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Softly Elevation
Bridge Deck	Property Line	Slope Level
Bridge Parapet	Road Sign	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform Train & Tram	Wall / Retaining Wall	
Damp Proof Course / Verge	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

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North

Site Location

Map Sheet Layout

Map Sheet 0000

Drawn by: ST	Date: 26.07.2023	Date: 26.07.2023	Date: 26.07.2023
Checked by: PK	Date: 26.07.2023	Date: 26.07.2023	Date: 26.07.2023

No.	Date	Description	Revisions
0	26.07.2023	First Drawing	
1	08.08.2023	Layouts added	
2	06.09.2023	Additional road survey added	

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Phone: (+353) 045 484040  
 Fax: (+353) 045 484004  
 Email: info@murphyge.ie

Client: AECOM Dublin

Project: BNM Site Derrygreenagh Rhode

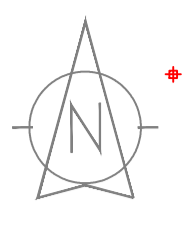
Date: 26.07.2023 Scale: 1:500@A1

Description: Topographical Survey

Drawing Number: MGS52335\_T\_ITM\_Rev2-117

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### LEGEND

#### Street furniture & Services

Over Head Wires (LIAS) - Pylon ESB	Bus Stop	Road Sign	Phone Box
Flowerbed	Ballast	Bench Seat	Duct
Pipe	Beacon	Kiosk	Gas Cover
Lit	Coalhole Cover	Gully	CP Box
Barrier	Electric Pole	Waste Bin	Waste Bin
Pump	Telegraph pole	Hydrant	Fire Hydrant
Trial Pit	Electric Pole	Hydrant	Fire Hydrant
Bus/Tram Shelter	Electric Pole	Hydrant	Fire Hydrant
Postbox	Electric Pole	Hydrant	Fire Hydrant
Water - General	Electric Pole	Hydrant	Fire Hydrant
Water Valve	Electric Pole	Hydrant	Fire Hydrant
Gas Valve	Electric Pole	Hydrant	Fire Hydrant
Sluice Valve	Electric Pole	Hydrant	Fire Hydrant
Air Valve	Electric Pole	Hydrant	Fire Hydrant
Stop Cook	Electric Pole	Hydrant	Fire Hydrant
C/P Post	Electric Pole	Hydrant	Fire Hydrant
Marker Post	Electric Pole	Hydrant	Fire Hydrant
Unknown Valve	Electric Pole	Hydrant	Fire Hydrant

#### Natural Features

Surface Change	Water Level	Fair Way
Land Drain	Water Level	Green
Bottom of Slope	Water Level	Tree Box
Top of Slope	Water Level	Other
Ditch	Water Level	Survey Station
Water Edge / Lake / Pond	Water Level	Photo point
Hedge / Trees Drip Line / Vegetation	Water Level	Top of Tree
Tree Coniferous	Water Level	
Tree Deciduous	Water Level	

#### Built Features

##### Roads & Road Markings

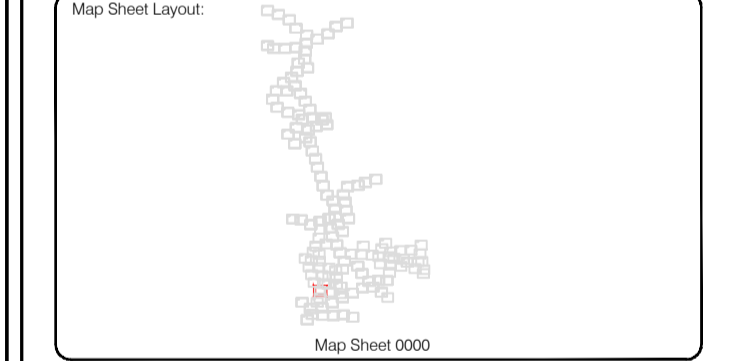
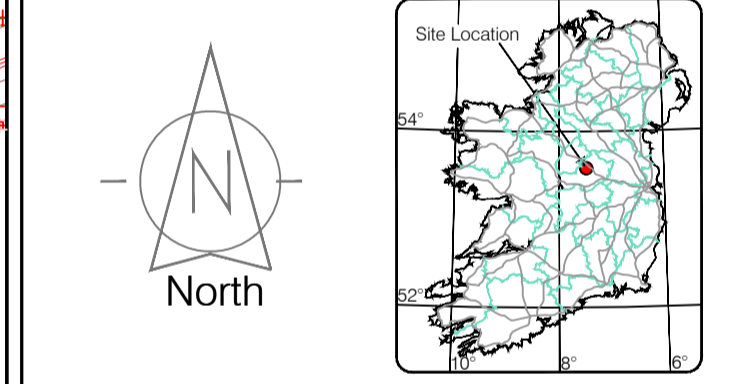
Building	Fence	Floor Level
Edge of Road	Fence	Apex Height
Kerb Bottom	Fence	Eaves Height
Kerb Top	Fence	Parapet Height
Bridge Abutment	Fence	Soffit Elevation
Bridge Deck	Fence	Step Level
Bridge Pier	Fence	Concrete Pad
Building Facade	Fence	Track
Footpath / Platform Train & Tram	Fence	Wall / Retaining Wall
Damp Proof Course / Verge	Fence	Railway / Tram Rail / Gating / Ramp
Bridge Pier / Wall & Gate Pillar / LIAS Trackbed	Fence	Building Canopy / Roof / Overhang
Cycleway / Private Landing Area	Fence	

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Drawn by: ST	Date: 26/07/2023	Datum: Irish National Grid	Main Head
Checked by: PK	Date: 26/07/2023	Grid System: Irish National Grid	ITM 2
Revisions			
No	Date	Description	
0	26.07.2023	First Drawing	
1	08.08.2023	Layout added	
2	06.09.2023	Additional road survey added	



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Phone: (+353) 045 484040  
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<b>Client:</b>	AECOM Dublin
<b>Project:</b>	BNN Site Derrygreenagh Rhode
<b>Date:</b>	26.07.2023
<b>Scale:</b>	1:500@A1
<b>Description:</b>	Topographical Survey
<b>Drawing Number:</b>	MGS52335_T_ITM_Rev2-118





### LEGEND

#### Street furniture & Services

Over Head Wires (LIAS) - Pylon ESB	Bus Stop	Ballast	Beacon	Coalhole Cover	Electricity Pole	Telegraph pole	Waste Bin	Washout
Powerbed	Beach Seat	Beach Seat	Beach Seat	Beach Seat	Beach Seat	Beach Seat	Beach Seat	Beach Seat
Pipe	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon
Light	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon
Barrier	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon
Pump	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon
Trial Pit	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon
Bus/Tram Shelter	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon
Postbox	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon
Water - General	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon
Water Valve	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon
Gas Valve	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon
Sluice Valve	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon
Air Valve	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon
Stop Cook	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon
C/P Post	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon
Marker Post	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon
Traffic Light	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon
Parking Meter	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon
Flare Area Mark	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon
Smart Card Validator	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon
Unknown Valve	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon	Beacon

#### Natural Features

Surface Change	Water Level	Fair Way
Land Drain	Coast Level	Green
Bottom of Slope	Invert level	Tea Box
Top of Slope	Bed Level	Other
Ditch	Spotheight	Survey Station
Water Edge / Lake / Pond	Spotheight	Photo point
Hedge / Trees Drip Line / Vegetation	Spotheight	Spotheight
Tree Coniferous	Spotheight	Spotheight
Tree Deciduous	Spotheight	Spotheight
Top of Tree	Spotheight	Spotheight

#### Built Features

##### Roads & Road Markings

Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Softly Elevation
Bridge Deck	Property Line	Step Level
Bridge Pier	Road Sign	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform / Tram	Wall / Retaining Wall	Relay / Train Rail / Gating / Ramp
Damp Proof Course / Werge	Relay / Train Rail / Gating / Ramp	Building Canopy / Roof / Overhang
Bridge Pier / Wall & Gate Pile / LIAS Trackbed	Relay / Train Rail / Gating / Ramp	Building Canopy / Roof / Overhang
Cycleway / Private Landing Area	Relay / Train Rail / Gating / Ramp	Building Canopy / Roof / Overhang

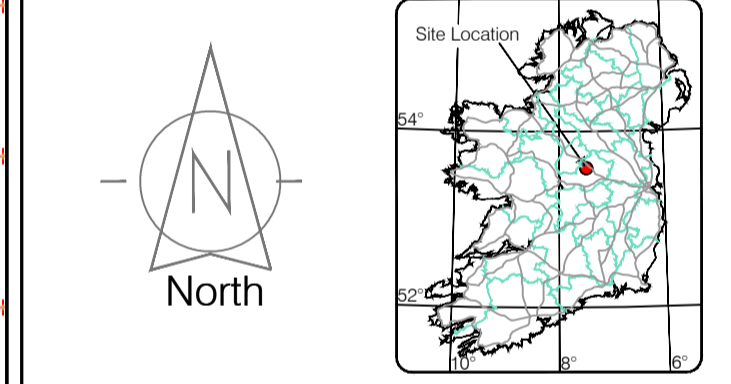
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North



Map Sheet Layout

Map Sheet 0000

Drawn by: ST	Date: 26/07/2023	Datum: Irish National Grid	Main Head
Checked by: PK	Date: 26/07/2023	Grid System: Irish National Grid	ITM 8
Revisions			
No	Date	Description	
0	26.07.2023	Final Drawing	
1	08.08.2023	Layouts added	
2	06.09.2023	Additional road survey added	



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**Head Office**  
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 Kiltullen Business Campus  
 Kiltullen Co. Kildare, Ireland

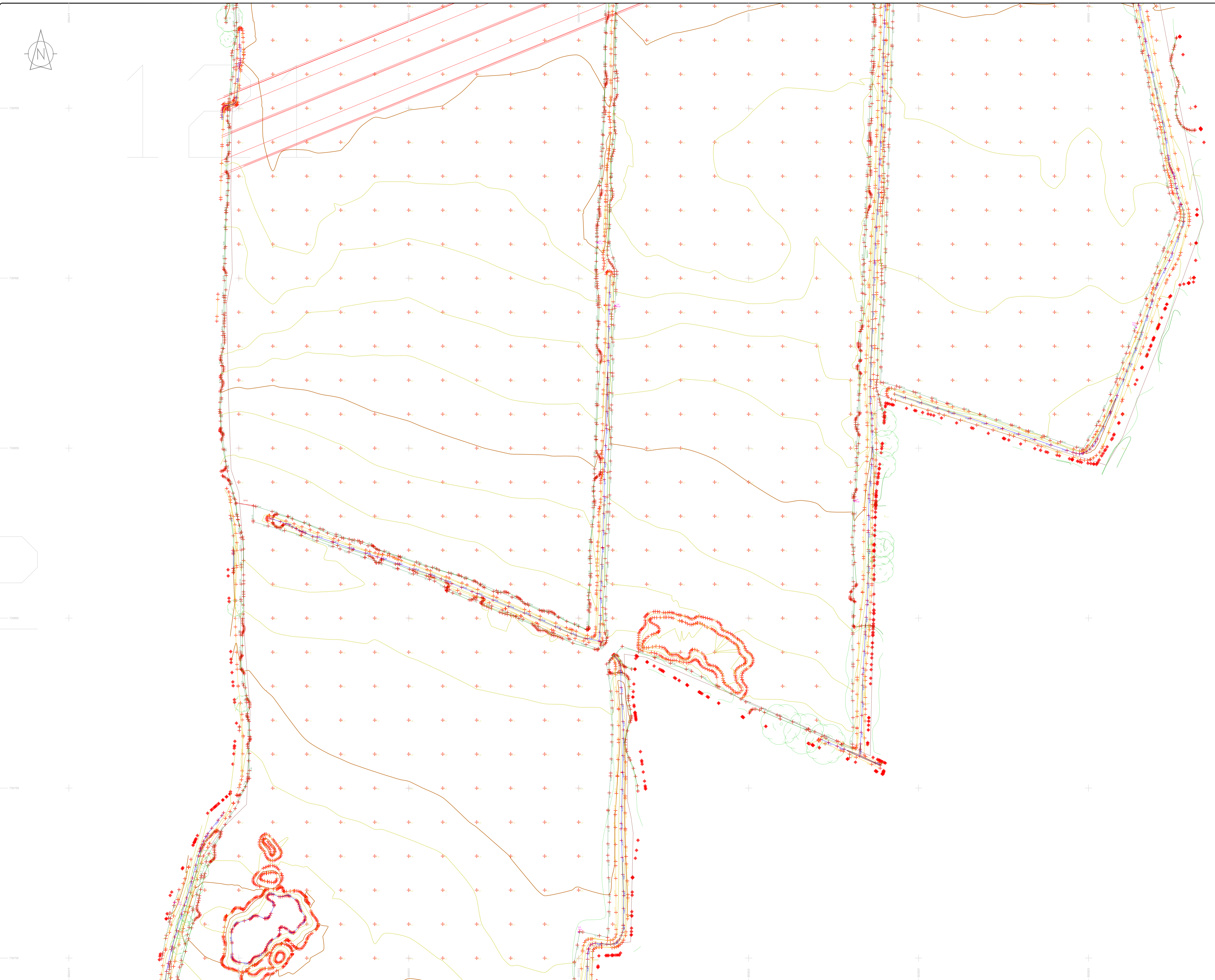
Phone: (+353) 045 484040  
 Fax: (+353) 045 484004  
 Email: info@murphyge.ie

<b>Client :</b>	AECOM Dublin
<b>Project :</b>	BNN Site Derrygreenagh Rhode
<b>Date :</b>	26.07.2023
<b>Scale :</b>	1:500@A1
<b>Description :</b>	Topographical Survey
<b>Drawing Number :</b>	MGS52335_T_ITM_Rev2-119









### LEGEND

#### Street furniture & Services

Over Head Wires (LIAS) - Pylon ESB	Phone Box
Flowerbed	Bench Seat
Pipe	Keek
Light	Gully
Barrier	Waste Bin
Pump	Waste Bin
Manhole	Hydrant
Bus/Tram Shelter	Fire Hydrant
Postbox	ESB Box
Water - General	Water Inspection Cover
Water Valve	Water Control Box
Gas Valve	LIAS Technical Cabinet
Sludge Valve	LIAS Technical Cabinet
Air Valve	Water Meter Cover
Stop Cook	Water Meter Cover
C/P Post	Monument / Toilets
Marker Post	Monument / Toilets
Traffic Light	Tank Storage
Parking Meter	Basement MH Cover & Pipe
Flare Area Mark	Deep Aerial Mark
Smart Card Validator	Stay for pole
Unknown Valve	Washout

#### Natural Features

Surface Change	Water Level	Golf
Land Drain	Water Level	Fair Way
Bottom of Slope	Invert level	Green
Top of Slope	Bed Level	Tree Box
Ditch	Spotheight	Other
Water Edge / Lake / Pond	Spotheight	Survey Station
Hedge / Trees Drip Line / Vegetation	Spotheight	Photo point
Tree Coniferous	Top of Tree	

#### Built Features

##### Roads & Road Markings

Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Softly Elevation
Bridge Deck	Property Line	Step Level
Bridge Pier	Road Bar	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform / Tram	Wall / Retaining Wall	
Damp Proof Course / Verge	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pillar / LIAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

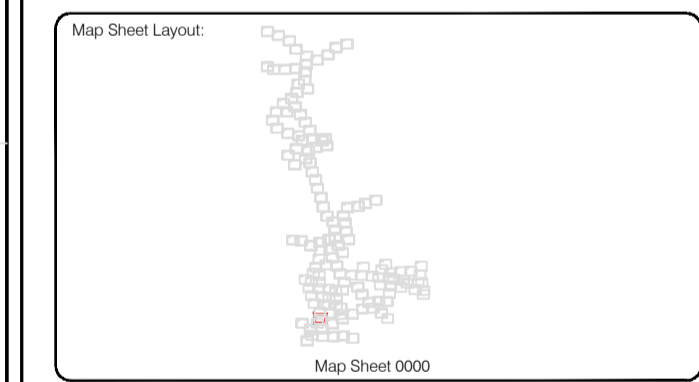
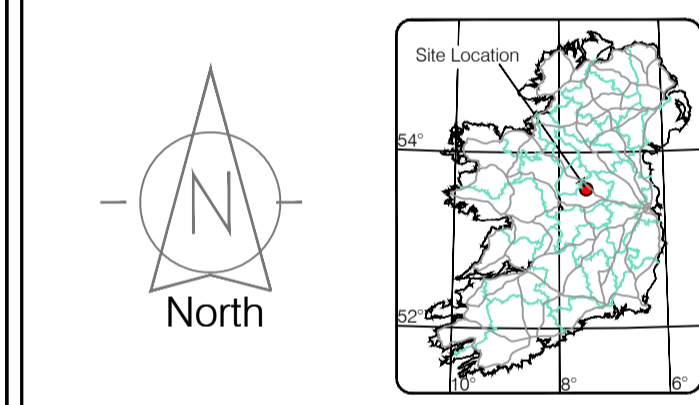
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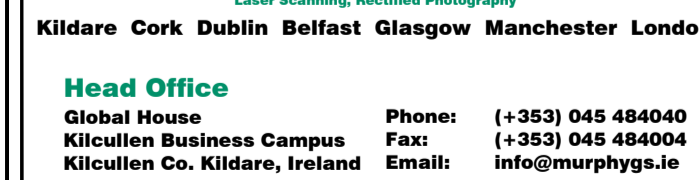
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Site Location



Surveyed by: ST	Date: 26.07.2023	Date: 26.07.2023	Date: 26.07.2023
Drawn by: ST	Date: 26.07.2023	Date: 26.07.2023	Date: 26.07.2023
Checked by: PK	Date: 26.07.2023	Date: 26.07.2023	Date: 26.07.2023

No.	Date	Description	Revisions
0	26.07.2023	Final Drawing	
1	08.08.2023	Layout added	
2	06.09.2023	Additional road survey added	



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Phone: (+353) 045 484040  
 Fax: (+353) 045 484004  
 Email: info@murphyge.ie

