Appendices

Railway Pensions Nominees Limited

Project Number: WIE17469-110

Document Reference: WIE17469-110-R-1-1-4-FRADS_Project Otter

Appendices

Railway Pensions Nominees Limited

Project Number: WIE17469-110

Document Reference: WIE17469-110-R-1-1-4-FRADS_Project Otter

D. Existing Drainage Drawings

JONES LANG LASALLE
BEEHIVE CENTRE, COLDHAMS LANE, CAMBRIDGE, CAMBRIDGESHIRE, CB1 3ET

MW.JLLD.5463.C3

UNDERGROUND SERVICES KEY

- British Telecom
- Communications Cable
- Virgin Media
- CCTV Cable
- City Fibre
- Installation
- Earth Cable
- Electricity Cable
- Empty Ducting
- Gas Pipe
- Sewer Combined
- Sewer Foul
- Sewer Surface Water
- Unidentified GPR or electric installation
- Vapour Recovery Pipe
- Water pipe
- Scan trace
- End of trace
- Services survey boundary
- Area of No Access
- GPR Detected Anomaly

AP: Assumed Route	GPR: Ground Penetrating Radar
CP: Cable Point	TFR: Taken From Records
CR: Cable Riser	PE: Polyethylene Pipe
d: Depth	UTB: Unable To Survey
PR: Pipe Riser	UTI: Unable To Find
RS: Reducing Slab (Drainage)	UTL: Unable To Lift
VP: Vent Pipe	NVP: Non Visible Pipes
VR: Vapour Recovery Point	VC: Vitrified Clay
UTL: Unable To Lift	NS: No Signal Detected
LS: Lost Signal	

DISCLAIMER

Electromagnetic and ground penetrating radar techniques have been used in the location of underground services shown on this survey plan. These are interpretive procedures and are dependent on the interpretation of the operator and cannot to confirm identification, location and depth of services where these are critical.

Please note that not all buried pipes, cable and ducts can be detected and mapped in consideration of their depth, location, material type, geology and proximity to other utilities.

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BSI PAS128:2014 QUAUITY LEVELS

(A) = Verified by Inspection-Well pit, vacuum Excavation, Inspection Chamber/Manhole

(B1) = Detected with GPR & EML-High confidence position and depth

(B2) = Detected with either GPR or EML-Medium confidence position and depth

(B3) = Detected with GPR or EML Ind-depth - poor signal

(B4) = Assumed route - Not detected - interpreted route

(C) = Record data located to Street Furniture - not detected

(D) = Record data not located - not detected

(P) = Post processed

NB: QL(A) is inferred at all MHs ICs etc. unless otherwise stated.

NOTES

Where services are non-metallic or not proven on site, positions are taken from records, trench scans & surface detail.

Where stated, depth estimations are typically to the centre or top of the service. Depths to gravity sewers and drains are typically to invert levels, unless otherwise stated.

Where Ground Penetrating Radar (GPR) is quoted the depth is recorded to the assumed external crown of the feature.

The diagram below describes the depth information in more detail.

Where the precise position or depths of these features are critical to the design or ste works they must be verified by trial-use of trial excavations.

Pipe sizes which cannot be obtained by visual survey are taken from utilities record drawings or marker plates where available.

Services shown as Taken From Records have not been proven on site.

The CAD layering may contain further information.

All data collected using GPR has been post-processed.

All utilities inspected and measured at IC's or MH's are considered to be QLA for a radius up to 5m from the chamber wall

TYPICAL FEATURE DEPTH ANNOTATION

ELECTRO-MAGNETIC DETECTION	GRAVITY DRAIN (VISUAL OBSERVATION)	GROUND PENETRATING RADAR
APPROX. DEPTH TO CENTRE	APPROX. DEPTH TO INVERT	APPROX DEPTH TO EXTERNAL CROWN
CABLE/FIBRE OPTIC		

Survey Notes

Grid: Graphically fitted into client's plan

Levels: Graphically fitted into client's plan

Notes

Topographical Survey Legend

BUILDINGS AND WALLS

Building
Glass Roof
Ruin
Passage
Hut with Height
Boundary Wall

FENCE STYLES AND DESCRIPTIONS

Close Boarded
Corrugated Iron
Chestnut Paling
Chainlink
Barbed Wire
Brick
Iron Railings
Lattice
Miscellaneous
Palisade
Post & Chain
Post & Rail
Post & Wire
Post & Wire Mesh
Pile mesh
Gate
Gate
Fence Breakpt

