



BURY INTERCHANGE

PHASE 1 – SOUTHERN ACCESS FOOTBRIDGE & METROLINK PLATFORM FLOOD RISK ASSESSMENT

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1. INTRODUCTION

1.1 Purpose of this report

This Site-Specific Flood Risk Assessment (FRA) has been prepared for Willmott Dixon in support of a full planning application for the first phase (known as 'Phase 1 Bury Tram Stop') of the redevelopment of Bury Interchange. The description of development is as follows:

Full planning application for the infill of the existing underpass, engineering works (including remediation works; foundation/piling works; and other associated engineering works) to recontour the land within Pyramid Park to tie into existing levels, the construction of a fully accessible pedestrian bridge structure (including alterations to Metrolink-related infrastructure) across the existing Metrolink line to allow access between Knowsley Place, the Metrolink platform (via lift and stairs) and Pyramid Park; improvements to the existing Metrolink platforms and canopies; construction of a new sloped footpath with stairs within Pyramid Park site from bridge; hard/soft landscaping; and associated drainage and lighting schemes.

There are two main elements to the planning application:

- Creation of a new Southern Footbridge Access and Metrolink Crossing to allow access between Knowsley Place, the existing Metrolink platform and Pyramid Park.
- Refurbishment of the existing Metrolink platforms including replacement of the existing platform canopy and enhanced passenger amenities/facilities.

A more detailed summary of the proposals is provided in the Planning Statement/Design and Access Statement submitted with the planning application. However, in summary, the construction of the new Southern Access is key to enable Bury Tram Stop to continue operating during Phase 2 of the wider Interchange scheme which includes the demolition and replacement of the existing Interchange Building with a new modern facility.

The assessment investigates the potential flood risk impacts of the proposed development in accordance with the National Planning Policy Framework (NPPF) and supporting Planning Practice Guidance.

This FRA is considered proportionate to the degree of flood risk and to the scale, nature and location of the proposed development. This FRA has been prepared in accordance with non-statutory technical standards for sustainable drainage and NPPF climate change allowances.

2. THE SITE

2.1 Site Location

The application site is bounded by Pyramid Park/Market Street to the east, East Lancashire railway line to the south, Duke Street/Knowsley Place to the west and Bury Interchange to the north (platforms located below interchange building and associated road infrastructure including Angouleme Way).

The site comprises three distinct elements:

- Knowsley Place/Union Square (west of Metrolink)
- Metrolink corridor and platform
- Pyramid Park (east of Metrolink)

The site location is described below:

- Post Code BL9 0EJ
- OS Reference (X) 380381
- OS Reference (Y) 410401
- National Grid Reference SJ 895902

The site location is illustrated in Figure 2.1 below.



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Figure 2.1: Indicative Site Location

2.2 Site Description

Knowsley Place/Union Square - situated to the west of the Metrolink, union square is a hard and soft landscaped area associated with the Premier Inn. It provides stepped access to the underpass that passes beneath the Metrolink tracks.

Metrolink corridor and platform – The existing Metrolink platform with associated canopy and tracks pass through the centre of the site.

Pyramid Park – situated the east of the Metrolink, Pyramid Park is an undeveloped parcel of land that is relatively flat with distinct landscaping mounds and slopes to the perimeter to tie into the surrounding higher ground. An access track from Market Street is also contained within this section of the site and runs along the southern site boundary towards market street to the east.

Refer to Appendix A for further details of the existing topography of the site.

2.3 Existing Site Drainage

United Utilities (UU) sewer records indicate there to be 2 combined sewers that pass beneath the Metrolink tracks and run parallel with the railway tracks. They also show the presence of a private/ highway surface water network to the west of the site that discharges into the combined sewer network.

Drainage surveys have been undertaken for each of the three distinct areas of the site. A Summary of the findings is as follows:

Knowsley Place/Union Square – Separate private foul and surface water networks have been identified which serve the Union Square landscaping and Premier Inn building and discharge into the public sewer network. The surface water network includes a below ground attenuation tank and flow control which attenuate flows. The survey also indicates that the ‘private’ sewer shown on the UU records has been diverted around the Premier Inn building.

Metrolink corridor and platform – A surface water drainage network has been identified that serves the existing platform and tracks. A separate system drains the underpass and path that extents into Pyramid Park. Both networks discharge into a pumping station that is located in the underpass which then pumps run-off into a chamber situated into landscaping slope between Union Square and the Metrolink tracks. This chamber then discharges to the public sewer to the south that runs parallel to the railway tracks.

Pyramid Park – No private drainage networks have been identified within Pyramid which is to be expected given it is undeveloped land.

Refer to Appendix B for United Utilities Sewer Map

Refer to Appendix C for the Drainage Surveys

2.4 Geology

The following sections provide an overview of the Geology, Hydrogeology and Hydrology. Refer to 16012-TRE-BRY-XXX-RP-EN-000001 - Preliminary Risk Assessment Report produced by Tier Consult Group for further details.

BGS mapping does not display any made ground deposits on site, however based on the historical mapping and the development that has taken place, extensive made ground is anticipated which poses a risk of potentially hazardous materials and the potential for groundwater / surface water contamination.

BGS mapping indicates the site to be underlain by Devensian Till. This stratum typically comprises sand, silt, clay and gravel.

The deeper solid geology is indicated to be part of the Pennine Lower Coal Measures Formation which consists of mudstone and silt stone interbedded with subordinate medium-grained sandstones and coal seams.

2.5 Hydrogeology & Hydrology

Based on the inferred geology, a summary of the Environment Agency aquifer designations is presented in the table below:

Stratum	Coverage	Aquifer Designation
Devensian Till	Full Site	Secondary (A) Aquifer. These are permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers.
Pennine Lower Coal Measures	Full Site	Secondary (A) These are permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers.

Table 2.1: Aquifer Designations

The nearest named watercourse to the site is the River Irwell, located 675m to the west of the site.

2.6 Proposed Development

The description of development is set out in the introduction to the report. In summary, the application proposes the creation of a Southern Access and Metrolink Crossing to allow access between Knowsley Place, the Metrolink platform and Pyramid Park, including infill of the existing Metrolink underpass. Upgrades to the Metrolink platform and associated infrastructure and alterations to overhead lines.

- Specific works include:
- Infill of the existing Metrolink underpass and associated pump room. Relocation of the pump room.
- New Footbridge linking Union Square and Pyramid Park with vertical circulation leading to the southern end of the existing Metrolink Platform(s).
- New accessible graded footpath (illuminated and drained) connecting bridge to Pyramid Park development area ground level.
- Engineering works, including land re-profiling, within Pyramid Park to tie into existing/proposed levels.
- Vegetation clearance with replacement landscaping and associated biodiversity enhancement works.
- Refurbishment and resurface of the Metrolink platform(s) and necessary structural alterations associated with construction of the vertical circulation and the access from the bridge. Works also include emergency level escape from the southern end of platform.
- Replacement of the platform canopy (main supporting steel frame to be reused, solid metal canopy to be replaced with glazed)
- Works associated with Overhead Line Equipment (OLE) and signalling equipment limited to necessary alterations resulting from the installation of the new footbridge.
- Extension of the SER room.

Refer to Appendix D for the proposed development plans.

3. SUITABILITY

3.1 National Planning Policy

The National Planning Policy Framework (NPPF) and the accompanying Planning Practice Guidance (PPG) aim to ensure that flood risk is taken into consideration at all stages of the planning process and advocates the use of a risk-based 'Sequential Test' to preferentially locate development in areas with a low risk of flooding. Where development is necessary in high-risk areas, the NPPF aims to ensure that the development is safe without increasing flood risk through the application of the Exception Test.

The PPG, defines the levels of flood risk within England as follows:

- Flood Zone 1 - Low Probability - Land having less than a 1 in 1,000 annual probability of river or sea flooding.
- Flood Zone 2 - Medium Probability - Land having between a 1 in 100 and 1 in 1,000 annual probability of river flooding; or between a 1 in 200 and 1 in 1,000 annual probability of sea flooding.
- Flood Zone 3a - High Probability - Land having a 1 in 100 or greater annual probability of river flooding; or having a 1 in 200 or greater annual probability of sea flooding.
- Flood Zone 3b - Functional Floodplain - Land where water must flow or be stored in times of flood.

The PPG states that a site-specific FRA is required for all new development proposals located in Flood Zones 2 and 3, and for any proposal of 1 hectare or greater regardless of its flood zone classification. The flood zones as described above are shown on the Environment Agency's Flood Map for Planning, available online.

Annex 3 of the NPPF classifies development types based on their vulnerability to flooding, ranging from 'Essential Infrastructure' which has to be operational in times of flood, through 'Highly Vulnerable' (e.g. emergency service stations), 'More Vulnerable' (e.g. residential dwellings and establishments), 'Less Vulnerable' (e.g. offices/retail), to 'Water Compatible' development (e.g. open space, docks, marinas and wharves).

Table 2 of the PPG indicates which 'vulnerability classes' are acceptable in each of the Flood Zones, and when the Exception Test should be applied. This is reproduced as Table 3.1 below.

3.2 Flood Risk Vulnerability

The Flood Risk Vulnerability Classification has been determined in accordance with Planning Practice Guidance, Flood Risk and Coastal Change. For multi-occupancy sites, the Flood Risk Vulnerability should be based upon the most vulnerable part of the site. The Flood Risk Vulnerability Classification is 'Essential Infrastructure', which includes essential transport infrastructure.

3.3 Flood Zone Compatibility

The Flood Zone Compatibility has been reviewed in accordance with Planning Practice Guidance, Flood Risk and Coastal Change, paragraph 079.

FLOOD ZONES	FLOOD RISK VULNERABILITY CLASSIFICATION				
	Essential infrastructure	Highly vulnerable	More Vulnerable	Less Vulnerable	Water Compatible
Zone 1	✓	✓	✓	✓	✓
Zone 2	✓	Exception Test Required	✓	✓	✓
Zone 3a	Exception Test Required	✗	Exception Test Required	✓	✓
Zone 3b	Exception Test Required	✗	✗	✗	✓*

Table 3.1: Flood Risk Vulnerability and Flood Zone Compatibility Key

Key:

✓ Development is appropriate

✗ Development should not be permitted

According to Environment Agency flood maps, the site is located entirely in Flood Zone 1. The vulnerability classification is 'Essential Infrastructure.'

