



## Additional Information

### Use of Environment Agency Information for Flood Risk / Flood Consequence Assessments

#### Important

If you have requested this information to help inform a development proposal, then we recommend that you undertake a formal pre-application enquiry using the form available from our website:-

<http://www.environment-agency.gov.uk/research/planning/33580.aspx>

Depending on the enquiry, we may also provide advice on other issues related to our responsibilities including flooding, waste, land contamination, water quality, biodiversity, navigation, pollution, water resources, foul drainage or Environmental Impact Assessment.

In **England**, you should refer to the Environment Agency's Flood Risk Standing Advice, the technical guidance to the National Planning Policy Framework and the existing PPS25 Practice Guide for information about what flood risk assessment is needed for new development in the different Flood Zones. These documents can be accessed via:

<https://www.gov.uk/government/publications/flood-risk-standing-advice-for-local-planning-authorities-frsa>

<http://planningguidance.planningportal.gov.uk/>

You should also consult the Strategic Flood Risk Assessment produced by your local planning authority.

You should note that:

1. Information supplied by the Environment Agency may be used to assist in producing a Flood Risk / Consequence Assessment (FRA / FCA) where one is required, but does not constitute such an assessment on its own.
2. This information covers flood risk from main rivers and the sea, and you will need to consider other potential sources of flooding, such as groundwater or overland runoff. The information produced by the local planning authority referred to above may assist here.
3. Where a planning application requires a FRA / FCA and this is not submitted or deficient, the Environment Agency may well raise an objection.
4. For more significant proposals in higher flood risk areas, we would be pleased to discuss details with you ahead of making any planning application, and you should also discuss the matter with your local planning authority.

Orchard House, Endeavour Park, London Road, Addington, West Malling, Kent, ME19 5SH.  
Customer services line: 01732 223 202  
Email: [kslenquiries@environment-agency.gov.uk](mailto:kslenquiries@environment-agency.gov.uk)  
Website: <https://www.gov.uk/government/organisations/environment-agency>



#### Surface Water

We have provided two national Surface Water maps, under our Strategic Overview for flooding, to your Lead Local Flood Authority who are responsible for local flood risk (i.e. surface runoff, ground water and ordinary watercourse), which alongside their existing local information will help them in determining what best represents surface water flood risk in your area.

Your Lead Local Flood Authority have reviewed these and determined what it believes best represents surface water flood risk. You should therefore contact this authority so they can provide you with the most up to date information about surface water flood risk in your area.

