Ashford Road

Northdown C

Ashmill Business Park

30m offset provided from back of highway on Old Ashford Road to developable area

Old Ashford Road

Pivi Ho

Best endeavours to provide surfacing improvement to footpath, to link sustainably to the village to the west

14/503309/FULL

Ground raising may be required to achieve a gravity fall to the residential basin

Residential Area 1
Developable Area: 0.904ha
Impermeable area: 0.497ha

Residential Area 2
Developable Area: 2.946ha
Impermeable area: 1.623ha

Car Park Area to be discharged to the basin south of the car park area.

Residential Attenuation Basin 1:
Top of bank: 110.000
Water Level: 109.700
Invert Level: 108.200
Depth of basin: 1.5m
Freeboard: 0.3m
Qbar Volume: 444m3
Basin Bank: 1 in 3

Residential Attenuation Basin 1 to discharge into Residential Attenuation Basin 2 at a rate of 3.3l/s

Attenuation Basin:
Top of bank: 105.200
Water Level: 104.900
Invert Level: 103.700
Depth of basin: 1.2m
Freeboard: 0.3m
Qbar Volume: 448m3

Residential Attenuation Basin 2:
Top of bank: 107.500
Water Level: 107.200
Invert Level: 105.700
Depth of basin: 1.5m
Freeboard: 0.3m
Qbar Volume: 1928m3
Basin Bank: 1 in 3

Residential Attenuation Basin 2 to discharge into Residential Attenuation Basin 3 at a rate of 4.1l/s

Outfall to existing watercourse at 2.0l/s:
BL: 102.186
IL: 102.400

The O

Orchard House

Outfall to existing watercourse at 7.4l/s:
Levels tbc

Mill Wood

REV.	DATE:	DETAIL:	DES.	CHK.	APP.
P05	05/12/24	Site Layout Updated	CW	RB	SD
P04	04/12/24	Site Layout Updated	BD	RB	SD
P03	05/08/21	Developable area and pond volume amended to suit new DFP	EA	PH	PH
P02	03/12/19	Calculations changed to suit new DFP	CH	MGg	EC
P01	22/11/19	Initial issue	CH	MGg	EC

enzygo environmental consultants
Samuel House, 5 Fox Valley Way, Stocksbridge, Sheffield, S36 2AA

CLIENT: Dean Lewis Estates Ltd

PROJECT: Old Ashford Road, Lenham

DRAWING TITLE: Proposed Attenuation Basins

DRAWN:	DESIGNED:	CHECKED:	APPROVED:
CH	CH	MGg	EO'C

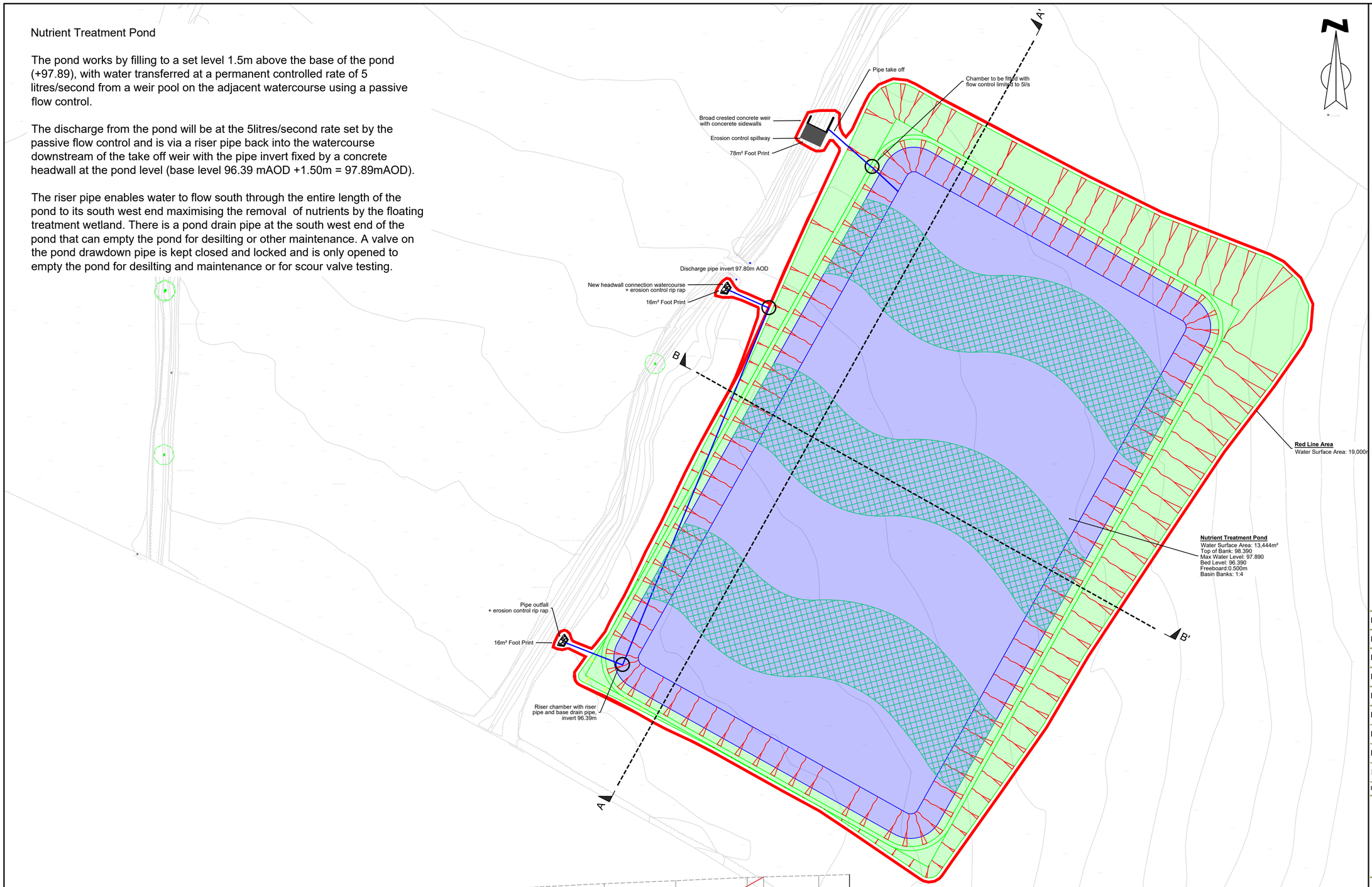
DATE:	SCALE @ A1:
November 2019	1:1000
PROJECT NO.: SHF.1528.004	DRAWING NO.: 101
DRAWING STATUS: PRELIMINARY	ISSUE: P05

