



# SENERGY360 Healthy Home Assessment Report

## Project Information

Client:



Project Address:



## Property Overview

- 3000 sf single-story residential home
- Year built: 1981
- Foundation type: Concrete slab on grade

## Climate, Weather, and Building Science Context

### Climate Zone

[REDACTED] is located in **ASHRAE Climate Zone 3B**, which is classified as a Warm-Dry / Mediterranean climate zone. This region is generally characterized by hot, dry summers, mild winters, and limited but occasionally intense seasonal rainfall events.

The area experiences approximately 18–22 inches of annual precipitation, with typical seasonal temperatures ranging from about 40°F to 95°F+, including periodic extreme heat events.

## Why This Matters for This Home

A warm–dry climate places different types of pressure on homes:

- solar heat gain becomes a primary driver of building performance
- bulk water management is critical during short-duration, high-intensity storms
- building assemblies must handle repeated thermal expansion and contraction
- air sealing and insulation are essential to control heat infiltration
- poor drainage details can lead to concentrated water intrusion during storm events

This home must therefore be treated as both a heat-control and water-shedding structure, not simply a cosmetic build-back.

## Weather Exposure and Water Movement Observations

Weather patterns were reviewed to better understand how rain and storm exposure likely affect the home.

### Rain and Storm Exposure

Most large-scale weather systems in Southern California are influenced by Pacific storm patterns. Based on this regional behavior, the home is most likely to experience the strongest driving rain and wind exposure on the:

- Western elevations
- Southwestern elevations

Storm gusts commonly come from the west or southwest and can exceed 30–50 mph during stronger weather and seasonal wind events.

## Relevance to This Inspection

This matters because wind-driven rain can place concentrated moisture load on:

- roof edges
- wall assemblies
- windows and door penetrations
- gutters and downspouts
- grade transitions
- lower wall sections
- perimeter foundation

Combined with poor drainage, improper flashing, and inadequate site grading, these weather patterns can lead to event-driven moisture intrusion and repeated wetting of critical building assemblies.

## Project History

The home has been remodeled several times with multiple joined roof configurations and a new metal roof.

A general contractor was hired to build an entryway to the house. The scope of work is incomplete, leaving the home exposed and in a state of potential damage. All exterior siding is exposed to weather and is showing signs of water damage.

The home site sits at the bottom of a hill in a valley exposed to water drainage. The hillside around the south-facing side lacks proper drainage. The finish grade was excavated 8–12 inches below the finished floor elevation of the home.

The home was tested for mold and remediated by HomeCleanse. The attic has been encapsulated.

The existing drain system should be reviewed by an engineer and a professional drain company.

## Project Status (Current Conditions)

- Home is under construction but incomplete
- Multiple scopes of work remain unfinished across trades
- Building envelope is exposed to weather and pest intrusion
- Drainage conditions are contributing to water exposure risk
- Attic and ventilation systems are non-functional and improperly installed
- Electrical and mechanical systems are incomplete

## Purpose of Assessment

The purpose of this assessment is to ensure the client is safe from any current and future environmental exposures to mold caused by building failure.

The client is currently recovering from environmental impacts such as mold.

SENERGY360 inspected the entire home, including the landscape, grading, foundation, interior space, building envelope, roof, and attic.

## Project Goal

To build back the unfinished project by integrating the SENERGY360 Core Framework to create a supportive, healthy home for the client.

Based on the site assessment and client feedback, this report will become the core document for build-back strategies.

A new GC will be selected to oversee the SENERGY360 Core Framework.

# Future Framework Integration

Beyond this report, the framework will include:

- Complete building science envelope strategies
- Attic system including leak testing, sealing, ventilation, air sealing, vent terminations, and ERV strategies
- EMF wiring infrastructure, solar integration, and kill switches
- Colorbeam lighting with low-voltage controls
- Plumbing with complete filtration, biofilm reduction, and structuring
- Non-toxic building materials with high permeability ratings to manage moisture for mold prevention
- Wellness design finishes by Kristin Kilmer
- IAQ-focused HVAC completion by Zack Pelzel with Purified Homes

## Project Timeline

1. Final review of plans with client, SENERGY360, and GC
2. Systems integration
3. Cost analysis
4. Permitting
5. GC and trades selection

*Phases may overlap depending on sequencing.*

# Assessment Findings & Recommendations

## 1. Grading and Drainage

### **Findings**

Home footings and foundation are exposed to extreme water drainage. The exterior grade has been dropped 3 inches below finished elevation; however, drainage appears incomplete.

Footings, bottom sills, and exterior framed walls have water and pest damage. The GC claims to have replaced damaged sections.

