

4 Reliance

4.1 The Client acknowledges that the Services provided by GroundSure consist of the presentation and analysis of Third Party Content and other content and that information obtained from a Third Party Data Provider cannot be guaranteed or warranted by GroundSure to be reliable.

4.2 In respect of Data Reports, Mapping and Risk Screening Reports, the following classes of person and no other are entitled to rely on their contents;

- (i) the Beneficiary,
- (ii) the Beneficiary's professional advisers, (iii) any person providing funding to the Beneficiary in relation to the Site (whether directly or as part of a lending syndicate),
- (iv) the first purchaser or first tenant of the Site, and
- (v) the professional advisers and lenders of the first purchaser or tenant of the Site.

4.3 In respect of Support Services, only the Client, Beneficiary and parties expressly named in a Report and no other parties are entitled to rely on its contents.

4.4 Save as set out in clauses 4.2 and 4.3 and unless otherwise expressly agreed in writing, no other person or entity of any kind is entitled to rely on any Services or Report issued or provided by GroundSure. Any party considering such Reports and Services does so at their own risk.

5 Fees and Disbursements

5.1 GroundSure shall charge and the Client shall pay fees at the rate and frequency specified in the written proposal, Order Website or Order acknowledgement form, plus (in the case of Support Services) all proper disbursements incurred by GroundSure. The Client shall in addition pay all value added tax or other tax payable on such fees and disbursements in relation to the provision of the Services (together "Fees").

5.2 The Client shall pay all outstanding Fees to GroundSure in full without deduction, counterclaim or set off within 30 days of the date of GroundSure's invoice or such other period as may be agreed in writing between GroundSure and the Client ("Payment Date"). Interest on late payments will accrue on a daily basis from the Payment Date until the date of payment (whether before or after judgment) at the rate of 8% per annum.

5.3 The Client shall be deemed to have agreed the amount of any invoice unless an objection is made in writing within 28 days of the date of the invoice. As soon as reasonably practicable after being notified of an objection, without prejudice to clause 5.2 a member of GroundSure's management team will contact the Client and the parties shall then use all reasonable endeavours to resolve the dispute within 15 days.

6 Intellectual Property and Confidentiality

6.1 Subject to

- (i) full payment of all relevant Fees and
- (ii) compliance with this Contract, the Client is granted (and is permitted to sub-licence to the Beneficiary) a royalty-free, worldwide, non-assignable and (save to the extent set out in this Contract) non-transferable licence to make use of the GroundSure Materials.

6.2 All Intellectual Property in the GroundSure Materials are and shall remain owned by GroundSure or GroundSure's licensors (including without limitation the Third Party Data Providers) the Client acknowledges, and shall procure acknowledgement by the Beneficiary of, such ownership. Nothing in this Contract purports to transfer or assign any rights to the Client or the Beneficiary in respect of such Intellectual Property.

6.3 Third Party Data Providers may enforce any breach of clauses 6.1 and 6.2 against the Client or Beneficiary.

6.4 The Client shall, and shall procure that any recipients of the GroundSure Materials shall:

- (i) not remove, suppress or modify any trade mark, copyright or other proprietary marking belonging to GroundSure or any third party from the Services;
- (ii) use the information obtained as part of the Services in respect of the subject Site only, and shall not store or reuse any information obtained as part of the Services provided in respect of adjacent or nearby sites;
- (iii) not create any product or report which is derived directly or indirectly from the Services (save that those acting in a professional capacity to the Beneficiary may provide advice based upon the Services);
- (iv) not combine the Services with or incorporate such Services into any other information data or service;

(v) not reformat or otherwise change (whether by modification, addition or enhancement), the Services (save that those acting for the Beneficiary in a professional capacity shall not be in breach of this clause 6.4(v) where such reformatting is in the normal course of providing advice based upon the Services);

(vi) where a Report and/or Mapping contains material belonging to Ordnance Survey, acknowledge and agree that such content is protected by Crown Copyright and shall not use such content for any purpose outside of receiving the Services; and

(vii) not copy in whole or in part by any means any map prints or run-on copies containing content belonging to Ordnance Survey (other than that contained within Ordnance Survey's OS Street Map) without first being in possession of a valid Paper Map Copying Licence from Ordnance Survey,

6.5 Notwithstanding clause 6.4, the Client may make reasonable use of the GroundSure Materials in order to advise the Beneficiary in a professional capacity. However, GroundSure shall have no liability in respect of any advice, opinion or report given or provided to Beneficiaries by the Client.

6.6 The Client shall procure that any person to whom the Services are made available shall notify GroundSure of any request or requirement to disclose, publish or disseminate any information contained in the Services in accordance with the Freedom of Information Act 2000, the Environmental Information Regulations 2004 or any associated legislation or regulations in force from time to time.

7. Liability: Particular Attention Should Be Paid To This Clause

7.1 This Clause 7 sets out the entire liability of GroundSure, including any liability for the acts or omissions of its employees, agents, consultants, subcontractors and Third Party Content, in respect of:

- (i) any breach of contract, including any deliberate breach of the Contract by GroundSure or its employees, agents or subcontractors;
- (ii) any use made of the Reports, Services, Materials or any part of them; and
- (iii) any representation, statement or tortious act or omission (including negligence) arising under or in connection with the Contract.

7.2 All warranties, conditions and other terms implied by statute or common law are, to the fullest extent permitted by law, excluded from the Contract.

7.3 Nothing in the Contract limits or excludes the liability of the Supplier for death or personal injury resulting from negligence, or for any damage or liability incurred by the Client or Beneficiary as a result of fraud or fraudulent misrepresentation.

7.4 GroundSure shall not be liable for

- (i) loss of profits;
- (ii) loss of business;
- (iii) depletion of goodwill and/or similar losses;
- (iv) loss of anticipated savings;
- (v) loss of goods;
- (vi) loss of contract;
- (vii) loss of use;
- (viii) loss or corruption of data or information;
- (ix) business interruption;
- (x) any kind of special, indirect, consequential or pure economic loss, costs, damages, charges or expenses;
- (xi) loss or damage that arise as a result of the use of all or part of the GroundSure Materials in breach of the Contract;
- (xii) loss or damage arising as a result of any error, omission or inaccuracy in any part of the GroundSure Materials where such error, omission or inaccuracy is caused by any Third Party Content or any reasonable interpretation of Third Party Content;
- (xiii) loss or damage to a computer, software, modem, telephone or other property; and
- (xiv) loss or damage caused by a delay or loss of use of GroundSure's internet ordering service.

7.5 GroundSure's total liability in relation to or under the Contract shall be limited to £10 million for any claim or claims.

7.6 GroundSure shall procure that the Beneficiary shall be bound by limitations and exclusions of liability in favour of GroundSure which accord with those detailed in clauses 7.4 and 7.5 (subject to clause 7.3) in respect of all claims which the Beneficiary may bring against GroundSure in relation to the Services or other matters arising pursuant to the Contract.

8 GroundSure's right to suspend or terminate

8.1 If GroundSure reasonably believes that the Client or Beneficiary has not provided the information or assistance required to enable the proper provision of the Services, GroundSure shall be entitled to suspend all further performance of the Services until such time as any such deficiency has been made good.

8.2 GroundSure shall be entitled to terminate the Contract immediately on written notice in the event that:

(i) the Client fails to pay any sum due to GroundSure within 30 days of the Payment Date; or

(ii) the Client (being an individual) has a bankruptcy order made against him or (being a company) shall enter into liquidation whether compulsory or voluntary or have an administration order made against it or if a receiver shall be appointed over the whole or any part of its property assets or undertaking or if the Client is struck off the Register of Companies or dissolved; or

(iii) the Client being a company is unable to pay its debts within the meaning of Section 123 of the Insolvency Act 1986 or being an individual appears unable to pay his debts within the meaning of Section 268 of the Insolvency Act 1986 or if the Client shall enter into a composition or arrangement with the Client's creditors or shall suffer distress or execution to be levied on his goods; or

(iv) the Client or the Beneficiary breaches any term of the Contract (including, but not limited to, the obligations in clause 4) which is incapable of remedy or if remediable, is not remedied within five days of notice of the breach.

