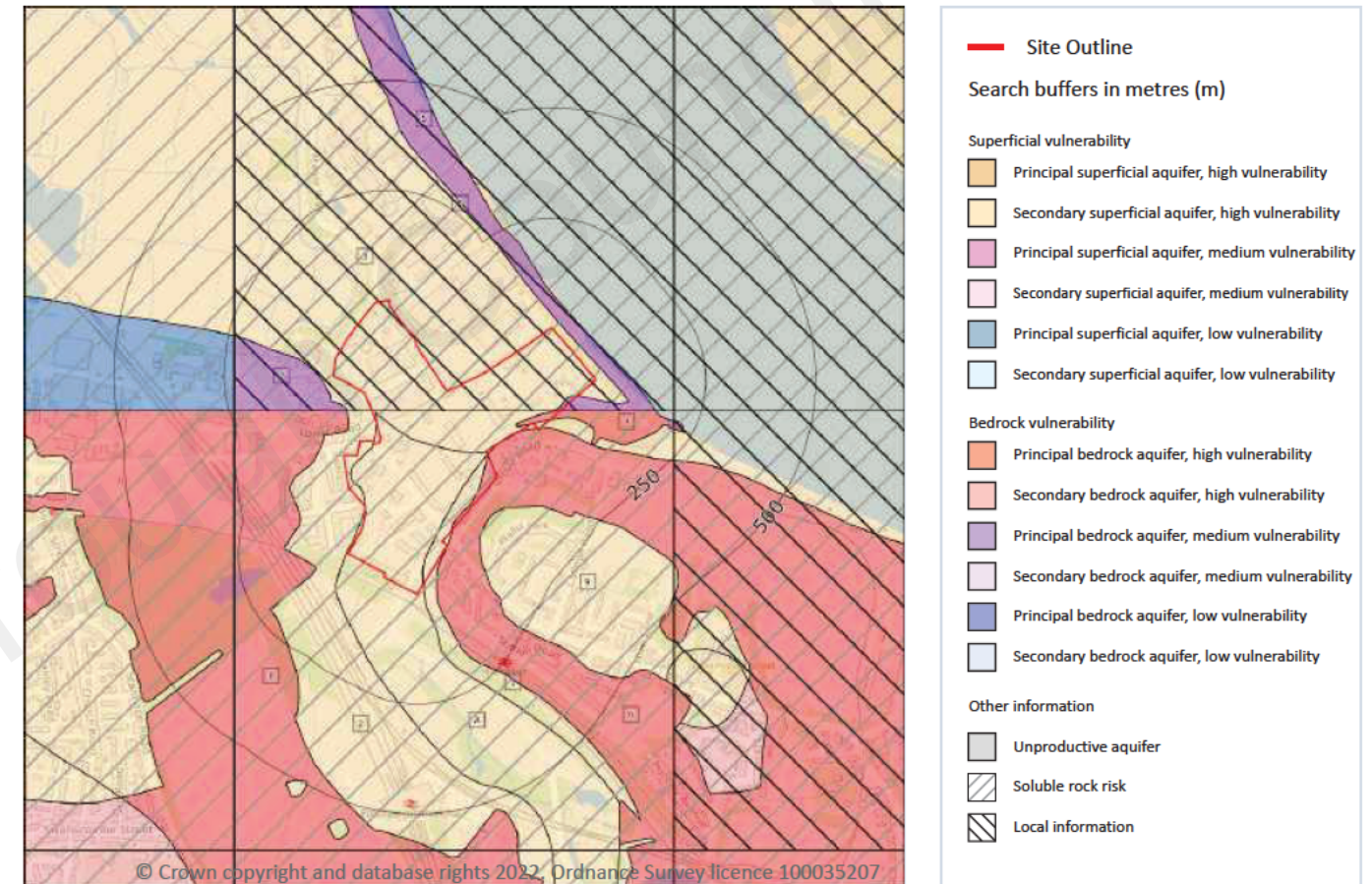


This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.

Groundwater vulnerability



5.3 Groundwater vulnerability

Records within 50m

10

An assessment of the vulnerability of groundwater to a pollutant discharged at ground level based on the hydrological, geological, hydrogeological and soil properties within a one kilometre square grid.

Groundwater vulnerability is described as High, Medium or Low as follows:

- High - Areas able to easily transmit pollution to groundwater. They are likely to be characterised by high leaching soils and the absence of low permeability superficial deposits.
- Medium - Intermediate between high and low vulnerability.
- Low - Areas that provide the greatest protection from pollution. They are likely to be characterised by low leaching soils and/or the presence of superficial deposits characterised by a low permeability.

Features are displayed on the Groundwater vulnerability map on page 130

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: High Aquifer type: Secondary Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures
2	On site	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: High Aquifer type: Secondary Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures
3	On site	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: High Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: No Data	Vulnerability: Medium Aquifer type: Principal Flow mechanism: Well connected fractures
4	On site	Summary Classification: Principal bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Unproductive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: Unproductive Aquifer type: Unproductive Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures
5	On site	Summary Classification: Principal bedrock aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Unproductive Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: Unproductive Aquifer type: Unproductive Thickness: >10m Patchiness value: >90% Recharge potential: No Data	Vulnerability: Medium Aquifer type: Principal Flow mechanism: Well connected fractures
6	On site	Summary Classification: Principal bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
A	On site	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: High Aquifer type: Secondary Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures
7	27m SW	Summary Classification: Principal bedrock aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: - Aquifer type: - Thickness: >10m Patchiness value: >90% Recharge potential: No Data	Vulnerability: Medium Aquifer type: Principal Flow mechanism: Well connected fractures
8	38m NW	Summary Classification: Principal bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures
9	47m SE	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: High Aquifer type: Secondary Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.

5.4 Groundwater vulnerability- soluble rock risk

Records on site	2
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This dataset identifies areas where solution features that enable rapid movement of a pollutant may be present within a 1km grid square.

ID	Maximum soluble risk category	Percentage of grid square covered by maximum risk
A	Very significant soluble rocks are likely to be present with a moderate possibility of localised natural subsidence or dissolution-related degradation of bedrock, especially in adverse conditions such as concentrated surface or subsurface water flow.	1.0%
B	Significant soluble rocks are likely to be present. Problems unlikely except with considerable surface or subsurface water flow.	10.0%

This data is sourced from the British Geological Survey and the Environment Agency.

