



Drainage Statement

Lindfield Public Conveniences, Backwoods Lane
Lindfield RH16 2ED

Client

Lindfield Parish Council
Clock Tower House
Linfield Enterprise Park
Lewes Road
Lindfield RH16 2LH
Ref: 12775
Date: March 2024

Consulting Engineers

GTA Civils & Transport Ltd
Maple House
192 – 198 London Road
Burgess Hill
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RH15 9RD
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Index

1	Introduction	2
2	Existing Site	3
3	Development Proposals and Drainage Strategy	4

Schedule of Appendices

A	Site and Location Plan
B	Topographical Survey
C	Sewer Records from Southern Water
D	Extracts from Geotechnical Assessment
E	Proposed Ground Floor Plan and Elevations
F	Proposed Site Drainage
G	Micro Drainage Output Sheets
H	Drainage Consultation Response - Mid Sussex District Council

Annex – Maintenance and Management Plan

Issue	Issue date	Compiled	Checked
Preliminary Issue	29 February 2024	JR	
First Issue	20 March 2024	JR	SL

1 Introduction

- 1.1 This Drainage Statement has been prepared for Lindfield Parish Council respect of a proposal to construct a public convenience block on common land adjacent to the Bowling Club on Backwoods Lane, Lindfield.
- 1.2 The proposal has been granted planning permission from Mid Sussex District Council under reference DM/22/3791 and this Statement addresses pre-commencement Condition #4 of the related Decision Notice, which reads as follows:

"The development hereby permitted shall not commence unless and until details of the proposed foul and surface water drainage and means of disposal have been submitted to and approved in writing by the local planning authority. The building shall not be occupied until all the approved drainage works have been carried out in accordance with the agreed details.

Reason: To ensure that the proposal is satisfactorily drained and to accord with the NPPF requirements and Policy DP41 of the Mid Sussex District Plan (2014 - 2031) and the Lindfield and Lindfield Rural Neighbourhood Plan"

- 1.3 This statement sets out the proposed site drainage that complies with local and national SuDS policy.
- 1.4 No responsibility is accepted to any third party for all or part of this study in connection with this or any other development.

2 Existing Site

- 2.1 The existing site comprises an area of common land to the north of the car park at Lindfield Bowling Club on Backwoods Lane - refer to the Site and Location Plan in Appendix A.
- 2.2 Topography: a topographical survey in Appendix B shows the existing site as comprising an area of grass-covered land with a concrete pathway running through it. The land has a slight fall from northwest to southeast with levels ranging from 40.07m to 40.36m AOD.
- 2.3 Geology: the BGS online geological map shows a bedrock geology of Upper Tunbridge Wells Sand (sandstone and siltstone) with no overlying superficial deposits. Intrusive site investigations confirm this geology – refer to extracts from the Geotechnical Assessment by Land Science in Appendix D.
- 2.4 Public sewers: Southern Water's sewer records are shown in Appendix C. The map shows a 150mm diameter surface water sewer in Backwoods Lane located approximately 45m south of the site. Adjacent to this asset within Backwoods Lane is a 225mm public foul sewer. This has another foul sewer connecting to it which issues from a location next to the southeast corner of the car park.
- 2.5 Private drainage: there are no manhole covers present within the application site nor its immediate vicinity. The topographical survey shows 3No manholes covers and a gully in the southeast corner of the car park.

3 Development Proposals and Drainage Strategy

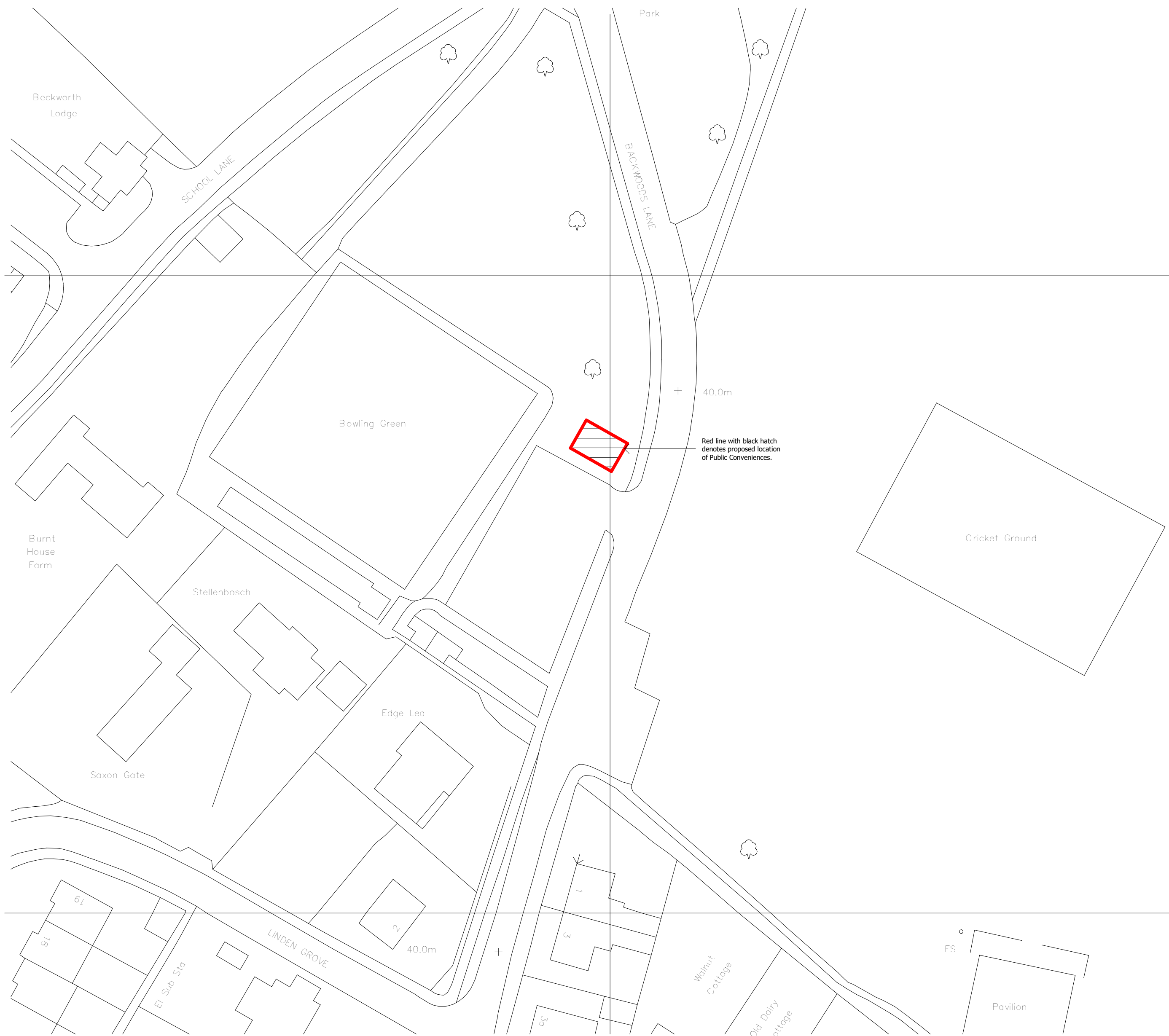
- 3.1 The proposal is to build a public convenience block – refer to the proposed architectural drawings in Appendix E.
- 3.2 A Site Drainage Strategy drawing for the proposed site is shown in Appendix F.
- 3.3 Proposed surface water drainage: SuDS (Sustainable Drainage Systems) Policy states that surface water runoff for use must be discharged according to the following hierarchy:
 - Infiltration to ground;
 - Discharge to a surface water body;
 - Discharge to a surface water sewer, highway drain, or another drainage system;
 - Discharge to a combined sewer where there are absolutely no other options, and only where agreed in advance with the relevant sewerage undertaker.
- 3.4 The SuDS Hierarchy (infiltration, watercourses, public sewers, private sewers) was considered. Falling head soakage testing was undertaken in 1No. pit at a test depth range of 0.53-0.55m. The results registered a failure as the readings were insufficient to calculate a soil infiltration rate, the water level having fallen only 20mm over a 3-hour period – refer to Appendix D for the results. On this basis, infiltrating surface water to ground is not considered viable.
- 3.5 There are no watercourses near the site. Discharge to a surface water body is discounted.
- 3.6 Discharge to a surface water sewer is feasible. As identified, there is a surface water sewer in Backwoods Lane.
- 3.7 An indirect connection from the proposed site to the surface water sewer is shown via one of the manholes in the southeast corner of the car park. As there is a gully in the car park, it is assumed that at least one of the manholes connects to the surface water sewerage network within Backwoods Lane.
- 3.8 The proposed catchment area is approximately 80m² and comprises the roof of the proposed block together with the new bituminous footpaths which surround the block on all sides. The greenfield runoff rate generated by this area is 0.1 l/s. The surface water flows are shown restricted by means of a flow control device to 2.0 l/s, this rate being the practical minimum as stated within Mid Sussex District Council's drainage consultation response – refer to Appendix H. The flow control device will be a Hydro-brake of diameter 66mm.

- 3.9 Attenuation storage is provided within the storm network which comprises catchpits and 100mm pipework. The attenuation storage volume required for the 1 in 100 year event + 45% for climate change is 1.03m³. The volume within the storm network is in excess of 1.05m³. For drainage calculations pertaining to greenfield runoff and the proposed attenuation system, refer to the Micro Drainage results in Appendix G.
- 3.10 Foul drainage: it is proposed that the development will connect to the existing public foul sewer manhole located just outside the southeast corner of the car park. There is sufficient fall to enable a gravity connection, based on the invert level provided on Southern Water's records for sewer manhole reference 5002. It is assumed that one of the manholes within the car park links to this sewer, and a connection is shown to the sewer via this chamber. If it is found that no existing connection to the foul sewer exists in the car park, a direct connection to the foul sewer manhole can be made.
- 3.11 Permissions: authorisation from Southern Water via is required to connect to the foul and surface water sewers. This can be obtained by submitting a Section 106 application to Southern Water.
- 3.12 Investigations: the existing manholes in the southeast corner of the car park are to be CCTV surveyed to prove the connections to the sewers in Backwoods Lane and to establish their line, level and condition for reuse.

