



## REFERENCE ONLY - NO THIRD-PARTY USE

This unsealed document is digitally released for purposes of client reference only. It is not to be used for any other purpose and unauthorized distribution is expressly forbidden.

REDACTED  
1600 Redacted Lane  
Austin, Texas 78703

12 February 2003

Ref: Property Condition at 9011 Redacted Street, Austin 78703.

Dr. Redacted:

At your request we conducted a condition survey at the subject property on 11 & 12 February 2003.

### PURPOSE AND SCOPE

The purpose of this report is to observe accessible areas of the property and document apparent functional deficiencies as of the date of survey. The scope of this service is limited to superficial facilities inspection via routine visual means, in accordance with our provided Limited Property Condition Survey Contract. This report is not exhaustive. Some systems are not evaluated and some types of obvious damage are not noted. Concealed discrepancies and latent defects cannot be reported.

### SITE DESCRIPTION

The narrow, shaded, interior suburban lot is nominally flat, with the house sited just above street level. Lot perimeter drainage appears neutral all around.

The subject property is a large two-story residence with a detached double-width garage. The residence is composed of two abutting structures: The original house and a rear addition.

The original house is constructed of massive, unreinforced stone masonry at the exterior walls. Bearing depths are unknown. The grouted stone underpinnings are approximately 24" thick and directly support the (transverse) floor joists around the edges. The interior floor beams are wood, with the main (center) beam also on grouted stone post supports. The two (intermediate span) shaker beams are supported on dry-stacked CMU blocks. The floor membrane is 1" nominal lumber, with 8-10" of fiberglass insulation. The exterior house walls are also unreinforced masonry, about 12" thick, with stone lintels on the front and metal lintels at the sides. The ceiling joists bear on the masonry wall around the edges. There is no visible furring or provision for insulation or vapor barrier at the exterior walls (interior surfaces appear to be hard plaster). The interior partition walls appear to be panel-built. The windows are double-hung, single-glazed, wooden sashes. Additional exterior storm window panels are permanently affixed over these. The hipped attic structure is (2x4) stick framing with plywood decking (over older furring) and a composition shingle covering. The roof is partially guttered (sides only).

There is a small, abutting wooden porch stoop and stair to provide access to the front entries. This has an unventilated shed roof extension over the porch. The front porch is supported on shallow, dry-stacked footings.



Front Elevation (original house)

At the rear of the house is a large, much more contemporary addition – roughly the same foundation footprint as the original house, but with two stories.

The addition foundation is a monolithically poured concrete slab of unknown configuration, bearing depth, reinforcement,<sup>1</sup> fill, etc. There is a raised (wooden) subfloor at the front, near the transition to the old house, supporting a bathroom, hallway and storage areas. Walls are conventional wooden stud framing with metal framed, double-glazed windows. Exterior cladding is hardboard planking all around. The simple gable roof structure is conventional wooden stick framing with composition wood panel (plywood) decking and a composition shingle covering. The roof is partially guttered (sides).

At the rear of the addition is a small abutting concrete porch. This appears to have been enclosed, using old wooden sash windows (similar to the main house). The attic structure is an unventilated shed roof.

---

<sup>1</sup> Typical residential slab construction uses 4" rib-stiffened slabs, and although post-tensioning is possible, conventional (rebar) reinforcement is more common in small, custom construction.



Rear Elevation (addition and converted porch)

At the extreme rear of the property (along an alley) is a detached garage/utility structure. This is also a slab on grade, with a light-framed, shed-roofed superstructure. The exterior cladding is hardboard planking all around. There are metal-framed windows, a metal entry door and a double-width metal overhead door. The roof covering is lightweight, exposed fastener metal panels over skip furring.



Detached Garage

This is heavily urbanized land in west-central Austin and no site-specific geotechnical data are available. However, published reference<sup>2</sup> indicates the local soils are urbanized Travis (TuD), which are typical for high terraces. These soils are sandy loams, brown to light reddish brown overlying gravelly, sandy clay loams. These soils are low-strength, but not quite as moisture-reactive (expansive) as other soil series in the area, notably the black clays. Travis soils are also characterized as corrosive (to uncoated steel) and impermeable (slow percolation).

Local geology here is remarkably variegated, due to its location in the Mt. Bonnell / Balcones fault zone and proximity to Shoal Creek (just east). Published rock maps indicate this is Upper Colorado River terrace deposits, very deep sands, silts and gravels associated with ancient river tributaries.

Shallow-bearing foundations in this area are subject to soil movement, notably progressive subsidence, although some weather-related (shrink-swell) movement is also likely.

