



ODYSSEY

DEVELOPING JOURNEYS

LAND AT HANLYE LANE, CUCKFIELD

**FLOOD RISK ASSESSMENT AND
DRAINAGE STRATEGY**



LAND AT HANLYE LANE, CUCKFIELD

FLOOD RISK ASSESSMENT AND DRAINAGE STRATEGY ON BEHALF OF SIGMA HOMES LTD.

Prepared by

Odyssey

Tuscany House

White Hart Lane

Basingstoke

Hampshire

RG21 4AF

Tel: 01256 331144

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DOCUMENT CONTROL SHEET

Project Name Land at Hanlye Lane, Cuckfield

Project No. 23-148

Rev	Issue Purpose	Author	Checked	Reviewed	Approved	Date
-	Issued to Client for Comments	NA	GG	GG	GG	September 2023
A	Issued to Client for Comments	SW	GG	GG	GG	September 2023
B	New site plan added and report updated to suit	SW	GG	GG	GG	October 2023



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LAND AT HANLYE LANE, CUCKFIELD

FLOOD RISK ASSESSMENT AND DRAINAGE STRATEGY

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1.0 INTRODUCTION

1.1 *General*

1.1.1 Odyssey has been commissioned by Sigma Homes Ltd. to undertake a Flood Risk Assessment (FRA), incorporating a surface water and foul drainage strategy, to be submitted in association with a full planning application for proposed residential development at Hanlye Lane in Cuckfield.

1.1.2 This report sets out the main flood risks to the site and those that may arise as a result of the development. This report comprises the following elements:

- review of the existing site conditions including geology, hydrology and existing drainage regime of the site;
- summary of relevant planning policy;
- assessment of the existing flood risk to the site; and
- proposed surface water and foul drainage strategy.



2.0 EXISTING SITE CONDITIONS

2.1 *Location*

2.1.1 The 5.75 hectare (ha) site is located approximately 2.3 kilometres (km) to the north-west of Haywards Heath town centre. The site is bounded by Hanlye Lane to the north, a former school to the north-east, undeveloped land to the south and south-east, and existing residential development to the west. The site currently comprises greenfield land.

2.1.2 The Ordnance Survey grid reference for the site is 531090E, 125550N, and the nearest postcode is RH17 5HN. The site location plan is presented in **Appendix A**.

2.2 *Topography*

2.2.1 A topographical survey of the site was undertaken by InCo Surveys in January 2023. The survey shows the site falls from the north to the south. The levels range from approximately 123.90 metres Above Ordnance Datum (m AOD) in the north to 104.80 m AOD in the south. The topographical data is presented in **Appendix B**.

2.3 *Geology and Hydrogeology*

2.3.1 British Geological Survey (BGS) online mapping (accessed September 2023) indicates the bedrock geology of the site comprises Upper Tunbridge Wells Sand (sandstone and siltstone) to the north-east, Upper Grinstead Clay (mudstone) to the north and along the southern boundary, and Cuckfield Stone Bed (sandstone) to the south. The mapping shows there are no superficial deposits overlying the bedrock geology. BGS mapping is presented in **Appendix C**.

2.3.2 A site investigation was undertaken at the former school to the north-east of the site by Leap Environmental in February and March 2022. The geology encountered comprised clay, silt and sandstone. Groundwater strikes were encountered across the site, at depths between 0.50 metres below ground level (m bgl) and 3.64m bgl. The results of groundwater monitoring show groundwater was encountered at depths between 1.17m bgl and 3.30m bgl. Two soakage tests were undertaken at the site; no soakage was achieved within one of the trial pits, and an infiltration rate of 2.04×10^{-7} metres per second (m/s) was achieved in the second trial pit. The site investigation report notes that the site is not considered suitable for conventional soakaways. Extracts from the site investigation are presented in **Appendix D**.

2.3.3 Environment Agency (EA) online mapping indicates the nearest 'Main River' is located approximately 1.6km to the east of the site. There is an ordinary watercourse which flows along the



south-western site boundary in a southerly direction, and another ordinary watercourse which flows adjacent to the south-eastern site boundary in a southerly direction. The south-western and south-eastern watercourses join the Scrase Stream approximately 330m and 480m south of the site respectively.

2.3.4 BGS hydrogeology mapping shows the site lies within the Wealden Group, described as a “moderately productive aquifer”.

2.3.5 Groundwater mapping published by the EA indicates the site is not located within a Source Protection Zone.

2.4 Existing Drainage Regime

2.4.1 According to Southern Water sewer records, there are no public surface water sewers within the site boundary. There is a public foul sewer along Ardingly Road to the west of the site, which serves the existing residential area and flows in a south-westerly direction. The Southern Water sewer records are presented in **Appendix E**.

2.4.2 Adjacent to the north-west corner of the site there is an existing pond located outside the site boundary. It is believed that there is a culverted or piped outfall from this pond that runs in a southerly direction along the western boundary of the site and discharges into the open watercourse on the western edge of the southern field. The pond can be seen on the topographical Survey presented in appendix B.

2.4.3 As the developable area for the site is less than 50ha, the Institute of Hydrology (IoH) Report 124 Flood Estimation for Smaller Catchments (1994) method was used to estimate greenfield peak flow rates (50ha is used in the formula and the flow rate is linearly interpolated based on the ratio of development area). This methodology is approved in the Construction Industry Research and Information Association (CIRIA) C753 The SuDS Manual; the parameters used are presented in **Table 2.1**.

Table 2.1: SuDS Parameters

Parameter	Value	Unit
SAAR	812	Millimetres (mm)
Soil Index	0.45	-
Region	7	-
Urban	0.000	-



2.4.4 **Table 2.2** summarises the greenfield discharge rate for the site, based on the proposed impermeable area of the development. Supporting calculations are provided in **Appendix F**.

Table 2.2: Greenfield Runoff Rates

Return Period	Greenfield Runoff Rate per Hectare (litres per second (l/s))	Site Greenfield Runoff Rate (1.217ha) (l/s)
QBAR	5.2	6.3
Q1	4.4	5.4
Q30	11.8	14.4
Q100	16.7	20.3



3.0 PROPOSED DEVELOPMENT

3.1.1 The proposed residential development comprises 55 dwellings with vehicular and pedestrian access; car parking; open space; play space; landscaping and all other associated works.

3.1.2 The proposed site layout is presented in **Appendix A**.



4.0 PLANNING POLICY

4.1 *Flood and Water Management Act (2010)*

4.1.1 The Flood and Water Management Act (FWMA) received royal assent on 8th April 2010. It was intended to implement Sir Michael Pitt's recommendations following the widespread summer floods of 2007. Guidance and information notes are published online by the Department for Environment, Food and Rural Affairs (Defra) to address a range of aspects concerning the Act.

4.1.2 The FWMA encourages the use of Sustainable Drainage Systems (SuDS) on development sites by removing the automatic right to connect to sewers.

4.1.3 The development proposals for the site considered by this report should adhere to the FWMA through the provision of SuDS as a fundamental component of the surface water drainage strategy.

4.2 *National Planning Policy Framework (July 2021)*

4.2.1 The National Planning Policy Framework (NPPF) sets out the Government's planning policies, and how these policies should be applied. Planning Practice Guidance (PPG) is available online and provides additional guidance to the NPPF, as well as providing links to relevant detailed documents. **Section 4.3** provides further detail on the PPG.

4.2.2 Paragraph 159 of the NPPF states *"inappropriate development in areas at risk of flooding should be avoided by directing development away from areas of highest risk (whether existing or future). Where development is necessary in such areas, the development should be made safe for its lifetime without increasing flood risk elsewhere."*

4.2.3 Paragraph 167 of the NPPF states *"when determining planning applications, local planning authorities should ensure that flood risk is not increased elsewhere. Where appropriate, applications should be supported by a site-specific flood-risk assessment. Development should only be allowed in areas at risk of flooding where, in the light of this assessment (and the sequential and exception tests, as applicable) it can be demonstrated that:*

- *Within the site, the most vulnerable development is located in areas of lowest flood risk unless there are overriding reasons to prefer a different location.*
- *The development is appropriately flood resistant and resilient such that, in the event of a flood, it could be quickly brought back into use without significant refurbishment.*



- *It incorporates sustainable drainage systems, unless there is clear evidence that this would be inappropriate.*
- *Any residual risk can be safely managed, and*
- *Safe access and escape routes are included where appropriate, as part of an agreed emergency plan.”*

4.2.4 In accordance with the NPPF, a site-specific FRA is required for sites within the following categories:

- In Flood Zone 1, all proposals involving:
 - Sites of one hectare or more.
 - Land which has been identified by the EA as having critical drainage problems.
 - Land identified in a strategic flood risk assessment (SFRA) as being at increased flood risk in the future.
 - Land that may be subject to other sources of flooding, where its development would introduce a more vulnerable use.
- All proposals for development in Flood Zone 2 and 3.

4.3 Planning Practice Guidance (2022)

4.3.1 The PPG provides additional direction to the NPPF, with details provided in each section of the document on how to conform to the NPPF.

4.3.2 All land in England is classified as falling into one of three main flood zones, with the zones referring to the probability of river or sea flooding, ignoring the existence of defences. The PPG identifies and describes the EA flood zones as:

- Flood Zone 1: Low probability – land assessed as having less than a 1 in 1,000 annual probability of river or sea flooding (<0.1% Annual Exceedance Probability (AEP)).
- Flood Zone 2: Medium probability – land assessed as having between a 1 in 100 and 1 in 1,000 annual probability of river or sea flooding (1% - 0.1% AEP).
- Flood Zone 3: High probability – land assessed as having a 1 in 100 or greater annual probability of river flooding (≥1% AEP), or a 1 in 200 or greater annual probability of sea flooding (≥0.5% AEP).
- Flood Zone 3b: The Functional Floodplain – land where water has to flow or be stored in times of flood (as identified by Local Planning Authorities in the SFRA).

4.3.3 The current PPG sets out the following drainage hierarchy that the discharge of surface water runoff should adhere to:



- Into the ground (infiltration).
- To a surface water body.
- To a surface water sewer, highway drain, or another drainage system.
- To a combined sewer.

4.4 Mid-Sussex District Plan (2014-2031)

4.4.1 Policy DP41 of the Mid-Sussex District Plan states *“Proposals for development will need to follow a sequential risk-based approach, ensure development is safe across its lifetime and not increase the risk of flooding elsewhere.”*

4.4.2 Policy DP41 states *“proposals for development should seek to reduce the risk of flooding by achieving a reduction from existing run-off rates.*

“Sustainable Drainage Systems (SuDS) should be implemented in all new developments of 10 dwellings or more, or equivalent non-residential or mixed development unless demonstrated to be inappropriate, to avoid any increase in flood risk and protect surface and ground water quality. Arrangements for the long term maintenance and management of SuDS should also be identified.

SuDS Should be sensitively designed and located to promote improved biodiversity, an enhanced landscape and good quality spaces that improve public amenities in the area, where possible.

The preferred hierarchy of managing surface water drainage from any development is:

- 1) *Infiltration Measures*
- 2) *Attenuation and discharge to watercourses; and if these cannot be met,*
- 3) *Discharge to surface water only sewers.*



5.0 SOURCES OF FLOOD RISK

5.1 *Fluvial Flooding*

5.1.1 Fluvial flooding is caused by flows in rivers or streams exceeding the capacity of the river channel and spilling into the floodplain. Fluvial flooding can also occur on designated floodplain land after a period of heavy rainfall.

5.1.2 The EA Flood Map for Planning currently shows the site is located entirely within Flood Zone 1. In accordance with the PPG, development of this nature within Flood Zone 1 is acceptable. The EA Flood Map for Planning mapping is presented in **Appendix G**.

5.1.3 The risk of fluvial flooding should be considered very low.

5.2 *Surface Water Flooding*

5.2.1 Surface water (pluvial) flooding is caused by rainfall levels exceeding the natural infiltration properties of the surrounding soils. Flooding can occur where there is a lack of a formalised drainage system, or as a result of a poorly designed or maintained sewer system. Flooding can also occur owing to the absence of a natural method of drainage such as watercourses or ditches, or where soil infiltration rates are low. Flooding often results in ponding of water at low points or when surface water flow routes are blocked by an obstruction.

5.2.2 The EA Risk of Surface Water Flooding (RoSWF) mapping indicates the vast majority of the site is identified as being at 'very low' risk of surface water flooding. There are two narrow 'low risk' overland flow routes within the south of the site, which flow in a southern direction. There is no proposed development within the overland flow route extents. The EA RoFSW mapping is shown in **Appendix G**.