- End of Statement -

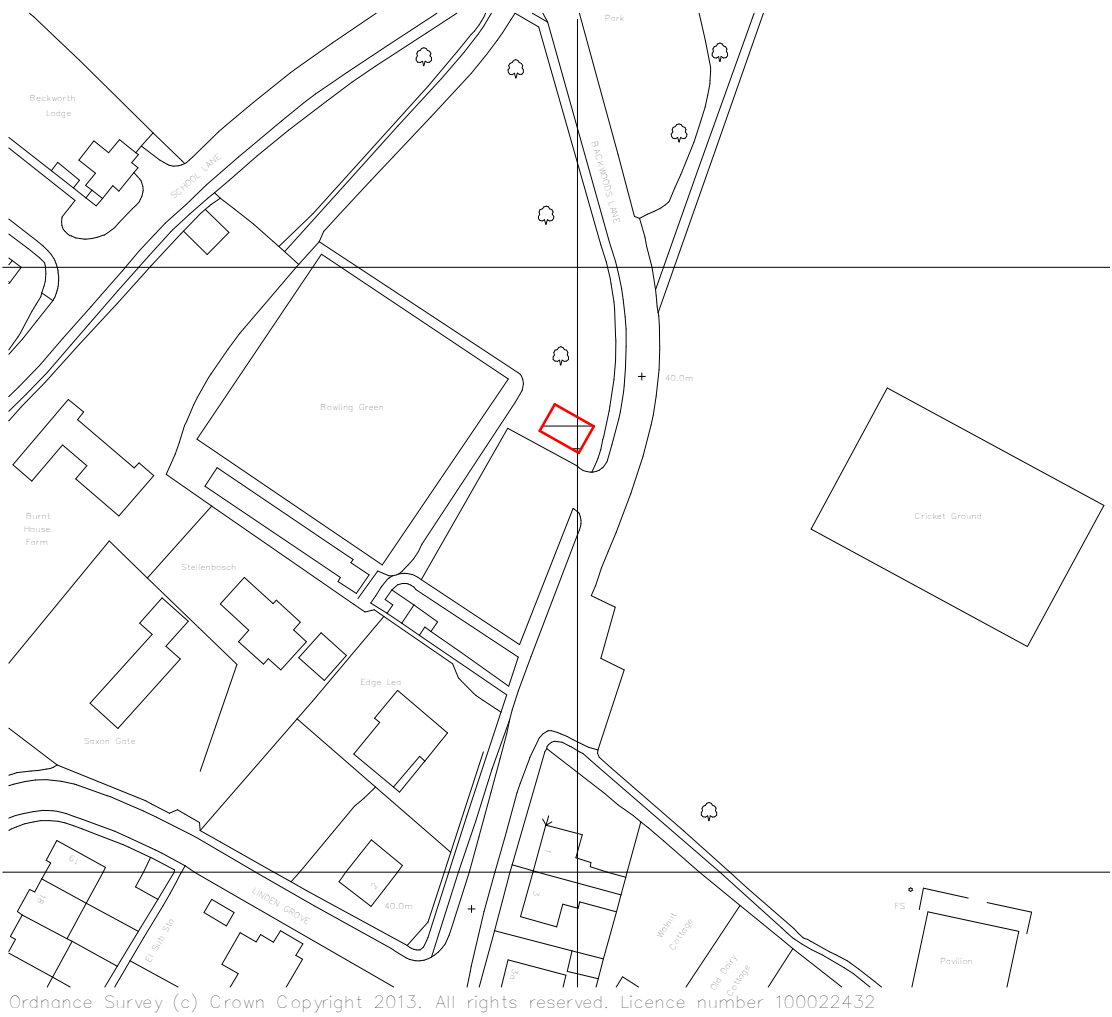
Appendix A

Site and Location Plan

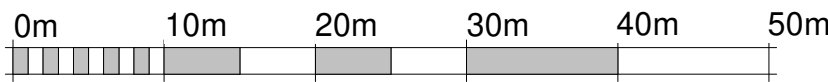
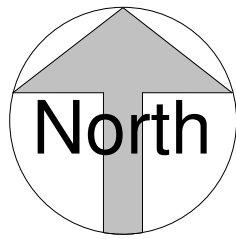


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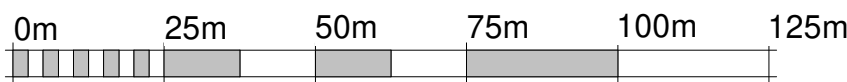
Site Plan
1 : 500



Location Plan
1 : 1250



VISUAL SCALE 1:500 @ A1



VISUAL SCALE 1:1250 @ A1

REV.	DATE.	BY.	AMENDMENT.
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CLIENT. Lindfield Parish Council
PROJECT. Public Conveniences Backwoods Lane Lindfield Haywards Heath

DRAWING. Site and Location Plan - As Proposed
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DATE. 14/09/22	SCALE AT A1. As indicated	DRAWN BY. SM CHECKED BY. GB
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JOB NO. GH340	DRAWING NO. PL001	REV.
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Appendix B

Topographical Survey

NOTES
SURVEY IS BASED ON OS GRID SYSTEM
ORIGINATING FROM STATION 1
@ E 534575.786, N 125051.068, RL 40.147

Line types and Symbols

Garden Line

Road Marki

H

Control Stations

Orientation

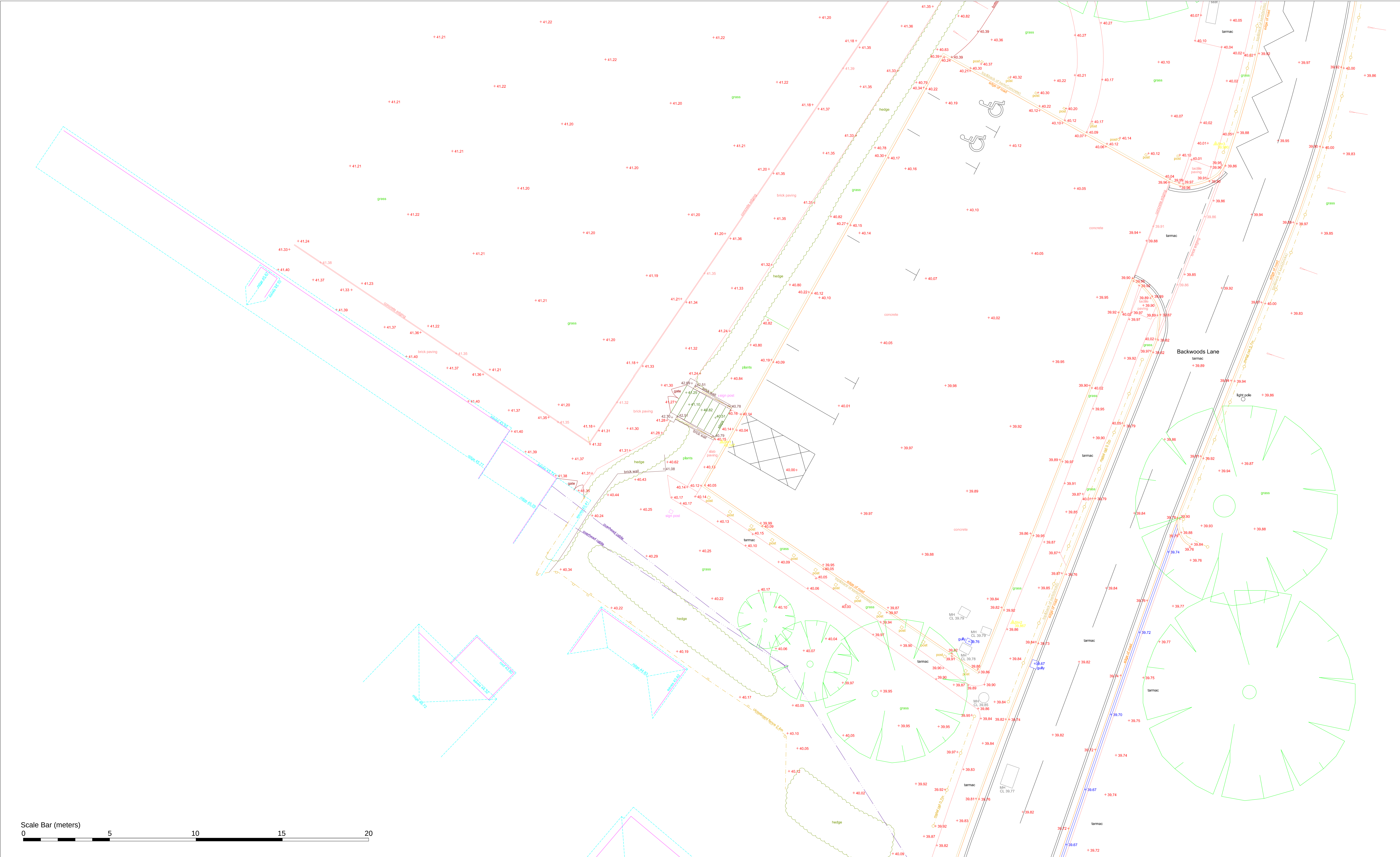
Rev.	Date	Description

Gould & Co.

Job Title
Linfield WC, School Lane, Haywards Heath

Drawing No.
001

Rev



NOTES
SURVEY IS BASED ON OS GRID SYSTEM
ORIGINATING FROM STATION 1
@ E 534575.786, N 125051.068, RL 40.147

LAYER INFORMATION

0	Blank	Empty
1	Bottom of bank	Downed bank arrows
2	Buildings	Bottom of bank / edge
3	Edge of concrete	Edge of concrete surface
4	Edge of road	Edge of road surface
5	External walls	External wall lines
6	Fence	Handrails, fence and boundary lines
7	Footpath	Edge of footpath or surface changes
8	Garden	Edge of garden
9	Gully	Gully
10	Highway	Edge of highway
11	Horizontal	Horizontal
12	Internal	Internal
13	Overhead Cables	Overhead cables and utility poles
14	Plant	Plant
15	Roof Markings	Roof Markings
16	Rooflines	Rooflines
17	Sign Post	Sign Post
18	Spot Levels	Spot Levels
19	Top and Back of Bank	Top and back line of bank
20	Top of bank	Top of bank
21	Tree	Tree
22	Unclassified Structure	Unclassified Structure
23	Wall	Wall

Line types and Symbols

Building Lines	100.40
Rooflines	100.40
Top & Back of Kerb	100.40
Edge of Surface / Footpath	100.40
Edge of Road	100.40
Edge of Concrete	100.40
Top of bank	100.40
Bottom of bank	100.40
Fence / Handrail	100.40
Overhead Cables	100.40

Garden Line

Scrub Line

Gullies

Man holes & Flow

Trees

Spot Levels

Scrub

Gully

Man hole

Tree

Spot Level

Road Markings

Hedge Line

Walls

Steps

Plant

Gates

Control Stations

Point Number	Eastings	Northings	Elevation	Description
BS1	534575.786	125051.068	40.147	HB nail
BS2	534575.786	125051.068	39.887	HB nail
BS3	534575.786	125051.068	39.590	HB nail

Orientation

North

Rev.	Date	Description

Client

Gould & Co.

Drawing Title

Topographical Survey P2

Job Title

Linfield WC, School Lane, Haywards Heath

Scale	Date	Drawn	Job No.	Drawing No.	Rev.
1/100 @ A1	22/05/18	DM	009 05 18	002	
	Surveyed by	Checked			
	SE	CH			

Appendix C

Sewer Records from Southern Water

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert
0101	F	41.85	39.44	
0101	F	0.00	31.00	
0201	F	0.00	0.00	
0201	F	34.04	0.00	
0202	F	0.00	0.00	
0203	F	0.00	38.50	
0301	F	39.26	37.94	
0302	F	39.21	37.65	
0303	F	38.75	36.91	
0304	F	39.23	35.23	
0305	F	0.00	0.00	
0306	F	0.00	0.00	
0701	F	0.00	0.00	
0801	F	36.23	35.22	
0802	F	35.67	33.22	
0803	F	33.67	32.19	
0804	F	32.15	31.14	
0809	F	0.00	0.00	
0901	F	37.19	35.49	
0901	F	31.88	0.00	
0902	F	37.57	35.55	
0902	F	31.72	29.83	
0903	F	32.34	31.36	
0904	F	0.00	29.70	
1001	F	37.63	35.72	
1002	F	0.00	35.80	
1101	F	40.37	38.52	
1102	F	40.02	37.71	
1201	F	40.10	37.36	
1202	F	39.20	36.85	
1203	F	39.30	37.40	
1204	F	38.99	36.56	
1205	F	39.64	37.91	
1206	F	0.00	37.73	
1301	F	39.31	38.25	
1302	F	39.57	38.40	
1701	F	36.46	34.91	
1703	F	0.00	0.00	
1801	F	42.89	40.20	
1802	F	0.00	0.00	
1803	F	0.00	0.00	
1804	F	0.00	0.00	
1805	F	0.00	0.00	
1806	F	0.00	0.00	
1807	F	0.00	0.00	
1810	F	0.00	0.00	
1813	F	9.85	9.45	
1815	F	9.10	8.90	
1816	F	9.85	9.30	
2101	F	37.91	35.91	
2201	F	38.59	36.21	
2202	F	38.42	36.07	
2203	F	0.00	0.00	
2301	F	39.64	36.30	
2302	F	39.25	36.85	
2303	F	39.14	36.21	
2402	F	39.46	36.90	
2702	F	40.52	40.10	
2801	F	44.84	39.44	
2802	F	46.68	38.47	
3203	F	0.00	0.00	
3301	F	0.00	36.12	
3302	F	0.00	36.20	
3801	F	45.49	44.43	
3802	F	46.50	37.48	
3901	F	48.74	47.13	
4201	F	45.23	35.98	
4202	F	0.00	0.00	
4203	F	0.00	0.00	
4702	F	39.75	36.70	
4703	F	42.15	40.97	
4801	F	40.35	36.47	
4901	F	43.84	42.11	
4902	F	0.00	0.00	
5001	F	39.80	35.61	
5002	F	39.87	38.65	
5003	F	41.97	40.36	
5004	F	42.66	40.75	
5101	F	39.94	35.10	
5301	F	39.17	0.00	
5302	F	38.57	0.00	
5303	F	0.00	0.00	
5304	F	0.00	0.00	
5305	F	0.00	0.00	
5701	F	35.64	33.81	
5801	F	39.00	37.57	
5802	F	38.24	36.75	
5803	F	40.14	36.16	
5804	F	0.00	0.00	
5805	F	0.00	0.00	
5901	F	39.99	35.94	
5902	F	39.84	35.69	
5903	F	40.05	38.32	
5904	F	0.00	0.00	
6201	F	37.34	34.94	
6202	F	35.97	34.65	
6203	F	35.91	34.72	
6204	F	35.59	34.41	
6205	F	0.00	35.50	
6301	F	35.97	34.85	
6302	F	36.55	35.16	
6402	F	39.59	36.69	
6801	F	36.74	33.49	
6802	F	36.11	33.22	
6901	F	36.19	32.82	

