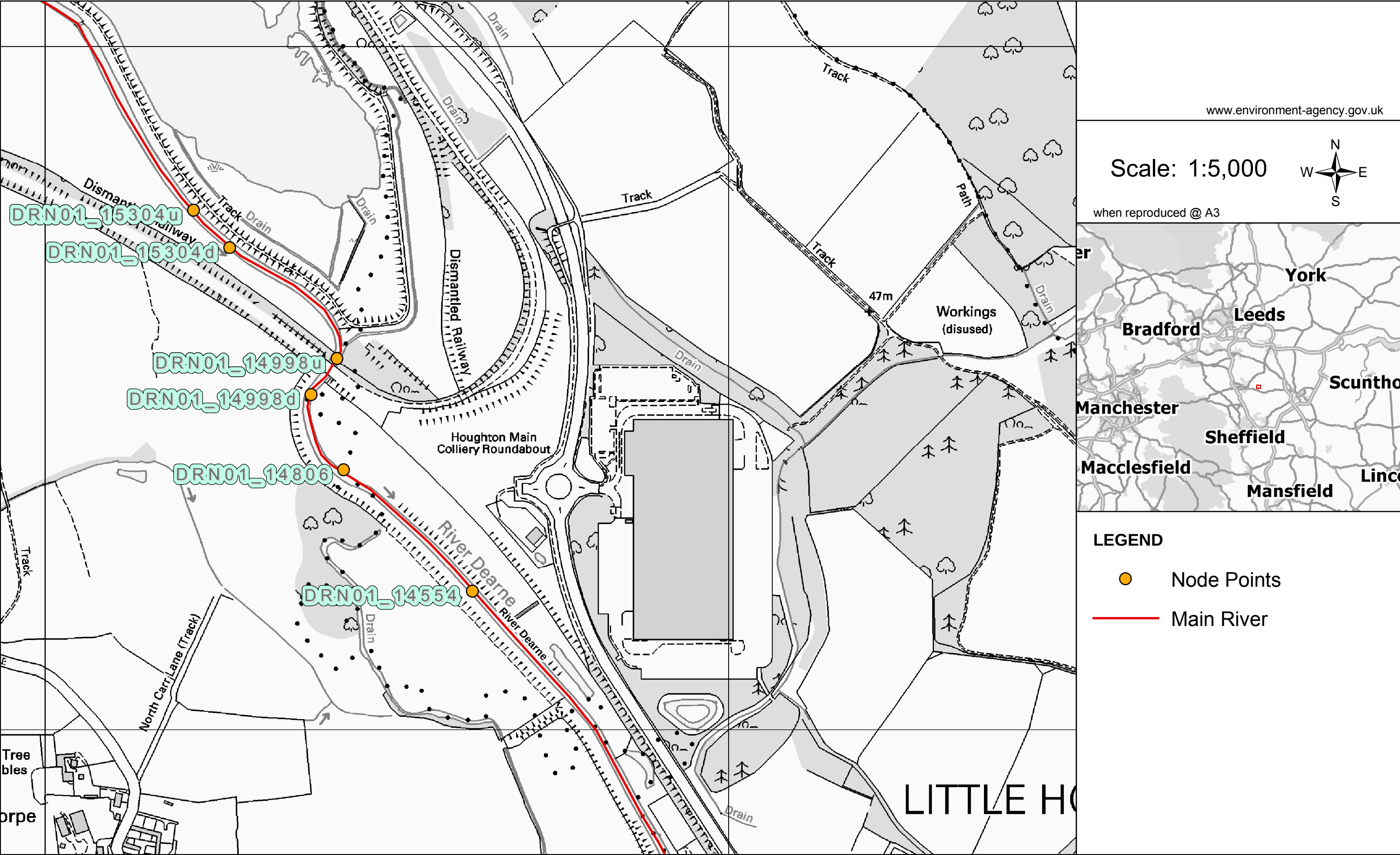


Node Point Location Map for Land off Park Spring Road, Little Houghton, S72 7LG

Date Created: 10.05.17 RFI: 45960



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Scale: 1:5,000

when reproduced @ A3

N

W

E

S



- LEGEND
- Node Points
- Main River

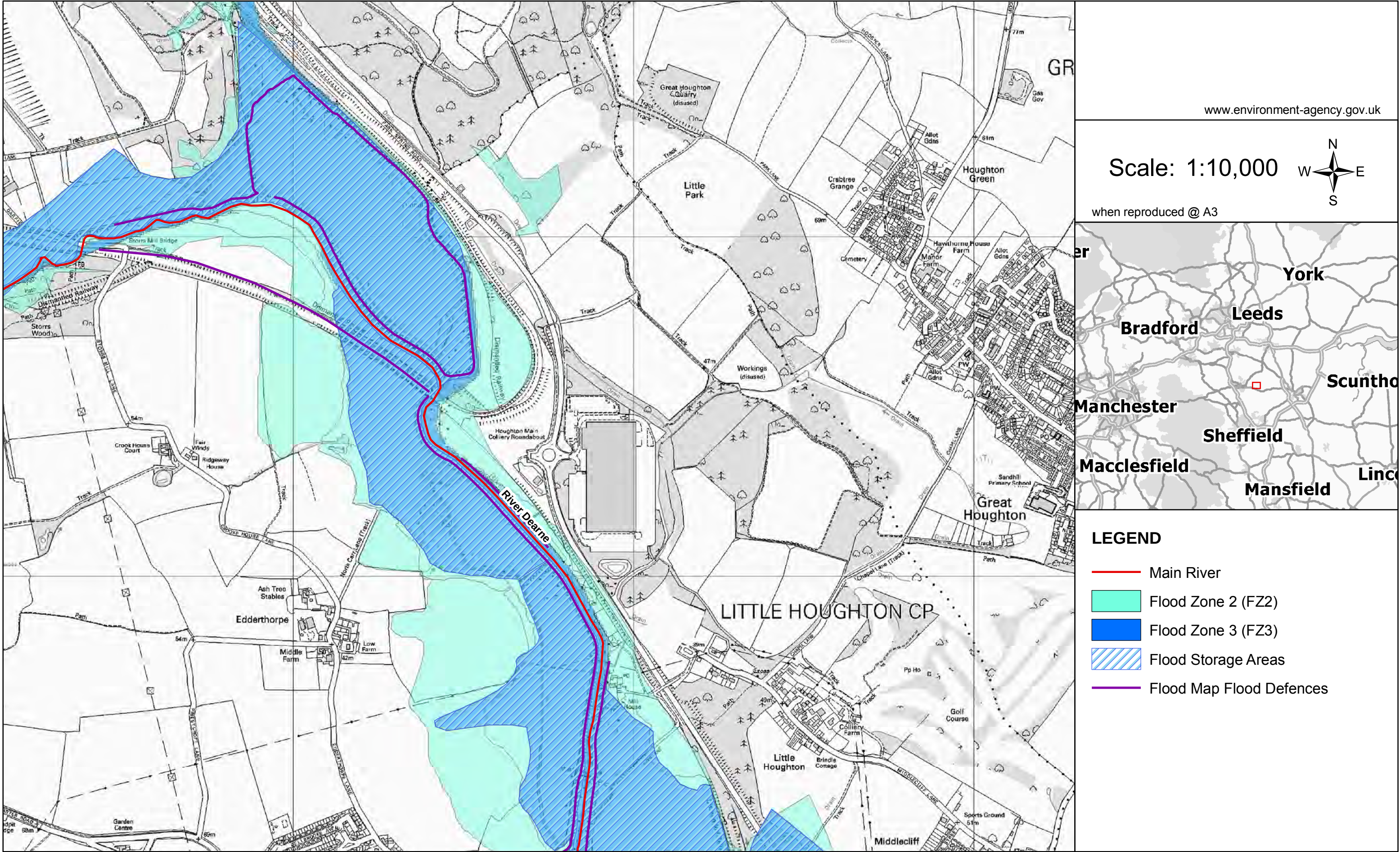
UNCLASSIFIED

Modelled Information - RFI: 45960

Maximum Modelled Flow (m ³ /s) and Stage (mAOD) for the defended scenario												
Node Label	25		50		75		100		150		200	
	Flow	Stage	Flow	Stage	Flow	Stage	Flow	Stage	Flow	Stage	Flow	Stage
DRN01_15304u	59.23	28.14	69.15	28.32	73.15	28.42	76.65	28.53	85.12	28.70	90.30	28.75
DRN01_15304d	62.67	28.14	72.77	28.32	76.83	28.42	80.16	28.53	88.69	28.70	93.82	28.75
DRN01_14998u	62.65	27.81	72.77	28.00	76.82	28.08	80.14	28.20	88.47	28.38	93.68	28.44
DRN01_14998d	62.65	27.76	72.77	27.93	76.82	28.00	80.14	28.10	88.47	28.24	93.68	28.29
DRN01_14806	34.78	27.76	38.16	27.95	39.55	28.03	40.46	28.15	43.16	28.30	44.38	28.34
DRN01_14554	34.21	27.56	36.85	27.85	37.45	27.96	37.71	28.11	38.18	28.26	39.38	28.31

