



BRIAN CLANCY HIGBY PARTNERSHIP
CHARTERED STRUCTURAL & CIVIL ENGINEERS

DRAINAGE STRATEGY

for

INDUSTRIAL UNIT EXTENSION

to

HOLCHEM LABORATORIES

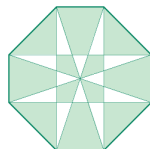
KERSIA UK

GATEWAY HOUSE

PILSWORTH INDUSTRIAL ESTATE

BURY BL9 8RD

29th September, 2023



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BOREHOLE LOGS

1.0 INTRODUCTION

- 1.1** It is proposed to extend an existing industrial facility, with a trapezoidal shaped extension, to suit the topography of the site, continuing the ridges and valleys of the existing multi bay roof, albeit one bay width narrower.
- 1.2** The building is to have a small extension to the existing surface car park, adjacent to the east elevation of the building, and adjacent to the west elevation there is to be a resurfacing of the existing stone side access road, to a new turning head adjacent to the south west corner of the existing building, for access into the new extension, adjacent to which there is to be a bunded tank farm.
- 1.3** This report is intended to provide supporting information for the consent of planning permission.

2.0 DESCRIPTION OF DEVELOPMENT/ EXISTING DRAINAGE

- 2.1** There is currently an existing industrial facility of an approximate area of approximately 7550 m², constructed as a three bay portal framed building, with a hard standing at the front (northern end) of the building.
- 2.2** The surface water drainage from the building discharges into two different existing surface water drains:
- the western third discharges into an existing 600mm diameter drain, which runs parallel with the western elevation of the building and accepts surface water from buildings to the North of the site, discharging out to the south of the site.
 - The eastern two thirds of the building discharges into an existing 300mm diameter drain, which discharges from the site out in a south easterly direction off the site. The surface car park, at the south east end of the site discharges at an attenuated flow rate into the existing 300mm diameter drain.

3.0 SURFACE WATER DRAINAGE STRATEGY

- 3.1 The proposed extension, trapezoidal in shape to suit the topography of the site, which falls from the proposed tapering south elevation, down towards the south, to Aviation Road, behind. The area of the proposed extension is approximately 3800 m². Given the topography of the site, traditional rainwater pipes along the new south elevation is not achievable.
- 3.2 It is proposed to have a syphonic collection system within the building, discharging the roof water out to the 300mm diameter existing drain, discharging out to the south east corner of the site, attenuated as required to limit the additional flow rate into the system to greenfield run-off rate from the extension area.
- 3.3 The access road/ hard standing on the west elevation of the building will be connected to the existing surface water drain which discharges out to the south west of the site, attenuated to suit greenfield run off rates. The tank farm is to be bunded and will not be connected to the surface water drainage system.
- 3.4 The site is located in a flood zone 1.
- 3.5 The flows from the new impermeable area are to be restricted to greenfield run off rate, up to the 3.33% annual probability (1 in 30 year event). Climate change will be taken into account by increasing the rainfall intensity by 45%.

4.0 SUSTAINABLE DRAINAGE DISCUSSION

- 4.1 The Technical Guidance for the National Planning Policy Framework requires that a development exceeding 0.4Ha requires that the management of the surface water runoff utilises Sustainable Urban Drainage (SUDS) and considers the hierarchy of provision which are as follows:
- Infiltration to ground – soakaways and permeable surfacing
 - Discharge to local watercourse
 - Discharge to surface water drain
 - Discharge to sewer
- 4.2 The first option to be considered for surface water disposal for all proposed development must be infiltration into the ground. The ground conditions for the proposed development consist of a minimum of 4m of made ground, deemed unsuitable for infiltration.
- 4.3 There are no local water courses within the site or adjacent. Therefore, discharge to a water course is not an option.
- 4.4 In order to prevent an increase in flood risk to adjacent land and downstream of the site it will be necessary to restrict the surface water discharge from the development to the equivalent QBAR Greenfield runoff rate from the site (mean annual greenfield peak flow).

4.5 The Draft National Standards for Sustainable drainage systems covers the whole range of sustainable approaches to surface water drainage management including:

- Source control measures including rainwater recycling and drainage.
- Infiltration devices to allow water to soak into ground, that can include individual soakaways and communal facilities.
- Filter strips and swales, which are vegetated features that hold and drain water downhill mimicking natural drainage patterns.
- Filter drains and porous pavements to allow rainwater and runoff to infiltrate into permeable material below ground and provide storage if needed.
- Basins and ponds to hold excess water after rain and allow controlled discharge that avoids flooding, and
- Underground storage to hold excess water after rain and allow controlled discharge that avoids flooding.

4.6 These SUDS solutions are considered below with reference to their suitability for the proposed development.

SUDS Group	Technique	Likely to be suitable?	Notes
Source Control	Rainwater Harvesting	No	Would not feasibly accommodate the full increase of volume of runoff created by the proposed development
Infiltration Device	Permeable Paving	No	The ground sub strate is not suitable for limited infiltration
	Infiltration trenches and basins	No	Could be used to slow the movement of water down but not as an effective means of dealing with runoff and the ground sub strate is not suitable for infiltration.
Filtration	Soakaways	No	The ground sub strate is not suitable for limited infiltration
	Open swales	No	Insufficient space to accommodate pond. Hazardous to site users.
	Filter Strips	No	Insufficient space to accommodate pond. Hazardous to site users.
Retention/ Detention	Basin/ponds	No	Insufficient space to accommodate pond.
Underground Storage	Culverts/Tanks/ Oversized Pipes	Yes	Suitable for controlling discharge to watercourse or sewer via a piped outfall. No land take required to accommodate.

