



ATTACHMENT A.1

NON-TECHNICAL SUMMARY



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NOVEMBER 2022

ATTACHMENT A.1.1 NON-TECHNICAL SUMMARY

1. Introduction

Mallow is a town in County Cork, approximately 30km north of Cork City and West of Fermoy. The town falls at the intersect of the N20 and N72. The River Blackwater runs through the town. The agglomeration is spread over 10 no. townlands namely, Mallow, Annabella, Lackanalooha, Kilknockan, Spaglen, Ballydahin, Quartertown Lower, Killetra, Gooldshill, and Carhookeal.

The Mallow agglomeration (D0052-01) is currently served by a sewerage system which comprises mainly combined sewers in the Town Centre area, with separated foul and storm drainage in newer developments on the outskirts of the town. A number of streets in the town have separate surface water sewers which discharge to local streams or to the River Blackwater.

The effluent from the agglomeration arises from mainly from domestic, commercial and education sources.

There are 2 no. licensed Trade Effluent activities (*i.e.*, IW-DTS-914910-01 and IW-FOG-683679-01) discharging to the agglomeration sewers under Section 16 of the Local Government (Water Pollution) Acts 1977 and 1990.

The existing sewer network in Mallow contains a number of Storm Water Overflows (SWOs) which frequently discharge untreated wastewater to the River Blackwater in the absence of any stormwater storage. The existing network is also insufficient to comply with Irish Water's design criterion for no flooding from the network in a 1:20 year return period storm event.

The WwTP at Ballyellis, Mallow is located at NGR 157318E, 097988N, and currently provides Secondary Treatment with Phosphorous Removal to the Mallow agglomeration. There is currently no Nitrogen removal at the plant. The WwTP has a current operational plant capacity of 10,500 p.e. The current design capacity of the WwTP is 18,000 p.e, however only 1 no. process stream is operational, thereby limiting the capacity of the plant. In its current configuration and setup, the plant is organically overloaded and cannot cater for the existing loads (current collected load (peak week) *ca.* 14,648 p.e. (2021 AER)).

Discharges from the Mallow agglomeration are currently authorised under Waste Water Discharge Licence (WWDL) D0052-01. Following a Waste Water Discharge Authorisation examination by the EPA on the 30th June 2021, it was recommended that a Waste Water Discharge Authorisation (WWDA) application was prepared and submitted to the EPA for determination. It was considered that the current WWDA: D0052-01, does not satisfy the environmental requirements of the WWDA Regulations as amended, and that a WWDA review was required.

The Mallow agglomeration is currently in breach of Articles 3, 4(1), 5(1) and 12 of the Urban Wastewater Treatment Directive (UWWTD) (91/271/EEC) and as such is the subject of an infringement notice from the European Court of Justice (ECJ).

In April 2019, Irish Water applied to Cork County Council Planning Authority under Section 34 of the Planning and Development Act, 2000 (as amended) for the Mallow Sewerage Scheme Upgrade Project (Ref. Planning Register Number: 195078). A final grant of planning was obtained on the 13th January 2020, subject to 41 no. conditions.

The main objectives of the Mallow Sewerage Scheme Upgrade Project are to ensure compliance with the WWDL - Licence Register Number: D0052-01; issued by the EPA in accordance with the Waste Water Discharge (Authorisation) Regulations (S.I. No. 684 of 2007) on the 18th December 2012 (now S.I. No. 214 of 2020), and subsequent Technical Amendments A and B, and to ensure compliance with Irish Water’s Water Services Strategic Plan (WSSP) which includes an objective to target capital investment to progressively achieve compliance with the UWWTD and the Water Framework Directive (WFD).

The Mallow Sewerage Scheme Upgrade Project, which consists of 2 no. contracts, namely the Networks Upgrade Contract and the Mallow WwTP Upgrade and new Mallow Bridge Pumping Station Contract. Refer to **Section 3** below for details on these projects.

Refer to **Attachment A.1.2** for the area of interest and **Attachment B.2.1** for a map of the Mallow agglomeration.

2. Description of the waste water discharges from the waste water works serving the agglomeration

Discharge Scenario as per D0052-01

Primary Discharge (SW001):

The primary discharge discharges treated effluent to the Blackwater River (Blackwater (Munster)_140) at NGR 157530E, 098140N.

Secondary Discharges:

There are no secondary discharge points associated with the waste water works.

Agglomeration Overflows:

There are currently 8 licenced SWOs associated with the agglomeration and 1 unlicensed SWO. None of these SWOs meet the definition of ‘Storm Water Overflow’ as per regulation 3 of the Waste Water Discharge (Authorisation) Regulations, 2007, as amended and the criteria as set out in the DoEHLG ‘Procedures and Criteria in Relation to Storm Water Overflows’, 1995.

