

3. The Water Environment

Introduction

- 3.1 This addendum presents a review of both the original EIA submission (March 2014) and the previous EIA addendum (March 2019) to ensure that any changes identified in relation to the local water environment are described along with any predicted impacts that may occur during construction and operational phase.
- 3.2 The original EIA submission (March 2014) assessed the water environment associated with the site and its wider context. As part of the original assessment, desk and site studies were undertaken. The application site does not contain any watercourses which are designated under the terms of the Drainage (NI) Order 1973.
- 3.3 Boghill Road upgrade works will pass over the Flush River and a tributary of the same watercourse. Flush River flows into Hydepark Dam and eventually enters the designated Ballymartin Water which is one of the main tributaries of the Six Mile Water. The Six Mile Water flows into Lough Neagh at Antrim. The catchment is primarily rural, with no known flooding issues, however downstream of this point there are some flood issues associated with the Ballymartin Water (due to extensive urbanisation in this area and the Blackwater Drain catchment. The proposed Boghill Road upgrade works will pass over the Flush River and a tributary of the same watercourse. Flush River flows into Hydepark Dam and eventually enters the designated Ballymartin Water which is one of the main tributaries of the Six Mile Water. The Six Mile Water flows into Lough Neagh at Antrim. The catchment is primarily rural, with no known flooding issues, however downstream of this point there are some flood issues associated with the Ballymartin Water (due to extensive urbanisation in this area and the Blackwater Drain catchment.
- 3.4 The key findings from the original 2014 assessment are as follows:
- Construction impacts will be controlled via measures and procedures included within the Construction Management Plan (CMP) which incorporates an Environmental Management Plan (EMP);
 - Operational impacts from the proposed development will be controlled by a comprehensive drainage network with associated attenuation ponds (SuDS) which limits the flows from the site to greenfield run-off rate (and is explained in detail in the proposed mitigation section of this chapter). Therefore, the proposed development works, through its surface water management system, will not increase the flood risk elsewhere; and
 - The operation of the site in terms of water quality and drainage will be governed by Discharge Consents and Pollution Prevention Control (PPC) Licence conditions and will, therefore, be subject to overview by NIEA. An Environmental Management System (EMS) will be implemented for the operation of the entire plant and will cover all operational procedures that may impact on the environment.

- 3.5 The 2019 addendum provided updates to the Water Framework Directive (WFD) Classifications and the WFD Assessment. Overall the predicted impacts of the original 2014 assessment remained valid.
- 3.6 Following the March 2019 Addendum submission, DfI Rivers responded requesting a Drainage Assessment to be provided in accordance with PPS15. The Drainage Assessment was prepared by Arup and submitted in August 2019 with a subsequent Schedule 6 consent renewal submitted as part of an ES Addendum in October 2020.
- 3.7 The principal aim of this Chapter is to identify any changes to the local water environment (since the March 2014 assessment and 2019 addendum) which require consideration in relation to the proposed development. This addendum Chapter should be considered along with the original 2014 assessment Chapter and 2019 addendum. Any updated information identified in relation to the local water environment within or near the site are described alongside the potential impacts that may occur during construction and operational phase.

Methodology

- 3.8 A site visit and a review of published information have been undertaken to inform this addendum. The following databases have been consulted to identify any changes in terms of the baseline information utilised in both the 2014 assessment and the 2019 addendum:
- Geindex – which contains information on the hydrogeology of the area; and
 - Department of Environment Agriculture and Rural Affairs (DAERA) Interactive Water Framework Directive (WFD) Mapping.
- 3.9 Direct consultation also took place with DAERA Water Management Unit (WMU) to obtain the most recent WFD information.
- 3.10 This updated information has been used to inform the updated Water Framework Directive Assessment which is contained as Appendix 3.1. DAERA guidance on carrying out WFD assessment has not changed since the original assessment in 2014.
- 3.11 A review has taken place of the recently approved (14/03/2023) planning application (LA03/2022/0649/F) at the site for the “Erection of a replacement Coated Roadstone Plant and associated ancillary development to include bitumen storage tanks; aggregate and recycled asphalt pavement storage bays; hoppers; storage silos and conveyors” to determine awareness of an potential future baseline at the site.
- 3.12 A summary is also provided of the 2019 Drainage Assessment and status of the Schedule 6 consent to discharge storm water from the site.

Assessment

- 3.13 Information originally obtained from the “Geindex” databases relating to hydrogeology remain valid. Updated WFD classifications has been obtained for waterbodies downstream of the

application site. WFD classifications are based on a six-year cycle, the current cycle is 2015-2021.

- 3.14 If a water body is classified as 'high' or 'good' status then it has a healthy ecology, which deviates only slightly from natural conditions, is an important natural asset and can support a wide range of issues such as recreation, fishing and drinking supply. If a water body is classified as 'moderate', 'poor' or 'bad' then the ecology is adversely affected and the range of uses that can be supported is reduced.
- 3.15 Some water bodies have been modified to such an extent that they can no longer be restored to their original condition without compromising their current use. These are known as Heavily Modified Water Bodies (HMWB). There are four classes for the status of HMWB's as follows:
- Special Good ecological potential or better (GEP);
 - Moderate ecological potential (MEP);
 - Poor ecological potential (PEP); and
 - Bad ecological potential (BEP).
- 3.16 Table 3.1 displays the most recently available (June 2021) WFD classifications for waterbodies downstream of the application site. This shows that there have been no changes in the classifications for these waterbodies between the 2015 and 2021 updates.

