

Environmental Statement

Chapter 12: Road Drainage and the Water Environment

Appendix 12.3: Water Framework Directive Assessment

Sub Appendix E: WFD Classification Data

Author: WSP UK Limited

Document Reference: 3.12.03e

Version Number: 00

Date: March 2024



Appendix 12.3: Water Framework Directive Assessment – Sub Appendix E: WFD Classification Data

Document Reference: 3.12.03e

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1 WFD Classification Data

1.1 Norwich US Norwich WFD Water Body

Table E-1 WFD Status of the River Wensum US Norwich surface water body potentially impacted by the Proposed Scheme (source Ref 2.9)

Parameter	Current WFD Baseline Status
Water Body ID	GB105034055881
Water Body Name	Wensum US Norwich
Water Body Type	River
Water Body Area	189.25km ²
Hydromorphological Designation	Heavily modified
Reason for Designation	Hydrological regime (surface water and
	groundwater abstraction); physical
	modification; poor nutrient management;
	point source pollution; and diffuse pollution
Overall Ecological Status/Potential	Moderate
Current Overall Status/Potential	Moderate
Status Objective (overall)	Moderate (by 2015)
Justification for not Achieving Good	Disproportionate burdens
Status by 2015	No known technical solution is available



Document Reference: 3.12.3e	
Parameter	Current WFD Baseline Status
Protected Area Designation	Wensum US Norwich
	(UKGB105034055881) Drinking Water
	Protected Area
	398 Nitrates Directive (NVZ12SW013980)
	397 Nitrates Directive (NVZ12SW013970)
	401 Nitrates Directive (NVZ12SW014010)
	River Wensum (UK0012647) Habitats and
	Species Directive - SAC
	Safeguard Zone (SWSGZ1016)
	Safeguard Zone (SWSGZ1017)
	River Wensum (UKENRI73) Urban
	Wastewater Treatment Directive
Overall Biological Quality Element	Moderate
Status Objective	
Fish	High
Invertebrates	High
Macrophytes and Phytobenthos	Moderate
combined	
Overall Physico-Chemical Quality	Good
Element Status Objective	
Ammonia (Physico-Chemical)	High
Biochemical Oxygen Demand	High
(BOD)	
Dissolved oxygen	High
рН	High
Phosphate	High
Temperature	Good
Specific pollutants	High
Priority substances	Good
Priority hazardous substances	Fail
	1



Parameter	Current WFD Baseline Status
Overall Chemical Status	Fail
Overall Chemical Quality Element	Good
Status Objective	
Hydromorphology Supporting	Supports Good
Elements Status	
Hydrological regime	Does Not Support Good
Mitigation Measures Assessment	Moderate or less

1.2 Norwich DS Norwich WFD Water Body

Table E-2 WFD Status of the River Wensum DS Norwich surface water body potentially impacted by the Proposed Scheme (source Ref 2.9)

Parameter	Current WFD Baseline Status
Water Body ID	GB105034055882
Water Body Name	Wensum DS Norwich
Water Body Type	River
Water Body Area	32.5 km ²
Hydromorphological Designation	Heavily modified
Reason for Designation	-
Overall Ecological Status	Moderate
Current Overall Status	Moderate
Status Objective (overall)	Good
Justification for not Achieving Good	Poor nutrient management, Urbanisation -
Status by 2015	urban development, Sewage discharge
	(intermittent and continuous), Physical
	modification, Surface water abstraction
Protected Area Designation	Norwich Crag and Gravels (G79)
	Safeguard Zone (SWSGZ1016)
	River Wensum (UKENRI73)
	Wensum DS Norwich Drinking Water
	Protected Area (UKGB105034055882)