Overflow	Asset	Type	Coords as per D0052-01
SW002*	Bridge Street Pumping Station	SWO	156235E, 097966N
SW003*	Network SWO	SWO	156245E, 097642N
SW004*	Network SWO	SWO	156455E, 099655N
SW005*	Network SWO	SWO	155067E, 097871N
SW006*	Network SWO	SWO	155491E, 098920N
SW007*	Network SWO	SWO	156218E, 097978N
SW008*	Network SWO	SWO	155530E, 098572N
SW009*	Network SWO	SWO	156028E, 098037N

Overflow	Asset	Type	Coords as per D0052-01
Unlicensed SWO **	Network SWO	SWO	154984E, 097847N

**To be decommissioned under the Mallow Networks Project*

*** Not licensed under D0052-01 (see 2021 AER) but to be also decommissioned under the Mallow Sewerage Scheme*

Discharges as per Subject Matter of Licence Review

Primary Discharge (SW001):

The primary discharge from the WwTP will remain at the existing primary discharge location at NGR 157530E, 098140N.

Secondary Discharges:

There are no secondary discharge points associated with the waste water works. Existing secondary discharge to be discontinued.

Dual Function Overflow (SW010):

There will be one Dual Function Overflow (SW010) at the new Bridge Street Pumping Station *i.e.*, an overflow which can act as a Storm Water Overflow (SWO) or as an Emergency Overflow (EO) depending on the event.

In the event that the storm water tank is at capacity (>2,400m³), an overflow from the storm tank will be discharged to the River Blackwater *via* a new SWO (SW010 – NGR 156636E, 097862N). Level probes will control the flow in and out of the storm tank. This high-level overflow will be capable of conveying the full storm flow of 3,500 l/s and will not permit backflow from the storm tank to the storm sump. Overflows to the storm water storage tank will be screened *via* a self-cleaning mechanical screen with a maximum passage of 6mm.

This SWO has been designed to meet the definition of 'Storm Water Overflow' as per Regulation 3 of the Waste Water Discharge (Authorisation) Regulations, 2007, as amended, and the criteria as set out in the DoEHLG 'Procedures and Criteria in Relation to Storm Water Overflows', 1995.

Provision for a standby power supply will be made at new Bridge Street Pumping Station to provide for continued operation of the pumping equipment in the event of an interruption in the power supply. In the unlikely event where the backup generator fails and where there is a prolonged power failure, the wastewater will begin to fill the stormwater tank until it reaches its capacity and will then be discharged to the Blackwater River *via* an Emergency Overflow (SW010) at NGR 156636E, 097862N.

All flows at the WwTP and Pumping Station will be monitored continuously and recorded with flowmeters.

Refer to **Attachment B.2.2: Map 4** and **Map 5** for the location of the proposed discharges.

3. Description of the wastewater works and associated waste water treatment plant

Works as per D0052-01

The WwTP is located at NGR 157318E, 097988N, and currently provides secondary treatment with Phosphorous removal to the Mallow agglomeration. The WwTP is also currently organically overloaded with a p.e. of 10,500 and an annual organic load of 14,648 p.e.

Treated effluent from the WwTP discharges directly to the Blackwater River at NGR 157530E, 098140N which is part of the Blackwater (Munster) Catchment (Hydrometric Area 18).

There is 1 no. Pumping Stations within the agglomeration at Bridge Street (NGR 156253E, 097916N) which has 1 no. Storm Water Overflow (SWO) associated with it (SW002). This discharges to the Blackwater River at NGR 156235, 097966.

As mentioned above, the Mallow agglomeration has 8 licensed SWOs and 1 unlicensed SWO which frequently discharges untreated effluent into the Blackwater River. The existing network also is non-compliant with Irish Water's design criterion. The Mallow agglomeration is also in breach of Articles 3, 4(1), 5(1) and 12 of the Urban Wastewater Treatment Directive (UWWTD) (91/271/EEC).

Details of all overflows licensed under D0052-01 are provided in **Section 2** above.

Works as per Subject Matter of Licence Review

The Mallow waste water works under this WWDL review will consist of an upgraded WwTP (design capacity 22,000 p.e.) at Ballyellis Townland (NGR 157318E, 097988N); an existing Primary Discharge (SW001) which discharges to the Blackwater River and a new Dual Function Overflow (*i.e.*, SW010 which can act as a Storm Water Overflow or Emergency Overflow depending on the event) at the new Bridge Street Pumping Station and associated sewer network.

The upgraded WwTP has been designed to meet the ELVs as per WWDL D0052-01 (Tech A), with the exception of Ortho-P, where a more onerous ELV of 1mg/l is now proposed, as provided in **Table A.1.1** below.

