

The Funicular Railway Report July 2018 - HIE's cover up and the implications

Description



Photo Credit Save the Ciste 2018

Background

On the 27 January 2019 I applied to Highlands and Islands Enterprise for the two ADAC Structures Inspection reports which resulted in the Funicular Railway being closed. The redacted reports were finally released on Friday 11th October after a request to the Scottish Information Commissioner. This post will look at the Funicular Railway Inspection Report 2018. This has not yet been published on the HIE Cairngorm FOI page ([see here](#)), which HIE claim is being updated and has lost lots of information previously published, but you can read it ([here](#)). (NB 10 MB document). The second ADAC Inspection Report on the Ancon Bearings will be covered in another post.

My initial reaction on reading the reports was that HIE had released very little, as whole pages have been redacted and photos are missing. Then I recognised the photos that had been left in were from the 2015 ([see here 6 MB](#)) and 2016 ([see here 9 MB](#)) ADAC Structures Funicular reports which had already been sent to me under Freedom of Information. I therefore printed off the other pages to compare with previous reports.

It appears that HIE hasn't even properly checked the information that has previously been released as there are several inconsistencies. From the shape and size of some of the redactions, however, it is possible to make an educated guess at the information that is missing. Together they do shed more light on what has gone wrong with the funicular and why.

Analysis of what has been redacted

The first three pages are almost identical to the November 2015 report and then the redactions start at:

Item 2. Executive summary:

There is very little left to be read on this page, but, earlier reports consisted of three or four short paragraphs. The increase in size to a full page strongly suggests that there have been some big changes in the past eighteen months!

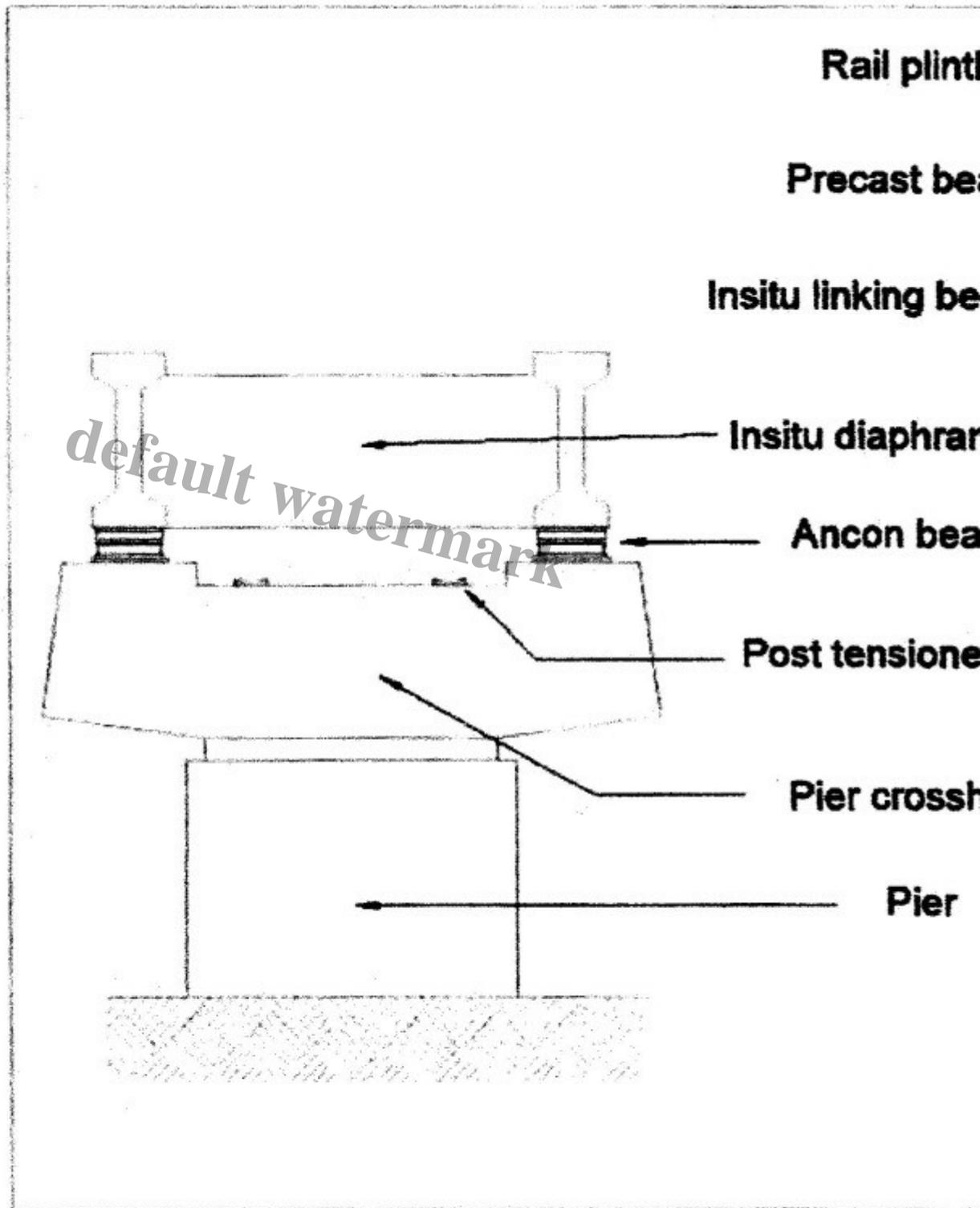
- 2.1 The writer now has the insights from 4 years of inspections [REDACTED]
- 2.2 The writer feels there is a differential to be drawn between maintenance, repair of direct damage and [REDACTED]
- 2.2.1 A concrete structure of this age should not require [REDACTED] occasional random repairs may be reasonable [REDACTED] The exception to this may be the plinths due to the nature of loading experienced.
- 2.2.2 Repair of direct damage is clearly required. Examples would include damage to the beams due to impact from snow clearing equipment.
- 2.2.3 [REDACTED]

