

WATER FRAMEWORK DIRECTIVE ASSESSMENT

Westbourne House, Birmingham Road
Cowes, Isle of Wight

Limewave Ltd

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1 INTRODUCTION

1.1 Project Background

1.1.1 E3S Consulting Ltd (E3S) have been engaged by Limewave Ltd (the client) to undertake a Water Framework Directive (WFD) Assessment. The WFD assessment is required to support the proposed plans at Westbourne, Birmingham Road, Cowes, Isle of Wight (the site). OS Grid Reference at the approximate centre of site: SZ 49787 95835.

1.2 Proposed Development

1.2.1 It is understood that the development proposal is for the extension of the existing deck and linkspan to a floating pontoon.

2 METHODOLOGY

2.1 The Water Framework Directive

2.1.1 The WFD establishes a framework for the management and protection of Europe's water resources. The overall objective is to achieve good status (GS) in all inland, transitional, coastal and ground waters, unless there are set alternative objectives and appropriate reasons for time limited derogation.

2.1.2 The environmental objectives of the WFD are to:

- Prevent deterioration in the status of aquatic ecosystems, protect them, and improve ecological condition of waters;
- Aim to achieve at least GS for all waterbodies by 2015. Where this is not feasible and subject to criteria set out in the WFD, aim to achieve GS by 2021 or 2027;
- Meet the requirements of WFD protected areas;
- Promote sustainable use of water as natural resource;
- Conserve habitats and species that depend directly on water;
- Progressively reduce or phase out the release of individual pollutants or groups of pollutants that present a significant threat to the aquatic environment;
- Progressively reduce the pollution of groundwater and prevent or limit the entry of pollutants; and
- Contribute to mitigating the effects of floods and droughts.

2.2 Ecological Status

2.2.1 The ecological status of surface waters is classified using information regarding the biological (e.g., fish, phytoplankton etc.), physico-chemical (e.g., dissolved oxygen etc.), and hydromorphological (e.g., hydrological regime) quality of the water body as well as pollutants (e.g., copper and zinc). Compliance with the chemical status objectives is assessed in relation to environmental quality standards for a specified list of 'priority' and 'priority hazardous' substances.

2.2.2 River Basin Management Plans (RBMPs) are a requirement of the WFD, outlining measures for each river basin district to maintain and improve quality in surface and groundwater water bodies where applicable.

2.2.3 The proposed development is in the river Medina within the South East river basin district. The status of the Medina water body is discussed under section 3.

2.2.4 As previously mentioned, the WFD's aim is for all waterbodies to be at GS. Thus, the purpose of this WFD assessment is to assess whether the proposed development will:

- Cause or contribute to deterioration of status; or
- Jeopardise the waterbody achieving GS.

2.3 WFD Methodology

2.3.1 Potential developments in estuarine habitats have the potential to cause deterioration in the ecological or chemical status of a waterbody or compromise improvements which might otherwise lead to a waterbody meeting its WFD objectives.

2.3.2 The following stages are followed to assess whether the proposed development is compliant with the WFD:

- Stage one: screening;
- Stage two: scoping;
- Stage three: impact assessment; and
- Stage four: identification of measures.

2.4 Stage One: Screening

2.4.1 Some activities can be screened out due the nature, frequency, or intensity of the activity. These excluded activities do not need to go through the scoping, impact assessment, and measures stages.

2.4.2 Activities which are deemed low risk can be screened out. Low risk activities include:

- A self-service marine licence activity or an accelerated marine licence activity that meets specific conditions;
- Maintaining pumps at pumping stations – if you do it regularly, avoid low dissolved oxygen levels during maintenance and minimise silt movement when restarting the pumps;
- Removing blockages or obstacles like litter or debris within 10m of an existing structure to maintain flow;
- Replacing or removing existing pipes, cables, or services crossing over a waterbody – but not including any new structure or supports, or a new bed or bank reinforcement; or
- ‘over water’ replacement or repairs to, e.g., bridge, pier, and jetty surfaces – if you minimise bed disturbance.

2.4.3 If the proposed development does not fall under the above categories, then the assessment should proceed to stage two: scoping.

2.5 Stage Two: Scoping

2.5.1 The scoping stage identifies any activities that have a potential risk(s) to each of the five WFD receptors:

- Hydromorphology;
- Biology – habitats;
- Biology – fish;
- Water quality; and
- Protected areas.

2.5.2 Consideration is also required for invasive non-native species (INNS) at the scoping stage.

2.6 Stages Three and Four: Impact Assessment and Identification of Measures

2.6.1 If any activities are scoped in at stage two, then the impact assessment stage considers the potential

impacts of the proposed development and identifies ways to avoid or minimise impacts and shows if the proposed development may cause deterioration or jeopardise the waterbody achieving GS.

