



ODYSSEY

DEVELOPING JOURNEYS

EAST HORTON GOLF CLUB, HAMPSHIRE

FLOOD RISK ASSESSMENT



EAST HORTON GOLF CLUB, HAMPSHIRE

**FLOOD RISK ASSESSMENT
ON BEHALF OF EAST HORTON GOLF CLUB**

Prepared by

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DOCUMENT CONTROL SHEET

Project Name East Horton Golf Club, Hampshire

Project No. 24-083

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1.0 INTRODUCTION

1.1.1 Odyssey has been commissioned by East Horton Golf Club. to undertake a Flood Risk Assessment (FRA), to be submitted in association with a planning application for proposed major improvement works to part of the existing Golf Course.

1.1.2 The development proposals comprise two phases and would be submitted as part of a hybrid planning application. Phase 1 is located within Eastleigh Borough and Phase 2 is within Winchester District, with the boundary between the two established by a watercourse. The application would be submitted jointly to Eastleigh Borough Council (EBC) and Winchester City Council (WCC).

Phase 1 (Greenland Course)

1.1.3 The application would seek full planning approval for Phase 1. The proposals consist of:

- The closure and re-planting of the first fairway.
- A new first tee box and new first fairway along the existing driving range.
- An improved 18th green.
- The closure of the existing driving range, reprofiling to create a swale and landform, and replanting. This is to create a new garden, walkway and wildlife areas to the new first fairway.
- Accessibility improvements.
- Alleviation of waterlogging and poor drainage.

Phase 2 (Parkland Course)

1.1.4 The application would seek outline planning approval for Phase 2. The proposals consist of:

- The closure of holes 14, 15 and 18.
- Reprofiling and landscaping to create a new 300-yard driving range.
- The creation of swales and drainage provisions to reduce waterlogging.
- The construction of a new driving range building.

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

1.1.6 This report sets out the main flood risks to the site and those that may arise as a result of the development. It also demonstrates the principles of surface water management at the site.



1.1.7 This report comprises the following elements:

- **Section 2.0** reviews the existing site conditions including the geology, hydrology and existing drainage regime of the site.
- **Section 3.0** summarises relevant planning policy.
- **Section 4.0** assesses the existing flood risk to the site.
- **Section 5.0** considers Sequential and Exception tests.
- **Section 6.0** summarises the surface water drainage strategy.
- **Section 7.0** summarises and concludes this FRA.



2.0 EXISTING SITE CONDITIONS

2.1 *Location*

2.1.1 The 105.52 hectare (ha) site is located approximately 1.4 kilometres (km) to the south-east of Fair Oak and approximately 1.3km to the north-east of Horton Heath. The site is bounded by the B3037 Mortimers Lane to the north, Greenwood Lane and greenfield land to the east, Durley Road and greenfield land to the south, and greenfield land to the west. The site currently comprises a golf course and greenfield land.

2.1.2 Phase 1 is an area of 7.58ha within the 105.52ha boundary. Phase 1 is bounded by in the existing golf club buildings to the north, part of the golf course to the east, woodland to the south, and greenfield land to the west.

2.1.3 Phase 2 is an area of 5.88ha within the 105.52ha boundary. Phase 2 is bounded by part of the golf course to the north, west and south-west, by greenfield land to the east, and Greenwood Lane to the south-east.

2.1.4 The Ordnance Survey grid reference for the site is 450856E, 118315N and the nearest postcode is SO50 7EA. The site location plan is presented in **Appendix A** alongside the proposed site layout.

2.2 *Topography*

2.2.1 The topographical survey for Phase 1 shows the site falls from north to south. The levels range from 42.57 metres Above Ordnance Datum (m AOD) in the north to 34.04m AOD in the south.

2.2.2 The topographical survey for Phase 2 shows the site falls from south to north-west. The levels range from 55.00m AOD in the south to 36.33m AOD in the north west.

2.2.3 The topographical data is presented in **Appendix B**.

2.3 *Geology and Hydrogeology*

2.3.1 British Geological Survey (BGS) online mapping (accessed February 2025) shows the bedrock geology of the site comprises London Clay Formation (clay, silt and sand). The mapping also shows the presence of Durley Sand Member as well as Whitecliff Sand Member. There are no superficial deposits within the vicinity of the site. BGS mapping is presented in **Appendix C**.



2.3.2 Environment Agency (EA) online mapping indicates the nearest 'Main River' is a tributary of the Ford Lake, which flows along the eastern site boundary within the northern half of the site, and along the western site boundary within the southern half of the site.

2.3.3 BGS hydrogeology mapping shows the site lies within the Thames Group, described as *"rocks with essentially no groundwater"*, and summarised as *"Predominantly clayey sequence up to 140 m thick confining underlying aquifers. Occasional springs at base have very hard water."*

2.3.4 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 existing public surface water or foul sewers within the site boundary. There is an existing public foul water sewer located to the west of the site, flowing by gravity from the north to the south, serving the residential area to the north-west. Southern Water sewer records are presented in **Appendix D**.



3.0 PLANNING POLICY

3.1 *Flood and Water Management Act (2010)*

3.1.1 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.

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

3.1.3 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.

3.2 *National Planning Policy Framework (2024)*

3.2.1 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 3.3** provides further detail on the PPG.

3.2.2 Paragraph 170 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."*

3.2.3 Paragraph 172 of the NPPF states *"All plans should apply a sequential, risk-based approach to the location of development – taking into account all sources of flood risk and the current and future impacts of climate change – so as to avoid, where possible, flood risk to people and property."*

3.2.4 Paragraph 181 of the NPPF states *"When determining any 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.”*

3.2.5 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 ha 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.

3.3 Planning Practice Guidance (2022)

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

3.3.2 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 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 the LPAs in the SFRA).

3.3.3 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.

3.4 Hampshire Local Flood Risk Management Strategy

3.4.1 The Hampshire Local Flood Risk Management Strategy (LFRMS) sets out strategic priorities for the County Council which include:

- *“Promoting and encouraging the use of surface water SuDS techniques above the use of underground pipes and storage.*
- *Ensuring that post development run off rates and volumes are equal to or less than pre- development amounts.*
- *Ensuring sufficient attenuation of surface water flood water, up to a 1 in 100 year event plus the appropriate extra percentage for expected climate change is provided.*
- *Ensuring that the drainage system consider the required water quality and is designed appropriately for the development use and the associated discharge point, including the wider sensitivity of those locations.*
- *Ensuring Local Planning Authorities are aware of historic flood events in the area including surface water and groundwater events.*
- *Ensuring that responsibility and processes for ongoing maintenance of SuDS are considered in the planning process.”*

3.5 Adopted Eastleigh Borough Local Plan (2016 – 2036)

3.5.1 Policy DM5 addresses managing flood risk. The policy states that development would only be permitted within areas at risk of flooding where the following criteria are met:

- *It meets the sequential and exception test (where required) as outlined in Government guidance;*
- *A site-specific flood risk assessment demonstrates that the development, including the access, will be safe without increasing flooding elsewhere, and where possible, will reduce flood risk overall;*



- *The scheme incorporates flood protection, food resilience and resistance measures appropriate to the character and biodiversity of the area and the specific requirements of the site and where appropriate takes advantages of opportunities to utilise natural flood management techniques;*
- *Appropriate flood warning and evacuation plans are in place; and*
- *New site drainage systems are designed taking into account of events which exceed the normal design standard.*

3.6 *Adopted Winchester District Local Plan Joint Core Strategy*

3.6.1 Policy CP17 addresses managing flood risk. The policy states that the local planning authority will support development which meets all the following flood risk criteria:

- *“Avoids flood risk to people and property by:-*
- *Applying a Sequential Test location, and Exception Test if required, and applying the sequential approach at the site level;*
- *Managing flood risk from new development to ensure risk is not increased elsewhere and that opportunities to reduce the causes and impacts of flooding within the District through development are taken;*
- *Safeguarding land and designated structures and features from development that is required for current and future flood management;*
- *Including sustainable water management systems such as Sustainable Drainage Systems (SuDS) which should be designed to meet the relevant standards so as to gain approval by the SuDS Approval Body.”*



4.0 SOURCES OF FLOOD RISK

4.1 *Fluvial Flooding*

4.1.1 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.

4.1.2 The EA Flood Map for Planning currently shows the majority of Phases 1 and 2 are located in Flood Zone 1. There are narrow extents along the south-eastern boundary of Phase 1 located within Flood Zones 2 and 3, associated with the Main River. Similarly, there are narrow extents along the north-western boundary of Phase 2 located within Flood Zones 2 and 3 associated with the Main River. The flood risk vulnerability classification of buildings used for outdoor sports and recreation 'water compatible development'. In accordance with the PPG, development of this nature within Flood Zones 1, 2 and 3 is acceptable. The EA Flood mapping is presented in **Appendix E**

4.1.3 The Eastleigh Borough Council (EBC) Strategic Flood Risk Assessment (SFRA) recorded flood outlines map indicates there have been no previous fluvial flood events within the vicinity of the site.

4.1.4 The proposals are for land located within Flood Zone 1, and to ensure that existing water crossings have been reused within the proposals, new crossings and/or new access within Flood Zones would be avoided. No works would be undertaken within Flood Zones 2 and 3.

4.1.5 The risk of fluvial flooding should be considered low.

4.2 *Surface Water Flooding*

4.2.1 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.

4.2.2 The EA Long Term Flood Risk mapping shows both Phases 1 and 2 are at very low risk of flooding from surface water for both the present day and future climate change projections, as shown in **Appendix F**.



4.2.3 The development would be considered to be at low risk of flooding.

4.3 Groundwater Flooding

4.3.1 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.

4.3.2 The areas susceptible to groundwater flooding map in the EBC SFRA indicates the site is located in an area where the susceptibility to groundwater flooding is less than 25%.

4.3.3 The risk of groundwater flooding should be considered low.

4.4 Sewer Flooding

4.4.1 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.

4.4.2 According to Southern Water sewer records, there are no existing sewers within the site boundary.

4.4.3 The risk of sewer flooding should be considered low.

4.5 Flooding from Artificial Sources

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

4.5.2 The EA and EBC SFRA Flood Risk from Reservoirs mapping indicates there are no areas susceptible to flooding from reservoirs at the site. The EA Flood Risk from Reservoirs mapping is presented in **Appendix F**.

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



5.0 THE SEQUENTIAL AND EXCEPTION TEST

5.1 *The Sequential Test*

5.1.1 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 and low flood risk areas.

5.1.2 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 a lower probability of flooding. The SFRA will provide the basis for applying this test.

5.1.3 The entire development extents are located in Flood Zone 1 and are deemed to be at low risk of flooding from groundwater, sewers and reservoirs. The two phases are also deemed to be a low risk of flooding from surface water. Owing to this, a Sequential Test is not required.

5.2 *The Exception Test*

5.2.1 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.

The entire development extents are located in Flood Zone 1 and is deemed to be at low risk of flooding from groundwater, sewers and reservoirs. The site is also deemed to be a low risk of flooding from surface water. Owing to this, an Exception Test is not required.



6.0 SURFACE WATER DRAINAGE STRATEGY

6.1 *Surface Water Drainage Strategy Requirements*

6.1.1 Any surface water drainage strategy must demonstrate that 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.

6.2 *Proposed Surface Water Drainage Strategy*

6.2.1 The indicative surface water drainage strategy described below is outlined in **Drawing 24-083-101**. The drainage strategy for Phase 1 is presented in **Drawing 24-083-102** and the drainage strategy for Phase 2 is presented in **Drawing 24-083-103**.

6.2.2 As set out in **Section 3.3**, the drainage hierarchy states that the most-preferred method of surface water discharge is 'infiltration into the ground'. Owing to the underlying geology, it is anticipated infiltration would be unlikely.