Interior areas of the slabs are supported by imported fill materials. Fill materials typically exhibit settling and/or erosion potential, particularly with poor drainage.

Visible crawlspace soils were reddish-brown sandy clay loams, consistent with Travis soils and terrace deposits. Ground cover was in generally poor condition, especially at the side yards.



---

<sup>2</sup> USDA, "Soil Survey of Travis County, Texas," issued 1974. This location is on sheet 53.

## BACKGROUND

The survey was conducted from 9:00 am to 1:30 pm on the 11<sup>th</sup> (structural systems) and 9:30 am to 2:00 pm on the 12<sup>th</sup> (mechanical systems). The weather was mild and clear. Some interior finishes appeared recent (main house) and there were many 'touch-ups'.

No tax or construction records were available but the original house is represented to be 1890's (the structural details are definitely consistent). The addition, porch conversion and garage appear much more recent (late 80's, early 90's).

Dr. Redacted (client) and Ms. Agent (buyer's agent) were present various times during the survey, as were others.

## SPECIFIC LIMITATIONS (INCLUDE BUT ARE NOT LIMITED TO)

The roof was not accessed due to pitch and height (it was observed from the ground and adjacent properties).

A small crawlspace beneath the right utility/storage room (behind the kitchen) was not observed, as the access port was behind installed laundry equipment.

Some lights appear burned-out. This prevents verification of some wall switch locations.

Through-wall or window air conditioners (back porch) are contractually omitted items.

Variable air volume control damper equipment is a contractually excluded item.

Determination of environmental pathogens is a contractually excluded item.

## SUMMARY OF STRUCTURAL SYSTEMS OBSERVATIONS

### FOUNDATION & SITE CONDITIONS (HYBRID)

- Extremely antiquated foundation details (main house).
- Retrofitted shaker beam supports are not substantial (dry-stack CMU).
- Extreme tree proximity / Large oak at left is heaving the house (about 1/2").
- Crawlspace vent grill media is not well-retained.

The original house is a remarkably MASSIVE structure. cursory elevation measurements indicate that the floors undulate throughout, but no excessive slopes<sup>3</sup> were noted. The details of this foundation are very antiquated. Rubble footings and load-bearing masonry have been disallowed many years, but this house is very well-preserved. There is evidence of progressive differential movement throughout (doors and windows not plumb, past cracks, slight outward thrust), but in view of the age, soils and site conditions the foundation performance has been remarkable. This is fortunate, as there are no established methods to level or stabilize such massive masonry. The main house has not been substantially modified and the crawlspace is notably free of the typical plumbing components and debris – this has probably also contributed to the absence of damage.

At some point in the last couple of decades shaker beams have been installed near the middle of the joists (one on each side, running front to rear). The beams are appropriate but the post supports are inadequate (dry-stack masonry). These are more subject to soil movement and tend to completely unload themselves over time.

In order to obtain optimum performance and to be copasetic with the landmark status of the main house, we recommend that engineered footings and post supports be installed. About twelve supports are needed, but this would also be a good time to also upgrade the front porch footings. Any foundation work should only be performed by qualified contractors, using specifications approved by, and under the supervision of, a licensed engineer (P.E.).<sup>4</sup>

The large live oak at the left is obviously lifting the adjacent footing. This movement has been slight, but will progressively continue. In our opinion a root barrier system is not feasible and the foundation would benefit from removal of this tree at any time. At some future point (when irreparable forms of damage become significant) it will have to be removed. In the event it is retained, the owner should consider root-watering (away from the house) in drought weather.

It is generally good practice to maintain soil moisture levels to reduce weather-related movement on these soils (see standard 'Recommendations for Maintenance'). In this case it is even more important, because wherever these footings settle is where they will remain. Lifting or piercing is not an option. Positive perimeter grading, well-maintained gutters, extended downspout conveyance and improved ground cover are all desirable improvements which reduce settlement damage.

---

<sup>3</sup> Arbitrarily defined as 1:120 for purposes of evaluation.

<sup>4</sup> SCES can provide repair specifications and verifications upon request. Additional fees apply.



Inadequate Shaker Supports (dry-stack CMU)



Original (masonry) Post Supports at Main Beam



Very Large Tree in Proximity (left side)

The addition slab appears acceptable, with no excessive slopes or movement noted. It is normal for slabs to settle slightly down and away from abutting pier/beam structures.