Table A.1.1 Proposed ELVs

Parameter	Design Standards
pH	6 - 9
BOD	25mg/l
COD	125mg/l
Suspended Solids	25mg/l
Ammonia – Total (as N)	3mg/l
Total Phosphate (as P)	2 mg/l
Ortho-Phosphate (as P)	1 mg/l

Since planning was obtained for the Mallow Sewerage Scheme Upgrade Project in 2019, a Waste Assimilative Capacity calculation was completed in 2022 to inform this WWDA review application in order to ensure that the ELVs as per D0052-01 were fit for purpose based on the latest data available (refer to **Attachment D.2.3: Waste Assimilative Capacity (WAC), October 2022**). It was concluded that a more onerous Ortho-P ELV of 1mg/l was required in order to meet the High-status 95%ile EQS downstream of the primary discharge.

These standards give effect to the principle of the Combined Approach as defined in Waste Water Discharge (Authorisation) Regulations, 2007 to 2020 in that they accommodate the Urban Waste Water Regulations, and the status and objectives of the receiving waterbody, the Blackwater River.

The design of the upgraded WwTP is greater than 2,000 p.e. and therefore in line Article 4 of the Urban Waste Water Treatment Directive, "*Member States shall ensure that urban waste water entering a collecting system shall before discharge be subject to secondary treatment or an equivalent treatment [...] for discharges to freshwater from agglomerations of between 2,000 and 10,000 pe*". In line with the above, the upgraded WwTP provides for secondary treatment, with P and also N removal.

Details of the new Dual Function Overflow (SW010) at the new Bridge Street Pumping Station are provided on **Section 2** above.

As mentioned above, all flows at the WwTP and Pumping Station will be monitored continuously and recorded with flowmeters.

Mallow Sewerage Scheme Upgrade Project

The Mallow Sewerage Scheme Upgrade Project has been designed to ensure that emissions from the works will not result in the contravention of any relevant EU Directives and National Regulations. The Project consists of 2 no. contracts, namely the Networks Upgrade Contract and the Mallow WwTP Upgrade and new Mallow Bridge Pumping Station Contract. Details of the works under each contract are provided below:

- Removal of 8 no. existing SWOs as per D0052-01, and 1 no. unlicensed SWO at Quarterstown.
- Increase the capacity of the network to convey a 1:20 year return period storm for the 30-year design horizon without causing flooding.
- A new pumping station to replace the existing Bridge Street Pumping Station at Bearforest Lower.
- Provision of a stormwater storage tank (2,400m³) at the Bridge Street Pumping Station and interconnecting pipework and overflow to the River Blackwater (Overflow NGR 156636E, 097862N). The SWO at the new Pumping Station (*i.e.*, SW010 at NGR 156636E, 097862N) has been designed to operate to meet the definition of '*Storm Water Overflow*' as per Regulation 3 of the Waste Water Discharge (Authorisation) Regulations, 2007 to 2020 and the criteria as set out in the DoEHLG '*Procedures and Criteria in Relation to Storm Water Overflows*', 1995.
- Provision of additional forward pumping capacity to the WwTP. Forward flow to the WwTP from new Bridge St. Pumping station will be limited to 3 times Dry Weather Flow (DWF). Flows in excess of 3DWF will spill into the storm sump at the Pumping Station and will then be pumped to the new storm tank.

- Replacement sewers on the foul/combined sewer network in Mallow to provide for increased flows arising from elimination of SWOs on the network and to cater for future development growth in the agglomeration.
- New rising mains to connect this Pumping Station to the sewer network at Cois na hAbhainn, Ballyellis.
- An increase in treatment capacity at Mallow WwTP to 22,000 p.e.
- Upgrade of sludge import facilities at Mallow WwTP to provide for sludge import volumes in line with National Wastewater Sludge Management Plan.
- Provision for a standby power supply will be made at the Mallow WwTP to provide for continued operation of the wastewater treatment equipment in the event of an interruption in the power supply.
- Provision for a standby power supply will be made at Bridge Street Pumping station to provide for continued operation of the pumping equipment in the event of an interruption in the power supply.
- Works will also include new SCADA and telemetry systems to ensure full compliance and compatibility as per Irish Water Design Specifications.
- All flows will be monitored continuously and recorded with flowmeters at the upgraded WwTP.

The Mallow Sewerage Scheme Upgrade Project will ensure compliance with the WWDL - Licence Register Number: D0052-01 and Irish Water's Water Services Strategic Plan (WSSP) which includes an objective to target capital investment to progressively achieve compliance with the UWWTD and the Water Framework Directive (WFD).

4. Description of the features and measures, if any, envisaged to avoid, prevent, or reduce and, if possible, offset the significant adverse effects on the environment

Irish Water are committed to ensuring that water services infrastructure operates in a manner that supports the achievement of the water body objectives under the Water Framework Directive, and their obligations under the Birds and Habitats Directives.