**Client:** AECOM Dublin

**Project:** BNM Site Derrygreenagh Rhode

**Date:** 26.07.2023 **Scale:** 1:500@A1

**Description:** Topographical Survey

**Drawing Number:** MGS52335\_T\_ITM\_Rev2-121

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124

LEGEND			
Street furniture & Services			
Over Head Wires (LUAS) - Pylon ESB	Ballast	Ballast	Phone Box
Powerbed	Beacon	Beach Seat	Duct
Pipe	Beacon	Bus Stop	Gas Cover
Light	Beacon	Bus Stop	Gas Cover
Barrier	Beacon	Bus Stop	Gas Cover
Pump	Beacon	Bus Stop	Gas Cover
Trail Pit	Beacon	Bus Stop	Gas Cover
Bus/Tram Shelter	Beacon	Bus Stop	Gas Cover
Postbox	Beacon	Bus Stop	Gas Cover
Water - General	Beacon	Bus Stop	Gas Cover
Water Valve	Beacon	Bus Stop	Gas Cover
Gas Valve	Beacon	Bus Stop	Gas Cover
Sluice Valve	Beacon	Bus Stop	Gas Cover
Air Valve	Beacon	Bus Stop	Gas Cover
Stop Cock	Beacon	Bus Stop	Gas Cover
C/P Post	Beacon	Bus Stop	Gas Cover
Marker Post	Beacon	Bus Stop	Gas Cover
Tram Light	Beacon	Bus Stop	Gas Cover
Parking Meter	Beacon	Bus Stop	Gas Cover
Phone Area Mark	Beacon	Bus Stop	Gas Cover
Smart Card Validator	Beacon	Bus Stop	Gas Cover
Unknown Valve	Beacon	Bus Stop	Gas Cover
Surface Change	Beacon	Bus Stop	Gas Cover
Land Drain	Beacon	Bus Stop	Gas Cover
Bottom of Slope	Beacon	Bus Stop	Gas Cover
Top of Slope	Beacon	Bus Stop	Gas Cover
Ditch	Beacon	Bus Stop	Gas Cover
Water Edge / Lake / Pond	Beacon	Bus Stop	Gas Cover
Hedge / Trees Drip Line / Vegetation	Beacon	Bus Stop	Gas Cover
Tree Coniferous	Beacon	Bus Stop	Gas Cover
Tree Deciduous	Beacon	Bus Stop	Gas Cover
Top of Tree	Beacon	Bus Stop	Gas Cover
Building	Beacon	Bus Stop	Gas Cover
Edge of Road	Beacon	Bus Stop	Gas Cover
Kerb Bottom	Beacon	Bus Stop	Gas Cover
Kerb Top	Beacon	Bus Stop	Gas Cover
Bridge Abutment	Beacon	Bus Stop	Gas Cover
Bridge Deck	Beacon	Bus Stop	Gas Cover
Bridge Pierhead	Beacon	Bus Stop	Gas Cover
Building Facade	Beacon	Bus Stop	Gas Cover
Footpath / Platform Train & Tram	Beacon	Bus Stop	Gas Cover
Damp Proof Course / Verge	Beacon	Bus Stop	Gas Cover
Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Beacon	Bus Stop	Gas Cover
Cycleway / Private Landing Area	Beacon	Bus Stop	Gas Cover
Fence	Beacon	Bus Stop	Gas Cover
Road Gate	Beacon	Bus Stop	Gas Cover
Road Centreline	Beacon	Bus Stop	Gas Cover
Top of Wall	Beacon	Bus Stop	Gas Cover
Hoarding	Beacon	Bus Stop	Gas Cover
Property Line	Beacon	Bus Stop	Gas Cover
Road Box	Beacon	Bus Stop	Gas Cover
Top of Fence	Beacon	Bus Stop	Gas Cover
Wall / Retaining Wall	Beacon	Bus Stop	Gas Cover
Railway / Tram Rail / Gating / Ramp	Beacon	Bus Stop	Gas Cover
Building Canopy / Roof / Overhang	Beacon	Bus Stop	Gas Cover

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Map Sheet Layout

Map Sheet 0000

Drawn by: ST	Date: 26.07.2023	Grid System: Irish National Grid	ITM 58
Checked by: PK	Date: 26.07.2023	Irish National Grid	

No	Date	Description	Revisions
0	26.07.2023	First Drawing	
1	08.08.2023	Layouts added	
2	06.09.2023	Additional road survey added	

Surveyed by: ST	Date: 26.07.2023	Datum: Irish National Grid	Main Head
Drawn by: ST	Date: 26.07.2023	Grid System: Irish National Grid	ITM 58
Checked by: PK	Date: 26.07.2023	Irish National Grid	



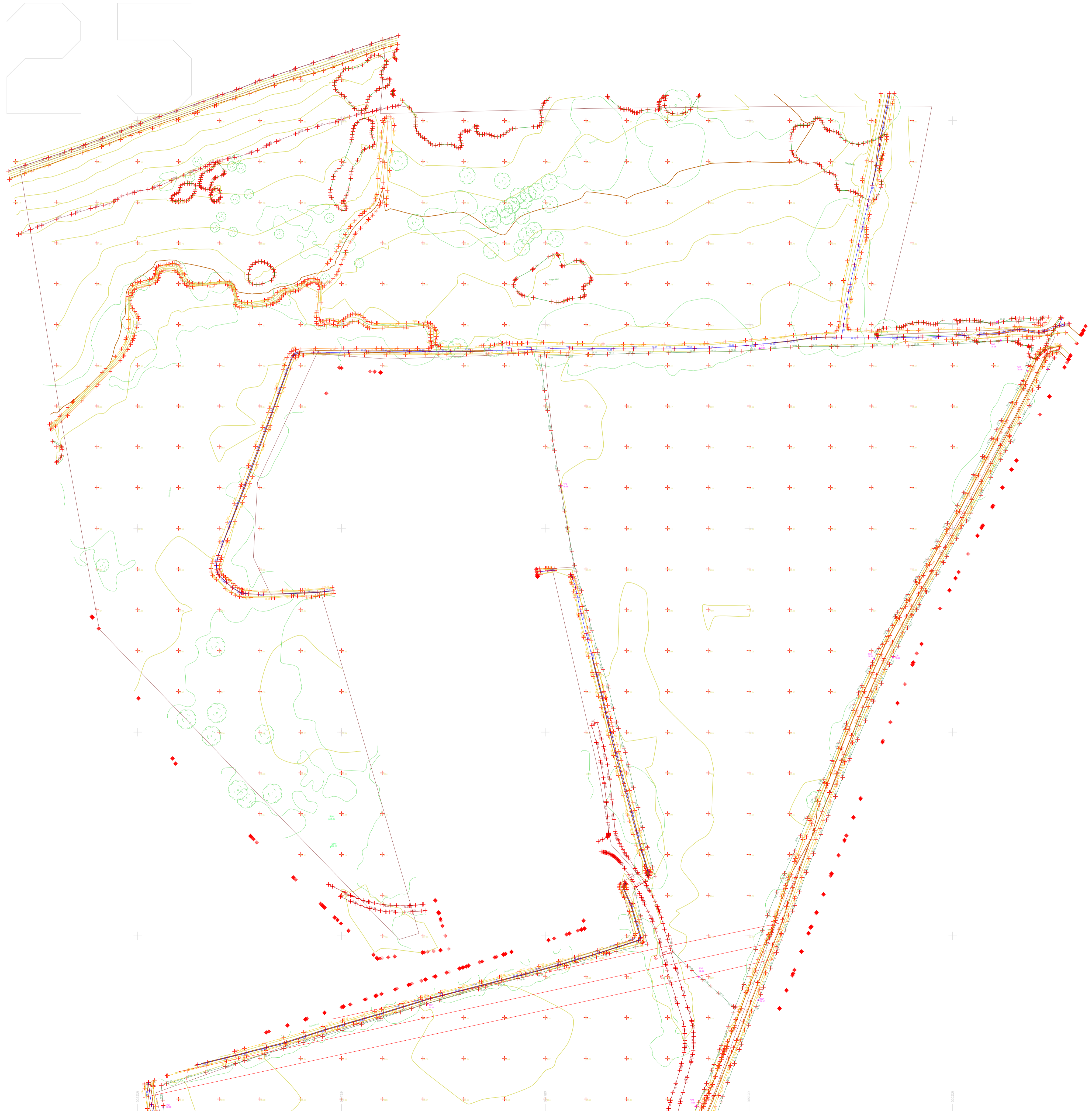
Kildare Cork Dublin Belfast Glasgow Manchester London

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 Kiltullen Co. Kildare, Ireland

Phone: (+353) 045 484040  
 Fax: (+353) 045 484004  
 Email: info@murphyge.ie

<b>Client :</b>	AECOM Dublin
<b>Project :</b>	BNN Site Derrygreenagh Rhode
<b>Date :</b>	26.07.2023
<b>Scale :</b>	1:500@A1
<b>Description :</b>	Topographical Survey
<b>Drawing Number :</b>	MGS52335_T_ITM_Rev2-124





**LEGEND**  
Street furniture & Services

Over Head Wires (LUAS) - Pylon ESB	Street Sign	Phone Box
Powerbed	Bench Seat	Duct
Pipe	Ballast	Keek
Light	Beacon	Gully
Barrier	Coalhole Cover	Waste Bin
Pump	Boys Hole	Waste Bin
Manhole	Electricity Pole	Hydrant
Bus/Tram Shelter	Telegraph pole	Fire Hydrant
Postbox	OCS Pole	ESB Box
Water - General	CCTV Camera Pole	ESB Inspection Cover
Water Valve	Lamp Post	Traffic Control Box
Gas Valve	Foul Manhole	LUAS Technical Cabinet
Sluice Valve	Surface Water MH	Ticket Vending Machine
Air Valve	Manholes	Water Meter Cover
Stop Cook	Air Conditioning Vents	Telecom Inspection Cover
C/P Post	Services Inspection Cover	Monument / Toilets
Marker Post	Traffic Inspection Cover	Tank Storage
Traffic Light	Cable TV Inspection Cover	Basement MH Cover & Pipe
Parking Meter	ESAT Inspection Cover	Disposal Aerial Mark
Flare Area Mark	NL Inspection Cover	Stay for pole
Smart Card Validator	Elcom Inspection Cover	PP
Unknown Valve	Rocking Eye	Washout

**Natural Features**

Surface Change	Water Level	Golf
Land Drain	Clown Level	Fair Way
Bottom of Slope	Invert level	Green
Top of Slope	Bed Level	Tea Box
Ditch	Spotheight	Other
Water Edge / Lake / Pond		Survey Station
Hedge / Trees Drip Line / Vegetation		Photo point
Tree Contourous	Tree Deciduous	Top of Tree

**Built Features**  
Roads & Road Markings

Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Soffit Elevation
Bridge Deck	Property Line	Step Level
Bridge Pier	Road Bar	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform Train & Tram	Wall / Retaining Wall	
Damp Proof Course / Veep	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pile / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

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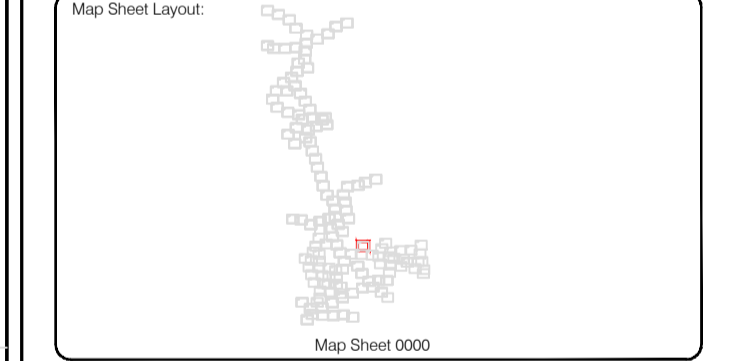
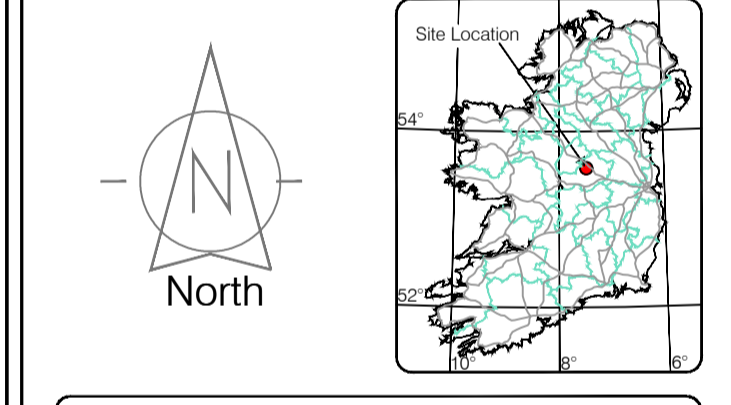
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Drawn by: ST	Date: 26.07.2023	Date: 26.07.2023	Date: 26.07.2023	Date: 26.07.2023
Checked by: PK	Date: 26.07.2023	Date: 26.07.2023	Date: 26.07.2023	Date: 26.07.2023

Revisions

No.	Date	Description
0	26.07.2023	Final Drawing
1	08.08.2023	Layout added
2	06.09.2023	Additional road survey added



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Kilcullen Co. Kildare, Ireland

Phone: (+353) 045 484040  
Fax: (+353) 045 484004  
Email: info@murphyge.ie

**Client:** AECOM Dublin

**Project:** BNM Site Derrygreenagh Rhode

**Date:** 26.07.2023 **Scale:** 1:500@A1

**Description:** Topographical Survey

**Drawing Number:** MGS52335\_T\_ITM\_Rev2-125

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# 127

### LEGEND

#### Street furniture & Services

Over Head Wires (LUAS) - Pylon ESB	Street Sign	Phone Box
Powerbed	Bench Seat	Duct
Pipe	Ballast	Keek
Light	Beacon	Gas Cover
Barrier	Coalhole Cover	Waste Bin
Pump	Boys Hole	Hydrant
Trail Pit	Electricity Pole	Fire Hydrant
Bus/Tram Shelter	Telegraph pole	ESS Box
Postbox	OCS Pole	ESS Box
Water - General	CCTV Camera Pole	ESS Inspection Cover
Water Valve	Lamp Post	Trains Control Box
Gas Valve	Four Manhole	LUAS Technical Cabinet
Sluice Valve	Surface Water MH	Ticket Vending Machine
Air Valve	Manholes	Water Meter Cover
Stop Cook	Air Conditioning Vents	Telecom Inspection Cover
C/P Post	Services Inspection Cover	Monument / Toilets
Marker Post	Traffic Inspection Cover	Tank Storage
Traffic Light	Cable TV Inspection Cover	Basement MH Cover & Pipe
Parking Meter	ESAT Inspection Cover	Dead End Mark
Pole Asset Mark	NL Inspection Cover	Stay for pole
Smart Card Validator	Elcom Inspection Cover	PP
Unknown Valve	Rocking Eye	Washout

#### Natural Features

Surface Change	Water Level	Golf
Land Drain	Clown Level	Fair Way
Bottom of Slope	Invert level	Green
Top of Slope	Bed Level	Tree Box
Ditch	Spotheight	Other
Water Edge / Lake / Pond		Survey Station
Hedge / Trees Drip Line / Vegetation		Photo point
Tree Coniferous	Tree Deciduous	Top of Tree

#### Built Features

##### Roads & Road Markings

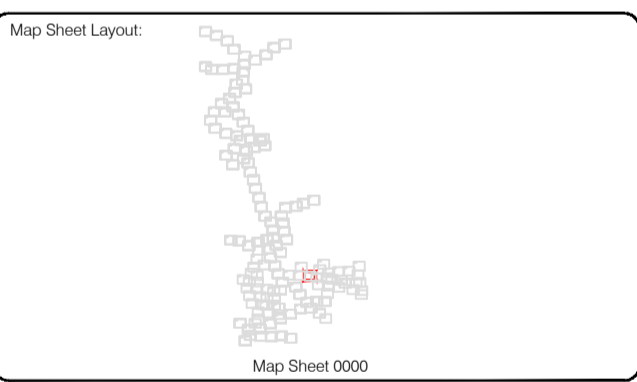
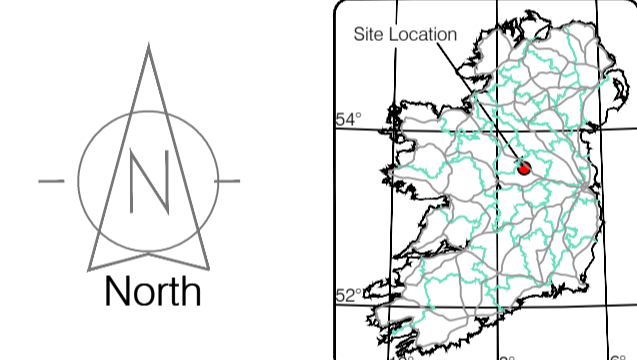
Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Soft Elevation
Bridge Deck	Property Line	Step Level
Bridge Pier	Road Bar	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform Train & Tram	Wall / Retaining Wall	
Damp Proof Course / Verge	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pile / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

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Drawn by: ST	Date: 26.07.2023	Checked by: PK	Date: 26.07.2023
Drawn by: ST	Date: 26.07.2023	Checked by: PK	Date: 26.07.2023

No	Date	Description	Revisors
0	26.07.2023	Final Drawing	
1	08.08.2023	Layouts added	
2	06.09.2023	Additional road survey added	

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**THE SURVEY ASSOCIATION** FULL MEMBER

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Phone: (+353) 045 484040  
 Fax: (+353) 045 484004  
 Email: info@murphyge.ie

**Client:** AECOM Dublin

**Project:** BNM Site Derrygreenagh Rhode

**Date:** 26.07.2023 **Scale:** 1:500@A1

**Description:** Topographical Survey

**Drawing Number:** MGS52335\_T\_ITM\_Rev2-127

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### LEGEND

#### Street furniture & Services

Over Head Wires (LUAS) - Pylon ESB	Street Light	Phone Box
Powerbed	Ballast	Bench Seat
Bin	Beacon	Bus Stop
Light	Coalhole Cover	Waste Bin
Barrier	Boys Hole	Electricity Pole
Pump	Electricity Pole	Telegraph pole
Postbox	Electricity Pole	ESB Box
Water - General	CCTV Camera Pole	ESB Box
Water Valve	Lamp Post	ESB Box
Gas Valve	Manhole	ESB Box
Sluice Valve	Surface Water MH	ESB Box
Air Valve	Manholes	ESB Box
Stop Cook	Air Conditioning Vents	ESB Box
C/P Post	Services Inspection Cover	ESB Box
Marker Post	Traffic Inspection Cover	ESB Box
Traffic Light	Cable TV Inspection Cover	ESB Box
Parking Meter	ESAT Inspection Cover	ESB Box
Flare Area Mark	NFL Inspection Cover	ESB Box
Smart Card Validator	EScom Inspection Cover	ESB Box
Unknown Valve	Rocking Eye	ESB Box

#### Natural Features

Surface Change	Water Level	Fair Way
Land Drain	Clown Level	Green
Bottom of Slope	Invert level	Tree Box
Top of Slope	Bed Level	Other
Ditch	Spotheight	Survey Station
Water Edge / Lake / Pond	Spotheight	Photo point
Hedge / Trees Drip Line / Vegetation	Tree Deciduous	Top of Tree
Tree Coniferous	Tree Deciduous	Top of Tree

#### Built Features

##### Roads & Road Markings

Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Soffit Elevation
Bridge Deck	Property Line	Step Level
Bridge Pier	Road Bar	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform Train & Tram	Wall / Retaining Wall	
Damp Proof Course / Verge	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pile / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

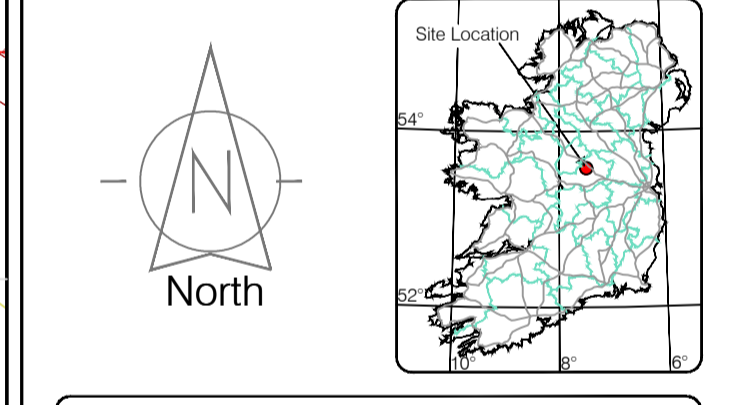
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North



Map Sheet Layout

Map Sheet 0000

Drawn by: ST	Date: 26/07/2023	Date: 26/07/2023	Date: 26/07/2023	Date: 26/07/2023
Checked by: PK	Date: 26/07/2023	Date: 26/07/2023	Date: 26/07/2023	Date: 26/07/2023

No.	Date	Description	Revisions
0	26.07.2023	Final Drawing	
1	08.08.2023	Layout & addit.	
2	06.09.2023	Additional road survey added.	