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert
6902	F	37.85	35.19	
6903	F	36.33	35.10	
6904	F	0.00	35.60	
6905	F	0.00	0.00	
6906	F	0.00	0.00	
6907	F	0.00	0.00	
7201	F	0.00	32.30	
7202	F	35.54	33.47	
7203	F	34.43	33.45	
7204	F	0.00	33.84	
7205	F	35.19	34.23	
7206	F	0.00	0.00	
7207	F	0.00	0.00	
7208	F	0.00	0.00	
7209	F	0.00	0.00	
7301	F	36.23	34.33	
7302	F	0.00	0.00	
7303	F	0.00	0.00	
7304	F	0.00	0.00	
7305	F	0.00	0.00	
7306	F	0.00	0.00	
7307	F	0.00	0.00	
7701	F	32.07	31.14	
7702	F	31.97	31.30	
7801	F	34.35	0.00	
7802	F	34.18	33.47	
7803	F	33.77	0.00	
7804	F	0.00	0.00	
7805	F	0.00	0.00	
7901	F	35.42	32.58	
8001	F	32.35	30.32	
8002	F	32.19	30.39	
8003	F	32.49	31.85	
8004	F	33.34	32.05	
8101	F	33.52	30.97	
8201	F	33.57	32.07	
8202	F	33.72	33.50	
8203	F	34.90	33.54	
8301	F	37.47	34.68	
8302	F	38.49	36.74	
8303	F	37.30	35.40	
8304	F	37.04	35.57	
8305	F	36.94	35.50	
8401	F	39.31	37.43	
8403	F	0.00	0.00	
8404	F	0.00	0.00	
8801	F	32.02	30.22	
8802	F	32.29	30.47	
8803	F	32.43	30.83	
8901	F	31.67	29.66	
9001	F	31.37	30.05	
9002	F	31.58	0.00	
9003	F	0.00	0.00	
9101	F	32.31	30.42	
9102	F	32.50	30.67	
9103	F	32.56	31.42	
9104	F	32.65	31.83	
9105	F	33.20	0.00	
9106	F	33.66	32.41	
9107	F	0.00	0.00	
9108	F	0.00	0.00	
9201	F	33.53	32.37	
9202	F	34.57	0.00	
9203	F	34.40	33.32	
9204	F	0.00	0.00	
9206	F	0.00	0.00	
9207	F	0.00	0.00	
9208	F	0.00	0.00	
9301	F	40.27	38.14	
9302	F	38.98	37.76	
9303	F	38.75	37.50	
9304	F	38.35	37.15	
9305	F	37.45	36.71	
9306	F	37.16	36.38	
9401	F	39.87	38.69	
9801	F	32.21	29.71	
9802	F	32.03	0.00	
9803	F	33.78	31.82	
9804	F	0.00	31.20	
9901	F	32.27	29.84	
9902	F	31.29	0.00	
9903	F	31.44	0.00	
9904	F	31.52	0.00	
9905	F	31.42	0.00	
9906	F	31.54	29.96	
9907	F	31.42	0.00	
9908	F	0.00	0.00	
0053	S	31.06	29.61	
0054	S	31.39	29.50	
0055	S	31.47	0.00	
0056	S	31.37	29.45	
0057	S	31.19	29.42	
0058	S	31.08	29.38	
0350	S	39.12	37.19	
0351	S	38.70	36.28	
0353	S	38.80	35.71	
0851	S	36.33	34.20	
0852	S	36.54	34.74	</

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Appendix D

Extracts from Geotechnical Assessment

1.0 EXECUTIVE SUMMARY

This summary is a brief precis of the main findings and conclusions of the investigation. For detailed information, the reader is referred to the main report.

The existing site comprised an area of grass covered open space with a concrete pathway, with a concrete pathway. The proposed development was understood to comprise the development of the land into public toilets. The intrusive investigation included 2no boreholes.

Strata	Base Depth range (m)	Summary
Topsoil	0.35	Dark brown slightly gravelly, clayey, SAND.
Cohesive Upper Tunbridge Wells Sand Formation	1.20-1.70	Yellow mottled grey/brown silty, CLAY within the first metre of both holes.
Bedrock Upper Tunbridge Wells Sand Formation	3.00+	Very friable siltstone.

No groundwater encountered within 3.00mbgl depth.

Traditional foundations are likely to be suitable to the ground and groundwater conditions, and suggested design parameters are given for both. The formation should be treated as being low volume change potential. A ground bearing or suspended floor slab might be considered.

Excavations are generally likely to remain stable.

Pavements may be formed on the Upper Tunbridge Wells Sands Formation. CBR value of 5.5% recommended for the Upper Tunbridge Wells Sands Formation, which is classified as being frost susceptible.

Buried structural concrete may be designed to DS-1 and AC-1 in accordance with BS8500.

Soakage testing identified that it is unlikely that shallow soakaways will perform satisfactorily in these materials. Consideration should be given to alternative drainage solutions such as French drains, drainage fields, discharge to sewer, or the like.

No issues with respect to ground gases have been identified. No Radon Protection Measures (RPM) are required at this location. Soil testing has not identified elevated levels of contamination.

Chemical results on Topsoil corresponded to inert Waste classification. Natural soils are anticipated to generally be Inert Waste.

No immediate requirements for further ground investigation have been identified. This report should be submitted to relevant authorities etc. in good time for consideration and approval.

5.4 Dynamic Probing (DP)

Dynamic Probing involves driving a cone point using a percussive hammer and recording the number of blows required for each increment of penetration. The particular testing method employed was DPSH-A as prescribed under BS EN 1997-1:2004 and EN ISO 22476-2.

5.5 Falling Head Soakage Testing (FHST)

A test bore is filled with water and the drop in water level over time is recorded, to provide an indication on the likely permeability of different strata.

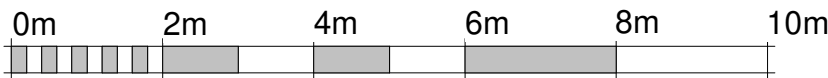
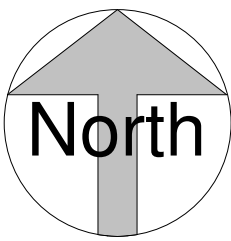
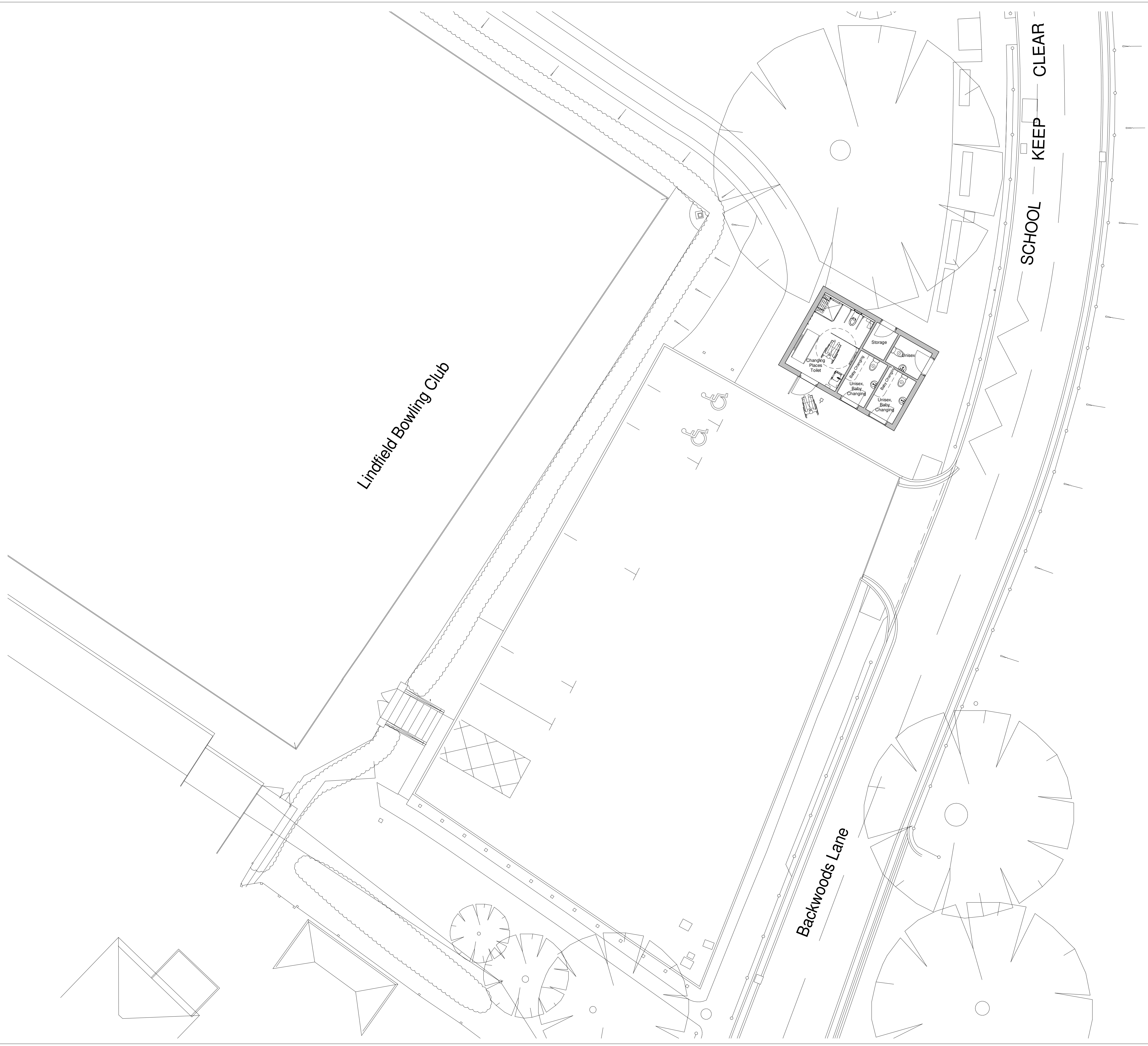
5.6 Soil Sampling

Soil samples were recovered from the exploratory holes during the ground investigation and stored/transported in containers appropriate for the laboratory testing undertaken. Sample types and depths are recorded on the relevant exploratory hole records.

