

P:\LONDON PROJECTS\2019\1947_PROJECT OSPREV\01 CAD\02 SHEET LAYOUT\1947-EXA-ZZ-DR-L-00100.DWG



LEGEND

HARD LANDSCAPE

- SURFACE TYPE 01 - TARMAC ROAD
- SURFACE TYPE 02 - CONCRETE BLOCK PAVING
- SURFACE TYPE 03 - PERMEABLE BLOCK PAVING
- SURFACE TYPE 04 - PERMEABLE BLOCK PAVING
- SURFACE TYPE 05 - PERMEABLE BLOCK PAVING
- SURFACE TYPE 06 - PERMEABLE RESIN BOUND GRAVEL
- SURFACE TYPE 07 - CONCRETE SETTS
- SURFACE TYPE 08 - PERMEABLE PLAY SURFACING
- SURFACE TYPE 09 - SELF-BINDING GRAVEL
- SURFACE TYPE 10 - COMPOSITE TIMBER DECKING
- SURFACE TYPE 11 - RESIDENTIAL PAVING

SOFT LANDSCAPE

- SPECIES RICH LAWN
- IN-GROUND PERENNIAL PLANTING
- PREPARED SELF-GROW BEDS
- FILTRATION GARDEN / RAINGARDEN

WALLS, EDGES, STEPS AND FURNITURE

- BRICK WALLS AND STEPS TO MATCH ADJACENT SURFACE TREATMENT
- RESIDENTIAL STEPS AND BRICK WALLS WITH GATE

SEATING AND SEAT ELEMENTS

- BUILT-IN TIMBER SEATING ELEMENTS
- SEATING ELEMENTS

SENSORY / EXTRA-CARE GARDEN

- TIMBER CIRCLE SEATS WITH BACKS AND ARMRESTS

WOMEN'S GARDEN + PUBLIC PARK MEMORIAL GARDEN

- STAINLESS STEEL AND TIMBER PERGOLA

PLAY EQUIPMENT

PLAY EQUIPMENT AND LAYOUTS OF PLAY AREAS ARE UNDER REVIEW AND ARE SUBJECT TO CHANGE. THE LIST BELOW IS INDICATIVE AND NON-EXHAUSTIVE.

P01	ROBINIA STILTS	SUPPLIER: KOMPAN	P20	RESIDENTIAL HAMMOCKS	SUPPLIER: TO BE CONFIRMED
P02	ROBINIA BALANCE BEAM ON SPRINGS	SUPPLIER: KOMPAN	P21	OUTDOOR MARBLES TABLE	SUPPLIER: RICHTER SPIELGERÄTE
P03	CUBE SEATS	SUPPLIER: WOODSCAPE	P22	JUMPING DISCS	SUPPLIER: RICHTER SPIELGERÄTE
P04	ROBINIA BALANCE POSTS WITH ROPE	SUPPLIER: KOMPAN	P23	YOU AND ME SWING	SUPPLIER: KOMPAN
P05	ROBINIA BALANCE PLUS	SUPPLIER: KOMPAN	P24	TIMBER ANIMALS	SUPPLIER: RICHTER SPIELGERÄTE
P06	TROLLS BALANCE BEAM	SUPPLIER: LAPSET	P25	DUAL SWING SET	SUPPLIER: KOMPAN
P07	STEPPING LOGS - CLOVER	SUPPLIER: LAPSET	P26	SUPERNOVA	SUPPLIER: KOMPAN
P08	EPDM BALLS - VARIOUS SIZES	SUPPLIER: STILUM	P27	CUSTOM PLAY TOWER WITH SLIDES, SWING BRIDGES, CLIMBING NETS, HIGH HOOPS, CURBLE, HAND GRIPS AND CLIMBABLE MESH, FIREMANS POLE AND FEATURE SLICES	SUPPLIER: TO BE CONFIRMED
P09	SMALL SEE-SAW SPRINGER	SUPPLIER: RICHTER SPIELGERÄTE	P28	SPINNER BOWL	SUPPLIER: KOMPAN
P10	TALK TUBES	SUPPLIER: JUPITER PLAY	P29	FOSSIL ROCKS AND CLIMBERS	SUPPLIER: TO BE CONFIRMED
P11	SLIDE TO MOUNDED PLAY AREA	SUPPLIER: RICHTER SPIELGERÄTE	P30	BUG HOTELS AND MAGNIFYING STATIONS	SUPPLIER: TO BE CONFIRMED
P12	WOBBLE DISC	SUPPLIER: RICHTER SPIELGERÄTE	P31	TIMBER BALANCING AND CLIMBING ELEMENTS TO CREATE NATURE TRIUMPH UNDER EXISTING TREES AND IN NATURE GARDEN	SUPPLIER: KOMPAN
P13	BIRDS NEST SWING	SUPPLIER: KOMPAN	P32	COMPONENT PRODUCTS: ADULTY TRAIL 5	SUPPLIER: TO BE CONFIRMED
P14	TEE-PEE AND TODDLER TABLE	SUPPLIER: DUNCAN AND GROVE	P33	ADULTY TRAIL 5	SUPPLIER: TO BE CONFIRMED
P15	CLIMBING HOLDS AND ROPE	SUPPLIER: CORE CLIMBING	P34	BALANCE COMBINATION SITTING POLES (STEPPING LOGS)	SUPPLIER: TO BE CONFIRMED
P16	SCRAMBLING CUBE BLOCKS	SUPPLIER: WOODSCAPE	P35	SPINNER	SUPPLIER: KOMPAN
P17	HERONS NEST	SUPPLIER: HANDMADE PLACES			
P18	MEMORY GAME	SUPPLIER: RICHTER SPIELGERÄTE			
P19	WIDOWS WEB NEST	SUPPLIER: SOVEREIGN PLAY			

ECOLOGICAL ENHANCEMENT AND HABITAT

ANIMAL HOMES AND FINAL QUANTITIES TO BE SELECTED BY QUALIFIED PROJECT ECOLOGIST. ALL ANIMAL HOMES TO BE LOCATED FACING SOUTH OR WEST. PROPOSED HOMES INTEGRATED WITHIN THE FRAMEWORK OF THE BUILDING FACADE ARE NOT SHOWN.