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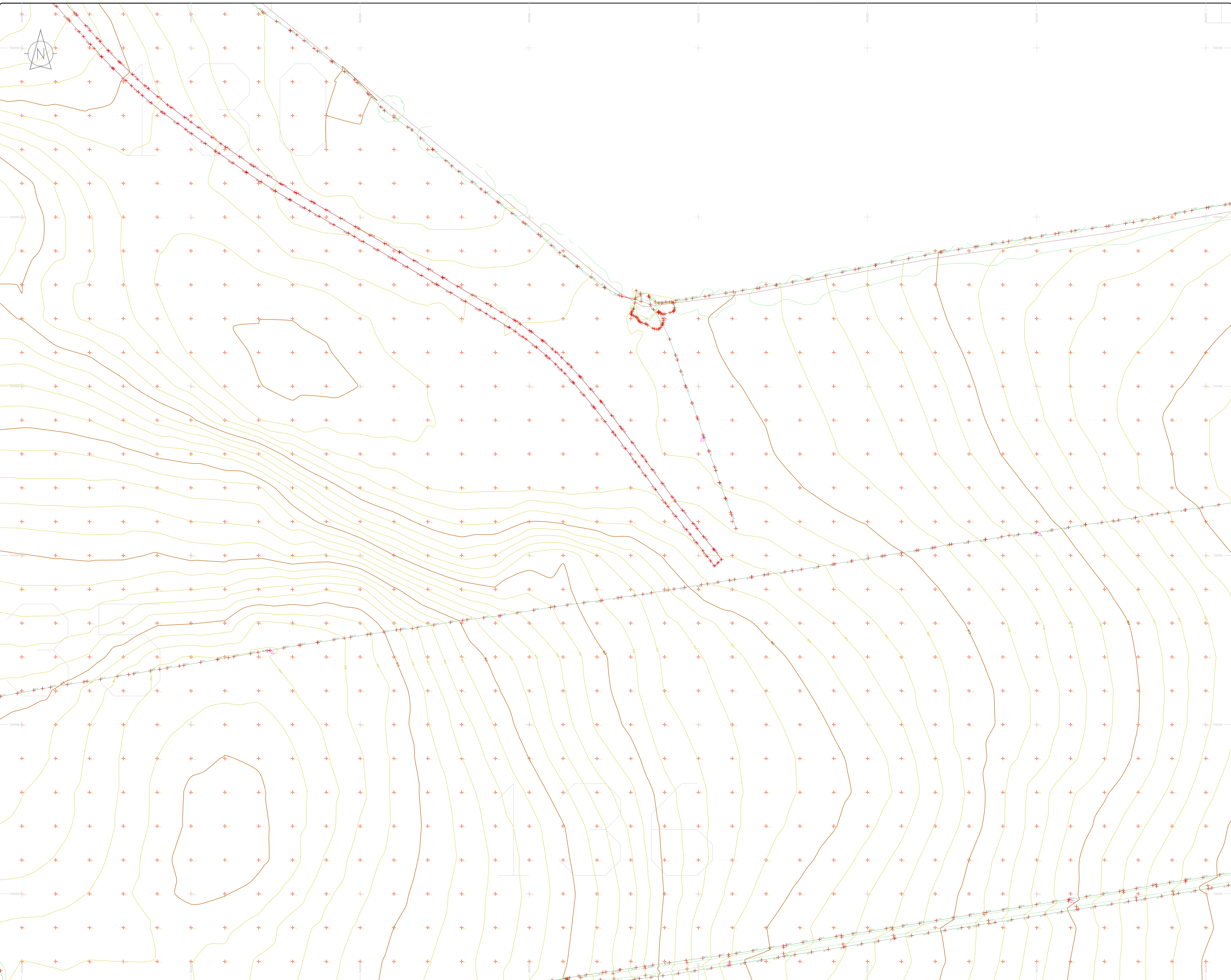
**Head Office**  
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Phone: (+353) 045 484040  
Fax: (+353) 045 484004  
Email: info@murphyge.ie

<b>Client :</b>	AECOM Dublin
<b>Project :</b>	BNN Site Derrygreenagh Rhode
<b>Date :</b>	26.07.2023
<b>Scale :</b>	1:500@A1
<b>Description :</b>	Topographical Survey
<b>Drawing Number :</b>	MGS52335_T_ITM_Rev2-129

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### LEGEND

#### Street furniture & Services

Over Head Wires (LUAS) - Pylon ESB	Ballast	Road Sign	Phone Box
Powerbed	Beacon	Bench Seat	Duct
Pipe	Beacon	Keek	Gas Cover
Light	Beacon	Gully	CPN
Barrier	Coalhole Cover	USG W	USG Car Park View
Pump	Bore Hole	Waste Bin	
Trial Pit	Electricity Pole	Hydrant	
Bus/Tram Shelter	Telegraph pole	Fire Hydrant	
Postbox	OCTV Camera Pole	ESB Box	
Water - General	OCTV Camera Pole	ESB Inspection Cover	
Water Valve	Lamp Post	Trains Control Box	
Gas Valve	Four Manhole	LUAS Technical Cabinet	
Sluice Valve	Surface Water MH	Ticket Vending Machine	
Air Valve	Manholes	Water Meter Cover	
Stop Cook	Air Conditioning Vents	Telecom Inspection Cover	
C/P Post	Services Inspection Cover	Monument / Toilets	
Marker Post	Traffic Inspection Cover	Tank Storage	
Trailing Light	Cable TV Inspection Cover	Basement MH Cover & Pipe	
Parking Meter	SAT Inspection Cover	Dead End Anvil Mark	
Pole Area Mark	N/L Inspection Cover	Stay for pole	
Smart Card Validator	EScom Inspection Cover	PP	
Unknown Valve	Rocking Eye	Washout	

#### Natural Features

Surface Change	Water Level	Golf
Land Drain	Clown Level	Fair Way
Bottom of Slope	Invert level	Green
Top of Slope	Bed Level	Tree Box
Ditch	Spotheight	Other
Water Edge / Lake / Pond		Survey Station
Hedge / Trees Drip Line / Vegetation		Photo point
Tree Coniferous	Tree Deciduous	Top of Tree

#### Built Features

##### Roads & Road Markings

Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Softly Elevation
Bridge Deck	Property Line	Step Level
Bridge Pier/Post	Road Sign	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform Train & Tram	Wall / Retaining Wall	
Damp Proof Course / Veige	Railway / Train Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

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North

Site Location

Map Sheet Layout

Map Sheet 0000

Drawn by: ST	Date: 26/07/2023	Datum: Irish National Grid	Main Head
Checked by: PK	Date: 26/07/2023	Grid System: Irish National Grid	ITM 8

No	Date	Description	Revisions
0	26.07.2023	First Drawing	
1	08.08.2023	Layouts added	
2	06.09.2023	Additional road survey added	

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**Client:** AECOM Dublin

**Project:** BNM Site Derrygreenagh Rhode

**Date:** 26.07.2023 **Scale:** 1:500@A1

**Description:** Topographical Survey

**Drawing Number:** MGS52335\_T\_ITM\_Rev2-130

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1031

**LEGEND**  
Street furniture & Services

Over Head Wires (LUAS) - Pylon ESB	Bus Stop	Ballast	Beacon	Coalhole Cover	Electricity Pole	Telegraph pole	Road Sign	Phone Box
Powerbed	Light	BEA	CH	Pump	EP	EP	Bus/Tram Shelter	Bench Seat
Pipe	Barrier	CH	EP	EP	EP	EP	EP	Duct
UP	UP	UP	UP	UP	UP	UP	UP	Keek
UP	UP	UP	UP	UP	UP	UP	UP	Gas Cover
UP	UP	UP	UP	UP	UP	UP	UP	C P Box
UP	UP	UP	UP	UP	UP	UP	UP	USG Car Park Vent
UP	UP	UP	UP	UP	UP	UP	UP	Waste Bin
UP	UP	UP	UP	UP	UP	UP	UP	Hydrant
UP	UP	UP	UP	UP	UP	UP	UP	Fire Hydrant
UP	UP	UP	UP	UP	UP	UP	UP	ESS Box
UP	UP	UP	UP	UP	UP	UP	UP	ESB Inspection Cover
UP	UP	UP	UP	UP	UP	UP	UP	Trains Control Box
UP	UP	UP	UP	UP	UP	UP	UP	LUAS Technical Cabinet
UP	UP	UP	UP	UP	UP	UP	UP	Water Meter Cover
UP	UP	UP	UP	UP	UP	UP	UP	Monument / Toilets
UP	UP	UP	UP	UP	UP	UP	UP	Tank Storage
UP	UP	UP	UP	UP	UP	UP	UP	Basement MH Cover & Pipe
UP	UP	UP	UP	UP	UP	UP	UP	Dead End Anvil Mark
UP	UP	UP	UP	UP	UP	UP	UP	Stay for pole
UP	UP	UP	UP	UP	UP	UP	UP	PP
UP	UP	UP	UP	UP	UP	UP	UP	Washout

**Natural Features**

Surface Change	Water Level	Fair Way
Land Drain	Invert level	Green
Bottom of Slope	Bed Level	Tree Box
Top of Slope	Spotheight	Other
Ditch	Spotheight	Survey Station
Water Edge / Lake / Pond	Spotheight	Photo point
Hedge / Trees Drip Line / Vegetation	Spotheight	Spotheight
Tree Contour	Spotheight	Spotheight

**Built Features**

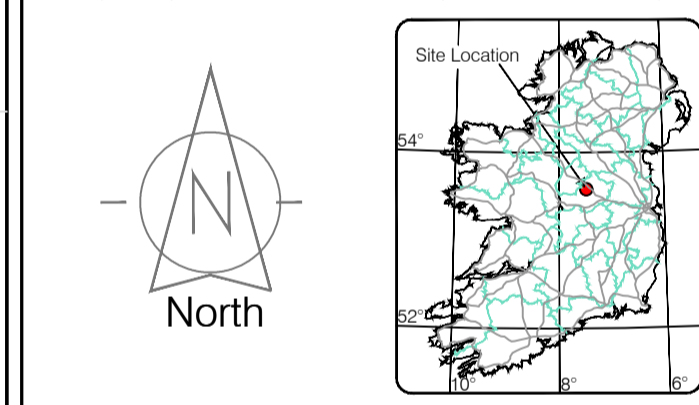
Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Step Level
Bridge Deck	Property Line	Soft Elevation
Bridge Pier	Road Bar	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform / Tram	Wall / Retaining Wall	
Damp Proof Course / Verge	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

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Map Sheet Layout

Map Sheet 0000

Drawn by: ST	Date: 26.07.2023	Datum: Irish National Grid	Main Head
Checked by: PK	Date: 26.07.2023	Grid System: Irish National Grid	ITM 18
Revisions			
No.	Date	Description	Revisions
0	26.07.2023	Final Drawing	
1	08.08.2023	Layouts added	
2	06.09.2023	Additional road survey added	



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Kilcullen Co. Kildare, Ireland

Phone: (+353) 045 484040  
Fax: (+353) 045 484004  
Email: info@murphy.ie

**Client:** AECOM Dublin

**Project:** BNM Site Derrygreenagh Rhode

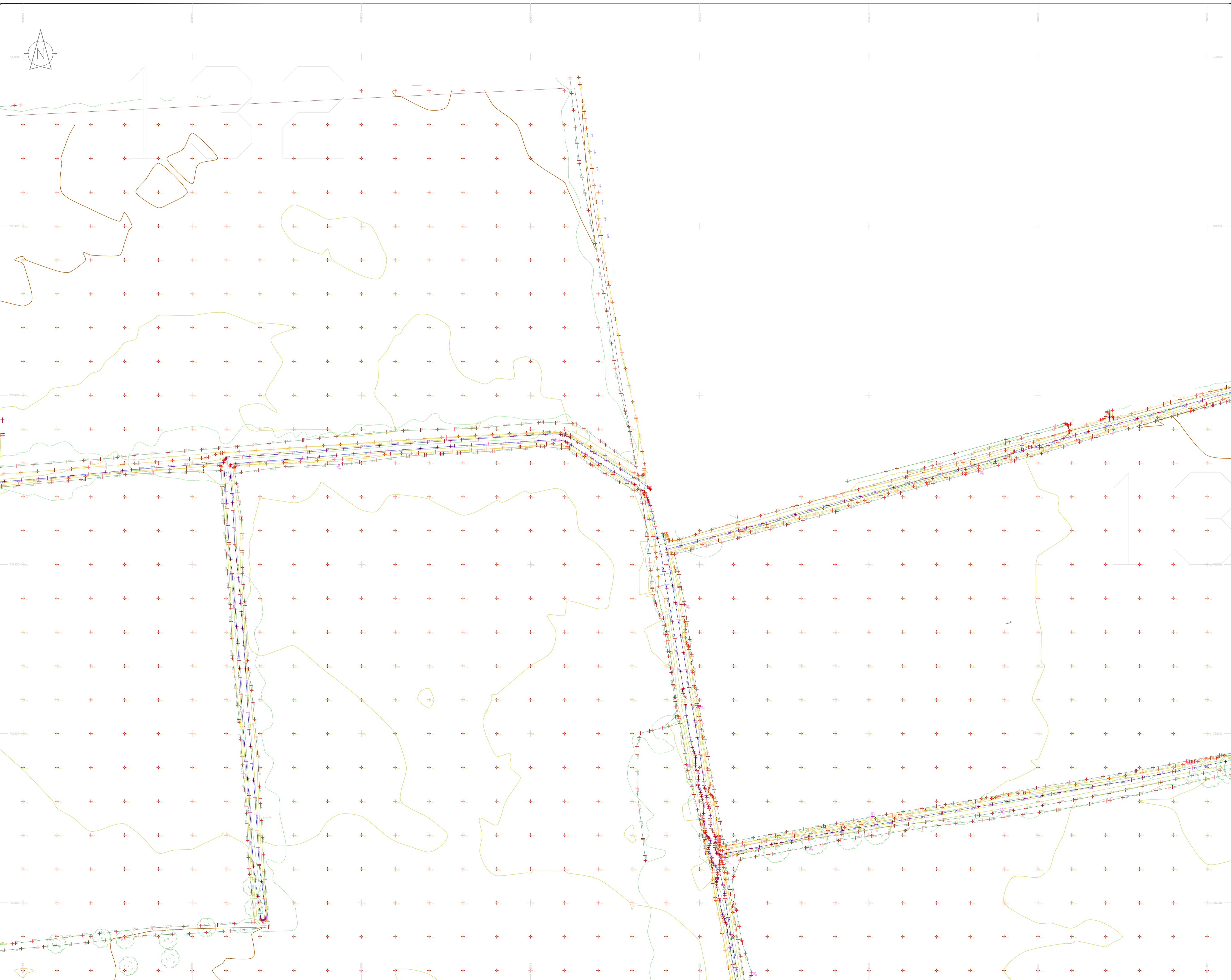
**Date:** 26.07.2023 **Scale:** 1:500@A1

**Description:** Topographical Survey

**Drawing Number:** MGS52335\_T\_ITM\_Rev2-131

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### LEGEND

#### Street furniture & Services

Over Head Wires (LUAS) - Pylon ESB	Street Sign	Phone Box
Powerbed	Bench Seat	Duct
Pipe	Keek	Gas Cover
Light	Gully	C/P Box
Barrier	Waste Bin	Hydrant
Pump	Waste Bin	Fire Hydrant
Trail Pit	Electricity Pole	Hydrant
Bus/Tram Shelter	Telegraph pole	Fire Hydrant
Postbox	OCS Pole	ESS Box
Water - General	CCTV Camera Pole	ESS Box
Water Valve	Lamp Post	Traffic Control Box
Gas Valve	Foul Manhole	LUAS Technical Cabinet
Sluice Valve	Surface Water MH	Ticket Vending Machine
Air Valve	Manholes	Water Meter Cover
Stop Cook	Air Conditioning Vents	Telecom Inspection Cover
C/P Post	Services Inspection Cover	Monument / Toilets
Marker Post	Traffic Inspection Cover	Tank Storage
Marker Light	Cable TV Inspection Cover	Basement MH Cover & Pipe
Parking Meter	ESAT Inspection Cover	Disposal Aerial Mark
Pole Area Mark	NL Inspection Cover	Stay for pole
Smart Card Validator	Elcom Inspection Cover	Stay for pole
Unknown Valve	Rocking Eye	Washout

#### Natural Features

Surface Change	Water Level	Golf
Land Drain	Invert level	Fair Way
Bottom of Slope	Bed Level	Green
Top of Slope	Spotheight	Tree Box
Ditch	Spotheight	Other
Water Edge / Lake / Pond	Spotheight	Survey Station
Hedge / Trees Drip Line / Vegetation	Spotheight	Photo point
Tree Coniferous	Spotheight	Top of Tree

#### Built Features

##### Roads & Road Markings

Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Soft Level
Bridge Deck	Property Line	Step Level
Bridge Pier	Road Box	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform Train & Tram	Wall / Retaining Wall	
Damp Proof Course / Verge	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pile / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

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Map Sheet 0000

Site Location

North

Map Sheet Layout

Map Sheet 0000

Drawn by: ST	Date: 26.07.2023	Date: 26.07.2023	Date: 26.07.2023
Checked by: PK	Date: 26.07.2023	Date: 26.07.2023	Date: 26.07.2023

No	Date	Description	Revisions
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2	06.09.2023	Additional road survey added	

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 Fax: (+353) 045 484004  
 Email: info@murphyge.ie