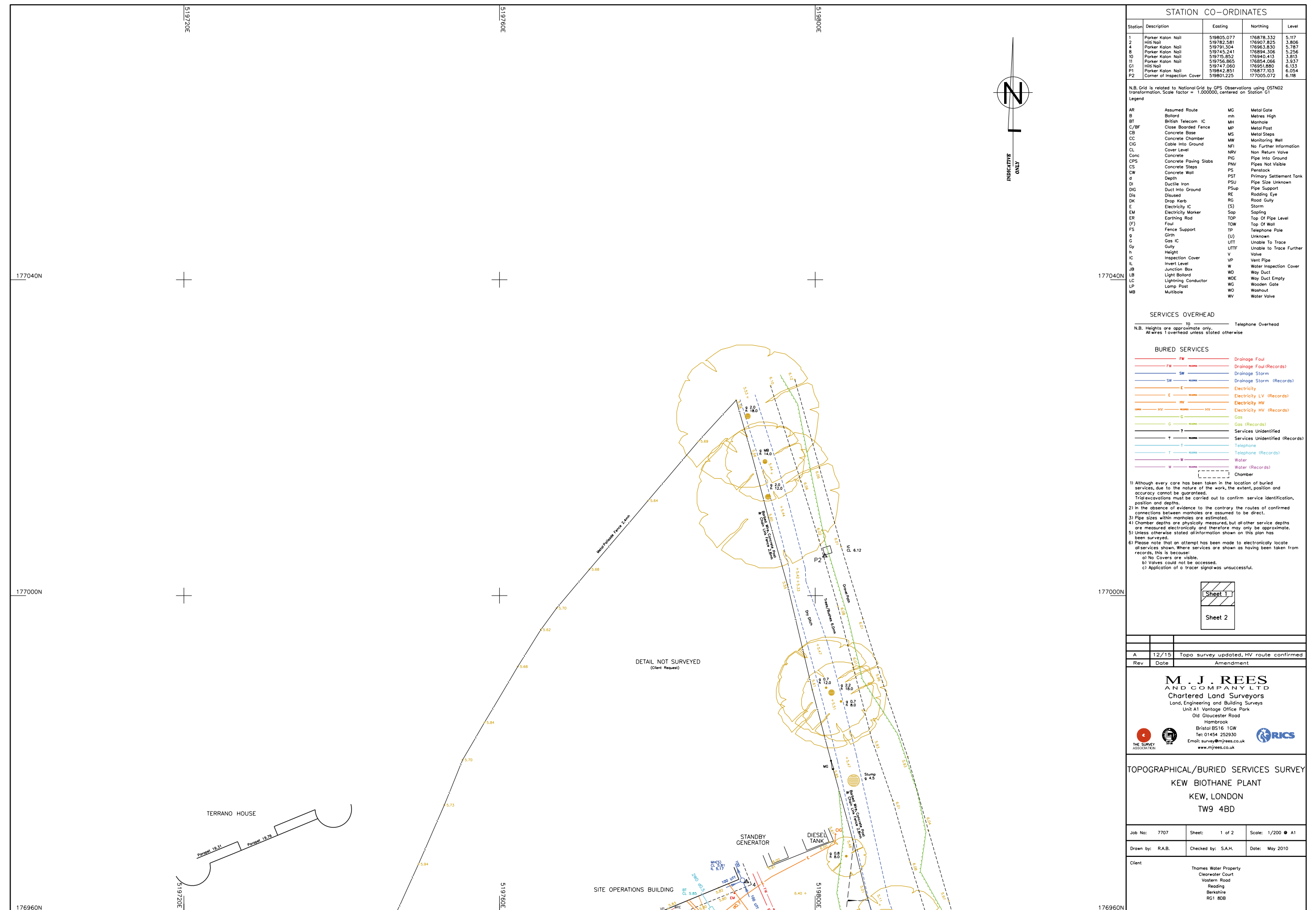
You may also wish to consider contacting the appropriate relevant Local Planning Authority and/or water/sewerage undertaker for the area. They may be able to provide some knowledge on the risk of flooding from other sources. We are working with these organisations to improve knowledge and understanding of surface water flooding.

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Website: <https://www.gov.uk/government/organisations/environment-agency>

