

SBIM – M4 Carriageway Resurfacing

Customer Working Group

December 2023

Map of Prince of Wales



Section of Works



	Length (m)	Width (m)	Area (m ²)
Cable Stay Bridge	947	27.4	25,948
Gwent Approach Viaduct	2103	27.4	57,622
Avon Approach Viaduct	2077	27.4	56,910
Total	5127	27.4	140,480

Historic Patch Repairs

- Historic patch repairs on Cable Stay Bridge. Accounts for approximately 20% of surfacing area.
- These areas are currently without waterproofing.
- When exposed the deck showed signs of damage but otherwise in reasonable condition.
- Assuming 5% of the area requires concrete repairs on the Cable Stay Bridge

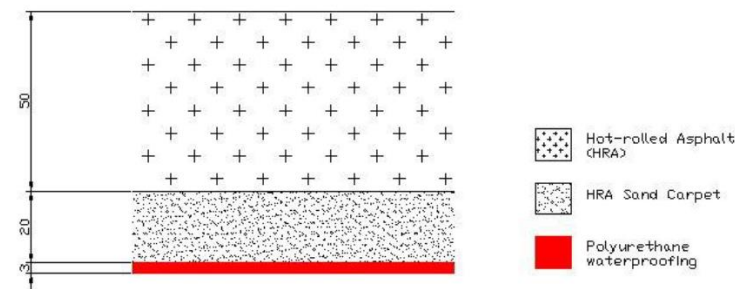


Existing Surfacing and Proposed Option

Cable Stay Bridge

- Approx. 70mm depth

Layer	Depth	Ref	Description
Surface Course	50mm	WC-P1	Hot Rolled Asphalt (HRA)
Regulating Course	As Required	RC-P1	HRA Regulating Layer
Protection system	20mm	PW-P1	HRA Sand Carpet
Waterproofing	3mm		Polyurethane Waterproofing (Pitchmastic)



Estimate Value of proposed option of Cable Stay Bridge only including full resurfacing and waterproofing.

People	£154,363
Equipment	£305,979
Plant and Materials	£2,896
Design	£105,108
Subcontract	£4,846,050
Risk	£4,765,439
Subtotal:	£10,179,835
FEE	£1,667,457
TOTAL	£11,847,292
Duration*	10 Weeks

Traffic Management Proposal

- Option 1: Weekend carriageway closure, and weekday lane restrictions.
 - This requires 8 weekend carriageway closures (4 westbound closures, and 4 eastbound closures). During these closures 2 + 1 lanes can be maintained in contraflow on the other carriageway.
 - It also requires 8 weeks of lane restrictions, with 2 + 2 lanes of traffic maintained on the M4, utilising contraflow for one lane.
- Option 2: Continuous carriageway closure in one direction, with 2 + 1 lanes of traffic maintained in contraflow on the other carriageway.
 - This would require 4 to 5 weeks of carriageway closure in each direction.

