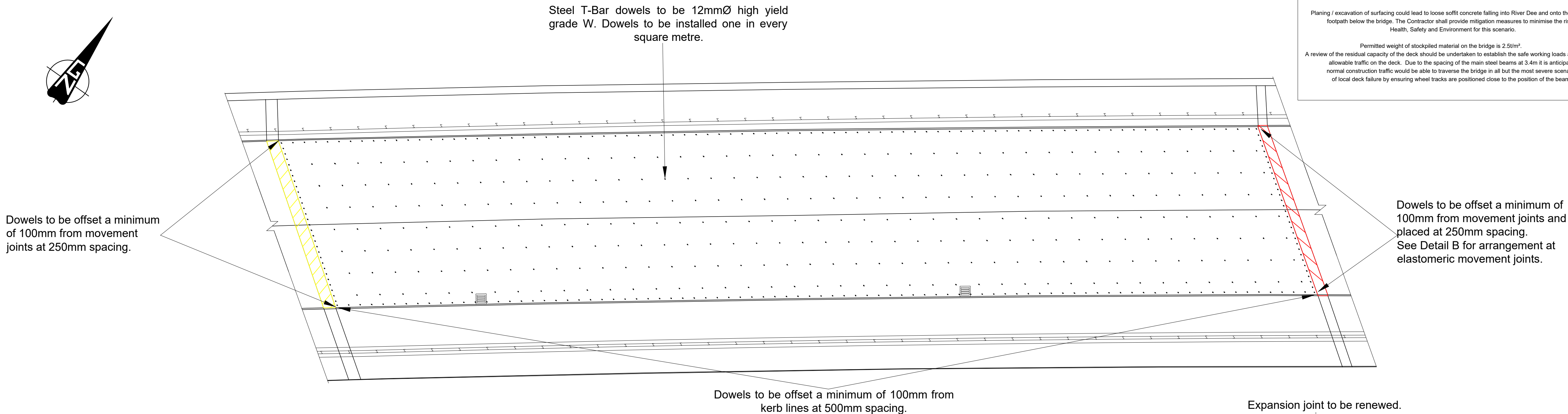
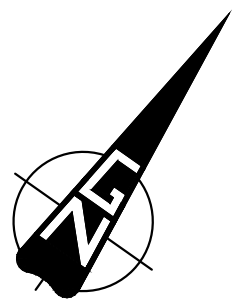
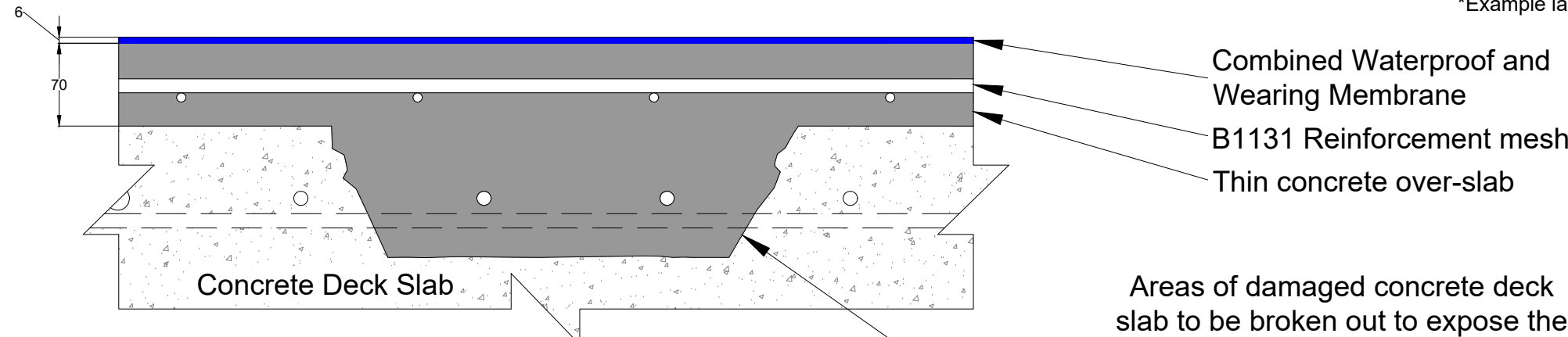




