

FLOOD RISK ASSESSMENT

**Extension to existing equine sand arena
SFRA policy / data site is not in FZ3b**

AT

**HAM POLO CLUB, PETERSHAM ROAD, PETERSHAM,
RICHMOND TW10 7AH**

September 2024

Ark Environmental Consultancy Ltd

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If this report has been released electronically, the appendices referred to herein can be found in the annexed zip folder/s as .pdf or .dwg files. If this report has been released in hard copy the appendices will be bound into the back of this report. Plans may be annexed separately as A1 or A0 copies where a bound-in A3 copy is not appropriate.

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1.0 Scope

This report contains the details of a flood risk assessment statement for planning carried out by Ark Environmental Consulting Limited (“ARK Ltd”) for HAM POLO CLUB, PETERSHAM ROAD, PETERSHAM, RICHMOND TW10 7AH, henceforth referred to as “the site” in this report.

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All parties to this report do not intend any of the terms of the Contracts (Right of Third Parties Act 1999) to apply to this report.

Please note this report does not purport to provide definitive legal advice nor can it be used to demonstrate that the site will never flood in the future or provide exact specifications / warranties for the products used.

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2.0 Introduction

The information source used to undertake this FRA & SUDS / Drainage Strategy has been collected from the following sources:

- British Geological Survey Website;
- EA Website;
- London Plan Policies SI.12 and SI.13
- NPPF and PPG 2024
- Richmond Strategic Flood Risk Assessment
- DRAIN LONDON Preliminary (Surface Water) Flood Risk Assessment for London Borough of Richmond. (GLA & Environment Agency, June 2011)
- Internet mapping and searches

3.0 Existing Site Status and Environmental Setting

3.1 Site Location and Flood Status 2024

The planning application boundary is c. 0.3ha (3,000m²) in total

The survey site consists of an existing equestrian training area with a mix of hardstanding and soft landscaped areas with boundary trees.

The site is wholly in EA FZ3 (with climate change, not FZ2) downstream of the Teddington Lock and hence is in the Tidal reach.

It is river-side of the flood defences.

It is also likely within the functional floodplain.

The site is in 100% EA NO risk for surface water flooding.

The area of actual works is in NO hazard in all the EA scenarios.

The site is relatively flat; a full topographic survey is not required based on the nature of the scheme given no comparison of flood heights vs a structure is required for a surface treatment and fenceline in a Tidal flood setting. No flood compensation is required in the tidal zones.

The existing layout is also provided in Appendix A.

3.2 Flood Defence Line & Functional Floodplain

As per the EA mapping, the flood defence line is to the south of the site.

In this location the defence line is not a formal hard engineered wall or embankment.

The scheme will have no impact on this defence line.

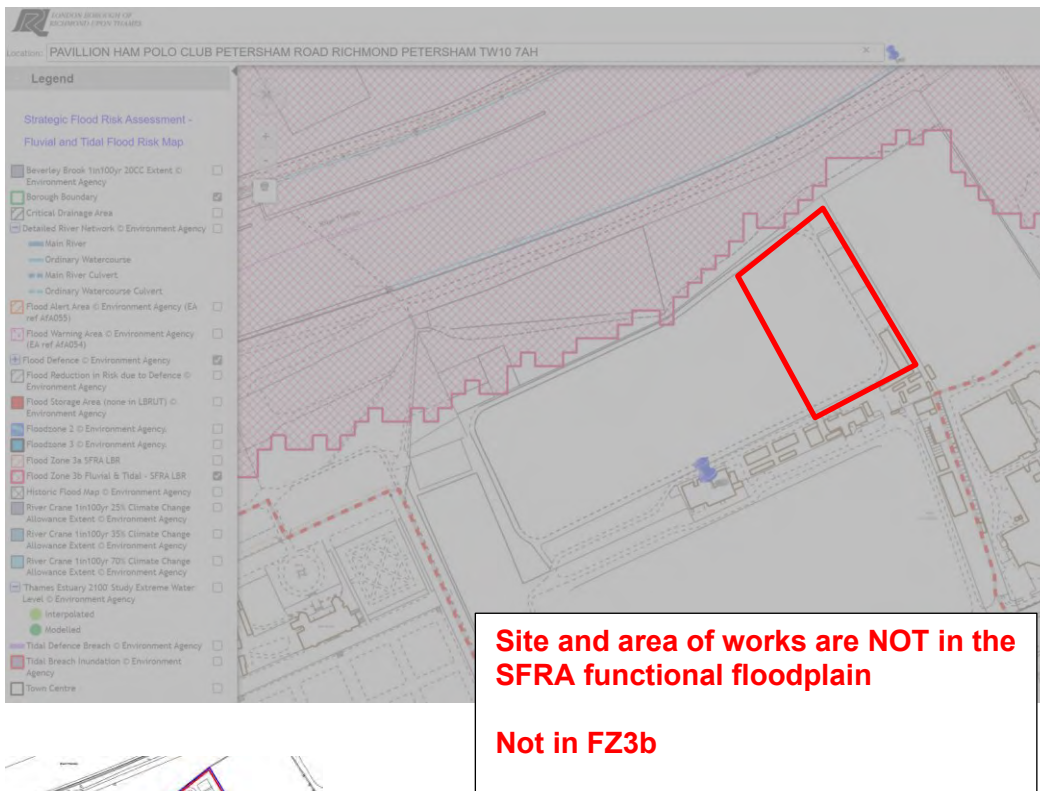
The scheme results in a reduction in site levels overall hence there is no requirement for a formal flood compensation scheme because there is no loss of floodplain storage.

It is not necessary to confirm the exact extents of the 1in100year+NEWcc or the functional floodplain.

This type of scheme would be classified as Water Compatible and this is appropriate in TIDAL Flood Zones 1, 2 and 3 in NPPF terms without the need to pass the Exception Test.

No detailed assessment of the EA's up to date data is required given the type of scheme; these data would not further inform the assessment or the designs and would not alter the recommendations of this report.





3.3 Geology & SPZ's

Based on BGS mapping, surrounding borehole records and the council SFRA, the site is underlain by:

Bedrock: London Clay

Superficial deposits: Langley Silt Member - Clay And Silt

- These strata are not water bearing
- The site is not within a Source Protection Zone

Strata and Flood Risk:

As part of this scheme, there will be no groundwater body displaced and hence there will be no increased risk of flooding from the scheme from groundwater to surrounding areas.

