

Figure 1 **SCHEMATIC DIAGRAM OF WAIKINO RAIL BRIDGE**
 (not to scale)

Key to component numbers/treatment areas

Numbers 01, 02, 07, 08; 45° king struts (300x400mm)

Numbers 03 - 06 45° queen struts (350x250mm)

Numbers 09-12; Double 45° struts (2/200x130mm)

Numbers 13-16; Single 45° struts (200x130mm)

Numbers 17-26; Upper surfaces of transoms between stringers and sway braces

Numbers 27-36; Semi vertical sway braces (200x130mm)

Numbers 37-46; Compression blocks at the base of the 45° struts

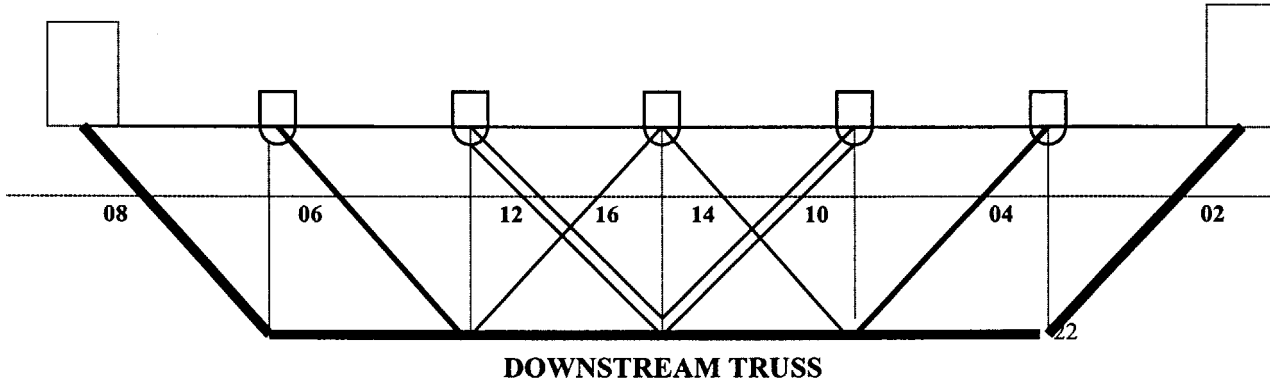
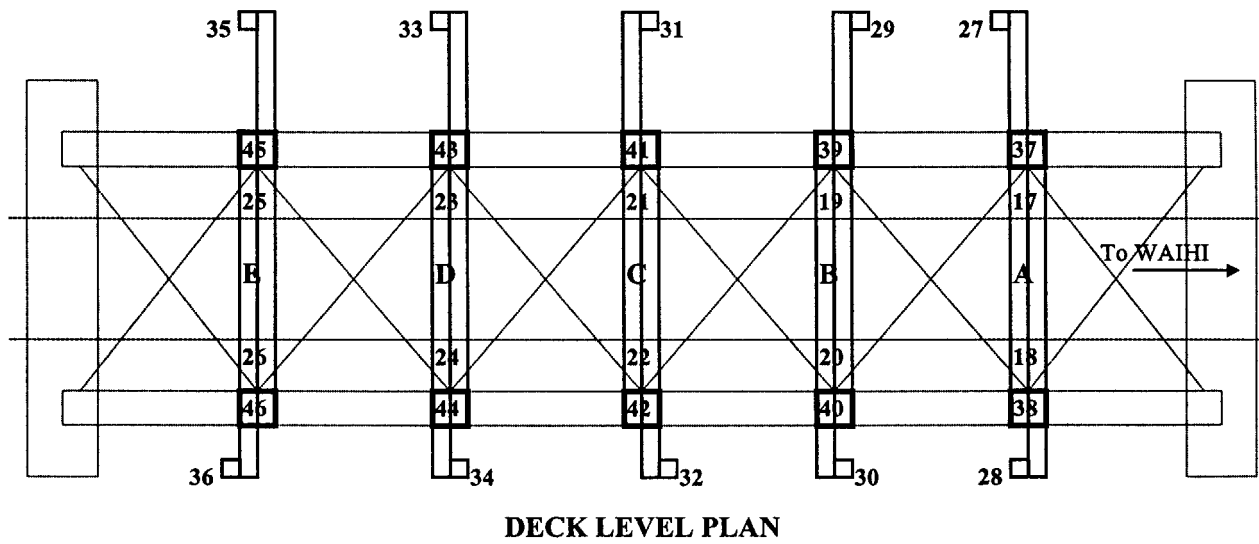
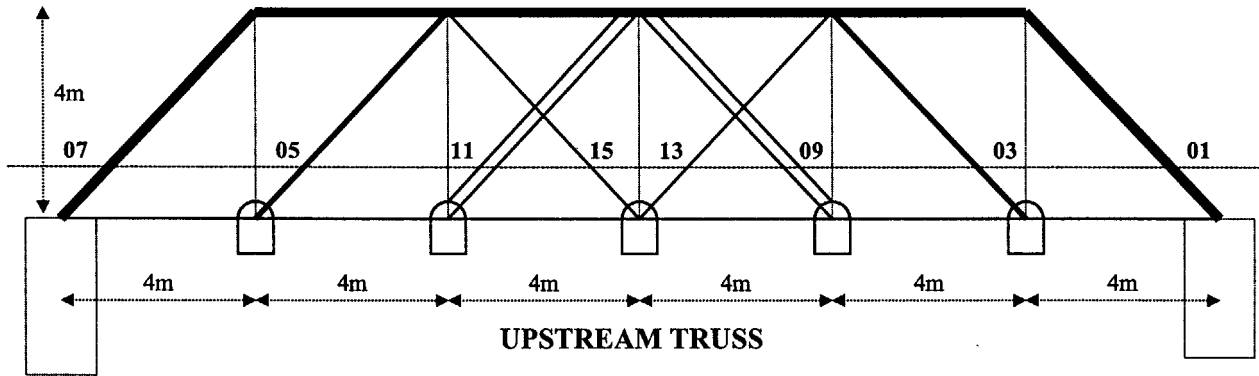