UNCLASSIFIED

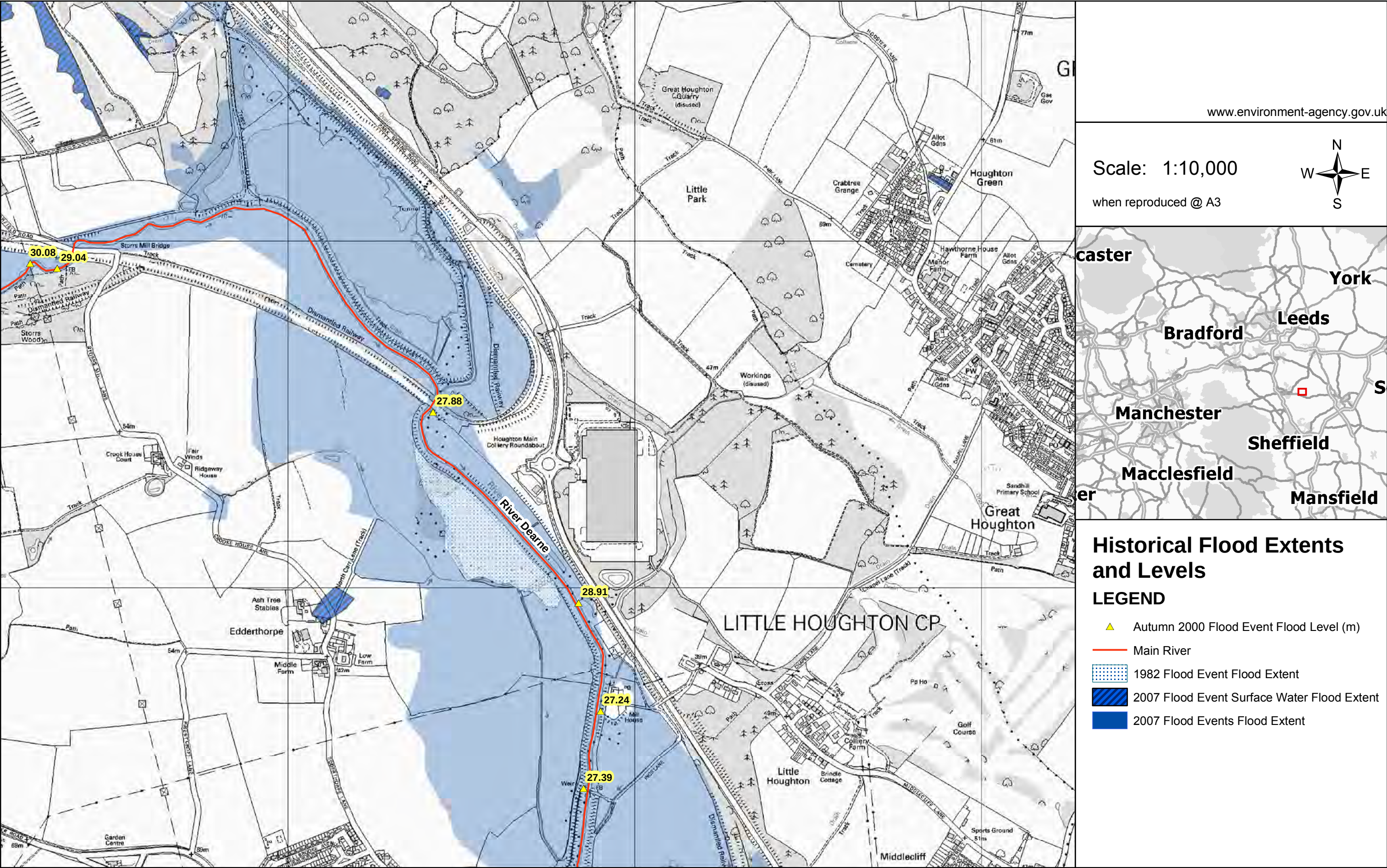
Flood Map for Planning for Land off Park Spring Road, Little Houghton, S72 7LG
Date Created: 10.05.17 RFI: 45960