Client: AECOM Dublin

Project: BNM Site Derrygreenagh Rhode

Date: 26.07.2023 Scale: 1:500@A1

Description: Topographical Survey

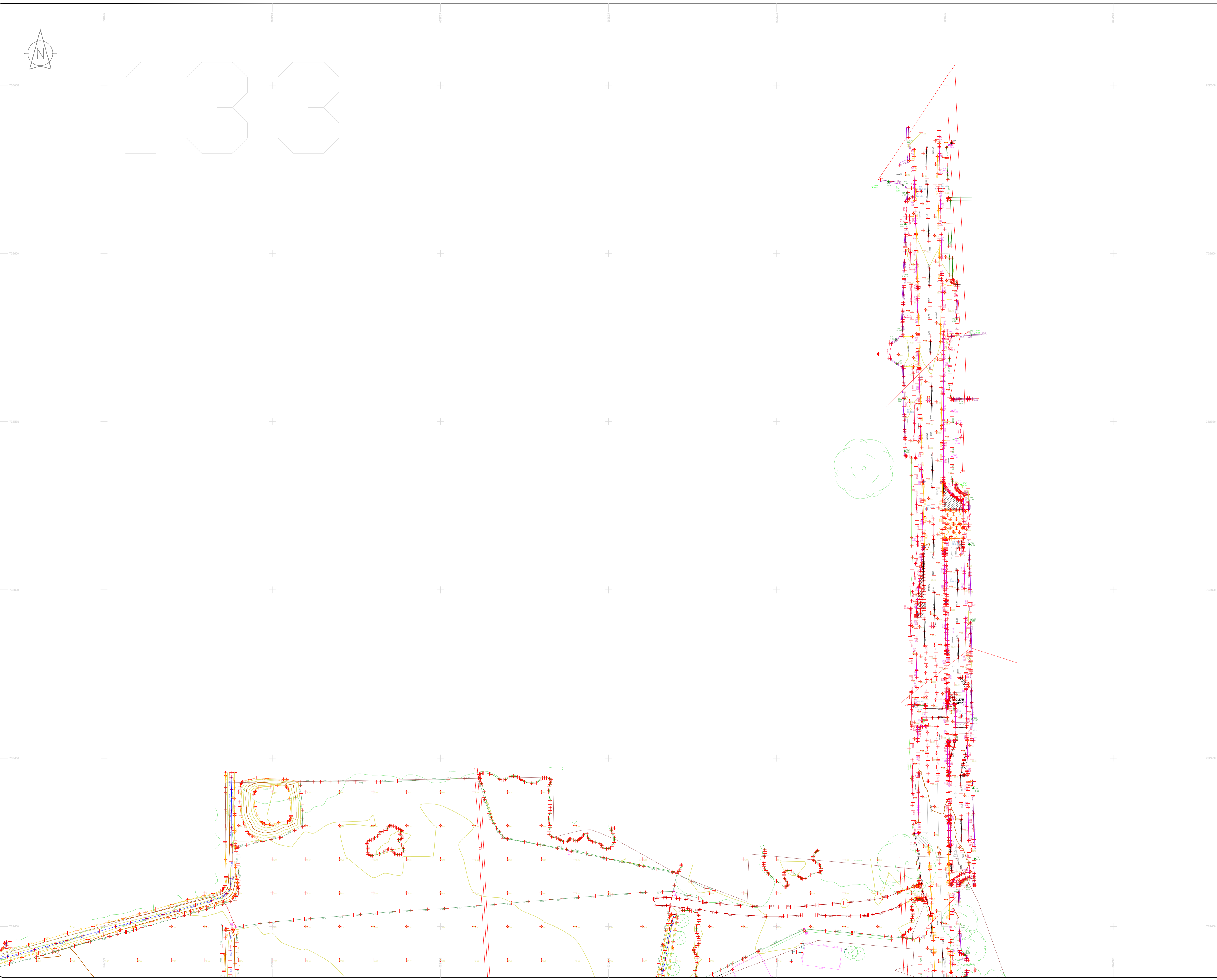
Drawing Number: MGS52335\_T\_ITM\_Rev2-132

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# 138



### LEGEND

#### Street furniture & Services

Over Head Wires (LUAS) - Pylon ESB	Street Light	Phone Box
Powerbed	Bench Seat	Duct
Pipe	Ballast	Keek
Lint	Beacon	Gully
Barrier	Coalhole Cover	USG Car Park View
Pump	Bore Hole	Waste Bin
Trial Pit	Electricity Pole	Hydrant
Bus/Tram Shelter	Telegraph pole	Fire Hydrant
Postbox	OCS Pole	ESS Box
Water - General	CCTV Camera Pole	ESB Inspection Cover
Water Valve	Lamp Post	Traffic Control Box
Gas Valve	Foul Manhole	LUAS Technical Cubicle
Sluice Valve	Surface Water MH	Ticket Vending Machine
Air Valve	Manholes	Water Meter Cover
Stop Cook	Air Conditioning Vents	Telecom Inspection Cover
C/P Post	Services Inspection Cover	Monument / Toilets
Marker Post	Traffic Inspection Cover	Tank Storage
Trailer Light	Cable TV Inspection Cover	Basement MH Cover & Pipe
Parking Meter	ESAT Inspection Cover	Disposal Aerial Mark
Pole Asset Mark	NL Inspection Cover	Stay for pole
Smart Card Validator	Elcom Inspection Cover	PP
Unknown Valve	Rocking Eye	Washout

#### Natural Features

Surface Change	Water Level	Golf
Land Drain	Down Level	Fair Way
Bottom of Slope	Invert level	Green
Top of Slope	Bed Level	Tree Box
Ditch	Spotheight	Other
Water Edge / Lake / Pond		Survey Station
Hedge / Trees Drip Line / Vegetation		Photo point
Tree Coniferous	Tree Deciduous	Top of Tree

#### Built Features

##### Roads & Road Markings

Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Soffit Elevation
Bridge Deck	Property Line	Step Level
Bridge Pierhead	Road Box	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform Train & Tram	Wall / Retaining Wall	
Damp Proof Course / Verge	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pier / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

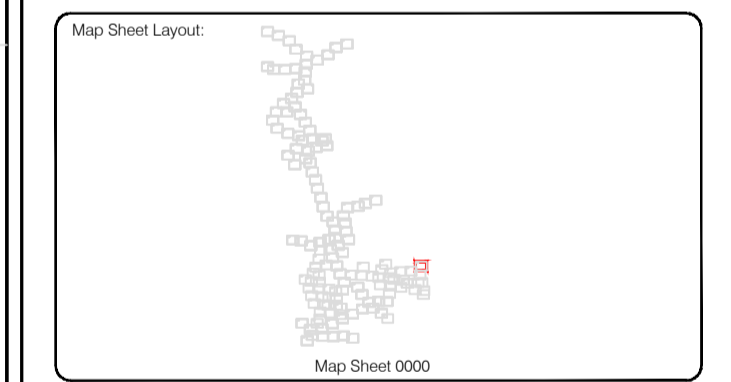
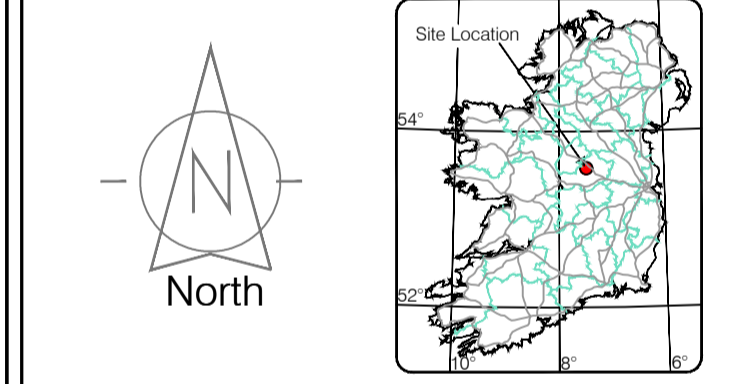
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Checked by: PK	Date: 26.07.2023		

No	Date	Description	Revisors
0	26.07.2023	First Drawing	
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2	06.09.2023	Additional road survey added	



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 Email: info@murphyge.ie

<b>Client :</b>	AECOM Dublin
<b>Project :</b>	BNN Site Derrygreenagh Rhode
<b>Date :</b>	26.07.2023
<b>Scale :</b>	1:500@A1
<b>Description :</b>	Topographical Survey
<b>Drawing Number :</b>	MGS52335_T_ITM_Rev2-133









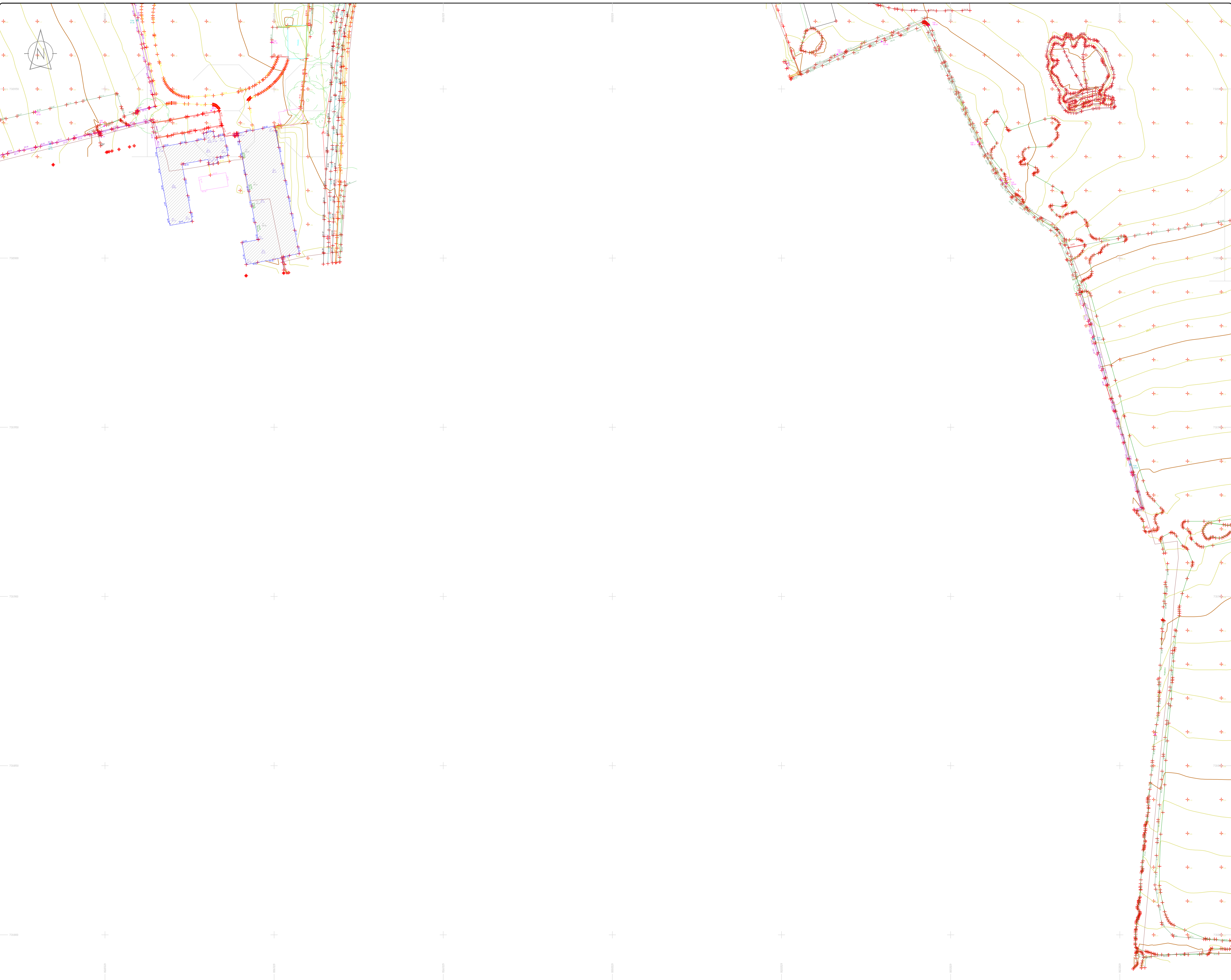












### LEGEND

#### Street furniture & Services

Over Head Wires (LUAS) - Python ESB	Bus Stop	Ballast	Beach Seat	Phone Box
Flowerbed	Beacon	Coalhole Cover	Bus Stop Shelter	Electricity Pole
Pipe	Light	Manhole	Manhole	Manhole
Lint	Beacon	Manhole	Manhole	Manhole
Barrier	Beacon	Manhole	Manhole	Manhole
Pump	Beacon	Manhole	Manhole	Manhole
Trial Pit	Beacon	Manhole	Manhole	Manhole
Postbox	Beacon	Manhole	Manhole	Manhole
Water - General	Beacon	Manhole	Manhole	Manhole
Water Valve	Beacon	Manhole	Manhole	Manhole
Gas Valve	Beacon	Manhole	Manhole	Manhole
Sluice Valve	Beacon	Manhole	Manhole	Manhole
Air Valve	Beacon	Manhole	Manhole	Manhole
Stop Cook	Beacon	Manhole	Manhole	Manhole
C/P Post	Beacon	Manhole	Manhole	Manhole
Marker Post	Beacon	Manhole	Manhole	Manhole
Tracing Meter	Beacon	Manhole	Manhole	Manhole
Parking Meter	Beacon	Manhole	Manhole	Manhole
Smart Card Validator	Beacon	Manhole	Manhole	Manhole
Unknown Valve	Beacon	Manhole	Manhole	Manhole

#### Natural Features

Surface Change	Water Level	Fair Way
Land Drain	Water Level	Green
Bottom of Slope	Water Level	Tree Box
Top of Slope	Water Level	Survey Station
Ditch	Water Level	Photo point
Water Edge / Lake / Pond	Water Level	
Hedge / Trees Drip Line / Vegetation	Water Level	
Tree Coniferous	Water Level	
Tree Deciduous	Water Level	
Top of Tree	Water Level	

#### Built Features

##### Roads & Road Markings

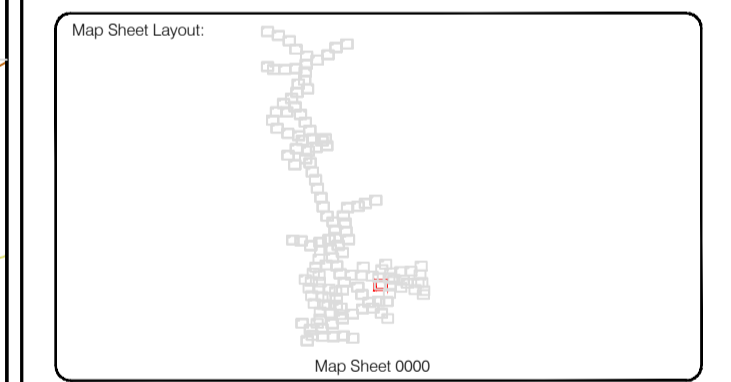
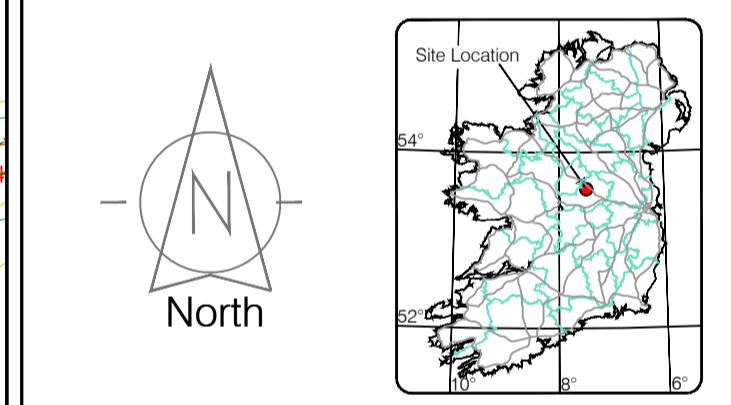
Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Softly Elevation
Bridge Deck	Property Line	Step Level
Bridge Pierhead	Road Sign	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform / Tram	Wall / Retaining Wall	
Damp Proof Course / Verge	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

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Reviewed by: ST	Date: 26/07/2023	Datum: Irish National Grid	Main Head
Drawn by: ST	Date: 26/07/2023	Grid System: Irish National Grid	ITM 8
Checked by: PK	Date: 26/07/2023		

No.	Date	Description	Revisions
0	26.07.2023	Final Drawing	
1	08.08.2023	Layouts added	
2	06.09.2023	Additional road survey added	



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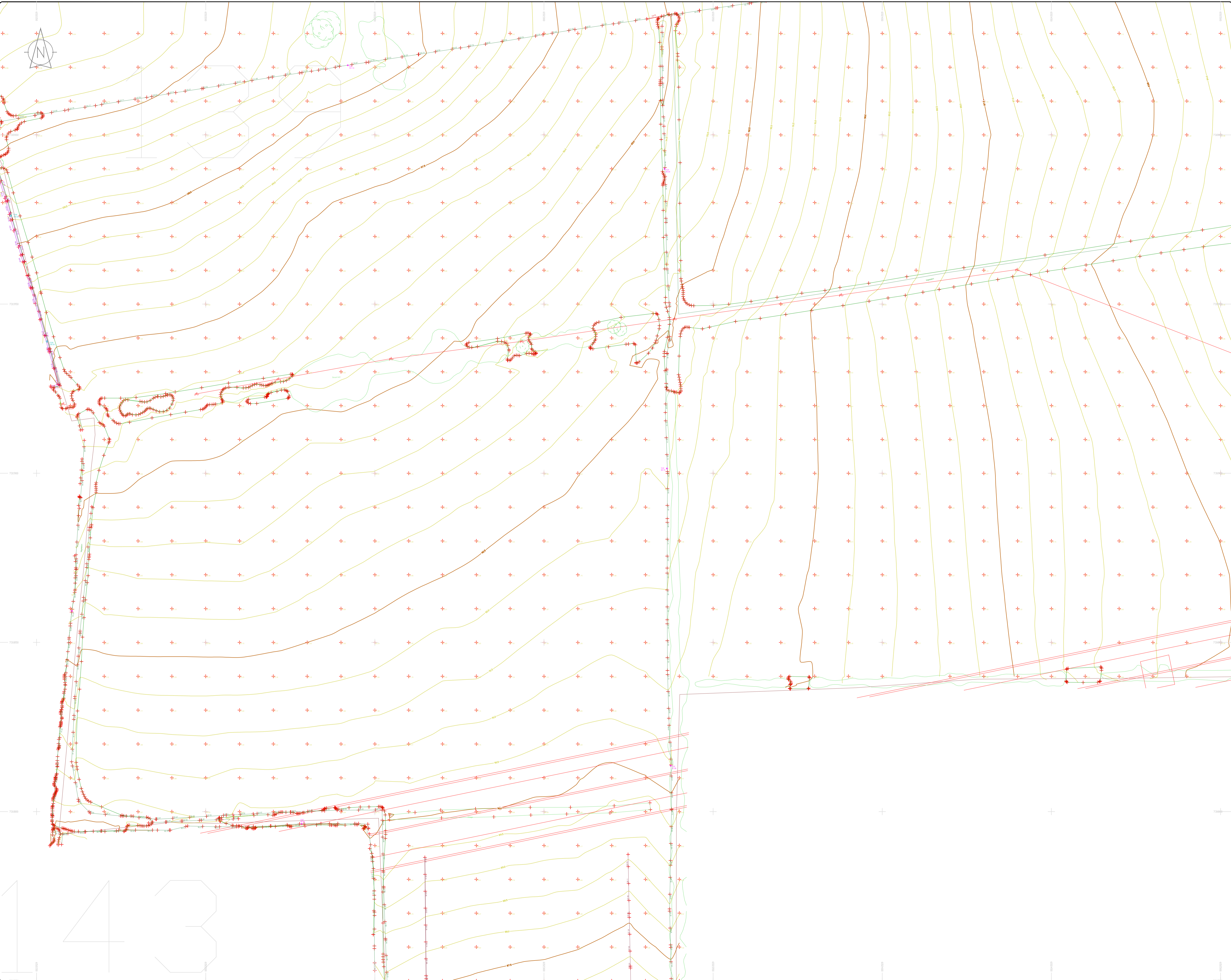
**Date:** 26.07.2023 **Scale:** 1:500@A1