Figure 2
SCHEMATIC DIAGRAM OF WAIKINO RAIL BRIDGE
Cross Section (not to scale)

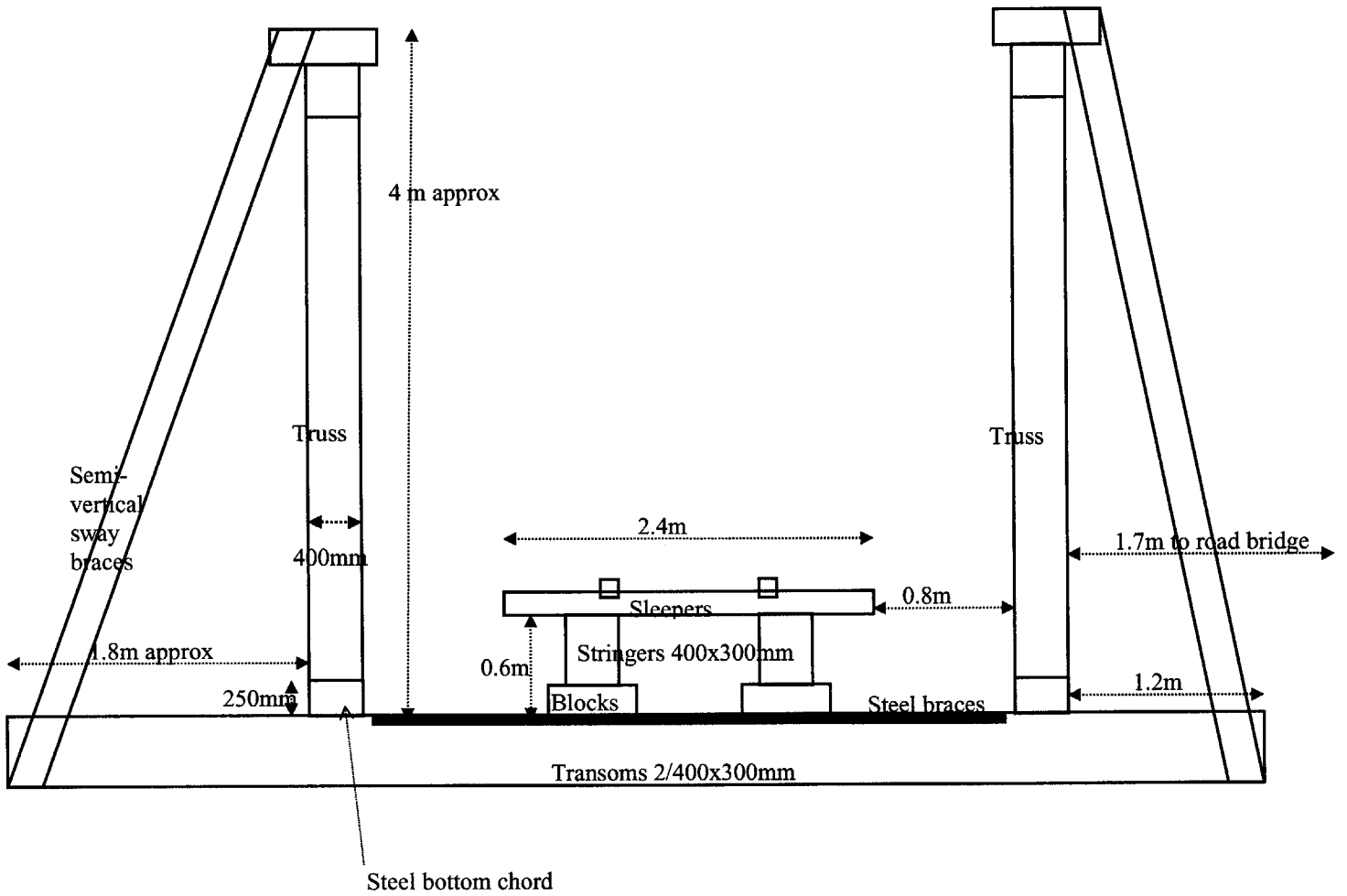


Figure 3
SCHEMATIC DIAGRAM OF WAIKINO RAIL BRIDGE
Layout of Preservative Treatments

Preservative Codes (** Preservative inserted in holes bored in stringers)

- B30L** Busan 30L, 10% solution
- BPG** Busan Pole Gel
- BORU** Boracol and Ultrawood water-repellent. **Impel** - fused boron rods.
- CD50** Churton's CD50
- CNO** Metallex in diesel (6% copper naphthenate)
- KCNE** Koppers CN Emulsion