Flood History Map for Land off Park Spring Road, Little Houghton

Date Created: 10.05.17

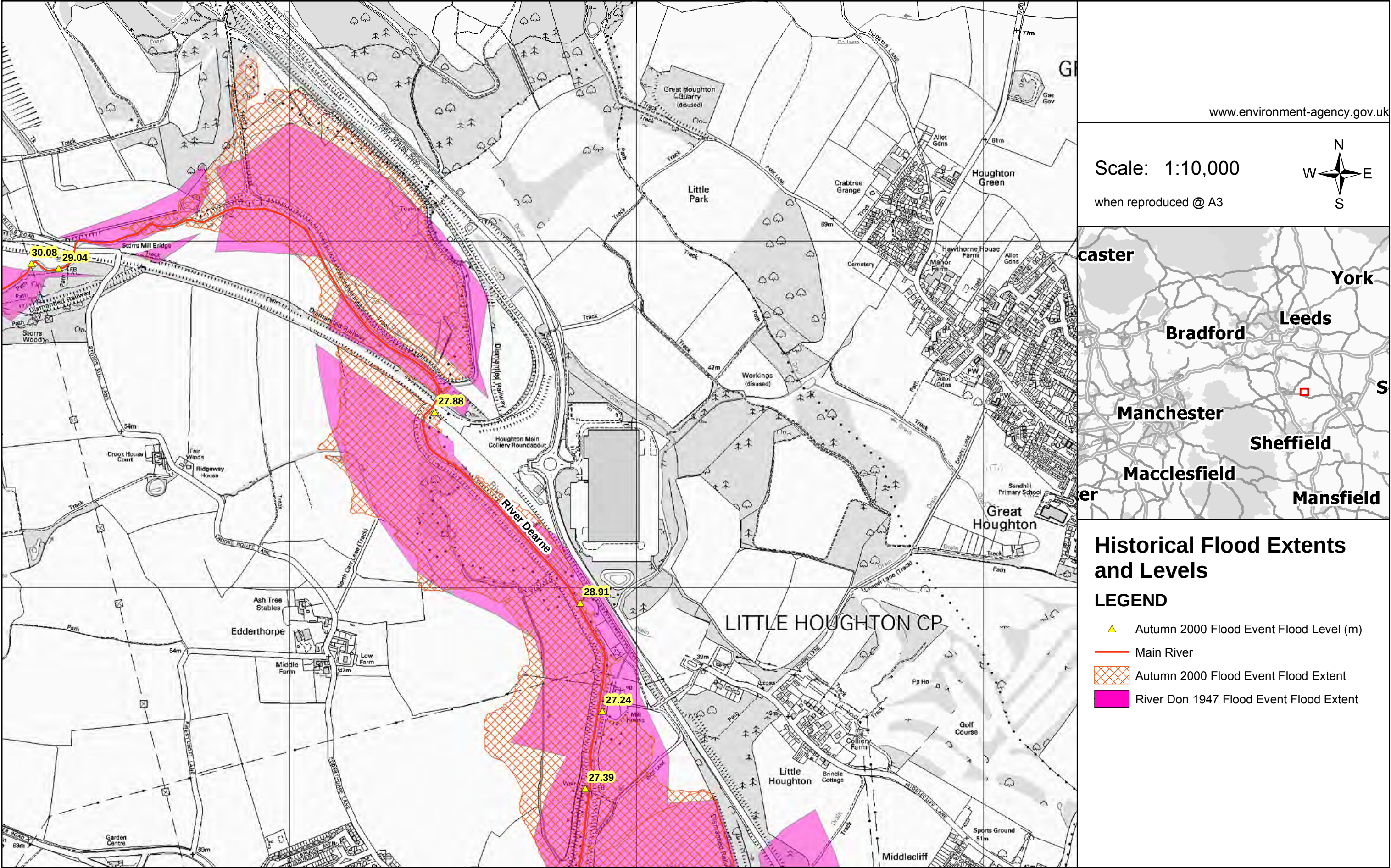
RFI: 45960



Flood History Map 1 for Land off Park Spring Road, Little Houghton

Date Created: 10.05.17

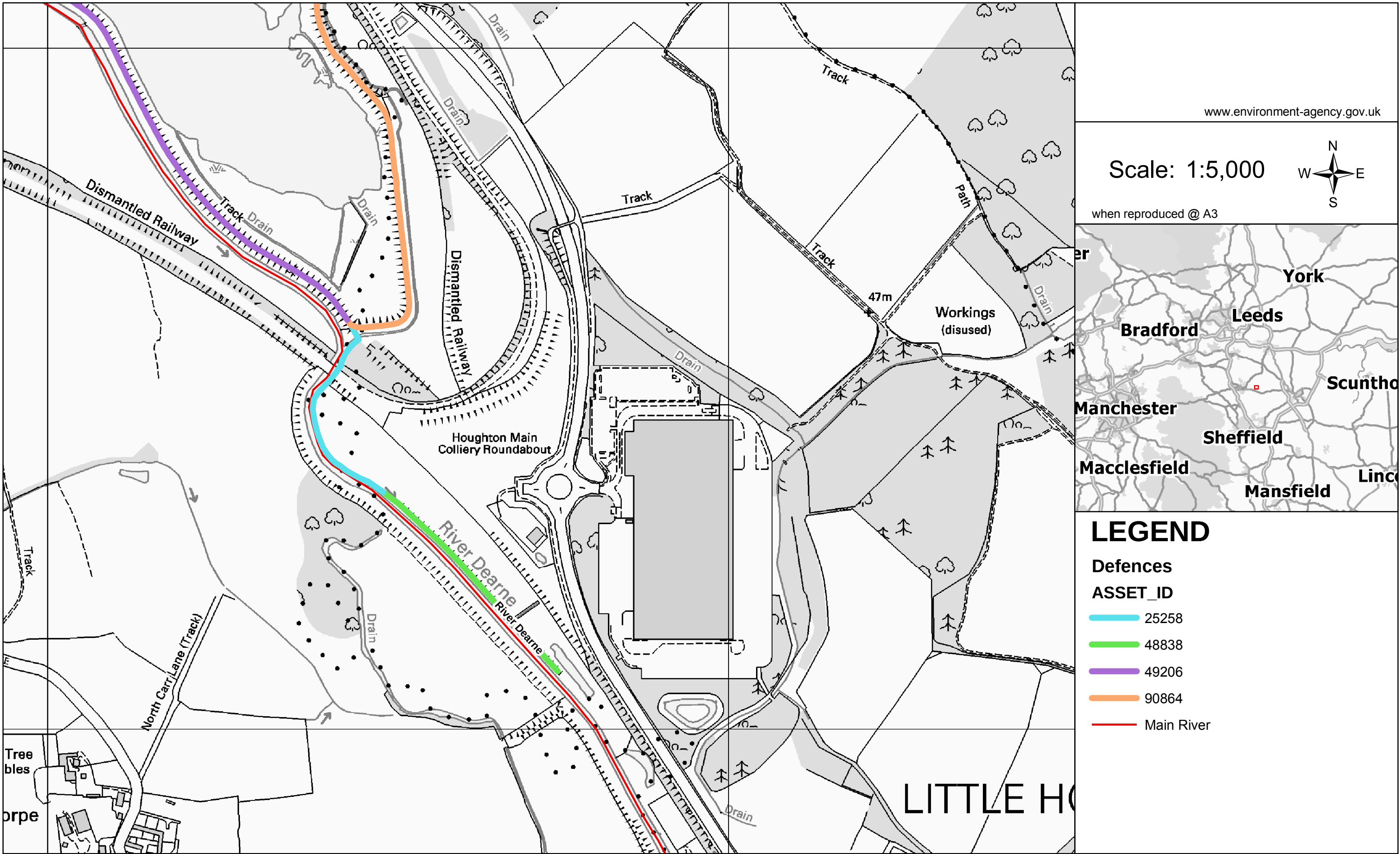
RFI: 45960



Flood History Information - RFI: 45960

Name	Start Date	End Date	Source of Flooding	Cause of Flooding	Source of Boundary
June 2007 Surface Water Flooding Yorkshire	15/06/2007	25/06/2007	Other	Unknown	Aerial Photography
June 2007 Flood Event (Ridings Area)	25/06/2007	26/06/2007	Unknown	Unknown	Aerial Photography