2.7 Available Data

2.7.1 No site survey has been undertaken specifically for the WFD assessment, however, a Preliminary Ecological Appraisal (PEA) was undertaken which identified protected areas within 1km of the proposed development. This led to the conclusion that a WFD assessment was necessary. The following data and reports were used to inform the WFD assessment:

- EA Catchment Data Explorer;
- South East RBMP (Environment Agency 2022); and
- NN1645R01 Westbourne Birmingham Road PEA (2023).

3 POTENTIALLY AFFECTED WATERBODIES

3.1.1 The proposed development will be carried out within the Medina transitional waterbody (GB107101005990). Information on the status of the waterbody is provided in **Table 1**.

Table 1: Medina transitional water body summary. Data found in the Environment Agency's catchment data explorer and the water body summary table.

WFD waterbody name	Medina
WFD waterbody ID	GB107101005990
River basin district name	South East
Waterbody total area (ha)	162.70
Waterbody type	Estuarine
Overall waterbody status	Moderate
Ecological status	Moderate
Chemical status	Good
Target waterbody status (incl. deadline year)	Good (2027)
Hydromorphology status	Supports good
Parameters not at GS (2019)	<u>Ecological:</u> biological quality elements (fish and invertebrates), supporting elements (surface water) <u>Chemical:</u> priority hazardous substances (perfluorooctane sulphonate [PFOS] and polybrominated diphenyl ethers [PBDE]).
Is the water body heavily modified (HMWB)?	Yes
Use: coastal protection	No
Use: flood protection	No
Use: navigation, ports, and harbours	Yes
High-sensitivity habitat(s)	Chalk reef (4.23ha) and saltmarsh (12.57ha)

Low sensitivity habitat(s)	Intertidal soft sediment (110.32ha), rocky shore (0.56ha), subtidal rocky reef (4.23ha), and subtidal soft sediments (81.93ha).
Magic map link for each water body	Medina
Bivalve mollusc production area name	Medina
WFD phyto-planktonic classification	High
History of harmful algae	Not monitored

3.2 WFD Protected Habitats

3.2.1 The WFD protected habitats within 2km of the proposed development include:

- Solent Maritime Special Area of Conservation (SAC);
- Solent & Dorset Coast Special Protection Area (SPA);
- Solent & Southampton Water SPA;
- Shellfish Waters;
- Coastal Sensitive Areas- Eutrophic; and
- Bathing Waters.

3.3 South East RBMP

3.3.1 Each water body within the South East river basin district have been given objectives which include the requirement to prevent deterioration. Protected areas are also given objectives to prevent adverse effects upon the protected environment.

3.3.2 However, only objectives relating to the Medina water body are considered within this assessment. The main issues which need to be addressed in the Medina water body are:

- Phosphate levels;
- Water quality and invertebrate populations;
- Improve fish and water vole habitat;
- Improve fish passage; and
- Control of INNS.

4 WATER FRAMEWORK DIRECTIVE ASSESSMENT

4.1 Stage One: Screening

4.1.1 The proposed development does not meet the criteria for 'low risk' activities. Therefore, the proposed development requires assessment under the scoping stage (see **4.2**).

4.2 Stage Two: Scoping

4.2.1 Due to the proposed development not being screened out under Stage One, consideration of the proposed development's potential interaction with WFD receptors is required. As per Environment Agency WFD Guidance (2017), a scoping template was used to assess the potential risks on WFD receptors due to the proposed development (**Appendix A**). A summary of the scoping stage is shown in **Table 2** below.

Table 2: *Summary of WFD Scoping Assessment*

Receptor	Potential risk to receptor?	Note the risk issue(s) for impact assessment
Hydromorphology	Yes	The proposed development is within an area of HMWB and will be of the same use for which the waterbody is designated as a HMWB i.e., navigation, ports, and harbours.
Biology: habitats	Yes	The proposed development is within 500m of a WFD high sensitivity habitat: chalk reefs.
Biology: fish	No	N/A
Water quality	No	N/A
Protected areas	Yes	The proposed development is within 2km of several WFD protected areas which include Solent and Dorset Coast SPA, Solent & S'hampton Water SPA, Solent Maritime SAC, Shellfish Waters, Coastal Sensitive Areas – Eutrophic, and Bathing Waters.
INNS	Yes	Potential to transport INNS via boats and potentially during construction if materials have been used in other waterbodies or will be used in other waterbodies.

5 ASSESSMENT OF POTENTIAL EFFECTS ON IDENTIFIED RECEPTORS

5.1 Hydromorphology

- 5.1.1 The Medina is an HMWB due to its use for navigation, ports, and harbours. The proposed development will include a deck extension and linkspan to a floating pontoon, thus, will be of the same nature for which the Medina is classified as a HMWB.
- 5.1.2 However, the nature and scale of the proposed development would likely have minor localised effects on hydromorphology and will not impact the wider area of the river. Furthermore, the site is already utilised as a harbour, so the impact already exists at the baseline.

5.2 Habitats

- 5.2.1 The proposed development site is 158m south west of a chalk reef which is a high sensitivity habitat.
- 5.2.2 The nature and scale of the proposed development is unlikely to have a negative impact on the chalk reef.