5.0 PROPOSED DRAINAGE STRATEGY – SURFACE WATER

- 5.1** It is proposed that surface water drainage from the proposed development will be discharged into the existing surface water sewers via new hydrobrake and attenuation systems to accommodate all design storms up to 1 in 100 year storms, plus 45% Climate Change factor, restricting the increase in flow rate to greenfield run off rate, utilising storm water storage crates located under the car parking/ turning head areas of the new extension.
- 5.2** Above and beyond the Interception Storage requirements there are the more intense storms to consider. Attenuation will be required within the system to accommodate the volume of surface water created by restricting the outfall rates to the existing 5.0Vs equivalent.
- 5.3** The drainage on site will remain private and be maintained and managed by the owners of the site.

6.0 PROPOSED DRAINAGE STRATEGY – FOUL WATER

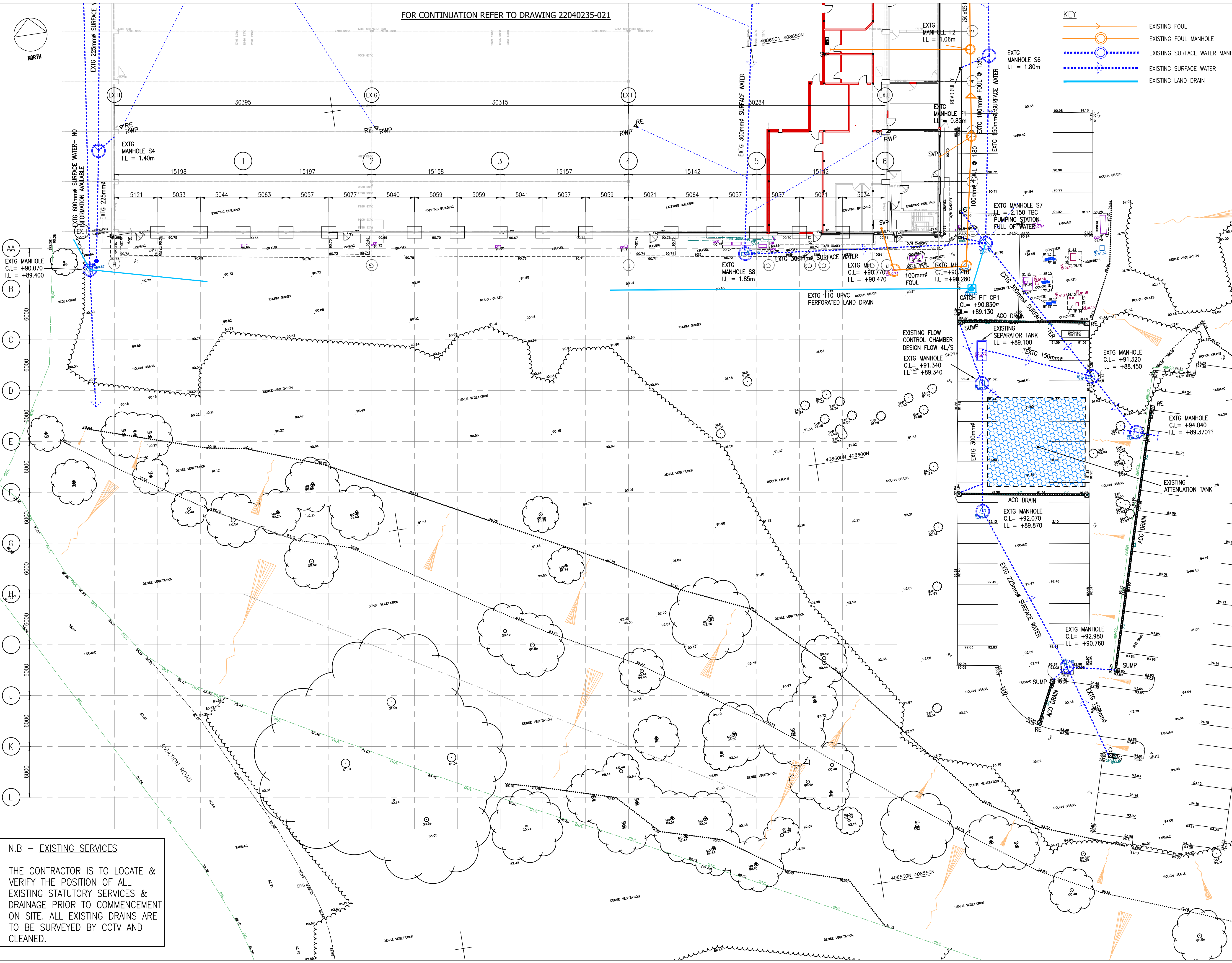
- 6.1** The current foul drainage from the site discharges into a public foul sewer at the North East corner of the site. Any additional foul drainage from the new extension will be connected into this existing foul system.