The WwTP upgrade works have been designed to cater for a biological load of 22,000 p.e. Secondary Treatment with Phosphorous and Nitrogen Removal is provided to ensure that the treated effluent discharge does not have a significant adverse effect on the receiving aquatic environment, and that all relevant legislative requirements are complied with (see **Attachment D.2.1**: Impact Assessment Report, November 2022 and **Attachment D.2.3**: Waste Assimilative Capacity (WAC), October 2022).

Design measures to prevent deleterious discharges from the agglomeration include the below:

- The Dual Function Storm Water Overflow/Emergency Overflow (SW010) has been designed in compliance with the definition of '*Storm Water Overflow*' as per Regulation 3 of the Waste Water Discharge (Authorisation) Regulations, 2007, as amended and the criteria as set out in the DoEHLG '*Procedures and Criteria in Relation to Storm Water Overflows*', 1995.
- A 2,400m³ Stormwater Holding Tank will be provided at the new Pumping Station, flows in excess of the Stormwater Tanks capacity will overflow to the Blackwater River.

- Overflows from the Storm Water Holding Tank will be screened by a self-cleaning mechanical screens with a maximum passage of 6mm.
- The works will include the installation of a new SCADA and telemetry system, this system will ensure compliance and compatibility with Irish Water's Design Specifications.
- Full formal training will be provided to the plant operators during the last 30 days of the Operation Service Period in order to ensure operators are capable of running the works safely and successfully.
- Provision for a standby power supply will be made at Bridge Street Pumping station to provide for continued operation of the pumping equipment in the event of an interruption in the power supply.
- Provision for a standby power supply will be made at the Mallow WwTP to provide for continued operation of the wastewater treatment equipment in the event of an interruption in the power supply.
- All flows will be monitored continuously and recorded by flowmeters which will be installed at the WwTP.

Refer also to **Section C.2** for further details of the proposed robust measures to prevent any unintended discharges to the Blackwater River.

5. The proposed technology and other techniques for preventing or, where this is not possible, reducing discharges from the wastewater works

The Mallow WwTW's has been designed, and will be operated, to ensure that the operational discharges from the agglomeration do not cause a deterioration in the quality of the receiving waters *i.e.*, Blackwater (Munster)_140.

Refer to **Section C.2** for details of the proposed measures to prevent any unintended discharges to the Blackwater (Munster)_140.

6. Description of the receiving waterbody

Mallow WwTP discharges to the Blackwater River (Blackwater (Munster)_140). The Blackwater(Munster)_140 is within the Blackwater (Munster) Catchment (Hydrometric Area 18). This catchment includes the area drained by the River Blackwater and all streams entering tidal water between East Point and Knockaverry, Youghal, Co. Cork, draining a total area of 3,310km². Mallow is the largest urban centre within the catchment.

The draft 3rd Cycle Catchment Report (2021) for this Hydrometric Area (HA), determined that for the At Risk waterbodies within the agglomeration Agriculture remains the most prevalent significant pressure, along with forestry, hydromorphology, industry, urban waste water, urban run-off, domestic waste water, mines and quarries, and other significant pressures such as abstractions, historically polluted sites, and windfarm construction. The Mallow agglomeration is not listed as a significant pressure in At Risk waterbodies in the draft 3rd cycle catchment assessment. The Blackwater (Munster)_140 and further downstream water bodies (Blackwater (Munster)_150 – Blackwater (Munster)_190) are listed as a nutrient sensitive area within the catchment downstream of large urban waste water discharges. By providing additional nutrient removal to the waste water the objective of providing tertiary treatment has been met.

The Blackwater (Munster)_140 is not listed as an area for action under the 3rd Cycle or the 2nd Cycle. The WFD Status (2013-2018 & 2016-2021) for the Blackwater (Munster)_140

is Good, and Not At Risk of achieving Good Water Quality Status by 2027. There were no significant pressures for the Blackwater (Munster)_140 identified.

The EPA monitor biological water quality at Station RS18B021500 (Rly Br Mallow LHS) which is ca. 1.5km upstream of SW010. This station was assigned a Q4 score in 2021 indicating Good water quality conditions. The station RS18B021510 (Rly Bridge, Mallow) just downstream of RS18B021500 was assigned Q3-4 – Moderate Status at the last measurement (2021). The next Q value monitoring point downstream is RS18B021800 (NE of Ballymagooly) ca. 2.5km downstream of SW001, which was monitored in 2020 and also assigned a Q4 score.

The Blackwater (Munster)_140 waterbody trend at Station RS18B021720 (downstream of the operational discharges) for Ammonium is Downwards (*i.e.*, decreasing concentrations) and for Ortho-P is Upwards (*i.e.*, increasing concentrations).