123 March 1947	19/03/1947	22/03/1947	Main River	Channel Capacity Exceeded (No Raised Defences)	Agency Survey
123 Autumn 2000	06/11/2000	04/12/2000	Main River	Unknown	Aerial Photography
123 January 1982 - Dearne Houghton	01/01/1982	31/01/1982	Main River	Other	Agency Survey
123 Autumn 2000	01/10/2000	30/11/2000	Main River	Unknown	Other
June 2007 Flood Event (Ridings Area)	25/06/2007	26/06/2007	Unknown	Unknown	Unknown

Asset Defence Map for Land off Park Spring Road, Little Houghton, S72 7LG
Date Created: 10.05.17 RFI: 45960



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LEGEND

Defences

ASSET_ID

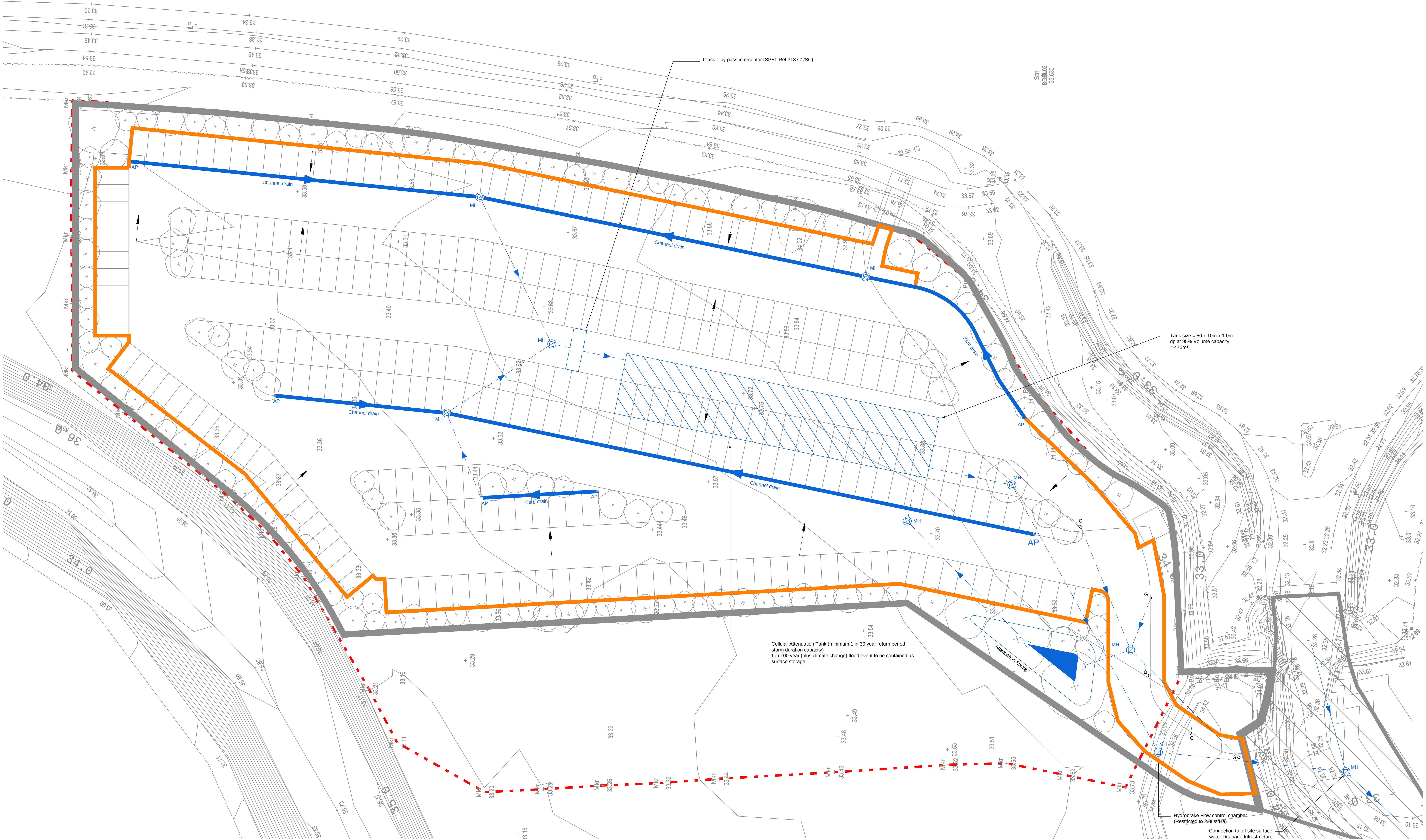
- 25258
- 48838
- 49206
- 90864
- Main River