5.5 Groundwater vulnerability- local information

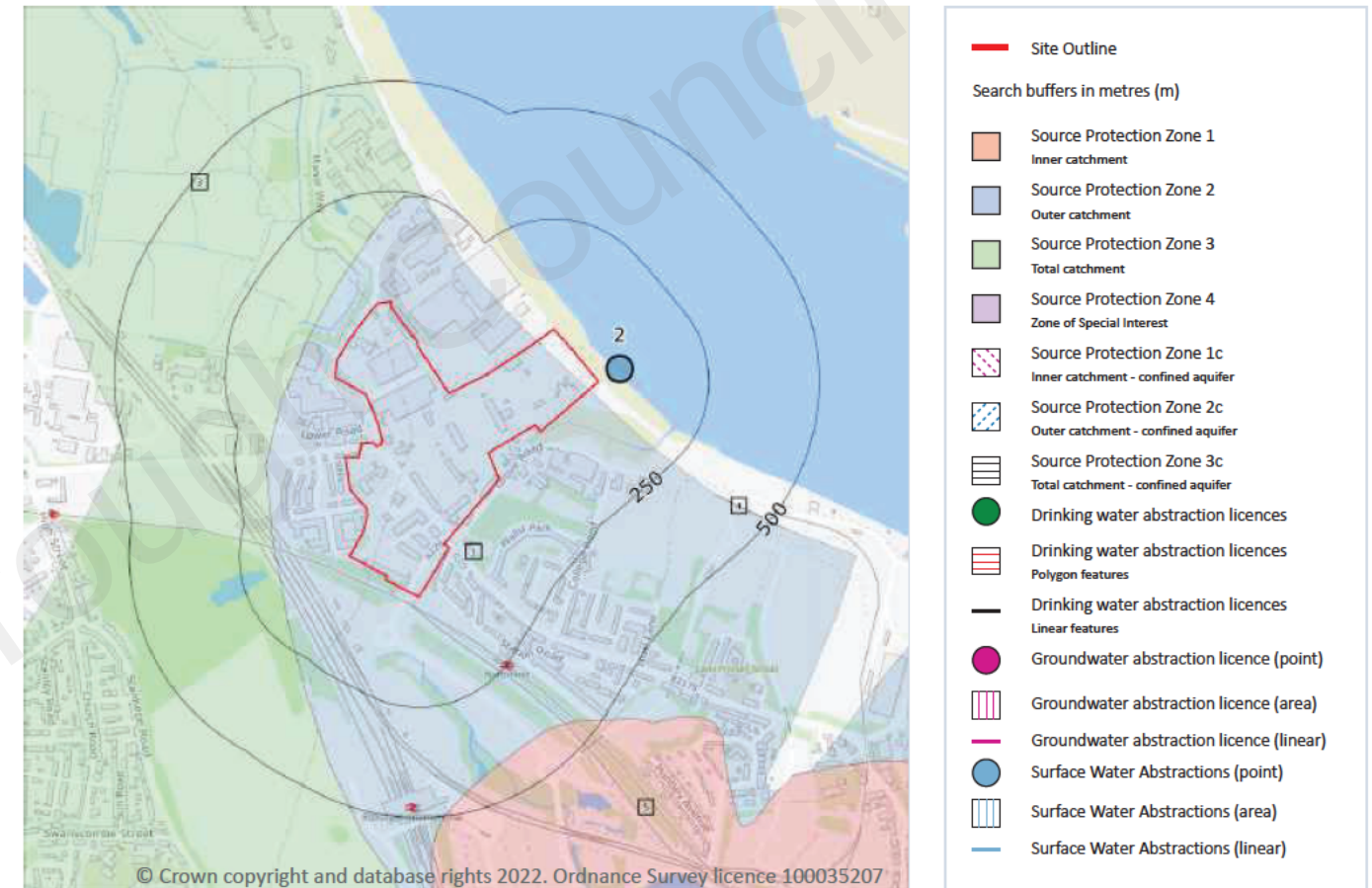
Records on site	1
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This dataset identifies areas where additional local information affecting vulnerability is held by the Environment Agency. Further information can be obtained by contacting the Environment Agency local Area groundwater team through the Environment Agency National Customer Call Centre on 03798 506 506 or by email on enquiries@environment-agency.gov.uk.

ID	Summary	Additional information
B	Potentially increased vulnerability of the bedrock aquifer due to limited cover by superficial deposits	Removal of, or limited cover of, superficial deposits within the River Thames

This data is sourced from the British Geological Survey and the Environment Agency.

Abstractions and Source Protection Zones



5.6 Groundwater abstractions

Records within 2000m	44
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Licensed groundwater abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, between two points (line data) or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on [page 134](#)

ID	Location	Details	
-	759m NW	Status: Historical Licence No: 01/158 Details: Mineral Washing Direct Source: Southern Region Groundwater Point: A BOREHOLE AT SWANSCOMBE MARSHES Data Type: Point Name: Cemex UK Materials Ltd Easting: 560970 Northing: 175920	Annual Volume (m³): 26300 Max Daily Volume (m³): 105 Original Application No: - Original Start Date: 01/12/2005 Expiry Date: 31/03/2014 Issue No: 1 Version Start Date: 18/10/2006 Version End Date: -
-	775m NW	Status: Active Licence No: 01/158/R01 Details: Mineral Washing Direct Source: Southern Region Groundwater Point: BOREHOLE AT SWANSCOMBE MARSHES Data Type: Point Name: Cemex UK Materials Ltd Easting: 560976 Northing: 175941	Annual Volume (m³): 26,300 Max Daily Volume (m³): 105 Original Application No: NPS/WR/030687 Original Start Date: 01/04/2014 Expiry Date: 31/03/2026 Issue No: 2 Version Start Date: 21/12/2018 Version End Date: -
-	856m NW	Status: Historical Licence No: 01/153 Details: Dust suppression Direct Source: Southern Region Groundwater Point: POINT A, BOREHOLES AT SWANSCOMBE, KENT Data Type: Point Name: Willetts Easting: 560490 Northing: 175550	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: 19/08/2002 Expiry Date: 01/09/2004 Issue No: 2 Version Start Date: 21/07/2003 Version End Date: -
-	856m NW	Status: Historical Licence No: 01/153 Details: Mineral Washing Direct Source: Southern Region Groundwater Point: POINT A, BOREHOLES AT SWANSCOMBE, KENT Data Type: Point Name: Willetts Easting: 560490 Northing: 175550	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: 19/08/2002 Expiry Date: 01/09/2004 Issue No: 2 Version Start Date: 21/07/2003 Version End Date: -
-	931m SE	Status: Historical Licence No: 9/40/01/0051/GR Details: Evaporative Cooling Direct Source: Southern Region Groundwater Point: POINT B AT BLUE LAKE NORTHFLEET CEMENT WORKS Data Type: Point Name: LaFarge Cement UK PLC Easting: 561920 Northing: 173800	Annual Volume (m³): 1,235,375 Max Daily Volume (m³): 10060 Original Application No: - Original Start Date: 10/04/1967 Expiry Date: - Issue No: 103 Version Start Date: 27/11/2007 Version End Date: -