## INTERIOR SURFACES

- Interior cracks, racking fitments, ghosting doors (foundation settlement).
- Past condensation evident at single glazings (expect more).
- Past water penetration at water heater ceiling (condensate leakage or sweating).
- No handrail at lower (transition to addition) stairs.
- Environmental risk factors (asbestos-containing materials, lead-based paint, chlordane, etc.).

Because of the age and past finish conditions, we recommend a lead risk screening or assessment for any prospective occupant who is a woman of child-bearing age. Young children (<6 yrs) are also particularly susceptible to lead dust hazards. Contact a licensed risk assessor, read the enclosed booklet and go to [www.epa.gov](http://www.epa.gov) for more information.



Exterior Flexure Cracks (under windows near the left tree)

## EXTERIOR SURFACES (STONE / HARDBOARD)

- Exterior masonry needs to be re-pointed.
- Exterior masonry exhibits minor flexure cracks (esp. adjacent left tree).
- Exterior masonry sills do not slope away from the windows.
- Severe foliage contact (trees, bamboo and climbing vines) all around.
- The exterior hardboard sidings badly need caulk and paint.
- The exterior trim needs paint / Existing finishes are peeling (at the addition).
- The rear porch conversion has unpainted siding and trim.
- Metal entry door casings (rear and garage) are not painted.
- Both the door and window weatherstripping at the main house is poor.
- The main house entry doors (antiquated) are interior-grade.
- Locks at latches at the main house (antiquated) are generally inadequate.
- The rear porch entry weatherstrip is hanging loose.
- The storm windows applied at the main house interfere with the free-swinging shutters.
- The storm windows applied at the main house require disassembly to clean the glazing.
- Exterior glazing beads at the rear porch addition (recycled windows) are deteriorated.
- Glazing in and adjacent entry doors is not tempered glass.
- Some of the addition window units had sticky sash retainers.
- Some of the addition (solar) window screens are bent or distorted.



Tree Contact and Abrasion (all around)



This Area (right rear, facing west) Appears Hail-Damaged

**ROOFING (COMPOSITION SHINGLE) NOT ACCESSED**

- The main house roof visibly sags (see ‘Attic’).
- Extreme foliage and tree contact (all around).
- Abrasion and drip edge damage (foliage contact) all around.
- Extremely heavy debris (esp. left valley under the live oak).
- Right rear slope appears hail-damaged (spalls in shingle aggregate).
- Some fastener withdrawal (fasteners backing out beneath shingle tabs).
- Improper vent jack at right furnace chimney.
- Deteriorated polymeric (vinyl) vent jacks / Recommend upgrading to all-metal vent jacks.
- Front porch roll flashing has no counterflashing.
- Rear porch pitch flashing is slightly short.
- House would benefit from additional gutters (e.g., front).
- Gutters are severely clogged with debris / Regular gutter maintenance is necessary.
- Gutter downspout conveyance (piping on ground) is not substantial / Pipe joints are leaking.
- Water damage (overflowing gutter) at right soffit and fascia.
- Peeling finishes on fascia (esp. at addition).

Based on observed conditions and apparent age, this roof is an imminent replacement item. Consult a qualified roofer.



View of Main House Attic (very over-spanned)



View beneath Left Valley (lots of leakage)

### ATTICS (STICK FRAMING)

- The main house attic is wildly over-spanned (as-built).
- Severe and prolonged leakage is evident beneath the left valley (predictable with so much debris).
- Access decking in the attic is not securely fastened.
- The attic access stair (upper landing) is not insulated or weatherstripped.
- The side attic access door is not well-insulated.
- The access port to the right mechanical enclosure should have a door, not a fastened panel.
- No upper attic ventilation provisions (ridge vents or low-profile hawks).
- The floor materials used at the front bathroom do not appear to be rot-resistive.

The main house framing is so deficient as to be impossible to address by retrofitted bracing, although a single purlin has been added in the past. At this point we do not view it as an immediate hazard, although it will tend to get slowly worse.

### PORCHES, FLATWORK & DECKS

- Front porch roof structure is visibly distorted (past settlement of shallow footings).
- There is no handrail at the front porch (entry) steps.
- There is no handrail at the detached deck (side entry) steps.
- Front porch baluster spacing is excessive.
- Front porch balusters are weathered and loose.
- There is no (front) driveway paving (or front curbing).
- Front entry walk surface is uneven (flagstones).

## SUMMARY OF MECHANICAL SYSTEMS OBSERVATIONS

ONLY DISCREPANT ITEMS ARE NOTED. SEE PROVIDED CONTRACT OR ATTACHED NOTES FOR SCOPED ITEMS.