6.2.3 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 from the development would drain to the Main River.

6.2.4 It is proposed that surface water generated by Phases 1 and 2 would be attenuated in swales along the edge of the site, remaining outside of Flood Zones 2 and 3. Flows from the swales would be restricted to greenfield runoff rates before being discharged to the adjacent river. This would ensure that surface water runoff is not increased as a result of the development.

6.3 *SuDS Maintenance Requirements*

6.3.1 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.

6.3.2 Maintenance would be the responsibility of the developer to assign, however the '*operation and maintenance requirements for ponds and wetlands*' table has been extracted from The SuDS Manual and is presented in **Appendix F**.



7.0 SUMMARY AND CONCLUSIONS

7.1 *General*

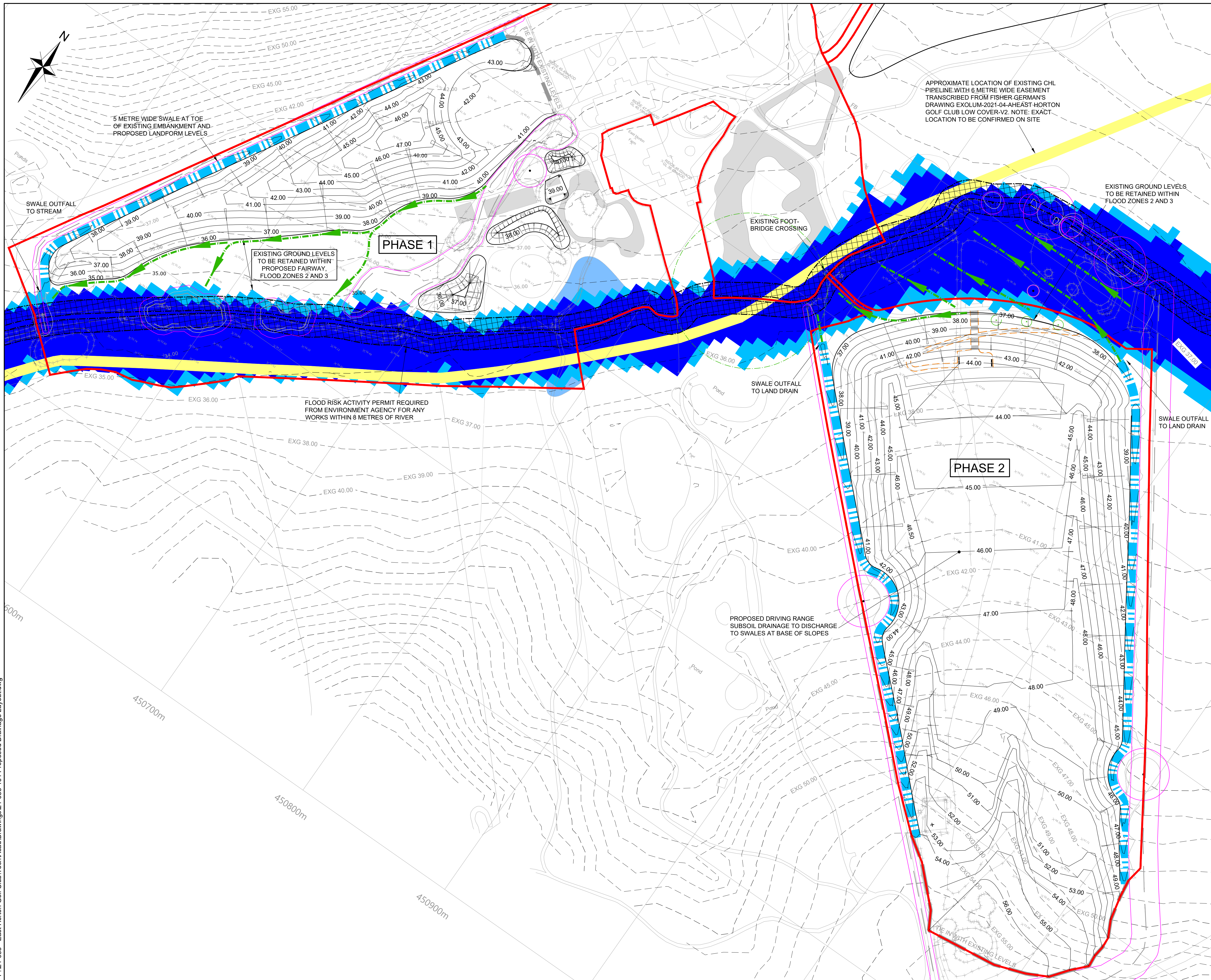
7.1.1 Odyssey has been commissioned by East Horton Golf Club to provide an FRA and drainage strategy, to be submitted in association with a full planning application for Phase 1 and an outline planning application for Phase 2 for proposed redevelopment at East Horton Golf Club.

7.1.2 Based on the EA data, the majority of Phases 1 and 2 are located within Flood Zone 1. There are narrow areas along the site boundaries, adjacent to the Main River, located within Flood Zones 2 and 3. The proposed works would only be undertaken within Flood Zone 1, and no changes would be made within Flood Zones 2 and 3. The EA Long Term Flood Risk Mapping shows both Phase 1 and 2 at very low risk of flooding for both present day and future climate change projections..

7.1.3 Infiltration is anticipated to be unlikely on-site, therefore it is proposed that surface water generated by the proposed development would be attenuated in swales to the edges of Phase 1 and Phase 2, remaining outside of Flood Zone 2 and 3. Flows from the swales would be restricted to greenfield runoff rates before being discharged to the adjacent river. This would ensure that surface water runoff is not increased as a result of the development.

7.1.4 This FRA demonstrates that the proposed development can 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 DRAWINGS AND DOCUMENTS ISSUED FOR THIS PLANNING APPLICATION.

2. FOR DRAINAGE DETAILS REFER TO DRAWINGS:
a) 24-083-102 FOR PHASE 1
b) 24-083-103 FOR PHASE 2

3. PROPOSED CONTOURS SHOWN AT 1 METRE VERTICAL INTERVALS.

4. DRAINAGE LAYOUT AND DETAILS SUBJECT TO DETAILED DESIGN.

DRAINAGE AND CONSTRAINTS LEGEND

5 METRE WIDE ENHANCED SWALE. REFER TO GENERAL NOTE 2.

LAND FILTER DRAINAGE - SEE NOTE 2.

PROPOSED CONTOUR WITH LEVEL - SEE NOTE 3.

PROPOSED RETAINING WALL TO FOOTWAY ACCESS

APPROXIMATE LOCATION OF CLH PIPELINE TAKEN FROM RECORDS AS NOTED ON PLAN.
6 METRE EASEMENT MEASURED 3 METRES EITHER SIDE OF PIPELINE CENTRE AS STATED IN CLH PIPELINE SYSTEMS LTD "STANDARDS REQUIREMENTS FOR CROSSING OR WORKING WITHIN CLOSE PROXIMITY TO CLH-PS PIPELINES"

8 METRE FLOOD RISK ACTIVITY ZONE OFF EXISTING RIVER EMBANKMENT (E.A.)

EXISTING FLOOD ZONE 2 (ENVIRONMENT AGENCY (EA) MAPPING)

EXISTING FLOOD ZONE 3 (EA MAPPING)

EXISTING RETAINED TREE ROOT PROTECTION AREA TAKEN FROM ARBOR-ECO CONSULTANCY DRAWING MB240602-01-01 A

EXISTING TREE RETAINED TO ARBOR-ECO CONSULTANCY DETAILS

EXISTING CONTOUR (AT 1 METRE VERTICAL CENTRES)

EXISTING GROUND LEVEL

APPLICATION BOUNDARY

FOR PLANNING PURPOSES ONLY

Rev	Amendments	Dm	Chk	App	Date

ODYSSEY

Unit 1 Pucknall Farm
Dorset Lane
Brainfield
Romsey SO51 0QJ

Telephone: 01794 537880
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Job Title