Overall Biological Quality Element Status Fish High Invertebrates High Macrophytes and Phytobenthos combined Overall Physico-Chemical Quality Element Status Ammonia (Physico-Chemical) High Biochemical Oxygen Demand (BOD) Dissolved oxygen High Ph High Phosphate Good Temperature High Specific pollutants High Priority substances Good Priority hazardous substances Priority hazardous substances Fail Overall Chemical Quality Element Status Objective Hydromorphology Supporting Elements Status Hydrological regime Mitigation Measures Assessment No data	Parameter	Current WFD Baseline Status
Fish High Invertebrates High Macrophytes and Phytobenthos Good combined Overall Physico-Chemical Quality Element Status Ammonia (Physico-Chemical) High Biochemical Oxygen Demand (BOD) Dissolved oxygen High Phosphate Good Temperature High Specific pollutants High Priority substances Good Priority hazardous substances Fail Overall Chemical Quality Element Status Objective Hydromorphology Supporting Elements Status Hydrological regime Does not support good	Overall Biological Quality Element	Good
Invertebrates High Macrophytes and Phytobenthos combined Overall Physico-Chemical Quality Element Status Ammonia (Physico-Chemical) High Biochemical Oxygen Demand (BOD) Dissolved oxygen High Phosphate Good Temperature High Specific pollutants High Priority substances Good Priority hazardous substances Fail Overall Chemical Status Fail Overall Chemical Quality Element Status Objective Hydromorphology Supporting Elements Status Hydrological regime Does not support good	Status	
Macrophytes and Phytobenthos combined Overall Physico-Chemical Quality Element Status Ammonia (Physico-Chemical) High Biochemical Oxygen Demand (BOD) Dissolved oxygen High Ph High Phosphate Good Temperature High Specific pollutants High Priority substances Good Priority hazardous substances Fail Overall Chemical Status Fail Overall Chemical Quality Element Status Objective Hydromorphology Supporting Elements Status Hydrological regime Does not support good	Fish	High
combined Overall Physico-Chemical Quality Element Status Ammonia (Physico-Chemical) Biochemical Oxygen Demand (BOD) Dissolved oxygen High Ph High Phosphate Good Temperature High Specific pollutants High Priority substances Good Priority hazardous substances Fail Overall Chemical Status Overall Chemical Quality Element Status Objective Hydromorphology Supporting Elements Status Hydrological regime Good Good Food Food Food Food Food Food	Invertebrates	High
Overall Physico-Chemical Quality Element Status Ammonia (Physico-Chemical) Biochemical Oxygen Demand (BOD) Dissolved oxygen PH High Phosphate Good Temperature High Specific pollutants High Priority substances Good Priority hazardous substances Fail Overall Chemical Status Overall Chemical Quality Element Status Objective Hydromorphology Supporting Elements Status Hydrological regime Good Good Food (by 2015) Supports Good Elements Status Hydrological regime Does not support good	Macrophytes and Phytobenthos	Good
Element Status Ammonia (Physico-Chemical) Biochemical Oxygen Demand (BOD) Dissolved oxygen High PH High Phosphate Good Temperature High Specific pollutants High Priority substances Good Priority hazardous substances Fail Overall Chemical Status Overall Chemical Quality Element Status Objective Hydromorphology Supporting Elements Status Hydrological regime High Supports Good Final Support good	combined	
Ammonia (Physico-Chemical) Biochemical Oxygen Demand (BOD) Dissolved oxygen High PH High Phosphate Good Temperature High Specific pollutants High Priority substances Good Priority hazardous substances Fail Overall Chemical Status Overall Chemical Quality Element Status Objective Hydromorphology Supporting Elements Status Hydrological regime High Good Good Food Food Food Food Food Food Supports Good Does not support good	Overall Physico-Chemical Quality	Good
Biochemical Oxygen Demand (BOD) Dissolved oxygen High PH High Phosphate Good Temperature High Specific pollutants High Priority substances Good Priority hazardous substances Fail Overall Chemical Status Overall Chemical Quality Element Status Objective Hydromorphology Supporting Elements Status Hydrological regime Pigh Good Good Friority Substances Fail Good (by 2015) Supports Good Elements Status Does not support good	Element Status	
(BOD) Dissolved oxygen High PH High Phosphate Good Temperature High Specific pollutants High Priority substances Good Priority hazardous substances Fail Overall Chemical Status Fail Overall Chemical Quality Element Good (by 2015) Status Objective Hydromorphology Supporting Elements Status Hydrological regime Does not support good	Ammonia (Physico-Chemical)	High
Dissolved oxygen PH High Phosphate Good Temperature High Specific pollutants High Priority substances Good Priority hazardous substances Fail Overall Chemical Status Overall Chemical Quality Element Status Objective Hydromorphology Supporting Elements Status Hydrological regime High High Good Good Fight High Good Fight Good Fight Fail Good Fail Good (by 2015) Status Objective Hydromorphology Supporting Elements Status Hydrological regime Does not support good	Biochemical Oxygen Demand	-
pH High Phosphate Good Temperature High Specific pollutants High Priority substances Good Priority hazardous substances Fail Overall Chemical Status Fail Overall Chemical Quality Element Good (by 2015) Status Objective Hydromorphology Supporting Supports Good Elements Status Hydrological regime Does not support good	(BOD)	
Phosphate Good Temperature High Specific pollutants High Priority substances Good Priority hazardous substances Fail Overall Chemical Status Fail Overall Chemical Quality Element Good (by 2015) Status Objective Supporting Supports Good Elements Status Hydrological regime Does not support good	Dissolved oxygen	High
Temperature High Specific pollutants High Priority substances Good Priority hazardous substances Fail Overall Chemical Status Fail Overall Chemical Quality Element Good (by 2015) Status Objective Hydromorphology Supporting Elements Status Hydrological regime Does not support good	рН	High
Specific pollutants High Priority substances Good Priority hazardous substances Fail Overall Chemical Status Fail Overall Chemical Quality Element Good (by 2015) Status Objective Hydromorphology Supporting Supports Good Elements Status Hydrological regime Does not support good	Phosphate	Good
Priority substances Priority hazardous substances Fail Overall Chemical Status Overall Chemical Quality Element Status Objective Hydromorphology Supporting Elements Status Hydrological regime Good Good Fail Good (by 2015) Supports Good Does not support good	Temperature	High
Priority hazardous substances Overall Chemical Status Overall Chemical Quality Element Status Objective Hydromorphology Supporting Elements Status Hydrological regime Fail Good (by 2015) Supports Good Does not support good	Specific pollutants	High
Overall Chemical Status Overall Chemical Quality Element Status Objective Hydromorphology Supporting Elements Status Hydrological regime Fail Good (by 2015) Supports Good Elements Status Does not support good	Priority substances	Good
Overall Chemical Quality Element Good (by 2015) Status Objective Hydromorphology Supporting Supports Good Elements Status Hydrological regime Does not support good	Priority hazardous substances	Fail
Status Objective Hydromorphology Supporting Elements Status Hydrological regime Supports Good Does not support good	Overall Chemical Status	Fail
Hydromorphology Supporting Elements Status Hydrological regime Supports Good Does not support good	Overall Chemical Quality Element	Good (by 2015)
Elements Status Hydrological regime Does not support good	Status Objective	
Hydrological regime Does not support good	Hydromorphology Supporting	Supports Good
	Elements Status	
Mitigation Measures Assessment No data	Hydrological regime	Does not support good
	Mitigation Measures Assessment	No data