ID	Location	Details	
-	931m SE	Status: Active Licence No: 9/40/01/0051/GR Details: Spray Irrigation - Direct Direct Source: Southern Region Groundwater Point: POINT B AT BLUE LAKE NORTHFLEET CEMENT WORKS Data Type: Point Name: Tarmac Cement and Lime Limited Easting: 561920 Northing: 173800	Annual Volume (m³): 1,186,000 Max Daily Volume (m³): 3,382 Original Application No: NPS/WR/035230 Original Start Date: 10/04/1967 Expiry Date: - Issue No: 105 Version Start Date: 26/02/2021 Version End Date: -
-	931m SE	Status: Active Licence No: 9/40/01/0051/GR Details: Non-Evaporative Cooling Direct Source: Southern Region Groundwater Point: POINT B AT BLUE LAKE NORTHFLEET CEMENT WORKS Data Type: Point Name: Tarmac Cement and Lime Limited Easting: 561920 Northing: 173800	Annual Volume (m³): 1,186,000 Max Daily Volume (m³): 3,382 Original Application No: NPS/WR/035230 Original Start Date: 10/04/1967 Expiry Date: - Issue No: 105 Version Start Date: 26/02/2021 Version End Date: -
-	931m SE	Status: Active Licence No: 9/40/01/0051/GR Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: Southern Region Groundwater Point: POINT B AT BLUE LAKE NORTHFLEET CEMENT WORKS Data Type: Point Name: Tarmac Cement and Lime Limited Easting: 561920 Northing: 173800	Annual Volume (m³): 1,186,000 Max Daily Volume (m³): 3,382 Original Application No: NPS/WR/035230 Original Start Date: 10/04/1967 Expiry Date: - Issue No: 105 Version Start Date: 26/02/2021 Version End Date: -
-	931m SE	Status: Active Licence No: 9/40/01/0051/GR Details: Process Water Direct Source: Southern Region Groundwater Point: POINT B AT BLUE LAKE NORTHFLEET CEMENT WORKS Data Type: Point Name: Tarmac Cement and Lime Limited Easting: 561920 Northing: 173800	Annual Volume (m³): 1,186,000 Max Daily Volume (m³): 3,382 Original Application No: NPS/WR/035230 Original Start Date: 10/04/1967 Expiry Date: - Issue No: 105 Version Start Date: 26/02/2021 Version End Date: -



ID	Location	Details	
-	1048m SE	Status: Active Licence No: 9/40/01/0092/A/GR/R1 Details: Boiler Feed Direct Source: Southern Region Groundwater Point: POINT A, BOREHOLE AT KIMBERLY CLARK, NORTHFLEET Data Type: Point Name: Kimberly-Clark Limited Easting: 562759 Northing: 174599	Annual Volume (m³): 320,000 Max Daily Volume (m³): 1,309 Original Application No: NPS/WR/024286 Original Start Date: 01/04/2018 Expiry Date: 31/03/2030 Issue No: 1 Version Start Date: 01/04/2018 Version End Date: -
-	1053m SE	Status: Historical Licence No: 9/40/01/0092/A/GR Details: Boiler Feed Direct Source: Southern Region Groundwater Point: POINT A, BOREHOLE AT KIMBERLY CLARK, NORTHFLEET Data Type: Point Name: Kimberly-Clark Limited Easting: 562760 Northing: 174590	Annual Volume (m³): 400000 Max Daily Volume (m³): 1309 Original Application No: - Original Start Date: 27/05/1966 Expiry Date: 31/03/2018 Issue No: 101 Version Start Date: 24/04/2002 Version End Date: -
-	1150m SE	Status: Historical Licence No: 9/40/01/0051/GR Details: Evaporative Cooling Direct Source: Southern Region Groundwater Point: POINT A AT BLUE LAKE NORTHFLEET CEMENT WORKS Data Type: Point Name: LaFarge Cement UK PLC Easting: 562210 Northing: 173750	Annual Volume (m³): 1,235,375 Max Daily Volume (m³): 10060 Original Application No: - Original Start Date: 10/04/1967 Expiry Date: - Issue No: 103 Version Start Date: 27/11/2007 Version End Date: -
-	1150m SE	Status: Active Licence No: 9/40/01/0051/GR Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: Southern Region Groundwater Point: POINT A AT BLUE LAKE NORTHFLEET CEMENT WORKS Data Type: Point Name: Tarmac Cement and Lime Limited Easting: 562210 Northing: 173750	Annual Volume (m³): 1,186,000 Max Daily Volume (m³): 3,382 Original Application No: NPS/WR/035230 Original Start Date: 10/04/1967 Expiry Date: - Issue No: 105 Version Start Date: 26/02/2021 Version End Date: -



ID	Location	Details	
-	1150m SE	Status: Active Licence No: 9/40/01/0051/GR Details: Non-Evaporative Cooling Direct Source: Southern Region Groundwater Point: POINT A AT BLUE LAKE NORTHFLEET CEMENT WORKS Data Type: Point Name: Tarmac Cement and Lime Limited Easting: 562210 Northing: 173750	Annual Volume (m³): 1,186,000 Max Daily Volume (m³): 3,382 Original Application No: NPS/WR/035230 Original Start Date: 10/04/1967 Expiry Date: - Issue No: 105 Version Start Date: 26/02/2021 Version End Date: -
-	1150m SE	Status: Active Licence No: 9/40/01/0051/GR Details: Process Water Direct Source: Southern Region Groundwater Point: POINT A AT BLUE LAKE NORTHFLEET CEMENT WORKS Data Type: Point Name: Tarmac Cement and Lime Limited Easting: 562210 Northing: 173750	Annual Volume (m³): 1,186,000 Max Daily Volume (m³): 3,382 Original Application No: NPS/WR/035230 Original Start Date: 10/04/1967 Expiry Date: - Issue No: 105 Version Start Date: 26/02/2021 Version End Date: -
-	1150m SE	Status: Active Licence No: 9/40/01/0051/GR Details: Spray Irrigation - Direct Direct Source: Southern Region Groundwater Point: POINT A AT BLUE LAKE NORTHFLEET CEMENT WORKS Data Type: Point Name: Tarmac Cement and Lime Limited Easting: 562210 Northing: 173750	Annual Volume (m³): 1,186,000 Max Daily Volume (m³): 3,382 Original Application No: NPS/WR/035230 Original Start Date: 10/04/1967 Expiry Date: - Issue No: 105 Version Start Date: 26/02/2021 Version End Date: -
-	1156m SE	Status: Historical Licence No: 9/40/01/0092/A/GR Details: Boiler Feed Direct Source: Southern Region Groundwater Point: POINT 1, GREENSAND BOREHOLE, NORTHFLEET. Data Type: Point Name: Kimberly-Clark Limited Easting: 562860 Northing: 174560	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 27/05/1966 Version End Date: -
-	1185m SE	Status: Active Licence No: 9/40/01/0092/B/GR Details: Process Water Direct Source: Southern Region Groundwater Point: BOREHOLE 3, SPRINGHEAD LAKE, NORTHFLEET. Data Type: Point Name: Kimberly-Clark Limited Easting: 562260 Northing: 173750	Annual Volume (m³): 4,710,000 Max Daily Volume (m³): 19,656 Original Application No: WR.1969D Original Start Date: 27/05/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/07/1996 Version End Date: -