5.2.3 The risk of surface water flooding should be considered low.

5.3 *Groundwater Flooding*

5.3.1 Groundwater flooding is caused by the emergence of water originating from sub-surface permeable strata. A groundwater flood event results from a rise in groundwater level sufficient for the water table to intersect the ground surface and inundate low lying land. Periods of prolonged rainfall may also be a cause of groundwater flooding, with aquifers and soils becoming saturated.



5.3.2 The Mid Sussex District Council SFRA states the majority of the district is considered to have medium potential for groundwater flooding. The SFRA also states that high groundwater vulnerability would need to be addressed in any SuDS design in Cuckfield, and the scope to utilise infiltration systems would be minimal.

5.3.3 The risk of groundwater flooding should be considered medium.

5.4 Sewer Flooding

5.4.1 Flooding can occur owing to the failure of existing foul or surface water drainage infrastructure. If flows within the drainage system exceed the designed capacity or foreign matter causes blockages, overflow to the surface can occur, leading to flooding.

5.4.2 There is limited information within the Mid Sussex SFRA relating to sewer flooding, and specific locations on historical sewer flooding events are not provided.

5.4.3 The risk of sewer flooding should be considered low.

5.5 Flooding from Artificial Sources

5.5.1 Failure and overtopping of reservoirs and navigable water bodies, and failure of water mains, constitute the primary means of flooding from artificial sources.

5.5.2 The EA Flood Risk from Reservoirs mapping indicates the site is not located within the maximum extent of flooding. The EA Flood Risk from Reservoirs mapping is presented in **Appendix G**.

5.5.3 The risk of flooding from artificial sources should be considered very low.



6.0 THE SEQUENTIAL TEST AND EXCEPTION TEST

6.1 *The Sequential Test*

6.1.1 The EA's flood zones are the starting point for the Sequential approach promoted by the NPPF and are shown on the EA flood mapping. The PPG identifies that the overall aim of the Sequential Test is to steer new developments to Flood Zone 1.

6.1.2 As stated by the NPPF, development should not be allocated or permitted if there are reasonably available sites appropriate for the proposed development in areas with lower probability of flooding. The SFRA will provide the basis for applying this test.

6.1.3 Following application of the Sequential Test, if it is not possible for the development to be located in zones with lower probability of flooding (Flood Zone 1), proposed sites should take into account the flood risk vulnerability of land uses (Table 2, PPG) and consider reasonable sites in Flood Zone 2, and apply the Exception Test if required (Table 3, PPG). Only where there are no reasonably available sites in Flood Zone 1 and Flood Zone 2 should the suitability of sites in Flood Zone 3 be considered, taking into account the flood risk vulnerability of land uses and applying the Exception Test if required.

6.1.4 The entire site is located within Flood Zone 1, and therefore the Sequential Test is passed.

6.2 *The Exception Test*

6.2.1 For the Exception Test to be passed, it should be demonstrated:

- the development provides wider sustainability benefits to the community that outweigh flood risk, informed by a SFRA;
- the development should be on developable brownfield land or, if not, it must be demonstrated that there is no such alternative land available; and,
- the development will be safe for its lifetime taking into account the vulnerability of its users, without increasing flood risk elsewhere, and where possible, reducing flood risk overall.

6.2.2 The entire site is located within Flood Zone 1, and therefore an exception test is not required.



7.0 SURFACE WATER DRAINAGE STRATEGY

7.1 *Surface Water Drainage Strategy Requirements*

7.1.1 Any surface water drainage strategy must demonstrate the proposed development would be drained in a sustainable manner, commensurate with local and national policy. The NPPF requires that flood risk to land and property is not increased as a result of new development.

7.2 *Proposed Surface Water Drainage Strategy*

7.2.1 The indicative surface water drainage strategy described below is detailed in **Drawing 23-148-001**.

7.2.2 As set out in Section 4.3, the drainage hierarchy states the most-preferred method of surface water discharge is “*infiltration into the ground*”. The results of the soakage testing undertaken at the adjacent site indicate the underlying geology has poor infiltration qualities, and as such, this method of surface water discharge would not be feasible at the site.

7.2.3 The second most-preferred method of surface water discharge in the drainage hierarchy is to a surface water body. It is proposed that surface water generated by the development would be attenuated on site using a series of basins, before being discharged to the watercourse located along the western site boundary. A swale would also be incorporated within the centre of the site for surface water conveyance, owing to the topography.

7.2.4 The attenuation basins have been designed, based on Quick Storage Estimate, to accommodate flows for all rainfall events up to and including the 1 in 100 year plus 45% climate change storm. An additional 10% of the proposed roof area has been incorporated to account for urban creep. Flows would be restricted to less than the QBAR greenfield runoff rate, which would provide betterment compared to the existing scenario, as set out in **Table 7.1**.

Table 7.1: Existing and Proposed Surface Water Runoff Rates

Return Period	Existing Greenfield Runoff Rate (l/s)	Proposed Runoff Rate (l/s)
QBAR	6.3	6.0
Q1	5.4	5.4
Q30	14.4	6.0
Q100	20.3	6.0
Q100 + 45% Climate Change	-	6.0

7.2.5 The Micro Drainage Calculations are provided in **Appendix F**.



7.2.6 In the event of exceedance, it is anticipated that surface water flows would be routed within the highways, and the proposed site levels would be designed to ensure any exceedance flows are diverted around the new buildings.

7.3 Water Quality

7.3.1 The “pollution hazard indices for different land use classifications” table has been extracted from CIRIA C753 The SuDS Manual, and applied to the development proposals, as shown in **Table 7.2**.

Table 7.2: Pollution Hazard Indices

Land Use	Pollution Hazard Level	Total Suspended Solids (TSS)	Metals	Hydrocarbons
Residential roofs	Very low	0.2	0.2	0.05
Individual property driveways, residential car parks, low traffic roads (e.g. cul de sacs, homezones and general access roads) and non-residential car parking with infrequent change (e.g. schools, offices) i.e. less than 300 traffic movements per day	Low	0.5	0.4	0.4

7.3.2 The attenuation basins would provide treatment for all surface water runoff generated by the development. The runoff conveyed through the swale would also receive additional treatment. The SuDS mitigation indices have been calculated in **Table 7.3**, in accordance with the guidance contained in The SuDS Manual.

Table 7.3: SuDS Mitigation Indices

Land Use	Mitigation Indices		
	TSS	Metals	Hydrocarbons
Attenuation Basin	0.5	0.5	0.6

7.3.3 **Table 7.3** demonstrates one basin alone would provide sufficient treatment for surface water on site. Further treatment would be provided as the surface water is conveyed through a series of basins prior to being discharged to the watercourse.



7.4 *SuDS Maintenance Requirements*

7.4.1 Maintenance of the drainage system and SuDS features would be carried out in accordance with the manufacturer guidance and through an approved maintenance management plan to minimise the residual flood risk of drainage system blockage.

7.4.2 Maintenance would be the responsibility of the developer to assign, however the “*operation and maintenance requirements for detention basins*” and “*operation and maintenance requirements for swales*” tables have been extracted from The SuDS Manual and are presented in **Appendix H**.



8.0 FOUL DRAINAGE STRATEGY

8.1.1 The foul drainage strategy described below is detailed in **Drawing 23-148-001**.

8.1.2 It is proposed that foul flows from the majority of the site would be conveyed by gravity to the public Southern Water foul sewer located to the west of the site.

8.1.3 Foul flows from the south-east of the site would drain to a package pumping station owing to the topography of the site. Flows would be pumped in a northern direction and connect into the foul gravity system serving the rest of the site.

8.1.4 A foul capacity check was undertaken with Southern Water in August 2020, and it was confirmed that the local foul network did not have capacity to accommodate flows from the proposed development at that time.

8.1.5 Southern Water has a duty to improve its network to cater for proposed developments. This is funded via increased infrastructure charges to developers. Should there be a requirement for offsite improvement works, Southern Water would programme these works with due regard to the proposed build programme of the development.



9.0 SUMMARY AND CONCLUSIONS

9.1.1 Odyssey has been commissioned by Sigma Homes Ltd. to undertake a Flood Risk Assessment (FRA), incorporating a surface water and foul drainage strategy, to be submitted in association with a planning application for the proposed development of 55 dwellings at Hanlye Lane in Cuckfield.

9.1.2 The EA Flood Map for Planning shows the site is located within Flood Zone 1. The EA surface water mapping indicates the vast majority of the site is identified as being at 'very low' risk of surface water flooding. There are two narrow 'low risk' overland flow routes within the south of the site, which flow in a southern direction. There is no proposed development within the overland flow route extents.

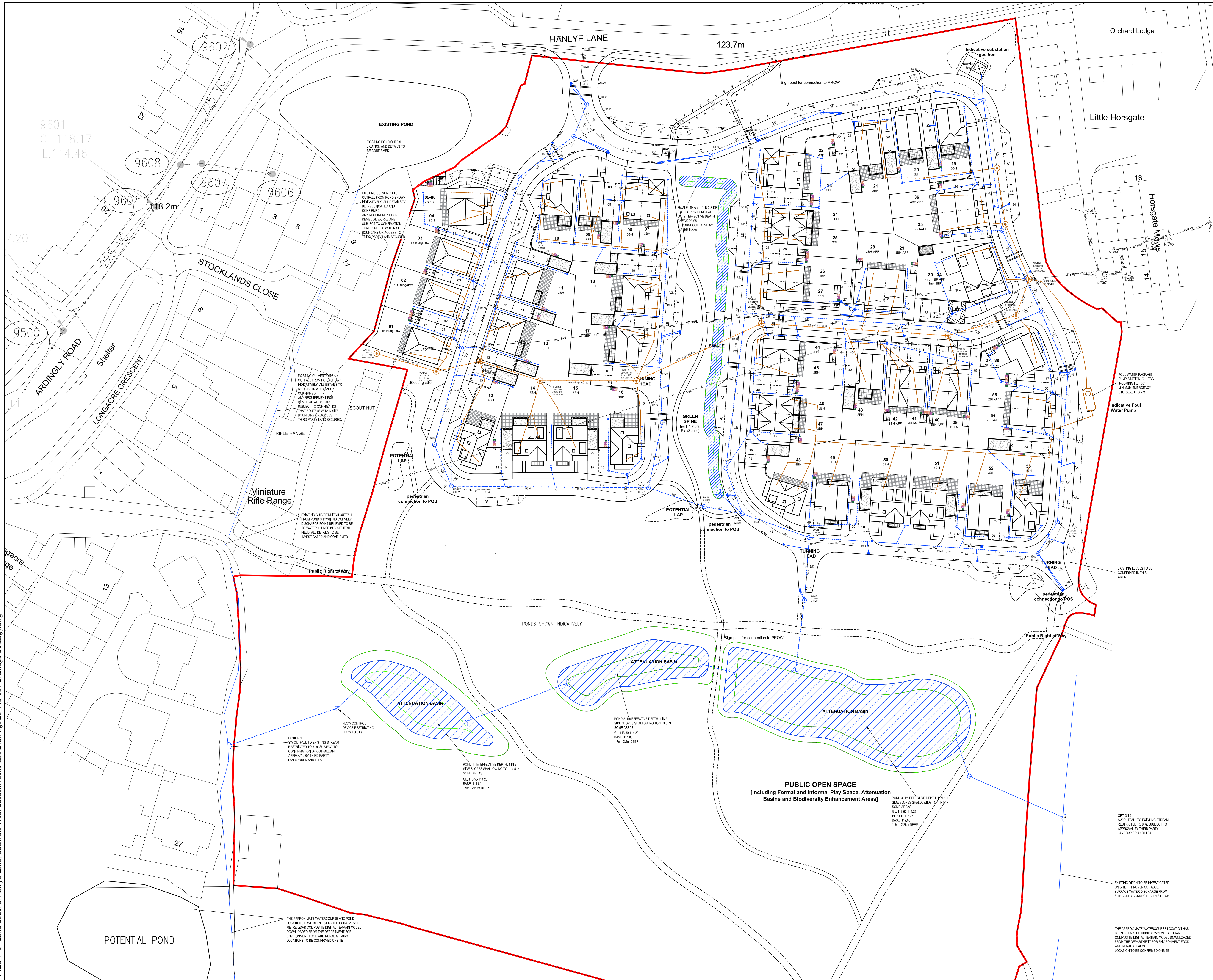
9.1.3 In line with the drainage hierarchy, it is proposed that surface water generated by the development would be attenuated on site using a series of attenuation basins, prior to being discharged to the watercourse located along the western site boundary.

