B. DECK REPLACEMENT

1. Close bridge to traffic. Remove existing surfacing of carriageway and gully grates and frames. Apply mortar resin bed with top levels matching top levels of new deck plate. Apply rapid cure primer to seal exposed concrete surfaces and rapid cure high friction surfacing as skid resistant treatment. Place temporary traffic barrier, leaving a temporary carriageway lane width of 3180mm. Place temporary cover plate as per CD 357 Appendix F and TS IA 42 over existing drainage hole (not shown). Open bridge to traffic with 10mph speed limit.

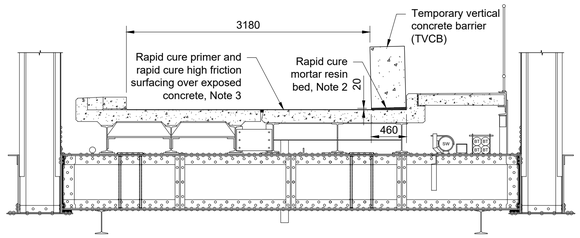
2. Remove existing footway slabs, footway steelwork, and utility services.

3. Cut away existing flooring of service bay and remove its transverse stiffeners, see Note 4.

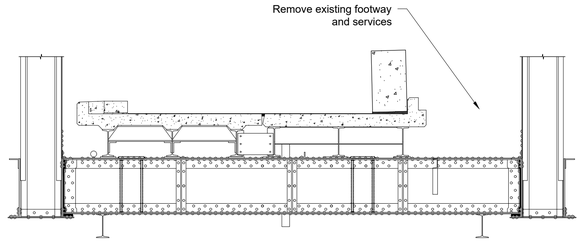
4. Replace deck panel 1 (see notes 5, 6, 7 and 8):
   a. Close bridge to traffic.
   b. Remove barrier segments over panel as required for access.
   c. Cut through welds of existing base plates.
   d. Remove underpinning beams at west panel ends, see Section A-A on Drawing No. 14/NW/1203/037/037.
   e. At panel ends, remove kerb of verge, its backing concrete, and joint materials of surfacing and concrete slabs.
   f. Lift and remove existing west and east deck panels.
   g. Place new packing plate for east guide bearing.
   h. Lay new base plates at both panel ends on new perforated spacer plates.
   i. Screw studs into tapped holes of new base plates and place steel ferrule.
   j. Lift and position new deck unit, aligning holes of east guide bearing with holes of cross member for longitudinal restraint. Carry out holes for fixings of west guide bearing and place packing plate.
   k. Adjust positions of base plates over cross girders as noted on drawings no. 14/NW/1203/037/048 and 14/NW/1203/037/049, weld new base plates to new perforated spacer plates, and lower new deck unit.
   l. Fix guide bearings to cross member for longitudinal restraint and release transit clamps.
   m. Lay upper sliding sheet on top of new stringer bottom flange, place plate washer, place nut, and tighten screwed studs.
   n. Place temporary works for lateral restraint of deck east stringer.
   o. Reinstate traffic barrier segments, place temporary cover plates as per CD 357 Appendix F and TS IA 42 over gaps between new deck panel and adjacent existing deck units, covering not less than 1.0m either side of joint, and open bridge to traffic with 10mph speed limit.

5. Install guides for permanent lateral restraint of deck panel 1:
   a. Close bridge to traffic.
   b. Remove temporary lateral restraints.
   c. Remove existing base plate.
   d. Remove corrosion from top flange of existing cross girders at landing points of permanent lateral restraints.
   e. Install permanent lateral restraints.
   f. Open bridge to traffic with 10mph speed limit.

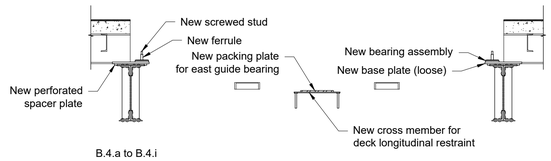
6. Replace deck panels 2 (see notes 5, 6, 7 and 8):
   a. Close bridge to traffic.
   b. Remove barrier segments over panel as required for access.
   c. Cut through welds of existing base plates.
   d. Remove underpinning beams at west panel end, see Section A-A on drawings no. 14/NW/1203/037/037 and 14/NW/1203/037/038, and Section B-B on drawings no. 14/NW/1203/037/039 and 14/NW/1203/037/040.
   e. At panel ends, remove kerb of verge, its backing concrete, and joint materials of surfacing and concrete slabs.
   f. If deck panel location is adjacent to a expansion joint, remove existing expansion joint.
   g. Lift and remove existing west and east deck panels.
   h. Lay new base plates at panel end opposite to adjacent previously replaced panel on new perforated spacer plates.
   i. Screw studs into tapped holes of new base plates and place steel ferrule.
   j. Lift and position new deck unit, aligning centreline of east stringer with east guide bearing for longitudinal restraint of deck panel 1.
   k. Adjust positions of base plates as noted on drawings no. 14/NW/1203/037/048 and 14/NW/1203/037/049, weld new base plates to new perforated spacer plates, and lower new deck unit.
   l. Lay upper sliding sheet on top of new stringer bottom flange, place plate washer, place nut, and tighten screwed studs.
   m. Place packing plate between this panel and adjacent previously replaced panel and bolt both panels to each other (preloaded bolt connection).
   n. Apply in-situ waterproofing over construction joint between deck panels, verge and east kerb plate included.
   o. Reinstate traffic barrier segments and place temporary cover plates as per CD 357 Appendix F and TS IA 42 over gaps between new deck panel and adjacent existing deck units, covering not less than 1.0m either side of joint.
   p. If deck panel includes a drainage steel collar, place temporary cover plate as per CD 357 Appendix F and TS IA 42 over hole.
   q. If deck panel location is adjacent to an expansion joint, place temporary cover plate as per CD 357 Appendix F and TS IA 42 over gap for new expansion joint, covering not less than 1.0m either side of joint.
   r. Open bridge to traffic with 10mph speed limit.



