ANNEX A ENVIRONMENT AGENCY CONSULTATION

Tim Jones
AECOM
Via Email

Our Ref: EMD-178614

Your Ref:

Date: 08 September 2020

Dear Tim

Enquiry regarding WFD DATA - the Keadby Power Station site, on the bank of the River Trent to the west of Scunthorpe.

Thank you for your enquiry which was received on 20 July 2020. I can only apologise for the lateness of this response.

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

I have numbered each answer to the corresponding question in your request.

1, 3 and 12.

See the the link to our online asset management datasets;
https://environment.data.gov.uk/asset-management/index.html

This will allow you to see what assets (flood defences etc) we maintain in the area, and has information in regarding those assets (crest levels) and also includes details on our capital schemes.

4.

Aquifer status:

Aquifer Status: Idle and Torne – Secondary Mudrocks, Overall WFD Good Status
Aquifer Typology: Bedrock - Secondary B, Mercia Mudstone Group
Superficial – Secondary A, Alluvium

Unfortunately we do not hold any groundwater level monitoring sites within the stated 1km radius.

For more information on the catchment please visit the publicly available Abstraction Licence Strategy (ALS) for the Idle and Torne, and Lower Trent and Erewash. Your site is at the boundary between these two ALSs (https://www.gov.uk/government/collections/water-abstraction-licensing-strategies-cams-process#east-midlands-(map-area-6)).

5 – 10 .

In respect of the above request please find attached the 15 minute level data for Keadby 4098 River Trent gauge as mentioned in the previous email.

5. We do not hold any bathymetric data on the Trent estuary bed or topographic info on intertidal areas

6. We do not hold any salinity data. Regarding water temperature data please see note on point 9 below. Regarding water level we have attached the following data:

Keadby Pumping Station 4714 on the Three Rivers side of Keadby Sluices – daily and yearly minimum/mean/maximum level data up to 11/03/20, when the gauge stopped producing useful data due to damage by contractors. **N.B.** 5 minute level data is available for this gauge if required by the customer.

Keadby 4098 on the River Trent itself – full record of 15 minute data, and daily and yearly minimum/mean/maximum level data. **N.B. the 15 minute level data will follow by subsequent email due to the attachment limit**

7. We only hold Air Temperature and Wind Speed/Direction data for a few gauging stations as a guide to potential effects on sensor performance. This data is not validated. We hold this type of data for Keadby TBR rain gauge from 11/09/17 to 09/04/19 and have attached this in case it is of any use to the customer. Hydrometry team does not hold any other data of this type within a relevant distance of the specified location.

8. We do not hold any gauged flow or spot flow measurements for the specified locations. We do not have any permanent flow measuring gauges downstream of North Muskham on the Trent and Auckley on the Torne.

9. We only hold water temperature from a few gauging stations as a guide to potential effects on sensor performance. This data is not validated. We do not hold any water temperature for any station within 20km of the specified location.

10. We do not hold any thermal maps

11, 12 and 14

Product 4

Detailed Flood Risk Assessment Map/data for the above site.

The Flood Map for Planning is now classed as Open Data. As such it can be downloaded free of charge under an open data licence from the following address: https://data.gov.uk/publisher/environment-agency

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

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Information Warning - OS background mapping

The mapping of features provided as a background in this product is © Ordnance Survey. It is provided to give context to this product. The Open Government Licence does not apply to this background mapping. You are granted a non-exclusive, royalty free, revocable licence solely to view the Licensed Data for non-commercial purposes for the period during which the Environment Agency makes it available. You are not permitted to copy, sub-license, distribute, sell or otherwise make available the Licensed Data to third parties in any form. Third party rights to enforce the terms of this licence shall be reserved to OS.

Attribution

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Product 8

Breach Hazard Map for the above site.

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

Conditions

1.0 You may use the Information for your internal or personal purposes and may only sublicense others to use it if you do so under a written licence which includes the terms of these conditions and the agreement and in particular may not allow any period of use longer than the period licensed to you.

2.0 Notwithstanding the fact that the standard wording of the Environment Agency Conditional Licence indicates that it is perpetual, this Licence has a limited duration of 5 years at the end of which it will terminate automatically without notice.

3.0 We have restricted use of the Information as a result of legal restrictions placed upon us to protect the rights or confidentialities of others. In this instance it is because of sensitive data.

Information Warnings

1.0 This map shows the level of flood hazard to people (called a hazard rating) if our flood defences are breached at certain locations, for a range of scenarios. The hazard rating depends on the depth and velocity of floodwater, and maximum values of these are also mapped.
2.0 The map is based on computer modelling of simulated breaches at specific locations. Each breach has been modelled individually and the results combined to create this map. Multiple breaches, other combinations of breaches, different sized tidal surges or flood flows may all give different results.
3.0 The map only considers the consequences of a breach, it does not make any assumption about the likelihood of a breach occurring. The likelihood of a breach

occurring will depend on a number of different factors, including the construction and condition of the defences in the area. A breach is less likely where defences are of a good standard, but a risk of breaching remains.
4.0 Please contact the Environment Agency for further information on emergency planning associated with flood risk in this area.

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Data Available Online

Many of our flood datasets are available online:

- Flood Map For Planning (Flood Zone 2, Flood Zone 3 ,Flood Storage Areas, Flood Defences, Areas Benefiting from Defences, ,)
- Risk of Flooding from Rivers and Sea
- Historic Flood Map
- Current Flood Warnings

  2.The information relating to WFD data is openly available via the Catchment Data Explorer here: http://environment.data.gov.uk/catchment-planning/

13. Groundwater flooding:

Local Lead Flood Authorities (LLFAs) have responsibilities for local flood risk including groundwater under the Flood and Water Management Act 2010. This Act gives LLFAs duties to prepare local flood risk management strategies and to co-operate with other risk management authorities, and powers to carry out local flood risk management.

The Environment Agency (EA) is not able to undertake local groundwater flood risk analyses or assessment on behalf of the LLFA. Our principal reason for collecting groundwater data is to

inform water resource management. This means that the location of boreholes we monitor is based on water resource needs rather than flooding needs.

However, where available, the EA can provide records of previous groundwater flooding events. Note that these records are not exhaustive and the onus is on **Local Lead Flood Authorities** to collate records of property flooding.

The EA holds no historical records of groundwater flooding near the enquired location.

14. Outline flood risk mitigation requirements…' comes under planning pre-app advice, not an FoI or Environmental Info request. Please refer to https://www.gov.uk/guidance/developers-get-environmental-advice-on-your-planning-proposals and contact the local Sustainable Places team at lnplanning@environment-agency.gov.uk

15. There have been no Category 3 or above pollution incidents in the area of interest within the last 5 years.

Please get in touch if you have any further queries or contact us within two months if you'd like us to review the information we have sent.

Yours sincerely

Ray Gallagher
Customers & Engagement Officer
East Midlands

For further information please contact the Customers & Engagement Team on 02084 747770

Direct e-mail:- EMDenquiries@environment-agency.gov.uk

ENC – FRA Advisory Text

EMD178614

Flood Map for Planning

The Flood Map for Planning is now classed as Open Data. As such it can be downloaded free of charge under an open data licence from the following address: https://data.gov.uk/publisher/environment-agency

Alternatively it can be viewed at the following address: https://flood-map-for-planning.service.gov.uk/

Modelled Information

Node point reference	Location	50% (1 in 2 year) modelled level (mAOD)	50% (1 in 2 year) modelled flow (m^3/s)	20% (1 in 5 year) modelled level (mAOD)
Trent14600DS	SE 83530 11420	N/A	N/A	5.71
Trent15610D	SE 84142 10743	N/A	N/A	5.72
Trent16540	SE 84064 10008	N/A	N/A	5.73

Source: Tidal Trent SFRM Model, Mott Macdonald, 2013 (includes updated 2014 interim water levels)

Node point reference	Location	20% (1 in 5 year) modelled flow (m^3/s)	10% (1 in 10 year) modelled level (mAOD)	10% (1 in 10 year) modelled flow (m^3/s)
Trent14600DS	SE 83530 11420	1,115.69	5.76	N/A
Trent15610D	SE 84142 10743	1,072.21	5.77	N/A
Trent16540	SE 84064 10008	1,037.07	5.77	N/A

Source: Tidal Trent SFRM Model, Mott Macdonald, 2013 (includes updated 2014 interim water levels)

Node point reference	Location	5% (1 in 20 year) modelled level (mAOD)	5% (1 in 20 year) modelled flow (m^3/s)	4% (1 in 25 year) modelled level (mAOD)
Trent14600DS	SE 83530 11420	5.84	N/A	N/A
Trent15610D	SE 84142 10743	5.85	N/A	N/A
Trent16540	SE 84064 10008	5.85	N/A	N/A

Source: Tidal Trent SFRM Model, Mott Macdonald, 2013 (includes updated 2014 interim water levels)

Node point reference	Location	4% (1 in 25 year) modelled flow (m^3/s)	2% (1 in 50 year) modelled level (mAOD)	2% (1 in 50 year) modelled flow (m^3/s)
Trent14600DS	SE 83530 11420	N/A	5.92	
Trent15610D	SE 84142 10743	N/A	5.93	
Trent16540	SE 84064 10008	N/A	5.94	1,124.86

Source: Tidal Trent SFRM Model, Mott Macdonald, 2013 (includes updated 2014 interim water levels)

Node point reference	Location	1.33% (1 in 75 year) modelled level (mAOD)	1.33% (1 in 75 year) modelled flow (m^3/s)	1% (1 in 100 year) modelled level (mAOD)
Trent14600DS	SE 83530 11420			5.98
Trent15610D	SE 84142 10743			5.99
Trent16540	SE 84064 10008			6.00

Source: Tidal Trent SFRM Model, Mott Macdonald, 2013 (includes updated 2014 interim water levels)

Node point reference	Location	1% (1 in 100 year) modelled flow (m^3/s)	0.67% (1 in 150 year) modelled level (mAOD)	0.67% (1 in 150 year) modelled flow (m^3/s)
Trent14600DS	SE 83530 11420		N/A	N/A
Trent15610D	SE 84142 10743		N/A	N/A
Trent16540	SE 84064 10008		N/A	N/A

Source: Tidal Trent SFRM Model, Mott Macdonald, 2013 (includes updated 2014 interim water levels)

Node point reference	Location	0.5% (1 in 200 year) modelled level (mAOD)	0.5% (1 in 200 year) modelled flow (m^3/s)	0.1% (1 in 1000 year) modelled level (mAOD)
Trent14600DS	SE 83530 11420	6.01		6.09
Trent15610D	SE 84142 10743	6.02		6.08
Trent16540	SE 84064 10008	6.03		6.09

Source: Tidal Trent SFRM Model, Mott Macdonald, 2013 (includes updated 2014 interim water levels)

Node point reference	Location	0.1% (1 in 1000 year) modelled flow (m^3/s)	1% + 20% flow (1 in 100 year plus climate change) modelled level (mAOD)	1% + 20% flow (1 in 100 year plus climate change) modelled flow (m^3/s)
Trent14600DS	SE 83530 11420		N/A	
Trent15610D	SE 84142 10743		N/A	
Trent16540	SE 84064 10008		N/A	

Source: Tidal Trent SFRM Model, Mott Macdonald, 2013 (includes updated 2014 interim water levels)

Please note: The flows provided represent **in channel flow only** and do not take into account flow on the floodplain.

NODE_ID	X	Y	20% (1 in 5) modelled level	20% (1 in 5) modelled flow	10% (1 in 10) modelled level	10% (1 in 10) modelled flow	5% (1 in 20) modelled level	5% (1 in 20) modelled flow
NSOK_994	482751.3	411500.4	0.89	N/A	0.89	N/A	0.94	N/A
3R2A_27	483446.9	411301.6	0.81	N/A	0.81	N/A	0.84	N/A
3R2B_1577	482083.8	410563.3	0.84	N/A	0.84	N/A	0.89	N/A
SSOK_2886	480796.07	411238.55	0.88	N/A	0.87	N/A	0.93	N/A
NSOK_2095	481669.45	411521.77	0.92	N/A	0.92	N/A	0.97	N/A

NODE_ID	X	Y	2% (1 in 50) modelled level	2% (1 in 50) modelled flow	1.3% (1 in 75) modelled level	1.3% (1 in 75) modelled flow	1% (1 in 100) modelled level	1% (1 in 100) modelled flow
NSOK_994	482751.3	411500.4	N/A	N/A	0.97	N/A	0.97	N/A
3R2A_27	483446.9	411301.6	N/A	N/A	0.87	N/A	0.86	N/A
3R2B_1577	482083.8	410563.3	N/A	N/A	0.92	N/A	0.92	N/A
SSOK_2886	480796	411239	N/A	N/A	0.96	N/A	0.96	N/A
NSOK_2095	481669	411522	N/A	N/A	0.99	N/A	1.00	N/A

NODE_ID	X	Y	0.5% (1 in 200) modelled level	0.5% (1 in 200) modelled flow	0.1% (1 in 1000) modelled level	0.1% (1 in 1000) modelled flow
NSOK_994	482751.3	411500.4	0.98	N/A	N/A	N/A
3R2A_27	483446.9	411301.6	0.87	N/A	N/A	N/A
3R2B_1577	482083.8	410563.3	0.93	N/A	N/A	N/A
SSOK_2886	480796	411239	0.97	N/A	N/A	N/A
NSOK_2095	481669	411522	1.00	N/A	N/A	N/A

NODE_ID	X	Y	1% (100 year) plus 20% CC level	1% (100 year) plus 20% CC flow	1% (100 year) plus 30% CC level	1% (100 year) plus 30% CC flow	1% (100 year) plus 50% CC level	1% (100 year) plus 50% CC flow
NSOK_994	482751.3	411500.4	0.96	N/A	1.01	N/A	0.96	N/A
3R2A_27	483446.9	411301.6	0.86	N/A	0.88	N/A	0.87	N/A
3R2B_1577	482083.8	410563.3	0.91	N/A	0.93	N/A	0.91	N/A
SSOK_2886	480796	411239	0.95	N/A	1.01	N/A	0.95	N/A
NSOK_2095	481669	411522	0.99	N/A	1.04	N/A	0.99	N/A

Source: Derbyshire Trent, CH2MHill, 2019

All modelled levels in mAOD
All flows in m3/s

Updated Climate Change Guidance

On 19th February 2016, the Flood risk assessments: climate change allowances' was published on www.gov.uk website. It has replaced previous guidance Climate Change Allowances for Planners.

The climate change guidance can be found at: https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances
If your RFI is to assist with a Flood Risk Assessment (FRA) for a future planning application, please review this guidance to consider which allowances should be used for your site.

The climate change allowance provided with this RFI is a 20% increase in the peak river flow for the 1% Annual Exceedance Probability (1 in 100 year) scenario.

Breach Information

It should be noted that the breach location used to produce the modelled breach heights maps is approximately 3km to the east of the site and therefore does not give a true indication of the effect on the site. It is recommended that a site specific breach analysis is carried out for the site using the joint DEFRA/Environment Agency document Flood Risk Assessment Guidance for New Development (FD2320). This document can be downloaded directly using the following link (FD2320.pdf).

Defence Information

Defence ID	Asset Reference	Design Standard	D/S Crest Level (mAOD)	U/S Crest Level (mAOD)	Overall Condition Grade
1	23,792	100	6.2	6.2	2
2	24,834	100	6.2	6.2	3
3	23,793	100	6.2	6.2	2
4	24,285	100	6.32	6.32	3
5	24,835	100	6.2	6.2	3
6	23,593	100	6.2	6.2	2
7	77,608	100	6.4	6.4	1
8	50,711	100	6.4	6.4	2
9	22,642	100	6.4	6.4	3
10	23,881	100	6.4	6.4	2
11	23,880	100	6.46	6.46	3
12	22,641	100	6.4	6.4	3
13	23,879	100	6.4	6.4	3
14	51,435	100	6.4	6.4	2
15	22,091	100	6.4	6.4	3
16	22,090	100	6.4	6.4	3
17	51,393	100	6.2	6.2	2
18	24,833	100	6.2	6.2	3
19	23,791	100	6.3	6.3	3
20	23,790	100	6.25	6.25	3
21	51,392	100	6.3	6.3	2

Historic Information

We have records of historic fluvial flooding at this location in 2013. Please note that we may or may not hold the original records in question. We do not make any claim as to the reliability of recorded flood extents or that all flood events in the area have been recorded. Please also be aware that flood defences may have been built subsequent to these historic flood events. Note - This information relates to the area the above named property is in, and is not specific to the property itself - it ***does not*** provide an indicator of flood risk ***at individual property level***.

Open Data Information

The below datasets are now classed as Open Data and as such can be downloaded free of charge under an open data licence from the following address: https://data.gov.uk/publisher/environment-agency

- Risk of Flooding from Rivers and Sea (RoFRS) data
- LiDAR Data
- Flood Map for Planning (Rivers and Sea)
- Historic Flooding Data

Permitting Information

Under the Environmental Permitting (England and Wales) Regulations 2016, any permanent or temporary works in, over or under a designated main river will require an Environmental Permit for Flood Risk Activities from the Environment Agency.

Any permanent or temporary works within 8 metres of the top of bank of a designated main river, or landward toe of a flood defence may require an Environmental Permit for Flood Risk Activities from the Environment Agency. In addition, any permanent or temporary works within the floodplain of a designated main river may also require an Environmental Permit for Flood Risk Activities.

To find out whether your activity requires a permit or falls under a relevant exclusion, exemption or standard rule please follow the link below:
https://www.gov.uk/guidance/flood-risk-activities-environmental-permits

Please note that a permit is separate to and in addition to any planning permission granted.

Product Information

Below is a brief overview of which Product is likely to be most appropriate for your needs. This information will only be provided where it is available as we do not hold detailed information on all watercourses.

Product 4 – Producing a Flood Risk Assessment (FRA) where you:

- Require mapped and tabulated outputs from an Environment Agency model *e.g flood levels for a range of events*
- Require information on local defences and historic flooding events
- Do not need to undertake additional hydraulic modelling

Product 6 – Producing a Flood Risk Assessment (FRA) where you:

- Require raw modelling results files
- Require modelling results in GIS format

Product 7 - Producing a Flood Risk Assessment (FRA) where you:

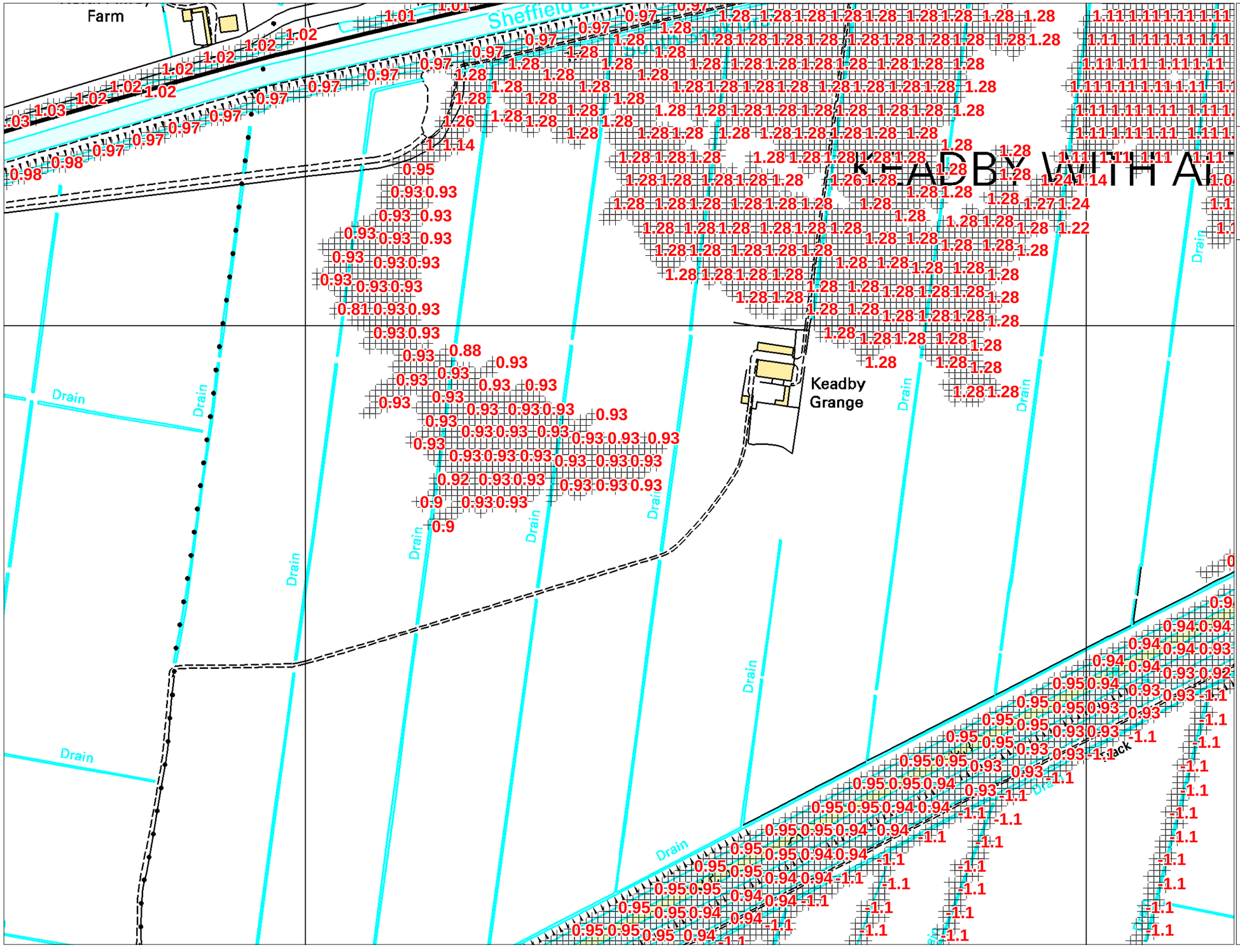
- Do need to undertake additional hydraulic modelling using an existing Environment Agency model

In most instances to supply Product 6 and Product 7 data a hard drive will need to be supplied due to the large file sizes associated with this information. Please note that this information will require specialist modelling software to view and run.

A Product 5 (Model Report) will be supplied with all Product 6 and 7 requests and can also be requested separately.

ANNEX B NORTH EAST LINCOLNSHIRE COUNCIL CONSULTATION

Floodplain Heights Map centred on Keadby Power Station - created 25 August 2020 Ref: [EMD178614]



Scale 1:5,000

N
W E
S

Legend

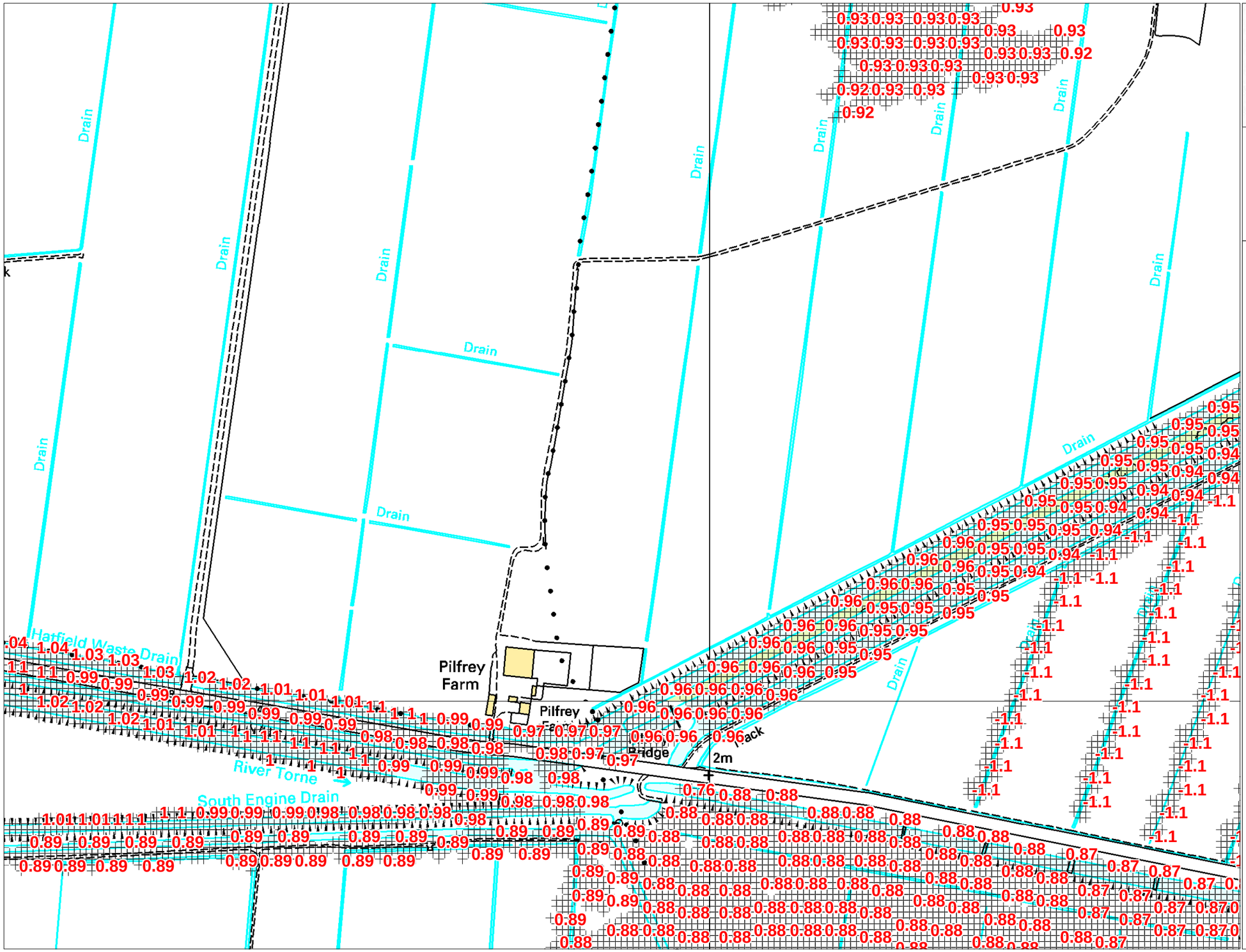
x.xx 1 in 100 year
Floodplain Level (mAOD)

Source:
River Torne Hazard Mapping Study,
Capita AECOM, 2018

A Strategic Flood Risk Assessment may be available, providing further information for this site. Please contact your Local Planning Authority to access this information as it will need to be considered within any Flood Risk Assessment submission.

Contact Us: National Customer Contact Centre, PO Box 544, Rotherham, S60 1BY. Tel: 03708 506 506 (Mon-Fri 8-6). Email: enquiries@environment-agency.gov.uk

Floodplain Heights Map centred on Keadby Power Station - created 25 August 2020 Ref: [EMD178614]



Scale 1:5,000

N
W
E
S

Legend

x.xx — 1 in 100 year Floodplain Level (mAOD)

Source:
River Torne Hazard Mapping Study, Capita AECOM, 2018

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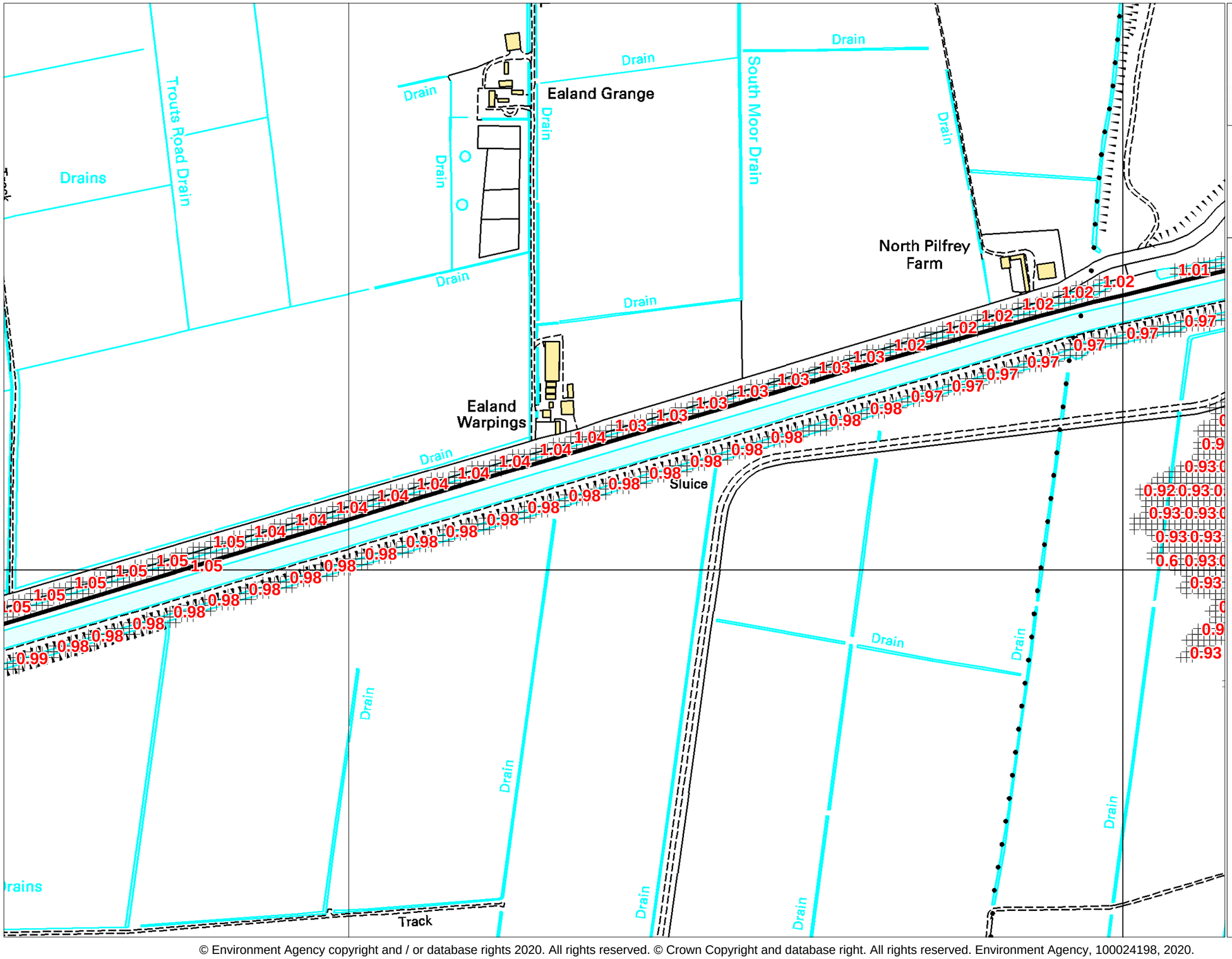
Floodplain Heights Map centred on Keadby Power Station - created 25 August 2020 Ref: [EMD178614]