EAST HORTON GOLF CLUB
HAMPSHIRE

Drawing Title

PROPOSED DRAINAGE
LAYOUT

Client

EAST HORTON GOLF CLUB

Scale

1:1000 @A1

Date

FEB 25

Designed

RP

Drawn

RP

Checked

RP

Approved

BAC

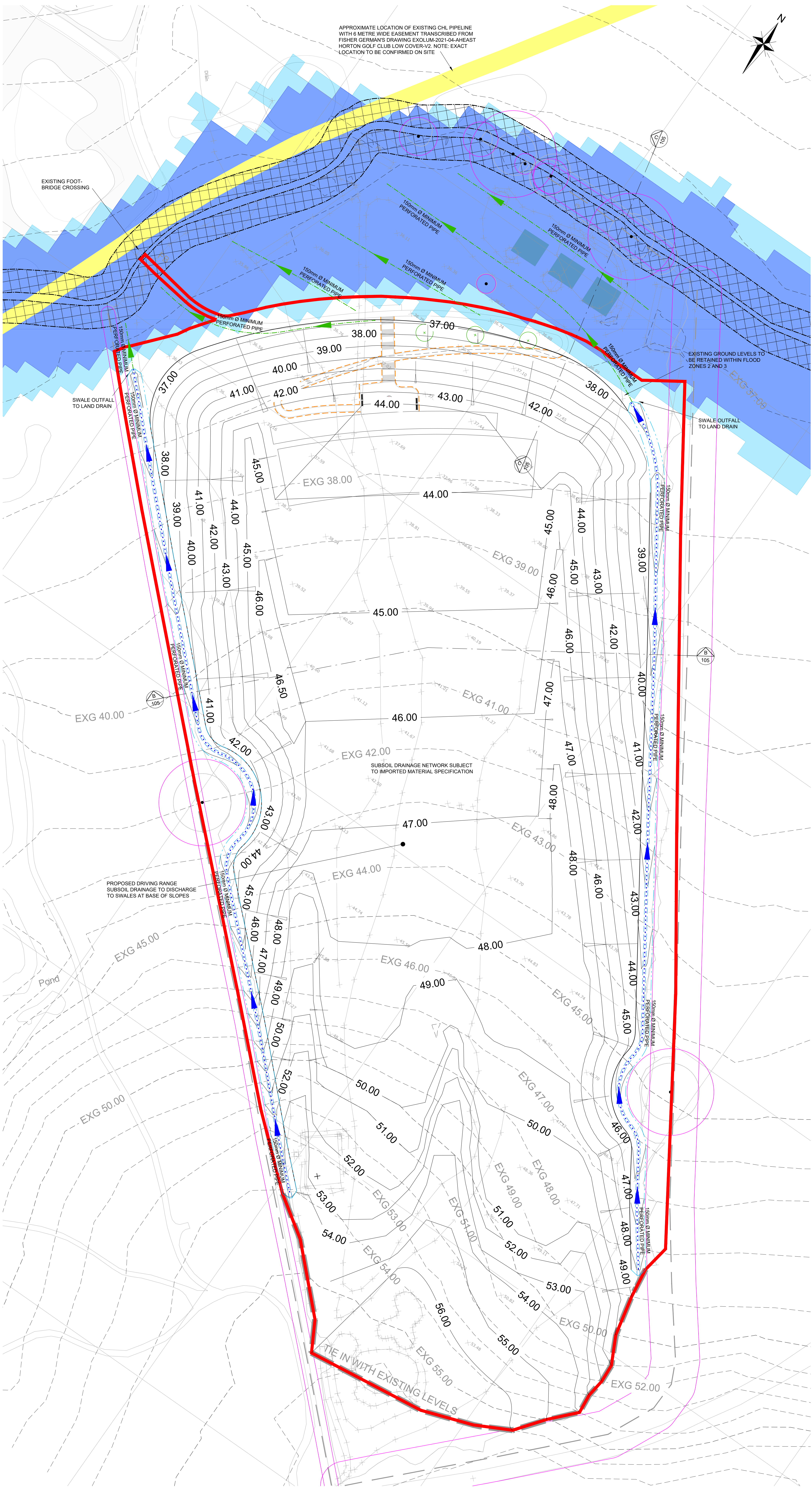
Job No

24-083

Drawing No

24-083-101

Rev



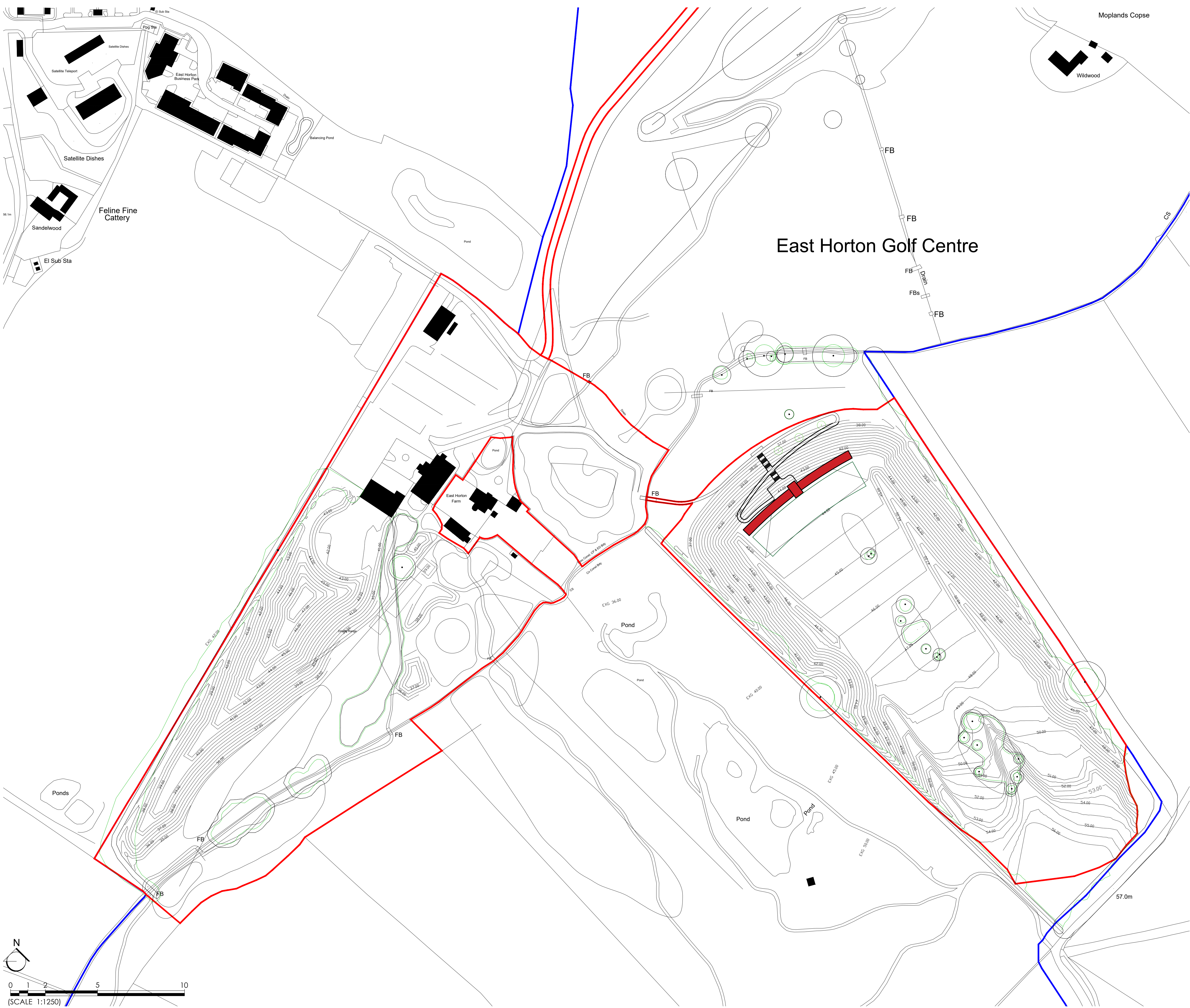
- NOTES
1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS AND DOCUMENTS ISSUED FOR THIS PLANNING APPLICATION.
 2. FINAL DRAINAGE LAYOUT AND DETAILS SUBJECT TO DETAILED DESIGN AND SPECIFICATION OF FILL TO BE OF CLEAN IMPORTED MATERIAL.
 3. PROPOSED CONTOURS SHOWN AT 1 METRE VERTICAL INTERVALS.
- DRAINAGE AND CONSTRAINTS LEGEND**
- PERFORATED FILTER DRAIN WITHIN 5 METRE WIDE SWALE WITH FALL TO EXISTING STREAM.
 - LAND FILTER DRAIN WITH FALL TO EXISTING STREAM.
 - PROPOSED CONTOUR WITH LEVEL - SEE NOTE 3.
 - PROPOSED RETAINING WALL TO FOOTWAY ACCESS
 - APPROXIMATE LOCATION OF CLH PIPELINE TAKEN FROM RECORDS AS NOTED ON PLAN. 6 METRE EASEMENT MEASURED 3 METRES EITHER SIDE OF PIPELINE CENTRE AS STATED IN CLH PIPELINE SYSTEMS LTD "STANDARDS REQUIREMENTS FOR CROSSING OR WORKING WITHIN CLOSE PROXIMITY TO CLH-PS PIPELINES"
 - 8 METRE FLOOD RISK ACTIVITY ZONE OFF EXISTING RIVER EMBANKMENT (E.A.)
 - EXISTING FLOOD ZONE 2 (ENVIRONMENT AGENCY (EA) MAPPING)
 - EXISTING FLOOD ZONE 3 (EA MAPPING)
 - EXISTING RETAINED TREE ROOT PROTECTION AREA TAKEN FROM ARBOR-ECO CONSULTANCY DRAWING MB240602-01-01 A
 - EXISTING TREE RETAINED TO ARBOR-ECO CONSULTANCY DETAILS
 - EXISTING CONTOUR (AT 1 METRE VERTICAL CENTRES)
 - EXISTING GROUND LEVEL
 - PHASE 2 BOUNDARY
 - SECTION LOCATION - SEE DRAWING NUMBER FOR DETAILS

FOR PLANNING PURPOSES ONLY

Rev	Amendments	Des	CHK	App	Date
 ODYSSEY					
Tisbury House 1000 West Lane Basingstoke Hampshire RG21 4AP					
Telephone: 01256 321144 Fax: 01256 321144 Email: info@odysseyconsult.co.uk Web: www.odysseyconsult.co.uk					
Job Title					
EAST HORTON GOLF CLUB HAMPSHIRE					
Drawing Title					
PROPOSED PHASE 2 DRAINAGE LAYOUT					
Client					
EAST HORTON GOLF CLUB					
Scale	Date	Designed			
1:500 @A0	EB 25	RP			
Drawn	Checked	Approved			
RP	RP	BAC			
Job No	Drawing No				
24-083	24-083-103				

APPENDIX A

Site Location Plan and Site Layout



GENERAL NOTES:

1. This drawing is the copyright of KSA Architects Ltd and may not be copied, altered or reproduced in any form or passed on to a third party without written consent. If in doubt ASK.
2. This drawing has been produced as a guide, and is subject to further detailed information being provided, including but not limited to a full topographical survey, service enquires and an arboriculture study.

- KEY
- OWNERSHIP BOUNDARY
 - APPLICATION SITES
 - Proposed Driving Range

C	19.02.25	New Driving Range Indicative footprint amended.	CG	DRK
B	12.02.25	Phase 1 area reduced & Red line amended	CG	DRK
A	31.01.25	Formal issue	CG	DRK
WIP	31.01.25	Graphical & co-ordinate points fixed	CG	
WIP	30.01.25	First issue	CG	--
Rev	Date	Description	Rev By	Ckd By



Client
EAST HORTON GOLF COURSE

Project
East Horton Golf Course

Drawing Title
PHASING PLAN
Phase 1 & 2

Drawing Status
PRELIMINARY

Document Ref.
1317 PL100

Scale
1:1250 @A1

Revision
C

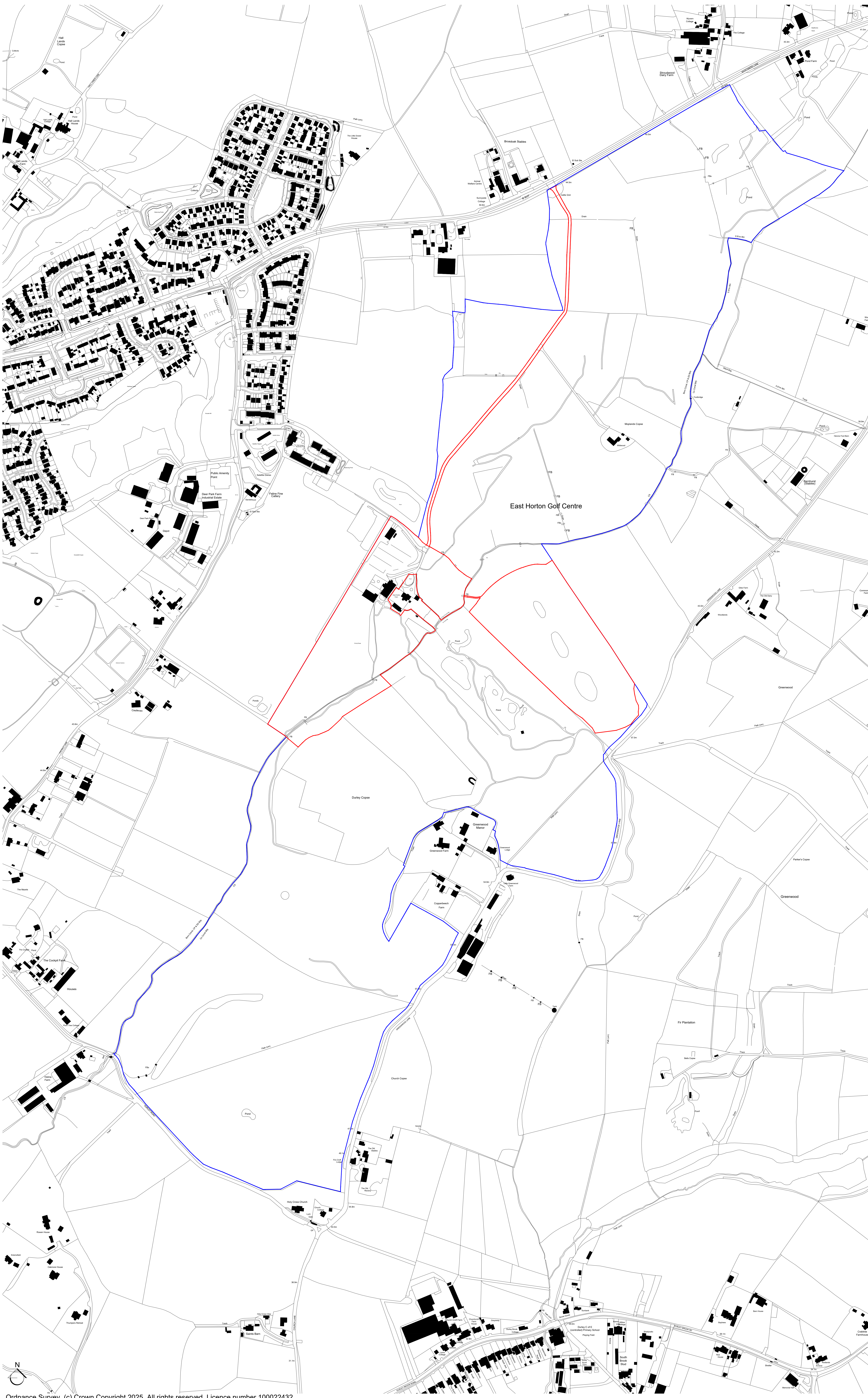
Drawn By
CG

RIBA KSA Architects Ltd. Concept House 35 Kingston Crescent, North End Portsmouth, Hampshire, PO2 8AA Phone: 023 9267 3618 Email: info@ksaltd.co.uk Web: www.ksaltd.co.uk

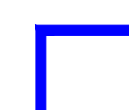
Chartered Practice

GENERAL NOTES:

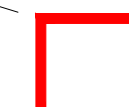
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KEY



OWNERSHIP BOUNDARY



APPLICATION SITES

C	19.02.25	Phase Hatching removed	CG	DRL
B	12.02.25	Phase 1 area reduced & Red line amended	CG	DRK
A	31.01.25	Formal Issue	CG	DRK
WIP	30.01.25	Phase 1 application line amended	CG	--
WIP	29.01.25	Amended as per sketch comments	CG	--
WIP	28.01.25	First issue	CG	--
Rau	Date	Description	Rau By	Cyfl Bu



The people
orientated
placemakers.