9.1.4 The proposed attenuation storage has been designed to accommodate flows for all rainfall events up to and including the 1 in 100 year plus 45% climate change storm. Flows would be restricted to less than the QBAR greenfield runoff rate.

9.1.5 Foul flows generated by the majority of the site would be conveyed by gravity to the public Southern Water foul sewer located to the west of the site. Owing to the topography, foul flows from the south-east of the site would drain to a package pumping station. Flows would be pumped in a northern direction and connect into the foul gravity system serving the rest of the site.

9.1.6 This FRA demonstrates the proposed development could be drained in a sustainable manner, commensurate with local and national policy.

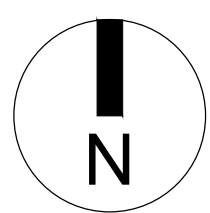
DRAWINGS



NOTES 1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELATED DRAWINGS ISSUED BY THE DESIGN TEAM. 2. DRAINAGE AND LEVELS STRATEGIES PROVIDED FOR PLANNING AND NOT TO BE USED FOR CONSTRUCTION. 3. ALL WORKS SUBJECT TO DETAILED DESIGN. 4. GREENFIELD RUNOFF RATE = 6 l/s. 5. PROPOSED SURFACE WATER NETWORK TO MIMIC GREENFIELD RUNOFF RATE OF 6 l/s FOR ALL STORM EVENTS UP TO AND INCLUDING 100yr EVENT INCLUDING ADDITIONAL 45% FOR CLIMATE CHANGE ALONG WITH 10% FOR URBAN CREEP. 6. PROPOSED SURFACE WATER NETWORK TO DISCHARGE INTO EXISTING WATER COURSE LEADING TO SCASE STREAM MIMICKING EXISTING SCENARIO. 7. SURFACE WATER ATTENUATION VOLUME REQUIRED = 1201m ³ - 2003m ³ BASED ON MICRO-DRAINAGE QUICK STORAGE ESTIMATE. 8. SURFACE WATER TREATMENT PROVIDED VIA 3NO. OPEN SUDS DEVICES (PONDS) TREATING ALL RUNOFF PRIOR TO DISCHARGE TO EXISTING DITCH, ADDITIONAL PRE-TREATMENT PROVIDED BY SWALE LOCATED IN THE CENTRAL GREEN CORRIDOR.					
LEGEND: PROPOSED SURFACE WATER DRAINAGE PROPOSED FOUL WATER DRAINAGE INDICATIVE PRIVATE FOUL WATER PACKAGE PUMP STATION INDICATIVE PRIVATE FOUL WATER RISING MAIN EXISTING GROUND LEVEL PROPOSED LEVEL PROPOSED GRADIENT RESURFACING (SLOPE 1:3 GRADIENT) SITE BOUNDARY					
REVISIONS C EXISTING POND AND POND OUTFALL NOTES ADDED TO CLIENT REQUEST. POND OUTFALL ROUTE ADDED INDICATIVELY. LAYOUT UPDATED TO LATEST ARCHITECT CHANGES RECEIVED 04-10-2023 SW SW SW 04/10/23 B DRAWING TITLE AMENDED. MINOR DRAINAGE CHANGES TO CLIENT COMMENTS. LAYOUT UPDATED TO ECE ARCHITECTURE DRAWING 7343 PL-04 REV E. SW SW SW BAC/12/09/23 A EASTERN MOST POND SIZE INCREASED. SW SW SW BAC/05/09/23 Rev Amendments Dm Cnk App Date					
ODYSSEY Unit 1 Pucknall Farm Dones Lane Brainfield Romsey SO51 9DZ Telephone: 01794 537980 Fax: 01296 33134 E: info@odysseyconsult.co.uk W: www.odysseyconsult.co.uk					
Job Title LAND AT HANLYE LANE, CUCKFIELD WEST SUSSEX					
Drawing Title DRAINAGE STRATEGY					
Client SIGMA HOMES					
Scale 1:500	Date AUGUST 23	Designed SCW			
Drawn SCW	Checked AK	Approved BAC			
Job No 23-148	Drawing No 23-148-001	Rev C			

APPENDIX A

Site Location Plan and Proposed Site Layout



CDM 2015 Health & Safety Information

- This information relates only to 'Significant Hazards' identified on this drawing and is to be read in conjunction with the Designer's Hazard Register.
- Conflict between construction traffic / work and pedestrians, cyclists and vehicles using Hanlye Lane.
 - All site boundaries to be suitably fenced and provided with warning signage during construction works.
 - Public Rights of Way to remain open during construction stage with the site suitably secured to avoid conflict.
 - Off-site pond to be secured and protected for safety and to avoid contamination during construction.
 - All retained trees should be protected at all times in accordance with British Standards regarding trees and construction.
 - All underground services and structures should be identified and surveyed prior to any on-site works with these clearly marked on the ground. Water main runs north to south along western boundary.
 - Assessment of existing drainage ditch and condition of sidings to be reviewed and protected and secured during construction works to avoid contamination or damage. Upgrading of culvert to be carried out.
 - New site entrance and driveway works to landscape development to be carried out by suitable highways contractor with risk assessments.
 - New sub-station to be isolated and secured with design and specification undertaken by suitable specialist.

Accommodation Schedule

Affordable Dwellings 17no. (20.2%)

4no.	1-Bedroom Apartments	Apartment Block
3no.	2-Bedroom Apartments	Apartment Block
4no.	2-Bedroom Houses	
6no.	3-Bedroom Houses	

Open Market Dwellings 38no. (59.7%)

2no.	1-Bedroom Maisonettes	Apartment Block
3no.	1-Bedroom Bungalow	
22no.	2-Bedroom Houses	
4no.	3-Bedroom Houses	
4no.	4-Bedroom Houses	
4no.	5-Bedroom Houses	

Total: 55 Dwellings

Notes:
Car Parking 1/2 spaces per 1/2 bedroom apartment
2 spaces per 2/3 bedroom houses
3 spaces per 3-5 bedroom houses (inc. garage)
19 Visitors spaces
Cycle Parking 1 space per apartment or 2 spaces per house/
bungalow in rear garden stores or garages

KEY

- Site Boundary
- Proposed Tree to be removed
- Ancient Woodland Buffer

I	03.10.23	Issued for approval	JR	NF
H	02.10.23	Updated layout and housing mix	JR	NF
G	27.09.23	Updated housing mix	NF	JR
F	13.09.23	Updated housing mix	NF	JR
E	08.09.23	Revised parking arrangements	NF	JR
D	08.09.23	Revised site layout, changes to parking and types	NF	JR
C	06.09.23	Amended parking arrangements	NF	JR
B	05.09.23	Revised layout to client comments	NF	JR
A	31.08.23	Updated layout to match house type, highways and drainage information	NF	JR

Rev. Date Revision Details Dr. Ch.



Client's Name
Sigma Homes

Job Title
Land South of Hanlye Lane Cuckfield

Drawing Title
Proposed Site Layout

Scale
1:500 @ A0 / 1:1000 @ A2

metres 10 20 30 40 50

Drawn AX Checked NF Date 01.08.23

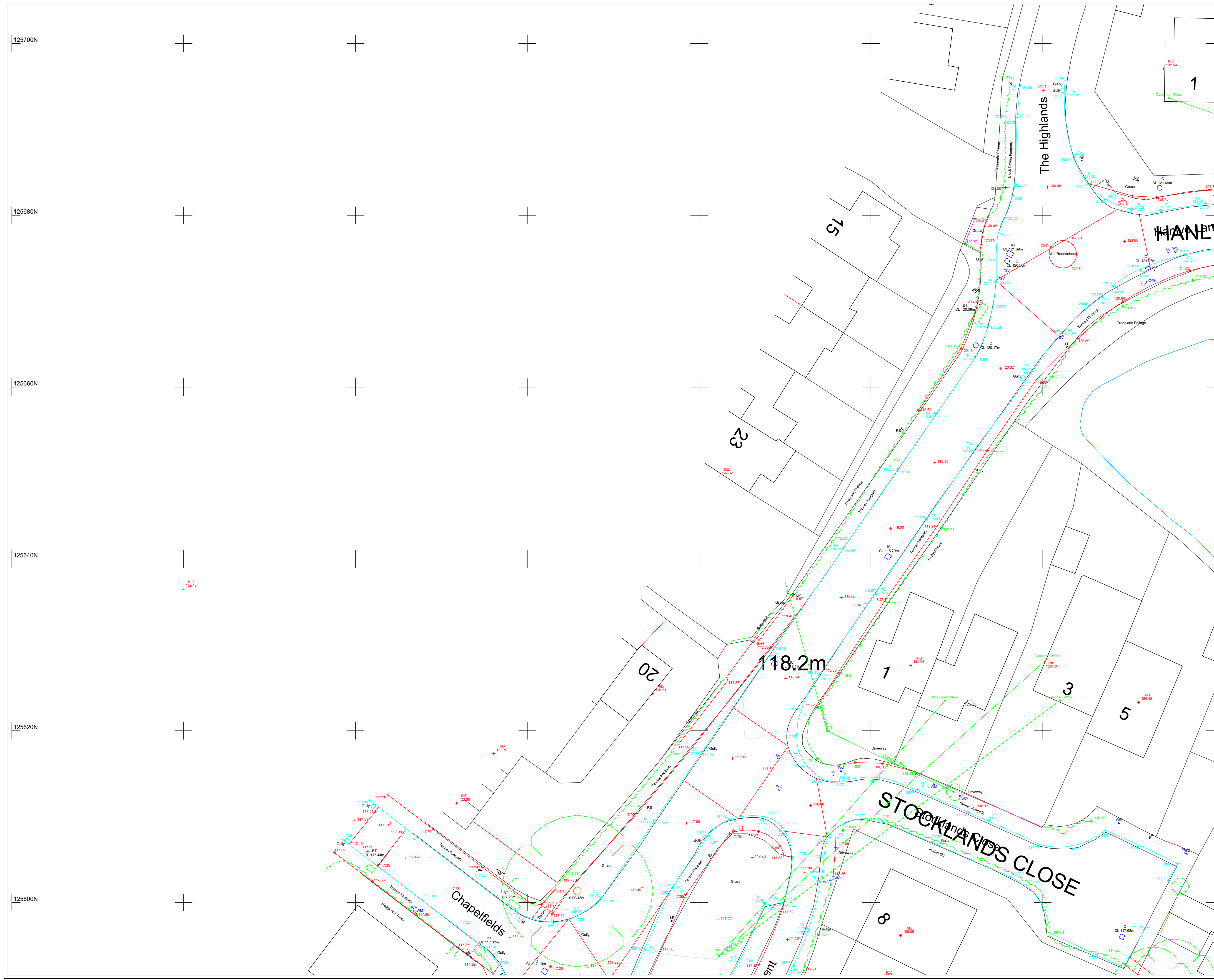
Job No 7343 Drawing No PL-04 Rev I

Status
APPROVAL

CAD Plot date: 4/10/2023 - 10:46:51 7343 - completed site plan_post submission.dwg

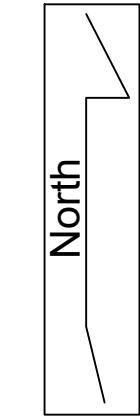
APPENDIX B

Topographical Survey



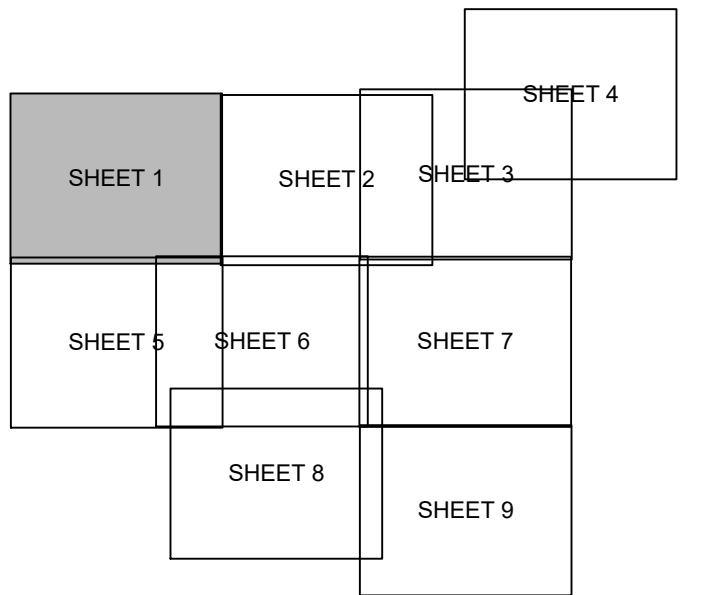
NOTES

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- LEGEND
- B - Bollard
 - CL - Cover Level
 - EAV - Eaves Level
 - FH - Fire Hydrant
 - FPO - Fence Post
 - GV - Gas Valve
 - IC - Inspection Cover
 - IL - Invert Level
 - LP - Lamp Post
 - MT - Multi Trunk
 - RID - Ridge Level
 - RS - Road Sign
 - SC - Stop Cock
 - SV - Staircase Valve
 - TK - Top of Kerb
 - TW - Top of Wall
 - WM - Water Meter
 - WO - Wash Out

