

Appendix 4

Zoe Bell

Subject: FW: 6997 TWU Sewer records

From: DEVELOPER.SERVICES@THAMESWATER.CO.U <DEVELOPER.SERVICES@THAMESWATER.CO.UK>

Sent: 31 July 2019 16:07

To: Zoe Bell

Subject: RE: 6997 TWU Sewer records

Zoe rear of 25 Orchard Way, Harwell, Oxfordshire, OX11 0LQ Vof WH

The foul connection to the foul sewer would not be a problem for our Network for the 7 additional property discharge, and the surface water connection to surface water sewer would not be a problem attenuated, but I must point out that the surface water connection discharge is the responsibility of the Drainage Authority (Council) as we are not Statutory Consultee for surface water, also the sewers you wish to connect to are not on our Map of Sewers as adopted by us yet.

Regards

Geoff Nokes

Developer Services – Sewer Adoptions Engineer

Office: 0203 5779 228 Mobile: 07747 640 228

geoff.nokes@thameswater.co.uk

Clearwater Court, Vastern Road, Reading, RG1 8DB

Original Text

From: Zoe Bell

To: Developer Services <developer.services@thameswater.co.uk>

CC:

Sent: 29.07.19 10:43:51

Subject: 6997 TWU Sewer records

Dear Sirs,

Can you please confirm whether capacity exists within the combined sewer network for 7 residential units within land to the rear of 25 Orchard Way, Harwell, Oxfordshire, OX11 0LQ. Grid reference: SU 48800 89097. Please see attached location plan.

We propose connecting via gravity to the existing Surface water sewer via the existing MH9153. The connection will be made via an approved surface water drain from the adjacent site within Orchard Way, see attached plans . Surface water flows are proposed to be restricted to 0.6l/s which is the equivalent QBAR rate. See attached sewer records.

We look forward to your response.

Kind regards,

ZOË BELL BSc (Hons)
Graduate Flood Risk / Drainage Engineer

COLE EASDON CONSULTANTS

DISCLAIMER:

The contents of the e-mail and any transmitted files are confidential and intended solely for the use of the individual or entity to whom they are addressed. Cole Easdon Consultants hereby excludes any warranty and any liability as to the quality or accuracy of the contents of this e-mail and any attached transmitted files. If you are not the intended recipient, be advised that you have received this e-mail in error and that any use, dissemination, forwarding, printing or copying of this e-mail is strictly prohibited. If you have received this e-mail in error, please notify cec@coleeasdon.com. This e-mail message has been swept for the presence of computer viruses. We cannot accept liability for any loss or damage caused by software viruses.

Please consider the environment before printing this e-mail.

Visit us online www.thameswater.co.uk , follow us on twitter www.twitter.com/thameswater or find us on www.facebook.com/thameswater. We're happy to help you 24/7.

Thames Water Limited (company number 2366623) and Thames Water Utilities Limited (company number 2366661) are companies registered in England and Wales, both are registered at Clearwater Court, Vastern Road, Reading, Berkshire RG1 8DB. This email is confidential and is intended only for the use of the person it was sent to. Any views or opinions in this email are those of the author and don't necessarily represent those of Thames Water Limited or its subsidiaries. If you aren't the intended recipient of this email, please don't copy, use, forward or disclose its contents to any other person – please destroy and delete the message and any attachments from your system.

Stuart Starr

From: Stuart Starr
Sent: 26 July 2019 11:49
To: 'Travers, Leigh'
Cc: Zoe Bell
Subject: RE: P19/V1011/O - 25 Orchard Way Harwell Didcot OX11 0LQ

Hi Leigh

We will be submitting a capacity check to Thames now that we know infiltration is not a viable solution. I expect the FRA will be on your desk within the next week or two.

Thanks
Stuart

bbbbbbbbbbbbbbbbbbbbbbbbbbbb#
Wxduw#wduu#EVI#K.rqv,#
Vnqlru#iqj.lghu#

F r oh#i d v g r q # r q v x o w d q w v
EuLwrc# #/z l g r q

Who#84:<6#94<<98##Hq dle#wduC.F r oh#i d v g r q # r q v x o w d q w v # # z h e # z z F r oh#i d v g r q # r q v x o w d q w v
X q l w # # / r u n # K r x v h # # g l v r q # # d u n # # r u f d q # z d # / # z l g r q # z l w k l u h # # Q 6 # 6 U E # # K h d g # R i i f h #

R i i f h # B o r # 3 # #
EuLwrc#Who#. 77#3, #787#; 337: 7#

F I Y I O # H Q J I Q H H U I Q J # # # W U D Q V S R U W # S O D Q Q I Q J # # # D W H U # D Q D J H P H Q W #
bbbbbbbbbbbbbbbbbbbbbbbbbbbb

Iqfcrsrudibg#ghk#N#M#F r oh#i d v g r q # r q v x o w d q w v # r p s d j # # U h j l w d u r q # Q r l # 5 3 5 # 3 3 8 #
U h j l w d u r q # R i i f h # K q l w # # / r u n # K r x v h # # g l v r q # # d u n # # r u f d q # z d # / # z l g r q # z l w k l u h # # Q 6 # 6 U E #

G I V P O D I P H U # #
W k h # E r q w h w # # # k h # # p d i # b g # # j # # w d q y p l w h g # i b v # d u n # E r q l g h w i d d b g # # l w h g h g # # z d j # # r u # w k # # v h # # # w h # # g l y l p x d d # r u q w # # # z # k a p # # k h # # l u h # # g g u h w h g # # F r o h # i d v g r q # r q v x o w d q w # # d u h e # # # (f o x g h v # # i q # # z d u d q w # #
d g h # # j # # b e # # d # # # w e # # k h # # x d d # # r u f e f # d u f # # # # # k h # # E r q w h w # # # k l # # # p d i # b g # # j # # w d # # d g # # w d q y p l w h g # i b v # # # # # r o d # u n # g r w k h # # l w h g h g # # z d j # # i n q w # # e h # # g l y l w h g # # k d w # # r o d # d y h # # i h # # l y h g # # k l # # # # p d i # # g # # u u r # # b g # # k d w # # j # #
x v h # # j # # v # # p l w d # # g # # r u z # # d u g # # j # # # u l w # # g # # r u f e s # # j # # # # # k l # # # p d i # # # w u l # # v d # # a u c k e l e l w g # # # # # r x # # d y # # i h # # l y h g # # k l # # # # p d i # # g # # u u r # # # d o h # # g r v # # # # # F r o h # i d v g r q # r q v x o w d q w # # # # # k l # # # # p d i # # w d j # # k d w # # h h g # # z h s w # # # # # k h # #
s u h # # g # # h # # # # E r p s x v h # # l x v h # # # # h # # d g g r w # # E h e w # # b e # # d # # # # r u # # j # # # r v # # # v # # g # # d j # # E d o h # # g # # # # z # # z e # # d i # # l x o t # # l
S o d # # # E r q v g h # # # k h # # g y l r q p h q # # e h i r u h # # u l w # # j # # k l # # # # p d i # #

From: Travers, Leigh <Leigh.Travers@southandvale.gov.uk>
Sent: 26 July 2019 11:06
To: Stuart Starr <SStarr@ColeEasdon.com>
Cc: Zoe Bell <ZBell@ColeEasdon.com>
Subject: RE: P19/V1011/O - 25 Orchard Way Harwell Didcot OX11 0LQ

Hello Stuart,

Any connection to the adopted sewer will require consent from the Water Authority (in this region, the WA is Thames Water). You will need to attain consent from them in writing, with a max discharge rate agreed and submit this to me for review.