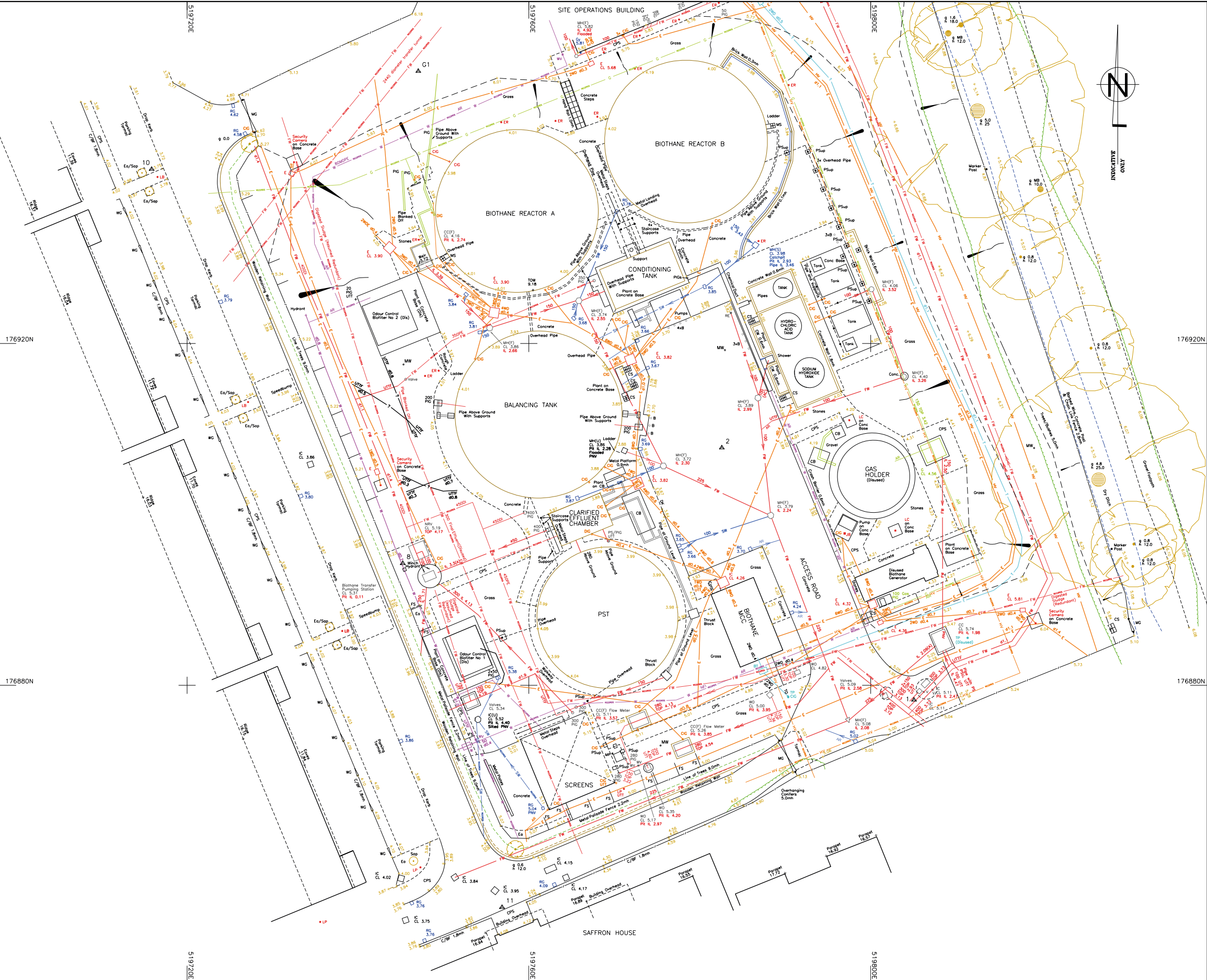
# Appendix 4

## Topographical Survey









STATION CO-ORDINATES				
Station	Description	Easting	Northing	Level
1	Parker Katon Nail	519805.077	176878.332	5.117
2	Hill Nail	519782.581	176907.825	5.806
4	Parker Katon Nail	519791.304	176963.830	5.787
8	Parker Katon Nail	519745.241	176894.096	5.236
10	Parker Katon Nail	519715.852	176940.413	5.813
11	Parker Katon Nail	519756.965	176854.066	5.517
G1	Hill Nail	519747.060	176951.880	6.133
ER	Corner Nail	519842.851	176877.103	6.054
P2	Corner of Inspection Cover	519801.225	177005.072	6.118

N.B. Grid is related to National Grid by GPS Observations using OSTN02 transformation. Scale factor = 1.000000, centered on Station G1

Legend

AR	Assumed Route	MG	Metal Gate
B	Bollard	mh	Metres High
BT	British Telecom IC	MH	Manhole
C/BF	Close Boarded Fence	MP	Metal Post
CB	Concrete Base	MS	Metal Steps
CC	Concrete Chamber	MW	Monitoring Well
CD	Cable Into Ground	NRV	Non Return Valve
CL	Cover Level	NFI	No Further Information
Conc	Concrete	PIG	Pipe Into Ground
CPS	Concrete Paving Slabs	PNV	Pipes Not Visible
CS	Concrete Steps	PS	Penstock
CW	Concrete Wall	PST	Primary Settlement Tank
D	Depth	PSU	Pipe Size Unknown
di	Ductile Iron	PSup	Pipe Support
diG	Duct Into Ground	RE	Roading Eye
Dis	Disused	RG	Road Gully
DK	Drop Kerb	(S)	Storm
E	Electricity IC	Sap	Sapling
EM	Electricity Marker	TOP	Top Of Pipe Level
ER	Earthing Rod	TOW	Top Of Wall
F	Fence	TP	Telephone Pole
FS	Fence Support	(U)	Unknown
G	Girth	UTT	Unable To Trace
h	Gas IC	UTTF	Unable To Trace Further
g	Gully	V	Valve
IC	Height	VP	Vent Pipe
IC	Inspection Cover	W	Water Inspection Cover
IL	Invert Level	WD	Way Duct
JB	Junction Box	WDE	Way Duct Empty
LB	Light Bollard	WG	Wooden Gate
LC	Lighting Conductor	WP	Washout
LP	Lamp Post	WV	Water Valve
MB	Multibole		

SERVICES OVERHEAD

TO Telephone Overhead

N.B. Heights are approximate only.