ROADS

Kerbs
Edge of Surfacing
Pedestrian Crossing
Track
Footpath

STREET FURNITURE

Address Marker
Bus Stop
Bollard
Cable Box
Post (Post)
Closed Circuit TV
Drain
Electricity Pole
Flood Light
Flag Staff
Lamp Post
Letter Box
Lamp Post (street)
Parking Bay
Mile Post or Marking Post
Service Marker
Mile Stone
Post
Parking Meter
Pedestrian Post
Parking Bay
Road Sign
Speed Camera
Intersection Sign
Stop
Traffic Light
Telegraph Pole
Traffic Light Push Button Post
Traffic Light Control Box
Control Box
British Telecom Box
Electricity Box
Gas Box

INSPECTION CHAMBERS AND PIPES

Inspection Cover
Inspection Cover (Blind)
Manhole
British Telecom Cover
Inspection Cover (Covered)
Cable Tel
Inspection Cover Traffic Signals
Gully
Foul Outlet
Vent Pipe
Foul Pipe
Foul Water Pipe
Soil Pipe
Gas Pipe
Unable to lift cover
Stop Tap
Stop Valve
Lamphole
Hydrant
Bath Box
Water Pipe
Water Valve
Watercut
Building Eye

GEOTECHNICAL INFORMATION

Borehole
Trial Pit
Another Pits
Probe Hole
Marine Sample

GENERAL INFORMATION

Petrol Temp.
Seasonal Light
Footbridge
Cleft Tpo Shaped
Cleft Tpo Shaped
Knob Top Shaped
Tumble Swing
Crook Series
Column
Column
Star Shape
Star Shape
Star Shape
Through
Obelisk
Telephone Call Box

OVERHEAD FEATURES

Electricity Pylon
Electricity
Telephone

WATER FEATURES

Canal
Stream
Drain
Weir
Culvert
Culvert
Ditch (Land Drain)
Spring

RELIEF AND VEGETATION

Hedge
Edge of wood/Bushes
Stump
Individual Tree
Dipper dfk Height
Stone/Rock Hill
Cliff Face
Sand
Reeds

LEVEL AND HEIGHT INFORMATION

Standard Spot Height
Unknown Spot Height
Bed Level
Water Level
Soffit Level
Threshold Level
Cover Level
Invert Level
Ridge Level
Floor Level
Finished Floor Level
Top of Bank Level
Eave Level
Top of Wall
Roof Ill Level
Ridge Roof Level
Top of Canopy Level
Underside of Canopy Level
Window Sill Level
Window Ill Level
Ceiling Level
Arch Level
Cable Level
Top of Wall Level
Underside of Beam Level
Ground Height

SURVEY INFORMATION SERIES

Permanent Ground Station
O.S. Tri Station
O.S. Bench Mark

Sheet Index

Rev.	Date	Description

MALCOLM HUGHES
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www.malcolmhughes.co.uk
survey@mhk.co.uk

Accreditations: RICS, The Survey Association, ICES, Investor in People, Revive

Client
GARDINER & THEO3ALD LLP
10 SOUTH CRESCENT
LONDON WC1E 7BD

Project
BEEHIVE RETAIL PARK
COLDHAMS LANE
CAMBRIDGE CB1 3ET

Drawing Title
UNDERGROUND SERVICES
SURVEY
SHEET 1/5

Drawn By	PS	02/06/22	Survey Date: JUNE 2022
Checked by	DJ	02/06/22	Scale: A0@1:200

Drawing No: 58742/UG1

Revision:

UNDERGROUND SERVICES KEY

TELEC	British Telecom
CABLE	Communications Cable
TVCABLE	Virgin Media
CCTV	CCTV Cable
FIBRE	City Fibre
INTERCOM	Intercom
EARTH	Earth Cable
ELEC	Electricity Cable
EMPTY	Empty Ducting
GAS	Gas Pipe
SEWER	Sewer Combined
FOUL	Sewer Foul
SURFACE	Sewer Surface Water
UNIDENTIFIED	Unidentified GPR or electro location trace
VRP	Vapour Recovery Pipe
WATER	Water pipe
	Scar trace
	End of trace
	Services survey boundary
	Area of No Access
	GPR Detected Anomaly

