

Hallam Land Management Limited

NEW BOGNOR REGIS GOLF COURSE

Flood Risk Assessment





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REPORT V02 PUBLIC

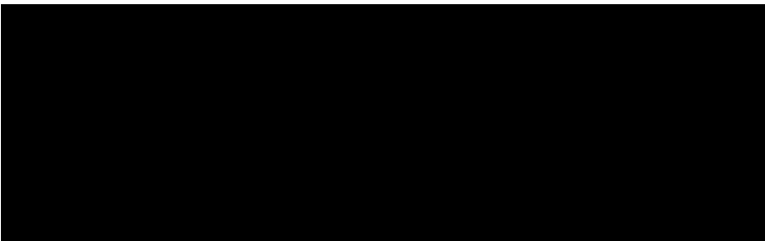
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CONTENTS

1.	INTRODUCTION	1
1.1.	BACKGROUND	1
1.2.	LIMITATIONS	1
1.3.	SCOPE OF ASSESSMENT	1
2.	SITE SETTING	2
2.1.	LOCATION	2
2.2.	DEVELOPMENT PROPOSALS	3
2.3.	TOPOGRAPHY	3
2.4.	GEOLOGICAL AND HYDROGEOLOGICAL CONTEXT	4
	Geology	4
	Hydrogeology	4
2.5.	WATERBODIES	4
3.	PLANNING POLICY CONTEXT	5
3.1.	NATIONAL PLANNING POLICY FRAMEWORK 2021	5
3.2.	LOCAL PLANNING POLICY	5
	Local Plan - Adoption Arun Local Plan 2011-2031 (July 2018)	5
	Local Plan – Arun District Council Level 1 and Level 2 Strategic Flood Risk Assessment , November 2016 (SFRA)	6
3.3.	VULNERABILITY CLASSIFICATION	6
	Sequential Test	7
	Exception Test	7
4.	ASSESSMENT OF FLOOD RISK	8
4.1.	OVERVIEW	8
4.2.	HISTORIC FLOODING	8
4.3.	FLOOD DEFENCES	9
4.4.	FLUVIAL & TIDAL FLOOD RISK	9



	ENVIRONMENT AGENCY MAPPING	9
4.5.	HYDRAULIC MODELLING	10
	Consultation	10
	Climate Change	11
	Baseline Hydraulic Modelling	11
	Post Development Hydraulic Modelling	12
	FLUVIAL FLOOD RISK SUMMARY	14
4.6.	SURFACE WATER FLOOD RISK	15
4.7.	GROUND WATER FLOOD RISK	16
4.8.	SEWER FLOOD RISK	17
4.9.	ARTIFICIAL SOURCE FLOOD RISK	17
5.	SURFACE WATER DRAINAGE	18
6.	FLOOD RISK MITIGATION	19
6.2.	PLANNING POLICY	19
7.	CONCLUSIONS	20

TABLES

Table 1 - Flood Vulnerability and Flood Zone Compatibility (PPG Table 3)	7
Table 2 - Flood Risk Overview	8

FIGURES

Figure 1 – Site Location	2
Figure 2 - Site Topography	3
Figure 3 - Environment Agency Flood Defences	9
Figure 4 - Environment Agency's Flood Map for Planning	10
Figure 5 - 1 in 100 year plus climate change baseline flood depths (m)	12

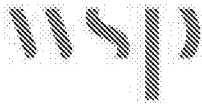


Figure 6 - 1 in 100 year plus climate change post-development flood depths (m)	13
Figure 7 - 1 in 100 year plus climate change flood difference map	14
Figure 8 - Risk of Surface Water Flooding Map	15

APPENDICES

APPENDIX A

FLOOD RISK PACK

APPENDIX B

PROPOSED DEVELOPMENT PLANS

APPENDIX C

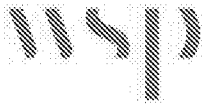
TOPOGRAPHICAL SURVEY



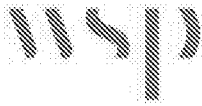
Executive Summary

This Flood Risk Assessment (FRA) has been undertaken to accompany the planning application for the proposed golf course at Ancton, near Bognor Regis. This FRA has been prepared in accordance with the guidelines set out in the National Planning Policy Framework (NPPF) published in July 2021 and the National Planning Practice Guidance along with other relevant local and national guidance.

Item	Overview
Site Location	The Site is located in Ancton, West Sussex, to the south of Grevatt's Lane (A529), with a nearest postcode BN17 5RE, at an approximate National Grid Reference 499033, 101144. The site has an area of approximately 72.4 hectares.
Development Proposals	Construction of a new 18 hole par 4 golf course, a 9 hole par 3 course, practice greens and a driving range; the formation of a new access onto the A259; the construction of a club house with associated golf club facilities; the construction of a maintenance building and external area of hardstanding; the laying out of a car park and new roads and paths.
Environment Agency Flood Zone(s)	The majority of the site, is located in Flood Zone 3, based upon the Environment Agency's Flood Map for Planning, with a small area in the northwest of the site located in Flood Zone 1.
Vulnerability Classification(s)	Water compatible – as the development is outdoor sports and recreation and essential facilities
Fluvial and Tidal Flood Risk	The majority of the proposed development is located in Flood Zone 3 on the Environment Agency's Flood Map for Planning. The Ryebank Rife flows past the north of the site flowing from west to east and the Elmer Ryebank Rife flows past the eastern boundary of the development, flowing from north to south, both of these watercourses are tidally influenced. Hydraulic modelling has been undertaken for the site which demonstrates that the majority of the site is situated outside the 1 in 100 year plus 25% climate change flood extents. The more sensitive parts of the development such as the clubhouse and maintenance buildings will be located outside the floodplain.
Surface Water Flood Risk	The Environment Agency's Flood Risk from Surface Water map demonstrates that the risk of surface water flooding to the proposed development is Low. A drainage strategy has been developed to manage the overall flow of surface water across the site, including the use of SUDS (this is presented in standalone report).



Groundwater Flood Risk	Baseline – High, the nearest borehole log records a water strike at 1.8mbgl in a perched aquifer. Post Development – Low, as mitigation measures will be included within the scheme design, these include a positive surface water drainage system and raising the clubhouse and maintenance buildings above ground levels.
Sewer Flood Risk	There are no recorded incidents of sewer flooding in the vicinity of the site.
Artificial Flood Risk	The site is outside of the maximum flood extents in the event of a reservoir failure and there are no canals or other artificial waterbodies in the vicinity of the site.
Sequential & Exception Test	Site specific hydraulic modelling shows that the sit buildings are situated outside of the floodplain, i.e. equivalent to Flood Zone 1. The proposed use is water compatible as such the Scheme is sequentially acceptable for use on this site. Water Compatible development is permitted without the need for an exception test.



1. INTRODUCTION

1.1. BACKGROUND

- 1.1.1. WSP UK Ltd (WSP) has been appointed by Hallam Land Management Limited (HLM) to prepare a Flood Risk Assessment (FRA) to support the application for redevelopment of a Bognor Regis golf course into residential housing.
- 1.1.2. The objective of the study is to demonstrate that the site can be developed safely, without exposing the development to an unacceptable degree of flood risk or increasing the flood risk to third parties. The objectives are to:
- » Confirm the sources of flooding which may affect the site;
 - » Provide an appraisal of the availability and adequacy of existing information; and
 - » Undertake an appraisal of the flood risk posed to the site and potential impact of the development on flood risk elsewhere.

1.2. LIMITATIONS

- 1.2.1. WSP has prepared this report in accordance with the instructions of their client, HLM, for their sole and specific use relating solely to the above site. Any person who uses any information contained herein does so at their own risk and shall hold WSP harmless in any event.
- 1.2.2. Whilst this report was prepared using the reasonable skill and care ordinarily exercised by engineers practicing under similar circumstances and reasonable checks have been made on data sources and the accuracy of the data, WSP accepts no liability in relation to the report should any data, information or condition be incorrect or have been concealed, withheld, misrepresented, or otherwise not fully disclosed to WSP.

1.3. SCOPE OF ASSESSMENT

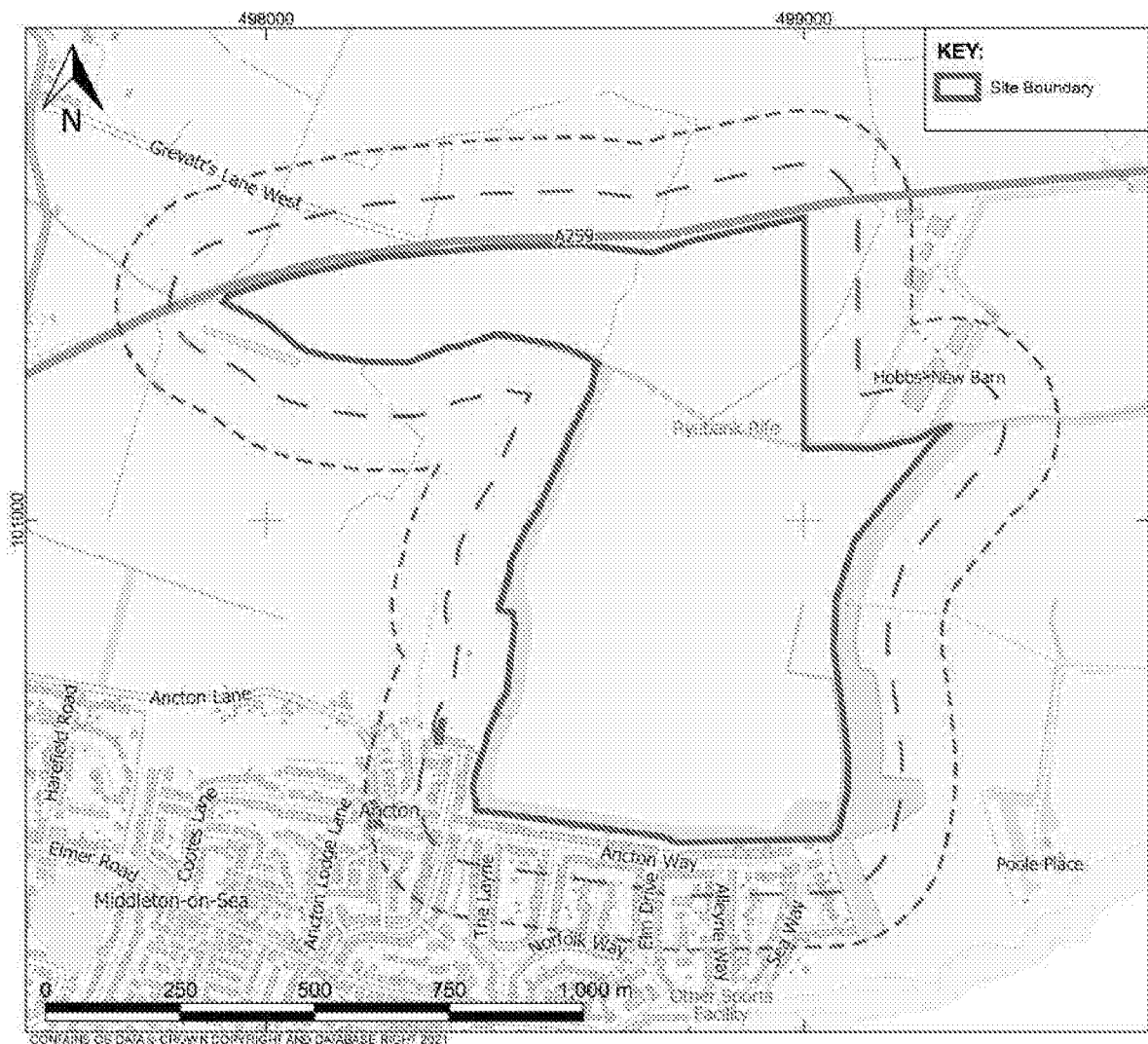
- 1.3.1. The assessment has been undertaken in accordance with the overarching national requirements for Flood Risk Assessments for proposed developments including, but not limited to, the following:
- » National Planning Policy Framework (NPPF) (July 2021); and
 - » Flood Risk Assessments: Climate Change Allowances 2021.

2. SITE SETTING

2.1. LOCATION

- 2.1.1. The Site is located to the south of Grevatt's Lane (A259) in Acton, in the Arun District of West Sussex, with a nearest postcode of BN17 5RE, with an approximate National Grid Reference of 499033, 101144. The site has an area of approximately 72.4 hectares.
- 2.1.2. The Site currently consists of undeveloped agricultural land, with a number of trees, hedgerows and drainage ditches. The site is boarded by the A259 to the north, the Elmer Rife to the East, Ancton Way to the South, and agricultural land to the west.
- 2.1.3. The site is currently accessed by vehicles and pedestrians from the A259.
- 2.1.4. The site location plan is shown below in Figure 1.

Figure 1 – Site Location



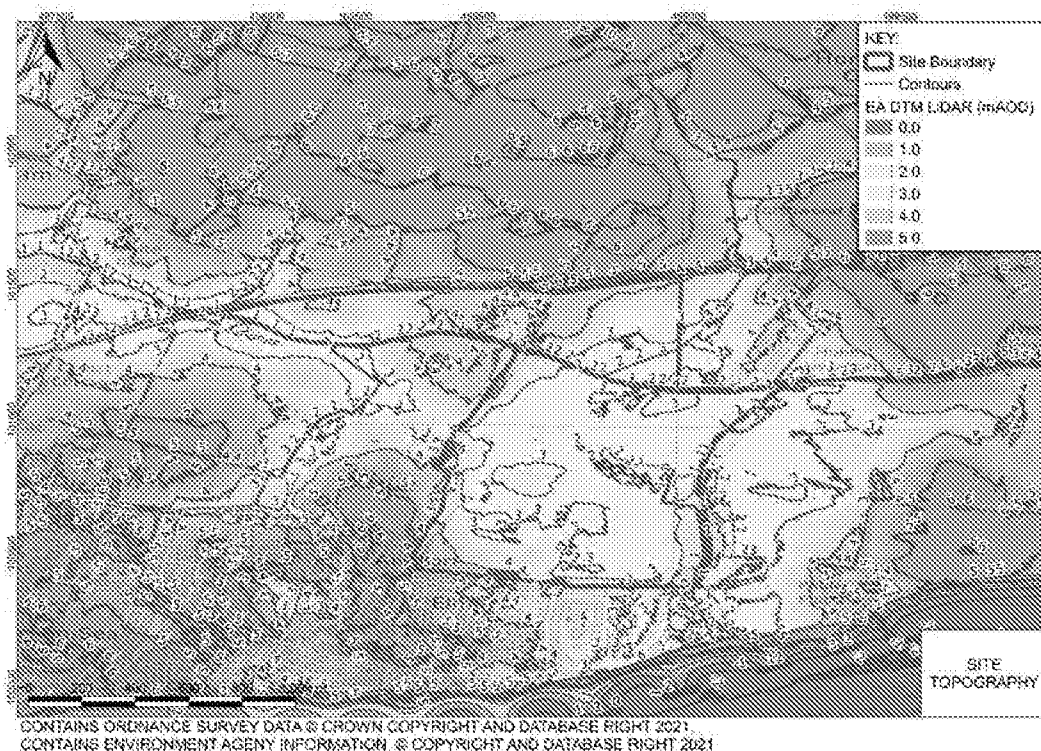
2.2. DEVELOPMENT PROPOSALS

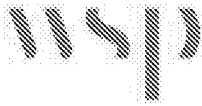
- 2.2.1. The project consists of two proposed developments, the relocation of the existing Bognor Golf Course and the construction of new housing on the existing Bognor Golf course.
- 2.2.2. The re-location is proposed as “*[The] laying out of an 18 hole par 4 golf course, a 9hole par 3, practice greens and a driving range; the formation of a new access onto the A259; the construction of a club house with associated golf club facilities; the construction of a maintenance building and external area of hardstanding; the laying out of a 224 space car park and new roads and paths; new landscape planting, surface water drainage basins and water storage reservoir, and other earthworks and infrastructure*”.
- 2.2.3. The development of new houses is proposed as “*The construction of up to [480] new homes (C3), the formation of a new means of access onto Golf Links Road, the creation of new surface water drainage, new landscaping and habitat creation, ground works and other infrastructure. The retention and re-purposing of the retained club house (F2(b)).*”
- 2.2.4. This assessment is based on the proposed golf course adjacent to the A259 and not the development of new houses on the existing Bognor Golf course, which is the subject of a standalone FRA.

2.3. TOPOGRAPHY

The topography of the site has been assessed using LiDAR from the Environment Agency. As shown in Figure 2, the site is located at a low elevation, with a site slope from west to east, with the low point of the site by the eastern boundary next to the Elmer Rife at 1mAOD. Site specific topographical survey of the site is also available in Appendix C.

Figure 2 - Site Topography





2.4. GEOLOGICAL AND HYDROGEOLOGICAL CONTEXT

Geology

- 2.4.1. The Site is underlain by superficial Quaternary River Terrace Deposits (RTD) , with Raised Marine Deposits (RMD) also present beneath the south. The underlying solid geology comprises the White Chalk Subgroup, specifically the Newhaven Chalk Member.
- 2.4.2. Chalk has been encountered at depths between 2.60 to 11.60 m bgl, as described on available BGS borehole log scans.

Hydrogeology

- 2.4.3. According to the Source Protection Zone map provided by the Environment Agency, the site does not lie within any Source Protection Zones.
- 2.4.4. The RTD and RMD are both designated as Secondary A aquifers, defined by the EA as “permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers”.
- 2.4.5. The White Chalk Subgroup is designated as a Principal aquifer, defined by the EA as “geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale”.

2.5. WATERBODIES

- 2.5.1. The Ryebank flows from west to east through the north of the site, separated the northern parcel of the site from the southern parcel of the site. In its reaches past the site is categorised as a main river by the Environment Agency.
- 2.5.2. The Elmer Rife is adjacent to the eastern boundary of the site, with bi-directional flow possible along this rife, either north into the Ryebank Rife, or south into the English Channel. In its reaches past the site the Elmer Rife is categorised as a main river by the Environment Agency.
- 2.5.3. There are also several small field drains crossing the site, which discharge into the Elmer Rife and Ryebank Rife.

3. PLANNING POLICY CONTEXT

3.1. NATIONAL PLANNING POLICY FRAMEWORK 2021

- 3.1.1. The National Planning Policy Framework (NPPF) as updated in July 2021, sets out the Government's national policies for flood risk management in a land use planning context within England.
- 3.1.2. Paragraph 159 of the NPPF states *"Inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at 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."*
- 3.1.3. The guidance further states that 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."*
- 3.1.4. Allocation and planning of development must therefore be considered against a risk-based search sequence as provided by the guidance.
- 3.1.5. A sequential risk-based approach to determining the suitability of land for development in flood risk areas is central to the policy statement and should take into account the current and future impacts of climate change (Para. 161). This includes the intent to steer the most vulnerable parts of the development to the areas that experience the least, or an acceptable, degree of flood risk.

3.2. LOCAL PLANNING POLICY

Local Plan - Adoption Arun Local Plan 2011-2031 (July 2018)¹

- 3.2.1. Policy W SP1 shows the local plan for general water management and is relevant to flood risk with the policy stating that "The Council will also support development that:

- a. is appropriately located, taking account of flood risk and promotes the incorporation of appropriate mitigation measures into new development, particularly Sustainable Drainage Systems that reduces the creation and flow of surface water and improves water quality."*

Policy W DM2 within Arun's Local plan reaffirms with further details the current approach to flood risk management:

"Development in areas at risk from flooding, identified on the latest Environment Agency flood risk maps and the Council's Strategic Flood Risk Assessment (SFRA), will only be permitted the following criteria have been satisfied:

- ※ *The sequential test in accordance with the National Planning Policy Guidance has been met.*
- ※ *A site specific Flood Risk Assessment demonstrates that the development will be safe, including access and egress, without increasing flood risk elsewhere and reduce flood risk overall.*

¹ Arun District Council (2018) Adoption Arun Local Plan 2011-2031. Available online: <https://www.arun.gov.uk/download.cfm?doc=docm93jlim4n12844.pdf&ver=12984>

- » *The sustainability benefits to the wider community are clearly identified.*
- » *The scheme identifies adaptation and mitigation measures.*
- » *Appropriate flood warning and evacuation plans are in place; and*
- » *New site drainage systems are designed to take account of events which exceed the normal design standard i.e. consideration of flood flow routing and utilising temporary storage areas.*

Local Plan – Arun District Council Level 1 and Level 2 Strategic Flood Risk Assessment , November 2016 (SFRA)

3.2.2. The combined Level 1 and Level 2 Arun District Council SFRA² reaffirms the need for Sustainable Urban Drainage systems and the sequential approach to flood risk management as set out in the Local Plan. Section 16.2.1 states for future development :

“The Council should consult the Environment Agency’s ‘Flood Risk Standing Advice (FRSA) for Local Planning Authorities’, published in March 2014, when reviewing planning applications for proposed developments at risk of flooding. Planning permission for development affecting watercourses should normally only be granted where:

- » *the natural watercourse system which provides drainage of land is not adversely affected;*
- » *a minimum 8m width access strip is provided adjacent to the top of both banks of any Main River (5m for Ordinary Watercourses) for maintenance purposes and is appropriately landscaped for open space and biodiversity benefits;*
- » *it would not result in the loss of open water features through draining, culverting or enclosure by other means and culverts are opened up where ever possible;*
- » *surface water drainage is delivered by SuDS;*
- » *betterment in the surface water runoff regime is achieved; with any residual risk of flooding, from drainage features either on or off site not placing people and property at unacceptable risk; and*
- » *the application is compliant with the conditions set out by the Lead Local Flood Authority (LLFA).*

At the planning application stage, developers need to undertake more detailed hydrological and hydraulic assessments of the watercourses to verify flood extent, inform development zoning within the site and prove, if required, whether the Sequential and Exception Tests can be satisfied.”

