

Building Defect Analysis Report

Root Cause Analysis

Report Generated: 1/28/2026, 9:44:35 AM
Property ID: P6
Historical Data Analyzed: 3 records

Identified Root Causes

1. Differential Foundation Settlement

Confidence: HIGH

Reasoning: High severity diagonal crack with recent movement indicates foundation instability.

Affected Systems:

- Structural System
- Foundation System
- Building Envelope

2. Defective Plumbing System Component

Confidence: HIGH

Reasoning: Significant water damage and mold near bathroom strongly indicate an active plumbing leak.

Affected Systems:

- Plumbing System
- Interior Finishes
- Building Envelope
- Indoor Air Quality

3. Inadequate Maintenance/Delayed Remediation

Confidence: MEDIUM

Reasoning: Mold growth indicates prolonged moisture, suggesting delayed detection or inadequate response to the leak.

Affected Systems:

- Maintenance Procedures
- Building Envelope
- Indoor Air Quality

Ø=Üj Immediate Action Recommendations

1. Immediately engage a structural engineer to assess foundation stability and structural integrity for R1.
2. Locate and repair the active plumbing leak in R2 immediately to prevent further water damage.
3. Engage a certified mold remediation specialist for R2 to safely remove mold and thoroughly dry affected areas.
4. Implement crack monitoring for R1 and investigate external drainage around the foundation.