3.4 Existing Drainage

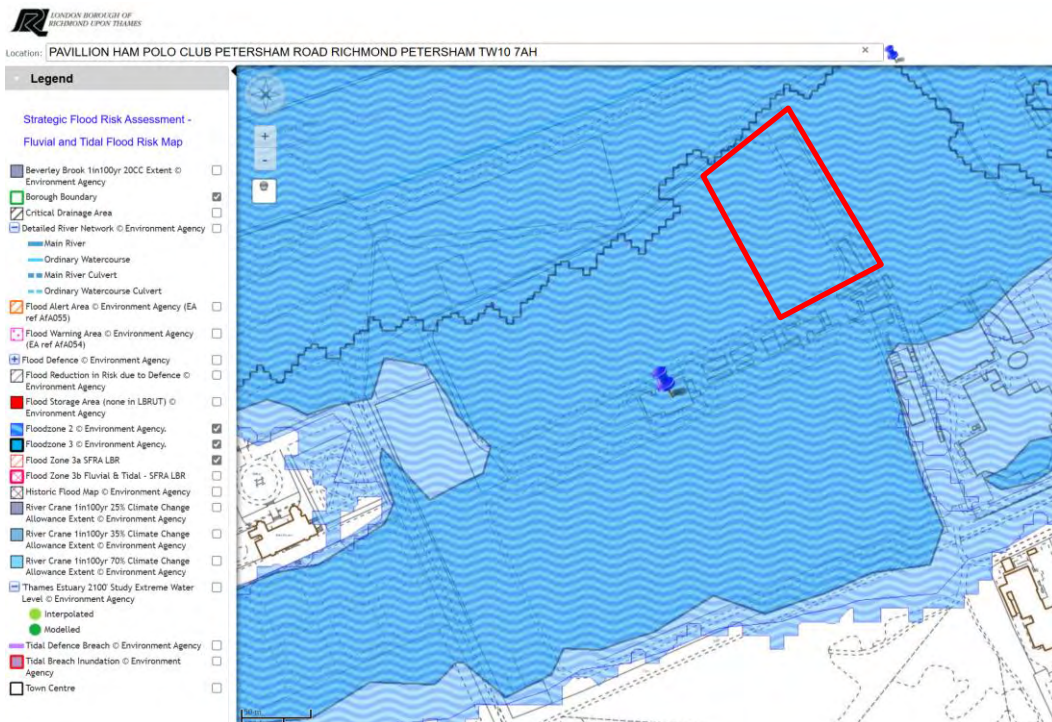
Public sewer records have not been sourced from Thames Water, however, the site is a field with outbuildings and there are no sewers recorded on the site.

There is no evidence of any existing SUDS. The site currently discharges 100% unattenuated by a combination of natural on site interception from vegetation and soil infiltration and via existing informal field boundaries.

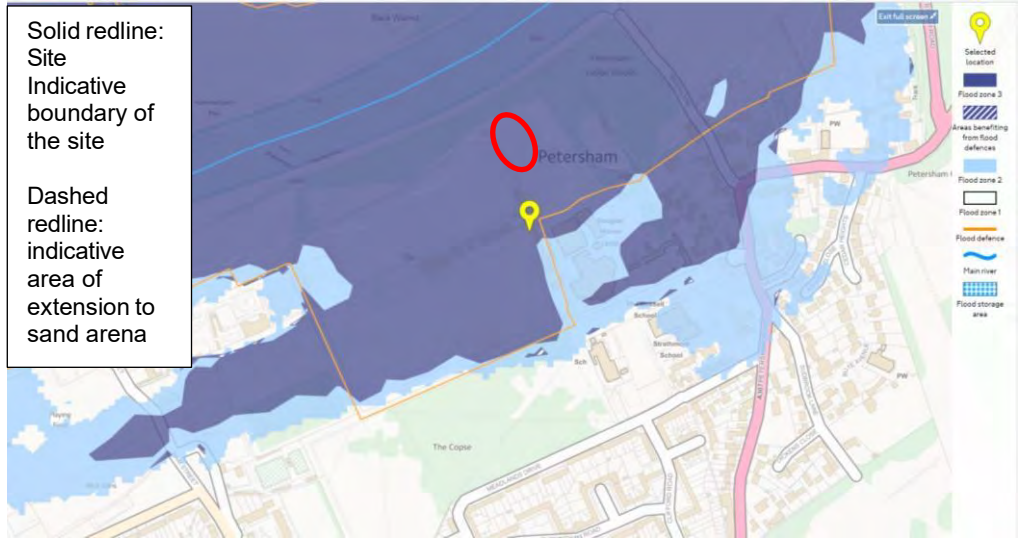
The scheme is for a porous re-surfacing and fencing; no SUDS or drainage strategy are required.

3.5 Summary of other Flood Risks Posed to and From Site and Scheme

Flood Sources	Site Status	Comment on flood risk posed to / from the development
Artificial Sources	Site is within EA general Reservoir Flood Warning area No other artificial sources with likely flood flowpaths that could reach the site	Low Risk
Surface Water / Sewer Flooding	Site is not located in a Critical Drainage Area Condition, depth and location of surrounding infrastructure uncertain EA 2020 surface water flood mapping indicates the whole site is in EA NO hazard for all EA risk scenarios	No additional specific design responses required for re-surfacing or fencing Low Risk
Climate Change	Included in the flood modelling extents 40% used in the SUDS storage calculations	Development will manage the peak flow and volume of discharge from the site Low risk posed to and from the development



For reference only: old EA mapping that still included the flood defence lines



4.0 Assessment of Proposed Development

4.1 Proposed Development

The proposed development (Appendix B) comprises:

- Extension for new wooden fencing and sand surfaced area
- Retained all as porous
- **The fencing will not have an impact on the defence line to the west of the site area**
- Fully flood resilient as far as is feasible as all materials are designed to be outdoors / open to the elements

Potential EA concern over status of structures during a flood:

The structures are of a specification that would allow free movement of water.