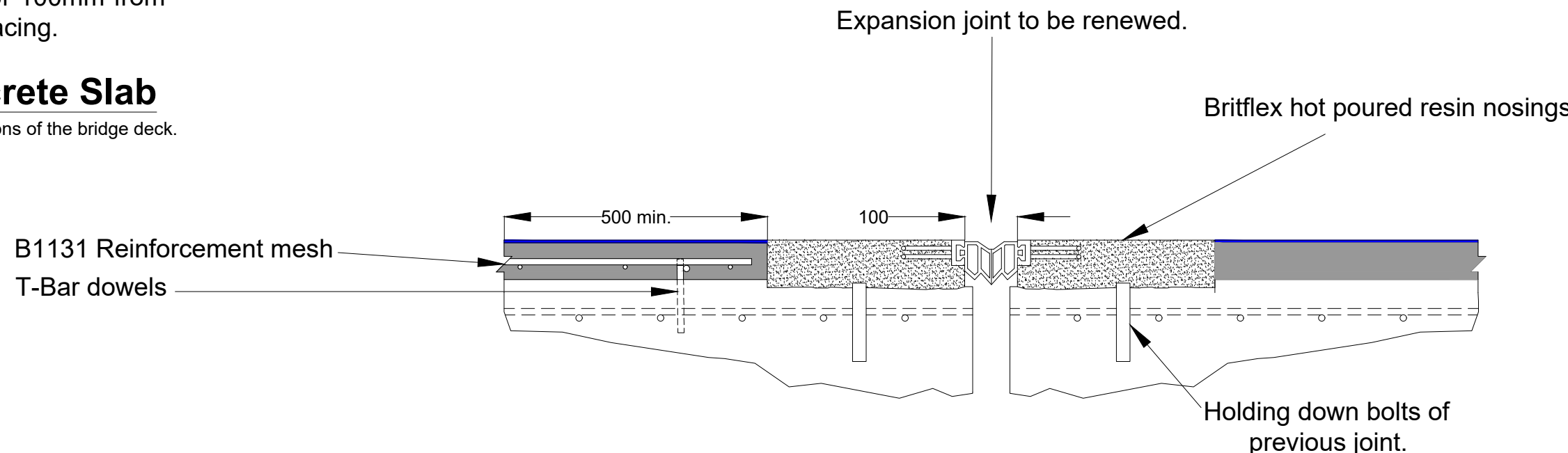
Indicative Layout of Dowels in Concrete Slab

*Example layout between movement joints. Process to be repeated on all sections of the bridge deck.

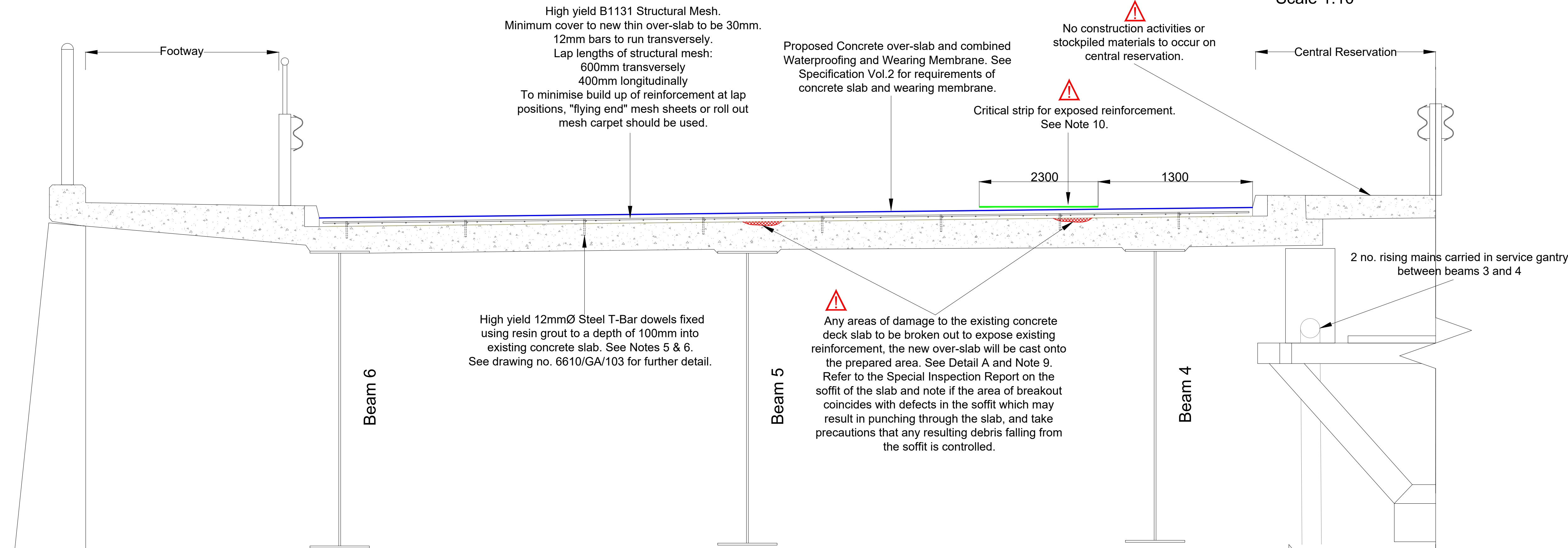
Scale 1:100



Detail A - Concrete Repair Areas
Scale 1:5



Detail B - Layout at Elastomeric Movement Joints
Scale 1:10



Indicative Layout of Dowels, Mesh Reinforcement and thin over-slab surfacing

* Section shown is one half of the Bridge deck. Process to be repeated on the other half.

Scale 1:20



CAUTION

Symbol denotes significant residual risks. See also information in the Designer's Risk Assessment and Pre-Construction Information.

