

River Artro – 16 Span timber railway Viaduct

DJP 108m 29ch

Method Statement for repair works to railway viaduct

Grid Reference SH57945 27721

Revised 28/06/19 for use of 1t excavator near trestle 2

Site location



Photo of existing viaduct at low tide



Summary of works

Works to be carried out prior to 16 day railway possession during daytime working only:

1. Site compound set up in field adjacent to A496,
2. Material delivery,
3. High level scaffolding above high water level - suspended from viaduct deck.
4. Changing bolts to viaduct trestles from floating platform,

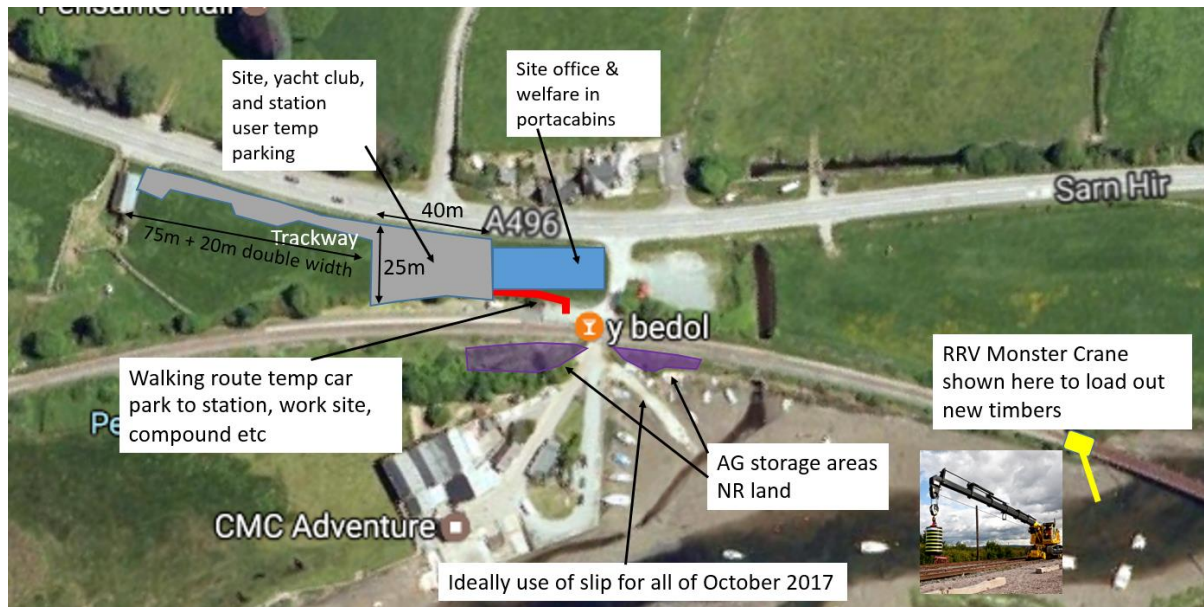
Works to be carried out during 16 day railway possession (24/7 working):

1. Changing timber elements on the viaduct – diagonals, walers, crosshead & corbels,
2. Replacement of Back of wall timbers to south abutment,
3. Change straps identified for replacement,

Works to be carried out following 16 day railway possession:

1. Inspection works & outstanding works,
2. Removal of site compound,

Works to be carried out prior to 16 day railway possession during daytime working only:



1. Site compound set up in field adjacent to A496:

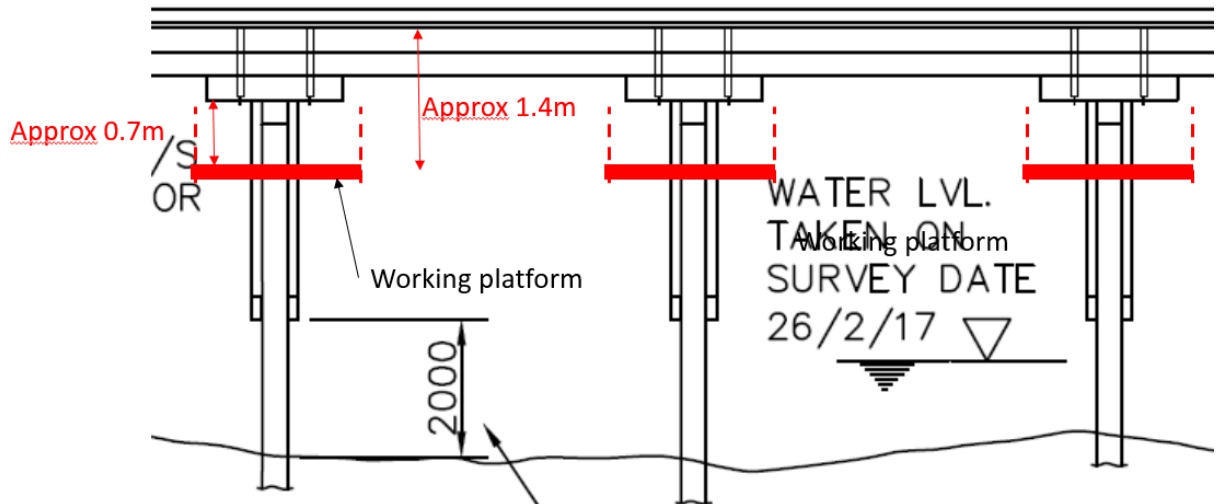
- Trackway will be used to establish a quick and reusable surface for the site compound & site/welfare set up – this will be set up in the field between the railway platform and the A496 as shown in the plan above.
- Portacabins will be used for site welfare & offices.
- External lighting will be erected on the site cabins but will be erected so that they do not sign into house, onto the road or onto the river,
- A self contained super silent & bunded generator will be used to power the site accommodation.

2. Material delivery,

- A material lay down area will be established opposite the station platform on the Network Rail land shown in purple in the plan above – this will require some minor de veg works in the form of strimming & minor tree pruning,
- When materials are delivered to site they will be unloaded by either the hiab wagon, or site excavator/telehandler and positioned as required in the storage area.

3. High level scaffolding above high water level - suspended from viaduct deck.

To allow the high level timber elements which are above high water level to be changed scaffolding will be erected & suspended from the viaduct deck as shown in red on the plan below. The scaffolding will be fully designed. No scaffolding will be propped off the river bed.



4. Changing bolts to viaduct trestles from floating platform,

The existing bolts will be changed from a floating temporary working platform similar to that shown below – this will be moved as required by a small outboard motor.

The bolts will be replaced on a one in one out basis which will be designed & agreed with Network Rail before hand. The existing bolts will be knocked through and then replaced with new stainless steel bolts & the nuts secured.