- EC01 STARLING TERRACES
- EC02 BUG HOTEL

PLANNING APPLICATION BOUNDARY

AS03 CAMDEN ROAD

AS03 PARKHURST ROAD

Scale: 1:500 @ A1

0 20m

No dimensions are to be scaled from this drawing. All dimensions are to be checked on site. Area measurements for indicative purposes only.

This drawing is the property of Exterior Architecture Ltd. No part of the drawing may be reproduced in any manner without permission from Exterior Architecture Ltd.

Client
PEABODY

Rev 01 PLANNING SUBMISSION 01.11.2021
Description Date

EXTERIOR ARCHITECTURE

LONDON
Unit 17.1, The Leather Market, 11-13 Weston Street, London, SE1 3ER
MANCHESTER
Studio 537, The Royal Exchange, St Anns Square, Manchester, M2 7DH

E-MAIL office@exteriorarchitecture.com
WEB www.exteriorarchitecture.com

Project title
PROJECT HOLLOWAY

Drawing title
**Landscape General Arrangement
Plan_Ground Floor**

Issued By London
Scale 1:500 @ A1
Status PLANNING
Date 01.11.2021

T: 020 7978 2101
Drawn EXA
Checked TOD
Approved LP

Drawing number
1947-EXA-ZZ-DR-L-00100

Revision
P01

P:\LONDON PROJECTS\2019\1947_PROJECT OSPRE\01 CAD\02 SHEET LAYOUT\1947-EXA-ZZ-ZZ-DR-L-00110.DWG



LEGEND

PLANNING APPLICATION BOUNDARY

HARD LANDSCAPE

- SURFACE TYPE 02 - CONCRETE BLOCK PAVING
To footpaths and circulation areas
- SURFACE TYPE 06: PERMEABLE RESIN BOUND GRAVEL
To self-grow areas
- SURFACE TYPE 10: COMPOSITE TIMBER DECKING
To seating areas
- SURFACE TYPE 11: RESIDENTIAL PAVING
To residential terraces

SOFT LANDSCAPE

- PERENNIAL PLANTING IN RAISED PLANTER
- PREPARED SELF-GROW BEDS
- GREENBROWN ROOF - REFER TO ARCHITECTS DRAWINGS
- PROPOSED SHRUB OR TREE

SEATING AND SEAT ELEMENTS

- BUILT-IN TIMBER SEATING AND RECLINERS AN ARRAY OF TYPOLOGIES AND FORMS ATTACHED TO PROPOSED RAISED STEEL PLANTERS
- SEATING ELEMENTS AN ARRAY OF TYPOLOGIES COMPRISING COMMUNITY TABLES, LOUNGERS AND LOUNGE SETS, MEETING TABLES

No dimensions are to be scaled from this drawing. All dimensions are to be checked on site. Area measurements for indicative purposes only.

Client
PEABODY

NOTES:

- THIS PLAN INCLUDES COMMUNAL SPACE ONLY. REFER TO ARCHITECTURAL INFORMATION FOR PROVISION OF PRIVATE AMENITY SPACES

----	----	----
----	----	----
----	----	----
----	----	----
----	----	----
----	----	----
----	----	----
----	----	----
P01	PLANNING SUBMISSION	01.11.2021
Rev	Description	Date

EXTERIOR ARCHITECTURE

LONDON
Unit 17.1, The Leather Market, 11-13 Weston Street, London, SE1 3ER

MANCHESTER
Studio 537, The Royal Exchange, St Anns Square, Manchester, M2 7DH

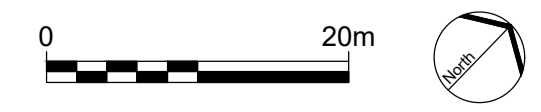
E-MAIL office@exteriorarchitecture.com
WEB www.exteriorarchitecture.com

Project title
PROJECT HOLLOWAY

Drawing title
**Landscape General Arrangement
Plan_Roof**

Issued By	London	T: 020 7978 2101
Scale	1:500 @ A1	Drawn EXA
Status	PLANNING	Checked TOD
Date	01.11.2021	Approved LP

Drawing number	1947-EXA-ZZ-ZZ-DR-L-00110	Revision	P01
----------------	---------------------------	----------	-----





Appendix B

Factual Report



GROUNDTECH
CONSULTING

Job title: HMP Holloway

Report type: Factual Geo-Environmental Report

Prepared for: Waterman I&E

Date: February 2021

Document Control Form

<i>PROJECT</i>	<i>HMP HOLLOWAY</i>
<i>REPORT NAME</i>	<i>FACTUAL GEO-ENVIRONMENTAL REPOPRT</i>
<i>REPORT REFERENCE</i>	<i>GRO-20291-2206</i>
<i>STATUS</i>	<i>FINAL</i>
<i>ISSUE DATE</i>	<i>26 FEBRUARY 2021</i>
<i>REVISION</i>	<i>1.1</i> <i>06 APRIL 2021</i>
<i>CLIENT</i>	<i>WATERMAN I&E</i>
<i>CLIENT CONTACT</i>	<i>FREDDIE ALCOCK</i>