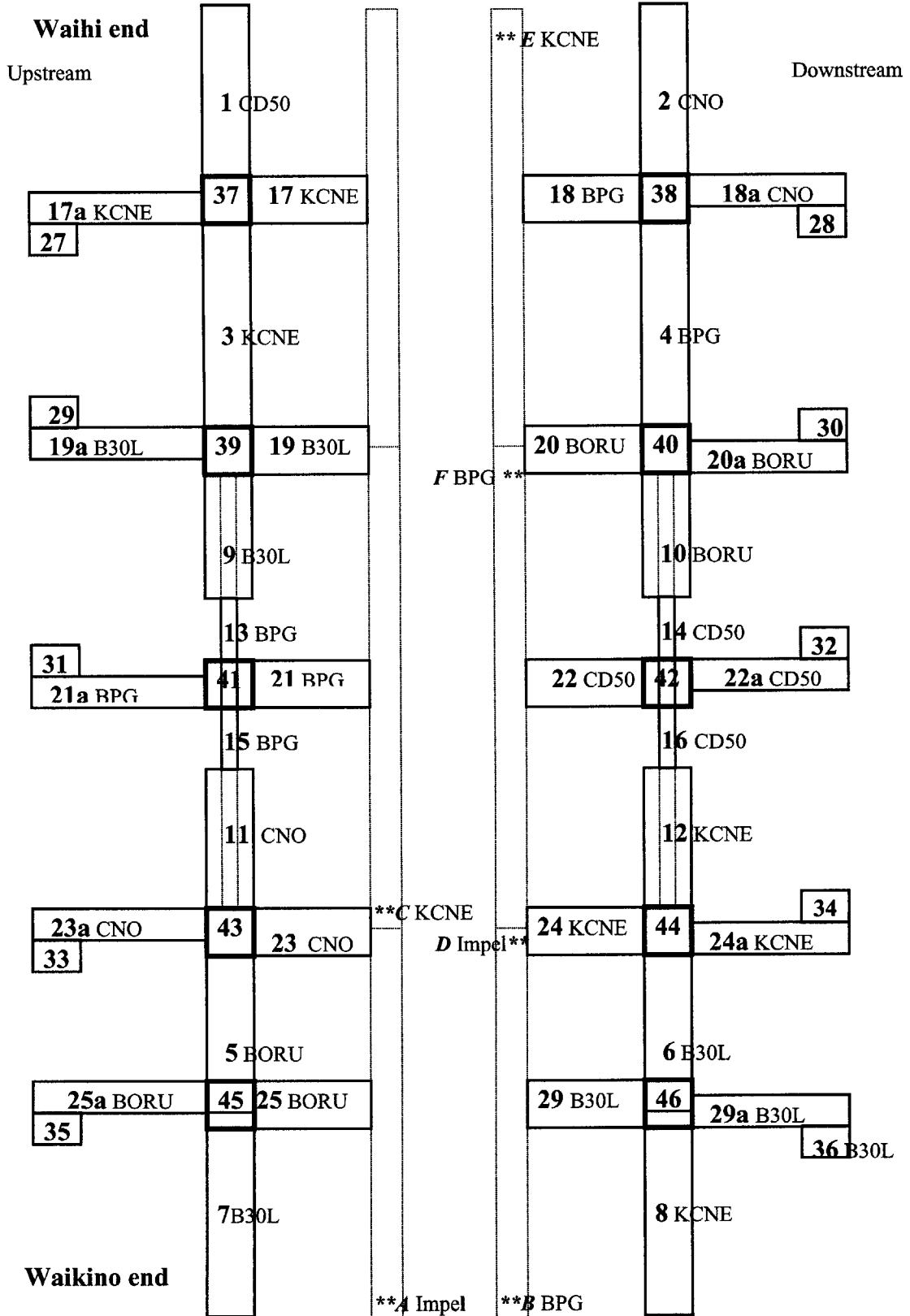




Figure 4. General view of the bridge from the Waikino end, before water-blasting and treatment started. There was extensive orange algae and lichen on many of the components as well as deep fissures and occasional deeper decay.



Figure 5. Initial water-blasting test on queen strut 3 and compression block 37. Water-blasting removed the orange algae, lichen, debris and most of the moss and vegetation growing in fissures in the beams. The original red primer on both the metal and wooden components was not all removed.



Figure 6. Components at the time of treatment. King strut 1 in the foreground has just been coated with CD50 and the tarpaulin installed to prevent spillage into the creek is being removed. Queen strut 3 and the top of transom 17, coated with CN Emulsion earlier in the day, are in the background.



Figure 7. The upper surface of transom 17, compression block 37 and the lower end of queen strut 3, six days after application of CN Emulsion. The surface has almost returned to its original grey colour; there is some darkening and traces of CN Emulsion in the fissures.



Figure 8. Green plastic plugs in the end of the stringer resting on the transom '23' are just visible. These are plugging the holes filled with CN Emulsion preservative at 'C', immediately above the surface sampling point 0375 (aluminium tag) The upper surface of the transoms had just been recoated with copper naphthenate in diesel, but the green preservative colour disappeared immediately after application.