The nature of the tidal flooding at the site would be gradual given it is not in an area protected by defences, it is within the defence line, i.e. it is river-side of the flood defence line.

4.2 Flood compensation: EA Letters from other applications at the site

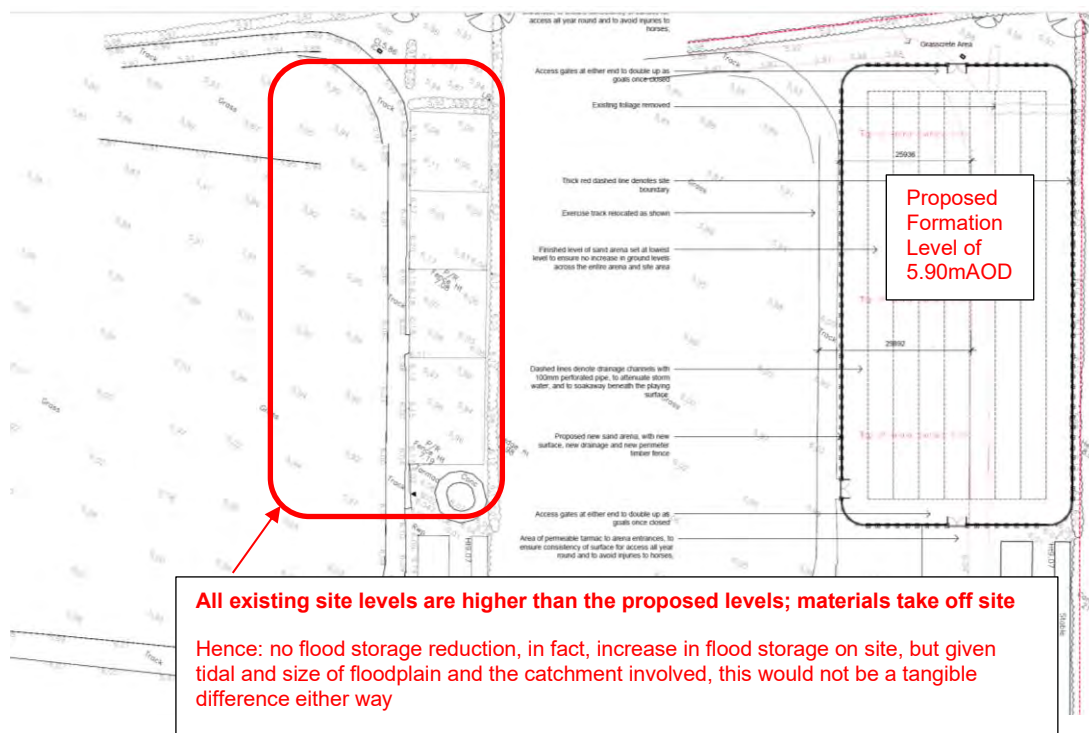
The site is within the principal Tidal flooding extents.

No like for like or volume for flood compensation is required because there is no flood compensation required for tidal settings.

In addition: the scheme does not result in any increase in site levels and no reduction in floodplain storage hence in engineering / technical / mathematical terms there is no need for flood compensation; **the scheme reduces site levels at every point: see below detailed design.**

There is no requirement to further quantify any volumes as no assessment of flood compensation is required in accordance with EA guidance for tidal settings.

Following EA guidance, there will be no reduction in flood storage and hence no objections with regards flood compensation as per other revised and approved FRA's at this site.



5.0 Summary

Not in functional floodplain.

No reduction in flood storage: see existing topo and proposed levels.

Fully flood resilient.

No increase in impermeable areas.

Water compatible in Flood Zone 1, 2 or 3 is appropriate in NPPF terms without the need for the Exception Test to be passed.

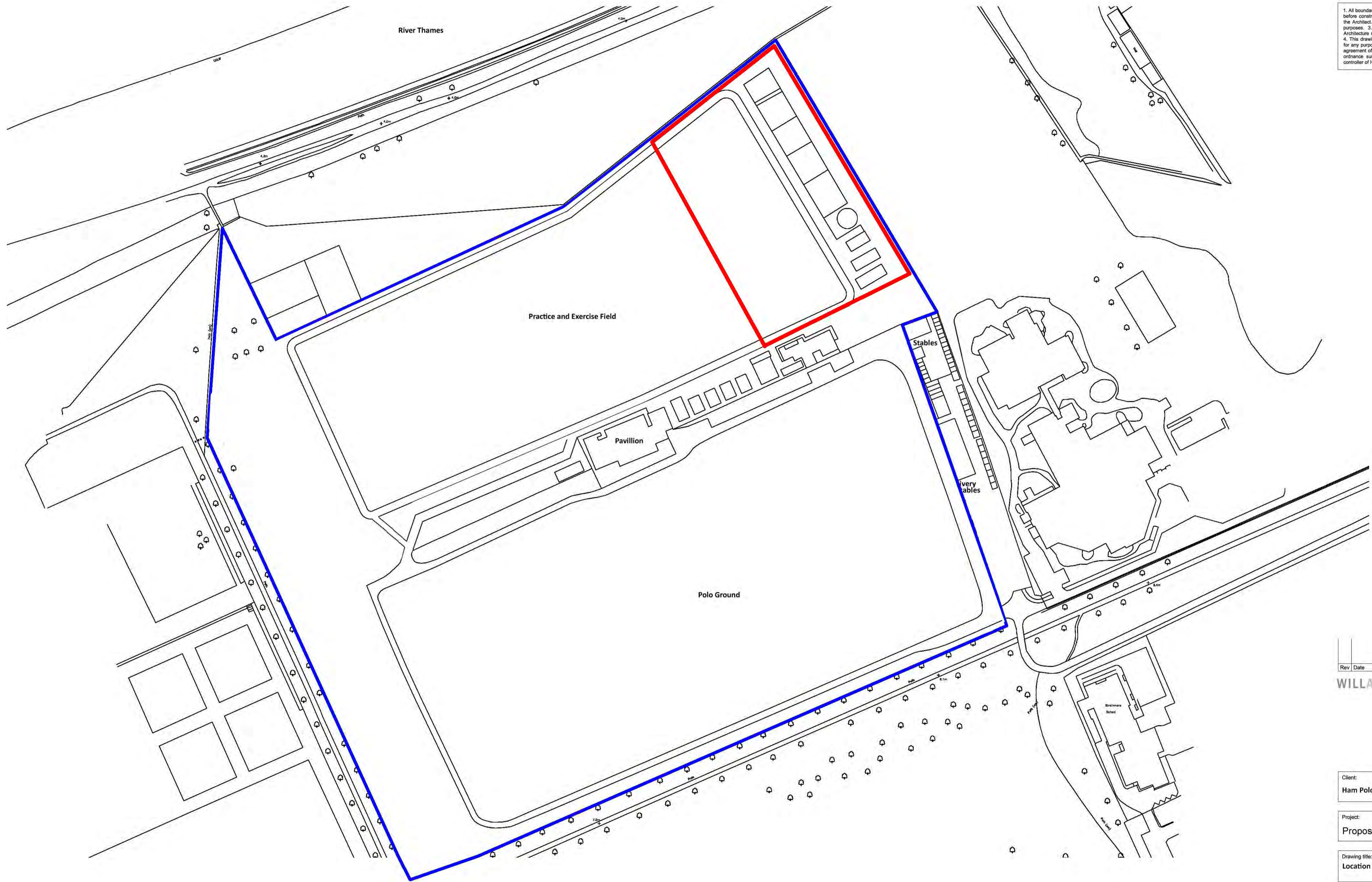
No detailed assessment of the EA's up to date data are required given the type of scheme; these data would not further inform the assessment or the designs and would not alter the recommendations of this report.