7.0 CONCLUSIONS

- 7.1** Runoff from the proposed extension will be restricted to existing greenfield runoff rates with an outfall into the existing surface water drains. Storage up to and including the 1 in 100 years plus climatic change event (45%) will be provided within the boundary of the site, the attenuation will be in the form of attenuation crates.
- 7.2** Foul drainage will be discharged to the foul sewer.
- 7.3** The strategy outlined above shows the viable sustainable drainage solution is achievable within the constraints of the site.

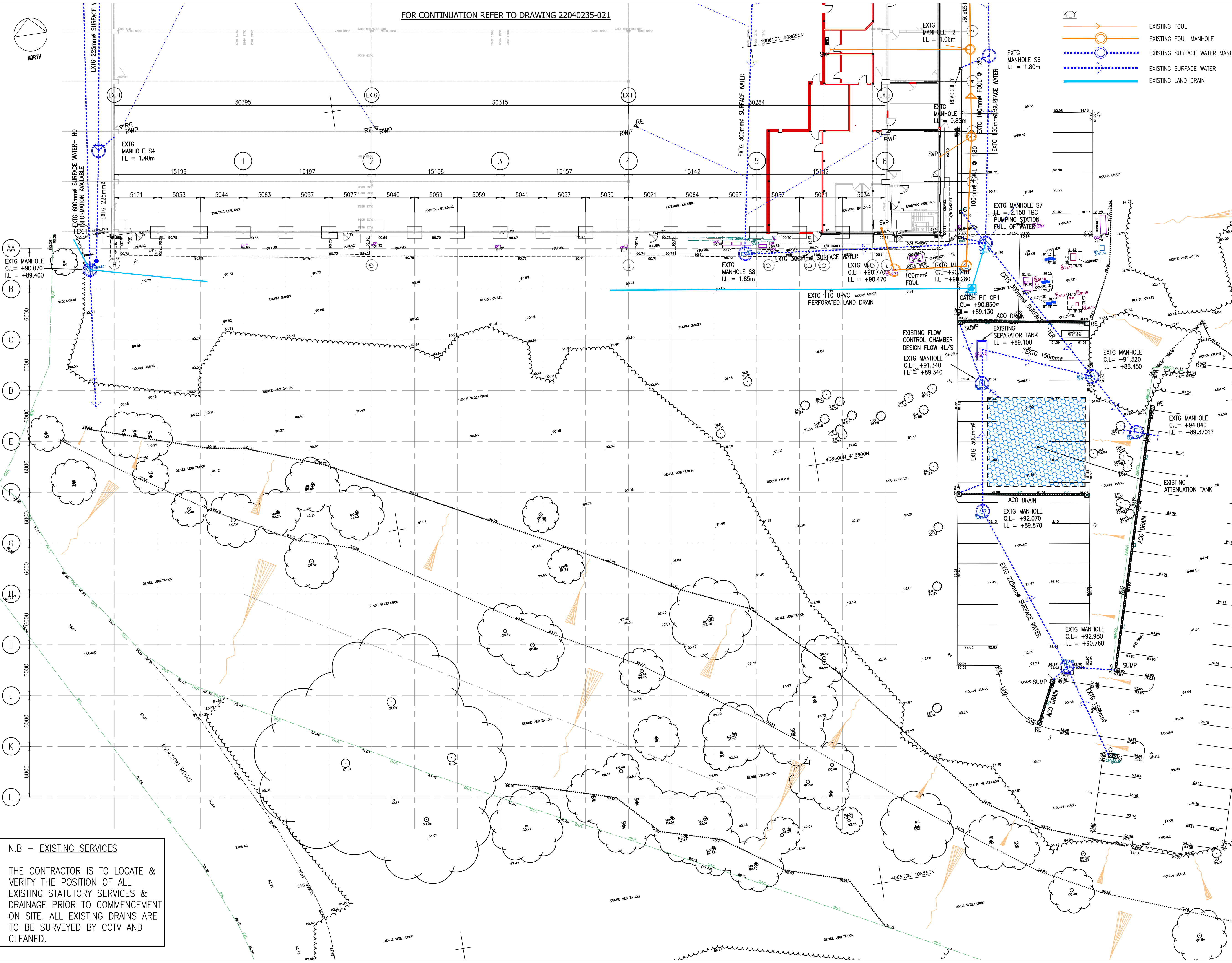


Peter Higby
B.Sc. (Hons.) C. Eng. M.I.Struct.E
Director



N.B - EXISTING SERVICES

THE CONTRACTOR IS TO LOCATE & VERIFY THE POSITION OF ALL EXISTING STATUTORY SERVICES & DRAINAGE PRIOR TO COMMENCEMENT ON SITE. ALL EXISTING DRAINS ARE TO BE SURVEYED BY CCTV AND CLEANED.



KEY

- EXISTING FOUL
- EXISTING FOUL MANHOLE
- EXISTING SURFACE WATER MANHOLE
- EXISTING SURFACE WATER
- EXISTING LAND DRAIN

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0 10 20 30 40 50 60 70

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GENERAL DRAINAGE NOTES

ALL NEW MANHOLES TO BE TO AS PER DETAIL DRAWING.

ALL NEW PIPEWORK TO BE WAVIN OSMADRAIN OR WAVIN ULTRARIB UPVC PIPEWORK UNLESS OTHERWISE NOTED.