For and Behalf of Groundtech Consulting

<i>SIGNATURE</i>	
<i>AUTHOR</i>	Bradley Massey BSc (Hons) FGS
<i>SIGNATURE</i>	
<i>CHECKED</i>	Richard Wyatt MEng (Hons) FGS
<i>SIGNATURE</i>	
<i>REVIEWED</i>	James Doyle BSc (Hons) CGeol FGS

TABLE OF CONTENTS

1.0	INTRODUCTION.....	1
1.1	PROJECT OBJECTIVES	1
1.2	PROPOSED DEVELOPMENT	1
1.3	LIMITATIONS	1
2.0	SITE SETTING.....	2
2.1	LOCATION.....	2
2.2	SITE DESCRIPTION	2
3.0	SCOPE OF INVESTIGATION AND RATIONALE	4
3.1	PROJECT OBJECTIVES	4
3.2	SCOPE OF WORKS	4
3.3	SOIL SAMPLING	5
3.4	GAS AND GROUNDWATER MONITORING/SAMPLING	5
3.5	GROUNDWATER SAMPLING.....	6
3.6	VAPOUR SURVEY - PHOTO IONISATION DETECTOR.....	6
4.0	GROUND MODEL.....	8
4.1	MADE GROUND.....	8
4.2	NATURAL GROUND.....	9
4.3	BEDROCK.....	9
4.4	GROUNDWATER.....	9
4.5	WATCHING BRIEF.....	9
4.6	EXCAVATION STABILITY.....	10
4.7	EXCAVATION PROGRESS.....	10
5.0	RELEVANT INDUSTRY REFERENCES.....	12

APPENDIX 1 - PLANS

APPENDIX 2 - SITE PHOTOGRAPHS

APPENDIX 3 - EXPLORATORY HOLE LOGS

APPENDIX 4 - TRL DCP TEST RESULTS

APPENDIX 5 - SOIL PERCOLATION TEST RESULTS

APPENDIX 6 - INTERIM GROUND GAS RESULTS

APPENDIX 7 - LIMITATIONS

Plans		
<i>Plan Reference</i>	<i>Revision</i>	<i>Title</i>
GRO-20291-P01	-	Project Location Plan
GRO-20291-P02	-	Exploratory Hole Location Plan



1.0 INTRODUCTION

1.1 Project Objectives

Groundtech Consulting Limited have been instructed by Waterman I&E to undertake a Ground Investigation on the now disused HMP Holloway Prison in Holloway, London. The investigation was conducted in accordance with BS 5930:2015, BS 10175:2017, BS 8576:2013 and BS 22475.

1.2 Proposed Development

The proposed development is predominantly for residential end use comprising approximately 1,000 residential units together with a proportion of commercial floor space, public open space and community space.

1.3 Limitations

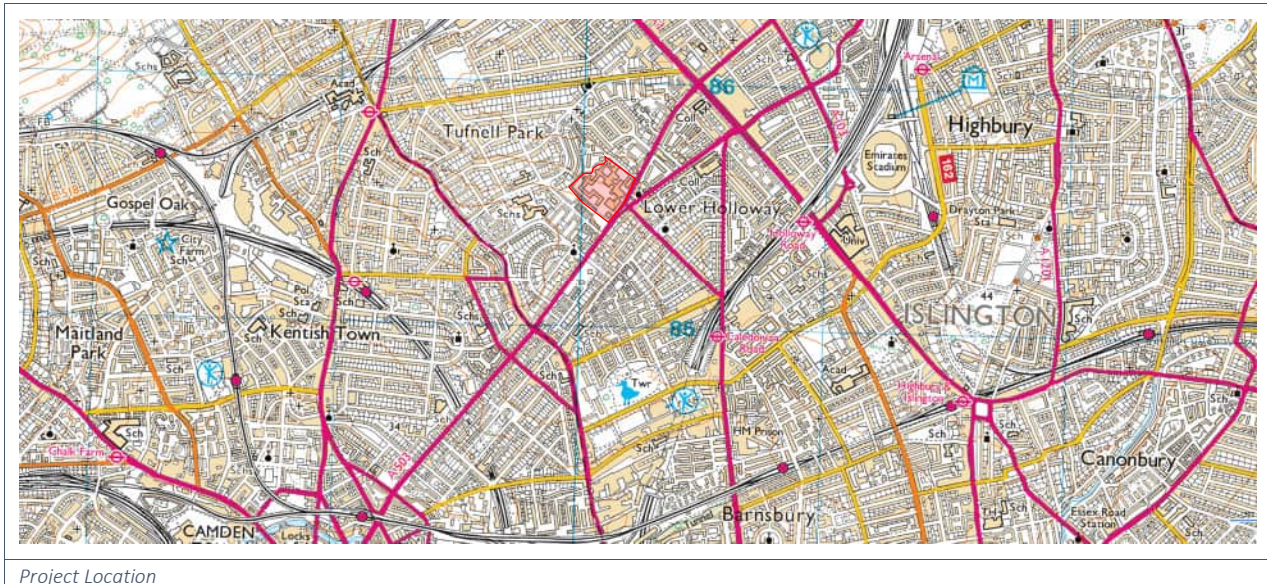
Other conditions may exist on the site that have not been taken into account in this assessment as they are outside the scope of works. Groundtech Consulting are not responsible for these circumstances that are not outlined in the report.