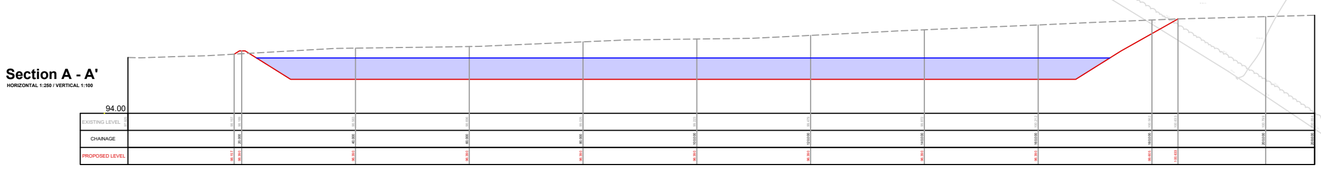
Nutrient Treatment Pond

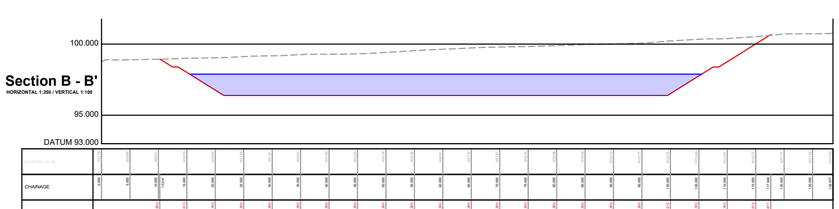
The pond works by filling to a set level 1.5m above the base of the pond (+97.89), with water transferred at a permanent controlled rate of 5 litres/second from a weir pool on the adjacent watercourse using a passive flow control.

The discharge from the pond will be at the 5litres/second rate set by the passive flow control and is via a riser pipe back into the watercourse downstream of the take off weir with the pipe invert fixed by a concrete headwall at the pond level (base level 96.39 mAOD +1.50m = 97.89mAOD).

The riser pipe enables water to flow south through the entire length of the pond to its south west end maximising the removal of nutrients by the floating treatment wetland. There is a pond drain pipe at the south west end of the pond that can empty the pond for desilting or other maintenance. A valve on the pond drawdown pipe is kept closed and locked and is only opened to empty the pond for desilting and maintenance or for scour valve testing.







NOTES

1. Do not scale from this drawing
2. All dimensions are in meters unless stated otherwise
3. This drawing is to be read in conjunction with all relevant drawings and documents associated with this project.
4. All surveyed information including levels and layout is provided by others
5. All existing and proposed dimensions, levels and locations to be checked and verified by the main contractor on site prior to the commencement of the works and any anomalies reported to the engineer.
6. All works, workmanship and materials on private drainage to be in accordance with the civil engineering specification for water industry 7th edition published by the water research council.

Key

- Groundworks Footprint - 19,000m²
- Pond Surface Area - 13,444m²
- Floating Treatment Wetland

REV:	DATE:	DETAIL:	DES:	CHK:	APP:
P09	04/12/24	Sections added	RB	SD	SD
P08	19/11/24	Wetland amended	RB	SD	SD
P07	01/10/24	Pond size increased to suit updated requirements.	RB	SD	SD
P06	28/11/23	Changes to Floating Treatment Wetland Area	CW	SD	SD
P05	22/06/22	Added pond information and annotations to pond drainage	RB	PH	PH
P04	17/06/22	Added pond information and annotations to pond drainage	LW	EA	PH
P03	10/06/22	Added groundworks foorprint boundary and wetland areas.	LW	PH	PH
P02	27/07/21	Pond redesign to reduce impact on hedges	MG	PH	PH
P01	20/07/21	First Issue	MG	PH	PH

enzygo environmental consultants
Samuel House, 5 Fox Valley Way, Stocksbridge, Sheffield, S36 2AA