Client

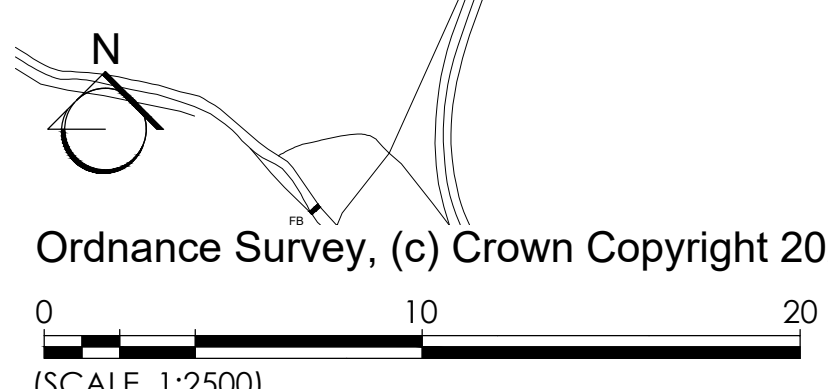
EAST HORTON GOLF COURSE

Project East Horton Golf Course

Drawing Title
LOCATION PLAN /
ESTATE PLAN

Drawing Status		Scale
PRELIMINARY		1:2500 @ A0
Document Ref.	Revision	Drawn By
1317 PL001	C	CG

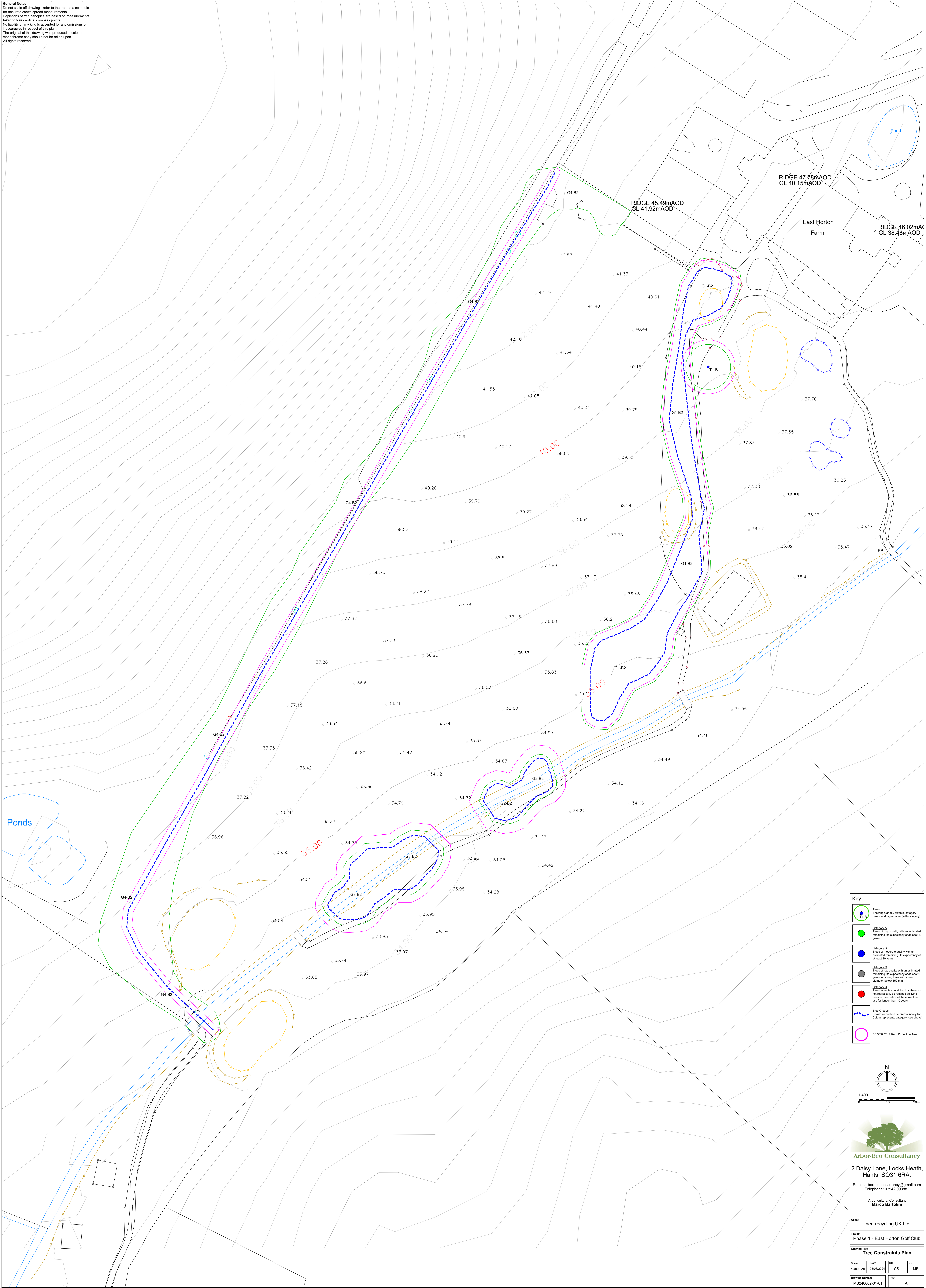
RIBA **KSA Architects Ltd.** Concept House
35 Kingston Crescent, North End
Portsmouth, Hampshire, PO2 8AA
Phone: 023 9267 3618
Email: info@ksaltd.co.uk
Web: www.ksaltd.co.uk



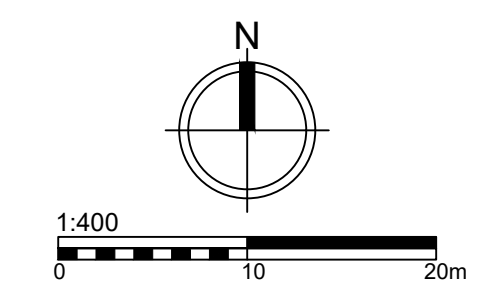
APPENDIX B

Topographical Survey

General Notes
Do not scale off drawing - refer to the tree data schedule for accurate crown spread measurements.
Depictions of tree canopies are based on measurements taken to four cardinal compass points.
No liability of any kind is accepted for any omissions or inaccuracies in respect of this plan.
The original of this drawing was produced in colour; a monochrome copy should not be relied upon.
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Key	
	Trees Showing canopy extent, category colour and tag number (category colour and tag number with category)
	Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years
	Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years
	Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm.
	Category D Trees in such a condition that they can not realistically be retained as living trees in the context of the current land use for longer than 10 years.
	Tree Crown Shown as dashed centrobutterfly-line. Colour represents category (see above)
	B5 5837-2012 Root Protection Area



2 Daisy Lane, Locks Heath,
Hants. SO31 6RA.

Email: arborecoconsultancy@gmail.com
Telephone: 07542 093882

Arboricultural Consultant
Marco Bartolini

Client Inert recycling UK Ltd

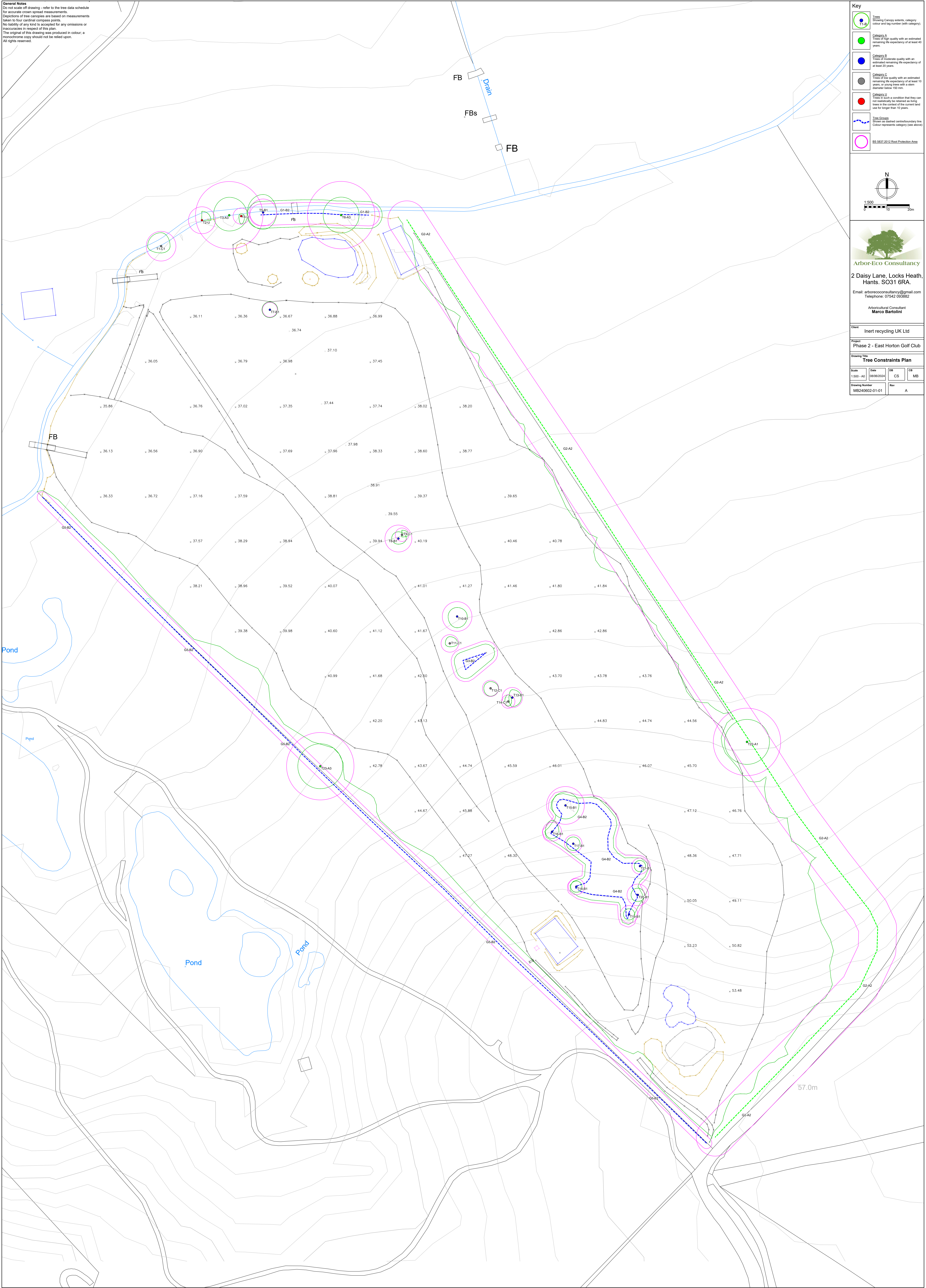
Project	Phase 1 - East Horton Golf Club
---------	---------------------------------