The proposal is therefore considered appropriate in accordance with Planning Practice Guidance.



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Figure 3.1: Environment Agency Flood Map for planning

3.4 Application of Sequential Test & Exception Test

Table 3.1 indicates which 'vulnerability classes' are acceptable in each of the Flood Zones, and when the Exception Test should be applied.

The Sequential Test, as set out in the NPPF, aims to steer developments to areas with the lowest risk of flooding (i.e. to steer developments to Flood Zone 1 areas where possible). Since the proposed development area is located wholly within Flood Zone 1, there is no requirement to demonstrate sequentially more preferable sites.

The proposed land use (bridge/sloped footpath with platform enhancement works) is classified as 'Essential Infrastructure' development in accordance with Annex 3 of the NPPF. Table 3.1, shows that all of the 'vulnerability classes' including 'Essential Infrastructure' development are appropriate within Flood Zone 1 and it is therefore not necessary to apply the Exception Test.

3.5 Local Flood Risk Management Strategy (LFRMS)

As Lead Local Flood Authority (LLFA), Bury Council has a duty to develop, maintain, apply and monitor a Strategy for local flood risk management. The Local Strategy complements and supports the national flood risk management strategy, published by the Environment Agency.

The three main aims of Bury's LFRMS are to:

- Increase awareness of local flood risk;
- Identify how partners can best work together to reduce the risk;
- Provide an overview of flood risk management in the Borough

The strategy covers the following:

- Provides a summary of flood risk in the Borough. This information helps to understand the varying levels of risk within Bury and prioritise geographical areas for action
- Considers future influences on flood risk;
- Provides an overview of the legislation that underpins flood risk management in Bury;
- Provides clarification on the various roles and responsibilities of the organisations involved in flood risk management. It also looks at the role residents and businesses can play in helping to manage flood risk, including riparian owners and property owners;
- Identifies the objectives and measures for managing flood risk in Bury;
- Provides an overview of funding opportunities for flood risk management;
- Outlines the governance and scrutiny arrangements;
- discusses monitoring and review of the Strategy; and
- presents the Strategy's Action Plan.

3.6 Statutory Development

Section 38(6) of the Planning and Compulsory Purchase Act (2004) and Section 70(2) of the Town & Country Planning Act (1990) require that proposals are determined in accordance with the Development Plan unless material considerations indicate otherwise. The development plan for Bury currently comprises:

- Saved Policies of the Bury Unitary Development Plan (UDP) (adopted 1997);
- Places for Everyone DPD (adopted March 2024);

The statutory development plan is supplemented by the following which are material considerations:

- National Planning Policy Framework (NPPF, December 2024)
- Supplementary Planning Guidance

A summary of the relevant policies is presented below.

Bury Unitary Development Plan (UDP):

EN5/1 – New Development and Flood Risk – replaced by JP-S4 below.

EN7/3 – Water Pollution – The Council will not permit development which would have an unacceptable adverse effect in terms of pollution upon the water quality of the Borough's water courses and other water features.

EN7/4 – Groundwater Protection – The Council will not permit development proposals which would have an unacceptable adverse effect on groundwater resources, particularly in terms of their quality and/or supply.

EN7/5 – Waste Water Management – In seeking to limit surface water pollution the Council will not permit development which:

- does not have satisfactory arrangements for the disposal of foul sewage, trade effluent and contaminated surface water;
- will exacerbate existing problems, such as premature or increased frequency of discharges through storm sewer overflows due to inadequate infrastructure or lack of sewer capacity;
- would present an unacceptable risk of spillage or leakage of stored oils/chemicals or other potentially polluting substances.

Places for Everyone Policy

JP-S4 – Flood Risk and the Water Environment:

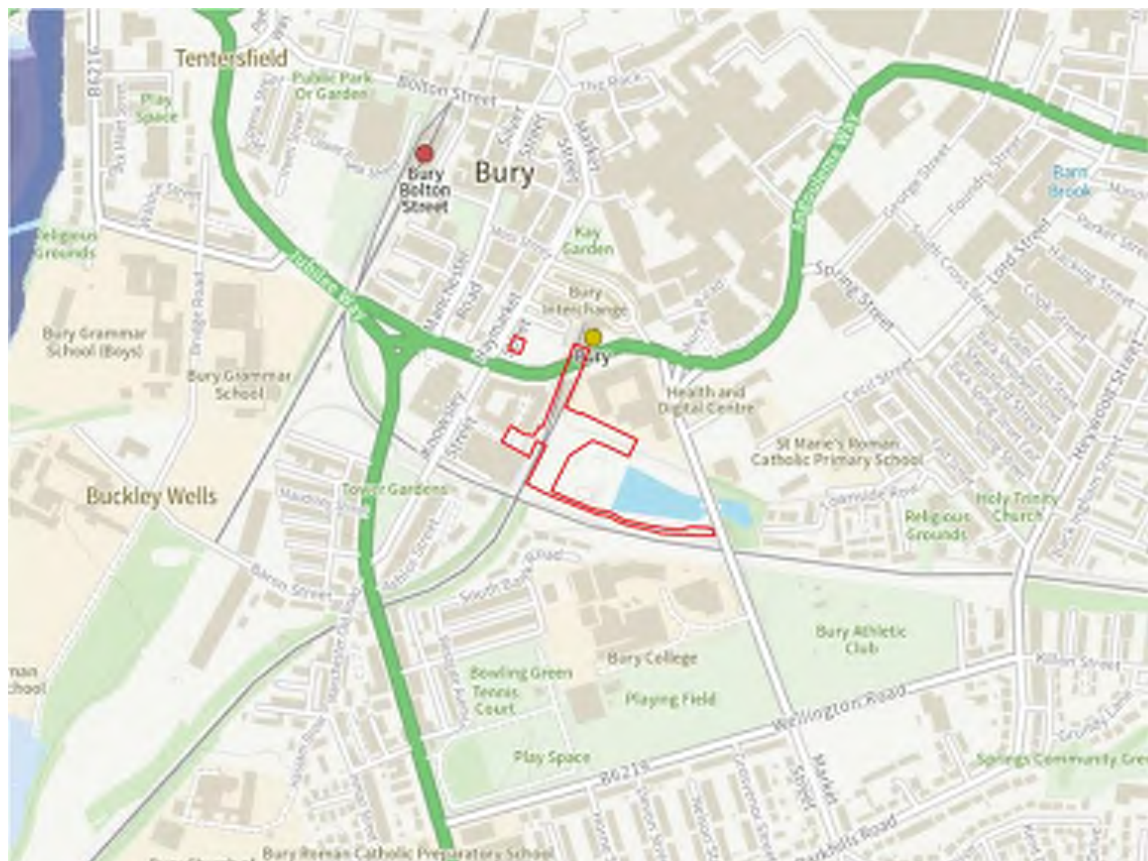
- Returning rivers to a more natural state, where practicable
- Working with natural processes and adopting a natural flood management approach to slow the speed of water drainage and intercept water pollutants
- Locating and designing development so as to minimise the impacts of current and future flood risk, including retrofitting or relocating existing developments, infrastructure and places to increase resilience to flooding
- Expecting developments to manage surface water run-off through sustainable drainage systems and as close to source as possible. Development should achieve greenfield run-off rates unless it is demonstrated to be impracticable. District local plans should consider setting more detailed surface water drainage policies to reflect local circumstances, including alternative surface water discharge rates, such as in areas with critical drainage issues
- Ensuring that sustainable drainage systems
 - Are designed to provide multifunctional benefits wherever possible, including for water quality, nature conservation and recreation
 - Avoid adverse impacts on water quality and any possibility of discharging hazardous substances to ground
 - Are delivered in a holistic and integrated manner, including on larger sites split into different phases
 - Are managed and maintained appropriately to ensure their proper functioning over the lifetime of the development

4. SOURCES OF FLOODING

4.1 Flood Map for Planning (Rivers and Seas)

Fluvial flooding occurs when high flows exceed the capacity of the river channel and spill out onto the floodplain, usually after a period of prolonged or heavy rainfall.

The Environmental Agency (EA) Flood Map for planning (rivers and sea) has been reviewed (Figure 4.1). The site falls completely within Flood Zone 1; land assessed as having a less than 1 in 1,000 annual probabilities of river or sea flooding (<0.1%). The risk of flooding from rivers and sea is therefore very low.



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Rivers and the sea

- Extent
- High
More than 3.3% chance each year
- Medium
Between 1% and 3.3% chance each year
- Low
Between 0.1% and 1% chance each year
- Very low
Less than 0.1% chance each year

Figure 4.1: Risk of flooding from Rivers and Seas

4.2 Flooding from Land (Pluvial Flooding)

The EA Map showing risk of flooding from surface water is presented in Figure 4.2. This type of flooding can be difficult to predict, much more so than river or sea flooding as it is difficult to forecast exactly where or how much rain will fall in any storm. In addition, local features can greatly affect the chance and severity of flooding.

As illustrated in figure 4.2, the site is typically at very low (<0.1%) risk of surface water flooding with small areas of medium (0.1%-1%) - to high (>3%)-risk towards the southern area of the site and over the existing tram line.

To mitigate any risk associated with surface water flooding, appropriate falls are to be adopted to mitigate any issues. In the proposed development, the ground is to be reprofiled with gullies/channel drains to ensure that surface water can flow freely into the drainage network. Refer to Section 5.0 for further details.

This map is not definitive and is based on the best information available to the Environment Agency, such as ground levels and drainage.



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Figure 4.2: Risk of Flooding from Surface Water

4.3 Flooding from Groundwater

Groundwater flooding tends to occur sporadically in both location and time. When groundwater flooding does occur, it tends to mostly affect low-lying areas, below surface infrastructure and buildings (for example, tunnels, basements, and car parks) underlain by permeable rocks (aquifers).

The groundsure report identifies that the majority of the site is at a low risk from groundwater flooding. A moderate risk exists around the perimeter of the site, outside of the site boundary.