9. Client's Right to Terminate and Suspend

9.1 Subject to clause 10.1, the Client may at any time upon written notice terminate or suspend the provision of all or any of the Services.

9.2 In any event, where the Client is a consumer (and not a business) he/she hereby expressly acknowledges and agrees that:

(i) the supply of Services under this Contract (and therefore the performance of this Contract) commences immediately upon GroundSure's acceptance of the Order; and

(ii) the Reports and/or Mapping provided under this Contract are
(a) supplied to the Client's specification(s) and in any event
(b) by their nature cannot be returned.

10 Consequences of Withdrawal, Termination or Suspension

10.1 Upon termination of the Contract:

(i) GroundSure shall take steps to bring to an end the Services in an orderly manner, vacate any Site with all reasonable speed and shall deliver to the Client and/or Beneficiary any property of the Client and/or Beneficiary in GroundSure's possession or control; and

(ii) the Client shall pay to GroundSure all and any Fees payable in respect of the performance of the Services up to the date of termination or suspension. In respect of any Support Services provided, the Client shall also pay GroundSure any additional costs incurred in relation to the termination or suspension of the Contract. 11 Anti-Bribery

11.1 The Client warrants that it shall:

(i) comply with all applicable laws, statutes and regulations relating to anti-bribery and anti-corruption including but not limited to the Bribery Act 2010;

(ii) comply with such of GroundSure's anti-bribery and anti-corruption policies as are notified to the Client from time to time; and

(iii) promptly report to GroundSure any request or demand for any undue financial or other advantage of any kind received by or on behalf of the Client in connection with the performance of this Contract.

11.2 Breach of this Clause 11 shall be deemed a material breach of this Contract.

12 General

12.1 The Mapping contained in the Services is protected by Crown copyright and must not be used for any purpose other than as part of the Services or as specifically provided in the Contract.

12.2 The Client shall be permitted to make one copy only of each Report or Mapping Order. Thereafter the Client shall be entitled to make unlimited copies of the Report or Mapping Order only in accordance with an Ordnance Survey paper map copy license available through GroundSure.

12.3 GroundSure reserves the right to amend or vary this Contract. No amendment or variation to this Contract shall be valid unless signed by an authorised representative of GroundSure.

12.4 No failure on the part of GroundSure to exercise, and no delay in exercising, any right, power or provision under this Contract shall operate as a waiver thereof.

12.5 Save as expressly provided in this Contract, no person other than the persons set out therein shall have any right under the Contract (Rights of Third Parties) Act 1999 to enforce any terms of the Contract.

12.6 The Secretary of State for Business, Innovation and Skills ("BIS") or BIS' successor body, as the case may be, acting through Ordnance Survey may enforce a breach of clause 6.4(vi) and clause 6.4(vii) of these terms and conditions against the Client in accordance with the provisions of the Contracts (Rights of Third Parties) Act 1999.

12.7 GroundSure shall not be liable to the Client if the provision of the Services is delayed or prevented by one or more of the following circumstances:

(i) the Client or Beneficiary's failure to provide facilities, access or information;

(ii) fire, storm, flood, tempest or epidemic;

(iii) Acts of God or the public enemy;

(iv) riot, civil commotion or war;

(v) strikes, labour disputes or industrial action;

(vi) acts or regulations of any governmental or other agency;

(vii) suspension or delay of services at public registries by Third Party Data Providers;

(viii) changes in law; or

(ix) any other reason beyond GroundSure's reasonable control.

In the event that GroundSure is prevented from performing the Services (or any part thereof) in accordance with this clause 12.6 for a period of not less than 30 days then GroundSure shall be entitled to terminate this Contract immediately on written notice to the Client.

12.8 Any notice provided shall be in writing and shall be deemed to be properly given if delivered by hand or sent by first class post, facsimile or by email to the address, facsimile number or email address of the relevant party as may have been notified by each party to the other for such purpose or in the absence of such notification the last known address.

12.9 Such notice shall be deemed to have been received on the day of delivery if delivered by hand, facsimile or email (save to the extent such day is not a working day where it shall be deemed to have been delivered on the next working day) and on the second working day after the day of posting if sent by first class post.

12.10 The Contract constitutes the entire agreement between the parties and shall supersede all previous arrangements between the parties relating to the subject matter hereof.

12.11 Each of the provisions of the Contract is severable and distinct from the others and if one or more provisions is or should become invalid, illegal or unenforceable, the validity and enforceability of the remaining provisions shall not in any way be tainted or impaired.

12.12 This Contract shall be governed by and construed in accordance with English law and any proceedings arising out of or connected with this Contract shall be subject to the exclusive jurisdiction of the English courts.

12.13 GroundSure is an executive member of the Council of Property Search Organisation (CoPSO) and has signed up to the Search Code administered by the Property Codes Compliance Board (PCCB). All Risk Screening Reports shall be supplied in accordance with the provisions of the Search Code.

12.14 If the Client or Beneficiary has a complaint about the Services, written notice should be given to the Compliance Officer at GroundSure who will respond in a timely manner.

12.15 The Client agrees that it shall, and shall procure that each Beneficiary shall, treat in confidence all Confidential Information and shall not, and shall procure that each Beneficiary shall not (i) disclose any Confidential Information to any third party other than in accordance with the terms of this Contract; and (ii) use Confidential Information for a purpose other than the exercise of its rights and obligations under this Contract. Subject to clause 6.6, nothing shall prevent the Client or any Beneficiary from disclosing Confidential Information to the extent required by law.

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APPENDIX 2

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GRM Development Solutions Ltd
Laurus House
First Avenue
Centrum 100
Burton upon Trent
Staffordshire
DE14 2WH

Tel: 01283 551249
Web: www.grm-uk.com
Our Ref: P6194-SOAK.1
Date: 10th June 2015

Mr Andy Green
Gladman Developments Ltd
Gladman House
Alexandria Way
Congleton Business Park
Congleton
Cheshire
CW12 1LB

Dear Mr Green

RE: Infiltration Rate Testing on Land to the South of Salt Way Banbury.

Further to our instruction from Gladman Developments Ltd (Client), GRM Development Solutions have attended the above site on 8th and 9th June 2015 to carry out infiltration tests from trial pits. This investigation took the form of the excavation of ten trial pits and subsequent infiltration testing. A soakaway test location plan is provided in Appendix A.

The geological map indicates that the northern part of the site is underlain by the Marlstone Formation, which comprises limestone and ironstone and the southern part is underlain by the Dyrham Formation, which comprises mudstone and siltstone. The boundary between the two formations undulates from the east to the west of the site as shown on the sketch presented in Appendix B.

Weathered Marlstone was encountered in the infiltration test pits Soak 1, 2, 4, 5, 9 and 10. Infiltration test pits Soak 3, 6, 7 and 8 encountered clays, silts and very clayey sands, typical of the Dyrham Formation.

Infiltration test pits Soak 1, 2, 3, 4, 5, 8 and 9 were targeted within the area of proposed residential development, where soakaways might be considered for domestic and highways surface water drainage. Infiltration test pits Soak 6 and 7 were targeted in the south of the site where it is proposed to construct an attenuation feature. Infiltration test Soak 10 was completed in the extreme south west corner of the site in case attenuation might be considered in this area of POS.