Planing / excavation of surfacing could lead to loose soffit concrete falling into River Dee and onto the footpath below the bridge. The Contractor shall provide mitigation measures to minimise the risk to Health, Safety and Environment for this scenario.

Permitted weight of stockpiled material on the bridge is 2.5tn/m².
A review of the residual capacity of the deck should be undertaken to establish the safe working loads and allowable traffic on the deck. Due to the spacing of the main steel beams at 3.4m it is anticipated normal construction traffic would be able to traverse the bridge in all but the most severe scenarios of local deck failure by ensuring wheel tracks are positioned close to the position of the beams.

CLEIENT/CLIENT :



Asiant Cefnffyrdd Gogledd a Chanolbarth Cymru
North & Mid Wales Trunk Road Agent

NODIADAU/NOTES

- All dimensions in millimetres unless otherwise stated.
- Do not scale off drawing.
- The new surfacing will comprise of a concrete over-slab and combined waterproofing and wearing membrane. The Overall construction thickness will be unchanged at 75mm or slightly reduced to ensure the total weight of the proposal is no greater than the existing surfacing.
- The Contractor is responsible for the concrete design mix specification which is to be approved by the Overseeing Organisation. See specification Vol.2 Appendix 17/1 for an indicative design mix that may be used to achieve a desirable design mix
- Steel T-bar dowels to be installed every 1m² by method of resin grout to the approval of the overseeing organisation. Dowels adjacent to kerbs to be offset a minimum of 100mm from kerb face and installed at 500mm spacing parallel to kerb face. See drawing 6610/GA/103 for isometric view of proposed dowel and mesh arrangement.
- Steel T-bar dowels may be tied or welded to the B1131 Structural Steel Mesh over-slab deck reinforcement. (If welding, BS 8548 Guidance for arc welding of reinforcing steel; should be followed). Dowels and Mesh to be high yield and weldable steel grade W. Minimum 30mm cover to be provided to the new reinforcement and dowels.
- See Detail B for method of over-slabbing adjacent to expansion joints. Steel dowels to be offset a minimum of 100mm from movement joints and installed at 250mm spacing parallel to joints.
- Existing Elastomeric Movement Joint and plugged asphaltic joints to be renewed throughout. Contractor to identify suitable replacement joints for the approval of the overseeing organisation.
- When the existing surfacing has been planed off, any necessary repairs will be carried out to the existing slab. If appropriate, the areas requiring repair shall be prepared, exposing the existing reinforcement, the exposed reinforcement shall be primed with a suitable protective coating and the over-slab cast onto the prepared area. This will have the advantage of tying the slabs together via the reinforcement at repair locations and negate the need for dowels at those locations. See Detail A.
- The central reserve deck cantilevers rely on the top layer of transverse reinforcement for their support. Caution is required when removing concrete to the top of the existing slab such that very large areas of reinforcing bars are exposed and that the anchorage to the bars providing support to the cantilevers is lost. This is particularly important for a longitudinal strip of deck between 1.3m and 2.3m from the fast lane kerb. Here it is important that not more than 10 transverse bars are exposed in any 2.0m length of bridge (transverse bars are at approx. 100mm centres). If this situation should arise the allowable construction loading will need to be reduced. The design engineer should be informed who can determine a revised allowable construction load. In addition, Construction loading should be managed such that;
 - Stockpiled materials should not exceed 2.5 Tonne/m².
 - Any vehicles outside Construction & Use limits should be approved by the Design Engineer.
- The proposed Combined Waterproof and Wearing membrane is to be applied over the whole deck to prevent surface water penetrating to the deck slab. Example of such a system is "Bridgemaster" by Stirling Lloyd. Any system chosen should be repairable in the event of damage see minimum requirements of membrane in specification Vol.2 Appendix 20/1.

TENDER DRAWING

D	Amendments to Detail B. Amendments to Note 10. Caution notes included. Tender issue.	TL	TL	TL	11/2023
C	Note on structural mesh overlap included. Removal of waterproof and wearing membrane requirements on verges and central reservation.	TL	TL	TL	10/2023
B	Scheme title changed. Amendments to dowels and reinforcing. Amendments to notes.	TL	TL	TL	04/2019
A	Additional notes.	TL	TL	TL	03/2019
RHIF NO.	NEWIDIADAU MODUR	TL	TL	TL	03/2019



CYNLLUN / SCHEME :

A494 380 Queensferry River bridge
Over-slabbing of Both Decks

TEITL LLUNIAD / DRAWING TITLE :

General Arrangement -
Over-Slab Detail

DARLUNWYD GAN : DRAWN BY :	TL	DYDDIAD DARLUNWYD : DATE DRAWN :	12/2018
GWIRIWYD GAN : CHECKED BY :	RH	DYDDIAD GWIRIWYD : DATE CHECKED :	12/2018
Tafien Sheet	2 of 3	GRADDIFYDDO : SCALES :	AS SHOWN

Rhif Lluniad
Drawing No. 6610/GA/102

CYMR
REV
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