4.4 Flooding from Sewers

Sewer flooding occurs when urban drainage networks become overwhelmed and maximum capacity is reached. This can occur if there is a blockage in the network causing water to back up behind it or if the sheer volume of water draining into the system is too great to be handled. This type of flooding tends to occur sporadically in both location and time. The majority of sewers are built to the guidelines within Sewers for Adoption. These sewers have a design standard to the 1 in 30-year flood event and therefore it is likely that most sewer systems will surcharge during rainstorm events with a return period greater than 30 years.

As such, the site is not considered to be at risk of flooding from sewers.

4.5 Flooding from Reservoirs

The Environment Agency Reservoir flood risk map indicates the site to be outside of the maximum flood extent of a breach to any local reservoir. The site is therefore not considered to be at risk from this kind of flooding.



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Reservoirs

- Extent
- When river levels are normal
- When there is also flooding from rivers

Figure 4.3: Risk of Flooding from Reservoirs

4.6 Summary of Flooding Risks

SOURCE	FLOOD RISK	COMMENTS
Fluvial	Low	Site located in Flood Zone 1
Pluvial	Low	Typically, at a low risk and implementation of new drainage system will mitigate residual risk.
Sewers	Low	Risk will be further reduced by the implementation of the new drainage strategy.
Groundwater	Low	Groundsure report indicates a low risk
Reservoirs	Low	Site is outside of the maximum breach extent

Table 4.1 – Flood Risk Summary

5. DRAINAGE STRATEGY

For the detailed Drainage Strategy refer to renaissance Outline Drainage Strategy report, 16012-REN-BRY-XXX-T-CE-100002. A brief summary of the principles to be adopted is included below.

5.1 *Drainage Hierarchy*

In accordance with NPPF, the following hierarchy of surface water drainage options has been considered:

- Discharge into the ground (infiltration);
- Discharge to a surface water body;
- Discharge to a surface water sewer, highway drain, or another drainage system;
- Discharge to a combined sewer.

5.2 *Climate Change*

The drainage strategy will include increases in the storm intensities of 40% and 45% for the 1 in 30 year and 1 in 100 year events respectively, which is consistent with the effects of climate change for a development with a design life of 100 years, as outlined in NPPF.

6. CONCLUSION

The site is located within flood zone 1 and the probability of flooding is low.

The risk of flooding from pluvial, surface water, sewers, groundwater, and reservoirs are all considered to be low.

The site is considered appropriate under Planning Practice Guidance.

The site complies with the policies set out as part of the Statutory Development Plan in relation to flood risk.

7. REFERENCES

National Planning Policy Framework, Ministry of Housing Communities & Local Government, <https://www.gov.uk/government/publications/national-planning-policy-framework--2>, (December 2024)

Planning practice guidance – Ministry of Housing Communities & Local Government, <https://www.gov.uk/government/collections/planning-practice-guidance>, (February, 2024)

Ministry of Housing, Communities and Local Government, <https://www.gov.uk/guidance/flood-risk-and-coastal-change>, (August 2022)

Flood risk assessments: climate change allowances – Environment Agency <https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances>, (May 2022)

Long term flood risk information, <https://flood-warning-information.service.gov.uk/long-term-flood-risk/map>

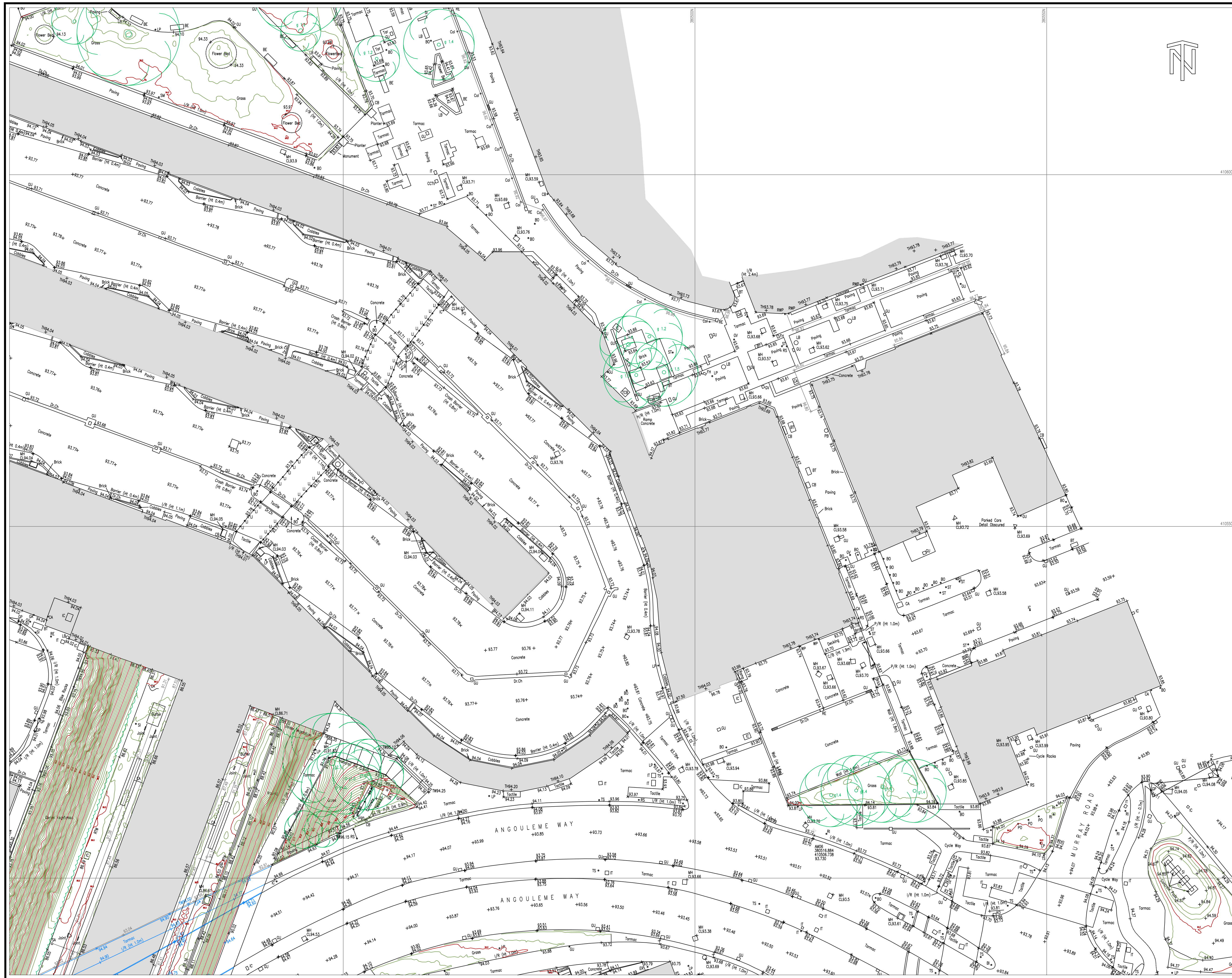
Greater Manchester Combined Authority, Level 2 Hybrid Strategic Flood Risk Assessment, <https://www.greatermanchester-ca.gov.uk/what-we-do/planning-and-housing/places-for-everyone/supporting-documents/?folder=%5C04%20Sustainable%20and%20Resilient%20Places#fList>, (October 2020)

Bury Local Flood Risk Management Strategy, Bury Council, <https://www.bury.gov.uk/asset-library/adoptionstatement-final-190324.pdf>, (April 2018)

Bury Unitary Development Plan, Bury Council, <https://www.bury.gov.uk/planning-building-control/policy-and-projects/planning-policy/bury-unitary-development-plan> (August 1997)

Places for Everyone Joint Development Plan, Greater Manchester Combined Authority, <https://www.greatermanchester-ca.gov.uk/media/9578/places-for-everyone-joint-development-plan-document.pdf>

APPENDIX A TOPOGRAPHICAL SURVEY



NOTES

KEY

Grid & Datum - Local plane grid fitted to the original AECOM topographical survey using the surviving control points AE24 and AE25.

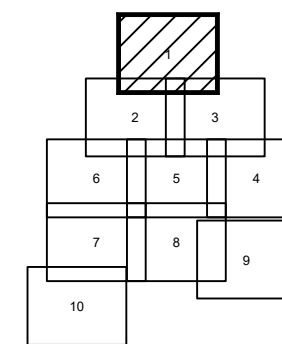
STANDARD ABBREVIATIONS

STREET FUNCTION		LEVEL	
AC	ART COMMUNICATION	LC	LIGHTING COLUMN
AE	AERIAL	LI	LIGHT
AL	ALARM	LM	LAMP
AM	AMBIENT	MMO	MOON
BA	BALANCE	MO	MOONING
BB	BALANCE	MOB	MOBILE
BC	BALANCE	MOB	MOBILE
BD	BALANCE	MOB	MOBILE
BE	BALANCE	MOB	MOBILE
BF	BALANCE	MOB	MOBILE
BH	BALANCE	MOB	MOBILE
BI	BALANCE	MOB	MOBILE
BJ	BALANCE	MOB	MOBILE
CA	CABLE	PM	PLAY PUBLIC
CB	CABLE BOX	PH	PUBLIC HOUSE
CC	CABLE	PH	PUBLIC HOUSE
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CF	CABLE	PH	PUBLIC HOUSE
CG	CABLE	PH	PUBLIC HOUSE
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CL	CABLE	PH	PUBLIC HOUSE
CM	CABLE	PH	PUBLIC HOUSE
CN	CABLE	PH	PUBLIC HOUSE
CO	CABLE	PH	PUBLIC HOUSE
CP	CABLE	PH	PUBLIC HOUSE
CQ	CABLE	PH	PUBLIC HOUSE
CR	CABLE	PH	PUBLIC HOUSE
CS	CABLE	PH	PUBLIC HOUSE
CT	CABLE	PH	PUBLIC HOUSE
CU	CABLE	PH	PUBLIC HOUSE
CV	CABLE	PH	PUBLIC HOUSE
CW	CABLE	PH	PUBLIC HOUSE
CX	CABLE	PH	PUBLIC HOUSE