The assessment has been prepared for the exclusive use of the client. No third parties may rely on or reproduce the contents of the report without the written permission of Groundtech Consulting Limited. If any unauthorised third party comes into possession of the report, they rely on it at their own risk and Groundtech Consulting Limited will not be obliged to provide a duty of care.

2.0 SITE SETTING

2.1 Location

The site is located circa 2.3km north east of the London Borough of Islington, as shown on the Project Location Plan *GRO-20291-P01* and is approximately centred on National Grid Reference 530098, 185591.



Access to the site is gained off Parkhurst Road / Camden Road to the south east of the site.

2.2 Site Description

The site is approximately rectangular in shape and covers an area of approximately 4.12 hectares.

Onsite Features

The site comprises the now vacant and disused HMP Holloway prison which is a complex of low-rise buildings of two to five storeys in height which were used as cell blocks and various administration and maintenance buildings. Buildings cover approximately 40% of the site with hardstanding and landscaped green spaces covering circa 35% and 25% respectively.

In addition to the cell blocks and office buildings other buildings include a chapel, swimming pool, education centre, visitors centre, day care centre, healthcare unit, day nursery, boiler house and a works and maintenance unit. Ground level varies significantly across the site, generally rising up to an area of higher ground in the south west of the site with a level difference of approximately 8m across the site area.

Pathways, roadways and yards across the site are surfaced with a combination of asphalt, concrete slabs, and block paving. A large tarmac surfaced car park is present in the north east of the site. The remainder of the site comprises landscaped gardens with mature trees and shrubs, surfaced by grass and flower beds.

Boundaries

The prison is bounded by an 8m high wall on its north western and south western boundary, with palisade fencing on its northern boundary and wooden hoarding along its south western frontage with the A503 Camden Road. The site extends beyond the 8m high wall to include a path and soft landscaping which stretches approximately 5m beyond the wall.



Surroundings

The site is surrounded by following features/land uses:

- *North - Residential properties.*
- *East - Parkhurst Road followed by both commercial and residential properties.*
- *South - Residential properties and a library.*
- *West - Residential properties.*

Site photographs are presented in *Appendix 2*.

3.0 SCOPE OF INVESTIGATION AND RATIONALE

3.1 Project Objectives

The aim of the fieldwork was to:

Determine the stratification beneath the site.
Maintain a watching brief for visual and olfactory evidence of contamination.
Obtain samples using methodology in current guidance for contamination testing.
Install monitoring standpipes for gas and groundwater monitoring / sampling.
Undertake soil percolation tests in accordance with BRE 365.
Undertake TRL DCP testing to correlate CBR values.

3.2 Scope of Works

The following scope of works was completed between the dates of 18th January and 16th February 2021.

- *Twenty one cable percussive boreholes (BH01 to BH21) drilled using a Dando 3000 and a Pilcon 1500 cable percussive drilling rigs and an Eijkelpamp sonic drilling rig to depths between 20.0m and 40.0m bgl.*
- *Twelve window sample boreholes (WS01 to WS12) were drilled using a Premier Window sample rig to depths between 2.0m and 4.0m bgl.*
- *Ten machine excavated trial pits (TP01 to TP10) undertaken using a JCB 3CX mechanical excavator to depths between 0.7m bgl and 3.0m bgl.*
- *One hand excavated trial pit (TP11) to a depth of 1.0m bgl.*
- *Three soakaway tests (SA01 to SA03) undertaken at depths between 1.9m and 2.7m bgl.*
- *Four TRL DCP tests undertaken from depths between 0.3m and 0.5m in existing trial pit positions.*
- *Concrete Coring.*
- *Full time UXO supervision.*
- *Underground Utility clearance including GPR.*

The exploratory hole locations are presented on Groundtech Plan GRO-20291-P02 and the exploratory hole logs are presented in *Appendix 3*. The locations and elevations of the exploratory hole locations were surveyed in on completion of the Ground Investigation and are presented on the exploratory logs.

The results of the TRL DCPs are presented in *Appendix 4* and the results of the soil percolation testing are in *Appendix 5*.

The exploratory holes were agreed with Waterman I&E to establish the stratification beneath the site and target any areas of concern. The exploratory holes were logged by a suitably experienced geo-environmental engineer in general accordance with the following current guidance:

- *BS 5930 'Code of Practice for Site Investigations' 2015.*
- *BS EN 14688-1:2002 'Geotechnical Investigation and Testing – Identification and classification of soil'.*
- *BS EN ISO 14689:2002 'Geotechnical investigation and testing – Identification and classification of rock'.*

3.3 Soil Sampling

During the intrusive investigation, representative samples were taken at regular intervals, changes of strata and where evidence of contamination existed in accordance with the Waterman I&E Specification. The samples obtained are summarised in the table below:

Soil Sample	Number
<i>Environmental Sample</i>	241
<i>Disturbed Sample</i>	676
<i>Bulk Sample</i>	528
<i>Undisturbed UT100 Sample</i>	245

The samples have been obtained in accordance with current environmental and geotechnical guidance. The sampling plan has been designed to obtain samples from all required strata using the correct methodology. Photographs were taken of all environmental samples in accordance with the Waterman I&E Specification.

Disturbed samples of soil for geo-environmental testing were placed in the correct sampling containers as required by the laboratory in accordance with their MCERTS and UKAS Accreditation. Transportation was arranged in a timely manner and the samples were at the correct temperature.