There are two ambient monitoring river stations upstream and downstream of the WwTP primary discharge location. The upstream river station (RS18B021600) is located 1.5km upstream and the downstream river station (RS18B021720) is located 560m downstream. Based on the Irish Water Compliance Data for the time period of January 2020 – July 2022 the mean concentrations of Ortho-P and Ammonia at upstream RS18B021600 station fails to meet the High Status EQS (mean) for both parameters. However, the 95%ile EQSs for High status are met. In terms of BOD, the mean and 95%ile EQSs are met for High and Good status. In terms of the downstream station, RS18B021720, for Ammonia, the mean and 95%ile EQSs are met for High and Good status. In terms of Ortho-P, the mean High status EQS is not met. Finally in terms of BOD, the mean and 95%ile Good status EQS are met, but the mean and 95%ile EQSs are not met.

There are no designated shellfish areas, designated bathing waters, drinking water abstraction points, or groundwater protection schemes within the vicinity of the primary discharge. There are a number of other designations within the wider surrounding environment (refer to **Attachment D.1: Map 8** - Receiving Water Designations). These are detailed below.

The Blackwater (Munster)_140 is designated as a nutrient sensitive area in accordance with the Urban Waste Water Treatment (UWWT) Directive 91/271/EEC on Urban Waste Water Treatment and S.I. No. 254 of 2001, S.I. No. 440 of 2004 and S.I. No. 48 of 2010, with P being the limiting nutrient in this waterbody. One completed the upgraded WwTP will be compliant with the Urban Wastewater Treatment Directive and will provide for P and also N removal.

The Blackwater River is designated as a Salmonid River (Blackwater [Munster]) under the Salmonid River Regulations (S.I. No. 293 of 1988). The completion of the upgrade works at the WwTP to meet the ELVs as per D0052-01, including a more onerous Ortho-P ELV, and the completion of the proposed Networks Projects will contribute towards compliance with the European Communities Environmental Objectives (Surface Water) Regulations, 2009, as amended (now S.I. No. 77 of 2019), and will assist in the efforts to maintain the Good WFD Status of the waterbody, and also in maintaining the current High status for both Ammonium and Ortho-P. This will provide a high level of protection to the Blackwater (Munster)_140 and the Atlantic Salmon contained therein, thereby ensuring that the

operational discharges do not cause a breach of the European Communities (Quality of Salmonid Waters) Regulations, 1988 (S.I No. 203 of 1988) in the River.

The River Blackwater (Munster) is a designated Freshwater Pearl Mussel (*Margaritifera Margaritifera*) site listed under the first Schedule of the European Communities Environmental Objectives (Fresh Water Pearl Mussel) Regulations (S.I. No. 296 of 2009). The assimilative capacity calculations completed to inform this WWDA review, indicate that under low flow conditions (worst case scenario), that High status water chemistry conditions can be achieved by the primary discharge in the receiving waterbody even in the context of background/upstream pressures. Given the proposed stringent ELV's and the network upgrades, the operational discharges will support appropriate water chemistry conditions and will therefore not hinder the restoration of the conservation objectives (and FPM Regulation standards) for macroinvertebrates, filamentous algae, phytobenthos, macrophytes and siltation. Thereby ensuring that the Ecological Quality Objectives as set out in the fourth schedule of the European Communities Environmental Objectives (Fresh Water Pearl Mussel) Regulations (S.I. No. 296 of 2009) can be maintained.

The Blackwater Valley (Killavulllen) pNHA is located ca. 9km downstream of Mallow primary discharge point and the Blackwater Valley (Ballinvurrig Wood) pNHA is located ca. 12km downstream along the River Blackwater.

The operational discharges are direct into the Blackwater River (Cork/Waterford) SAC. Further downstream of the operational discharges (ca. 27km) the next closest European site is the Blackwater Callows SPA (Site code: 004094) and then the Blackwater Estuary SPA (Site code: 004028) which is located > 50km downstream. The Kilcoman Bog SPA is located ca. 11km north of the agglomeration, and although not hydrologically connected there is the potential pathway for *ex-situ* bird species.

The Blackwater River (Cork/Waterford) SAC is a Special Area of Conservation (SAC) selected for many habitats and/or species listed on Annex I / II of the E.U. Habitats Directive, this includes water dependent species such as Freshwater Pearl Mussel (*Margaritifera margaritifera*), [1092] White-clawed Crayfish (*Austropotamobius pallipes*), [1095] Sea Lamprey (*Petromyzon marinus*), [1096] Brook Lamprey (*Lampetra planeri*), [1099] River Lamprey (*Lampetra fluviatilis*), [1103] Twaite Shad (*Alosa fallax*), [1106] Atlantic Salmon (*Salmo salar*), [1355] Otter (*Lutra lutra*), and [1421] Killarney Fern (*Trichomanes speciosum*). The Blackwater Callows SPA's qualifying interests are Whooper Swan (*Cygnus cygnus*) [A038], Wigeon (*Anas penelope*) [A050], Teal (*Anas crecca*) [A052], Black-tailed Godwit (*Limosa limosa*) [A156] and Wetland and Waterbirds [A999]. The Blackwater Estuary SPA qualifying interests are Wigeon (*Anas penelope*) [A050], Golden Plover (*Pluvialis apricaria*) [A140], Lapwing (*Vanellus vanellus*) [A142], Dunlin (*Calidris alpina*) [A149], Black-tailed Godwit (*Limosa limosa*) [A156] Bar-tailed Godwit (*Limosa lapponica*) [A157], Curlew (*Numenius arquata*) [A160], Redshank (*Tringa totanus*) [A162] and Wetland and Waterbirds [A999]. The Kilcoman Bog SPA's qualifying interests are the Whooper Swan (*Cygnus cygnus*) [A038], Teal (*Anas crecca*) [A052], Shoveler (*Anas clypeata*) [A056] and Wetland and Waterbirds [A999].

