



Vista Fly

Clear visual evidence.
Confident decisions.

ROOF INSPECTION REPORT

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Signature



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1. Executive Summary

A full aerial and internal visual inspection were conducted of the industrial roof system divided into Zones A–D, including the inter-unit valley joint.

The inspection identified:

- Severe valley drainage blockage resulting in prolonged ponding
- High-risk exhaust penetration failure in Zone D
- Progressive deterioration of sheet laps and fixings in Zones B and C
- Confirmed internal ceiling collapse and saturated insulation aligned with the valley location

The dominant cause of water ingress is prolonged valley ponding combined with aged penetration and lap defects.

The roof currently presents multiple High and Critical risks requiring corrective intervention.

2. Inspection Methodology

Inspection included:

- High – resolution aerial imagery (RGB)
- Close – range penetration inspection
- AI – assisted defect analysis for risk categorisation

No intrusive investigation was undertaken.

3. External Findings by Zone

- Zone A (North-West)

- General ageing
- Localised fastener corrosion
- Minor seal fatigue

Risk Level: Low - Medium

- Zone B (North - East)

- Vent penetration seal shrinkage
- Corrosion at fixings
- Early lap degradation

Risk Level: High

- Zone C (South-West)

- Organic contamination at lap joints
- Sealant fatigue
- Increased capillary backflow potential

Risk Level: High

- **Zone D (South-East)**

- Failed exhaust penetration flashing
- Cracked mastic
- Corrosion perforation risk

Risk Level: Critical

4. Inter – Unit Valley Joint (Primary Failure)

The valley joint between units was found to be:

- Blocked with debris and vegetation
- Holding standing water
- Preventing adequate drainage

This condition significantly increases:

- Capillary backflow
- Lap joint saturation
- Internal ingress probability

Risk Level: Critical

Primary Root Cause of Ingress

5. Internal Damage Assessment

Internal inspection confirmed:

- Ceiling panel collapse
- Saturated insulation
- Water tracking along steel members

Damage aligns vertically with the valley joint and Zone D penetration.

Risk Level: Critical

6. Risk Assessment Matrix

Risk evaluated using likelihood vs consequence model.

Likelihood Consequence	1	2	3	4	5
5	Medium	High	High	Critical	Critical
4	Medium	Medium	High	Critical	Critical

3	Low	Medium	High	High	Critical
2	Low	Low	Medium	High	High
1	Low	Low	Low	Medium	Medium

Site Risk Summary

Defect	Overall Risk
Valley Joint	Critical
Zone D Exhaust	Critical
Internal Damage	Critical
Zone B Vents	High
Zone C Laps	High
Zone A General	Low-Medium

7. Defect Priority Table

Defect	Priority	Timeframe
Valley Blockage	Priority 1 – Immediate	0-30 days
Zone D Penetration	Priority 1 – Immediate	0-30 days
Internal Collapse	Priority 1 – Immediate	Immediate
Zone B Vents	Priority 2 - Urgent	1-3 Months
Zone C Laps	Priority 2 – Urgent	1-3 Months
General Fixings	Priority 3 – Planned	3-12 Months
Zone A Ageing	Priority 4 - Monitor	Routine

8. 36 – Month Maintenance Strategy

Phase 1 – Immediate Stabilisation (0–3 Months)

- Clear valley to exposed liner
- Verify drainage fall
- Reflash Zone D exhaust
- Replace damaged internal materials

Phase 2 – Risk Reduction (3–12 Months)

- Reseal penetrations
- Replace degraded fasteners
- Clean sheet laps
- 6-month follow-up inspection

Phase 3 – Structured Maintenance (12–24 Months)

- Annual inspection
- Pre-winter valley check
- Targeted recoating of corrosion areas

Phase 4 – Lifecycle Planning (24–36 Months)

- Full reassessment
- Evaluate sectional refurbishment vs capital planning

9. Overall Condition Position

The roof system is not in failure stage but is in an accelerated deterioration phase due to valley drainage obstruction.

Immediate corrective works will:

- Halt ingress
- Reduce escalation
- Extend service life
- Prevent capital-level expenditure

Without intervention, deterioration will accelerate and internal damage will continue.

10. Professional AI-Assisted Assessment Disclosure

This report has been prepared using aerial imagery and internal photographic documentation supported by AI-assisted analytical tools.

Artificial intelligence was used as a decision-support mechanism only.

This document:

- Is a non-intrusive visual condition assessment
- Is not a structural or RICS building survey
- Does not include engineering calculations
- Does not include material testing
- Should not be relied upon as structural certification

Further investigation by a qualified structural engineer or building surveyor is recommended where certification is required.

11. Limitation Notice

This report reflects visible conditions at the time of inspection only.

Vista Fly accepts no liability for decisions taken without further professional verification where required.

This document is intended for maintenance planning and risk awareness purposes.

Appendix A

The photographic evidence included within this appendix demonstrates clear and observable roof system deterioration, with particular emphasis on drainage obstruction and penetration failure.

The inter-unit valley joint exhibits significant debris accumulation and standing water, creating prolonged ponding conditions. This materially increases the probability of capillary backflow beneath sheet laps and accelerates corrosion progression.

Zone D exhaust penetration displays visible flashing degradation and historic patch repairs, presenting a high likelihood of direct water ingress during rainfall events.

Progressive deterioration across Zones B and C, including sealant shrinkage and fastener corrosion, indicates ageing of the roof envelope beyond routine maintenance condition.

Internal photographic evidence confirms ceiling collapse and insulation saturation directly aligned with the valley joint and penetration defects, validating that ingress has already occurred.

Collectively, the imagery demonstrates that the roof is not experiencing isolated cosmetic ageing but active moisture-related deterioration requiring corrective intervention.

ROOF ZONES



ROOF OVERVIEWS





VALLEY JOINT – PRIMARY DEFECT

Standing water observed across valley width indicating restricted drainage and prolonged moisture retention. Obstructed valley joint between roof pitches showing significant debris accumulation along full channel length.







ZONE D – EXHAUST PENETRATION

Localized corrosion evident at flashing base indicating prolonged moisture exposure
Deteriorated sealant and historic patch repair visible at penetration interface





ZONES A B C – PROGRESSIVE DETERIORATION







INTERNAL DAMAGE (DJI Action 5 PRO)

Collapsed ceiling section consistent with prolonged water ingress.

Exposed Insulation exhibiting moisture saturation and material degradation.