ID	Location	Details	
-	1341m SE	Status: Historical Licence No: 9/40/01/0092/A/GR Details: Boiler Feed Direct Source: Southern Region Groundwater Point: POINT B, BOREHOLE AT KIMBERLY CLARK, NORTHFLEET Data Type: Point Name: Kimberly-Clark Limited Easting: 562770 Northing: 174120	Annual Volume (m³): 400000 Max Daily Volume (m³): 1309 Original Application No: - Original Start Date: 27/05/1966 Expiry Date: 31/03/2018 Issue No: 101 Version Start Date: 24/04/2002 Version End Date: -
-	1347m SE	Status: Active Licence No: 9/40/01/0092/A/GR/R1 Details: Boiler Feed Direct Source: Southern Region Groundwater Point: POINT B, BOREHOLE AT KIMBERLY CLARK, NORTHFLEET Data Type: Point Name: Kimberly-Clark Limited Easting: 562772 Northing: 174114	Annual Volume (m³): 320,000 Max Daily Volume (m³): 1,309 Original Application No: NPS/WR/024286 Original Start Date: 01/04/2018 Expiry Date: 31/03/2030 Issue No: 1 Version Start Date: 01/04/2018 Version End Date: -
-	1356m SE	Status: Active Licence No: 9/40/01/0092/B/GR Details: Process Water Direct Source: Southern Region Groundwater Point: BOREHOLE 1, H5 CHALK, NORTHFLEET. Data Type: Point Name: Kimberly-Clark Limited Easting: 562410 Northing: 173660	Annual Volume (m³): 4,710,000 Max Daily Volume (m³): 19,656 Original Application No: WR.1969D Original Start Date: 27/05/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/07/1996 Version End Date: -
-	1384m SE	Status: Historical Licence No: 9/40/01/0092/A/GR Details: Boiler Feed Direct Source: Southern Region Groundwater Point: POINT 2, GREENSAND BOREHOLE, NORTHFLEET. Data Type: Point Name: Kimberly-Clark Limited Easting: 562830 Northing: 174120	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 27/05/1966 Version End Date: -
-	1386m SE	Status: Active Licence No: 9/40/01/0092/B/GR Details: Process Water Direct Source: Southern Region Groundwater Point: BOREHOLE 2, H5 CHALK, NORTHFLEET. Data Type: Point Name: Kimberly-Clark Limited Easting: 562450 Northing: 173660	Annual Volume (m³): 4,710,000 Max Daily Volume (m³): 19,656 Original Application No: WR.1969D Original Start Date: 27/05/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/07/1996 Version End Date: -



ID	Location	Details	
-	1394m SE	Status: Historical Licence No: 01/144 Details: Laundry Use Direct Source: Southern Region Groundwater Point: POINT A, BOREHOLE AT SPRINGHEAD ENTERPRISE PARK Data Type: Point Name: Shaws Laundries Ltd Easting: 562230 Northing: 173450	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: 28/07/2000 Expiry Date: 05/06/2003 Issue No: 1 Version Start Date: 28/07/2000 Version End Date: -
-	1394m SE	Status: Historical Licence No: 01/154 Details: Laundry Use Direct Source: Southern Region Groundwater Point: POINT A, BOREHOLE AT SPRINGHEAD ENTERPRISE PARK Data Type: Point Name: Berendsen UK Limited Easting: 562230 Northing: 173450	Annual Volume (m³): 120000 Max Daily Volume (m³): 400 Original Application No: - Original Start Date: 03/05/2004 Expiry Date: 31/03/2018 Issue No: 5 Version Start Date: 05/12/2014 Version End Date: -
-	1394m SE	Status: Active Licence No: 01/154/R01 Details: Laundry Use Direct Source: Southern Region Groundwater Point: POINT A, BOREHOLE AT SPRINGHEAD ENTERPRISE PARK Data Type: Point Name: Elis UK Limited Easting: 562230 Northing: 173450	Annual Volume (m³): 120,000 Max Daily Volume (m³): 400 Original Application No: NPS/WR/035840 Original Start Date: 01/04/2018 Expiry Date: 31/03/2030 Issue No: 2 Version Start Date: 05/05/2021 Version End Date: -
-	1412m SE	Status: Active Licence No: 9/40/01/0092/B/GR Details: Process Water Direct Source: Southern Region Groundwater Point: BOREHOLE 4, CRETE HALL ROAD, NORTHFLEET. Data Type: Point Name: Kimberly-Clark Limited Easting: 562980 Northing: 174260	Annual Volume (m³): 4,710,000 Max Daily Volume (m³): 19,656 Original Application No: WR.1969D Original Start Date: 27/05/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/07/1996 Version End Date: -
-	1546m S	Status: Historical Licence No: 01/152 Details: Potable Water Supply - Direct Direct Source: Southern Region Groundwater Point: POINT B, BOREHOLE AT SOUTHFLEET, KENT Data Type: Point Name: Thames Water Utilities Ltd Easting: 561161 Northing: 173057	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: 07/07/2002 Expiry Date: 30/09/2004 Issue No: 1 Version Start Date: 07/07/2002 Version End Date: -



ID	Location	Details	
-	1553m S	Status: Historical Licence No: 01/156 Details: Potable Water Supply - Direct Direct Source: Southern Region Groundwater Point: BOREHOLE POINT F, (EPM) SOUTHFLEET (BOREHOLE & TWO AUDITS) Data Type: Point Name: Thames Water Utilities Ltd Easting: 561160 Northing: 173050	Annual Volume (m³): 9,198,000 Max Daily Volume (m³): 24200 Original Application No: - Original Start Date: 01/10/2004 Expiry Date: 31/03/2010 Issue No: 3 Version Start Date: 01/02/2008 Version End Date: -
-	1553m S	Status: Historical Licence No: SO/040/0037/006 Details: Potable Water Supply - Direct Direct Source: Southern Region Groundwater Point: BOREHOLE POINT F, (EPM) SOUTHFLEET (BOREHOLE & TWO AUDITS) Data Type: Point Name: Thames Water Utilities Ltd Easting: 561160 Northing: 173050	Annual Volume (m³): 6,716,000 Max Daily Volume (m³): 24,200 Original Application No: - Original Start Date: 23/06/2010 Expiry Date: 31/03/2020 Issue No: 1 Version Start Date: 23/06/2010 Version End Date: -
-	1553m S	Status: Active Licence No: SO/040/0037/006/R01 Details: Potable Water Supply - Direct Direct Source: Southern Region Groundwater Point: BOREHOLE POINT F, (EPM) SOUTHFLEET (BOREHOLE & TWO AUDITS) Data Type: Point Name: Thames Water Utilities Ltd Easting: 561160 Northing: 173050	Annual Volume (m³): 6,716,000 Max Daily Volume (m³): 24,200 Original Application No: NPS/WR/033754 Original Start Date: 01/04/2020 Expiry Date: 31/03/2026 Issue No: 2 Version Start Date: 20/04/2020 Version End Date: -
-	1558m S	Status: Historical Licence No: 9/40/01/0088/B/GR Details: Process water Direct Source: Southern Region Groundwater Point: POINT 1, WELL NR. NEW BARN IN SWANSCOMBE, KENT. Data Type: Point Name: Empire Paper Limited Easting: 561130 Northing: 173050	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 30/07/1993 Version End Date: -