The following table summarises the results of infiltration tests:

Infiltration Test	1 st Test	2 nd Test	3 rd Test	Main Geology
Soak 1	2.51×10^{-4} m/s	1.50×10^{-4} m/s	1.22×10^{-4} m/s	Marlstone
Soak 2	4.35×10^{-5} m/s	3.99×10^{-5} m/s	3.36×10^{-5} m/s	Marlstone
Soak 3	8% infiltration recorded after 3½ hours			Dyrham
Soak 4	1.03×10^{-4} m/s	9.09×10^{-5} m/s	7.06×10^{-5} m/s	Marlstone
Soak 5	1.46×10^{-4} m/s	1.24×10^{-4} m/s	1.18×10^{-4} m/s	Marlstone

Infiltration Test	1 st Test	2 nd Test	3 rd Test	Main Geology
Soak 6	1% infiltration recorded after 4 hours 20 minutes			Dyrham
Soak 7	2.04×10^{-6} m/s	Dyrham		Dyrham
Soak 8	3.12×10^{-6} m/s	Dyrham		Dyrham s
Soak 9	2.68×10^{-4} m/s	1.85×10^{-4} m/s	2.13×10^{-4} m/s	Marlstone
Soak 10	4.71×10^{-5} m/s	4.55×10^{-5} m/s	3.77×10^{-5} m/s	Marlstone

Where the Marlstone Rock was encountered, infiltration rates ranged from 2.68×10^{-4} m/s to 3.36×10^{-5} m/s, which indicates a good possibility that conventional soakaways will work..

Where the Dyrham Formation was encountered, infiltration rates were generally much poorer, ranging from 3.12×10^{-6} m/s (which was an interpolated rate) to a point that insufficient infiltration occurred to permit the calculation of an infiltration rate. The results indicate that it is unlikely that conventional soakaways will work in the Dyrham Formation.

I trust that the above is sufficient for your current purposes, however if you have any queries please do not hesitate to contact us.

Yours sincerely



pp

Clive Kirby FGS CGeol
Principal Engineering Geologist

Attached

Appendix A – Infiltration Test Location Plan
Appendix B – Summary of the Geology



A P P E N D I X A

GRM Development Solutions provides multi-disciplinary consultancy services, UK-wide:

- Geotechnical and Geo-environmental Services
- Civil and Infrastructure Services
- Structural Engineering Services
- Construction Management
- Site Services

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DO NOT SCALE

NOTES:

⊕ Infiltration test locations



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 Laurus House, First Ave, Centrum 100,
 Burton-on-Trent, Staffordshire
 Tel: 01283 551 249 Fax: 01283 211 968
mail@grm-uk.com www.grm-uk.com

CLIENT:
Gladman

PROJECT:
**Land to South of Salt Way
 Banbury**

TITLE:
Infiltration Test Location Plan

SCALE@SIZE: NTS	ISSUE: FINAL
--------------------	-----------------

DESIGN/DRAWN: AJHR	DATE: June 2015
-----------------------	--------------------

PROJECT No: P6194	DRAWING No: ITLP-01
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A P P E N D I X B

GRM Development Solutions provides multi-disciplinary consultancy services, UK-wide:

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- Civil and Infrastructure Services
- Structural Engineering Services
- Construction Management
- Site Services

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DO NOT SCALE

NOTES:



Infiltration test locations



Estimated Geological Boundary



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CLIENT:

Gladman

PROJECT:

**Land to South of Salt Way
 Banbury**

TITLE:

**Infiltration Test Location Plan
 And Geological Boundary**

SCALE@SIZE :

NTS

ISSUE:

FINAL

DESIGN/DRAWN :

AJHR

DATE:

June 2015

PROJECT No:

P6194

DRAWING No:

ITLP-01

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APPENDIX 3

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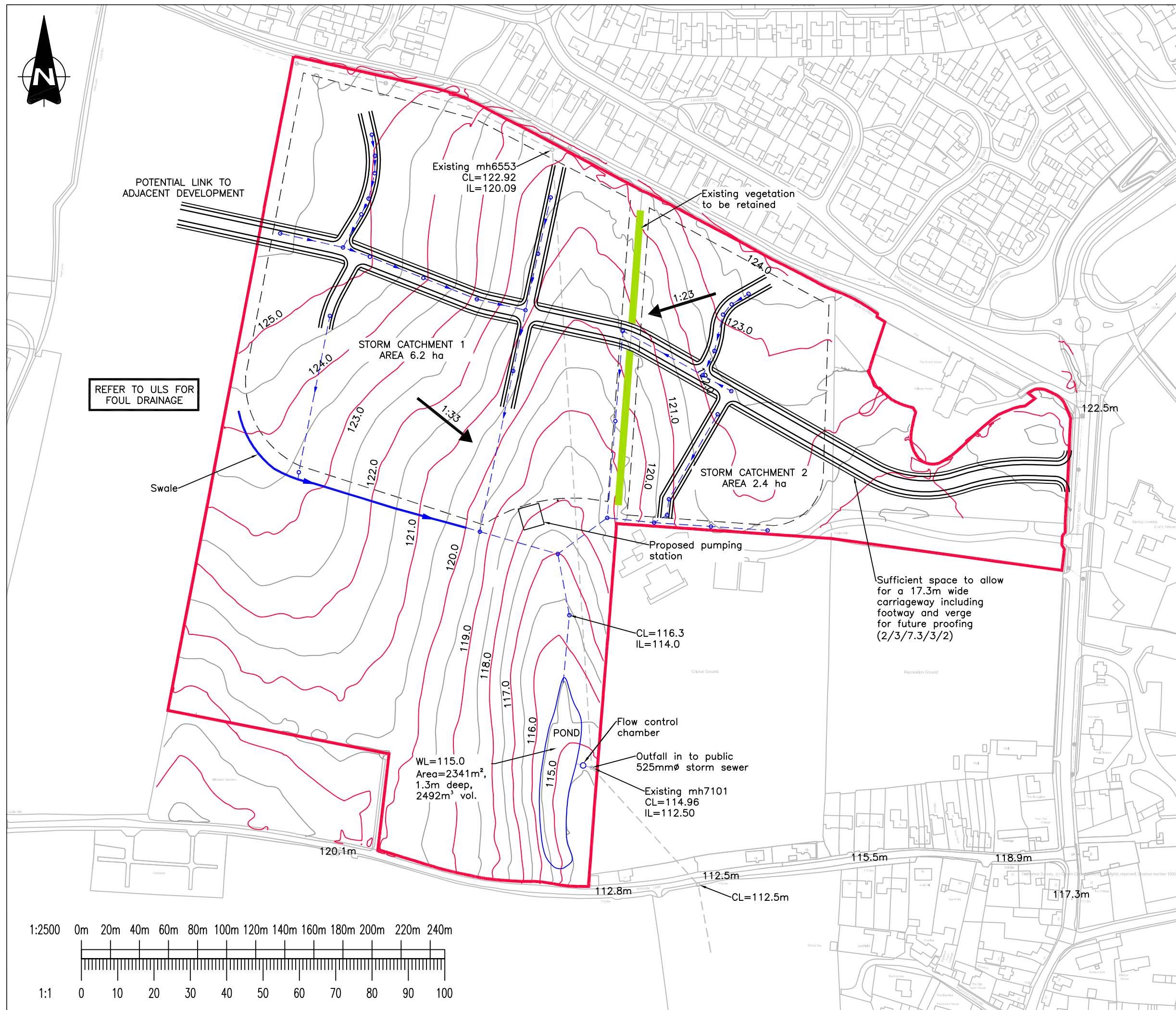


NOTES:

1. Do not scale from this drawing.

KEY:

- Proposed site boundary
- - - Proposed catchment area
- Proposed storm water sewer
- Proposed swale