All wires 1 overhead unless stated otherwise

BURIED SERVICES

FW	Drainage Foul (Records)
SW	Drainage Storm (Records)
SW	Drainage Storm (Records)
E	Electricity
LV	Electricity LV (Records)
HV	Electricity HV (Records)
HV	Electricity HV (Records)
G	Gas (Records)
?	Services Unidentified
?	Services Unidentified (Records)
T	Telephone
T	Telephone (Records)
W	Water
W	Water (Records)

1) Although every care has been taken in the location of buried services, due to the nature of the work, the extent, position and accuracy cannot be guaranteed.

2) Trial excavations must be carried out to confirm service identification, position and depths.

3) In the absence of evidence to the contrary the routes of confirmed connections between manholes are assumed to be direct.

4) Pipe sizes within manholes are estimated.

5) Chamber depths are physically measured, but all other service depths are measured electronically and therefore may only be approximate.

6) Unless otherwise stated all information shown on this plan has been surveyed.

7) Please note that an attempt has been made to electronically locate all services shown. Where services are shown as having been taken from records, this is because:

a) No Covers are visible.

b) Valves could not be accessed.

c) Application of a tracer signal was unsuccessful.

Sheet 1

Sheet 2

Rev	Date	Amendment
A	12/15	Topo survey updated, HV route confirmed

M. J. REES AND COMPANY LTD

Chartered Land Surveyors

Land, Engineering and Building Surveys

Unit A1 Vantage Office Park

Old Gloucester Road

Hampstead

Bristol BS16 1GW

Tel: 01454 252930

Email: survey@mjrrees.co.uk

www.mjrrees.co.uk

THE SURVEY ASSOCIATION

RICS

TOPOGRAPHICAL/BURIED SERVICES SURVEY

KEW BIOTHANE PLANT

KEW, LONDON

TW9 4BD

Job No:	7707	Sheet:	2 of 2	Scale:	1/200 @ A1
Drawn by:	R.A.B.	Checked by:	S.A.H.	Date:	May 2010

Client

Thames Water Property  
Cleaver Court  
Vostern Road  
Reading  
Berkshire  
RG1 8DB

# Appendix 5

Environment Agency review letter



creating a better place



Mr David Purcell - Associate  
AKT II  
White Collar Factory 1a Old Street Yard  
London  
Islington  
EC1Y 8AF

**Our ref:** SL/2018/118025/03-L01  
**Your ref:** 3859 - RYC Kew  
**Date:** 08 June 2018

Dear Mr Purcell

**ENVPAC/1/KSL/00007 - INITIAL FRA FOR THE PROPOSED DEVELOPMENT OF THE SITE  
KEW BIOTHANE PLANT, MELLISS AVENUE, RICHMOND, SURREY**

Thank you for your email dated 9 May 2018 following on from our meeting on the 9 April 2018. Please find our advice below.

**Flood Risk Assessment review**

**Having reviewed the initial Flood Risk Assessment (FRA) by akt II for 3859 Melliss Avenue dated May 2018, in principle, we are satisfied with the proposed development and its mitigation measures in terms of flood risk.**

The correct planning policy requirements have been addressed in detail, as well as the London Borough of Richmond upon Thames Strategic Flood Risk Assessment being discussed. As noted, recommendation's from Richmond's SFRA include that sites with an 'Extreme & Significant Hazard' and 'Moderate Hazard' tidal breach flood hazard should have ground finished floor levels situated above the Thames 2100 year 2100 tidal flood level. This is what we would expect to see on the proposed development.

As well as this, as stated self-contained residential basements and bedrooms at basement level will not be permitted in flood zone 3. Therefore we are content that the proposed development does not include a basement/lower ground floor level.

The FRA has assessed the flood risk to the site from all potential sources of flooding, including, fluvial, surface water, sewer, ground water flooding and has determined the site location to be in flood zone 3, in an area benefiting from defences, which is correct. The proposed development is to have more vulnerable uses on the first floor and above and less vulnerable uses on the ground floor.

**Mitigation measures**

We would expect to see all the mitigation measures mentioned in the FRA to be fully implemented, this includes flood resilience and resistance measures.