CONTROLLED

Appendix E

Proposed Ground Floor Plan and Elevations



VISUAL SCALE 1:100 @ A1

A	13/10/22	SM	Additional Unisex WC Added
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REV.	DATE.	BY.	AMENDMENT.
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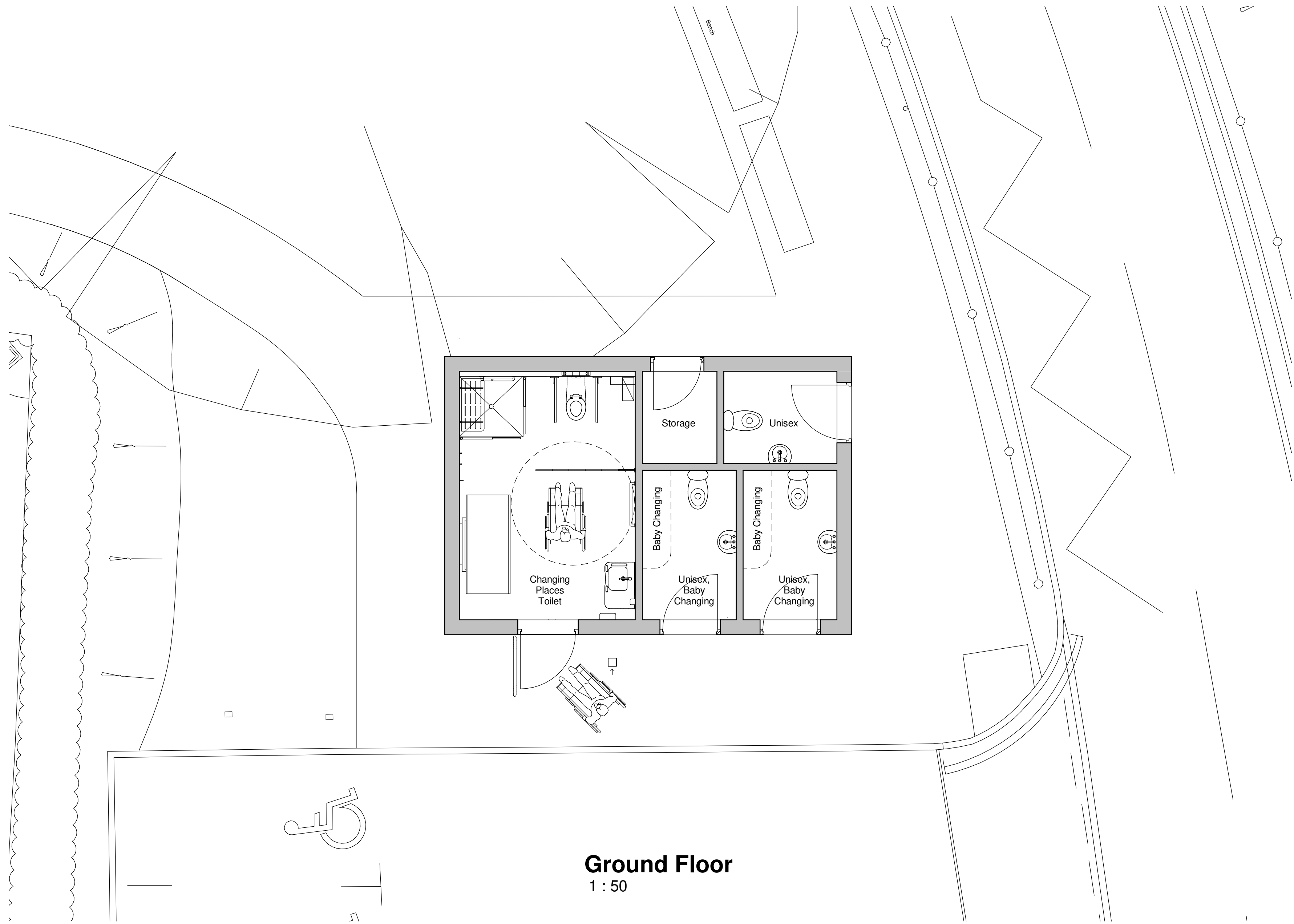
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CLIENT. Lindfield Parish Council
PROJECT. Public Conveniences Backwoods Lane Lindfield Haywards Heath

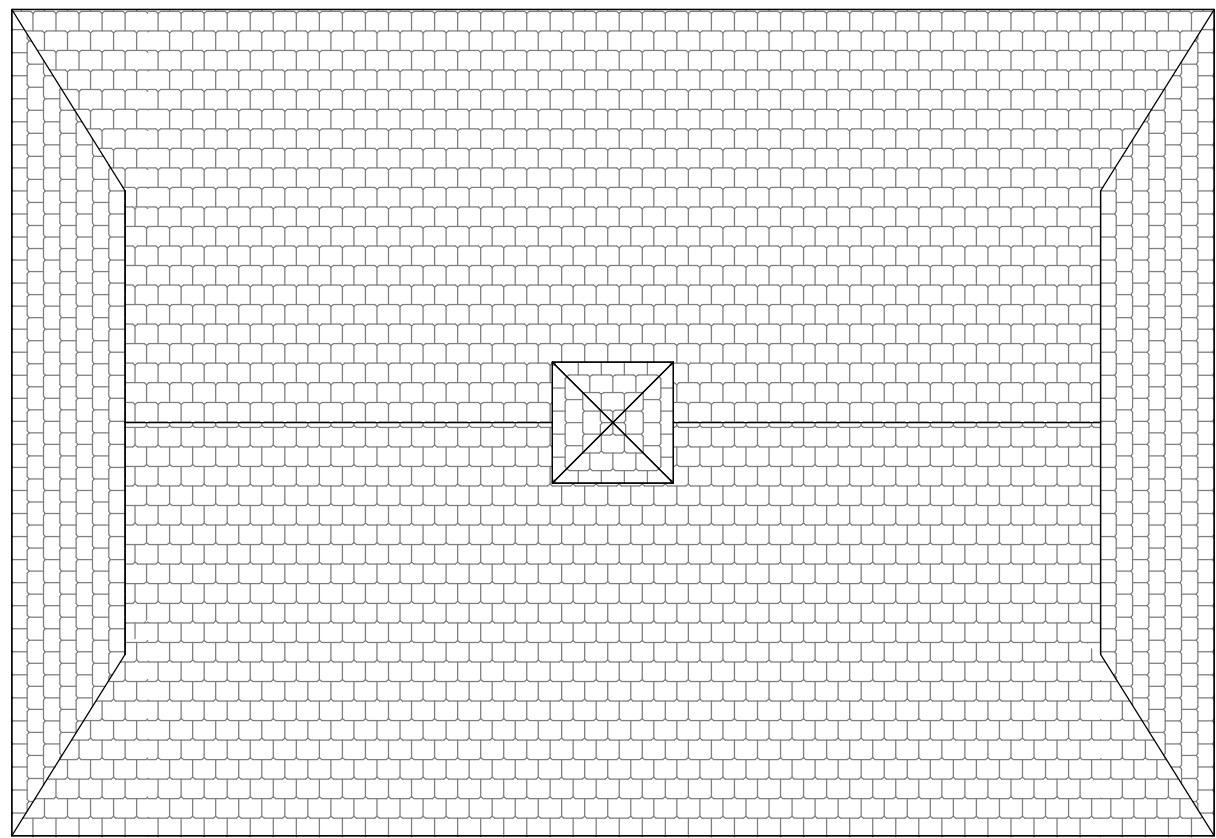
DRAWING. Ground Floor Plan in Context - As Proposed
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DATE. 14/09/22	SCALE AT A1. 1 : 100	DRAWN BY. SM CHECKED BY. GB
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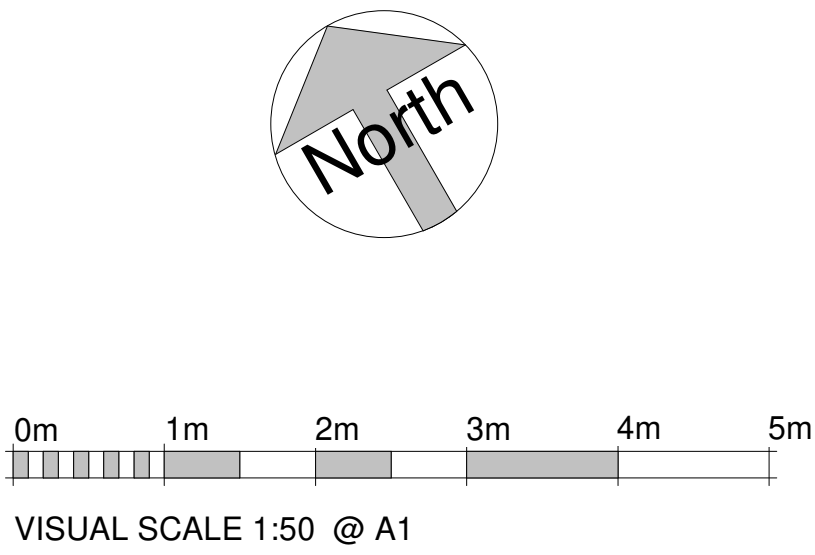
JOB NO. GH340	DRAWING NO. PL010	REV. A
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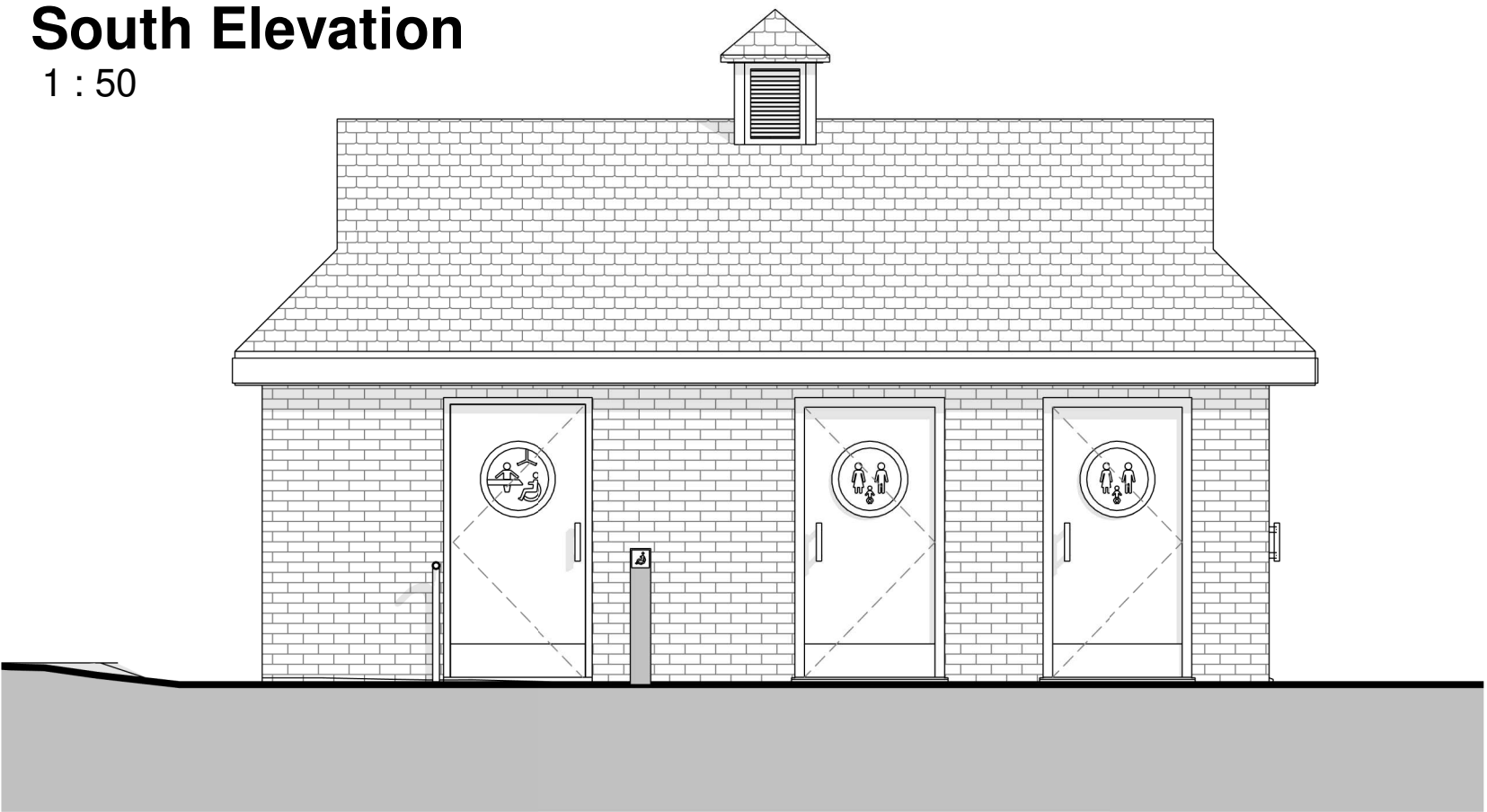
Ground Floor
1 : 50