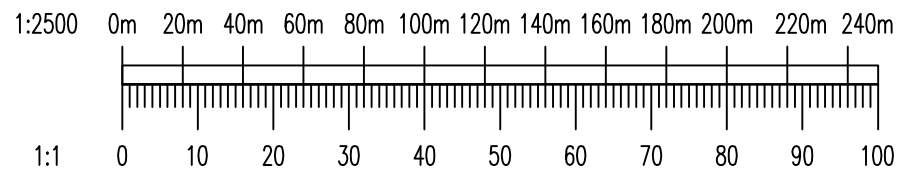
Description					



Client
GLADMAN DEVELOPMENTS

Project title
LAND SOUTH OF SALT WAY, BANBURY

Drawing title
DRAINAGE STRATEGY PLAN



Scale	Original drg. size	Date
1:2500	A3	03/07/2015
Drawn	Checked	Approved
CG	SEF	RNP
Drawing Number	Rev	
	-	

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APPENDIX 4

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Site name: White Post Road
Site location: Banbury

Site coordinates
Latitude: 52.04135° N
Longitude: 1.33595° W

This is an estimation of the greenfield runoff rate limits that are needed to meet normal best practice criteria in line with Environment Agency guidance "Preliminary rainfall runoff management for developments", W5-074/A/TR1/1 rev. E (2012) and the CIRIA SUDS Manual (2007). It is not to be used for detailed design of drainage systems. It is recommended that every drainage scheme uses hydraulic modelling software to finalise volume requirements and design details before drawings are produced.

Reference: gcr019g4y4g2 / 17.53
Date: 10 Jun 2015

Site characteristics

Total site area	17.53	ha
Significant public open space	0	ha
Area positively drained	17.53	ha

Methodology

Greenfield runoff method	IH124
Qbar estimation method	Calculate from SPR and SAAR
SPR estimation method	Calculate from SOIL type
SOIL type	1
HOST class	N/A
SPR	0.10

Hydrological characteristics

	Default	Edited	
SAAR	653	653	mm
M5-60 Rainfall Depth	20	20	mm
'r' Ratio M5-60/M5-2 day	0.4	0.4	
FEH/FSR conversion factor	0.84	0.84	
Hydrological region	6	6	
Growth curve factor: 1 year	0.85	0.85	
Growth curve factor: 10 year	1.62	1.62	
Growth curve factor: 30 year	2.3	2.3	
Growth curve factor: 100 year	3.19	3.19	

Greenfield runoff rates

	Default	Edited	
Qbar	2.71	2.71	l/s
1 in 1 year	14.90	14.90	l/s
1 in 30 years	40.32	40.32	l/s
1 in 100 years	55.92	55.92	l/s

Please note that a minimum flow of 5 l/s applies to any site

DETERMINATION OF STORAGE VOLUMES IN PARTIALLY URBANISED CATCHMENTS AT
Version 1.01

Site Name

Land to the West of White Post Road, Banbury

30-Jun-15

METHOD DAVIES GRAPHICAL SOLUTION

Catchment Area	At	8.300	Ha
Soil Index	SOIL	0.42	
UCWI	UCWI	42.0	
Routing Coefficient	Cr	1.3	
Design Pimp	PIMP	56.0	%

0.08 Sq Km
Run off Parameters from
Flood study Maps

Resultant PR	PR	39.500	%
F1		0.016	
F2		0.359	

From Wallingford 7.3
From Wallingford Table 6.4
From Wallingford Table 6.4
Calculated for each line using wallingford equation 6.6

ARF = 1 - f1D^F2

M5-60	20.00	
Ratio R	0.40	
Return Period 1 in	100	Years
Permissible Discharge	56.00	L/s
Nominal Time Step	30	Mins
Climate Change Allowance	30	%

Rainfall parameter from
Flood study maps

Multiples of Tc	Storm Duration	Rainfall Rate	ARF	Average Rate Of inflow	Cummulative inflow m3	Cummulative outflow m3	Storage m3
1	0.50	84.11	0.9873	983.87	1770.96	100.80	2171.21
2	1.00	52.78	0.9837	615.15	2214.56	201.60	2616.84
3	1.50	39.21	0.9811	455.84	2461.51	302.40	2806.85
4	2.00	31.65	0.9791	367.16	2643.52	403.20	2912.42
5	2.50	26.73	0.9773	309.52	2785.68	504.00	2966.18
6	3.00	23.23	0.9758	268.58	2900.62	604.80	2984.57
7	3.50	20.62	0.9744	238.06	2999.51	705.60	2982.08
8	4.00	18.59	0.9731	214.34	3086.46	806.40	2964.08
9	4.50	16.96	0.9720	195.32	3164.18	907.20	2934.07
10	5.00	15.62	0.9709	179.70	3234.52	1008.00	2894.47
11	5.50	14.50	0.9699	166.61	3298.82	1108.80	2847.03
12	6.00	13.54	0.9689	155.47	3358.09	1209.60	2793.03
13	6.50	12.72	0.9680	145.86	3413.08	1310.40	2733.48
14	7.00	12.00	0.9672	137.48	3464.39	1411.20	2669.15
15	7.50	11.36	0.9663	130.09	3512.50	1512.00	2600.66
16	8.00	10.80	0.9655	123.54	3557.81	1612.80	2528.51
17	8.50	10.29	0.9648	117.67	3600.63	1713.60	2453.14
18	9.00	9.84	0.9641	112.38	3641.23	1814.40	2374.88
19	9.50	9.43	0.9633	107.60	3679.84	1915.20	2294.03
20	10.00	9.05	0.9627	103.24	3716.64	2016.00	2210.83
21	10.50	8.71	0.9620	99.25	3751.81	2116.80	2125.51
22	11.00	8.39	0.9614	95.59	3785.48	2217.60	2038.25
23	11.50	8.10	0.9607	92.22	3817.79	2318.40	1949.21
24	12.00	7.83	0.9601	89.09	3848.84	2419.20	1858.53
25	12.50	7.58	0.9595	86.19	3878.72	2520.00	1766.34
26	13.00	7.35	0.9590	83.49	3907.53	2620.80	1672.75
27	13.50	7.13	0.9584	80.97	3935.34	2721.60	1577.86
28	14.00	6.93	0.9579	78.62	3962.21	2822.40	1481.76
29	14.50	6.74	0.9573	76.40	3988.22	2923.20	1384.52
30	15.00	6.56	0.9568	74.32	4013.40	3024.00	1286.23
31	15.50	6.39	0.9563	72.36	4037.83	3124.80	1186.94
32	16.00	6.23	0.9558	70.51	4061.53	3225.60	1086.71
33	16.50	6.08	0.9553	68.76	4084.56	3326.40	985.60
34	17.00	5.93	0.9548	67.11	4106.94	3427.20	883.66
35	17.50	5.80	0.9544	65.54	4128.72	3528.00	780.94
36	18.00	5.67	0.9539	64.04	4149.93	3628.80	677.46
37	18.50	5.54	0.9534	62.62	4170.59	3729.60	573.28
38	19.00	5.43	0.9530	61.27	4190.73	3830.40	468.43
39	19.50	5.31	0.9525	59.98	4210.39	3931.20	362.94
40	20.00	5.21	0.9521	58.74	4229.57	4032.00	256.85
41	20.50	5.11	0.9517	57.57	4248.31	4132.80	150.17