The sample locations and depths are recorded on the exploratory logs.

3.4 Gas and Groundwater Monitoring/Sampling

Gas and groundwater monitoring installations were constructed in the boreholes as instructed by Waterman I&E. The standpipes consisted of high-density polyethylene (HDPE) pipe - a bentonite seal was placed around the plain pipe and a clean gravel pack was placed around the slotted pipe. A 300mm sand bridge was installed between the bentonite and pea gravel. A summary of the installation construction is presented in the table below:

Location	Depth (m bgl)	Response Zone (m bgl)	Targeted Strata	Reason
<i>BH01E</i>	<i>35.00</i>	<i>31.00 – 35.00</i>	<i>Natural Strata</i>	<i>Groundwater</i>
<i>BH01E</i>	<i>3.00</i>	<i>1.00 – 3.00</i>	<i>Made Ground</i>	<i>Ground Gas</i>
<i>BH02</i>	<i>25.00</i>	<i>21.00 – 25.00</i>	<i>Natural Strata</i>	<i>Groundwater</i>
<i>BH02</i>	<i>3.00</i>	<i>1.00 – 3.00</i>	<i>Made Ground</i>	<i>Ground Gas</i>
<i>BH04</i>	<i>35.00</i>	<i>31.00 – 35.00</i>	<i>Natural Strata</i>	<i>Groundwater</i>
<i>BH05</i>	<i>35.00</i>	<i>31.00 – 35.00</i>	<i>Natural Strata</i>	<i>Groundwater</i>
<i>BH06</i>	<i>8.00</i>	<i>5.00 – 8.00</i>	<i>Natural Strata</i>	<i>Groundwater</i>
<i>BH08</i>	<i>8.00</i>	<i>5.00 – 8.00</i>	<i>Natural Strata</i>	<i>Groundwater</i>
<i>BH09</i>	<i>35.00</i>	<i>31.00 – 35.00</i>	<i>Natural Strata</i>	<i>Groundwater</i>
<i>BH10</i>	<i>35.00</i>	<i>31.00 – 35.00</i>	<i>Natural Strata</i>	<i>Groundwater</i>
<i>BH12</i>	<i>8.00</i>	<i>5.00 – 8.00</i>	<i>Natural Strata</i>	<i>Groundwater</i>
<i>BH14</i>	<i>35.00</i>	<i>31.00 – 35.00</i>	<i>Natural Strata</i>	<i>Groundwater</i>
<i>BH16</i>	<i>35.00</i>	<i>31.00 – 35.00</i>	<i>Natural Strata</i>	<i>Groundwater</i>
<i>BH18</i>	<i>8.00</i>	<i>5.00 – 8.00</i>	<i>Natural Strata</i>	<i>Groundwater</i>
<i>BH19</i>	<i>35.00</i>	<i>31.00 – 35.00</i>	<i>Natural Strata</i>	<i>Groundwater</i>
<i>BH21</i>	<i>35.00</i>	<i>31.00 – 35.00</i>	<i>Natural Strata</i>	<i>Groundwater</i>

WS01	4.00	1.00 – 4.00	Made Ground	Ground Gas
WS02	4.00	1.00 – 4.00	Made Ground	Ground Gas
WS05	4.00	1.00 – 4.00	Made Ground	Ground Gas
WS07	4.00	1.00 – 4.00	Made Ground	Ground Gas
WS08	4.00	1.00 – 4.00	Made Ground	Ground Gas
WS10	4.00	1.00 – 4.00	Made Ground	Ground Gas
WS11	4.00	1.00 – 4.00	Made Ground	Ground Gas
WS12	4.00	1.00 – 4.00	Made Ground	Ground Gas

Permanent gas and flow rate monitoring was carried out using a GFM 436 infrared gas monitor with integral electronic flow analyser. The measurements taken are listed below:

- Oxygen (O₂), carbon dioxide (CO₂) and methane (CH₄) as the percentage volume in air (%v/v).
- Hydrogen sulphide (H₂S) and carbon monoxide (CO) as the percentage volume in air (%v/v).
- Lower Explosive Limit (%LEL) of methane.
- Atmospheric and borehole pressure, including pressure trend.
- Flow measurements (l/hr).
- Weather and ground surface conditions.

Both peak and steady state conditions were monitored to understand the behaviour of the permanent ground gas, the steady state conditions were recorded by allowing the gas monitor to run for a minimum of 3 minutes.

Interim permanent gas and groundwater monitoring results are presented in *Appendix 6*.

3.5 Groundwater Sampling

Well development was carried out to ensure no cross contamination from the drilling activities remained in the water column in the well. The method of sampling selected was using a low flow pump.

Where possible a water meter was used to test the pH, temperature and conductivity before sampling until equilibrium conditions were met in accordance with BS 10175 guidelines.

Samples were sent to the UKAS Accredited laboratory the same day sampling was carried out in general accordance with BS 5930:2015 and BS 5667.

3.6 Vapour Survey - Photo Ionisation Detector

Standard sampling protocol and preservation of samples was undertaken as described in the EA guidance on Ground Investigation.

Soil was collected for onsite testing, a plastic bag was half filled with soil allowing a suitably sized headspace. The bag was sealed and stored for at least 20 minutes before being tested for Total Volatile Organic Compounds (TVOCs) using a Photo Ionisation Detector (PID).

Results of the PID readings are presented in the remarks on the exploratory hole logs and outlined in the table below.