CLIENT:
Dean Lewis Estates Ltd

PROJECT:
Old Ashford Road, Lenham

DRAWING TITLE:
Nutrient Treatment Pond

DRAWN:	DESIGNED:	CHECKED:	APPROVED:
LW	PH	PH	PH

DATE:	SCALE @ A2:
17/06/2022	1:750

PROJECT NO.:	DRAWING NO.:
SHF.1528.004	009

DRAWING STATUS:	ISSUE:
Preliminary	P09

APPENDICES

Appendix 1 – Proposed Layout

Maidstone Borough Council - Local Plan Review (2021-2038) Policy LPRINF1: Publicly Accessible Open Space and Recreation

Green Infrastructure	Open Space Standards	Required Ha	Proposed Ha
Amenity Green Space	0.70 Ha per 1000 population	0.1624	2.00
Provision for Children and Young People	0.25 Ha per 1000 population	0.0580	0.21
Outdoor Sports	1.60 Ha per 1000 population	0.3712	2.00
Allotments and Community Gardens	0.20 Ha per 1000 population	0.0464	*Nil
Natural / Semi-natural Areas of Open Space	6.5 Ha per 1000 population	1.5080	3.83
	Total	2.1460	8.04

NB. Above calculations based on 100 dwellings @ 2.32 persons per dwelling (= 232 pop)

* No On-site Allotments proposals - Replaced with S106 Contribution

Site Boundary 13.56 Ha

Built Development

Residential Area 3.17Ha
Up to 100 Units @ circa overall average 31.5 DPH

Higher Density Development within Western Area

Area for Sports Pavilion & Car Park 0.45 Ha
(Precise location and extent of pavilion and car park not fixed)

Proposed Vehicular Access Point off Old Ashford Road

Proposed Primary Road
(Precise alignment not fixed - Limits of deviation up to 10m either side of primary road)

Potential Emergency Access

Floating Treatment Wetlands 1.90 Ha
(Not Publicly Accessible)

Green Infrastructure

Proposed Public Open Space 5.83Ha
(Including The Green)

Proposed Attenuation Ponds
(Location subject to engineers recommendation)

Indicative Permanent Waterbody (Overdeepened)

Proposed Play Area 0.21 Ha
(Includes formal equipped play area)

Proposed Trim Trail

Proposed Structural Planting

Proposed Sports Pitch 2.00 Ha

Proposed Bund

Existing Public Rights of Way

Proposed Footpath Link

Proposed Footpath / Cycle Link

Proposed 5m Landscape Buffer
(Not Within Red Line Application Area)

Note - Landscape Buffer and Floating Treatment Wetlands Area not included in open space provision calculations.

