

# Construction

The purpose of this section is to specify our requirements and highlight the areas we will be concerned with during the construction of your scheme. It also includes guidance and information on other issues to consider.

The content applies equally to mooring schemes built on private land which will be connected to our waterway and those built on our land which will be leased to the developer. It is also applicable to all forms of construction contracts whether self build, design and build or separate design and contract.

The appointment of a competent contractor is your responsibility and you should satisfy yourself that your proposed contractor can exhibit this competence. It is advisable to appoint contractors with specialist waterway experience.

## Headings:

**timing and canal closures**

**insurance**

**transport by the water**

**documentation, monitoring & completion**

# Timing and Stoppages

The weather has potential effects on excavations (e.g. drying/ desiccation of clay materials in summer, softening and frost damage in winter), and construction materials such as puddle clay, which can be difficult to store and handle whatever the weather.

Timing of the works will need to take into account the wildlife species present. The works should be phased to take account of disturbance to nesting birds and hibernating animals if these are thought to be present on site.

It should be noted that the connection to the waterway, unless agreed otherwise with CRT, will need to be undertaken in dry conditions. This will require the use of temporary works and / or a pre-agreed canal stoppage / partial stoppage to create a dry working area. Consideration should be given to this in the programming and pricing of the works.

If the scheme will require a stoppage (a temporary closure to the main waterway), this should take place within our stoppage period which is between November and March every year. **To facilitate that, you must have**

**informed us no later than 11 April 2012 of your intention.**

All direct costs attributable to the stoppage will be met by the developer.

(Direct costs may include, but are not restricted to the following: access, signage, fish rescue, installation of dams, de-watering, over-pumping, footpath diversion, decommissioning and reinstatement of site).

We publish a national programme in advance of the stoppage period to give sufficient notice to our boating customers and businesses and agree stoppages to be included in the programme in the preceding summer. We finalise dates by considering traffic patterns, other nearby stoppages, alternative routes and the key national 'through routes' which are kept free of closures.

Any stoppage must be of minimal duration and we may request certain conditions such as weekend opening or overnight working on longer jobs. Our standard stoppage tariff will not apply to marina connections, providing the stoppage is within normal stoppage programme and completed within the agreed time period. In the event that the developer may overrun the agreed stoppage period, the prior approval of Canal & River Trust **MUST** be obtained and if approved, charges will be payable by the developer as per the 'Code of Practice for Works affecting The Canal & River Trust.

## Insurance

You should ensure that you and your agents have adequate insurance against any damage and the possible failure of your construction which could have an impact on our property, our navigation and on public safety. You are responsible for the actions and performance of all of your advisors and contractors.

Levels of insurance will be specific to the risks attached to the proposal and we can advise you of the level of risk relating to our interests that we believe should be covered.

## Transport by the Water

Access to the site during the construction phase and the disturbance this can cause is an important consideration. It is worth exploring the option of moving materials onto and off site by water, especially where the destination/origin is also on the waterside e.g. waste handling site, building suppliers. Our local staff may be able to put you in touch with companies potentially able to help with carriage of materials by water and local water-side handling sites. There may be opportunities for Government grants, particularly for larger schemes, for transporting materials by water.

# Documentation, Monitoring & Completion

## Pre-works documentation and your Construction Proforma

We will need to review your DCNA and DCA submission prior to you commencing works to ensure you have satisfied the criteria. Whilst it is helpful for us to understand your full construction programme for each stage, the key elements we are concerned with are identified below. We encourage you to liaise with us as you develop your scheme so that we can agree solutions with you as you progress. For more information on working with us, the information we require to make our appraisals and our contractual requirements, you should refer to the **our application process** section of this website.

- Excavation of the void
- Lining system
- Edge details
- Earthworks
- Sealing / site isolation arrangements
- Connection to our network
- Bank protection to the adjacent waterway (if required)
- Construction of towpath over-bridge (if required)
- Statutory approvals

## Method statement

Your method statement should demonstrate how you will ensure that the integrity of the existing waterway is maintained. This should include the detail of how you will excavate the void and construct your scheme, and examine the operational impact of the construction of the connection to our network. The Method Statement should also describe in detail how the connection to the waterway is to be undertaken in dry conditions.