AP	Assumed Route	GPR	Ground Penetrating Radar
BLK	Blocked	PE	Polyethylene Pipe
CR	Cable Riser	PE	Polyethylene Pipe
FR	Fire Riser	UTB	Unable To Survey
IR	Inert Riser	UR	Unable To Rod
RS	Reducing Sloth (Drainage)	UT	Unable To Trace
T	Tank	WC	Water Course
VR	Vapour Recovery Point	WO	Welded Object
UTL	Unable To Lift	NS	No Signal Detected
LS	Limit Signal		

DISCLAIMER

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Please note that not all buried pipes, cable and ducts can be detected and mapped in consideration of their depth, location, material type, geology and proximity to other utilities.

All reasonable effort and care has been made in searching available record drawings. The completeness of the underground service information supplied to and by us cannot be guaranteed.

BSI PAS128:2014 QUALITY LEVELS

(A) = Verified by inspection-trial pit, vacuum Excavation, Inspection Chamber/Manhole

(B1) = Detected with GPR & EML-High confidence position and depth

(B2) = Detected with either GPR or EML-Medium confidence position and depth

(B3) = Detected with GPR or EML (no depth - poor signal)

(B4) = Assumed route - Not detected - interpreted route

(C) = Record data located to Street furniture - not detected

(D) = Record data not located- not detected

(P) = Post processed

NB: QL(A) is inferred at all MHs ICs etc. unless otherwise stated.

NOTES

Where services are non-metallic or not proven on site, positions are taken from records, trench scans & surface detail.

Where stated, depth estimations are typically to the centre or top of the service. Depths to gravity sewers and drains are typically to invert levels, unless otherwise stated.

Where Ground Penetrating Radar (GPR) is quoted the depth is recorded to the assumed external crown of the feature.

The diagram below describes the depth information in more detail.

Where the precise position or depths of these features are critical to the design or ariseworks they must be verified by the use of trial excavations.

Pipe sizes which cannot be obtained by visual survey are taken from utilities record drawings or market plates where available.

Services shown as Taken From Records have not been proven on site.

The CAD layering may contain further information.

All data collected using GPR has been post-processed.

All utilities inspected and measured at ICs or MHs are considered to be QLA for a radius up to 5m from the chamber wall

TYPICAL FEATURE DEPTH ANNOTATION

ELECTRO-MAGNETIC DETECTION	GRAVITY DRAIN (VISUAL OBSERVATION)	GROUND PENETRATING RADAR
APPROX. DEPTH TO CENTRE CABLE/FIBRE OPTIC	APPROX. DEPTH TO INVERT	APPROX. DEPTH TO CROWN

Survey Notes

Grid: Graphically fitted into client's plan

Levels: Graphically fitted into client's plan

Notes

Topographical Survey Legend

BUILDINGS AND WALLS

GENERAL INFORMATION

FENCE STYLES AND DESCRIPTIONS

UNDERGROUND FEATURES

WATER FEATURES

ROADS

STREET FURNITURE

RELIEF AND VEGETATION

INSPECTION CHAMBERS AND PIPES

LEVEL AND HEIGHT INFORMATION

GEOTECHNICAL INFORMATION

SURVEY INFORMATION SERIES

Sheet Index

Rev.	Date	Description

MALCOLM HUGHES
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survey@mhlls.co.uk

Accreditations:

Client

GARDINER & THEO3ALD LLP
10 SOUTH CRESCENT
LONDON WC1E 7BD

Project

BEEHIVE RETAIL PARK
COLDHAMS LANE
CAMBRIDGE CB1 3ET

Drawing Title

UNDERGROUND SERVICES
SURVEY
SHEET 2/5

Drawn By	PS 02/06/22	Survey Date	JUNE 2022
Checked by	DJ 02/06/22	Scale	A0@1:200

Drawing No: 58742/UG2

Revision

UNDERGROUND SERVICES KEY

British Telecom	
Communication Cable	
Virgin Media	
CCTV Cable	
City Fibre	
Intellicom	
Earth Cable	
Electricity Cable	
Empty Ducting	
Gas Pipe	
Sewer Combined	
Sewer Foul	
Sewer Surface Water	
Unidentified CPR or electric location trace	
Vapour Recovery Pipe	
Water pipe	
Scar trace	
End of trace	
Services survey boundary	
Area of No Access	
GPR Detected Anomaly	