No flood compensation is required in the tidal flood setting.

Based on the likely flooding risk, it is considered that the proposed development can be constructed and operated safely in flood risk terms, without increasing flood risk elsewhere and is therefore appropriate development in accordance with the NPPF/PPG.

Appendix A

1. All boundaries, dimensions and levels are to be checked on site before construction and any discrepancies are to be reported to the Architect. 2. This drawing may be scaled from for planning purposes. 3. Drawings not supplied in paper format by Will Aust Architecture may not be to the scale indicated in the size box. 4. This drawing is copyright and may not be reproduced or used for any purpose other than that intended without the prior written agreement of the Architect. 5. Any parts of the drawing based on Ordnance Survey maps are executed with the sanction of the controller of H.M. Stationery Office - Crown Copyright Reserved.



1. Site Plan

Rev	Date	Description	By	Chk

WILLAUSTARCHITECTURE

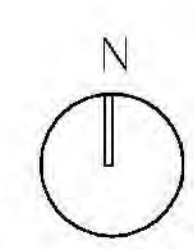
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Client:
Ham Polo Club

Project:
Proposed Sand Area

Drawing title:
Location Plan

Scale(s):	Size:	First Issue:	Drawn:	Checked:
1:1000	A1	27.10.20	WA	WA
Job no:	Drawing no:	Rev:		
WAALTD34	a	1		



PLANNING

ABBREVIATIONS	
A/C	AIR CONDITIONING
AH	ARCH HEIGHT
BT	BRITISH TELECOMMUNICATIONS
C	WINDOW CELL HEIGHT
CoB	CABINET
CBF	CLOSE BOARDED FENCE
CL	COVER LEVEL
DP	DISCHARGE PIPE
DC	DIAMOND CABLE COVER
DK	DROP KERB
FP	FOOTPATH
G	GULLY
GV	GAS VALVE
IC	INSPECTION CHAMBER
K	KERB
LP	LAMP POST
MH	MANHOLE
PCL	POST & CHAIN LINK FENCE
RWP	RAIN WATER PIPE
SA	SECURITY ALARM
SBM	SITE BENCH MARK
SH	SPRING HEIGHT
TP	TELEGRAPH POLE
WP	WASTE PIPE

LEGEND

DRAWING ISSUE STATUS			
Issue	Details	By	Date
A	Original Survey	JWB	17/07/24

SHEET LAYOUT

THIS SURVEY HAS BEEN CARRIED OUT TO AN ACCURACY CONSISTENT WITH A PRESENTATION SCALE OF 1:500. INTERFERED DIMENSIONS WILL BE WITHIN THE TOLERANCE ASSOCIATED WITH THIS AND SMALLER SCALES ONLY.

ALL LEVELS RELATE TO OS DATUM USING GPS (VnA NOW)

ALL CRITICAL DIMENSIONS SHOULD BE VERIFIED ON SITE PRIOR TO ANY DESIGN OR CONSTRUCTION WORKS.