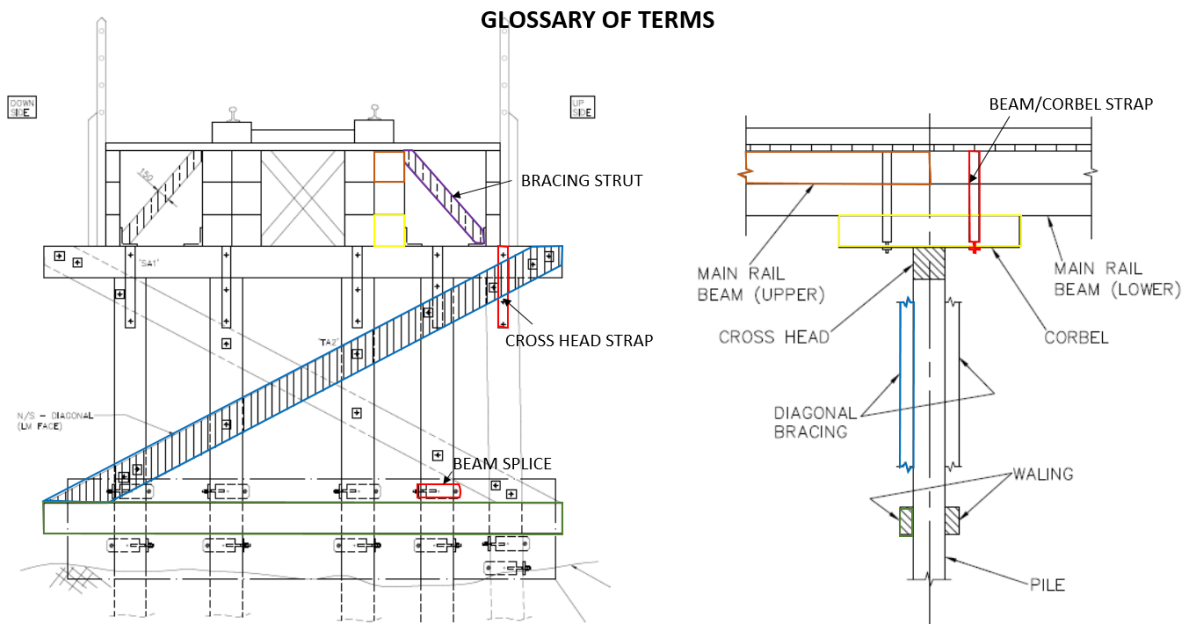
Works to be carried out during 16 day railway possession (24/7 working):

The following works will be carried out during a 16 day railway possession during which no trains will be running – this is between 23:20 on Friday 25th October to 05:00 on Monday 11th November 2019.

1. Changing timber elements on the viaduct – diagonals, walers, crosshead & corbels,

These works will be carried out from either a floating working platform as used in the works prior to the 16 day possession or accessed track viaduct deck level using the scaffolding installed previously. A rail crane will be located on the viaduct deck which will be used for lifting and carrying of timber elements as required.

An indicative layout of each trestle is shown below:



2. Replacement timber piles

The existing timber piles will be excavated by hand to a depth of approx. 1m as shown in the following drawing:

- Works will be carried out by a 5-man diving team
- The excavation will be carried out by hand and a light weight ground support box installed as the excavation progresses. The box will be allowed to flood.
- The existing timber will be cut and spliced underwater using stainless steel splice clamps as shown over leaf.