ALL PIPEWORK AT COVER LEVELS LESS THAN 900MM IN TRAFFICKED AREAS 400MM IN OTHER AREAS SHOULD BE ENCASED IN CONCRETE (CLASS 2 BEDDING)

ALL OTHER PIPEWORK TO BE IN CLASS 5 BEDDING

PIPEWORK PASSING THROUGH BUILDING WALLS SHOULD BE FITTED WITH ROCKER PIPES AS PER STANDARD DETAIL

ALL EXTERNAL MANHOLE COVERS TO BE TO EN124:1994 TRAFFICKED AREAS - GRADE D400 OTHER AREAS - GRADE A14

ALL PIPEWORK TO BE 100% PIPEWORK AT MINIMUM 180 FALL FW AND 1100 SW UNLESS NOTED OTHERWISE

ALL NEW MANHOLES 450P PPIC UNLESS NOTED OTHERWISE

ALL RWP LOCATIONS AND NUMBERS TO BE CONFIRMED FROM ARCHITECTS DRAWINGS. ALL RWP'S TO ENTER SYSTEM VIA TRAPPED GULLY WITH GRATE TO ALLOW OVERFLOW IN EXTREME EVENT

EXACT SVP AND GULLY LOCATIONS TO BE CONFIRMED FROM ARCHITECTS DRAWINGS

GENERAL CONTRACTOR RESPONSIBLE FOR DESIGN AND CONSTRUCTION OF ALL TEMPORARY WORKS, PROPPING AND SHEETING

THE CONDITION OF ALL EXISTING SEWERS IS TO BE VERIFIED ON SITE BY CCTV SURVEY, PRIOR TO THE COMMENCEMENT OF ANY WORK ON SITE. THE LOCATION & INVERT LEVELS OF ALL EXISTING MANHOLES ARE TO BE CONFIRMED, PRIOR TO ANY EXCAVATION WORK STARTING.

ALL WORK IS TO COMPLY WITH THE REQUIREMENTS OF 'BS EN 752:2008' & 'SEWERS FOR ADOPTION - 6TH EDITION-2006

CDM NOTES.

ALL THE WORKS IS TO BE CARRIED OUT IN ACCORDANCE WITH THE CONTRACTORS HEALTH & SAFETY PLAN & 'CONSTRUCTION DESIGN & MANAGEMENT (CDM) REGULATIONS - 2015

SHORING TO EXCAVATIONS OVER 1.2M DEEP REQUIREMENTS. POTENTIAL FOR EXCAVATION COLLAPSE. WORK IN CONFINED SPACES PRECAUTIONS NECESSARY. MECHANICAL & MANUAL HANDLING PRECAUTIONS NECESSARY.

BURIED SERVICES EXIST ON & OFF SITE. REFER TO STATUTORY SERVICES INFORMATION.

GUARDING OF EXCAVATIONS TO PREVENT SITE STAFF, VEHICLES & MATERIALS FALLING INTO EXCAVATIONS & TO PREVENT OUT OF HOURS UNAUTHORISED ACCESS. ALL SITE PERSONNEL ARE TO HAVE THE NECESSARY QUALIFICATIONS TO PROVE THEIR COMPETANCE FOR WORKING ON THIS PROJECT.

WORKING WITH HAZARDOUS CEMENTITIOUS PRODUCTS. PREVENTION FOR FALLS FROM HEIGHT

Rev	Date	By	Check	Rev	Date	By	Check
P1	28.09.23	PRELIMINARY ISSUE FOR COMMENTS	IS	PH			

Client: **KERSIA**

Project Title: **EXTENSION TO EXISTING FACTORY, PILSWORTH INDUSTRIAL ESTATE, BURY**

Dwg Title: **EXISTING DRAINAGE SCHEME - SHEET 1**

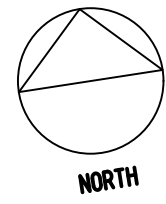
Dwg No.: 22040235-020

Revision: P1

Scale: 1:200

Drawn By / Date: @ A1

IS AUG 2023



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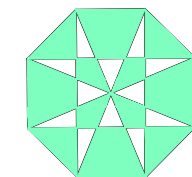
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P1	28.09.23	PRELIMINARY ISSUE FOR COMMENTS	IS PH
Rev	Date		Rev. by CHG. by



BRIAN CLANCY HIGBY PARTNERSHIP
Springwood South Hall, Chelwood Road, Knottingley, WAKEFIELD
Tel: 01955 757790

Client:
KERSIA

Project Title:
EXTENSION TO EXISTING FACTORY, PILSWORTH INDUSTRIAL ESTATE, BURY

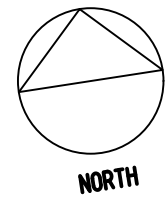
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EXISTING DRAINAGE SCHEME - SHEET 2

Dwg No.:	22040235-021	Revision:	P1
Scale:	1:250	Drawn By / Date:	@ A1 IS AUG 2023

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FOR CONTINUATION REFER TO DRAWING 22040235-020



KEY

- EXISTING FOUL
- EXISTING FOUL MANHOLE
- EXISTING SURFACE WATER MANHOLE
- EXISTING SURFACE WATER
- EXISTING LAND DRAIN
- PROPOSED SURFACE WATER DRAIN
- PROPOSED SURFACE WATER MANHOLE
- NEW TARMAC AREA
- NEW CONCRETE HARDSTANDING AREA
- NEW WAREHOUSE ROOF AREA