AB	Assumed Route	GPR	Ground Penetrating Radar
BLK	Blocked	TFR	Taken From Records
CR	Cable Riser	TP	Test Pit Location
F	Fault	UTS	Unable To Survey
FR	Pipe Riser	UR	Unable To Rod
RS	Reducing Slab (Drainage)	UT	Unable To Trace
T	Tank	MVP	No Visible Pipes
VR	Vapour Recovery Point	NC	No Water Cover
UTL	Unable To Lift	NS	No Signal Detected
LS	Lost Signal		

DISCLAIMER

Electromagnetic and ground penetrating radar techniques have been used for the location of underground services shown on this survey plan. These are interpretive procedures and we recommend that trial excavations should be undertaken to confirm identification, location and depth of services where accuracy is critical.

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(A) = Verified by inspection trial pit, vacuum Excavation, Inspection Chamber/Manhole

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(B2) = Detected with either GPR or EML-Medium confidence position and depth

(B3) = Detected with GPR or EML (no depth - poor signal)

(B4) = Assumed route - Not detected - interpreted route

(C) = Record data located to Street Furniture - not detected

(D) = Record data not located- not detected

(P) = Point processed

NB: QLA(s) is referred at all Mhs /Cs etc, unless otherwise dated.

NOTES

Where services are non-metallic or not proven in situ, positions are taken from records, trench stains & surface detail.

Where stated, depth estimations are typically to be centre or crown of the feature. Where depths are stated, depths are typically to invert levels, unless otherwise stated.

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TYPICAL FEATURE DEPTH ANNOTATION

ELECTRO-MAGNETIC DETECTION	GRAVITY DRAIN (VISUAL OBSERVATION)	GROUND PENETRATING RADAR
APPROX. DEPTH TO CENTRE — CABLE/FIBRE OPTIC	APPROX. DEPTH TO INVERT — 300	APPROX. DEPTH TO EXTERNAL CROWN

Survey Notes

Grid: Graphically fitted into client's plan

Levels: Graphically fitted into client's plan

Notes

Topographical Survey Legend

BUILDINGS AND WALLS

Building
Outline Over Sized
Ruin
Drawings
Wall with Height Accuracy Set

FENCE STYLES AND DESCRIPTIONS

Close Boarded
Corrugated Iron
Chestnut Paling
Chestnut
Barbed Wire
Brick
Iron Railings
Lattice
Miscellaneous
Palisade
Post & Chain
Post & Rail
Post & Wire
Post & Wire Mesh Wire
Pre cast
Stile
Gate
Fence Breakpt

EDGES

Kerbs
Edge of Surfacing
Pedestrian Crossing
Step
Footpath

STREET FURNITURE

Bollard Reverse
Bus Stop
Bollard
Cctv Cam
Post Check
Cctv Circuit TV
Drain
Electricity Pole
Flood Light
Flag Staff
Lamp Post
Letter Box
Lamp Post (street)
Parking Pay
Mile Post or Marking Post
Service Marker
Mile Stone
Post
Parking Meter
Post Bollard
Parking Bay
Road Stop
Speed Camera
Information Sign
Stay
Traffic Light
Telephone Box
Traffic Light Pedestrian Post
Traffic Light Control Box
Control Box
British Telecom Box
Electricity Box
Gas Box

INSPECTION CHAMBERS AND PIPES

Inspection Cover
Inspection Cover (Blue)
Manhole
British Telecom Cover
Inspection Cover (Covered)
Cable Tv
Inspection Cover Traffic Signals
Gully
Fresh Outfall
Vent Pipe
Pipe
Foul Water Pipe
Soil Pipe
Gas Pipe
Unable to lift cover
Stop Tap
Stop Valve
Lamphole
Hydrant
Traffic Box
Water Tap
Water Valve
Washout
Ventilating Cpt