ID	Location	Details	
-	1655m S	Status: Historical Licence No: 9/40/01/0523/G Details: Spray Irrigation - Direct Direct Source: Southern Region Groundwater Point: POINT A, WINGFIELD PARK FARM IN SOUTHFLEET. Data Type: Point Name: Beslee Farms Easting: 561900 Northing: 173000	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 12/03/1996 Version End Date: -
-	1655m S	Status: Historical Licence No: 01/0157 Details: Spray Irrigation - Direct Direct Source: Southern Region Groundwater Point: POINT A, WINGFIELD PARK FARM IN SOUTHFLEET. Data Type: Point Name: Ebbsfleet Investment (GP) Limited Easting: 561900 Northing: 173000	Annual Volume (m³): 16843 Max Daily Volume (m³): 682 Original Application No: - Original Start Date: 17/11/2004 Expiry Date: 31/03/2018 Issue No: 2 Version Start Date: 18/07/2014 Version End Date: -
-	1788m S	Status: Active Licence No: 9/40/01/0504/G/R01 Details: General Washing/Process Washing Direct Source: Southern Region Groundwater Point: POINT B, BOREHOLE, H5 CHALK, SOUTHFLEET. Data Type: Point Name: D T G Elliott & Son Ltd Easting: 561660 Northing: 172811	Annual Volume (m³): 5,910 Max Daily Volume (m³): 910 Original Application No: NPS/WR/012674 Original Start Date: 01/04/2014 Expiry Date: 31/03/2024 Issue No: 1 Version Start Date: 01/04/2014 Version End Date: -
-	1788m S	Status: Active Licence No: 9/40/01/0504/G/R01 Details: Spray Irrigation - Direct Direct Source: Southern Region Groundwater Point: POINT B, BOREHOLE, H5 CHALK, SOUTHFLEET. Data Type: Point Name: D T G Elliott & Son Ltd Easting: 561660 Northing: 172811	Annual Volume (m³): 5,910 Max Daily Volume (m³): 910 Original Application No: NPS/WR/012674 Original Start Date: 01/04/2014 Expiry Date: 31/03/2024 Issue No: 1 Version Start Date: 01/04/2014 Version End Date: -
-	1789m S	Status: Historical Licence No: 9/40/01/0504/G Details: General Washing/Process Washing Direct Source: Southern Region Groundwater Point: POINT B, BOREHOLE, H5 CHALK, SOUTHFLEET. Data Type: Point Name: D T G Elliott & Son Ltd Easting: 561660 Northing: 172810	Annual Volume (m³): 5910 Max Daily Volume (m³): 909.6 Original Application No: - Original Start Date: - Expiry Date: 31/03/2014 Issue No: 101 Version Start Date: 27/11/2006 Version End Date: -



ID	Location	Details	
-	1789m S	Status: Historical Licence No: 9/40/01/0504/G Details: Spray Irrigation - Direct Direct Source: Southern Region Groundwater Point: POINT B, BOREHOLE, H5 CHALK, SOUTHFLEET. Data Type: Point Name: D T G Elliott & Son Ltd Easting: 561660 Northing: 172810	Annual Volume (m³): 5910 Max Daily Volume (m³): 909.6 Original Application No: - Original Start Date: - Expiry Date: 31/03/2014 Issue No: 101 Version Start Date: 27/11/2006 Version End Date: -
-	1884m S	Status: Historical Licence No: 9/40/01/0504/G Details: General Washing/Process Washing Direct Source: Southern Region Groundwater Point: POINT A, BOREHOLE, H5 CHALK, SOUTHFLEET. Data Type: Point Name: D.T.G. Elliott & Son Ltd. Easting: 561700 Northing: 172720	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 15/05/1978 Version End Date: -
-	1884m S	Status: Historical Licence No: 9/40/01/0504/G Details: Spray Irrigation - Direct Direct Source: Southern Region Groundwater Point: POINT A, BOREHOLE, H5 CHALK, SOUTHFLEET. Data Type: Point Name: D.T.G. Elliott & Son Ltd. Easting: 561700 Northing: 172720	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 15/05/1978 Version End Date: -
-	1888m S	Status: Historical Licence No: 9/40/01/0504/G Details: Spray Irrigation - Direct Direct Source: Southern Region Groundwater Point: POINT A, BOREHOLE, H5 CHALK, SOUTHFLEET Data Type: Point Name: D T G Elliott & Son Ltd Easting: 561660 Northing: 172710	Annual Volume (m³): 5910 Max Daily Volume (m³): 909.6 Original Application No: - Original Start Date: - Expiry Date: 31/03/2014 Issue No: 101 Version Start Date: 27/11/2006 Version End Date: -
-	1888m S	Status: Historical Licence No: 9/40/01/0504/G Details: General Washing/Process Washing Direct Source: Southern Region Groundwater Point: POINT A, BOREHOLE, H5 CHALK, SOUTHFLEET Data Type: Point Name: D T G Elliott & Son Ltd Easting: 561660 Northing: 172710	Annual Volume (m³): 5910 Max Daily Volume (m³): 909.6 Original Application No: - Original Start Date: - Expiry Date: 31/03/2014 Issue No: 101 Version Start Date: 27/11/2006 Version End Date: -



ID	Location	Details	
-	1888m S	Status: Active Licence No: 9/40/01/0504/G/R01 Details: Spray Irrigation - Direct Direct Source: Southern Region Groundwater Point: POINT A, BOREHOLE, H5 CHALK, SOUTHFLEET Data Type: Point Name: D T G Elliott & Son Ltd Easting: 561660 Northing: 172710	Annual Volume (m³): 5,910 Max Daily Volume (m³): 910 Original Application No: NPS/WR/012674 Original Start Date: 01/04/2014 Expiry Date: 31/03/2024 Issue No: 1 Version Start Date: 01/04/2014 Version End Date: -
-	1888m S	Status: Active Licence No: 9/40/01/0504/G/R01 Details: General Washing/Process Washing Direct Source: Southern Region Groundwater Point: POINT A, BOREHOLE, H5 CHALK, SOUTHFLEET Data Type: Point Name: D T G Elliott & Son Ltd Easting: 561660 Northing: 172710	Annual Volume (m³): 5,910 Max Daily Volume (m³): 910 Original Application No: NPS/WR/012674 Original Start Date: 01/04/2014 Expiry Date: 31/03/2024 Issue No: 1 Version Start Date: 01/04/2014 Version End Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.

5.7 Surface water abstractions

Records within 2000m

1

Licensed surface water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on [page 134](#)

ID	Location	Details	
2	55m NE	Status: Active Licence No: 9/40/01/0522/S Details: Mineral Washing Direct Source: Southern Region Surface Waters Point: POINT A, TIDAL RIVER THAMES AT SWANSCOMBE. Data Type: Point Name: Robert Brett & Sons Ltd Easting: 561870 Northing: 175100	Annual Volume (m³): 45,500 Max Daily Volume (m³): 375 Original Application No: 169/872 Original Start Date: 06/02/1990 Expiry Date: - Issue No: 101 Version Start Date: 01/01/2002 Version End Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.