Drawing Title
Tree Constraints Plan

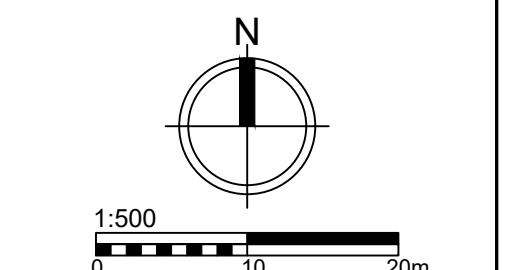
Scale	Date	DB	CB
1-400 - A0	08/05/2024	CS	MB

Drawing Number	Rev
1400-10000-01-01	1

General Notes
Do not scale off drawing - refer to the tree data schedule for accurate crown spread measurements.
Depictions of tree canopies are based on measurements taken to four cardinal compass points.
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Key	
	Tree Showing Canopy extent, category colour and tag number (with category)
	Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years
	Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years
	Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm
	Category U Trees in such a condition that they can not realistically be retained as living trees in the context of the current land use for longer than 10 years
	Tree Group Shown as dashed centrebodyline-line. Colour represents category (see above)
B5 5837-201 Root Protection Area	



Client			
Inert recycling UK Ltd			
Project			
Phase 2 - East Horton Golf Club			
Drawing Title			
Tree Constraints Plan			
Scale	Date	DB	CB
1:500 - AD	08/06/2024	CS	MB
Drawing Number		Rev	
MB240602-01-01		A	

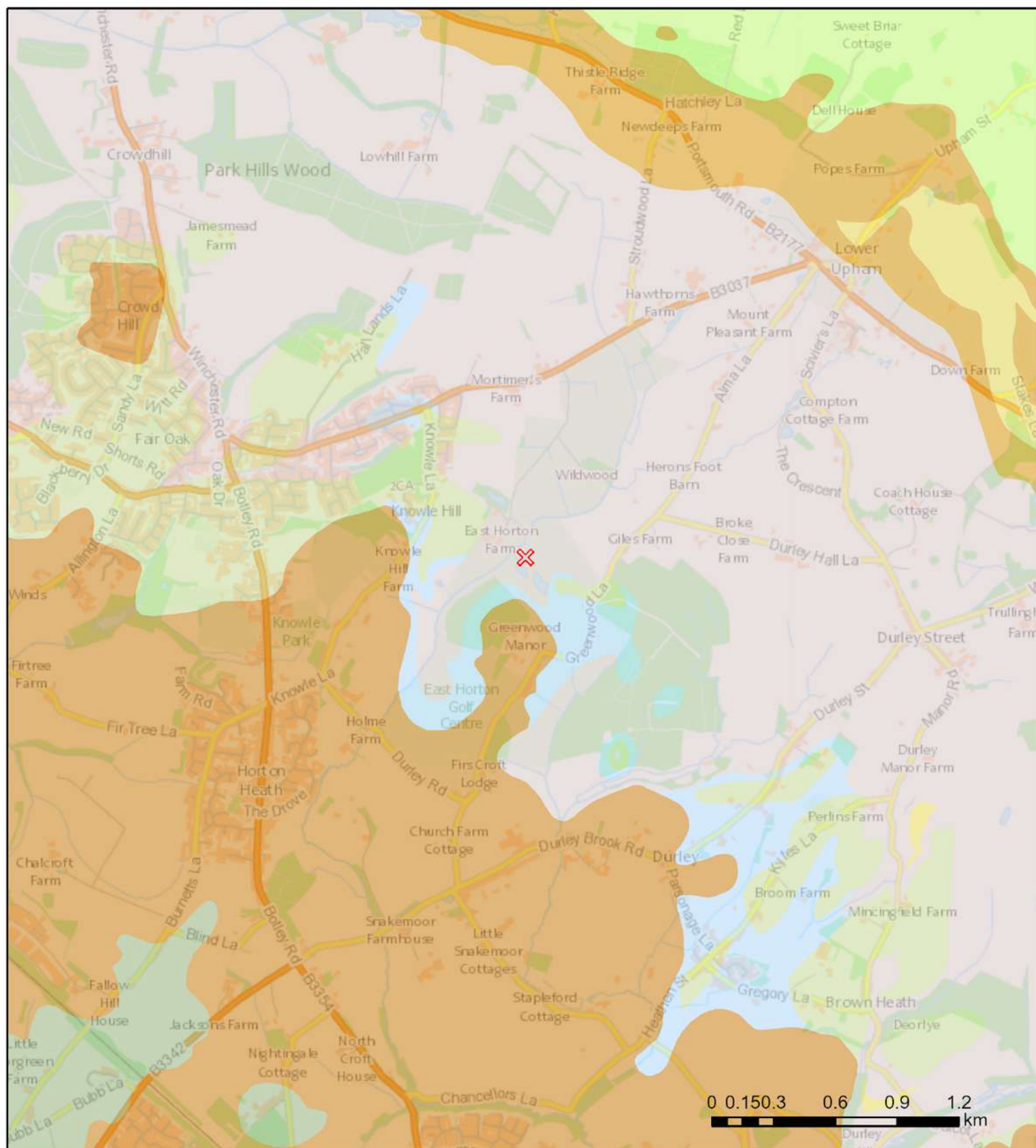
APPENDIX C

British Geological Mapping

Bedrock Geology Report



British
Geological
Survey



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

Map Key

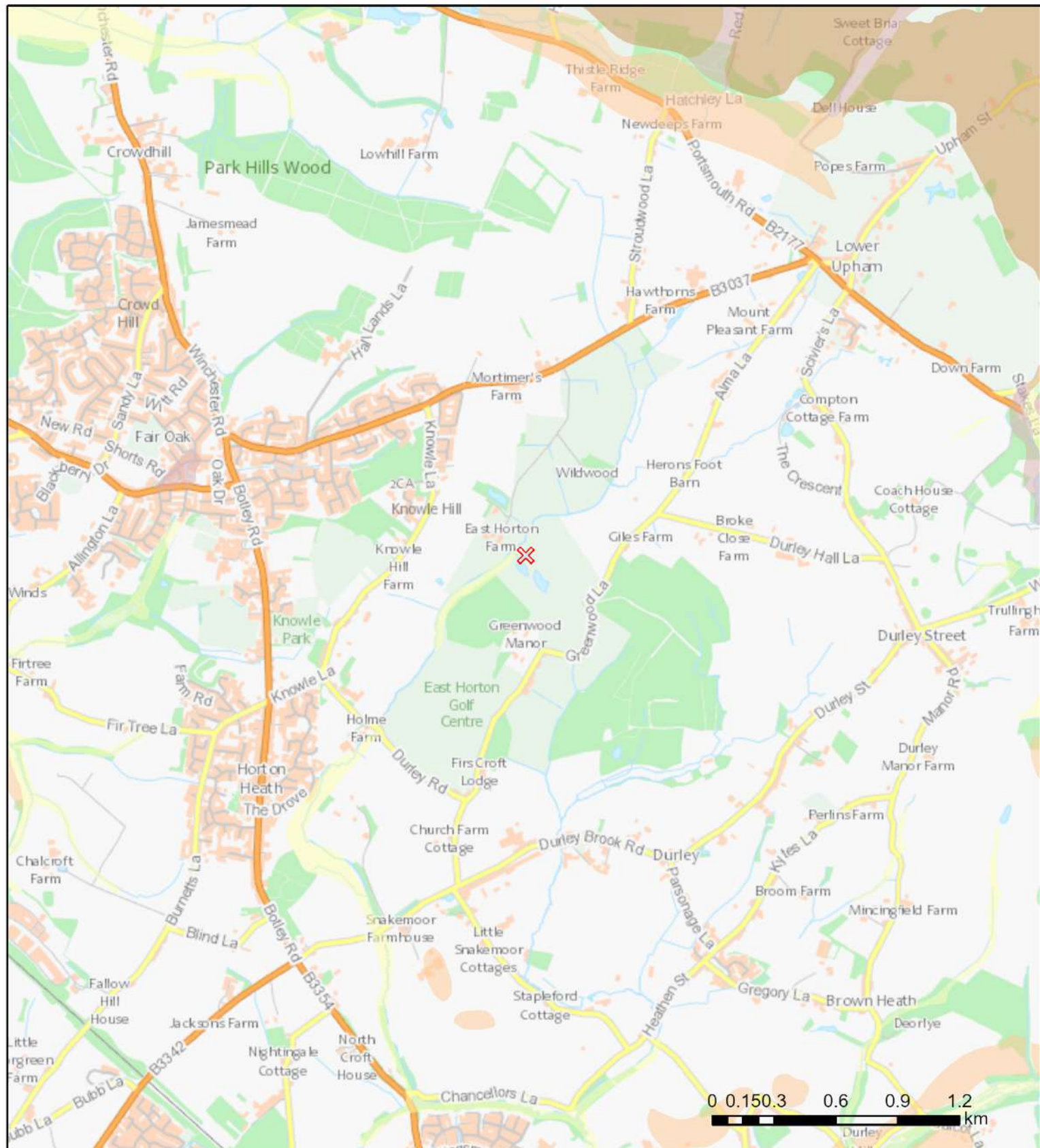
Bedrock geology 1:50,000 scale

	<u>DURLEY SAND MEMBER - SAND</u>
	<u>LONDON CLAY FORMATION - CLAY, SILT AND SAND</u>
	<u>SEAFORD CHALK FORMATION - CHALK</u>
	<u>BOGNOR SAND MEMBER - SAND</u>
	<u>PORTSMOUTH SAND MEMBER - SAND</u>
	<u>WHITECLIFF SAND MEMBER - SAND</u>
	<u>TARRANT CHALK MEMBER - CHALK</u>
	<u>EARNLEY SAND FORMATION - SAND, SILT AND CLAY</u>
	<u>WITTERING FORMATION - SAND</u>
	<u>LONDON CLAY FORMATION - SAND</u>
	<u>LAMBETH GROUP - SAND</u>
	<u>LAMBETH GROUP - CLAY, SILT AND SAND</u>
	<u>MARSH FARM FORMATION - CLAY, SILT AND SAND</u>
	<u>WITTERING FORMATION - SAND, SILT AND CLAY</u>
	<u>NEWHAVEN CHALK FORMATION - CHALK</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

	<u>ALLUVIUM - CLAY, SILT, SAND AND GRAVEL</u>
	<u>TUFA - TUFA, CALCAREOUS</u>
	<u>HEAD - CLAY, SILT, SAND AND GRAVEL</u>
	<u>HEAD - GRAVEL, SAND, SILT AND CLAY</u>
	<u>RIVER TERRACE DEPOSITS, 1 - CLAY AND SILT</u>
	<u>RIVER TERRACE DEPOSITS, 1 - SAND AND GRAVEL</u>
	<u>RIVER TERRACE DEPOSITS, 2 - GRAVEL, SAND AND SILT</u>
	<u>RIVER TERRACE DEPOSITS, 3 - SAND AND GRAVEL</u>
	<u>RIVER TERRACE DEPOSITS, 3 - GRAVEL, SAND AND SILT</u>
	<u>RIVER TERRACE DEPOSITS, 5 - GRAVEL, SAND AND SILT</u>
	<u>RIVER TERRACE DEPOSITS, 7 - GRAVEL, SAND AND SILT</u>
	<u>RIVER TERRACE DEPOSITS (UNDIFFERENTIATED) - CLAY AND SILT</u>
	<u>RIVER TERRACE DEPOSITS (UNDIFFERENTIATED) - SAND AND GRAVEL</u>
	<u>RIVER TERRACE DEPOSITS (UNDIFFERENTIATED) - GRAVEL, SAND AND SILT</u>
	<u>CLAY-WITH-FLINTS FORMATION - CLAY, SILT, SAND AND GRAVEL</u>

Hydrogeology Report



British
Geological
Survey



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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

APPENDIX D

Southern Water Records

APPENDIX E

Flood Mapping

APPENDIX F

SuDS Operation and Maintenance Requirements



The positions of pipes shown on this plan are believed to be correct, but Southern Water Services Ltd accept no responsibility in the event of inaccuracy. The actual positions should be determined on site. This plan is produced by Southern Water Services Ltd (c) Crown copyright and database rights 2024 Ordnance Survey 100031673. This map is to be used for the purposes of viewing the location of Southern Water plant only. Any other uses of the map data or further copies is not permitted.