Have you an update on the FRA?

Regards,
Leigh Travers
Flood Risk and Drainage Engineer
07827990413

Technical Services
South Oxfordshire and Vale of White Horse District Council
135 Eastern Avenue
Milton Park
Milton

Abingdon
OX14 4SB

Visit us at: www.whitehorsedc.gov.uk and www.southoxon.gov.uk

To find out more about how the council holds, uses and stores your personal data, please click on the appropriate council's link

<http://www.southoxon.gov.uk/about-us/contact-us/requesting-information/data-protection-0>
<http://www.whitehorsedc.gov.uk/about-us/contact-us/requesting-information/data-protection>

No rights are to be derived from any proposal contained in this email and a contract cannot be deemed granted by the Council unless and until a written agreement containing all necessary terms and conditions is fully negotiated and executed between the relevant parties and the Council has given the necessary authority under the terms of its constitution

For flood advice click on Oxfordshire County Councils Flood Toolkit link below.

<https://www.oxfordshirefloodtoolkit.com/>



From: Stuart Starr <SStarr@ColeEasdon.com>
Sent: 25 July 2019 17:08
To: Travers, Leigh <Leigh.Travers@southandvale.gov.uk>
Cc: Zoe Bell <ZBell@ColeEasdon.com>
Subject: RE: P19/V1011/O - 25 Orchard Way Harwell Didcot OX11 0LQ

Hi Leigh
Infiltration testing has now been carried out in 3 test pits at the neighbouring site. The rates recorded were very low (100mm fall in 18hrs, 200mm fall in 20 hrs & 380mm fall in 22 hrs).
We therefore propose an attenuation based strategy, with restricted discharge to surface water sewer. I assume you would agree to this considering the minimal infiltration recorded?
Thanks
Stuart

bbbbbbbbbbbbbbbbbbbbbbbbbbbbbb#
WxDUW#WdUU#EVE#K.rqv,#
Vnqlru#icjibhu#
F r oh#i dvgr q# r qvxowdqw
Eulwr# #z bgrq
Who#4:<6#94<<98##Hq dL#wduC F r oHdcrqfrp ##Z he#z z F r oHdcrqfrp
X ql#5 #\ runiK rxvh,#Hglrcq#Sdu,#G rufdq#Z d|#z bgrq#Z lwkln#WQ 6#UE#K hq#R ilfn,#
R ilfn#or#3#
Eulwr#Who# 77#3,#787#;337:7#
F I Y I O#H Q J I Q H H U I Q J # # W U D Q V S R U W#B O D Q Q I Q J # # Z D W H U # P D Q D J H P H Q W #

From: Stuart Starr <SStarr@ColeEasdon.com>
Sent: 19 July 2019 11:10
To: Travers, Leigh <Leigh.Travers@southandvale.gov.uk>
Cc: Zoe Bell <ZBell@ColeEasdon.com>
Subject: RE: P19/V1011/O - 25 Orchard Way Harwell Didcot OX11 0LQ

Hi Leigh

Thanks for calling last week to discuss this site. I have passed your response to our client, who has advised that accessing the site with an excavator is a problem. As discussed we do have ground investigation data relating to the adjacent site (next door but one), which I would think is representative of on site conditions. Is there any chance we could use this data for our report?

Regards
Stuart

bbbbbbbbbbbbbbbbbbbbbbbbbbbb#
Wxduw#WdUu#EVF#K.rqv,#
Vhqlru#Iqj.lghu#

F r o h # i d v g r q # r q v x o w d q w v
E u l w r q # # / z l g r q

Who#4:<6#94<<98##Iq dle#wduC.F.rh#Hdvg.rq#Frp##Z he#z.z.F.rh#Hdvg.rq#Frp.
X.q.lw# # / r u n # k r x v h # / # g l r q # # d u n # / # r u f d q # z d / # / z l g r q # z l w k l u h # / # Q 6 # U E # # K h d g # r i i f h #

R i i f h # B o r # 3 # #
E u l w r q # W h e # . 7 7 # # 3 , # 7 8 7 # ; 3 3 7 : 7 #

F I Y I O # Q J I Q H H U I Q J # # W U D Q V S R U W # S O D Q Q I Q J # # Z D W H U # P D Q D J H P H Q W #
bbbbbbbbbbbbbbbbbbbbbbbbbbbb

Iqf.r.s.r.u.d.i.g.#g.h.k.#N.#E.#F.r.d.#H.d.g.r.q.#F.r.q.v.x.o.w.d.q.w.#F.r.p.s.d.g.|#U.h.j.l.w.d.u.c.#Q.r.l.#5.3.5.#3.3.8.#
U.h.j.l.w.h.u.g.#R.i.i.f.h.#k.q.l.w.# # / r u n # k r x v h # / # g l r q # # d u n # / # r u f d q # z d / # / z l g r q # z l w k l u h # / # Q 6 # U E #

G I V P O D I P H U # #
W.k.h.#r.q.v.g.w.# # # k h # # p d i # b g # # q | # w d q y p l w h g # i b v # d u n # f r q i g h w i d e # b g # # w h g g h g # # z d q | # r u # k h # c o h # # # w h # # g y l y p x d i # r u # h q w | # k # z l a p # k h | # l u h # b g g u h v h g # # F . r . d . # . H . d . g . r . q . # . F . r . q . v . x . o . w . d . q . w . # # k u e | # # (. f . o . x . h . v . # . i . q | # z . d . u . d . g . w | #
d . g . h . g | # b e . l . w | # v # e # # k h # # x . d . w | # r . u . f . f . e . u . d . f | # # k h # # f . r . q . v . g . w . # # # k l u h # # p d i # b g # # q | # w d e . b . g . # w d q y p l w h g # i b v # # # | r . x . d . i . n . g . r . w . k h # # f . w . h . g . g . h . g . # # f . e . l . w . g . # # e . h . e . g . y . l . y . g . # # k . w . # | r . x . # . k . y . # . h . e . n . l . y . g . # # k . l . h # # p d i # g # # u . r . u . # . b . g . # . k . w . # . i . q | #
x . v . h . # . l . w . # . l . g . w . # # r . u . z . d . u . g . l . j | # . u . l . w . i . j | # . r . u . f . e . s | . l . j | # # k . l . h # # p d i # # w . u . l . w . # # a . u . c . l . e . l . w . g . # # # | r . x . # . k . y . # . h . e . n . l . y . g . # # k . l . h # # p d i # g # # u . r . u . # . b . g . # . k . w . # . i . q | # # F . r . d . # . H . d . g . r . q . # . F . r . p . # # k . l . h # # p d i # p . h . w . d . j . h . k . w . # . h . h . g . # z . h . s . w . # . r . u . # . k . h #
s . u . h . g . f . h . # # F . r . p . s . x . v . h . # . l . w . h . # # z . h . # . d . g . p . w . # . f . h . s . w . # . b . e . l . w . # # r . u . # . i . q | # r . v . # . u . l . g . p . d . j . h . # . e . x . v . h . # # # z . e . d . i . h . # . l . w . h . v . l .
S . d . h . # . f . r . q . v . g . w . # # k . h . # . g . y . l . r . q . p . h . q . # . e . h . i . r . u . # . u . l . w . i . j | # . k . l . h # # p d i # #

From: Stuart Starr
Sent: 10 July 2019 10:22
To: 'leigh.travers@southandvale.gov.uk' <leigh.travers@southandvale.gov.uk>
Subject: P19/V1011/O - 25 Orchard Way Harwell Didcot OX11 0LQ

Dear Leigh

We have been appointed to carry out a Flood Risk Assessment for a proposed residential development at the above site.