N

J:\7900\7968\LANDS\Plans\7968-L-11 PARAMETERS PLAN_REV M.indd

Dean Lewis Estates Ltd
Old Ashford Road
Lenham

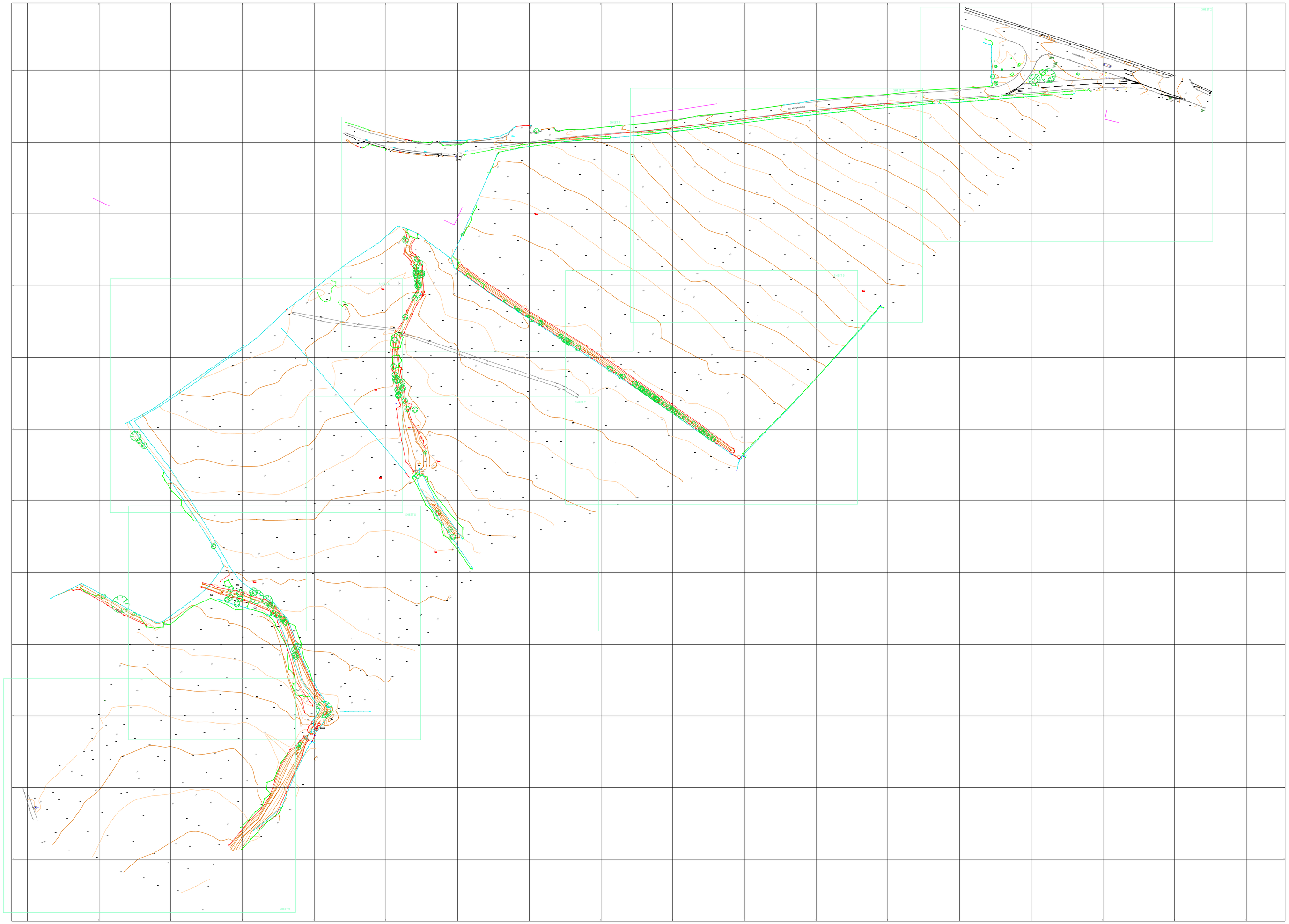
PARAMETERS PLAN

1:2500@A2
14 June 2022 CTH / KMN
7968-L-11 _ N

fpcr

FPCR Environment and Design Ltd
Lockington Hall
Lockington
Derby DE74 2RH
t: 01509 672772
e: mail@fpcr.co.uk
w: www.fpcr.co.uk

Appendix 2 – Topographic Survey



Legend

Topographical Linetypes:

- Road
- Drop Kerb
- Steps
- Building Line
- Barrier
- Channel
- Concrete
- Chain Fence
- Metal Fence
- Post & Wire Fence
- Wooden Fence
- Top of Bank
- Bottom of Bank
- Tree Canopy Line
- Verge Line
- Wall
- Footpath

Underground Utility Linetypes:

- E — Electric
- GAS — Gas
- W — Water
- CATV — Cable TV
- CATVTFR — Cable TV TFR
- CCTV — Closed Circuit TV
- BT — British Telecom
- BTTFR — British Telecom TFR
- EMPTY — Empty Ducting
- UNK — Unknown Metallic Utility
- GPR — GPR Anomaly Possible Utility
- COM — Communications
- Foul Water Drainage Route
- Surface Water Drainage Route
- Combined Service Drainage Route
- Unknown Drainage Route
- Field Drain — Field Drain
- Aco Drain — Aco Drain
- E-TFR — Electric - Taken from Records
- E AR — Assumed Electric
- O/H E — Electric Overhead
- O/H BT — BT Overhead
- MSR — Multi Service Route
- MULTI SERVICE TRENCH — Multi Service Trench
- W-TFR — Water - Taken from Records
- W AR — Assumed Water
- GAS AR — Assumed Gas
- GAS-TFR — Gas - Taken from Records

UNDERGROUND UTILITY, TOPOGRAPHIC + MEASURED BUILDING SURVEYS

PAS 128 QUALITY LEVELS

- B1 ±15% of depth or 0.15 m (whichever is greatest)
- B2 ±25% of depth or 0.25 m (whichever is greatest)
- B3 Detection successful but no depth/horizontal ±0.50m
- B4 Detection unsuccessful/ information taken from records

Note: (P) Point fix indicates GPR post processing

PAS 128:2014
Specification for underground utility detection, verification and location

Symbols

- TP — Telegraph Pole
- LP — Lamp Post
- EP — Electric Post
- TL — Traffic Light
- FL — Floodlight
- CTV — Cable TV IC
- SC — Stop Cock
- GV — Gas Valve
- BOL — Bollard
- 2.345 — Spot Level
- Post — Post
- GUL — Gully
- ER — Earth Rod
- GR — Gas Riser
- RWP — Rain Water Pipe
- RS — Road Sign
- SVP — Soil Vent Pipe
- B1 E=436676.617 N=645726.511 Level=28.558 — Station Control Details
- RE — Rodding Eye
- BLOCKED — Blockage Encountered with Sonde
- Gate
- MH1 CL 100.000 IL 98.000 — Manhole
- IC CL 100.000 — Inspection Chamber
- CATV CL 100.000 — Cable TV Chamber
- BT CL 100.000 — BT Chamber
- RG 100.000 — Road Gully
- SV CL 100.000 — Stop Valve
- WM CL 100.000 — Water Meter
- AV CL 100.000 — Air Valve
- WO CL 100.000 — Wash Out
- FH CL 100.000 — Fire Hydrant
- GV CL 100.000 — Gas Valve
- Cabinet 100.000 — Cabinet
- LB CL 100.000 — Electric Link Box
- MH2 CL 100.000 IL 97.500 — Circular Manhole
- MH3 CL 100.000 IL 97.500 — Triangular Manhole
- Tree
- EOS — End of Signal