Location	Sample depth (m bgl)	PID Result (ppm)
BH02	0.50	10.9
BH02	1.00	7.9
BH02	1.70	6.5
BH03	0.50	1.6
BH09	0.50	0.9
BH09	1.00	0.3
BH12	20.00	0.4
BH12	25.00	0.4
BH14	1.00	0.3
BH14	1.50	0.5
BH18	0.50	0.8
BH18	1.00	1.2
BH18	1.50	11.2
BH19	0.50	0.5
BH19	2.00	1.8
BH19	3.00	1.2
BH21	4.00	1.6
BH21	5.00	0.7
BH21	15.00	0.7
WS01	1.50	0.3
WS01	2.00	3.8
WS03	1.00	0.6
WS03	4.00	0.3
WS10	3.00	0.6
WS11	1.00	0.3
WS11	2.00	4.1
WS11	3.00	8.3
WS12	0.20	14.9
WS12	0.50	1.8
WS12	1.00	18.2
WS12	1.50	1.6
WS12	3.00	29.8
TP06	0.50	1.3
TP08	0.50	1.8
TP09	1.00	3.7

Any PID readings which were ≤ 0.2 ppm are not included in the above table.

The onsite monitoring was carried out in line CIRIA C6658 to aid targeting samples for VOC laboratory analysis.

4.0 GROUND MODEL

4.1 Made Ground

Made Ground was encountered across the entire site to depths of between 0.36m and 2.6m bgl.

The site was surfaced by a mix of concrete, tarmac, block paving and grass over sandy gravelly clay topsoil. The concrete was encountered from the surface to a maximum depth of 0.4m bgl. The topsoil was encountered to a maximum depth of 0.8m bgl.

Three main Made Ground populations were encountered during the investigation and are described below:

- *Granular subbase comprising pale brown/orange sandy gravel was generally observed under locations surfaced by tarmac and/or concrete to a maximum depth of 0.6m bgl.*
- *Relic substructures comprising gravel and cobbles of brick and concrete were encountered in BH01E, BH04, BH07, BH14, TP02, TP03, TP04, TP10, TP11 from 0.3m to a maximum depth of 2.2m bgl.*
- *Soft brown sandy gravelly clay was the dominant Made Ground strata and was encountered in the majority of locations from depths between 0.1m bgl and 2.6m bgl.*

The Made Ground soils were not fully penetrated in TP03, TP10 and TP11 due to excessive thickness of concrete and the proximity of adjacent services.



4.2 Natural Ground

No superficial deposits were encountered during the Ground Investigation.

4.3 Bedrock

Two main bedrock stratification was encountered during the investigation and are described below:

- *Soft to firm becoming firm brown slightly gravelly mottled grey Clay from a minimum depth of 0.4m to a maximum depth of 10.7m bgl. This stratum is considered to be oxidised and weathered London Clay.*
- *Firm to stiff becoming stiff grey Clay with occasional bands of Claystone was encountered from a minimum depth of 8.5m bgl to the base of all the cable percussion boreholes, this stratum is considered to be more competent London Clay.*

4.4 Groundwater

No groundwater strikes were observed in the natural Clay soils however some perched water seepage was recorded in the shallow Made Ground soils, these are outlined in the table below:

Location	Depth of strike (m bgl)	Rising to depth (m bgl)
BH06	0.40	0.40
BH15	3.50	3.00
BH17	1.30	1.30
BH18	1.90	1.90
WS02	0.80	-
TP02	0.90	-
SA03	0.18	-

The soil percolation test in SA03 was abandoned due to steady ingress of perched water from the granular Made Ground soils.

4.5 Watching Brief

A watching brief was maintained during the Ground Investigation for visual and olfactory evidence of contamination.

Olfactory evidence of contamination was recorded in the locations outlined in the table below:

Location	Depth of odour (m bgl)	Odour description
BH02	0.35 – 1.90	Hydrocarbon
BH03	0.40 – 0.65	Diesel
BH09	0.20 – 0.60	Organic/Hydrocarbon
BH19	2.00 – 3.20	Hydrocarbon
WS01	1.50 – 2.20	Hydrocarbon
WS12	0.15 – 1.55	Hydrocarbon
TP09	0.40 – 1.35	Hydrocarbon/Diesel

The only visual evidence of potential contamination recorded was ash and rare clinker within the shallow Made Ground soils in a large proportion of the exploratory holes. Additionally, some dark grey/black staining was noted in the Made Ground clay soils in TP09 from depths between 0.8m and 1.35m bgl along the southern face of the trial pit.

4.6 Excavation Stability

All of the trial pit locations were generally stable where deep Made Ground soils were not encountered.

Collapse occurred in WS06 where Made Ground gravel was recorded to 1.75m bgl, this material was too dense to drive casing through and the overlying soils collapsed during drilling trapping the barrel in the hole. Hand excavations were undertaken to try and recover the barrel however they were unsuccessful and the barrel had to be abandoned in the collapsed hole.