WARNING: BAC pipes are constructed of Bonded Asbestos Cement.

WARNING: Unknown (UNK) materials may include Bonded Asbestos Cement.

hmorgan@odysseyconsult.co.uk

24-083



Flood map for planning

Your reference
24-083 Phase1

Location (easting/northing)
450651/118085

Created
20 Feb 2025 14:15

Your selected location is in flood zone 3, an area with a high probability of flooding.

This means:

- you must complete a flood risk assessment for development in this area
- you should follow the Environment Agency's standing advice for carrying out a flood risk assessment (see www.gov.uk/guidance/flood-risk-assessment-standing-advice)

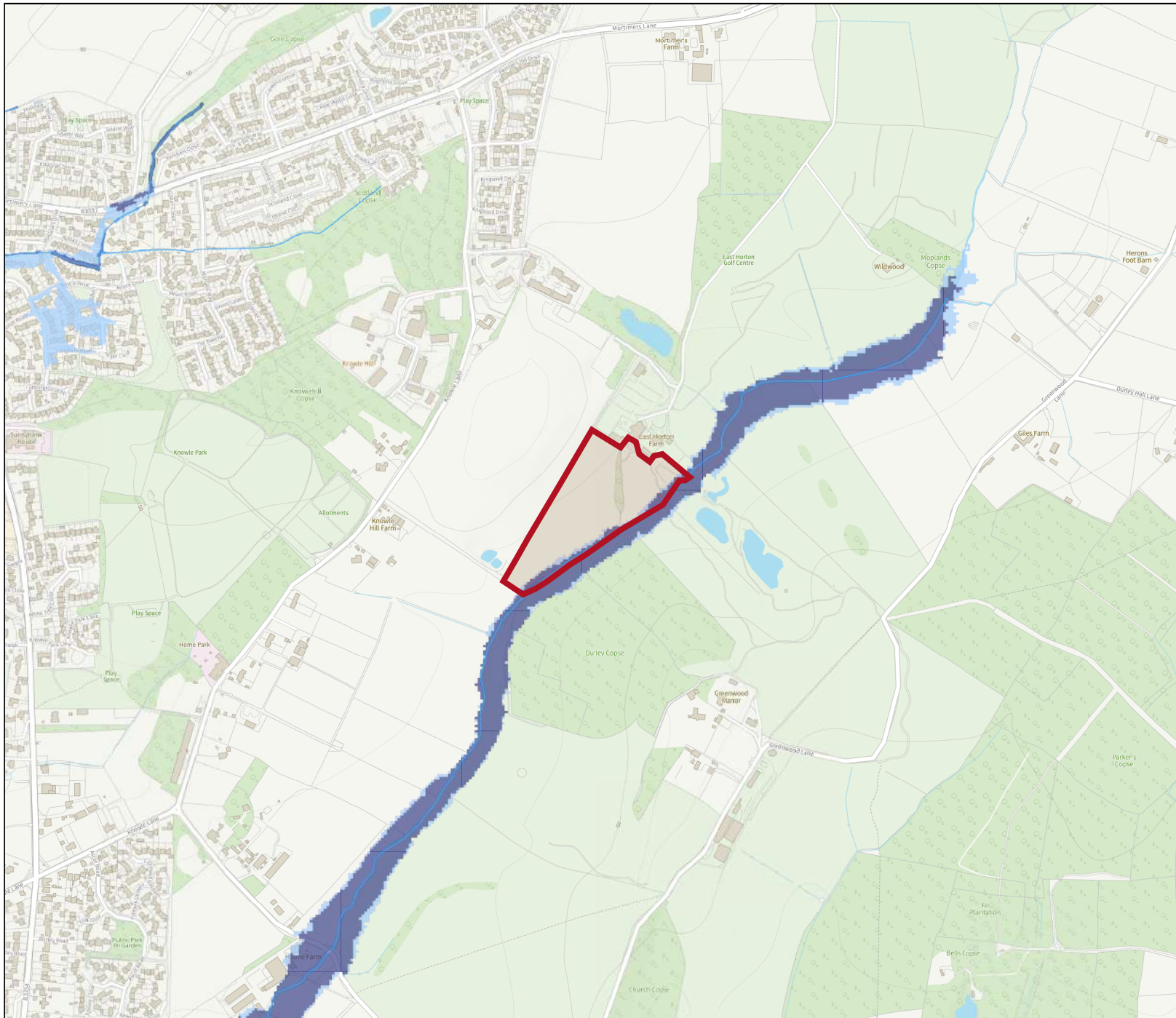
Notes

The flood map for planning shows river and sea flooding data only. It doesn't include other sources of flooding. It is for use in development planning and flood risk assessments.

This information relates to the selected location and is not specific to any property within it. The map is updated regularly and is correct at the time of printing.

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Flood map for planning

Your reference
24-083 Phase1

Location (easting/northing)
450651/118085

Scale
1:10000

Created
20 Feb 2025 14:15

-  Selected area
-  Flood zone 3
-  Flood zone 2
-  Flood zone 1
-  Flood defence
-  Main river
-  Water storage area

0 100 200 300m

Flood map for planning

Your reference
24-083 Phase2

Location (easting/northing)
451066/118114

Created
20 Feb 2025 14:17

Your selected location is in flood zone 3, an area with a high probability of flooding.

This means:

- you must complete a flood risk assessment for development in this area
- you should follow the Environment Agency's standing advice for carrying out a flood risk assessment (see www.gov.uk/guidance/flood-risk-assessment-standing-advice)

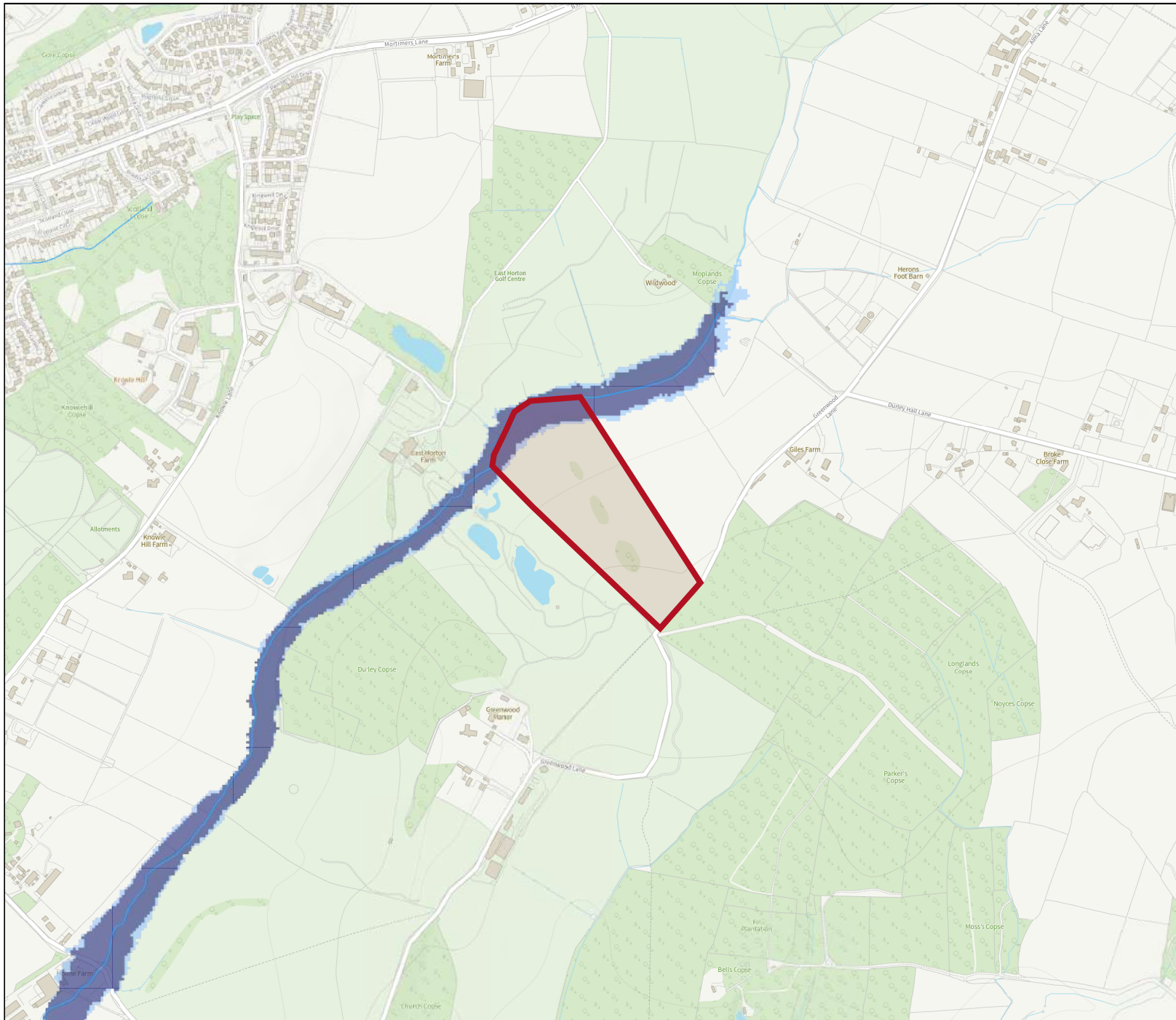
Notes

The flood map for planning shows river and sea flooding data only. It doesn't include other sources of flooding. It is for use in development planning and flood risk assessments.

This information relates to the selected location and is not specific to any property within it. The map is updated regularly and is correct at the time of printing.