Environment Agency

Scale 1:5,000

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Legend

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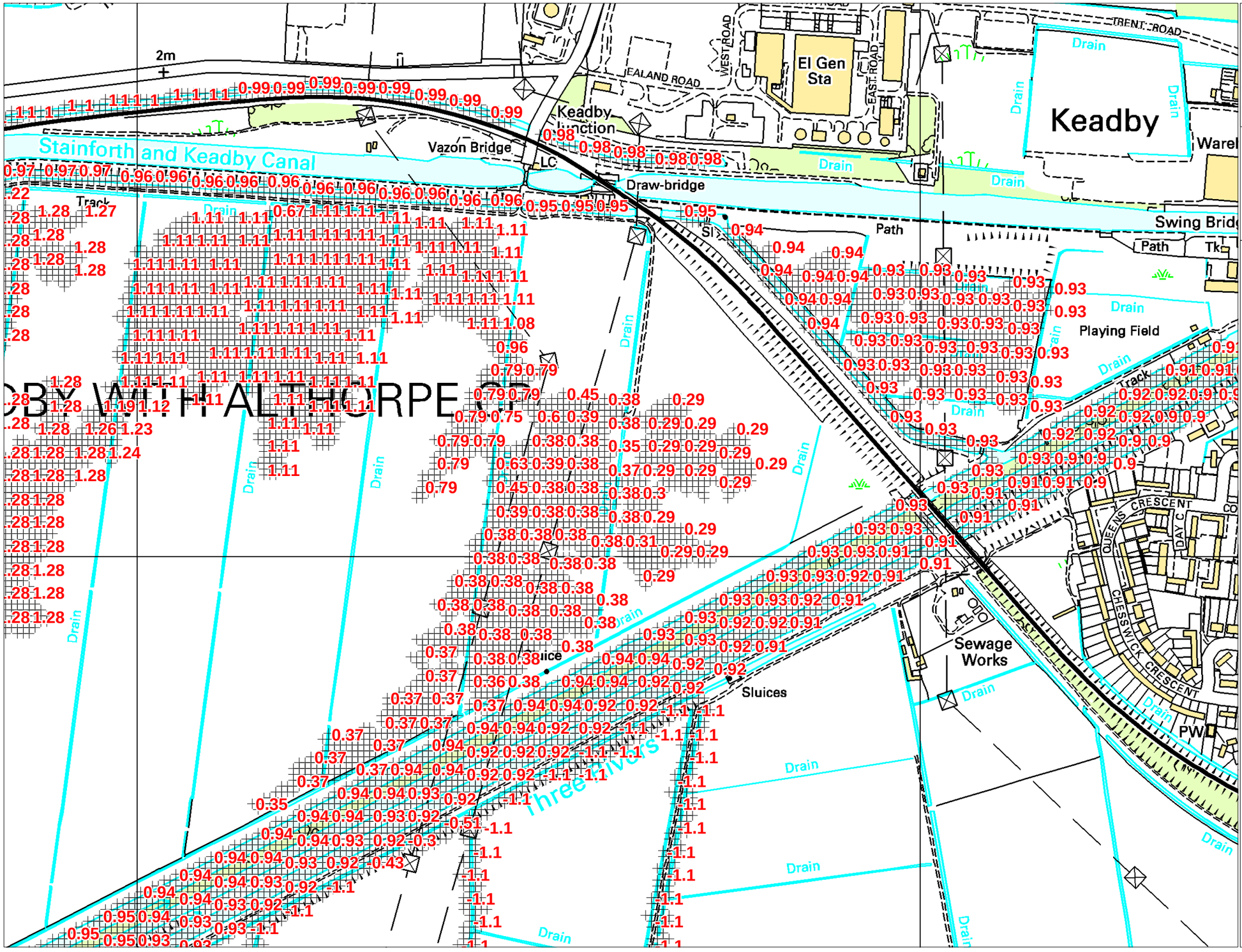

Environment Agency

Scale 1:5,000

N W E S

Legend

x.xx — 1 in 100 year Floodplain Level (mAOD)

Source: River Torne Hazard Mapping Study, Capita AECOM, 2018

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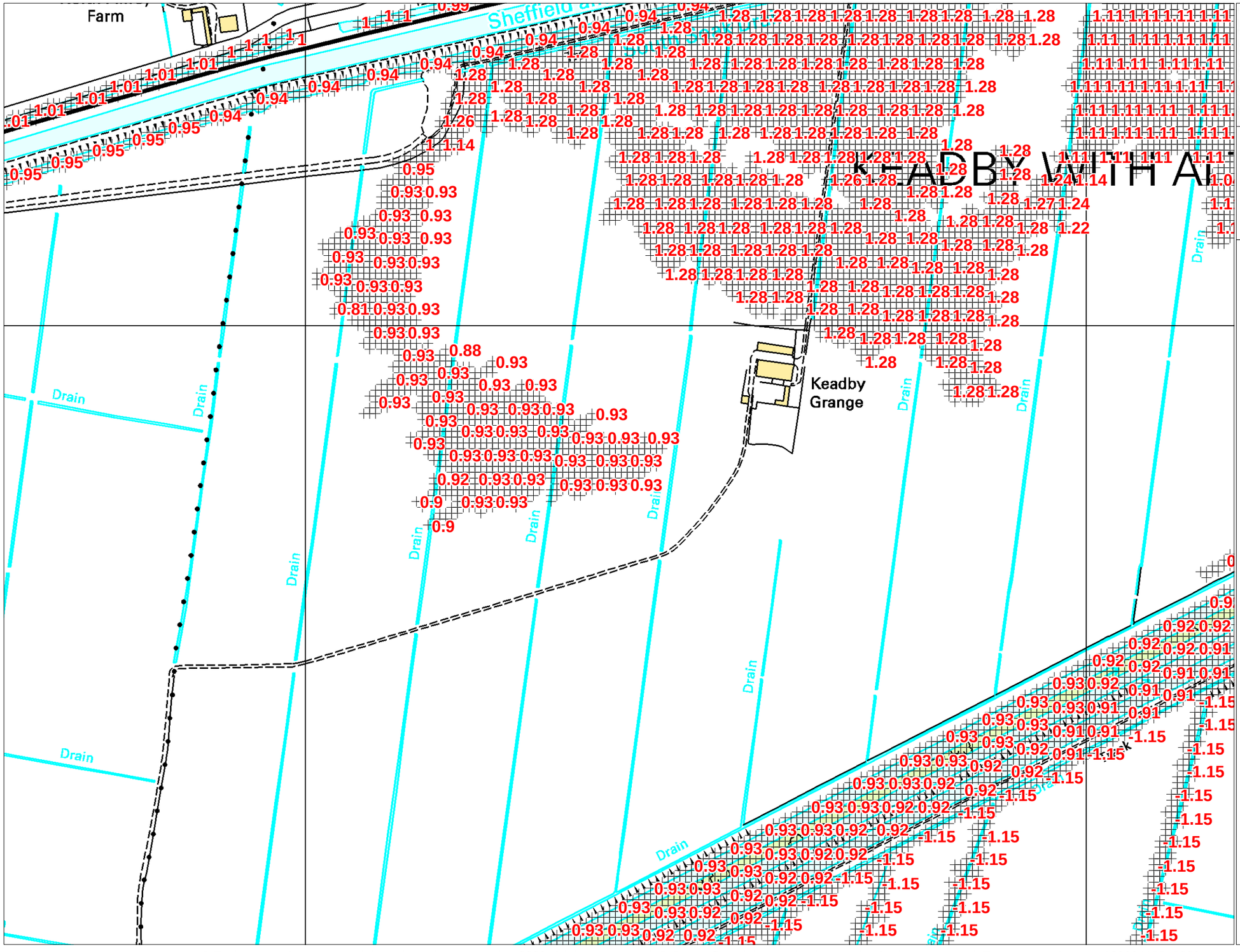
Floodplain Heights Map centred on Keadby Power Station - created 25 August 2020 Ref: [EMD178614]



Environment Agency

Scale 1:5,000

N
W
E
S

Legend

x.xx 1 in 100 year
(with 20% climate change forecast)
Floodplain Level (mAOD)

Source:
River Torne Hazard Mapping Study,
Capita AECOM, 2018

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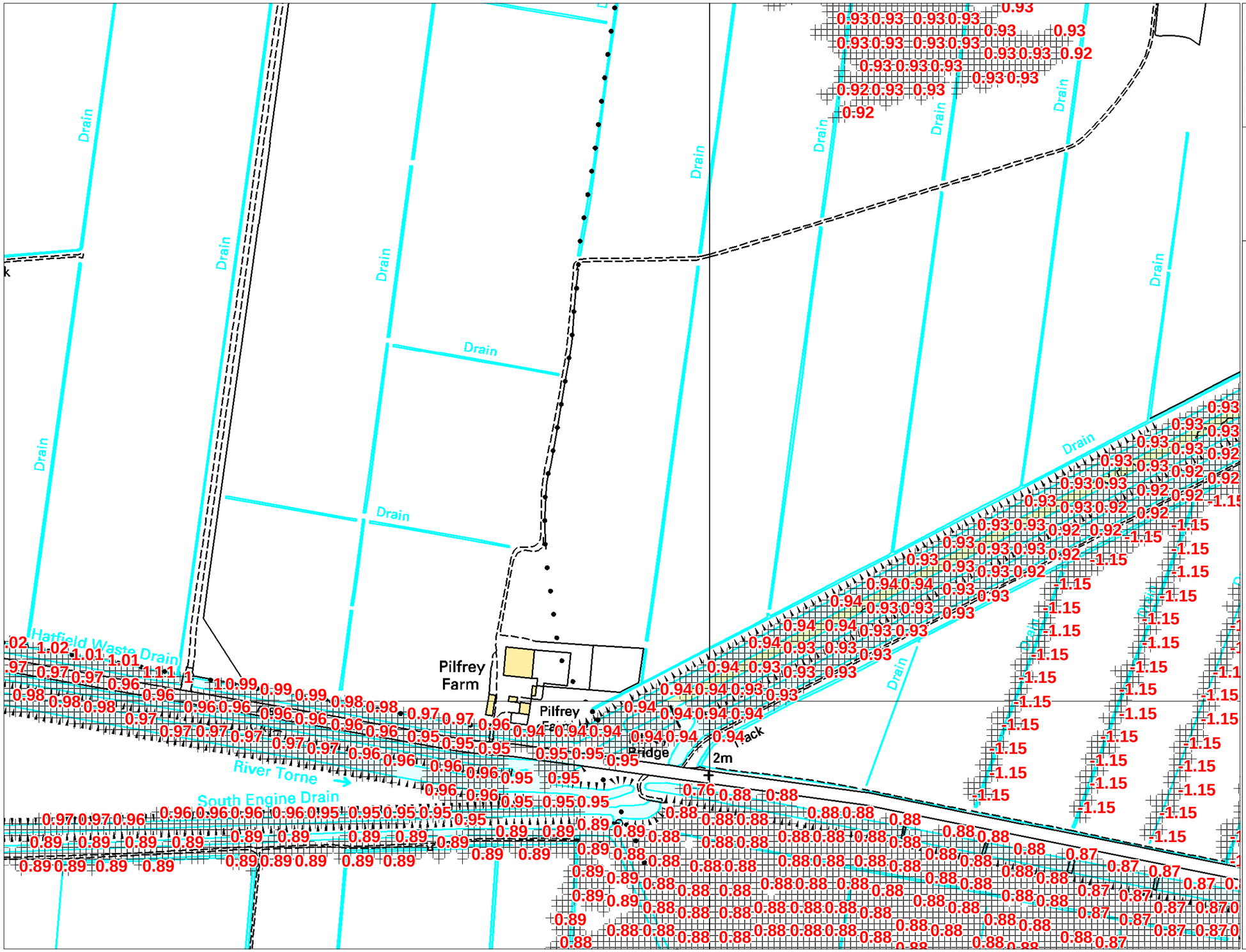

Environment Agency

Scale 1:5,000

N
W E
S

Legend

x.xx — 1 in 100 year (with 20% climate change forecast) Floodplain Level (mAOD)

Source: River Torne Hazard Mapping Study, Capita AECOM, 2018

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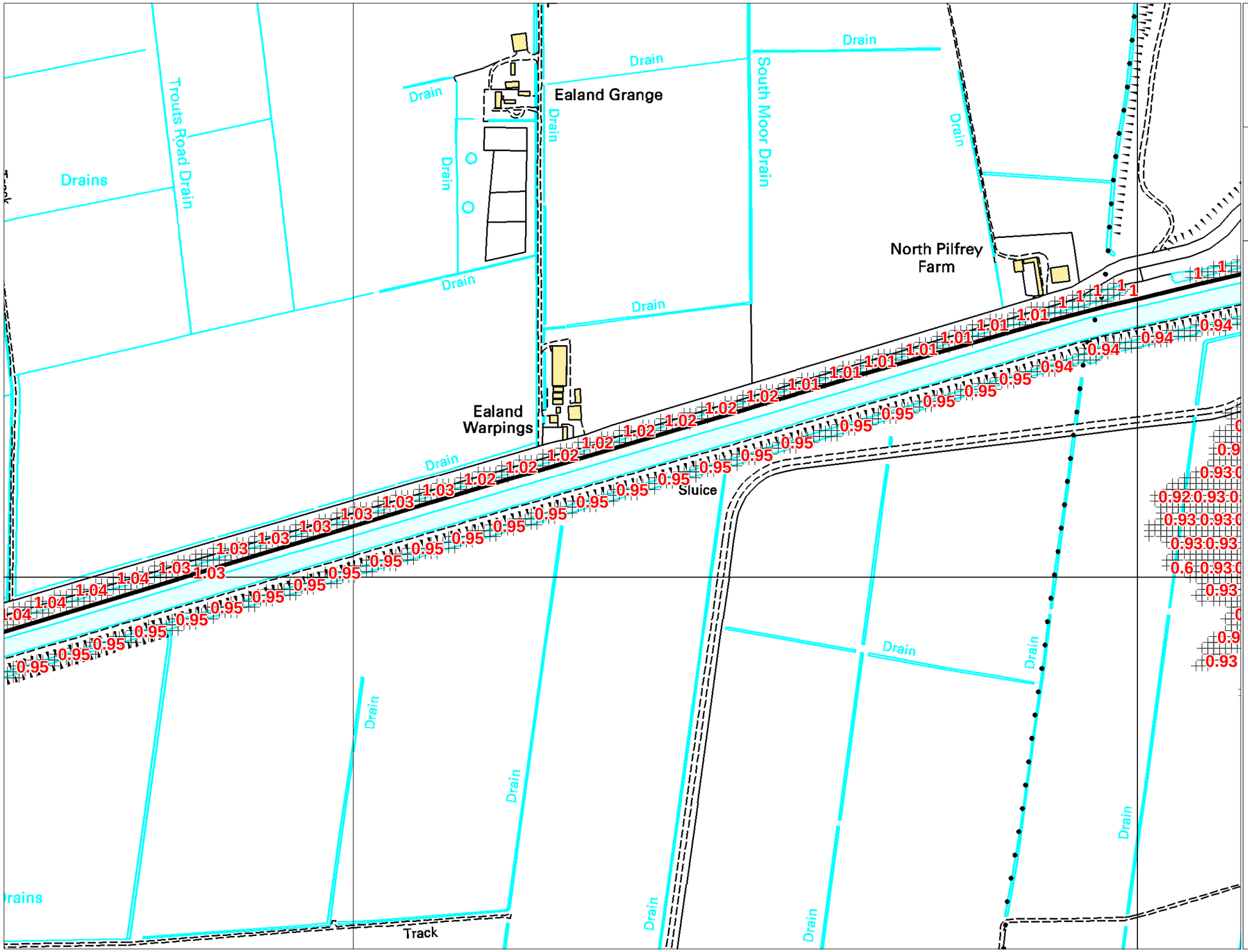

Scale 1:5,000

N
W E
S

Legend

x.xx — 1 in 100 year (with 20% climate change forecast) Floodplain Level (mAOD)

Source:
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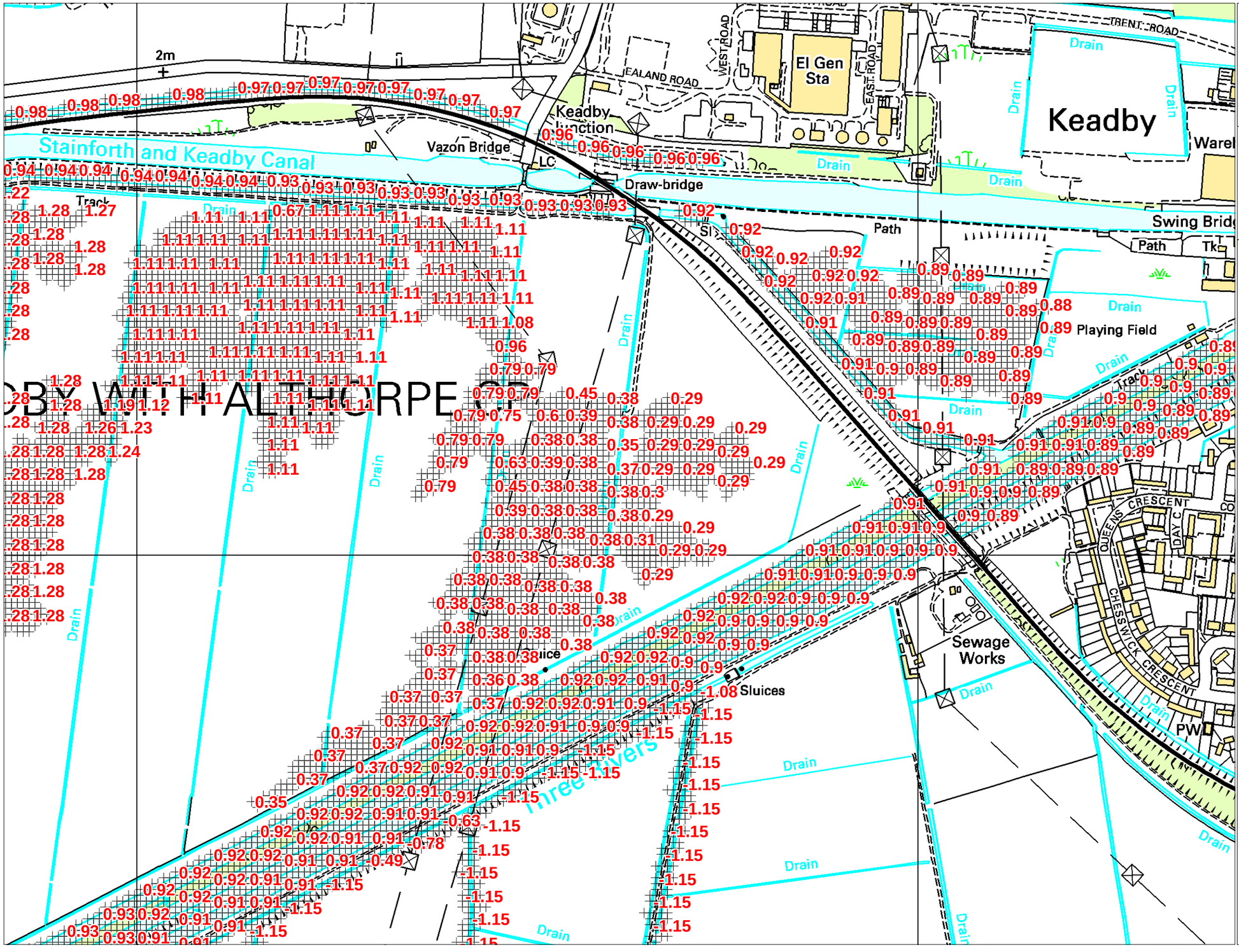

Scale 1:5,000

N
W E
S

Legend

x.xx — 1 in 100 year (with 20% climate change forecast) Floodplain Level (mAOD)

Source: River Torne Hazard Mapping Study, Capita AECOM, 2018

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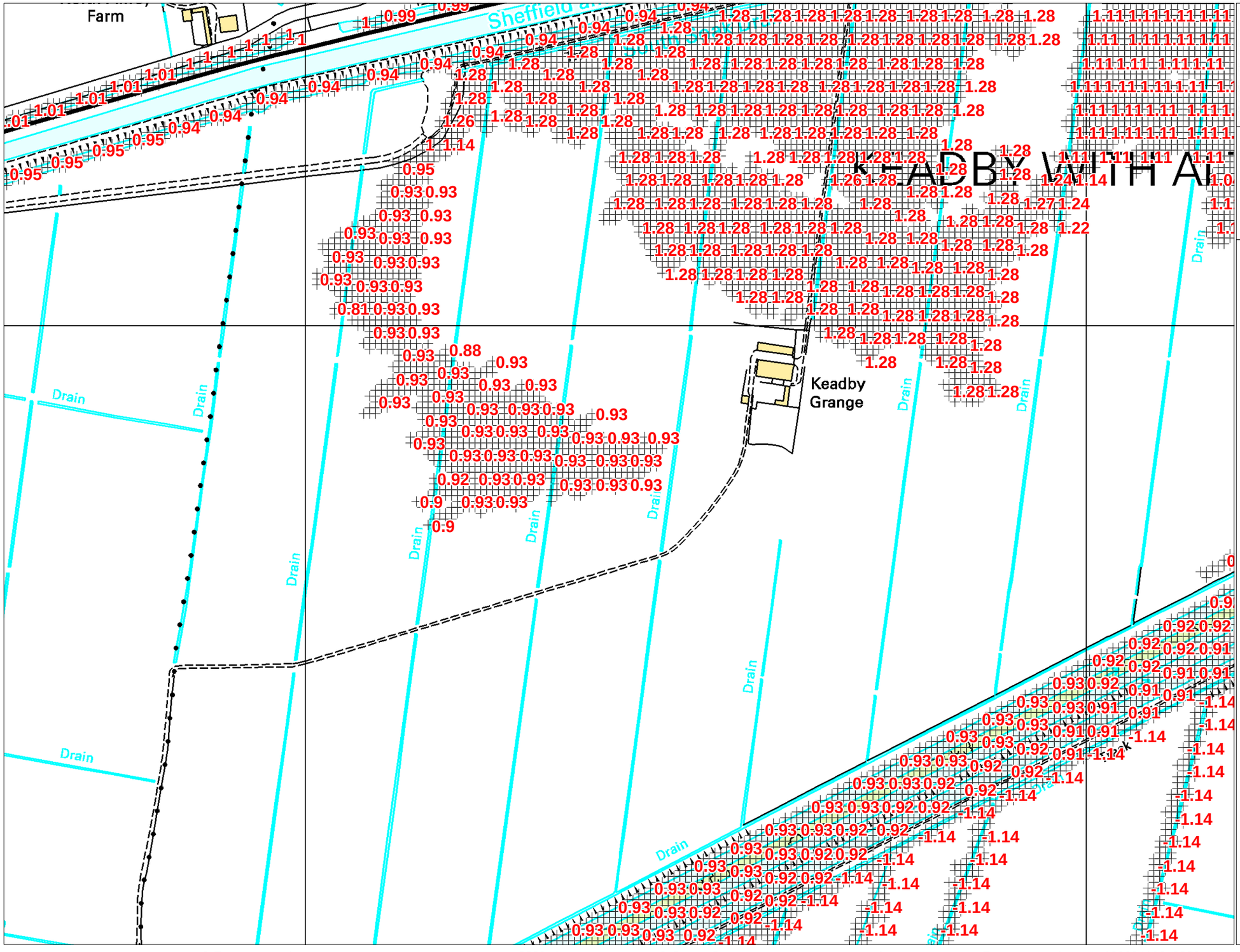

Environment Agency

Scale 1:5,000

N
W E
S

Legend

x.xx 1 in 100 year (with 30% climate change forecast) Floodplain Level (mAOD)

Source:
River Torne Hazard Mapping Study, Capita AECOM, 2018

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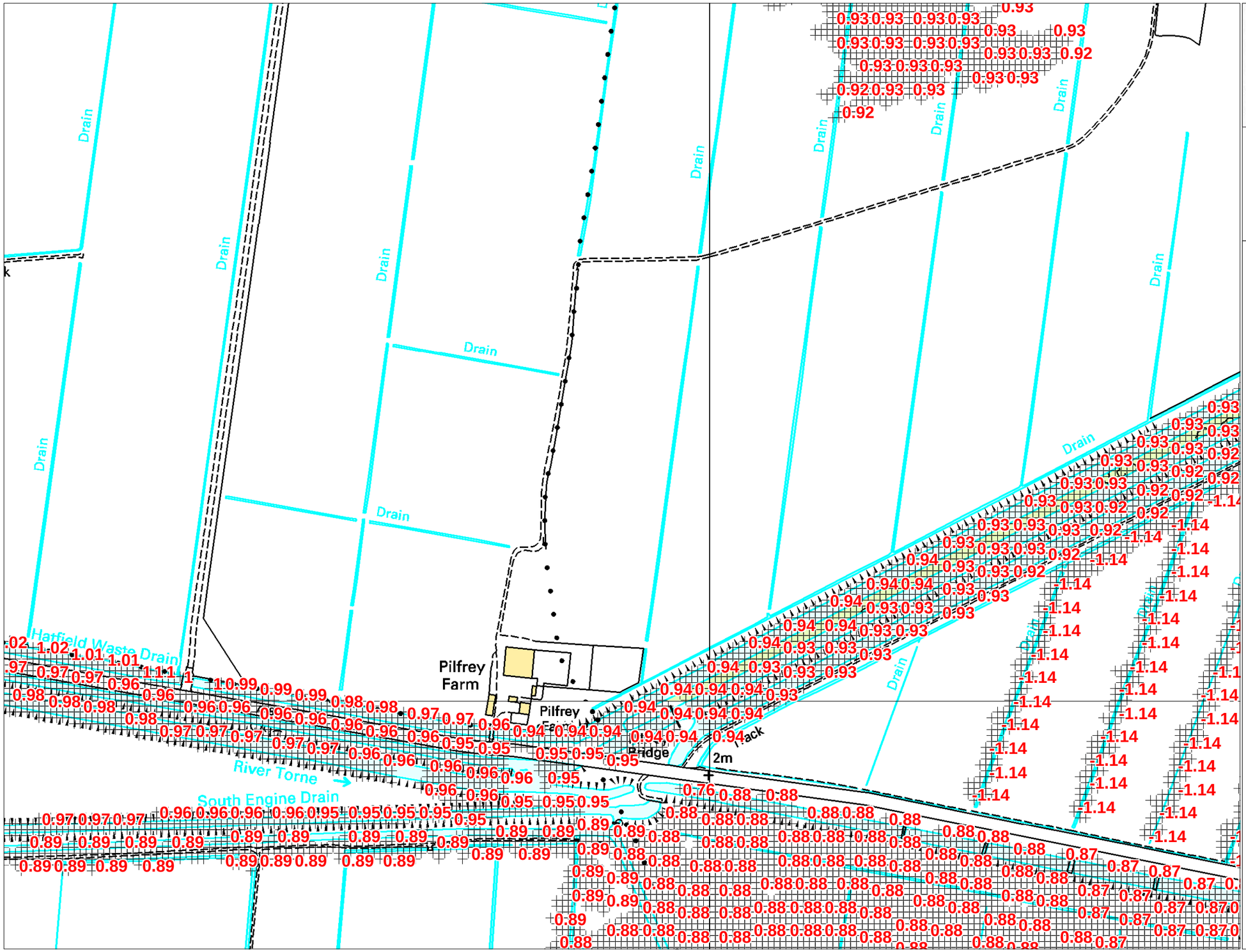

Environment Agency

Scale 1:5,000

N
W E
S

Legend

x.xx — 1 in 100 year (with 30% climate change forecast) Floodplain Level (mAOD)

Source: River Torne Hazard Mapping Study, Capita AECOM, 2018

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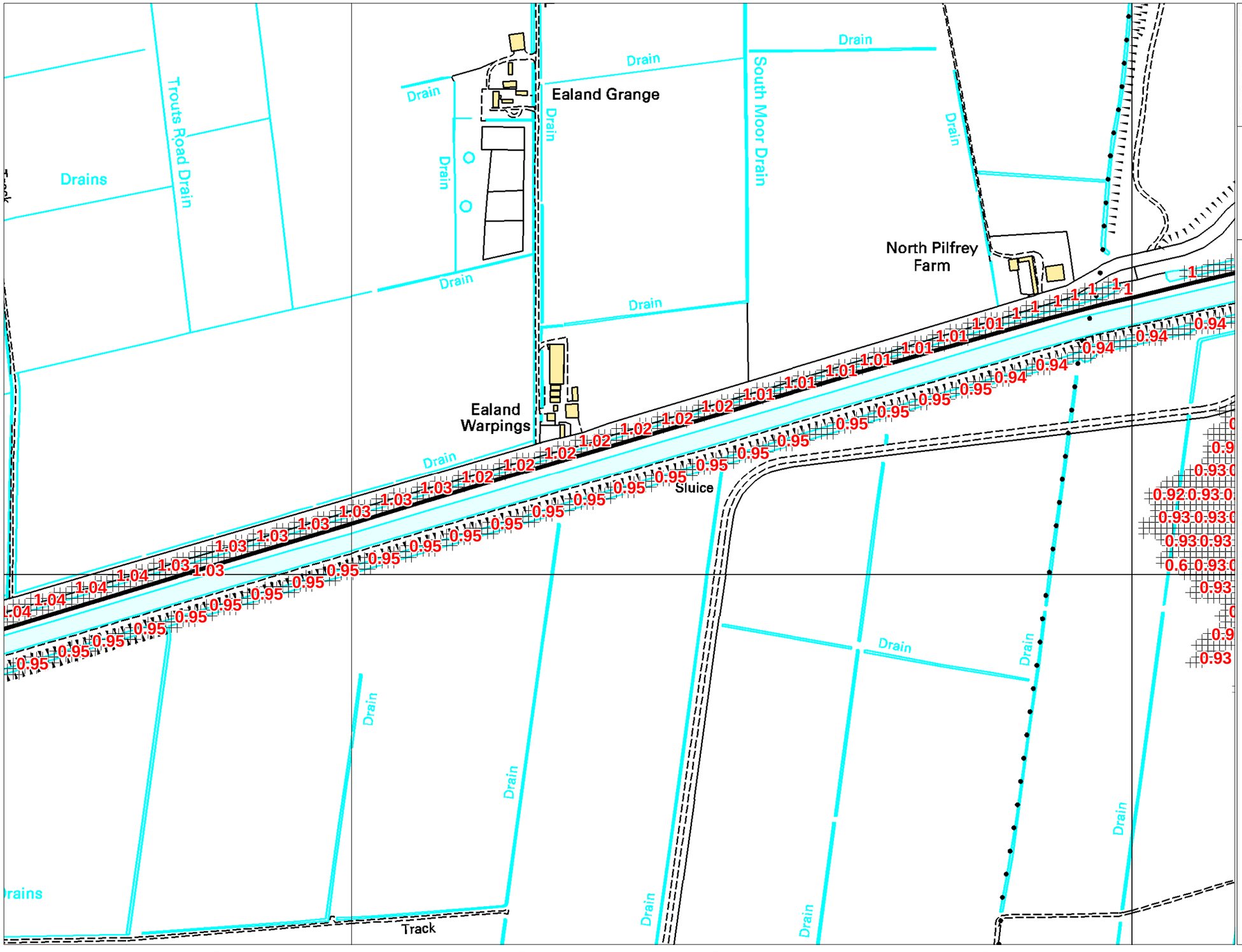

Scale 1:5,000

N
W E
S

Legend

x.xx — 1 in 100 year (with 30% climate change forecast) Floodplain Level (mAOD)

Source:
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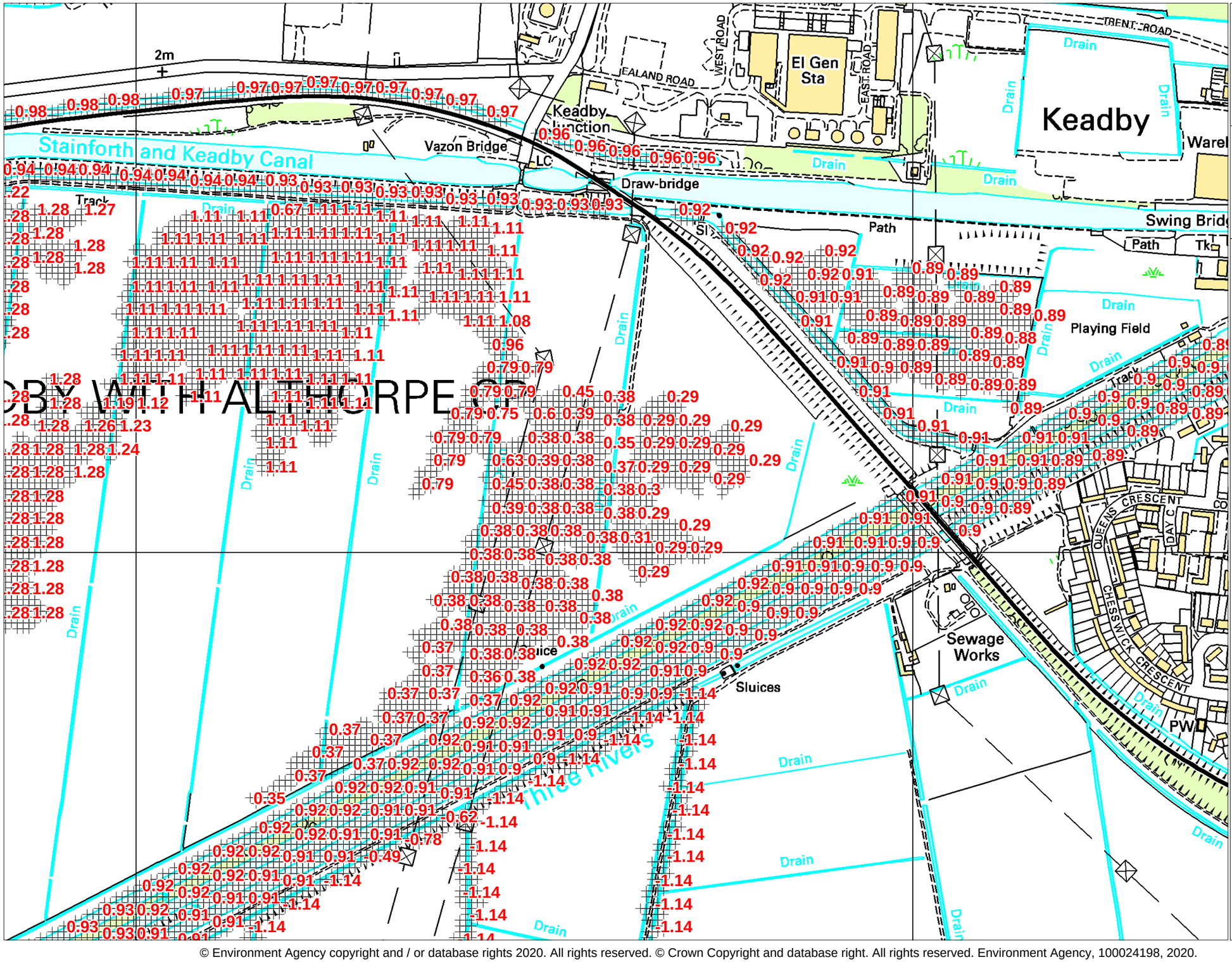