Asset Defence Information - RFI: 45960

Asset ID	Asset Type	Asset Subtype	Maintainer	Description	Downstream Crest Levels (m)	Upstream Crest Levels (m)	Actual Condition Rating	Design Standard of Protection (yrs)
48838	Defence	Embankment	Environment Agency	GRASS EMBANKMENT	28.31	28.65	3	30
25258	Defence	High Ground	Private	NATURAL GROUND	N/a	N/a	3	30
90864	Defence	Embankment	Environment Agency	Barrier Bank	29.67	28.84	3	N/a
49206	Defence	Embankment	Environment Agency	GRASS EMBANKMENT (TRACK)	29.84	27.42	3	30

Appendix F

CONCEPTUAL SURFACE WATER DRAINAGE SCHEME PLAN



- © 2017 RPS Group
- Notes
1. This drawing has been prepared in accordance with the scope of RPS's appointment with its client and is subject to the terms and conditions of that appointment. RPS accepts no liability for any use of this document other than by its client and only for the purposes for which it was prepared and provided.
 2. If received electronically it is the recipient's responsibility to print to correct scale. Only written dimensions should be used.
 3. This drawing should be read in conjunction with all other relevant drawings and specifications.

Key:

- SW Manhole
- Hydrobrake & flow control unit
- Trapped Gully
- Catch Pit
- Impermeable Area Boundary
- Access Point

Total Impermeable Area = 7474.76m²

A03	Drainage layout revised.	HR	GB	05.07.17
A02	Attenuation detail revised. Image updated.	MB	DW	16.05.17
A01	First issue for planning.	MB	AA	12.05.17
Rev	Description	By	Ctd	Date



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Newark, Nottinghamshire, NG24 1QQ
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Client **ASOS**
Park Spring Road
Little Houghton
South Yorkshire

Project Office Extension

Title **Car Park Drainage Layout**

Status **Preliminary** Scale **1:350 @A0** Date Created **12.05.17**
Project Leader **GB** Drawn By **MB** Checked by **AA**