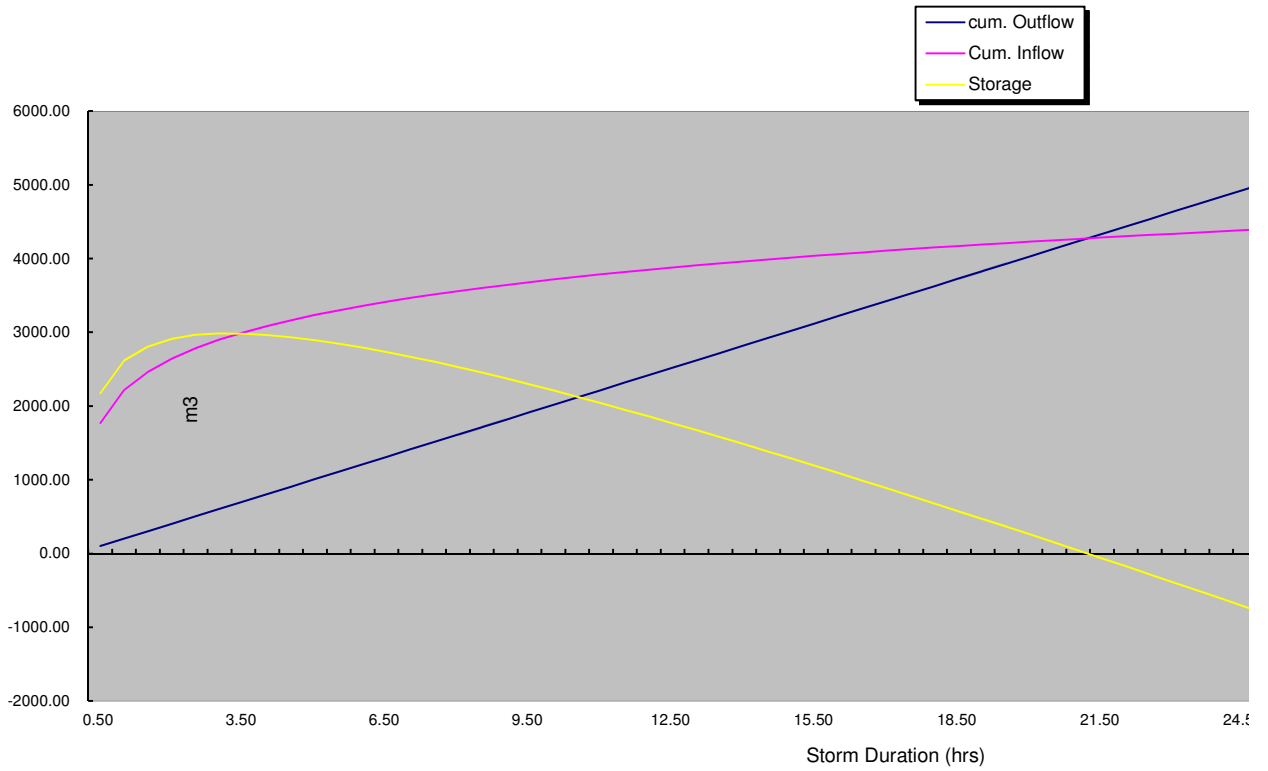
Peak Storage

42	21.00	5.01	0.9513	56.44	4266.63	4233.60	42.94
43	21.50	4.91	0.9508	55.36	4284.53	4334.40	-64.82
44	22.00	4.82	0.9504	54.32	4302.05	4435.20	-173.09
45	22.50	4.74	0.9500	53.32	4319.20	4536.00	-281.84
46	23.00	4.65	0.9496	52.37	4335.98	4636.80	-391.06
47	23.50	4.57	0.9493	51.45	4352.43	4737.60	-500.73
48	24.00	4.50	0.9489	50.56	4368.54	4838.40	-610.82
49	24.50	4.42	0.9485	49.71	4384.34	4939.20	-721.32
50	25.00	4.35	0.9481	48.89	4399.83	5040.00	-832.22

THE ABOVE PROGRAMME TAKES NO ACCOUNT OF FLOW ROUTING, AND WILL, THEREFORE, OVERESTIMATE STORAGE VOLUMES DELIVERED TO A POINT OUTFALL, AS CATCHMENT AREA INCREASES. TO THAT END, THE PROGRAMME SHOULD NOT BE USED FOR CATCHMENTS IN EXCESS OF 20 SQ KM

MAXIMUM STORAGE	2984.57	m3
Drain down time	14.80	Hours

Site Name



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APPENDIX 5

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0 15 30 60 90 120
Meters

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified before any works are undertaken. Crown copyright Reserved

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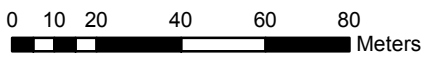
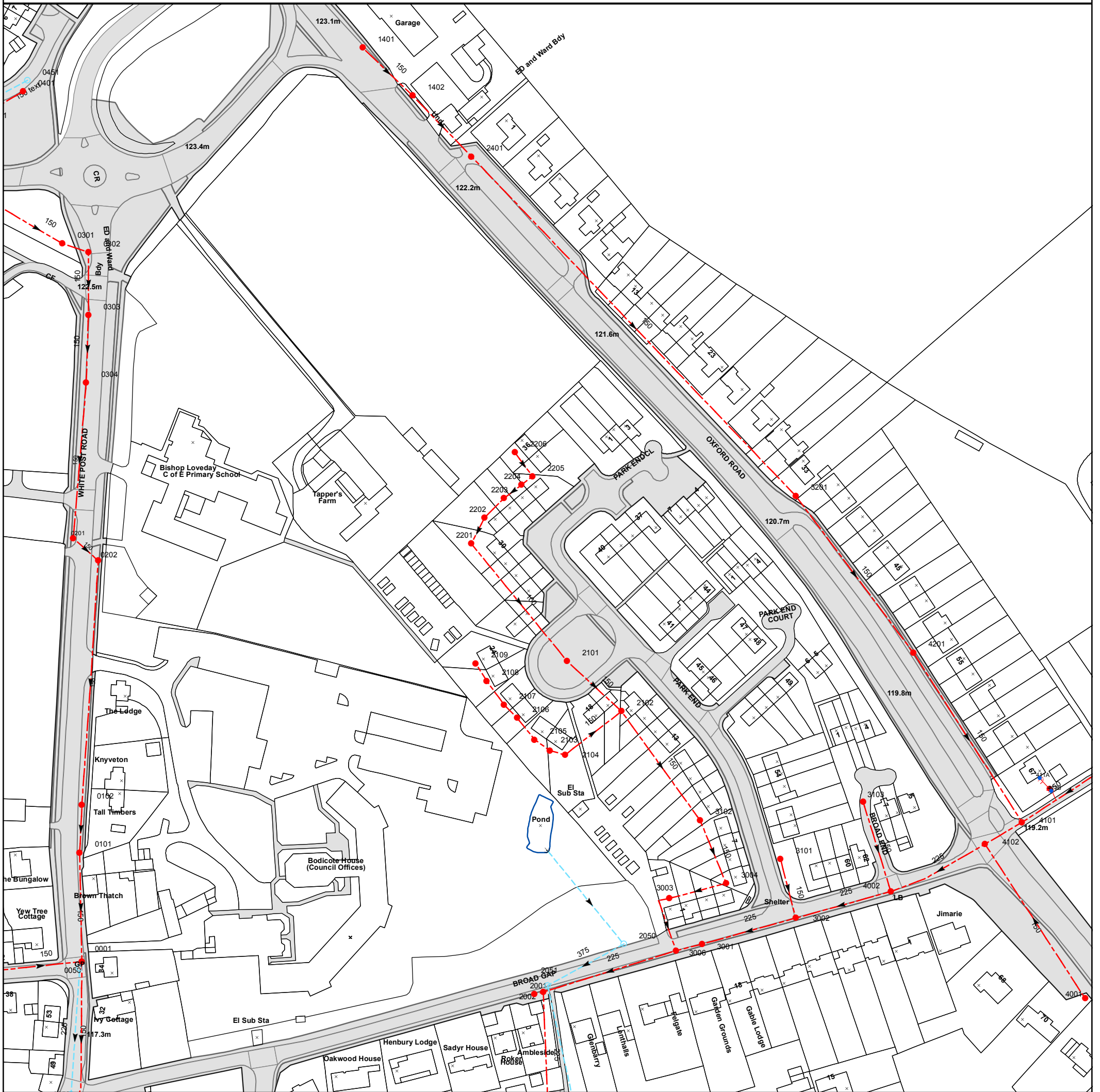
Comments:

CDWS/CDWS Standard/2013_2508117

NB: Level quoted in metres Ordnance Newlyn Datum. The value -9999.00 indicates no Survey information is available.