Environment Agency

Scale 1:5,000

N W E S

Legend

x.xx — 1 in 100 year (with 30% climate change forecast) Floodplain Level (mAOD)

Source: River Torne Hazard Mapping Study, Capita AECOM, 2018

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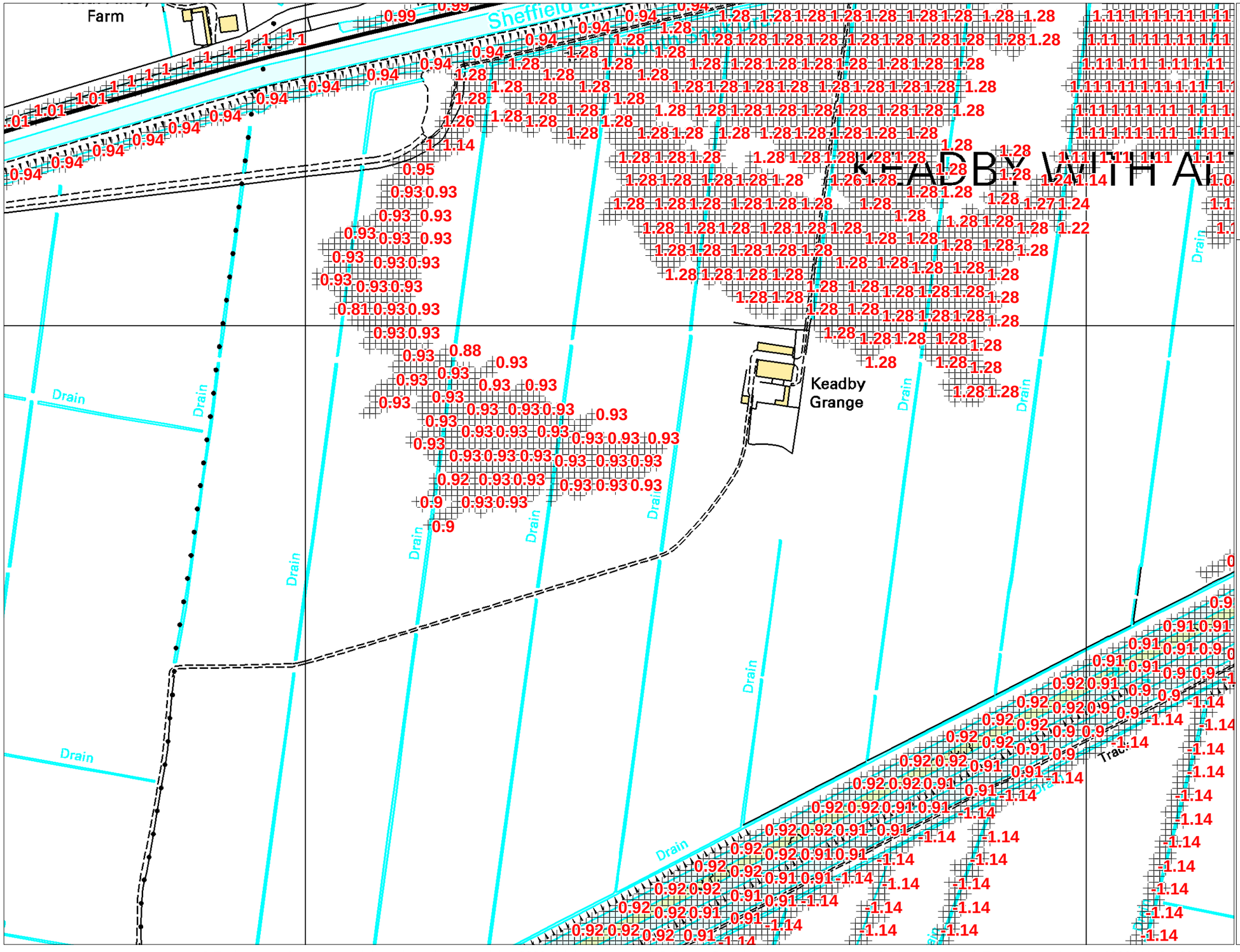

Environment Agency

Scale 1:5,000

N
W E
S

Legend

x.xx 1 in 100 year
(with 50% climate change forecast)
Floodplain Level (mAOD)

Source:
River Torne Hazard Mapping Study,
Capita AECOM, 2018

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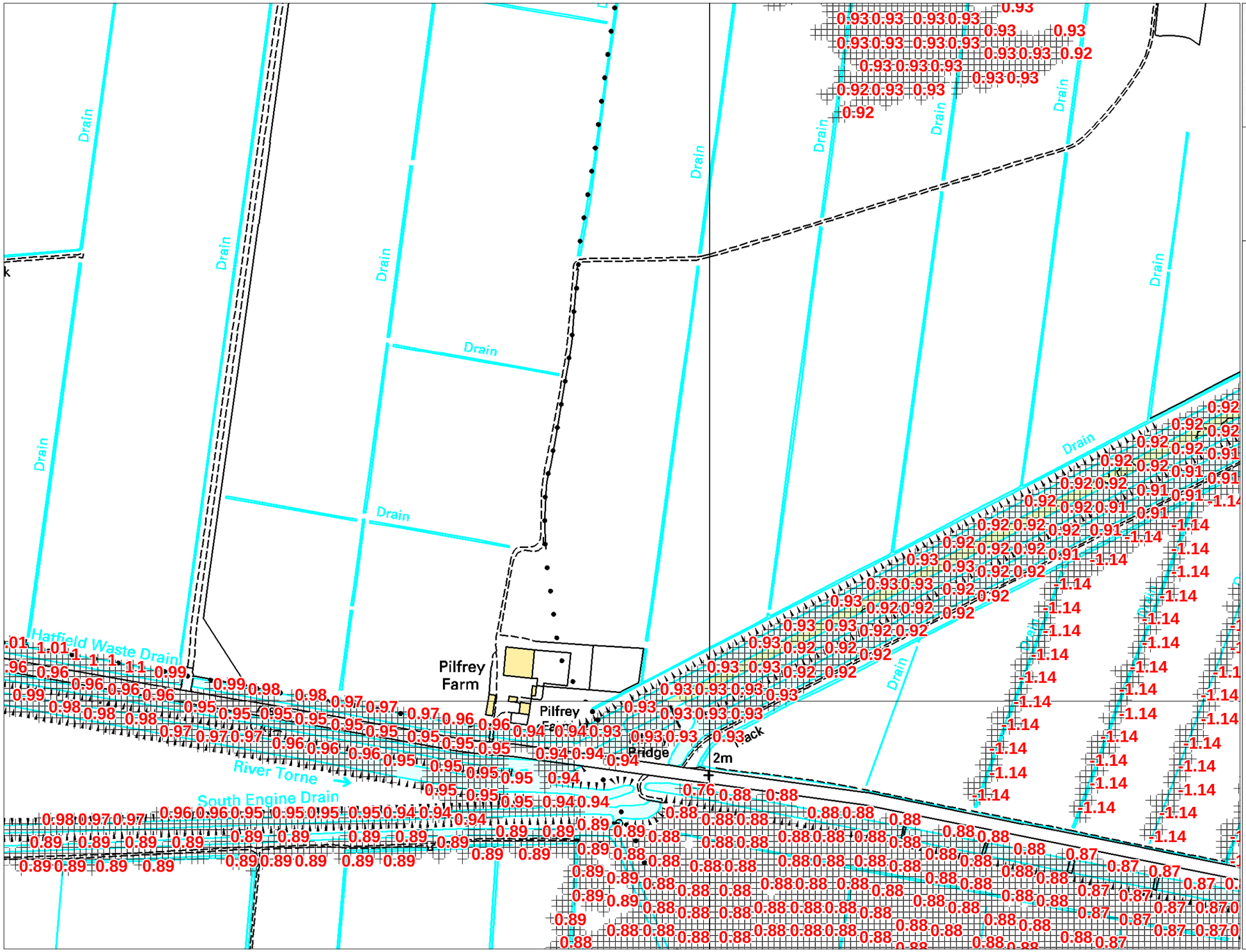

Environment Agency

Scale 1:5,000

N W E S

Legend

x.xx — 1 in 100 year (with 50% climate change forecast) Floodplain Level (mAOD)

Source: River Torne Hazard Mapping Study, Capita AECOM, 2018

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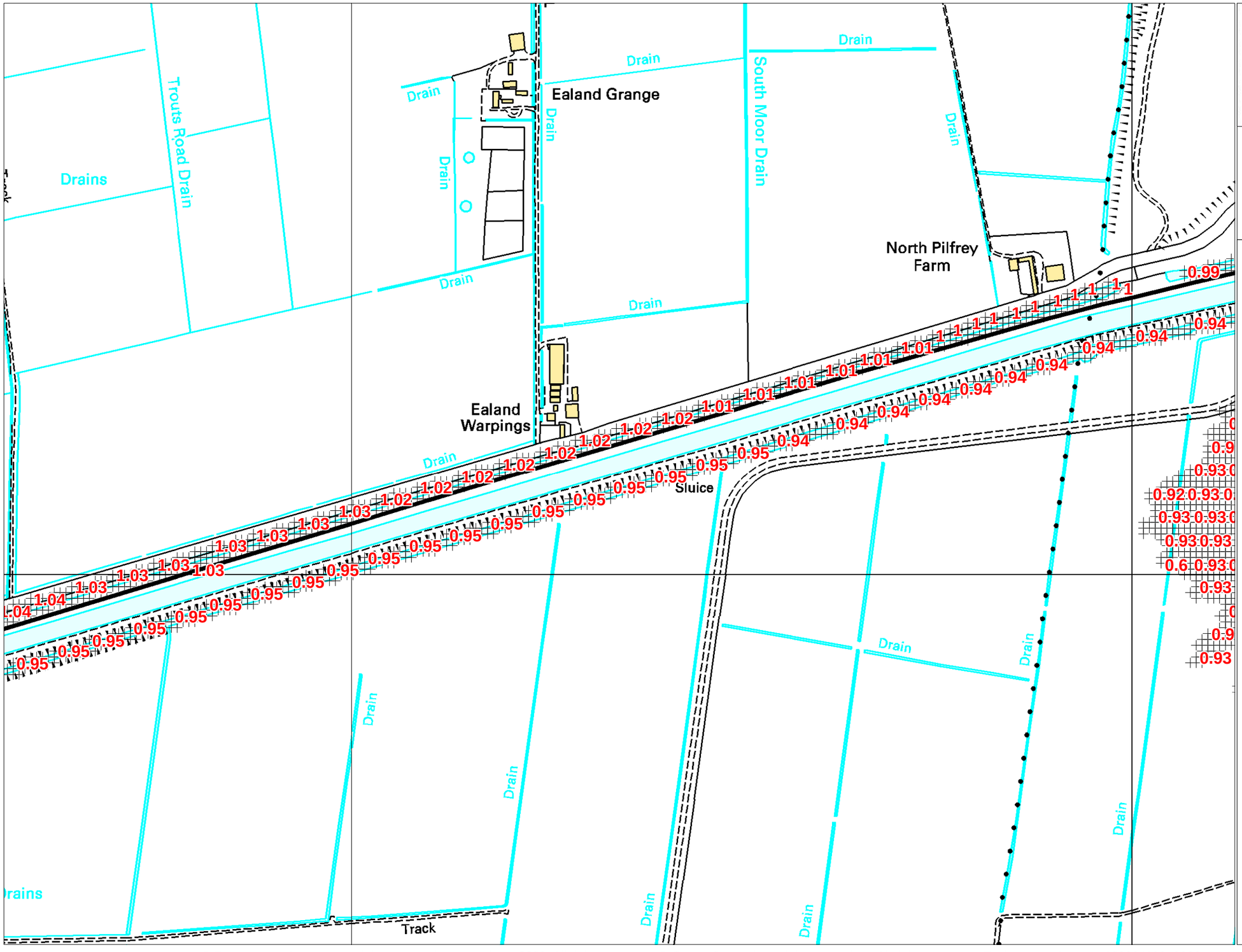

Environment Agency

Scale 1:5,000

N W E S

Legend

x.xx — 1 in 100 year (with 50% climate change forecast) Floodplain Level (mAOD)

Source:
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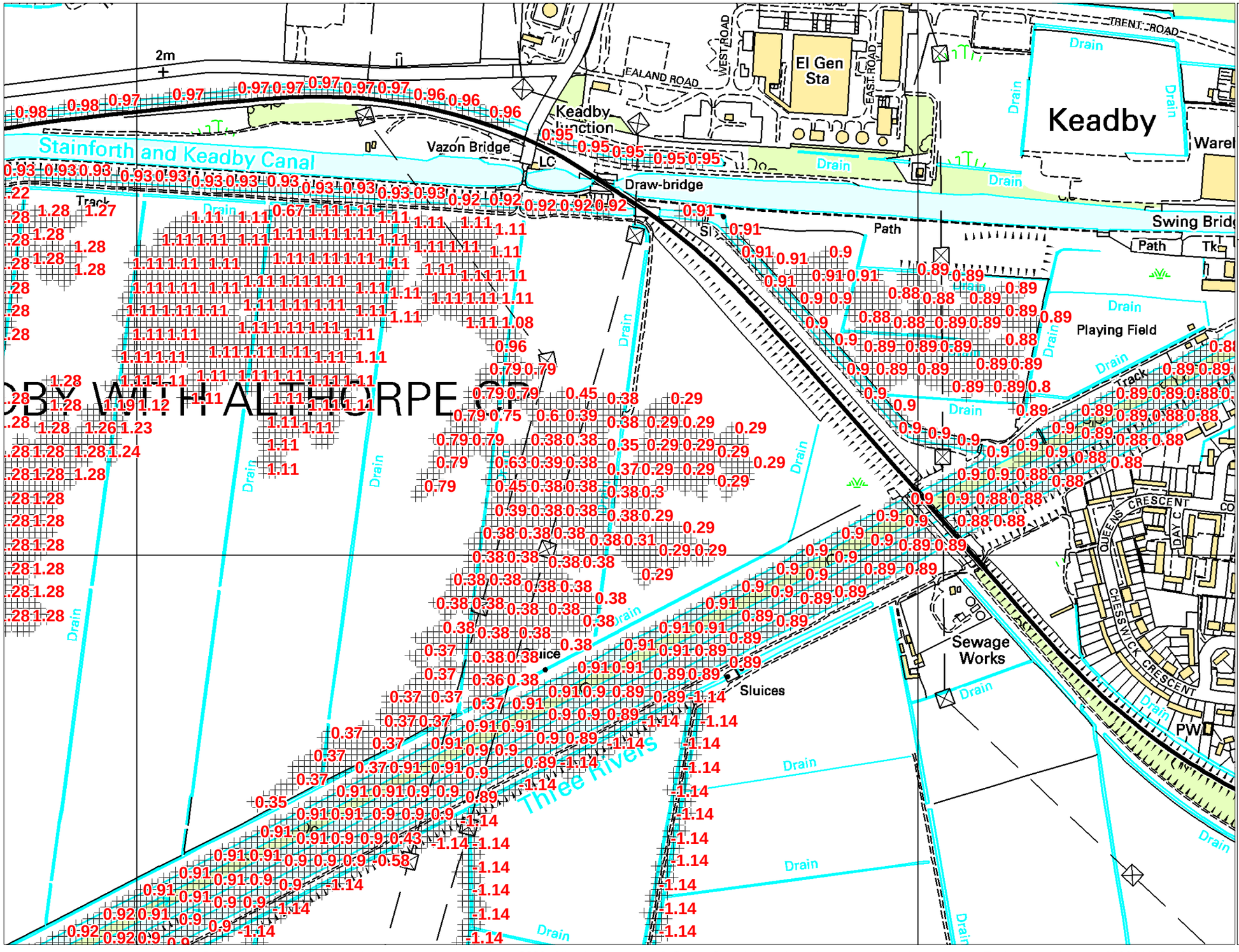

Scale 1:5,000

N
W E
S

Legend

x.xx — 1 in 100 year (with 50% climate change forecast) Floodplain Level (mAOD)

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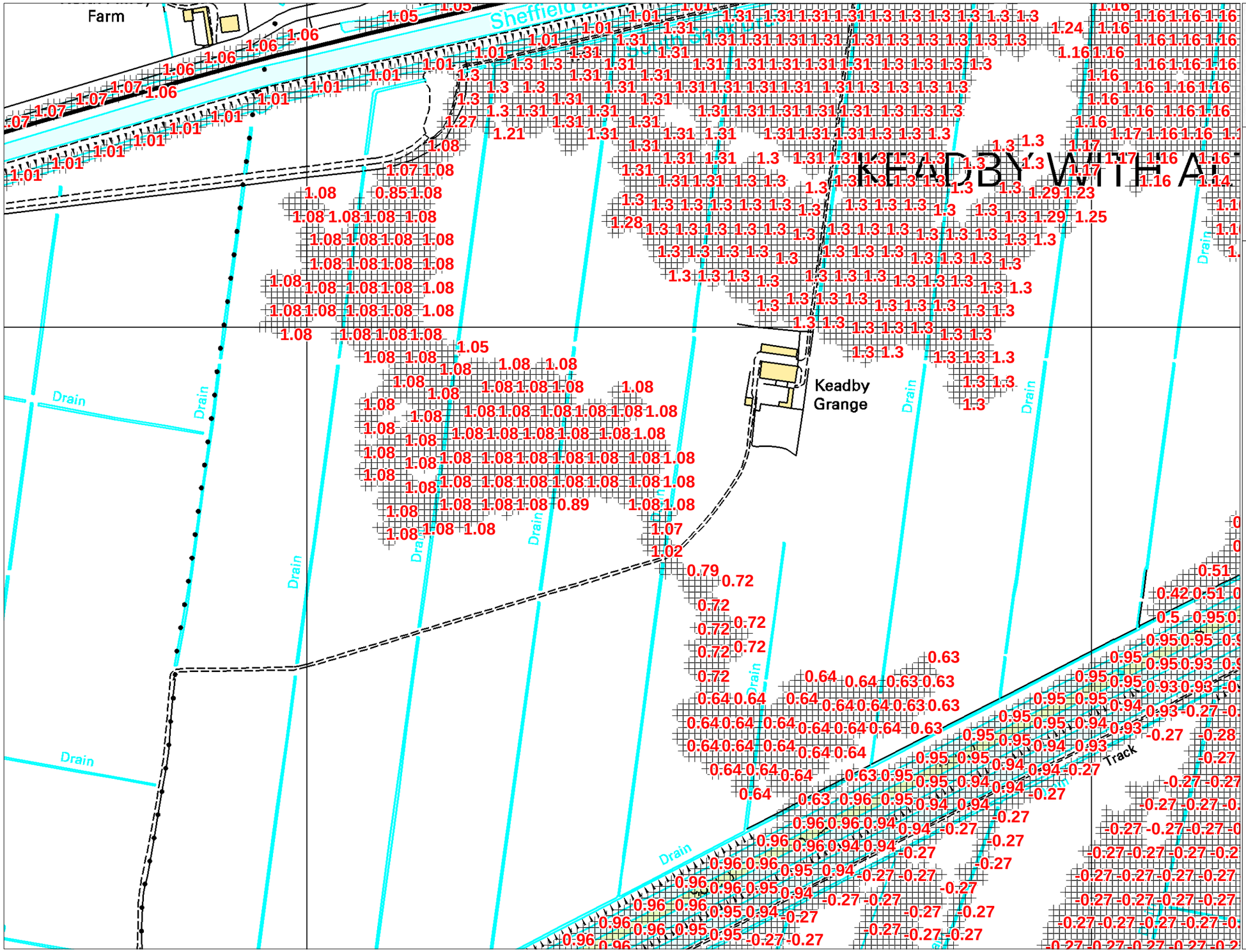

Environment Agency

Scale 1:5,000

N
W E
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Legend

x.xx — 1 in 1000 year Floodplain Level (mAOD)

Source:
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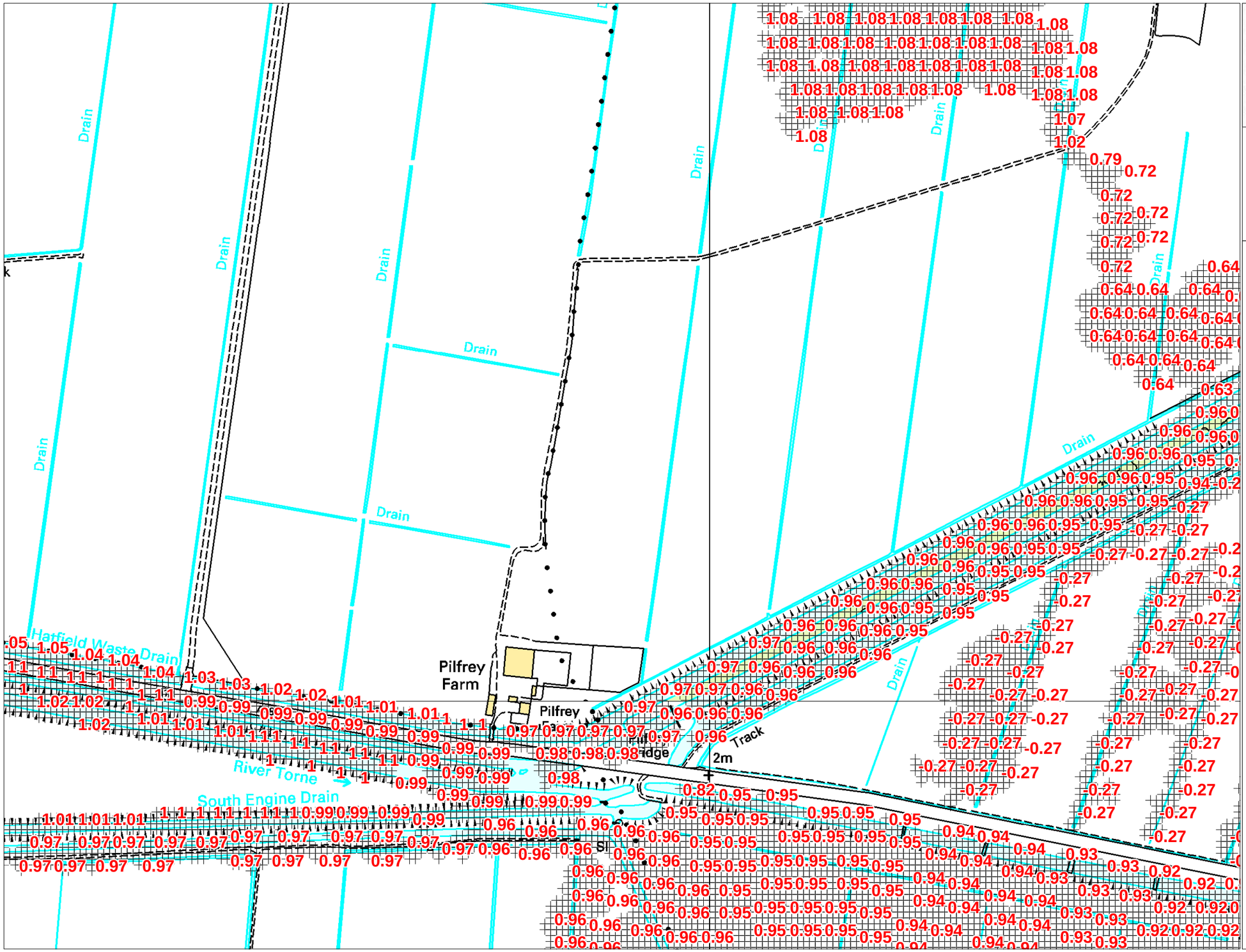

Environment Agency

Scale 1:5,000

N
W E
S

Legend

x.xx — 1 in 1000 year Floodplain Level (mAOD)

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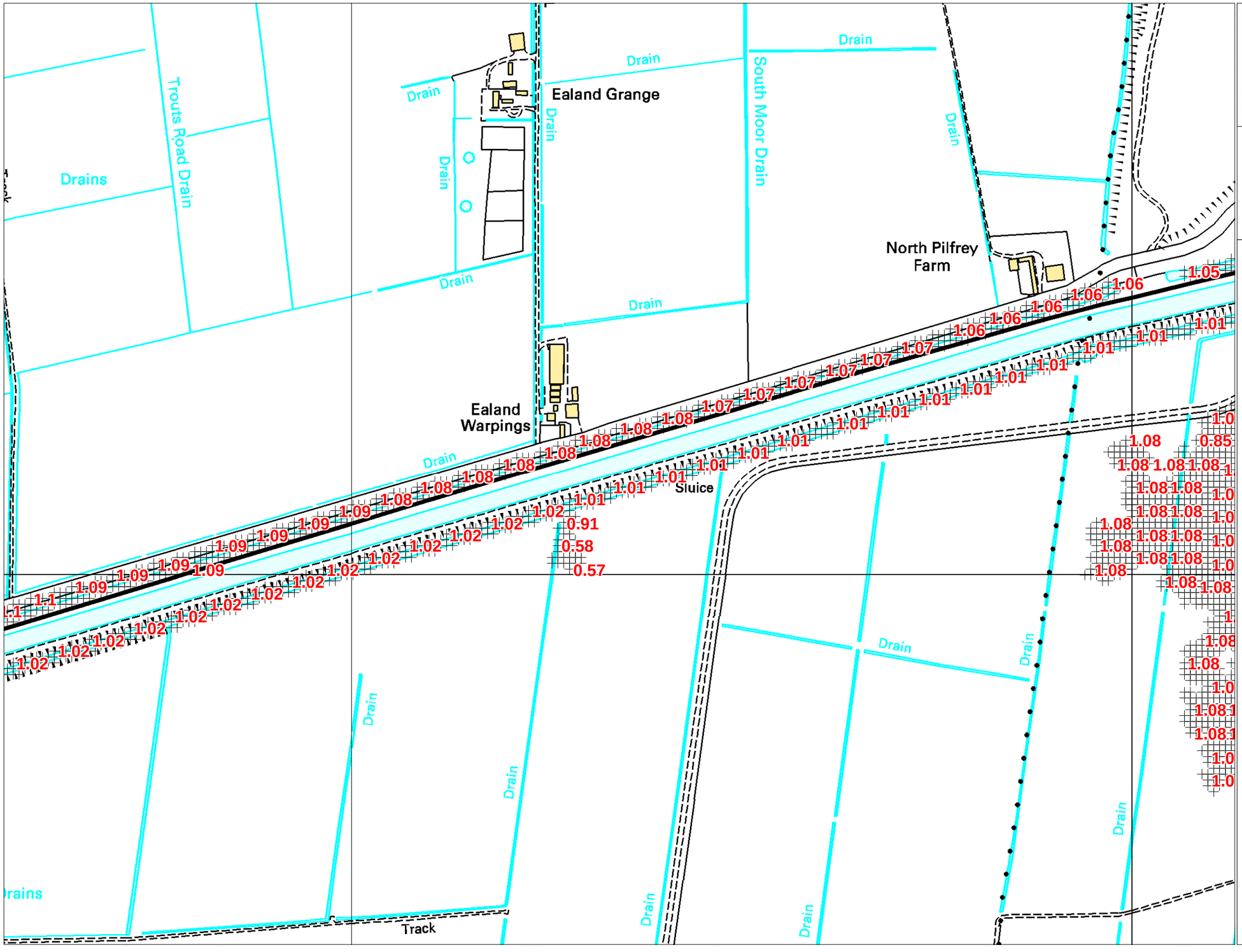

Environment Agency

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N
W E
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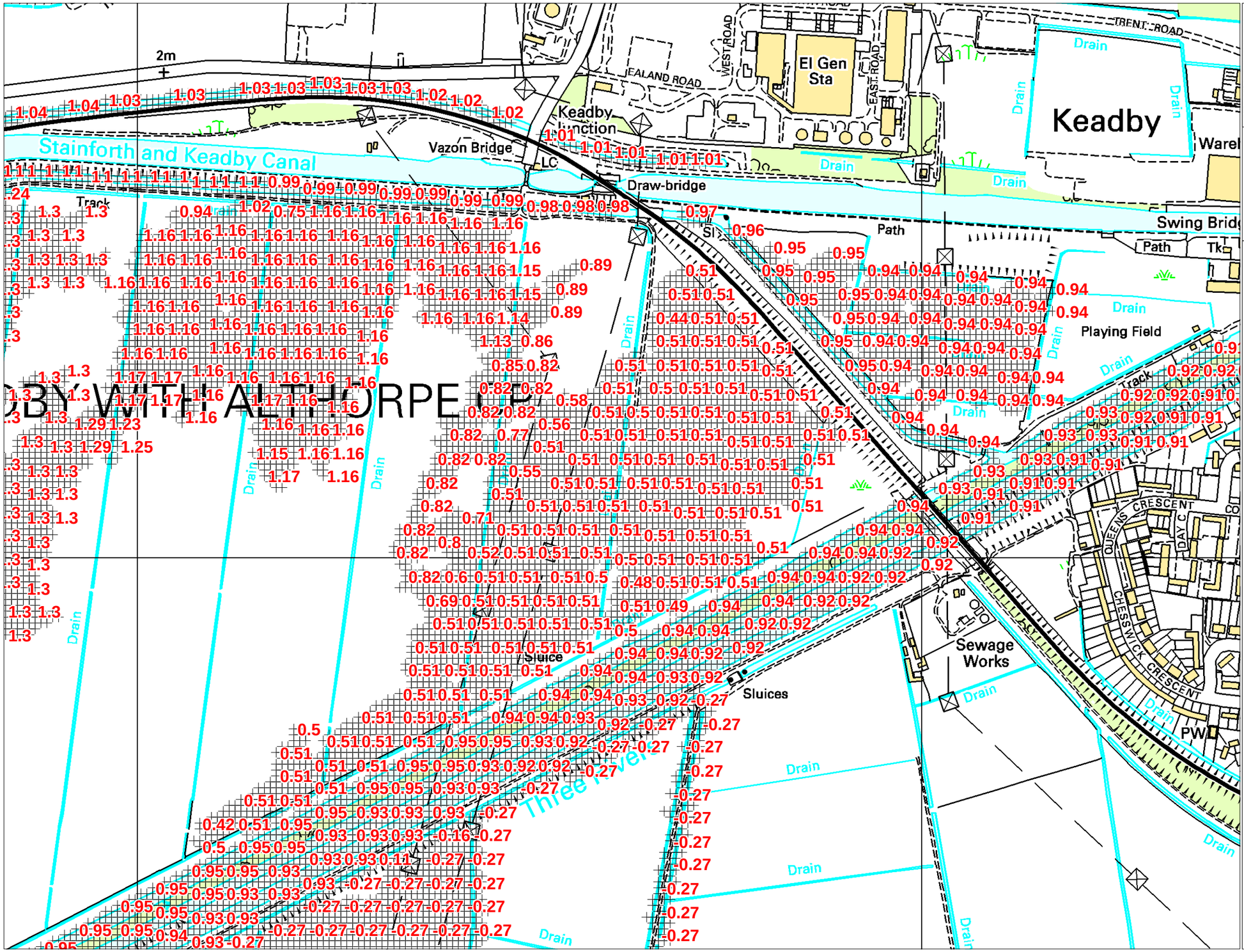