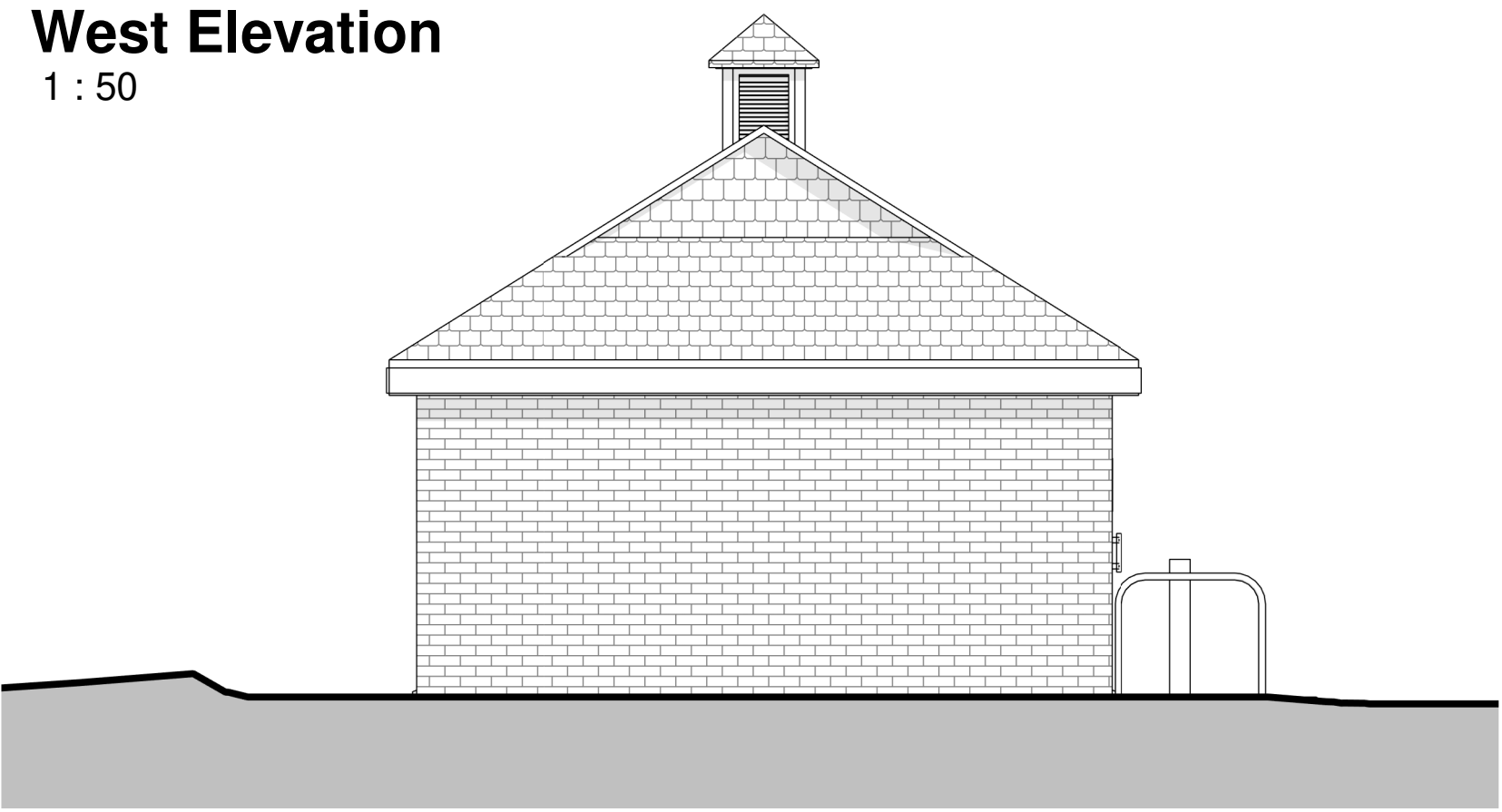
Roof Plan
1 : 50



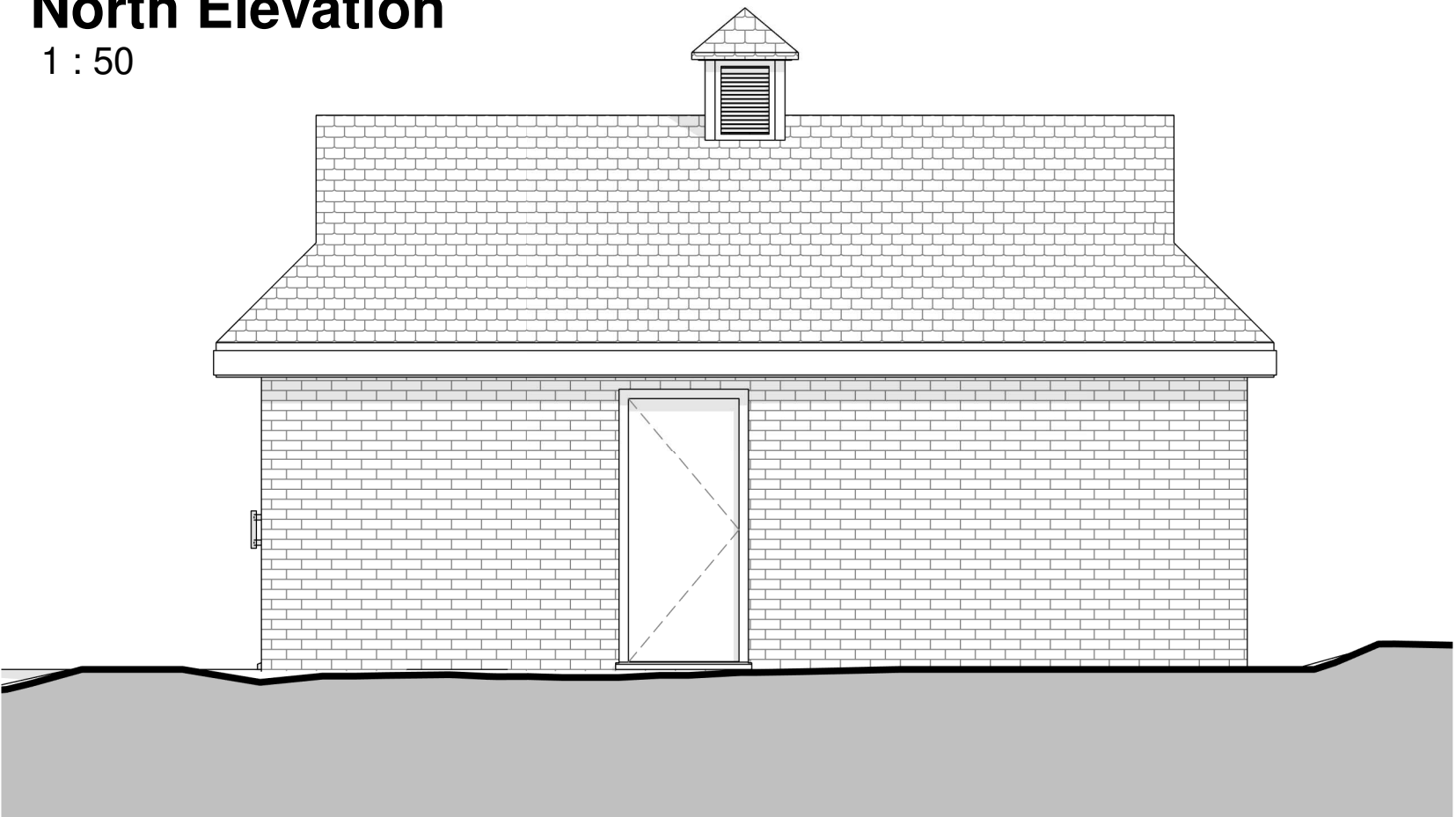
South Elevation
1 : 50



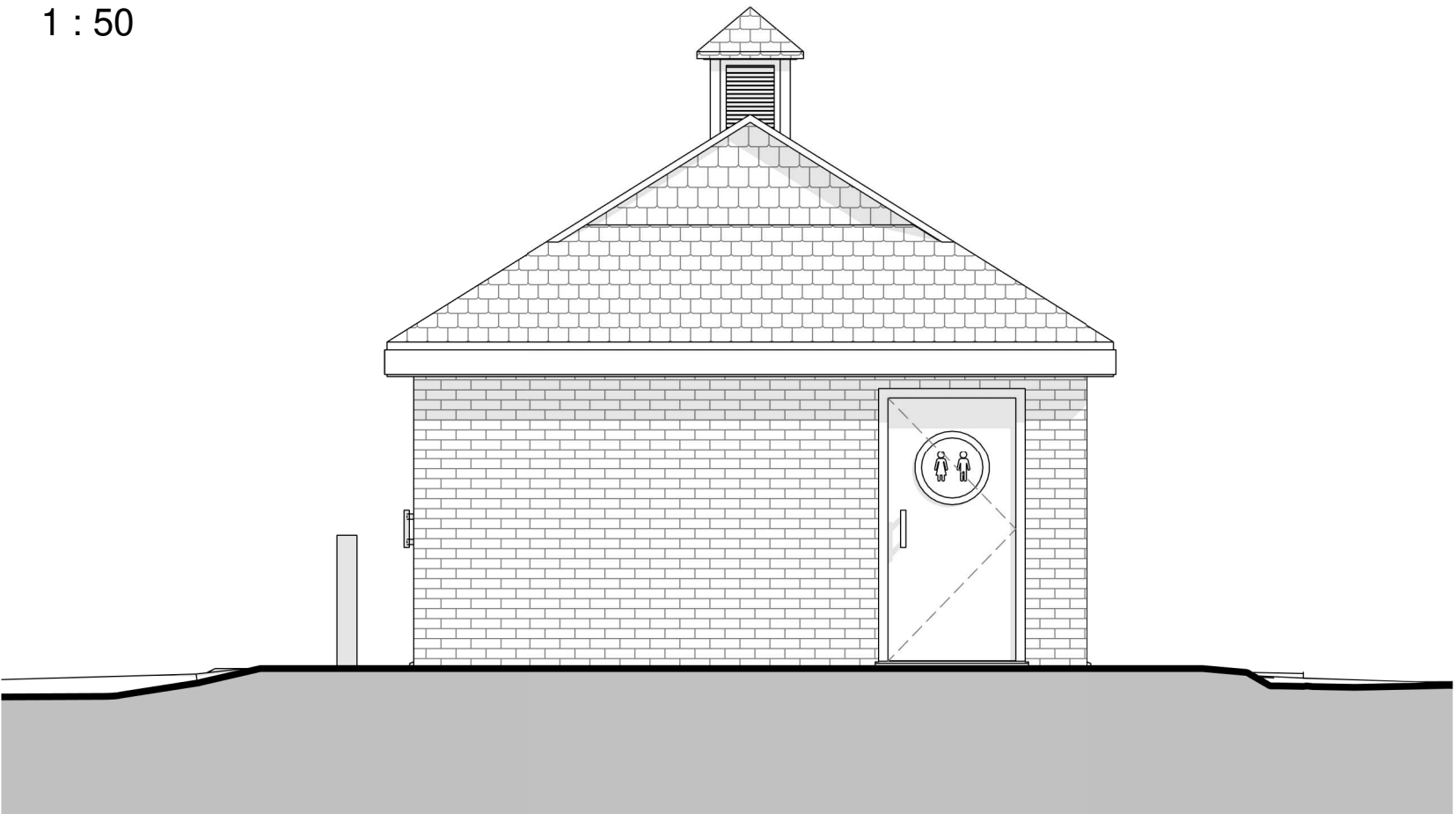
West Elevation
1 : 50



North Elevation
1 : 50



East Elevation
1 : 50



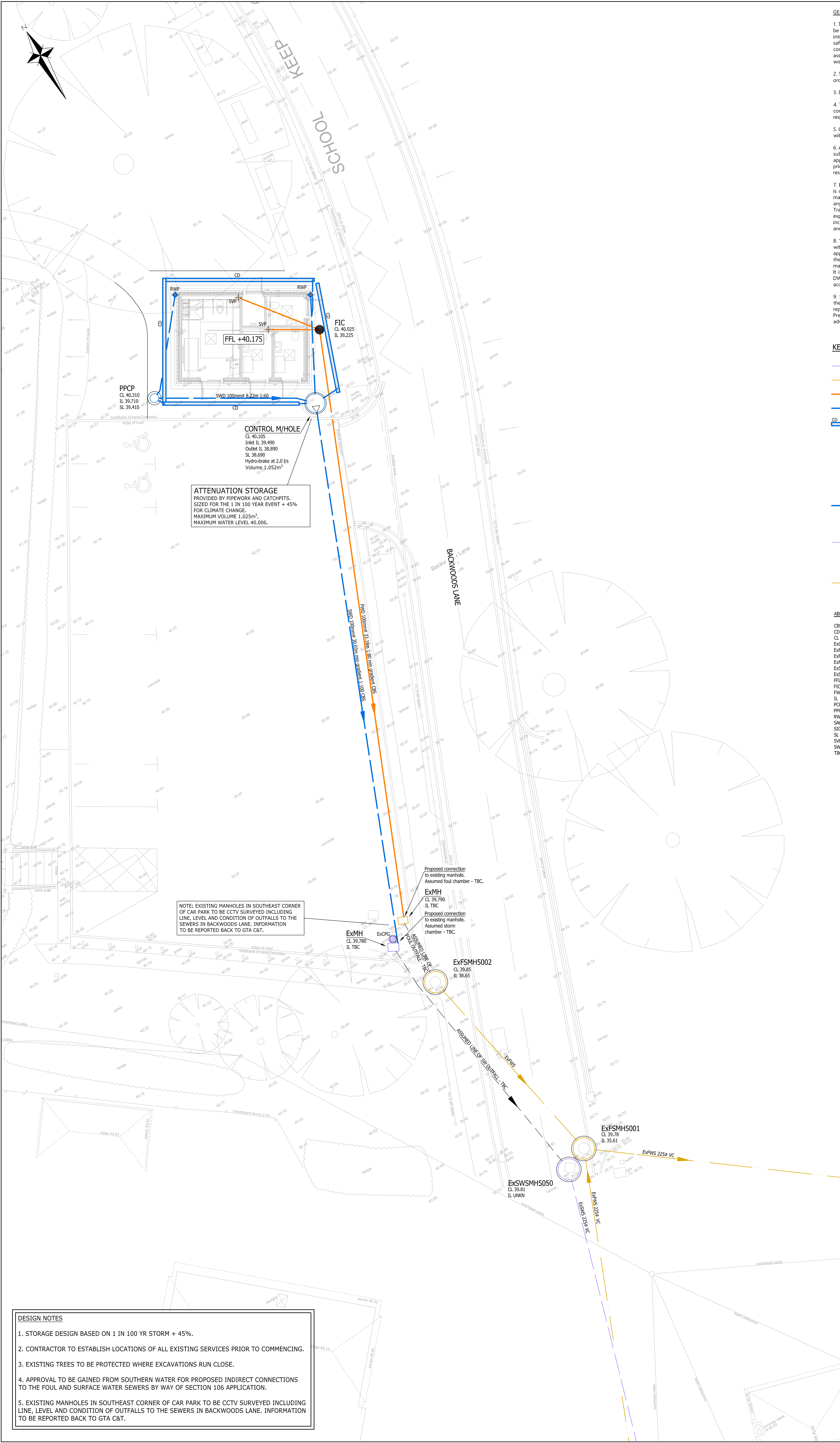
A	13/10/22	SM	Additional Unisex WC Added
REV.	DATE.	BY.	AMENDMENT.
DRAFT			
NOTES: DO NOT SCALE OFF THIS DRAWING UNLESS FOR PLANNING PURPOSES. CHECK ALL DIMENSIONS ON SITE BEFORE ANY WORK IS COMMENCED. ALL GOODS MATERIALS AND WORKMANSHIP MUST CONFORM WITH CURRENT BUILDING REGULATIONS, BRITISH STANDARDS AND CODES OF PRACTICE. COPYRIGHT OF THIS DRAWING IS RETAINED BY GOULD BAXTER AND IT MUST NOT BE REPRODUCED WITHOUT WRITTEN CONSENT.			


2 Lucastes Mews, Paddockhall Road, Haywards Heath, West Sussex, RH16 1HE
(01444) 452604 hnb@gouldbaxter.co.uk www.gouldbaxter.co.uk

CLIENT. Lindfield Parish Council		
PROJECT. Public Conveniences Backwoods Lane Lindfield Haywards Heath		
DRAWING. Floor Plans and Elevations - As Proposed		
DATE. 14/09/22	SCALE AT A1. 1 : 50	DRAWN BY. SM CHECKED BY. GB
JOB NO. GH340	DRAWING NO. PL011	REV. A

Appendix F

Proposed Site Drainage



- GENERAL NOTES**
- The location, size, depth and identification of existing services that may be shown or referred to on this drawing have been assessed from non intrusive observations, record drawings or the like. The contractor shall safely carry out intrusive investigations, trial holes or soundings prior to commencing work to satisfy himself that it is safe to proceed and that the assessments are accurate. Any discrepancies shall be notified to gta prior to works commencing.
 - Tender or billing drawings shall not be used for construction or the ordering of materials.
 - Do not scale. All dimensions and levels to be site confirmed.
 - This drawing shall be read in conjunction with all relevant architects, consultants drawings and specifications, together with H&S plan requirements.
 - Copyright: This drawing must not be copied, amended nor reproduced without the prior written agreement of gta.
 - All drawings specifications and recommendations made by gta are subject to Local Authority and other relevant Statutory Authorities approval. Any works or services made abortive due to the client proceeding prior to these approvals is considered wholly at the Clients risk. gta hold no responsibility for resulting abortive works or costs.
 - If viewing this drawing as an Autocad file (.dwg) in digital format then it is done so with this Disclaimer due to the fact that it can be altered and manipulated following its issue by GTA Civils & Transport and therefore, any alteration or modification of DWG data files provided by GTA Civils & Transport, by you or a third party, without GTA Civils and Transport's express written approval, is done so entirely at your own risk. Modification includes (but is not limited to) turning layers on and off, unfreezing layers and reloading, turning on and off print functions and unloading x-refs.
 - Your attention is also drawn to the fact that the information contained within this file may be subject to alteration at any time, pending technical approval from an approving authority or at the client's instruction. It is therefore strongly recommended that multiple and regular cross checks are made against the current contract drawings. It is your responsibility to ensure that the correct issue or revision of the DWG data file is being used and requests for updated information made accordingly.
 - Should any apparent discrepancies between the data contained within the DWG file and the current contract drawings become evident, it must be reported back to GTA Civils & Transport as soon as reasonably practicable. Precedence should be given to the current contract drawings (PDF) unless advised otherwise.

KEY

- Existing public storm sewer
- Existing public foul sewer
- Foul drain
- Surface water drain
- Channel drain
- PPCP
- FIC
- CONTROL M/HOLE
- ExFSMH
- ExFSMH

Surface water catchpit chamber 450mm
Foul inspection chamber 450mm
Surface water PCC catchpit chamber 1050mm
Existing surface water sewer manhole
Existing foul sewer manhole

ABBREVIATIONS

CBS	CONCRETE BED AND SURROUND
CD	CHANNEL DRAIN
CL	COVER LEVEL
ExCPG	EXISTING CAR PARK GULLY
ExFSMH	EXISTING FOUL SEWER MANHOLE
ExFWS	EXISTING FOUL SEWER
ExMH	EXISTING MANHOLE
ExSWS	EXISTING SURFACE WATER SEWER