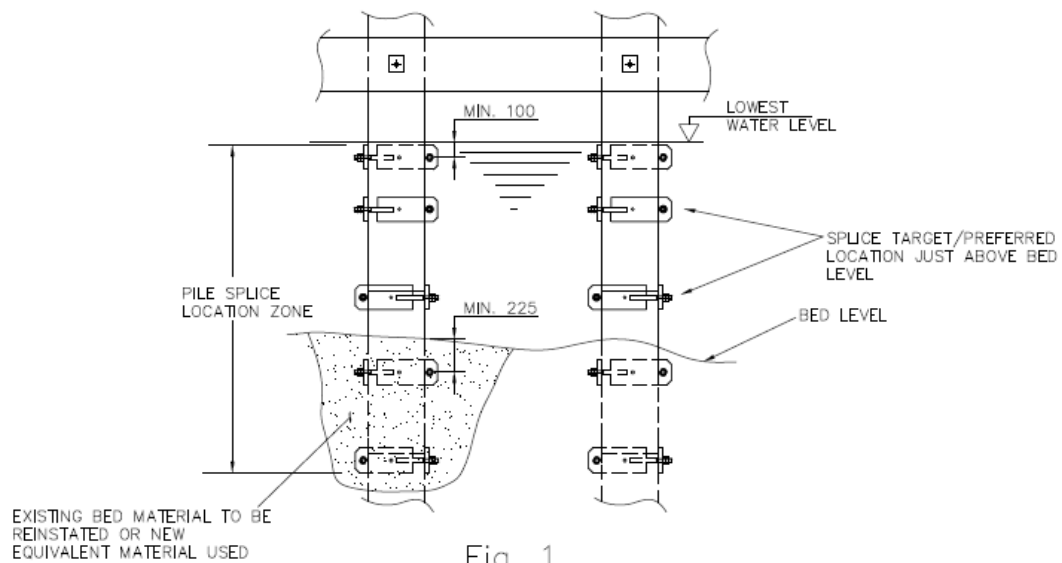
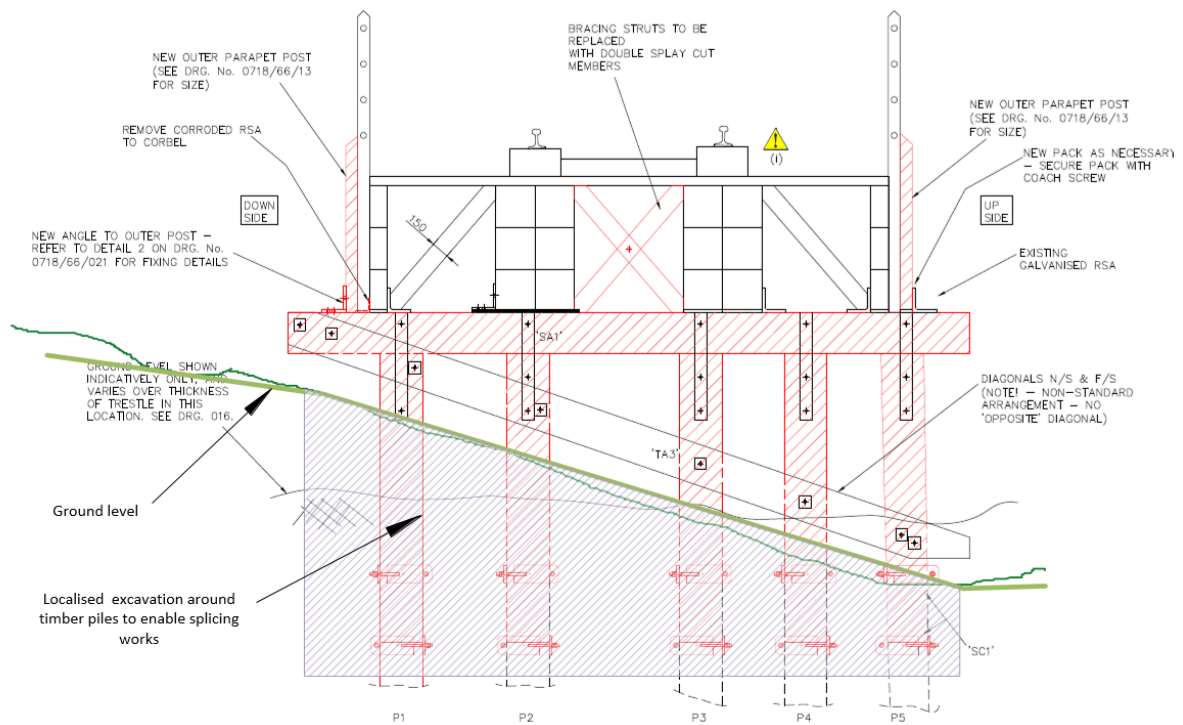


Fig. 1.

Use of 1t excavator



TRESTLE No. T2



The excavation work will be carried out at low tide, on dry land. The excavator will be brought in along the railway line and lifted down, from the viaduct, on to the grassed area on the south

west river bank; from here it will make its way the short distance to the working area, travelling between trestles 4 and 5, at this point the excavator will be travelling on intertidal deposits, before accessing the river bank where it will assist in the hand digging around trestle 2 . Arisings from the excavation will be placed in 1t dumpy bags and stored on the riverbank above MHWS for reuse as backfill material. The dumpy bags will be lifted by a rail mounted crane set up on the viaduct.