Extract from Summary

Para.2.2.2 raises new questions. Presumably, the damage caused by operational use of machinery is to the beams and parts of the track that are covered by heavy snow falls and therefore it will be the same ones that are being damaged all the time. Have all these impacts by machinery caused some of the problems with the operation of the Funicular? If so, how much if any of this was due to carelessness on the part of the operator, Natural Retreats? (see also section on Appendix B).

Item 3. Scope and references:

This is very similar to reports from earlier years reports but with the addition of a sketch showing the structural elements. This is really helpful in allowing ordinary people to understand the various parts being described and where they are to be found.



Sketch showing structure

Item 4. Funicular railway observations:

4. Funicular Railway observations:

The writer inspected the items listed in the schedule at item 4. The structure had been completed in 2001, making it 17 years old.

A section with a similar title appeared at Item 5 of the Dec. 2016 and item 4 of the Nov. 2015 reports and from this the redaction in the very first paragraph of the 2018 report would appear to be:

“The general condition was thought to be poor for a structure of this age with wide spread minor deficiencies giving a general impression of poor quality control during the construction phase.”

The same comment has been made by the author of the report since November 2015. So why does HIE now want to redact this?

Para. 4.1 Thrust blocks:

The thrust block at pier 94, mentioned in previous reports, is no longer listed, although this appears just a typing omission. Paras. 4.1.3 and 4.1.4 would appear to be same as those redacted from the December 2016 report (paras. 5.1.3 and 5.1.4). So what's going on and why hasn't it been addressed?

Para 4.2 Main piers:

A comparison with Para 5.2.2 of the 2016 and, para 4.6.2 & 4.6.3 of the 2015 Reports shows the number of damaged piers has steadily increased. In the November 2015 report 5 of the main piers were noted to have faults. This increased to 9 in the December 2016 report and to 15 in July 2018.

Pier 72 stands out as there was no mention of it in 2015, then in 2016 it was *“showing signs of frost damage and seepage through horizontal crack”* then in 2018 *“it also had a vertical crack on downhill face of lowest unit. Vertical crack on left and right face, mid height”*. This seems to imply that the whole pre-cast shell is breaking up! Was this the pier that had layers of concrete removed by contractors earlier this year?

Para 4.3 Main cross heads:

This section suggests there has been a failure to monitor cracks as recommended.

Para 4.3.2 is not quite right when it states *“Other than pier 93, the following items were recorded in previous years”*. That is incorrect. Pier 63 was not mentioned in the earlier reports and now records a chip bottom middle!

Para 4.3.3 on *Pier 93*, has been almost totally redacted except for the last sentence *“Crack monitoring studs have been installed and will be monitored until a feel for the situation is achieved”*. The December 2016 report, however said this (Para 5.3.3):-

“Description: Crack through pier cross head, running up one face and through the PT bolt holes on the top and down the other side, this is apparent on the line of both PT bolts. This appears to be a development on the previous year, when the cracks were only recorded on the line of one bolt. Ref photos (5).

Location: Pier 93.

Recommendation: This would not be a concern in itself as the cracks are of a minor nature, but the appearance of a developing situation is of concern. It is recommended that crack monitoring is implemented immediately and that this is monitored at close intervals until a feel for the situation is achieved”

So, after the recommendation to monitor cracks at CLOSE INTERVALS why has HIE now chosen to redact information on what has been happening?

Para 4.5 Insitu concrete joints., **Para 4.6** Problems with the precast beams, general., **Para 4.7** Problems with grout plinths to the rails.

Due to the amount of redaction, it is mostly impossible to refer back to the earlier reports for comparison in these paragraphs. I am raising this with the Scottish Information Commissioner to try and get the hidden information. However, there are three appendices linked to these paras which illustrate how the problems have got worse:

Appendix A: Schedule of fractured flanges. (Refers to clause 4.5.4)

In Dec 2016 there were problems identified with **23** flange ends of the precast beams this increased to **33** by the time of this inspection, almost 50% in 18 months!

The next two appendices refer to the precast beams:-

Appendix B: Schedule of mechanical damage to arrises (Refers to clause 4.6.3 and was highlighted in Executive Summary)

“Mechanical damage to the main beams, presumably from snow clearing activities”

In Dec. 2016 (para5.6.2) damage was identified in **7** beams, increasing to **31** by July 2018. As it is usually the same sections of the track that get snowbound, then that damage will obviously continue into the future!