SYMBOLS

	HEDGE		GATE		BUILDING
	TREE CANOPY		CONTROL STATION		TREE
	CONTOURS		BRIDGE & TUNNEL DETAIL		

SHEET LAYOUT



Rev	Date	Drawn	Description	Ch'kd	App



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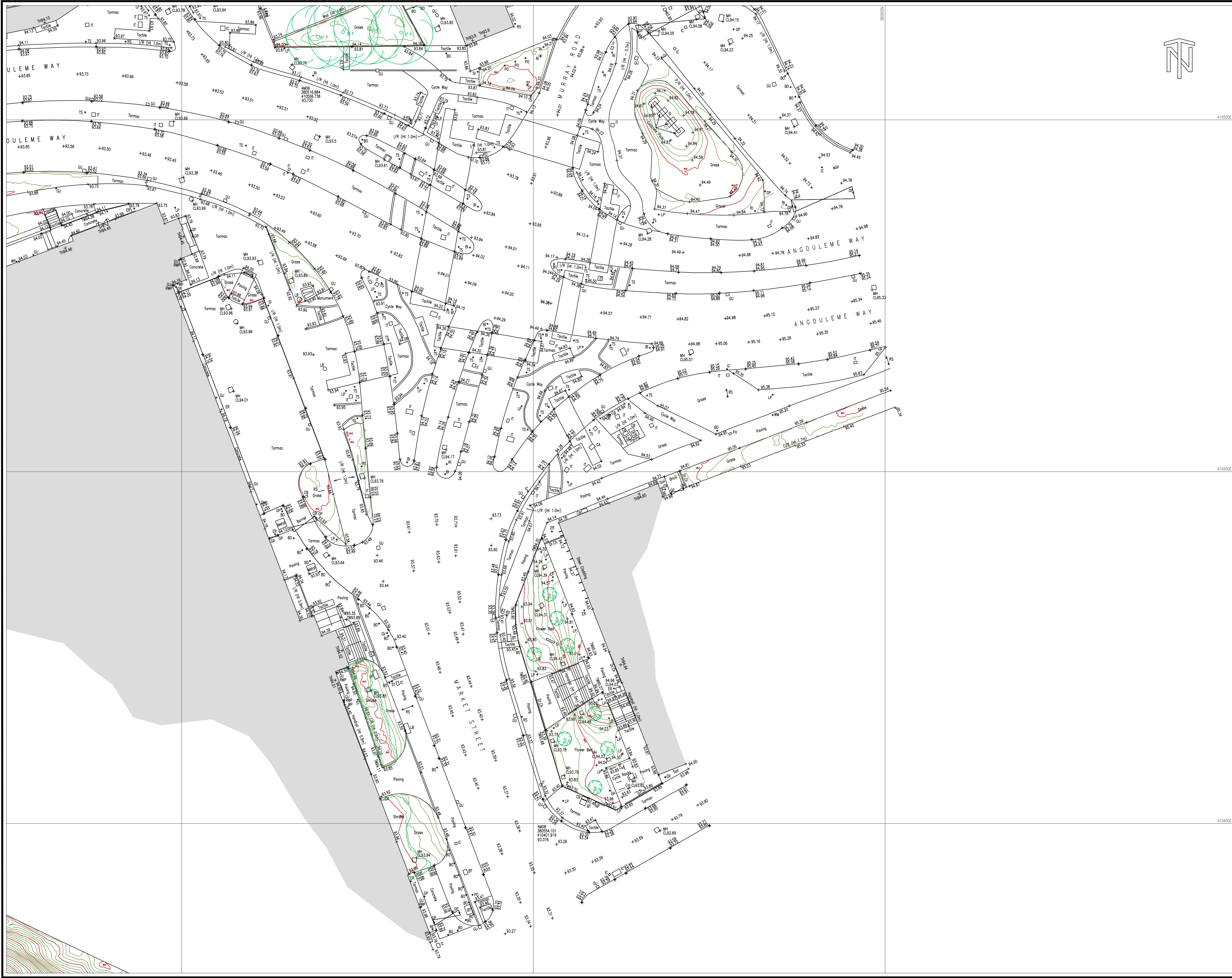
Client **HAWKINS/BROWN**
159 ST JOHN STREET
LONDON
EC1V 4QJ

Title

BURY INTERCHANGE
BURY
BL9 0AY

TOPOGRAPHICAL SURVEY
SHEET 3 OF 10

Surveyed	AM	Drawn	AM	Drawn Date: 12/04/2024
Checked	JP	Approved	NDO	
Scale 1:250 @ A1		Project 12498		Status
		CAD File \\NDO-9855\Projects\1284\CAD\Civil\NDO-12498_001.DWG		ORIG
Drawing No		12498 / 001 / 3		Rev 0



Grid & Datum - Local plane grid fitted to the original AECOM topographical survey using the surviving control points AE24 and AE25.

STANDARD ABBREVIATIONS

STREET FURNITURE	LC - LIGHTING COLUMN LP - LAMP POST MA - MAST MB - MONUMENT MO - MONUMENT MR - MONUMENT MT - MONUMENT MU - MONUMENT MV - MONUMENT MW - MONUMENT MX - MONUMENT MY - MONUMENT MZ - MONUMENT	UL - UNABLE TO LOCATE VP - VENT PIPE WM - WATER METER WO - WASH OUT WP - WASTE PIPE
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SYMBOLS

HEDGE	GATE	BUILDING
TREE CANOPY	CONTROL STATION	TREE
CONTOURS	BRIDGE & TUNNEL DETAIL	

SHEET LAYOUT

NOTES

Grid & Datum - Local plane grid fitted to the original AECOM topographical survey using the surviving control points AE24 and AE25.

STANDARD ABBREVIATIONS

STREET FURNITURE	LC - LIGHTING COLUMN LP - LAMP POST MA - MAST MB - MONUMENT MO - MONUMENT MR - MONUMENT MT - MONUMENT MU - MONUMENT MV - MONUMENT MW - MONUMENT MX - MONUMENT MY - MONUMENT MZ - MONUMENT	UL - UNABLE TO LOCATE VP - VENT PIPE WM - WATER METER WO - WASH OUT WP - WASTE PIPE
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SYMBOLS

HEDGE	GATE	BUILDING
TREE CANOPY	CONTROL STATION	TREE
CONTOURS	BRIDGE & TUNNEL DETAIL	

SHEET LAYOUT

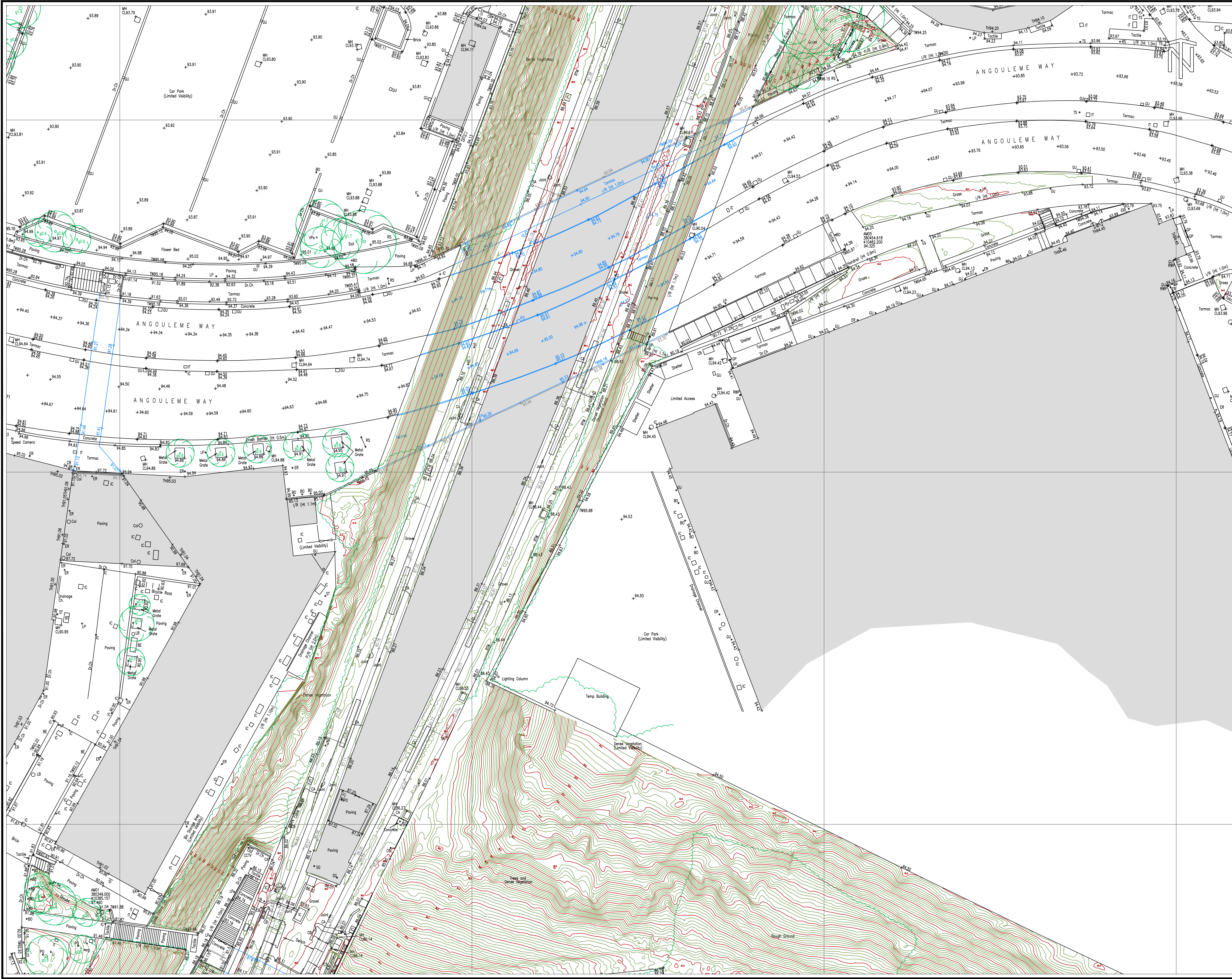
ND OLIVER & CO
CHARTERED GEOMATIC SURVEYORS

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Client
HAWKINS/BROWN
159 ST JOHN STREET
LONDON
EC1V 4JQ

Title
BURY INTERCHANGE
BURY
BL9 0AY
TOPOGRAPHICAL SURVEY
SHEET 4 OF 10

Surveyed	AM	Drawn	AM	Drawn Date:
Checked	JP	Approved	ND	12/04/2024
Scale	1:250 @ A1	Project	12498	Status
Drawing No	12498 / 001 / 4	CAD File	12498_001.dwg	ORIG
				Rev
				0



Grid & Datum - Local plane grid fitted to the original AECOM topographical survey using the surviving control points AE24 and AE25.