The Method Statement should deal with issues relating to the prevention of construction site pollution (and pollution of the adjacent waterway), site safety and, where constructed on the towpath side of the waterway, how the towpath will be diverted around the construction works and adequately protected. Because of the age of our structures, vehicular loading and the use of craneage will not usually be permitted on the towing path or immediately adjacent to the off-side waterway wall/bank.

The provisions of the Construction Design and Management (CDM)

Regulations [www.hse.gov.uk](http://www.hse.gov.uk) apply to the construction of mooring schemes, including the need to segregate the construction site from the public. Public access from the adjacent waterway may be a particular issue in this respect. Methods of working (and risk assessments for works directly affecting CRT) will need to be developed in accordance with the CDM regulations

## **Construction programme**

This should provide the detail of the stages and timing of the construction. This will need to identify issues associated with the need for a stoppage (refer to the **Construction: timing and canal closures** page of this website), the ability for us to pass any water through a complete stoppage, the programming required to fit in with our National Stoppage Programme and also the identification of any additional consequential costs arising.

The programme should allow a minimum of 14 days for the required stilling test (test of water-tightness). Refer to the **Design - Construction Performance Criteria - The stilling test** page of this website.

You are advised to build in adequate time for materials sourcing and testing.

## **Detailed structural plans and design certificates**

The relevant detailed structural plans and design certificates should be included in the Detailed Design & Construction Phase Submissions. Where information is not received prior to works being undertaken, CRT may request the applicant to prove the integrity of the works by providing information outstanding, evidence of insitu testing or CRT may request retrospective testing be carried out to confirm compliance with design requirements and CRT performance specification.

## **Our appraisal of your Detailed Design & Construction Phase Proforma**

Our review of your Detailed Design & Construction Phase Proforma will take the form of a report & letter.

Works affecting our waterway cannot proceed until we have confirmed that the following conditions have been met:

- DCNA and DCA Submission requirements have been satisfied
- Statutory approvals have been granted
- You have entered into a Network Access Agreement and any other necessary legal agreement with us (refer to the page **Application Process - legal agreements**).

We will continue to liaise with you after the approval and during construction for example at a pre-works meeting, site inspections etc.

## **Construction monitoring**

Prior to starting any construction activity that directly affects the navigation, it will be necessary to hold a pre-commencement meeting in order to satisfy CRT that all safety, technical, operational and environmental issues have been adequately addressed.

During the course of the construction of your mooring scheme regular site visits by our staff will be required. We will wish to make inspections at the key stages to verify the actual site conditions and to confirm that construction is carried out in accordance with the plans in your Detailed Design & Construction Phase Submissions (DCNA & DCA).

As stated earlier we are particularly concerned with excavation of the void, lining, edge details, earthworks, site isolation arrangements, connection to our network, bank protection to the adjacent waterway (if required) and construction of towpath over-bridge (if required).

Arrangements for inspections will need to be made with the appropriate staff, usually our local engineers with whom you will have been liaising.

In the event of any unforeseen conditions occurring on site during the construction, for example the discovery of springs under the excavated basin resulting in the need for a drainage blanket to be installed, you may need to modify your specification for the works. We will endeavour to agree an appropriate solution with you as quickly as possible.

### **Post-works documentation and completion procedure**

On completion of the works, and following a successful stilling test, a 'completion statement' will be issued by CRT to the applicant.

Any relevant operating arrangements for the mooring site which affect our operation of the waterway will be recorded to form the basis of ongoing operational liaison. Where there is any interface with our operating equipment, the relevant procedural and technical protocols will be documented. When the works have been completed to our satisfaction, we will issue a letter to confirm this and will initiate payments as detailed in the Network Access Agreement.

You may also wish to refer to the page **Your scheme - opening and operating** page of this website which contains more information for when your site is open.

### **Useful references and links**

Construction Design and Management Regulations [www.hse.gov.uk](http://www.hse.gov.uk)