Our client has provided us with details of your holding objection, as attached. Our responses to the issues raised are below.

Surface Water Flooding

The flood map for surface water indicates that western half of the site is within an area considered to be at risk of surface water flooding. The map confirms that the flooding is isolated within a localised low lying area within the site. It is not a flood flow route which could be obstructed by the development and be directed onto the adjacent land, nor could off site flows accumulate within the site and cause flooding. We therefore propose to mitigate this risk by filling the low lying area, and/or installing a surface water drainage system to dispose of surface water runoff generated within the site.

Groundwater

Site investigation works are currently underway on the neighbouring site to the north, also on Orchard Way. Trial pits have been excavated to a depth of 2.5m, and groundwater has not been encountered. The draft SI report estimates that, based on local BGS borehole data, the water table lies at 5m below ground level at the site. We

therefore propose that infiltration based SUDs would not be impacted by groundwater. Please can you confirm if the use of infiltration SUDs is acceptable (subject to infiltration testing) or if further investigation is required.

We would be grateful for your comments.

Many thanks

Stuart Starr

bbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbb#
VwxDUw#WdUu#E#Vf#K#r#q#v#
Vh#q#r#u#h#q#l#j#l#h#u#

F r o h # I d v g r q # F r q v x o w d q w v
E u l w r # # / z l g r q

Who#B4:<6#D4<<98##H0# d# #wduC F r d # H d v g r q I f r p ##Z# he#z z z F r d # H d v g r q I f r p
X q l # 5 # \ # r u n # K r x v h # / # g l v r q # B d u # / G r u f d g # Z d / # / z l g r q # Z l w k l i n # / Q 6 # 5 U E # K h d g # R i i l f n #

R i i l f n # B o r # 3 # #
E u l w r # W h o # . 7 7 # 3 , # 1 7 8 7 # , 3 3 7 : 7 #

F Y I Q # J Q J I Q H H U I Q J # # W U D Q V S R U W # B O D Q Q I Q J # # Z # D W H U # P D Q D J H P H Q W #
bbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbb

I g f r u s r u d i n g # # # k h # K N # # B # F r d # H d v g r q # F r q v x o w d q w # F r p s d q | # U h j l w u d i n g # Q r 1 # 5 3 5 # 3 3 8 #
U h j l w u d i n g # R i i l f n # K q l # 5 # \ # r u n # K r x v h # / # g l v r q # B d u # / G r u f d g # Z d / # / z l g r q # Z l w k l i n # / Q 6 # 5 U E #

G I V O D I P H U # #
W k h # F r q v h q w # # # k h # # p d i i h g # h q | # u d y p l w h g # i b w # i i n # f r q i b h q w d d h g # f g h q g # r e d # # r u # k h # o h # # k d # f g y l y p x d # # # q w # # k e # z k r p # k h | # i i n # B g g i n h w h g # F r d # H d v g r q # F r q v x o w d q w # # d u h e | # h (f o g h # h q | # d u d g w | # d g h # q | # h e l d | # i v # e # # k h # x d d | # r u f i f e u d f | # # k h # f r q w h w # # # k l # # p d i i h g # h q | # # w d # d g # u d y p l w h g # i b w # # # # | # x d i i n # p r w k h # f g h q g # i i f s h q w # # h # b y l h g # # k d # | # x # k d # h # i n # f n # g # # k l # # p d i i h g # u r u # i g # # k d # h q | # x v h # g l v r p l g w i r q # # i r u z d u g i j # # e u l w r # j # r u f e r s | i j # # # k l # # p d i i h g # u l v d # e u r k e l w i n g # # # | # x # k d # i n # i n # f n # g # # k l # # p d i i h g # u r u # # d o c h # g r v # | # E n C F r d # H d v g r q I f r p # # # k l # # p d i i h g # r v d i j # k d # h i n g # z h s w # i u # k h # s u h v g h # # # # F r p s x v h # / # x o h # # # h f d g # w # i f # h e w # h e l d | # r u h q | # r v # # u # g # p d j # # f a c v h g # # | # r v # d u h # y l v o t v l # S o k h # F r q v g y n # # # h # q y l v r p h q w e h i r u h # e u l w r # j # # k l # # p d i i h g

Zoe Bell

Subject: FW: 25 Orchard Way, Didcot Capacity Enquiry (6997)

From: DEVELOPER.SERVICES@THAMESWATER.CO.U <DEVELOPER.SERVICES@THAMESWATER.CO.UK>

Sent: 19 February 2021 22:49

To: Zoe Bell

Subject: RE: 25 Orchard Way, Didcot Capacity Enquiry (6997)

Zoe

We should have no problem with the 0.6l/s surface water to surface water discharge and 5plots is a very small site for foul discharge, how many plot were proposed before and has the LLFA agreed the surface water strategy please?

Regards

Geoff Nokes

Developer Services – Sewer Adoptions Engineer

[Office:N/A](#) Mobile: 07747 640 228

Clearwater Court, Vastern Road, Reading, RG1 8DB



Sewers for Adoption (SFA) was replaced by the new Code for Adoptions on 1st April 2020, please use this link to find the new national standards and documents. Any applications made prior to 1st April will continue to be assessed against SFA.

Original Text

From: Zoe Bell

To: DEVELOPER.SERVICES@THAMESWATER.CO.U <DEVELOPER.SERVICES@THAMESWATER.CO.UK>

CC:

Sent: 16.02.21 11:22:09

Subject: 25 Orchard Way, Didcot Capacity Enquiry (6997)

This email contains a reference to Coronavirus or COVID-19. Please be aware of coronavirus-themed active phishing campaigns, and use extra vigilance when responding or clicking.

<color="salmon">

Dear Sir Madam,

I am writing to enquire regarding capacity within the downstream surface water sewer shown in the screenshot attached. The site is located at 25 Orchard Way, Harwell, Didcot, OX11 0LQ. I have also attached the capacity enquiry form and proposed drainage plans.

It is not possible to dispose of surface waters via infiltration or to watercourse. The downstream surface water sewer is the only solution. Discussions were had in July 2019 regarding this site where the discharge rate was found to be acceptable. The proposals have altered slightly since then so I am writing for an updated response for what is now a 5 plot development.

Surface waters from the site will be discharged via permeable paving at a rate of 0.6l/s (QBAR rate).

The connection is to be made to the sewer indirectly via a new sewer that is currently under construction in an adjacent site. Planning references for this development are located within the site plan.