Refer to **Attachment B.5** for a copy of the Environmental Impact Assessment Report and **Attachment D.2.2** for a copy of the combined AA Screening Report & Natura Impact Statement for further details on the receiving environment.

7. Description of the likely significant effects of the discharges on the environment

Based on the proposed effluent discharge standards (see **Table A.1.1** above) and the WAC calculations carried out for same (see **Attachment D.2.3**), it is considered that the operational discharges from the Mallow agglomeration would have no real likelihood of significant adverse effects on the receiving aquatic environment, alone or in combination with other plans and projects.

The effluent discharge standards will ensure that the discharge from the Mallow WwTP contributes towards maintaining the Good WFD status of the Blackwater (Munster)_140 and in maintaining the High WFD status of Ammonium and Ortho-P in accordance with S.I. No. 77 of 2019, and thereby will ultimately ensure that there is no environmental risk posed to the receiving water environment, as a result of the discharges from the agglomeration.

Refer to **Attachment B.5** for a copy of the Environmental Impact Assessment Report and **Attachment D.2.2** for a copy of the combined AA Screening Report & Natura Impact Statement for further details on likely significant effects of the discharges on the environment.

8. Measures planned to monitor discharges into the environment

Effluent Monitoring:

It is proposed that effluent from Mallow WwTP will be sampled and analysed (using the standard method of analysis) as follows:

Table A.1.4 – Proposed Effluent Monitoring Regime (as per D0052-01 Technical Amendment A)

Parameter	Units	Monitoring Frequency	Sampling Method	Analysis method/Technique
pH	pH Unit	Daily	Composite	Electrode
BOD	mg/l	Monthly	Composite	Standard Method
COD	mg/l	Monthly	Composite	Standard Method
Suspended Solids	mg/l	Monthly	Composite	Standard Method
Total Phosphorus (as P)	mg/l	Monthly	Composite	Standard Method
Orthophosphate (as P)	mg/l	Monthly	Composite	Standard Method
Ammonia	mg/l	Monthly	Composite	Standard Method
Tributyltin	ug/l	Biennially	Composite	Thermometer
Visual inspections	Descriptive	Daily	Grab	Standard Method

Ambient Monitoring:

It is proposed that ambient monitoring and analysis will continue to be carried out upstream and downstream of the primary discharge, in line with any new licence requirements.

Table A.1.5 – Proposed Ambient Monitoring Locations and Parameters

Monitoring Location					Name of Receiving Water
156117	E	098008	N	Upstream aSW1u	Blackwater(Munster)_130
158083	E	098036	N	Downstream aSW1d	Blackwater(Munster)_140

Table A.1.6 – Proposed Ambient Monitoring Regime

Parameter	Units	Monitoring Frequency	Analysis method
pH	pH Unit	Ten Samples/Year	Electrode
BOD	mg/l	Ten Samples/Year	Standard Method
DO	% O ₂	Ten Samples/Year	Electrode
Orthophosphate (as P)	mg/l	Ten Samples/Year	Standard Method
Total Phosphorus	mg/l	Ten Samples/Year	Standard Method
Total Ammonia	mg/l	Ten Samples/Year	Standard Method
Temperature	°C	Ten Samples/Year	Standard Method
Visual inspections	Descriptive	Weekly	Standard Method

9. Hours during which the wastewater works is supervised or manned and days per week of this supervision

The Mallow WwTP runs automatically and is capable of being monitored on a daily basis via the SCADA system. The WwTP is a manned site during normal working hours on Monday – Friday with 24 hour call out response where the amount of time spent on site will vary depending on various factors *e.g.*, weather or breakdowns in plant or maintenance works required such as cleaning of the intake screens *etc.* In general, there are 1-2 people on site during normal operation of the plant. There is also a maintenance team on site for roughly one week a month to carry out any repairs or any other scheduled larger maintenance that may be required.