3.3. VULNERABILITY CLASSIFICATION

3.3.1. Under the NPPF the proposed golf course is classified as ‘Water Compatible’ using the flood risk vulnerability classification. Water Compatible development in Flood Zone 3a is permitted in Flood Zone 3a as shown in Table 1, which is an extract of the National Planning Practice Guidance: Flood Risk and Coastal Change (NPPG). The NPPG accompanies the NPPF and provides further context and explanation.

² Arun District Council (2016) Level 1 and Level 2 Strategic Flood Risk Assessment. Available online: <https://www.arun.gov.uk/download.cfm?doc=docm93jilim4n9615.pdf&ver=9488>

Table 1 - Flood Vulnerability and Flood Zone Compatibility (PPG Table 3)

Flood Risk Vulnerability Classification		Essential Infrastructure	Water Compatible	Highly Vulnerable	More Vulnerable	Less Vulnerable
Fluvial Flood Zone	Zone 1	✓	✓	✓	✓	✓
	Zone 2	✓	✓	Exception Test Required	✓	✓
	Zone 3a	Exception Test Required	✓	✗	Exception Test Required	✓
	Zone 3b	Exception Test Required	✓	✗	✗	✗

Sequential Test

- 3.3.2. The PPG and NPPF Guidance states that Planning Authorities should complete a risk based “Sequential Test” when developing Local Plans, to ascertain areas most suitable, from a flood risk perspective, for future development.
- 3.3.3. The essence of the “Sequential Test” is to “*steer new development to areas with the lowest risk of flooding from any source*” (Paragraph 162 of the NPPF, July 2021).
- 3.3.4. Developments within Flood Zone 2 and Flood Zone 3 require a sequential test if a sequential test has not already been carried out for the development type in question at the proposed site.
- 3.3.5. Site specific hydraulic modelling (see Section 4.5) shows that the site buildings are situated outside of the floodplain, i.e. equivalent to Flood Zone 1. The proposed use is water compatible as such the Scheme is sequentially acceptable for use on this site.

Exception Test

- 3.3.6. Water Compatible development in Flood Zone 3a is permitted in Flood Zone 3a without the need for an exception test.

4. ASSESSMENT OF FLOOD RISK

4.1. OVERVIEW

- 4.1.1. An overview of flood risk for the proposed golf course at Ancton and its surrounds is provided below, based on information obtained from a desk-based review and hydraulic modelling.

Table 2 - Flood Risk Overview

Mechanism	Risk	Comment
Fluvial & Tidal	Low	The majority of the proposed development is located in Flood Zone 3 on the Environment Agency's Flood Map for Planning. The Ryebank Rife flows past the north of the site flowing from west to east and the Elmer Ryebank Rife flows past the eastern boundary of the development, flowing from north to south, both of these watercourses are tidally influenced. Hydraulic modelling has been undertaken for the site which demonstrates that the majority of the site is situated outside the 1 in 100 year plus 25% climate change flood extents. The more sensitive parts of the development such as the clubhouse and maintenance buildings will be located outside the floodplain.
Surface Water	Low	The Environment Agency's Flood Risk from Surface Water map demonstrates that the risk of surface water flooding to the proposed development is Low. A drainage strategy has been presented to manage the overall flow of surface water across the site, including the use of SUDS.
Ground Water	Low	Baseline – High, the nearest borehole log records a water strike at 1.8mbgl in a perched aquifer. Post Development – Low, as mitigation measures will be included within the scheme design, these include a positive surface water drainage system and raising the clubhouse and maintenance buildings above ground levels.
Sewers	Low	There are no recorded incidents of sewer flooding in the vicinity of the site.
Artificial Sources	Negligible	The site is outside of the maximum flood extents in the event of a reservoir failure and there are no canals or other artificial waterbodies in the vicinity of the site.

4.2. HISTORIC FLOODING

- 4.2.1. The EA Historic Flood Map (see Appendix A flood risk pack) does not show any historic flood events within the site boundary or the surrounding area.
- 4.2.2. There is no mention of flooding occurring within the site boundary in the combined Level 1 and Level 2 SFRA².

4.3. FLOOD DEFENCES

- 4.3.1. Coastal flood defences with a 100 year standard of protection are situated along Elmer Beach to the south of the site (Figure 3).



Figure 3 - Environment Agency Flood Defences

4.4. FLUVIAL & TIDAL FLOOD RISK

- 4.4.1. The watercourses adjacent to the site are tidally influenced and the risk from these sources has been jointly assessed in the hydraulic modelling undertaken, as detailed in section 4.5.

ENVIRONMENT AGENCY MAPPING

- 4.4.2. Figure 4 shows the EA Flood Map for Planning for the site and the surrounding area. The map shows areas that are affected by tidal and/or fluvial flooding and provides a classification of whether there is a High level of risk (Flood Zone 3), Medium level of risk (Flood Zone 2) or a Low level of risk (Flood Zone 1).

Climate Change

- 4.5.2. The Environment Agency's Climate Change guidance³ in place at the time of preparation of this report have been used for the assessment of fluvial flood risk within the hydraulic model and mitigation design, this is:

※ 2080s - Central 25%

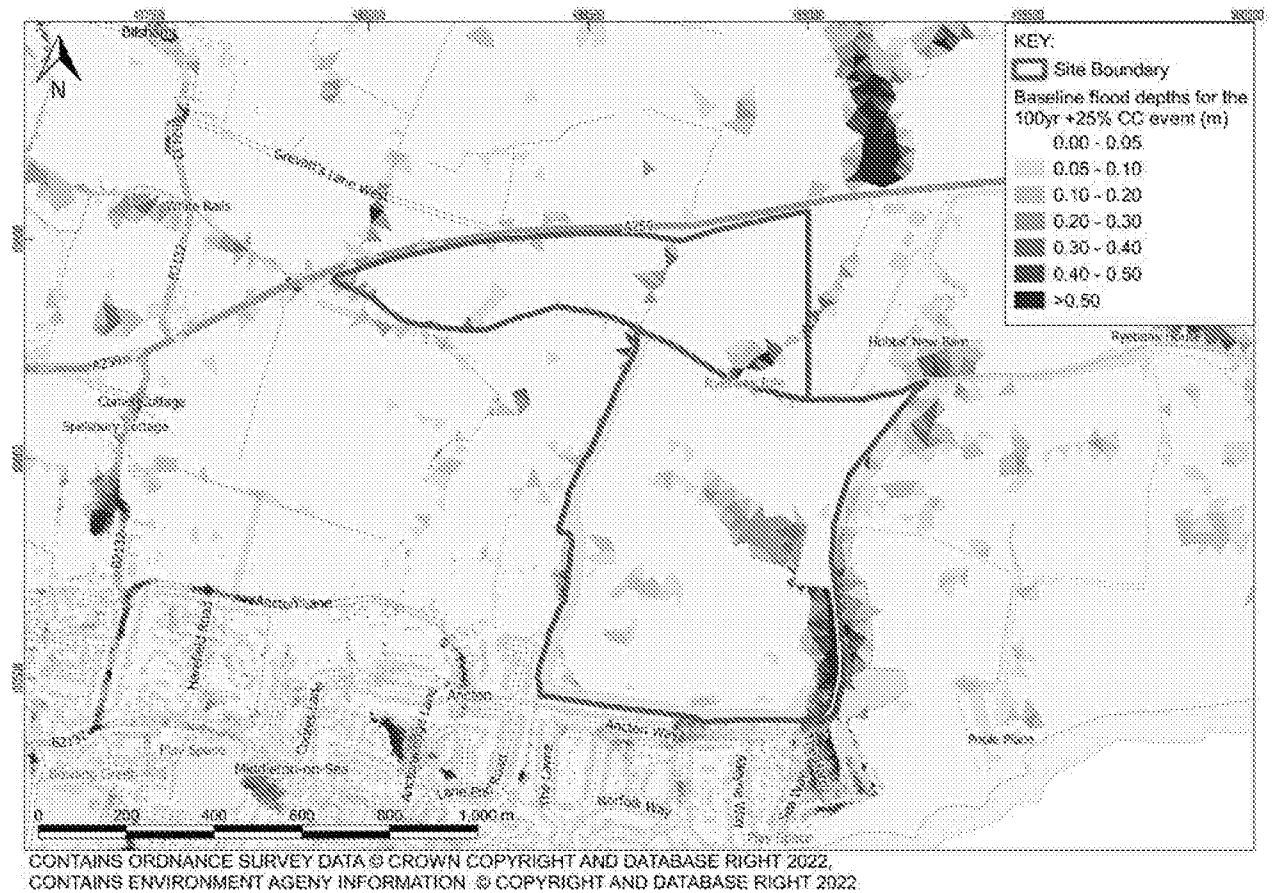
- 4.5.3. In addition, sea level rise was factored into the downstream tidal boundary of 1.2m.
- 4.5.4. This allowance has also been used for the mitigation design, including the on and off site impacts and determining the need for floodplain storage compensation.

Baseline Hydraulic Modelling

- 4.5.5. Baseline hydraulic modelling has been undertaken to refine the Environment Agency's flood extents for the site. This involved some small updates to the 2015 Aldingbourne direct rainfall ICM model, to make it suitable for the purposes of a site-specific assessment of flood risk.
- 4.5.6. The 2015 Aldingbourne model is a 1D-2D, direct rainfall ICM model, which was commissioned by the Environment Agency for the Aldingbourne Flood Risk Mapping Study. It includes a fluvial and surface water drainage component and allows water to flow from the modelled 1D watercourses into the 2D floodplain. The Scheme specific updates included:
- ※ Utilising the FEH 2013 rainfall model to estimate the hydrology inputs;
 - ※ Changes to the runoff parameters for buildings;
 - ※ Assigning roughness values to all 1D components;
 - ※ Improvements to the representation of the watercourse confluences and at structures and manholes;
 - ※ Updates to a number of coefficients where required e.g. discharge coefficients;
 - ※ Consideration of the infiltration within the modelling; and
 - ※ Additional baseflow added to river reaches of 0.01m³/s where instabilities were identified.
- 4.5.7. The hydraulic model was tested for a range of scenarios, however the main focus was the 1 in 100 year with an allowance for climate change (+25%), as shown in Figure 5.

³ <https://www.gov.uk/guidance/flood-risk-and-coastal-change>

Figure 5 - 1 in 100 year plus climate change baseline flood depths (m)

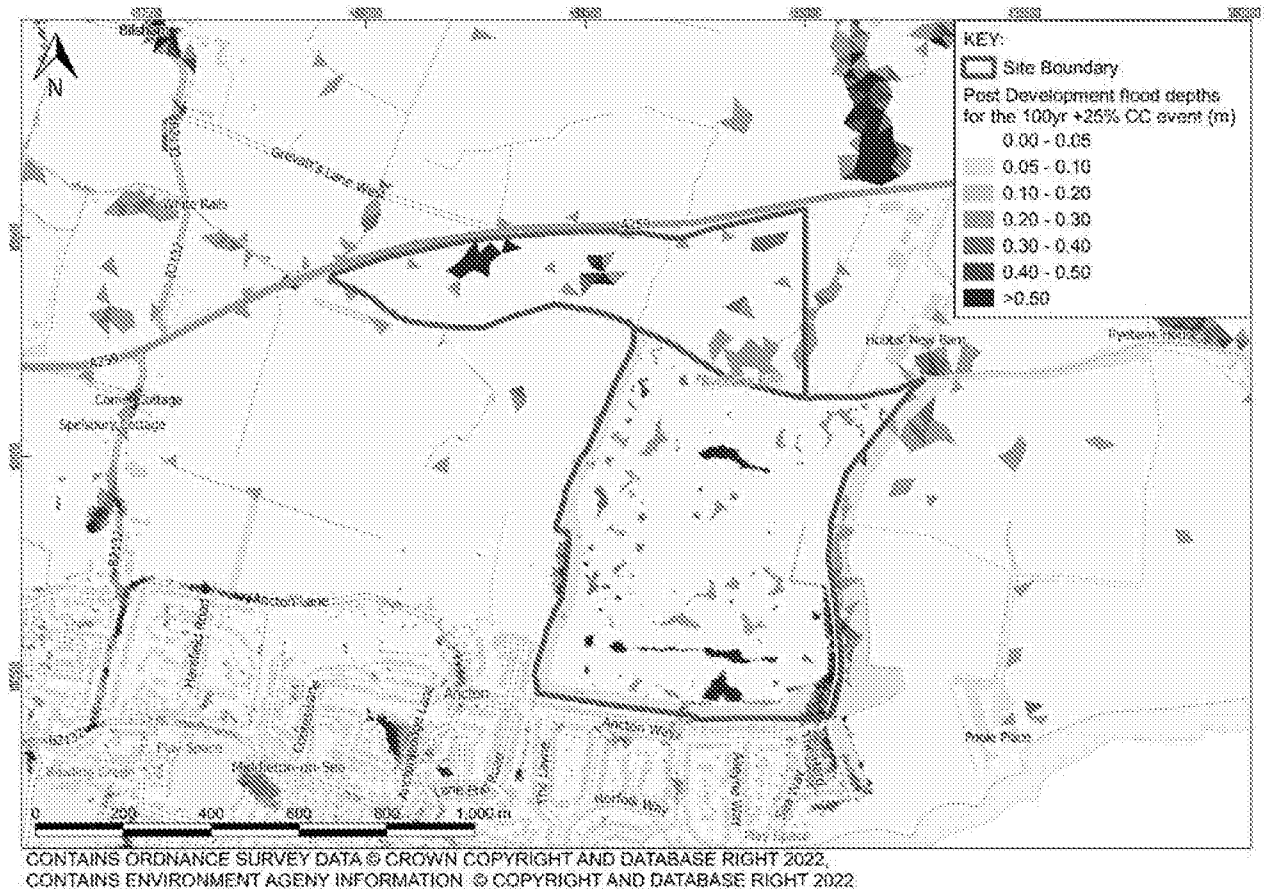


- 4.5.8. The modelled 1 in 100 year plus climate change (25%) flood depths and extents show that the majority of the site is not at risk of flooding. The most significant area at risk is along the eastern boundary of the site adjacent to the Elmer Rife

Post Development Hydraulic Modelling

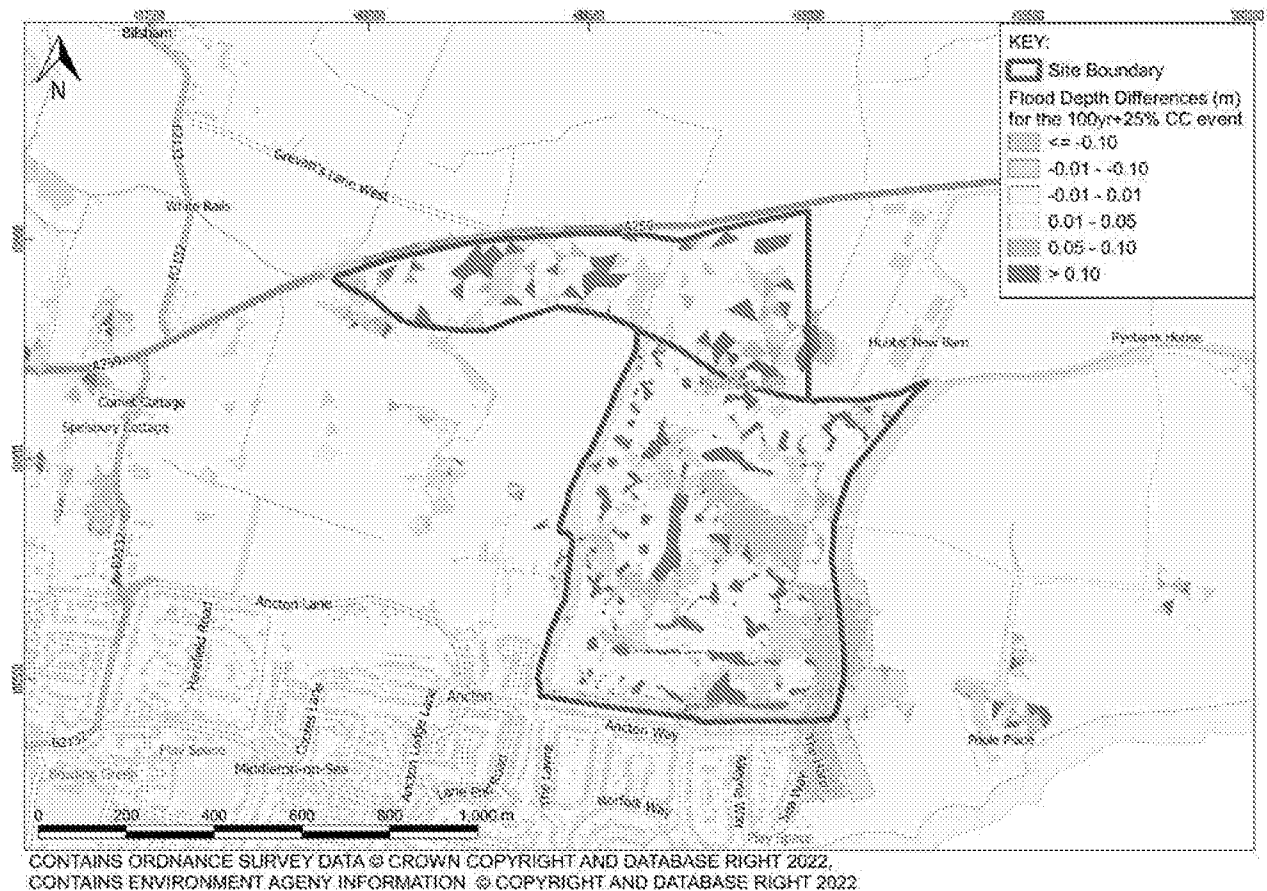
- 4.5.9. The baseline model was modified to incorporate the proposed development. The key differences between the baseline model and the post-development model are as follows:
- ⌘ Inclusion of the proposed ground model, which shows how the site will be regraded; and
 - ⌘ An increased model mesh resolution in the lower half of the site.
- 4.5.10. The land use parameter plan for the development is shown in Appendix B.
- 4.5.11. The proposed club house is to have a finished floor level of 5.5mAOD, this compares to the existing ground level of 4.0mAOD.
- 4.5.12. The proposed bridge crossings of the Ryebank Rife and the proposed bridge crossing and culverts of the field drains in the northern parcels have not been included in the hydraulic model. However, for those crossing the Ryebank Rife the proposed deck height and soffit levels have been compared to the modelled flood levels in the area.
- 4.5.13. The post-development flood depths for the site are displayed in Figure 6.

Figure 6 - 1 in 100 year plus climate change post-development flood depths (m)



- 4.5.14. A flood depth differences map comparing the baseline flood depths and the post-development flood depths for the 1 in 100 year plus climate change (25%) event has been produced and is shown in **Figure 7**.
- 4.5.15. As shown in **Figure 7**, the majority of changes in flood depths are contained within the boundary, however there are some minor areas adjacent to the site boundary showing minor differences but of both beneficial and adverse impact.
- 4.5.16. On Ancton Way to the south of the site, flood depths are shown to be 17mm deeper in the post-development event, this difference is deemed to be within the model tolerance, which is considered to be $\pm 20\text{mm}$.
- 4.5.17. Additionally, areas to the west of the site by Yapton Road (B2132) are considered to be noise in the modelling, where both minor beneficial and minor adverse impacts are shown. This model noise is due to the way the model runs and is indicative of high sensitivity across the model.

Figure 7 - 1 in 100 year plus climate change flood difference map



FLUVIAL FLOOD RISK SUMMARY

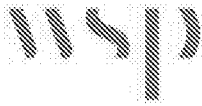
- 4.5.18. The Ryebank Rife, categorised as a main river, flows from west to east, through the north of the site and the Elmer Rife (also categorised as a main river) flows bi-directionally (south-north) along the eastern boundary of the site.
- 4.5.19. The majority of the site is shown to be located within Flood Zone 3 on the Environment Agency's Flood Map for Planning, which comprises land assessed as having a 1 in 100 or greater annual probability of river flooding ($>1\%AEP$).
- 4.5.20. Baseline modelling has been undertaken for the site, the results of which show that the majority of the site is outside of the 1 in 100 year plus climate change flood extents.
- 4.5.21. The post-development modelling for the site shows minor changes in flood depths in the post-development scenario compared to the baseline scenario, these changes are on-site. Whilst some minor increases in flood depths are shown in off-site areas, such as along Ancton Way to the South of the site, these are considered to be within model tolerances (20mm).
- 4.5.22. The more sensitive parts of the development such as the club house and maintenance buildings will be situated in the north of the site outside of the floodplain and these areas will not impact the flood regime.

