NOTES

GENERAL NOTES :–

ALL LEVEL ARE IN METERS DERIVED FROM GPS TRANSFORMATION

GRID COORDINATES ARE ORDNANCE SURVEY NATIONAL GRID DERIVED FROM GPS TRANSFORMATION (GPS COORDINATES AND LEVELS SET AT 0701 (NO SCALE FACTOR APPLIED)

THIS DRAWING HAS BEEN PRODUCED WITH A PLOT SCALE ACCURACY OF 1:200

SERVICE COVERS INDICATED WHERE VISIBLE. PIPE INVERTS / DETAILS SURVEYED FROM SURFACE INSPECTION ONLY. GENERALLY DAMAGED COVERS AND COVERS WITHIN HIGHWAYS WILL NOT BE LIFTED

TREE SPECIES SHOULD BE CONFIRMED BY TREE SPECIALIST IF CRITICAL.

OVERHEAD CABLES ARE INDICATED USING REMOTE SURVEY METHODS AND ARE SUBJECT TO SEASONAL VARIATION, AND SHOULD BE TREATED AS APPROXIMATE.

SERVICE COVERS LOCATED UNDER PARKED VEHICLES/MOBILE STRUCTURES MAYBE OMITTED.

BURIED SERVICE COVERS WILL NOT BE INDICATED.

SHEET LAYOUT

A0–SHEET 12345/12

SURVEY CONTROL :–

STATION	EASTINGS	NORTHINGS	LEVEL
1			
2			
3			
4			
5			
6			
7			

NORTH POINT :–

NORTH

SITE MARK OUT KEY

PLEASE NOTE THAT THESE WILL BE SHOWN AS COLOURS ONLY, THE DWG PROVIDED IS THE THE FINISHED SURVEY, SEMI PERMANENT PAINT IS USED ON SITE ONLY AND IS BIODEGRADABLE.

RED – ELECTRIC, HV/LV, AND FWS DRAINAGE

BLUE – SWS DRAINAGE AND WATER

WHITE – COMMS, BT, TV, COMBINED DRAINAGE

YELLOW – GAS AND OTHER PIPES

ORANGE – GPR RELATED FEATURES AND GPR ANOMALIES

UTILITY SURVEY KEY

- ELECTRIC CABLE
- WATER PIPE
- FOUL SEWER
- STORM SEWER
- COMBINED SEWER
- DUCTS
- CABLE TELEVISION
- DATA CABLE
- TELECOM CABLE
- GAS PIPE
- UNIDENTIFIED SERVICE
- OTHER
- CCTV
- TRAFFIC LIGHT
- OFFSET FILL
- VENT
- FUEL PIPE
- GAUGE LINES
- PIPE
- ASSUMED ROUTE
- TAKEN FROM RECORDS
- GPR LINEAR FEATURE
- UNIDENTIFIED CABLE
- UNIDENTIFIED DUCT
- SURVEY BOUNDARY
- DRAIN CONDITION NOTES
- inaccessible area (detailed on dwg)
- GPR ANOMALY (DETAILED ON DWG)
- CHAMBER EXTENTS (SHOWN IN THE SERVICE COLOUR)
- BOREHOLE
- CPT
- TRIAL PIT
- HAND PIT
- WINDOW SAMPLE

CONFIDENCE LEVELS

A–HORIZONTAL AND VERTICAL POSITION VERIFIED VISUALLY
accuracy: Horizontal (+ or – 25mm) Vertical (+ or – 50mm)

C– ROUTE TRANSCRIBED FROM UTILITY PLANS AND CORRELATED TO VISUAL INDICATORS AND SURFACE FEATURES accuracy: Undefined

D– ROUTE TRANSCRIBED FROM UTILITY PLANS accuracy Undefined

(B1) HORIZONTAL AND VERTICAL POSITION DETECTED BY MULTIPLE METHODS
estimated accuracy: + or – 150mm OR 15%)

(B1P) HORIZONTAL AND VERTICAL POSITION DETECTED BY MULTIPLE METHODS WITH POST PROCESSING METHODS
estimated accuracy: + or – 150mm OR 15%)

(B2) HORIZONTAL AND VERTICAL POSITION DETECTED BY A SINGLE METHOD
estimated accuracy: + or – 250mm OR 40%)

(B2P) HORIZONTAL AND VERTICAL POSITION DETECTED BY A SINGLE METHOD WITH POST PROCESSING
estimated accuracy: + or – 250mm OR 40%)