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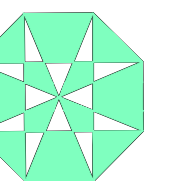
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Rev	Date		Rev. by CHG. by



BRIAN CLANCY HIGBY PARTNERSHIP
Springwood South Hall, Chalfont Road, Knotholt, WATFOLD
Tel: 01955 757790

Client:
KERSIA

Project Title:
EXTENSION TO EXISTING FACTORY, PILSWORTH INDUSTRIAL ESTATE, BURY

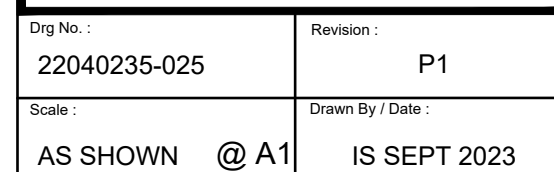
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PROPOSED DRAINAGE SCHEME - SHEET 2

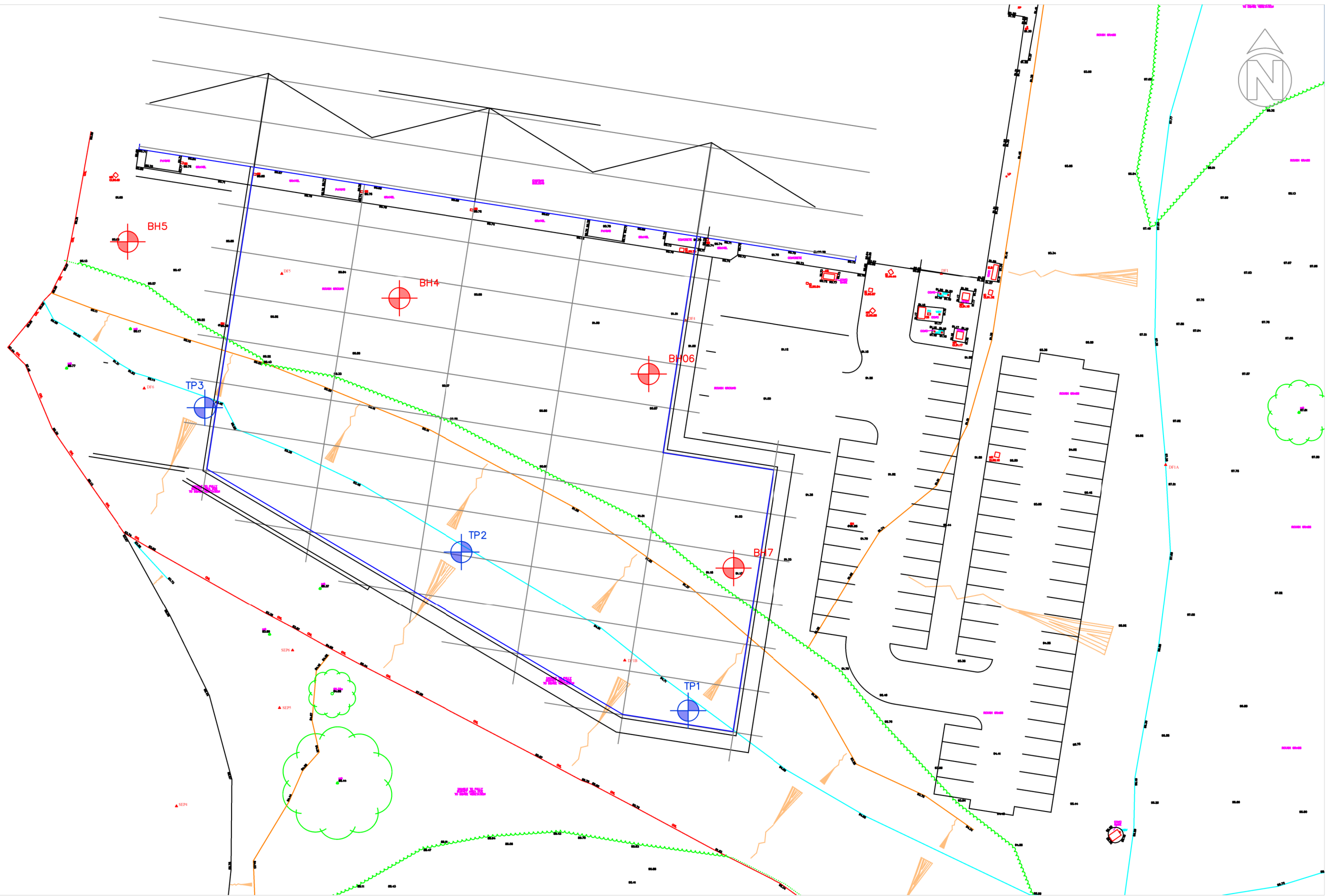
Drawn By:	Revision:
22040235-023	P1
Scale:	Drawn By / Date:
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FOR CONTINUATION REFER TO DRAWING 22040235-022





GROUNDTECH
CONSULTING



CLIENT

BRIAN CLANCY HIGBY PARTNERSHIP LTD

PROJECT TITLE

HOLCHEM

PLAN TITLE

EXPLORATORY HOLE LOCATION PLAN

DATE

JUNE 2022

SCALE

NTS

PLAN NUMBER

GRO-22216-DRAFT

Rev.	Details	Date

Status

Preliminary

Draft

Issued

For Comment

Approved

Notes

-  Approximate position of cable percussion boreholes
-  Approximate position of hand dug trial holes





GROUNDTECH
CONSULTING

Borehole Log

Borehole No.