Environment Agency

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N W E S

Legend

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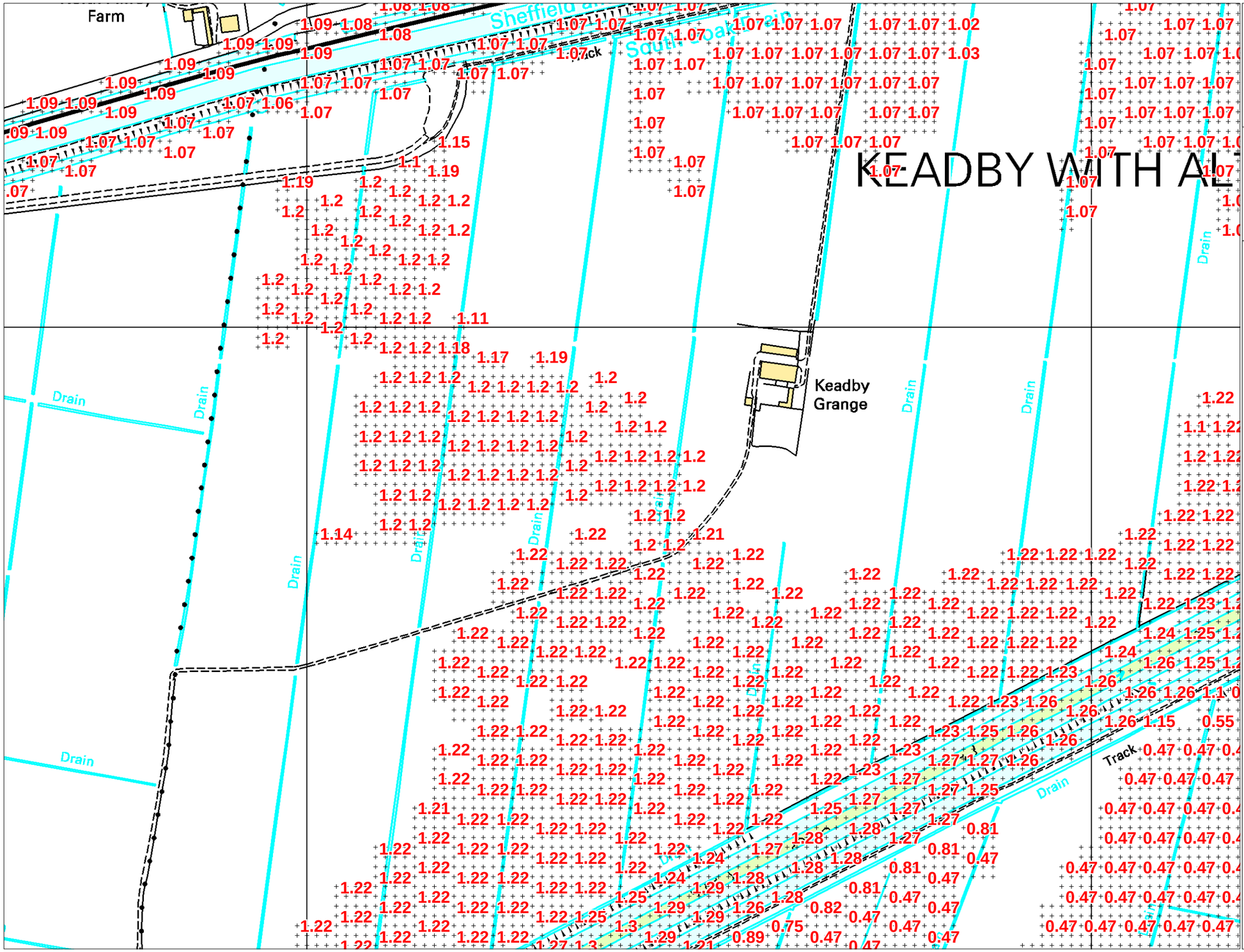

Environment Agency

Scale 1:5,000

N W E S

Legend

x.xx
1 in 100 year
Floodplain Level (mAOD)

Source:
Tidal Trent SFRM, Mott Macdonald, 2013
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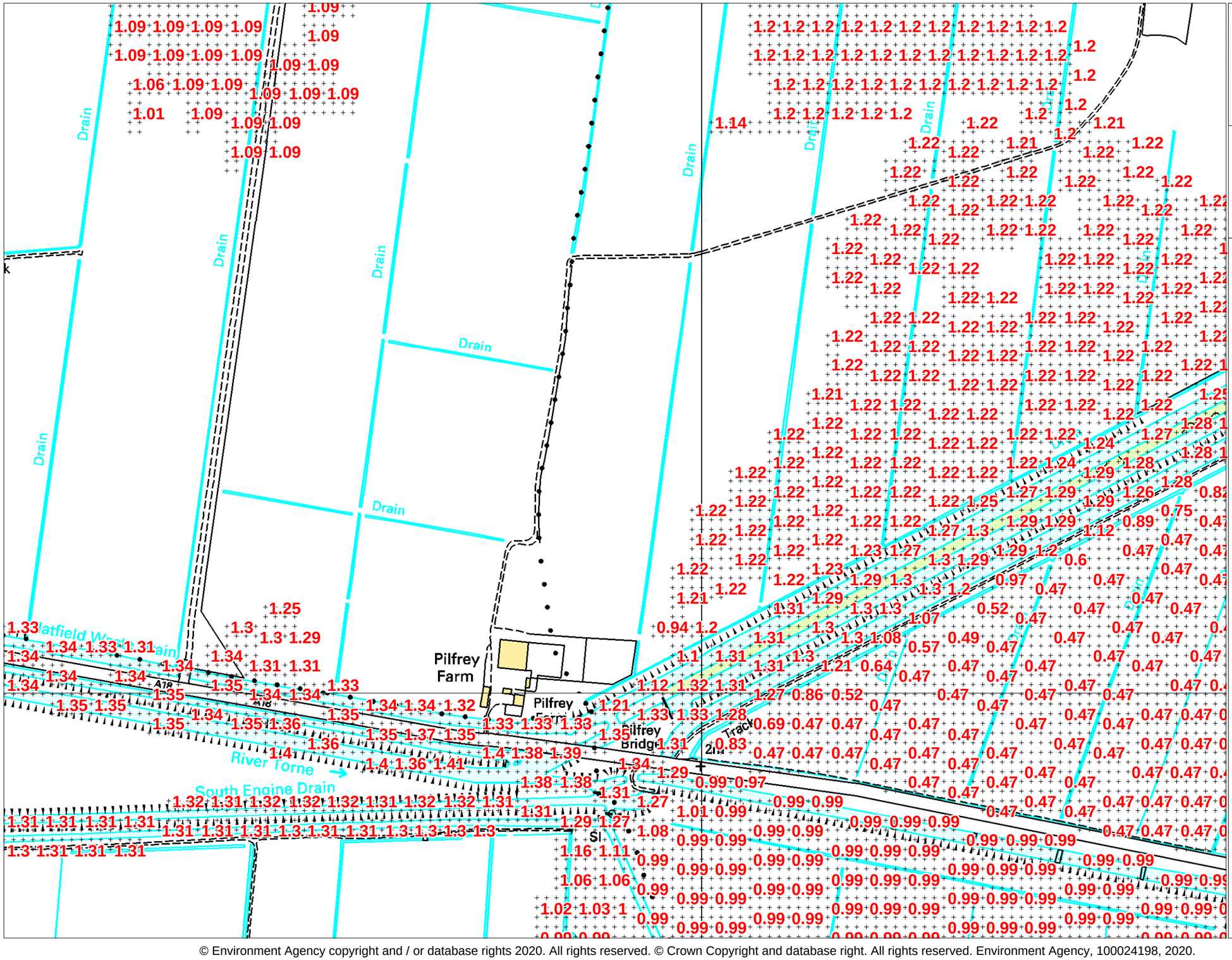

Environment Agency

Scale 1:5,000

N
W E
S

Legend

x.xx

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Floodplain Level (mAOD)

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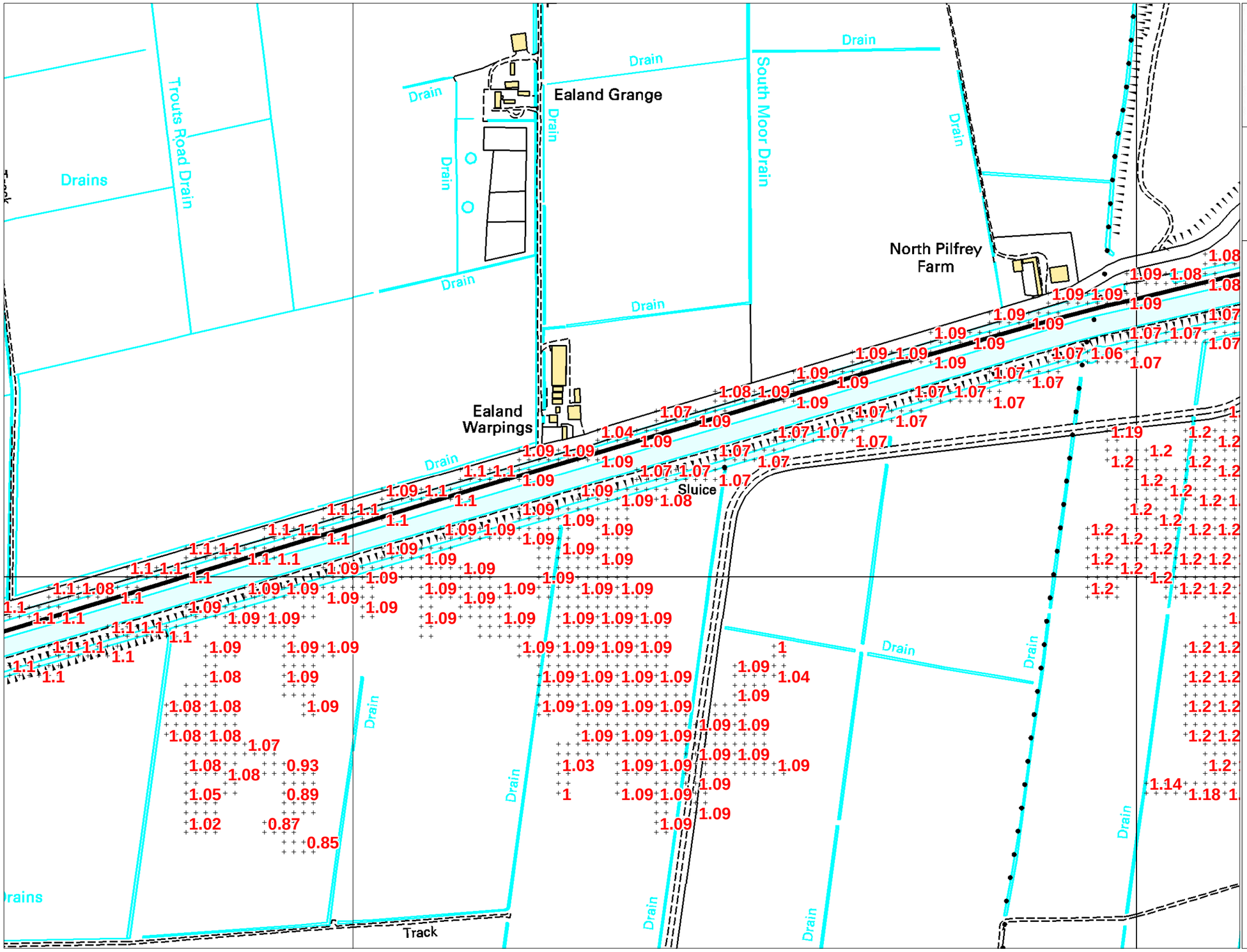

Environment Agency

Scale 1:5,000

N
W E
S

Legend

x.xx

1 in 100 year
Floodplain Level (mAOD)

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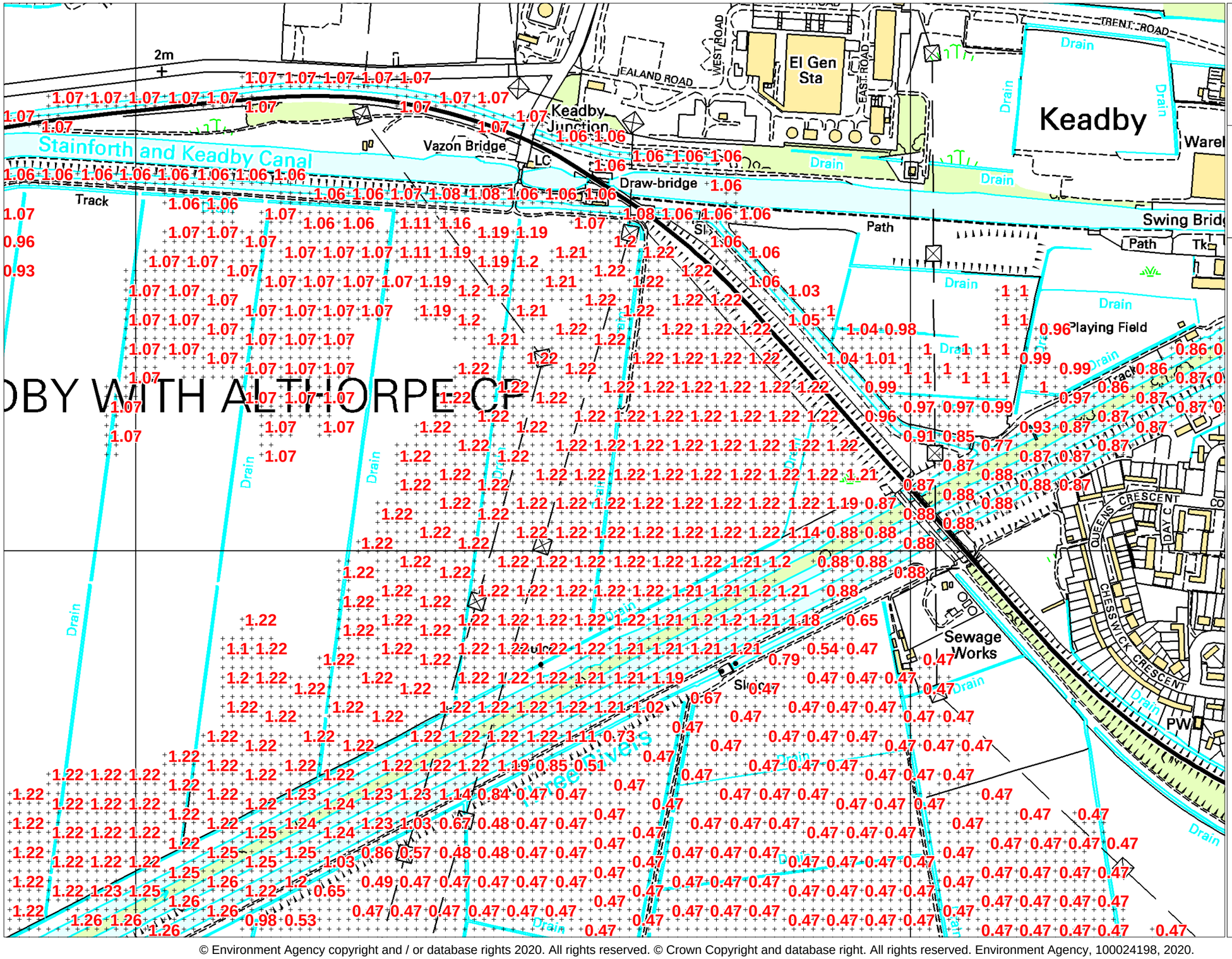

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N W E S

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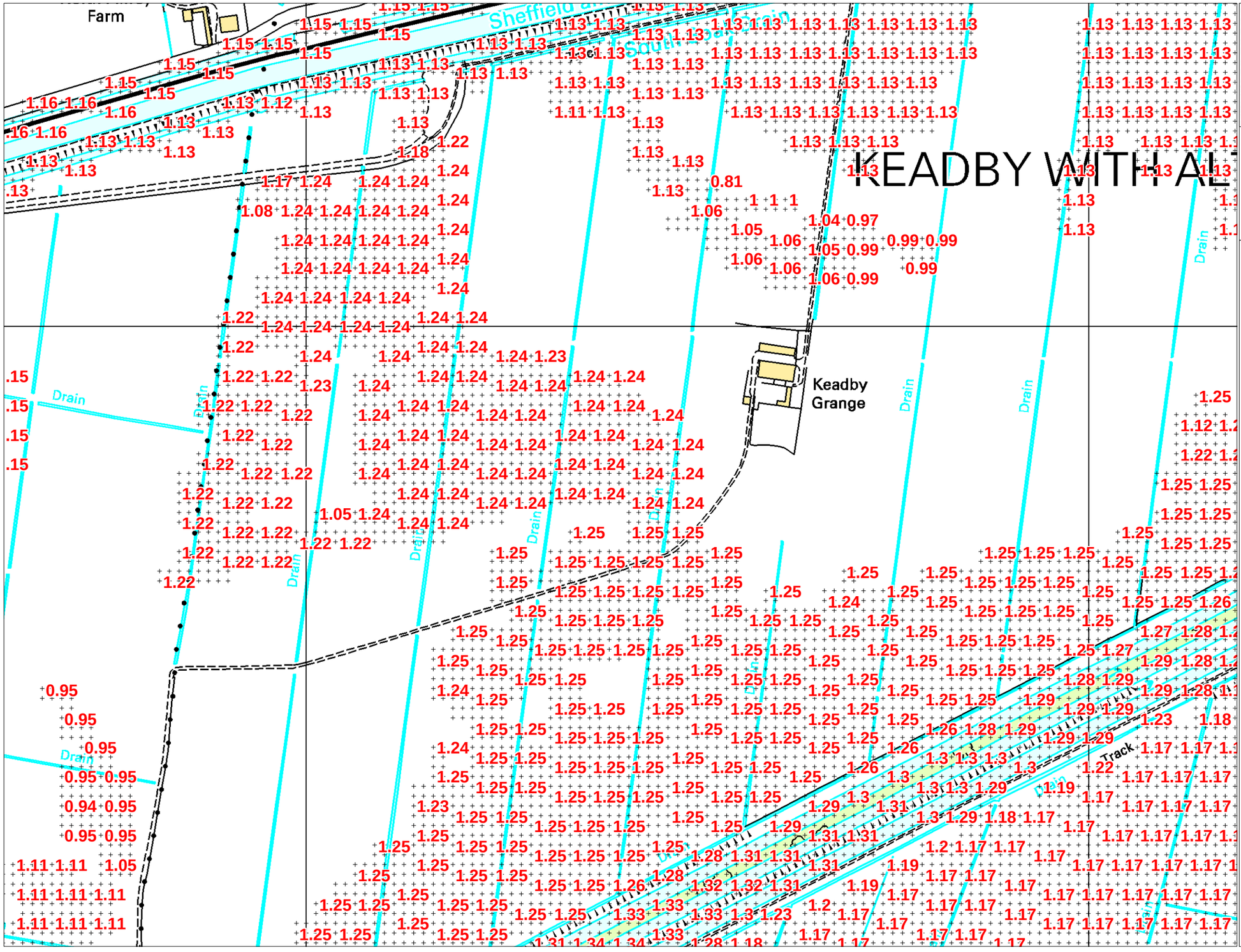

Environment Agency

Scale 1:5,000

N
W E
S

Legend

x.xx

1 in 100 year
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Floodplain Level (mAOD)

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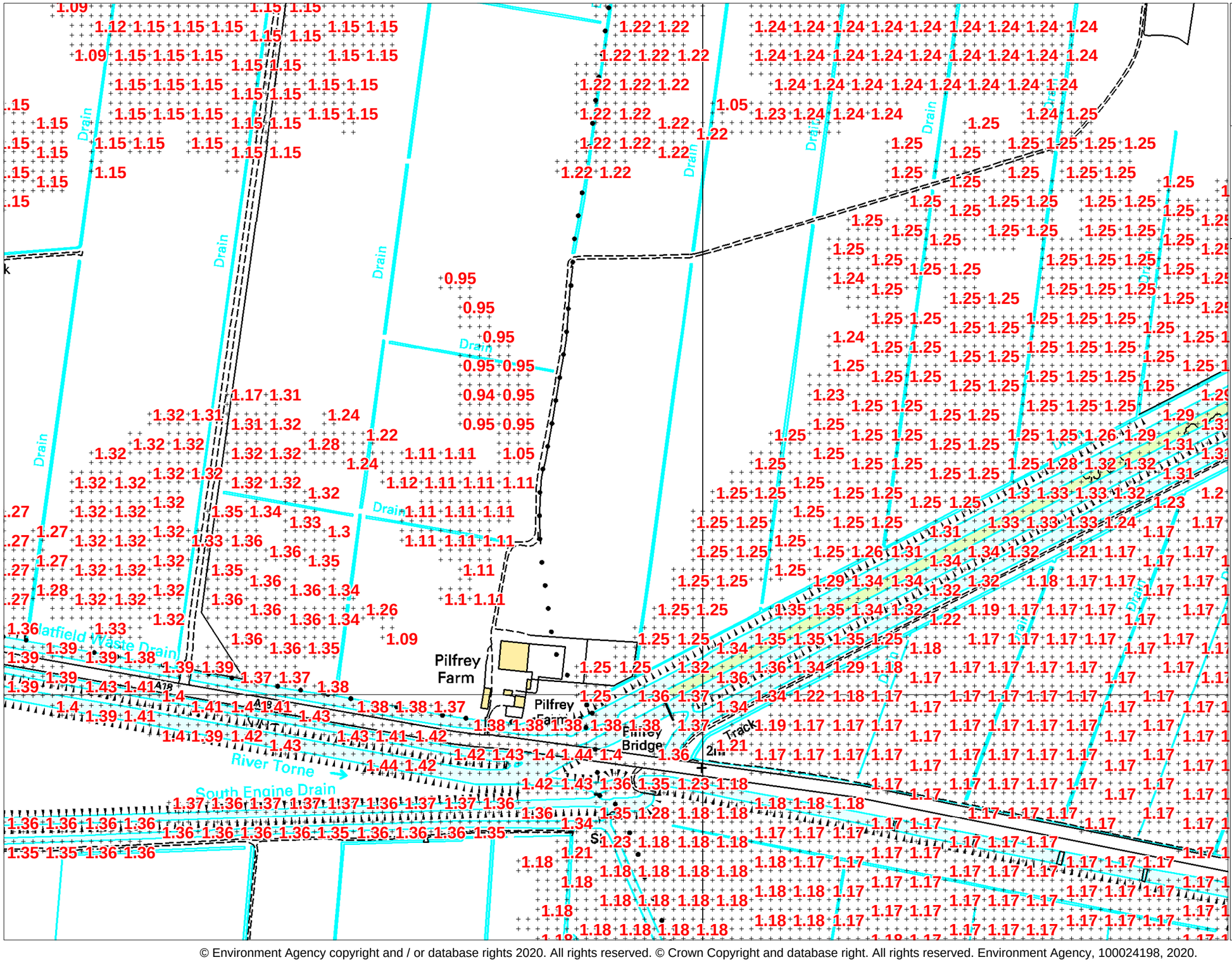

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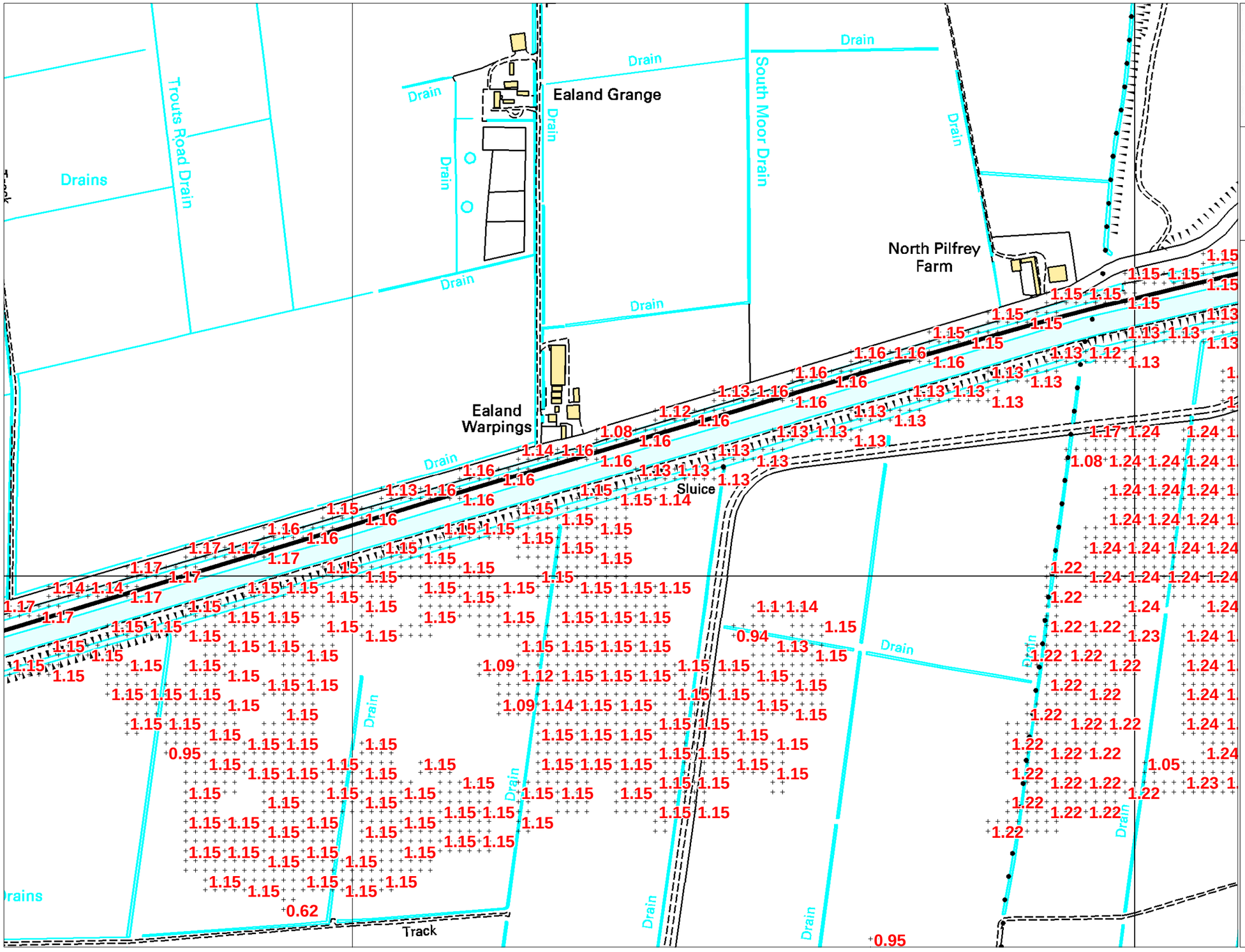

Scale 1:5,000

N
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Legend

x.xx

1 in 100 year
(including climate change forecast)
Floodplain Level (mAOD)

Source:
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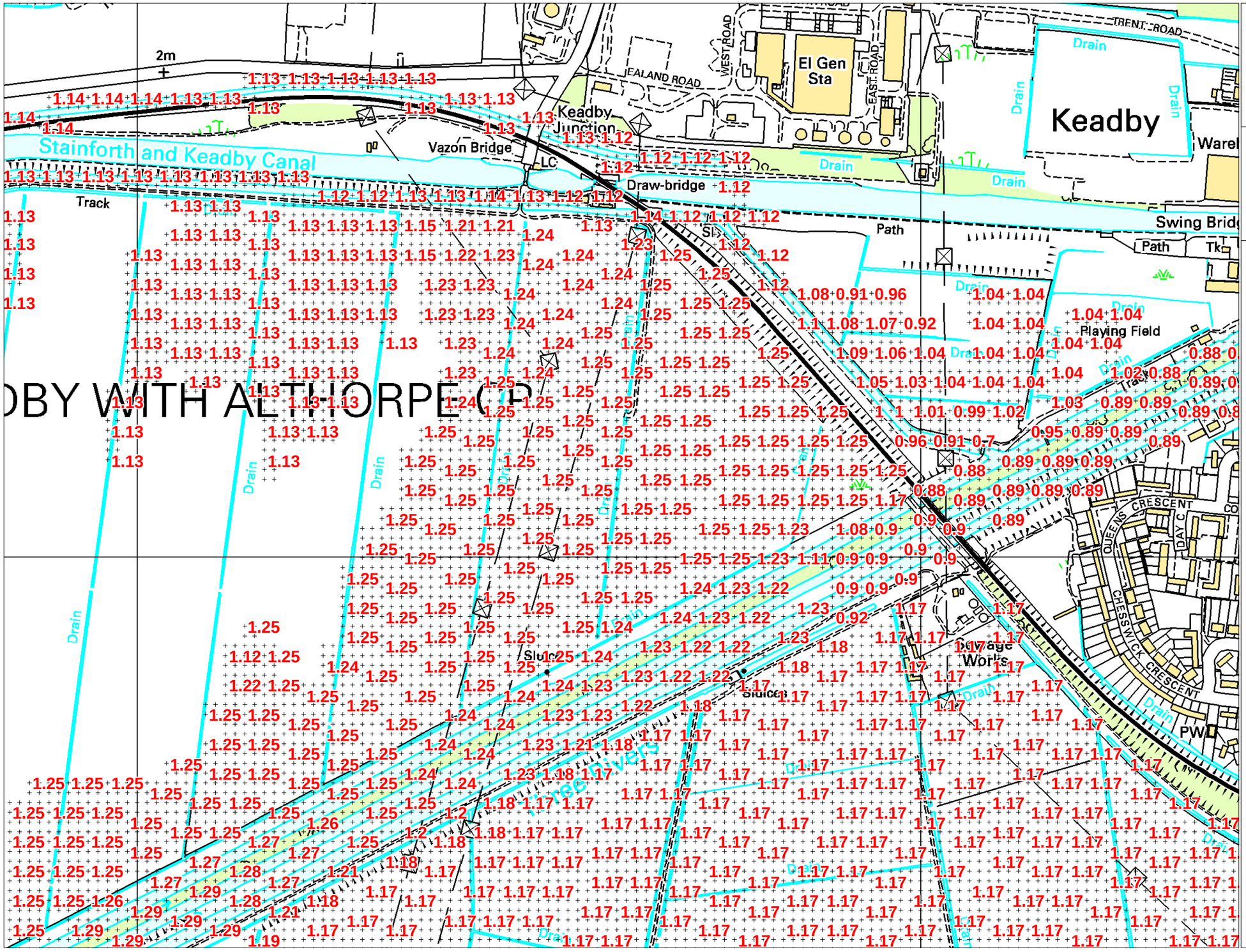