**Description:** Topographical Survey

**Drawing Number:** MGS52335\_T\_ITM\_Rev2-138

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### LEGEND

#### Street furniture & Services

Over Head Wires (LUAS) - Pylon ESB	Bus Stop	Road Sign	Phone Box
Flowerbed	Bollard	Bench Seat	Duct
Pipe	Beacon	Kiosk	Gas Cover
Lift	Coathole Cover	Gully	Cable Box
Barrier	Bore Hole	UG Car Park Vert	C.P. Box
Pump	Electricity Pole	Waste Bin	
Trail Pit	Telegraph pole	Hydrant	
Bus/Tram Shelter	Cable TV Inspection Cover	Fire Hydrant	
Postbox	CCTV Camera Pole	Bus Stop	
Water - General	Lamp Post	ESB Inspection Cover	
Water Valve	Foul Manhole	Traffic Control Box	
Gas Valve	Surface Water MH	LUAS Technical Cubicle	
Sluice Valve	Manholes	Ticket Vending Machine	
Air Valve	Air Conditioning Vents	Water Meter Cover	
Stop Cook	Services Inspection Cover	Monument / Toilets	
C.P. Post	Traffic Inspection Cover	Tank Storage	
Marker Light	ESAT Inspection Cover	Reservoir / MH Cover & Pipe	
Plane Aerial Mark	NTL Inspection Cover	Distict Aerial Mark	
Smart Card Validator	Encom Inspection Cover	Stay for pole	
Unknown Valve	Rodding Eye	Pipe Protection	

#### Natural Features

Surface Change	Water Level	Golf
Land Drain	Clown Level	Fair Way
Bottom of Slope	Invert level	Green
Top of Slope	Bed Level	Tree Box
Dash	Spotheight	Other
Water Edge / Lake / Pond	Survey Station	Photo point
Hedge / Trees Dip Line / Vegetation	Tree Deciduous	Top of Tree

#### Built Features

##### Roads & Road Markings

Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Heaving	South Elevation
Bridge Deck	Property Line	Step Level
Bridge Piercap	Road Scar	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform / Tram	Wall / Retaining Wall	
Damp Proof Course / Verge	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cyclway / Private Landing Area		

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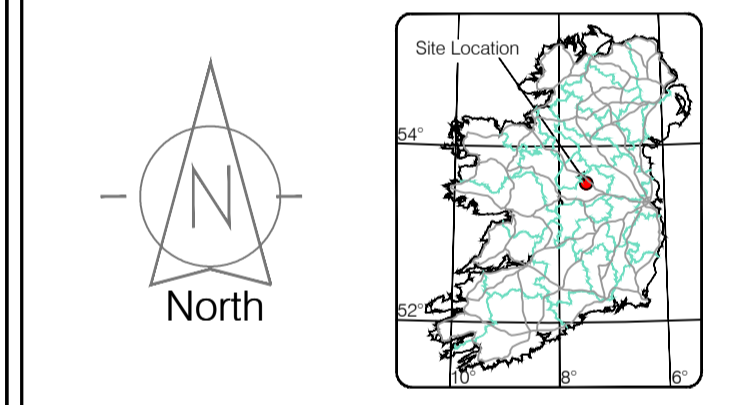
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Map Sheet Layout:

Map Sheet 0000

Drawn by: ST	Date: 26/07/2023	Drawn by: ST	Date: 26/07/2023	Checked by: PK	Date: 26/07/2023
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No.	Date	Description
0	26.07.2023	First Drawing
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**Client:** AECOM Dublin

**Project:** BNM Site Derrygreenagh Rhode

**Date:** 26.07.2023 **Scale:** 1:500@A1

**Description:** Topographical Survey

**Drawing Number:** MGS52335\_T\_ITM\_Rev2-139

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### LEGEND

#### Street furniture & Services

Over Head Wires (LUAS) - Pylon ESB	Phone Box
Powerbed	Bench Seat
Pipe	Keek
Light	Gas Cover
Barrier	Waste Bin
Pump	Waste Bin
Postbox	Hydrant
Water - General	Fire Hydrant
Water Valve	ESB Box
Gas Valve	Water Inspection Cover
Sluice Valve	Trains Control Box
Air Valve	LUAS Technical Cabinet
Stop Cook	Water Meter Cover
C.P. Post	Telecom Inspection Cover
Marker Post	Monument / Toilets
Traffic Light	Tank Storage
Parking Meter	Basement MH Cover & Pipe
Flare Area Mark	ESB Inspection Cover
Smart Card Validator	ESB Inspection Cover
Unknown Valve	ESB Inspection Cover

#### Natural Features

Surface Change	Water Level
Land Drain	Crown Level
Bottom of Slope	Invert level
Top of Slope	Bed Level
Ditch	Spotheight
Water Edge / Lake / Pond	Survey Station
Hedge / Trees Drip Line / Vegetation	Photo point
Tree Coniferous	Top of Tree

#### Built Features

##### Roads & Road Markings

Building	Fence	Floor Level
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Bridge Pier/Post	Road Sign	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform Train & Tram	Wall / Retaining Wall	
Damp Proof Course / Veep	Relayway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate/Pillar / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

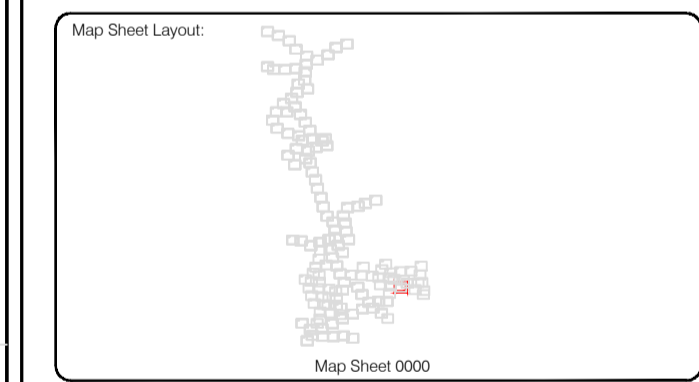
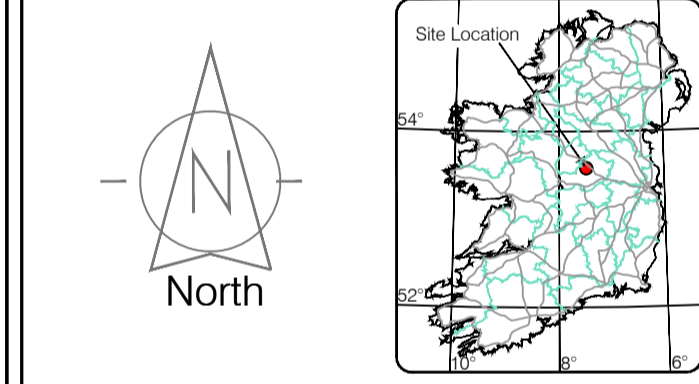
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Site Location



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Revisions	
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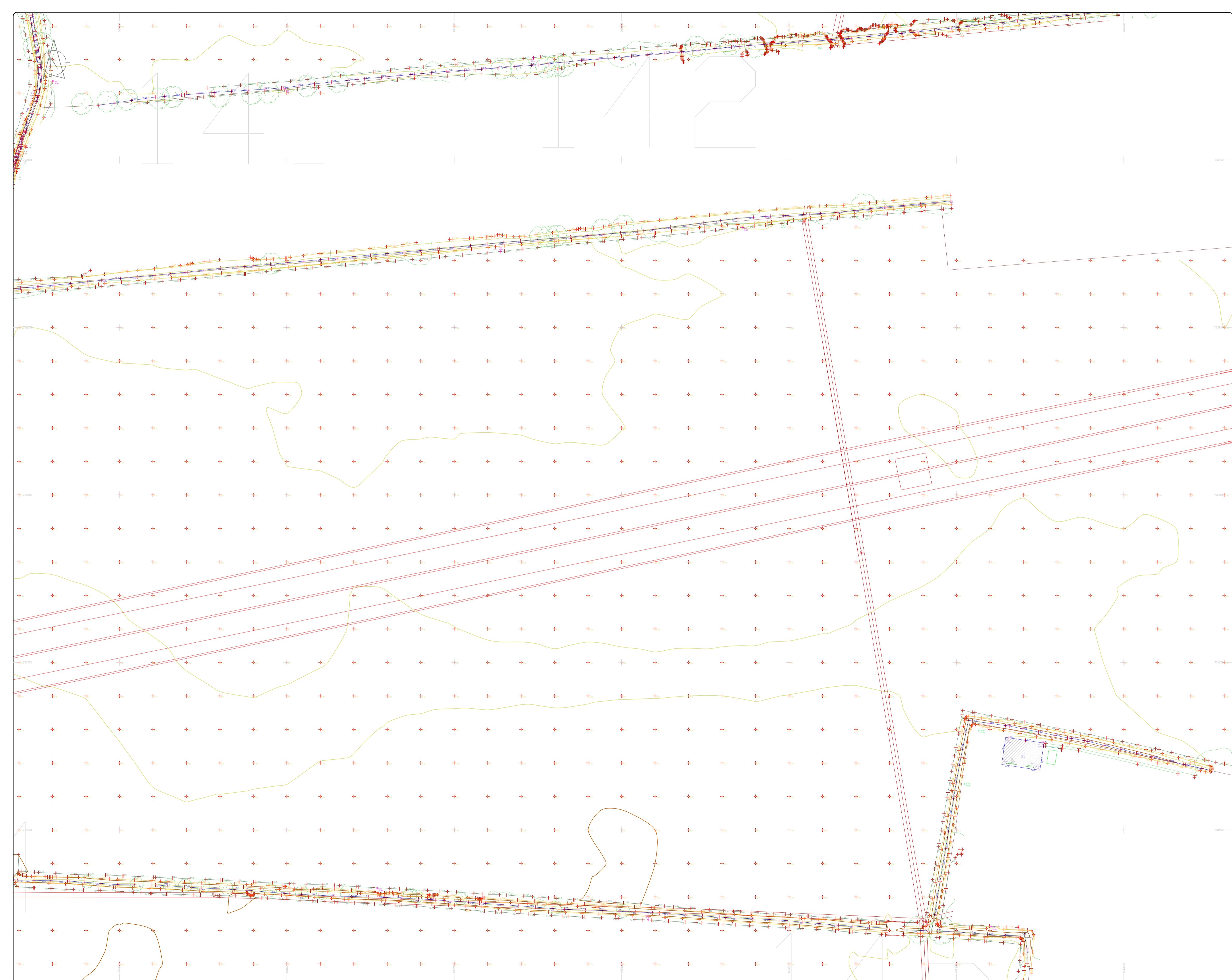
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 Kluicullen Co. Kildare, Ireland

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<b>Client :</b>	AECOM Dublin
<b>Project :</b>	BNN Site Derrygreenagh Rhode
<b>Date :</b>	26.07.2023
<b>Scale :</b>	1:500@A1
<b>Description :</b>	Topographical Survey
<b>Drawing Number :</b>	MGS52335_T_ITM_Rev2-140

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### LEGEND

#### Street furniture & Services

Over Head Wires (LUAS) - Pylon ESB	Street Light	Phone Box
Powerbed	Bench Seat	Duct
Pipe	Keok	Gas Cover
Light	Gully	C/P Box
Barrier	Waste Bin	USG Car Park View
Pump	Waste Bin	Fire Hydrant
Trial Pit	Hydrant	Fire Hydrant
Bus/Tram Shelter	Telegraph pole	ESS Box
Postbox	OCS Pole	ESS Box
Water - General	CCTV Camera Pole	ESS Box
Water Valve	Lamp Post	Traffic Control Box
Gas Valve	Foul Manhole	LUAS Technical Cubicle
Sluice Valve	Surface Water MH	Ticket Vending Machine
Air Valve	Manholes	Water Meter Cover
Stop Cook	Air Conditioning Vents	Telecom Inspection Cover
C/P Post	Services Inspection Cover	Monument / Toilets
Marker Post	Traffic Inspection Cover	Tank Storage
Traffic Light	Cable TV Inspection Cover	Basement MH Cover & Pipe
Parking Meter	ESAT Inspection Cover	Street Light Mark
Pole Asset Mark	NL Inspection Cover	Stay for pole
Smart Card Validator	Elcom Inspection Cover	PP
Unknown Valve	Rocking Eye	Washout

#### Natural Features

Surface Change	Water Level	Golf
Land Drain	Down Level	Fair Way
Bottom of Slope	Invert level	Green
Top of Slope	Bed Level	Tree Box
Ditch	Spotheight	Other
Water Edge / Lake / Pond	Spotheight	Survey Station
Hedge / Trees Drip Line / Vegetation	Tree Deciduous	Photo point
Tree Coniferous	Tree Deciduous	Top of Tree

#### Built Features

##### Roads & Road Markings

Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Soft Elevation
Bridge Deck	Property Line	Step Level
Bridge Pier	Road Bar	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform Train & Tram	Wall / Retaining Wall	
Damp Proof Course / Vege	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pile / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

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North

Site Location

Map Sheet 0000

Surveyed by: ST	Date: May/June 2023	Datum: Main Head
Drawn by: ST	Date: June/July 2023	Grid System:
Checked by: PK	Date: 26.07.2023	Irish National Grid <input type="checkbox"/> ITM <input checked="" type="checkbox"/>

No	Date	Description	Revisions
0	26.07.2023	Final Drawing	
1	08.08.2023	Layouts added	
2	06.09.2023	Additional road survey added	

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Pipeline Surveys, Service Location, Ground Penetrating Radar,  
Laser Scanning, Aerial Photography

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**Client :** AECOM Dublin

**Project :** BNM Site Derrygreenagh Rhode

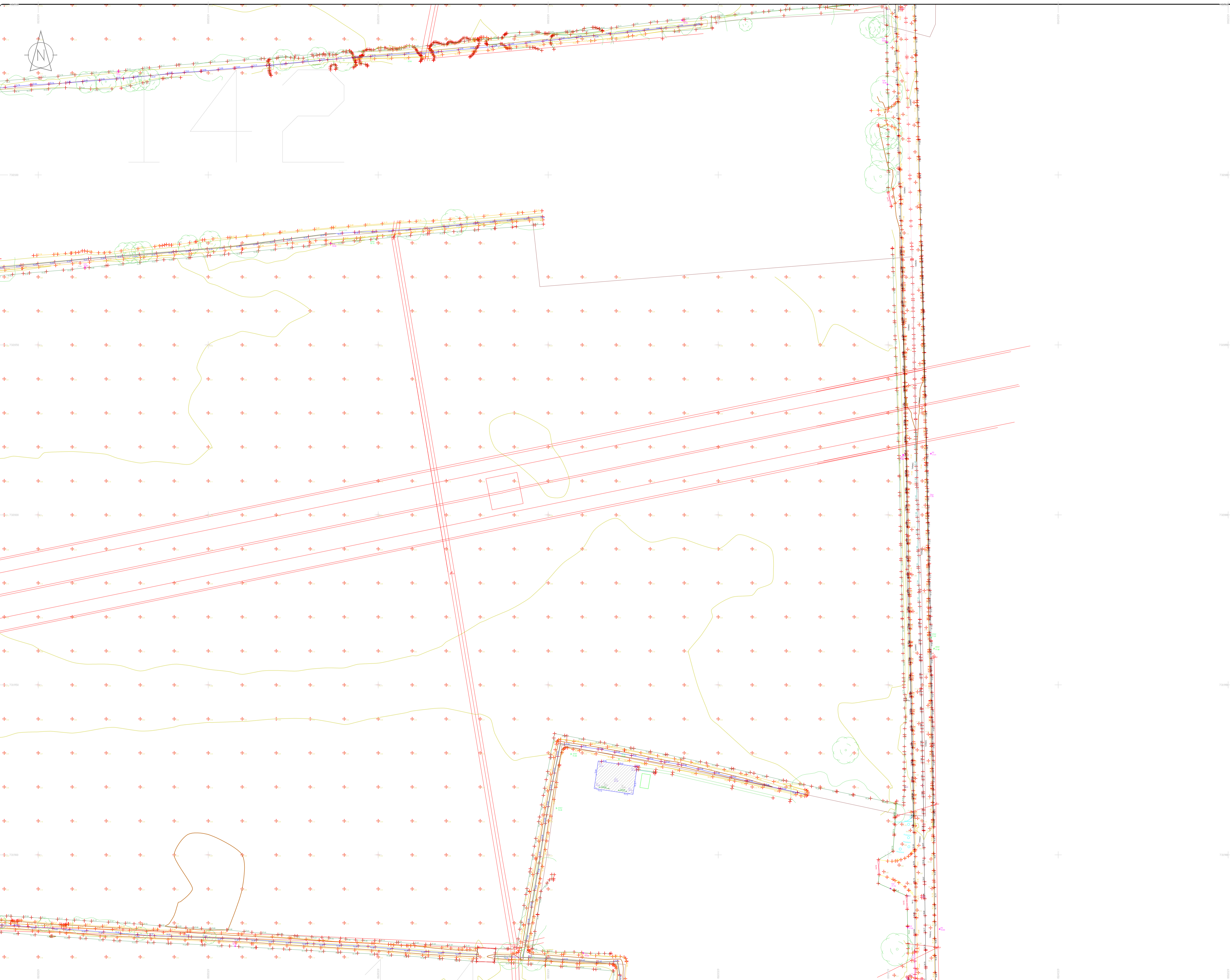
**Date :** 26.07.2023 **Scale :** 1:500@A1

**Description :** Topographical Survey

**Drawing Number :** MGS52335\_T\_ITM\_Rev2-141

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**LEGEND**  
Street furniture & Services

Over Head Wires (LUAS) - Pylon ESB	Bus Stop	Bench Seat	Duct
Flowerbed	Ballast	Bus Cover	Basin Cover
Pipe	Light	Bus Stop	P.P. Box
Barrier	Coastline Cover	US Car Park	US Car Park
Pump	Bore Hole	Waste Bin	Waste Bin
Trial Pit	Electricity Pole	Hydrant	Hydrant
Bus/Tram Shelter	Telegraph pole	Fire Hydrant	Fire Hydrant
Postbox	OCS Pole	ESB Box	ESB Box
Valve - General	OCS Camera Pole	ESB Inspection Cover	ESB Inspection Cover
Water Valve	Lamp Post	Traffic Control Box	Traffic Control Box
Gas Valve	Flu Manhole	LUAS Technical Cabinet	LUAS Technical Cabinet
Sludge Valve	Surface Water MH	Ticket Vending Machine	Ticket Vending Machine
Air Valve	Manholes	Water Meter Cover	Water Meter Cover
Stop Cock	Air Conditioning Vents	Telecom Inspection Cover	Telecom Inspection Cover
C.P. Post	Services Inspection Cover	Monument / Toilets	Monument / Toilets
Marker Post	Traffic Inspection Cover	Tank Storage	Tank Storage
Traffic Light	Cable TV Inspection Cover	Basement, MH, Cover & Pipe	Basement, MH, Cover & Pipe
Parking Meter	ESAT Inspection Cover	Dished Aerial Mast	Dished Aerial Mast
Plane Aerial Mast	NTL Inspection Cover	Stay for pole	Stay for pole
Smart Card Validator	ESAT Inspection Cover	Pipe Protection	Pipe Protection
Unknown Valve	Roofing Eye	Washdown	Washdown