BH4

Sheet 1 of 2

Project Name: HOLCHEM

Project No.
22216

Co-ords: -

Hole Type
CP

Location: BURY

Level:

Scale
1:50

Client: BRIAN CLANCY HIGBY PARTNERSHIP

Dates: 15/06/2022 - 16/06/2022

Logged By
JOD

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.50	D		0.50			MADE GROUND: Sandy sandstone cobbles. Sand is fine to coarse.	
		0.50	ES		0.70			MADE GROUND: Firm brown sandy silty clay. Sand is fine to coarse.	
		1.00	D					MADE GROUND: Firm dark brown clayey slightly gravelly sand. Sand is coarse. Gravels are rounded to subrounded and coarse.	1
		1.20		N=23 (1,2/5,7,4,7)					
		1.50	ES						
		2.00		N=11 (1,2/2,3,2,4)					2
		2.60	D		2.50				
		3.00	ES					Firm brown sandy gravelly CLAY. Sand is fine to coarse. Gravels are subrounded to rounded and fine.	3
		3.00	B	N=11 (1,1/2,2,3,4)					
		3.00 - 3.45							
		4.00		N=13 (1,2/3,3,3,4)					4
		5.00							
		5.00 - 5.45	B	N=17 (2,3/4,4,4,5)	5.10			Grey brown silty gravelly SAND. Sand is fine to coarse. Gravels are rounded to subrounded and fine.	5
		6.00 - 6.45	U						6
		6.50	D		6.40			Grey silty gravelly SAND. Sand is fine to coarse. Gravels are rounded to subrounded and fine.	
		7.00							7
		7.00 - 7.45	B	N=18 (1,3/4,4,4,6)					
					7.80			Firm dark brown sandy silty gravelly CLAY. Sand is fine. Gravels are subrounded to rounded and fine.	8
		8.50 - 8.95	U						
		9.00	D		9.00			Firm dark brown sandy silty slightly gravelly CLAY. Sand is fine. Gravels are subrounded to rounded and firm	9
		10.00 - 10.45	B		10.00				10

Continued on next sheet

Remarks

1. Location scanned for utilities. 2. Hand dug inspection pit to 1.3m bgl. 3. Groundwater encountered at 7m and 8m bgl. 4. Standpipe installed to 3m, 1m plain, 2m slotted. 5. Backfilled with gravels, bentonite and postcrete around the cap.





GROUNDTECH
CONSULTING

Borehole Log

Borehole No.

BH4

Sheet 2 of 2

Project Name: HOLCHEM

Project No.
22216

Co-ords: -

Hole Type
CP

Location: BURY

Level:

Scale
1:50

Client: BRIAN CLANCY HIGBY PARTNERSHIP

Dates: 15/06/2022 - 16/06/2022

Logged By
JOD

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		11.50 - 11.95	U					Soft to firm brown silty CLAY.	11
		13.00 13.00 - 13.45	B	N=17 (2,3/3,4,4,6)	13.00			Firm brown silty CLAY.	13
		14.50		N=26 (3,3/4,5,7,10)	14.00			Fine brown clayey silty SAND. Sand is fine to coarse.	14
		15.50 - 15.95	B		15.10			Fine brown sandy GRAVELS. Sand is fine to coarse. Gravels are rounded to subrounded, fine to coarse. Mixed lithologies some siltstone and sandstone.	15
		17.00 17.00 - 17.45	B	N=36 (4,5/5,7,10,14)	15.70			Firm brown sandy gravelly CLAY. Sand is fine. Gravels are rounded and fine.	16
		18.50		N=50 (4,5/10,14,16,10)	17.00			Firm brown sandy gravelly CLAY. Sand is fine. Gravels are rounded to subrounded, fine to coarse. Mixed lithologies some siltstone and sandstone.	17
		19.50		N=43 (5,4/6,10,10,17)	18.50			Firm to stiff brown sandy gravelly CLAY. Sand is fine to coarse. Gravels are subrounded to rounded and coarse. Mixed lithologies siltstone and sandstone.	19
					20.00			End of borehole at 20.00 m	20

Remarks

1. Location scanned for utilities. 2. Hand dug inspection pit to 1.3m bgl. 3. Groundwater encountered at 7m and 8m bgl. 4. Standpipe installed to 3m, 1m plain, 2m slotted. 5. Backfilled with gravels, bentonite and postcrete around the cap.





GROUNDTECH
CONSULTING

Borehole Log

Borehole No.