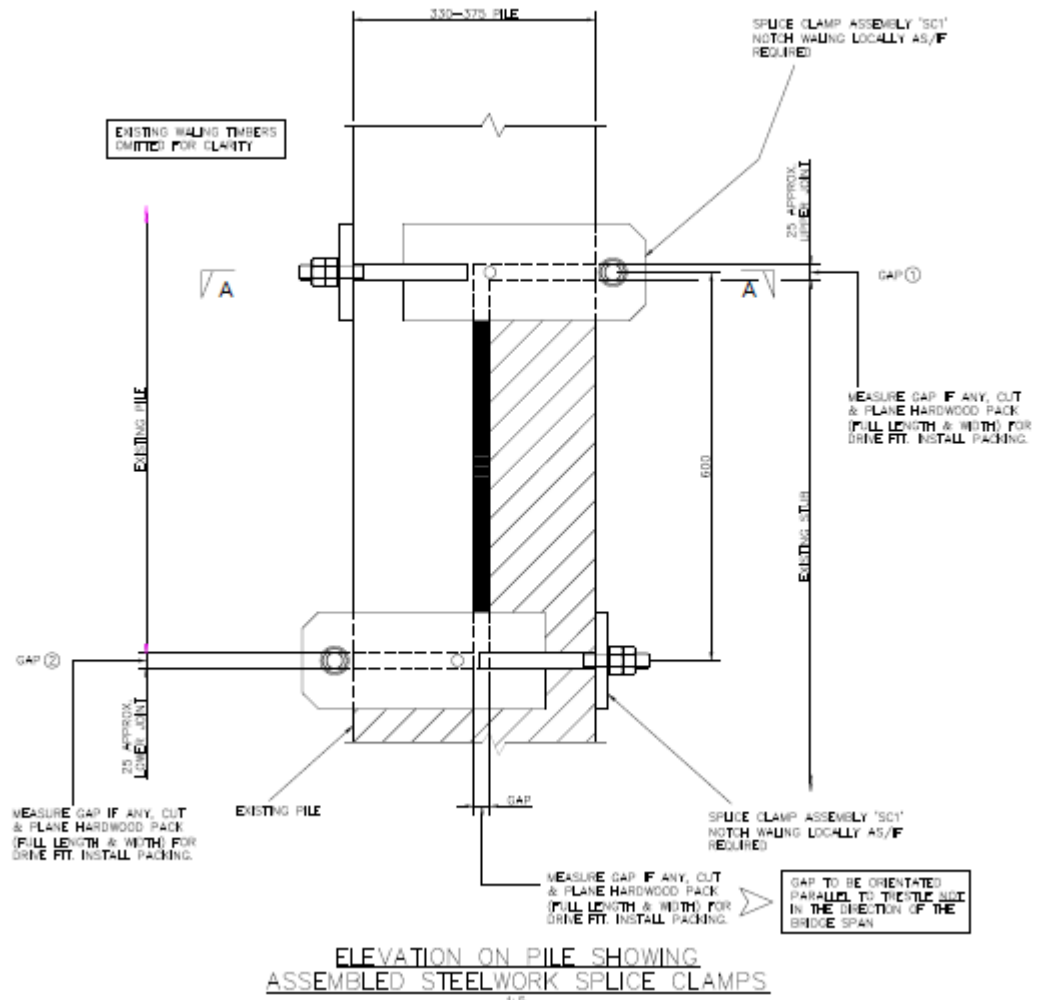
1t excavator access route picture 1 of 2



1 t excavator access route picture 2 of 2

The excavator will be cleaned and serviced before use, will run on bio oils, prestart checks will be carried out at the beginning of each shift, and refuelling will be carried out away from the water course.

The excavator will be lifted back on to the viaduct on completion of the task.



3. Change straps identified for replacement,

Some straps which connect timber elements of the viaduct together are in need of replacement so those identified will be replaced as part of these works – all of these works will either be carried out from the floating working platform or from the suspended scaffolding.

Works to be carried out following 16 day railway possession:

1. Inspection works & outstanding works,

On completion of the 16 day railway possession there will be some inspection works to be carried out and there is the potential of some additional works to be carried out which may only be realised once works are carried out to the viaduct,

2. Removal of site compound,

Once works are complete the site compound & cabins will be removed from site.