Document Number	Revision	Subsidiary
NK018527-RPS-XX-00-DR-C-01710	A03	S2

Appendix G

CONCEPTUAL SURFACE WATER DRAINAGE SCHEME SUPPORTING CALCULATIONS

RPS Burks Green		Page 1																																																																																																																																																																																																																																																																																		
Sherwood House Sherwood Avenue Newark NG24 1QQ																																																																																																																																																																																																																																																																																				
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Micro Drainage		Source Control 2016.1																																																																																																																																																																																																																																																																																		
Summary of Results for 100 year Return Period (+40%) Half Drain Time : 2120 minutes. <table><thead><tr><th>Storm Event</th><th>Max Level (m)</th><th>Max Depth (m)</th><th>Max Infiltration (l/s)</th><th>Max Control (l/s)</th><th>Max Σ Outflow (l/s)</th><th>Max Volume (m³)</th><th>Status</th></tr></thead><tbody><tr><td>15 min Summer</td><td>8.423</td><td>0.363</td><td>0.0</td><td>2.3</td><td>2.3</td><td>172.2</td><td>O K</td></tr><tr><td>30 min Summer</td><td>8.544</td><td>0.484</td><td>0.0</td><td>2.3</td><td>2.3</td><td>229.9</td><td>O K</td></tr><tr><td>60 min Summer</td><td>8.674</td><td>0.614</td><td>0.0</td><td>2.3</td><td>2.3</td><td>291.8</td><td>O K</td></tr><tr><td>120 min Summer</td><td>8.807</td><td>0.747</td><td>0.0</td><td>2.3</td><td>2.3</td><td>354.9</td><td>O K</td></tr><tr><td>180 min Summer</td><td>8.881</td><td>0.821</td><td>0.0</td><td>2.3</td><td>2.3</td><td>389.9</td><td>O K</td></tr><tr><td>240 min Summer</td><td>8.928</td><td>0.868</td><td>0.0</td><td>2.3</td><td>2.3</td><td>412.4</td><td>O K</td></tr><tr><td>360 min Summer</td><td>8.989</td><td>0.929</td><td>0.0</td><td>2.3</td><td>2.3</td><td>441.2</td><td>O K</td></tr><tr><td>480 min Summer</td><td>9.028</td><td>0.968</td><td>0.0</td><td>2.3</td><td>2.3</td><td>459.7</td><td>O K</td></tr><tr><td>600 min Summer</td><td>9.053</td><td>0.993</td><td>0.0</td><td>2.4</td><td>2.4</td><td>471.7</td><td>O K</td></tr><tr><td>720 min Summer</td><td>9.069</td><td>1.009</td><td>0.0</td><td>2.4</td><td>2.4</td><td>479.4</td><td>O K</td></tr><tr><td>960 min Summer</td><td>9.085</td><td>1.025</td><td>0.0</td><td>2.4</td><td>2.4</td><td>486.8</td><td>O K</td></tr><tr><td>1440 min Summer</td><td>9.078</td><td>1.018</td><td>0.0</td><td>2.4</td><td>2.4</td><td>483.6</td><td>O K</td></tr><tr><td>2160 min Summer</td><td>9.039</td><td>0.979</td><td>0.0</td><td>2.3</td><td>2.3</td><td>465.2</td><td>O K</td></tr><tr><td>2880 min Summer</td><td>9.001</td><td>0.941</td><td>0.0</td><td>2.3</td><td>2.3</td><td>447.2</td><td>O K</td></tr><tr><td>4320 min Summer</td><td>8.934</td><td>0.874</td><td>0.0</td><td>2.3</td><td>2.3</td><td>415.0</td><td>O K</td></tr><tr><td>5760 min Summer</td><td>8.871</td><td>0.811</td><td>0.0</td><td>2.3</td><td>2.3</td><td>385.4</td><td>O K</td></tr><tr><td>7200 min Summer</td><td>8.812</td><td>0.752</td><td>0.0</td><td>2.3</td><td>2.3</td><td>357.2</td><td>O K</td></tr><tr><td>8640 min Summer</td><td>8.754</td><td>0.694</td><td>0.0</td><td>2.3</td><td>2.3</td><td>329.6</td><td>O K</td></tr><tr><td>10080 min Summer</td><td>8.696</td><td>0.636</td><td>0.0</td><td>2.3</td><td>2.3</td><td>302.3</td><td>O K</td></tr><tr><td>15 min Winter</td><td>8.467</td><td>0.407</td><td>0.0</td><td>2.3</td><td>2.3</td><td>193.2</td><td>O K</td></tr></tbody></table> <table><thead><tr><th>Storm Event</th><th>Rain (mm/hr)</th><th>Flooded Volume (m³)</th><th>Discharge Volume (m³)</th><th>Time-Peak (mins)</th></tr></thead><tbody><tr><td>15 min Summer</td><td>125.746</td><td>0.0</td><td>175.2</td><td>27</td></tr><tr><td>30 min Summer</td><td>84.173</td><td>0.0</td><td>196.7</td><td>41</td></tr><tr><td>60 min Summer</td><td>53.779</td><td>0.0</td><td>299.8</td><td>72</td></tr><tr><td>120 min Summer</td><td>33.195</td><td>0.0</td><td>367.3</td><td>130</td></tr><tr><td>180 min Summer</td><td>24.676</td><td>0.0</td><td>373.1</td><td>190</td></tr><tr><td>240 min Summer</td><td>19.858</td><td>0.0</td><td>372.9</td><td>250</td></tr><tr><td>360 min Summer</td><td>14.561</td><td>0.0</td><td>371.0</td><td>368</td></tr><tr><td>480 min Summer</td><td>11.683</td><td>0.0</td><td>369.6</td><td>488</td></tr><tr><td>600 min Summer</td><td>9.841</td><td>0.0</td><td>368.7</td><td>606</td></tr><tr><td>720 min Summer</td><td>8.549</td><td>0.0</td><td>368.2</td><td>726</td></tr><tr><td>960 min Summer</td><td>6.841</td><td>0.0</td><td>368.1</td><td>964</td></tr><tr><td>1440 min Summer</td><td>4.987</td><td>0.0</td><td>370.8</td><td>1440</td></tr><tr><td>2160 min Summer</td><td>3.628</td><td>0.0</td><td>728.7</td><td>1816</td></tr><tr><td>2880 min Summer</td><td>2.892</td><td>0.0</td><td>724.1</td><td>2196</td></tr><tr><td>4320 