Environment Agency

Scale 1:5,000

N W E S

Legend

x.xx

1 in 100 year
(including climate change forecast)
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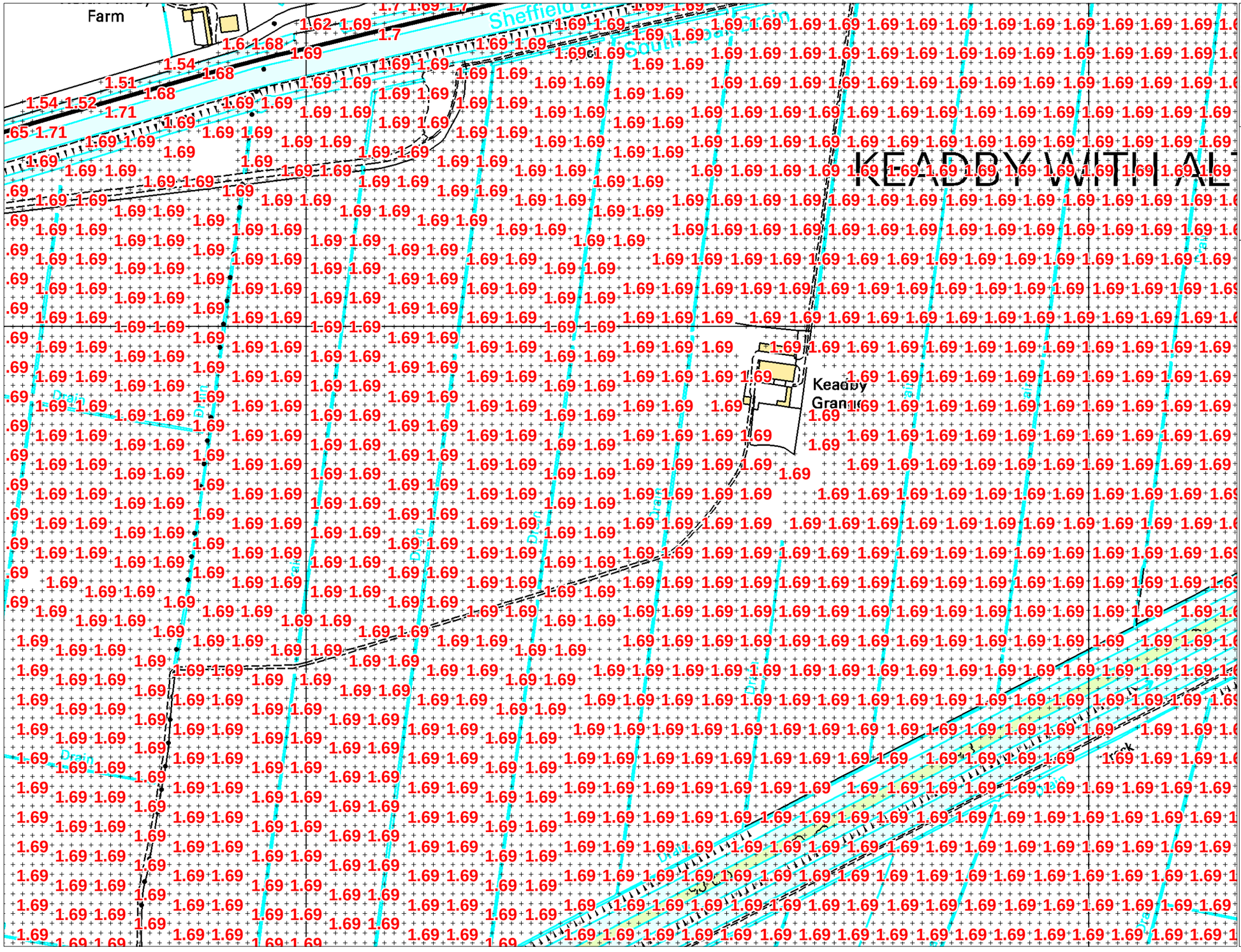

Environment Agency

Scale 1:5,000

N
W
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Legend

x.xx

1 in 1000 year
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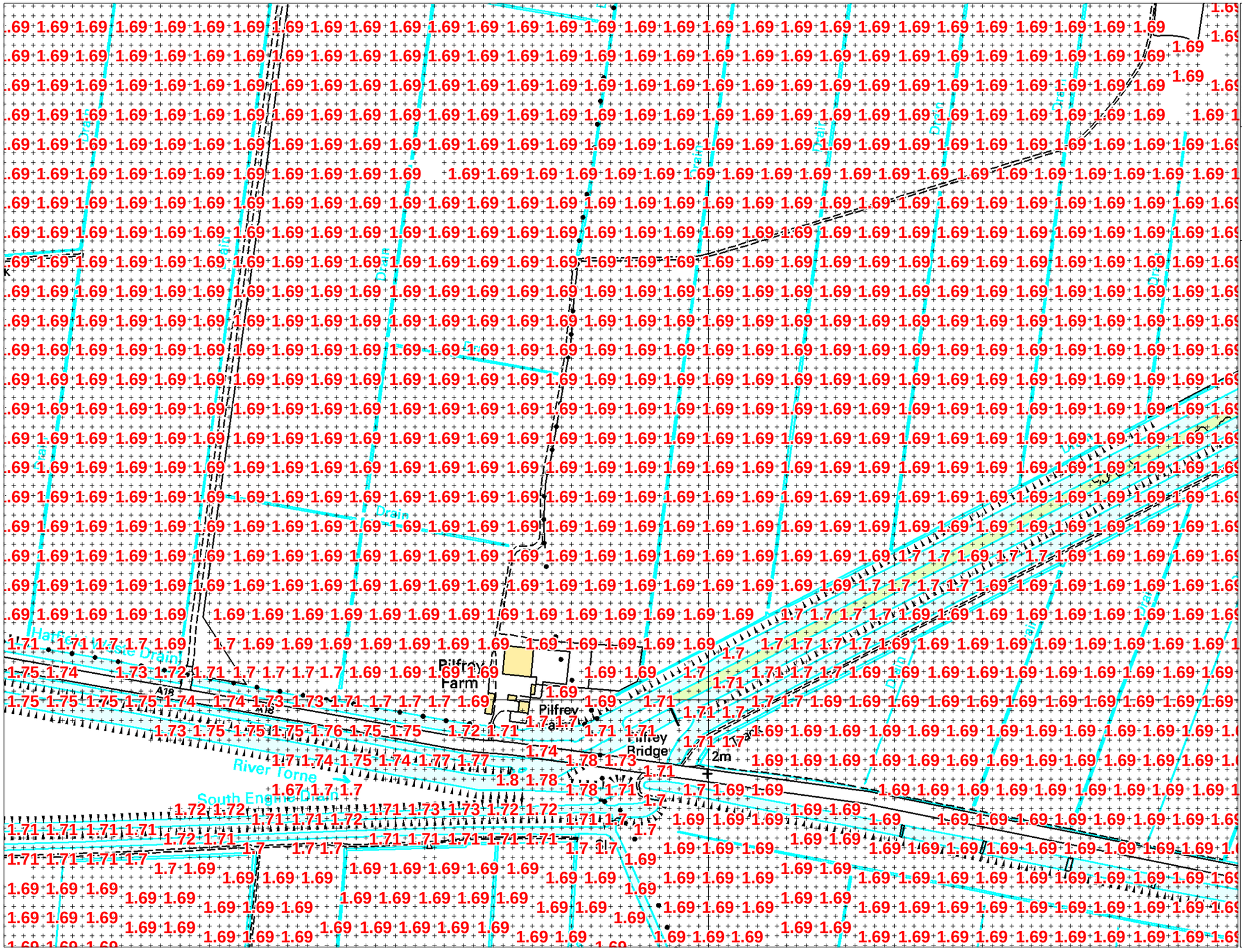
Floodplain Heights Map centred on Keadby Power Station - created 25 August 2020 Ref: [EMD178614]



Environment Agency

Scale 1:5,000

N
W E
S

Legend

x.xx

1 in 1000 year
Floodplain Level (mAOD)

Source:
Tidal Trent SFRM, Mott Macdonald, 2013
(includes updated 2014 interim water levels)

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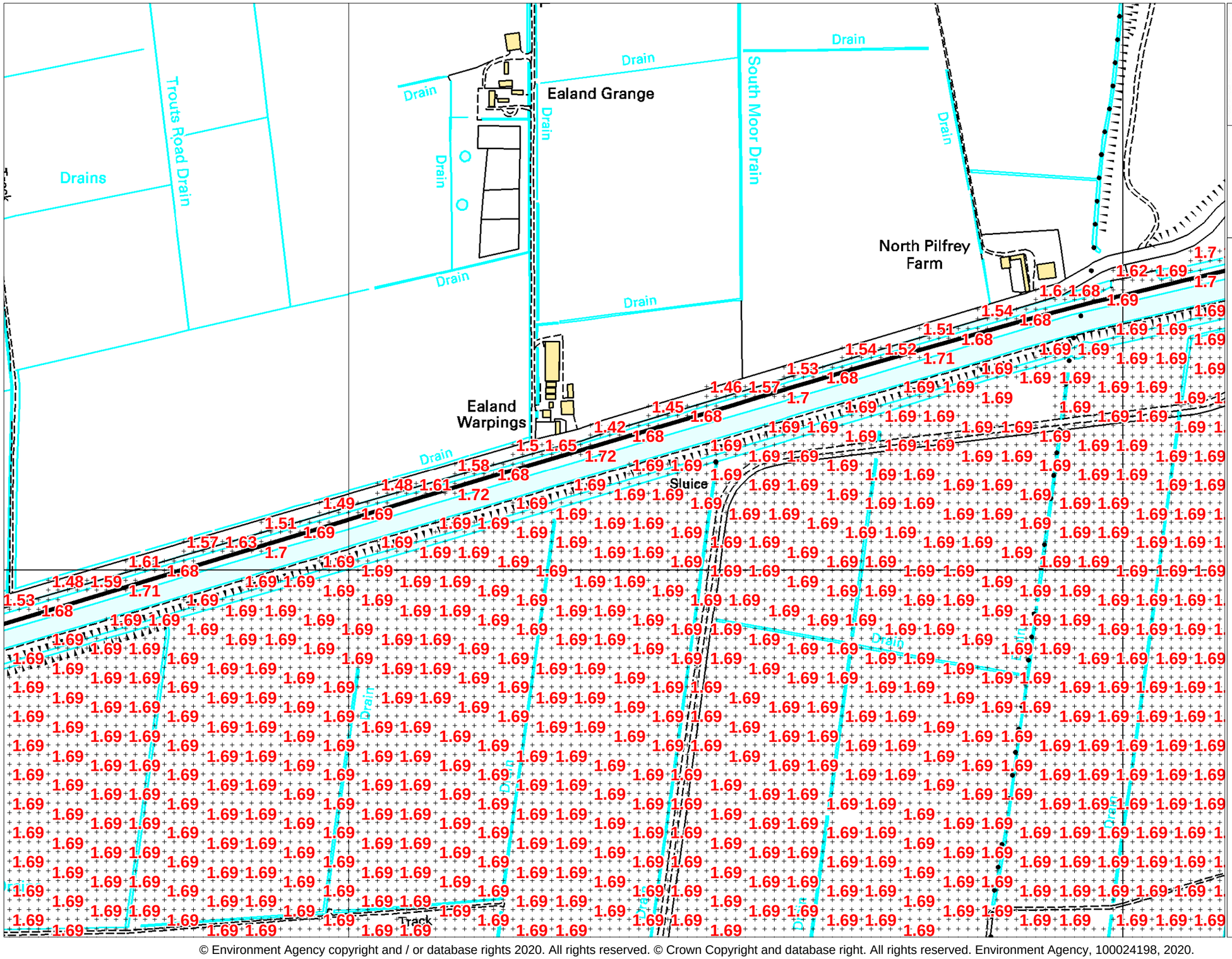

Environment Agency

Scale 1:5,000

N
W E
S

Legend

x.xx

1 in 1000 year
Floodplain Level (mAOD)

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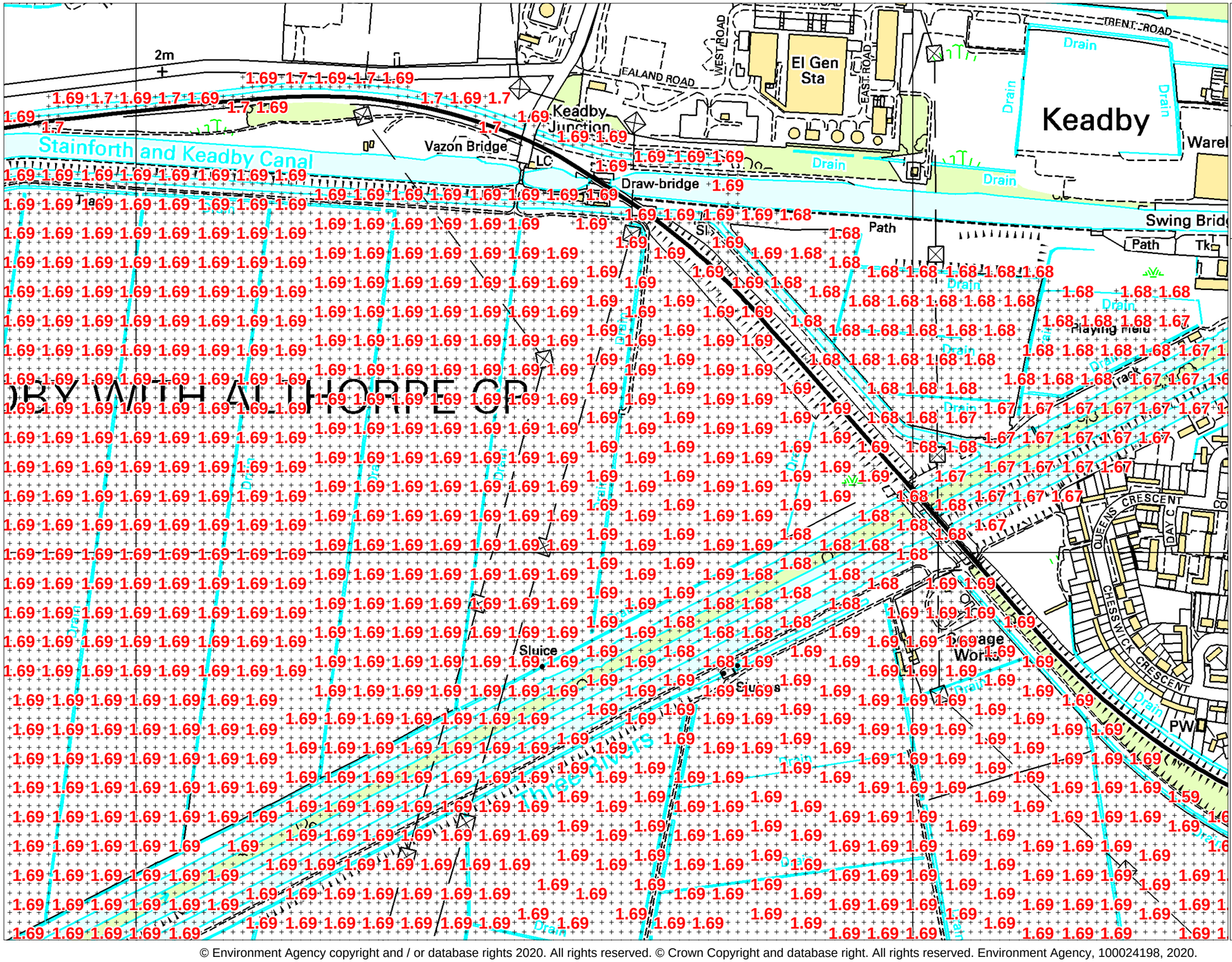

Scale 1:5,000

N W E S

Legend

x.xx

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Floodplain Level (mAOD)

Source:
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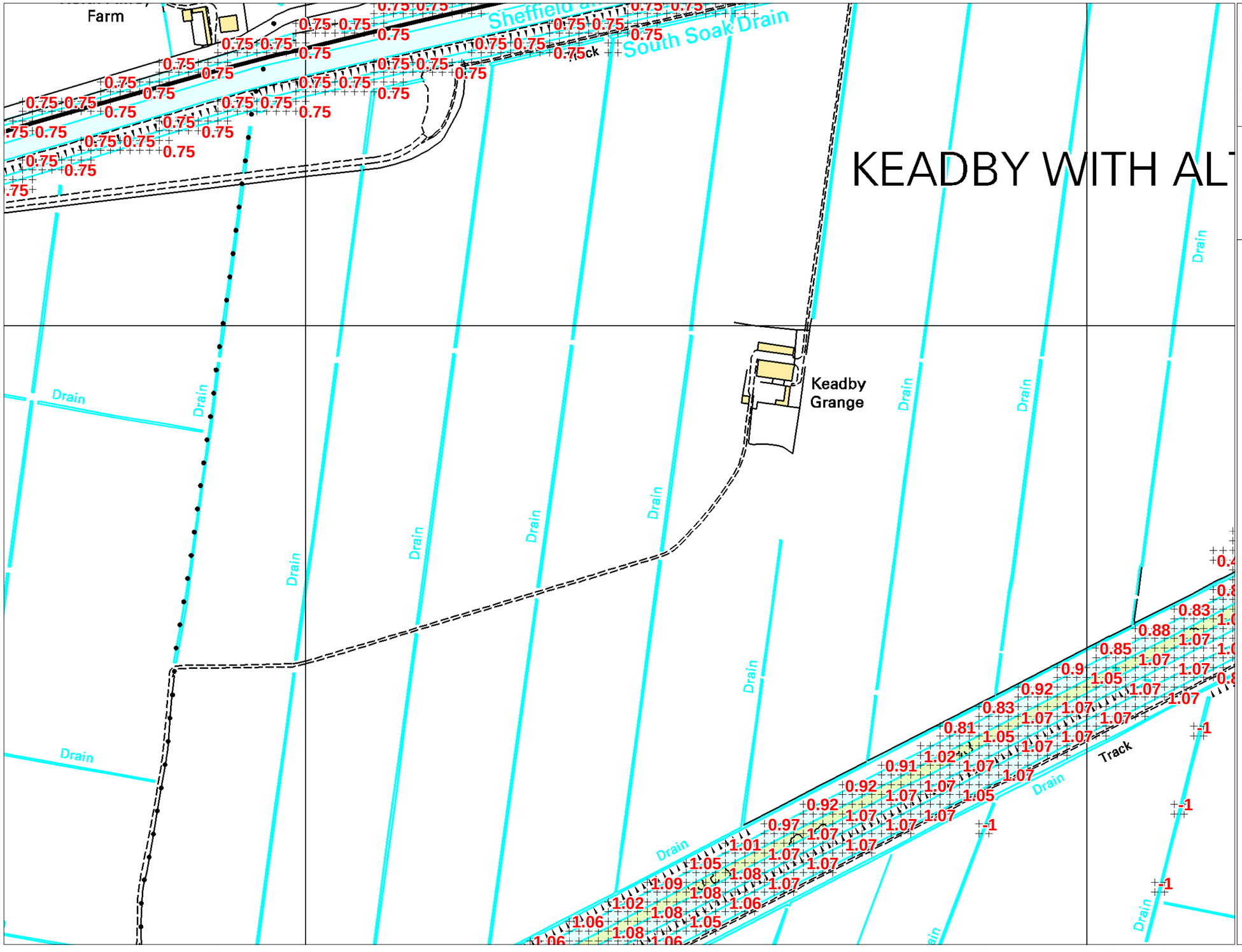

Environment Agency

Scale 1:5,000

N
W E
S

Legend

x.xx

1 in 100 year
Floodplain Level (mAOD)

Source:
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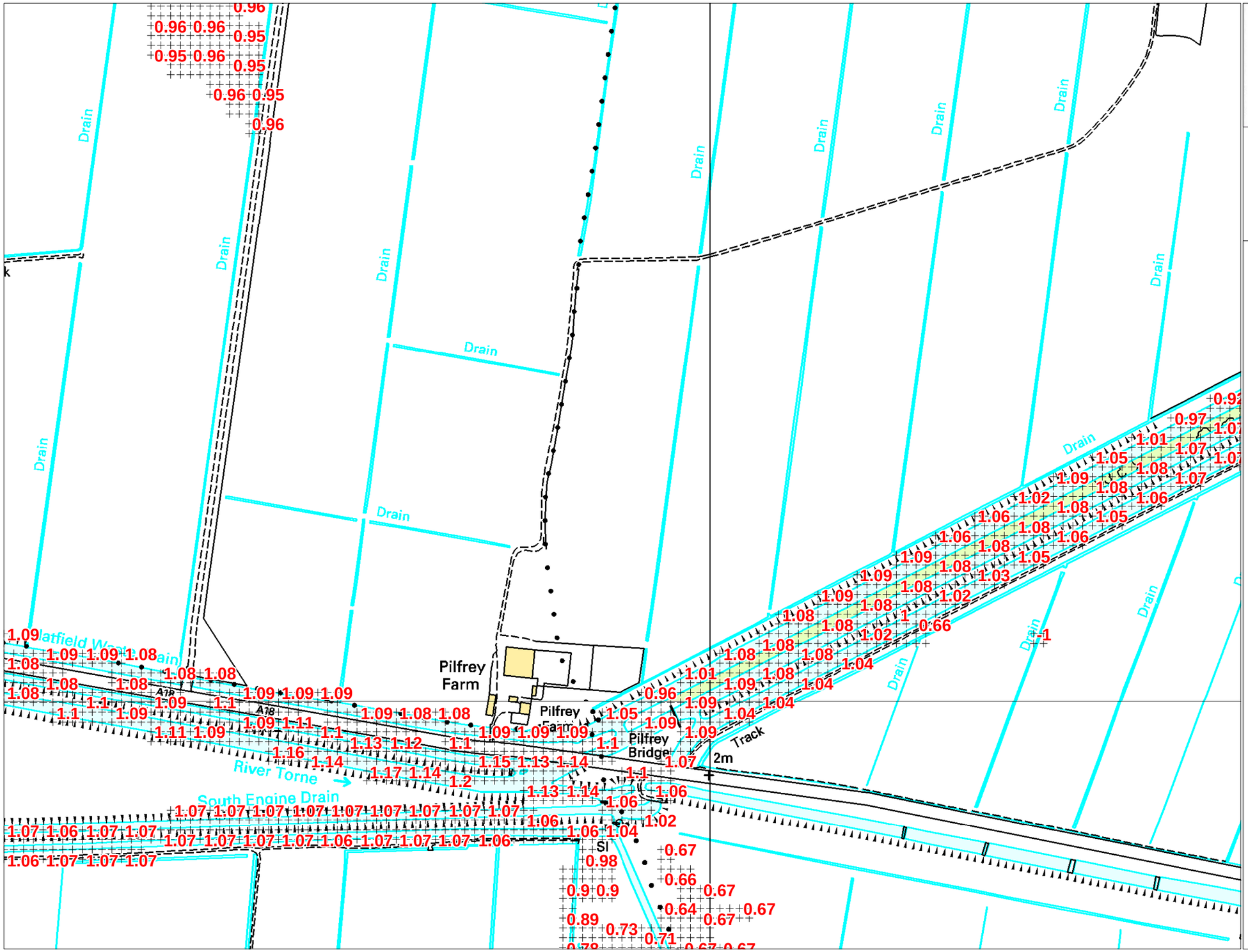

Environment Agency

Scale 1:5,000

N W E S

Legend

x.xx

1 in 100 year
Floodplain Level (mAOD)

Source:
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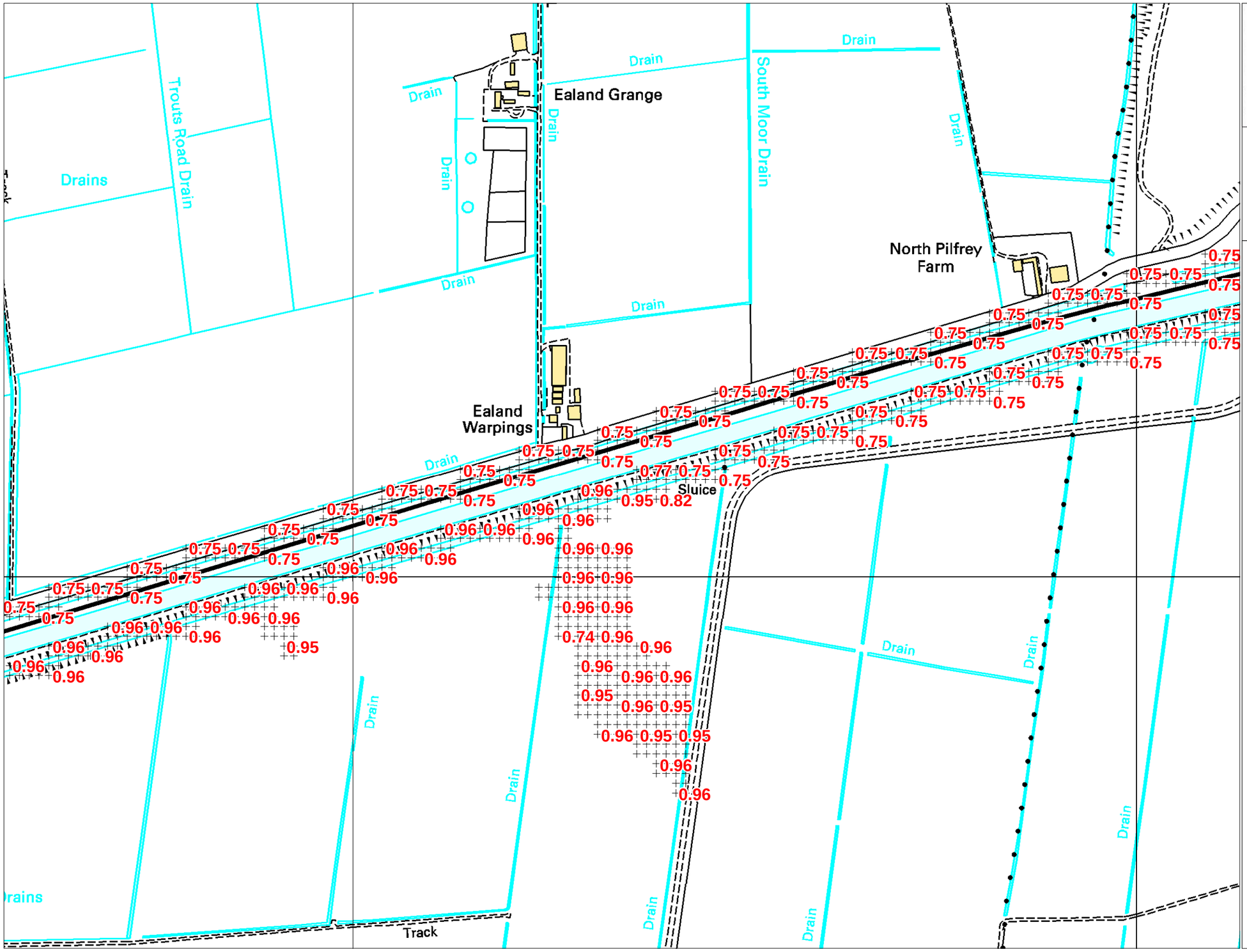

Environment Agency

Scale 1:5,000

N
W
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Legend

x.xx

1 in 100 year
Floodplain Level (mAOD)

Source:
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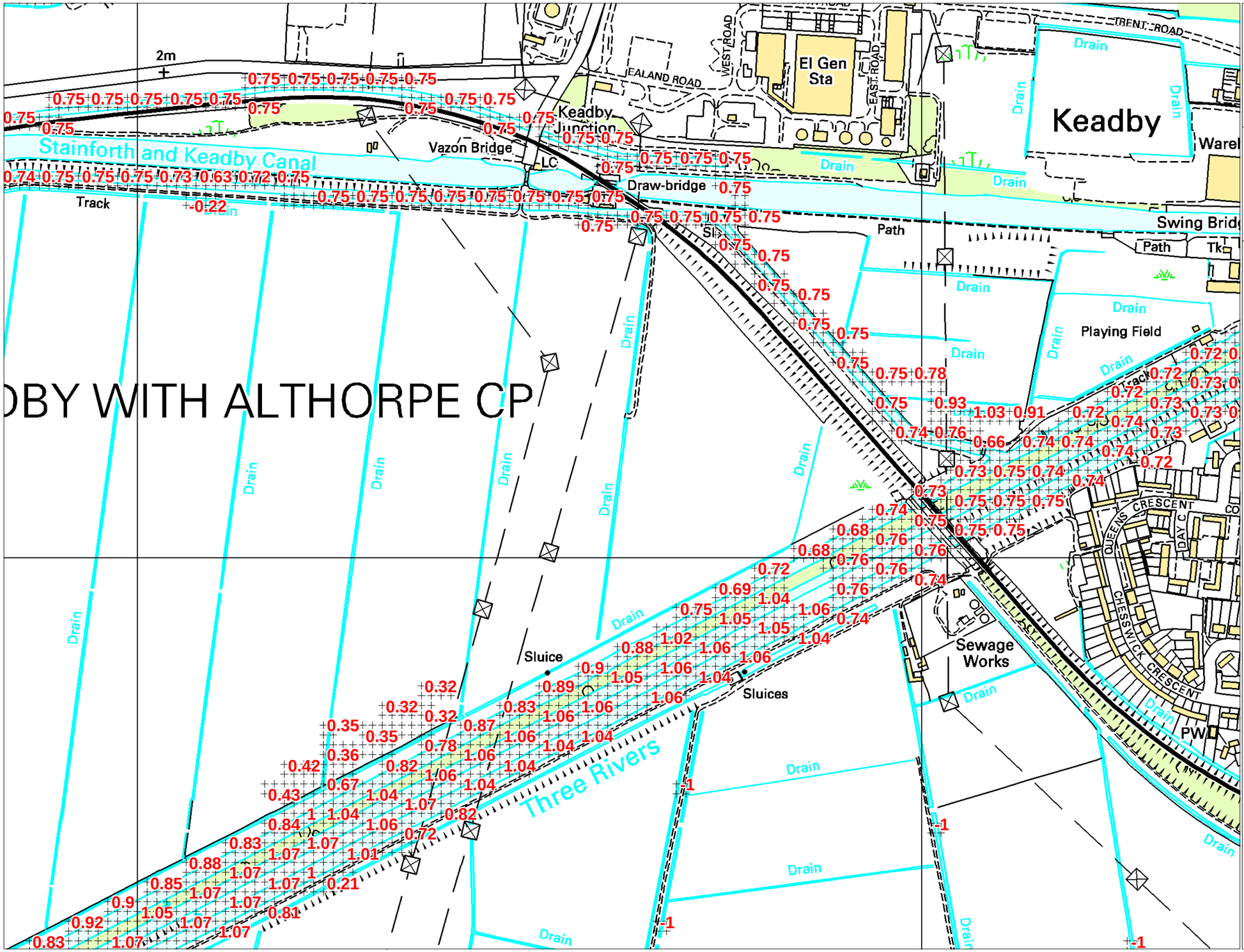

Environment Agency

Scale 1:5,000

N W E S

Legend

x.xx

1 in 100 year
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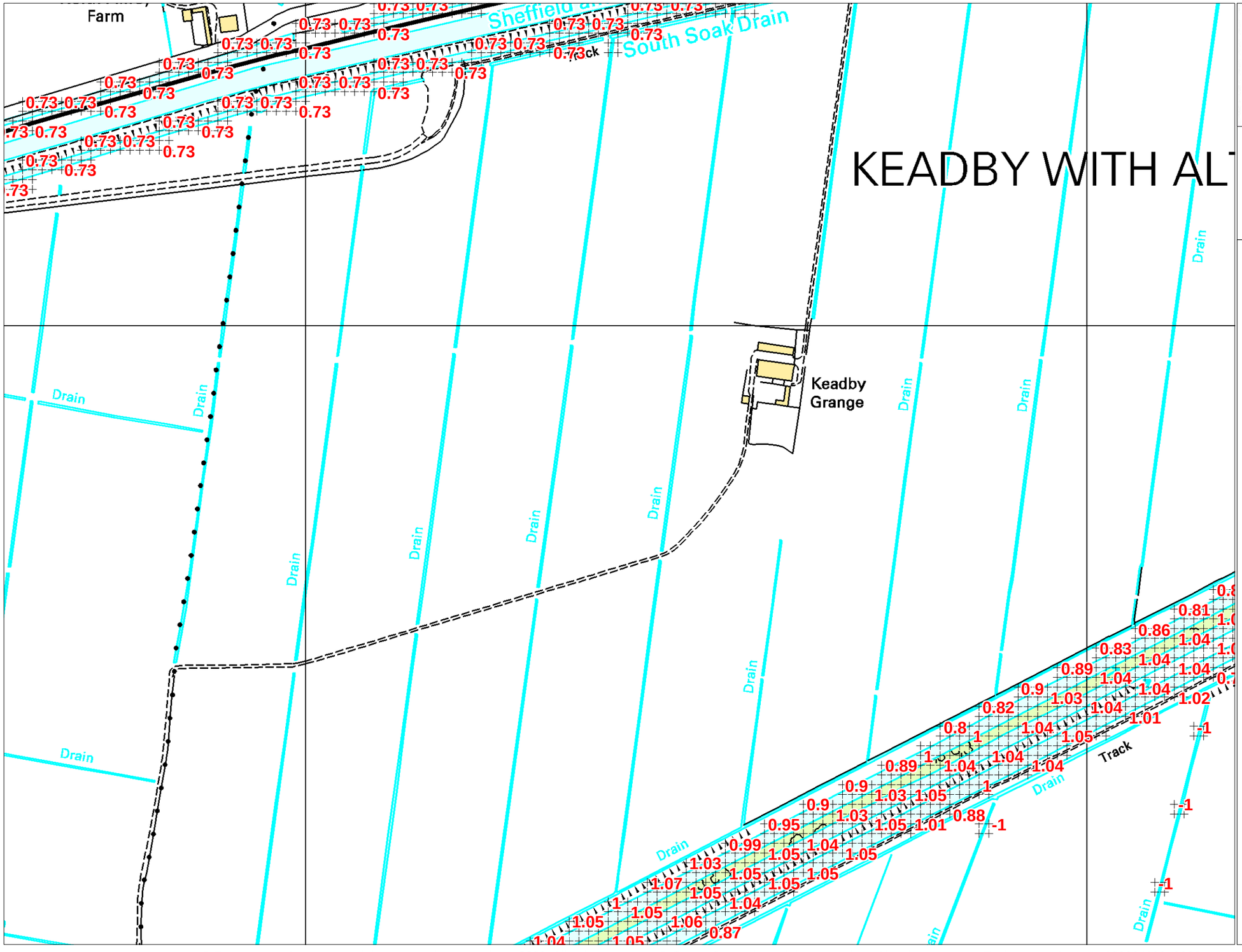