1.3 River Tud WFD Water Body

Table E-3 WFD Status of the River Tud water body potentially impacted by the Proposed Scheme (source Environment Agency, 2022b)

Parameter	Current WFD Baseline Status
Water Body ID	GB105034051000
Water Body Name	Tud
Water Body Type	River
Water Body Area	70.2km ²
Hydromorphological Designation	Heavily Modified
Reason for Designation	Diffuse pollution and point source pollution
Overall Ecological Status/Potential	Moderate
Current Overall Status/Potential	Moderate
Status Objective (overall)	Moderate by 2015
Justification for not Achieving Good	Unfavourable balance of costs and benefits
Status by 2015	
Protected Area Designation	Norfolk Valley Fens (UK0012892) Habitats
	and Species Directive SAC
	400 Nitrates Directive (NVZ12SW014000)
	398 Nitrates Directive (NVZ12SW013980)
	397 Nitrates Directive (NVZ12SW013970)
	River Wensum (UK0012647) Habitats and
	Species Directive SAC
Overall Biological Quality Element	Good
Status Objective	
Fish	Good
Invertebrates	High
Macrophytes and Phytobenthos	Not Assessed
combined	
Overall Physico-Chemical Quality	Moderate
Element Status Objective	
Ammonia (Phys-Chem)	High



Parameter	Current WFD Baseline Status
Dissolved oxygen	Good
рН	High
Phosphate	Moderate
Temperature	High
Specific pollutants	Not Assessed
Priority substances	Does not require assessment
Priority hazardous substances	Does not require assessment
Overall Chemical Status	Good
Overall Chemical Quality Element	Good
Status Objective	
Hydromorphology Supporting	Supports Good
Elements Status	
Hydrological regime	Supports Good
Mitigation Measures Assessment	Good

1.4 Broadland Rivers Chalk and Crag WFD Water Body

Table E-4 WFD Status of the Broadland Rivers Chalk & Crag groundwater WFD water body potentially impacted by the Proposed Scheme (source Ref 2.9) at NGR TG5140908672

Groundwater Area	3075.935km ²
Description	The groundwater water body underlies the entire Proposed
	Scheme alignment. The northern area of the proposed
	alignment crosses the River Wensum. This includes the
	superficial Alluvium, RTD, Head and SCF, and WCS
	bedrock deposit. The EA has classified the superficial
	deposits as Secondary A and Secondary B Aquifers. The
	WCS bedrock is classified as Principal Aquifer.
Overall Status	Poor
Status Objective	Good 2027



Groundwater Area	3075.935km ²
Overall Quantitative	Poor
Status	
Status Objective	Good 2027
Overall Chemical	Poor
Status	
Status Objective	Good 2027
Protected Area	Nitrates Directive (NVZ12GW010780, NVZ12GW010710,
Designation	NVZ12GW010790 & NVZ12GW011710), Drinking water
	protected Area (UKGB40501G400300).
Reason for not	Groundwater Abstraction; Agricultural and Rural Land
achieving Good	Management
status	
Water body	N/A
Measures	