Approximate National Grid North

360 MAPPING

THREE 60 MAPPING LIMITED
THE TOWN HALL, HIGH STREET EAST, WALLSEND,
TYNE AND WEAR NE28 7AT

REGISTERED IN ENGLAND AND WALES COMPANY NO. 9469846

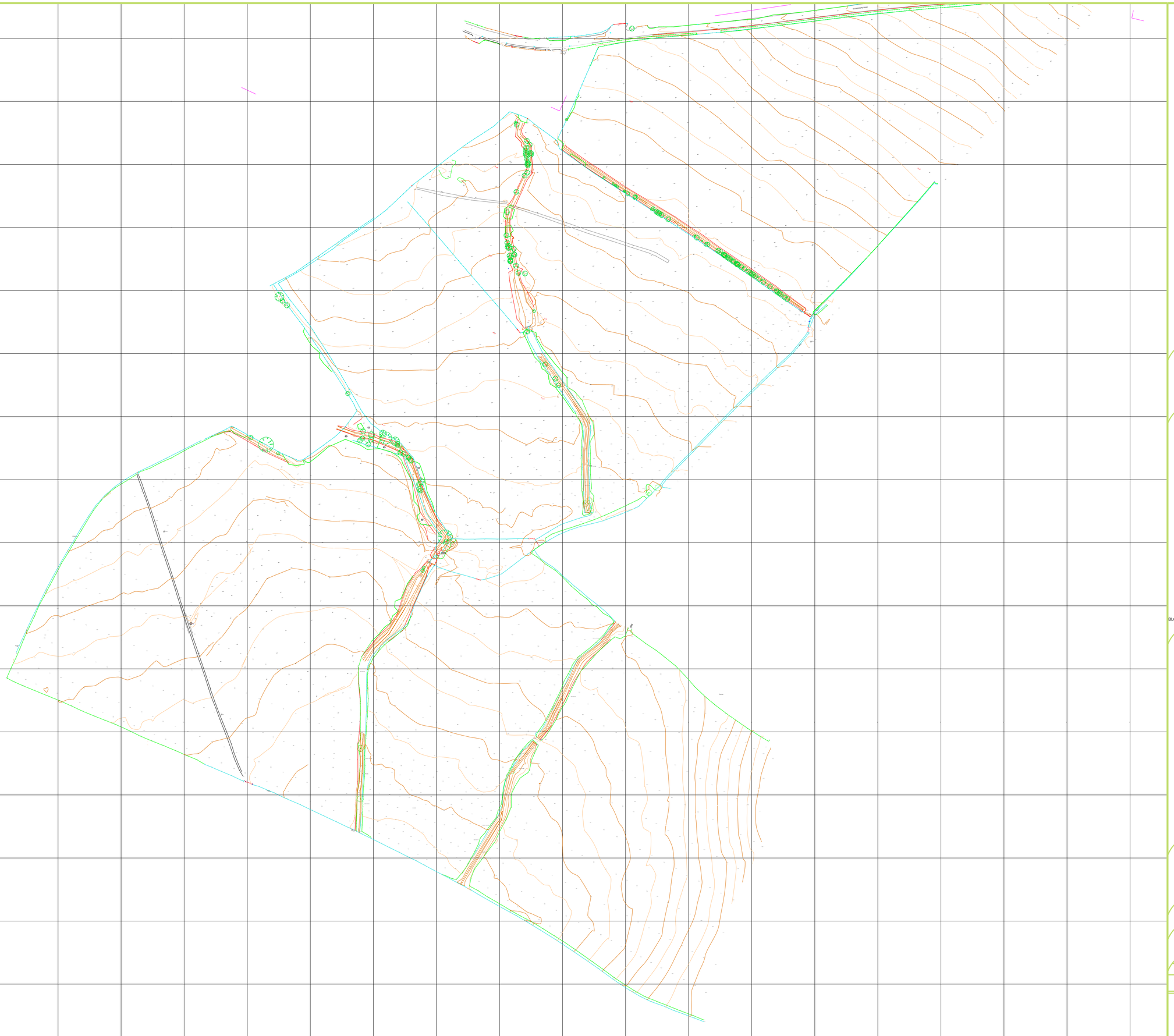
0191 594 7672
e: paul@360mapping.co.uk

DEAN LEWIS ESTATES LIMITED

Land adjacent to Old Ashford Road
Lenham
Kent

Topographical Survey

1:1000 @ A0	07.03.18	OSTN15
AW/CR	AW/PH	PH
DLE/LENHAM/001	1/9	



Legend

Topographical Linetypes:

- Road
- Drop Kerb
- Steps
- Building Line
- Barrier
- Channel
- Concrete
- Chain Fence
- Metal Fence
- Post & Wire Fence
- Wooden Fence
- Top of Bank
- Bottom of Bank
- Tree Canopy Line
- Verge Line
- Wall
- Footpath