Kind regards,

Zoë

ZOË BELL BSc (Hons)
Flood Risk / Drainage Engineer

COLE EASDON CONSULTANTS

e-mail: | Web: www.ColeEasdon.com

Bristol Office Tel: +44 (0) 1454 800 474
160 Aztec, Aztec West, Bristol, BS32 4TU

Head Office at:

Swindon Tel: +44 (0) 1793 619965 (Head Office)

TRANSPORT PLANNING • WATER MANAGEMENT • CIVIL ENGINEERING

Incorporated in the UK as Cole Easdon Consultants. Company Registration No.: 0202 7005
Registered Office: Unit 2, York House, Edison Park, Dorcan Way, Swindon, Wiltshire, SN3 3RB

DISCLAIMER:

The contents of the e-mail and any transmitted files are confidential and intended solely for the use of the individual or entity to whom they are addressed. Cole Easdon Consultants hereby excludes any warranty and any liability as to the quality or accuracy of the contents of this email and any attached transmitted files. If you are not the intended recipient, be advised that you have received this e-mail in error and that any use, dissemination, forwarding, printing or copying of this e-mail is strictly prohibited. If you have received this e-mail in error, please notify cec@coleeasdon.com. This e-mail message has been swept for the presence of computer viruses. We cannot accept liability for any loss or damage caused by software viruses.

Please consider the environment before printing this e-mail.

COVID-19: In order to maintain social distancing in our offices, many of our staff continue to regularly work from home. Please note we may therefore need to take a message and ask the relevant member of staff to return your call. Our Bristol & Swindon switchboards may also divert to a mobile phone from time-to-time. If the office you call is engaged, please leave a message, try again later, call the alternative number provided on the voicemail message, or email cec@coleeasdon.com. Thank you.

Visit us online www.thameswater.co.uk , follow us on twitter www.twitter.com/thameswater or find us on www.facebook.com/thameswater. We're happy to help you 24/7.

Thames Water Limited (company number 2366623) and Thames Water Utilities Limited (company number 2366661) are companies registered in England and Wales, both are registered at Clearwater Court, Vastern Road, Reading, Berkshire RG1 8DB. This email is confidential and is intended only for the use of the person it was sent to. Any views or opinions in this email are those of the author and don't necessarily represent those of Thames Water Limited or its subsidiaries. If

you aren't the intended recipient of this email, please don't copy, use, forward or disclose its contents to any other person – please destroy and delete the message and any attachments from your system.

Appendix 5

160 Aztec, Aztec West
Almondsbury
Bristol, BS32 4TU

25 Orchard Way
GFRR



Date February 2021
File

Designed by ZB
Checked by AD

Innovyze Source Control 2016.1


ICP SUDS Mean Annual Flood

Input

Return Period (years)	100	Soil	0.450
Area (ha)	0.130	Urban	0.000
SAAR (mm)	700	Region Number	Region 6

Results 1/s

QBAR Rural	0.6
QBAR Urban	0.6
Q100 years	1.8
Q1 year	0.5
Q30 years	1.3
Q100 years	1.8

Cole Easdon		Page 1
160 Aztec, Aztec West Almondsbury Bristol, BS32 4TU	6997 - 25 Orchard Way Harwell, Didcot Permeable Paving	
Date February 2021 File 6997 - Paving.SRCX	Designed by ZB Checked by AD	


Innovyze Source Control 2016.1

Summary of Results for 100 year Return Period (+40%)

Half Drain Time : 1593 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m ³)	Status
15 min Summer	81.832	0.212	0.0	0.3	0.3	30.2	O K
30 min Summer	81.890	0.270	0.0	0.4	0.4	40.4	O K
60 min Summer	81.950	0.330	0.0	0.4	0.4	50.9	O K
120 min Summer	82.008	0.388	0.0	0.5	0.5	61.1	O K
180 min Summer	82.039	0.419	0.0	0.5	0.5	66.5	O K
240 min Summer	82.058	0.438	0.0	0.5	0.5	70.0	O K
360 min Summer	82.083	0.463	0.0	0.5	0.5	74.3	O K
480 min Summer	82.098	0.478	0.0	0.5	0.5	77.0	O K
600 min Summer	82.107	0.487	0.0	0.5	0.5	78.5	O K
720 min Summer	82.112	0.492	0.0	0.5	0.5	79.4	O K
960 min Summer	82.115	0.495	0.0	0.5	0.5	79.9	O K
1440 min Summer	82.110	0.490	0.0	0.5	0.5	79.0	O K
2160 min Summer	82.099	0.479	0.0	0.5	0.5	77.0	O K
2880 min Summer	82.085	0.465	0.0	0.5	0.5	74.6	O K
4320 min Summer	82.054	0.434	0.0	0.5	0.5	69.3	O K
5760 min Summer	82.024	0.404	0.0	0.5	0.5	64.0	O K
7200 min Summer	81.997	0.377	0.0	0.5	0.5	59.2	O K
8640 min Summer	81.972	0.352	0.0	0.4	0.4	54.9	O K
10080 min Summer	81.950	0.330	0.0	0.4	0.4	51.0	O K
15 min Winter	81.855	0.235	0.0	0.4	0.4	34.2	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Time-Peak (mins)
15 min Summer	138.153	0.0	23.3	19
30 min Summer	90.705	0.0	27.2	34
60 min Summer	56.713	0.0	49.8	64
120 min Summer	34.246	0.0	56.6	124
180 min Summer	25.149	0.0	60.1	184
240 min Summer	20.078	0.0	62.3	242
360 min Summer	14.585	0.0	65.2	362
480 min Summer	11.622	0.0	67.0	482
600 min Summer	9.738	0.0	68.1	602
720 min Summer	8.424	0.0	68.8	720
960 min Summer	6.697	0.0	69.4	960
1440 min Summer	4.839	0.0	68.5	1210
2160 min Summer	3.490	0.0	114.2	1580
2880 min Summer	2.766	0.0	115.5	1988
4320 min Summer	1.989	0.0	111.6	2808
5760 min Summer	1.573	0.0	136.2	3632
7200 min Summer	1.311	0.0	140.5	4464
8640 min Summer	1.129	0.0	143.8	5192
10080 min Summer	0.994	0.0	146.4	6048
15 min Winter	138.153	0.0	24.9	19


Cole Easdon		Page 2
160 Aztec, Aztec West Almondsbury Bristol, BS32 4TU	6997 - 25 Orchard Way Harwell, Didcot Permeable Paving	
Date February 2021 File 6997 - Paving.SRCX	Designed by ZB Checked by AD	