- 4.6.3. Adjacent to the Ryebank Rife and Elmer Rife there are areas shown to be at low risk of surface water flooding, which means that these areas have an annual probability of flooding of between 1 in 1,000 and 1 in 100 (0.1% AEP to 1.0% AEP). There is also an area at low risk of surface water pooling in the centre of the southern portion of the site. Surface water flood depths are predicted to be between 300mm and 900mm adjacent to the Rifles, with the depths in the low risk area in the centre of the site predicted to be below 300mm.
- 4.6.4. As a result of the proposed golf course development, the entire of the site is to be reprofiled, which will thereby change the existing surface water flow routes.
- 4.6.5. The hydraulic model (as detailed in Section 4.6) is a direct rainfall model which, therefore, also includes a representation of the surface water pathways onto the site. These pathways are along the Rifles and ditches which cross the site, as shown in Figure 5 for the 1 in 100 year plus climate change event.
- 4.6.6. As a result of the proposed development, the site will be reprofiled which may result in changes to the on-site flowpaths. However the risk of surface water flooding will be managed through a drainage strategy and this will also ensure that there is no off-site increase in surface water flooding, as detailed in section 5.

4.7. GROUND WATER FLOOD RISK

- 4.7.1. According to the Source Protection Zone map produced by the Environment Agency, the site does not lie within any Source Protection Zones (see Appendix A Flood Map Pack).
- 4.7.2. Appendix F of the Level 1 SFRA, contains an extract of the Environment Agency's Areas Susceptible to Groundwater Flooding (ASStGWF) mapping for Bognor Regis. The ASStGWF is a strategic-scale map showing groundwater flood areas on a 1km square grid, this data shows the proportion of each 1km grid square, where geological and hydrogeological conditions indicate that groundwater might emerge.
- 4.7.3. The ASStGWF mapping indicates that site is located in an area with a high susceptibility to groundwater flooding. High corresponds with >75% of each 1km grid square being susceptible to groundwater emergence.
- 4.7.4. Historical borehole records available from the BGS indicate that groundwater levels within the site vary from 1.8 to 6.0 m bgl.
- 4.7.5. Neither the Level 1 nor Level 2 SFRAs contain details of any groundwater flooding incidents within the vicinity of the site boundary.
- 4.7.6. To mitigate the risk of groundwater flooding the following measures will be implemented:
- ※ A positive surface water drainage system will be installed;
 - ※ The network of surface water channels across the site will be increased and where required enhanced; and
 - ※ The club house and maintenance buildings will be raised above existing ground levels.
- 4.7.7. The risk that groundwater flooding poses to the development is assessed to be Low.

Identified Groundwater Flood Risk: Low



4.8. SEWER FLOOD RISK

- 4.8.1. Sewer flooding occurs as a result of a number of influencing factors. It is most likely to occur during storms, when large volumes of rainwater enter the sewers. However, it can also occur when pipes become blocked or damaged.
- 4.8.2. There are no records of sewer flooding at the site in the Around District Council Level 1 or 2 SFRAs or the Arun Strategic Surface Water Management Study.

Identified Sewer Flood Risk: Low

4.9. ARTIFICIAL SOURCE FLOOD RISK

- 4.9.1. The Environment Agency Reservoir Flooding Map (see Appendix A flood map pack) shows that the site is located outside of the maximum extent of flooding in the event of a nearby reservoir failing.

Identified Flood Risk from Reservoirs: Low

Other artificial sources

- 4.9.2. There are no canals or other artificial waterbodies in the vicinity of the site.

5. SURFACE WATER DRAINAGE

- 5.1.1. To mitigate the risk of surface water flooding to the development a comprehensive drainage / SUDS strategy has been developed and is provided as a standalone document This strategy involves attenuating and harvesting the surface water runoff at source, via ponds and swales, prior to discharging to the Elmer Rife and Ryebank Rife.
- 5.1.2. The water philosophy for the golf course is based around maximising the water collected for re-use from the golf course to minimise the impacts on the wider water environment for instance by minimising that waters which are required for irrigation from surface / groundwater abstraction or from potable water supply. This is to be achieved through rainwater collection / harvesting and water reuse. To achieve this aim rainwaters will be harvested where feasible from the golf course through collection (this is likely to include a network of swales and pipes) followed by and pumping to the reservoir behind the maintenance depot.
- 5.1.3. The surface water runoff to the Ryebank or Elmer Rife will be at greenfield rates for the following scenarios:
- » Should the reservoir become full during a storm event;
 - » The runoff rates exceed the pump rates; or
 - » Runoff occurs from areas which are not part of the rain water harvesting scheme.
- 5.1.4. However, as the golf course will predominantly remain as a greenfield site (excluding car parking, access roads, club house and maintenance depot) the scheme will not result in an increase in runoff rates from these areas. As outlined above the surface water runoff from the new impermeable areas will be collected, treated appropriately (e.g. SuDS) and discharged to the reservoir or discharged at greenfield rates to the Ryebank or Elmer Rife.
- 5.1.5. It should also be noted that in the baseline conditions there is are field drainage measures in place, this is largely in a herringbone formation, understood to be across the majority of the site, as such the greenfield discharge rates are elevated above the theoretical rate.

6. FLOOD RISK MITIGATION

- 6.1.1. Mitigation measures are embedded within the development to ensure that the development is not exposed to an unacceptable level of flood risk and there is no increase in flood risk elsewhere are:
- ⌘ No change in flood risk to off-site areas;
 - ⌘ The club house and maintenance depot are situated outside the floodplain
 - ⌘ Appropriate maintenance corridors are provided alongside the waterbodies;
 - ⌘ A surface water drainage system will be installed (including rainwater harvesting); and
 - ⌘ The Golf Course will include appropriate measures within the Operational Manual to ensure that players and staff are not placed at risk during flood events.

6.2. PLANNING POLICY

- 6.2.1. The inclusion of these mitigation measures demonstrates that the development meets the planning policy requirements as outlined in policy W DM2 of the ADC local plan:
- ⌘ It identifies adaptation and mitigation measures; and
 - ⌘ It ensures that the development will be safe, including access and egress, without increasing flood risk elsewhere.

7. CONCLUSIONS

- 7.1.1. The risk of flooding to and from the proposed development has been assessed in accordance with the NPPF July 2021.
- 7.1.2. The majority of the development is located in Flood Zone 3, on the Environment Agency's Flood Map for Planning. The Ryebank Rife, categorised as a main river, flows from west to east, through the north of the site and the Elmer Rife (also categorised as a main river) flows bi-directionally (south-north) along the eastern boundary of the site.
- 7.1.3. Hydraulic modelling has been undertaken for the Ryebank and Elmer Rifes combined with the surface water flood risk via a 1D-2D linked ICM hydraulic model. The model has tested the baseline and post-development scenarios and has shown that the majority of the site is outside of the 1 in 100 year plus 25% climate change flood extents. The more sensitive parts of the development i.e. the clubhouse and maintenance buildings will be located in areas outside of the floodplain.
- 7.1.4. As a result of the development most of the site will be reprofiled to facilitate construction of the golf course and this reprofiling has been included in the post-development modelling. In the post-development modelling, there are minor (negligible and adverse) changes within the site boundary. Whilst there are some off-site changes in flood depths, these are within model tolerances (20mm).
- 7.1.5. Mitigation measures are embedded within the development to ensure that it is not exposed to an unacceptable level of flood risk and there is no increase in flood risk elsewhere.
- 7.1.6. The post-development scenario includes the following mitigation measures:
- ※ No change in flood risk to off-site areas;
 - ※ The club house and maintenance depot are situated outside the floodplain
 - ※ Appropriate maintenance corridors are provided alongside the waterbodies;
 - ※ A surface water drainage system will be installed (including rainwater harvesting); and
 - ※ The Golf Course will include appropriate measures within the Operational Manual to ensure that players and staff are not placed at risk during flood events
- 7.1.7. The present day risk of flooding from surface water to the site is considered to be low based on mapping from the Environment Agency and the outputs of the 1D-2D linked ICM hydraulic model.
- 7.1.8. To mitigate the risk of surface water flooding to the development a comprehensive drainage / SUDS strategy has been developed, this is a standalone document.
- 7.1.9. The risk of the development flooding from groundwater and artificial sources considered to be low.
- 7.1.10. The majority of the proposed residential development is located in Flood Zone 3. Based on Table 2 of the NPPG, the proposed residential development is classified as being 'Water Compatible'. Table 3 of the NPPG identifies that 'Water Compatible' development can be located in Flood Zone 3, subject to the site passing the sequential test. This site is deemed to be sequentially acceptable.
- 7.1.11. There is no requirement to undertake the exception test.

Appendix A

FLOOD RISK PACK

115/1



FLOOD RISK PACK



Client:
Hallam Land Management Limited

Project Reference:
70088068 - LandNorthofAncton

Site Reference:
70088068 - Bognor Regis Golf
Course

Site Location
498713, 100987

Site Area:
72.32 hectares

Map Scale:
1:11000

CONTENTS:

Page 1 - Site Location

Page 2 - Flood Map for Planning

Page 3 - Risk of Flooding from Rivers
and the Sea

Page 4 - Risk of Flooding from Surface
Water

Page 5 - Risk of Flooding from
Reservoirs

Page 6 - Risk of Flooding from Multiple
Sources

Page 7 - Historic Flood Map

Page 8 - Source Protection Zones

Page 9 - Aquifer Designation

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SITE LOCATION

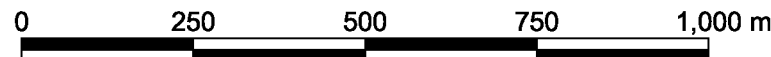
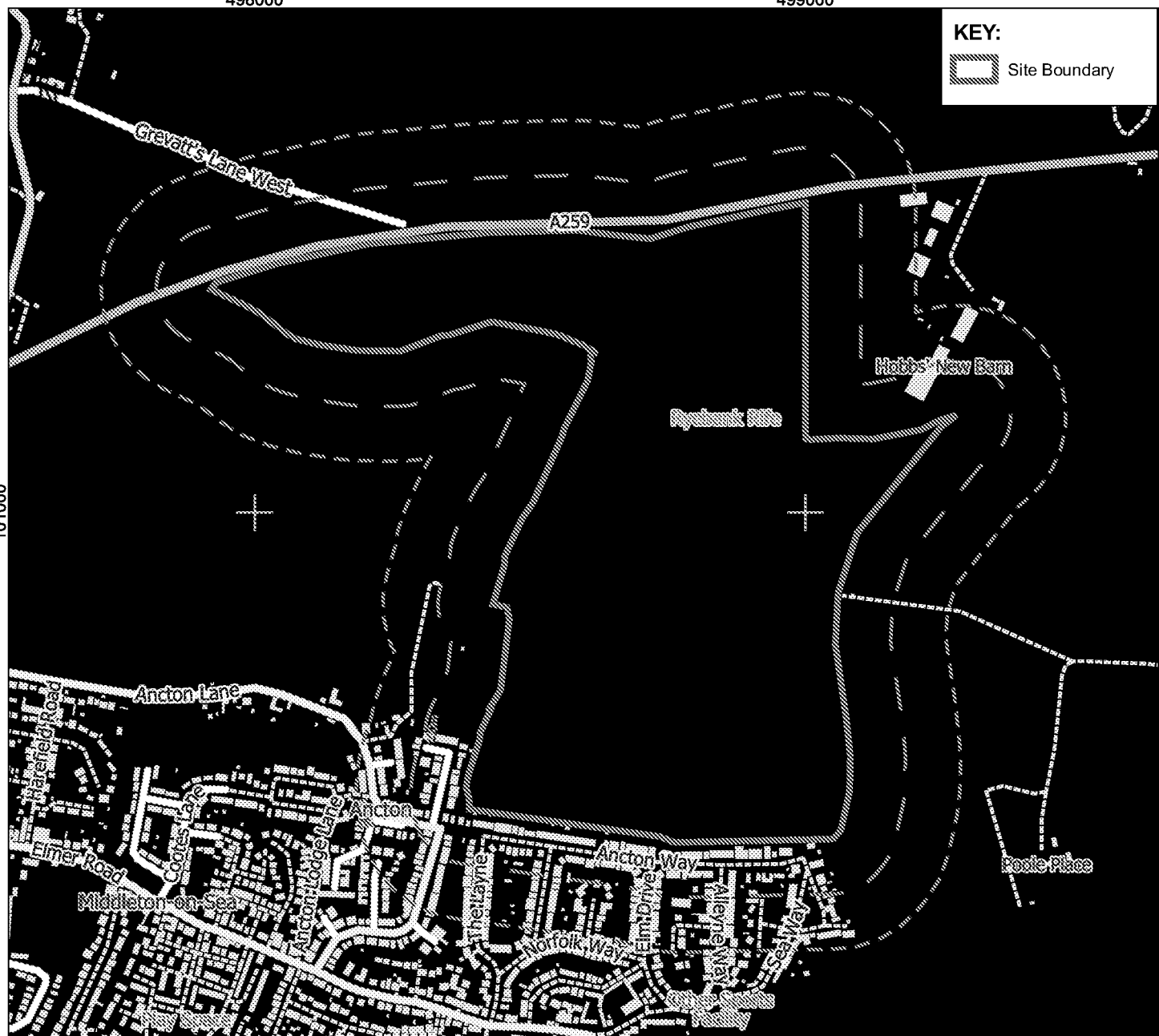
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KEY:

 Site Boundary



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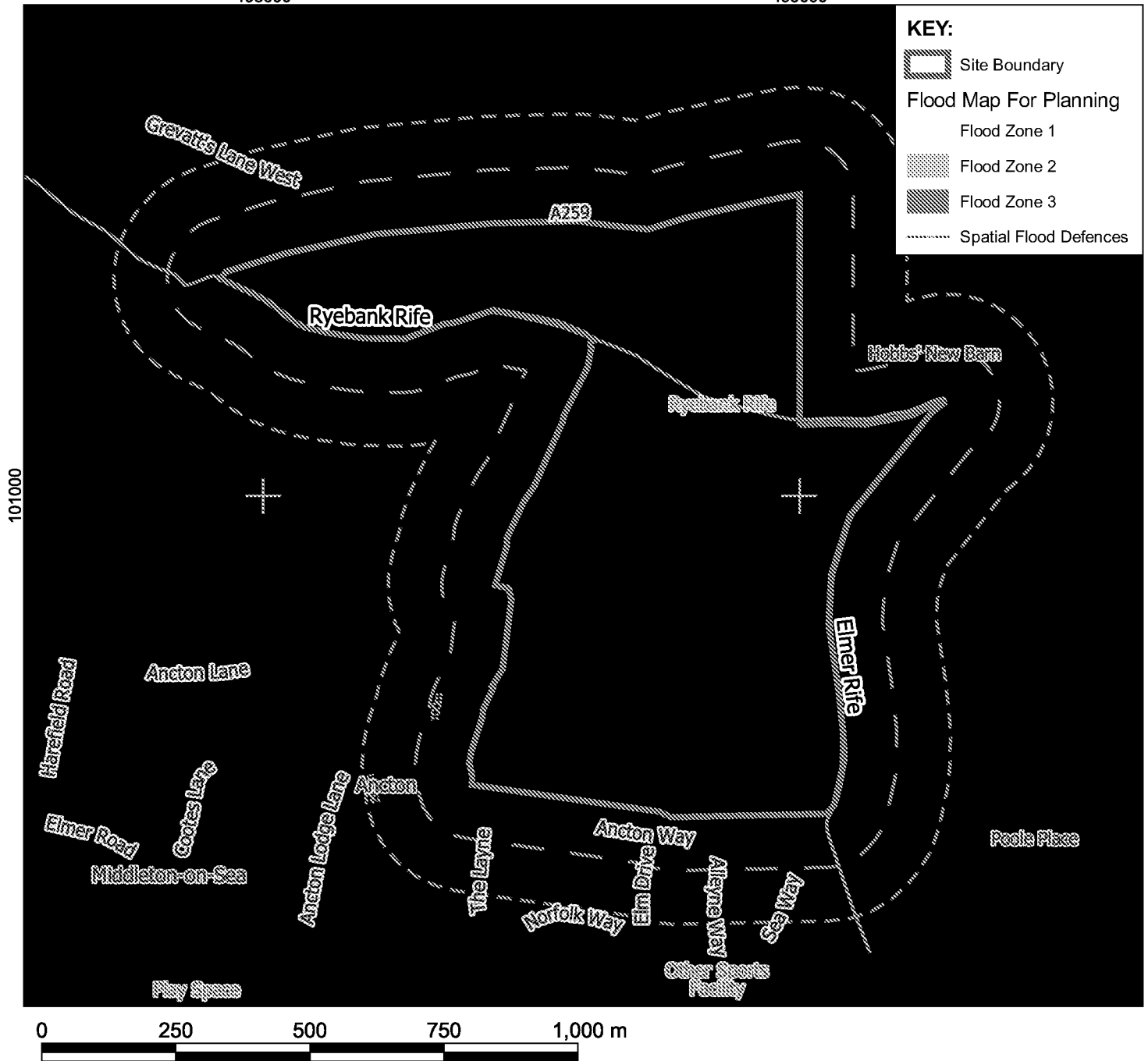
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ENVIRONMENT AGENCY FLOOD MAP FOR PLANNING

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Flood zone maps are modelled using local and national river and sea data. This information provides an indication of the likelihood of flooding and is intended for planning use only.

Flood Zone 1 - Land having a less than 1 in 1,000 annual probability of river or sea flooding. (Shown as 'clear' on the Flood Map – all land outside Zones 2 and 3).

Flood Zone 2 - Land having between a 1 in 100 and 1 in 1,000 annual probability of river flooding; or land having between a 1 in 200 and 1 in 1,000 annual probability of sea flooding. (Land shown in light blue on the Flood Map)

Flood Zone 3 - Land having a 1 in 100 or greater annual probability of river flooding; or Land having a 1 in 200 or greater annual probability of sea flooding. (Land shown in dark blue on the Flood Map)

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ENVIRONMENT AGENCY RISK OF FLOODING FROM RIVERS AND THE SEA



High risk means that each year this area has a chance of flooding of greater than 3.3%.

Medium risk means that each year this area has a chance of flooding of between 1% and 3.3%.

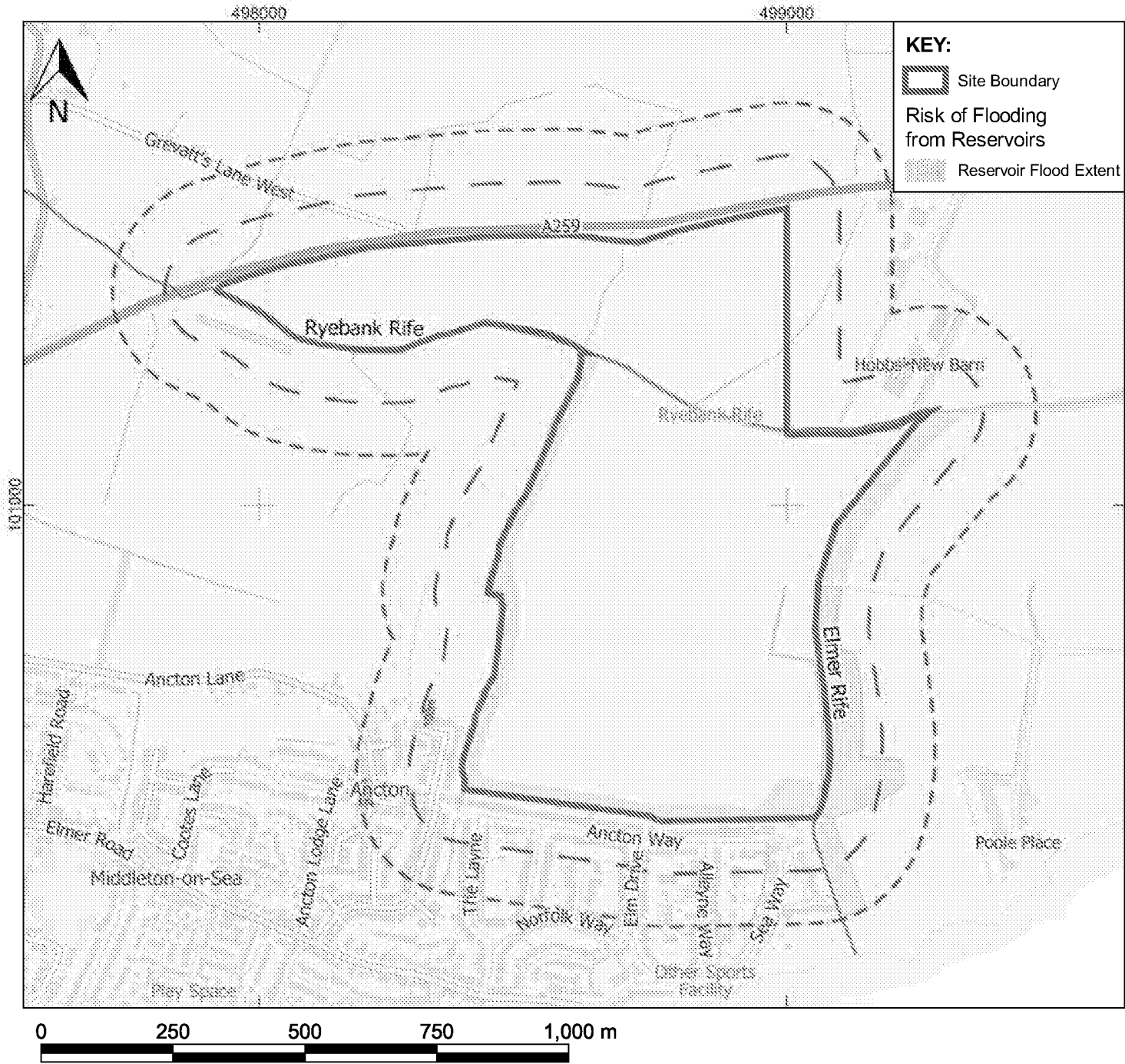
Low risk means that each year this area has a chance of flooding of between 0.1% and 1%.