(B3) HORIZONTAL POSITION DETECTED BY A SINGLE METHOD
estimated accuracy: + or – 500mm in Horizontal – Depth is Undefined

(B3P) HORIZONTAL POSITION DETECTED VIA POST–PROCESSED GPR
estimated accuracy: + or – 500mm in Horizontal – Depth is Undefined

(SA) A UTILITY SERVICE WHICH IS SUSPECTED TO EXIST BUT HAS NOT BEEN DETECTED AND IS THEREFORE SHOWN AS AN ASSUMED ROUTE

HORIZONTAL LOCATION IS TO THE CENTERLINE OF THE UTILITY
VERTICAL ACCURACY IS TO THE TOP OF THE UTILITY
– AS STANDARD THE GRID LINES HAVE BEEN FROZEN WITHIN LAYER MENU.

NOTES/DISCLAIMER

This drawing and information contained within is issued in confidence and is the property of Midland Survey Ltd. Whilst all reasonable skill, care and attention in the mapping has been supplied by a third party, Midland Survey Ltd is not liable for any inaccuracies contained therein.
The data presented in this drawing have been collected using a combination of the following : consultation of utility asset information provided or obtained, visual survey and detection using electromagnetic signals transmitted from surface level, electromagnetic location techniques and ground penetrating radar.
This drawing should be used in conjunction with the accompanying report which details limitations of these methods and other factors which may have hindered the survey.

This method of survey does not differentiate between live and dead services, and as such all services should be treated as live.
If a service has been undetectable the service may be shown as an assumed route, which is based on the surveyors interpretation of visual survey surveyors understanding only, therefore the route shown should not be treated as accurate.
If a service is undetectable but we can position the service using utility asset plans or drawings provided then this is to be treated as indicative only.
The detection confidence in each utility segment is depicted in line with the Pas128 Scheme of Survey Confidence Classification (see Sheet 2). This is a subjective method and is based on historical utility records which can be inaccurate and incomplete.
further investigation is recomend to verify service routes taken form records or assumed.

The service routes depicted may reflect the routes of multiple cables or pipes. It is not always possible to differentiate between buried construction features, utilities and natural ground features using detection equipment. Consequently some features shown are not utility related, and due to the limitation of electromagnetic techniques all utility locations should be treated with caution and verified prior to use during design/building works.
If the location and depth of a service or feature is of importance to a project then it is recomended that discussions are held with Midland Survey Ltd regarding any possible intrusive investigations.
Please note that factors such as ground conditions, geology, proximity of other utilities, weather and method of construction have an influence on the quality of the data collected on site.
Even an appropriate and professionally executed survey may not be able to advise a client regarding the presence of all buried services. Where excavations are fundamental, it is strongly recommended that a pas128 type A verification survey is carried out.
No utility mapping survey can be considered a 100% accurate depiction of the Sub–surface environment.
The use of these drawings does not remove the requirement for the use of safe digging practices on site. Trial holes may be necessary to determine the depth and current cable regulations.
Services on site will be restricted to the operational survey agreed with the client before work commences, all standard we only mark out, Trivalle services to aid the survey collation only.

UTILITY NOTES

UNABLE TO TRACE WATER IN PARTS ACROSS SITE DUE TO PLASTIC PIPES, ASSUMED ROUTES/ TAKEN FROM RECORDS HAVE BEEN SHOWN BUT SHOULD NOT BE TREATED AS ACCURATE.

UNABLE TO TRACE GAS IN PARTS ACROSS SITE DUE TO PLASTIC PIPES, ASSUMED ROUTES/ TAKEN FROM RECORDS HAVE BEEN SHOWN BUT SHOULD NOT BE TREATED AS ACCURATE.

UNABLE TO TRACE HEATING DUCTS IN PARTS ACROSS SITE DUE TO PLASTIC PIPES, ASSUMED ROUTES HAVE BEEN SHOWN BUT SHOULD NOT BE TREATED AS ACCURATE.

UNABLE TO TO RDS/SURVEY VARIOUS DRAINAGE RUNS AND MANHOLES DUE TO SILTED PIPES OR FLOODED CHAMBERS.

UNABLE TO GAIN ACCESS TO SOME PARTS OF SITE DUE TO HERRAS FENCING.

VARIOUS UNKNOWNS LOCATED THROUGHOUT SITE, WHICH WERE UNABLE TO LOCATE TO SOURCE/ IDENTIFY, RECOMMENDED HAND PITS TO CONFIRM WHICH SERVICES THEY ARE.