5.8 Potable abstractions

Records within 2000m

4

Licensed potable water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on [page 134](#)

ID	Location	Details	
-	1546m S	Status: Historical Licence No: 01/152 Details: Potable Water Supply - Direct Direct Source: Southern Region Groundwater Point: POINT B, BOREHOLE AT SOUTHFLEET, KENT Data Type: Point Name: Thames Water Utilities Ltd Easting: 561161 Northing: 173057	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: 07/07/2002 Expiry Date: 30/09/2004 Issue No: 1 Version Start Date: 07/07/2002 Version End Date: -
-	1553m S	Status: Historical Licence No: 01/156 Details: Potable Water Supply - Direct Direct Source: Southern Region Groundwater Point: BOREHOLE POINT F, (EPM) SOUTHFLEET (BOREHOLE & TWO AUDITS) Data Type: Point Name: Thames Water Utilities Ltd Easting: 561160 Northing: 173050	Annual Volume (m³): 9,198,000 Max Daily Volume (m³): 24200 Original Application No: - Original Start Date: 01/10/2004 Expiry Date: 31/03/2010 Issue No: 3 Version Start Date: 01/02/2008 Version End Date: -
-	1553m S	Status: Historical Licence No: SO/040/0037/006 Details: Potable Water Supply - Direct Direct Source: Southern Region Groundwater Point: BOREHOLE POINT F, (EPM) SOUTHFLEET (BOREHOLE & TWO AUDITS) Data Type: Point Name: Thames Water Utilities Ltd Easting: 561160 Northing: 173050	Annual Volume (m³): 6,716,000 Max Daily Volume (m³): 24,200 Original Application No: - Original Start Date: 23/06/2010 Expiry Date: 31/03/2020 Issue No: 1 Version Start Date: 23/06/2010 Version End Date: -

ID	Location	Details	
-	1553m S	Status: Active Licence No: SO/040/0037/006/R01 Details: Potable Water Supply - Direct Direct Source: Southern Region Groundwater Point: BOREHOLE POINT F, (EPM) SOUTHFLEET (BOREHOLE & TWO AUDITS) Data Type: Point Name: Thames Water Utilities Ltd Easting: 561160 Northing: 173050	Annual Volume (m³): 6,716,000 Max Daily Volume (m³): 24,200 Original Application No: NPS/WR/033754 Original Start Date: 01/04/2020 Expiry Date: 31/03/2026 Issue No: 2 Version Start Date: 20/04/2020 Version End Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.

5.9 Source Protection Zones

Records within 500m

4

Source Protection Zones define the sensitivity of an area around a potable abstraction site to contamination.

Features are displayed on the Abstractions and Source Protection Zones map on [page 134](#)

ID	Location	Type	Description
1	On site	2	Outer catchment
3	79m NW	3	Total catchment
4	364m SE	3	Total catchment
5	413m SE	1	Inner catchment

This data is sourced from the Environment Agency and Natural Resources Wales.

5.10 Source Protection Zones (confined aquifer)

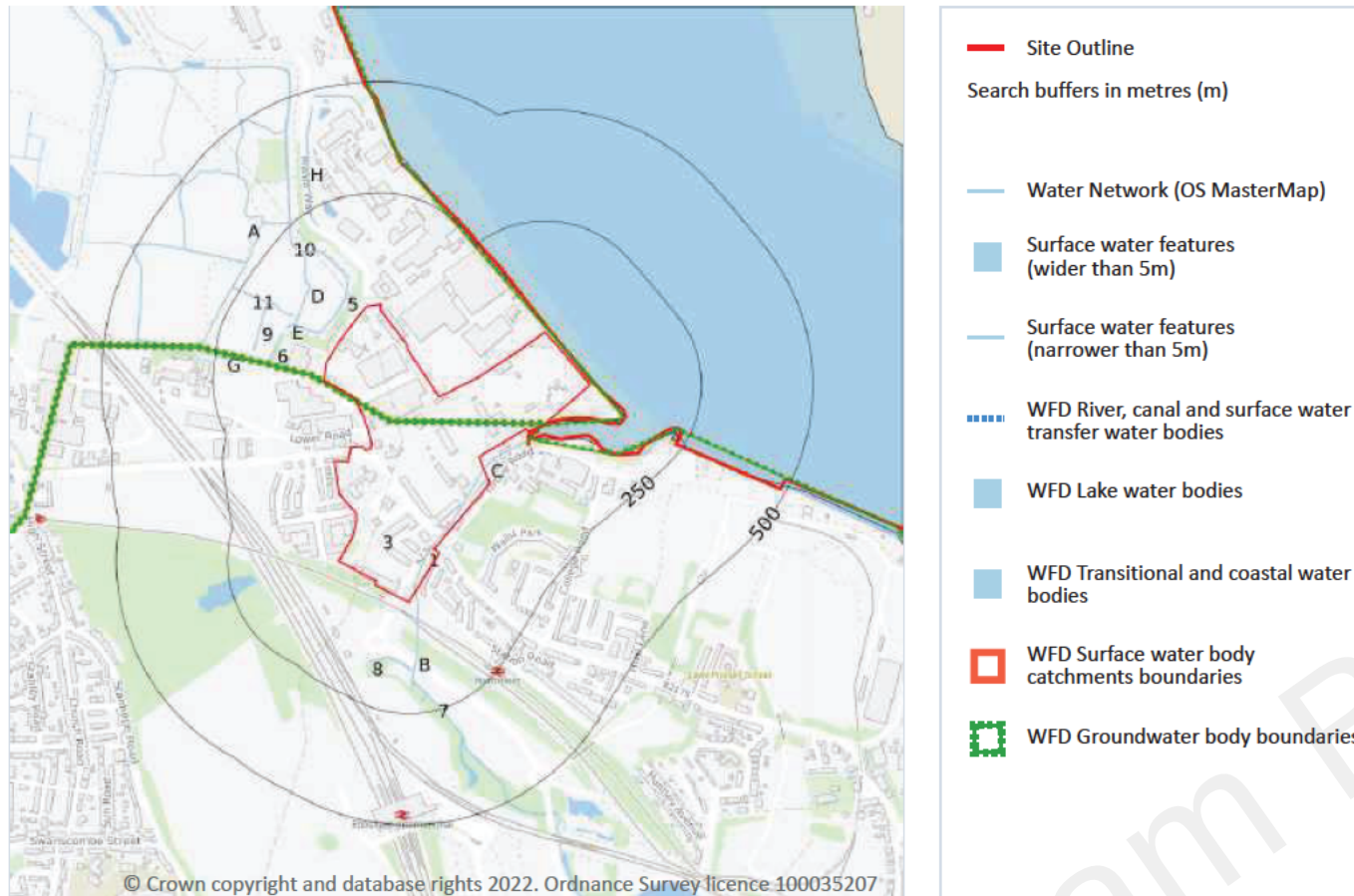
Records within 500m

0

Source Protection Zones in the confined aquifer define the sensitivity around a deep groundwater abstraction to contamination. A confined aquifer would normally be protected from contamination by overlying geology and is only considered a sensitive resource if deep excavation/drilling is taking place.

This data is sourced from the Environment Agency and Natural Resources Wales.

6 Hydrology



6.1 Water Network (OS MasterMap)

Records within 250m

22

Detailed water network of Great Britain showing the flow and precise central course of every river, stream, lake and canal.