5.3 Protected Areas

- 5.3.1 Several protected areas are within 2km of the proposed development (**Table 2**).
- 5.3.2 **Solent & Dorset Coast SPA** – The water column (which is the supporting habitat for the qualifying features of this SPA) is sensitive to vibration and underwater noise changes which may arise during the construction phase of the proposed development. However, due to the scale of the development, it is unlikely that this will negatively impact the wider supporting habitat. The proposed development does have potential to introduce INNS (for which the supporting habitat is sensitive), however this will be discussed under **5.4**. The qualifying features are sensitive to potential collision above water with static (or moving) objects, however, as this already exists at the baseline condition of the site, it is unlikely to have a further negative impact.
- 5.3.3 **Solent & S'hampton Water SPA** – The qualifying features of Solent & S'hampton Water SPA are sensitive to above water noise which may occur due to the proposed development. However, any noise produced is likely to be highly localised due to the small-scale nature of the development. The water column is a supporting habitat for the SPA's qualifying features and is sensitive to vibrations which may occur due to the construction of the proposed development. However, the scale of the development is unlikely to negatively impact the wider supporting habitat. The qualifying features and habitats which are supported by this SPA are vulnerable to INNS, although the impacts of this will be discussed under **5.4**. The qualifying features are also sensitive to above water collision with static or

moving objects (e.g., boats and structures). The proposed development is unlikely to increase the risk of collisions with the qualifying features due to structures and boats already existing at the baseline condition of the site.

- 5.3.4 **Solent Maritime SAC** - There may be temporary vibration and underwater noise changes during the construction phase of the proposed development. However, the Solent Maritime SAC is not known to be sensitive to these pressures. Furthermore, the scale of the proposed development is unlikely to have a negative impact on the conservation objectives of the Solent Maritime SAC. The proposed development does have potential to introduce INNS (for which the Solent Maritime SAC is sensitive), however this will be discussed under **5.4**.
- 5.3.5 **Shellfish Waters** – Shellfish waters are vulnerable to pollution from various sources; thus, it is important that the proposed development does not lead to potential contamination events. As the risk of contamination from boats already exists at the baseline condition of the site, this is not considered here. However, pollution events have potential to occur during the construction phase of the proposed development. A Construction and Environmental Management Plan (CEMP) would outline best practices during the construction phase to limit the potential for a pollution incident to occur.
- 5.3.6 **Coastal Sensitive Waters, Eutrophic** – The proposed development will not result in increased nitrates and thus, will not have an impact on the nutrient sensitive area.
- 5.3.7 **Bathing Waters** – Bathing Waters are sensitive to pollution events which may occur during the construction phase of the proposed development. A CEMP will outline best practices to limit the potential of a pollution event occurring.

5.4 Invasive Non-Native Species

- 5.4.1 INNS is a species which has spread outside of their normal habitat and causing negative impacts in its new environment e.g., by outcompeting native species.
- 5.4.2 Boats have potential to transport INNS from one area to another. Further to this, tools/materials which have been used in one waterbody can transport INNS to another waterbody if the tools/materials haven't been cleaned.
- 5.4.3 Measures are required to reduce the potential for INNS to be transported via boat or tools/materials. This includes checking, cleaning, and drying vessels/equipment (boats etc.) during the operational phase and tools/materials used during the construction phase.
- 5.4.4 The check, clean, and drying method is outlined below:
- Check for any plant/animal material on boat, equipment, and clothing;
 - Remove visible fouling and put in bin (not back into the water);
 - Wash boat, equipment, and clothing with tap water paying attention to crevices;
 - Flush outboard engines with clean fresh water and allow to drain completely from engine in a vertical down position;
 - For boats kept permanently in the water (or not lifted often), remove biofouling regularly from the hull to prevent build up;
 - Any fouling that cannot not be easily removed with a soft brush or sponge must be cleaned onshore and removed biofouling collected and disposed of in a bin;
 - Drain water from every part and equipment that holds water before leaving a site; and
 - Clothing and equipment should be thoroughly dried for as long as possible before used elsewhere. This is because many species can survive in damp conditions up to 2 weeks.

6 CONCLUSION

- 6.1.1 Overall, the nature and scale of the proposed development is unlikely to have a negative impact on the marine environment or undermine the conservation objectives of the protected marine environment.
- 6.1.2 However, pollution and INNS have been identified as having a potential impact and require mitigation measures. These include:
- A CEMP to prevent/limit the potential of a pollution incident occurring during the construction phase of the development; and
 - The check, clean, dry method should be followed when using boats/equipment during the operational phase of the development and when using tools/materials during the construction phase of the development.
- 6.1.3 It is understood that an existing MMO license has been issued to the adjacent property owners to dredge an area of sea bed which includes the subject site. It is understood that these works will commence in spring 2024. As it is understood that a license has already been granted for these works and they do not form part of this application, they are not considered further as part of this assessment.