Environment Agency

Scale 1:5,000

N W E S

Legend

x.xx

1 in 200 year
Floodplain Level (mAOD)

Source:
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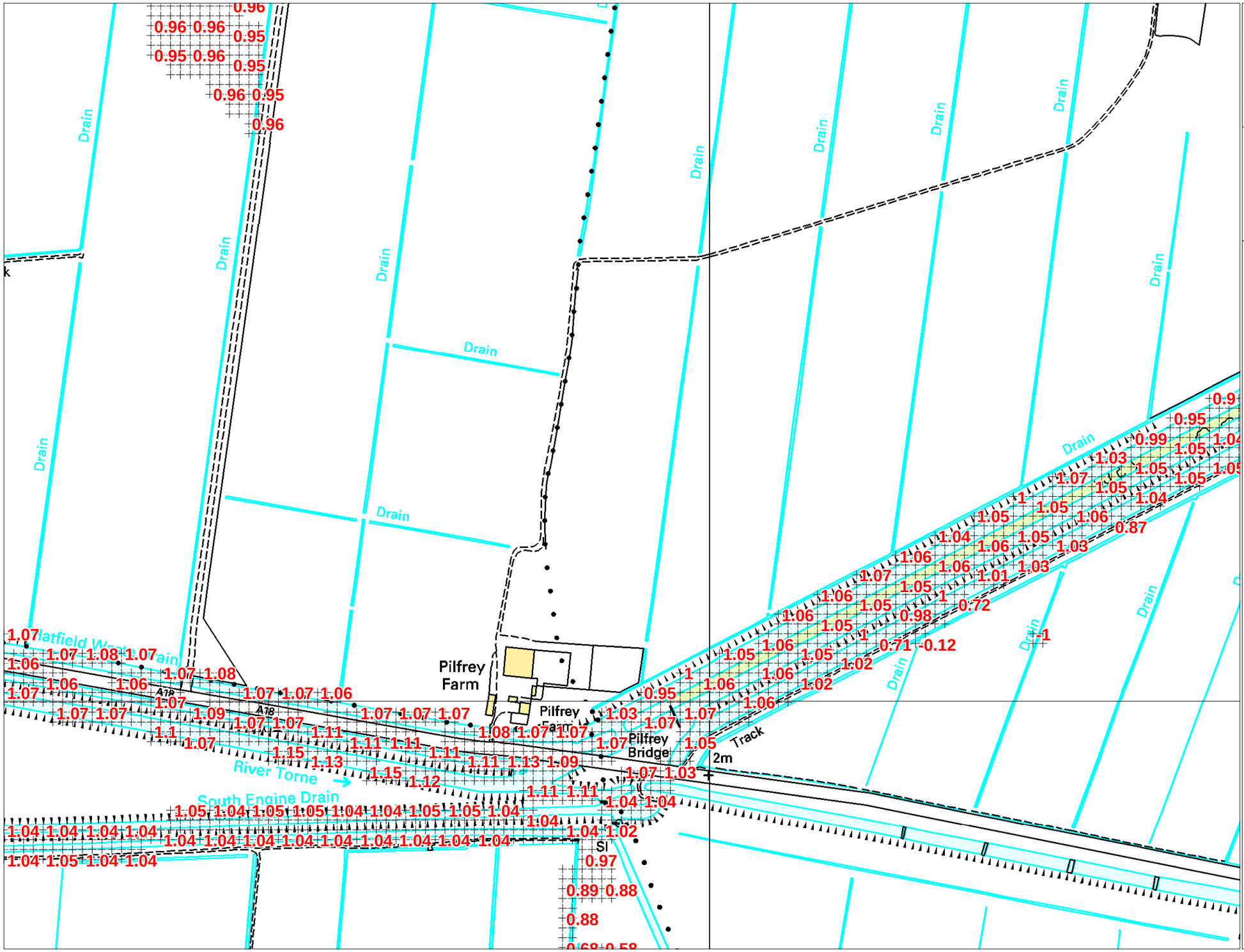

Environment Agency

Scale 1:5,000

N W E S

Legend

x.xx

1 in 200 year
Floodplain Level (mAOD)

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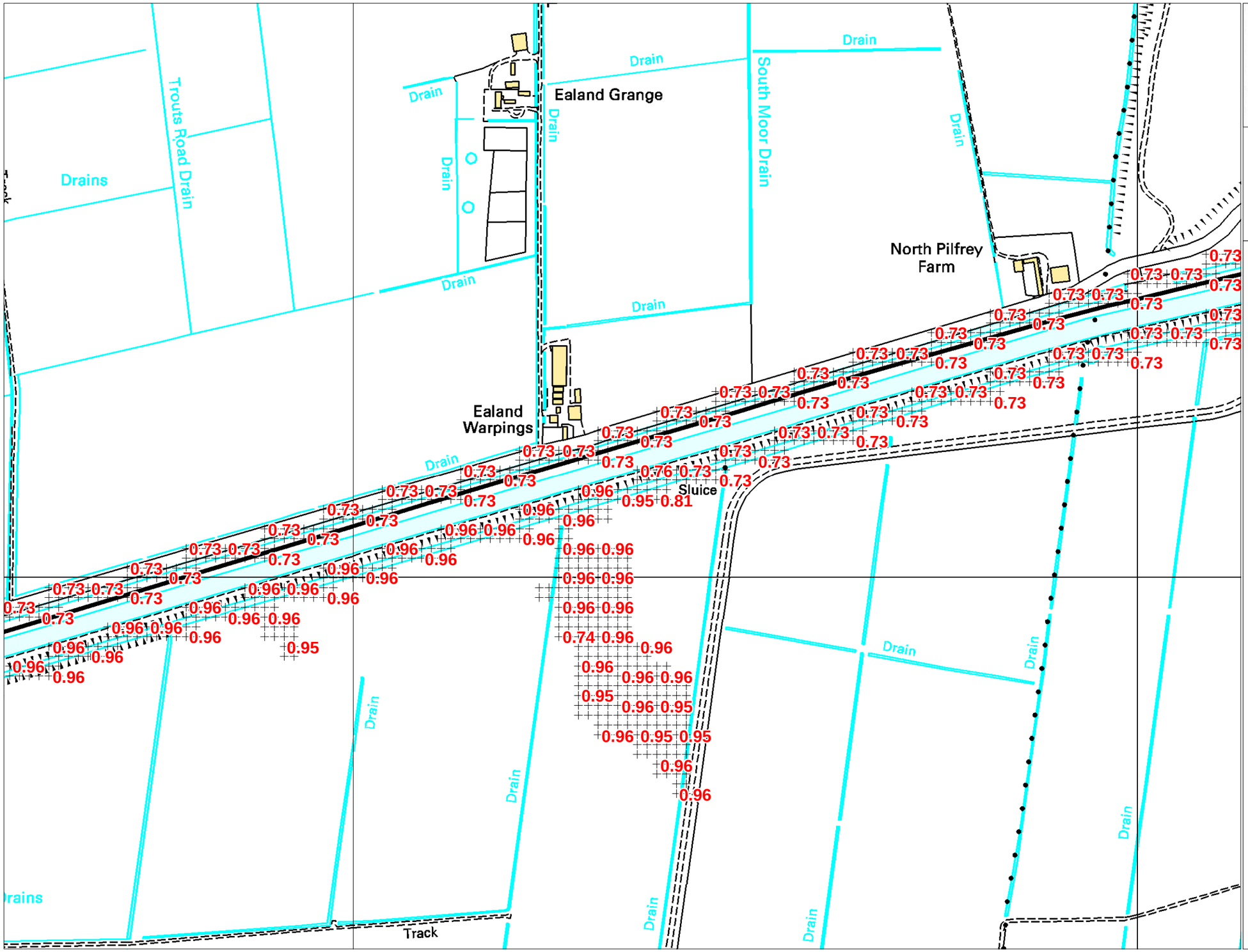

Environment Agency

Scale 1:5,000

N W E S

Legend

x.xx

1 in 200 year Floodplain Level (mAOD)

Source:
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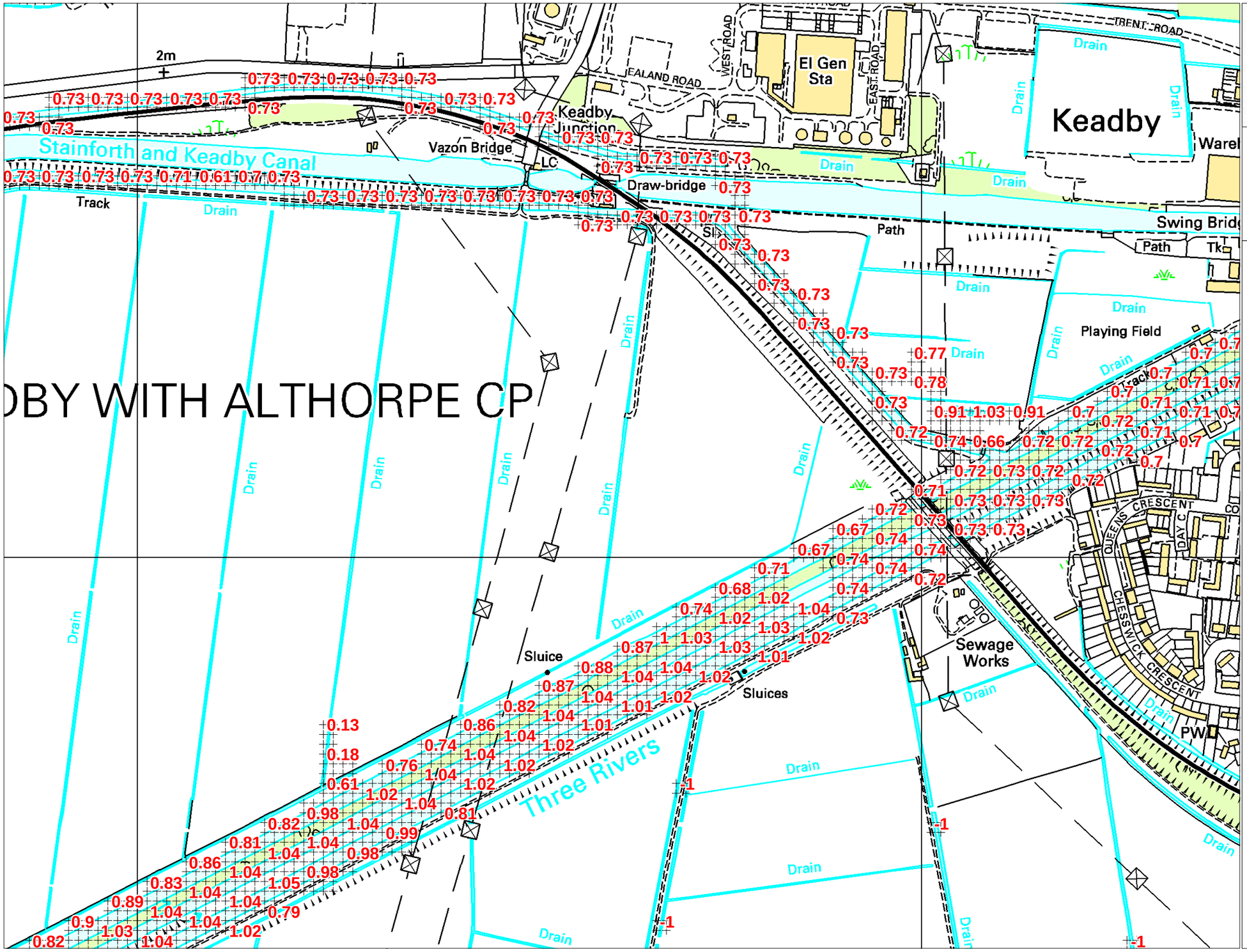

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Scale 1:5,000

N W E S

Legend

x.xx

1 in 200 year
Floodplain Level (mAOD)

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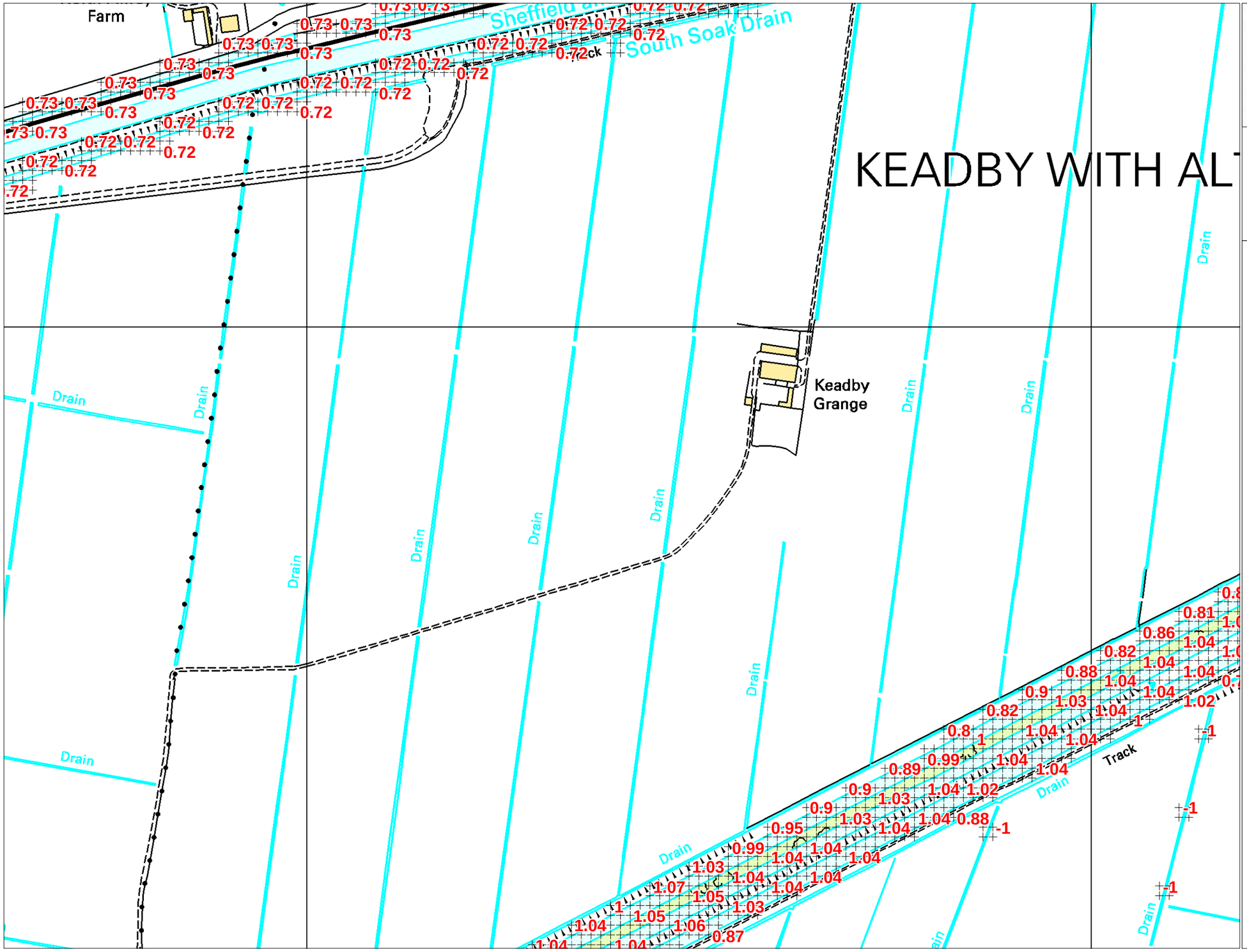

Environment Agency

Scale 1:5,000

N
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Legend

x.xx

1 in 200 year
(including climate change forecast)
Floodplain Level (mAOD)

Source:
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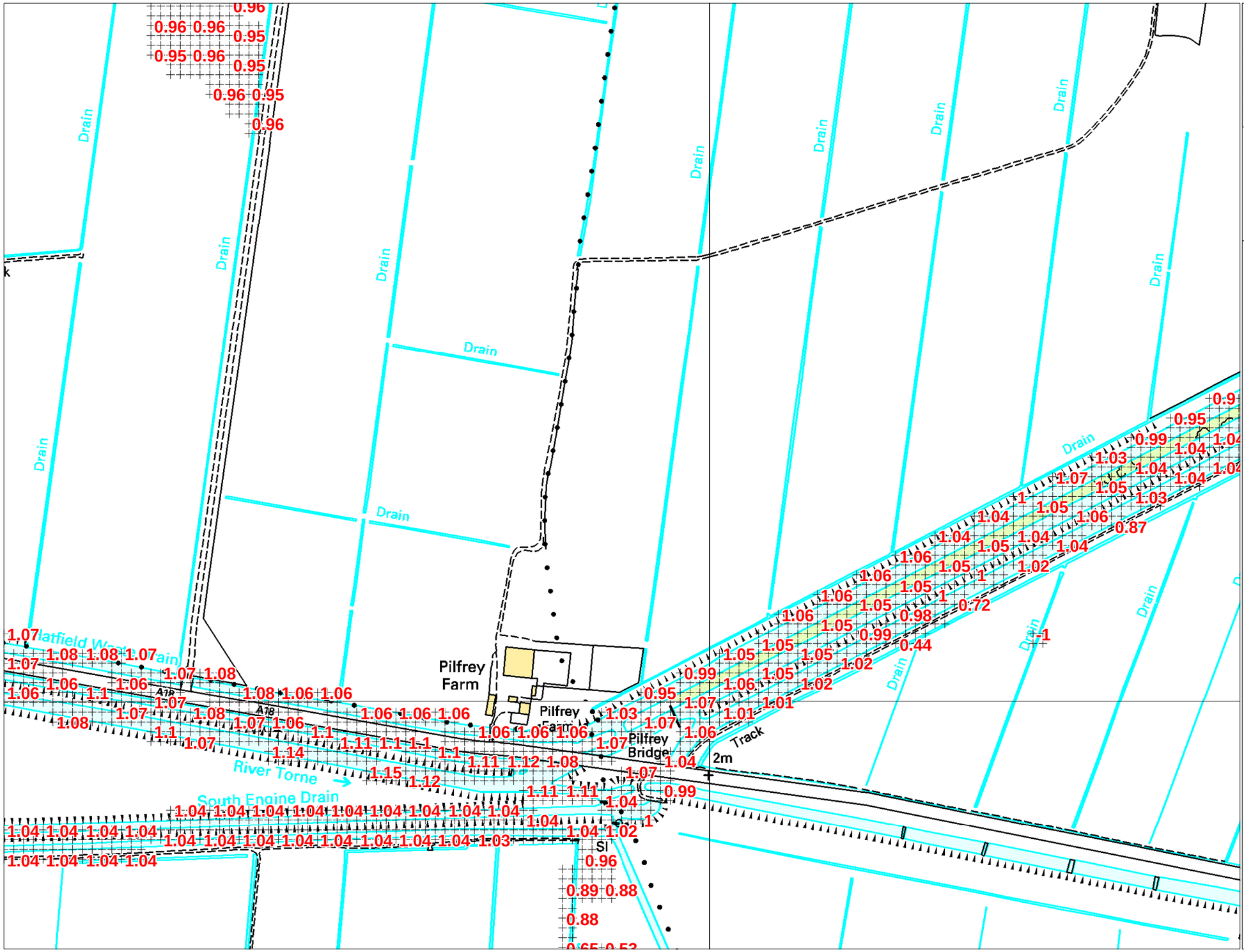

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Scale 1:5,000

N W E S

Legend

x.xx

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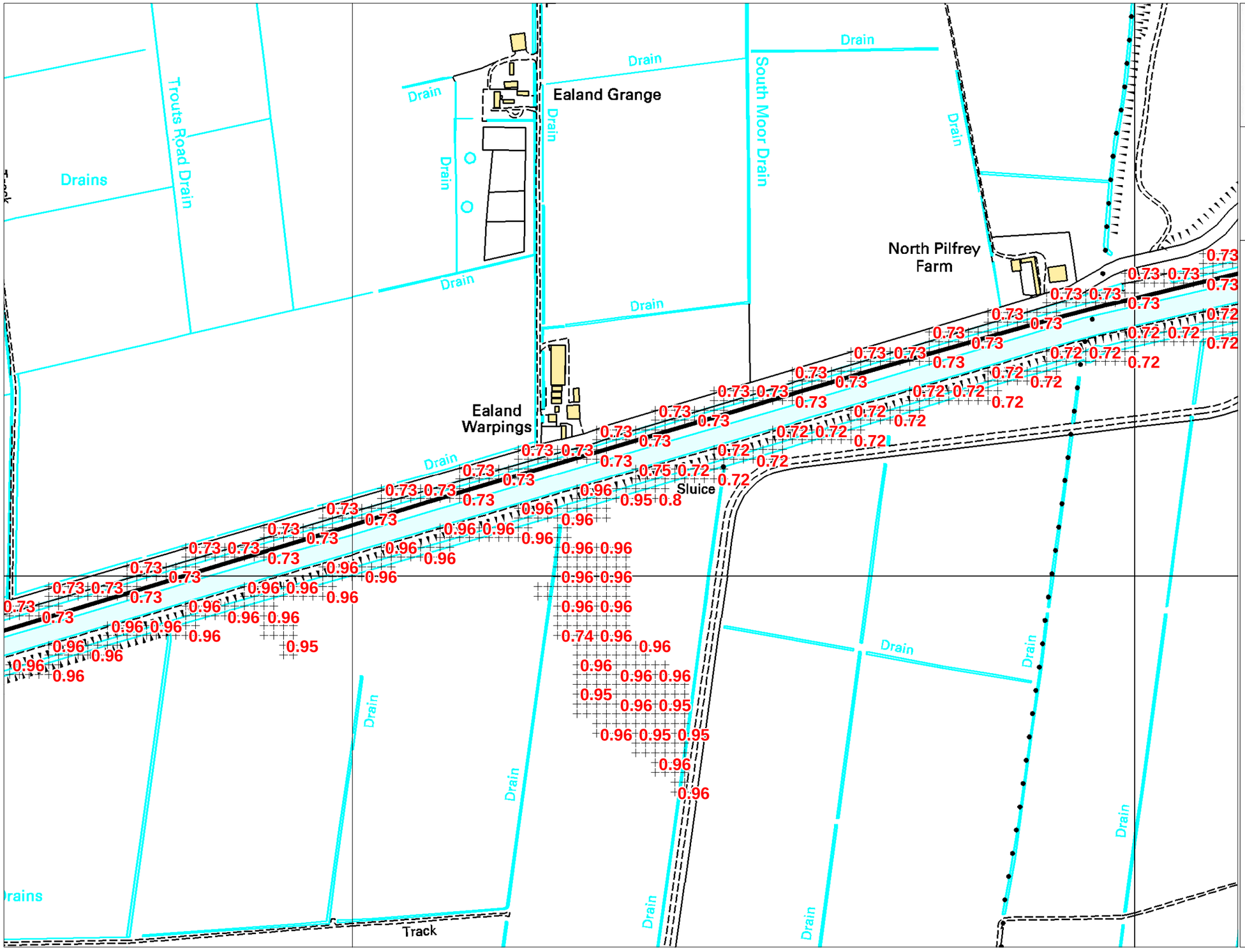

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Scale 1:5,000

N
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Legend

x.xx

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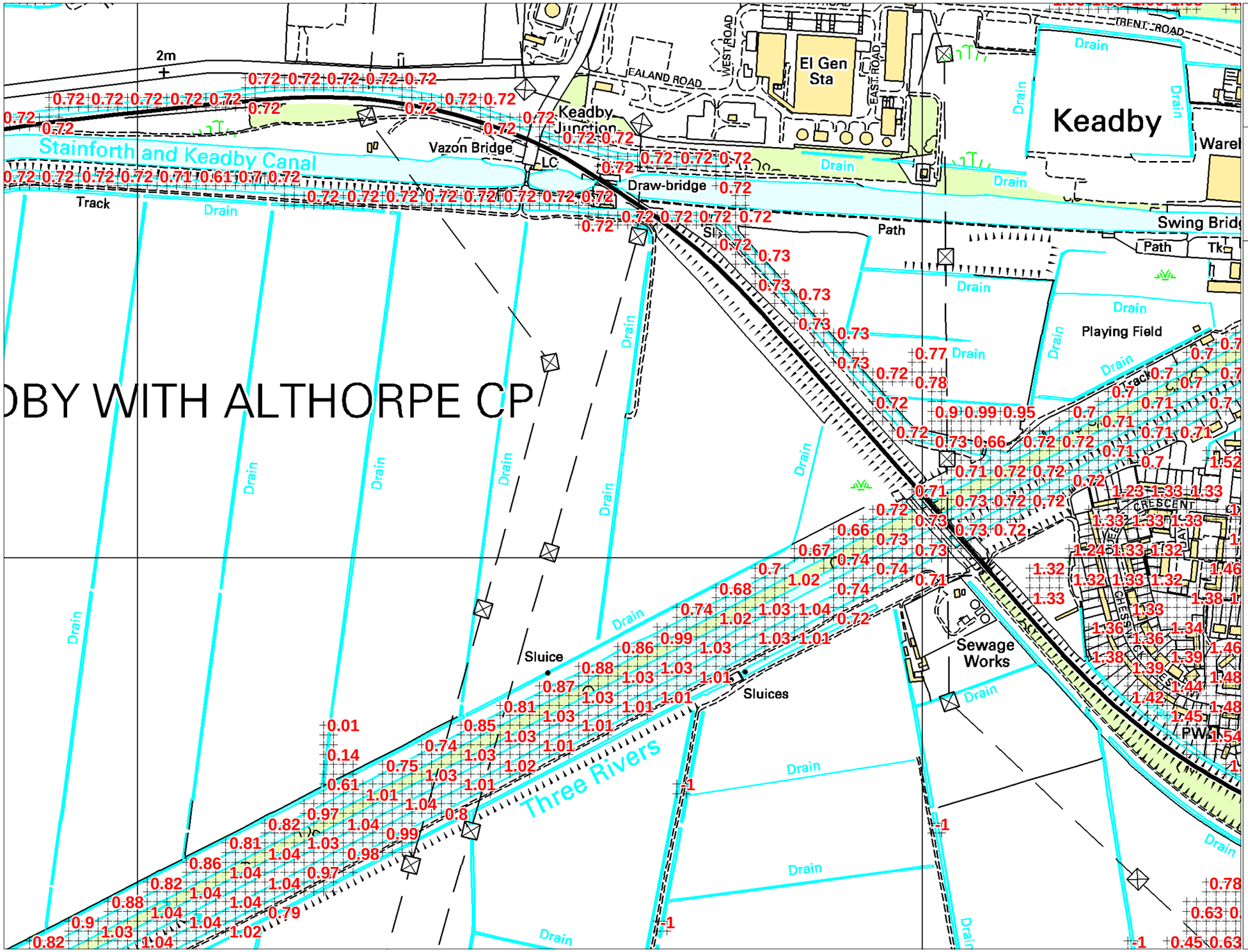

Environment Agency

Scale 1:5,000

N W E S

Legend

x.xx

1 in 200 year
(including climate change forecast)
Floodplain Level (mAOD)

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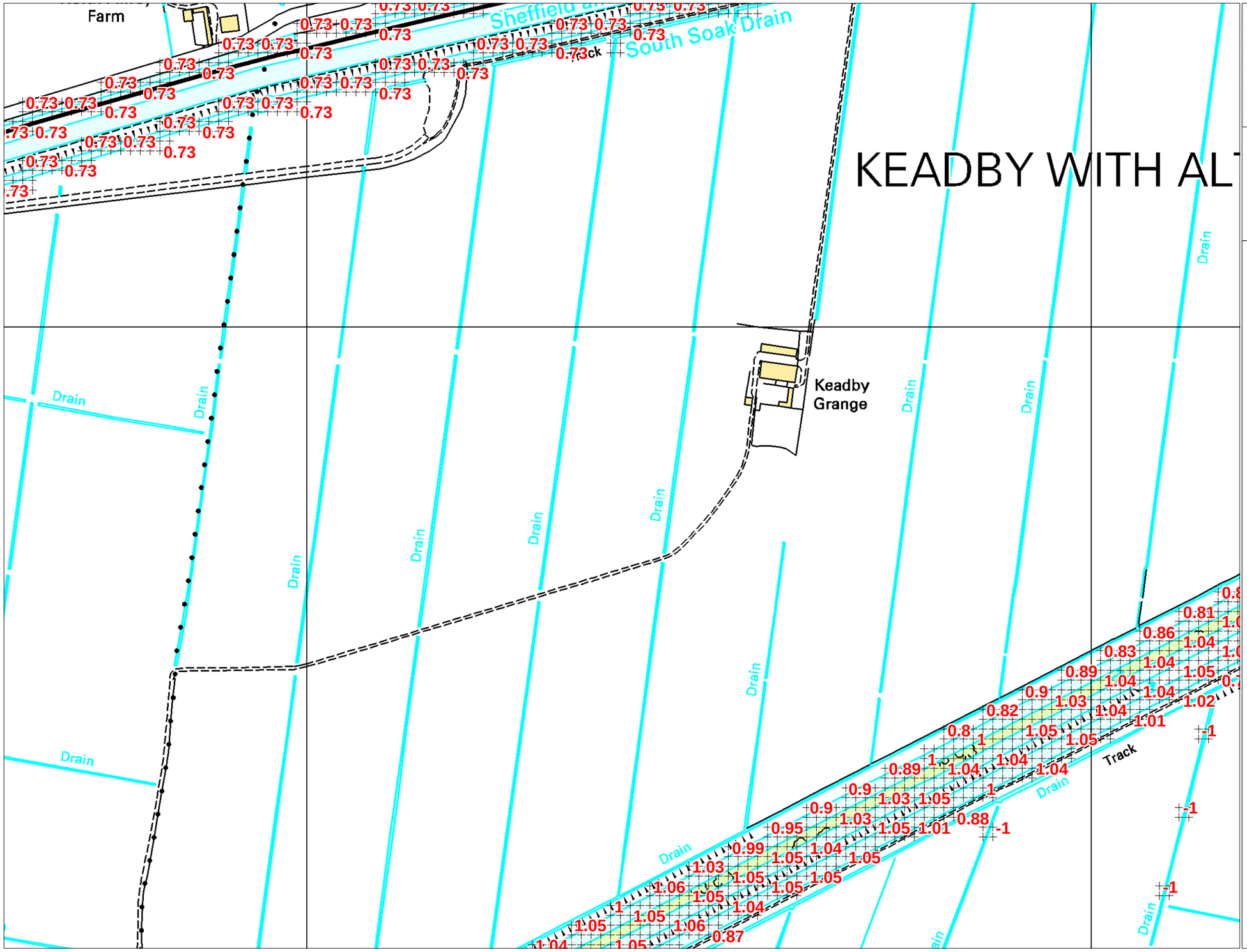

Environment Agency

Scale 1:5,000

N
W
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S

Legend

x.xx

1 in 1000 year
Floodplain Level (mAOD)

