

May 14, 2026



Engineers

Madison Heights Condominium
c/o Victoria Chester
21 Berkeley Place
Lethbridge, AB T1K 5N1

Email: victoria@kevinchester.com

Dear Victoria Chester

**RE: Madison Heights Condominium
Condominium Corporation No. 8311933
21 Berkeley Place, Lethbridge, AB
2026 Post-Tensioning System Update**

RJC No. CAL.133229.0006

1.0 Introduction

The following report summarizes the results of our update testing of the post-tensioning (PT) system contained within the upper floor slabs at the Madison Heights Condominium building (2nd floor to roof slab, inclusive). The scope of our services was outlined in our proposal dated January 19, 2026, and included penetration testing of accessible PT strands at existing inspection recesses. Fieldwork was completed on April 30, 2026.

The PT system update testing at Madison Heights Condominium was last completed by RJC Engineers in June 2024. An investigation was conducted following our June 2024 review to confirm if an acoustic event reported by residents in unit 229 and 325 was the result of a PT strand breakage. A total of 12 new inspection recesses (11 at the 3rd floor slab and one at the roof slab) were installed as part of that investigation. The current test sample consists of 84 strands at 46 inspection recesses distributed throughout the tower slab undersides.

2.0 2026 Post-Tensioning System Update Testing

The PT strands accessible at soffit inspection recesses were tested using the screwdriver penetration test method to identify any tension deficiencies within the exposed strand sample. Penetration testing was performed on 84 strands at 46 existing inspection recesses located throughout the upper floor slabs. One partially tension deficient strand was detected in the 2nd floor sample. No fully tension



deficient strands were detected. The one partially tension deficient strand was first detected during the 2022 testing event. Table 1 below provides a summary of the existing recess locations.

Table 1: Summary of test results at existing inspection recesses

Floor Slab	# of Inspection Recesses	# of Strands Exposed	# of Partially Tension Deficient Strands	# of Full Tension Deficient Strands
Roof	14	33	0	0
9 th	2	3	0	0
8 th	2	2	0	0
7 th	1	2	0	0
6 th	2	3	0	0
5 th	2	4	0	0
4 th	3	4	0	0
3 rd	13	22	0	0
2 nd	7	11	1	0
TOTAL	34	84	1	0

We understand that a water leak previously occurred through the roof slab, with water ingress reported within the 9th floor hallway. A repair attempt was completed but we understand that the roof still leaks. A new inspection recess was installed in 2025 to monitor a strand group directly below this area to determine if the strands had been exposed to moisture. During our May 2025 expanded post-tensioning system testing, we did not note corrosion on the newly exposed strand. During this testing event, mild corrosion staining was noted on the strand. No pitting or cross-sectional area loss of the strand was observed, and the strand remained under full tension at the time of testing.

3.0 Discussion

The detection of the one partially tension deficient strand within the current test sample may be a result of the strand not being fully tensioned during original construction or may be due to inherent variability in testing techniques. We note, however, that strand tension deficiencies can also be the result of wire breakage as a result of corrosion. The cause of the detected tension deficiencies could be confirmed by removing selected strands for full-length visual inspection. Strand removal would be recommended if significant changes in tension (change to full tension deficiency) are detected during future testing events.

The presence of a partially tension deficient strand would indicate that there has been a reduction in the load carrying capacity of the slab, however until this strand becomes fully tension deficient, the loss of capacity is not considered to be significant enough to warrant strand replacement. Any further changes in strand tension would be detected during future strand tension testing events.



The presence of corrosion on the strand exposed in the roof slab in May 2025 is indicative that moisture has access to the PT system, possibly as a consequence of the ongoing leak issue. The cause of the leak should be investigated and repaired to eliminate the risk of moisture from further accessing the PT system. Continued biennial penetration testing should be performed at all inspection recesses to identify if the observed corrosion results in any changes in strand tension.

The size of the test sample is intended to be representative of general conditions throughout the structure. As with any program based on selective sampling, there is potential that conditions in areas not tested to date may vary from the conditions observed at the existing test sample. Therefore, there is a risk that existing tension deficiencies or moisture induced deterioration of the post-tensioning system exist in areas not tested to date. We believe the test sample is reasonable and no further expansion is required at this time.

4.0 Recommendations

In light of the comments presented in the preceding sections, the following recommendation is presented for your consideration. Please note that the fee below does not include GST or allowance for security or building staff escorts.

4.1 Post-Tensioning System Update Testing

Continued monitoring of strand tension at existing inspection recesses in the upper floor slabs is recommended on a biennial (every two years) basis to identify changes in strand tension within the existing sample. The next testing event should be scheduled for May 2028.

Engineering Fee	\$ 5,000
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4.2 Leak Investigation

We recommend completing a leak investigation to determine the cause of the reported leak in the 9th floor hallway. A contractor would be involved to assist in spray testing to determine the path of moisture ingress. No allowance has been included for the eventual repair.

Engineering Fee	\$ 5,000
Contractor Allowance	\$ 1,500

5.0 Closure

Should you have any questions regarding this report, please do not hesitate to contact our office, we would be pleased discuss any of the information presented. Trusting the above meets your present requirements, we respectfully remain at your service.

Yours truly,
Prepared by:

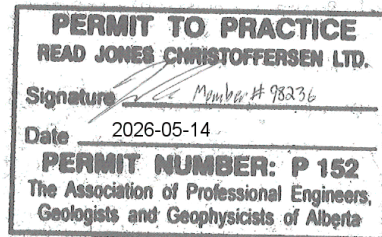


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TJY/xxx

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