### **Recommendations**

1. Have an engineer and drainage specialist re-review the entire perimeter drain system around the home to ensure proper drainage
2. Waterproof concrete footings around the entire foundation and seal from pest and termite intrusion
3. Remove interior drywall at exterior walls to inspect all framed walls and foundation sills
4. Implement IPM strategies around the entire perimeter, including grade-to-foundation and exterior wall transitions
5. Maintain exterior grade a minimum of 3 inches below finished floor elevation
6. Install proper gutters and downspouts terminated into the drainage system

## **2. Building Envelope**

### **Findings**

The existing GC added plywood sheathing to exterior walls. The work is incomplete and exposed to weather and pests.

There are open penetrations to the interior space creating significant air leakage. The project remains incomplete and exposed.

The roof has leaks at vent stacks.

### **Recommendations**

1. Select an approved GC to obtain as-built plans from the local building department
2. Assess plans and hire ASIRI for architectural detailing of building envelope plans
3. SENERGY360 will review and provide all building details for the build-back
4. Remove all drywall on the interior side of exterior walls and inspect before windows are reinstalled
5. Windows: replace three protruding pop-out windows; remove all existing windows, inspect framing, and properly flash window details

6. Complete all ventilation exhausts and intakes for ERV, bath fans, makeup air, and hood exhaust
7. Inspect new roofing; roofer to repair all leaks and coordinate with GC on gutters and drainage
8. Exterior walls to include WRB, rainscreen, and sealing using approved ZIP tape and liquid flashing at all penetrations
9. AeroSeal to install AeroBarrier throughout the entire home before insulation
- 10. Refer to Attic section on conditioning Attic space.**
11. Replace exterior wall insulation with non-toxic mineral rock wool equivalent
12. Use paperless drywall for all interior applications; consider bids for Western 3-coat plaster as an alternative
13. Exterior walls to be stucco after full inspection and water testing
14. Install stucco weep screeds with bug screen for IPM management
15. Interior wall finishes to be determined by client and Kristin
16. Remove and replace all ceiling drywall (air sealing critical)
17. Moisture-test and visually inspect all new lumber

### 3. Attic

#### **Findings**

The attic is not properly ventilated or insulated. The fresh air system is pulling stale, unvented air into the HVAC system.

Bath fans are venting into the attic, creating moisture and pressure issues.

Electrical wiring is abandoned. Ridge vent is not installed. Plumbing vent leaks are present.

#### **Recommendations**

1. Roofer to repair flashing around plumbing vents
2. Coordinate ventilation strategy with GC, roofer, and HVAC designer
3. Air seal all penetrations
4. Install new bath fans vented to exterior
5. Inspect and reinforce framing
6. Determine insulation strategy based on ventilation approach
7. Seal gable vents if required

- 8. Consider conditioning Attic (Deep dive collaboration on design needed) This important step ties together with many other scopes. SENERGY360 will approve this design.**

## 4. Electrical / Low Voltage

### Findings

Electrical system is incomplete. Grounding and bonding were not detected. Panels are unsupported. Solar system is not operational.

### Recommendations

1. Engage SENERGY360 partnered engineer BAI for system design
2. Design hardwired home network system
3. Install approved electrician to complete system
4. Consider a pedestal-mounted disconnect
5. Install kill switches in sleeping areas
6. Test circuits for low EMF exposure
7. Install SATIC power filters
8. Coordinate with lighting

## 5. Lighting

### Findings

Ceiling drywall removal provides full access to rework lighting infrastructure.

### Recommendations

1. Install Colorbeam low-voltage circadian lighting
2. Provide lighting plans and calculations
3. Provide full schematics for contractor
4. Engineer to program and commission system

## 6. HVAC

### Findings

Original HVAC system installed without IAQ strategy. Fresh air intake pulling unvented attic air.

### Recommendations

1. Evaluate system with SENERGY360 and HVAC specialist
2. Redesign ventilation strategy (potential dual ERV system)
3. ERV for living space and possibly attic
4. Replace bath fans with humidity-controlled units
5. Review hood vent and makeup air

## 7. Wellness Design – Kristin Kilmer

### Recommendations

1. Review bathrooms for mold-resistant design
2. Evaluate kitchen salvage
3. Provide water containment protection
4. Address flooring conditions
5. Review layout and flow
6. Assist with color selections
7. Finalize case goods and finish materials
8. Tile and countertop selections, layout design and transitions
9. Integrate lighting design and decorative fixtures
10. Source non-toxic finishes

## 8. Plumbing

### Recommendations

1. Install filtration with hydrogen peroxide metering for biofilm control

2. Install Natural Action whole-house system
3. Install drain trays for cabinetry
4. Install Flow Logic leak detection system
5. Install drain pans at all appliances

## 9. Inspection videos highlighting areas of concerns

### [Project videos](#)

## 10. Final Commissioning

Final commissioning strategies of the home will be determined by SENERGY360.

## 11. Conclusion

This completes the SENERGY360 Healthy Home Assessment.

SENERGY360 is to be contracted to provide the CORE FRAMEWORK for the build-back and will manage the project with the selected GC.