**Natural Features**

Surface Change	Water Level	Fair Way	Fair Way
Land Drain	Down Level	Green	Green
Bottom of Slope	Invert level	Tree Box	Tree Box
Top of Slope	Bed Level	Other	Other
Ditch	Spotheight	Survey Station	Survey Station
Water Edge / Lake / Pond		Photo point	Photo point
Hedge / Trees Drip Line / Vegetation			
Tree Coniferous	Tree Deciduous	Top of Tree	Top of Tree

**Built Features**  
Roads & Road Markings

Building	Fence	Floor Level	Floor Level
Edge of Road	Gate	Apex Height	Apex Height
Kerb Bottom	Road Centreline	Eaves Height	Eaves Height
Kerb Top	Top of Wall	Parapet Height	Parapet Height
Bridge Abutment	Hoarding	Soft Elevation	Soft Elevation
Bridge Deck	Property Line	Step Level	Step Level
Bridge Parapet	Road Scar	Concrete Pad	Concrete Pad
Building Facade	Top of Fence	Track	Track
Footpath / Platform Train & Tram	Retaining Wall		
Damp Proof Course / Herge	Wall / Retaining Wall		
Bridge Pier / Wall & Gate-Pillar / LUAS Trackbed	Railway / Tram Rail / Gating / Ramp		
Cycleway / Private Landing Area	Building Canopy / Roof / Overhang		

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Site Location

Map Sheet 0000

Map Sheet Layout

Surveyed by: ST	Date: May/June 2023	Datum: Main Head
Drawn by: ST	Date: June/July 2023	Grid System: Irish National Grid
Checked by: PK	Date: 26.07.2023	ITM

Revisions		
0	26.07.2023	First Drawing
1	08.08.2023	Layouts added
2	09.08.2023	Additional road survey added



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Topographic surveys, Measured Building Surveys, Setting-Out, As-Built Surveys, Hydrographic Surveys, Legal Mapping, Pipeline Surveys, Service Location, Ground Penetrating Radar, Laser Scanning, Rectified Photography

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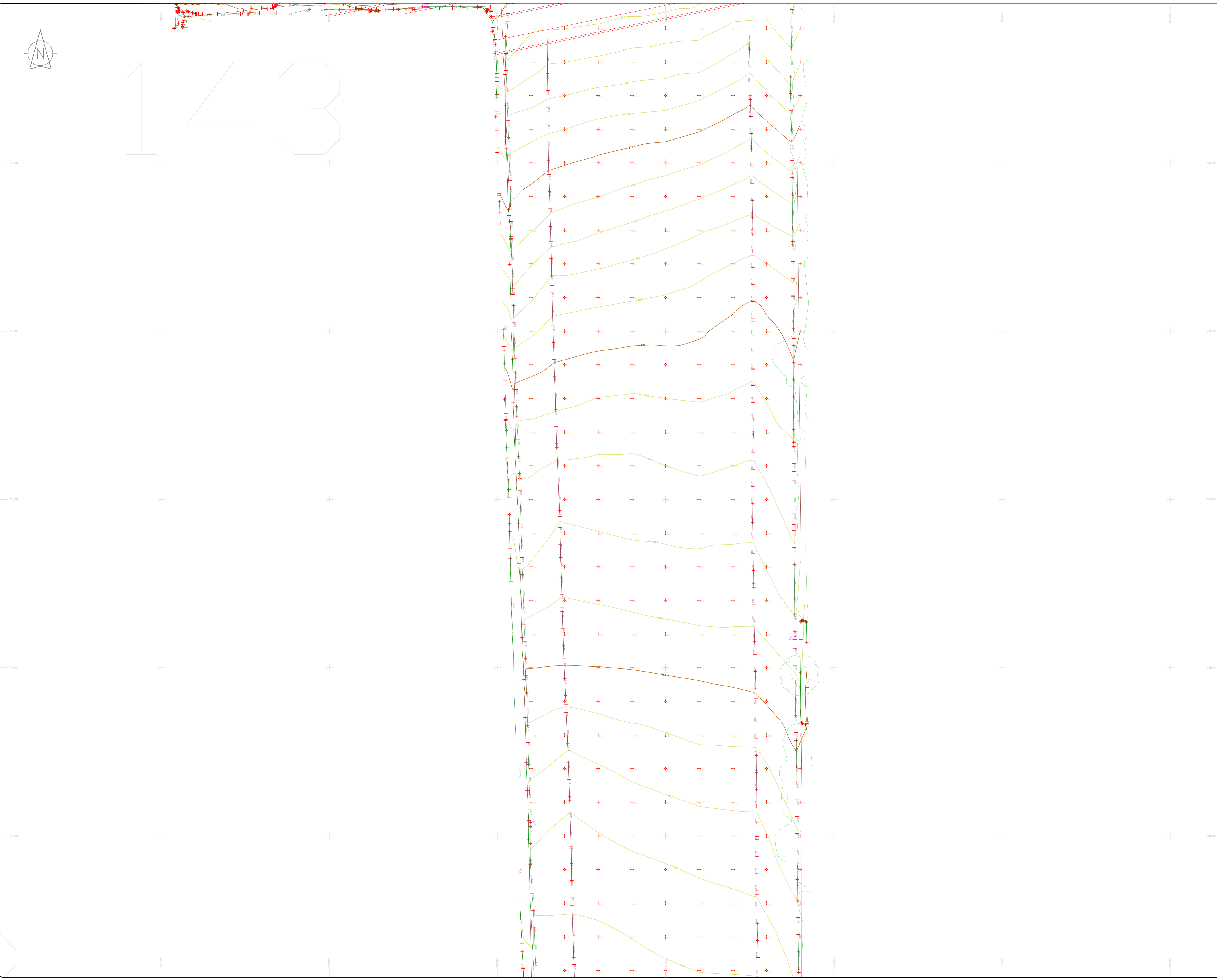
<b>Client :</b>	AECOM Dublin
<b>Project :</b>	BNM Site Derrygreenagh Rhode
<b>Date :</b>	26.07.2023
<b>Scale :</b>	1:500@A1
<b>Description :</b>	Topographical Survey
<b>Drawing Number :</b>	MGS52335_T_ITM_Rev2-142

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143



**LEGEND**  
Street furniture & Services

Over Head Wires (LIAS) - Nylon ESB	Ballast	Road Sign	Phone Box
Powerbed	Beacon	Beach Seat	Dust
Bus Stop	Coalhole Cover	Bus Stop Shelter	Keek
Pipe	Electricity Pole	Electricity Pole	Gas Cover
Light	Electricity Pole	Electricity Pole	Gas Cover
Barrier	Electricity Pole	Electricity Pole	Gas Cover
Pump	Electricity Pole	Electricity Pole	Gas Cover
Trail Pit	Electricity Pole	Electricity Pole	Gas Cover
Bus/Tram Shelter	Electricity Pole	Electricity Pole	Gas Cover
Postbox	Electricity Pole	Electricity Pole	Gas Cover
Water - General	Electricity Pole	Electricity Pole	Gas Cover
Water Valve	Electricity Pole	Electricity Pole	Gas Cover
Gas Valve	Electricity Pole	Electricity Pole	Gas Cover
Sluice Valve	Electricity Pole	Electricity Pole	Gas Cover
Air Valve	Electricity Pole	Electricity Pole	Gas Cover
Stop Cook	Electricity Pole	Electricity Pole	Gas Cover
C/P Post	Electricity Pole	Electricity Pole	Gas Cover
Marker Post	Electricity Pole	Electricity Pole	Gas Cover
Travelling Light	Electricity Pole	Electricity Pole	Gas Cover
Parking Meter	Electricity Pole	Electricity Pole	Gas Cover
Flare Asset Mark	Electricity Pole	Electricity Pole	Gas Cover
Smart Card Validator	Electricity Pole	Electricity Pole	Gas Cover
Unknown Valve	Electricity Pole	Electricity Pole	Gas Cover

**Natural Features**

Surface Change	Water Level	Fair Way
Land Drain	Water Level	Green
Bottom of Slope	Water Level	Green
Top of Slope	Water Level	Green
Ditch	Water Level	Green
Water Edge / Lake / Pond	Water Level	Green
Hedge / Trees Drip Line / Vegetation	Water Level	Green
Tree Contourous	Water Level	Green

**Built Features**  
Roads & Road Markings

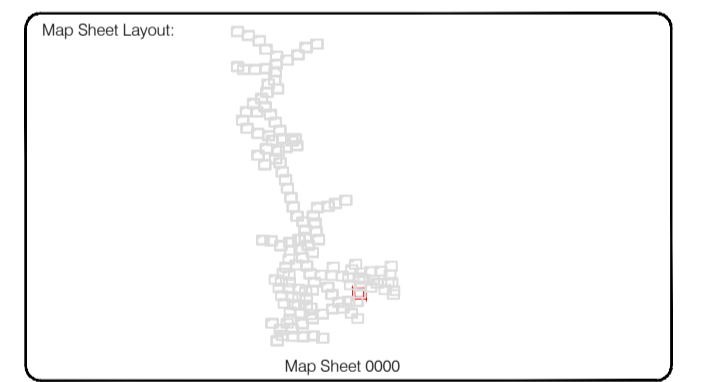
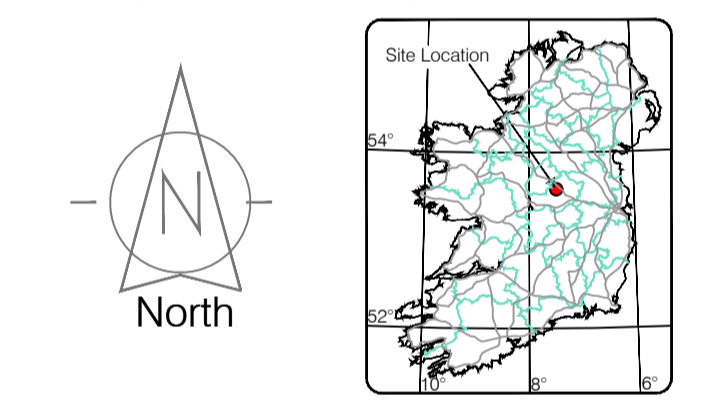
Building	Fence	Floor Level
Edge of Road	Fence	Floor Level
Kerb Bottom	Fence	Floor Level
Kerb Top	Fence	Floor Level
Bridge Abutment	Fence	Floor Level
Bridge Deck	Fence	Floor Level
Bridge Pier	Fence	Floor Level
Building Facade	Fence	Floor Level
Footpath / Platform / Tram	Fence	Floor Level
Damp Proof Course / Verge	Fence	Floor Level
Bridge Pier / Wall & Gate Pile / LIAS Trackbed	Fence	Floor Level
Cycleway / Private Landing Area	Fence	Floor Level

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Drawn by: ST	Date: 26.07.2023	Date: 26.07.2023	Date: 26.07.2023
Checked by: PK	Date: 26.07.2023	Date: 26.07.2023	Date: 26.07.2023

No.	Date	Description	Revisors
0	26.07.2023	Final Drawing	
1	08.08.2023	Layouts added	
2	06.09.2023	Additional road survey added	



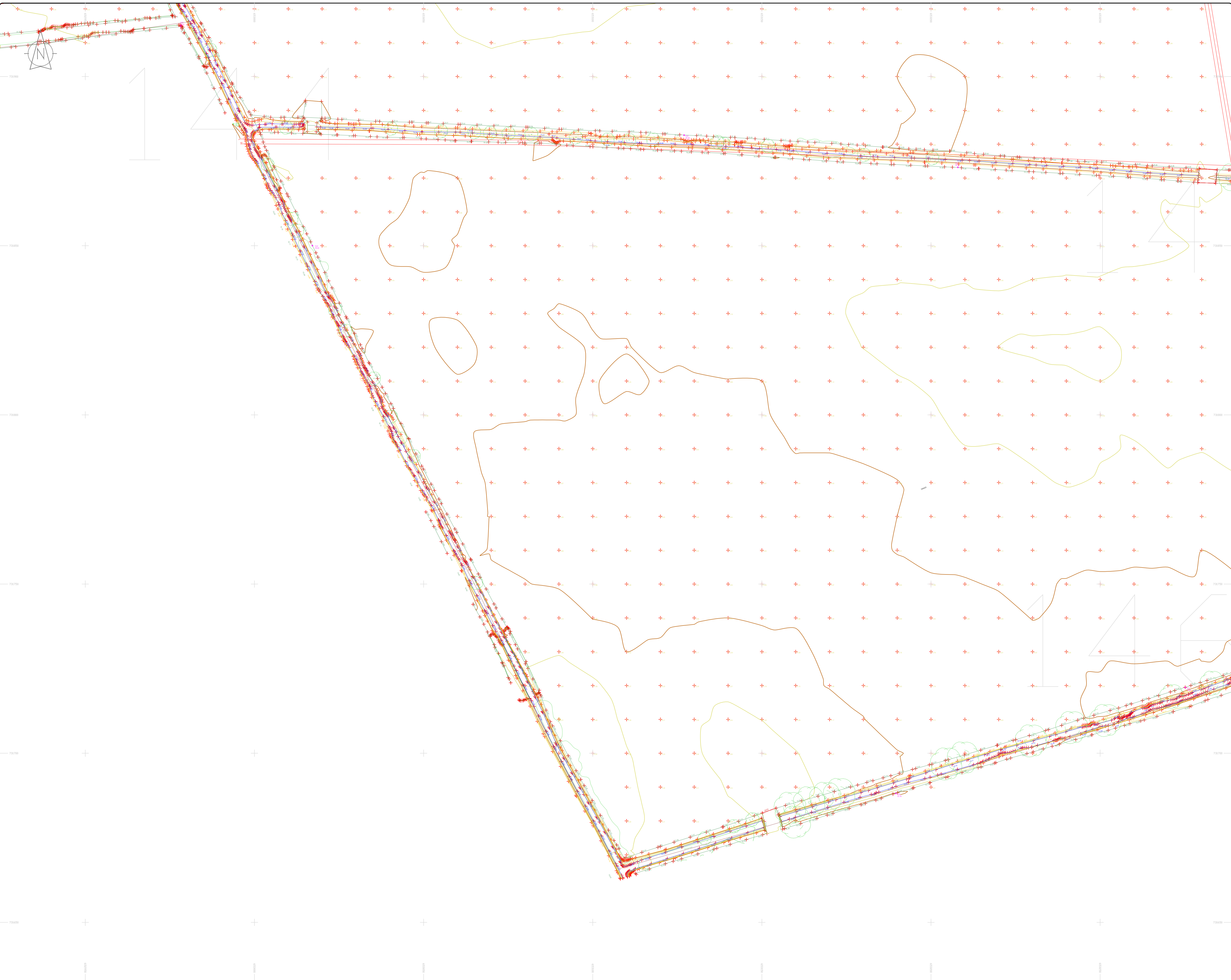
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<b>Date :</b>	26.07.2023
<b>Scale :</b>	1:500@A1
<b>Description :</b>	Topographical Survey
<b>Drawing Number :</b>	MGS52335_T_ITM_Rev2-143





### LEGEND

#### Street furniture & Services

Over Head Wires (LUAS) - Pylon ESB	Bus Stop	Road Sign	Phone Box
Powerbed	Ballot	Bench Seat	Duct
Pipe	Beacon	Keek	Gas Cover
Lift	BEA Beacon	Gully	CP Box
Barrier	CH Coalhole Cover	USW W	USG Car Park Vent
Pump	BH Bore Hole	Waste Bin	Hydrant
Trial Pit	EPC Electricity Pole	HT	Fire Hydrant
Bus/Tram Shelter	TEP Telegraph Pole	FB	Fire Hydrant
Postbox	OCS OCTV Camera Pole	EBCB	ESS Box
Water - General	LP Lamp Post	TS	TSB Inspection Cover
Water Valve	Gas Valve	TP	TPS Traffic Control Box
Gas Valve	SH Surface Water MH	LUAS	LUAS Technical Cubicle
Sluice Valve	MH Manholes	WT	Ticket Vending Machine
Air Valve	AC Air Conditioning Vents	PI	Water Meter Cover
Stop Cook	ICU Services Inspection Cover	MT	Monument / Toilets
C/P Post	KT Traffic Inspection Cover	TS	Tank Storage
Marker Post	CTC Cable TV Inspection Cover	BM	Basement MH Cover & Pipe
Marker Post	CTC Cable TV Inspection Cover	BM	Basement MH Cover & Pipe
Parking Meter	CTC Cable TV Inspection Cover	BM	Basement MH Cover & Pipe
Pole Area Mark	CTC Cable TV Inspection Cover	BM	Basement MH Cover & Pipe
Smart Card Validator	CTC Cable TV Inspection Cover	BM	Basement MH Cover & Pipe
Unknown Valve	CTC Cable TV Inspection Cover	BM	Basement MH Cover & Pipe

#### Natural Features

Surface Change	Water Level	FWY	Fair Way
Land Drain	Down Level	GRSE	Green
Bottom of Slope	Invert level	TBOX	Tree Box
Top of Slope	Bed Level	ST	Survey Station
Ditch	Spotheight	PP	Pipe Protection
Water Edge / Lake / Pond			Washout
Hedge / Trees Drip Line / Vegetation			
Tree Coniferous	Tree Deciduous	TOP	Top of Tree

#### Built Features

##### Roads & Road Markings

Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Softly Elevation
Bridge Deck	Property Line	Step Level
Bridge Pier/Abut	Road Bar	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform Train & Tram	Wall / Retaining Wall	
Damp Proof Course / Verge	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

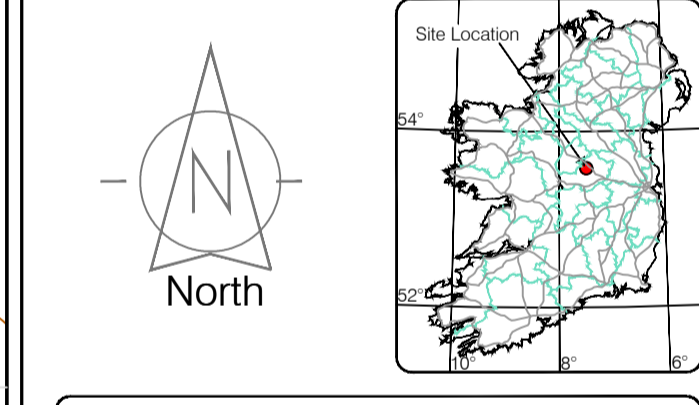
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North



Map Sheet Layout

Map Sheet 0000

Drawn by: ST	Date: 26.07.2023	Date: 26.07.2023	Date: 26.07.2023
Checked by: PK	Date: 26.07.2023	Date: 26.07.2023	Date: 26.07.2023
Drawn by: ST	Date: 26.07.2023	Date: 26.07.2023	Date: 26.07.2023
Checked by: PK	Date: 26.07.2023	Date: 26.07.2023	Date: 26.07.2023