4.7 Excavation Progress

Slow progress while excavating the exploratory holes was encountered in multiple locations largely due to thick underlying concrete, relic substructures and Claystone bands. The locations where obstructions/slow drilling were encountered are detailed in the table below:

Location	Depth to obstruction (m bgl)	Thickness of obstruction	Type of obstruction
BH01	Ground level	0.70m+ (Hole terminated at obstruction)	Concrete
BH01A	Ground level	0.75m+ (Hole terminated on obstruction)	Concrete
BH01B	Ground level	1.35m+ (Hole terminated on obstruction)	Concrete / Brick substructure
BH01C	Ground level	0.55m+ (Hole terminated on obstruction)	Concrete
BH01D	Ground level	0.45m+ (Hole terminated on obstruction)	Concrete
BH01E	Ground level	0.80m	Concrete
BH02	11.10m	0.60m	Claystone
BH06	12.70m	0.30m	Claystone
	18.60m	0.20m	Claystone
BH10	19.20m	0.20m	Claystone
	26.40m	0.30m	Claystone
	28.00m	0.90m	Claystone
BH13	13.10m	0.30m	Claystone
BH18	2.00m	0.45m	Claystone
BH21	14.90m	0.30m	Claystone
	28.20m	0.20m	Claystone
WS07	0.90m	(Hole terminated at obstruction)	Plastic pipe encountered in inspection pit
TP03	0.80m	0.90m+ (Hole terminated on obstruction)	Brick / Concrete
TP04	0.97m	0.33m	Concrete
	1.70m	0.50m	Concrete



TP10	0.45m	0.25m+ (Hole terminated on obstruction)	Concrete
TP11	1.00m	(Hole terminated on obstruction)	Concrete



5.0 RELEVANT INDUSTRY REFERENCES

British Standards Institution. *Investigation of Potentially Contaminated sites - code of practice*. BS 10175:2017.

British Standards Institution '*Code of Practice for Site Investigations*' BS 5930:2015

British Standards Institution "*Geotechnical investigation and testing – Identification and classification of soil*" BS EN ISO 14688:2002.

BS EN ISO 14689:2002 "*Geotechnical investigation and testing – Identification and classification of rock*".

CIRIA C665 "*Assessing Risks Posed by Hazardous Ground Gases to Buildings*" 2007.

Wilson & Card "*Proposed method classifying gassing sites*" *Ground Engineering* 1999.

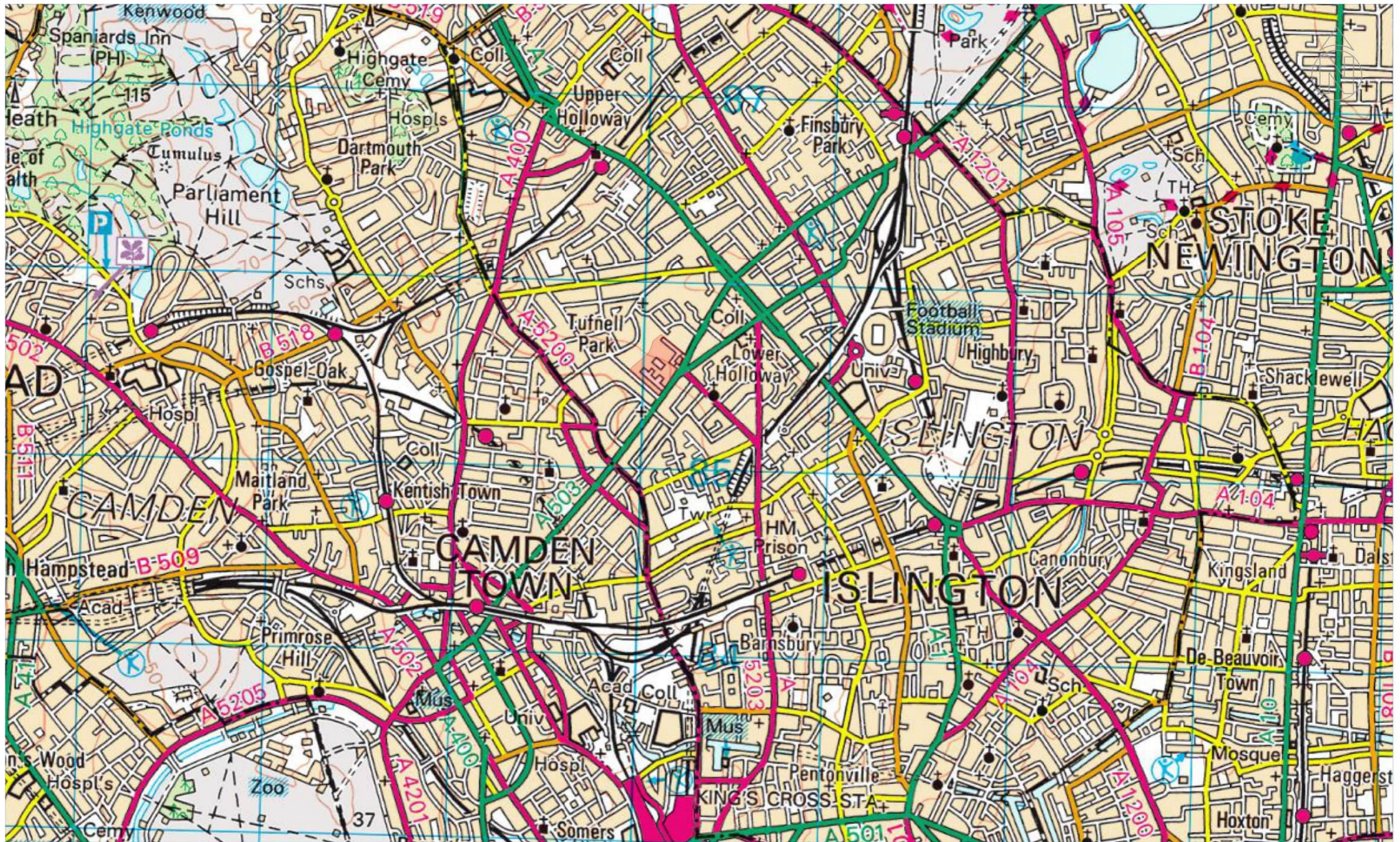
Card & Steve Wilson in "*A pragmatic approach to ground gas risk assessment for the 21st Century*" - CIRIA/Environmental Protection UK Ground gas seminar 2011