STANDARD ABBREVIATIONS

STREET FURNITURE	LC - LIGHTING COLUMN	UTL - UNABLE TO LIFT
AV - AIR CONDITIONING	LP - LAMP POST	VOP - VEHICLE DETECTOR PAD
AL - ALARM	MBO - MOORING BOLLARD	VP - VENT PIPE
AW - AIR VALVE	MA - MAST	WB - WHEELS BLOWN
BA - BUILDING	MO - MONUMENT	WM - WATER METER
BB - BUILDING BEACON	MP - MILE POST	WO - WASH OUT
BE - BELLSIA BEACON	MR - MOORING RING	WP - WASTE PIPE
BI - BUILDING IDENTIFIER	MT - MONITORING WELL	
BL - BOLLARD	ND - NODING	
BO - BOLLARD POST	OH - OVERHEAD	
BS - BUSH	OSM - ORDNANCE SURVEY	
BU - BUS STOP	PA - BENCH MARK	
CA - CABLE	PC - PULLEY BOX	
CB - CONTROL BOX	PI - PIPE	
CC - CLOSURE CIRCUIT TV	PL - PLANTER	
CD - CLOSURE CIRCUIT TV	PM - PARKING METER	
CE - CLOSURE CIRCUIT TV	PN - PARKING METER	
CF - CLOSURE CIRCUIT TV	PO - POST	
CG - CLOSURE CIRCUIT TV	PS - POST & RAIL	
CH - CHIMNEY	PT - PAVEMENT	
CI - CLOSURE CIRCUIT TV	PU - PAVEMENT	
CL - CLOSURE CIRCUIT TV	RD - ROAD SIGN	
CM - CLOSURE CIRCUIT TV	RE - RETAILER	
CO - CLOSURE CIRCUIT TV	RS - ROAD SIGN	
CP - CLOSURE CIRCUIT TV	RT - RAILWAY	
CQ - CLOSURE CIRCUIT TV	SA - STAND	
CR - CLOSURE CIRCUIT TV	SC - SPEED CAMERA	
CS - CLOSURE CIRCUIT TV	SD - SATELLITE DISH	
CT - CLOSURE CIRCUIT TV	SE - SERVICE	
CU - CLOSURE CIRCUIT TV	SI - SIGN	
CV - CLOSURE CIRCUIT TV	SM - SERVICE MARKER POST	
CW - CLOSURE CIRCUIT TV	SS - SECURITY SENSOR	
CX - CLOSURE CIRCUIT TV	ST - STOP TAP	
CY - CLOSURE CIRCUIT TV	SV - STOP VALVE	
CZ - CLOSURE CIRCUIT TV	SW - SWITCHGEAR	
DA - DRAINAGE	SY - STAY	
DB - DRAINAGE	TA - TAP	
DC - DRAINAGE	TB - TEMPORARY BENCH MARK	
DD - DRAINAGE	TC - TELEPHONE CALL BOX	
DE - DRAINAGE	TE - TELEPHONE	
DF - DRAINAGE	TF - TELEPHONE	
DG - DRAINAGE	TH - TRAFFIC LIGHT	
DH - DRAINAGE	TI - TRAFFIC LIGHT	
DI - DRAINAGE	TL - TRAFFIC LIGHT	
DJ - DRAINAGE	TM - TRAFFIC LIGHT	
DK - DRAINAGE	TP - TELEGRAPH POLE	

LEVELS

RL43.45 - BED LEVEL	RL43.45 - EAVE LEVEL
RL43.45 - INVERT LEVEL	RL43.45 - SPOT LEVEL
RL43.45 - ROOF LEVEL	RL43.45 - RIDGE LEVEL
RL43.45 - SOFT BED LEVEL	RL43.45 - THRESHOLD LEVEL
RL43.45 - WATER LEVEL	

SYMBOLS

HEDGE	GATE	BUILDING
TREE CANOPY	CONTROL STATION	TREE
CONTOURS	BRIDGE & TUNNEL DETAIL	

SHEET LAYOUT

Rev	Date	Drawn	Description	Ch'd	App'd

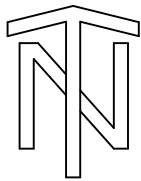
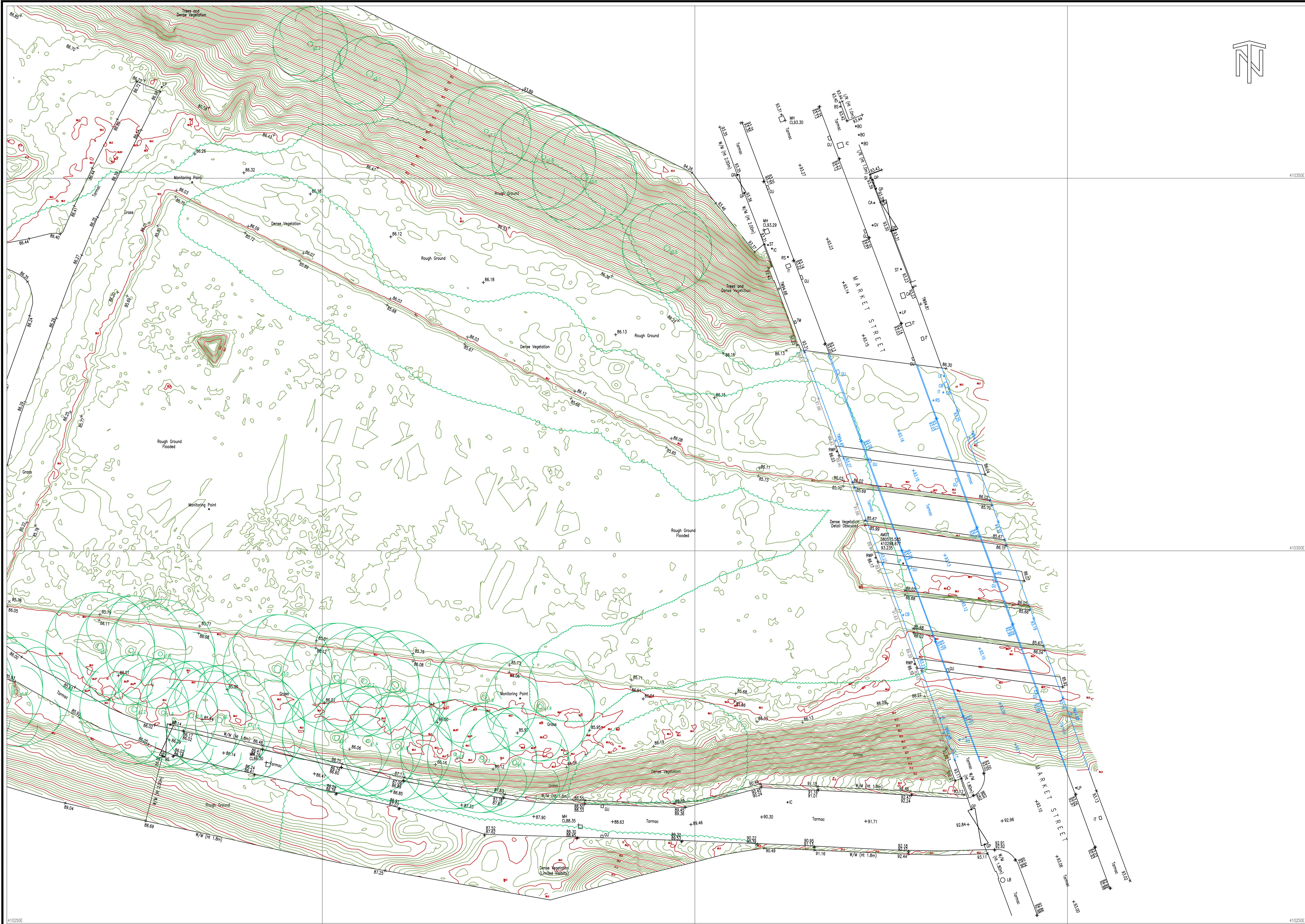
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Title **BURY INTERCHANGE**
BURY
BL9 0AY
TOPOGRAPHICAL SURVEY
SHEET 5 OF 10

Surveyed	AM	Drawn	AM	Drawn Date
Checked	JP	Approved	NDO	12/04/2024
Scale	1:250 @ A1	Project	12498	Status
Drawing No	12498 / 001 / 5	CAD File	12498_001.dwg	ORIG



NOTES

KEY

Grid & Datum Local plane grid fitted to the original AECOM topographical survey using the surviving control points AE24 and AE25.