Will Aust Architecture
 19 Freehold Street
 Quorn
 Loughborough
 LE12 8AY

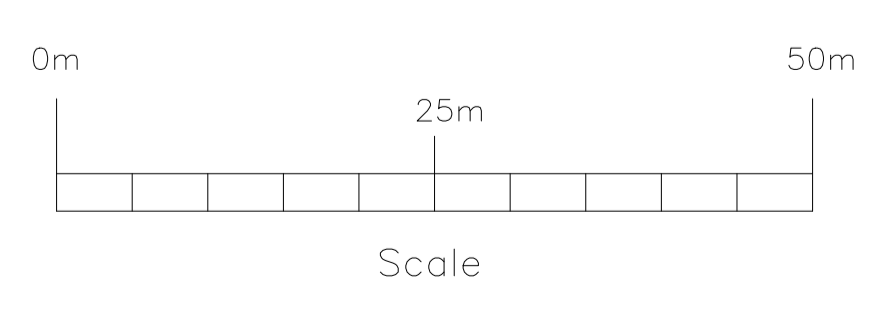
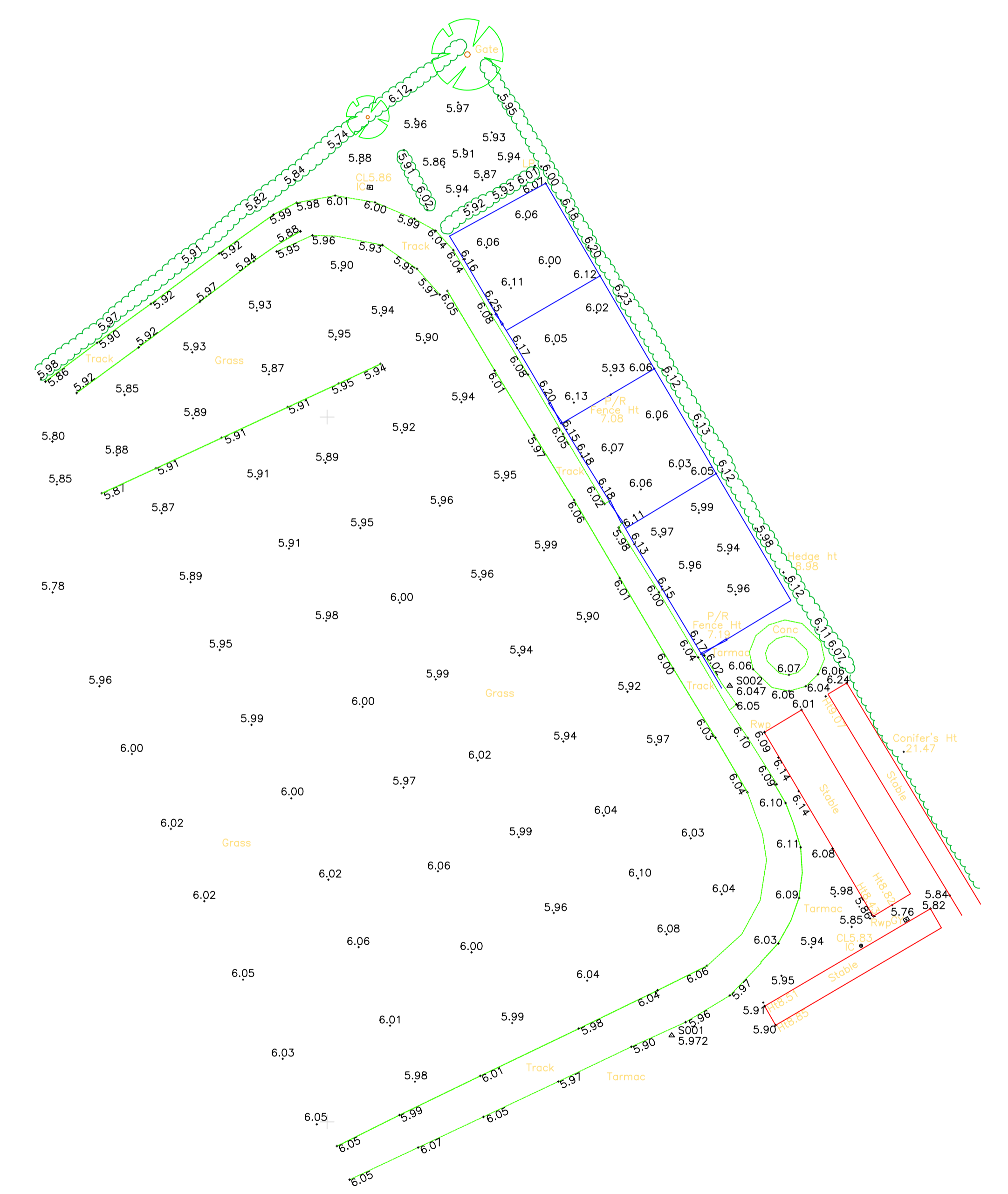
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 off Petersham Road
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 TW10 7AH

Topographical Survey
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 NG8 2NB
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SCALE 1:500 @ A1

DATE OF ISSUE JULY 2024

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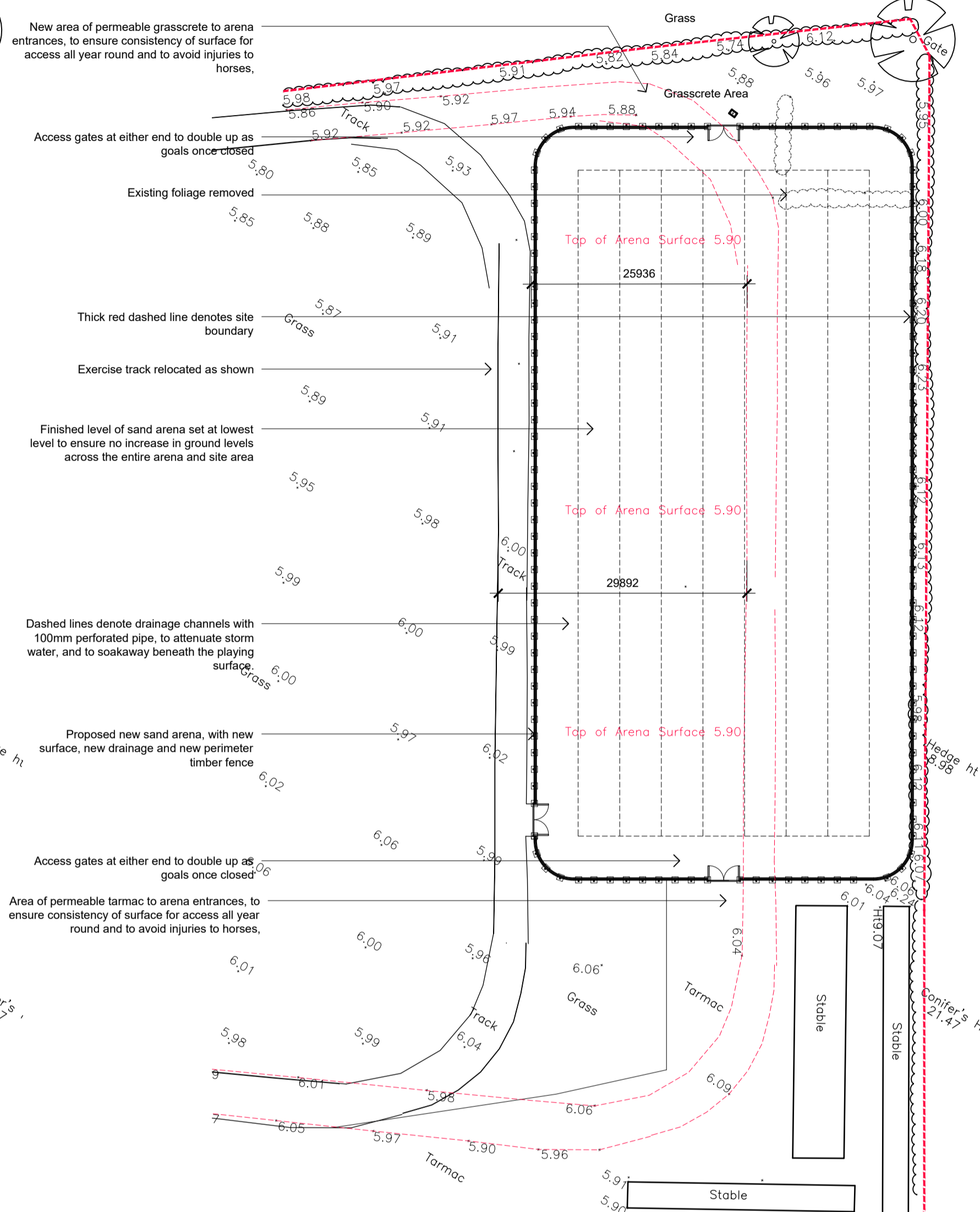