Innovyze Source Control 2016.1

Summary of Results for 100 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
30 min Winter	81.920	0.300	0.0	0.4	0.4	45.7	O K
60 min Winter	81.987	0.367	0.0	0.5	0.5	57.4	O K
120 min Winter	82.052	0.432	0.0	0.5	0.5	68.9	O K
180 min Winter	82.088	0.468	0.0	0.5	0.5	75.1	O K
240 min Winter	82.110	0.490	0.0	0.5	0.5	79.1	O K
360 min Winter	82.139	0.519	0.0	0.5	0.5	84.2	O K
480 min Winter	82.157	0.537	0.0	0.5	0.5	87.3	O K
600 min Winter	82.169	0.549	0.0	0.6	0.6	89.3	O K
720 min Winter	82.176	0.556	0.0	0.6	0.6	90.6	O K
960 min Winter	82.182	0.562	0.0	0.6	0.6	91.7	O K
1440 min Winter	82.177	0.557	0.0	0.6	0.6	90.8	O K
2160 min Winter	82.161	0.541	0.0	0.5	0.5	88.0	O K
2880 min Winter	82.143	0.523	0.0	0.5	0.5	84.8	O K
4320 min Winter	82.100	0.480	0.0	0.5	0.5	77.2	O K
5760 min Winter	82.058	0.438	0.0	0.5	0.5	69.8	O K
7200 min Winter	82.019	0.399	0.0	0.5	0.5	63.0	O K
8640 min Winter	81.984	0.364	0.0	0.4	0.4	56.9	O K
10080 min Winter	81.953	0.333	0.0	0.4	0.4	51.5	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
30 min Winter	90.705	0.0	29.0	34
60 min Winter	56.713	0.0	54.1	64
120 min Winter	34.246	0.0	61.2	122
180 min Winter	25.149	0.0	64.9	180
240 min Winter	20.078	0.0	67.2	240
360 min Winter	14.585	0.0	70.2	356
480 min Winter	11.622	0.0	72.0	472
600 min Winter	9.738	0.0	73.2	588
720 min Winter	8.424	0.0	73.9	702
960 min Winter	6.697	0.0	74.5	924
1440 min Winter	4.839	0.0	73.4	1342
2160 min Winter	3.490	0.0	125.2	1668
2880 min Winter	2.766	0.0	126.0	2132
4320 min Winter	1.989	0.0	121.4	3028
5760 min Winter	1.573	0.0	153.8	3920
7200 min Winter	1.311	0.0	158.8	4760
8640 min Winter	1.129	0.0	162.7	5616
10080 min Winter	0.994	0.0	165.9	6360

Cole Easdon		Page 3
160 Aztec, Aztec West Almondsbury Bristol, BS32 4TU	6997 - 25 Orchard Way Harwell, Didcot Permebale Paving	
Date February 2021 File 6997 - Paving.SRCX	Designed by ZB Checked by AD	

Innovyze Source Control 2016.1

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	20.000	Shortest Storm (mins)	15
Ratio R	0.400	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram


Total Area (ha) 0.129

Time (mins)		Area
From:	To:	(ha)
0	4	0.129

Time Area Diagram

Total Area (ha) 0.000

Time (mins)		Area
From:	To:	(ha)
0	4	0.000

Cole Easdon		Page 4
160 Aztec, Aztec West Almondsbury Bristol, BS32 4TU	6997 - 25 Orchard Way Harwell, Didcot Permebale Paving	
Date February 2021 File 6997 - Paving.SRCX	Designed by ZB Checked by AD	

Innovyze Source Control 2016.1

Model Details

Storage is Online Cover Level (m) 82.700

Porous Car Park Structure

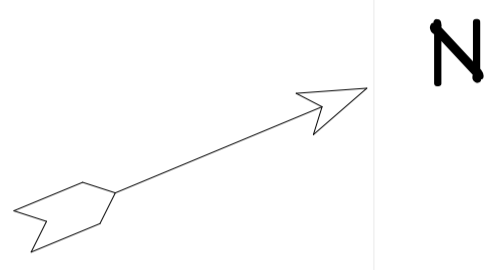
Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	7.4
Membrane Percolation (mm/hr)	1000	Length (m)	79.0
Max Percolation (l/s)	162.4	Slope (1:X)	1000.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	81.620	Cap Volume Depth (m)	0.570

Orifice Outflow Control

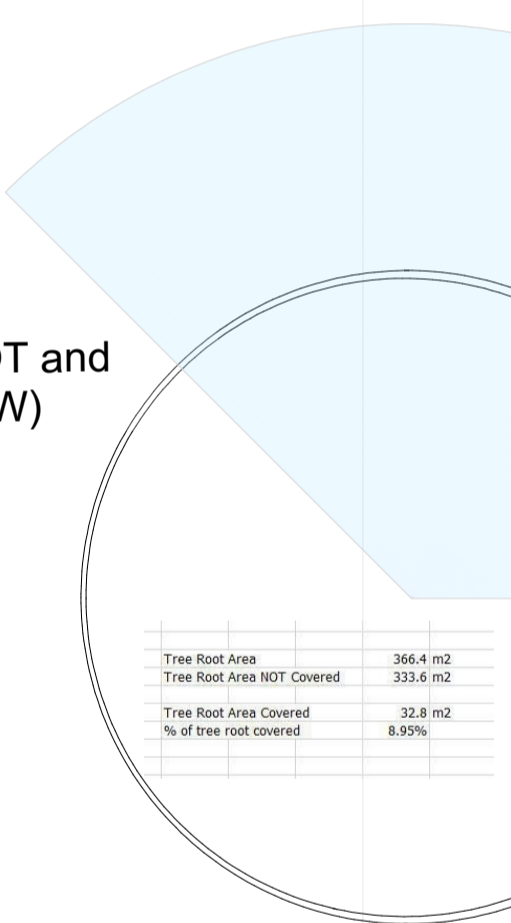
Diameter (m) 0.019 Discharge Coefficient 0.600 Invert Level (m) 81.620

Appendix 6

RECREATION GROUND



TREE (ROOT and SHADOW)



Site Area
2364m²
21.1DPH



Neighbouring site for 9 homes
approved under P20/V2219/FUL and
under construction