Table 3.1 Latest WFD River Basin Management Plan (RBMP) Classifications

Water Body Name	2009	2010	2011	2015	2021
Ballymartin Water / Flush River (Freshwater Class)	MEP	MEP	MEP	MEP	MEP
Six Mile Water (Reach between Ballymartin Water and Lough Neagh) (HMWB Class)	PEP	PEP	MEP	MEP	MEP
Lough Neagh (HWMB Class)	BEP	BEP	BEP	BEP	BEP

- 3.17 Utilising the latest WFD information, the WFD Assessment located in Appendix 3.1 has been updated. The mitigation measures detailed in Schedule B of the WFD Assessment remain the same as the 2014 assessment and the 2019 addendum i.e.:

- **Storm Water and Treated Foul Discharge from Operational Area – Component 1** Foul discharges to be treated in Package treatment plans before entering SuDS Lagoon. All storm

water discharge passes through SuDS Lagoon. No operational discharges are made from the operational site. Construction mitigation procedures in operation.

- **Boghill Road Drainage – Component 2** Gullies and Petrol interceptor to be installed to minimise siltation and hydrocarbon potential. No road gullies or interceptors with existing situation. Construction mitigation procedures in operation.
- **Boghill Road Drainage – Component 3** Gullies and Petrol interceptor to be installed to minimise siltation and hydrocarbon potential. No road gullies or interceptors with existing situation. Construction mitigation procedures in operation.
- **Boghill Road Drainage – Component 4** Gullies and Petrol interceptor to be installed to minimise siltation and hydrocarbon potential. No road gullies or interceptors with existing situation. Construction mitigation procedures in operation.
- **Boghill Road New Bridge Structure – Component 5** Watercourse realignment with flexi-arch bridge to replace existing bridge. The capacity of the new channel will be no less than the existing situation. Flexi arch clearance greater than existing situation. Construction mitigation procedures in operation including specific measures for Works In or Adjacent to Watercourses.
- **Boghill Road New Bridge (Blacks Bridge) – Component 6** Flexi arch bridge to replace existing bridge. Flexi arch clearance greater than existing situation. Construction mitigation procedures in operation including specific measures for Works In or Adjacent to Watercourses.

Drainage Assessment and Schedule 6 Consent

3.18 A Drainage Assessment was prepared and submitted to DfI Rivers in August 2019. There are no proposed changes to the drainage design proposals which can be summarised as follows:

- the run-off from the application site will be limited to the equivalent greenfield run off rate (10l/s per hectare);
- The proposed discharge rate from the main site will be restricted to 201 litres per second during the 1 in 100 year design event plus an additional flow of 20% for climate change through the provision of a proposed attenuation basin (as agreed with DfI Rivers) with an adequate storage volume of approximately 5,582m³. A hydrobrake flow control device will be placed in a chamber which is located immediately downstream of the basin;
- It is proposed to utilise an existing site drainage outfall for the main site area which currently discharges to a tributary watercourse of the Flush River. The attenuation basin outlet pipe will convey flows from the proposed attenuation basin to the existing reedbed ponds. The reedbed ponds currently discharge to an existing drainage ditch which conveys flows to the Flush River;
- A Schedule 6 consent to discharge storm water from the application site has been granted by DfI Rivers. This has been renewed for a further time and is provided at Appendix 3.2;

- As a result of the proposed Boghill Road realignment, the construction of a new road drainage system will be required which includes new road drainage outfall headwall structures to the Flush River and a tributary of the Flush River. The discharge rates for new outfalls to be provided will be restricted to the existing brownfield runoff rate. This will be achieved through provision of attenuation storage within the new drainage system i.e. enlarged pipes and chambers and through the use of orifice plate or hydrobrake flow control devices to be located upstream of the outfall points to the receiving watercourses.
- 3.19 The proposed Boghill Road improvements will include the replacement of both existing Flush and Blacks Bridges. A preliminary hydraulic assessment undertaken as part of the Drainage Assessment demonstrates that the extent of fluvial flooding/flow is considered to be limited and contained within the existing watercourse channel.
- 3.20 Notwithstanding this, the applicant will be required to obtain Schedule 6 consent for the required works relating to the bridge replacements. A detailed river model of both watercourses will be provided as part of the Schedule 6 applications to demonstrate that the abutments or culvert walls will be positioned outside of any Q100 floodplain.
- 3.21 The proposed development complies with Policy FLD1 and FLD3 of Planning Policy Statement 15 'Planning and Flood Risk' insofar as the proposed development is located outside of the floodplain and adequate measures will be in place to mitigate flood risk to the proposed development and from the development elsewhere.

Conclusion

- 3.22 From the review provided in this Chapter, the WFD classifications have been updated in relation to waterbodies downstream from the application site. The WFD Assessment located in Appendix 3.1 has been updated with this information.
- 3.23 The Drainage Assessment submitted to DfI Rivers has also been reviewed and summarised. A renewed Schedule 6 Consent to Discharge (from the application site) is located in Appendix 3.2.
- 3.24 The recently approved planning permission on the application site does not impact the findings of these assessments.
- 3.25 The findings and conclusions of the original 2014 WFD assessment and previous 2019 addendum remain valid. Therefore, the overall predicted impacts and suggested mitigation from the original 2014 ES remain valid.