ExSWSMH	EXISTING SURFACE WATER SEWER MANHOLE
FFL	FINISHED FLOOR LEVEL
FIC	FOUL INSPECTION CHAMBER
FWD	FOUL DRAIN
IL	INVERT LEVEL
PCC	PRE CAST CONCRETE
PPCP	PLASTIC CATCHPIT
RWP	RAINWATER PIPE
SAC	SURFACE WATER ACCESS CHAMBER
SIC	SURFACE WATER INSPECTION CHAMBER
SL	SUMP LEVEL
SVP	SOIL VENT PIPE
SWD	SURFACE WATER DRAIN
TBC	TO BE CONFIRMED

P3	CHANNELS ADDED. RESTRICTION CHANGED TO 2.0 l/s WITH HYDRO-BRAKE.	20/03/24	JR	SL
P2	NORTH POINT CORRECTED. 1No DRAIN OVERSIZED TO 150mm.	29/02/24	JR	MR
P1	INITIAL ISSUE	21/02/24	JR	MR
Rev	Amendments	Date	Dsn	Chk
Status				
PRELIMINARY				
Client				
LINDFIELD PARISH COUNCIL				
Architect				
GOULD BAXTER				
Project				
PUBLIC CONVENIENCES BACKWOODS LANE, LINDFIELD				
Title				
SITE DRAINAGE				
Date		Scale @ A1	1:100	
FEBRUARY 2024				
Clients Ref.		Project Ref.	12775	
 Civils & Transport Maple House, 192-198 London Road, Burgess Hill, West Sussex, RH15 9RD Tel 01444 871444 Web: www.gtacivils.co.uk				
Drawing Number			Rev.	
12775/1601			P3	

- DESIGN NOTES**
- STORAGE DESIGN BASED ON 1 IN 100 YR STORM + 45%.
 - CONTRACTOR TO ESTABLISH LOCATIONS OF ALL EXISTING SERVICES PRIOR TO COMMENCING.
 - EXISTING TREES TO BE PROTECTED WHERE EXCAVATIONS RUN CLOSE.
 - APPROVAL TO BE GAINED FROM SOUTHERN WATER FOR PROPOSED INDIRECT CONNECTIONS TO THE FOUL AND SURFACE WATER SEWERS BY WAY OF SECTION 106 APPLICATION.
 - EXISTING MANHOLES IN SOUTHEAST CORNER OF CAR PARK TO BE CCTV SURVEYED INCLUDING LINE, LEVEL AND CONDITION OF OUTFALLS TO THE SEWERS IN BACKWOODS LANE. INFORMATION TO BE REPORTED BACK TO GTA C&T.

Appendix G

Micro Drainage Output Sheets

GTA Civils Ltd		Page 1																								
66a Church Walk Burgess Hill West Sussex RH15 9AS	Lindfield Public Conveniences Greenfield Runoff																									
Date 20/03/2024 File	Designed by JR Checked by																									
Micro Drainage		Source Control 2020.1																								
<u>ICP SUDS Mean Annual Flood</u> Input <table><tr><td>Return Period (years)</td><td>100</td><td>Soil</td><td>0.450</td></tr><tr><td>Area (ha)</td><td>0.008</td><td>Urban</td><td>0.000</td></tr><tr><td>SAAR (mm)</td><td>800</td><td>Region Number</td><td>Region 7</td></tr></table> Results 1/s <table><tr><td>QBAR Rural</td><td>0.0</td></tr><tr><td>QBAR Urban</td><td>0.0</td></tr><tr><td>Q100 years</td><td>0.1</td></tr><tr><td>Q1 year</td><td>0.0</td></tr><tr><td>Q30 years</td><td>0.1</td></tr><tr><td>Q100 years</td><td>0.1</td></tr></table>			Return Period (years)	100	Soil	0.450	Area (ha)	0.008	Urban	0.000	SAAR (mm)	800	Region Number	Region 7	QBAR Rural	0.0	QBAR Urban	0.0	Q100 years	0.1	Q1 year	0.0	Q30 years	0.1	Q100 years	0.1
Return Period (years)	100	Soil	0.450																							
Area (ha)	0.008	Urban	0.000																							
SAAR (mm)	800	Region Number	Region 7																							
QBAR Rural	0.0																									
QBAR Urban	0.0																									
Q100 years	0.1																									
Q1 year	0.0																									
Q30 years	0.1																									
Q100 years	0.1																									
©1982-2020 Innovyze																										

GTA Civils Ltd		Page 1
66a Church Walk Burgess Hill West Sussex RH15 9AS	Lindfield Public Conveniences Surface Water Network 1 in 100 year + 45%	
Date 20/03/2024 File storm network.MDX	Designed by JR Checked by	
Micro Drainage	Network 2020.1	

STORM SEWER DESIGN by the Modified Rational Method

Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
S1.000	8.760	0.820	10.7	0.004	5.00	0.0	0.600	o	100	Pipe/Conduit	
S1.001	30.560	0.190	160.8	0.004	0.00	0.0	0.600	o	100	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S1.000	50.00	5.06	39.710	0.004	0.0	0.0	0.0	2.38	18.7	0.5
S1.001	50.00	5.91	38.890	0.008	0.0	0.0	0.0	0.60	4.7	1.1

GTA Civils Ltd		Page 2
66a Church Walk Burgess Hill West Sussex RH15 9AS	Lindfield Public Conveniences Surface Water Network 1 in 100 year + 45%	
Date 20/03/2024 File storm network.MDX	Designed by JR Checked by	
Micro Drainage	Network 2020.1	

Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	PN	Pipe Out Invert Level (m)	Diameter (mm)	PN	Pipes In Invert Level (m)	Diameter (mm)	Backdrop (mm)
S1	40.310	0.600	Open Manhole	450	S1.000	39.710	100				
S2	40.105	1.215	Open Manhole	1050	S1.001	38.890	100	S1.000	38.890	100	
S	39.780	1.080	Open Manhole	0		OUTFALL		S1.001	38.700	100	

No coordinates have been specified, layout information cannot be produced.