ORCHARD WAY

El Sub Sta

27

31

43

21

24a

24

SHEET:	SCALE:	DATE:
One	1:250	15/02/2021

DRAWINGS PROVIDED BY:
Feltham Properties Ltd

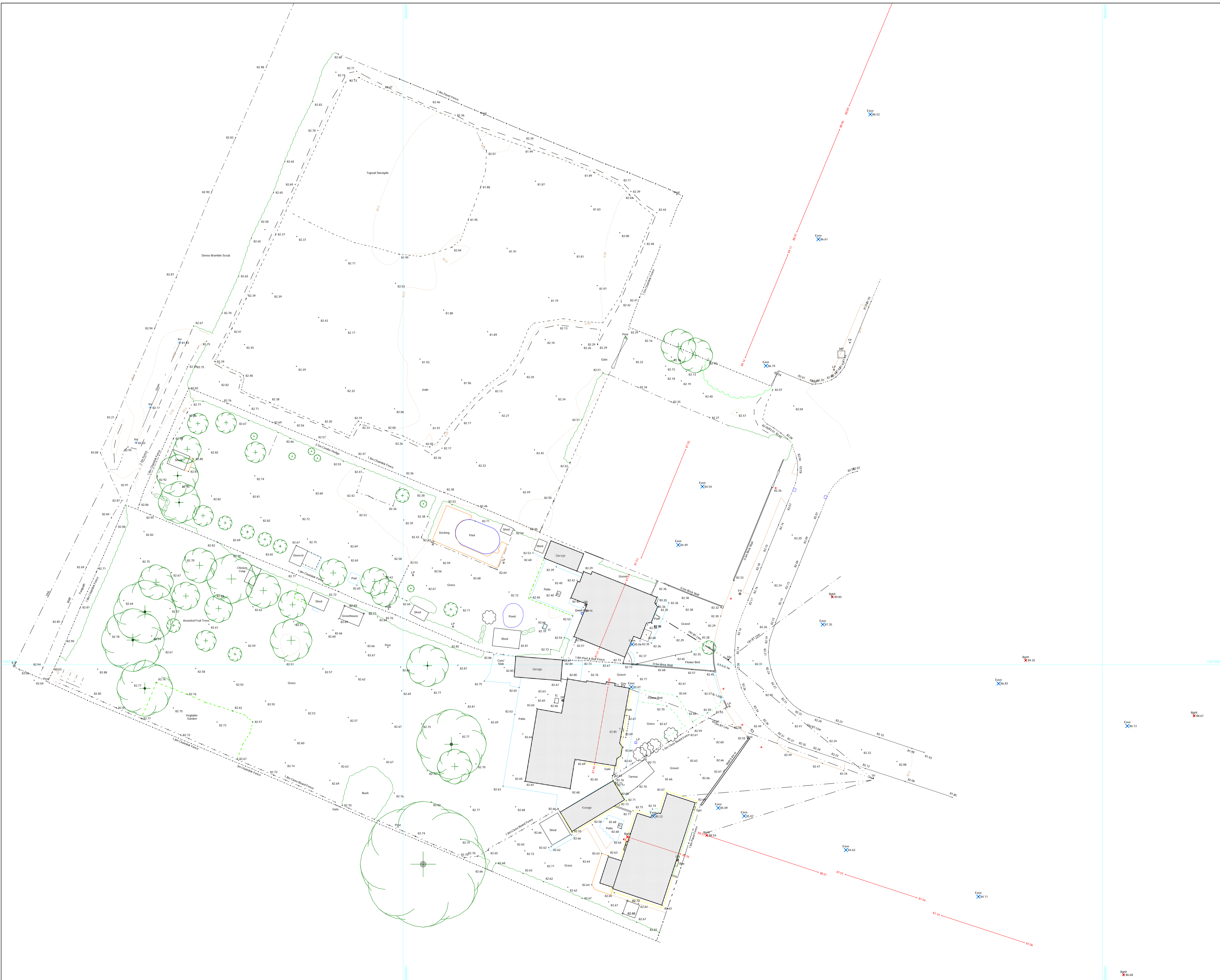
PROJECT DESCRIPTION:
25 Orchard Way, Harwell

SHEET TITLE:
5 Dwellings @ 25 Orchard Way

REVISION TABLE		
NUMBER	DATE	REVISION DESCRIPTION



Note:-
Contour Interval: 0.5m



Key			
	Slope		Spot Level
	General Fence		Survey Station
	Close Board Fence		Tree
	Hedge		Wooden Peg
	Vegetation		Electric Pole
	Scrub		Telephone Pole
	Building		Lamp Post
	Boundary		Sign Post
	Boundary (not marked)		Sign
	Water		Manhole
	Drain / Ditch		Road Gully
	O/H Lines		Water Level
	Contour		Invert Level
	Kerb		Monitoring Borehole
	Dropped Kerb		Trial Pit
	Gate		

This survey is orientated to OSGB36 using GPS methods and the OSTN02/OSGM02 transformation.

MITCHAM

Mitcham Surveys – A Division of Mitcham Earthmoving Ltd
Southern Area Office – 28 Bourne Vale, Hungerford,
Berkshire, RG17 0LL.
Tel/Fax 01488 681857 Mobile 07734 273712

Feltham Properties
42 London Road, Newbury
Berkshire, RG1411LA

Orchard Way, Harwell

Site Survey
19 August 2019

Drawn By TJP	Job No. 1932
Date 23-AUG-19	Sheet Size. A1
Scale. 1 : 250	Drwg No. 4

WHILE THE SURFACE WATER RUNOFF FROM ADJACENT AREAS APPEARS TO BE DISCHARGING TO SOMERSETS IN THE UNDERLYING STRATA ONE MUST BE AWARE THAT TESTING CARRIED OUT AT THE SITE WAS UNABLE TO ESTABLISH A SUFFICIENT RATE FOR THE DESIGN OF SOMERSETS OR INFILTRATION STRUCTURES

CONTROL MANHOLE IS FITTED WITH WATER FLOW ON OUTGOING PIPES TO MONITOR DISCHARGE PPM-SM-01000-00200-1100 WATER MAIN DISCHARGE CP 2.0 I/A @ 1.00m HEAD FOR 1 IN 100 YEAR (+40% CO2 CRITICAL STRAIN EVENT)

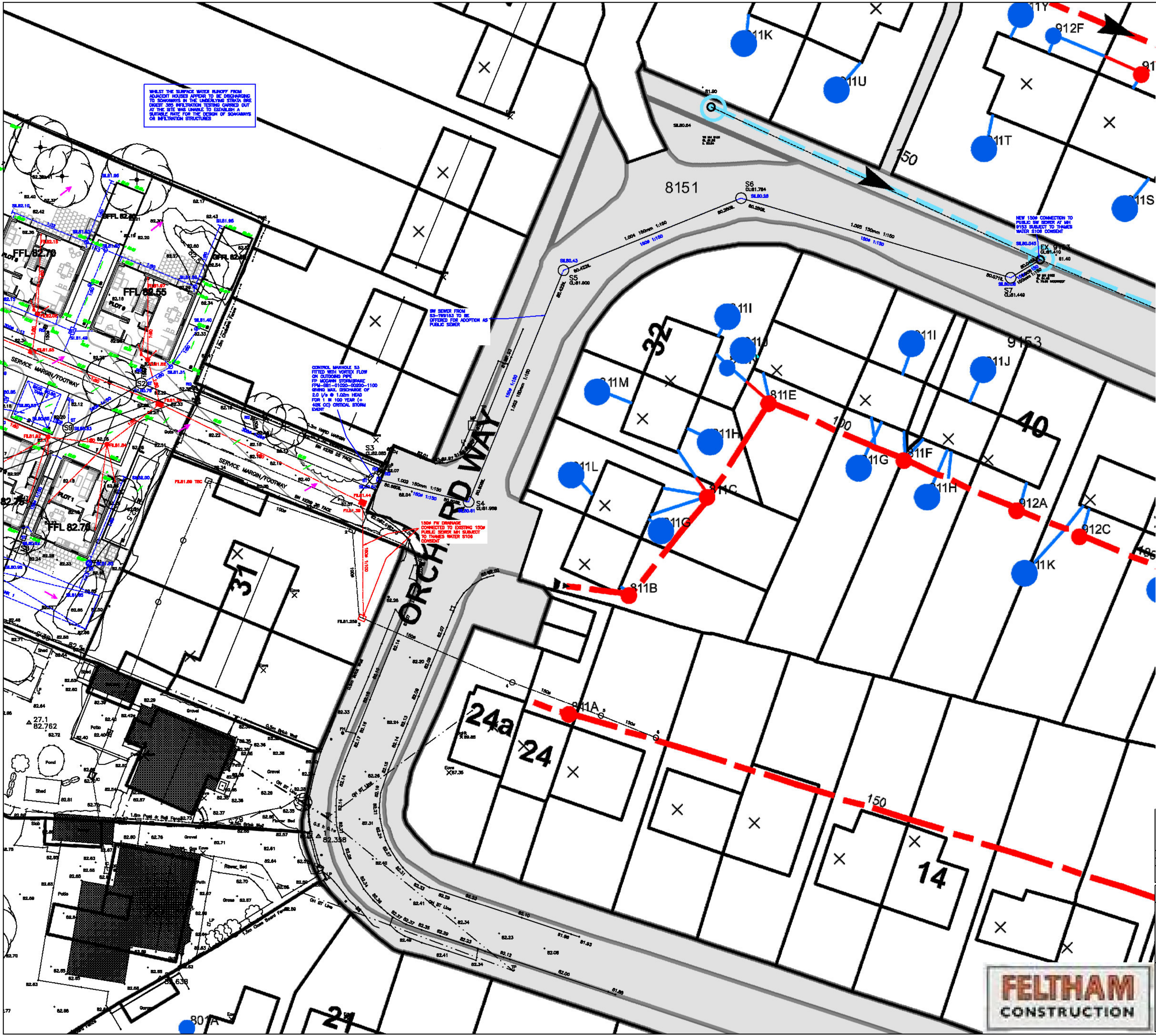
1000 FW DRAINAGE CONNECTED TO EXISTING 1000 PUBLIC SEWER AND SUBJECT TO THAMES WATER ST106 CONSENT