KEYPLAN

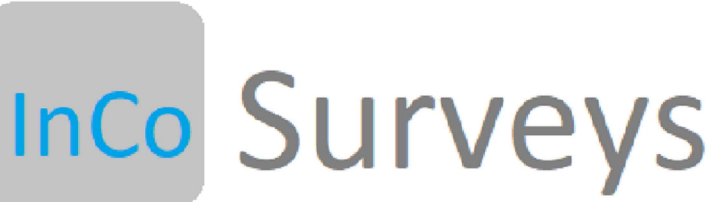


Rev	Revised By	Date	Revision
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Project
**LAND OFF HANLYE LANE
CUCKFIELD
WEST SUSSEX**

Drawing Title
TOPOGRAPHIC SURVEY

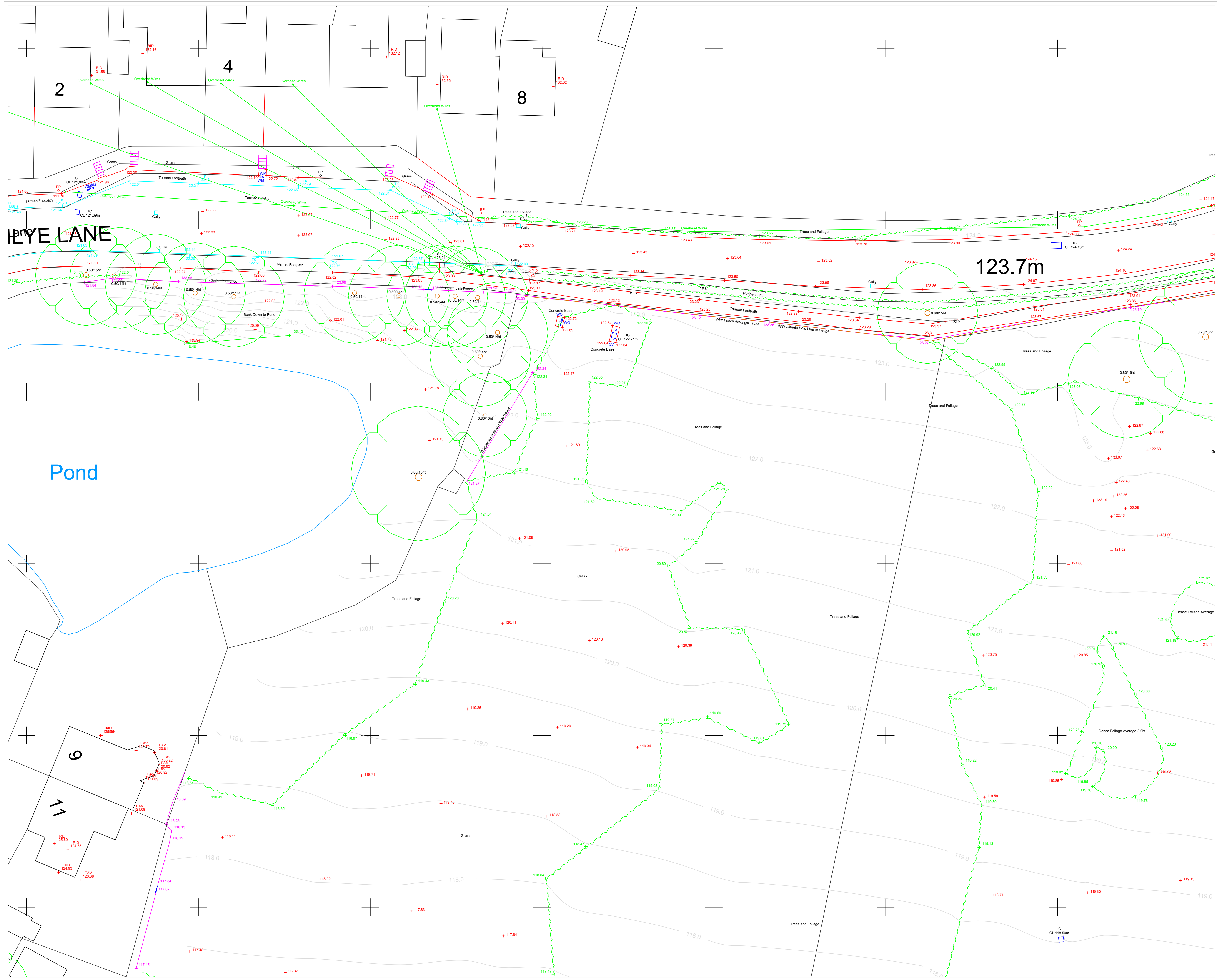
16 Allcard Close
Horsham
RH12 5AJ
Tel No: 07867411903
www.incosurveys.co.uk



Surveyed: M.Jones December 2022
Checked: M.Jones January 2023

Project No. S22676 Drawing Status INFORMATION Scale (@ A1) 1:200

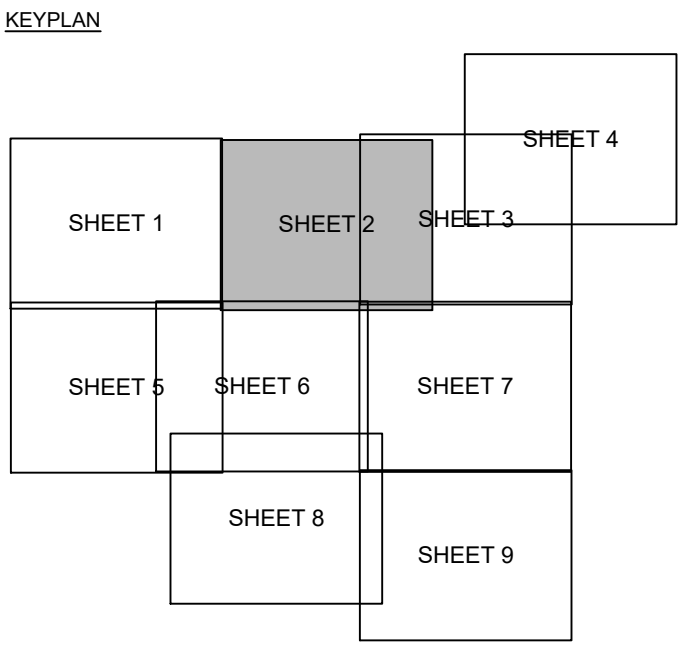
**TOPOGRAPHIC
SURVEY
Sheet 1 of 9**



- NOTES**
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- FH - Fire Hydrant
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- GV - Gas Valve
- IC - Inspection Cover
- IL - Invert Level
- LP - Lamp Post
- MT - Multi Trunk
- RID - Ridge Level
- RS - Road Sign
- SC - Skip Cock
- SV - Staircase Valve
- TK - Top of Kerb
- TW - Top of Wall
- WM - Water Meter
- WO - Wash Out



Rev	Revised By	Date	Revision

Project
**LAND OFF HANYE LANE
CUCKFIELD
WEST SUSSEX**

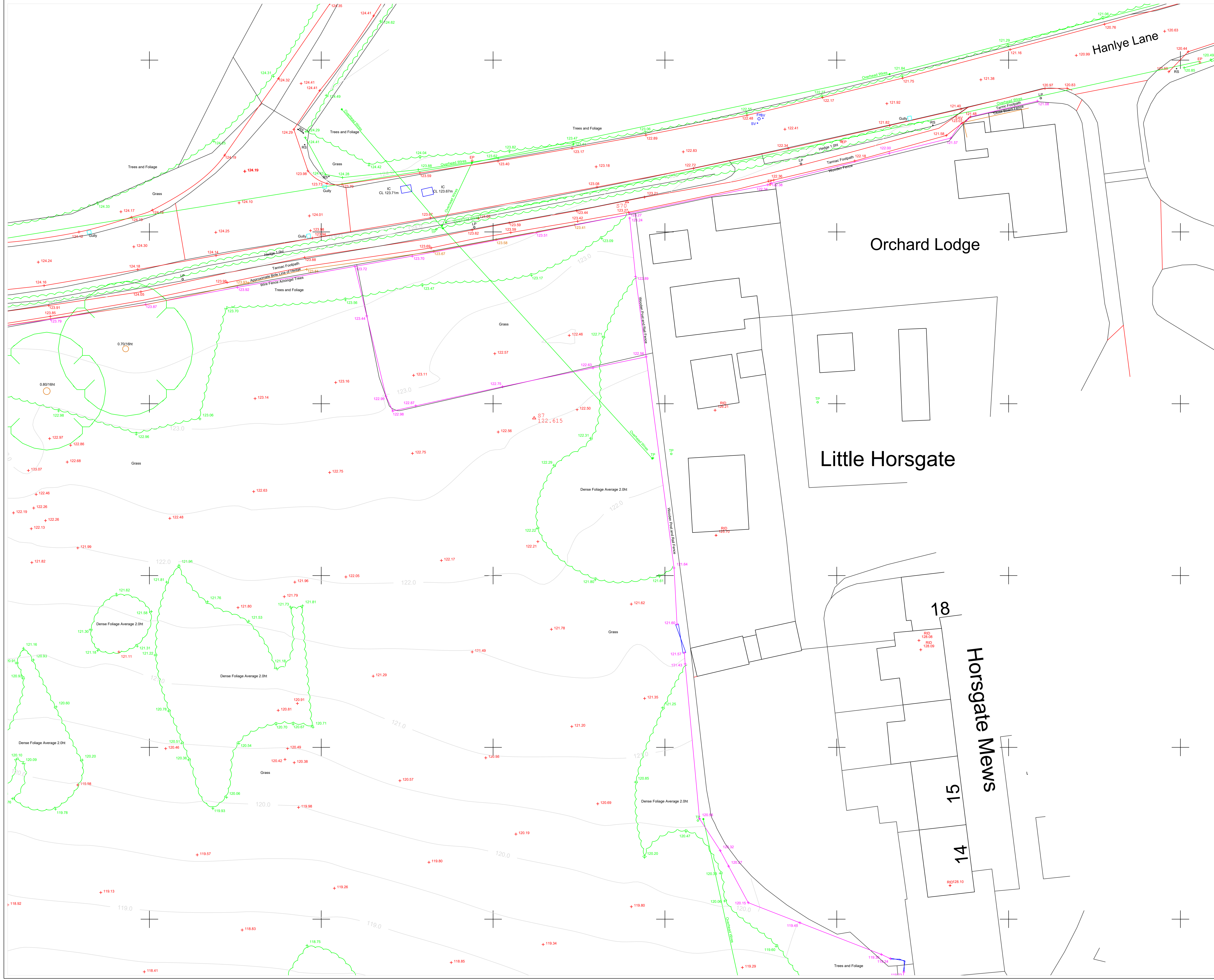
Drawing Title
TOPOGRAPHIC SURVEY

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Horsham
RH12 5AJ
Tel No: 07867411903
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Surveyed: M.Jones	December 2022
Checked: M.Jones	January 2023