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Flood map for planning

Your reference
24-083 Phase2

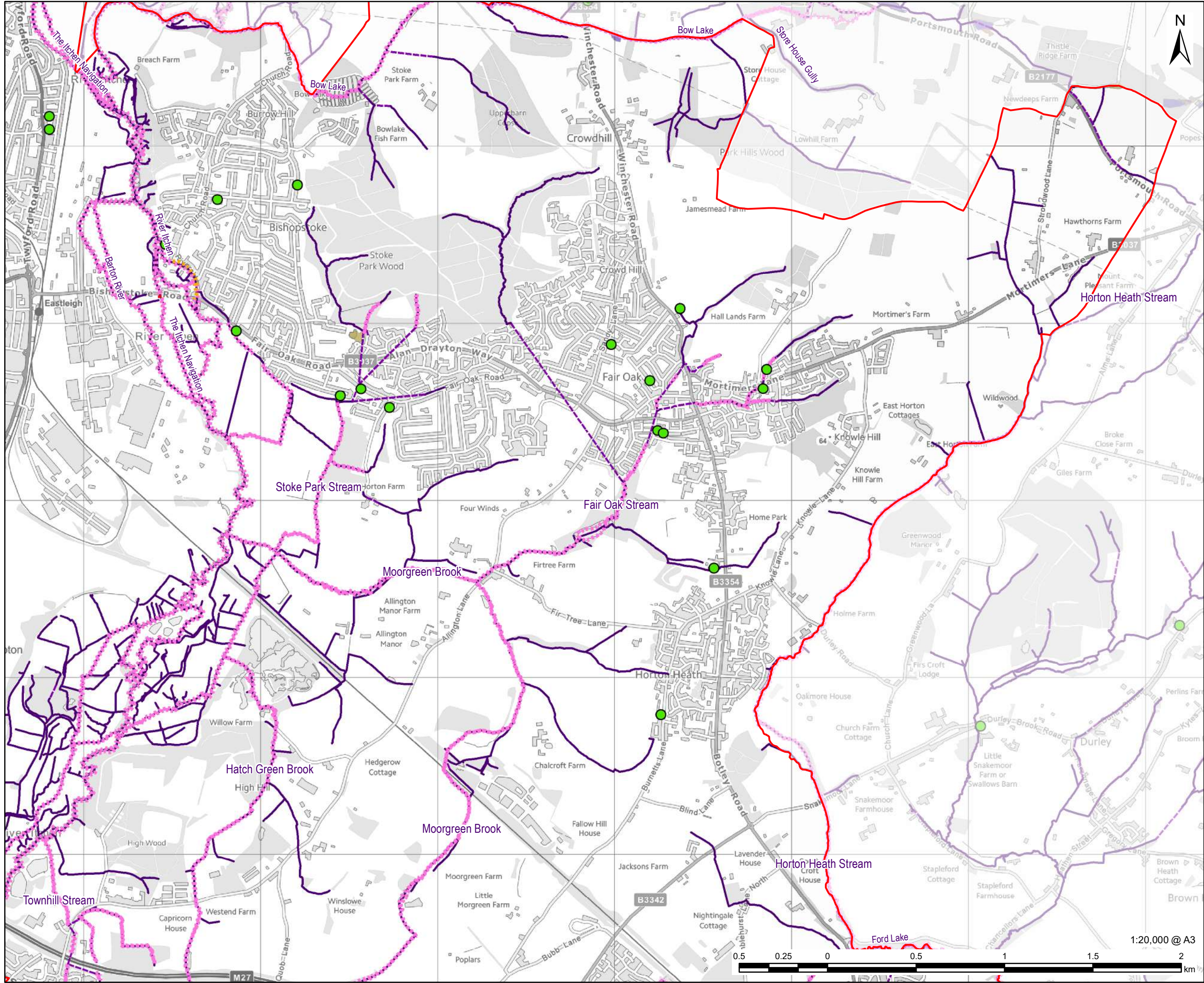
Location (easting/northing)
451066/118114

Scale
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Created
20 Feb 2025 14:17

-  Selected area
-  Flood zone 3
-  Flood zone 2
-  Flood zone 1
-  Flood defence
-  Main river
-  Water storage area


0 100 200 300m



PROJECT

Partnership for South Hampshire
Strategic Flood Risk Assessment

CLIENT

Portsmouth City Council on behalf of
Eastleigh Borough Council

CONSULTANT

AECOM Limited
Sunley House
4 Bedford Park
Croydon, CR0 2AP
www.aecom.com

LEGEND

- Eastleigh Borough Boundary
- Southern Water Observed Flooding

Watercourses

- Surface
- Below Surface

Flood Defences

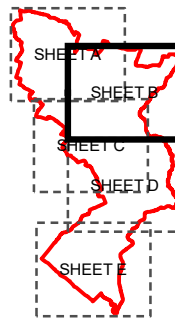
- Embankment
- High Ground
- Wall

Recorded Flood Outlines

Source of Flooding

- Ephemeral Watercourse
- Ordinary Watercourse
- Other
- Unknown

OVERVIEW



0 2.5 5
km

NOTES

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ISSUE PURPOSE

For Information

PROJECT NUMBER

60653132

FIGURE TITLE

Recorded Flood Outlines
Sheet 2 of 5

FIGURE NUMBER

Figure 2B

1:20,000 @ A3

0.5 0.25 0 0.5 1 1.5 2
km





Surface water map

Yearly chance of flooding

☐ Extent

☐ Depth

Yearly chance of flooding between 2040 and 2060

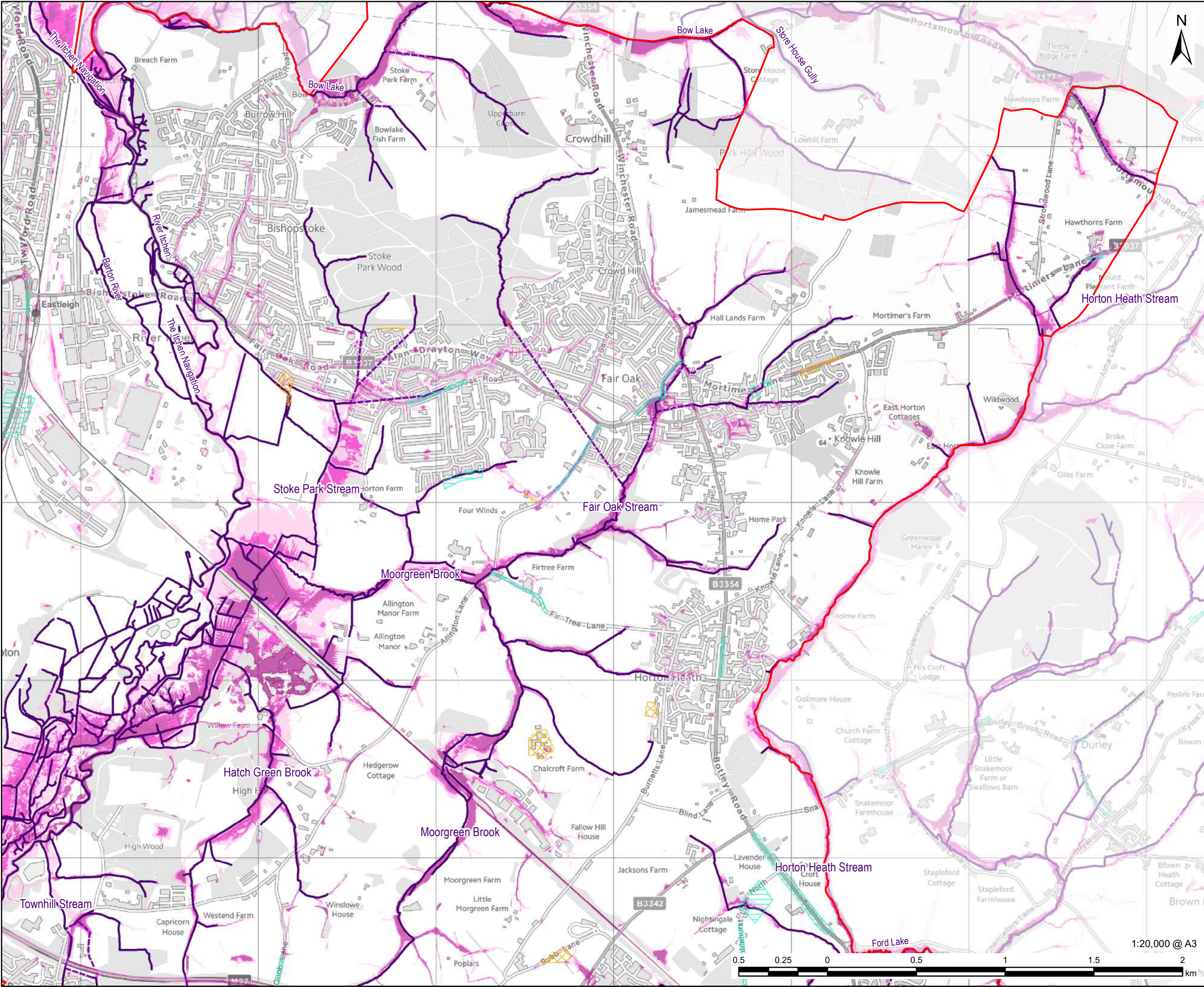
☒ Extent

- ☒ High chance
More than 3.3% chance each year
- ☐ Medium chance
Between 1% and 3.3% chance each year
- ☐ Low chance
Between 0.1% and 1% chance each year

☐ Depth

Map details

☒ Show flooding



PROJECT
Partnership for South Hampshire
Strategic Flood Risk Assessment

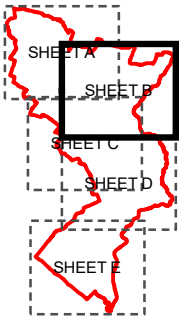
CLIENT
Portsmouth City Council on behalf of
Eastleigh Borough Council

CONSULTANT
AECOM Limited
Sunley House
4 Bedford Park
Croydon, CR0 2AP
www.aecom.com

LEGEND

- Eastleigh Borough Boundary
- Recorded Highway Flooding
- Flood Investigation
- Watercourses**
 - Surface
 - Below Surface
- Risk of Flooding from Surface Water (RoFSW)**
 - 3.3% AEP (High Probability)
 - 1% AEP (Medium Probability)
 - 0.1% AEP (Low Probability)

OVERVIEW



0 2.5 5
km

NOTES
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This map is intended to provide a strategic overview and should not be used to assess individual properties. Refer to the accompanying SFRA Report for details of the datasets and purpose of their use.

