

Out of Scope

From: s 9(2)(a) @beca.com>
Sent: Friday, 4 March 2022 11:19 am
To: s 9(2)(a)
Cc: Out of Scope
Subject: RE: AHB Protest Video

Hi All,

Furthermore, recent investigations have established that walking "in step" as usually understood is not necessary for the response to occur.

[New study uncovers real reason behind Millennium Bridge wobble | New Civil Engineer](#)

The full paper mentions the Auckland Harbour Bridge amongst others.

Regards

s 9(2)(a)
Senior Associate - Civil Structures
Beca

s 9(2)(a)

www.beca.com

Sensitivity: General

From: s 9(2)(a) @beca.com>
Sent: Friday, 4 March 2022 10:59 AM
To: Out of Scope
s 9(2)(a) @beca.com>
Cc: Out of Scope
Subject: RE: AHB Protest Video

Hello All,

The lateral sway induced by synchronous pedestrian footfall at the natural frequency of the bridge has been observed on this bridge several times and is a known issue for the extension bridges. This was one of the key considerations for SkyPath and a very high level assessment of possible damper solutions was carried out some years ago.

Any walking path on the box girder structure will require damping in multiple spans. It is not something that can be prevented by managing pedestrians for a permanent footpath as a critical mass of people walking in step with the vibration will create the type of resonance we see in the video. For previous one-off marches there has been crowd management (I think by the police) to limit the number people crossing any one span together. This would be advisable in future if large crowds are expected on the bridge.

Regards,

s 9(2)(a)
Technical Director Structural Engineering
Beca

s 9(2)(a)

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[www.Linkedin.com/company/Beca](https://www.linkedin.com/company/Beca)

Sensitivity: General

From: Out of Scope
Sent: Friday, 4 March 2022 10:00 AM
To: Out of Scope
s 9(2)(a) @beca.com>
Cc: Out of Scope
Subject: RE: AHB Protest Video

Hi s 9(2)(a)

Post event inspections have been undertaken (by s 9(2)(a)) from the road deck, and no new defects were observed. No further inspections have been deemed necessary following s 9(2)(a)'s review of the event.

Regards,

Out of Scope

Out of Scope / AHB Manager
Suckland System Management

Out of Scope

/ www.nzta.govt.nz/asm



From: Out of Scope
Sent: Friday, 4 March 2022 9:51 am
To: Out of Scope s 9(2)(a) @beca.com>; Out of Scope
s 9(2)(a) @beca.com>
Cc: Out of Scope
Subject: RE: AHB Protest Video

Hi Out of Scope

The ASM team got this video from social media then Out of Scope showed this to me. From my chat with Out of Scope I think there were no damages. Can you confirm Out of Scope

I then shared this video with Out of Scope to share with the team working on the Additional Waitemata Harbour Crossing. This could be a problem that needs to be resolved as one option is to use both lanes of the southbound clip-ons as a dedicated walking & cycling.

Following on Out of Scope question below s 9(2)(a) – In future possible scenarios for pedestrian lanes on the bridge – can this be damped or managed etc?

Ngā mihi,
Out of Scope

From: Out of Scope
Sent: Friday, 4 March 2022 8:36 AM
To: Out of Scope s 9(2)(a) @beca.com>
Cc: Out of Scope
Subject: FW: AHB Protest Video

Hi

I have just been shown the attached video of the AHB bridges movements and impacting each other under pedestrian loads.

It came from the maintenance team so presume that you know.

Any damage??

In future possible scenarios for pedestrian lanes on the bridge – can this be damped or managed etc?

Cheers

Out of Scope

From: Out of Scope
Sent: Friday, 4 March 2022 8:27 AM
To: Out of Scope
Subject: FW: AHB Protest Video

From: Out of Scope
Sent: Wednesday, 2 March 2022 3:02 PM
To: Out of Scope | s 9(2)(a) | @resolvegroup.co.nz>; Out of Scope
Subject: AHB Protest Video

Hi Team

For your interest - The AHB Maintenance team send me the attached video. It shows AHB clip-on the bridge sways sideways due to the harmonics caused by people walking over the bridge.

Cheers,

Out of Scope

Out of Scope

Senior Project Manager (Complex), Project Delivery

Transport Services

Out of Scope

Waka Kotahi NZ Transport Agency

Auckland, Level 5, AON Centre, 29 Customs Street West

Private Bag 106602, Auckland 1143, New Zealand



www.nzta.govt.nz

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