Appendix C: Schedule of exposed reinforcement Ref clause 4.6.4

In Dec. 2016 (para 5.6.3) there were **7** instances of damage noted, again increasing to **20** by July 2018 although **4** of these had been repaired after the 2016 report.

Para 4.8 Miscellaneous

These paragraphs, with redactions, are exactly the same as the previous years, including **para 4.8.3:**

There is a partial walkway etc. It is my recommendation that this work be carried out.

This walkway was part of the original construction of the Funicular which was signed off on completion of the project and yet has still not been completed!

Item 5. Recommendations general.

The recommendations from the 2016 Report appear to have been copied over to form part of the 2018 report, as the paragraph numbers are the same as is the content after all the redactions:

6. Recommendations general:

The writer inspected the items listed in the schedule at item 3.1 of this report. It was reported that the installation had been completed in 2001, making it 15 years old. The general condition was thought to be poor for a structure of this age with wide spread minor deficiencies giving a general impression of poor quality control during the construction phase.

6.1 Implementation of recommended repairs generally:

- 6.1.1 There are numerous repairs recommended within section 5 of this report, of varying degrees of urgency.
- 6.1.2 The implementation of number of the repairs recommended within the report risk affecting the stability of the overall structure and must be addressed with careful planning and implementation.
- 6.1.3 It is strongly recommended that the implementation of the various repairs within the bulk of the report are carried out under the guidance and supervision of a suitably qualified Engineer.

6.2 Structural integrity:

- 6.2.1 A number of observations collectively suggest that the structural integrity of the continuous concrete beams is not performing as expected.
- 6.2.2 Enquiries of A F Cruden's in 2016 indicated that the design had been governed by deflection calculations and that the structure was reliant on the effective continuity over the supports to achieve the recommended deflection limits.
- 6.2.3 Crucially A F Cruden's stated that any failure of the continuity reinforcement would not affect the structural strength of the beams as they were adequately reinforced to perform satisfactorily spanning simply between their two supporting piers.
- 6.2.4 There is no recommended action.

6.3 Structure durability:

- 6.3.1 Crack patterns seen within the span of the beams, opening joints over the supports and rust staining at a number of these locations all indicate that the recommended deflection criteria are not being met and that corrosion of the reinforcement has started. There is no evidence of extensive corrosion at this stage, but it is of concern that corrosion has initiated at this relatively young age.
- 6.3.2 The following actions are recommended:
 - A. Check the calculations independently.
 - B. Check the required reinforcement has been provided.
 - C. Check cracks and deflections onsite to verify performance.
 - D. If as expected the strength is adequate but the stiffness is not then it will be necessary to design and implement beam strengthening as necessary.
- 6.3.3 If wide spread beam strengthening is required this is likely to be very costly.

Recommendations 2016 ADAC Funicular Report

5. Recommendations general:

The writer inspected the items listed in the schedule at item 3.1 of this report. It was reported that the installation had been completed in 2001, making it 16 years old.

5.1 Implementation of recommended repairs generally:

5.1.1 There are numerous repairs recommended within section 4 of this report.

5.1.2

5.1.3 It is strongly recommended that the implementation of the various repairs within the bulk of the report are carried out under the guidance and supervision of a suitably qualified Engineer.

5.2 Structural integrity:

5.2.1

5.2.2

5.2.3

5.2.4 There is no recommended action.

5.3 Structure durability:

5.3.1

5.3.2 The following actions are recommended:

- A. Check the calculations independently.
- B. Check the required reinforcement has been provided.
- C. Check cracks and deflections onsite to verify performance.
- D.

The 2018 Report â?? heavily redacted

The redactions provide an interesting insight into the secrecy culture at HIE – they have now even redacted 5.2 where there is NO recommended action. Other redactions appear to be an attempt to cover up the lack of any progress on recommendations going back 2 years.

What is even more interesting is the very final sentence from the 2016 recommendations which has not been carried over even as a redaction:

para.6.3.3 If wide spread beam strengthening is required this is likely to be very costly.

Time for HIE to tell the public if beam strengthening is required and just how costly that might be.

Conclusion

Despite all the redactions, the 2018 Report compared to previous reports, provides further evidence that HIE has consistently failed to act on recommendations that it needed to repair the funicular.

Audit Scotland has said it will investigate how HIE managed their contract with Natural Retreats. Their failure to act on maintenance recommendations, including those with serious health and safety implications, needs to be a key part of that.

The report also confirms that there are major problems with the Funicular which are:-

(1) Not going to be cheap to repair, remembering this is not the fully detailed inspection, e.g. the photo below shows monitoring equipment installed on one of the piers,



Photo Credit Save the Ciste 2018

- (2) have substantially increased in the **14 to 17** year period after it was completed, and,
(3) due to its position on the mountain are going to recur.

Category

1. Cairngorms

Tags

1. Cairn Gorm
2. Freedom of Information
3. HIE
4. secrecy

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