Very low risk means that each year this area has a chance of flooding of less than 0.1%.

This takes into account the effect of any flood defences in the area. These defences reduce but do not completely stop the chance of flooding as they can be overtopped, or fail.



ENVIRONMENT AGENCY RISK OF FLOODING FROM RESERVOIRS

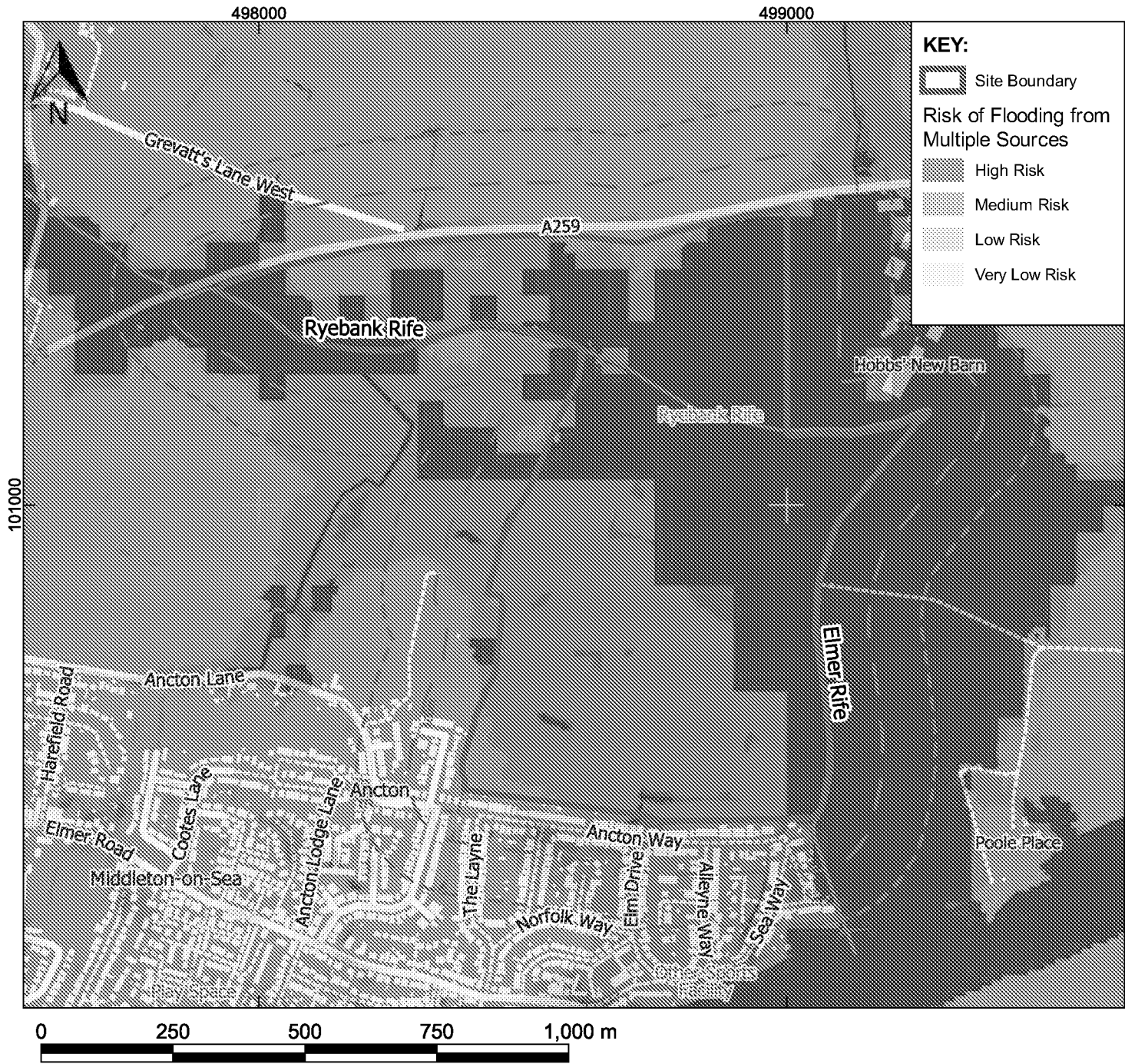


This data shows the individual flood extents for all large raised reservoirs in the event that they were to fail and release the water held on a “wet day” when local rivers had already overflowed their banks.

It represents a prediction of a credible worst case scenario, however it’s unlikely that any actual flood would be this large. The data gives no indication of likelihood or probability of reservoir flooding.



ENVIRONMENT AGENCY RISK OF FLOODING FROM MULTIPLE SOURCES



High risk means that each year this area has a chance of flooding of greater than 3.3%.

Medium risk means that each year this area has a chance of flooding of between 1% and 3.3%.

Low risk means that each year this area has a chance of flooding of between 0.1% and 1%.

Very low risk means that each year this area has a chance of flooding of less than 0.1%.

This dataset is not suitable for identifying whether an individual property will flood. The Risk of Flooding from Multiple Sources (RoFMS) information is a national scale assessment. It gives an indication of what areas of land may be at risk of flooding from more than one source. This first version of the assessment considers flooding from rivers, the sea and surface water.

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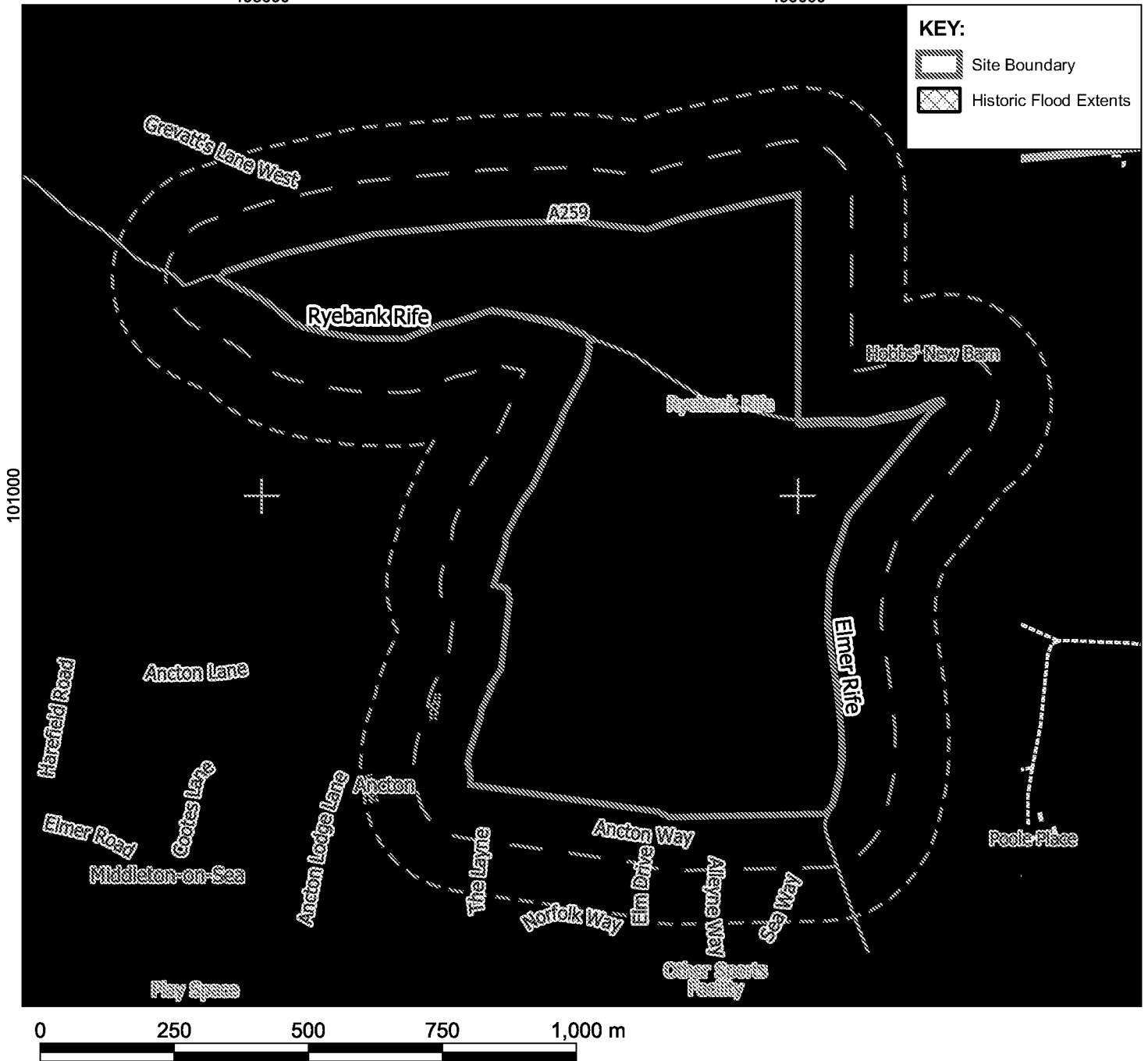
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ENVIRONMENT AGENCY HISTORIC FLOOD MAP

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The Historic Flood Map is a GIS layer showing the maximum extent of all individual Recorded Flood Outlines from river, the sea and groundwater springs and shows areas of land that have previously been subject to flooding in England. Records began in 1946 when predecessor bodies to the Environment Agency started collecting detailed information about flooding incidents, although limited details may be held about flooding incidents prior to this date.

The absence of coverage by the Historic Flood Map for an area does not mean that the area has never flooded, only that we do not currently have records of flooding in this area. It is also possible that the pattern of flooding in this area has changed and that this area would now flood under different circumstances. The Historic Flood Map will take into account of the presence of defences, structures, and other infrastructure where they existed at the time of flooding. It will include flood extents that may have been affected by overtopping, breaches or blockages. Flooding shown to the land and does not necessarily indicate that properties were flooded internally.

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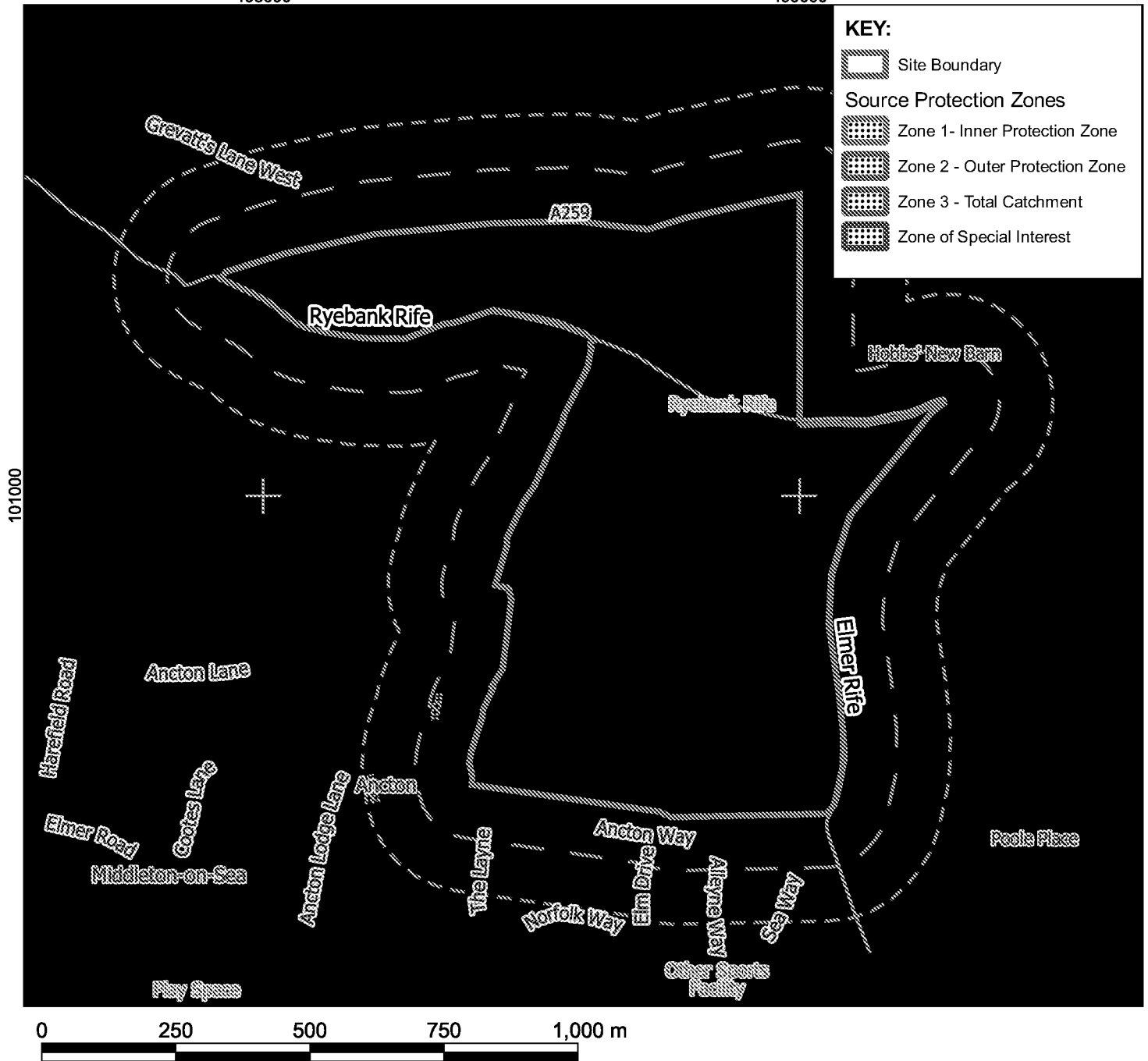
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ENVIRONMENT AGENCY SOURCE PROTECTION ZONES

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499000



Inner zone (Zone 1) - Defined as the 50 day travel time from any point below the water table to the source. This zone has a minimum radius of 50 metres;

Outer zone (Zone 2) - Defined by a 400 day travel time from a point below the water table. The previous methodology gave an option to define SPZ2 as the minimum recharge area required to support 25 per cent of the protected yield. This option is no longer available in defining new SPZs and instead this zone has a minimum radius of 250 or 500 metres around the source, depending on the size of the abstraction;

Total catchment (Zone 3) - Defined as the area around a source within which all groundwater recharge is presumed to be discharged at the source.

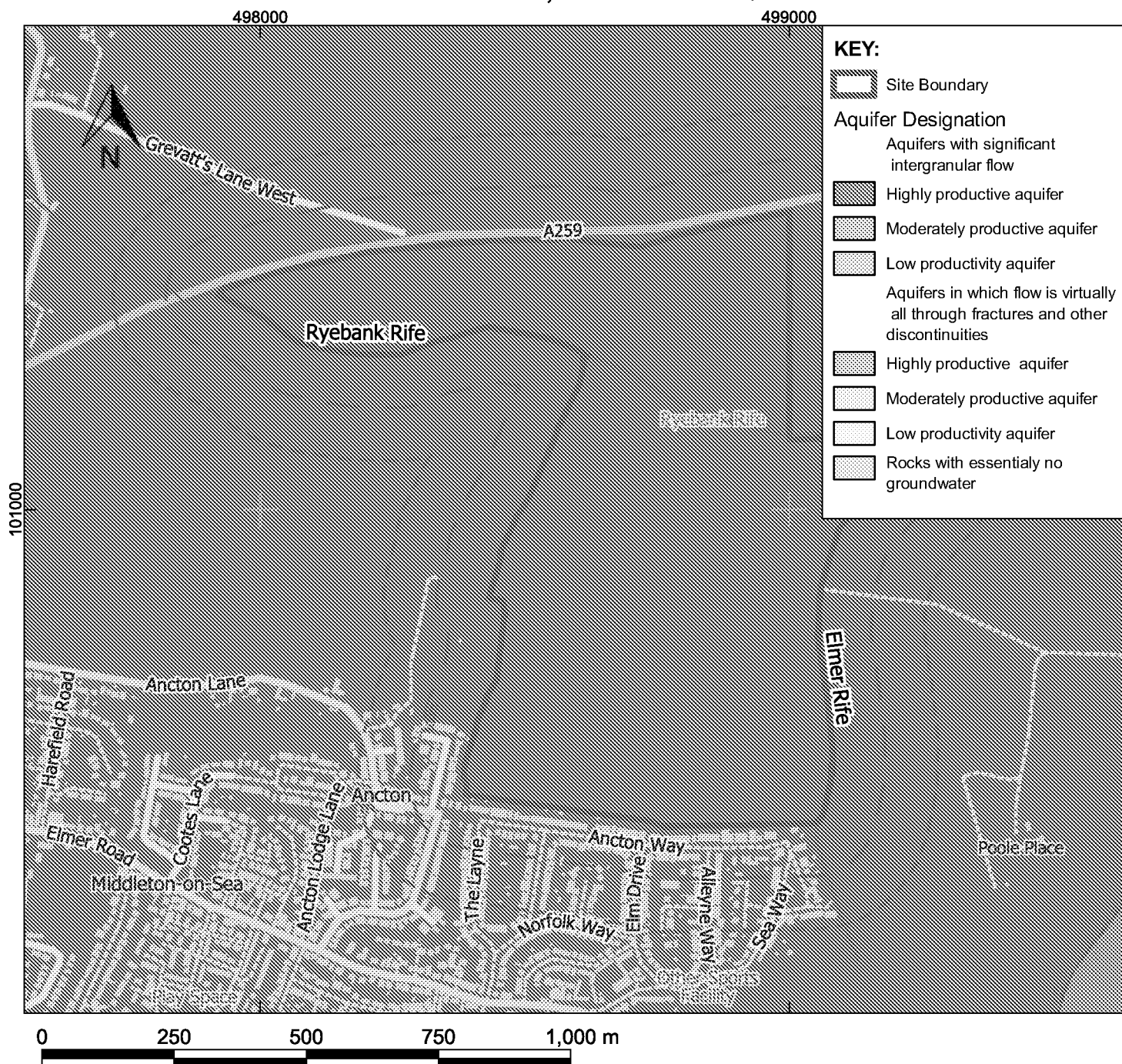
Special interest (Zone 4) - A fourth zone SPZ4 or 'Zone of Special Interest' was previously defined for some sources. SPZ4 usually represented a surface water catchment which drains into the aquifer feeding the groundwater supply (i.e. catchment draining to a disappearing stream).

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BRITISH GEOLOGICAL SURVEY 1:625,000 SCALE AQUIFER DESIGNATION



The hydrogeological map indicates aquifer potential in generalised terms using a threefold division of geological formations:

1. those in which intergranular flow in the saturated zone is dominant
2. those in which flow is controlled by fissures or discontinuities
3. less permeable formations including aquifers concealed at depth beneath covering layers

Highly productive aquifers are distinguished from those that are only of local importance or have no significant groundwater. Within each of these classes the strata are grouped together according to age or lithology.

The 1:625 000 scale data may be used as a guide to the aquifers at a regional or national level, but should not be relied on for local information.