Underground Utility Linetypes

- E — Electric
- GAS — Gas
- W — Water
- CATV — Cable TV
- CATVTFR — Cable TV TFR
- CCTV — Closed Circuit TV
- BT — British Telecom
- BTTFR — British Telecom TFR
- EMPTY — Empty Ducting
- UNK — Unknown Metallic Utility
- GPR — GPR Anomaly Possible Utility
- COM — Communications
- Foul Water Drainage Route
- Surface Water Drainage Route
- Combined Service Drainage Route
- Unknown Drainage Route
- Field Drain — Field Drain
- Aco Drain — Aco Drain
- E-TFR — Electric - Taken from Records
- E AR — Assumed Electric
- O/H E — Electric Overhead
- O/H BT — BT Overhead
- MSR — Multi Service Route
- MULTI SERVICE TRENCH — Multi Service Trench
- W-TFR — Water - Taken from Records
- W AR — Assumed Water
- GAS AR — Assumed Gas
- GAS-TFR — Gas - Taken from Records

UNDERGROUND UTILITY, TOPOGRAPHIC + MEASURED BUILDING SURVEYS

PAS 128 QUALITY LEVELS

B1 ±15% of depth or 0.53 m (whichever is greatest)
B2 ±25% of depth or 0.25 m (whichever is greatest)
B3 Detection successful but no depth,horizontal ±0.50m
B4 Detection unsuccessful Information taken from records
Note: (P) Post fix indicates GPR post processing

PAS 128:2014
Specification for underground utility detection, verification and location

Symbols

- TP — Telegraph Pole
- LP — Lamp Post
- EP — Electric Post
- TL — Traffic Light
- FL — Floodlight
- CTV — Cable TV IC
- SC — Stop Cock
- GV — Gas Valve
- BOL — Bollard
- 2.345 — Spot Level
- Post — Post
- GUL — Gully
- ER — Earth Rod
- GR — Gas Riser
- RWP — Rain Water Pipe
- RS — Road Sign
- SVP — Soil Vent Pipe
- S1 E=430676.617 N=540728.51 Level=20.358 — Station Control Details
- RE — Rodding Eye
- BLOCKED — Blockage Encountered with Sonde
- Gate
- MH1 CL 100.000 IL 98.000 — Manhole
- IC CL 100.000 — Inspection Chamber
- CATV CL 100.000 — Cable TV Chamber
- BT CL 100.000 — BT Chamber
- RG 100.000 — Road Gully
- SV CL 100.000 — Stop Valve
- WM CL 100.000 — Water Meter
- AV CL 100.000 — Air Valve
- WO CL 100.000 — Wash Out
- FH CL 100.000 — Fire Hydrant
- GV CL 100.000 — Gas Valve
- Cabinet 100.000 — Cabinet
- LB CL 100.000 — Electric Link Box
- MH2 CL 100.000 IL 97.500 — Circular Manhole
- MH3 CL 100.000 IL 97.500 — Triangular Manhole
- Tree
- EOS — End of Signal

Approximate National Grid North

360 MAPPING

THREE 60 MAPPING LIMITED
THE TOWN HALL, HIGH STREET EAST, WALLSEND,
TYNE AND WEAR NE28 7AT

REGISTERED IN ENGLAND AND WALES COMPANY NO. 9406846

0191 594 7672
e: paul@360mapping.co.uk

DEAN LEWIS ESTATES LIMITED

Land adjacent to Old Ashford Road
Lenham
Kent

Topographical Survey

1:1000 @ A0	07.03.18	OSTN15
AW/CR	AW/PH	PH
DLE/LENHAM/001	12/15	

A	PHASE 2 SURVEYED 07/21	RS	PH

Appendix 3 – Environment Agency Correspondence

Eric O'Connor

From: KSL Enquiries <KSLE@environment-agency.gov.uk>
Sent: 26 February 2019 15:38
To: Daniel Alstead
Subject: KSL 117748 LB FW: 190222/AC06 FW: FRA Enquiry - SHF.1528.004 - Old Ashford Road, Lenham
Attachments: 7968-P-01- Promotion Land Boundary.pdf; KSL 117748 LB Old Ashford Road, Lenham, Maidstone Road, Charing, Kent, ME17 2GQ.csv

Dear Daniel,

KSL 117748 LB FW: 190222/AC06 FW: FRA Enquiry - SHF.1528.004 - Old Ashford Road, Lenham

Thank you for your request for information that was received on 19 February 2019.

We respond to requests under the Freedom of Information Act 2000 and Environmental Information Regulations 2004.

This site is located in an area of Flood Zone 1 where we do not have modelled flood levels.

Please see responses to your questions below.

We can confirm that we have no record of flooding (from rivers and/or the sea) for this location. You may wish to check with the Lead Local Flood Authority for this area, Kent County Council, who hold detailed records for surface water flooding.

Please be aware that you can access our flood map(s) for free here.

If you have requested this information to help inform a development proposal, then you should refer to the flood risk standing advice pages on our website

http://www.environment-agency.gov.uk/research/planning/82584.aspx

You can find further information about flooding and our flood maps on our website:

http://www.environment-agency.gov.uk/homeandleisure/floods/default.aspx

http://www.environment-agency.gov.uk/homeandleisure/floods/31650.aspx

Please refer to the Open Government Licence which explains the permitted use of this information.