GEOTECHNICAL INFORMATION

Borehole
Trial Pit
Weather Pit
Probe Hole
Marker Sample

GENERAL INFORMATION

Partial Symp.
Seasonal Light
Footbridge
Cleft Tpo Shaped
Cleft Tpo Shaped
Quick Tpo Shaped
Tumble Swing
Cover Down
Column
Cantilever
Star Shaped
Offset Pipe
Up Down
Through
Address
Telephone Call Box

OVERHEAD FEATURES

Electricity Pylon
Electricity
Telephone

WATER FEATURES

Canal
Stream
River
Weir
Culvert
Ditch (Land Drain)
Spring

RELIEF AND VEGETATION

Hedge
Edge of wood/Bushes
Stump
Individual Tree
Slope (Ht. Height Marks/Ref. No)
Cliff Face
Marsh
Reeds

LEVEL AND HEIGHT INFORMATION

Standard Spot Height
Standard Spot Height
Bed Level
Water Level
Soffit Level
Threshold Level
Cover Level
Invert Level
Top of Bank Level
Floor Level
Finished Floor Level
Top of Bank Level
Eave Level
Ridge Level
Roof Ht Level
Flat Roof Level
Top of Canopy Level
Underside of Canopy Level
Manhole Rd Level
Manhole Kerb Level
Kerb Level
Cable Level
Top of Wall Level
Underside of Beam Level
Ground(Height)

SURVEY INFORMATION SERIES

Permanent Ground Marker
O.S. Tri Station
O.S. Bench Mark

Sheet Index

Rev.	Date	Description

MALCOLM HUGHES
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LONDON WC1E 7BD

Project

BEEHIVE RETAIL PARK
COLDHAMS LANE
CAMBRIDGE CB1 3ET

Drawing Title

UNDERGROUND SERVICES
SURVEY
SHEET 3/5

Drawn By	PS 02/06/22	Survey Date	JUNE 2022
Checked by	DJ 02/06/22	Scale	A0@1:200

Drawing No: 58742/UG3

Revision

UNDERGROUND SERVICES KEY

- British Telecom
- Communications Cable
- Virgin Media
- CCTV Cable
- City Fibre
- Installcom
- Earth Cable
- Electricity Cable
- Empty Ducting
- Gas Pipe
- Sewer Combined
- Sewer Foul
- Sewer Surface Water
- Unidentified GPR or electric location trace
- Vapour Recovery Pipe
- Water pipe
- Scar trace
- End of trace
- Services survey boundary
- Area of No Access
- GPR Detected Anomaly

A/R	Assumed Route	GPR	Ground Penetrating Radar
BLK	Blocked	TFR	Taken From Records
CR	Cable Riser	PP	Polypropylene Pipe
D	Depth	CPS	Cast Iron Pipe
R	Radius Riser	UR	Unable To Root
RD	Reducing Sub (Drainage)	UT	Unable To Trace
T	Tank	N/V	No Visible Pipes
VR	Vapour Recovery Point	VC	Vitrified Clay
UTL	Unable To Lift	NS	No Signal Detected
LS	Lost Signal		

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TYPICAL FEATUREDEPTH ANNOTATION

ELECTRO-MAGNETIC DETECTION	GRAVITY DRAIN (VISUAL OBSERVATION)	GROUND PENETRATING RADAR
APPROX. DEPTH TO CENTRE	APPROX. DEPTH TO INVERT	APPROX. DEPTH TO EXTERNAL CROWN
CABLE/FIBRE OPTIC		

Survey Notes

Grid: Graphically fitted into client's plan

Levels: Graphically fitted into client's plan

Notes

Topographical Survey Legend

BUILDINGS AND WALLS

GENERAL INFORMATION

FENCE STYLES AND DESCRIPTIONS

OVERHEAD FEATURES

WATER FEATURES

ROADS

STREET FURNITURE

RELIEF AND VEGETATION

INSPECTION CHAMBERS AND PIPES

LEVEL AND HEIGHT INFORMATION

GEOTECHNICAL INFORMATION

SURVEY INFORMATION SERIES

Sheet Index

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Project

BEEHIVE RETAIL PARK
COLDHAMS LANE
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Drawing Title

UNDERGROUND SERVICES
SURVEY
SHEET 4/5

Drawn By	PS 02/06/22	Survey Date	JUNE 2022
Checked by	DJ 02/06/22	Scale	A0@1:200

Drawing No: 58742/UG4

Revision: