



Flood Risk Assessment

Proposed Development

Former Friends School Fields, Saffron Waldon, Essex

Contents

1. Introduction
2. The Development
3. Fluvial Flooding
4. Surface Water Flood Risk
5. Other Flood Risks
6. Water Framework Directive

Executive summary

- ⇒ The development comprises the construction of 91 dwellings with associated infrastructure and landscaping, provision of playing field and associated clubhouse
- ⇒ The dwellings and their access will be located fully within flood zone 1.
- ⇒ The site is not considered to be at risk of surface water or groundwater flooding.
- ⇒ Site surface water runoff is being managed using Sustainable Drainage as set out in the separate report and designs by Infrastructure Design Ltd.

1 Introduction

- 1.1 Amazi Consulting Ltd has been instructed to prepare this Flood Risk Assessment (FRA) associated with the proposed residential development at former Friends School Fields, Mount Pleasant Road, Saffron Walden, Essex CB11 3EA.
- 1.2 This report has been prepared for the sole use of Chase New Homes to accompany the full planning application. Its contents cannot be copied or relied upon by others, except Government planning and drainage authorities, without the written authority of Amazi Consulting Ltd.
- 1.3 This FRA has been prepared in accordance with National Planning Policy Framework (NPPF), December 2023, and its accompanying gov.uk Planning Practice Guidance (PPG): *Flood Risk and Coastal Change* (2022). It is expected that this report will be reviewed by the relevant authorities as part of the documentation submitted for outline planning permission, and the reader will have some understanding of the technical issues relating to development and flood risk.
- 1.4 This Assessment has been undertaken as a desk study and relies upon data produced by others. It focuses upon flood risks to the development. The flood data used is currently the best available for assessing flood risks at the site. This report does not attempt to comment upon insurance, or for flood events other than as stipulated by planning policy. There is always the risk, however small, that flooding could be different to that assessed.

2 The Development

- 2.1 This 0.345 hectare (ha) site is located at approximate Ordnance Survey (OS) national grid reference 554100 mE, 237550 mN, as shown in on Figure 2.1 and the attached location plan.

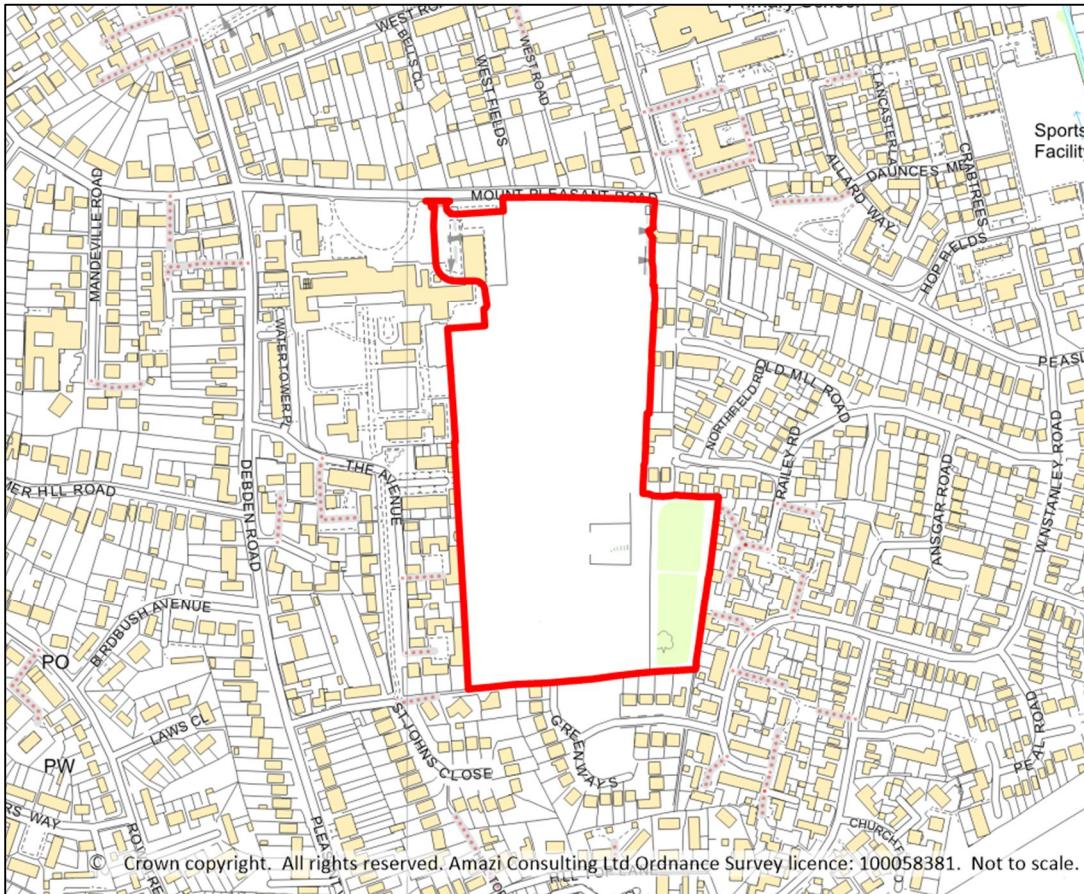


Figure 2.1 - Location

- 2.2 The attached GPS topographical survey of the site confirms exiting ground levels fall quite steeply at the south of the site from east to west. And the north of the site falls to the north and west. Total fall from highest to lowest parts of the site is approximately 5 m.
- 2.3 The topography of the site is also illustrated on Figure 2.2, and Figure 2.3 shows contours in the wider area showing upstream topographical catchment and fall downhill of the site towards the Main River watercourse The Slade.



Figure 2.2 - Site contours (mAOD)

(Source: TL53nw.tif, 13 March 2024)

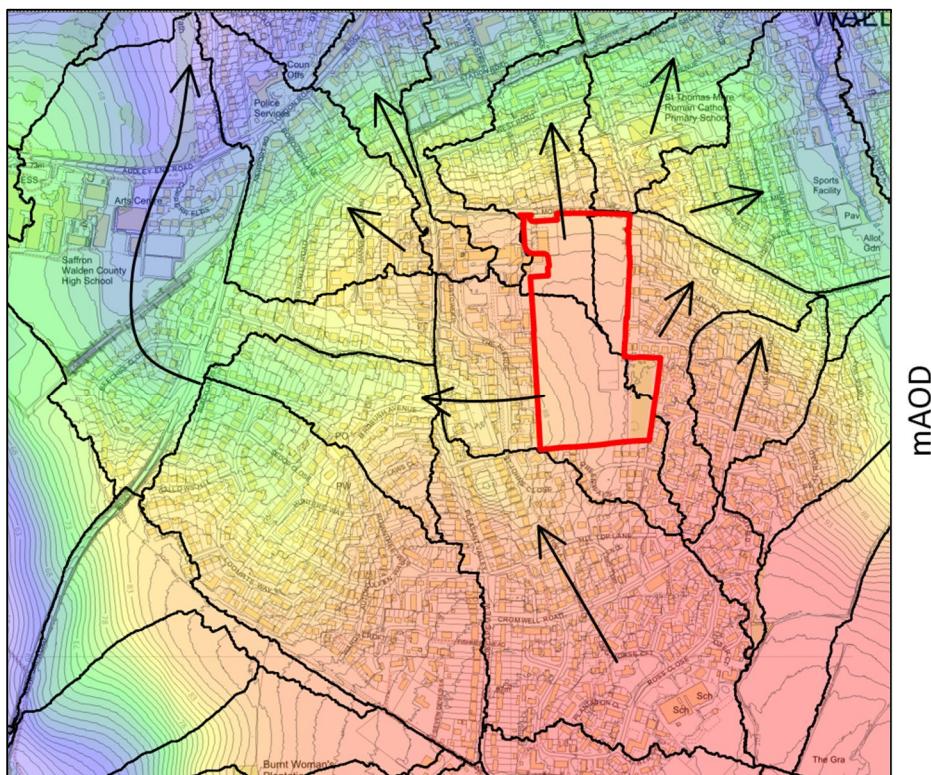


Figure 2.3 - Contours in wider area (mAOD)

(Source: TL53nw.tif, 13 March 2024)

Shows the approximate outline of topographical sub-catchments (outlined in black).

- 2.4 The proposed development comprises the construction of 91 dwellings with associated infrastructure and landscaping, provision of playing field and associated clubhouse. Refer to attached proposed site plan.
- 2.5 The proposed use is considered to be classified as *more vulnerable* in accordance with National Planning Policy Framework (NPPF, 2023) Annex 3.

3 Fluvial Flooding

- 3.1 The site is located fully within flood zone* 1 and is not at risk of flooding from significant watercourses. 3

* Refer to attached NPPF Table 1

4 Surface Water Flood Risk

- 4.1 Figure 4.1 shows the risk of flooding from surface water mapping near to the site. This indicates that the site is not identified at risk of surface water flooding. This mapping appears to indicate that there is not a flow path towards the site from higher land to the south east. Figure 2.3 does indicate a relatively small area that falls towards the direction of the site, but also no valley/flow path.

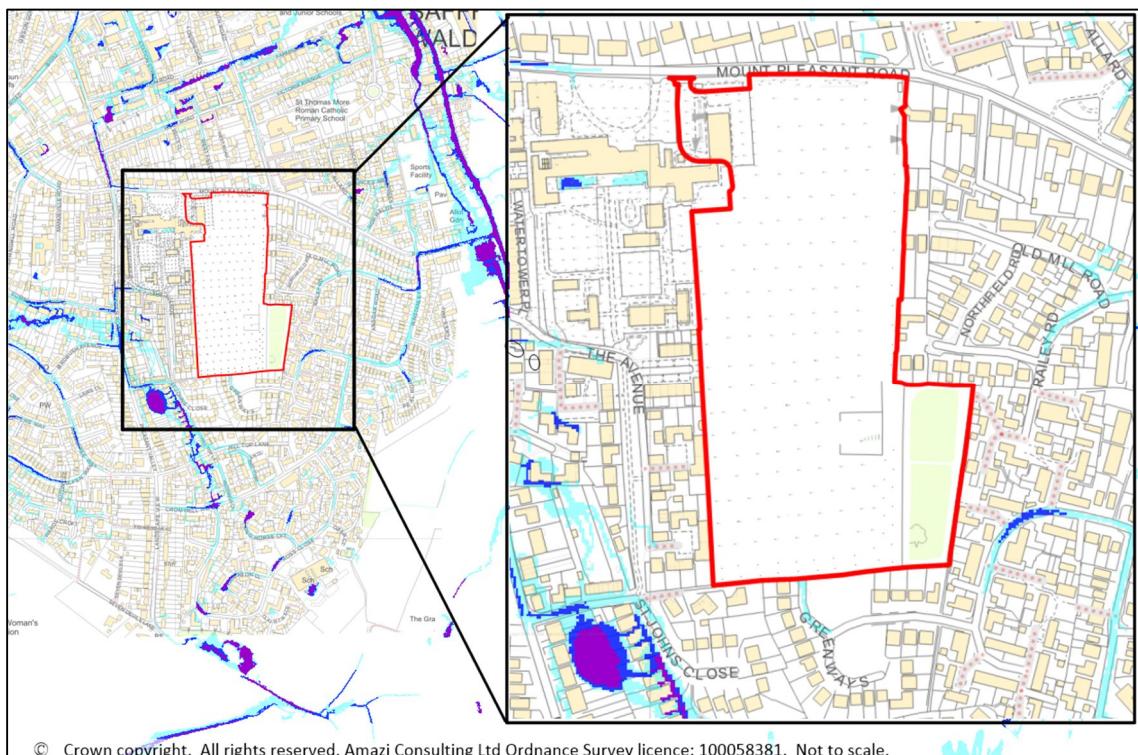


Figure 4.1 - Risk of Flooding from Surface Water

High ⇔ 1:30 year return period (3.3% average annual probability of exceedance)

Medium ⇔ 1:100 year return period (1% average annual probability of exceedance)

Low ⇔ 1:1,000 year return period (0.1% average annual probability of exceedance)

(Source: RoFSW_TL53_Extent_1in1000.shp, RoFSW_TL53_Extent_1in100.shp, RoFSW_TL53_Extent_1in30.shp)

- 4.2 The Risk of Flooding from Surface Water mapping is accompanied by the statement that it: '*should not be taken as definitive mapping of flood risk from these as the conveyance effect of ordinary watercourses or drainage channels is not explicitly modelled. Also, structures (such as bridges, culverts and weirs) and flood risk management infrastructure (such as defences) are not represented.*' So the exact beneficial conveyance effects of the local surface water drainage systems are not accounted for in the modelling. As with all modelling, it has also not taken into account the full complexities of the landscape, e.g. kerbs, walls and other landscape features that will act to affect the flow routes. Future climate change is not included. The Government caveat on using this mapping states: '*This dataset is not suitable for identifying whether an individual property will flood'. 'Because of the way they have been produced and the fact that they are indicative, the maps are not appropriate to act as the sole evidence for any specific planning or regulatory decision or assessment of risk in relation to flooding at any scale without further supporting studies or evidence*'.

5 Other Flood Risks

5.1 Groundwater Flood Risk

- 5.1.1 Figure 5.1 shows the Geosmart GW5 (v2.1) groundwater flood risk mapping which confirms that the site is in CLASS 4: NEGLIGIBLE RISK: *There is a negligible risk of groundwater flooding in this area and any groundwater flooding incidence has a chance of less than 1% annual probability of occurrence.*

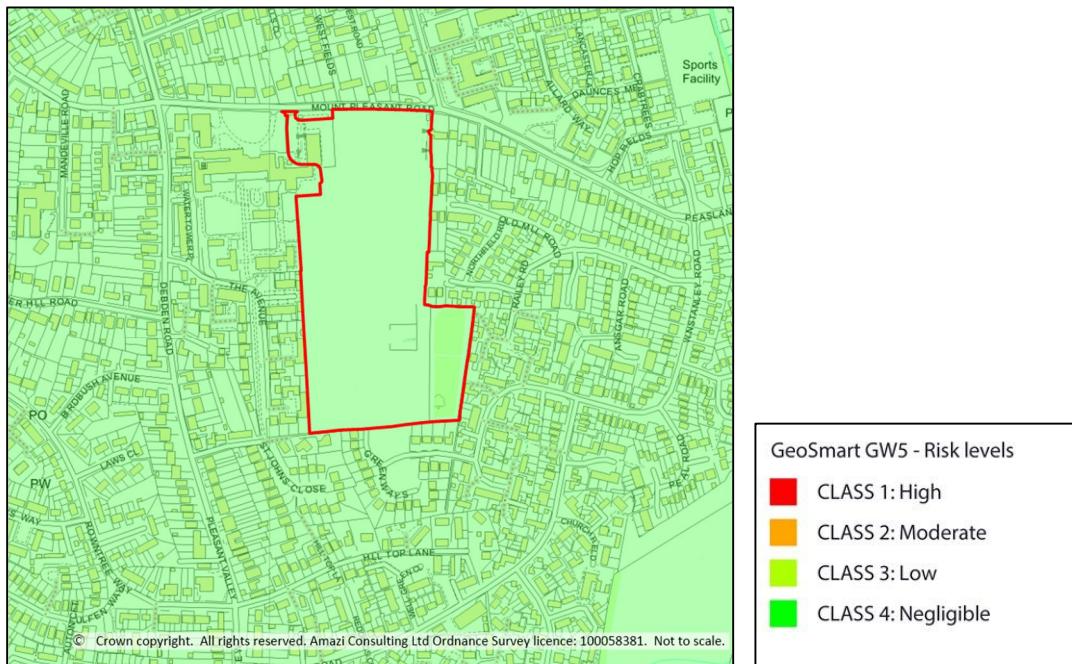


Figure 5.1 – Groundwater flood risk – GW5 v2.1

5.2 Sewers

- 5.2.1 The attached Anglian Water mapping indicates that there are surface water sewers to the east of the site which may intercept rainfall and convey it away from the site. Figure 2.3 shows that there is also very limited topographical catchment uphill of the site. So even if the sewers were to fail, there is not expected to be any significant overland flow towards the site.

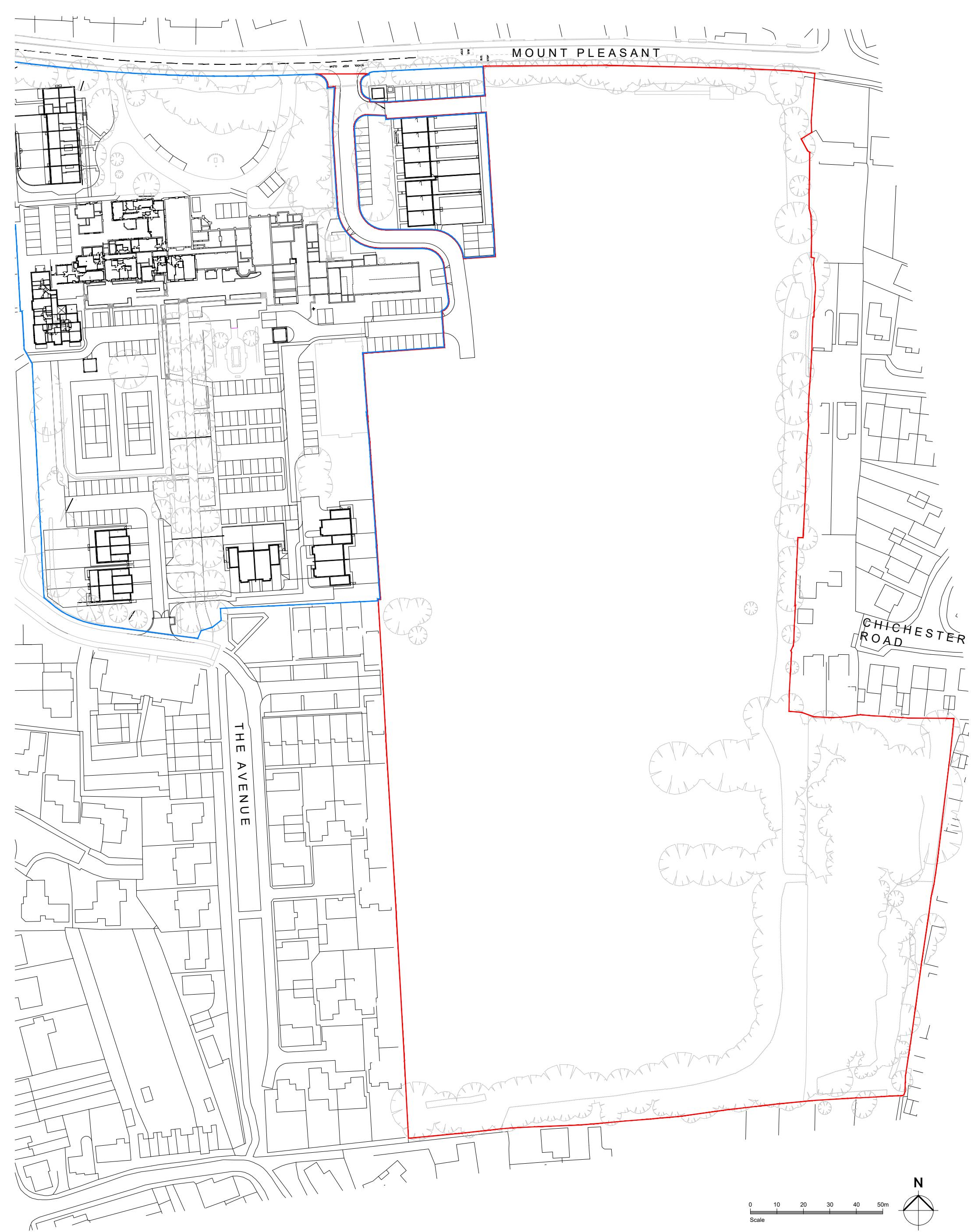
6 Water Framework Directive

- 6.1 A Water Framework Directive assessment is not required for this development. As confirmed by the Environment Agency '*this site has no relevant constraints that would meet our remit for response and we wouldn't respond to this at planning. We note that the Uttlesford validation checklist mentions that WFD Assessment would be looked at by ourselves....I can confirm though that this wouldn't be relevant for ourselves for this particular site*' (Email 07 September 2023).

Prepared by Leigh Parratt
BEng (Hons) CEng MICE CWEM MCIWEM PCHEP FHEA
www.amazi.co.uk

Attachments

- 23110 (D) 099B Site Location Plan
- Table 1 NPPF PPG
- DAT / 9.0C Topographical survey sheets 1 & 2
- 23110 (D) 004C Proposed Site Plan
- Anglian Water sewer map (257728, March 2018)



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B 18.06.24
A 06.06.24
REV: BY: DATE:
Boundaries updated.
Updated to reflect revised school layout information.

PROJECT:

Former Playing Fields Walden School

CLIENT:

ISSUE STATUS:

DESIGN B of Q CONSTRUCTION RECORD

DRAWING TITLE:
Site Location Plan

SCALE: 1:1250 (A3) DATE: May 2024 BY: JB

DRAWING NO:

REVISION:

23110 (D) 099

B

National Planning Policy Planning Practice Guidance: *flood risk and coastal change*

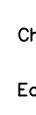
Table 1: Flood Zones

Flood Zone	Definition
Zone 1 Low Probability	Land having a less than 0.1% annual probability of river or sea flooding. (Shown as ‘clear’ on the Flood Map for Planning – all land outside Zones 2, 3a and 3b)
Zone 2 Medium Probability	Land having between a 1% and 0.1% annual probability of river flooding; or land having between a 0.5% and 0.1% annual probability of sea flooding. (Land shown in light blue on the Flood Map)
Zone 3a High Probability	Land having a 1% or greater annual probability of river flooding; or Land having a 0.5% or greater annual probability of sea. (Land shown in dark blue on the Flood Map)
Zone 3b The Functional Floodplain	<p>This zone comprises land where water from rivers or the sea has to flow or be stored in times of flood. The identification of functional floodplain should take account of local circumstances and not be defined solely on rigid probability parameters. Functional floodplain will normally comprise:</p> <ul style="list-style-type: none">• land having a 3.3% or greater annual probability of flooding, with any existing flood risk management infrastructure operating effectively; or• land that is designed to flood (such as a flood attenuation scheme), even if it would only flood in more extreme events (such as 0.1% annual probability of flooding). <p>Local planning authorities should identify in their Strategic Flood Risk Assessments areas of functional floodplain and its boundaries accordingly, in agreement with the Environment Agency. (Not separately distinguished from Zone 3a on the Flood Map)</p>

Note: The Flood Zones shown on the Environment Agency’s Flood Map for Planning (Rivers and Sea) do not take account of the possible impacts of climate change and consequent changes in the future probability of flooding. Reference should therefore also be made to the [Strategic Flood Risk Assessment](#) when considering location and potential future flood risks to developments and land uses.

Paragraph: 078 Reference ID: 7-078-20220825



STATIONS					
Arch Beam Height	KO	Kerb Outlet			
Brick	LTS	Low Timber Strip			
Balcony	LP	Lamp Post			
Belisha Beacon	MH	Manhole			
Bollard	MKR	Marker			
Borehole or Beam Height	MSF	Metal Security Fence			
Bed Level	OV	Over Flow Pipe			
Brick Pier	OHC	Overhead Cables			
Brick Retaining Wall	P	Post			
Bus Stop	PALF	Palisade Fence			
British Telecom	PF	Picket Fence			
Brick Wall	PIT	Trial Pit			
Barbed Wire Fence	PL	Pavement Light			
Catch Pit	PM	Parking Meter			
Cabinet	PRF	Post & Rail Fence			
Close Boarded Fence	PWH	Parapet Wall Height			
Concrete Block Wall	R	Render			
Corrugated Iron Fence	RAD	Radiator			
Cover Level	RE	Rodding Eye			
Chain Link Fence	RH	Ridge Height			
Column	RS	Road Sign			
Concrete Panel Fence	RWP	Rain Water Pipe			
Concrete Paving Slabs	S	Stone			
Concrete Retaining Wall	SV	Stop VALVE			
Ceiling Slopes Up	SL	Soffit Level or Skylight			
Cable Television	SP	Soil Pipe			
Concrete Wall	SR	SERVICES			
Crazy Paving	SPV	Stone Paving Slabs			
Door	SRW	Stone Retaining Wall			
Door Head Level	SA	Soakaway			
Door Beam Height	SWS	Surface Water Sewer			
Electricity Cover	TJ	Top of Joist			
Eave Height	T	TILE			
Electricity Pole	TL	Traffic Light			
Flower Bed	UJ	Underside of Roof Joist			
False Ceiling	UR	Underside of Ridge Board			
Fire Escape	UWP	Underside of Wall Plate			
Flat Roof Height	V	Vent			
Floor Level	VP	Vent Pipe			
Foul Water Sewer	WS	Wooden Sleeper			
Gully	WL	Water Level			
Gas Valve	WM	Water Meter			
Inspection Cover	WMF	Wire Mesh Fence			
Invert Level	WPF	Wooden Panel Fence			
Iron Railing Fence	WCL	Window Cill Level			
Interwoven Fence	WHL	Window Head Level			
	WRW	Wooden Retaining Wall			
		Top Banks Bottom			
		Fences			
		Change in Surface			
		Edge of Vegetation			
		OS Data			
 3.28					
 Gate					
 Survey Station					
 Tree					
STATION CO-ORDINATE TABLE					
Ref.	East	North	Elevation		
	553874.851	237658.095	86.899		
	553868.405	237758.741	83.313		
	553885.193	237770.784	83.614		
	553939.115	237764.895	85.280		
	553941.805	237730.871	87.080		
	553876.229	237566.902	84.826		
	553904.242	237565.281	86.498		
	553935.842	237540.870	87.208		
	553975.683	237542.075	88.253		

S

LEVELS SHOWN ARE RELATED TO ORDNANCE
EY GPS DATUM.

TYPES SHOWN ON THIS DRAWING CANNOT BE
ANTEED AND IF CRITICAL SHOULD BE VERIFIED
REE SPECIALIST. TREE SPREADS ARE AVERAGES
SS OTHERWISE INDICATED. TREE HEIGHTS ARE
OXIMATE.

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ATIONS ALL HIGH LEVEL DETAIL HAS BEEN
EYED REMOTELY AND NOT CHECKED BY PHYSICAL
UREMENTS.

CRITICAL MEASUREMENTS MUST BE CHECKED /
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IMAGE SURVEY AMENDED.	021018
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HEY ENHANCED FOLLOWING MEASURED BUILDING HEY.	040918

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A MEMBER OF
THE SURVEY ASSOCIATION

SCALE: 1:500 @ A0

DATE: MAY 2018

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**TOPOGRAPHICAL SURVEY
SHEET 1 OF 2**

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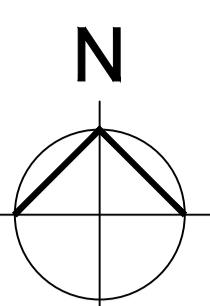
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EX CM16 6TH



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0 10 20 30 40 50m
Scale



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KEY:
Blue circled plot number denotes an affordable housing unit.



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01296 421758 e:practice@colesarchitects.co.uk

PROJECT: Walden School Saffron Walden

DRAWING TITLE: Proposed Site Layout

SCALE: 1:500 (A0) DATE: June 2024 BY: JB

ISSUE STATUS: DESIGN B of Q CONSTRUCTION RECORD

CHECKED BY: DATE:

DRAWING NO: 23110 (D) 004 REVISION: C

C JJB 27.06.24 Sport England updates.
B JJB 26.06.24 Engineering updates.
A JJB 16.06.24 Client updates.
REV: BY: DATE: DETAILS:

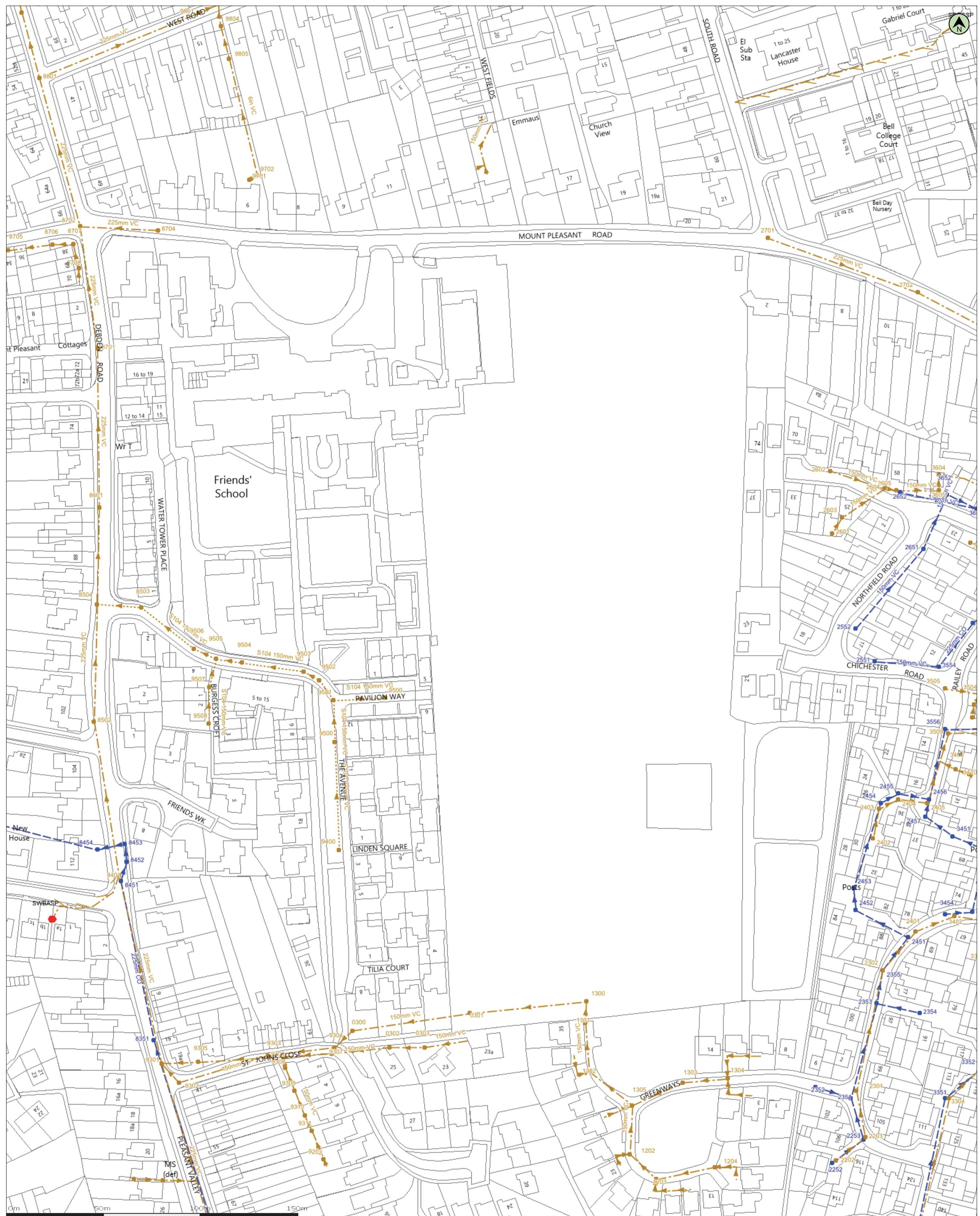
Utilities Report



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Affected Utilities

Anglian Water



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Data updated: 03/02/18

Scale: 1:1250 Date: 20/03/18
Map Centre: 554071,237570 Wastewater Plan A2
Our Ref: 257728 - 1
Powered by digitat

Foul Sewer		Outfall*		stat.payments@atkinsglobal.com
Surface Sewer				63572
Combined Sewer				
Final Effluent Sewer				
Rising Main*				
Private Sewer*		Inlet*		
Decommissioned Sewer*		Manhole*		
				Decommissioned Pumping Station

*(Colour denotes effluent type)

CHECKED

love every drop
anglianwater

This plan is provided by Anglian Water pursuant to its obligations under the Water Industry Act 1991 sections 198 or 199. It must be used in conjunction with any search results attached. The information on this plan is based on data currently recorded but position must be regarded as approximate. Service pipes, private sewers and drains are generally not shown. Users of this map are strongly advised to commission their own survey of the area shown on the plan before carrying out any works. The actual position of all apparatus MUST be established by trial holes. No liability whatsoever, including liability for negligence, is accepted by Anglian Water for any error or inaccuracy or omission, including the failure to accurately record, or record at all, the location of any water main, discharge pipe, sewer or disposal main or any item of apparatus. This information is valid for the date printed. This plan is produced by Anglian Water Services Limited (c) Crown copyright and database rights 2018 Ordnance Survey 100022432. This map is to be used for the purposes of viewing the location of Anglian Water plant only. Any other uses of the map data or further copies is not permitted. This notice is not intended to exclude or restrict liability for death or personal injury resulting from negligence.

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert
0300	F	-	84.172	-
0301	F	-	86.25	-
0302	F	-	-	-
0303	F	-	-	-
0500	F	-	-	-
1202	F	-	90.49	-
1203	F	-	90.891	-
1204	F	-	91.922	-
1300	F	-	88.3	-
1301	F	-	88.678	-
1302	F	-	89.288	-
1303	F	-	90.868	-
1304	F	-	91.621	-
1305	F	-	90.071	-
2202	F	-	-	-
2203	F	-	-	-
2301	F	94.931	93.611	1.32
2302	F	-	-	-
2401	F	-	-	-
2402	F	-	-	-
2403	F	-	-	-
2404	F	-	-	-
2405	F	-	-	-
2601	F	89.98	88.33	1.65
2602	F	89.01	87.47	1.54
2603	F	89.59	87.95	1.64
2604	F	88.25	86.09	2.16
2605	F	87.79	85.83	1.96
2701	F	86.71	84.69	2.02
2702	F	83.24	81.32	1.92
3304	F	-	-	-
3402	F	-	-	-
3409	F	-	-	-
3410	F	-	-	-
3503	F	91.32	89.73	1.59
3505	F	91.5	90.13	1.37
3507	F	91.52	89.94	1.58
3509	F	-	-	-
3604	F	-	-	-
3605	F	87.43	85.54	1.89
3607	F	87.96	86.45	1.51
8401	F	82.3	80.5	1.8
8502	F	-	-	-
8503	F	-	-	-
8504	F	-	-	-
8601	F	86.39	79.47	6.92
8701	F	85.74	78.98	6.76
8702	F	82.4	78.68	3.72
8704	F	-	-	-
8705	F	-	-	-
8706	F	-	-	-
8707	F	-	-	-
8708	F	-	-	-
8801	F	-	-	-
8802	F	-	-	-
9202	F	-	-	-
9301	F	84.62	82.38	2.24
9302	F	-	82.774	-
9303	F	-	83.414	-
9304	F	-	83.998	-
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9507	F	-	-	-
9508	F	-	-	-
9701	F	-	-	-
9702	F	-	-	-
9801	F	76.73	74.32	2.41
9804	F	-	-	-
9805	F	-	-	-
2252	S	-	-	-
2253	S	-	-	-
2351	S	94.985	93.485	1.5
2352	S	94.639	93.689	0.95
2353	S	-	-	-
2354	S	-	-	-
2355	S	-	-	-
2451	S	-	-	-
2452	S	-	-	-
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2456	S	-	-	-
2457	S	-	-	-
2551	S	92.04	90.59	1.45
2552	S	91.81	90.78	1.03
2651	S	88.98	87.87	1.11
2652	S	88.9	87.35	1.55
3351	S	-	-	-
3451	S	-	-	-
3453	S	-	-	-



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