Traffic Management Proposal

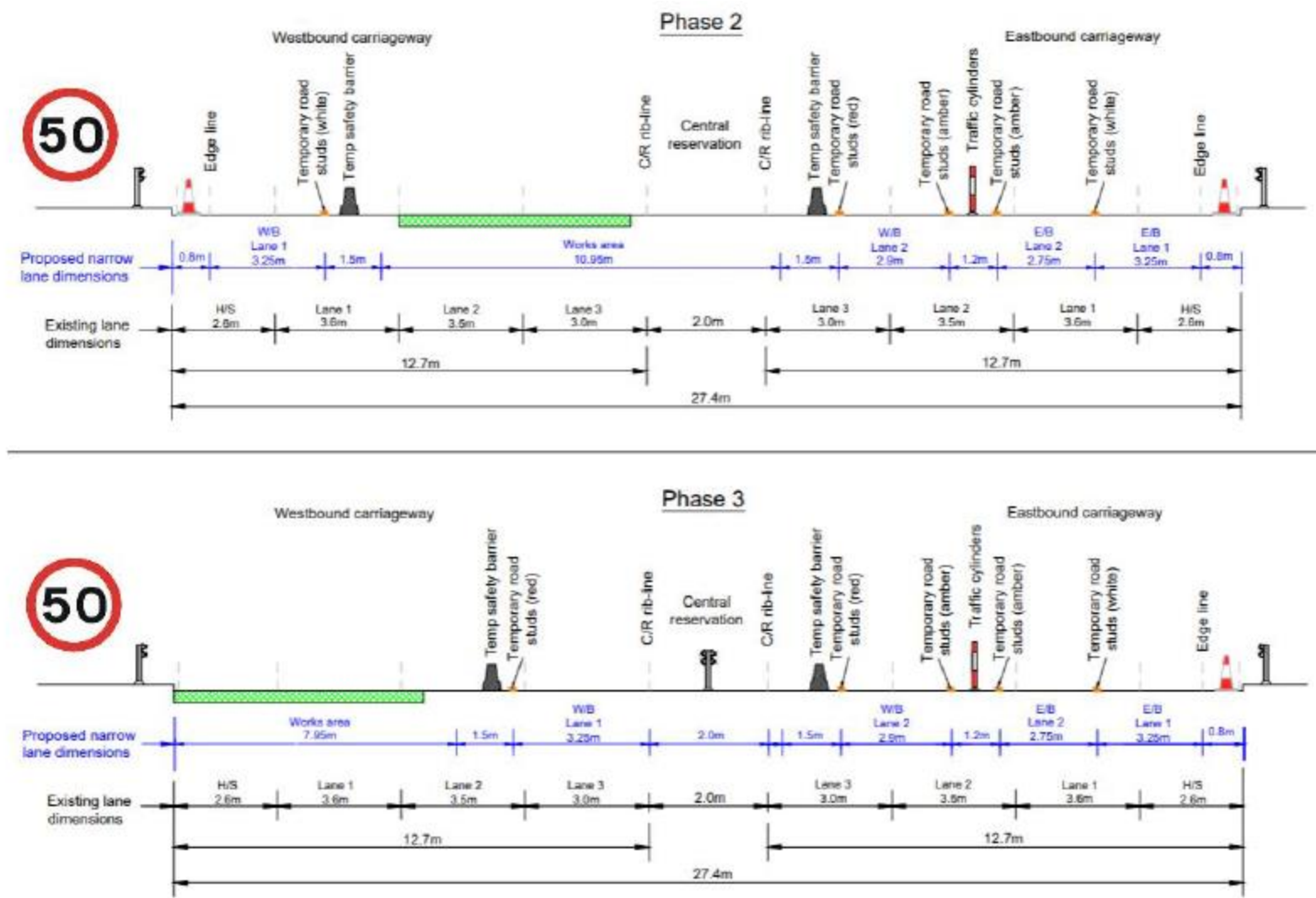
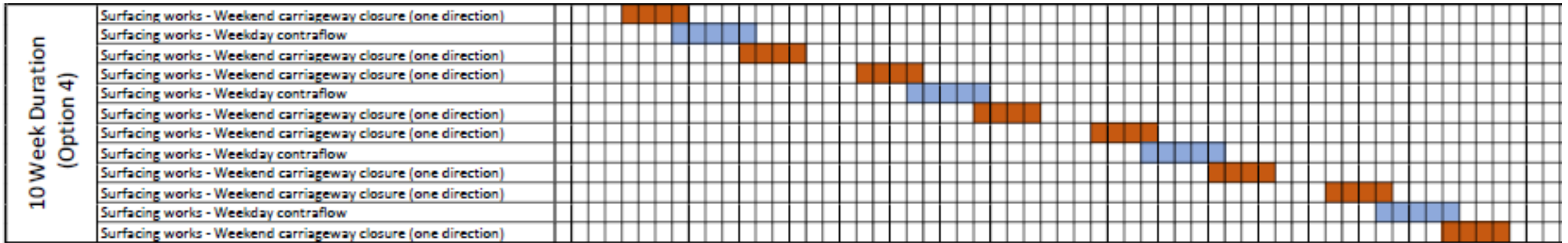


Figure 20: Extract of traffic management proposal.

Duration of Traffic Management

- Durations are estimated based on an accelerated timeline with multiple surfacing sites running in parallel maximising output. Co-ordination with multiple asphalt plants required.
- Celebrity events around the area:
 - Principality Stadium: 9th August Billy Joel
 - Chepstow: 6th July Tom Jones, 9th July Hozier, race days throughout July, August, September



Customer Impact Mitigation

- Develop significant communications strategy
 - Stakeholder engagement
 - Media briefings
 - Postcard drop
 - Social media
 - Sway page
- CCTV monitoring and free vehicle recovery
- ROC monitoring – dedicated monitoring the traffic and signing for best route
- Run the hard shoulder on westbound M4 Catherine Hill – 2 lane section??