BH5

Sheet 1 of 2

Project Name: HOLCHEM

Project No.
22216

Co-ords: -

Hole Type
CP

Location: BURY

Level:

Scale
1:50

Client: BRIAN CLANCY HIGBY PARTNERSHIP

Dates: 14/06/2022 - 15/06/2022

Logged By
JOD

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.00 - 0.70	B		0.30			MADE GROUND: Brown clayey sandy topsoil. Sand is fine.	
		0.50	ES		0.70			MADE GROUND: Brown clayey sandy sandstone cobbles. Sand is fine to coarse.	
		1.20	D	N=12 (2,1/3,2,3,4)				MADE GROUND: Firm brown silty sandy clay. Sand is fine.	1
		1.20							
		1.20 - 1.65	B						
		2.00	ES	N=6 (1,1/2,1,2,1)					2
		2.00							
		2.00 - 2.45	B						
		3.00	ES	N=15 (2,2/3,4,4,4)					3
		3.00							
		3.00 - 3.45	B						
		4.00	ES	N=14 (2,3/3,3,4,4)					4
		4.00 - 4.45	U						
		4.50	D						
		5.00			5.00				
		5.00 - 5.45	B					Firm to stiff brown occasionally gravelly CLAY. Gravels are subangular to subrounded, fine to coarse.	5
		6.00		N=10 (1,2/2,2,3,3)	5.70			Firm brown silty CLAY.	6
		6.00 - 6.45	B						
		7.00		N=10 (1,1/1,2,3,4)					7
		7.50 - 7.95	B		7.50				
		8.70							8
		9.00		N=17 (3,3/3,4,4,6)	9.00			Firm to stiff brown sandy Clay. Sand is fine.	9
		9.00 - 9.45	B						
		9.45						Firm brown gravelly CLAY with sandy bands. Sand is fine. Gravels rounded to subrounded, fine to coarse. Mixed lithologies.	10

Continued on next sheet

Remarks

1. Location scanned for utilities. 2. Hand dug inspection pit to 1.3m bgl. 3. Groundwater encountered at 12m bgl. 4. Standpipe installed to 7m, 3m plain, 4m slotted. 5. Backfilled with gravels, bentonite and postcrete around the cap.





GROUNDTECH
CONSULTING

Borehole Log

Borehole No.

BH5

Sheet 2 of 2

Project Name: HOLCHEM

Project No.
22216

Co-ords: -

Hole Type
CP

Location: BURY

Level:

Scale
1:50

Client: BRIAN CLANCY HIGBY PARTNERSHIP

Dates: 14/06/2022 - 15/06/2022

Logged By
JOD

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		10.50 10.50 - 10.95	B	N=17 (3,3/4,4,4,5)	10.20			Silty sandy GRAVELS and COBBLES. Sand is fine. Gravels are rounded to subrounded, fine to coarse. Mixed lithologies sandstone and siltstone.	11
		12.00 12.00 - 12.45	B	N=22 (2,2/3,4,5,10)	12.00			Brown sandy GRAVELS. Sand is fine to coarse. Gravels are rounded to subrounded, fine to coarse. Mixed lithologies of siltstone and sandstone.	12
		13.50 13.50 - 13.95	B	N=25 (4,4/5,5,7,8)					13
		15.00		N=28 (4,4/5,7,8,8)	15.00			End of borehole at 15.00 m	14
									15
									16
									17
									18
									19
									20

Remarks

1. Location scanned for utilities. 2. Hand dug inspection pit to 1.3m bgl. 3. Groundwater encountered at 12m bgl. 4. Standpipe installed to 7m, 3m plain, 4m slotted. 5. Backfilled with gravels, bentonite and postcrete around the cap.





GROUNDTECH
CONSULTING

Borehole Log

Borehole No.

BH6

Sheet 1 of 2

Project Name: HOLCHEM

Project No.
22216

Co-ords: -

Hole Type
CP

Location: BURY

Level:

Scale
1:50

Client: BRIAN CLANCY HIGBY PARTNERSHIP

Dates: 17/06/2022 - 20/06/2022

Logged By
JOD

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.50	D		0.50			MADE GROUND: Dark brown slightly sandy topsoil. Sand is fine.	
		0.50	ES					MADE GROUND: Clayey gravelly sand. Sand is coarse. Gravels are subrounded to subangular, and coarse. Mixed lithologies.	
		1.00	D		1.00			MADE GROUND: Clayey gravelly sand with occasional cobbles. Sand is coarse. Gravels are rounded to subrounded, and coarse. Mixed lithologies including sandstone and some brick fragments.	1
		1.20		N=10 (1,2/3,2,2,3)					
		1.50	ES						
		2.00		N=9 (1,1/2,1,3,3)					2
		2.20	ES						
		3.00		N=15 (2,2/2,4,4,5)					3
		3.00 - 3.45	B		3.30				
		4.00		N=13 (2,3/2,3,4,4)					4
		4.00 - 4.45	B						
		5.00		N=16 (2,2/3,4,4,5)	5.00			MADE GROUND: Firm dark brown sandy gravelly. Sand is fine to coarse. Gravels are subrounded to subangular and coarse.	5
		5.00 - 5.45	B					MADE GROUND: Firm brown sandy gravelly clay. Sand is fine to coarse. Gravels are subrounded to subangular and fine.	6
		6.50		N=13 (2,3/2,4,3,4)	6.50				7
		8.00		N=9 (1,2/1,3,2,3)				Firm brown clayey gravelly SAND. Sand is coarse. Gravels are subangular to subrounded, and coarse. Mixed lithologies some sandstone and granite.	8
		8.00 - 8.45	B						
		8.50 - 8.70	B		8.50				
		8.70						Firm to stiff, clayey PEAT. Fragments of wood and vegetation.	
		9.00 - 9.45	U					Firm to stiff brown sandy CLAY. Sand is fine.	9
		9.50	D		9.50				
								Stiff mottled brown grey CLAY.	
									10

Continued on next sheet

Remarks

1. Location scanned for utilities. 2. Hand dug inspection pit to 1.3m bgl. 3. Groundwater encountered at 12m and 14.5m bgl. 4. Backfilled with arisings.





