

Memo

To: Natural Resources Wales

From: Rhona Fairgrieve	Email:
Date: 04 January 2022	Phone:
Ref:	cc:

Subject: Tintern Wireworks Bridge Method Statement

7(a). Please provide a detailed method statement for the works. *This must include methods for all works including temporary structures or deposits such as jetties, cofferdams, moorings or landing stages to be constructed seaward of MHWS:*

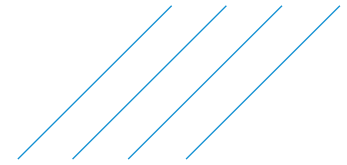
The estimated timescale for construction is up to 8 months, with completion anticipated before Christmas 2022. Works are programmed for May 2022 to December 2022, taking place during daylight hours (08:00 to 17:00 on weekdays and excluding Bank Holidays). It is likely that a number of activities can be done concurrently.

The works (in sequential order) will include:

- Mobilisation and site set up
- Enabling works (including excavation of abutment, backfill and installation of the pattress plate/rod system to the west abutment and wingwalls)
- Installation of suspended temporary works platform and encapsulation of bridge
- Removal of the existing deck, preparation of abutment/piers and installation of bearings
- Installation of new steel beams for the new deck system
- Grit blasting and painting of the steel work
- Installation of a new bridge timber panels
- Masonry repairs and repointing can be undertaken concurrently with other activities
- Demobilisation from site

Construction works are not anticipated seaward of MHWS but they will take place over a tidal river. A detailed breakdown of the intended works is included in this Method Statement and timing of the works is provided in the Construction Programme. Illustrations of the works, site, compounds and ingress/egress points are provided in the Detailed Design Drawings and Site Compound and Traffic Management Plan.

Mobilisation: The proposed works will begin with mobilisation and the establishment of a temporary works compound, located in the Wireworks Car park on Forge Road, Tintern, 0.5km to the south west of the structure and at the immediate access point of the bridge on the western riverbank. Some vegetation removal is proposed, including trimming of tree branches and the removal of one sapling and scrub/grassland habitat on the pathway verge. All public access will be temporarily revoked and access to the bridge will only be



permitted by the workforce. A vehicle closure is already in place and a Public Right of Way (PRoW) closure will be in place for the duration of the works.

Enabling works: The excavation of the western abutment is required to install a pattress plate/rod system which tie the abutments together to prolong the useable life of the structure (See Figure 1). This work will take place between the existing wing walls, using hand digging and a small excavator (when necessary), to remove existing concrete. Excavated material will be removed to a licenced disposal facility, using sheeted lorries for containment. Installation of a pattress plate/rod system will be undertaken from either side of the west wingwalls and abutment. It is expected that access will be either via rope access or the temporary works platform. This will be fixed in place and backfilled with concrete. Back fill material will be delivered to site and discharged from cement mixer lorries directly into the excavated area.

Masonry repairs, including repointing of the western abutment, wing walls and tops (top 0.5m from deck level) of the piers will also be undertaken to allow for the new deck to be placed. All masonry repairs will be enabled through the suspended works platform.

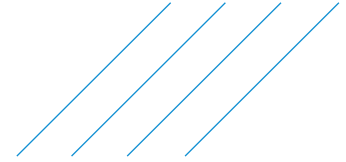
- Repointing - Using natural lime mortar (as specified by the heritage/conservation officer) to the wing walls/abutment which will be in identified locations of missing or loose mortar.
- Minor repairs - Replacing the stonework to the elevations of the wing walls which have been displaced over the years (which has already been places on site to the approached to the bridge).



Figure 1 – Location of excavation for strengthening of structure

Installation of suspended temporary works platform and encapsulation of bridge:

The temporary works platform will be a suspended access system that enables full access beneath the bridge. This will sit above MHWS. The platform will be supported from the existing girders and is proposed to be installed in May 2022. It will enable access for workers and provide a 1 m minimum gap to all steel elements for painting and grit blasting operations. The bridge will be encapsulated in industry-standard sheeting material throughout the works, which will prevent any contamination such as debris and dust entering the local environment. The encapsulation will be checked for damages before each working day. Any sheeting found to be damaged during inspections will be removed and replaced. Any removed sheeting will be bagged and removed for safe disposal at an approved facility. On completion, the platform will be dismantled, and the sheeting will be bagged and removed for safe disposal at an approved facility.



See Figure 2.



Figure 2 – Example of bridge encapsulation

Removal of the existing timber bridge deck, preparation of abutment/piers and installation of bearings and longitudinal beams

The existing timber deck will be removed from the bridge and disposed of off-site. Localised cutting of the piers/abutment will accommodate the bridge bearings which will support the longitudinal beams, which in turn will support the new deck (See Detailed Design Drawings). Any dust generated by stone cutting, repair, removal or replacement will be controlled at source and confined within the encapsulation. The new beams will be delivered by lorry to site and manoeuvred across the bridge and fixed into place.

Grit blasting and repainting of existing steel work

The refurbishment of the wrought iron twin girders will start with dry grit blasting to clean the main bridge structure back to bare metal. The blast material will be collected and disposed of appropriately from the access platform. Repairs to the wrought iron are not anticipated at this stage. Both painting and grit blasting will be controlled via the encapsulation to ensure that no material will be lost from the working area into the local environment.

Installation of permanent deck plates and new timber panels

To create the new bridge decking, deck plates and pre-treated timber panels will be installed across the bridge, using bolted connections for pedestrian and vehicular access.

Demobilisation

Once the refurbishment works are complete the site will be demobilised, and any work areas will be returned to their original form including making good any disturbed soil and or surface where materials or site compounds were located.

All waste materials will be returned to the contractor's premises, recycled, or disposed of to a licenced waste unit.