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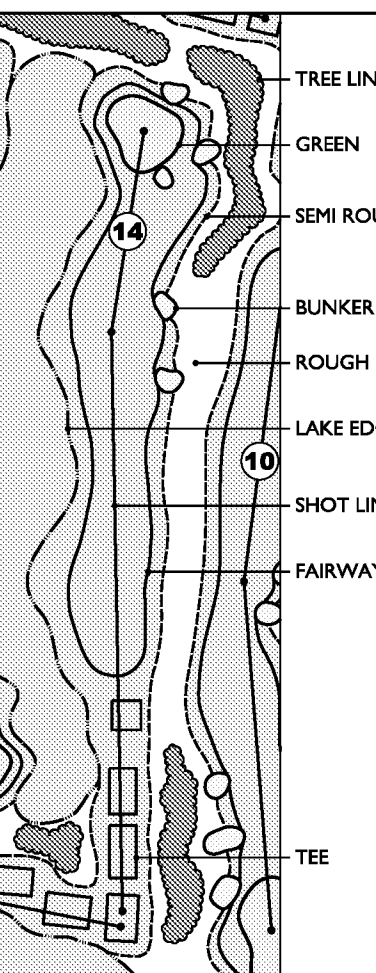
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Appendix B

PROPOSED DEVELOPMENT PLANS

115/1

LEGEND



NOTES

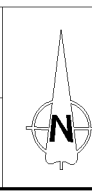
- APPLICATION SITE BOUNDARY
- EXISTING PUBLIC RIGHTS OF WAY
- ACCESS TRACK
- EXISTING DITCH / DRAINAGE NETWORK
- OVERHEAD WIRES
- EXISTING TREES TO BE RETAINED
- PROPOSED TREE & SHRUB PLANTING
- EXISTING TREES TO BE REMOVED
- SINGLE STOREY BUILDINGS UP TO 6M TO EAVES
- PROPOSED CAR PARKS
- PROPOSED ROAD NETWORK
- PROPOSED BRIDGE CROSSING
- PROPOSED IRRIGATION STORAGE LAKE
- PROPOSED WATERBODIES
- PROPOSED GOLF GREENS
- PROPOSED GOLF TEES
- PROPOSED GOLF FAIRWAYS
- PROPOSED GOLF ROUGHS

Rev.	Date	Description



BOGNOR REGIS GOLF CLUB
HALLAM LAND MANAGEMENT
LAND USE PARAMETERS PLAN

1:2000@A0
1352.102.01
08.11.21
Design: GJ
Drawn: MC
Checked: LC



Appendix C

TOPOGRAPHICAL SURVEY

115/1



Sheet Layout

21271-100-Q	21271-100-R	21271-100-A	21271-100-B
21271-100-S	21271-100-C	21271-100-D	21271-100-E
	21271-100-F	21271-100-G	21271-100-H
	21271-100-J	21271-100-K	21271-100-L
	21271-100-M	21271-100-N	21271-100-P

LEGEND

BANKING

BUSHES & HEDGES

TREES

GATES

ABBREVIATIONS (WHERE APPLICABLE)

Top

Bottom

MT / 3T / 0.2 / 6

Single

Double

AHM
ARCH HEAD HEIGHT
AHL
ARCH HEAD LEVEL
ASH
ARCH SPRINGER HEIGHT
ASL
ARCH SPRINGER LEVEL
AV
AIR VALVE
BL
BED LEVEL
BB
BELISHA BEACON
BOLLARD
BTB
BRITISH TELECOM BOX
BTMH
BRITISH TELECOM MANHOLE
BRWK
BRICKWORK
BS
BUS STOP
CATV
CABLE TV
CL
COVER LEVEL
CM
CABLE MARKER
Col
COLUMN
CP
CONCRETE POST
EAV
EAVES LEVEL
ELEC
ELECTRICAL COVER
ECB
ELECTRICITY CONTROL BOX
EP
ELECTRICITY POLE
ER
EARTH ROD
FB
FLOWER BED
FFL
FINISHED FLOOR LEVEL
FH
FIRE HYDRANT
FL
FLOOR LEVEL
FS
FLAG STAFF
GP
GAS PIPE
GV
GAS VALVE
G
GULLY
GS
GATE STOP
IC
INSPECTION COVER
IL
INVERT LEVEL
LP
LAMP POST

AHL
ARCH HEAD LEVEL
ASH
ARCH SPRINGER HEIGHT
ASL
ARCH SPRINGER LEVEL
AV
AIR VALVE
BL
BED LEVEL
BB
BELISHA BEACON
BOLLARD
BTB
BRITISH TELECOM BOX
BTMH
BRITISH TELECOM MANHOLE
BRWK
BRICKWORK
BS
BUS STOP
CATV
CABLE TV
CL
COVER LEVEL
CM
CABLE MARKER
Col
COLUMN
CP
CONCRETE POST
EAV
EAVES LEVEL
ELEC
ELECTRICAL COVER
ECB
ELECTRICITY CONTROL BOX
EP
ELECTRICITY POLE
ER
EARTH ROD
FB
FLOWER BED
FFL
FINISHED FLOOR LEVEL
FH
FIRE HYDRANT
FL
FLOOR LEVEL
FS
FLAG STAFF
GP
GAS PIPE
GV
GAS VALVE
G
GULLY
GS
GATE STOP
IC
INSPECTION COVER
IL
INVERT LEVEL
LP
LAMP POST

BWF
BARBED WIRE FENCE
CIP
CORRUGATED IRON FENCE
CBF
CLOSE BOARD FENCE
CLF
CHAIN LINK FENCE
CPF
CHESTNUT PALING FENCE
FPC
FENCE POST
IWF
INTERWOVEN FENCE
IRF
IRON RAILING FENCE

LARCH LAP FENCE
METAL RAILING FENCE
POST AND CHAIN FENCE
PICKET FENCE
POST AND RAIL FENCE
POST AND WIRE FENCE
STEEL PALISADE SECURITY FENCE
TUBULAR STEEL RAIL FENCE

LLF
LARCH LAP FENCE
MRF
METAL RAILING FENCE
PCF
PICKET FENCE
PRF
POST AND RAIL FENCE
PWF
POST AND WIRE FENCE
SPSF
STEEL PALISADE SECURITY FENCE
TSRF
TUBULAR STEEL RAIL FENCE

WALL

BUILDING

OPEN SIDED BUILDING

GLASS ROOFED

CONTOURS

WALLS shown to scale

0.25m

25.00

NOTE - SPREADS AND HEIGHTS ARE INDICATIVE ONLY

REV.

NOTES

DWN

DATE

A

Additional information added to NW of Site - See RevA Layer

LCD

14/12/21

ISO 9001 REGISTERED

THE SURVEY ASSOCIATION

ISO 14001 REGISTERED

Notes:

Grid and levels relate to OS GPS Active Network.

Sheet is North orientated.

Much of Ditch areas heavily overgrown, levels taken where access could be gained.

OS Mapping included for inaccessible areas (Shown in blue)

Maltby Surveys Ltd

2 QUEENS ROAD
HAYWARDS HEATH
WEST SUSSEX
RH16 1EB
Tel: 01444 416246
Fax: 01444 417697
E-Mail: mls@maltbysurveys.com
WebSite: http://www.maltbysurveys.com

SURVEYED

LCD

CLIENT

DRAWN

LCD

WSP

CHECKED

AKM

SCALE

1/2500 (A1 Sheet)

Grevatts Lane, Littlehampton, BN17 5RE

TOPOGRAPHICAL SURVEY

Job No

Rev

Drawing Number

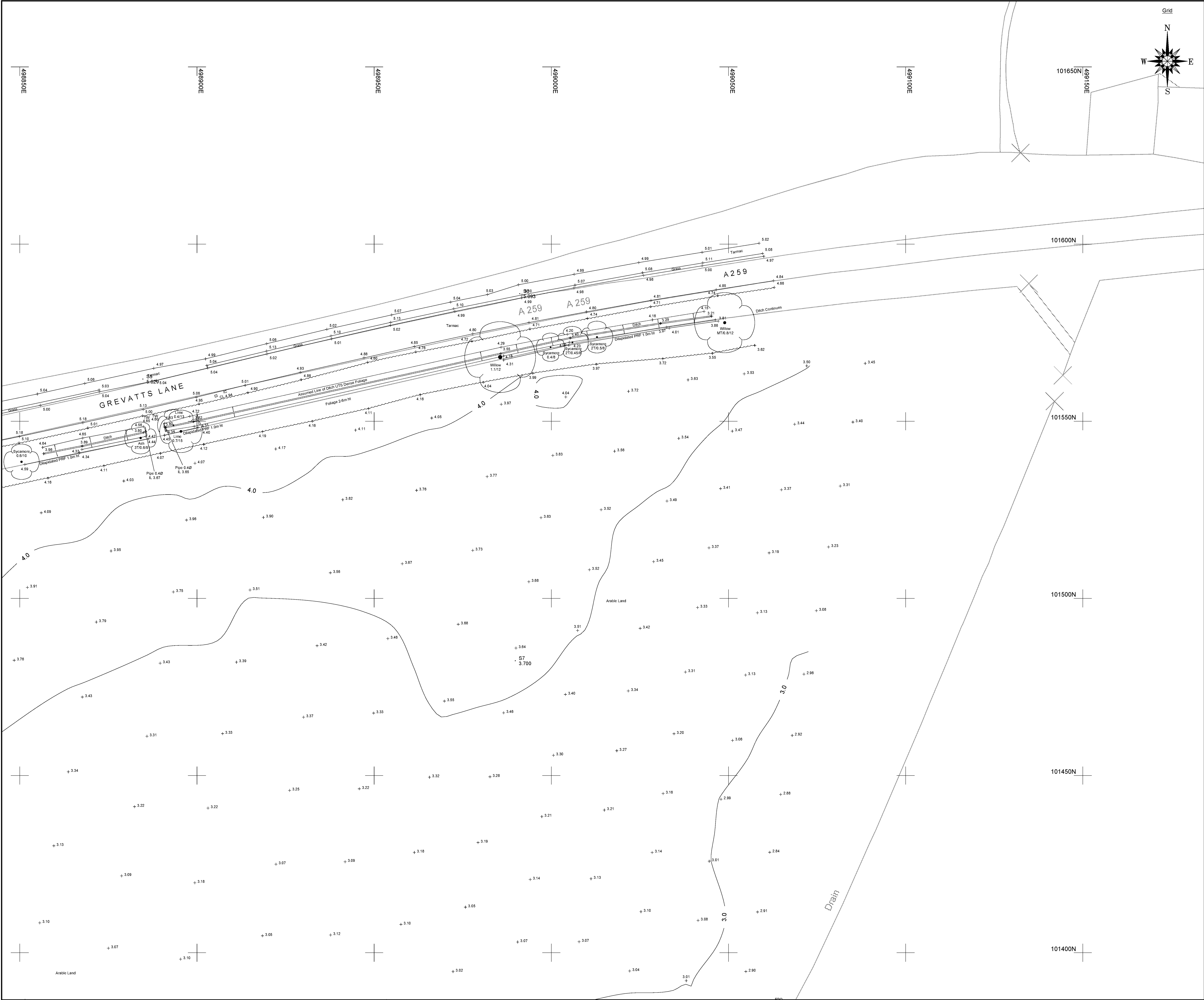
21/271

A

20/271/100-Overview

Date

Sept 2021



Sheet Layout

21271-100-Q	21271-100-R	21271-100-A	21271-100-B
21271-100-S	21271-100-C	21271-100-D	21271-100-E
	21271-100-F	21271-100-G	21271-100-H
	21271-100-J	21271-100-K	21271-100-L
	21271-100-M	21271-100-N	21271-100-P

LEGEND

BANKING **WALL** **BUSHES & HEDGES** **BUILDING** **TREES** **OPEN SIDED BUILDING** **GATES** **CONTOURS**

ABBREVIATIONS (WHERE APPLICABLE)

ARCH HEAD HEIGHT	AHH	MARKE	MKR
ARCH HEAD LEVEL	AHL	MONITORING WELL	MM
ARCH SPRINGER HEIGHT	ASH	NOTICE BOARD	NB
ARCH SPRINGER LEVEL	ASL	NAME PLATE	NP
AIR VALVE	AV	OVERHEAD WIRES	CHW
BED LEVEL	BL	PARKING METER	PM
BELISHA BEACON	BB	RIDGE LEVEL	RID
BOLLARD	B	ROOF LEVEL	RL
BRITISH TELECOM BOX	BTB	ROAD SIGN	RS
BRITISH TELECOM MANHOLE	BTMH	RODDING EYE	RE
BRICKWORK	BRWK	RETAINING WALL	RTW
BUS STOP	BS	RAIN WATER PIPE	RWP
CABLE TV	CATV	SLUICE VALVE	SV
COVER LEVEL	CL	STOP COCK	SC
CABLE MARKER	CM	SOFFIT LEVEL	SCF
COLUMN	Col	STRUCTURAL SLAB LEVEL	SLL
CONCRETE POST	CP	TREE STUMP	ST
EAVES LEVEL	EAV	SOIL AND VENT PIPE	SV
ELECTRICAL COVER	ELEC	THRESHOLD LEVEL	THL
ELECTRICITY CONTROL BOX	ECB	TELEGRAPH POLE	TP
ELECTRICITY POLE	EP	TELEPHONE CALL BOX	TCB
EARTH ROD	ER	TOP OF KERB	TK
FLOWER BED	FB	TURNSTILE	TS
FINISHED FLOOR LEVEL	FFL	TRAFFIC LIGHT	TL
FIRE HYDRANT	FH	TOP OF WALL	TW
FLOOR LEVEL	FL	UNABLE TO LIFT	UTL
FLAG STAFF	FS	UNABLE TO SURVEY	UTS
GAS PIPE	GP	VENT PIPE	VP
GAS VALVE	GV	WATER METER	WM
GULLY	G	WATER LEVEL	WL
GATE STOP	GS	WASH OUT	WO
INSPECTION COVER	IC	WASTE PIPE	WP
INVERT LEVEL	IL	WATER TANK	WT
LAMP POST	LP	WATER VALVE	WV

FENCES

BARBED WIRE FENCE	BWF	LARCH LAP FENCE	LLF
CORRUGATED IRON FENCE	CIF	METAL RAILING FENCE	MRF
CLOSE BOARD FENCE	CBF	POST AND CHAIN FENCE	PCF
CHAIN LINK FENCE	CLF	PICKET FENCE	P/F
CHESTNUT PALING FENCE	CPF	POST AND RAIL FENCE	PRF
FENCE POST	FPO	POST AND WIRE FENCE	PWF
INTERWOVEN FENCE	IWF	STEEL PALISADE SECURITY FENCE	SPSF
IRON RAILING FENCE	IRF	TUBULAR STEEL RAIL FENCE	TSRF

REV.	NOTES	DWN	DATE
A	Additional information added to NW of Site - See RevA Layer	LCD	14/12/21

**ISO 9001
REGISTERED**

A MEMBER OF
THE
SURVEY
ASSOCIATION

**ISO 14001
REGISTERED**

Notes:

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SURVEYED	LCD	CLIENT
DRAWN	LCD	WSP
CHECKED	AKM	SCALE
		1/500 (A1 Sheet)

Grevatts Lane, Littlehampton, BN17 5RE

TOPOGRAPHICAL SURVEY

Job No	Rev	Drawing Number
21/271	A	20/271/100-B

Date : Sept 2021



Sheet Layout

21271-100-Q	21271-100-R	21271-100-A	21271-100-B
21271-100-S	21271-100-G	21271-100-D	21271-100-E
21271-100-F	21271-100-G	21271-100-H	
21271-100-J	21271-100-K	21271-100-L	
21271-100-M	21271-100-N	21271-100-P	

LEGEND

BANKING

Top

Bottom

BUSHES & HEDGES

Symbol

TREES

MT / ST / 0.2 / 6

Symbol

GATES

Single

Double

WALL

Symbol

BUILDING

Symbol

OPEN SIDED BUILDING

Symbol

GLASS ROOFED

Symbol

CONTOURS

Symbol

ABBREVIATIONS (WHERE APPLICABLE)

ARCH HEAD HEIGHT	AHH	MARNER	MNR
ARCH HEAD LEVEL	AHL	MONITORING WELL	MM
ARCH SPRINGER HEIGHT	ASH	NOTICE BOARD	NB
ARCH SPRINGER LEVEL	ASL	NAME PLATE	NP
AIR VALVE	AV	OVERHEAD WIRES	OW
BL	BL	PARKING METER	PM
BELISHA BEACON	BB	RIDGE LEVEL	RL
BOLLARD	B	ROOF LEVEL	RL
BRITISH TELECOM BOX	BTB	ROAD SIGN	RS
BRITISH TELECOM MANHOLE	BTMH	RODDING EYE	RE
BRICKWORK	BRWK	RETAINING WALL	RTW
BUS STOP	BS	RAIN WATER PIPE	RWP
CABLE TV	CATV	SLUICE VALVE	SV
COVER LEVEL	CL	STOP COCK	SC
CABLE MARKER	CM	SOFFIT LEVEL	SOF
COLUMN	Col	STRUCTURAL SLAB LEVEL	SSL
CONCRETE POST	CP	TREE STUMP	ST
EAVES LEVEL	EAV	SOIL AND VENT PIPE	SUP
ELECTRICAL COVER	ELEC	THRESHOLD LEVEL	THL
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ELECTRICITY POLE	EP	TELEPHONE CALL BOX	TCB
EARTH ROD	ER	TURNSTILE	TS
FLOWER BED	FB	TRAFFIC LIGHT	TL
FINISHED FLOOR LEVEL	FFL	TOP OF WALL	TW
FIRE HYDRANT	FH	UNABLE TO LIFT	UTL
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FLAG STAFF	FS	VENT PIPE	VP
GAS PIPE	GP	WATER METER	WM
GAS VALVE	GV	WATER LEVEL	WL
GULLY	G	WASH OUT	WO
GATE STOP	GS	WASTE PIPE	WP
INSPECTION COVER	IC	WATER TANK	WT
INVERT LEVEL	IL	WATER VALVE	WV
LAMP POST	LP		

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CHESTNUT PALING FENCE	CPF	POST AND RAIL FENCE	PRF
FENCE POST	FPO	POST AND WIRE FENCE	PWF
INTERWOVEN FENCE	IWF	STEEL PALISADE SECURITY FENCE	SPSF
IRON RAILING FENCE	IRF	TUBULAR STEEL RAIL FENCE	TSRF

REV.

NOTES

DWN

DATE

A Additional information added to NW of Site - See RevA Layer LCD 14/12/21

ISO 9001 REGISTERED

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CHECKED	AKM	SCALE
		1/500 (A1 Sheet)

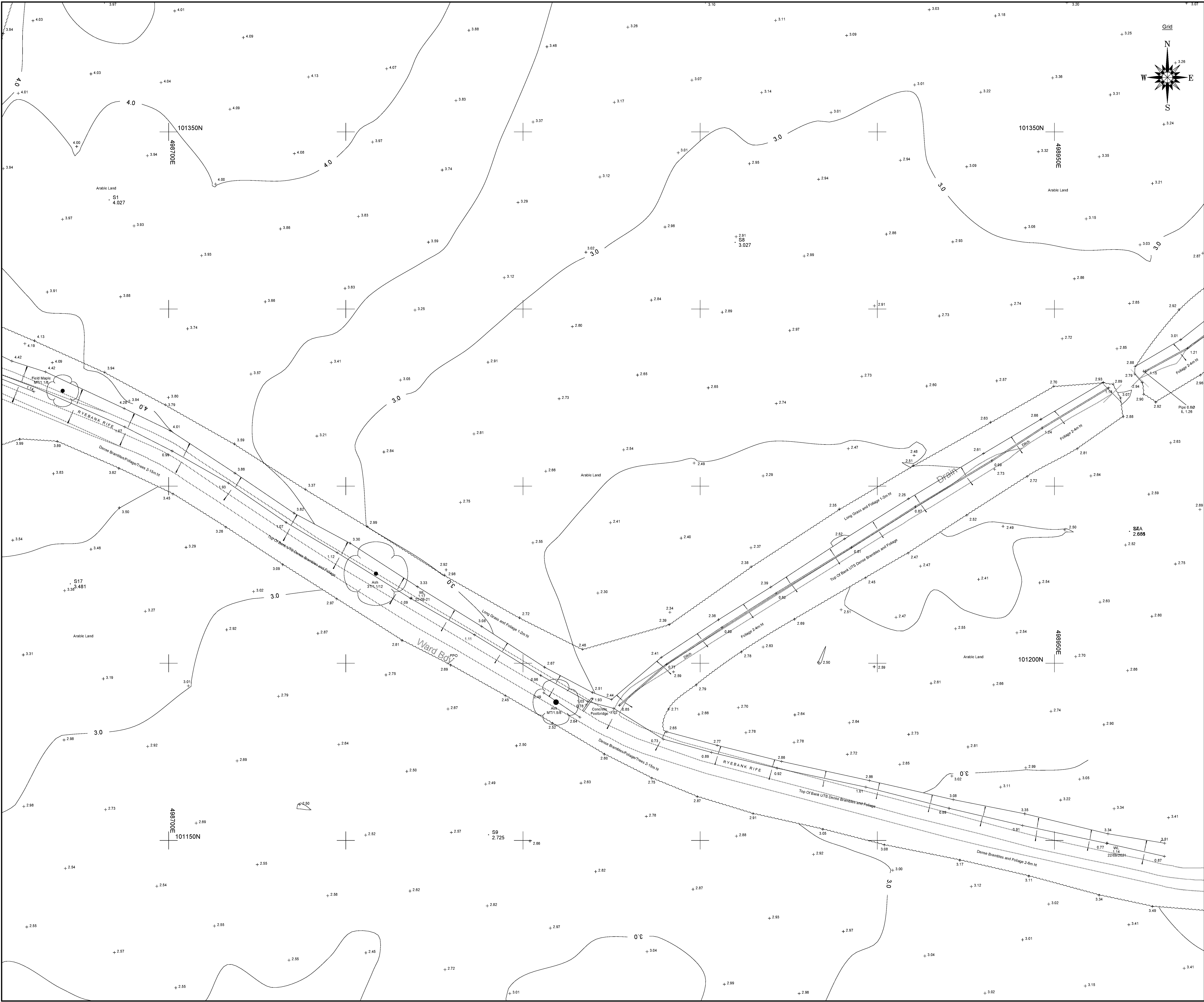
Grevatts Lane, Littlehampton, BN17 5RE

TOPOGRAPHICAL SURVEY

Job No	Rev	Drawing Number
21/271	A	20/271/100-C

Date : Sept 2021

ARUN DISTRICT COUNCIL 19/07/2021 CUT



Sheet Layout

21271-100-Q	21271-100-R	21271-100-A	21271-100-B
21271-100-S	21271-100-C	21271-100-D	21271-100-E
21271-100-F	21271-100-G	21271-100-H	
21271-100-J	21271-100-K	21271-100-L	
21271-100-M	21271-100-N	21271-100-P	