GTA Civils Ltd		Page 3
66a Church Walk Burgess Hill West Sussex RH15 9AS	Lindfield Public Conveniences Surface Water Network 1 in 100 year + 45%	
Date 20/03/2024 File storm network.MDX	Designed by JR Checked by	
Micro Drainage	Network 2020.1	

PIPELINE SCHEDULES for Storm

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S1.000	o	100	S1	40.310	39.710	0.500	Open Manhole	450
S1.001	o	100	S2	40.105	38.890	1.115	Open Manhole	1050

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S1.000	8.760	10.7	S2	40.105	38.890	1.115	Open Manhole	1050
S1.001	30.560	160.8	S	39.780	38.700	0.980	Open Manhole	0

GTA Civils Ltd		Page 4
66a Church Walk Burgess Hill West Sussex RH15 9AS	Lindfield Public Conveniences Surface Water Network 1 in 100 year + 45%	
Date 20/03/2024 File storm network.MDX	Designed by JR Checked by	
Micro Drainage Network 2020.1		

Area Summary for Storm

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
1.000	-	-	100	0.004	0.004	0.004
1.001	-	-	100	0.004	0.004	0.004
				Total	Total	Total
				0.008	0.008	0.008

Simulation Criteria for Storm

Volumetric Runoff Coeff	0.750	Manhole Headloss Coeff (Global)	0.500	Inlet Coeffiecient	0.800
Areal Reduction Factor	1.000	Foul Sewage per hectare (l/s)	0.000	Flow per Person per Day (l/per/day)	0.000
Hot Start (mins)	0	Additional Flow - % of Total Flow	0.000	Run Time (mins)	60
Hot Start Level (mm)	0	MADD Factor * 10m³/ha Storage	2.000	Output Interval (mins)	1

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
 Number of Online Controls 1 Number of Storage Structures 0 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model	FSR	M5-60 (mm)	20.000	Cv (Summer)	0.750
Return Period (years)	2	Ratio R	0.350	Cv (Winter)	0.840
Region	England and Wales	Profile Type	Summer	Storm Duration (mins)	30

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GTA Civils Ltd		Page 5
66a Church Walk Burgess Hill West Sussex RH15 9AS	Lindfield Public Conveniences Surface Water Network 1 in 100 year + 45%	
Date 20/03/2024 File storm network.MDX	Designed by JR Checked by	
Micro Drainage	Network 2020.1	

Online Controls for Storm

Hydro-Brake® Optimum Manhole: S2, DS/PN: S1.001, Volume (m³): 1.1

Unit Reference	MD-SHE-0066-2000-1100-2000	Sump Available	Yes
Design Head (m)	1.100	Diameter (mm)	66
Design Flow (l/s)	2.0	Invert Level (m)	38.890
Flush-Flo™	Calculated	Minimum Outlet Pipe Diameter (mm)	100
Objective	Minimise upstream storage	Suggested Manhole Diameter (mm)	1200
Application	Surface		

Control Points	Head (m)	Flow (l/s)	Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	1.100	2.0	Kick-Flo®	0.584	1.5
Flush-Flo™	0.289	1.8	Mean Flow over Head Range	-	1.7

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	1.6	0.600	1.5	1.600	2.4	2.600	3.0	5.000	4.0	7.500	4.9
0.200	1.8	0.800	1.7	1.800	2.5	3.000	3.2	5.500	4.2	8.000	5.0
0.300	1.8	1.000	1.9	2.000	2.6	3.500	3.4	6.000	4.4	8.500	5.1
0.400	1.8	1.200	2.1	2.200	2.7	4.000	3.6	6.500	4.5	9.000	5.3
0.500	1.7	1.400	2.2	2.400	2.9	4.500	3.8	7.000	4.7	9.500	5.4

GTA Civils Ltd		Page 7
66a Church Walk Burgess Hill West Sussex RH15 9AS	Lindfield Public Conveniences Surface Water Network 1 in 100 year + 45%	
Date 20/03/2024 File storm network.MDX	Designed by JR Checked by	
Micro Drainage	Network 2020.1	

100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Event	Duration (mins)	US/CL (m)	Water	Surcharged	Flooded	Flow / Cap.	Overflow (l/s)	Maximum Vol (m³)	Discharge Vol (m³)	Pipe	Status
					Level (m)	Depth (m)	Volume (m³)					Flow (l/s)	
S1.000	S1	15 minute 100 year Winter I+45%	15	40.310	40.017	0.207	0.000	0.16		0.048	1.266	2.7	SURCHARGED
S1.001	S2	15 minute 100 year Winter I+45%	15	40.105	40.006	1.016	0.000	0.43		1.025	2.531	2.0	SURCHARGED

GTA Civils Ltd		Page 1
66a Church Walk Burgess Hill West Sussex RH15 9AS	Lindfield Public Conveniences Surface Water Network 1 in 30 year + 45%	
Date 20/03/2024 File storm network.MDX	Designed by JR Checked by	
Micro Drainage	Network 2020.1	

STORM SEWER DESIGN by the Modified Rational Method

Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
S1.000	8.760	0.820	10.7	0.004	5.00	0.0	0.600	o	100	Pipe/Conduit	
S1.001	30.560	0.190	160.8	0.004	0.00	0.0	0.600	o	100	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S1.000	50.00	5.06	39.710	0.004	0.0	0.0	0.0	2.38	18.7	0.5
S1.001	50.00	5.91	38.890	0.008	0.0	0.0	0.0	0.60	4.7	1.1

GTA Civils Ltd		Page 2
66a Church Walk Burgess Hill West Sussex RH15 9AS	Lindfield Public Conveniences Surface Water Network 1 in 30 year + 45%	
Date 20/03/2024 File storm network.MDX	Designed by JR Checked by	
Micro Drainage	Network 2020.1	

Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	PN	Pipe Out Invert Level (m)	Diameter (mm)	PN	Pipes In Invert Level (m)	Diameter (mm)	Backdrop (mm)
S1	40.310	0.600	Open Manhole	450	S1.000	39.710	100				
S2	40.105	1.215	Open Manhole	1050	S1.001	38.890	100	S1.000	38.890	100	
S	39.780	1.080	Open Manhole	0		OUTFALL		S1.001	38.700	100	

No coordinates have been specified, layout information cannot be produced.

GTA Civils Ltd		Page 3
66a Church Walk Burgess Hill West Sussex RH15 9AS	Lindfield Public Conveniences Surface Water Network 1 in 30 year + 45%	
Date 20/03/2024 File storm network.MDX	Designed by JR Checked by	
Micro Drainage	Network 2020.1	

PIPELINE SCHEDULES for Storm

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S1.000	o	100	S1	40.310	39.710	0.500	Open Manhole	450
S1.001	o	100	S2	40.105	38.890	1.115	Open Manhole	1050

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S1.000	8.760	10.7	S2	40.105	38.890	1.115	Open Manhole	1050
S1.001	30.560	160.8	S	39.780	38.700	0.980	Open Manhole	0

GTA Civils Ltd		Page 4
66a Church Walk Burgess Hill West Sussex RH15 9AS	Lindfield Public Conveniences Surface Water Network 1 in 30 year + 45%	
Date 20/03/2024 File storm network.MDX	Designed by JR Checked by	
Micro Drainage Network 2020.1		

Area Summary for Storm

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
1.000	-	-	100	0.004	0.004	0.004
1.001	-	-	100	0.004	0.004	0.004
				Total	Total	Total
				0.008	0.008	0.008

Simulation Criteria for Storm

Volumetric Runoff Coeff	0.750	Manhole Headloss Coeff (Global)	0.500	Inlet Coeffiecient	0.800
Areal Reduction Factor	1.000	Foul Sewage per hectare (l/s)	0.000	Flow per Person per Day (l/per/day)	0.000
Hot Start (mins)	0	Additional Flow - % of Total Flow	0.000	Run Time (mins)	60
Hot Start Level (mm)	0	MADD Factor * 10m³/ha Storage	2.000	Output Interval (mins)	1

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
 Number of Online Controls 1 Number of Storage Structures 0 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model	FSR	M5-60 (mm)	20.000	Cv (Summer)	0.750
Return Period (years)	2	Ratio R	0.350	Cv (Winter)	0.840
Region	England and Wales	Profile Type	Summer	Storm Duration (mins)	30

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GTA Civils Ltd		Page 5
66a Church Walk Burgess Hill West Sussex RH15 9AS	Lindfield Public Conveniences Surface Water Network 1 in 30 year + 45%	
Date 20/03/2024 File storm network.MDX	Designed by JR Checked by	
Micro Drainage	Network 2020.1	

Online Controls for Storm

Hydro-Brake® Optimum Manhole: S2, DS/PN: S1.001, Volume (m³): 1.1

Unit Reference	MD-SHE-0066-2000-1100-2000	Sump Available	Yes
Design Head (m)	1.100	Diameter (mm)	66
Design Flow (l/s)	2.0	Invert Level (m)	38.890
Flush-Flo™	Calculated	Minimum Outlet Pipe Diameter (mm)	100
Objective	Minimise upstream storage	Suggested Manhole Diameter (mm)	1200
Application	Surface		

Control Points	Head (m)	Flow (l/s)	Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	1.100	2.0	Kick-Flo®	0.584	1.5
Flush-Flo™	0.289	1.8	Mean Flow over Head Range	-	1.7

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	1.6	0.600	1.5	1.600	2.4	2.600	3.0	5.000	4.0	7.500	4.9
0.200	1.8	0.800	1.7	1.800	2.5	3.000	3.2	5.500	4.2	8.000	5.0
0.300	1.8	1.000	1.9	2.000	2.6	3.500	3.4	6.000	4.4	8.500	5.1
0.400	1.8	1.200	2.1	2.200	2.7	4.000	3.6	6.500	4.5	9.000	5.3
0.500	1.7	1.400	2.2	2.400	2.9	4.500	3.8	7.000	4.7	9.500	5.4

GTA Civils Ltd		Page 7
66a Church Walk Burgess Hill West Sussex RH15 9AS	Lindfield Public Conveniences Surface Water Network 1 in 30 year + 45%	
Date 20/03/2024 File storm network.MDX	Designed by JR Checked by	
Micro Drainage	Network 2020.1	

30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Event	Duration (mins)	US/CL (m)	Water	Surcharged	Flooded				Pipe	Status	
					Level (m)	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Maximum Vol (m³)	Discharge Vol (m³)		Flow (l/s)
S1.000	S1	15 minute 30 year Winter I+45%	15	40.310	39.733	-0.077	0.000	0.12		0.003	0.997	2.1	OK
S1.001	S2	15 minute 30 year Winter I+45%	15	40.105	39.711	0.721	0.000	0.38		0.766	1.993	1.8	SURCHARGED

Appendix H

Drainage Consultation Response - Mid Sussex District Council

PLANNING APPLICATION CONSULTATION RESPONSE**APPLICATION DETAILS**

Application Number	DM/22/3791
Response Date	2023-01-24
Site Location	Lindfield Common Bowling Green Car Park, Backwoods Lane, Lindfield
Development Description	Lindfield Common Bowling Green Car Park Backwoods Lane.
Recommendation	No objection subject to condition

FLOOD RISK

The site is in flood zone 1 and is at low fluvial flood risk (risk of flooding from Main Rivers). The site is shown to be at very low surface water flood risk (comparable to flood zone 1).

Mid Sussex District Council's records do not contain records of the site flooding. Our records also contain no records of flooding within the area immediately surrounding the site.

Mid Sussex District Council's records are not complete, and flooding may have occurred which is not recorded. A site having never flooded in the past does not mean it won't flood in the future.

SEWERS ON SITE

The Southern Water public sewer map does not show any public sewers located within the redline boundary of the site. A public foul sewer is located on the southern corner of the carpark.

There may be sewers located on the site not shown on the plan which are now considered public sewers. Any drain which serves more than one property, or crosses into the site from a separate site may be considered a public sewer. Advice in relation to this situation can be found on the relevant water authority's website.