I trust this information is of use. If you have any further questions, please contact us and we will be happy to help.

If you have any further queries or if you'd like us to review the information we have provided under the Freedom of Information Act 2000 and Environmental Information Regulations 2004 please contact us within two months and we will happily do this for you.

We would be really grateful if you could spare five minutes to help us improve our service. Please click on the link below and fill in our survey – we use every piece of feedback we receive:http://www.smartsurvey.co.uk/s/EnvironmentAgencyCustomerSurvey/?a=KSL

Kind regards
Laura

Appendix 4 – Kent County Council Correspondence

Daniel Alstead

Flood and Water Management
Invicta House
Maidstone
Kent
ME14 1XX
Website: www.kent.gov.uk/flooding
Email: suds@kent.gov.uk
Tel: 03000 41 41 41
Our Ref: NON/2019/072148
Date: 11 March 2019

Application No: Pre-app

Location: Land south of Old Ashford Road, Lenham, Maidstone Road, Charing, Kent, ME17 2GQ

Proposal: Residential dwellings and Sport Pitches. Number of units currently unknown.

Thank you for your enquiry in relation to the above site.

We have reviewed our records that we hold for your site and we can provide you with the following information:

Site Conditions
The proposed site is in a greenfield condition. The site is underlain by the West Melbury Marly Chalk Formation and the Gault Formation, with some mapped areas of superficial deposits. The boundary of the Chalk and Gault gives rise to a groundwater spring line in this area.

Historic flood events
The locale has been known to suffer from groundwater flooding in the past and occasional surface water floods are highlighted within Maidstone Borough Council's Strategic Flood Risk Assessment.

We have interrogated our records and have the following flooding reports for surface water flooding:

- One report of surface water flooding affecting Northdown Close on 26th February 2013. The report notes that surface water flows from the fields north of A20 contributed to the flooding.
- One report of external property flooding off Old Ashford Road on 29th May 2018, which occurred during a very intense rainfall event across Kent.

Groundwater flooding has occurred for an extended period between February and April 2014. This affected Old Ashford Road, Northdown Close and adjacent residential and commercial property. It is understood that record groundwater levels occurred following very wet winter conditions, and groundwater surfaced above the interface between the Chalk and Gault Clay via private and highway soakaways (in Northdown Close) and out

of the ground surface (along and adjacent to Old Ashford Road). Appendix A to this letter includes photographs taken by Kent County Council at this time.

The flood risk to Northdown Close was reduced by the installation of an overflow into the nearby watercourse culvert from the existing highway soakaways in June 2016. This should reduce the impact of surcharging soakaways if a similar event were to occur in the future.

Local surface water features and drainage assets

We note that ordinary watercourses are present within or adjacent to the site area. We are aware that the watercourse near Burnside Cottages is culverted beneath Old Ashford Road. The area of the 'pond' at the head of the watercourse appears to be fed by a combination of groundwater and urban drainage.

Maintenance records suggest that highway drainage along Old Ashford Road discharges to ordinary watercourses. There are soakaways in Northdown Close serving highway and private drainage.

There does not appear to be any public foul or surface water sewers within the proposed development area.

Other identified flood issues or ground conditions

We would refer you to the Environment Agency Flood Maps for Surface Water to identify potential areas of the site which may be subject to overland flows. However the majority of the site appears to be at a low risk of surface water flooding.

Anecdotal evidence of groundwater emergence during February and April 2014 suggests that a spring line appeared around 3 to 4m above the mapped interface between the Grey Chalk and Gault Formation.

We would strongly recommend that site specific ground investigations are undertaken to determine the ground conditions within the site and whether shallow or rising groundwater would present a risk to parts of the development.

Recommendation on surface water management within the development

Guidance published by Kent County Council is available on our website (www.kent.gov.uk/flooding) which includes:

- Water. People. Places. A guide for master planning sustainable drainage into developments prepared by the Lead Local Flood Authorities of Southeast England.
- Kent County Council's Drainage and Planning Policy Statement (June 2017).

Following publication of this guidance, the revised National Planning Policy Framework (February 2019) has been published. Paragraph 165 of the framework in particular considers the provision of sustainable drainage and states that:

Major developments should incorporate sustainable drainage systems unless there is clear evidence that this would be inappropriate. The systems used should:

a) take account of advice from the lead local flood authority;
b) have appropriate proposed minimum operational standards;
c) have maintenance arrangements in place to ensure an acceptable standard of operation for the lifetime of the development; and
d) where possible, provide multifunctional benefits.

This places some additional emphasis on the multifunctional aspects of SuDS in particular and we would recommend that this is embedded into master planning briefs for the site. We would refer you to the guidance within CIRIA's SuDS Manual (the four pillars of SuDS) and the guidance in our own Drainage and Planning Policy Statement to promote integration of SuDs with open spaces and where possible, utilise open conveyance and attenuation features that integrate with the wider landscape. The chosen drainage features should also ensure that sufficient pollution control is incorporated into the development proposals suitable for the site use.