REFERENCE	COVER LEVEL	INVERT LEVEL
961E		
961D		
961C		
061A		
0711		
0601	124.34	122.25
0651	124.46	122.93
1550	124.14	122.57
9507	124.58	123.28
8554	124.91	123.61
8507	124.98	123.77
8601	125.46	124.08
8650	125.35	123.01
9650	124.97	123.36
8651	125.64	123.53
8603	125.34	124.75
0451	123.4	122.37
9452	123.78	122.16
8451	124.08	121.65
9554	123.95	122.27
9505	123.95	123.35
9550	123.97	122.3
8551	124.34	122.93
0501	124.12	123.66
0550	124.11	123.05
9502	123.92	123.08
8552	124.58	123.32
8553	124.78	123.47
8505	124.82	123.29
9903	116.97	115.57
0950	116.76	115.09
0952	117.07	115.44
0050	117.94	116.32
0101	119.56	118.13
0202		
0304	121.96	120.49
0302	123.67	
9403	123.08	121.23
9456	123.26	122.25
9406	123.29	121.7
9451	123.63	121.71
1901	117.8	114.62
0951	116.24	114.64
3707		
4703		
4651	126.81	125.5
4603	126.56	126.11
4602	126.61	125.96
5653	126.26	125.07
5603	126.24	125.15
5652	125.88	125.07
5651	125.48	124.51
6705	125.65	124.35
6650	124.66	122.32
6754		
7602	125.3	123.61
7601	125.75	123.51
7604	125.72	123.74
7001		
6201		
8502	124.25	122.53
6550		
7554	124.16	121.45
7551	124.19	121.38
7552	124.38	122.81
6552		
7504	124.77	123.35
5501		
6652		
3602		

REFERENCE	COVER LEVEL	INVERT LEVEL
9652	124.57	123.8
961A		
961B		
0603	124.2	122.61
0650	124.31	122.65
0602	124.18	122.43
1704	124.52	121.99
9506	124.31	123.2
8506	124.87	123.47
9508	124.74	123.48
961F		
9601	125.18	124.13
9651	124.78	123.56
8602	125.59	124.21
9653		
8750	125.68	123.74
9404	123.79	122.72
8401	123.98	122.02
9509	123.91	123.31
8501	124.21	122.15
8550	124.2	121.67
9504	124.06	123.25
9551	124.06	122.3
8503	124.37	122.62
9503	124.04	123.18
9552	123.98	122.47
8504	124.63	123.02
9501	124.18	122.96
9553	124.17	122.78
9905		
9904		
9002	118.76	117.85
0001	117.93	116.94
0102	119.73	118.47
0201	121.26	120.12
0303	123.7	120.89
0301		
9455	123.13	122.06
9401	123.44	121.84
9402	123.62	121.7
0401	123.45	122.12
0901	116.13	114.95
3714		
3601		
4652		
4604	126.86	126.16
4650	126.56	124.25
4601	126.56	125.54
5650	126.18	124.4
5602	125.89	125.17
5601	125.76	124.93
6753	125.95	125.17
6651	125.75	124.69
6601	124.49	123.42
7650	125.44	122.61
7603	125.59	123.7
7651	125.55	122.79
7901		
7101		
6301		
6553		
6551		
7501	124.17	122.78
7502	124.22	122.85
7503	124.38	123.06
7553	124.68	123.37
7550	124.28	121.25
5654		
3603		



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Map Centre: 446250,238250
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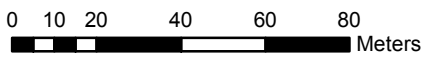
Comments:

CDWS/CDWS Standard/2013_2508117

NB: Level quoted in metres Ordnance Newlyn Datum. The value -9999.00 indicates no Survey information is available.

REFERENCE	COVER LEVEL	INVERT LEVEL
0451	123.4	122.37
2401		
2109	119.15	118.48
2108	119.07	118.17
2107	118.71	117.88
2106	118.38	117.58
2205	121.07	120.02
2002	116.72	114.04
2051	116.59	114.42
2104	117.88	116.96
0050	117.94	116.32
0101	119.56	118.13
0202		
0304	121.96	120.49
0302	123.67	
1402		
4001		
2050		
3002	118.54	115.1
4002	118.74	116.25
3101	118.86	116.83
4101	119.41	116.61
3103	119.16	117.26
411A		
4201	119.98	117.47

REFERENCE	COVER LEVEL	INVERT LEVEL
1401	122.96	121.79
2201	120.26	118.86
2202		
2203	120.64	119.12
2206		
2204	121.1	119.81
2105	118.18	117.27
2001	116.7	113.83
2103	117.98	117.09
2101	119.38	117.36
0001	117.93	116.94
0102	119.73	118.47
0201	121.26	120.12
0303	123.7	120.89
0301		
0401	123.45	122.12
3006		
3001	117.94	114.64
3003		
3004		
4102	119.28	116.16
3102	118.62	115.65
411B		
2102	118.9	116.5
3201	120.81	118.36



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Print Date: 26/06/2013
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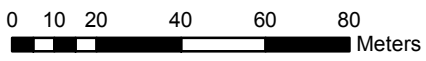
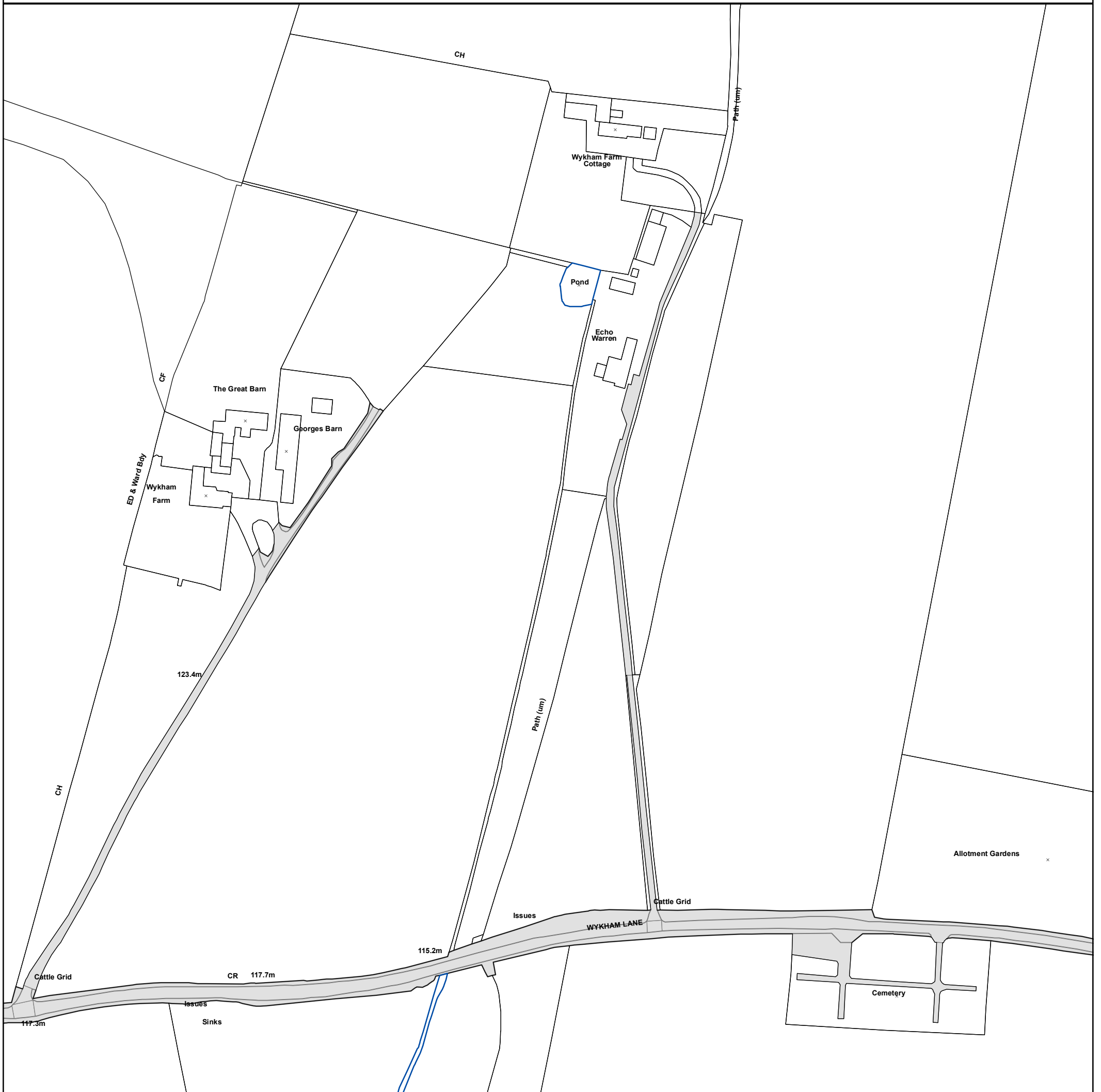
Comments:

CDWS/CDWS Standard/2013_2508117

NB: Level quoted in metres Ordnance Newlyn Datum. The value -9999.00 indicates no Survey information is available.

REFERENCE	COVER LEVEL	INVERT LEVEL
9404	123.79	122.72
8401	123.98	122.02
9002	118.76	117.85
9455	123.13	122.06
9401	123.44	121.84
9402	123.62	121.7
7001		
6201		

REFERENCE	COVER LEVEL	INVERT LEVEL
9452	123.78	122.16
8451	124.08	121.65
9403	123.08	121.23
9456	123.26	122.25
9406	123.29	121.7
9451	123.63	121.71
7101		
6301		



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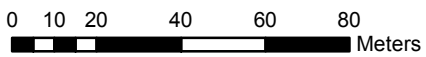
Comments:

CDWS/CDWS Standard/2013_2508117

NB: Level quoted in metres Ordnance Newlyn Datum. The value -9999.00 indicates no Survey information is available.

REFERENCE	COVER LEVEL	INVERT LEVEL
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REFERENCE	COVER LEVEL	INVERT LEVEL
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The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified before any works are undertaken. Crown copyright Reserved

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Grid Reference:	SP4538NE

Comments:

CDWS/CDWS Standard/2013_2508117

NB: Level quoted in metres Ordnance Newlyn Datum. The value -9999.00 indicates no Survey information is available.

REFERENCE	COVER LEVEL	INVERT LEVEL
591B		
8967		
8965		
8084		
8959		
8953		
8955		
9954		
8950	127.27	126.1
8850	126.1	125.23
8961		
8960		
8801	126.08	124.54
9801	125.87	124.61
9852	125.9	124.57
9802	125.7	124.83
9851	125.65	124.7
961E		
961D		
961C		
9506	124.31	123.2
8506	124.87	123.47
9508	124.74	123.48
961F		
9601	125.18	124.13
9651	124.78	123.56
8602	125.59	124.21
9653		
8750	125.68	123.74
8703	125.73	124.67
8701	125.78	124.54
8752	125.74	124.54
8751	125.93	124.28
8702	126.07	124.77
9554	123.95	122.27
9505	123.95	123.35
9550	123.97	122.3
8551	124.34	122.93
8503	124.37	122.62
9502	123.92	123.08
8552	124.58	123.32
8553	124.78	123.47
8505	124.82	123.29
5953		
5952	127.75	126.83
691F		
6952	127.99	126.45
6951	127.62	126.31
7951	126.86	125.81
5802	127.13	125.35
5901	128.62	127.4
6751	126.37	124.88
6703	126.3	124.45
6803	126.59	124.89
6850	126.52	124.99
7850	126.43	123.7
7804	126.35	124.14
7801	126.61	124.96
7852	126.4	125.14
7802	126.59	124.98
6851	126.87	125.78
6801	126.88	125.56
6802	127.23	125.92
5951	127.65	126.9
7901	126.7	125.34
5653	126.26	125.07
5603	126.24	125.15
5750	126.15	125.37
5652	125.88	125.07
5651	125.48	124.51
6753	125.95	125.17
6651	125.75	124.69
6701	125.95	124.06
6650	124.66	122.32
6601	124.49	123.42
6754		
7602	125.3	123.61
7601	125.75	123.51
7651	125.55	122.79
7701	125.94	123.66
7702	126.23	123.9

REFERENCE	COVER LEVEL	INVERT LEVEL
591C		
8968		
8966		
8969		
8970		
8951		
9956		
8851	126.21	123.92
8901	126.95	125.56
8963		
8964		
8962		
8852	126.02	124.39
9951	126.58	125.61
9853	125.94	125.16
9950	125.89	124.25
9850	125.46	
9652	124.57	123.8
961A		
961B		
9507	124.58	123.28
8554	124.91	123.61
8507	124.98	123.77
8601	125.46	124.08
8650	125.35	123.01
9650	124.97	123.36
8651	125.64	123.53
8603	125.34	124.75
9750	125.19	124.2
8704	125.56	124.8
9751		
8753	125.48	124.79
9701	125.55	125.12
9509	123.91	123.31
8501	124.21	122.15
8550	124.2	121.67
9504	124.06	123.25
9551	124.06	122.3
9503	124.04	123.18
9552	123.98	122.47
8504	124.63	123.02
9501	124.18	122.96
9553	124.17	122.78
591A		
6901	127.85	127.17
691E		
691D		
7952	127.21	126.25
7902	126.99	125.59
5950	128.64	127.29
5954		
6752	126.48	125.48
6704	126.43	124.6
5851	126.96	125.8
5801	126.98	125.16
7851	126.48	125.12
5803	127.33	125.42
7854		
7853	126.71	125.53
7803	126.71	125.11
6852	127.15	126.14
5850	127.48	126.29
6950	127.07	125.99
7950	126.74	125.57
5751	126.95	125.59
5650	126.18	124.4
5701	126.34	124.87
5602	125.89	125.17
5601	125.76	124.93
6706	125.98	124.47
6705	125.65	124.35
671A		
6707	125.88	123.86
6702	126.16	124.22
6750	126.2	124.82
7650	125.44	122.61
7603	125.59	123.7
7750	125.84	123.05
7751	126.19	123.38
7604	125.72	123.74
8502	124.25	122.53

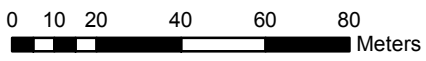
The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified before any works are undertaken. Crown copyright Reserved

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NB: Level quoted in metres Ordnance Newlyn Datum. The value -9999.00 indicates no Survey information is available.

REFERENCE	COVER LEVEL	INVERT LEVEL
6553		
6551		
7501	124.17	122.78
7502	124.22	122.85
7503	124.38	123.06
7553	124.68	123.37
7550	124.28	121.25
5654		

REFERENCE	COVER LEVEL	INVERT LEVEL
6550		
7554	124.16	121.45
7551	124.19	121.38
7552	124.38	122.81
6552		
7504	124.77	123.35
5501		
6652		



The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified before any works are undertaken. Crown copyright Reserved

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Print Date: 26/06/2013
Map Centre: 445250,238750
Grid Reference: SP4538NW

Comments:

CDWS/CDWS Standard/2013_2508117

NB: Level quoted in metres Ordnance Newlyn Datum. The value -9999.00 indicates no Survey information is available.