Source:
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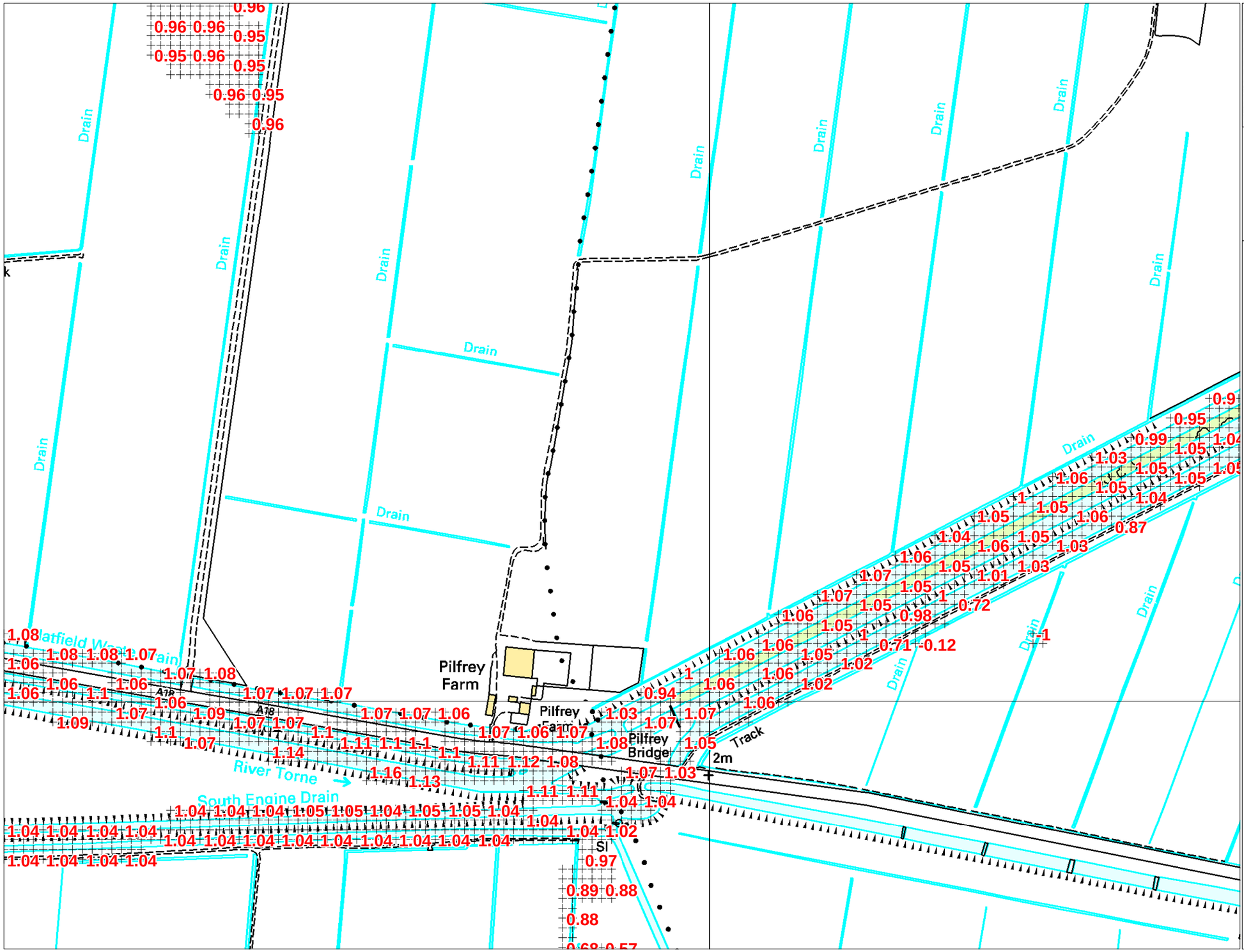

Environment Agency

Scale 1:5,000

N W E S

Legend

x.xx

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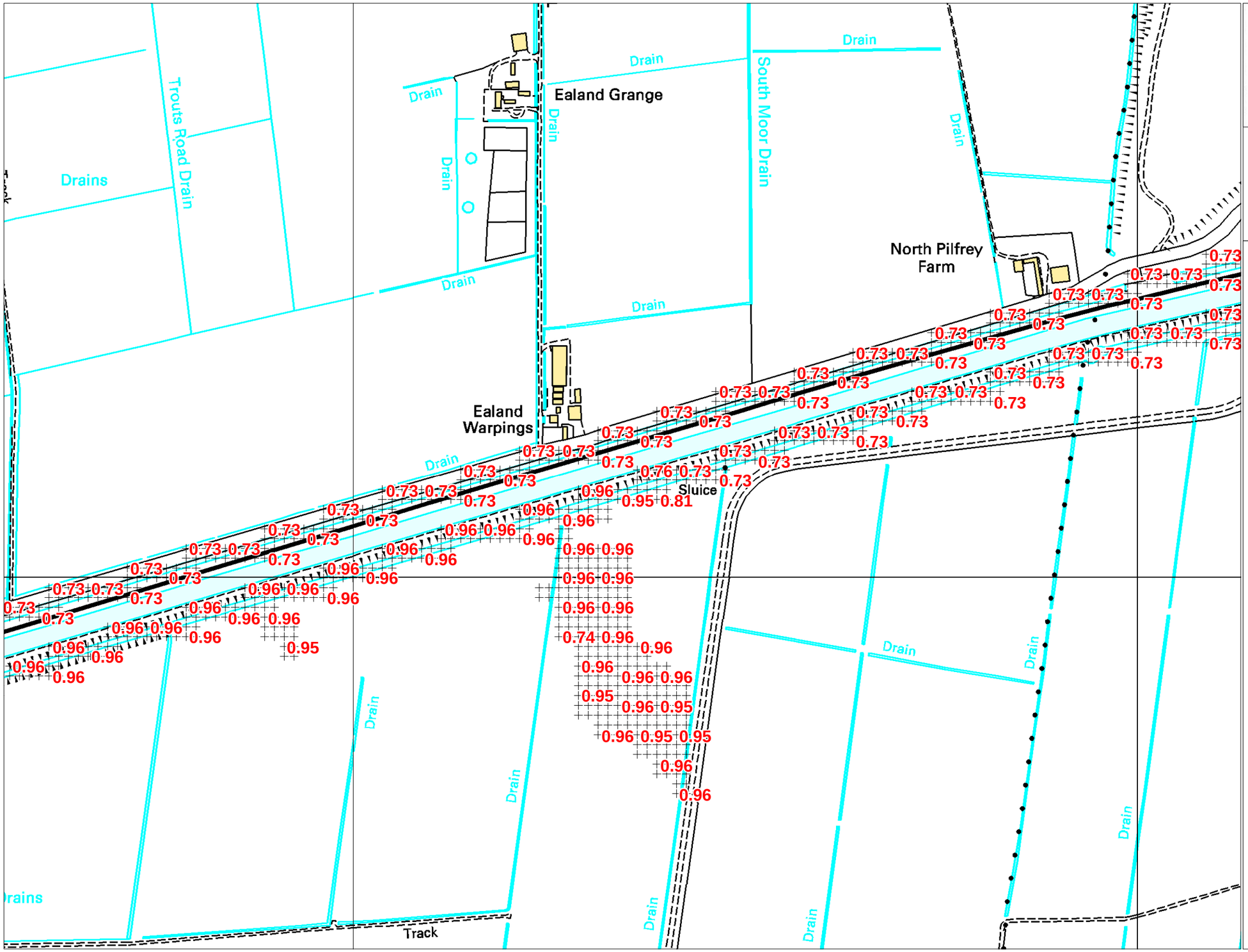

Environment Agency

Scale 1:5,000

N W E S

Legend

x.xx

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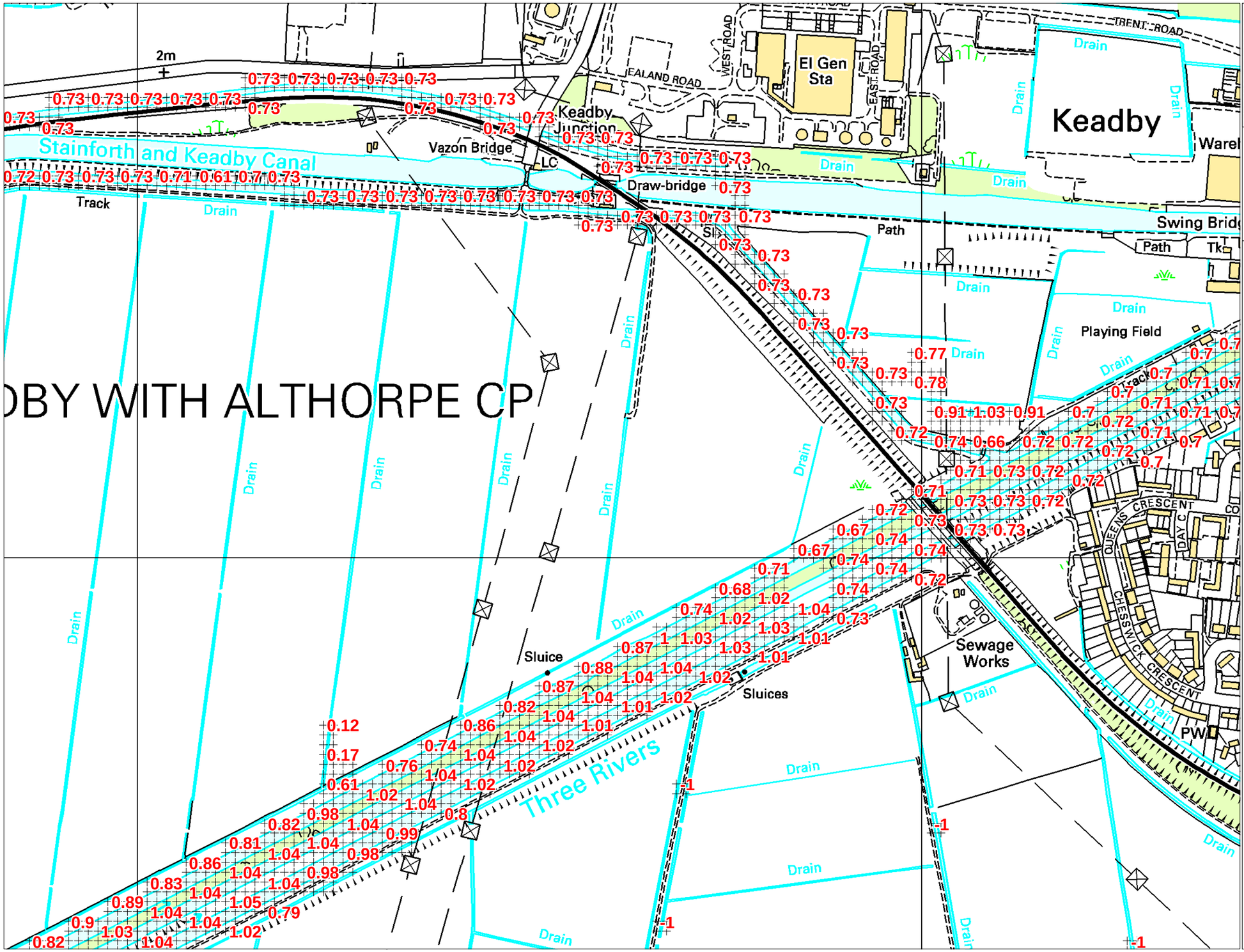

Environment Agency

Scale 1:5,000

N W E S

Legend

x.xx

1 in 1000 year
Floodplain Level (mAOD)

Source:
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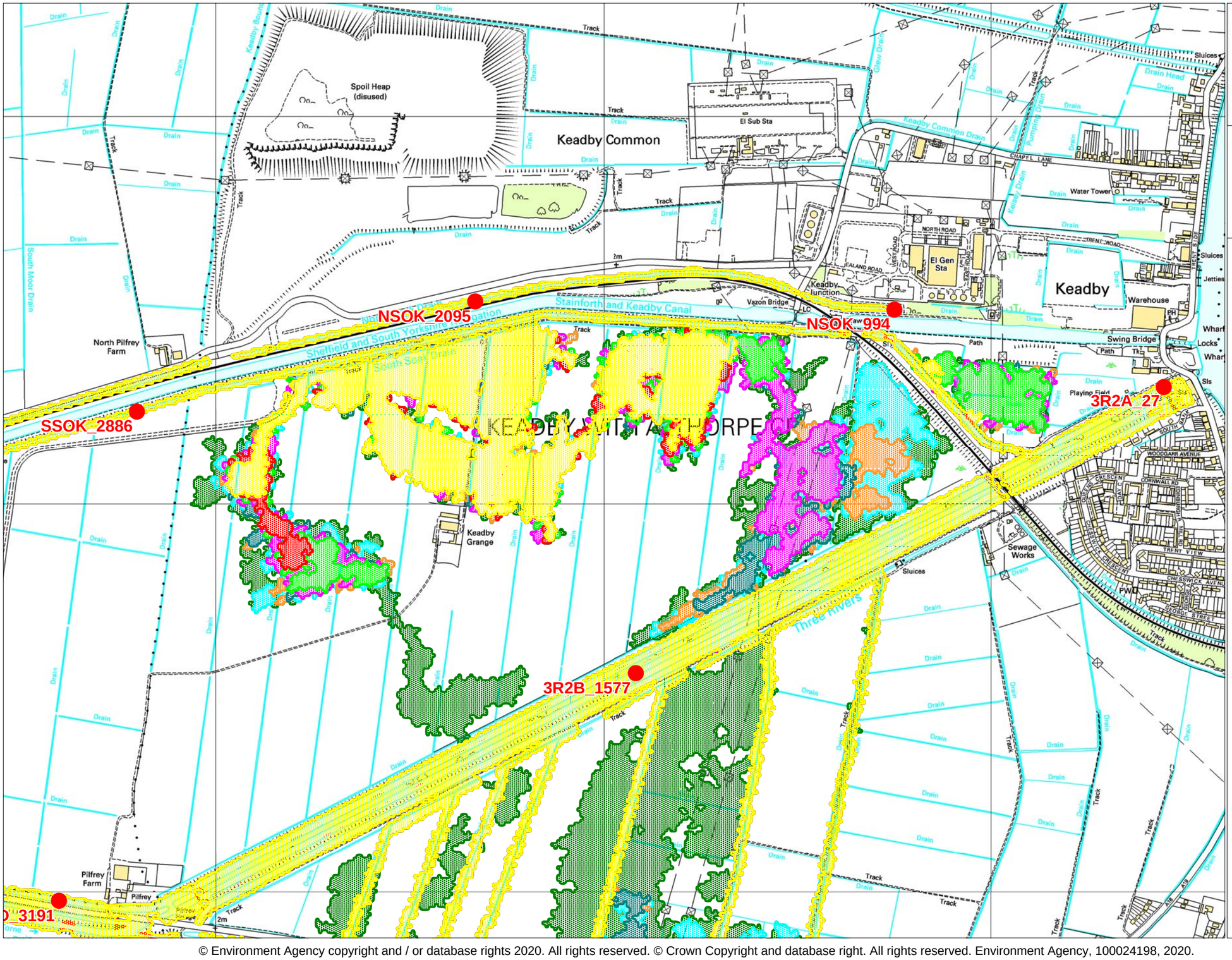

Environment Agency

Scale 1:10,000

N W E S

Legend

- 1 in 5 year Modelled Extent
- 1 in 10 year Modelled Extent
- 1 in 20 year Modelled Extent
- 1 in 50 year Modelled Extent
- 1 in 75 year Modelled Extent
- 1 in 100 year Modelled Extent
- 1 in 200 year Modelled Extent
- 1 in 1000 year Modelled Extent
- Modelled Node Location and Reference

Source:
River Torne Hazard Mapping Study, Capita AECOM, 2018

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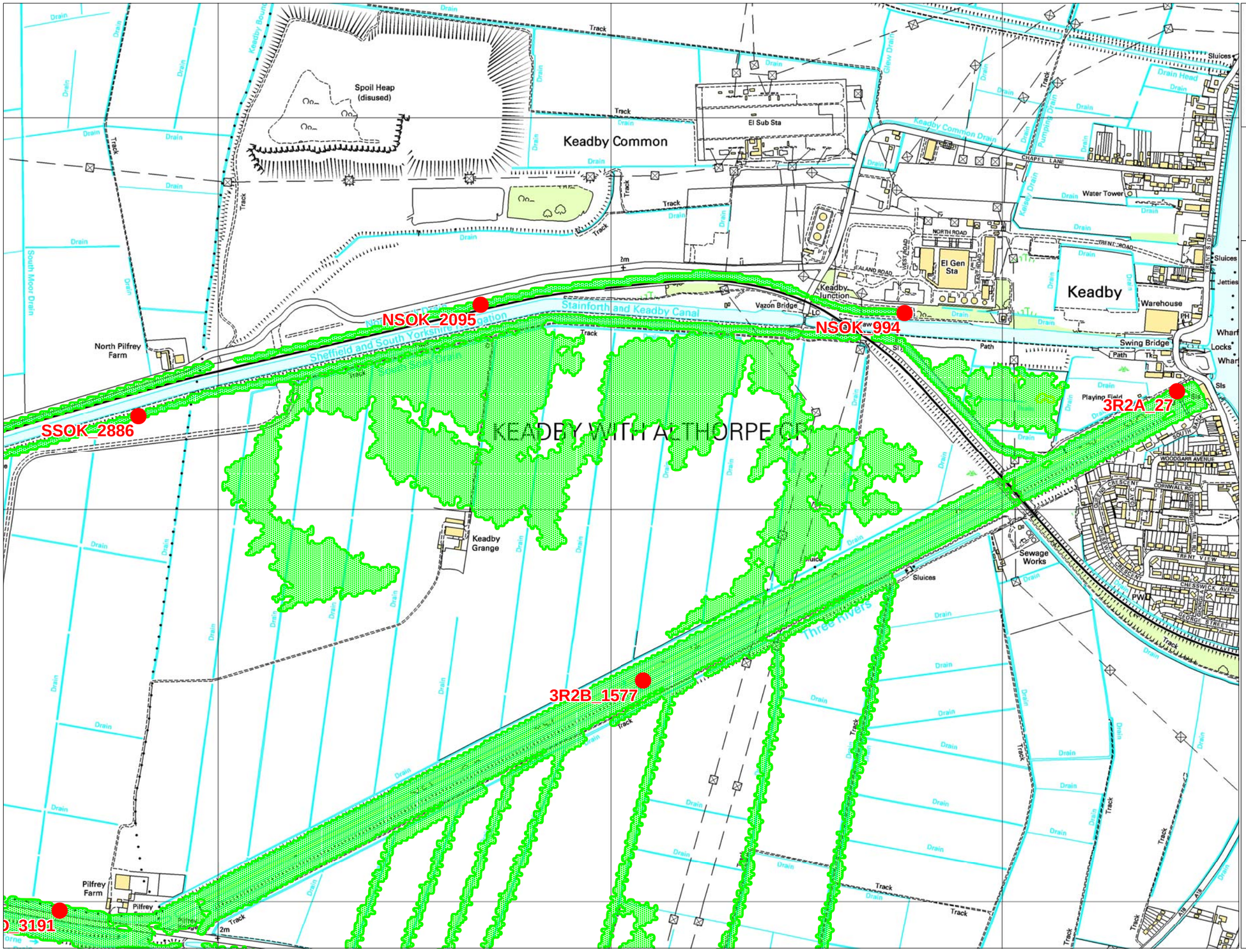

Environment Agency

Scale 1:10,000

N W E S

Legend

- 1 in 100 year Modelled Extent (with 20% climate change forecast)
- 1 in 100 year Modelled Extent (with 30% climate change forecast)
- 1 in 100 year Modelled Extent (with 50% climate change forecast)
- Modelled Node Location and Reference

Source:
River Torne Hazard Mapping Study, Capita AECOM, 2018

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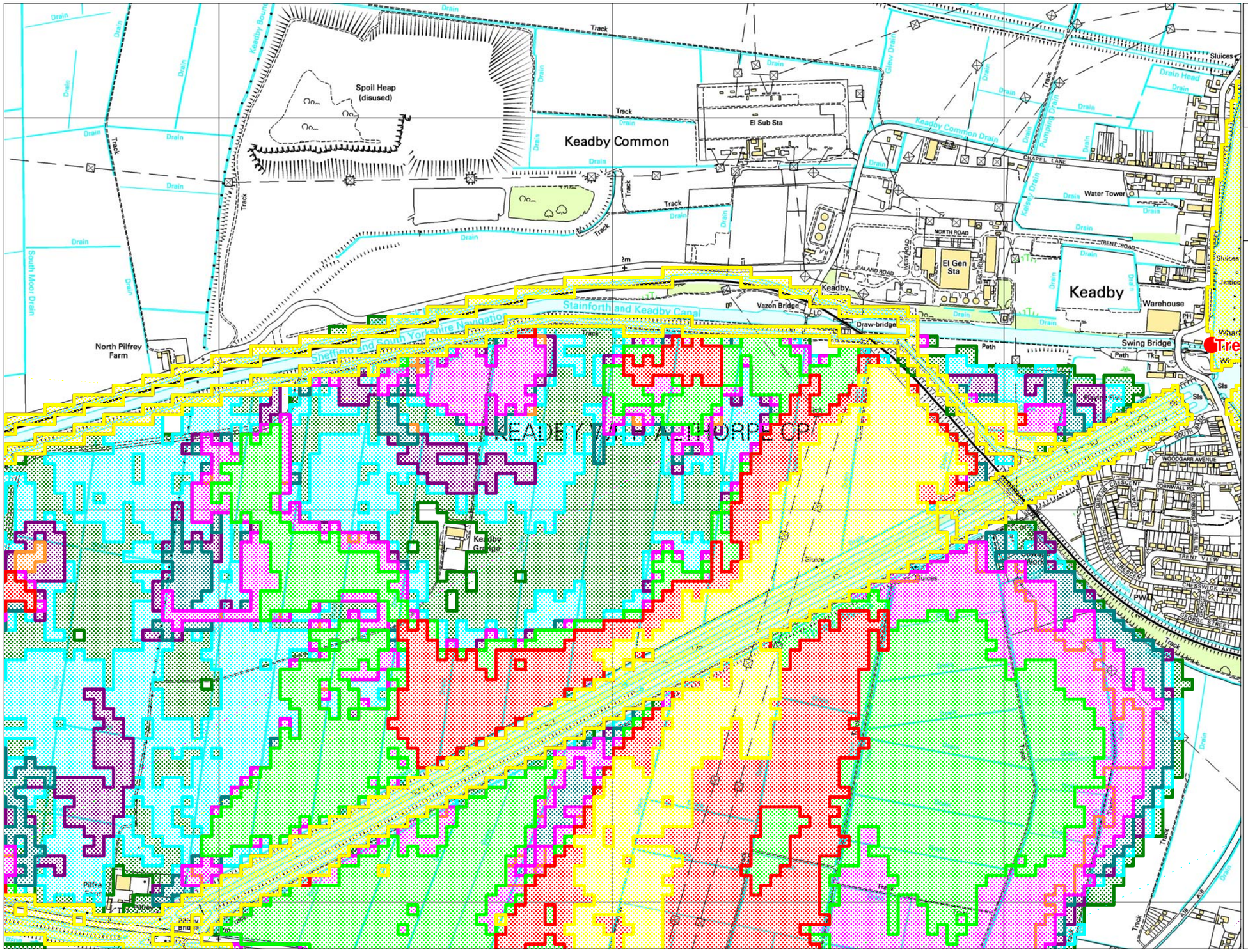

Environment Agency

Scale 1:10,000

N W E S

Legend

- 1 in 5 year Modelled Extent (with 5 year Tidal flow)
- 1 in 10 year Modelled Extent (with 5 year Tidal flow)
- 1 in 20 year Modelled Extent (with 5 year Tidal flow)
- 1 in 50 year Modelled Extent (with 5 year Tidal flow)
- 1 in 75 year Modelled Extent (with 5 year Tidal flow)
- 1 in 100 year Modelled Extent (with 5 year Tidal flow)
- 1 in 100 year Modelled Extent including climate change forecast (with 5 year Tidal flow)
- 1 in 200 year Modelled Extent (with 5 year Tidal flow)
- 1 in 1000 year Modelled Extent (with 5 year Tidal flow)
- Modelled Node Location and Reference

Source:
Tidal Trent SFRM, Mott Macdonald, 2013
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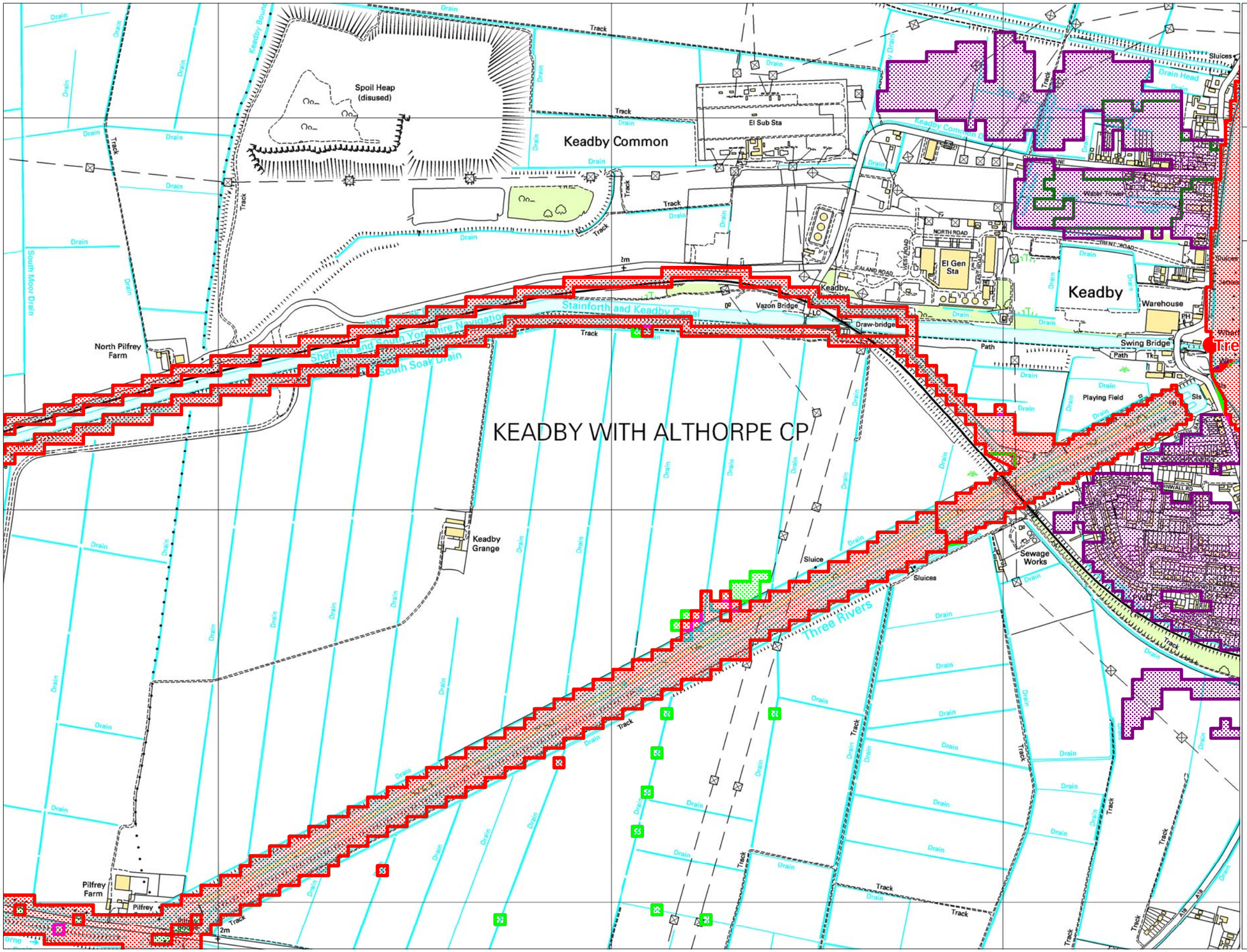

Scale 1:10,000

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Legend

- 1 in 10 year Modelled Extent (with 2 year Fluvial flow)
- 1 in 20 year Modelled Extent (with 2 year Fluvial flow)
- 1 in 50 year Modelled Extent (with 2 year Fluvial flow)
- 1 in 100 year Modelled Extent (with 2 year Fluvial flow)
- 1 in 200 year Modelled Extent including climate change forecast (with 2 year Fluvial flow)
- 1 in 200 year Modelled Extent (with 2 year Fluvial flow)
- 1 in 1000 year Modelled Extent (with 2 year Fluvial flow)
- Modelled Node Location and Reference

Source:
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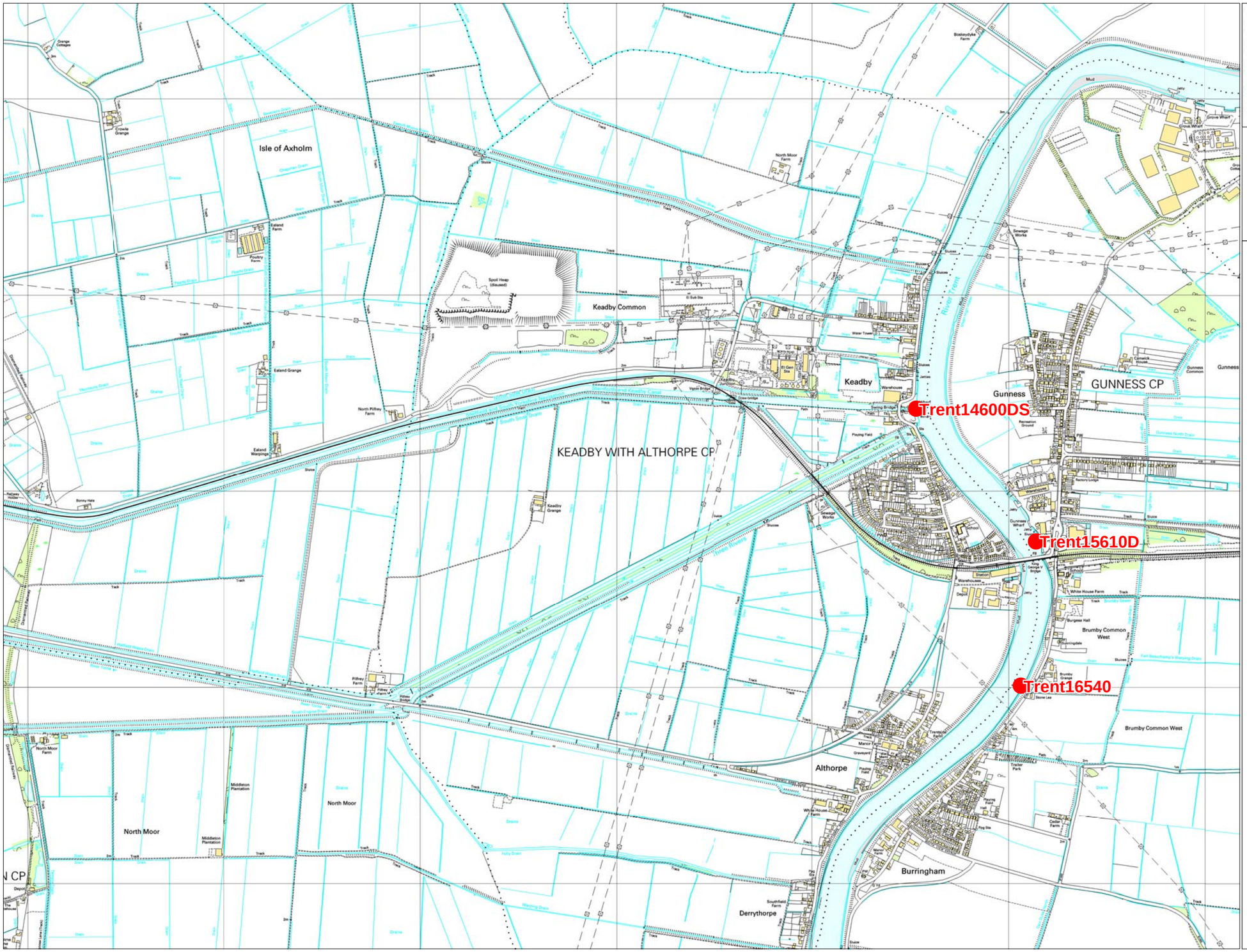
Modelled Nodes Map centred on Keadby Power Station - created 25 August 2020 Ref: [EMD178614]



Environment Agency

Scale 1:20,000

N
W E
S

Legend

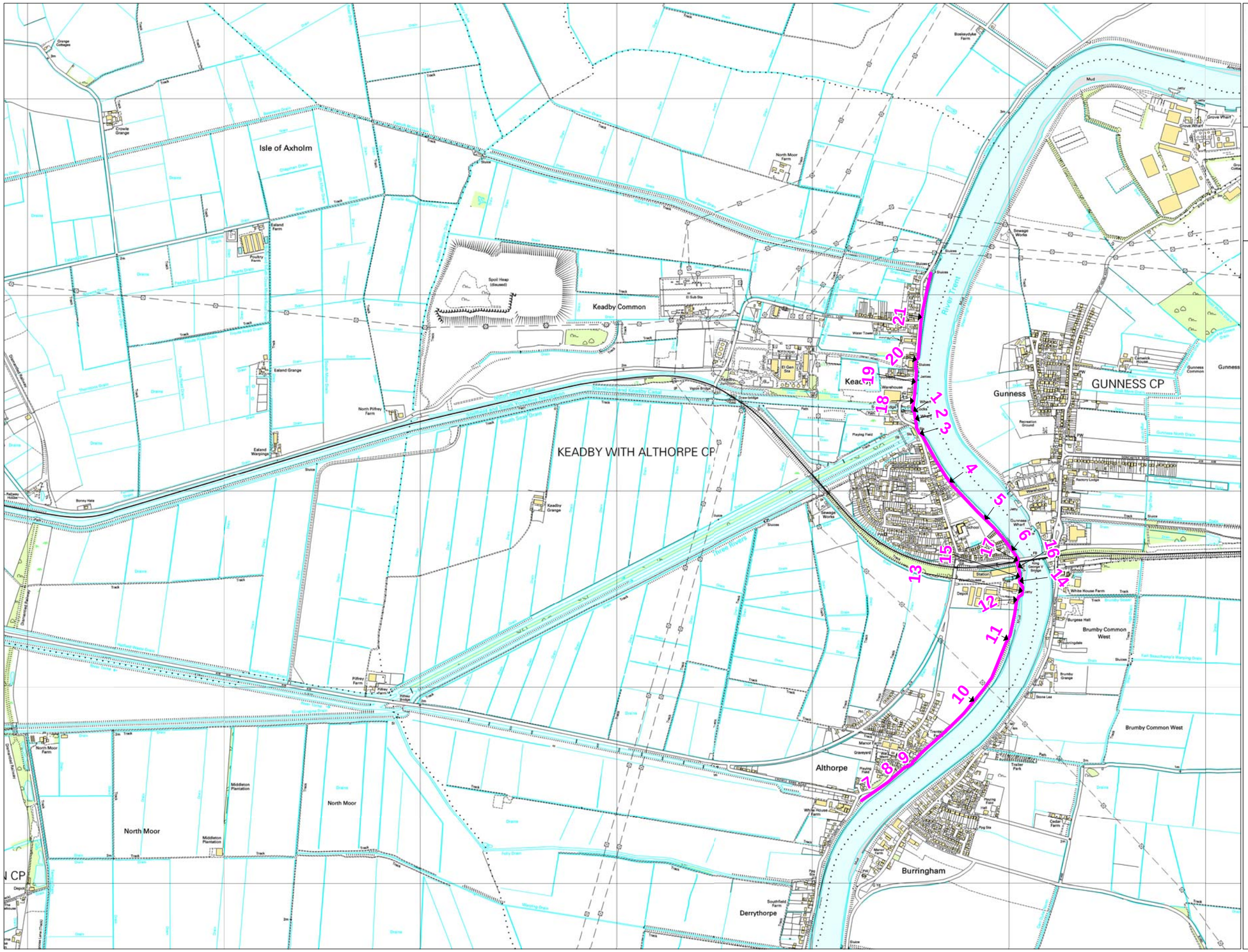
- Modelled Node Location and Reference

Source:
Updated Tidal Trent SFRM Model (Mott Macdonald 2013 - includes updated 2014 interim water levels)

A Strategic Flood Risk Assessment may be available, providing further information for this site. Please contact your Local Planning Authority to access this information as it will need to be considered within any Flood Risk Assessment submission.