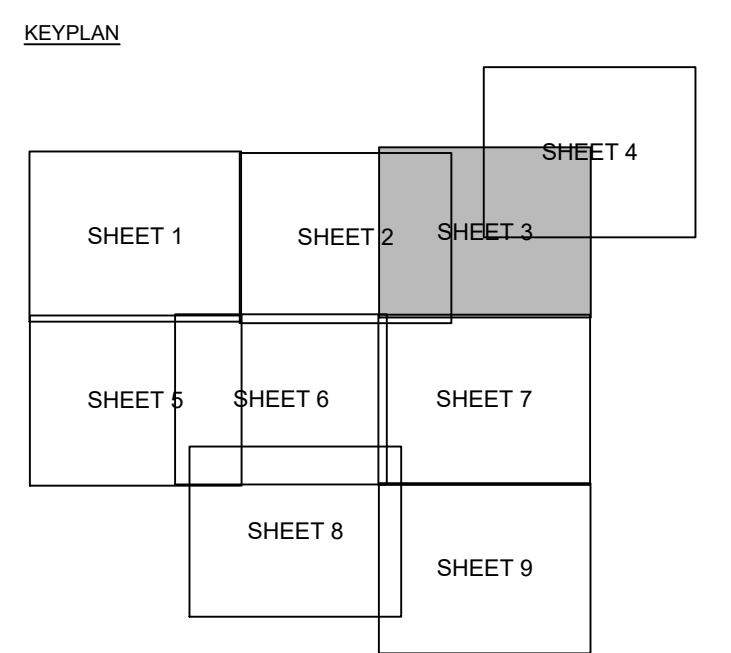
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**TOPOGRAPHIC
SURVEY
Sheet 2 of 9**



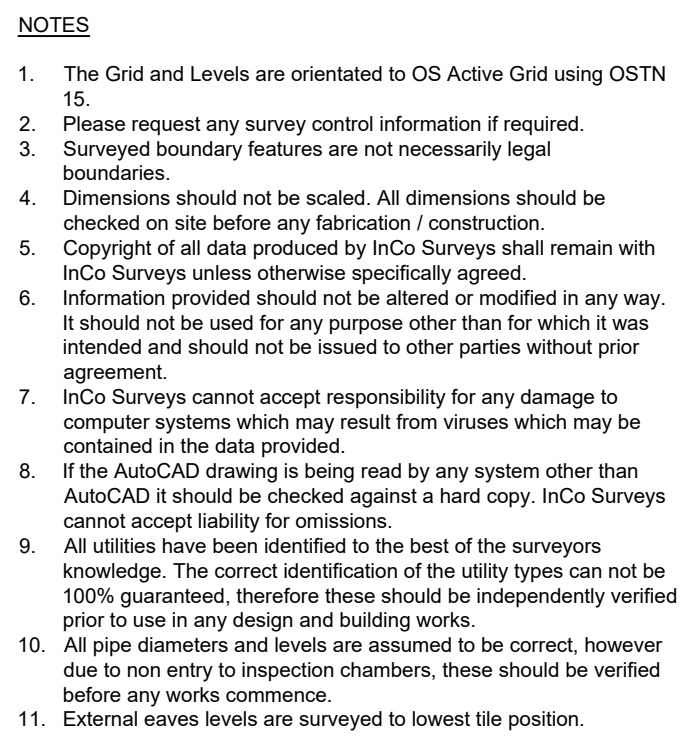
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 - FH - Fire Hydrant
 - FPO - Fence Post
 - GV - Gas Valve
 - IC - Inspection Cover
 - IL - Invert Level
 - LP - Lamp Post
 - MT - Multi Trunk
 - RID - Ridge Level
 - RS - Road Sign
 - SC - Stop Cook
 - SV - Staircase Valve
 - TK - Top of Kerb
 - TW - Top of Wall
 - WM - Water Meter
 - WO - Wash Out



Rev	Revised By	Date	Revision
Project			
LAND OFF HANLYE LANE			
CUCKFIELD			
WEST SUSSEX			
Drawing Title			
TOPOGRAPHIC SURVEY			
16 Allcard Close Horsham RH12 5AJ Tel No: 07867411903 www.incosurveys.co.uk			
Surveyed: M.Jones December 2022			
Checked: M.Jones January 2023			
Project No. S22676	Drawing Status INFORMATION	Scale (@ A1) 1:200	

TOPOGRAPHIC SURVEY
Sheet 3 of 9

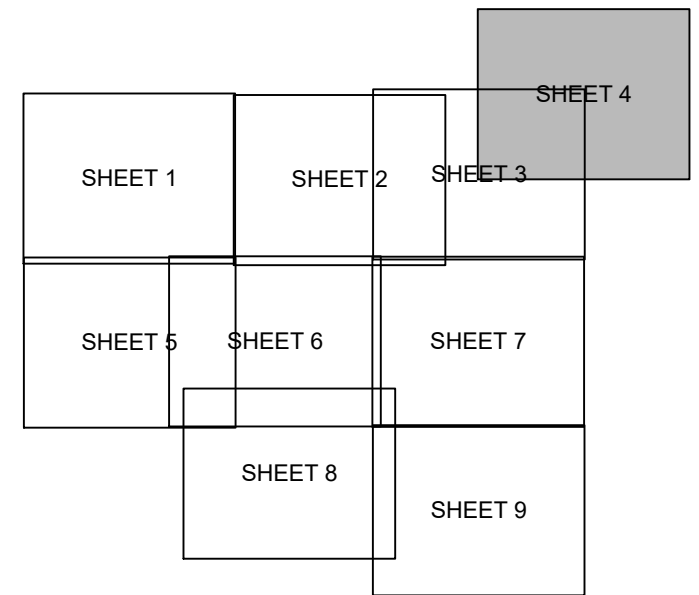


North

Legend

- B - Boltard
- CL - Cover Level
- EAV - Eaves Level
- FH - Fire Hydrant
- FFO - Fence Post
- GV - Gas Valve
- IC - Inspection Cover
- IL - Invert Level
- LP - Lamp Post
- MT - Multi Trunk
- RID - Ridge Level
- RS - Road Sign
- SC - Stop Cock
- SV - Sluice Valve
- TK - Top of Kerb
- TW - Top of Wall
- WM - Water Meter
- WO - Wash Out

KEYPLAN



Rev	Revised By	Date	Revision
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Project
**LAND OFF HANLYE LANE
CUCKFIELD
WEST SUSSEX**

Drawing Title
TOPOGRAPHIC SURVEY

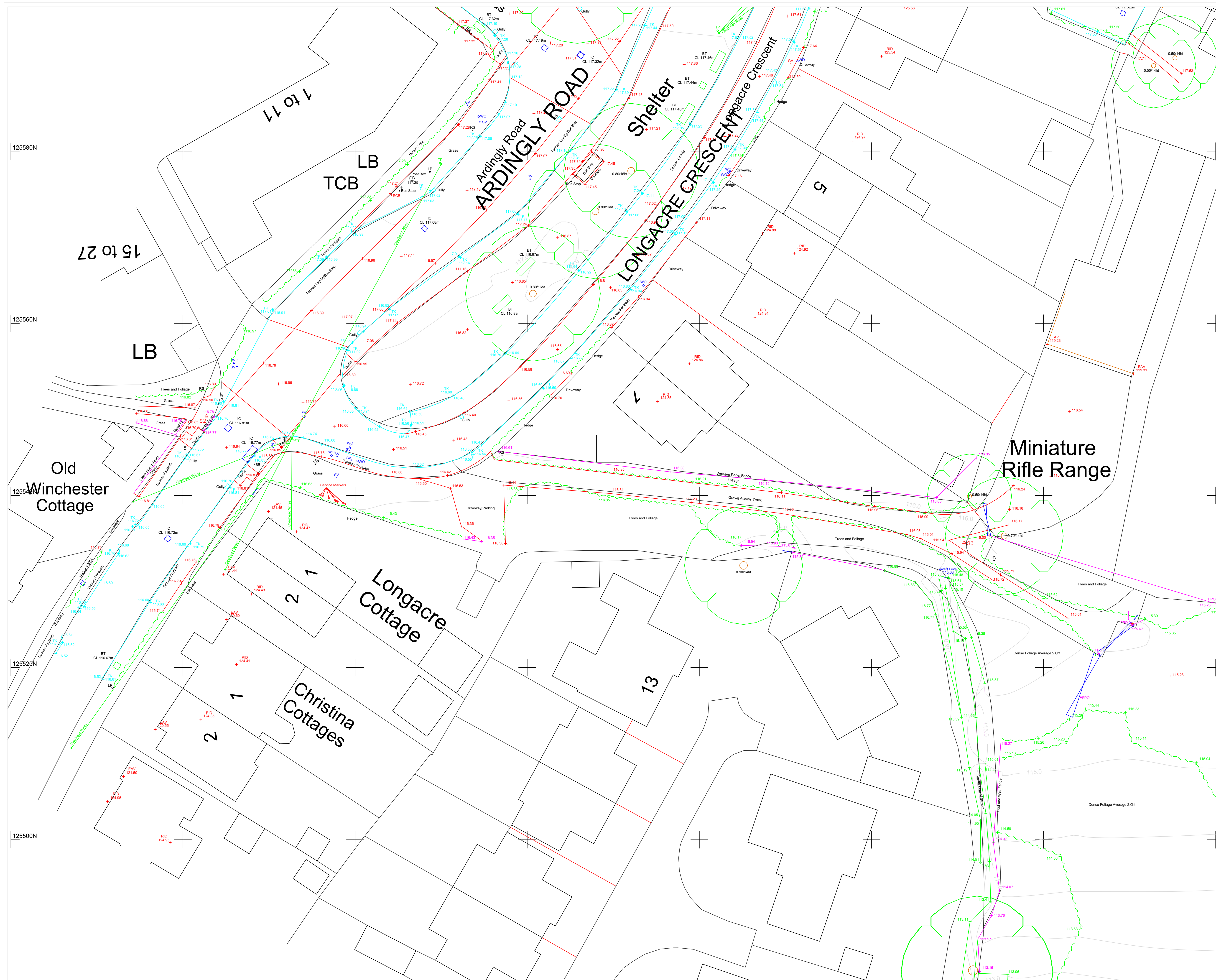
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Tel No: 07867411903
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TOPOGRAPHIC
SURVEY
Sheet 4 of 9



NOTES

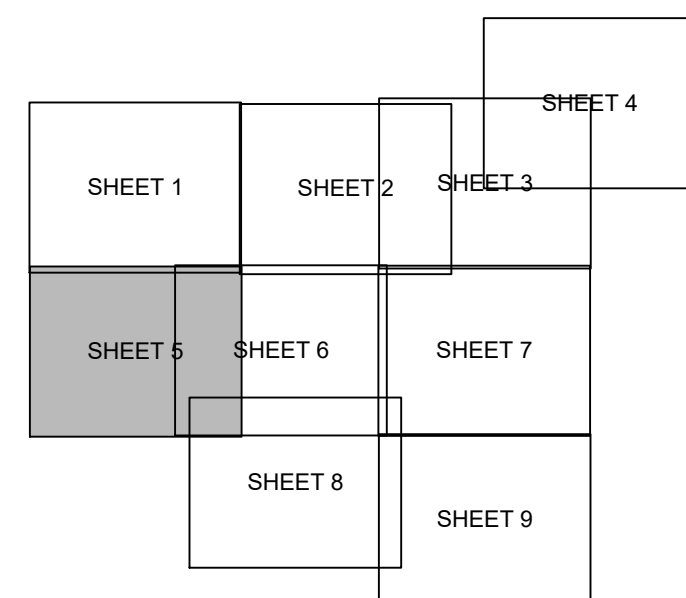
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North

LEGEND

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WO - Wash Out

KEYPLAN



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Project
**LAND OFF HANLYE LANE
CUCKFIELD
WEST SUSSEX**