NOTES

- All drainage shall be 100mm dia. except where otherwise shown as 150mm dia. dia. and pipework shall be vitrified clayware to BS EN 235 or uPVC pipework to BS 4680. All adoptable drains to be vitrified clayware.
- Flexible joints to be provided both sides where drainage passes through foundations/walls.
- Backfill to trenches under footpaths or areas with proposed vehicular access or within 1.0m of such areas shall be with Type 1 granular material.
- Clay pipes (rigid) to be laid to Class S or Z bedding details and PVC-U pipe (flexible) to have Class 1 or Z bedding details as appropriate to depth, location and proximity to foundations as required by Building Regulations.
- Where RWP's are connected direct to a drain, rodding access plates are to be provided.

LEGEND - DRAINAGE

- FW DRAIN
- FL96.80 FW INVERT LEVEL
- FW PCC MANHOLE
- FW INSPECTION CHAMBER
- FW ACCESS CHAMBER (MAX. 0.6m DEEP)
- SW DRAIN
- SIL96.80 SW INVERT LEVEL
- SW INSPECTION CHAMBER
- SW ACCESS CHAMBER (MAX. 0.6m DEEP)
- ST PCC SILT TRAP
- ST PLASTIC SILT TRAP
- DC TD DRAINAGE CHANNEL / THRESHOLD DRAIN
- SW RODDING EYE
- CELLULAR SURFACE WATER ATTENUATION TANK
- SW EXCEEDANCE FLOW PATHS



P2	MJH	BA	09.07.19	LAYOUT UPDATED
P1	MJH	NA	24.08.19	PRELIMINARY
REV	CHK	CHK	DATE	DETAILS

ARCHITECT
CREATE ARCHITECTS LTD

JOB
LAND OFF ORCHARD WAY
HARWELL, DIDCOT
OX11 0LH

DRG
ENGINEERING LAYOUT
SHEET 1 OF 2

SCALE
1:200 @ A1

DATE
June 2019

DRW
MJH

CHK
CHK

DRG. NUMBER
3573-102

Ground Floor Office T: 01235 754695
St. Stephens House
Dogbail Way
Farnham
Surrey GU14 7UD







www.dca.org.co.uk

DA
CONSULTING ENGINEERS

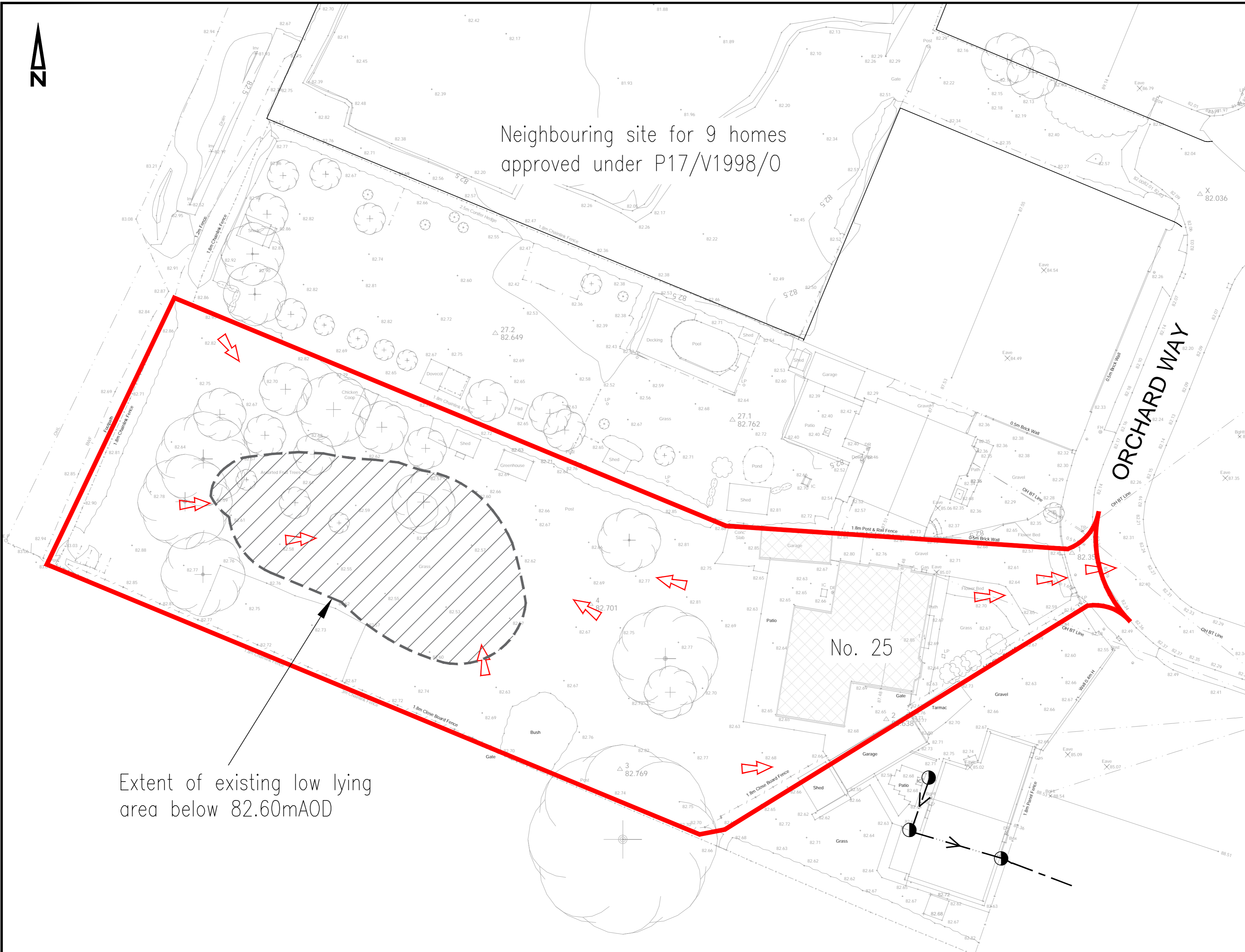
Appendix 7



Neighbouring site for 9 homes approved under P17/V1998/0

- Key:**
-  Site boundary
 -  Existing public foul sewer and manhole
 -  Existing public combined sewer and manhole
 -  + 82.55
 -  Existing low lying area
 -  Existing overland flow route