0 2 4 8 12 16 20

SURVEY METHODOLOGY LOCATION PLAN

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Client	ARCADIS
Project	WATTISHAM BASE, IPSWICH, IP7 7RA
Title	TOPOGRAPHICAL / UTILITY SURVEY
Date	SEPTEMBER 2021
Scale	1:200@A0
Dwg No	39371 1
Surveyor	JC/LB/DJH
Checked	TJ
Revisions	

TOPOGRAPHICAL (LAND) SURVEYORS / UTILITY SURVEYORS
BUILDING MEASUREMENT SURVEYORS / 3D LASER SCANNING

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TOPOGRAPHICAL SURVEY/UTILITY ABBREVIATIONS :–

(ht) – height
ø – diameter
o – pea trap
a/g – above ground
a/r – assumed route
av – air valve
bb – belisha beacon
bd – back drop
bl – bed level
boll – bollard
bos – bottom of shaft
bt – telecom
c/b fence – closeboard fence
c/box – control box
catv – cable television
cl – cover level
ic – inspection cover
il – invert level
ill – illuminated
int – interceptor
lp – lamp post
mh – manhole cover
mkr – marker
oah – over head
fl – floor level
fs – fire switch
fws – foul water sewer
g – gully
g/run – gully run
gr – gas riser
h/chestnut – horse chestnut
h/thorn – hawthorn
d/chan – drainage channel
ejb – electric junction box
elec – electric
eot – end of trace
ep – electric pole
er – earth rad
f/bed – flower bed
fh – fire hydrant
con – contain
cr – cable riser
cws – combined water sewer
pts – pipe to surface
re – rodding eye
ret wall – retaining wall
rs – road sign
rwp – rain water pipe
ol – off let
osa – off survey area
OSBM – ordnance survey bench mark
p & r fence – post & rail fence
pd – pit depth
pr – pipe riser
ptg – pipe to ground
uts – unable to survey
utt – unable to trace
vp – vent pipe
wfc – water filled chamber
wl – water level
wm – water meter
wp – waste pipe
wr – water riser
top – top of pipe
tot – top of tank
tp – telecom pole
ts – traffic signal
t/s – trench scar
u/s – underside
utl – unable to lift
utr – unable to rod
st – stop tap
sv – stop valve
svp – soil vent pipe
sws – storm water sewer
TBM – temporary bench mark
tfr – taken from records
tl – threshold level
toc – top of cap
s/birch – silver birch
s/p – safety paving
sap – sapling
sec fence – security fence
sfc – soil filled chamber
slg – spot light
soil – soil pipe

SURVEY METHODOLOGY KEY

THIS SURVEY HAS BEEN CARRIED OUT TO PAS128 SPECIFICATION FOR UNDERGROUND UTILITY DETECTION, VERIFICATION AND LOCATION. THE SPECIFICATION ALLOWS FOR A RANGE OF TECHNIQUES AND METHODS OF VARYING INTENSITY TO BE DEPLOYED. THE COLOR CODED SCHEME INDICATES WHERE DIFFERENT METHODOLOGIES HAVE BEEN USED ON SITE.
PLEASE ALWAYS READ ACCOMPANYING REPORT IN CONJUNCTION WITH DRAWING PROVIDED.

- M/P–cent search traced at 2m intervals – traced at 0.5m intervals. (gpr survey grid at 0.5m intervals or high density array post processing of gpr grid)
- M/P–cent search traced at 2m intervals – traced at 1m intervals. (gpr survey grid at 1m intervals or high density array post processing of gpr grid)
- M/P–cent search traced at 5m intervals – traced at 2m intervals. (gpr survey grid at 2m intervals or high density array post processing of gpr grid)
- M/P–cent search traced at 10m intervals – traced at 5m intervals. (gpr survey as appropriate post processing of gpr grid)

- M/P–cent search traced at 2m intervals – traced at 0.5m intervals. (gpr survey grid at 0.5m intervals or high density array post processing of gpr grid)
- M/P–cent search traced at 2m intervals – traced at 1m intervals. (gpr survey grid at 1m intervals or high density array post processing of gpr grid)
- M/P–cent search traced at 5m intervals – traced at 2m intervals. (gpr survey grid at 2m intervals or high density array post processing of gpr grid)
- M/P–cent search traced at 10m intervals – traced at 5m intervals. (gpr survey as appropriate post processing of gpr grid)

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THE SURVEY ASSOCIATION