LEGEND

BANKING **WALL** **BUSHES & HEDGES** **BUILDING** **TREES** **OPEN SIDED BUILDING** **GATES** **GLASS ROOFED** **CONTOURS**

ABBREVIATIONS (WHERE APPLICABLE)

ARCH HEAD HEIGHT	AHH	MARLER	MAR
ARCH HEAD LEVEL	AHL	MONITORING WELL	MW
ARCH SPRINGER HEIGHT	ASH	NOTICE BOARD	NB
ARCH SPRINGER LEVEL	ASL	NAME PLATE	NP
AIR VALVE	AV	OVERHEAD WIRES	OHV
BED LEVEL	BL	PARKING METER	PM
BELISHA BEACON	BB	RODGE LEVEL	RL
DOLLARD	D	ROOF LEVEL	RL
BRITISH TELECOM BOX	BTB	ROAD SIGN	RS
BRITISH TELECOM MANHOLE	BTMH	RODDING EYE	RE
BRICKWORK	BRWK	RETAINING WALL	RTW
BUS STOP	BS	RAIN WATER PIPE	RWP
CABLE TV	CATV	SLUICE VALVE	SV
COVER LEVEL	CL	STOP COCK	SC
CABLE MARKER	CM	SOFFIT LEVEL	SCF
COLUMN	Col	STRUCTURAL SLAB LEVEL	SSL
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ELECTRICITY POLE	EP	TELEPHONE CALL BOX	TCB
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FINISHED FLOOR LEVEL	FFL	TRAFFIC LIGHT	TL
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FLOOR LEVEL	FL	UNABLE TO LIFT	UTL
FLAG STAFF	FS	UNABLE TO SURVEY	UTS
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INTERWOVEN FENCE	IWF	STEEL PALISADE SECURITY FENCE	SPSF
IRON RAILING FENCE	IRF	TUBULAR STEEL RAIL FENCE	TSRF

REV. **NOTES** **DWN** **DATE**

A	Additional information added to NW of Site - See RevA Layer	LCD	14/12/21
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Notes:

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Sheet is North orientated.
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Maltby Surveys Ltd

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SURVEYED	LCD	CLIENT
DRAWN	LCD	WSP
CHECKED	AKM	SCALE
		1/500 (A1 Sheet)

Grevatts Lane, Littlehampton, BN17 5RE

TOPOGRAPHICAL SURVEY

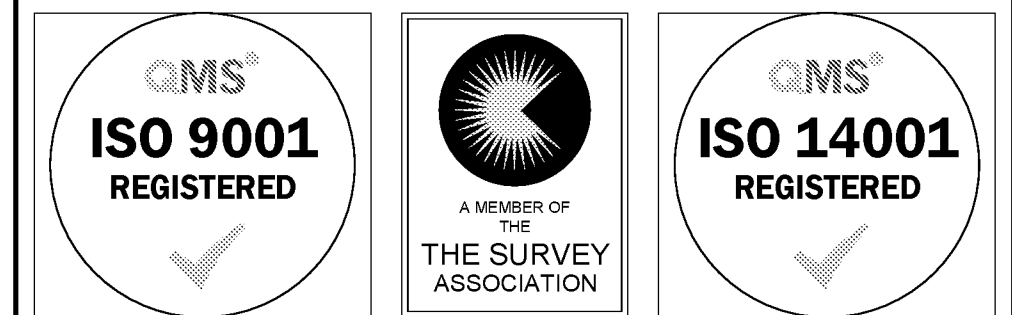
Job No	Rev	Drawing Number
21/271	A	20/271/100-D

Date : Sept 2021



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REV.	NOTES	DWN	DATE
A	Additional information added to NW of Site - See Rev4 Layer	LCD	14/12/21



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Maltby Surveys Ltd

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SURVEYED	LCD	CLIENT
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CHECKED	AKM	SCALE
		1/500 (A1 Sheet)

Grevatts Lane, Littlehampton, BN17 5RE

TOPOGRAPHICAL SURVEY

Job No	Rev	Drawing Number
21/271	A	20/271/100-E
Date : Sept 2021		



Sheet Layout

21271-100-Q	21271-100-R	21271-100-A	21271-100-B
21271-100-S	21271-100-C	21271-100-D	21271-100-E
	21271-100-F	21271-100-G	21271-100-H
	21271-100-J	21271-100-K	21271-100-L
	21271-100-M	21271-100-N	21271-100-P

LEGEND

BANKING **WALL** **BUILDING**

BUSHES & HEDGES **OPEN SIDED BUILDING**

TREES **GLASS ROOFED**

GATES **CONTOURS**

ABBREVIATIONS (WHERE APPLICABLE)

ARCH HEAD HEIGHT	AHH	MARKER	MKR
ARCH HEAD LEVEL	AHL	MONITORING WELL	MW
ARCH SPRINGER HEIGHT	ASH	NOTICE BOARD	NB
ARCH SPRINGER LEVEL	ASL	NAME PLATE	NP
AIR VALVE	AV	OVERHEAD WIRES	OHW
BED LEVEL	BL	PARKING METER	PM
BELISHA BEACON	BB	RIDGE LEVEL	RL
BOLLARD	B	ROOF LEVEL	RL
BRITISH TELECOM BOX	BTB	ROAD SIGN	RS
BRITISH TELECOM MANHOLE	BTMH	RODDING EYE	RE
BRICKWORK	BRWK	RETAINING WALL	RTW
BUS STOP	BS	RAIN WATER PIPE	RWP
CABLE TV	CATV	SUICIDE VALVE	SV
COVER LEVEL	CL	STOP COCK	SC
CABLE MARKER	CM	SOFFIT LEVEL	SOF
COLUMN	Col	STRUCTURAL SLAB LEVEL	SSL
CONCRETE POST	CP	TREE STUMP	ST
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EARTH ROD	ER	TOP OF KERB	TK
FLOWER BED	FB	TURNSTILE	TS
FINISHED FLOOR LEVEL	FFL	TRAFFIC LIGHT	TL
FIRE HYDRANT	FH	TOP OF WALL	TW
FLOOR LEVEL	FL	UNABLE TO LIFT	UTL
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GAS PIPE	GP	VENT PIPE	VP
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GATE STOP	GS	WASH OUT	WO
INSPECTION COVER	IC	WASTE PIPE	WP
INVERT LEVEL	IL	WATER TANK	WT
LAMP POST	LP	WATER VALVE	WV

FENCES

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IRON RAILING FENCE	IRF	TUBULAR STEEL RAIL FENCE	TSRF

REV.	NOTES	DWN	DATE
A	Additional information added to NW of Site - See RevA Layer	LCD	14/12/21

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SURVEYED	LCD	CLIENT
DRAWN	LCD	WSP
CHECKED	AKM	SCALE
		1/500 (A1 Sheet)

Grevatts Lane, Littlehampton, BN17 5RE

TOPOGRAPHICAL SURVEY

Job No	Rev	Drawing Number
21/271	A	20/271/100-F

Date : Sept 2021



Sheet Layout

21271-100-Q	21271-100-R	21271-100-A	21271-100-B
21271-100-S	21271-100-C	21271-100-D	21271-100-E
21271-100-F	21271-100-G	21271-100-H	
21271-100-J	21271-100-K	21271-100-L	
21271-100-M	21271-100-N	21271-100-P	

LEGEND

BANKING

BUSHES & HEDGES

TREES

GATES

ABBREVIATIONS (WHERE APPLICABLE)

Top

Bottom

MT / 3T / 0.2 / 6

Single

Double

ARCH HEAD HEIGHT

ARCH HEAD LEVEL

ARCH SPRINGER HEIGHT

ARCH SPRINGER LEVEL

AIR VALVE

BED LEVEL

BELISHA BEACON

BOLLARD

BRITISH TELECOM BOX

BRITISH TELECOM MANHOLE

BRICKWORK

BUS STOP

CABLE TV

COVER LEVEL

CABLE MARKER

COLUMN

CONCRETE POST

EAVES LEVEL

ELECTRICAL COVER

ELECTRICITY CONTROL BOX

ELECTRICITY POLE

EARTH ROD

FLOWER BED

FINISHED FLOOR LEVEL

FIRE HYDRANT

FLOOR LEVEL

FLAG STAFF

GAS PIPE

GAS VALVE

GULLY

GATE STOP

INSPECTION COVER

INVERT LEVEL

LAMP POST

ARCH HEAD HEIGHT

AHL

ASH

ASL

AV

BL

BB

B

BTB

BTMH

BRWK

BS

CATV

CL

CM

Col

CP

EAU

ELEC

ECB

EP

ER

FB

FFL

FH

FL

FS

GP

GV

G

GS

IC

IL

LP

MARKER

MONITORING WELL

NOTICE BOARD

NAME PLATE

OVERHEAD WIRES

PARKING METER

RIDGE LEVEL

ROOF LEVEL

ROAD SIGN

RODDING EYE

RETAINING WALL

RAIN WATER PIPE

SC

SOFT LEVEL

STRUCTURAL SLAB LEVEL

TREE STUMP

SOIL AND VENT PIPE

THRESHOLD LEVEL

TELEGRAPH POLE

TELEPHONE CALL BOX

TOP OF KERB

TRAFFIC LIGHT

TOP OF WALL

UNABLE TO LIFT

UNABLE TO SURVEY

VENT PIPE

WATER METER

WATER LEVEL

WASH OUT

WASTE PIPE

WATER TANK

WATER VALVE

MARKER

MM

NB

CHW

PM

RID

RL

RS

RE

RTW

RWP

SV

SC

SCF

SSL

ST

SUP

THL

TP

TCB

TK

TS

TL

TW

UTL

UTS

VP

VM

VL

VO

VP

WT

WW

WALL

BUILDING

OPEN SIDED BUILDING

GLASS ROOFED

CONTOURS

0.25m

20.00

REV.

NOTES

DWN

DATE

A

Additional information added to NW of Site - See RevA Layer

LCD

14/12/21

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THE SURVEY ASSOCIATION

ISO 14001 REGISTERED

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Grevatts Lane, Littlehampton, BN17 5RE

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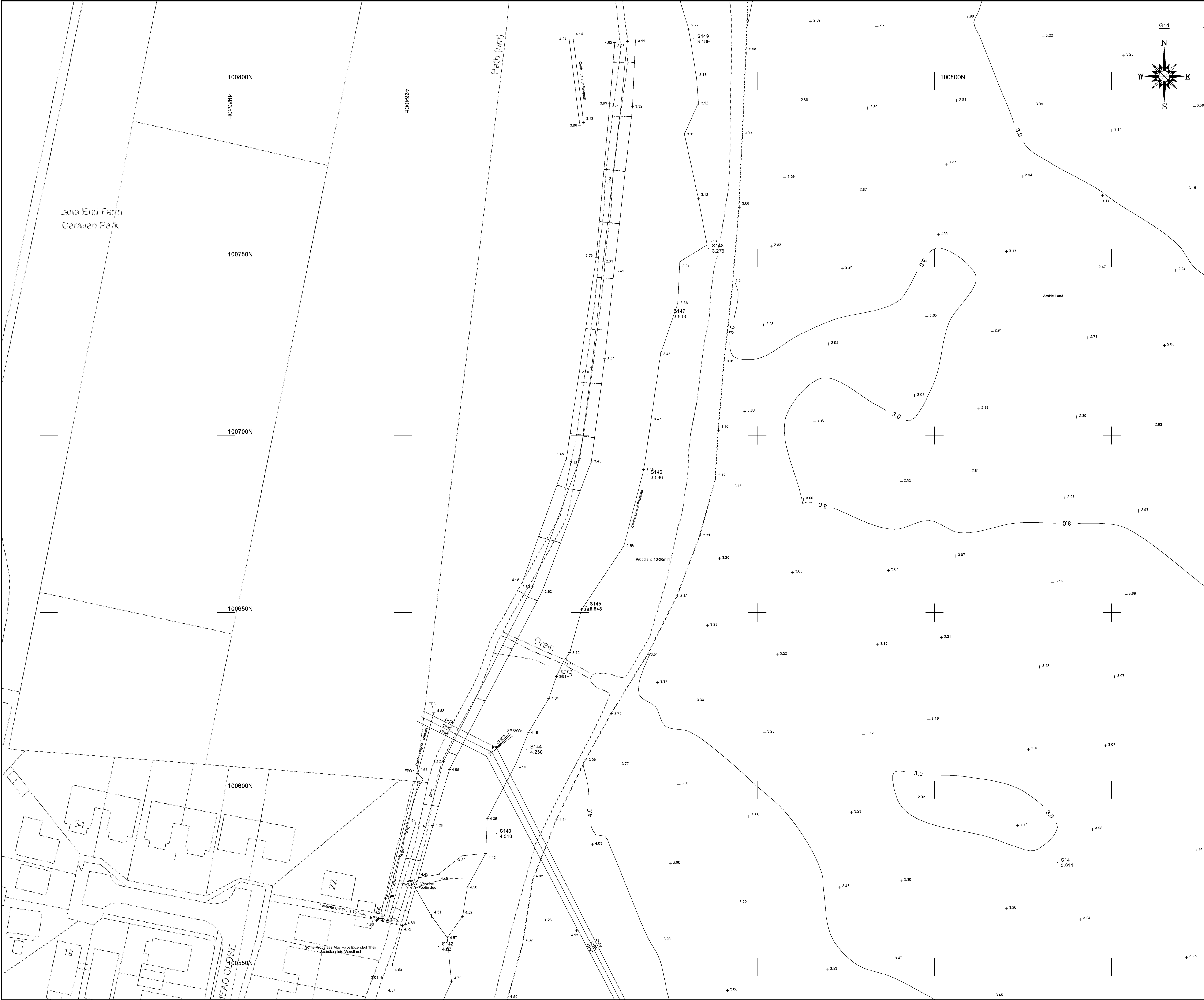
21/271

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20/271/100-G

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Sheet Layout

21271-100-Q	21271-100-R	21271-100-A	21271-100-B
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LEGEND

BANKING

BUSHES & HEDGES

TREES

MT / 3T / 0.2 / 6

GATES

Single Double

WALL

Walls shown to scale

BUILDING

OPEN SIDED BUILDING

GLASS ROOFED

CONTOURS

20.00

ABBREVIATIONS (WHERE APPLICABLE)

ARCH HEAD HEIGHT	AHH	MARNER	MNR
ARCH HEAD LEVEL	AHL	MONITORING WELL	MM
ARCH SPRINGER HEIGHT	ASH	NOTICE BOARD	NB
ARCH SPRINGER LEVEL	ASL	NAME PLATE	NP
AIR VALVE	AV	OVERHEAD WIRES	CHW
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BELISHA BEACON	BB	RIDGE LEVEL	RL
BOLLARD	B	ROOF LEVEL	RL
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CORRUGATED IRON FENCE	CIF	METAL RAILING FENCE	MRF
CLOSE BOARD FENCE	CBF	POST AND CHAIN FENCE	PCF
CHAIN LINK FENCE	CLF	PICKET FENCE	P/F
CHESTNUT PALING FENCE	CPF	POST AND RAIL FENCE	PRF
FENCE POST	FPO	POST AND WIRE FENCE	PWF
INTERWOVEN FENCE	IWF	STEEL PALISADE SECURITY FENCE	SPSF
IRON RAILING FENCE	IRF	TUBULAR STEEL RAIL FENCE	TSRF

REV.	NOTES	DWN	DATE
A	Additional information added to NW of Site - See RevA Layer	LCD	14/12/21

Notes:

Grid and levels relate to OS GPS Active Network.
Sheet is North orientated.
Ditch areas heavily overgrown, levels taken where access could be gained.
OS Mapping included for inaccessible areas (Shown in blue)

Maltby Surveys Ltd

2 QUEENS ROAD
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WebSite: http://www.maltbysurveys.com

SURVEYED	LCD	CLIENT
DRAWN	LCD	WSP
CHECKED	AKM	SCALE
		1/500 (A1 Sheet)

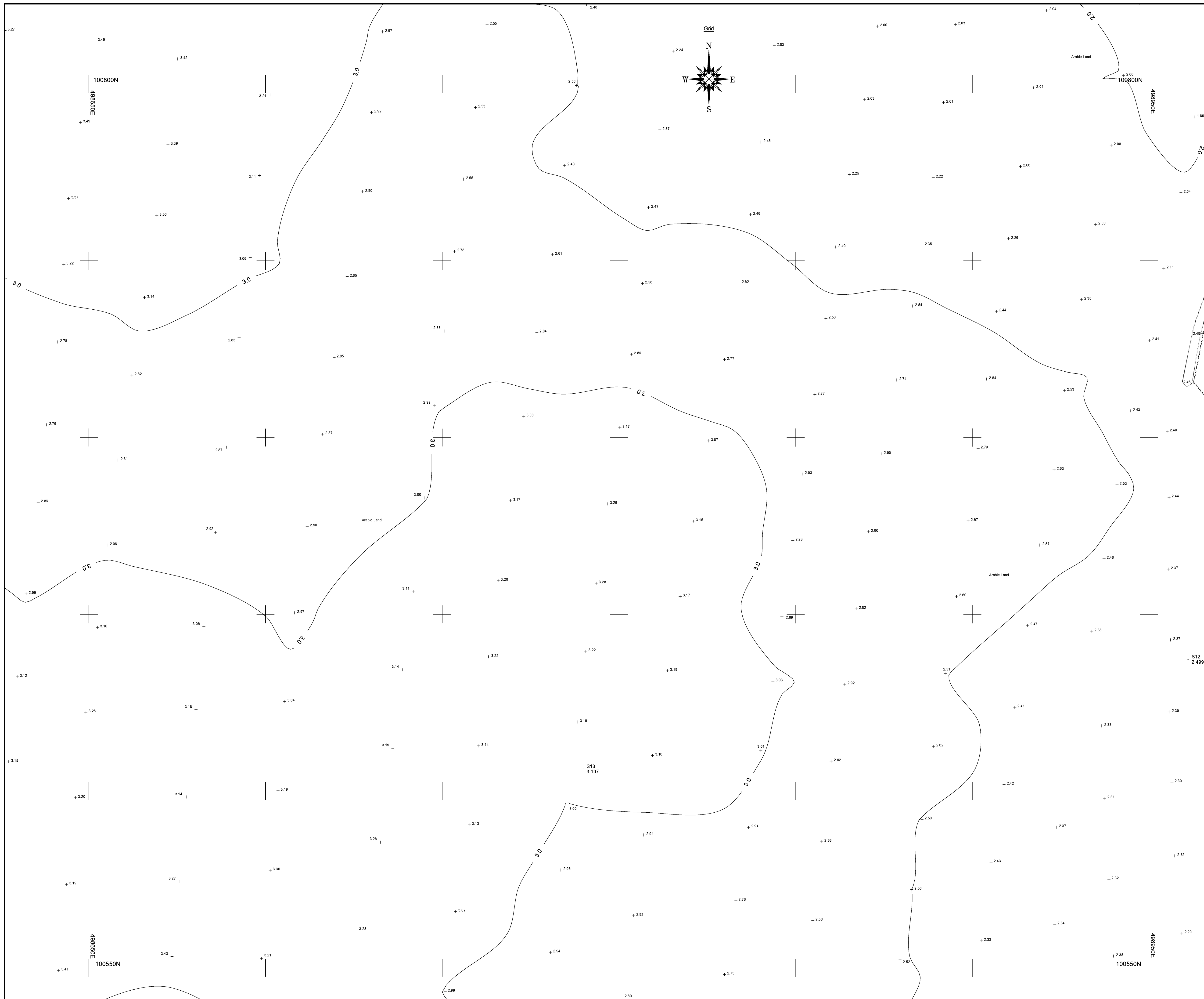
Grevatts Lane, Littlehampton, BN17 5RE

TOPOGRAPHICAL SURVEY

Job No	Rev	Drawing Number
21/271	A	20/271/100-J

Date : Sept 2021

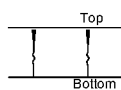
ARUN DISTRICT COUNCIL 1/20/21/CUT



Sheet Layout		21271-100-R	21271-100-A	21271-100-B
21271-100-Q				
21271-100-S	21271-100-C	21271-100-D	21271-100-E	
21271-100-F	21271-100-G	21271-100-H	21271-100-I	
21271-100-J	21271-100-K	21271-100-L	21271-100-M	
21271-100-N	21271-100-O	21271-100-P	21271-100-Q	