The modelled breach flood level in this location is 6.09 m AOD. Therefore, we would

Environment Agency 3rd Floor, Seacole Building, 2 Marsham Street, London SW1P 4DF  
Telephone: 03708 506 506  
Email: [enquiries@environment-agency.gov.uk](mailto:enquiries@environment-agency.gov.uk)  
Website: [www.gov.uk/environment-agency](http://www.gov.uk/environment-agency)



expect to see the first floor finished floor levels to be set at this level or higher. We are satisfied with the proposed first floor finished floor level of 8.6 m AOD and the ground floor to be occupied only by 'less vulnerable' uses.

As noted in the FRA we welcome the use of flood resistant and resilient measures. We recommend that consideration be given to the use of flood resistant and resilient measures – such as barriers on doors, windows and access points at the ground floor level and routing electrical services from a higher level downwards so that plug sockets are located above possible flood levels – within the proposed development, in order to reduce the impact of flooding. We further recommend consultation with the local building control department when determining whether particular flood resistant and resilient measures are appropriate and effective.

Please refer to the following resources for further guidance on flood resistant and resilient measures:

Department for Communities and Local Government (DCLG) – formerly Office for the Deputy Prime Minister (ODPM) – document '[Preparing for floods: interim guidance for improving the flood resistance of domestic and small business properties](#)'; Department for Communities and Local Government (DCLG) document '[Improving the flood performance of new buildings: flood resilient construction](#)'.

We would expect the Lead Local Flood Authority to comment on this application with regards to flood risk due to surface water,

**Safe access and refuge**

We strongly recommend you contact the local authority emergency planning department to ensure that any access, egress and refuge arrangements are acceptable, especially given the vulnerability of those expected to be at the centre.

We would like to highlight that the Environment Agency does not typically comment on, or approve the adequacy of, flood emergency procedures accompanying development proposals, because we do not carry out such roles during a flood event. Our involvement with the proposed development during an emergency will be limited to delivering flood warnings to occupants or users covered by our 'FloodLine' service.

We advise local planning authorities to formally consider the emergency planning and rescue implications of development proposals when making their decisions, particularly in any circumstances where warnings and emergency responses are fundamental to managing flood risk.

**Flood Risk Activity Permit**

We would like to reiterate that a Flood risk Activity Permit (FRAP) will be needed for any works that will be carried out within 16m of the most landward extent of the flood defence embankment.

Environment Agency 3rd Floor, Seacole Building, 2 Marsham Street, London SW1P 4DF  
Telephone: 03708 506 506  
Email: [enquiries@environment-agency.gov.uk](mailto:enquiries@environment-agency.gov.uk)  
Website: [www.gov.uk/environment-agency](http://www.gov.uk/environment-agency)



Under the Environmental Permitting (England and Wales) Regulations 2016, you must submit plans to the Environment Agency and apply for a FRAP if you want to do work:

In, over or under a main river  
Within 8m if it is a main river  
Within 16m on a tidal main river

Flood risk activities can be classified as: Exclusions, Exemptions, Standard Rules or Bespoke. These are associated with the level of risk your proposed works may pose to people, property and the environment.

You should apply for a Bespoke FRAP if your work cannot be classified as one of the following:

an **excluded activity** (listed [here](#))  
an **'exempt' activity** (listed [here](#))  
a **'standard rules' activity** (listed [here](#))

Please find more information on charges associated with FRAPs at the links below;

<https://www.gov.uk/government/publications/environmental-permitting-charges-guidance/environmental-permitting-charges-guidance>

<https://www.gov.uk/government/publications/environmental-permitting-charging-scheme>

We would expect to be consulted again when the complete FRA has been made available. This final assessment should include precise design plans with information such as proposed floor levels outlined on drawings, distances of development from the flood defence and detailed flood mitigation measures.

If you have any queries please do not hesitate to contact me.

Yours sincerely,

Mr Steve Swain  
Major Projects Officer  
Direct dial 0203 0255 608  
Direct e-mail [steve.swain@environment-agency.gov.uk](mailto:steve.swain@environment-agency.gov.uk)

Please note that the view expressed in this letter by the Environment Agency is a response to a pre application enquiry only and does not represent our final view in relation to any future planning application made in relation to this site. We reserve the right to change our position in relation to any such application.

**invest**  **change**