BS 8576:2013 '*Guidance on investigations for ground gas – Permanent gases and Volatile Organic Compounds (VOCs)*'

BS 8485:2015 '*Code of practise for the design of protective measures for methane and carbon dioxide ground gases for new buildings*'



APPENDIX 1 - Plans



GROUNDTECH
CONSULTING



CLIENT	WATERMAN I&E
PROJECT TITLE	HMP HOLLOWAY
PLAN TITLE	PROJECT LOCATION PLAN

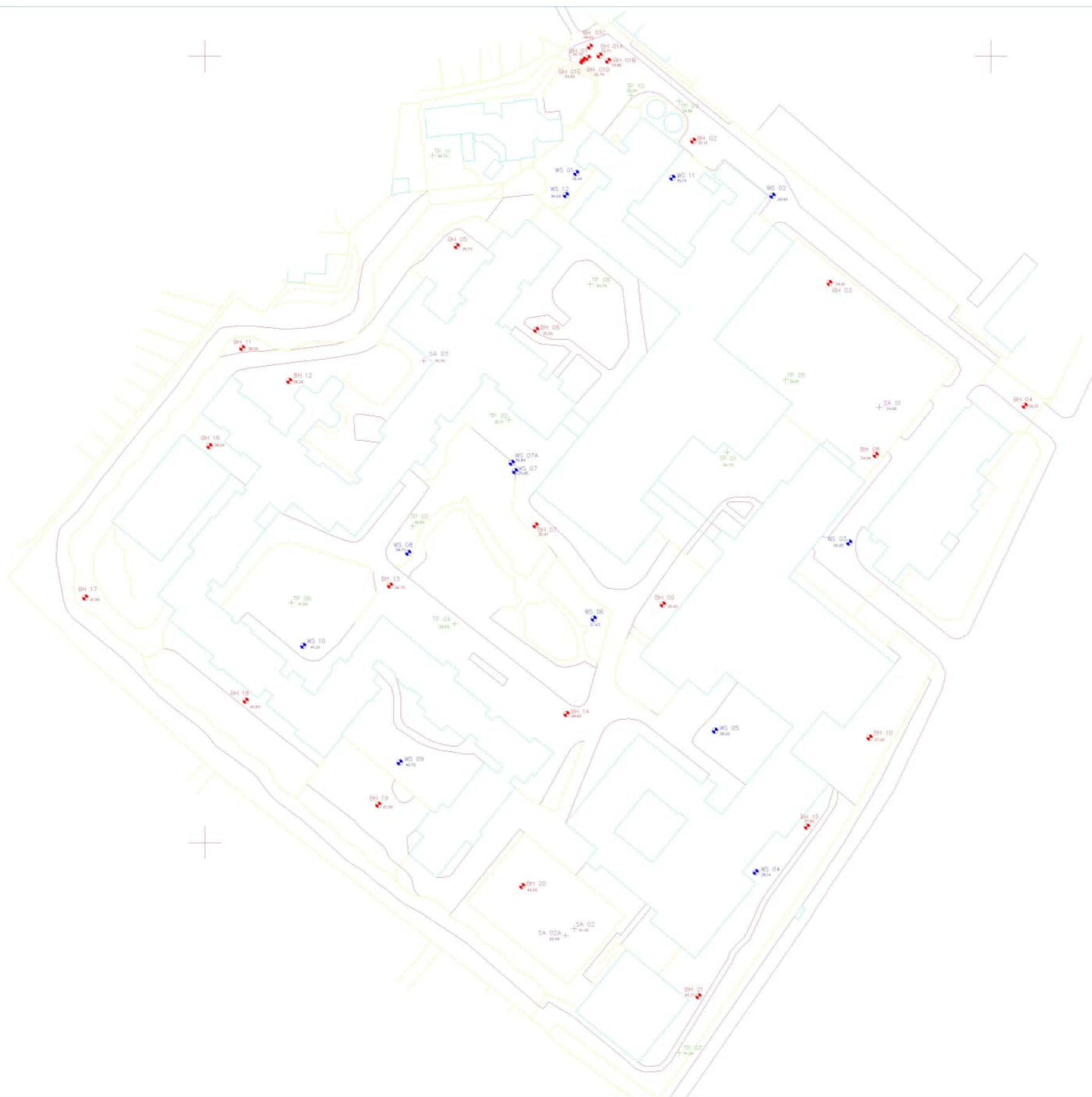
DATE	FEBRUARY 2021
SCALE	NTS
PLAN NUMBER	GRO-20291-P01

Rev.	Details	Date

Status	
Preliminary	
Draft	
Issued	●
For Comment	
Approved	

Notes	
	● SITE LOCATION





GROUNDTECH
CONSULTING



CLIENT

WATERMAN I&E

PROJECT TITLE

HMP HOLLOWAY

PLAN TITLE

EXPLORATORY HOLE LOCATION PLAN

DATE

APRIL 2021

SCALE

NTS

PLAN NUMBER

GRO-20291-P02

Rev.	Details	Date

Status

Preliminary

Draft

Issued

For Comment

Approved

Notes

- WINDOW SAMPLE LOCATION
- CABLE PERCUSSIVE / SONIC BOREHOLE LOCATION
- SOIL PERCOLATION TEST LOCATION
- MACHINE EXCAVATED TRIAL PIT LOCATION