Features are displayed on the Hydrology map on page 147

ID	Location	Type of water feature	Ground level	Permanence	Name
1	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Ebbsfleet

ID	Location	Type of water feature	Ground level	Permanence	Name
4	5m S	Tidal river or stream.	On ground surface	Watercourse contains water year round (in normal circumstances)	Robins Creek
C	9m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Ebbsfleet
C	19m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Ebbsfleet
5	42m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	103m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	103m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	117m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
6	118m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	124m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Ebbsfleet
B	124m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	125m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Ebbsfleet
B	131m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	135m NW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-



ID	Location	Type of water feature	Ground level	Permanence	Name
E	139m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
7	155m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Ebbsfleet
8	156m SW	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
9	164m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	166m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
10	182m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
11	183m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
H	210m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m	7
---------------------	---

Covering rivers, streams and lakes (some overlap with OS MasterMap Water Network data in previous section) but additionally covers smaller features such as ponds. Rivers and streams narrower than 5m are represented as a single line. Lakes, ponds and rivers or streams wider than 5m are represented as polygons.

Features are displayed on the Hydrology map on [page 147](#)

This data is sourced from the Ordnance Survey.



6.3 WFD Surface water body catchments

Records on site	1
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The Water Framework Directive is an EU-led framework for the protection of inland surface waters, estuaries, coastal waters and groundwater through river basin-level management planning. In terms of surface water, these basins are broken down into smaller units known as management, operational and water body catchments.

Features are displayed on the Hydrology map on [page 147](#)

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
3	On site	Coastal Catchment	Not part of a river WB catchment	130	Lower Medway	Medway

This data is sourced from the Environment Agency and Natural Resources Wales.

6.4 WFD Surface water bodies

Records identified	1
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Surface water bodies under the Directive may be rivers, lakes, estuary or coastal. To achieve the purpose of the Directive, environmental objectives have been set and are reported on for each water body. The progress towards delivery of the objectives is then reported on by the relevant competent authorities at the end of each six-year cycle. The river water body directly associated with the catchment listed in the previous section is detailed below, along with any lake, canal, coastal or artificial water body within 250m of the site. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each water body listed.

Features are displayed on the Hydrology map on [page 147](#)

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
2	On site	Transi	THAMES MIDDLE	GB530603911402	Moderate	Fail	Moderate	2019

This data is sourced from the Environment Agency and Natural Resources Wales.

6.5 WFD Groundwater bodies

Records on site	2
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Groundwater bodies are also covered by the Directive and the same regime of objectives and reporting detailed in the previous section is in place. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each groundwater body listed.

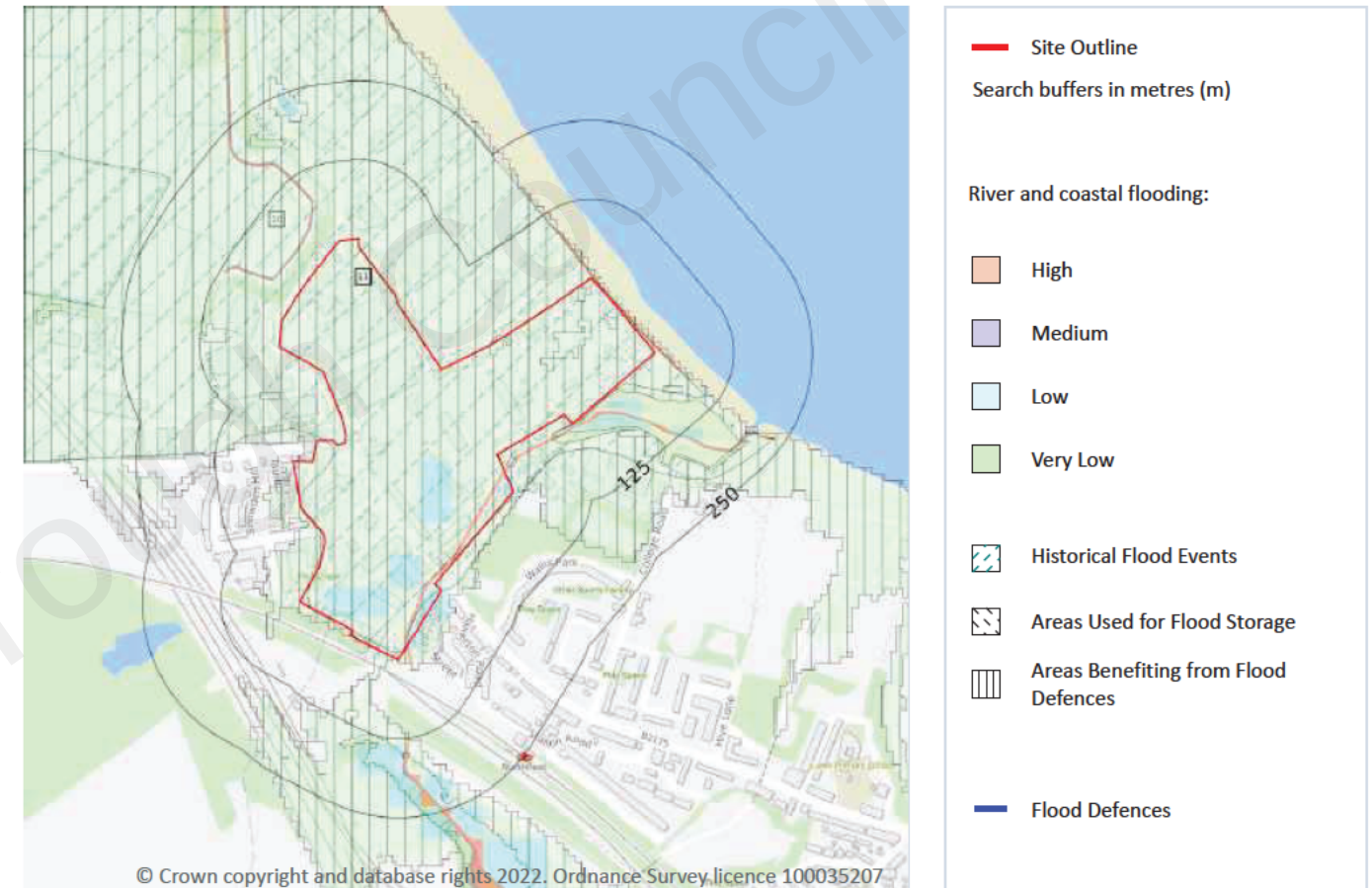
Features are displayed on the Hydrology map on [page 147](#)



ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
A	On site	West Kent Darent and Cray Chalk	<u>GB40601G501800</u>	Poor	Poor	Poor	2019
B	On site	North Kent Medway Chalk	<u>GB40601G500300</u>	Poor	Poor	Poor	2019

This data is sourced from the Environment Agency and Natural Resources Wales.