STANDARD ABBREVIATIONS

STREET FURNITURE

AC	AIR CONDITIONING	LC	LIGHTING COLUMN
AL	AIR VALVE	LP	LAMP POST
AM	ARMED AND DANGEROUS	MND	MOORING DOLLARD
AN	ARM VALVE	MA	MAST
BA	BALANCE BEACON	MM	MANHOLE
BB	BUILDING BEACON	MO	MONUMENT
BD	BUILDING DIVIDE	MR	MOORING RING
BE	BELONGING BEACON	MP	MONITORING WELL
BL	BUILDING LIGHT	NP	NON-PERMANENT
BO	BOUNDARY POST	OH	OVERHEAD
BR	BOLTER	OSM	ORANGE SURVEY
BS	BUS STOP	PA	PANORAMA
BU	BUSH	PB	PLAY AREA
CA	CABLE	PC	POST & CHAIN
CB	CONTROL BOX	PI	PIPE
CC	CLOSE CIRCUIT TV	PM	PARKING METER
CD	CIGARETTE BIN	PN	PLANTER
CE	COLUMN	PO	POST
CF	CLOSE CIRCUIT TV POLE	PP	POST & PANEL
CH	CHIMNEY	PS	PEDESTRIAN SAFETY
CI	CLOSE CIRCUIT TV POLE	RS	ROD PUMP
CL	CLAMP	RTM	REINFORCED WALL
CM	CLOSE CIRCUIT TV POLE	RWP	RAINWATER PIPE
CO	CLOSE CIRCUIT TV POLE	SA	STANDARD
CP	CLOSE CIRCUIT TV POLE	SC	SPEED CAMERA
CS	CLOSE CIRCUIT TV POLE	SD	SATELLITE DISH
CT	CLOSE CIRCUIT TV POLE	SE	SAFETY FENCE
CU	CLOSE CIRCUIT TV POLE	SI	SIGN
CV	CLOSE CIRCUIT TV POLE	SM	SERVICE MARKER POST
CA	CABLE	SS	SECURITY SENSOR
CB	CONTROL BOX	ST	STOP TAP
CC	CLOSE CIRCUIT TV	SV	STOP VALVE
CD	CIGARETTE BIN	SW	SWITCHGEAR
CE	COLUMN	SY	STAY
CF	CLOSE CIRCUIT TV POLE	TA	TAP
CH	CHIMNEY	TB	TEMPORARY BENCH MARK
CI	CLOSE CIRCUIT TV POLE	TCB	TELEPHONE CALL BOX
CL	CLAMP	TE	TELEPHONE
CM	CLOSE CIRCUIT TV POLE	TM	TORCH MOUNTING
CO	CLOSE CIRCUIT TV POLE	TS	TRAFFIC SIGNAL
CP	CLOSE CIRCUIT TV POLE	TP	TELEGRAPH POLE

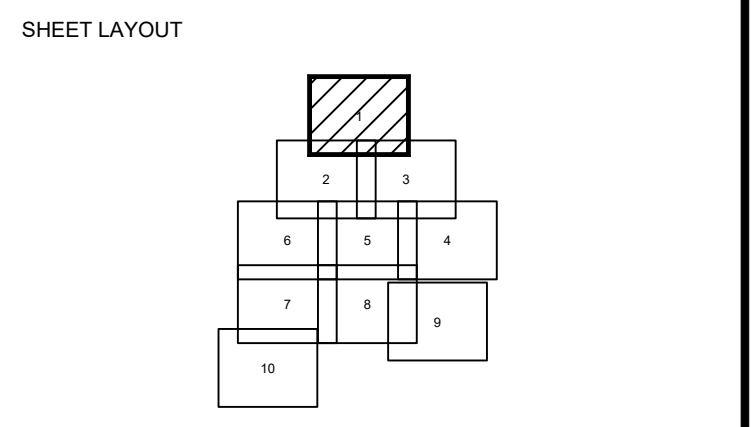
FENCE TYPES

BW	BARRIED WIRE
CB	CORROGATED IRON
CC	CORROGATED PANEL
HA	HANDRAIL
PC	PAVING
PN	POST & NAIL
PS	PEDESTRIAN SAFETY
RS	ROD PUMP
RTM	REINFORCED WALL

LEVELS

ELV4.35	LEVEL 4.35
ELV4.5	LEVEL 4.5
ELV4.5	INVERT LEVEL
ELV4.5	SPOT LEVEL
ELV4.5	ROCK LEVEL
ELV4.35	ROCK LEVEL
ELV4.5	SPOT LEVEL
ELV4.35	SPOT LEVEL
ELV4.5	THRESHOLD LEVEL
ELV4.5	WATER LEVEL

SYMBOLS					
	HEDGE		GATE		BUILDING
	TREE CANOPY		CONTROL STATION		TREE
	CONTOURS		BRIDGE & TUNNEL DETAIL		



Rev	Date	Drawn	Description	Ch'd	App'd
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TOPOGRAPHICAL SURVEY
SHEET 9 OF 10

Surveyed	AM	Drawn	AM	Drawn Date
Checked	JP	Approved	NDO	12/04/2024
Scale	1:250 @ A1	Project	12498	Status
Drawing No	12498 / 001 / 9	CAD File	12498_001.dwg	ORIG
				Rev
				0