In terms of surface water discharge, we would consider that there may be some opportunity for shallow infiltration (such as permeable surfaces and paving) in parts of the development, however our experience of this area suggests that larger infiltration features may be unviable due to the risk of groundwater being encountered at relatively shallow depths. This should be confirmed via site specific ground investigations and infiltration testing to determine whether there is opportunity for infiltration in parts of the site where there would be sufficient unsaturated zone.

Should infiltration not be feasible, a controlled outfall to watercourse would appear to be the most appropriate method of disposal for surface water. For sites such as this we advise that infiltration should still be maximised, with any residual discharge to watercourses or sewers requiring the provision of long-term storage; offsite discharge should be limited to QBAR, (the mean annual flood flow rate, equivalent to an approximate return interval of 2.3 years).

Greenfield runoff rates may be calculated by any method (FEH, FSR or IoH124) but the rates must reflect soil conditions specific to the site and applied to an appropriate drainage area consistently through the drainage strategy.

A review of greenfield run-off rates on HR Wallingford's Greenfield Run-off Calculator suggests the greenfield run-off rates for the site will be below 2 l/s/ha. We would therefore recommend 2 l/s/ha is utilised as the limiting discharge rate. This rate should be applied to the developable area contributing to the sites drainage system.

Kent County Council will generally require the use of the more detailed and up-to date FEH dataset within detailed drainage design submissions. Where FSR data is used to determine the extreme rainfall intensity values for a site, we would expect the FSR/FEH ratios depicted in Appendix 1 of the 'Rainfall runoff management for developments' report (Environment Agency, 2013) to be used to adjust the calculated attenuation requirements. For a typical present day 6 hour, 100 year rainfall event, the FSR values are around 80-90% of the FEH value.

If FEH is unavailable (and unless otherwise calculated), we will accept a rainfall depth M5-60 of 26.25 mm to be utilised in appropriate modelling software to account for this variation.

Ordinary Watercourse/Drainage Consents

An 'ordinary watercourse' is defined as any channel capable of conveying water that is not part of a ‘main river’; it need not have a permanent water level. Small rivers, streams, ditches, drains, cuts, culverts, dikes, sluices, sewers (other than public sewers within the meaning of the Water Industry Act 1991) can all be classified as ‘ordinary watercourses’.

When considering the development/redevelopment of any site, existing ordinary watercourses should be identified and accommodated within any drainage strategy and site masterplan. They should be preferably retained as an open feature within a designated corridor, and ideally retained within public open space. Any outfall to an ordinary watercourse should be designed to ensure there is adequate erosion protection for the receiving channel and its banks.

It is recommended that any discharge to an ordinary watercourse or any modification to an ordinary watercourse be identified and agreed in principle with Kent County Council prior to the submission of any planning application. The ability of a watercourse to convey water (and to function as an effective exceedance flow route, where appropriate) will always need to be maintained.

For those watercourses where no flood mapping currently exists, developers should fully consider the potential flood risk arising from them. Where a risk from flooding has been identified, appropriate flood risk mitigation should be identified and agreed with the Local Planning Authority/Kent County Council; development should be avoided in any area likely to be affected by exceedance of the channel’s capacity.

Culverting of open watercourses will not normally be permitted (except where demonstrably essential to allow highways and/or other infrastructure to cross). In such cases culverts should be designed in accordance with CIRIA *C689: Culvert Design and Operation Guide*, (2010).

If a culverted watercourse crosses a previously developed site, it should be reverted back to open channel, wherever practicable. In any such case, the natural conditions deemed to have existed prior to the culverting taking place should be re-instated.

Measures should be in place to ensure that any future owner of a property through which a watercourse passes is aware of their maintenance responsibilities as a riparian owner.

Under the terms of the Land Drainage Act 1991, any work or structure that has the potential to affect the flow within any ordinary watercourse will require land drainage consent. This will be either from Kent County Council or from an Internal Drainage Board (in the areas where they operate).

If land drainage consent is required in relation to the proposed development, we recommend that the submission of any application for consent is delayed until planning permission is granted, (excepting instances when consents are required to construct or upgrade site access) as the proposed site layout may be subject to further change, Please refer to Kent County Council web pages for guidance on ordinary watercourse consents.

Climate Change Allowances

Given the latest guidance from the EA, the design must accommodate the 1 in 100 year storm with a 20% allowance for climate change, and additional analysis should outline the flooding implications for a greater climate change allowance of 40%. We would refer you to the Environment Agency guidance pages on climate change at Gov.uk.

Further Information

We support the provision of information to delineate drainage strategies and endeavour to respond to all enquiries. If this information raises further questions please do not hesitate to contact us. Depending upon the size and nature of your development other authorities may need to be consulted. Information and advice may also be needed from the Environment Agency, Internal Drainage Board or sewerage undertaker.

I trust this information assists with your enquiries.

Yours faithfully,

Alex Brauninger
Senior Flood Risk Project Officer
Flood and Water Management

Appendix A: Photographs of Groundwater Flooding Issues

Water issuing from field boundary and from beneath road surface causing damage to road surface. Taken on 20th March 2014. (Source: KCC Highways)

View of lifted road surface at south east boundary of site once groundwater flow had ceased. Photo taken 22nd April 2014 (Source: KCC Highways)