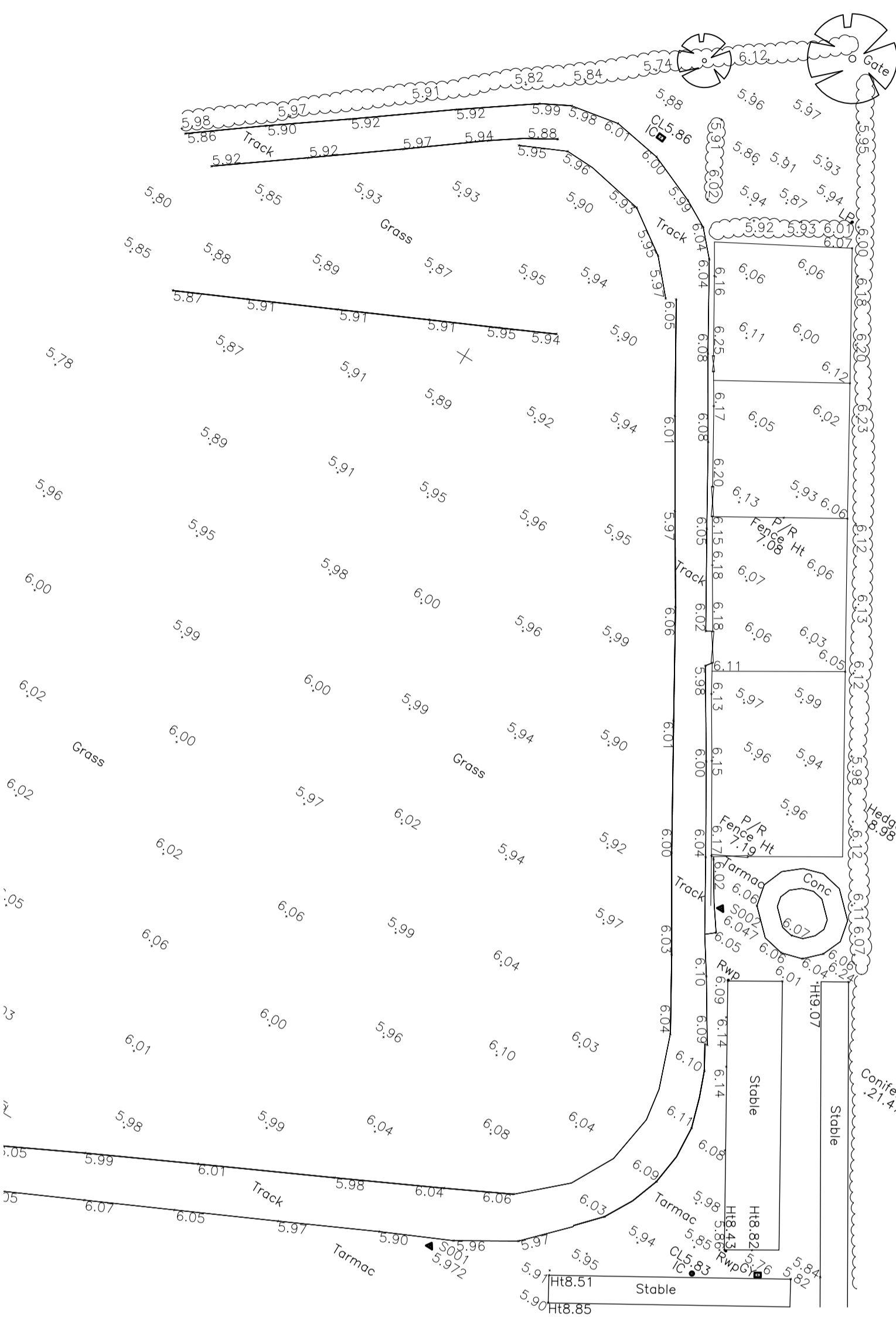
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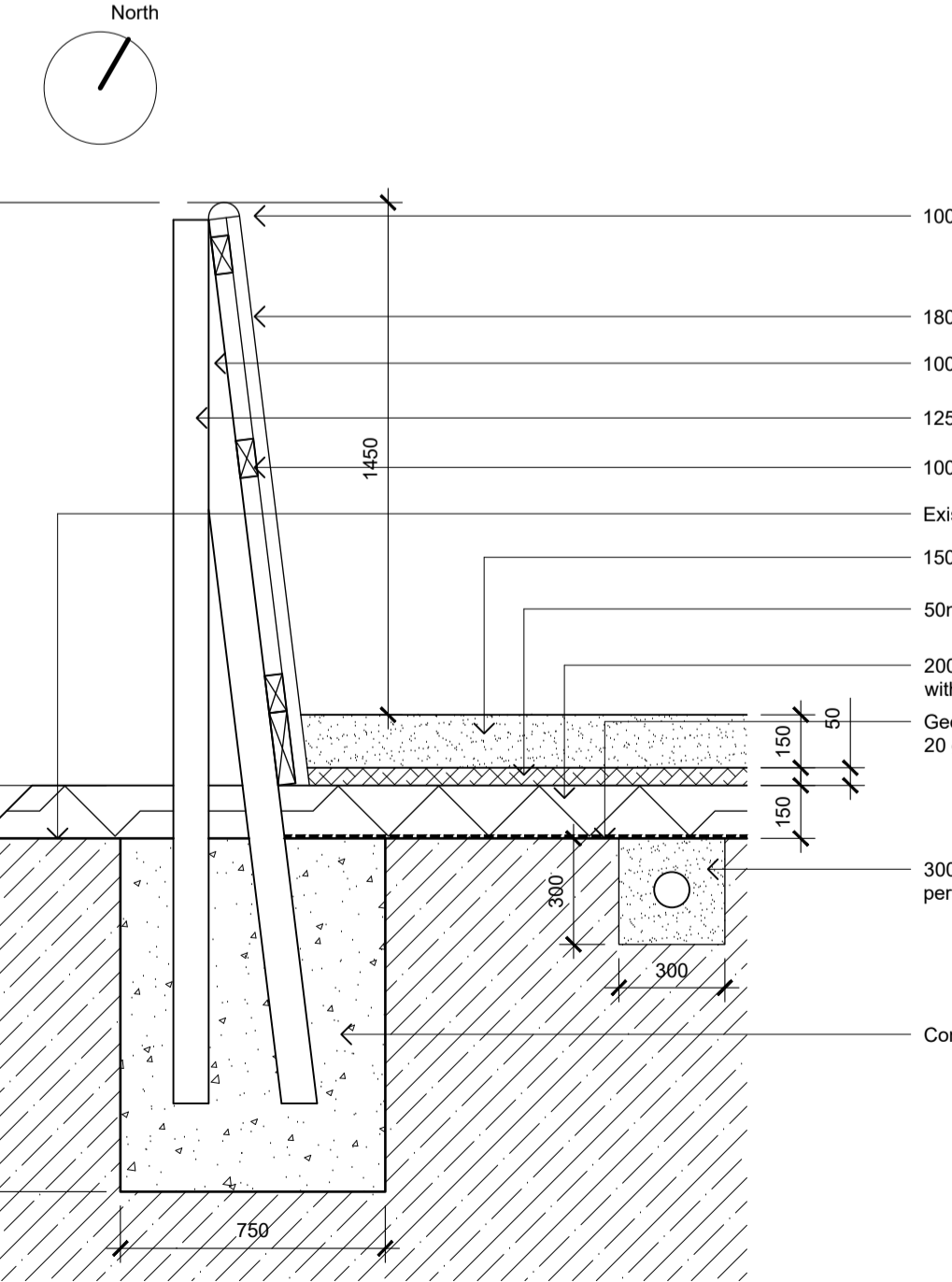
Appendix B

