

Structural Engineer's Questions and Answers

1. Full Replacement vs. Overlay (Critical Decision Point)

Q: Full replacement vs. overlay — Are there structural, moisture, or longevity risks specific to retaining the original layer? From a structural and long-term durability standpoint, is it preferable to remove all existing sheathing rather than overlay it?

A: We don't anticipate risks of retaining the original sheathing if proper ventilation is provided.

Q: Remaining service life of original sheathing — If the existing sheathing is retained and overlaid, what is the expected remaining service life of that original layer, and under what conditions might it deteriorate faster once covered? The original sheathing is over 50 years old.

A: We believe the service life of the sheathing would extend to the 40-year warranty if it is protected from long term wetting. Long-term meaning more than a several weeks.

Q: Moisture entrapment risk — Does overlaying increase the risk of trapped moisture between layers, particularly in units with prior staining or warping?

A: Prior staining or warping does not increase the risk of trapped moisture. Proper ventilation and shingle performance should protect against trapped moisture.

Q: Warranty alignment — Is the overlay approach structurally appropriate for a 40-year shingle warranty, or does full replacement better align with long-term performance and warranty terms?

A: In our opinion it is structurally acceptable. Your shingle supplier can address the overlay based on their policies.

Q: Nailing schedule vs. wind warranty — Your report specifies 10d nails at 6" o.c. at edges and 10" o.c. in the field for the new sheathing layer. Please confirm this schedule satisfies both code and the shingle manufacturer's requirements for the applicable wind warranty, and that it applies uniformly regardless of which contractor performs the work.

A: That nailing schedule meets code. If the shingle manufacturer has a more rigid standard that should be followed.

2. Structural Capacity & Load

Q: Snow load confirmation — Your report addresses the added dead load from the new shingles (2.8 PSF) and second sheathing layer (1.8 PSF). Please confirm the structural adequacy finding also accounts for Boulder's applicable snow load, not only the incremental dead load.

A: Trusses are acceptable for snow load plus dead load.

Q: Reinforcement at damaged units — Given the truss-chord staining noted at 4145 Unit A, please confirm whether reinforcement beyond sheathing replacement is needed there or at any other unit with prior fire or water damage.

A: It appears only sheathing replacement is needed here. Per the report the top chords should be evaluated for rot where water staining is noted. We did not identify rot in the truss top chords of the 4145 Unit A that had significant water staining.

Q: Deeper review of 4145 Unit A — Please confirm the scope of work for the approximately 75 sq ft of water-stained sheathing and adjacent truss chords in this unit before reroofing begins.

A: Per the report, replace damaged sheathing and evaluate the exposed truss top chords for rot. We did not observe rot in the truss members we were able to observe this area. When fully exposed the trusses should be examined.

3. Sheathing Replacement Criteria

Q: Replacement thresholds — Please provide measurable criteria defining “significant deflection,” “warping,” “delamination,” and “water staining” so the roofing contractor and the Association apply a consistent standard.

A: An experienced roofing contractor’s judgment should be utilized along with the Park East HOA judgment. Further specifications are beyond the scope of our services. We can walk the first few roofs once shingles are removed to help establish standards for additional service.

Q: 10% estimate — building by building — Please clarify whether the 10% sheathing-replacement estimate is a portfolio-wide average, or whether specific buildings (e.g., 4145, 1176) should carry a higher contingency.

A: It is an average. Some buildings may require additional sheathing replacement. No observable damage, soft spots, or delamination was observed in some units.

Q: Soft-spot verification — Please confirm whether engineer recommends on-site verification once shingles are removed, or will rely on the roofer identifying locations for the Association to confirm, as outlined in the report.

A: We don’t believe it is required. We defer that question to the HOA association once they view exposed sheathing. If further verification is deemed appropriate, we can provide that as an additional service.

4. Truss Damage & Repair

Q: Repair design — Please provide stamped repair details for any truss damage discovered during reroofing beyond what is already documented in the report.

A: That can be provided as an additional service. Specified repair details would require observation of the damage to provide a specific repair.

Q: Work-stoppage protocol — Please advise whether contractors should pause before proceeding on any suspect truss area, or only above a defined severity threshold.

A: We recommend evaluating suspect truss areas before the contractor covers these areas.

5. Ventilation Requirements

Q: B/C-unit ventilation gap — The report notes that B and C unit attics lack vents on both sides, so existing gable vents cannot count toward the minimum ventilation requirement. Please advise what remedy you recommend for these units — additional exhaust vents, relocated gable vents, or another mitigation.

A: Per our report a combination of soffit vents and roof vents placed near the top (upper third of span) should be utilized to meet the minimum code. Soffit vents and roof vents are in place currently in all the units in addition to gable vents. We understand that the roofer intends to replace all the roof vents. The replaced vents should provide the minimum code area requirements.

6. Construction Oversight

Q: Site visit cadence — Please advise engineer's recommended number and timing of site visits across the 55-building project.

A: That depends on what issues are discovered. The HOA board may want to schedule some initial visits to clarify sheathing replacement criteria. Site visits are not required. Site visits are at the board's discretion.

Q: Documentation standard — Please specify what documentation (photos, measurements, marked plans) contractors should provide at each sheathing-replacement location for engineer's file.

A: That is beyond the scope of services for our report.

Q: Contract language — Please identify the specific engineering requirements — nailing schedule, staggered joints, gap spacing, ventilation ratio — that should be written directly into the roofing contract.

A: That is beyond the scope of services for our report.

7. Special Conditions

Q: Fire-damaged unit sequencing — Please advise whether 4145 Unit A should be scheduled first, to resolve open questions early, or last, to avoid delaying the broader project.

A: That decision is up to the HOA.

Q: 1176 Unit A scope — Please confirm whether the displaced plywood joints at this unit require sheathing removal beyond the typical allowance, and if so, approximately how much more.

A: The shingles will need to be removed before determining how much sheathing should be replaced. This unit may require replacement of more than the typical amount