APPENDIX B

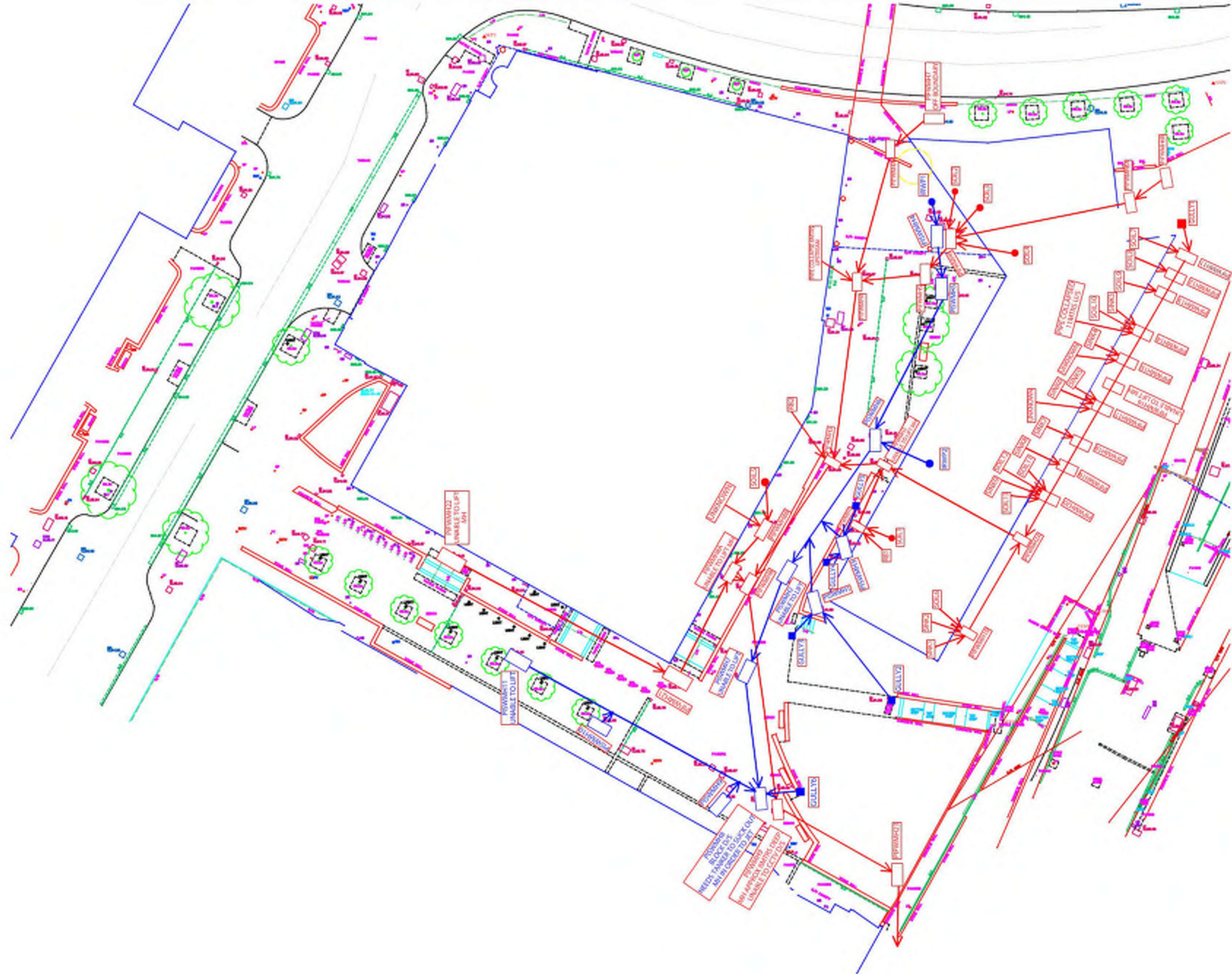
UNITED UTILITIES SEWER ASSET MAP

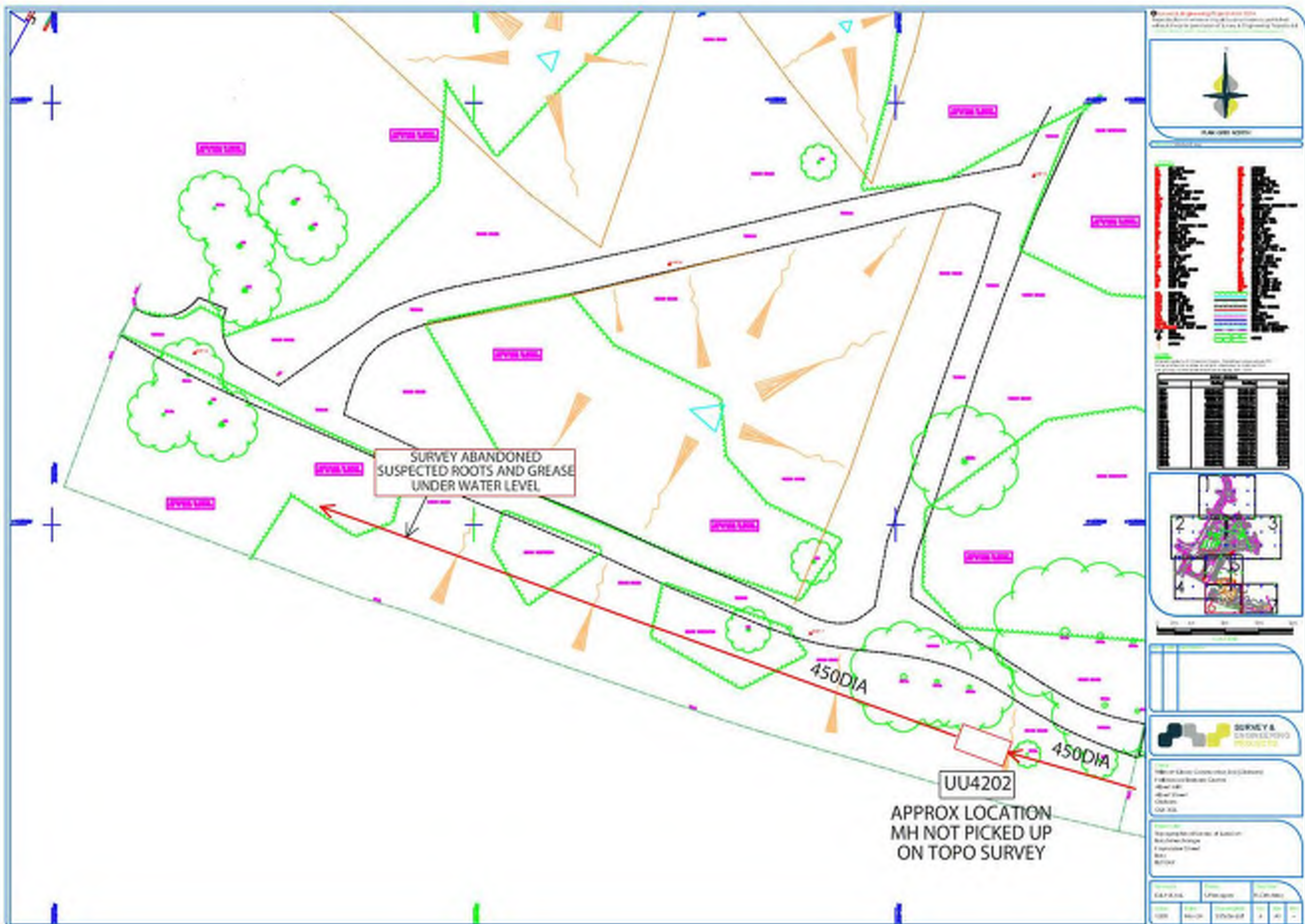


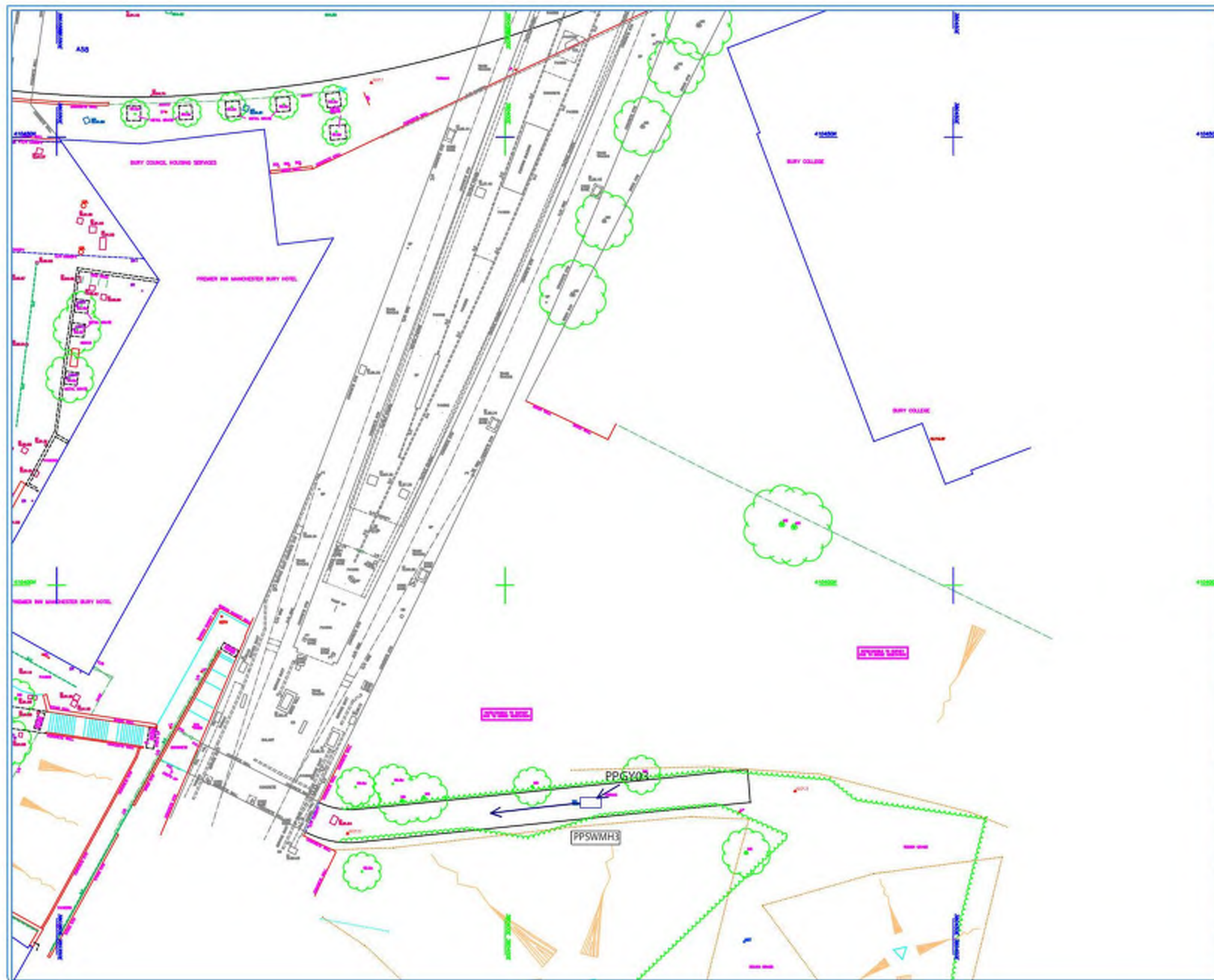
Reho	Cover	Func	Invert	Size x	Size y	Shape	Matl	Length	Grad	Reho	Cover	Func	Invert	Size x	Size y	Shape	Matl	Length	Grad
5959	93.21	CO	91.73	300			VC	1.8603	1 in 54	5959	93.21	CO	91.73	300			VC	1.8603	1 in 54
6708	94.74	CO	93.17	150			VC	5.66584	1 in 44	6708	94.74	CO	93.17	150			VC	5.66584	1 in 44
5751	93.85	CO	92.42	225			VC	14.86007	1 in 51	5751	93.85	CO	92.42	225			VC	14.86007	1 in 51
5407	94.16	CO	93.26	100			VC	30.3916		5407	94.16	CO	93.26	100			VC	30.3916	
3401	94.63	CO	92.72	300			BR	4.472136		3401	94.63	CO	92.72	300			BR	4.472136	
3504	94.11	CO	91.23	300			VC	31.00445	1 in 163	3504	94.11	CO	91.23	300			VC	31.00445	1 in 163
4505	93.75	CO	90.65	450			MAC	32.80244		4505	93.75	CO	90.65	450			MAC	32.80244	
5302	93.46	CO	92.58	150			VC	4	1 in 1	5302	93.46	CO	92.58	150			VC	4	1 in 1
5531	93.72	CO	92.51	225			VC	15.29706	1 in 306	5531	93.72	CO	92.51	225			VC	15.29706	1 in 306
5704	94.39	CO	93.25	300			VC	16.83092	1 in 3	5704	94.39	CO	93.25	300			VC	16.83092	1 in 3
1207	87.71	CO	83.3	600			BR	43.73998	1 in 43	1207	87.71	CO	83.3	600			BR	43.73998	1 in 43
2702	95.79	CO	91.86	300			VC	11.90313	1 in 90.313	2702	95.79	CO	91.86	300			VC	11.90313	1 in 90.313
1405	94.91	CO	88.28	600			BR	41.61731	1 in 39	1405	94.91	CO	88.28	600			BR	41.61731	1 in 39
5701		CO	0	660			VC	12.04159		5701		CO	0	660			VC	12.04159	
5509	93.57	CO	92.46	225			VC	15.29706	1 in 127	5509	93.57	CO	92.46	225			VC	15.29706	1 in 127
6605	93.82	CO	91.39	300			VC	8.06228		6605	93.82	CO	91.39	300			VC	8.06228	
6806		CO	0	300			VC	17.64306		6806		CO	0	300			VC	17.64306	
6741	94.79	CO	93.46	150			VC	11.40175	1 in 52	6741	94.79	CO	93.46	150			VC	11.40175	1 in 52
1802		CO	0	375			VC	10.18904		1802		CO	0	375			VC	10.18904	
2704		CO	0	300			VC	148.7126		2704		CO	0	300			VC	148.7126	
5708	94.08	CO	90.77	300			VC	24.83949	1 in 276	5708	94.08	CO	90.77	300			VC	24.83949	1 in 276
2405	95.89	CO	88.77	600			BR	45.43818	1 in 85	2405	95.89	CO	88.77	600			BR	45.43818	1 in 85
4707	93.93	CO	90.69	225			VC	37.33631	1 in 267	4707	93.93	CO	90.69	225			VC	37.33631	1 in 267
5507	93.78	CO	92.44	225			VC	12.06305	1 in 81	5507	93.78	CO	92.44	225			VC	12.06305	1 in 81
6731	95.26	CO	90.58	508			BR	19.84943	1 in 198	6731	95.26	CO	90.58	508			BR	19.84943	1 in 198
1521	95.74	CO	92.67	300			VC	35.54102	1 in 4	1521	95.74	CO	92.67	300			VC	35.54102	1 in 4
6605	93.92	CO	92.74	150			VC	14.06872		6605	93.92	CO	92.74	150			VC	14.06872	
6509	95.34	CO	90.88	300			CI	14.06872	1 in 182	6509	95.34	CO	90.88	300			CI	14.06872	1 in 182
1406	88.41	CO	87.22	600			BR	3.034797	1 in 1	1406	88.41	CO	87.22	600			BR	3.034797	1 in 1
1508	96.05	SW	94.1	150			VC	43.18565	1 in 81	1508	96.05	SW	94.1	150			VC	43.18565	1 in 81
5703	94.84	CO	92.7	375			VC	12.82044		5703	94.84	CO	92.7	375			VC	12.82044	
1804		CO	0	375			VC	23.76973		1804		CO	0	375			VC	23.76973	
3203	93.32	CO	90.6	225			VC	11.18522	1 in 21	3203	93.32	CO	90.6	225			VC	11.18522	1 in 21
3605	95.22	CO	91.01	450			VC	72.01389	1 in 195	3605	95.22	CO	91.01	450			VC	72.01389	1 in 195
3705	94.71	CO	91.18	225			VC	10.31321	1 in 77	3705	94.71	CO	91.18	225			VC	10.31321	1 in 77
6402	94.23	CO	90.97	300			VC	2.19545		6402	94.23	CO	90.97	300			VC	2.19545	
4702	95.09	CO	91.24	300			VC	10.81865	1 in 52	4702	95.09	CO	91.24	300			VC	10.81865	1 in 52
6742	95.74	CO	90.38	508			BR	7.878088	1 in 154	6742	95.74	CO	90.38	508			BR	7.878088	1 in 154
5504	93.46	CO	89.25	550			MAR	12.20656		5504	93.46	CO	89.25	550			MAR	12.20656	
3607	93.75	CO	90.86	300			VC	16.83092	1 in 156	3607	93.75	CO	90.86	300			VC	16.83092	1 in 156
4503	93.74	CO	88.44	450			CO	57.99769		4503	93.74	CO	88.44	450			CO	57.99769	
5711	94.52	CO	92.39	300			VC	20.3196	1 in 283	5711	94.52	CO	92.39	300			VC	20.3196	1 in 283
3704	94.12	CO	92.16	375			VC	6.708204	1 in 34	3704	94.12	CO	92.16	375			VC	6.708204	1 in 34
2708	95.10	CO	91.24	408			VC	22.02	90.05	2708	95.10	CO	91.24	408			VC	22.02	90.05
2302	94.14	CO	91.52	300			VC	83.35647	1 in 151	2302	94.14	CO	91.52	300			VC	83.35647	1 in 151
4704		CO	0	225			VC	31.7805		4704		CO	0	225			VC	31.7805	
5505	93.89	CO	92.66	225			VC	15.85248	1 in 120	5505	93.89	CO	92.66	225			VC	15.85248	1 in 120
6602	94.89	CO	89.97	508			BR	15.55035	1 in 259	6602	94.89	CO	89.97	508			BR	15.55035	1 in 259
1509		CO	0	225			VC	7.071068		1509		CO	0	225			VC	7.071068	
6712	95.35	CO	0	150			VC	38.58758		6712	95.35	CO	0	150			VC	38.58758	
3608	94.45	CO	91.63	225			VC	2.236608		3608	94.45	CO	91.63	225			VC	2.236608	
4606		CO	0	375			VC	21.54066	1 in 57	4606		CO	0	375			VC	21.54066	1 in 57
4506		CO	0	375			VC	14.86007		4506		CO	0	375			VC	14.86007	
4720		CO	0	285			VC	18.79228		4720		CO	0	285			VC	18.79228	
3603	95.12	CO	91.23	450			VC	30.06059	1 in 137	3603	95.12	CO	91.23	450			VC	30.06059	1 in 137
3702	95.83	CO	91.49	450			VC	17.62032		3702	95.83	CO	91.49	450			VC	17.62032	
1206	87.87	CO	86.17	225			VC	44.89739	1 in 30	1206	87.87	CO	86.17	225			VC	44.89739	1 in 30
6772	94.15	CO	92.05	225			VC	25.31798	1 in 31	6772	94.15	CO	92.05	225			VC	25.31798	1 in 31
4804	95.08	CO	91.44	300			VC	7.071068	1 in 12	4804	95.08	CO	91.44	300			VC	7.071068	1 in 12
5306		CO	0	800			MAC	38.11624		5306		CO	0	800			MAC	38.11624	
6309		SW	92.01	900			MAC	14.86007		6309		SW	92.01	900			MAC	14.86007	
5521	93.7	CO	92.66	150			VC	13	1 in 62	5521	93.7	CO	92.66	150			VC	13	1 in 62
6604	94.87	CO	92.37	150			VC	10.1506		6604	94.87	CO	92.37	150			VC	10.1506	
6702	94.71	CO	93.16	150			VC	5		6702	94.71	CO	93.16	150			VC	5	
3708	94.87	CO	91.85	375			VC	11.7047	1 in 206	3708	94.87	CO	91.85	375			VC	11.7047	1 in 206
5501	93.55	CO	92.71	300			VC	11.7047	1 in 85	5501	93.55	CO	92.71	300			VC	11.7047	1 in 85
4606	93.5	CO	89.4	450			VC	49.98		4606	93.5	CO	89.4	450			VC	49.98	
2511	95.7	CO	89.25	600			BR	27.13518	1 in 97	2511	95.7	CO	89.25	600			BR	27.13518	1 in 97
4801	95.48	CO	92.36	525			VC	23.50092	1 in 39	4801	95.48	CO	92.36	525			VC	23.50092	1 in 39
4607	93.86	CO	91.53	300			VC	16.03122	1 in 94	4607	93.86	CO	91.53	300			VC	16.03122	1 in 94
5402	93.96	CO	92.41	225			VC	33.52011		5402	93.96	CO	92.41	225			VC	33.52011	
5902		CO	0	675			VC	16.89187		5902		CO	0	675			VC	16.89187	
5804	95.24	CO	91.03	610			BR	33.24154	1 in 1	5804	95.24	CO	91.03	610			BR	33.24154	1 in 1
6721	94.85	CO	94.1	225			VC	36.62233	1 in 90	6721	94.85	CO	94.1	225			VC	36.62233	1 in 90
3305	95.05	CO	90.45	225			VC	14.86007	1 in 316	3305	95.05	CO	90.45	225			VC	14.86007	1 in 316
2507	95.83	CO	89.46	610			BR	38.26807	1 in 93	2507	95.83	CO	89.46	610			BR	38.26807	1 in 93
6707	94.74	CO	93.48	150			VC	12.42064		6707	94.74	CO	93.48	150			VC	12.42064	
3305	95.74	CO	93.48	450			VC	11.04539	1 in 1105	3305	95.74								

