

Wynyard Crossing bridge maintenance, 2019 – 2024.

29 April 2024

Eke Panuku provided the following update to the New Zealand Herald in response to further questions about the Wynyard Crossing Bridge.

Summary:

Regular maintenance checks have been undertaken monthly, quarterly, half yearly and annually as part of the agreed routine maintenance programmes with council approved contractors. The hydraulic and mechanical checks are outlined below.

In addition, there are further three- and six-monthly electrical checks which includes annual thermographic surveys of electrical systems. This also includes checking and testing sensors, bridge lighting, sump and filter pumps, and alarms.

The bridge motor was upgraded from hydraulic to electric in 2022 which offered more resilience and reliability which resulted in a drop in the amount of responsive maintenance required. In response to the change of motor, the decision was made to include regular monthly electrical checks.

Both machine rooms have been fully recoated in the past five years and the bridge itself has been spot painted as required. Regular washing/cleaning of the bridge was undertaken on a four monthly basis using a biodegradable cleaner.

In addition to our maintenance contracts, weekly oil checks were undertaken by our staff.

Outline of Hydraulic and Mechanical Checks:

Monthly Maintenance

Visually inspect the winch cable (25.4mm Gr 2160 Galv)

- Inspect the cable for mechanical damage or broken wires.
- Inspect the cable for bird caging.
- Inspect the cable for core knuckling.
- Inspect the cable for any core protrusion.
- Inspect whether the wire rope feeds smoothly into and away from winch rope guides.

Apply coating to winch cable

- Apply Rocol wire rope spray to the winch cable.
- Check trunnion bolt tightness
- Check trunnion bolt tightness on both east side and west side.
- Grease main trunnion pins on both east side and west side with Rocol Sapphire Aqua Grease.

Grease pulleys

- Remove the cage and grease the bottom pulley on both east side and west side with Rocol Sapphire Aqua Grease.
- Grease the top pulleys using a scissor lift while the bridge is in lifted position with Rocol Sapphire Aqua Grease.

Check sliding mechanism tie rod nuts

- Remove the cage and visually inspect the sliding mechanism tie rod nuts

Check operation of sliding mechanism check bolt tightness

- Remove the cage and visually inspect the operation of sliding mechanism and check the bolt tightness.

Grease sliding mechanism

- Remove the cage and grease the sliding mechanism with Rocol Sapphire Aqua Grease.

Grease wire link to Dia 150 pin

- Remove the cage and grease wire link to 150mm diameter pin with Rocol Sapphire Aqua Grease.

3 Monthly Maintenance

Grease folding backstay

- Grease the middle and the bottom pins of the folding backstays from the ground while the bridge is in lifted position with Rocol Sapphire Aqua Grease.
- Grease the top pins of the backstays using a scissor lift while the bridge is in lifted position with Rocol Sapphire Aqua Grease.

Check Backstay bolts

- Remove and check for broken bolts on backstays.

Grease locking pins

- Grease 2x locking pins with Rocol Sapphire Aqua Grease.

Check tightness of forestay turnbuckles, top and bottom fixings

- Check tightness of forestay turnbuckles, top and bottom fixings

6 Monthly Maintenance

Check alignment of trunnion pin

- Check alignment of trunnion pin.
- Check the diameter of the trunnion pins using micrometre or a Vernier Calipers.