



## **Middle Level Commissioners and Associated / Administered Internal Drainage Boards Marinas - Standard Specification and Requirements**

This specification is for marinas that are proposed to be constructed within the Middle Level district and applies to all cases to safeguard the maintenance of water level, flood risk management systems, the statutory navigations and the protection of the Middle Level river system. Any variation of this specification will be in writing and issued or authorised in an individual case by the Middle Level Commissioners (referred to as the 'Commissioners'). These notes, along with the Explanatory Notes re Application for Consent for Works In and Around Watercourses (found on our website), should help you complete your application for consent.

1. No work is to be carried out until all requirements of the Commissioners have been agreed and formal written consent for the works has been issued by the Commissioners.
2. You are urged to consult the Commissioners at the earliest possible stage, and well before the submission of the application for Byelaw consent, to discuss any likely objections to, or constraints on, the work. Failure to undertake detailed pre-application discussions could result in delay or refusal of the application as it may not be acceptable to the Commissioners. For further information on the Pre- / Post- Application procedure, including the relevant fees, please see the Consent page on our website.
3. Appropriate fees will also be charged in respect of carrying out any post-application negotiations, investigations and survey work that the Commissioners consider may be required in order to properly assess the application. Fees will also be charged for supervising or inspecting the works during construction. An estimate for what these costs are likely to be can be provided on request.
4. The application form for Byelaw consent can be downloaded from our website.
5. Any application for consent must include four copies of the complete design details of the proposals together with the properly completed consent application form and the application fee for the consideration and approval of the Clerk, Chief Engineer & Chief Executive.

The details must include:

- Detailed engineering scaled drawings/plans and cross and longitudinal sections through the marina and its embankments, indicating the existing and proposed topography, the site layout, the ground and water levels and the existing and proposed maintenance access arrangements for the Commissioners' use. All existing soft and hard site features, i.e. existing river banks, embankments, and other structures, must be identified on these drawings.
- The results of a site investigation showing the site geology in the form of a detailed report recording all boreholes and excavations, their depths and locations, and the site investigation laboratory results.
- Suitable calculations that demonstrate that the design slopes of the embankments would be stable in the short and long term, in accordance with a recognised and approved practice. Identify what measures would be needed to control water seepage.
- Specifications for the temporary works, permanent works, materials and workmanship.

- The construction sequence and programme, to ensure that the works are constructed in a logical order and to ensure that the existing flood defences are not compromised in any way.
- A FRA should be submitted in accordance with the requirements of the relevant local and national water level / flood risk management guidance including the Technical Guidance of the National Planning Policy Framework.

6. The works are to be designed, constructed and supervised by competent and suitably qualified and approved contractors / persons experienced in the type of work involved.

7. A standard additional charge is made per linear metre of river frontage where marina developments affect river frontages in such a way that the Commissioners are prevented from undertaking their normal bank-side machine dredging operations, which includes disposing of spoil to the bank top or onto the adjacent field. Please refer to the document 'development which restricts spoil disposal' and the current fees on our website for further details.

8. It should be noted that significant lengths of on-river moorings will not be approved.

9. No works are to be commenced until the Commissioners confirm that river dredging work or other work is not required, or until any works that may be found necessary have been carried out.

10. All off-river marinas shall have gates at the entrance(s) to enable the marinas to be isolated from the river system. The gates shall have a top level equal to the Commissioners' minimum design flood defence level and shall be designed to withstand differentials in water level equivalent to the full height of the gates.

11. Marinas must be completely enclosed by a watertight and stable barrier to prevent seepage through the underlying and surrounding soils and shall provide flood protection against the maximum flood water level in the Middle Level system. Sealing of sub-soil groundwater under raised embankments shall be achieved by the installation of a suitable cut-off trench filled with puddle clay, keyed in at least 500mm into a suitable clay substratum and compacted in layers 300mm thick. Alternatively, a barrier wall such as structural gauge steel sheet piling with an appropriate penetration may be offered as an alternative, subject to the Commissioners' approval.

12. Construction of embankments must be carried out with suitable impermeable clay material placed in layers 300mm thick over the full width of the embankments, and shall be thoroughly consolidated and compacted in accordance with a recognised and approved practice.

13. Earth impounding embankments (i.e. flood defences) shall have a top width of not less than 6.0 m, a nominal freeboard of 0.9 m or higher if required and side slopes no steeper than 1 (vertical) to 2 (horizontal), depending on the structural design requirements.

14. The embankments shall be designed to take the loading of the Commissioners' vehicles and heavy machinery plant up to 45 tonnes in weight. An approved allowance shall be included in the design height to account for the future local settlement of the embankments, the continuing general settlement of the Middle Level region, and the effects of climate change on river water levels. Embankments shall be permanently maintained at the design height and standard required by the Commissioners at the Applicant's expense.

15. If unexpected ground conditions are revealed during excavation operations at the marina site that may lead to any weaknesses of the enclosure embankments, particularly with

regard to the required stability or water tightness, you will be required to revise the structural design and re-submit it to the Commissioners for their approval. Any remedial works, either temporary or permanent that are required to restore the flood defences must be undertaken without delay and at your cost.

16. Embankments shall be top soiled, as necessary, and sown with an approved mix of grass seed at the amount per square metre as specified by the Commissioners.

17. Planting of trees or shrubs of any kind will not be allowed on flood defence embankments and should be positioned so that their mature canopy does not intrude onto the Commissioners' 20m wide maintenance access strip, measured from the toe of the embankment. Clear access around the defence embankments is required by the Commissioners for the passage of their plant and equipment, and for inspection purposes at all times.

18. All excavations, plantings or structures, whether temporary or permanent, including fencing and other landscaping features which are on the embankments or within 20 m of the bank top or the landward toe of a raised riverside embankment, require the prior written consent of the Commissioners.

19. The consent of the Commissioners, the relevant local internal drainage board(s), and / or the Lead Local Flood Authority (LLFA) may be required for any alterations to other watercourses that may be affected by development of a marina (e.g. culverting, filling, re-routing).

20. If there are any private watercourses (drainage ditches) at the site of the marina which are not under the control of a drainage authority and therefore not subject to any of its Byelaws, maintenance access strips a minimum of 5 m wide should be provided alongside both brinks. These access strips should be kept completely clear of any development or obstruction including fences, hard standings, septic tanks, ponds, trees, bushes, materials, etc.

21. A minimum of seven days' notice of the proposed start date of the works must be given to the Commissioners to enable inspections to be arranged.

22. You must also ensure that any other necessary approvals or consents are obtained, such as those of the Local Planning Authority, the LLFA and the EA.

Middle Level Commissioners  
Middle Level Offices  
85 Whittlesey Road  
March  
Cambs PE15 0AH

Tel: 01354 653232

Email: [engineers@middlelevel.gov.uk](mailto:engineers@middlelevel.gov.uk)

Website: [www.middlelevel.gov.uk](http://www.middlelevel.gov.uk)

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