REFERENCE	COVER LEVEL	INVERT LEVEL
3708		
4853		
3802		
4855		
3801		
4802	128.63	127.91
4801	128.51	127.82
4951	128.56	127.8
4901	128.48	127.53
3706		
3714		
3601		
4704		
4651	126.81	125.5
4604	126.86	126.16
4603	126.56	126.11
471I		
471K		
4602	126.61	125.96
4701	126.74	125.71
3702		
3710		
3602		
3704		



















REFERENCE	COVER LEVEL	INVERT LEVEL
3701		
4854		
3804		
4852		
3803		
4850	128.62	127.97
4902	128.52	127.75
4950	128.5	127.4
3713		
3705		
3707		
4703		
4652		
471G		
471H		
4650	126.56	124.25
471J		
471L		
4601	126.56	125.54
3709		
3703		
3603		
3711		
3712		

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Sewer Key - Commercial Drainage and Water Enquiry

Public Sewer Types (Operated & Maintained by Thames Water)

-  **Foul:** A sewer designed to convey waste water from domestic and industrial sources to a treatment works.
-  **Surface Water:** A sewer designed to convey surface water (e.g. rain water from roofs, yards and car parks) to rivers or watercourses.
-  **Combined:** A sewer designed to convey both waste water and surface water from domestic and industrial sources to a treatment works.
-  Trunk Surface Water
-  Trunk Foul
-  Storm Relief
-  Trunk Combined
-  Vent Pipe
-  Bio-solids (Sludge)
-  Proposed Thames Surface Water Sewer
-  Proposed Thames Water Foul Sewer
-  Gallery
-  Foul Rising Main
-  Surface Water Rising Main
-  Combined Rising Main
-  Sludge Rising Main
-  Proposed Thames Water Rising Main
-  Vacuum





Sewer Fittings

A feature in a sewer that does not affect the flow in the pipe. Example: a vent is a fitting as the function of a vent is to release excess gas.

-  Air Valve
-  Dam Chase
-  Fitting
-  Meter
-  Vent Column




Operational Controls

A feature in a sewer that changes or diverts the flow in the sewer. Example: A hydrobrake limits the flow passing downstream.

-  Control Valve
-  Drop Pipe
-  Ancillary
-  Weir






End Items

End symbols appear at the start or end of a sewer pipe. Examples: an Undefined End at the start of a sewer indicates that Thames Water has no knowledge of the position of the sewer upstream of that symbol, Outfall on a surface water sewer indicates that the pipe discharges into a stream or river.

-  Outfall
-  Undefined End
-  Inlet






Other Symbols

Symbols used on maps which do not fall under other general categories








-  /  Public/Private Pumping Station
-  Change of characteristic indicator (C.O.C.I.)
-  Invert Level
-  Summit

Areas

Lines denoting areas of underground surveys, etc.

-  Agreement
-  Operational Site
-  Chamber
-  Tunnel
-  Conduit Bridge

Other Sewer Types (Not Operated or Maintained by Thames Water)

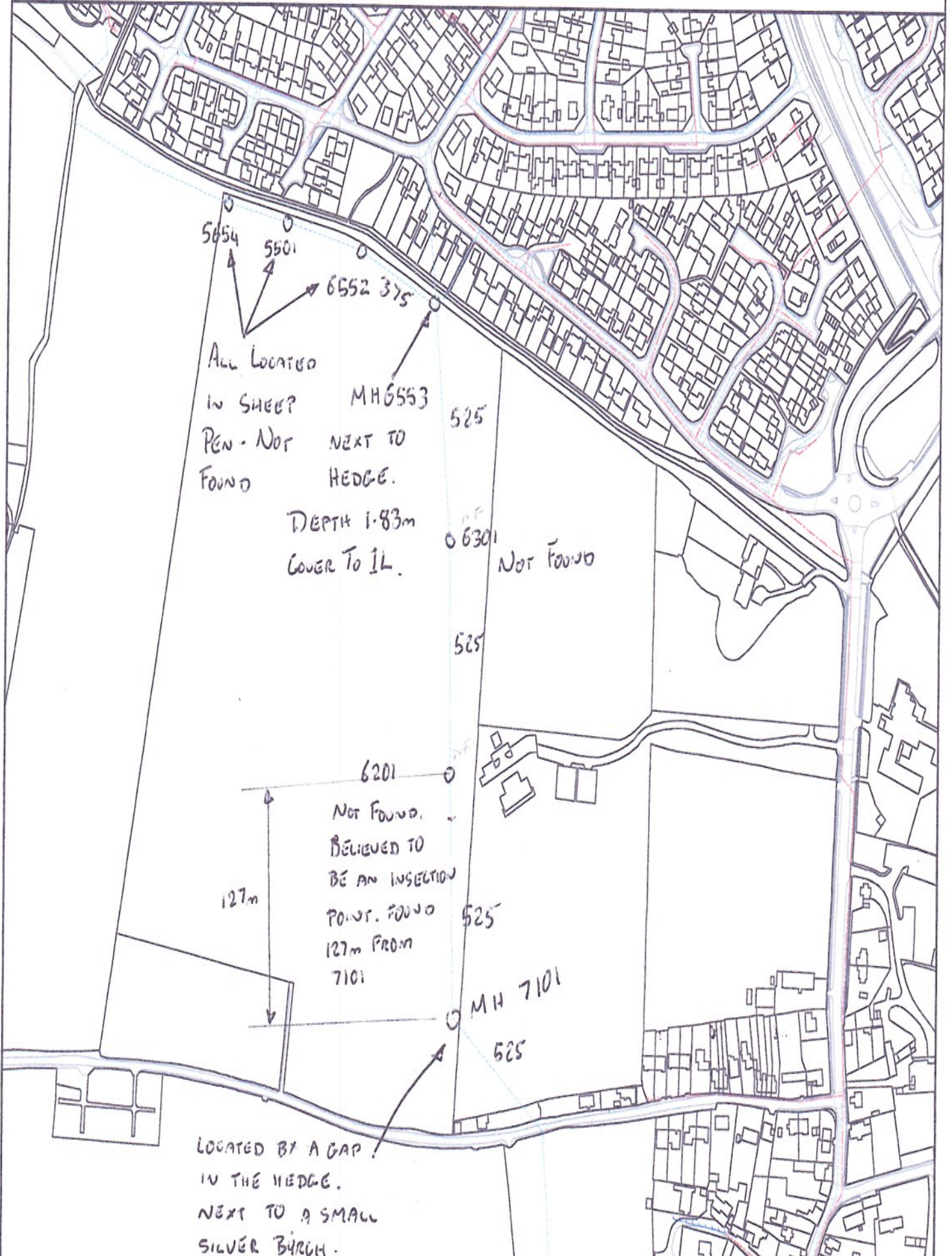
-  Foul Sewer
-  Surface Water Sewer
-  Combined Sewer
-  Gully
-  Culverted Watercourse
-  Proposed
-  Abandoned Sewer

Notes:

- 1) All levels associated with the plans are to Ordnance Datum Newlyn.
- 2) All measurements on the plans are metric.
- 3) Arrows (on gravity fed sewers) or flecks (on rising mains) indicate direction of flow.
- 4) Most private pipes are not shown on our plans, as in the past, this information has not been recorded.
- 5) 'na' or '0' on a manhole level indicates that data is unavailable.

- 6) The text appearing alongside a sewer line indicates the internal diameter of the pipe in millimetres. Text next to a manhole indicates the manhole reference number and should not be taken as a measurement. If you are unsure about any text or symbology present on the plan, please contact a member of Property Searches on 0845 070 9148.

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