APPENDIX C

DRAINAGE SURVEYS







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PLAY GRID NORTH

PLAY GRID SOUTH

Legend

Scale

0 2m 4m 6m 8m 10m

1 2 3 4 5 6 7

0 2m 4m 6m 8m 10m

SURVEY & ENGINEERING PROJECTS

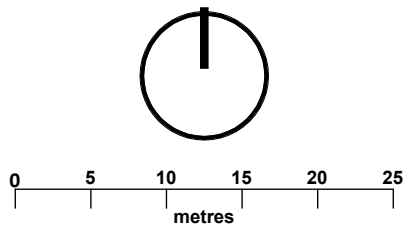
Client: Wilford Green Construction Ltd (Oldham)
 Hollinwood Business Centre
 Alder Lane
 Alder Lane
 Oldham
 OL3 5DL

Project No: Topographical Survey of Land on:
 Bury Interchange
 Heywood Street
 Bury
 BL9 5AT

Drawn	Checked	Client	Project	Scale	Date
DAW/ML	J.Ferguson	R.Colquhoun		1:100	Nov 24

APPENDIX D

PROPOSED DEVELOPMENT PLANS



Legend

- Site Boundary
- Areas covered in other Consultants' package
Refer to notes on Site Plan
- Existing Levels to be Raised to +86-87m
- Tram Train Future Provision

Hardworks

- TP01 - Tactile Paving
Hazard warning corduroy pavers
- P01 - Paving Type 1
Natural stone flags
- P02 - Paving Type 2
Tarmac
- P03 - Paving Type 3
Existing concrete pavers to be retained
- P04 - Paving Type 4
Union Square granite paving to be retained / reinstated
- P05 - Paving Type 5
Gravel Maintenance Area
- Existing Tarmac to be Retained to TfGM site access road
- ST01 - Proposed Steps with Handrails
- Existing Walls to be Retained
- Proposed Walls / Vegetated Retaining Wall
To Engineer's detail and specification
- K01 - Kerb Type 1
Natural Stone Kerb
- K02 - Kerb Type 2
Concrete Raised Road Kerb
- K03 - Kerb Type 3
Concrete Pin Kerb

Softworks

- Proposed Grass
- Proposed Ornamental Planting
- Existing Vegetation to be Retained / Reinstated
- Proposed Scrub Planting
- Proposed Wildflower Meadow
- Proposed Woodland Planting
- Proposed Grassland
- Proposed Tree / Sapling
- Existing Tree to be Retained

Furniture

- F01 - Proposed Bench
Steel and timber bench – installed at varying seating heights (400-500mm). At Union Square, two benches to be provided without armrests and backrests, while the remaining six benches to include both armrests and backrests.
- F02 - Proposed HVM Bollard
- H01 - Proposed Handrail to Steps and sloped path
With mid-rail and tapping rail. To Metrolink's specification.
- H02 - Proposed Illuminated Handrail
- G01 - Proposed Maintenance Gate

Signage and Wayfinding

- FS -1 S01 - Metrolink Flag Sign
To Metrolink's specification
- S02 - Metrolink Portal Sign
To Metrolink's specification
- S03 - Cyclists Dismount Sign
Fixed to lamppost

Lighting

- Existing Lighting Column to be Retained
- Proposed Lighting Column
Details and specification by Engineers

- Existing Ground Spot Light
- Existing Relocated Ground Spot Light

Ecological Enhancements

- Bird Box
1B Schwegler Nest box
- Bat Box
1F Schwegler Bat Box
- Bug Hotel
NHBS Insect Hotel
- Deadwood Log Piles
Using felled trees on site

For more information on the proposed materials and furniture refer to "Outline Specification and Visual Narrative" section within the Design and Access Statement's Landscape Chapter.

Issued for Planning	P03	BLU	BLU	21/03/25
MEP note updated	P02	BLU	BLU	07/03/25
Issued for Planning	P01	JPO	BLU	07/03/25
Revision Note	Rev.	Author	Aprvd	Date

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Client Transport for Greater Manchester (TfGM)
Project Bury Interchange

Title Site Masterplan

Dwg. No. 16012- OOB- ZZZ- ZZZ- D- LA- 080001 Rev. P03
Scale 1: 500 @ A1 Date Mar 2025

For Planning