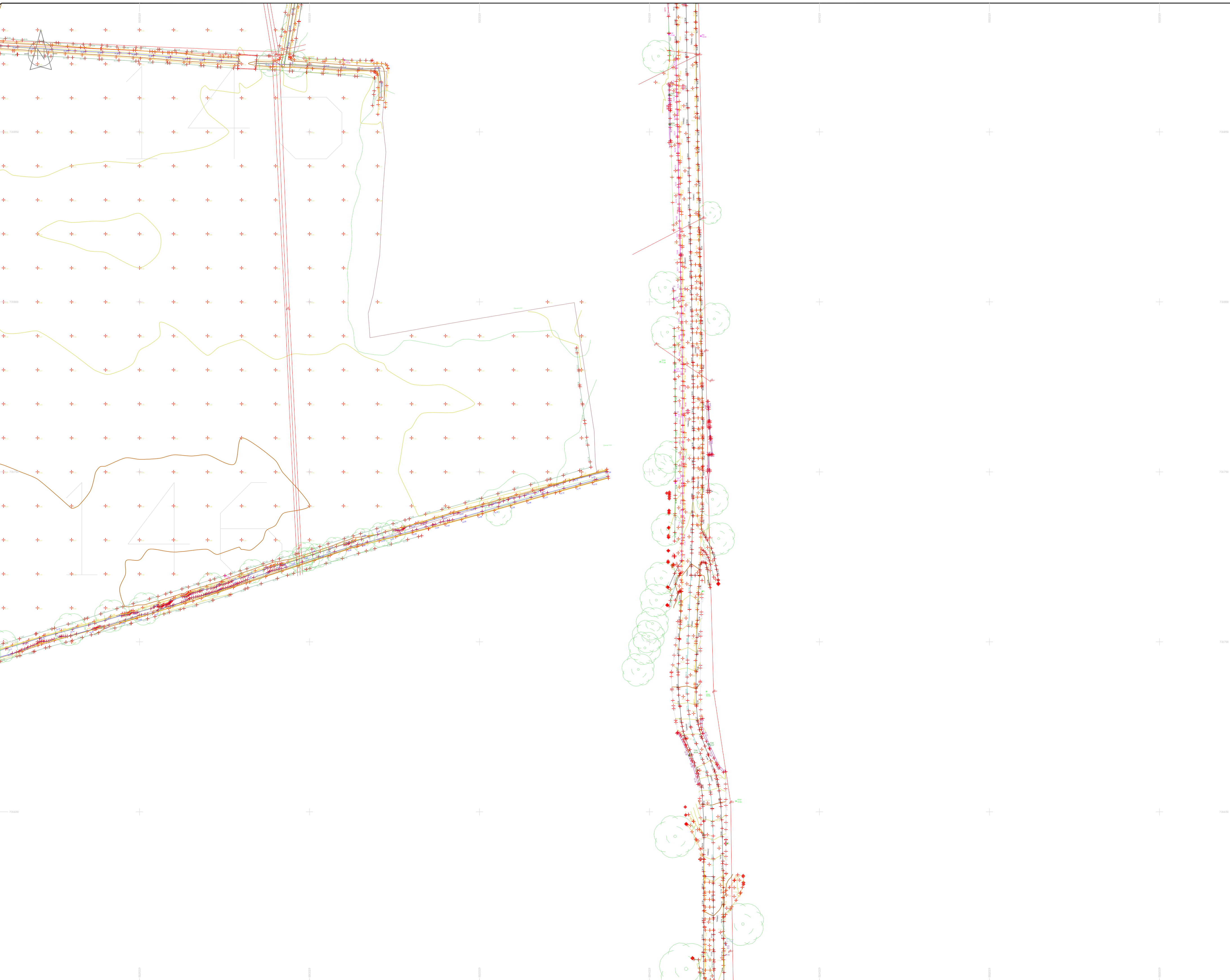


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<b>Project :</b>	BNN Site Derrygreenagh Rhode
<b>Date :</b>	26.07.2023
<b>Scale :</b>	1:500@A1
<b>Description :</b>	Topographical Survey
<b>Drawing Number :</b>	MGS52335_T_ITM_Rev2-144





### LEGEND

#### Street furniture & Services

Over Head Wires (LUAS) - Pylon ESB	Bus Stop	Road Sign	Phone Box
Powerbed	Ballast	Bench Seat	Duct
Pipe	Beacon	Keek	Gas Cover
Lit	Coalhole Cover	Gully	C/P Box
Barrier	Boys Hole	Waste Bin	USG Car Park View
Pump	Electricity Pole	Hydrant	Fire Hydrant
Bus/Tram Shelter	Telegraph pole	ESB Box	ESB Box
Postbox	OCS Pole	ESB Box	ESB Box
Water - General	OCTV Camera Pole	ESB Box	ESB Box
Water Valve	Lamp Post	ESB Box	ESB Box
Gas Valve	Foul Manhole	ESB Box	ESB Box
Sluice Valve	Surface Water MH	ESB Box	ESB Box
Air Valve	Manholes	ESB Box	ESB Box
Stop Cook	Air Conditioning Vents	ESB Box	ESB Box
C/P Post	Services Inspection Cover	ESB Box	ESB Box
Marker Post	Traffic Inspection Cover	ESB Box	ESB Box
Traffic Light	Cable TV Inspection Cover	ESB Box	ESB Box
Parking Meter	ESAT Inspection Cover	ESB Box	ESB Box
Pipes Asset Mark	N/L Inspection Cover	ESB Box	ESB Box
Smart Card Validator	EScom Inspection Cover	ESB Box	ESB Box
Unknown Valve	Rocking Eye	ESB Box	ESB Box

#### Natural Features

Surface Change	Water Level	Golf
Land Drain	Down Level	Fair Way
Bottom of Slope	Invert level	Green
Top of Slope	Bed Level	Tree Box
Ditch	Spotheight	Other
Water Edge / Lake / Pond		Survey Station
Hedge / Trees Drip Line / Vegetation		Photo point
Tree Coniferous	Tree Deciduous	Top of Tree

#### Built Features

##### Roads & Road Markings

Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Soft Elevation
Bridge Deck	Property Line	Slope Level
Bridge Pier	Road Bar	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform Train & Tram	Wall / Retaining Wall	
Damp Proof Course / Verge	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Piler / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

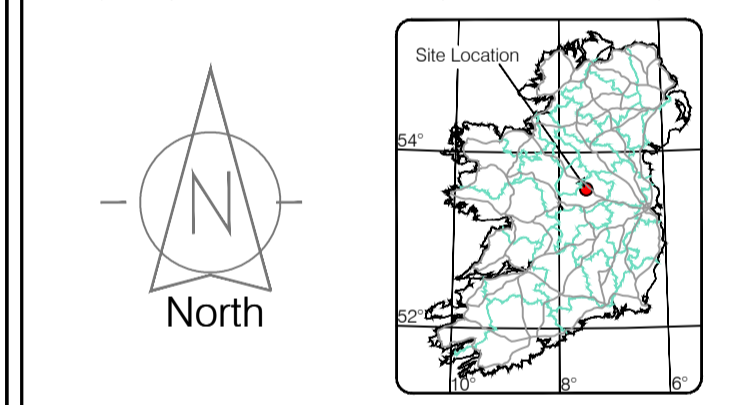
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Site Location



Map Sheet Layout

Map Sheet 0000

Drawn by: ST	Date: 26.07.2023	Grid System: Irish National Grid	ITM 8
Checked by: PK	Date: 26.07.2023		

No	Date	Description	Revisors
0	26.07.2023	First Drawing	
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**Date :** 26.07.2023 **Scale :** 1:500@A1

**Description :** Topographical Survey

**Drawing Number :** MGS52335\_T\_ITM\_Rev2-145

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### LEGEND

#### Street furniture & Services

Over Head Wires (LUAS) - Python ESB	Bus Stop	Ballast	Road Sign	Phone Box
Powerbed	Beacon	Beach Seat	Beach Seat	Duct
Pipe	Beacon	Keek	Gas Cover	Gas Cover
Light	Coalhole Cover	Gully	CPFlow	CP Box
Barrier	Boys Hole	USG W	USG Car Park	Waste Bin
Pump	Electricity Pole	Hydrant	Hydrant	Hydrant
Bus/Tram Shelter	Telegraph pole	Fire Hydrant	Fire Hydrant	Fire Hydrant
Postbox	OCS Pole	ESS Box	ESS Box	ESS Box
Water - General	CCTV Camera Pole	ESS Inspection Cover	ESS Inspection Cover	ESS Inspection Cover
Water Valve	Lamp Post	Traffic Control Box	Traffic Control Box	Traffic Control Box
Gas Valve	Foul Manhole	LUAS Technical Cubicle	LUAS Technical Cubicle	LUAS Technical Cubicle
Sluice Valve	Surface Water MH	Water Meter Cover	Water Meter Cover	Water Meter Cover
Air Valve	Manholes	Water Meter Cover	Water Meter Cover	Water Meter Cover
Stop Cook	Air Conditioning Vents	Telecom Inspection Cover	Telecom Inspection Cover	Telecom Inspection Cover
C/P Post	Services Inspection Cover	Monument / Toilets	Monument / Toilets	Monument / Toilets
Marker Post	Traffic Inspection Cover	Tank Storage	Tank Storage	Tank Storage
Traffic Light	Cable TV Inspection Cover	Basement MH Cover & Pipe	Basement MH Cover & Pipe	Basement MH Cover & Pipe
Parking Meter	ESAT Inspection Cover	Dead End Mark	Dead End Mark	Dead End Mark
Flare Area Mark	NFL Inspection Cover	Stay for pole	Stay for pole	Stay for pole
Smart Card Validator	Elcom Inspection Cover	PP	PP	PP
Unknown Valve	Rocking Eye	Washout	Washout	Washout

#### Natural Features

Surface Change	Water Level	Fair Way	Fair Way
Land Drain	Down Level	Green	Green
Bottom of Slope	Invert level	Tree Box	Tree Box
Top of Slope	Bed Level	Survey Station	Survey Station
Ditch	Spotheight	Photo point	Photo point
Water Edge / Lake / Pond	Hedge / Trees Drip Line / Vegetation	Top of Tree	Top of Tree
Tree Continuous	Tree Deciduous	Top of Tree	Top of Tree

#### Built Features

##### Roads & Road Markings

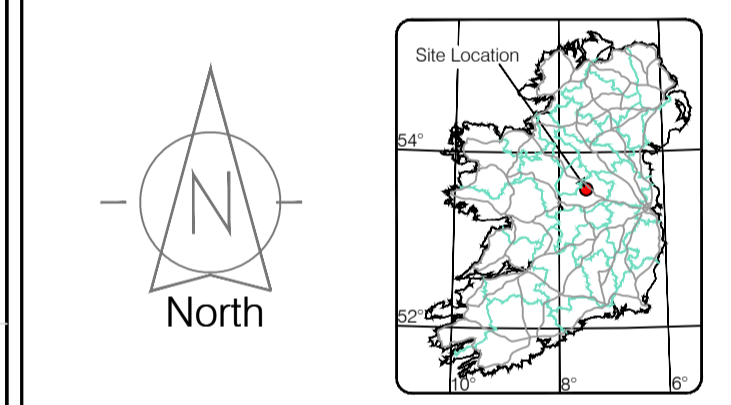
Building	Fence	Floor Level	Floor Level
Edge of Road	Gate	Apex Height	Apex Height
Kerb Bottom	Road Centreline	Eaves Height	Eaves Height
Kerb Top	Top of Wall	Parapet Height	Parapet Height
Bridge Abutment	Hoarding	Soffit Elevation	Soffit Elevation
Bridge Deck	Property Line	Step Level	Step Level
Bridge Parapet	Road Bar	Concrete Pad	Concrete Pad
Building Facade	Top of Fence	Track	Track
Footpath / Platform Tread & Trim	Wall / Retaining Wall	Relay / Tram Rail / Gating / Ramp	Relay / Tram Rail / Gating / Ramp
Damp Proof Course / Verge	Building Canopy / Roof / Overhang	Building Canopy / Roof / Overhang	Building Canopy / Roof / Overhang
Bridge Pier / Wall & Gate Pile / LUAS Trackbed	Cycleway / Private Landing Area	Cycleway / Private Landing Area	Cycleway / Private Landing Area

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Map Sheet Layout

Map Sheet 0000

Drawn by: ST	Date: 26.07.2023	Datum: Irish National Grid	Main Head
Checked by: PK	Date: 26.07.2023	Grid System: Irish National Grid	ITM 8

No.	Date	Description	Revisions
0	26.07.2023	First Drawing	
1	08.08.2023	Layouts added	
2	06.09.2023	Additional road survey added	



Topographic surveys, Measured Building Surveys, Setting-out, As-Built Surveys, Hydrographic Surveys, Legal Mapping, Pipeline Surveys, Heritage Location, Ground Penetrating Radar, Laser Scanning, Aerial Photography

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**Head Office**  
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Phone: (+353) 045 484040  
 Fax: (+353) 045 484004  
 Email: info@murphyge.ie

**Client:** AECOM Dublin

**Project:** BNM Site Derrygreenagh Rhode

**Date:** 26.07.2023 **Scale:** 1:500@A1

**Description:** Topographical Survey

**Drawing Number:** MGS52335\_T\_ITM\_Rev2-146

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**LEGEND**

- Over Head Wires (LUAS) - Pylon ESB
- Powerbed
- Pipe
- Lit
- Barrier
- Pump
- Manhole
- Electricity Pole
- Bus/Tram Shelter
- Postbox
- Water - General
- Water Valve
- Gas Valve
- Sluice Valve
- Air Valve
- Stop Cook
- C/P Post
- Marker Post
- Tracing Meter
- Pipes Asset Mark
- Smart Card Validator
- Unknown Valve
- Surface Change
- Land Drain
- Bottom of Slope
- Top of Slope
- Ditch
- Water Edge / Lake / Pond
- Hedge / Trees Drip Line / Vegetation
- Tree Coniferous
- Tree Deciduous
- Top of Tree
- Water Level
- Down Level
- Invert level
- Bed Level
- Spotheight
- Fair Way
- Green
- Tee Box
- Other
- Survey Station
- Photo point

**Built Features**

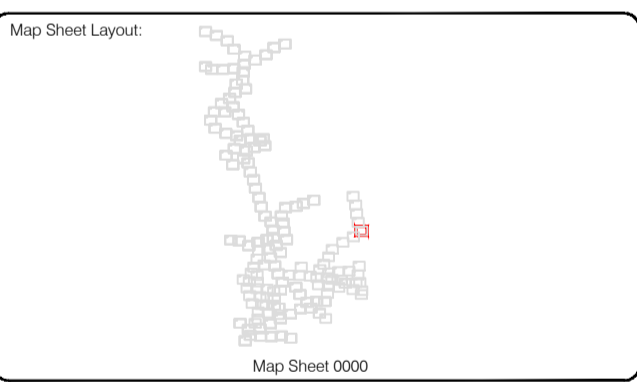
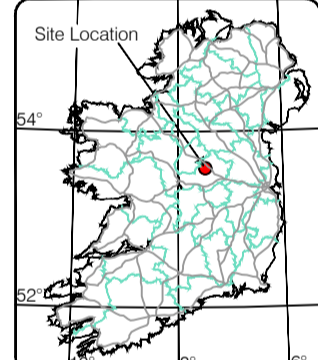
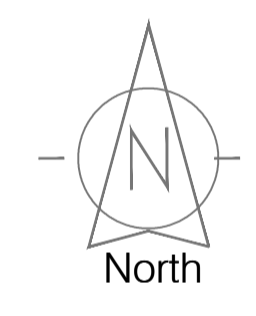
- Building
- Edge of Road
- Kerb Bottom
- Kerb Top
- Bridge Abutment
- Bridge Deck
- Bridge Pier/Abutment
- Building Facade
- Footpath / Platform Train & Tram
- Damp Proof Course / Verge
- Bridge Pier / Wall & Gate Pillar / LUAS Trackbed
- Cycleway / Private Landing Area
- Fence
- Gate
- Road Centreline
- Top of Wall
- Hoarding
- Property Line
- Road Sign
- Top of Fence
- Wall / Retaining Wall
- Railway / Tram Rail / Gating / Ramp
- Building Canopy / Roof / Overhang
- Floor Level
- Apex Height
- Eaves Height
- Parapet Height
- Roof Level
- Step Level
- Concrete Pad
- Track

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Drawn by: ST	Date: 26.07.2023	Grid System: Irish National Grid	ITM 8
Checked by: PK	Date: 26.07.2023		
Revisions			
No	Date	Description	
0	26.07.2023	First Drawing	
1	08.08.2023	Layouts added	
2	06.09.2023	Additional road survey added	



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<b>Client :</b>	AECOM Dublin
<b>Project :</b>	BNN Site Derrygreenagh Rhode
<b>Date :</b>	26.07.2023
<b>Scale :</b>	1:500@A1
<b>Description :</b>	Topographical Survey
<b>Drawing Number :</b>	MGS52335_T_ITM_Rev2-151





**LEGEND**  
**Street furniture & Services**

Over Head Wires (LUAS) - Pylon ESB	Bus Stop	Bench Seat	Duct	Road Sign	Phone Box
Powerbed	Ballast	Bus Shelter	Gas Cover	Street Light	Street Light
Pipe	Beacon	Bus Stop	Gas Cover	Street Light	Street Light
Lift	Coalhole Cover	Bus Stop	Gas Cover	Street Light	Street Light
Barrier	Boys Hole	Bus Stop	Gas Cover	Street Light	Street Light
Pump	Electricity Pole	Bus Stop	Gas Cover	Street Light	Street Light
Trial Pit	Telegraph pole	Bus Stop	Gas Cover	Street Light	Street Light
Bus/Tram Shelter	OCS Pole	Bus Stop	Gas Cover	Street Light	Street Light
Postbox	OCS Pole	Bus Stop	Gas Cover	Street Light	Street Light
Water - General	OCS Pole	Bus Stop	Gas Cover	Street Light	Street Light
Water Valve	Lamp Post	Bus Stop	Gas Cover	Street Light	Street Light
Gas Valve	Foul Manhole	Bus Stop	Gas Cover	Street Light	Street Light
Sluice Valve	Surface Water MH	Bus Stop	Gas Cover	Street Light	Street Light
Air Valve	Manholes	Bus Stop	Gas Cover	Street Light	Street Light
Stop Cook	Air Conditioning Vents	Bus Stop	Gas Cover	Street Light	Street Light
C/P Post	Services Inspection Cover	Bus Stop	Gas Cover	Street Light	Street Light
Marker Post	Traffic Inspection Cover	Bus Stop	Gas Cover	Street Light	Street Light
Traffic Light	Cable TV Inspection Cover	Bus Stop	Gas Cover	Street Light	Street Light
Parking Meter	ESB Inspection Cover	Bus Stop	Gas Cover	Street Light	Street Light
Pole Area Mark	NL Inspection Cover	Bus Stop	Gas Cover	Street Light	Street Light
Smart Card Validator	EScom Inspection Cover	Bus Stop	Gas Cover	Street Light	Street Light
Unknown Valve	Rocking Eye	Bus Stop	Gas Cover	Street Light	Street Light