GROUNDTECH
CONSULTING

Borehole Log

Borehole No.

BH6

Sheet 2 of 2

Project Name: HOLCHEM

Project No.
22216

Co-ords: -

Hole Type
CP

Location: BURY

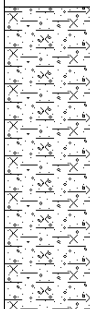
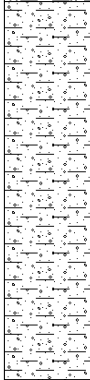
Level:

Scale
1:50

Client: BRIAN CLANCY HIGBY PARTNERSHIP

Dates: 17/06/2022 - 20/06/2022

Logged By
JOD

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		10.50 10.50 - 10.95	B	N=21 (3,5/4,4,5,8)	10.50			Stiff brown sandy gravelly silty CLAY. Sand is fine to coarse. Gravels are rounded to subrounded, and coarse.	11
		12.00	U						12
		12.50	D		12.50			Firm brown sandy gravelly CLAY. Sand is fine to coarse. Gravels are subrounded to subangular, and coarse.	13
		13.50 13.50 - 13.95	B	N=17 (3,4/4,4,4,5)					14
		14.50		N=21 (3,4/4,5,6,6)					15
				15.00		End of borehole at 15.00 m			15
									16
									17
									18
									19
									20

Remarks

1. Location scanned for utilities. 2. Hand dug inspection pit to 1.3m bgl. 3. Groundwater encountered at 12m and 14.5m bgl. 4. Backfilled with arisings.





GROUNDTECH
CONSULTING

Borehole Log

Borehole No.

BH7

Sheet 1 of 2

Project Name: HOLCHEM

Project No.
22216

Co-ords: -

Hole Type
CP

Location: BURY

Level:

Scale
1:50

Client: BRIAN CLANCY HIGBY PARTNERSHIP

Dates: 13/06/2022 - 14/06/2022

Logged By
JOD

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.25			0.25			MADE GROUND: Dark brown slightly sandy topsoil.	
		0.50	D		0.50			MADE GROUND: Firm brown sandy gravelly Clay. Sand is fine. Gravels are rounded to subrounded and fine.	
		0.50	ES						
		1.00	D		1.00			MADE GROUND: Firm stiff dark brown sandy gravelly clay. Sand is fine. Gravel are subrounded to rounded, and fine. Mixed lithologies sandstone and brick fragments.	1
		1.20		N=6 (1,2/1,2,1,2)					
		1.50	ES		1.40			MADE GROUND: Firm stiff dark brown sandy gravelly clay. Sand is fine. Gravel are subrounded to rounded, fine to coarse. Mixed lithologies sandstone.	
		2.00		N=9 (1,2/2,1,2,4)				MADE GROUND: Firm dark brown sandy gravelly clay. Sand is fine to coarse. Gravels are subangular to subrounded and coarse	2
		3.00	D						
		3.00		N=11 (2,2/2,3,3,3)					3
		4.00		N=7 (1,1/1,2,2,2)	4.00			Clayey gravelly SAND. Sand is coarse. Gravels are subrounded to subangular and coarse. Mixed lithologies some granite.	4
		4.50	D						
		5.00		N=15 (2,3/3,4,4,4)					5
		5.30	ES						6
		6.50		N=4 (1,0/0,1,1,2)	6.50			Firm to stiff brown sandy CLAY. Sand is fine.	7
		8.00		N=17 (2,3/4,4,4,5)	8.00			Brown silty gravelly SAND. Sand is fine. Gravels are subrounded and fine, of mixed lithologies.	8
									9
		10.00	D						10
								Continued on next sheet	

Remarks

1. Location scanned for utilities. 2. Hand dug inspection pit to 1.3m bgl. 3. Groundwater encountered at 10m and 12.5m bgl. 4. Standpipe installed to 3m, 1m plain, 2m slotted. 5. Backfilled with gravels, bentonite and postcrete around the cap.





GROUNDTECH
CONSULTING

Borehole Log

Borehole No.

BH7

Sheet 2 of 2

Project Name: HOLCHEM

Project No.
22216

Co-ords: -

Hole Type
CP

Location: BURY

Level:

Scale
1:50

Client: BRIAN CLANCY HIGBY PARTNERSHIP

Dates: 13/06/2022 - 14/06/2022

Logged By
JOD

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		11.00		N=15 (2,2/4,3,3,5)	10.50			Firm to stiff brown sandy gravelly CLAY. Sand is fine. Gravels are subrounded to subangular and fine. Mixed lithologies of siltstone, sandstone and granite.	11
									12
		13.00	D		12.50			Firm mottled grey brown silty CLAY.	13
		14.00		N=16 (2,3/3,4,4,5)					14
		14.50		N=18 (2,3/4,4,5,5)					15
					15.00			End of borehole at 15.00 m	15
									16
									17
									18
									19
									20

Remarks

1. Location scanned for utilities. 2. Hand dug inspection pit to 1.3m bgl. 3. Groundwater encountered at 10m and 12.5m bgl. 4. Standpipe installed to 3m, 1m plain, 2m slotted. 5. Backfilled with gravels, bentonite and postcrete around the cap.