Drawing Title
TOPOGRAPHIC SURVEY

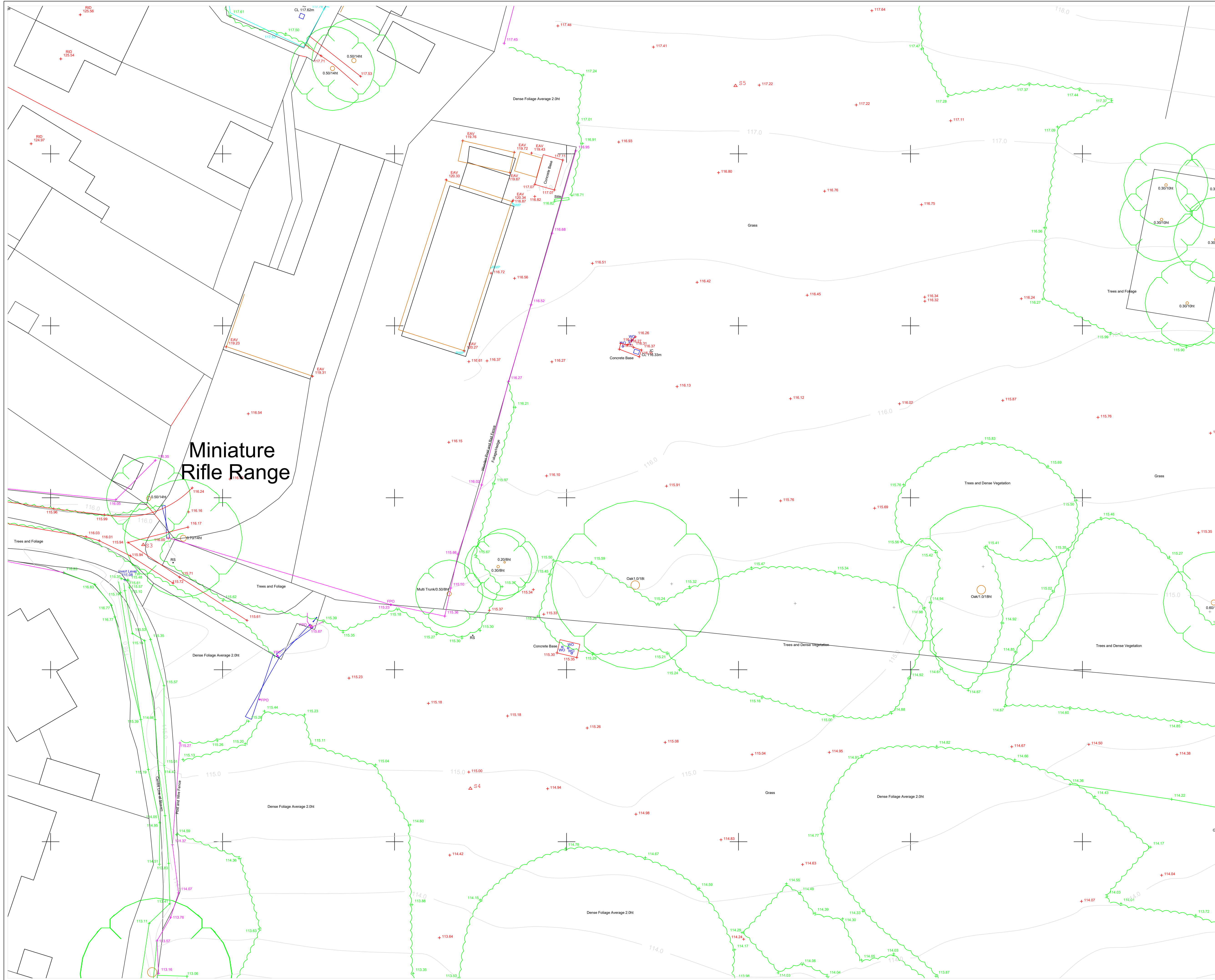
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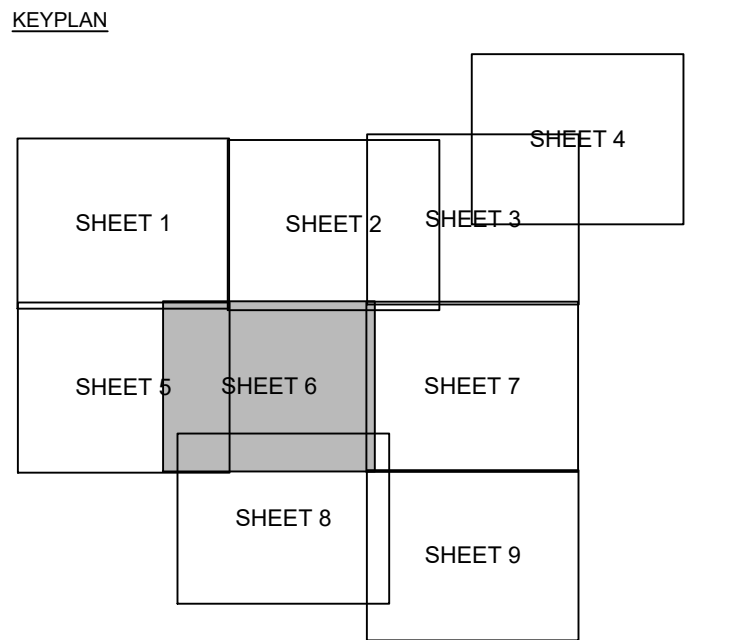
Project No. S22676	Drawing Status INFORMATION	Scale (@ A1) 1:200
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**TOPOGRAPHIC
SURVEY
Sheet 5 of 9**



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 - SC - Stop Cock
 - SV - Staircase Valve
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 - WO - Wash Out



Rev	Revised By	Date	Revision

Project
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CUCKFIELD
WEST SUSSEX**

Drawing Title
TOPOGRAPHIC SURVEY

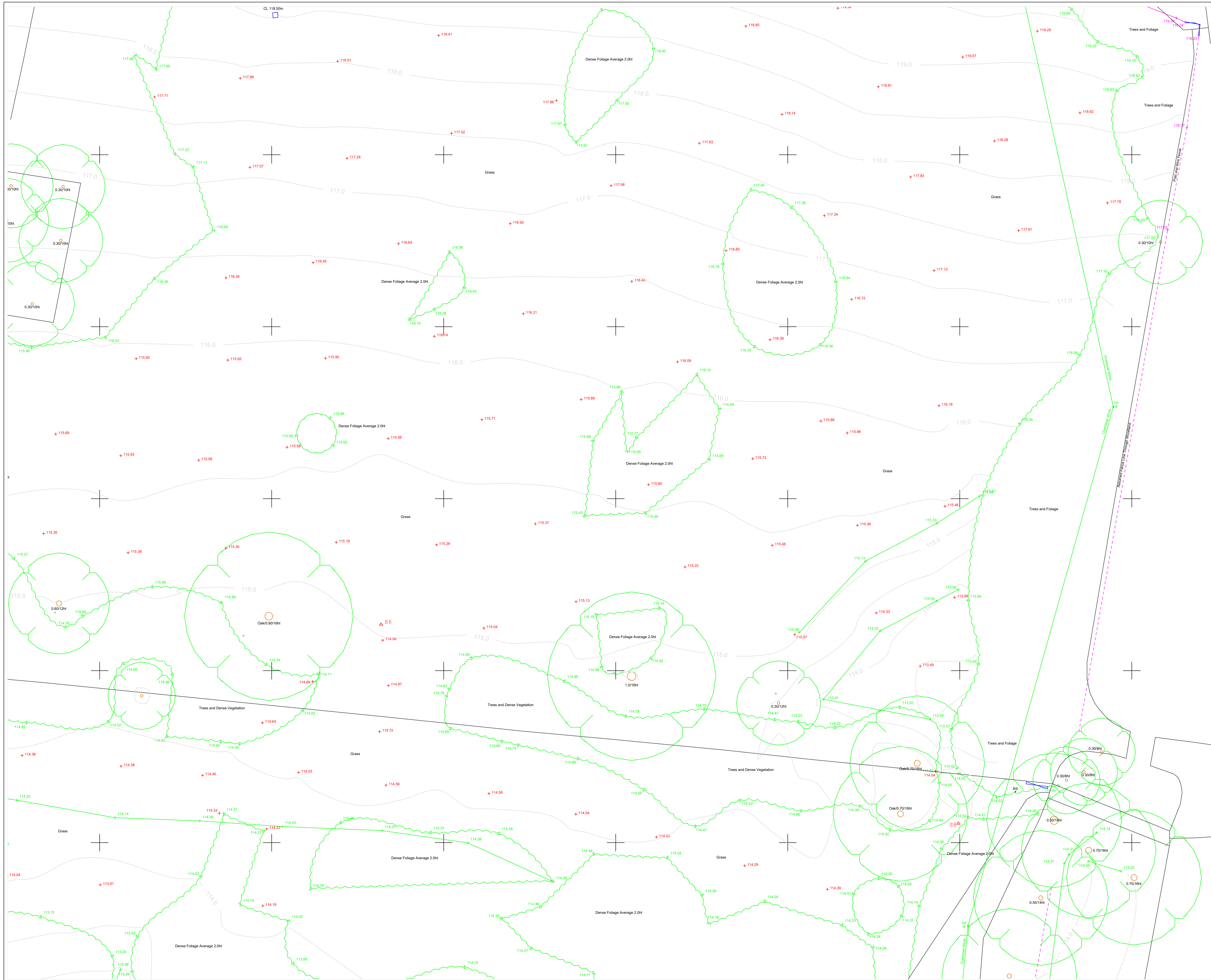
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**TOPOGRAPHIC
SURVEY
Sheet 6 of 9**



NOTES

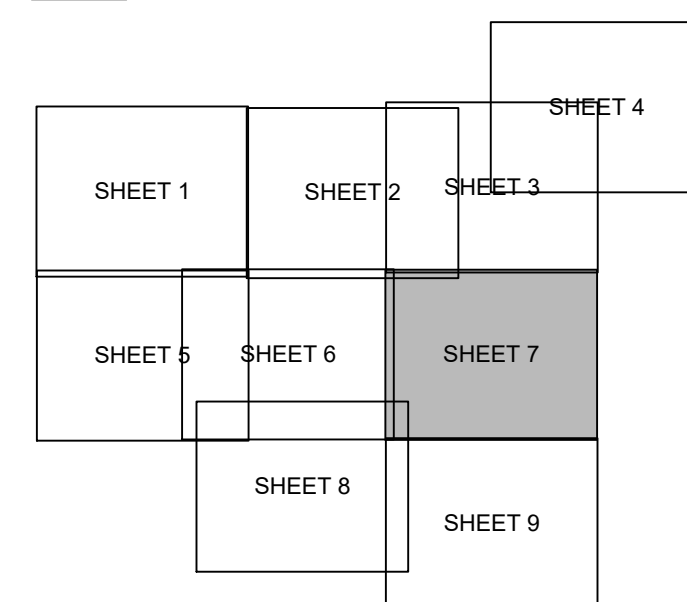
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LEGEND

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FPO - Fence Post
GV - Gas Valve
IC - Inspection Cover
IL - Invert Level
LP - Lamp Post
MT - Multi Trunk
RID - Ridge Level
RS - Road Sign
SC - Slope Cook
SV - Staircase Valve
TK - Top of Kerb
TW - Top of Wall
WM - Water Meter
WO - Wash Out

KEYPLAN



Rev	Revised By	Date	Revision
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Project
**LAND OFF HANLYE LANE
CUCKFIELD
WEST SUSSEX**