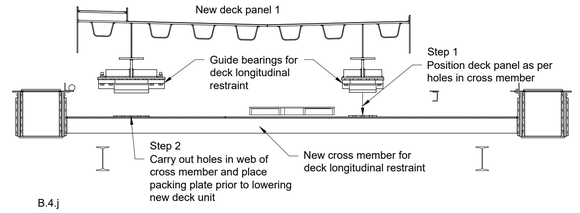
B.1



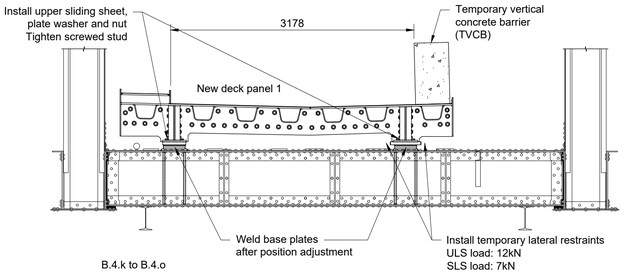
B.2



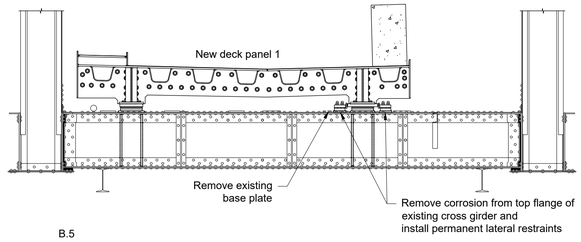
B.4.a to B.4.i



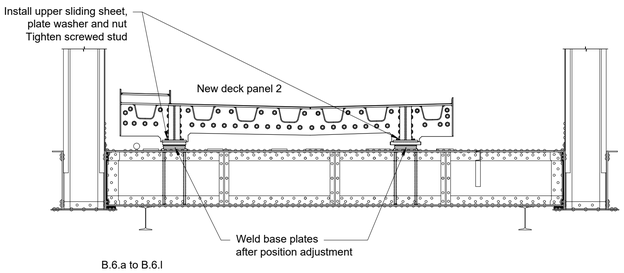
B.4.j



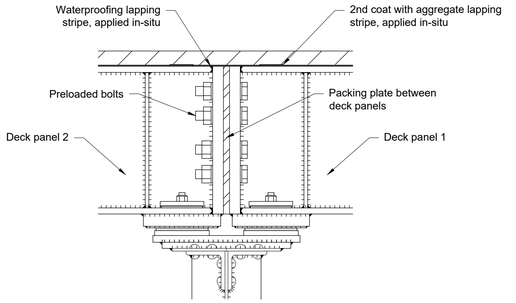
B.4.k to B.4.o



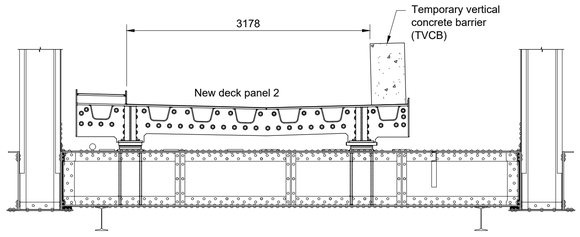
B.5



B.6.a to B.6.l



B.6.m and B.6.n



B.6.o to B.6.r

Drawing Number

14/NW/1203/037/056

Notes:

1. See Safety, Health and Environmental Information on Drawing No. 14/NW/1203/037/035.
2. Resincoat Rapid Set Epoxy Repair Mortar, or similar approved by BEAR Scotland, with 2.5% crossfall.
3. GCPAT PAR1 Primer and GCPAT Safetrack HW or similar approved by BEAR Scotland.
4. Optional, assuming poor condition of existing floor plate and/or transverse stiffeners. If they are in good condition, they may be kept and no new grid flooring would be installed. TBC on site.
5. Deck panel replacement order is shown on Key Plan of New Deck of Drawing No. 14/NW/1203/037/041.
6. Requirements for transporter unit to lift and move existing/new deck panels are as follows:
   - 4no wheels per axle
   - No axle will exceed a total load (self-weight + hoist load) of 100kN at ULS
   - Sum of axles within 4.1m will not exceed a total load (self-weight + hoist load) of 310kN at ULS
7. If replacement of any deck panel position cannot be successfully completed, existing west and east deck panels of that position may be lowered back into place to open bridge to traffic. In this case, deck stringers would need to be welded again to existing base plates, which will remain welded to existing cross girders until all deck replacement operation is finished (at Stage B.20).
8. No deck panel, existing or new, shall be left unrestrained on bridge at any time.

Do not scale this drawing

Rev	Date		Checked	
2	13/04/21	Comments addressed	JL	DFM
1	10/11/20	Improved sequence description	JL	DFM
0	19/06/20	Draft for Comments	JL	DFM

Client

TRANSPORT SCOTLAND
CÒMHDHAIL ALBA

BEAR SCOTLAND

Status

DRAFT FOR COMMENTS

Project	A828 Connel - Glencoe Trunk Road A828 10 CONNEL BRIDGE
Title	North West Major Structures Programme DECK REPLACEMENT CONSTRUCTION SEQUENCE (2/3)
Drawing No.	14/NW/1203/037/056 — 0 1 2
Scale	As Shown @ A1 — Date 19/06/2020
	Drawn PM — Checked JL — Approved DFM

Prepared for BEAR Scotland by JACOBS
Jacobs 95 Bothwell Street, Glasgow, G2 7HX