10. In the event of a review application, state the grounds for which this review application is being made

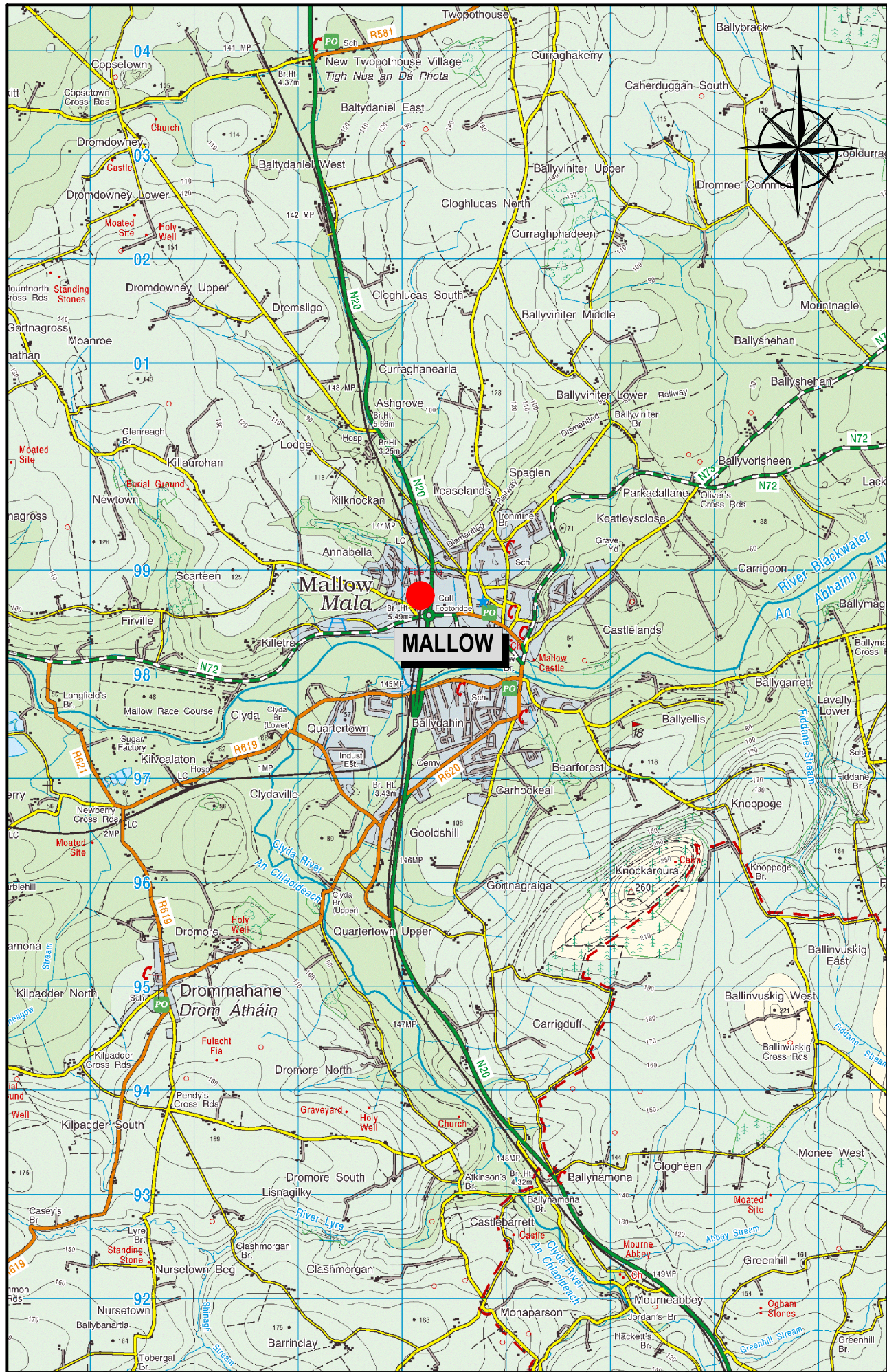
Following an examination of the Mallow WWDA in June 2021, the EPA concluded that the WWDA does not satisfy the environmental requirements of the WWDA 2007 regulations, as amended. The reasoning for their conclusion and recommendation for a review of the current WWDA D0052-01 was based on the following:

1. The licence was granted over 3 years ago.

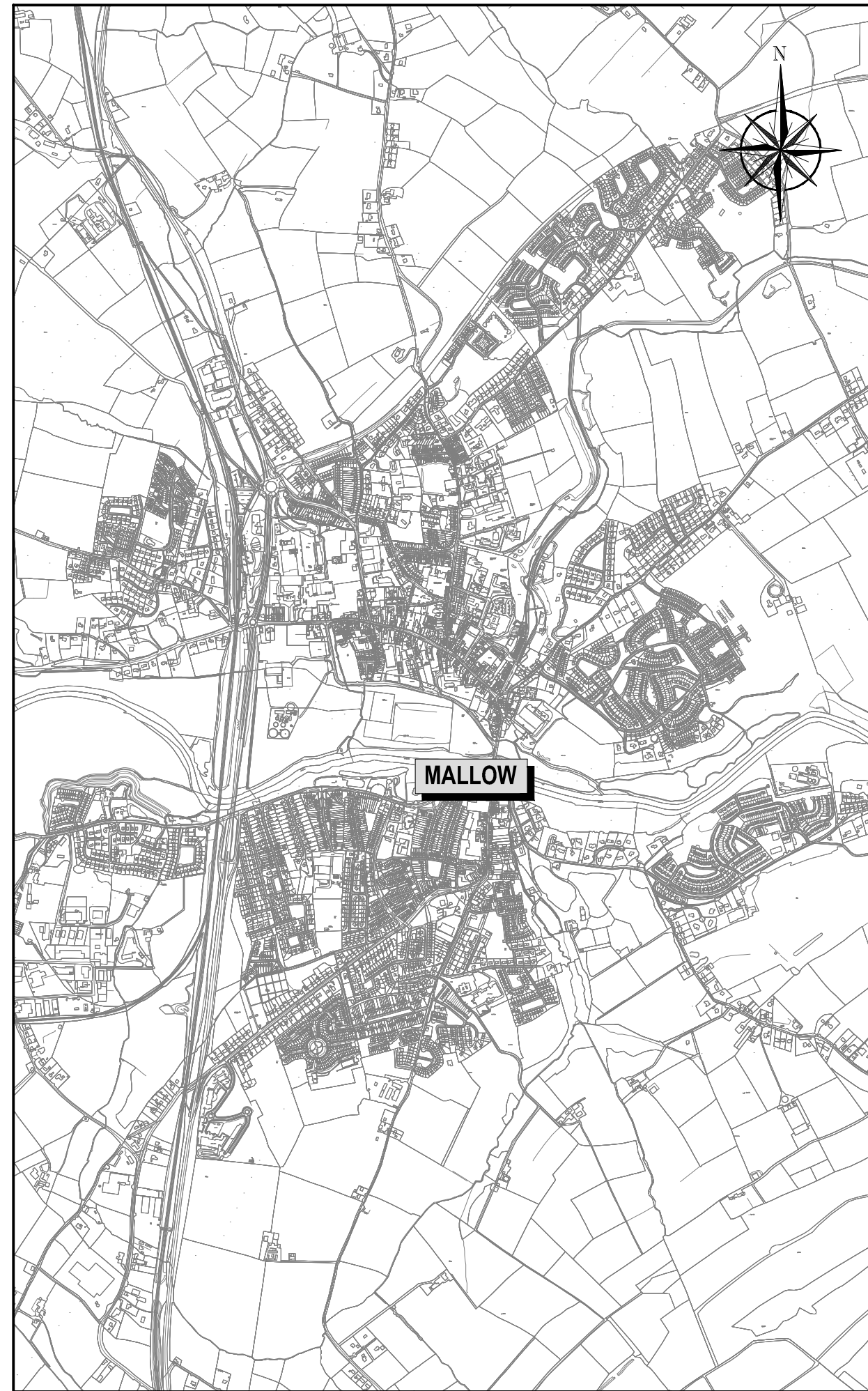
2. Planning permission has been granted for proposed development works associated with the licence.
3. The agglomeration is included in Irish Water's investment plan.
4. Non-compliance with:
 - Upgrade of the sewerage network, as set out in Schedule C: Specified Improvement Programme, by 01/06/2016.
 - Installation of a pumping station overflow holding tank, as set out in Schedule C: Specified Improvement Programme, by 01/06/2016 and
 - Discontinuation of storm water overflow discharges, as set out in Schedule C: Specified Improvement Programme, of this licence, by 01/06/2016.



ATTACHMENT A.1.2:
MAP 1 – AREA OF INTEREST



MALLOW LOCATION MAP
SCALE 1:50,000



MALLOW LOCATION PLAN
SCALE 1:20,000


NOTES
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SIGNED: _____
PRINT NAME: _____
POSITION: _____
DATE: _____

FOR IRISH WATER

REV	DATE	DESCRIPTION	D	C	A

DISCHARGE LICENCE

CLIENT
 **IRISH WATER**
 Colihill House,
 24-26 Talbot Street,
 Dublin 1.
 Tel. 1890 278 278 Web. www.water.ie

PROJECT
MALLOW
WASTE WATER DISCHARGE
LICENCE APPLICATION

TITLE
MAP 1
AREA OF INTEREST

SCALES	DRAWN
AS SHOWN	D. Smithers
CAD REFERENCE	DATE
20893-NOD-WWDL-06	17.08.2022

ATTACHMENT	REV
A.1.2	-