SURFACE WATER DRAINAGE**INFORMATION**

Surface water drainage will ultimately need to be designed to meet the latest national and local drainage policies. The drainage system will need to consider climate change, the allowances for which should be based on the [latest climate change guidance](#) from the Environment Agency.

APPLICATION SPECIFIC COMMENT

The BGS infiltration potential map shows the site to be in an area with high infiltration potential. Therefore, the use of infiltration drainage such as permeable paving or soakaways may be possible on site. To ensure the drainage hierarchy is followed this will need to be confirmed through infiltration testing on site as part of detailed drainage design.

It is proposed that the development will utilise a soakaway to manage surface water drainage. This is considered acceptable in principle and subject to design.

Information into our general requirements for detailed surface water drainage design is included within the 'General Drainage Requirement Guidance' section. This level of information will be required to address the recommended drainage condition.

To ensure the final drainage design meets with the latest design requirements we would advise the applicant to confirm the design parameters required in relation to climate change etc prior to undertaking detailed design.

FOUL WATER DRAINAGE

It is proposed that the development will connect to the existing public foul sewer. This is considered acceptable in principle, subject to design and relevant approval from Southern Water.

Information into our general requirements for detailed foul water drainage design is included within the 'General Drainage Requirement Guidance' section.

To ensure the final drainage design meets with the latest design requirements we would advise the applicant to confirm the design parameters required prior to undertaking detailed design.

CONDITION RECOMMENDATION

C18D – SINGLE UNIT

The development hereby permitted shall not commence unless and until details of the proposed foul and surface water drainage and means of disposal have been submitted to and approved in writing by the local planning authority. The **building** shall not be brought into use, until all the approved drainage works have been carried out in accordance with the agreed details.

Reason: To ensure that the proposal is satisfactorily drained and to accord with the NPPF requirements, Policy CS13 of the Mid Sussex Local Plan, Policy DP41 of the Pre-Submission District Plan (2014 - 2031) and Policy ...'z'... of the Neighbourhood Plan.

For and on behalf of the Flood Risk and Drainage Team
Mid Sussex District Council
Telephone: 01444 477577 Option 3
drainage@midsussex.gov.uk

GENERAL DRAINAGE REQUIREMENT GUIDANCE

Mid Sussex District Council's flood risk and drainage requirements are based on relevant national and local policies and guidance.

SURFACE WATER DRAINAGE

Finalised detailed surface water drainage design is required to be submitted and approved prior to construction starting on site. The design should be based on the [Environment Agency's latest climate change allowances](#) and follow the latest [West Sussex Lead Local Flood Authority Policy for the Management of Surface Water](#).

The use of pumped surface water drainage is not considered to be sustainable and therefore would not be considered an appropriate means of managing surface water as part of a development.

The locating of attenuation, detention, or infiltration devices (including permeable surfacing) within flood extents is not acceptable, this includes areas of increased surface water flood risk.

Table 1 overleaf sets out a list of information the detailed surface water drainage design should include. Developers are encouraged to complete the table and provide as a cover page to future drainage design submissions.

FOUL WATER DRAINAGE

Finalised detailed foul water drainage design is required to be submitted and approved prior to construction starting on site. The use of public foul sewer connection should always be prioritised over non-mains drainage options.

The use of non-mains foul drainage should consider the latest [Environment Agency's General Binding Rules](#).

The Environment Agency have advised that any existing septic tank foul drainage systems that are found to not comply with the latest Binding Rules will need to be replaced or upgraded.

Table 2 overleaf sets out a list of information the detailed foul water drainage design should include. Developers are encouraged to complete the table and provide as a cover page to future drainage design submissions.

Table 1: Detailed drainage design requirements – surface water

Requirement	Information	Location of information / drawing number
<i>For all designs</i>		
Greenfield runoff rate details for the area to be drained (using FEH or a similar approved method)		
On-site infiltration test results		
Plans / details of areas to be drained based on finalised development plans		
Calculations showing the system has been designed to cater for the 1 in 30 with climate change and 1 in 100 with climate change storm events		
Detailed drainage plans, including invert levels and pipe diameters, showing entire drainage system		
Maintenance and management plan ¹		
<i>For soakaways</i>		
Sizing calculations (to cater for 6-hour, 1 in 100-year plus climate change event)		
Half drain time (<24 hours)		
Construction details		
<i>For discharge to watercourse</i>		
Discharge rate (1 in 1 or QBar Greenfield rate for drained area) ²		
Outfall location and construction details		
Attenuation sizing calculations (to cater for 1 in 100-year plus climate change event ³)		
<i>For discharge to sewer</i>		
Discharge rates (restricted to 1 in 1 or QBar Greenfield rate for drained area unless otherwise agreed with sewerage provider)		
Discharge location and manhole number		
Outline approval from sewerage provider in relation to connection, discharge rate and connection location ⁴		
Attenuation sizing calculations (to cater for 1 in 100-year plus climate change event ⁵)		

¹ The scale of this document should reflect the scale of the development and the complexity of the drainage system.

² If the 1 in 1 or QBar Greenfield runoff rate cannot be achieved, then evidence into why a higher discharge rate has been proposed should be provided as part of the detailed design. Due to improvements in drainage systems the 2l/s minimum will not be accepted without justification.

³ If system does not attenuate up to the 1 in 100-year with climate change event, then evidence that the system shall not increase flood risk on or off site shall be required.

⁴ Formal approval via S106 etc is not required.

⁵ If system does not attenuate up to the 1 in 100-year with climate change event, then evidence that the system shall not increase flood risk on or off site shall be required.

Table 2: Detailed drainage design requirements – foul water

Requirement	Summary	Location of information / drawing number
<i>For all designs</i>		
Plans showing entire drainage system, including invert levels, pipe diameters, falls and outfall/connection location		
Foul flow calculations and confirmation proposed system is sized appropriately		
<i>For connection to main foul sewer</i>		
Discharge location and manhole number		
Evidence of communication with Water Authority regarding connection ⁶		
<i>For non-mains system with drainage field</i>		
Evidence of permeability (infiltration) test results specific to treated effluent drainage fields		
Evidence that either: a) The system meets latest General Binding Rules, or b) An Environmental Permit application is to be submitted		
<i>For non-mains system with discharge to open water</i>		
Evidence that either: a) The system meets latest General Binding Rules, or b) An Environmental Permit application is to be submitted		
Outfall location and construction details		

⁶ Formal approval via S106 etc is not required.

Annex

Drainage Management & Maintenance Plan

1. Introduction

This Drainage Maintenance & Management Plan (DMMP) has been prepared by GTA Civils & Transport Ltd for Lindfield Parish Council in conjunction with the proposal to construct a public convenience block on common land adjacent to the Bowling Club on Backwoods Lane, Lindfield.

This Plan sets out the framework for the management of the proposed foul and surface water drainage system, including sustainable drainage systems (SuDS). The document will be updated with further information through the next stage of detailed design and coordination. At this stage, the level of detail proposed herein is sufficient to demonstrate the viability of the proposed drainage maintenance regime.

2. Ownership & Maintenance Responsibilities

Lindfield Parish Council bears the responsibility for the maintenance of the drainage system.

The drainage features will be cared for are:

- Flow control;
- All associated piped networks / chambers/ channel drains

The following sections show schedules detailing the maintenance requirements for each of the main drainage items used within the scheme. The management will undertake the inspections and maintenance activities in accordance with these schedules.

Additional reference has been made to currently established best practice and guidance documents such as The SuDS Manual (CIRIA C753, 2015) and other resources available at the Susdrain website (www.susdrain.org).

This DMMP shall be a live document. The frequency of maintenance intervals may need to be increased or decreased based on the observed performance of the drainage systems over time. Changes to this Plan must be agreed with the drainage authority (LLFA) and recorded and dated in the DMMP.

3. Health and Safety

All those responsible for and involved in the maintenance of the site drainage systems should be safety-conscious and comply with the relevant health and safety legislation. This includes:

- The Health and Safety at Work etc Act 1974
- The Management of Health and Safety at Work Regulations 1999
- The Workplace (Health, Safety and Welfare) Regulations 1992

The site owner is responsible for suitable risk assessment and management to ensure safe working conditions and practices. Measures to protect potential visitors also need to be considered.

Specialist contractors, where employed, used should work to industry guidelines and be able to demonstrate safe working practices.

Employers have a duty to employees to inform them about the risks of their work environment and to decrease the risk as far as reasonably practicable. Appropriate personal protective equipment (PPE) should be provided and practices/policies implemented based on risk assessments.

Operatives should be trained for working near water. Risks of contaminated water should be considered. Checking for open cuts and using nitrile gloves, waterproof plasters etc. is advised.

Entry of pipes, chambers and culverts should be avoided. Work should be carried out from the surface using appropriate equipment. In the event that entry cannot be avoided to perform a critical task, the required safety training, protection measures and precautions must be implemented prior to entry. Lone working should never be attempted.

For further information refer to Section 36 of The SuDS Manual (CIRIA C753).

4. Schedule A – Surface Water Drains, Manholes and Drainage Channels

Regular inspection and maintenance are required to ensure the effective long-term operation of drains and manholes.

Post Completion: a CCTV survey to be carried out on all new and retained existing drainage systems and any downstream receiving systems, prior to connection with adopted sewers.

The survey report will be used to prove the integrity of the as-built drainage system prior to issue of practical completion certificate and will be handed over to the client for future reference.

Operation and maintenance requirements for all drains and manholes are described in the following table:

Schedule	Action	Frequency
Regular Maintenance	Inspect and identify any areas that are not operating correctly. If required, take remedial action.	6-monthly intervals.
	Debris removal from silt pits and channel drains (where may cause risks to performance)	6-monthly intervals, after autumn leaf fall, or as required based on specific observations.
	Hard standing areas to be swept clear of debris, to prevent possibility of blockages to the receiving drainage systems.	Weekly
Remedial Actions	Repair any damaged channel gratings or manhole covers.	As required.
	Repair/rehabilitate inlets and outlets.	As required.
	Replace / fix any loose channel drain covers.	As required.
Monitoring	Inspect/check all inlets & outlets, to ensure they are in good condition and operating properly.	Annually
	Survey inside for sediment build-up and remove if necessary.	Every 5 years or as required

Where appropriate refer also to specialist drainage manufacturer's information and maintenance requirements. In all instances, inspection and cleaning should be carried out only by a specialist contractor and in accordance with the guidelines given in 'Safe Working in Sewers and at Sewage Works' published by National Joint Health and Safety Committee for the Water Services.

5. Schedule B – Control Chamber

Schedule	Action	Frequency
Regular Maintenance	Inspect and identify any areas that are not operating correctly. Take remedial action as needed. Remove sediment from catchpits.	Monthly for 3 months, then annually. Half yearly or as required
Remedial Actions	Repair/rehabilitate inlets, outlets, overflows.	As required.
Monitoring	Inspect/check all inlets & outlets, to ensure they are in good condition and operating properly. Survey inside for sediment build-up and remove if necessary	Annually Every 5 years or as required
Orifice plate	Check Hydro-Brake opening is clear and check bypass door is closed. Check functioning of bypass door and oil if necessary.	First 2 years of occupation – Monthly. Then annually.

6. Foul Drainage

Inspection frequency: annually.

Maintenance Requirements: Visual inspection of chambers & manholes is to be completed on a 2-yearly basis and any signs of blockage / waste build up should be jet washed or removed by a Licensed Effluent Disposal Contractor.

A CCTV Drainage Survey should be completed every 5 Years and any of blockage/waste build up should be jet washed or removed by a Licensed Effluent Disposal Contractor.

7. Contamination or Dilution of Spillage

In the event of a spillage, it is the responsibility of the site owner to clear up any spillage before it enters the drainage system. The primary method of dealing with any spillage of hydrocarbons should be using sand to soak up the leak and prevent any hydrocarbons entering the drainage system. Once sand has been contaminated it should not be washed into the drainage system but disposed of by a Licensed Contractor.

Environment Agency – Emergency Contact Number: In the event of a spillage the Environment Agency should be contacted to notify the event and seek advice. The Environment Agency Incident Hotline is 0800 80 70 60 (Freephone 24hrs).

- End of Plan -



Civil Engineering - Transport Planning - Flood Risk

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