**Natural Features**

Surface Change	Water Level	Fair Way
Land Drain	Green	Green
Bottom of Slope	Invert level	Tea Box
Top of Slope	Bed Level	Other
Ditch	Spotheight	Survey Station
Water Edge / Lake / Pond		Photo point
Hedge / Trees Drip Line / Vegetation		
Tree Coniferous	Tree Deciduous	Top of Tree

**Built Features**  
**Roads & Road Markings**

Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Soft Level
Bridge Deck	Property Line	Step Level
Bridge Pier	Road Sign	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform Train & Tram	Wall / Retaining Wall	
Damp Proof Course / Verge	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

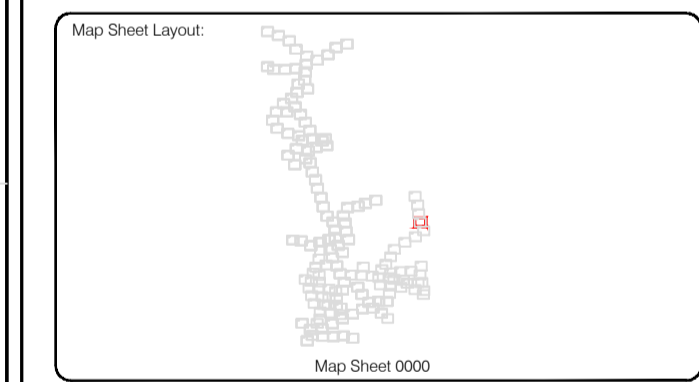
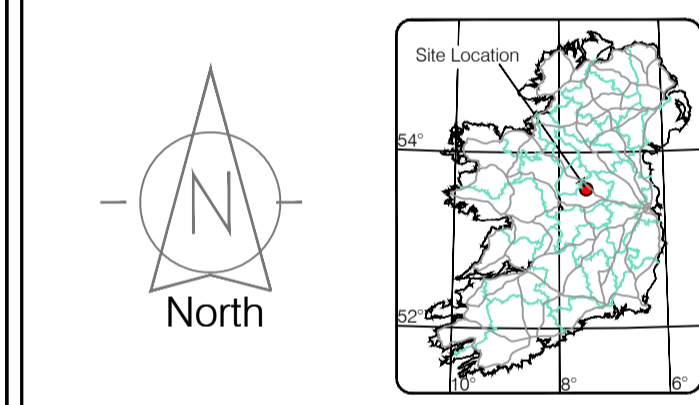
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Drawn by: ST	Date: 26.07.2023	Grid System: Irish National Grid	ITM 8
Checked by: PK	Date: 26.07.2023		
Surveyed by: ST	Date: May/June 2023	Datum: Mean Head	

No	Date	Description	Revisions
0	26.07.2023	Final Drawing	
1	08.08.2023	Layouts added	
2	06.09.2023	Additional road survey added	

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**Phone:** (+353) 045 484040  
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**Email:** info@murphyge.ie

**Client:** AECOM Dublin

**Project:** BNM Site Derrygreenagh Rhode

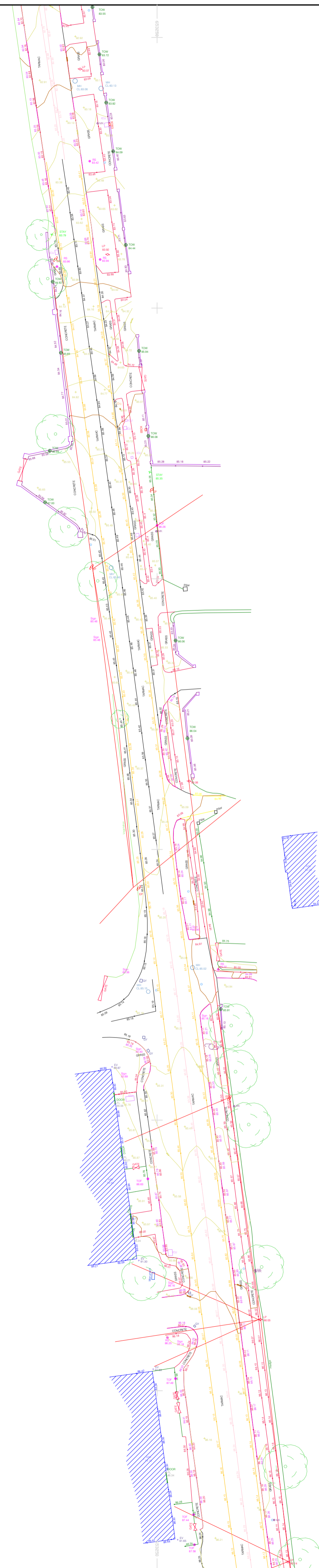
**Date:** 26.07.2023 **Scale:** 1:500@A1

**Description:** Topographical Survey

**Drawing Number:** MGS52335\_T\_ITM\_Rev2-152

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**LEGEND**  
Street furniture & Services

Over Head Wires (LUAS) - Python ESB	Bus Stop	Ballast	Road Sign	Phone Box
Powerbed	BEA Beacon	Coalface Cover	Electricity Pole	Telegraph pole
Pipe	CH Coalface Cover	Electricity Pole	Telegraph pole	ESB Box
Light	BH Bore Hole	Electricity Pole	Telegraph pole	ESB Box
Barrier	EP Electricity Pole	Electricity Pole	Telegraph pole	ESB Box
Pump	EP Electricity Pole	Electricity Pole	Telegraph pole	ESB Box
Bus/Tram Shelter	EP Electricity Pole	Electricity Pole	Telegraph pole	ESB Box
Postbox	EP Electricity Pole	Electricity Pole	Telegraph pole	ESB Box
Water - General	EP Electricity Pole	Electricity Pole	Telegraph pole	ESB Box
Water Valve	EP Electricity Pole	Electricity Pole	Telegraph pole	ESB Box
Gas Valve	EP Electricity Pole	Electricity Pole	Telegraph pole	ESB Box
Sluice Valve	EP Electricity Pole	Electricity Pole	Telegraph pole	ESB Box
Air Valve	EP Electricity Pole	Electricity Pole	Telegraph pole	ESB Box
Stop Cook	EP Electricity Pole	Electricity Pole	Telegraph pole	ESB Box
C/P Post	EP Electricity Pole	Electricity Pole	Telegraph pole	ESB Box
Marker Post	EP Electricity Pole	Electricity Pole	Telegraph pole	ESB Box
Traffic Light	EP Electricity Pole	Electricity Pole	Telegraph pole	ESB Box
Parking Meter	EP Electricity Pole	Electricity Pole	Telegraph pole	ESB Box
Flare Asset Mark	EP Electricity Pole	Electricity Pole	Telegraph pole	ESB Box
Smart Card Validator	EP Electricity Pole	Electricity Pole	Telegraph pole	ESB Box
Unknown Valve	EP Electricity Pole	Electricity Pole	Telegraph pole	ESB Box

**Natural Features**

Surface Change	Water Level	Fair Way
Land Drain	Invert level	Green
Bottom of Slope	Bed Level	Tree Box
Top of Slope	Spotheight	Survey Station
Ditch	Spotheight	Photo point
Water Edge / Lake / Pond	Spotheight	Photo point
Hedge / Trees Drip Line / Vegetation	Spotheight	Photo point
Tree Contourous	Spotheight	Photo point

**Built Features**

**Roads & Road Markings**

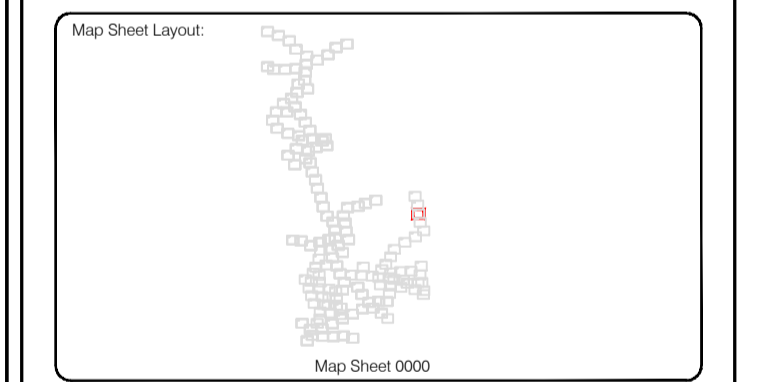
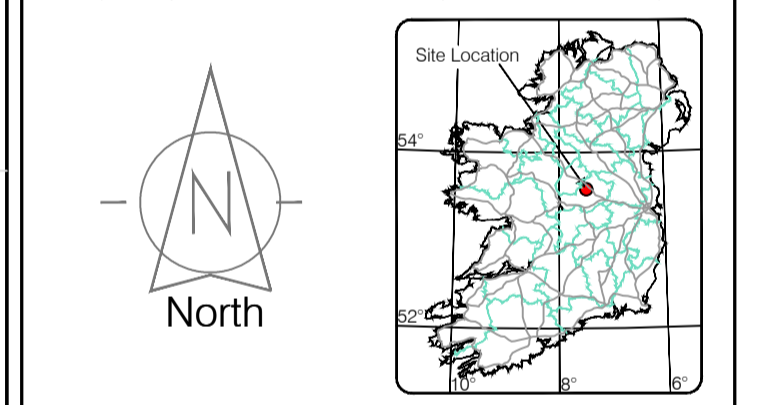
Building	Fence	Floor Level
Edge of Road	Gate	Apex Height
Kerb Bottom	Road Centreline	Eaves Height
Kerb Top	Top of Wall	Parapet Height
Bridge Abutment	Hoarding	Soffit Elevation
Bridge Deck	Property Line	Step Level
Bridge Pier	Road Sign	Concrete Pad
Building Facade	Top of Fence	Track
Footpath / Platform Train & Tram	Wall / Retaining Wall	
Damp Proof Course / Verge	Railway / Tram Rail / Gating / Ramp	
Bridge Pier / Wall & Gate Pillar / LUAS Trackbed	Building Canopy / Roof / Overhang	
Cycleway / Private Landing Area		

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Checked by: PK	Date: 26.07.2023	Date: 26.07.2023	Date: 26.07.2023	Date: 26.07.2023

No	Date	Description	Revisors
0	26.07.2023	Final Drawing	
1	08.08.2023	Layouts added	
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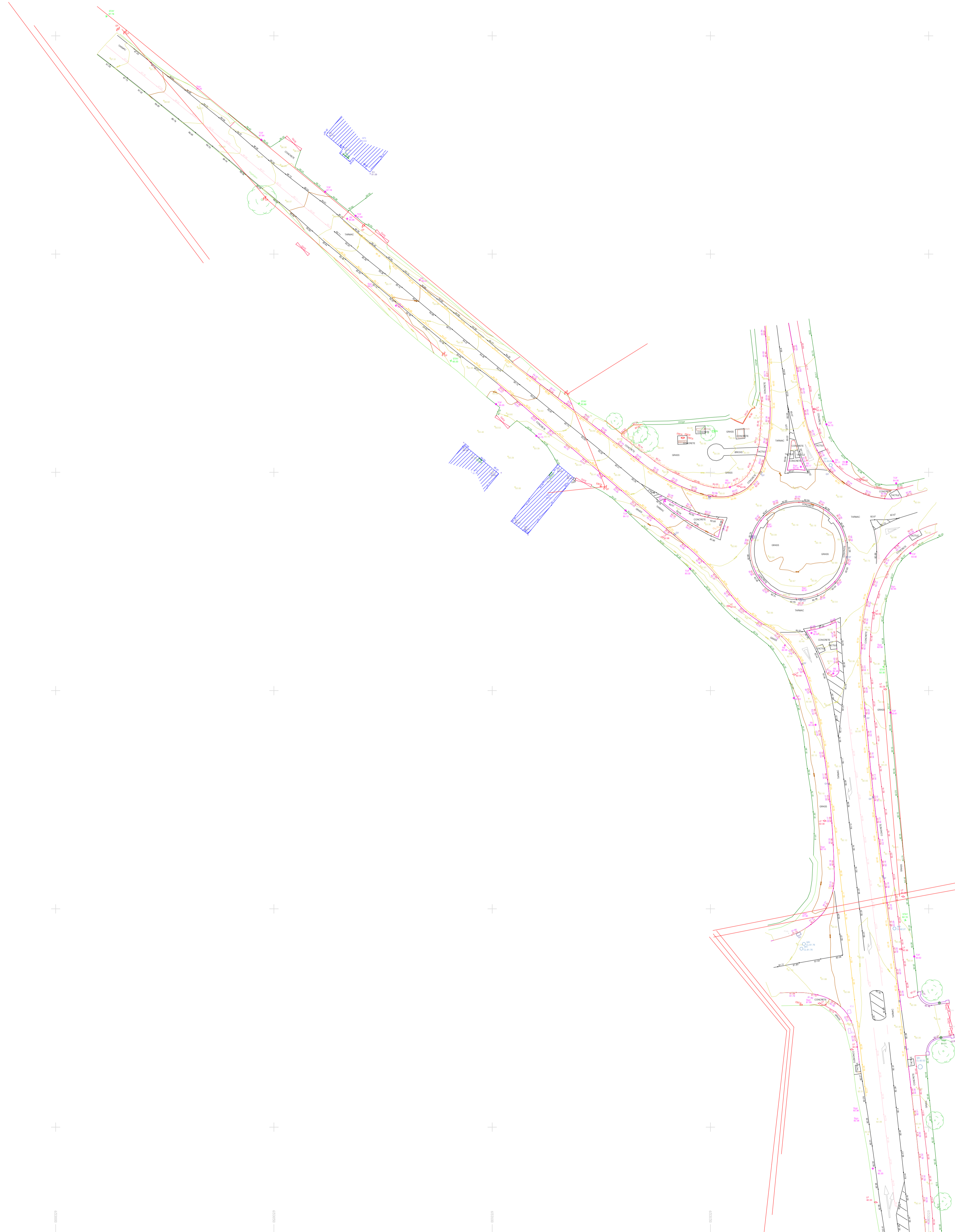
**Phone:** (+353) 045 484040  
**Fax:** (+353) 045 484004  
**Email:** info@murphyge.ie

<b>Client :</b>	AECOM Dublin
<b>Project :</b>	BNN Site Derrygreenagh Rhode
<b>Date :</b>	26.07.2023
<b>Scale :</b>	1:500@A1
<b>Description :</b>	Topographical Survey
<b>Drawing Number :</b>	MGS52335_T_ITM_Rev2-153









LEGEND

- Street furniture & Services**
- Over Head Wires (LUAS) - Pylon ESB
  - Powerbed
  - Pipe
  - Lift
  - Barrier
  - Pump
  - Manhole
  - Electricity Pole
  - Bus/Tram Shelter
  - Postbox
  - Water - General
  - Water Valve
  - Gas Valve
  - Sluice Valve
  - Air Valve
  - Stop Cook
  - C/P Post
  - Marker Post
  - Traffic Light
  - Parking Meter
  - Flare Area Mark
  - Smart Card Validator
  - Unknown Valve
  - Ballast
  - Beacon
  - Coalhole Cover
  - Bore Hole
  - Electricity Pole
  - Telegraph pole
  - OCS Pole
  - CCTV Camera Pole
  - Lamp Post
  - Foul Manhole
  - Surface Water MH
  - Manholes
  - Air Conditioning Vents
  - Services Inspection Cover
  - Traffic Inspection Cover
  - Cable TV Inspection Cover
  - ESAT Inspection Cover
  - NL Inspection Cover
  - Elcom Inspection Cover
  - Rocking Eye
  - Bench Seat
  - Duct
  - Keek
  - Gully
  - USG W
  - USG Car Park W
  - Waste Bin
  - Hydrant
  - Fire Hydrant
  - ESB Box
  - ESB Inspection Cover
  - Traffic Control Box
  - LIAS Technical Cubicle
  - Ticket Vending Machine
  - Water Meter Cover
  - Telecom Inspection Cover
  - Monument / Toilets
  - Tank Storage
  - Basement MH Cover & Pipe
  - Dislod Aerial Mark
  - Stay for pole
  - Pipe Protection
  - Washout
- Natural Features**
- Surface Change
  - Land Drain
  - Bottom of Slope
  - Top of Slope
  - Ditch
  - Water Edge / Lake / Pond
  - Hedge / Trees Drip Line / Vegetation
  - Tree Coniferous
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- Built Features**
- Roads & Road Markings**
- Fence
  - Gate
  - Road Centreline
  - Top of Wall
  - Hoarding
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  - Road Bar
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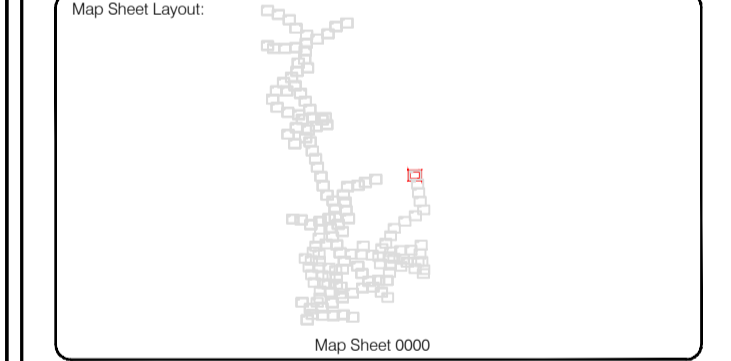
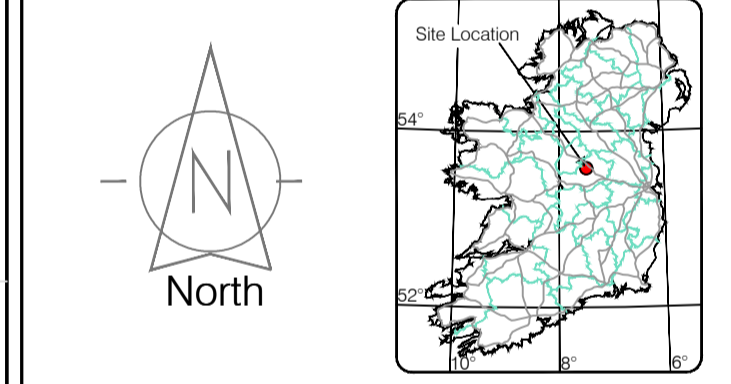
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Checked by: PK	Date: 26.07.2023		
Reviewed by:			
No.	Date	Description	Revisions
0	26.07.2023	First Drawing	
1	08.08.2023	Layouts added	
2	06.09.2023	Additional road survey added	



Topographic surveys, Measured Building Surveys, Setting-out, As-Built Surveys, Hydrographic Surveys, Legal Mapping, Pipeline Surveys, Heritage Location, Ground Penetrating Radar, Laser Scanning, Aerial Photography

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<b>Client :</b>	AECOM Dublin
<b>Project :</b>	BNN Site Derrygreenagh Rhode
<b>Date :</b>	26.07.2023
<b>Scale :</b>	1:500@A1
<b>Description :</b>	Topographical Survey
<b>Drawing Number :</b>	MGS52335_T_ITM_Rev2-155