LEGEND

BANKING



BUSHES & HEDGES



TREES

MT / 3T / 0.2 / 6

Major: Mt 3T 0.2 / 6
Minor: 3T 0.2 6

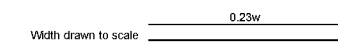


GATES




WALL

10000 drawn to scale



BUILDING



OPEN SIDED BUILDING



GLASS ROOFED



CONTOURS



25.00

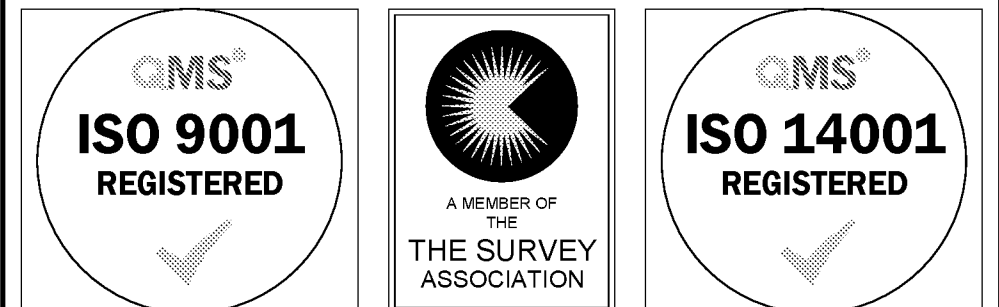
ABBREVIATIONS (WHERE APPLICABLE)

ARCH HEAD HEIGHT	AHH	MARKER	MKR
ARCH HEAD LEVEL	AHL	MONITORING WELL	MW
ARCH SPRINGER HEIGHT	ASH	NOTICE BOARD	NB
ARCH SPRINGER LEVEL	ASL	NAME PLATE	NP
AIR VALVE	AV	OVERHEAD WIRES	OWH
BED LEVEL	BL	PARKING METER	PM
BELISHA BEACON	BB	RAIL LEVEL	RL
BOLLARD	B	ROAD SIGN	RS
BRITISH TELECOM BOX	BTB	RODDING EYE	RE
BRITISH TELECOM MANHOLE	BTMH	RETAINING WALL	RTW
BRICKWORK	BKWK	RAIN WATER PIPE	RWP
BUS STOP	BS	SLUICE VALVE	SV
CABLE TV	CATV	SOFT COCK	SC
COVER LEVEL	CL	SOFT LEVEL	SCF
CABLE MARKER	CM	STRUCTURAL SLAB LEVEL	SSL
COLUMN	COL	TRUMP	ST
CONECRETE POST	CP	SOIL AND VENT PIPE	SVP
EAVES LEVEL	EAV	THRESHOLD LEVEL	THL
ELECTRICAL COVER	ELEC	TELEGRAPH POLE	TP
ELECTRICITY CONTROL BOX	ECB	TELEPHONE CALL BOX	TCP
ELECTRICITY POLE	ECP	TOP OF HERB	TK
EARTH ROD	ER	TURMELLE	TS
FLOWER BED	FB	TRAFFIC LIGHT	TL
FINISHED FLOOR LEVEL	FFL	TOP OF WALL	TW
FIRE HYDRANT	FH	UNABLE TO SURVEY	UTS
FLOOR LEVEL	FL	VENT PIPE	VP
FLAG STAFF	FS	WATER METER	WM
GAS PIPE	GP	WATER LEVEL	WL
GULLY	GU	WASH OUT	WO
GULLY	G	WASTE PIPE	WP
GATE STOP	GS	WATER TANK	WT
INSPECTION COVER	IC	WATER VALVE	WV
INVERT LEVEL	IL		
LAMP POST	LP		

FENCES

BARBED WIRE FENCE	BWF	LARCH LAP FENCE	LLF
CORRUGATED IRON FENCE	CIF	METAL RAILING FENCE	MRF
CLOSE BOARD FENCE	CBF	POST AND CHAIN FENCE	PCF
CHAIN LINK FENCE	CLF	PICKET FENCE	PFF
CHESTNUT PAULING FENCE	CPF	POST AND RAIL FENCE	PRF
FENCE POST	FP	POST AND WIRE FENCE	PWF
INTERWOVEN FENCE	IF	STEEL PLATE SECURITY FENCE	SPSF
IRON RAILING FENCE	IRF	TUBULAR STEEL RAIL FENCE	TSRF

REV.	NOTES	DWN	DATE
A	Additional information added to NW of Site - See RevA Layer	LCD	14/12/21



Notes:

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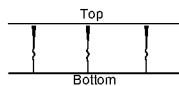
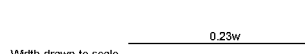
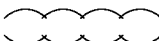
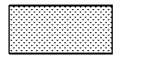
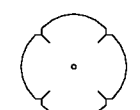
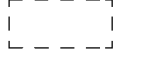
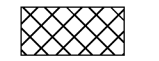
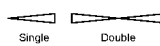
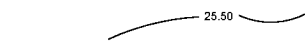
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Grevatts Lane, Littlehampton, BN17 5RE

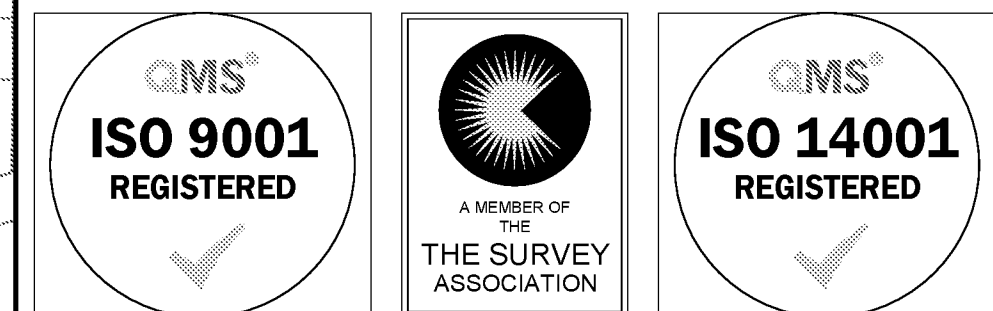
TOPOGRAPHICAL SURVEY									
Job No	Rev	Drawing Number							
21/271	A	20/271/100-K							
Date :	Sept 2021								



Sheet Layout			
21271-100-Q	21271-100-R	21271-100-A	21271-100-B
21271-100-S	21271-100-C	21271-100-D	21271-100-E
21271-100-F	21271-100-G	21271-100-H	
21271-100-J	21271-100-K	21271-100-L	
21271-100-M	21271-100-N	21271-100-P	

LEGEND		
BANKING		WALL Walls drawn to scale 
BUSHES & HEDGES		BUILDING 
TREES MT 3/ 37 / 0.2 / 6 Meaning: MT 3m / 37m / 0.2m / 6m Trunk: Trunk: Size: 37m		OPEN SIDED BUILDING 
NOTE: SPREADS AND HEIGHTS ARE INDICATIVE ONLY		GLASS ROOFED 
GATES	 Single  Double	CONTOURS 
ABBREVIATIONS (WHERE APPLICABLE)		
ARCH HEAD HEIGHT	AHH	MARKER
ARCH HEAD LEVEL	AHL	MONITORING WELL
ARCH SPRINGER HEIGHT	ASH	NOTICE BOARD
ARCH SPRINGER LEVEL	ASL	NAME PLATE
AIR VALVE	AV	OVERHEAD WIRES
BED LEVEL	BL	PARKING METER
BELLISHA BEACON	BB	RIDGE LEVEL
BOLLARD	B	ROOF LEVEL
BRITISH TELECOM BOX	BTB	ROAD SIGN
BRITISH TELECOM MANHOLE	BTM	RODDING EYE
BRICKWORK	BKWK	RETAINING WALL
BUS STOP	BS	RAN WATER PIPE
CABLE TV	CAV	SLUICE VALVE
COVER LEVEL	CL	STOP COOK
CABLE MARKER	CM	SOFFIT LEVEL
COLUMN	CP	STRUCTURAL SLAB LEVEL
CONCRETE POST	CP	TREE STUMP
EAVES LEVEL	EAV	SOIL AND VENT PIPE
ELECTRICAL POWER	ELEC	THRESHOLD LEVEL
ELECTRICITY CONTROL BOX	ECB	TELEGRAPH POLE
ELECTRICITY POLE	EP	TELEPHONE CALL BOX
EARTH ROAD	ER	TOP OF KERB
FLOWER BED	FB	TURNSTILE
FINISHED FLOOR LEVEL	FFL	TRAFFIC LIGHT
FIRE HYDRANT	FL	TOP OF WALL
FLOOR LEVEL	FL	UNABLE TO LIFT
FLAG STAFF	FS	UNABLE TO SURVEY
GAS PIPE	GP	VENT PIPE
GAS VALVE	GV	WATER METER
GULLY	G	WATER LEVEL
GATE STOP	GS	WASH OUT
INSPECTION COVER	IC	WASTE PIPE
INVERT LEVEL	IL	WATER TANK
LAMP POST	LP	WATER VALVE
FENCES		
BARBED WIRE FENCE	BWF	LARCH LAP FENCE
CORRUGATED IRON FENCE	CIF	METAL RAILING FENCE
CLOSE BOARD FENCE	CBF	POST AND CHAIN FENCE
CHAIN LINK FENCE	CLF	PICKET FENCE
CHESTNUT PALING FENCE	CPF	POST AND RAIL FENCE
FENCE POST	PFO	POST AND WIRE FENCE
INTERVENUE FENCE	IF	STEEL PALGADGE SECURITY FENCE
IRON RAILING FENCE	IRF	TUBULAR STEEL RAIL FENCE
		TSRF

REV.	NOTES	DWN	DATE
A	Additional information added to NW of Site - See RevA Layer	LCD	14/12/2



Notes:	Grid and levels relate to OS GPS Active Network. Sheet is North orientated. Ditch areas heavily overgrown, levels taken where access could be gained. OS Mapping included for inaccessible areas (Shown in blue)
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Maltby Surveys Ltd



2 QUEENS ROAD
HAYWARDS HEATH
WEST SUSSEX
RH16 1EB

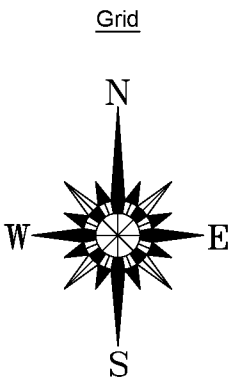
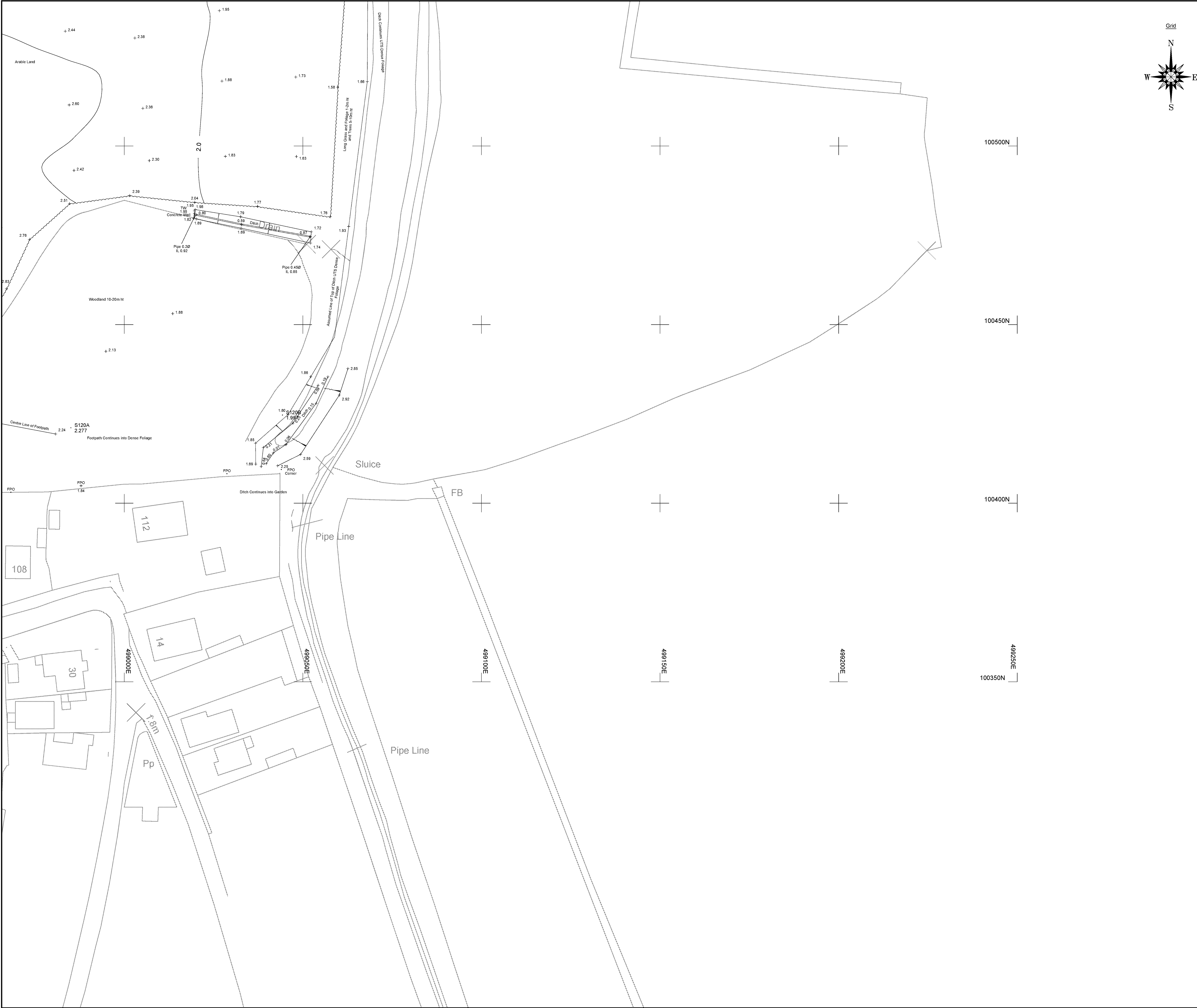
Tel: 01444 416246
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WebSite: <http://www.maltbysurveys.com>

SURVEYED	LCD	CLIENT WSP
DRAWN	LCD	
CHECKED	AKM	
		SCALE
		1/500 (A1 Sheet)

Grevatts Lane, Littlehampton, BN17 5RE

TOPOGRAPHICAL SURVEY

Job No	Rev	Drawing Number
21/271	A	20/271/100-N
Date :	Sept 2021	



Sheet Layout			
21271-100-Q	21271-100-R	21271-100-A	21271-100-B
21271-100-S	21271-100-C	21271-100-D	21271-100-E
	21271-100-F	21271-100-G	21271-100-H
	21271-100-J	21271-100-K	21271-100-L
21271-100-M	21271-100-N	21271-100-P	

LEGEND

BANKING		WALL	
BUSHES & HEDGES		BUILDING	
TREES		OPEN SIDED BUILDING	
GATES		GLASS ROOFED	
		CONTOURS	

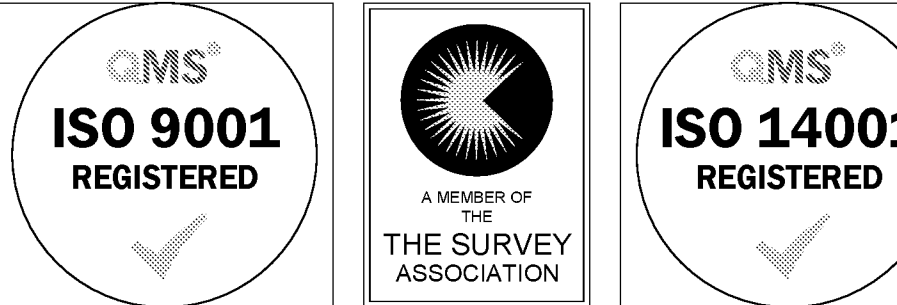
ABBREVIATIONS (WHERE APPLICABLE)

ARCH HEAD HEIGHT	AHH	MARNER	MNR
ARCH HEAD LEVEL	AHL	MONITORING WELL	MW
ARCH SPRINGER HEIGHT	ASH	NOTICE BOARD	NB
ARCH SPRINGER LEVEL	ASL	NAME PLATE	NP
AIR VALVE	AV	OVERHEAD WIRES	OHW
BED LEVEL	BL	PARKING METER	PM
BELISHA BEACON	BB	RIDGE LEVEL	RL
BOLLARD	B	ROOF LEVEL	RL
BRITISH TELECOM BOX	BTB	ROAD SIGN	RS
BRITISH TELECOM MANHOLE	BTMH	RODDING EYE	RE
BRICKWORK	BRWK	RETAINING WALL	RTW
BUS STOP	BS	RAIN WATER PIPE	RWP
CABLE TV	CATV	SLUICE VALVE	SV
COVER LEVEL	CL	STOP COCK	SC
CABLE MARKER	CM	SOFFIT LEVEL	SOF
COLUMN	Col	STRUCTURAL SLAB LEVEL	SSL
CONCRETE POST	CP	TREE STUMP	ST
EAVES LEVEL	EAV	SOIL AND VENT PIPE	SUP
ELECTRICAL COVER	ELEC	THRESHOLD LEVEL	THL
ELECTRICITY CONTROL BOX	ECB	TELEGRAPH POLE	TP
ELECTRICITY POLE	EP	TELEPHONE CALL BOX	TCB
EARTH ROD	ER	TOP OF KERB	TK
FLOWER BED	FB	TURNSTILE	TS
FINISHED FLOOR LEVEL	FFL	TRAFFIC LIGHT	TL
FIRE HYDRANT	FH	TOP OF WALL	TW
FLOOR LEVEL	FL	UNABLE TO LIFT	UTL
FLAG STAFF	FS	UNABLE TO SURVEY	UTS
GAS PIPE	GP	VENT PIPE	VP
GAS VALVE	GV	WATER METER	WM
GULLY	G	WATER LEVEL	WL
GATE STOP	GS	WASH OUT	WO
INSPECTION COVER	IC	WASTE PIPE	WP
INVERT LEVEL	IL	WATER TANK	WT
LAMP POST	LP	WATER VALVE	WV

FENCES

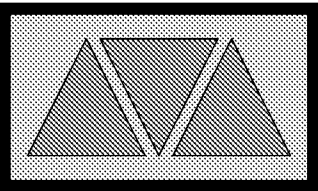
BARBED WIRE FENCE	BWF	LARCH LAP FENCE	LLF
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CHAIN LINK FENCE	CLF	PICKET FENCE	PIF
CHESTNUT PALING FENCE	CPF	POST AND RAIL FENCE	PRF
FENCE POST	FPO	POST AND WIRE FENCE	PWF
INTERWOVEN FENCE	IWF	STEEL PALISADE SECURITY FENCE	SPSF
IRON RAILING FENCE	IRF	TUBULAR STEEL RAIL FENCE	TSRF

REV.	NOTES	DWN	DATE
A	Additional information added to NW of Site - See RevA Layer	LCD	14/12/21