- GENERAL NOTES**
1. Topographical survey provided by Mitcham Surveys, August 2019.
 2. All levels are in metres above Ordnance datum.
 3. Public sewer details based on Thames Water records, July 20



Extent of existing low lying area below 82.60m AOD

© Copyright



160 AZTEC
AZTEC WEST
ALMONDSBURY
BRISTOL
BS32 4TU
Tel : 01454 800474

Web Site www.ColeEasdon.com
E-mail br@ColeEasdon.com

COLE EASDON CONSULTANTS

Client
Feltham Properties

Job Title
Proposed Residential Development
25 Orchard Way
Harwell
Oxfordshire

Drawing Title
Existing Site Plan

Drawing Status:

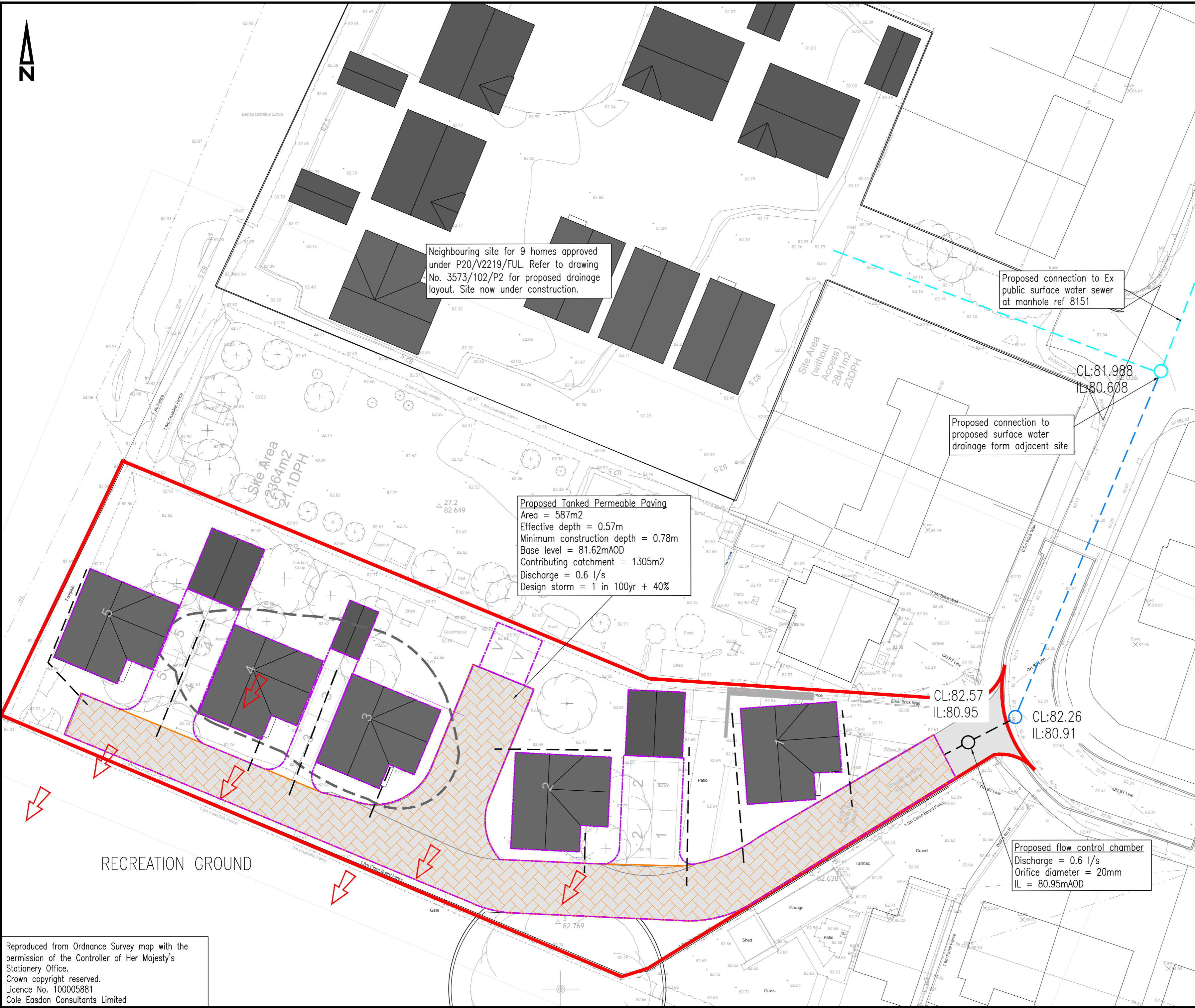
FOR COMMENT	FOR PLANNING	FOR TENDER	FOR APPROVAL	FOR CONSTRUCTION	AS BUILT

Designed by: ZB **Drawn by:** ZB **Checked by:** AD

Date: February 2021 **Scale:** 1:250 @ A2

Drwg. No.: 6997/500 **Rev.:**

Reproduced from Ordnance Survey map with the permission of the Controller of Her Majesty's Stationery Office.
Crown copyright reserved.
Licence No. 100005881
Cole Easdon Consultants Limited



- Key:**
- Site boundary
 - Proposed surface water connection from adjacent site
 - Proposed surface water drain and manhole
 - Proposed adoptable surface water sewer
 - Proposed surface water drainage catchment area (130.5m²)
 - Proposed tanked permeable paving
 - Design exceedance route
 - Existing low lying area to be filled

- NOTES**
1. Proposed layout based on drawings provided by Feltham Properties in February 2021
 2. Topographical survey provided by Mitcham Surveys, August 2019
 3. All levels are in metres above Ordnance datum.
 4. Public sewer details based on Thames Water records
 5. Connection to public sewer subject to Thames Water approval
 6. This drainage strategy is indicative only and is subject to detailed design

No.	By	Date	Revision Details
Copyright			
			160 AZTEC AZTEC WEST ALMONDSBURY BRISTOL BS32 4TU Tel : 01454 800474
COLE EASDON CONSULTANTS			Web Site www.ColeEasdon.com E-mail br@ColeEasdon.com

Client
Feltham Properties

Job Title
**Proposed Residential Development
25 Orchard Way
Harwell
Oxfordshire**

Drawing Title
Proposed Site Layout

FOR COMMENT	FOR PLANNING	FOR TENDER	FOR APPROVAL	FOR CONSTRUCTION	AS BUILT
CONSTRUCTION AT CLIENT / CONTRACTOR RISK					

Designed by: ZB Drawn by: ZB Checked by: AD

Date: February 2021 Scale: 1:250 @ A2

Dwg. No. 6997/502	Rev.
-----------------------------	------

Reproduced from Ordnance Survey map with the permission of the Controller of Her Majesty's Stationery Office.
 Crown copyright reserved.
 Licence No. 100005881
 Cole Easdon Consultants Limited