Drawing Title
TOPOGRAPHIC SURVEY

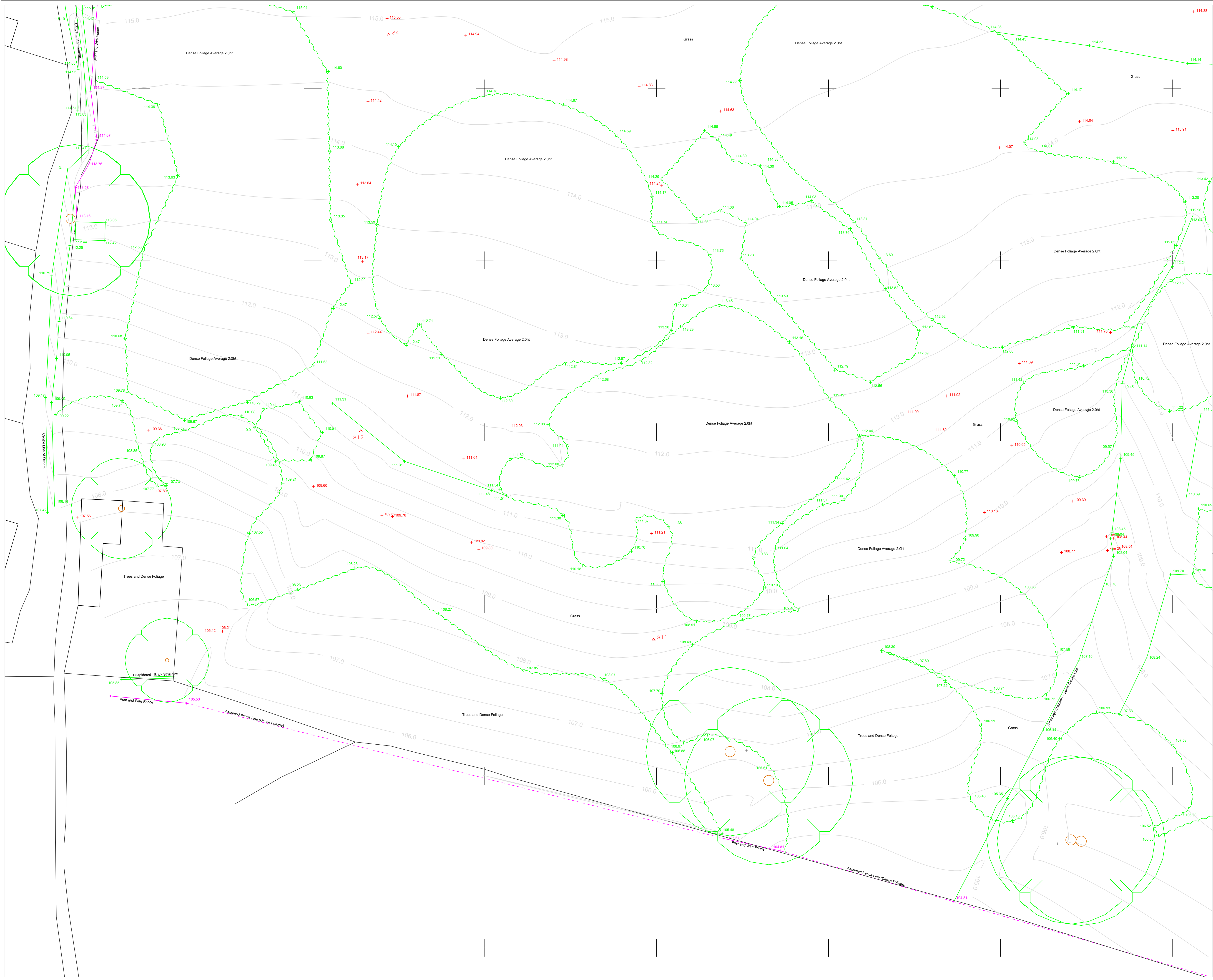
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RH12 5AJ
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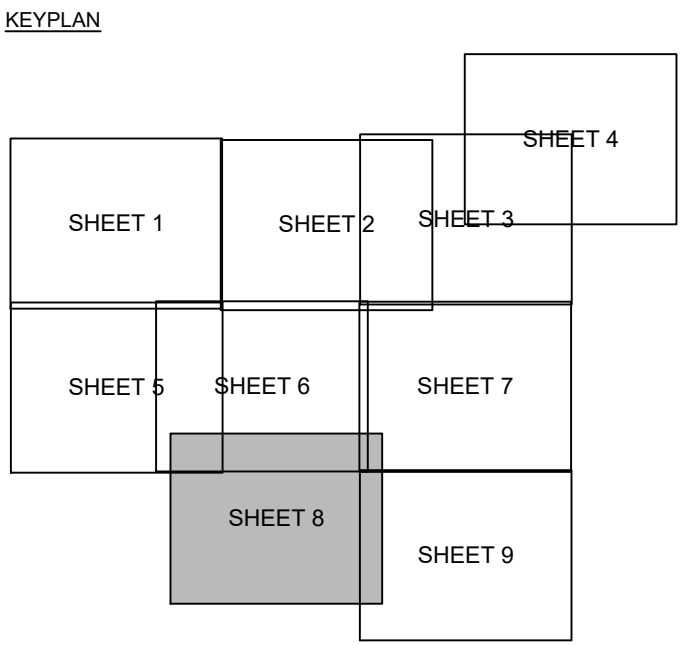
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S22676	INFORMATION	1:200

**TOPOGRAPHIC
SURVEY**
Sheet 7 of 9



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 - RS - Road Sign
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 - TK - Top of Kerb
 - TW - Top of Wall
 - WM - Water Meter
 - WO - Wash Out

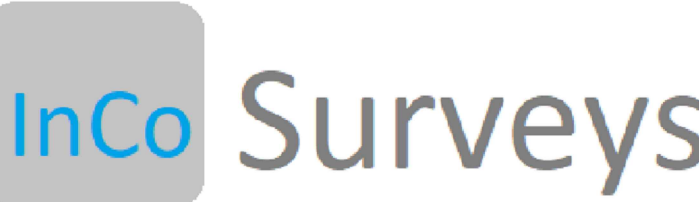


Rev	Revised By	Date	Revision
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Project
**LAND OFF HANLYE LANE
CUCKFIELD
WEST SUSSEX**

Drawing Title
TOPOGRAPHIC SURVEY

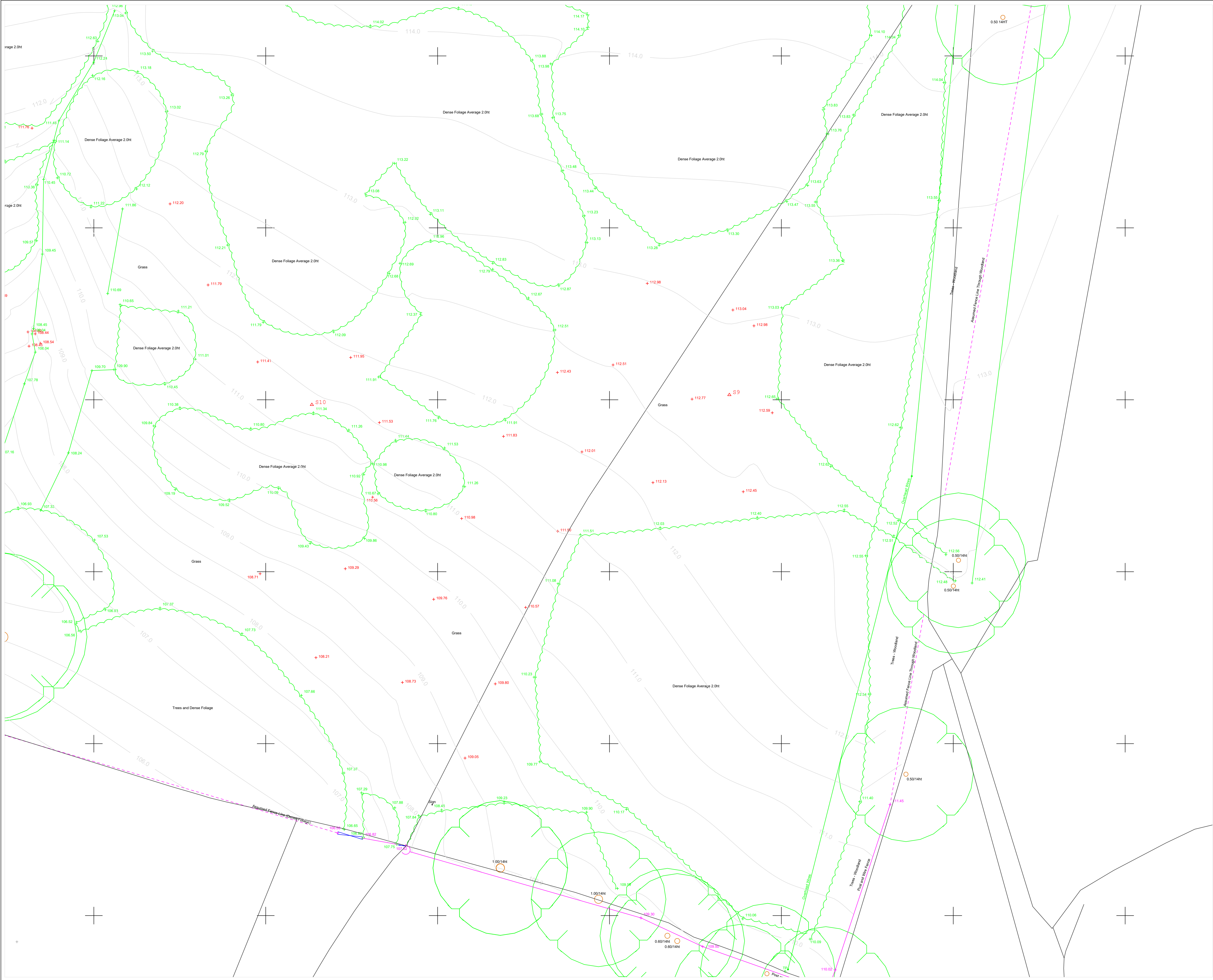
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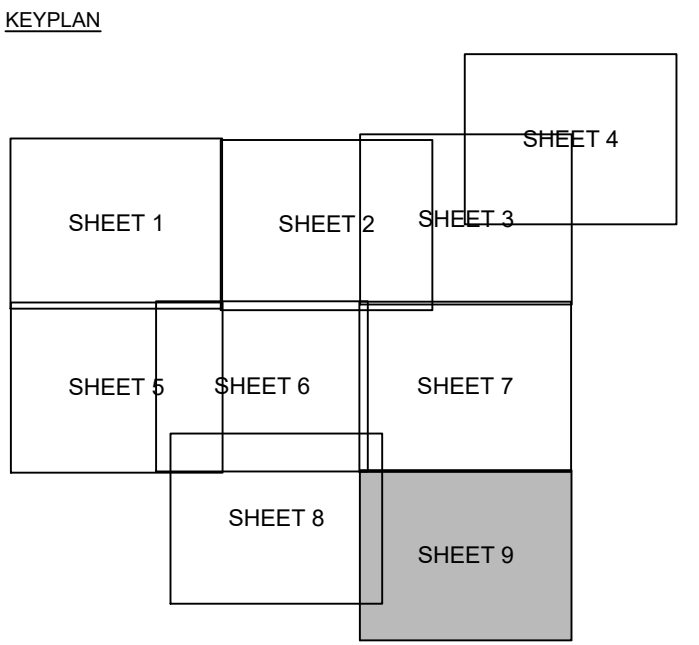
**TOPOGRAPHIC
SURVEY
Sheet 8 of 9**



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- MT - Multi Trunk
- RID - Ridge Level
- RS - Road Sign
- SC - Stop Cock
- SV - Stause Valve
- TK - Top of Kerb
- TW - Top of Wall
- WM - Water Motor
- WO - Wash Out



Rev	Revised By	Date	Revision

Project
**LAND OFF HANLYE LANE
CUCKFIELD
WEST SUSSEX**

Drawing Title
TOPOGRAPHIC SURVEY

16 Allcard Close
Horsham
RH12 5AJ
Tel No: 07867411903
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Surveyed: M.Jones December 2022
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Project No.	Drawing Status	Scale (@ A1)
S22676	INFORMATION	1:200