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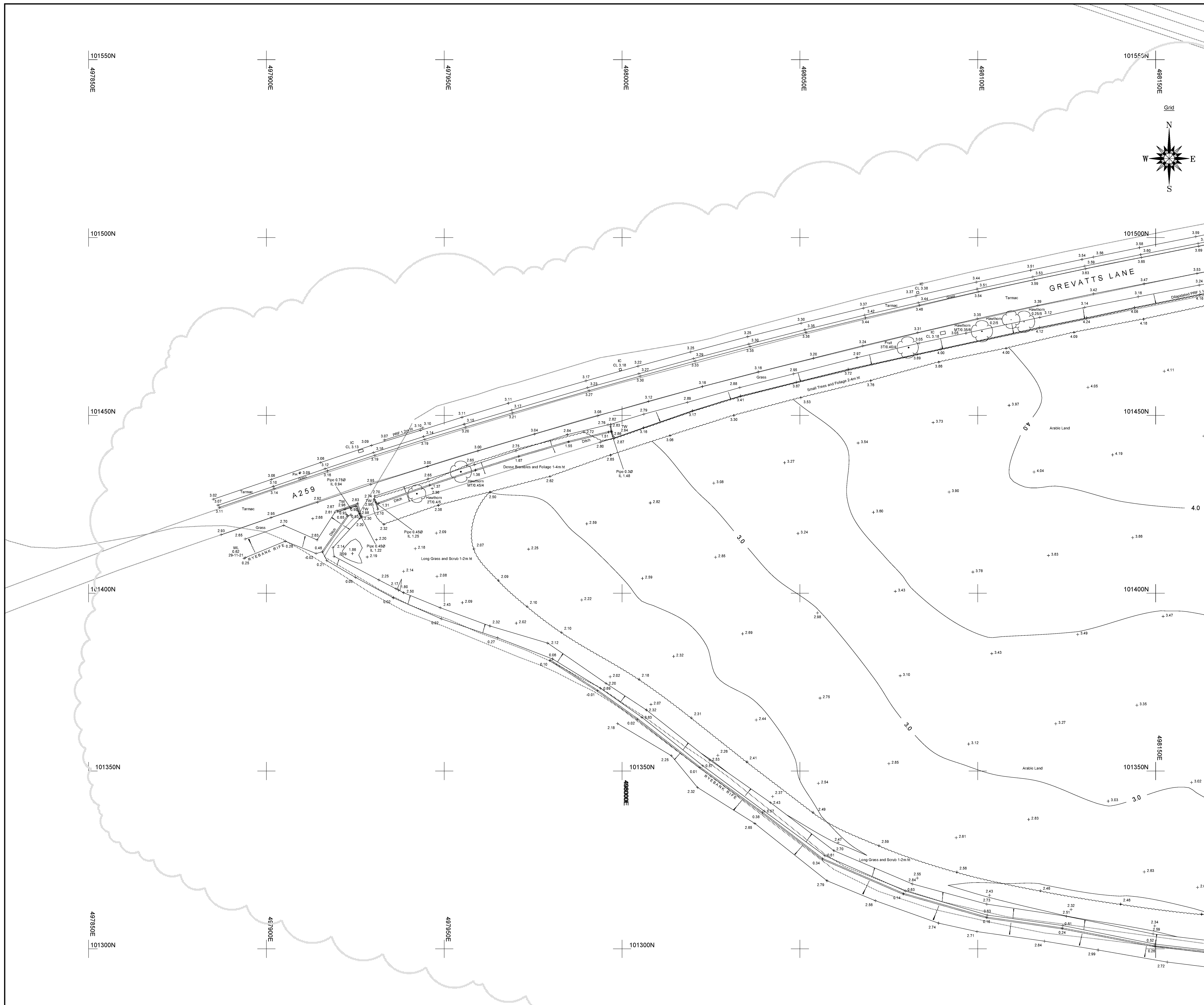


2 QUEENS ROAD
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SURVEYED	LCD	CLIENT
DRAWN	LCD	WSP
CHECKED	AKM	SCALE
		1/500 (A1 Sheet)

Grevatts Lane, Littlehampton, BN17 5RE

TOPOGRAPHICAL SURVEY		
Job No	Rev	Drawing Number
21/271	A	20/271/100-P
Date :	Sept 2021	



Sheet Layout		21271-100-R		21271-100-A		21271-100-B	
21271-100-Q		21271-100-S		21271-100-C		21271-100-D	
21271-100-E		21271-100-F		21271-100-G		21271-100-H	
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21271-100-M		21271-100-N		21271-100-O		21271-100-P	

LEGEND

BANKING

BUSHES & HEDGES

TREES

MT / ST / Q / F
Measure in Mts. 0.2m / 0.5m / 1.0m / 1.5m
 Trunks Thicks. Size of Tree

GATES

Single Double

ABBREVIATIONS (WHERE APPLICABLE)

ARCH HEAD HEIGHT	AHH
ARCH HEAD LEVEL	AHL
ARCH SPRINGER HEIGHT	ASH
ARCH SPRINGER LEVEL	ASL
AIR VALVE	AV
BED LEVEL	BL
BELUSH BEACON	BB
BOLLARD	B
BRITISH TELECOM BOX	BTB
BRITISH TELECOM MANHOLE	BTMH
BRICKWORK	BKWK
BUS STOP	BS
CABLE TV	CATV
COVER LEVEL	CL
CABLE MARKER	CM
COLUMN	COL
CONCRETE POST	CP
EAVES LEVEL	EAV
ELECTRICAL COVER	ELEC
ELECTRICITY CONTROL BOX	ECB
ELECTRICITY POLE	EP
EARTH ROD	ER
FLOWER BED	FB
FINISHED FLOOR LEVEL	FFL
FIRE HYDRANT	FH
FLOOR LEVEL	FL
FLAG STAFF	FS
GAS PIPE	GP
GAS VALVE	GV
GULLY	G
GATE STOP	GS
INSPECTION COVER	IC
INVERT LEVEL	IL
LAMP POST	LP

FENCES

BARBED WIRE FENCE	BWF
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CLOSE BOARD FENCE	CBF
CHAIN LINK FENCE	CLF
CHESTNUT PALING FENCE	CPF
FENCE POST	FPP
INTERWOVEN FENCE	IWF
IRON RAILING FENCE	IRF

WALL

Width shown to scale

BUILDING

OPEN SIDED BUILDING

GLASS ROOFED

CONTOURS

25.50

MARKER

MONITORING WELL	MKR
NOTICE BOARD	NB
NAME PLATE	NP
OVERHEAD WIRES	OHW
PARKING METER	PM
RIDGE LEVEL	RL
ROOF LEVEL	ST
ROAD SIGN	RSD
RODGING EYE	RE
RETAINING WALL	RTW
RAIN WATER PIPE	RWP
STOP COOK	STOP
SOFFIT LEVEL	SOF
STRUCTURAL SLAB LEVEL	SSL
TREE STUMP	TS
SOIL AND VENT PIPE	SVP
THRESHOLD LEVEL	THL
TELEGRAPH POLE	TP
TELEPHONE CALL BOX	TCB
TOP OF KERB	TK
TURNSTILE	TS
TRAFFIC LIGHT	TL
TOP OF WALL	TW
UNABLE TO LIFT	UTL
UNABLE TO SURVEY	UTS
VENT PIPE	VP
WATER METER	WM
WATER LEVEL	WL
WASH OUT	WO
WASTE PIPE	WP
WATER TANK	WT
WASTE PIPE	WP
WATER TANK	WT
WASTE PIPE	WP
STEEL PAL-GADE SECURITY FENCE	SPSF
TUBULAR STEEL RAIL FENCE	TSRF

REV.	NOTES	DWN	DATE
A	Additional information added to NW of Site - See RevA Layer	LCD	14/12/21



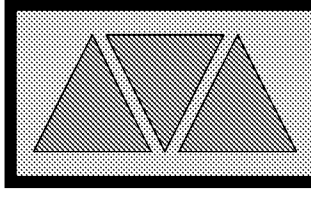




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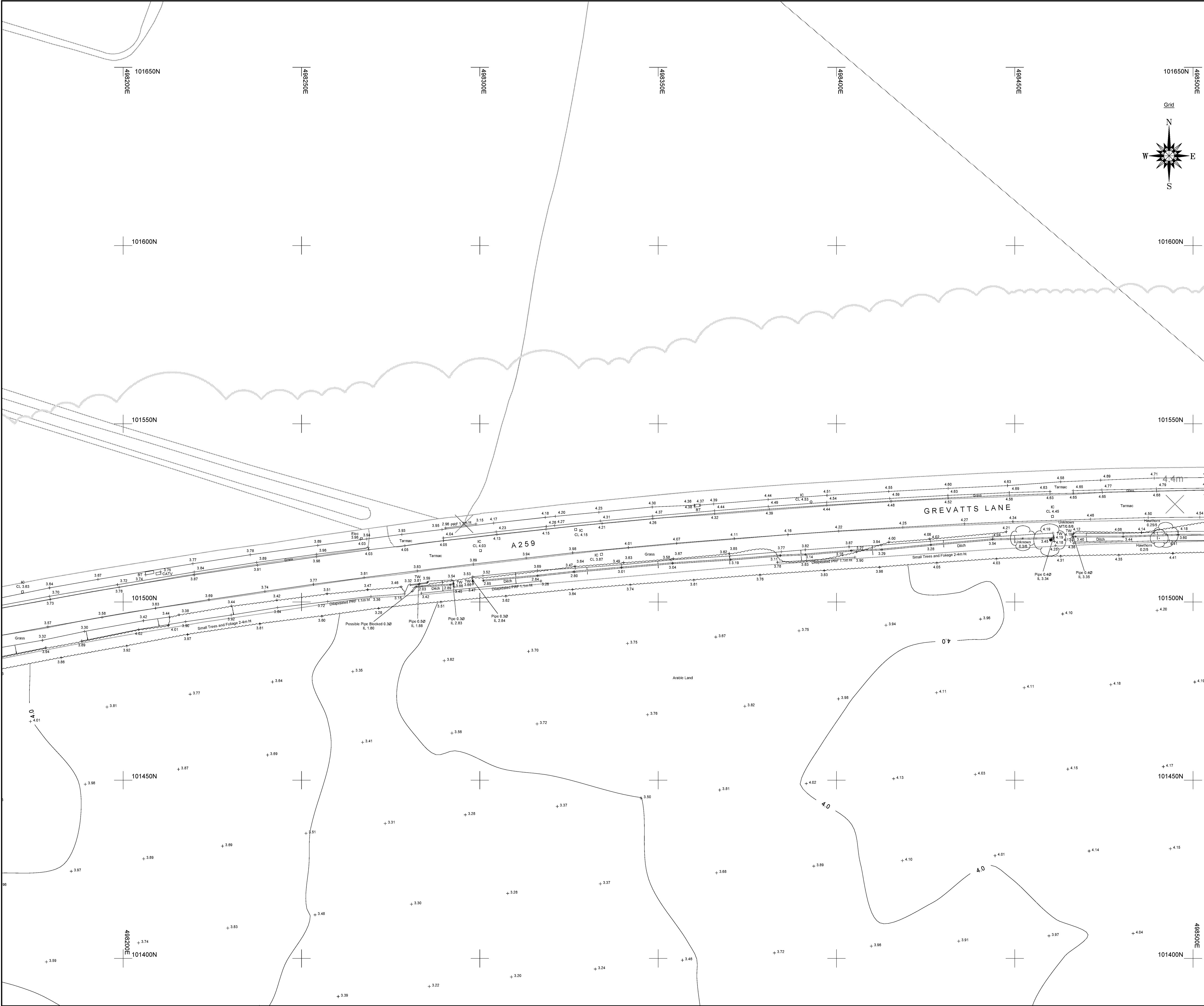
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DRAWN	LCD	WSP
CHECKED	AKM	
		SCALE
		1/500 (A1 Sheet)

Grevatts Lane, Littlehampton, BN17 5RE

TOPOGRAPHICAL SURVEY

Job No	Rev	Drawing Number
21/271	A	20/271/100-Q

Date : Sept 2021



Sheet Layout

21271-100-Q	21271-100-R	21271-100-A	21271-100-B
21271-100-S	21271-100-C	21271-100-D	21271-100-E
	21271-100-F	21271-100-G	21271-100-H
	21271-100-J	21271-100-K	21271-100-L
	21271-100-M	21271-100-N	21271-100-P

LEGEND

BANKING: Top, Bottom

BUSHES & HEDGES: [Symbol]

TREES: MT / 3T / 0.2 / 6

GATES: Single, Double

WALL: [Symbol]

BUILDING: [Symbol]

OPEN SIDED BUILDING: [Symbol]

GLASS ROOFED: [Symbol]

CONTOURS: 20.00

ABBREVIATIONS (WHERE APPLICABLE)

ARCH HEAD HEIGHT	AHH	MARNER	MNR
ARCH HEAD LEVEL	AHL	MONITORING WELL	MM
ARCH SPRINGER HEIGHT	ASH	NOTICE BOARD	NB
ARCH SPRINGER LEVEL	ASL	NAME PLATE	NP
AIR VALVE	AV	OVERHEAD WIRES	OHV
BED LEVEL	BL	PARKING METER	PM
BELISHA BEACON	BB	RIDGE LEVEL	RL
BOLLARD	B	ROOF LEVEL	RL
BRITISH TELECOM BOX	BTB	ROAD SIGN	RS
BRITISH TELECOM MANHOLE	BTMH	RODDING EYE	RE
BRICKWORK	BRWK	RETAINING WALL	RTW
BUS STOP	BS	RAIN WATER PIPE	RWP
CABLE TV	CATV	SLUICE VALVE	SV
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COLUMN	Col	STRUCTURAL SLAB LEVEL	SSL
CONCRETE POST	CP	TREE STUMP	ST
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ELECTRICITY POLE	EP	TELEPHONE CALL BOX	TCB
EARTH ROD	ER	TOP OF KERB	TK
FLOWER BED	FB	TURNSTILE	TS
FINISHED FLOOR LEVEL	FFL	TRAFFIC LIGHT	TL
FIRE HYDRANT	FH	TOP OF WALL	TW
FLOOR LEVEL	FL	UNABLE TO LIFT	UTL
FLAG STAFF	FS	UNABLE TO SURVEY	UTS
GAS PIPE	GP	VENT PIPE	VP
GAS VALVE	GV	WATER METER	WM
GULLY	G	WATER LEVEL	WL
GATE STOP	GS	WASH OUT	WO
INSPECTION COVER	IC	WASTE PIPE	WP
INVERT LEVEL	IL	WATER TANK	WT
LAMP POST	LP	WATER VALVE	WV

FENCES

BARBED WIRE FENCE	BWF	LARCH LAP FENCE	LLF
CORRUGATED IRON FENCE	CIF	METAL RAILING FENCE	MRF
CLOSE BOARD FENCE	CBF	POST AND CHAIN FENCE	PCF
CHAIN LINK FENCE	CLF	PICKET FENCE	PIF
CHESTNUT PALING FENCE	CPF	POST AND RAIL FENCE	PRF
FENCE POST	FPO	POST AND WIRE FENCE	PWF
INTERWOVEN FENCE	IWF	STEEL PALISADE SECURITY FENCE	SPSF
IRON RAILING FENCE	IRF	TUBULAR STEEL RAIL FENCE	TSRF

REV. NOTES

A	Additional information added to NW of Site - See RevA Layer	DWN	DATE
		LCD	14/12/21

ISO 9001 REGISTERED

ISO 14001 REGISTERED

Notes:

Grid and levels relate to OS GPS Active Network.
Sheet is North orientated.
Ditch areas heavily overgrown, levels taken where access could be gained.
OS Mapping included for inaccessible areas (Shown in blue)

Maltby Surveys Ltd

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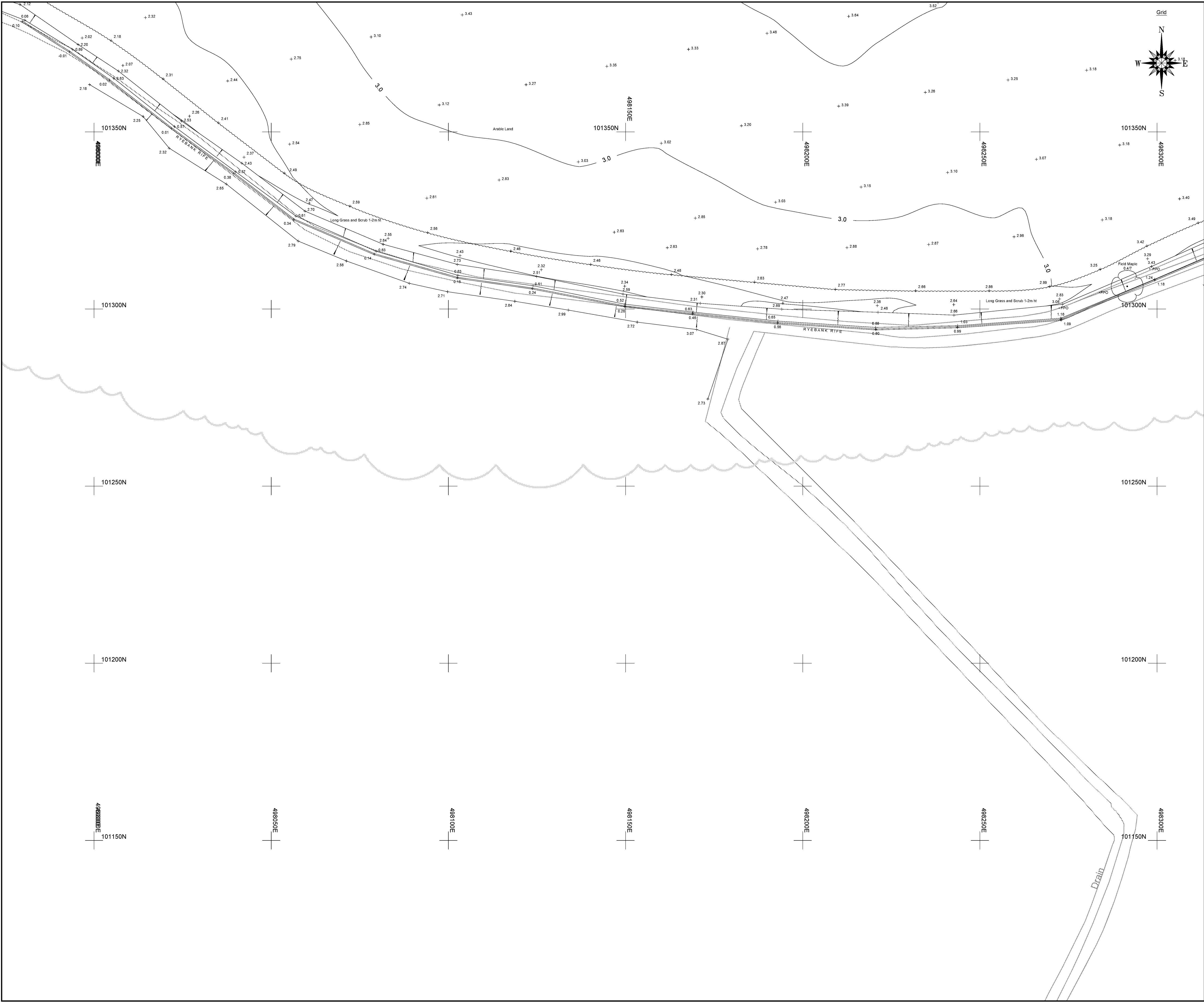
SURVEYED	LCD	CLIENT
DRAWN	LCD	WSP
CHECKED	AKM	SCALE
		1/500 (A1 Sheet)

Grevatts Lane, Littlehampton, BN17 5RE

TOPOGRAPHICAL SURVEY

Job No	Rev	Drawing Number
21/271	A	20/271/100-R

Date : Sept 2021



Sheet Layout

21271-100-G	21271-100-R	21271-100-A	21271-100-B
21271-100-S	21271-100-C	21271-100-D	21271-100-E
	21271-100-F	21271-100-G	21271-100-H
	21271-100-J	21271-100-K	21271-100-L
	21271-100-M	21271-100-N	21271-100-P

LEGEND

BANKING

BUSHES & HEDGES

TREES

MT / 3T / 0.2 / 6

GATES

Single Double

WALL

WALLS shown to scale 0.23m

BUILDING

OPEN SIDED BUILDING

GLASS ROOFED

CONTOURS

20.00

ABBREVIATIONS (WHERE APPLICABLE)

ARCH HEAD HEIGHT	AHH	MARNER	MNR
ARCH HEAD LEVEL	AHL	MONITORING WELL	MW
ARCH SPRINGER HEIGHT	ASH	NOTICE BOARD	NB
ARCH SPRINGER LEVEL	ASL	NAME PLATE	NP
AIR VALVE	AV	OVERHEAD WIRES	OHW
BED LEVEL	BL	PARKING METER	PM
BELISHA BEACON	BB	RIDGE LEVEL	RL
BOLLARD	B	ROOF LEVEL	RL
BRITISH TELECOM BOX	BTB	ROAD SIGN	RS
BRITISH TELECOM MANHOLE	BTMH	RODDING EYE	RE
BRICKWORK	BRWK	RETAINING WALL	RTW
BUS STOP	BS	RAIN WATER PIPE	RWP
CABLE TV	CATV	SLUICE VALVE	SV
COVER LEVEL	CL	STOP COCK	SC
CABLE MARKER	CM	SOFT LEVEL	SOF
COLUMN	Col	STRUCTURAL SLAB LEVEL	SSL
CONCRETE POST	CP	TREE STUMP	ST
EAVES LEVEL	EAV	SOIL AND VENT PIPE	SUP
ELECTRICAL COVER	ELEC	THRESHOLD LEVEL	THL
ELECTRICITY CONTROL BOX	ECB	TELEGRAPH POLE	TP
ELECTRICITY POLE	EP	TELEPHONE CALL BOX	TCB
EARTH ROD	ER	TOP OF KERB	TK
FLOWER BED	FB	TURNSTILE	TS
FINISHED FLOOR LEVEL	FFL	TRAFFIC LIGHT	TL
FIRE HYDRANT	FH	TOP OF WALL	TW
FLOOR LEVEL	FL	UNABLE TO LIFT	UTL
FLAG STAFF	FS	UNABLE TO SURVEY	UTS
GAS PIPE	GP	VENT PIPE	VP
GAS VALVE	GV	WATER METER	WM
GULLY	G	WATER LEVEL	WL
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