Contact Us: National Customer Contact Centre, PO Box 544, Rotherham, S60 1BY. Tel: 03708 506 506 (Mon-Fri 8-6). Email: enquiries@environment-agency.gov.uk

Flood Defence Map centred on Keadby Power Station - created 25 August 2020 Ref: [EMD178614]



Environment Agency

Scale 1:20,000

N
W E
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Legend

Flood Defence Locations

A Strategic Flood Risk Assessment may be available, providing further information for this site. Please contact your Local Planning Authority to access this information as it will need to be considered within any Flood Risk Assessment submission.

Contact Us: National Customer Contact Centre, PO Box 544, Rotherham, S60 1BY. Tel: 03708 506 506 (Mon-Fri 8-6). Email: enquiries@environment-agency.gov.uk

Tim Jones
AECOM
Via Email

Our Ref: EMD-178614

Your Ref:

Date: 08 September 2020

Dear Tim

Enquiry regarding WFD DATA - the Keadby Power Station site, on the bank of the River Trent to the west of Scunthorpe.

Thank you for your enquiry which was received on 20 July 2020. I can only apologise for the lateness of this response.

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

I have numbered each answer to the corresponding question in your request.

1, 3 and 12.

See the the link to our online asset management datasets;
https://environment.data.gov.uk/asset-management/index.html

This will allow you to see what assets (flood defences etc) we maintain in the area, and has information in regarding those assets (crest levels) and also includes details on our capital schemes.

4.

Aquifer status:

Aquifer Status: Idle and Torne – Secondary Mudrocks, Overall WFD Good Status
Aquifer Typology: Bedrock - Secondary B, Mercia Mudstone Group
Superficial – Secondary A, Alluvium

Unfortunately we do not hold any groundwater level monitoring sites within the stated 1km radius.

For more information on the catchment please visit the publicly available Abstraction Licence Strategy (ALS) for the Idle and Torne, and Lower Trent and Erewash. Your site is at the boundary between these two ALSs (https://www.gov.uk/government/collections/water-abstraction-licensing-strategies-cams-process#east-midlands-(map-area-6)).

5 – 10 .

In respect of the above request please find attached the 15 minute level data for Keadby 4098 River Trent gauge as mentioned in the previous email.

5. We do not hold any bathymetric data on the Trent estuary bed or topographic info on intertidal areas

6. We do not hold any salinity data. Regarding water temperature data please see note on point 9 below. Regarding water level we have attached the following data:

Keadby Pumping Station 4714 on the Three Rivers side of Keadby Sluices – daily and yearly minimum/mean/maximum level data up to 11/03/20, when the gauge stopped producing useful data due to damage by contractors. **N.B.** 5 minute level data is available for this gauge if required by the customer.

Keadby 4098 on the River Trent itself – full record of 15 minute data, and daily and yearly minimum/mean/maximum level data. **N.B. the 15 minute level data will follow by subsequent email due to the attachment limit**

7. We only hold Air Temperature and Wind Speed/Direction data for a few gauging stations as a guide to potential effects on sensor performance. This data is not validated. We hold this type of data for Keadby TBR rain gauge from 11/09/17 to 09/04/19 and have attached this in case it is of any use to the customer. Hydrometry team does not hold any other data of this type within a relevant distance of the specified location.

8. We do not hold any gauged flow or spot flow measurements for the specified locations. We do not have any permanent flow measuring gauges downstream of North Muskham on the Trent and Auckley on the Torne.

9. We only hold water temperature from a few gauging stations as a guide to potential effects on sensor performance. This data is not validated. We do not hold any water temperature for any station within 20km of the specified location.

10. We do not hold any thermal maps

11, 12 and 14

Product 4

Detailed Flood Risk Assessment Map/data for the above site.

The Flood Map for Planning is now classed as Open Data. As such it can be downloaded free of charge under an open data licence from the following address: https://data.gov.uk/publisher/environment-agency

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

Tim Jones
AECOM
Via Email

Our Ref: EMD-178614

Your Ref:

Date: 08 September 2020

Dear Tim

Enquiry regarding WFD DATA - the Keadby Power Station site, on the bank of the River Trent to the west of Scunthorpe.

Thank you for your enquiry which was received on 20 July 2020. I can only apologise for the lateness of this response.

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

I have numbered each answer to the corresponding question in your request.

1, 3 and 12.

See the the link to our online asset management datasets;
https://environment.data.gov.uk/asset-management/index.html

This will allow you to see what assets (flood defences etc) we maintain in the area, and has information in regarding those assets (crest levels) and also includes details on our capital schemes.

4.

Aquifer status:

Aquifer Status: Idle and Torne – Secondary Mudrocks, Overall WFD Good Status
Aquifer Typology: Bedrock - Secondary B, Mercia Mudstone Group
Superficial – Secondary A, Alluvium

Unfortunately we do not hold any groundwater level monitoring sites within the stated 1km radius.

For more information on the catchment please visit the publicly available Abstraction Licence Strategy (ALS) for the Idle and Torne, and Lower Trent and Erewash. Your site is at the boundary between these two ALSs (https://www.gov.uk/government/collections/water-abstraction-licensing-strategies-cams-process#east-midlands-(map-area-6)).

5 – 10 .

In respect of the above request please find attached the 15 minute level data for Keadby 4098 River Trent gauge as mentioned in the previous email.

5. We do not hold any bathymetric data on the Trent estuary bed or topographic info on intertidal areas

6. We do not hold any salinity data. Regarding water temperature data please see note on point 9 below. Regarding water level we have attached the following data:

Keadby Pumping Station 4714 on the Three Rivers side of Keadby Sluices – daily and yearly minimum/mean/maximum level data up to 11/03/20, when the gauge stopped producing useful data due to damage by contractors. **N.B.** 5 minute level data is available for this gauge if required by the customer.

Keadby 4098 on the River Trent itself – full record of 15 minute data, and daily and yearly minimum/mean/maximum level data. **N.B. the 15 minute level data will follow by subsequent email due to the attachment limit**

7. We only hold Air Temperature and Wind Speed/Direction data for a few gauging stations as a guide to potential effects on sensor performance. This data is not validated. We hold this type of data for Keadby TBR rain gauge from 11/09/17 to 09/04/19 and have attached this in case it is of any use to the customer. Hydrometry team does not hold any other data of this type within a relevant distance of the specified location.

8. We do not hold any gauged flow or spot flow measurements for the specified locations. We do not have any permanent flow measuring gauges downstream of North Muskham on the Trent and Auckley on the Torne.

9. We only hold water temperature from a few gauging stations as a guide to potential effects on sensor performance. This data is not validated. We do not hold any water temperature for any station within 20km of the specified location.

10. We do not hold any thermal maps

11, 12 and 14

Product 4

Detailed Flood Risk Assessment Map/data for the above site.

The Flood Map for Planning is now classed as Open Data. As such it can be downloaded free of charge under an open data licence from the following address: https://data.gov.uk/publisher/environment-agency

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

Information Warning - OS background mapping

The mapping of features provided as a background in this product is © Ordnance Survey. It is provided to give context to this product. The Open Government Licence does not apply to this background mapping. You are granted a non-exclusive, royalty free, revocable licence solely to view the Licensed Data for non-commercial purposes for the period during which the Environment Agency makes it available. You are not permitted to copy, sub-license, distribute, sell or otherwise make available the Licensed Data to third parties in any form. Third party rights to enforce the terms of this licence shall be reserved to OS.

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Product 8

Breach Hazard Map for the above site.

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

Conditions

1.0 You may use the Information for your internal or personal purposes and may only sublicense others to use it if you do so under a written licence which includes the terms of these conditions and the agreement and in particular may not allow any period of use longer than the period licensed to you.

2.0 Notwithstanding the fact that the standard wording of the Environment Agency Conditional Licence indicates that it is perpetual, this Licence has a limited duration of 5 years at the end of which it will terminate automatically without notice.

3.0 We have restricted use of the Information as a result of legal restrictions placed upon us to protect the rights or confidentialities of others. In this instance it is because of sensitive data.

Information Warnings

1.0 This map shows the level of flood hazard to people (called a hazard rating) if our flood defences are breached at certain locations, for a range of scenarios. The hazard rating depends on the depth and velocity of floodwater, and maximum values of these are also mapped.
2.0 The map is based on computer modelling of simulated breaches at specific locations. Each breach has been modelled individually and the results combined to create this map. Multiple breaches, other combinations of breaches, different sized tidal surges or flood flows may all give different results.
3.0 The map only considers the consequences of a breach, it does not make any assumption about the likelihood of a breach occurring. The likelihood of a breach

occurring will depend on a number of different factors, including the construction and condition of the defences in the area. A breach is less likely where defences are of a good standard, but a risk of breaching remains.
4.0 Please contact the Environment Agency for further information on emergency planning associated with flood risk in this area.

Information Warning - OS background mapping

The mapping of features provided as a background in this product is © Ordnance Survey. It is provided to give context to this product. The Open Government Licence does not apply to this background mapping. You are granted a non-exclusive, royalty free, revocable licence solely to view the Licensed Data for non-commercial purposes for the period during which the Environment Agency makes it available. You are not permitted to copy, sub-license, distribute, sell or otherwise make available the Licensed Data to third parties in any form. Third party rights to enforce the terms of this licence shall be reserved to OS.

Attribution

Contains Ordnance Survey data © Crown copyright 2017 Ordnance Survey 100024198.

Contains Environment Agency information © Environment Agency and/or database rights.

Data Available Online

Many of our flood datasets are available online:

- Flood Map For Planning (Flood Zone 2, Flood Zone 3 ,Flood Storage Areas, Flood Defences, Areas Benefiting from Defences, ,)
- Risk of Flooding from Rivers and Sea
- Historic Flood Map
- Current Flood Warnings

  2.The information relating to WFD data is openly available via the Catchment Data Explorer here: http://environment.data.gov.uk/catchment-planning/

13. Groundwater flooding:

Local Lead Flood Authorities (LLFAs) have responsibilities for local flood risk including groundwater under the Flood and Water Management Act 2010. This Act gives LLFAs duties to prepare local flood risk management strategies and to co-operate with other risk management authorities, and powers to carry out local flood risk management.

The Environment Agency (EA) is not able to undertake local groundwater flood risk analyses or assessment on behalf of the LLFA. Our principal reason for collecting groundwater data is to

inform water resource management. This means that the location of boreholes we monitor is based on water resource needs rather than flooding needs.

However, where available, the EA can provide records of previous groundwater flooding events. Note that these records are not exhaustive and the onus is on **Local Lead Flood Authorities** to collate records of property flooding.

The EA holds no historical records of groundwater flooding near the enquired location.

14. Outline flood risk mitigation requirements…' comes under planning pre-app advice, not an FoI or Environmental Info request. Please refer to https://www.gov.uk/guidance/developers-get-environmental-advice-on-your-planning-proposals and contact the local Sustainable Places team at lnplanning@environment-agency.gov.uk

15. There have been no Category 3 or above pollution incidents in the area of interest within the last 5 years.

Please get in touch if you have any further queries or contact us within two months if you'd like us to review the information we have sent.

Yours sincerely

Ray Gallagher
Customers & Engagement Officer
East Midlands

For further information please contact the Customers & Engagement Team on 02084 747770

Direct e-mail:- EMDenquiries@environment-agency.gov.uk

ENC – FRA Advisory Text

EMD178614

Flood Map for Planning

The Flood Map for Planning is now classed as Open Data. As such it can be downloaded free of charge under an open data licence from the following address: https://data.gov.uk/publisher/environment-agency

Alternatively it can be viewed at the following address: https://flood-map-for-planning.service.gov.uk/

Modelled Information

Node point reference	Location	50% (1 in 2 year) modelled level (mAOD)	50% (1 in 2 year) modelled flow (m^3/s)	20% (1 in 5 year) modelled level (mAOD)
Trent14600DS	SE 83530 11420	N/A	N/A	5.71
Trent15610D	SE 84142 10743	N/A	N/A	5.72
Trent16540	SE 84064 10008	N/A	N/A	5.73

Source: Tidal Trent SFRM Model, Mott Macdonald, 2013 (includes updated 2014 interim water levels)

Node point reference	Location	20% (1 in 5 year) modelled flow (m^3/s)	10% (1 in 10 year) modelled level (mAOD)	10% (1 in 10 year) modelled flow (m^3/s)
Trent14600DS	SE 83530 11420	1,115.69	5.76	N/A
Trent15610D	SE 84142 10743	1,072.21	5.77	N/A
Trent16540	SE 84064 10008	1,037.07	5.77	N/A

Source: Tidal Trent SFRM Model, Mott Macdonald, 2013 (includes updated 2014 interim water levels)

Node point reference	Location	5% (1 in 20 year) modelled level (mAOD)	5% (1 in 20 year) modelled flow (m^3/s)	4% (1 in 25 year) modelled level (mAOD)
Trent14600DS	SE 83530 11420	5.84	N/A	N/A
Trent15610D	SE 84142 10743	5.85	N/A	N/A
Trent16540	SE 84064 10008	5.85	N/A	N/A

Source: Tidal Trent SFRM Model, Mott Macdonald, 2013 (includes updated 2014 interim water levels)

Node point reference	Location	4% (1 in 25 year) modelled flow (m^3/s)	2% (1 in 50 year) modelled level (mAOD)	2% (1 in 50 year) modelled flow (m^3/s)
Trent14600DS	SE 83530 11420	N/A	5.92	
Trent15610D	SE 84142 10743	N/A	5.93	
Trent16540	SE 84064 10008	N/A	5.94	1,124.86

Source: Tidal Trent SFRM Model, Mott Macdonald, 2013 (includes updated 2014 interim water levels)

Node point reference	Location	1.33% (1 in 75 year) modelled level (mAOD)	1.33% (1 in 75 year) modelled flow (m^3/s)	1% (1 in 100 year) modelled level (mAOD)
Trent14600DS	SE 83530 11420			5.98
Trent15610D	SE 84142 10743			5.99
Trent16540	SE 84064 10008			6.00

Source: Tidal Trent SFRM Model, Mott Macdonald, 2013 (includes updated 2014 interim water levels)

Node point reference	Location	1% (1 in 100 year) modelled flow (m^3/s)	0.67% (1 in 150 year) modelled level (mAOD)	0.67% (1 in 150 year) modelled flow (m^3/s)
Trent14600DS	SE 83530 11420		N/A	N/A
Trent15610D	SE 84142 10743		N/A	N/A
Trent16540	SE 84064 10008		N/A	N/A

Source: Tidal Trent SFRM Model, Mott Macdonald, 2013 (includes updated 2014 interim water levels)

Node point reference	Location	0.5% (1 in 200 year) modelled level (mAOD)	0.5% (1 in 200 year) modelled flow (m^3/s)	0.1% (1 in 1000 year) modelled level (mAOD)
Trent14600DS	SE 83530 11420	6.01		6.09
Trent15610D	SE 84142 10743	6.02		6.08
Trent16540	SE 84064 10008	6.03		6.09

Source: Tidal Trent SFRM Model, Mott Macdonald, 2013 (includes updated 2014 interim water levels)

Node point reference	Location	0.1% (1 in 1000 year) modelled flow (m^3/s)	1% + 20% flow (1 in 100 year plus climate change) modelled level (mAOD)	1% + 20% flow (1 in 100 year plus climate change) modelled flow (m^3/s)
Trent14600DS	SE 83530 11420		N/A	
Trent15610D	SE 84142 10743		N/A	
Trent16540	SE 84064 10008		N/A	

Source: Tidal Trent SFRM Model, Mott Macdonald, 2013 (includes updated 2014 interim water levels)

Please note: The flows provided represent **in channel flow only** and do not take into account flow on the floodplain.

NODE_ID	X	Y	20% (1 in 5) modelled level	20% (1 in 5) modelled flow	10% (1 in 10) modelled level	10% (1 in 10) modelled flow	5% (1 in 20) modelled level	5% (1 in 20) modelled flow
NSOK_994	482751.3	411500.4	0.89	N/A	0.89	N/A	0.94	N/A
3R2A_27	483446.9	411301.6	0.81	N/A	0.81	N/A	0.84	N/A
3R2B_1577	482083.8	410563.3	0.84	N/A	0.84	N/A	0.89	N/A
SSOK_2886	480796.07	411238.55	0.88	N/A	0.87	N/A	0.93	N/A
NSOK_2095	481669.45	411521.77	0.92	N/A	0.92	N/A	0.97	N/A

NODE_ID	X	Y	2% (1 in 50) modelled level	2% (1 in 50) modelled flow	1.3% (1 in 75) modelled level	1.3% (1 in 75) modelled flow	1% (1 in 100) modelled level	1% (1 in 100) modelled flow
NSOK_994	482751.3	411500.4	N/A	N/A	0.97	N/A	0.97	N/A
3R2A_27	483446.9	411301.6	N/A	N/A	0.87	N/A	0.86	N/A
3R2B_1577	482083.8	410563.3	N/A	N/A	0.92	N/A	0.92	N/A
SSOK_2886	480796	411239	N/A	N/A	0.96	N/A	0.96	N/A
NSOK_2095	481669	411522	N/A	N/A	0.99	N/A	1.00	N/A

NODE_ID	X	Y	0.5% (1 in 200) modelled level	0.5% (1 in 200) modelled flow	0.1% (1 in 1000) modelled level	0.1% (1 in 1000) modelled flow
NSOK_994	482751.3	411500.4	0.98	N/A	N/A	N/A
3R2A_27	483446.9	411301.6	0.87	N/A	N/A	N/A
3R2B_1577	482083.8	410563.3	0.93	N/A	N/A	N/A
SSOK_2886	480796	411239	0.97	N/A	N/A	N/A
NSOK_2095	481669	411522	1.00	N/A	N/A	N/A

NODE_ID	X	Y	1% (100 year) plus 20% CC level	1% (100 year) plus 20% CC flow	1% (100 year) plus 30% CC level	1% (100 year) plus 30% CC flow	1% (100 year) plus 50% CC level	1% (100 year) plus 50% CC flow
NSOK_994	482751.3	411500.4	0.96	N/A	1.01	N/A	0.96	N/A
3R2A_27	483446.9	411301.6	0.86	N/A	0.88	N/A	0.87	N/A
3R2B_1577	482083.8	410563.3	0.91	N/A	0.93	N/A	0.91	N/A
SSOK_2886	480796	411239	0.95	N/A	1.01	N/A	0.95	N/A
NSOK_2095	481669	411522	0.99	N/A	1.04	N/A	0.99	N/A

Source: Derbyshire Trent, CH2MHill, 2019

All modelled levels in mAOD
All flows in m3/s

Updated Climate Change Guidance

On 19th February 2016, the Flood risk assessments: climate change allowances' was published on www.gov.uk website. It has replaced previous guidance Climate Change Allowances for Planners.

The climate change guidance can be found at: https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances
If your RFI is to assist with a Flood Risk Assessment (FRA) for a future planning application, please review this guidance to consider which allowances should be used for your site.

The climate change allowance provided with this RFI is a 20% increase in the peak river flow for the 1% Annual Exceedance Probability (1 in 100 year) scenario.

Breach Information

It should be noted that the breach location used to produce the modelled breach heights maps is approximately 3km to the east of the site and therefore does not give a true indication of the effect on the site. It is recommended that a site specific breach analysis is carried out for the site using the joint DEFRA/Environment Agency document Flood Risk Assessment Guidance for New Development (FD2320). This document can be downloaded directly using the following link (FD2320.pdf).

Defence Information

Defence ID	Asset Reference	Design Standard	D/S Crest Level (mAOD)	U/S Crest Level (mAOD)	Overall Condition Grade
1	23,792	100	6.2	6.2	2
2	24,834	100	6.2	6.2	3
3	23,793	100	6.2	6.2	2
4	24,285	100	6.32	6.32	3
5	24,835	100	6.2	6.2	3
6	23,593	100	6.2	6.2	2
7	77,608	100	6.4	6.4	1
8	50,711	100	6.4	6.4	2
9	22,642	100	6.4	6.4	3
10	23,881	100	6.4	6.4	2
11	23,880	100	6.46	6.46	3
12	22,641	100	6.4	6.4	3
13	23,879	100	6.4	6.4	3
14	51,435	100	6.4	6.4	2
15	22,091	100	6.4	6.4	3
16	22,090	100	6.4	6.4	3
17	51,393	100	6.2	6.2	2
18	24,833	100	6.2	6.2	3
19	23,791	100	6.3	6.3	3
20	23,790	100	6.25	6.25	3
21	51,392	100	6.3	6.3	2

Historic Information

We have records of historic fluvial flooding at this location in 2013. Please note that we may or may not hold the original records in question. We do not make any claim as to the reliability of recorded flood extents or that all flood events in the area have been recorded. Please also be aware that flood defences may have been built subsequent to these historic flood events. Note - This information relates to the area the above named property is in, and is not specific to the property itself - it ***does not*** provide an indicator of flood risk ***at individual property level***.

Open Data Information

The below datasets are now classed as Open Data and as such can be downloaded free of charge under an open data licence from the following address: https://data.gov.uk/publisher/environment-agency

- Risk of Flooding from Rivers and Sea (RoFRS) data
- LiDAR Data
- Flood Map for Planning (Rivers and Sea)
- Historic Flooding Data

Permitting Information

Under the Environmental Permitting (England and Wales) Regulations 2016, any permanent or temporary works in, over or under a designated main river will require an Environmental Permit for Flood Risk Activities from the Environment Agency.

Any permanent or temporary works within 8 metres of the top of bank of a designated main river, or landward toe of a flood defence may require an Environmental Permit for Flood Risk Activities from the Environment Agency. In addition, any permanent or temporary works within the floodplain of a designated main river may also require an Environmental Permit for Flood Risk Activities.

To find out whether your activity requires a permit or falls under a relevant exclusion, exemption or standard rule please follow the link below:
https://www.gov.uk/guidance/flood-risk-activities-environmental-permits

Please note that a permit is separate to and in addition to any planning permission granted.

Product Information

Below is a brief overview of which Product is likely to be most appropriate for your needs. This information will only be provided where it is available as we do not hold detailed information on all watercourses.

Product 4 – Producing a Flood Risk Assessment (FRA) where you:

- Require mapped and tabulated outputs from an Environment Agency model *e.g flood levels for a range of events*
- Require information on local defences and historic flooding events
- Do not need to undertake additional hydraulic modelling

Product 6 – Producing a Flood Risk Assessment (FRA) where you:

- Require raw modelling results files
- Require modelling results in GIS format

Product 7 - Producing a Flood Risk Assessment (FRA) where you:

- Do need to undertake additional hydraulic modelling using an existing Environment Agency model

In most instances to supply Product 6 and Product 7 data a hard drive will need to be supplied due to the large file sizes associated with this information. Please note that this information will require specialist modelling software to view and run.

A Product 5 (Model Report) will be supplied with all Product 6 and 7 requests and can also be requested separately.

ANNEX B NORTH EAST LINCOLNSHIRE COUNCIL CONSULTATION

AECOM Limited
5th Floor, 2 City Walk
Leeds LS11 9AR
United Kingdom

T: +44 (0)113 391 6800
aecom.com

7th July 2020

Our Reference
Keadby_FRA

North Lincolnshire Council,
Church Square House,
30-40 High St,
Scunthorpe
DN15 6NL

Data Consultation Request: Land at Keadby Power Station, Trentside, Keadby, Scunthorpe DN17 3EF. .

Dear Sirs

AECOM has been commissioned to undertake an Environmental Impact Assessment, including an Environmental Statement Water Resources Chapter, Water Framework Directive Assessment and a Flood Risk Assessment (including a conceptual drainage strategy) to support a Development Consent Order application on land located within the Keadby Power Station site on the bank of the River Trent to the west of Scunthorpe. The proposed development, a proposed Low Carbon Combined Cycle Gas Turbine (CCGT) Generating Station, will be located within the red line boundary, (encompassing an area of approximately 70.1 hectares (ha) and is indicative at this stage), indicated on the attached location plan below.

Water Quality, Resources, WFD and Biological Data Request

For a **1 km study area around the Red Line Boundary** can you please provide where possible any data covering or relevant to the following points:

- Please provide the locations (NGR) of any Private Water Supplies (PWS) and confirm whether they are a surface or groundwater source?

Depending on your response to the point above we may also be interested in the following information but would wish to discuss the need for this data in advance of it being provided:

- copies of water quality sampling results up to and including the last 5 years for any known PWS.
- a map or list indicating which households/businesses are supplied by the PWS.

Flood Risk Assessment

In line with the Environment Agency's standing advice, AECOM proposes to produce a Flood Risk Assessment that considers the risk to the site from all sources, rivers and the sea, streams, surface water run-off, sewers, groundwater, etc. AECOM will also make recommendations for managing surface water runoff according to sustainable drainage principles.

The Site lies within Flood Zone 3a, as defined by the Environment Agency's online Flood Map for Planning and North East Lincolnshire Council's Strategic Flood Risk Maps. The site is in an area that benefits from flood defences.

AECOM would like to request the following information from North Lincolnshire Council:

- Confirmation that the proposed development would be classified as 'Essential Infrastructure' under the NPPF Flood Risk Vulnerability Classification;
- Historical records of flooding from local sources (ordinary watercourses, surface water, groundwater etc.) for the area in proximity to/ at the site;

- Details of any known surface water flooding problems in the area and known Critical Drainage Areas as well as any associated Local Flood Risk Zones;
- Details of any known groundwater flooding problems in the area;
- Information on any Council owned flood assets,(e.g. flood defences, culverts etc.) located in proximity to the Site;
- Details of any proposed future flood defence schemes/ works to assets located in proximity to the Site;
- Any requirements the Council may have with regards surface water management at the proposed development;
- Any preferred SuDS techniques;
- Specific mitigation measures likely to be required by the Council for the proposed development; and
- Any further information required to be taken in to account as part of an FRA.

I look forward to hearing from you.

Yours sincerely,

Jo Somerton

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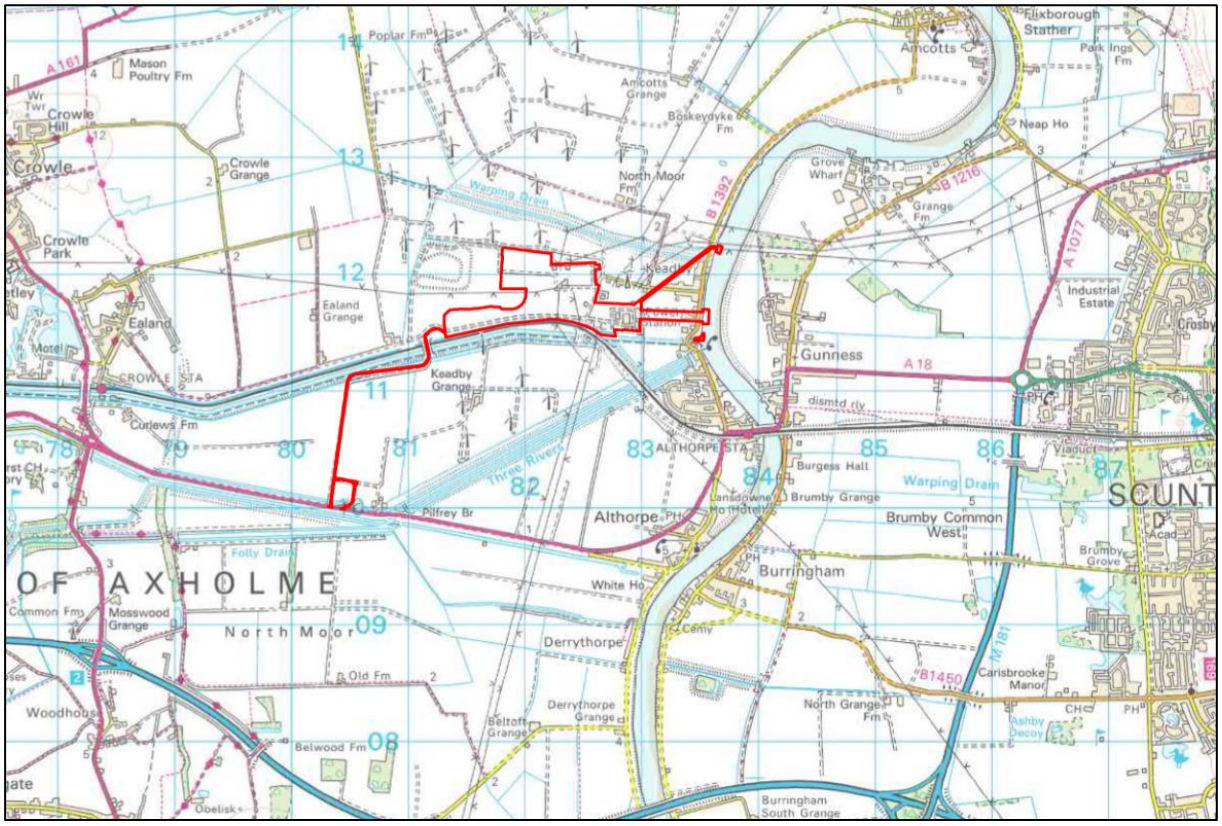

Figure 1: Keadby 3 Power Station (Development will be located within the red line boundary).