**TOPOGRAPHIC
SURVEY
Sheet 9 of 9**

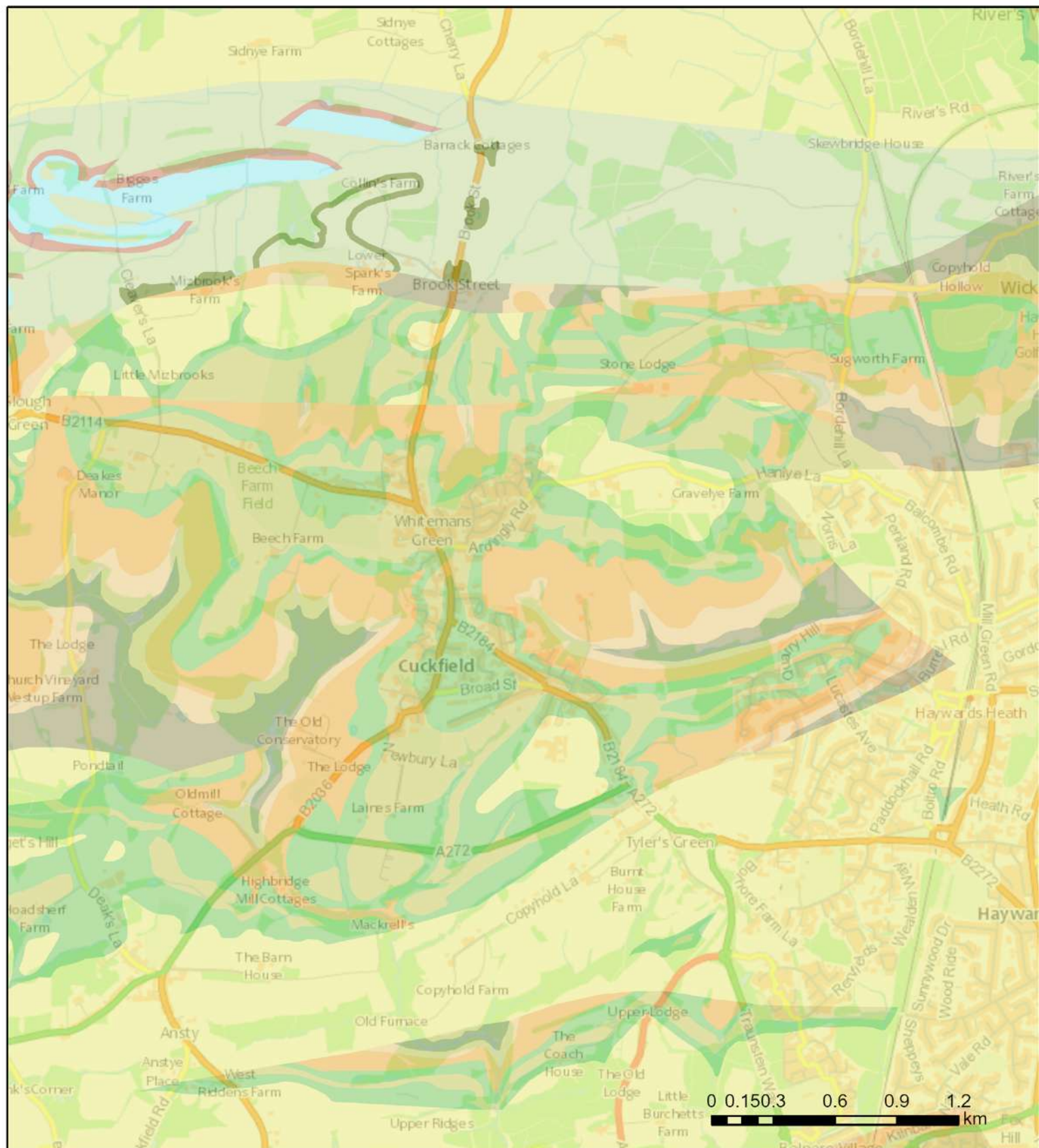
APPENDIX C

British Geographical Survey Mapping

Bedrock Geology



British
Geological
Survey



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GeolIndex Onshore Data Sources: NERC, Natural England, English Heritage and Ordnance Survey

Map Key

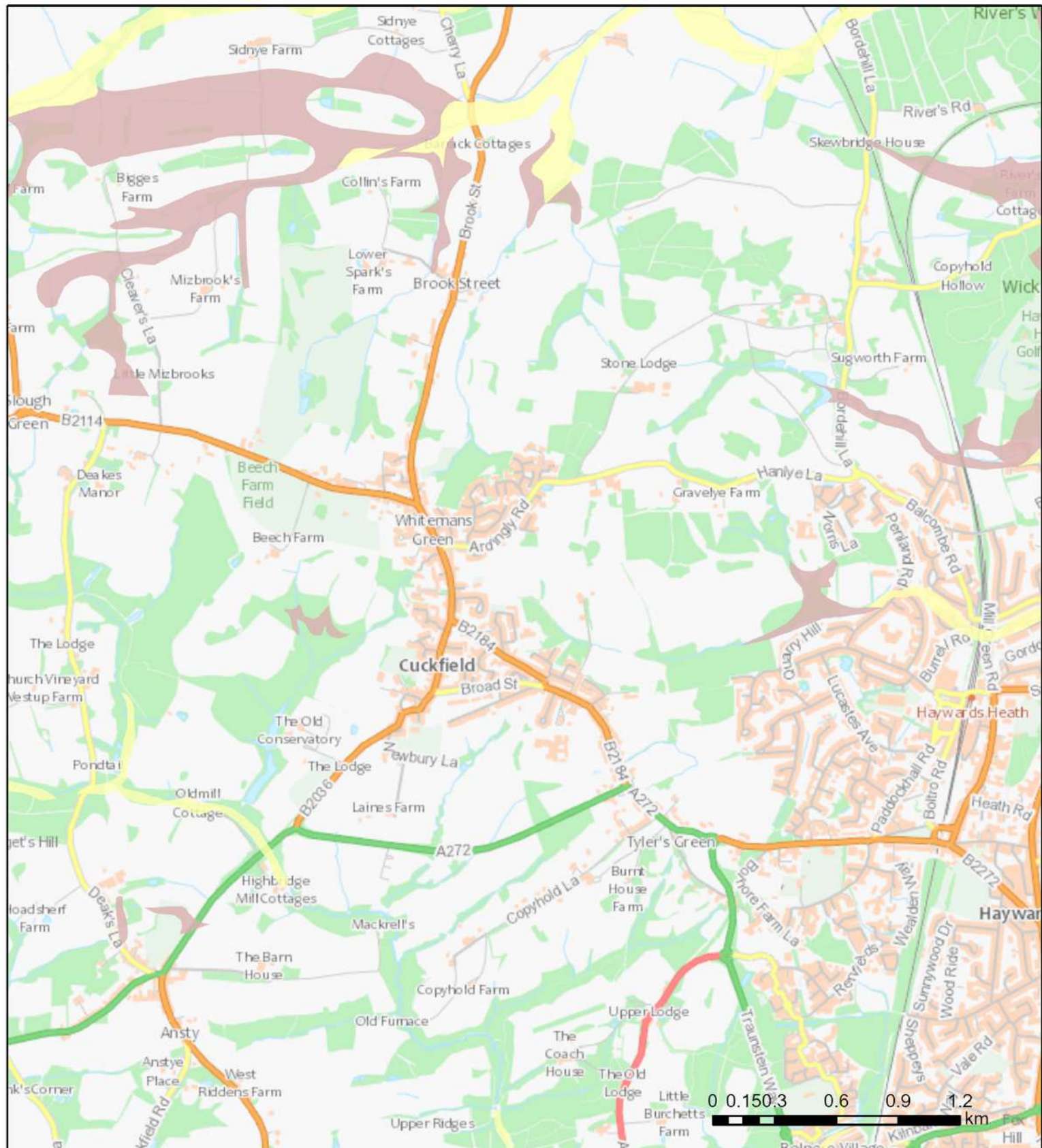
Bedrock geology 1:50,000 scale

	<u>HORSHAM STONE MEMBER - SANDSTONE</u>
	<u>ASHDOWN FORMATION - SANDSTONE AND SILTSTONE, INTERBEDDED</u>
	<u>WEALD CLAY FORMATION - MUDSTONE</u>
	<u>UPPER TUNBRIDGE WELLS SAND - SANDSTONE AND SILTSTONE, INTERBEDDED</u>
	<u>UPPER TUNBRIDGE WELLS SAND - SANDSTONE AND MUDSTONE</u>
	<u>LOWER TUNBRIDGE WELLS SAND - SANDSTONE, SILTSTONE AND MUDSTONE</u>
	<u>LOWER TUNBRIDGE WELLS SAND - SILTSTONE, MUDSTONE AND SANDSTONE</u>
	<u>CUCKFIELD STONE BED - SANDSTONE, CALCAREOUS</u>
	<u>WEALD CLAY FORMATION - CLAY-IRONSTONE</u>
	<u>WADHURST CLAY FORMATION - MUDSTONE</u>
	<u>GRINSTEAD CLAY MEMBER - MUDSTONE</u>
	<u>LOWER GRINSTEAD CLAY - MUDSTONE</u>
	<u>UPPER GRINSTEAD CLAY - MUDSTONE</u>
	<u>UPPER TUNBRIDGE WELLS SAND - MUDSTONE</u>
	<u>UPPER TUNBRIDGE WELLS SAND - SANDSTONE</u>
	<u>ARDINGLY SANDSTONE MEMBER - SANDSTONE</u>
	<u>WEALD CLAY FORMATION - LIMESTONE</u>

Superficial Deposits



British
Geological
Survey



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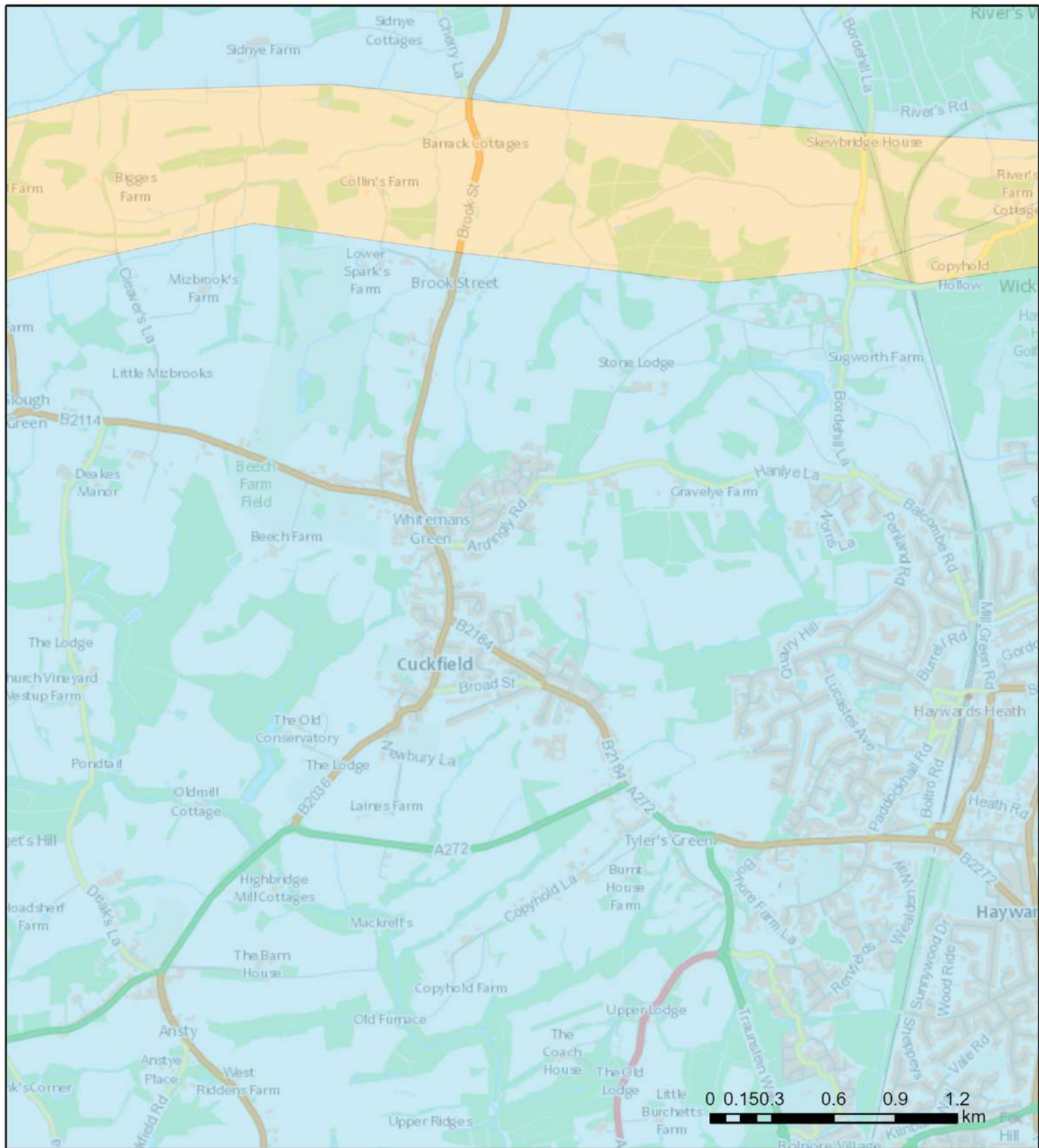
GeolIndex Onshore Data Sources: NERC, Natural England, English Heritage and Ordnance Survey

Map Key

Superficial deposits 1:50,000 scale

-  [ALLUVIUM - CLAY, SILT, SAND AND GRAVEL](#)
-  [HEAD - CLAY, SILT, SAND AND GRAVEL](#)
-  [RIVER TERRACE DEPOSITS, 2 \(ADUR\) - SAND AND GRAVEL](#)
-  [RIVER TERRACE DEPOSITS, 1 - SAND AND GRAVEL](#)

Hydrogeology



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GeoIndex Onshore Data Sources: NERC, Natural England, English Heritage and Ordnance Survey

Map Key

Hydrogeology 1:625,000 scale

Aquifers with significant intergranular flow

-  Highly productive aquifer
-  Moderately productive aquifer
-  Low productivity aquifer

Aquifers in which flow is virtually all through fractures and other discontinuities

-  Highly productive aquifer
-  Moderately productive aquifer
-  Low productivity aquifer
-  Rocks with essentially no groundwater