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1. Proposed Site Section / Typical Elevation 1:500



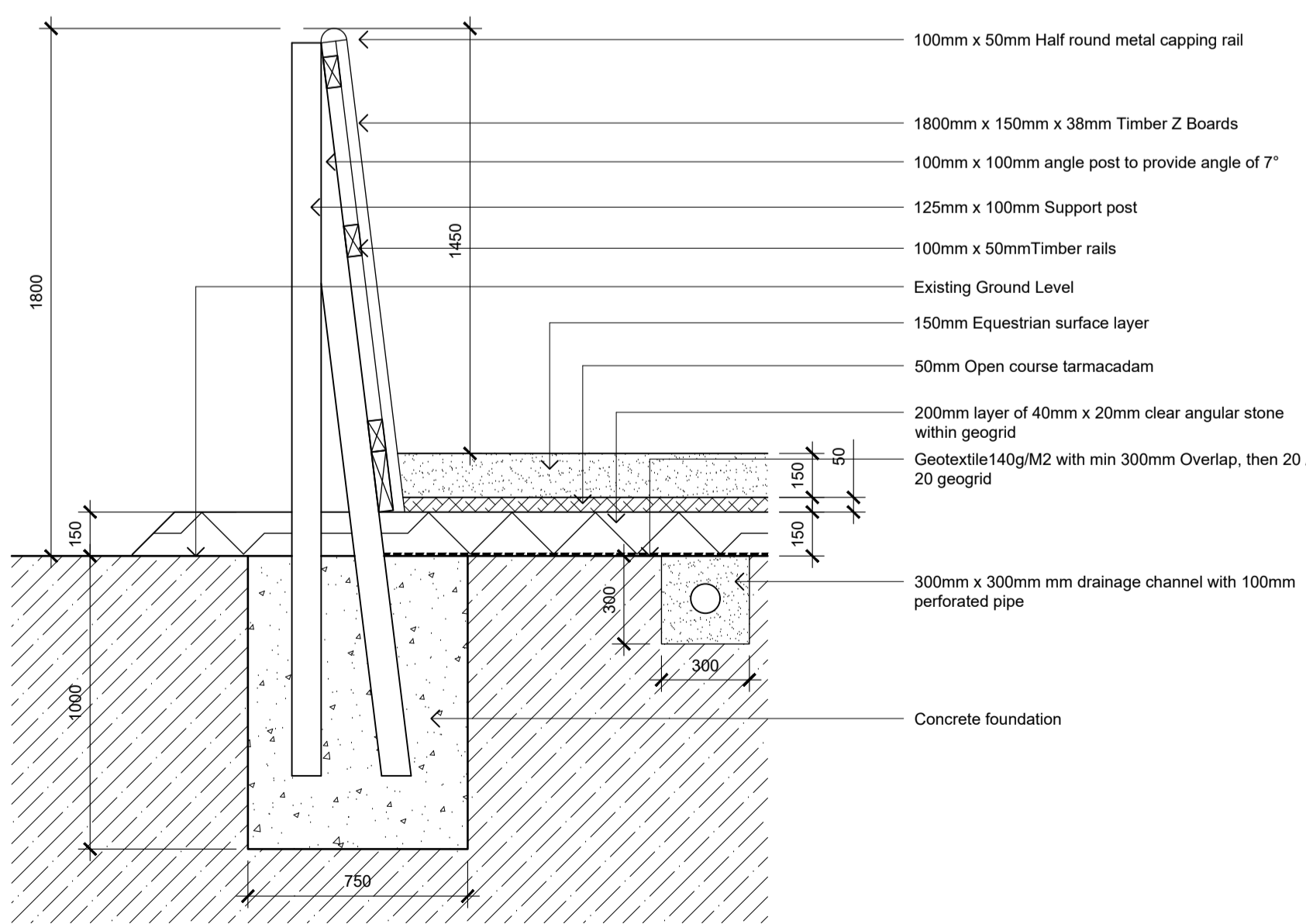
2. Existing Site Plan 1:500



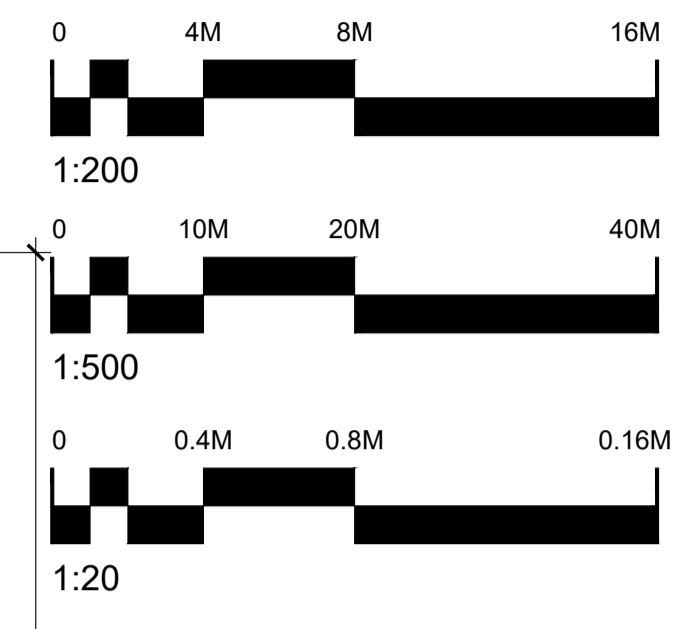
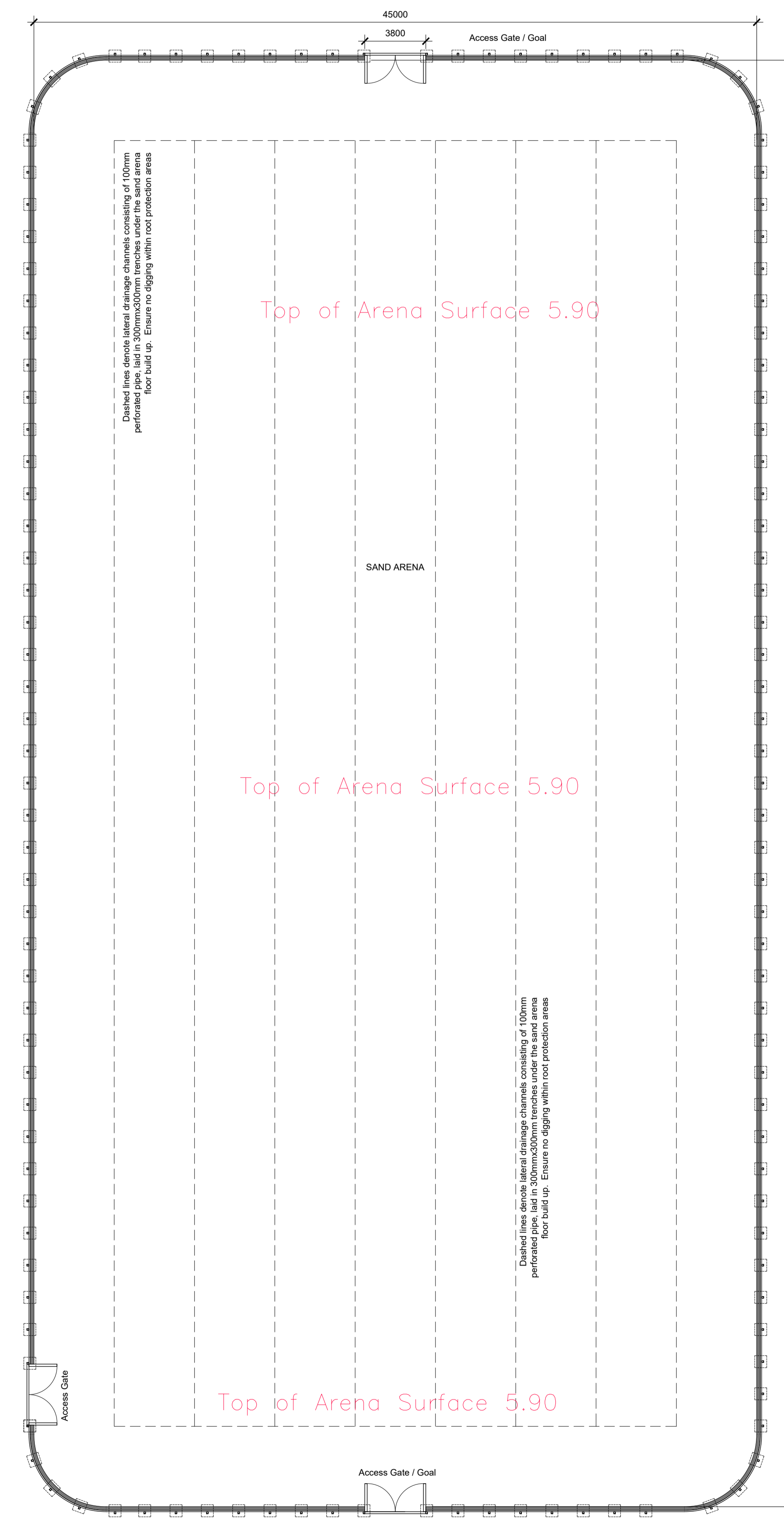
3. Proposed Site Plan 1:500



4. Fence / Arena Floor Detail 1:20



5. Proposed Arena Plan 1:200



Rev	Date	Description	By	Chk

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Client:
Ham Polo Club

Project:
Proposed Sand Arena Extension

Drawing title:
Proposed Plans and Details

Scale(s): Varies	Size: A1	First issue: 24.07.24	Drawn: WA
Job no: LTD34a	Drawing no: 10	Rev: A	

PLANNING