

# ATTACHMENT: Assessment of Emissions to Surface Water

## TITLE: D.1.2

Arrow Group	The Maudlins Industrial Estate,	Issue Date: 21/01/2023
IE Licence Review	Naas, Co. Kildare	PO812-02

### ASSESSMENT OF EMISSIONS TO SURFACE WATER

#### Stormwater Emissions

Stormwater from roof and clean-yard areas are collected in stormwater drains located throughout external hardstanding areas and convene at the settlement chambers and Class I Bypass Separator prior to discharge at SEP1 to a Grand Canal Feeder and then the River Morell (09MO1).

#### Stormwater Control Measures

A manual shut off valve is installed prior to the Bypass Separator and SEP1. Visual Inspections are carried out daily in accordance with condition 6.11.1. of the IE Licence. Weekly sampling is carried out for all parameters in line with CEN standards. A flushing of gullies and drains programme is in place in accordance with condition 6.9.3 of the IE licence. There are always adequate stock of containment booms and absorbent material on site in accordance with condition 3.7 of the IE licence. Additionally, there are drain mat protectors installed in all areas of stormwater gullies as additional control and preventative measures.

#### Stormwater Trigger Levels

A Stormwater Trigger Level Assessment was carried out on 29<sup>th</sup> January 2015 based on EPA “Guidance Note on the Setting of Trigger Values for Storm-water Discharges to off-site Surface Waters at EPA IPPC & Waste Licenced Facilities” (EPA, 2012)”.

Date	Ammonia NH4 (mg/l)	COD (mg/l)	BOD (mg/l)	Conductivity (µS/cm)	pH
Warning Limit	1.6	50	8	950	7 & 8.4
Action Limit	1.8	80	9	980	6.7 & 8.8
Average 2020	0.6	17	3.9	509	7.8
Average 2021	0.7	21	4.5	530	7.7
Average 2022	0.6	17	3.9	509	7.8
Compliance	100%	100%	100%	100%	100%

#### EPA River Quality Surveys: Biological

EPA River Quality Surveys have been carried out across seven monitoring location of the Morell River between 1981 and 2019. The most recent survey was carried out on the on the 22<sup>nd</sup> and 23<sup>rd</sup> of July 2019. This concluded that:

*“The macroinvertebrate community indicated maintenance of satisfactory ecological conditions at the uppermost site (0060) on the Morell river. However, poor ecological conditions persist downstream at station 0100. The 0150 station at Sherlocks town improved from Poor to Moderate conditions, while Moderate conditions persist at lowermost station (0300) with sign of enrichment evident.”*

The closest upstream location to SEP1 is Station number RS09M010150 - Br N.E. of Sherlocks town at located 3.39 km upstream of SEP1 . The Q Values at this location range between Q3-4.

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**Biological Quality Rating**

Station Code	1981	1982	1986	1988	1991	1998	2002	2005	2007	2010	2013	2016	2018	2019
RS09M010060						4	4	4		3-4	3-4	3-4	4	4
RS09M010080			4-5	4	4									
RS09M010100	3	4	4	4	4	3	3	4	3-4	3	3	3	3	3
RS09M010150			3	3	3	3*	3	3-4	3-4	3-4	3-4	3	3	3-4
RS09M010200		3	3	3	3-4									
RS09M010250				3										
RS09M010300	5	4	4	4	3-4	4	4	4	4-5	4	4	3-4		3-4

**Station Details:**

Station Code	Station Location	WFD Waterbody Code	Easting	Northing	Local Authority
RS09M010060	South Br W of Tipper Ho	IE_EA_09M010060	291852	218880	Kildare County Council
RS09M010080	Morell - Bridge near Fishery	IE_EA_09M010100	291373	220463	Kildare County Council
RS09M010100	Bridge in Johnstown	IE_EA_09M010100	291902	221598	Kildare County Council
RS09M010150	Br N.E. of Sherlockstown	IE_EA_09M010150	291579	224818	Kildare County Council
RS09M010200	Morell - Just u/s Painestown River confl	IE_EA_09M010300	292110	226900	Kildare County Council
RS09M010250	Morell - Bridge d/s Painestown River confl	IE_EA_09M010300	292274	227284	Kildare County Council
RS09M010300	Br u/s Liffey R confl	IE_EA_09M010300	292668	228851	Kildare County Council

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Station No.	Station Location	National X	National Y	Approx. Location Relative to Discharge Point
RS09M010060	South Br W of Tipper Ho	291852	218880	2.5 km Downstream
RS09M010080	Morell - Bridge near Fishery	291373	220463	1.08 km Downstream
RS09M010100	Bridge in Johnstown	291902	221598	1.05 km Downstream
RS09M010150	Br N.E. of Sherlockstown	291579	224818	3.39 km Upstream
RS09M010200	Morell- Just u/s Painestown River confl	292110	226900	5.85 km Upstream
RS09M010250	Morell - Bridge d/s Painestown River confl	292274	227284	5.94 km Upstream
RS09M010300	Br u/s Liffey R confl	292668	228851	7.37km Upstream