ISSUE PURPOSE

For Information

PROJECT NUMBER

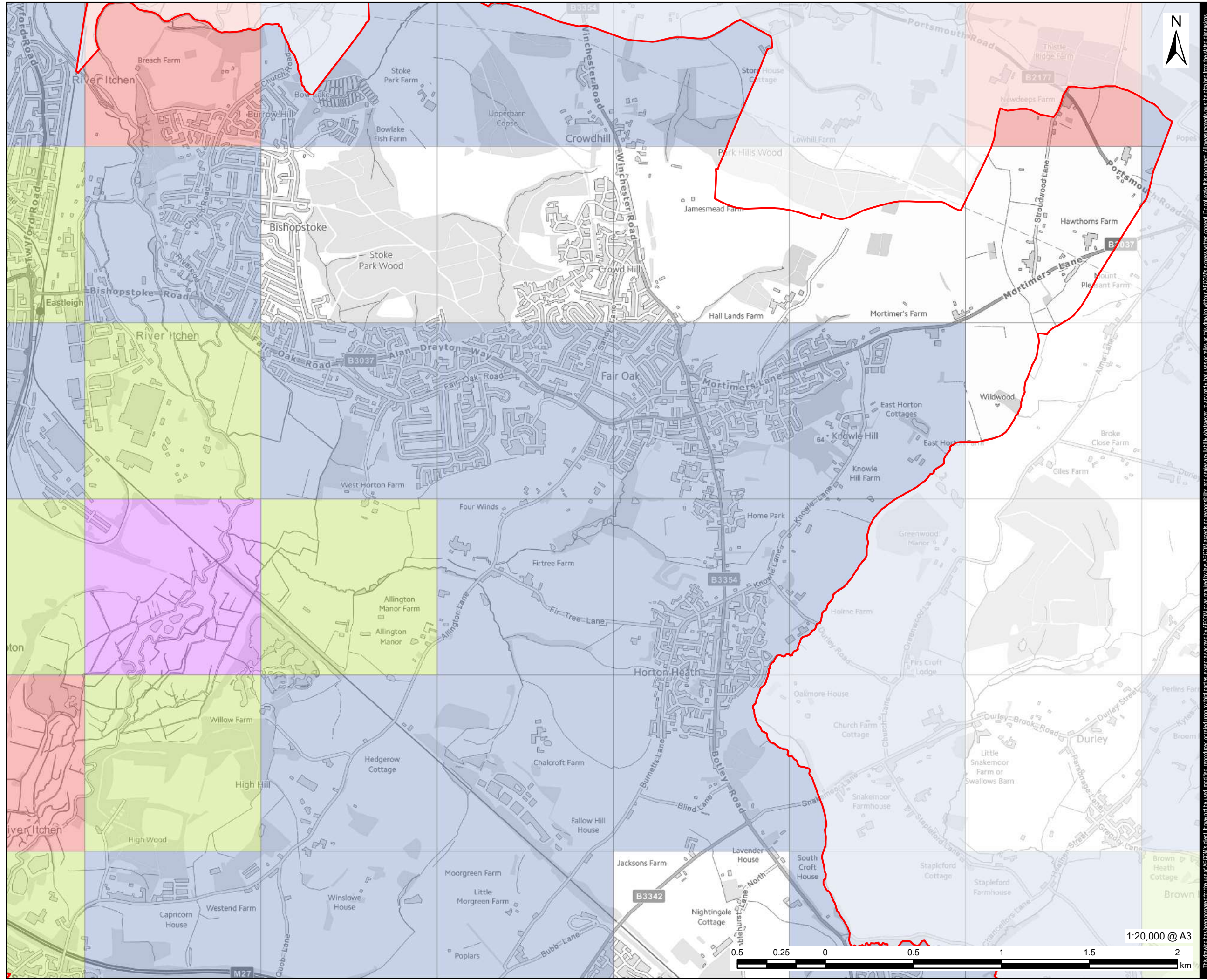
60653132

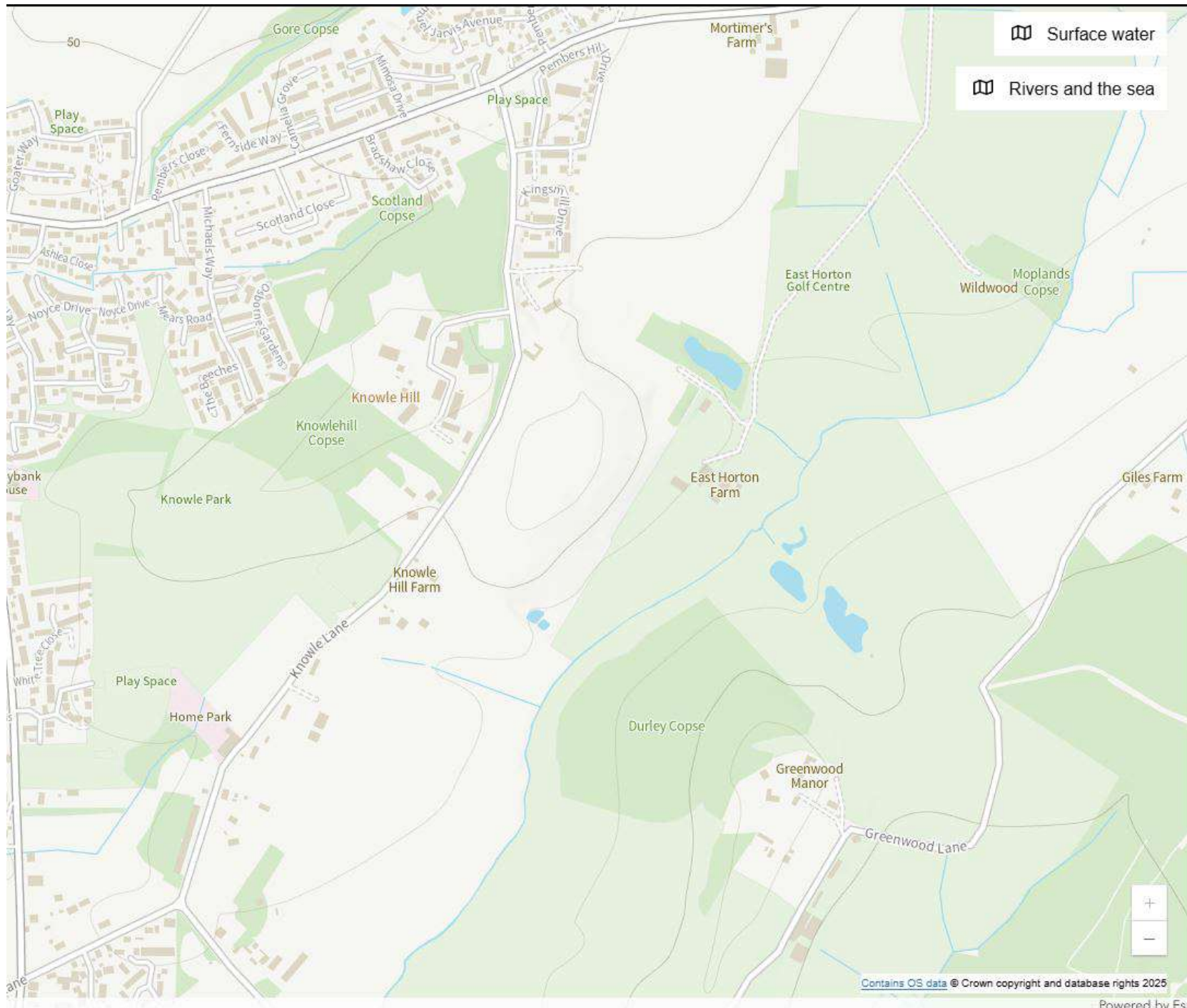
FIGURE TITLE

Risk of Flooding from Surface Water
Sheet 2 of 5

FIGURE NUMBER

Figure 3B





Reservoirs map

☐ Extent

☐ When river levels are normal

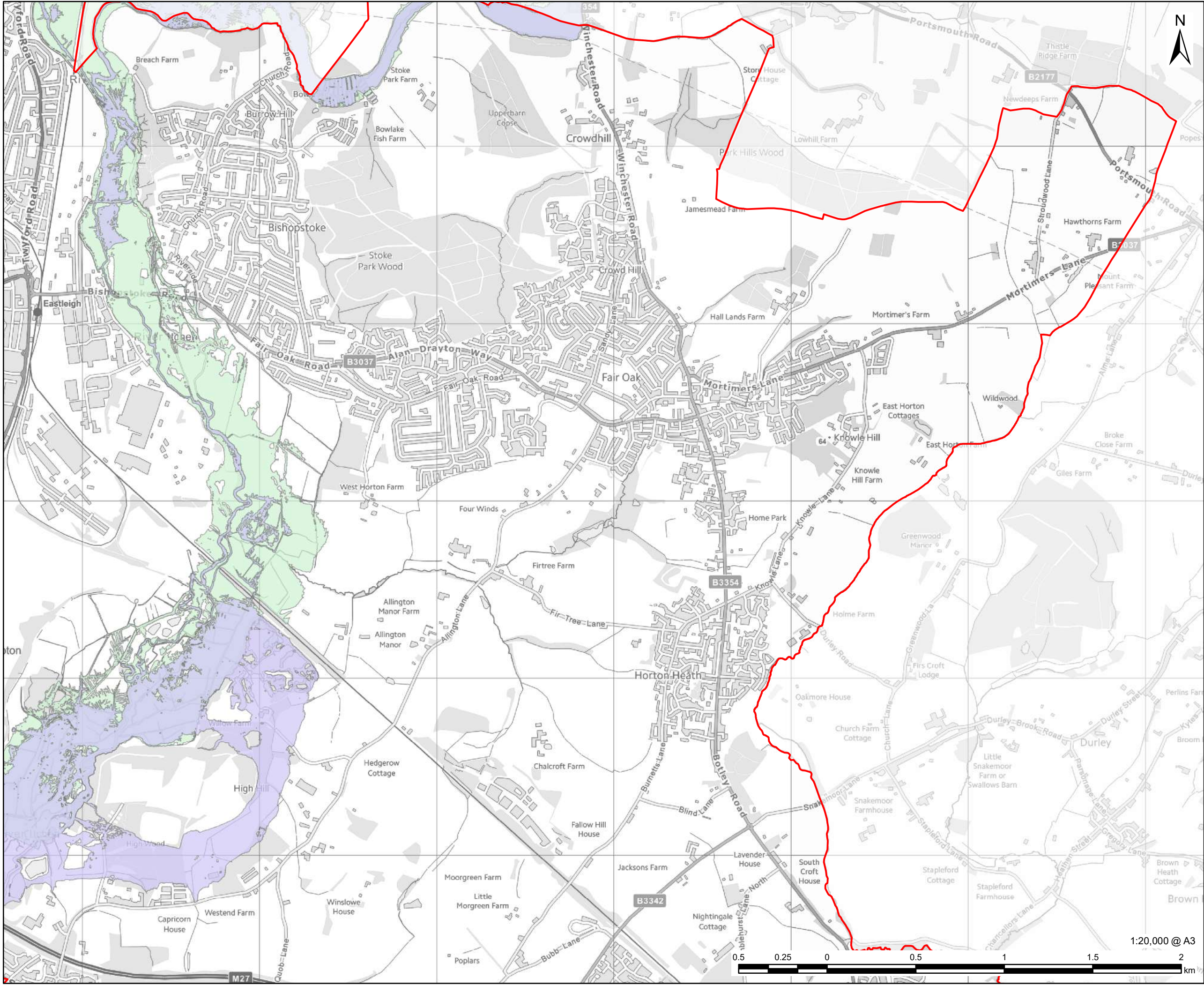
☐ When there is also flooding from rivers

Map details

☒ Show flooding

Filename: \\na.aecomnet.com\fs\EMEACroydon-UK\CRD11\Legacy\UKCRD11\Legacy\GIS\Projects\PISH SFRA02_Maps\EastleighDistrict\PISH_EastleighDistrict_Figure6_RiskOfFloodingfromReservoirs.mxd

Revision: 0 Drawn: AC Checked: VC Approved: SL Date: 2022-05-09



AECOM

PROJECT

Partnership for South Hampshire
Strategic Flood Risk Assessment

CLIENT

Portsmouth City Council on behalf of
Eastleigh Borough Council

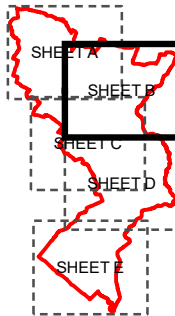
CONSULTANT

AECOM Limited
Sunley House
4 Bedford Park
Croydon, CR0 2AP
www.aecom.com

LEGEND

- Eastleigh Borough Boundary
- Risk of flooding from reservoirs
 - When river levels are normal
 - When there is also flooding from rivers

OVERVIEW



0 2.5 5
km

NOTES

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ISSUE PURPOSE

For Information

PROJECT NUMBER

60653132

FIGURE TITLE

Risk of Flooding from Reservoirs
Sheet 2 of 5

FIGURE NUMBER

Figure 6B

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TABLE 17.1 Operation and maintenance requirements for swales

Maintenance schedule	Required action	Typical frequency
Regular maintenance	Remove litter and debris	Monthly, or as required
	Cut grass – to retain grass height within specified design range	Monthly (during growing season), or as required
	Manage other vegetation and remove nuisance plants	Monthly at start, then as required
	Inspect inlets, outlets and overflows for blockages, and clear if required	Monthly
	Inspect infiltration surfaces for ponding, compaction, silt accumulation, record areas where water is ponding for > 48 hours	Monthly, or when required
	Inspect vegetation coverage	Monthly for 6 months, quarterly for 2 years, then half yearly
	Inspect inlets and facility surface for silt accumulation, establish appropriate silt removal frequencies	Half yearly
Occasional maintenance	Reseed areas of poor vegetation growth, alter plant types to better suit conditions, if required	As required or if bare soil is exposed over 10% or more of the swale treatment area
Remedial actions	Repair erosion or other damage by re-turfing or reseeding	As required
	Relevel uneven surfaces and reinstate design levels	As required
	Scarify and spike topsoil layer to improve infiltration performance, break up silt deposits and prevent compaction of the soil surface	As required
	Remove build-up of sediment on upstream gravel trench, flow spreader or at top of filter strip	As required
	Remove and dispose of oils or petrol residues using safe standard practices	As required