

3. The Water Environment

Introduction

- 3.1 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.
- 3.2 The proposed Boghill Road upgrade works will pass over the Flush River and a tributary of the same watercourse. Flush River flows into Hyde Park 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).
- 3.3 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.
- 3.4 The principal aim of this Chapter is to identify any changes to the local water environment (since the March 2014 assessment) which require consideration in relation to the proposed development. This addendum Chapter should be considered along with the original 2014 assessment Chapter. 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

3.5 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 the 2014 assessment:

- Geoindex – which contains information on the hydrogeology of the area; and
- Department of Environment Agriculture and Rural Affairs (DAERA) Interactive Water Framework Directive (WFD) Mapping.

3.6 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.

Assessment

3.7 From the databases that have been reviewed updated WFD classifications have been obtained for waterbodies downstream of the application site. WFD classifications are based on a six-year cycle, i.e. 2015 classification is based on the 2008-14 data aggregated.

3.8 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 uses 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.

3.9 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).

3.10 Table 3.1 displays the most recently available (December 2018) 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 2011 and 2015 updates.

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

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

3.11 The WFD latest results published in 2015, predict objectives for 2021 and 2027 and these are included in Table 3.2. This table reflects higher objectives for 2021 and 2027 compared to what was actually achieved in previous monitoring periods as displayed in Table 3.1.

Table 3.2 WFD RBMP Objectives

Water Body Name	2021 Objective	2027 Objective
Ballymartin Water / Flush River (Freshwater Class)	Good	Good
Six Mile Water (Reach between Ballymartin Water and Lough Neagh) (HMWB Class)	GEP	GEP
Lough Neagh (HWMB Class)	MEP	GEP

3.12 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, 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.

Conclusion

- 3.13 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. The findings and conclusions of the original 2014 WFD assessment remain valid. The predicted impacts and suggested mitigation from the original 2014 ES remain valid.