min Summer</td><td>2.096</td><td>0.0</td><td>667.7</td><td>2992</td></tr><tr><td>5760 min Summer</td><td>1.667</td><td>0.0</td><td>892.4</td><td>3856</td></tr><tr><td>7200 min Summer</td><td>1.394</td><td>0.0</td><td>933.1</td><td>4680</td></tr><tr><td>8640 min Summer</td><td>1.205</td><td>0.0</td><td>967.9</td><td>5528</td></tr><tr><td>10080 min Summer</td><td>1.066</td><td>0.0</td><td>998.5</td><td>6352</td></tr><tr><td>15 min Winter</td><td>125.746</td><td>0.0</td><td>190.7</td><td>26</td></tr></tbody></table>				Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status	15 min Summer	8.423	0.363	0.0	2.3	2.3	172.2	O K	30 min Summer	8.544	0.484	0.0	2.3	2.3	229.9	O K	60 min Summer	8.674	0.614	0.0	2.3	2.3	291.8	O K	120 min Summer	8.807	0.747	0.0	2.3	2.3	354.9	O K	180 min Summer	8.881	0.821	0.0	2.3	2.3	389.9	O K	240 min Summer	8.928	0.868	0.0	2.3	2.3	412.4	O K	360 min Summer	8.989	0.929	0.0	2.3	2.3	441.2	O K	480 min Summer	9.028	0.968	0.0	2.3	2.3	459.7	O K	600 min Summer	9.053	0.993	0.0	2.4	2.4	471.7	O K	720 min Summer	9.069	1.009	0.0	2.4	2.4	479.4	O K	960 min Summer	9.085	1.025	0.0	2.4	2.4	486.8	O K	1440 min Summer	9.078	1.018	0.0	2.4	2.4	483.6	O K	2160 min Summer	9.039	0.979	0.0	2.3	2.3	465.2	O K	2880 min Summer	9.001	0.941	0.0	2.3	2.3	447.2	O K	4320 min Summer	8.934	0.874	0.0	2.3	2.3	415.0	O K	5760 min Summer	8.871	0.811	0.0	2.3	2.3	385.4	O K	7200 min Summer	8.812	0.752	0.0	2.3	2.3	357.2	O K	8640 min Summer	8.754	0.694	0.0	2.3	2.3	329.6	O K	10080 min Summer	8.696	0.636	0.0	2.3	2.3	302.3	O K	15 min Winter	8.467	0.407	0.0	2.3	2.3	193.2	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)	15 min Summer	125.746	0.0	175.2	27	30 min Summer	84.173	0.0	196.7	41	60 min Summer	53.779	0.0	299.8	72	120 min Summer	33.195	0.0	367.3	130	180 min Summer	24.676	0.0	373.1	190	240 min Summer	19.858	0.0	372.9	250	360 min Summer	14.561	0.0	371.0	368	480 min Summer	11.683	0.0	369.6	488	600 min Summer	9.841	0.0	368.7	606	720 min Summer	8.549	0.0	368.2	726	960 min Summer	6.841	0.0	368.1	964	1440 min Summer	4.987	0.0	370.8	1440	2160 min Summer	3.628	0.0	728.7	1816	2880 min Summer	2.892	0.0	724.1	2196	4320 min Summer	2.096	0.0	667.7	2992	5760 min Summer	1.667	0.0	892.4	3856	7200 min Summer	1.394	0.0	933.1	4680	8640 min Summer	1.205	0.0	967.9	5528	10080 min Summer	1.066	0.0	998.5	6352	15 min Winter	125.746	0.0	190.7	26
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2160 min Summer	3.628	0.0	728.7	1816																																																																																																																																																																																																																																																																																
2880 min Summer	2.892	0.0	724.1	2196																																																																																																																																																																																																																																																																																
4320 min Summer	2.096	0.0	667.7	2992																																																																																																																																																																																																																																																																																
5760 min Summer	1.667	0.0	892.4	3856																																																																																																																																																																																																																																																																																
7200 min Summer	1.394	0.0	933.1	4680																																																																																																																																																																																																																																																																																
8640 min Summer	1.205	0.0	967.9	5528																																																																																																																																																																																																																																																																																
10080 min Summer	1.066	0.0	998.5	6352																																																																																																																																																																																																																																																																																
15 min Winter	125.746	0.0	190.7	26																																																																																																																																																																																																																																																																																
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Sherwood House Sherwood Avenue Newark NG24 1QQ																																												
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Designed by dean.watson Checked by																																												
Micro Drainage Source Control 2016.1																																												
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