7 River and coastal flooding



7.1 Risk of flooding from rivers and the sea

Records within 50m

16

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m within the Risk of Flooding from Rivers and Sea (RoFRaS)/Flood Risk Assessment Wales (FRAW) models. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition. The risk categories for RoFRaS for rivers and the sea and FRAW for rivers are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 100 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 100 chance) or High (greater than or equal to 1 in 30 chance). The risk categories for FRAW for the sea are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 200 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 200 chance) or High (greater than or equal to 1 in 30 chance).

Features are displayed on the River and coastal flooding map on page 152

Distance	Flood risk category
On site	High

0 - 50m High

This data is sourced from the Environment Agency and Natural Resources Wales.

7.2 Historical Flood Events

Records within 250m 1

Records of historic flooding from rivers, the sea, groundwater and surface water. Records began in 1946 when predecessor bodies started collecting detailed information about flooding incidents, although limited details may be included on flooding incidents prior to this date. Takes into account the presence of defences, structures, and other infrastructure where they existed at the time of flooding, and includes flood extents that may have been affected by overtopping, breaches or blockages.

 Features are displayed on the River and coastal flooding map on [page 152](#)

ID	Location	Event name	Date of flood	Flood source	Flood cause	Type of flood
10	On site	07301e900_Feb1953_Dartford/swan scombe	1953-01-31 1953-02-01	Sea	Overtopping of defences	Tidal

This data is sourced from the Environment Agency and Natural Resources Wales.

7.3 Flood Defences

Records within 250m 0

Records of flood defences owned, managed or inspected by the Environment Agency and Natural Resources Wales. Flood defences can be structures, buildings or parts of buildings. Typically these are earth banks, stone and concrete walls, or sheet-piling that is used to prevent or control the extent of flooding.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.4 Areas Benefiting from Flood Defences

Records within 250m 2

Areas that would benefit from the presence of flood defences in a 1 in 100 (1%) chance of flooding each year from rivers or 1 in 200 (0.5%) chance of flooding each year from the sea.

 Features are displayed on the River and coastal flooding map on [page 152](#)


ID	Location	
11	On site	Area benefiting from flood defences

B 57m SE Area benefiting from flood defences

This data is sourced from the Environment Agency and Natural Resources Wales.

7.5 Flood Storage Areas

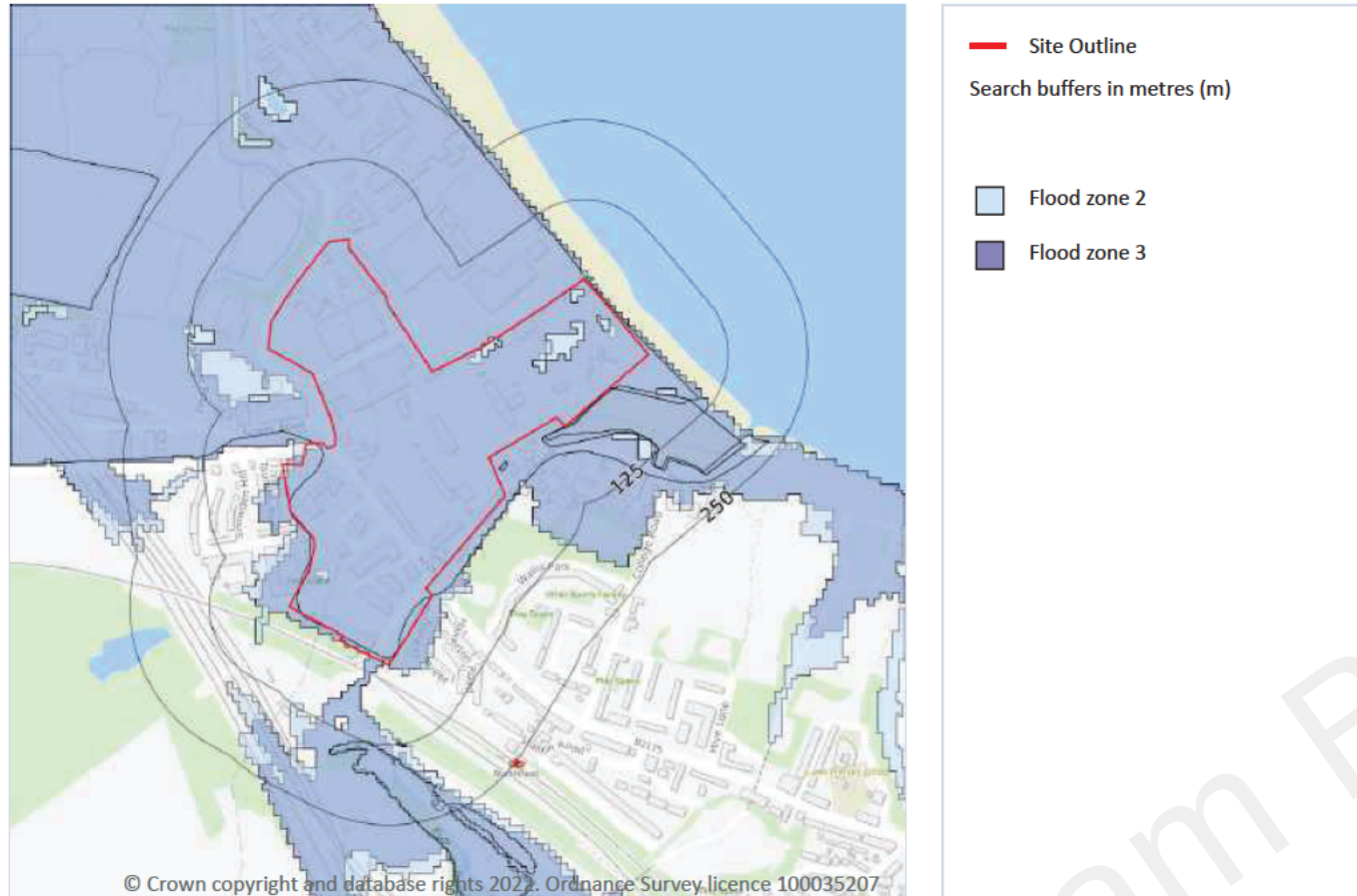
Records within 250m 0

Areas that act as a balancing reservoir, storage basin or balancing pond to attenuate an incoming flood peak to a flow level that can be accepted by the downstream channel or to delay the timing of a flood peak so that its volume is discharged over a longer period.

This data is sourced from the Environment Agency and Natural Resources Wales.



River and coastal flooding - Flood Zones



7.6 Flood Zone 2

Records within 50m

1

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land between Flood Zone 3 (see next section) and the extent of the flooding from rivers or the sea with a 1 in 1000 (0.1%) chance of flooding each year.

Features are displayed on the River and coastal flooding map on page 152

Location	Type
On site	Zone 2 - (Fluvial /Tidal Models)

This data is sourced from the Environment Agency and Natural Resources Wales.



7.7 Flood Zone 3

Records within 50m

1

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land with a 1 in 100 (1%) or greater chance of flooding each year from rivers or a 1 in 200 (0.5%) or greater chance of flooding each year from the sea.

Features are displayed on the River and coastal flooding map on page 152

Location	Type
On site	Zone 3 - (Fluvial Models)

This data is sourced from the Environment Agency and Natural Resources Wales.