### DISHWASHER

- Unit was not functional (door would not latch).
- Visible interior rust (not recent equipment).
- Inadequate (visible) backflow prevention / Loop drain line higher or install check valve.

The dishwasher appears to be an immediate replacement item.

### RANGE VENT HOOD (VENTED)

- Unit exhibits excessive noise and/or vibration during operation.

### RANGE & OVEN (GAS)

- Range gas supply appears inadequately regulated (gas pressure too high?).
- No anti-tip bracket installed (child safety item).
- Damaged finishes, missing control knob, bent control shaft.
- Oven light not functional.

Based on observed conditions, the range is an imminent replacement item. The cause of the excessive gas supply is not known and this should be referred to a qualified plumber or technician.

### WASHER & DRYER

- Antiquated equipment.
- The dryer was very noisy ('thumps' once per revolution).
- The washer filled with cold on 'hot-cold' setting.
- The washer motor/transmission was noisy during operation.
- The washer was not level.

This equipment appears to be an immediate replacement item.

### CEILING FANS

- Low headroom fans at addition bedrooms.
- No speed controllers (or long pullchains) at main house fans.

### DETECTORS

- No smoke detectors installed in sleeping rooms.
- No adjacent detectors at left front (main) and lower rear (addition).
- Carbon monoxide detector recommended (gas-fired equipment).

**HAZARDS**

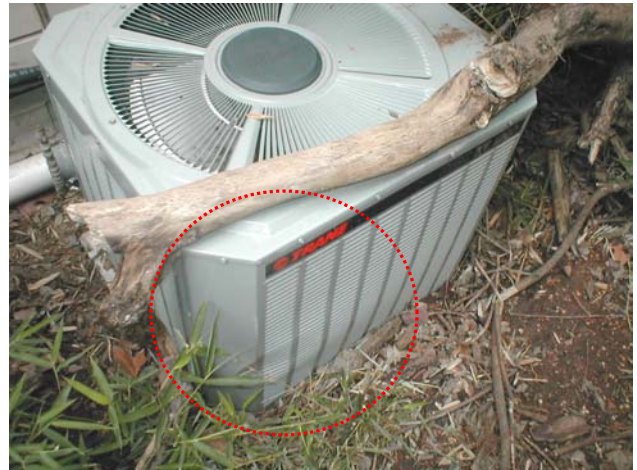
Smoke detectors are required both inside and adjacent any sleeping room.

### HOT WATER HEATER (40 GAL / GAS-FIRED)

- Exposed hot water piping not insulated (minor).



Condenser Units (left side)



Impact Damage at Rear (upper zone) Condenser



Lower (main) Fan-Coil-Furnace



Upper Fan-Coil-Furnace

COOLING SYSTEMS (3.0 + 1.5 TONS)

- Debris and foliage contact at condenser units.
- The rear (upper zone) condenser has a bent housing, sounds ‘odd’ during operation.
- Cooling at the upper zone was inadequate (-5°F).
- Total system capacity appears inadequate (esp. in view of main house walls).
- Exterior condensate drains (down right wall) need to be extended away from house.
- Partial insulation at condensate piping (both appear to be sweating).
- No P-traps at condensate piping.
- Water stains and past leakage evident around main (lower zone) condensate piping.
- Past leakage or overflow at upper zone condensate piping / Progressive rust in overflow.

HEATING SYSTEMS (GAS FURNACES)

- Sizing appears questionable (in view of main house walls and zoning, see below).
- Output temperatures were marginal (right at lower end of acceptable).

## DISTRIBUTION SYSTEMS

- Undocumented ‘ad-hoc’ variable volume damper / Not a substantial installation.
- The zoning and thermostat locations for the variable air volume arrangement are very poor.
- Return filters (at ceiling grills) are dirty.

The variable air volume damper system is not a conventional arrangement. In addition to being an undocumented system, the control system design is obviously inadequate. For example, the thermostats will allow both the heating and cooling components to operate simultaneously. The arrangement of the zoning would be problematic even if the heating and cooling were adequately sized. For example, the front thermostat in the main house also controls the lower rear zone. The rear thermostat (controlling demand for the right main house) is located in a kitchen, far from the return air. We recommend a thorough, system-level evaluation and sizing of the heating and cooling systems by a master HVAC technician, in addition to the repairs indicated herein.



Variable Air Volume Dampers (motor actuators are the orange boxes)

## VENTS & FLUES

- Water heater vent chimney (visible in photo above) is in contact with supply ducts and plenum.
- Improper clothes dryer outlet fitting (plastic louver, should be covered metal flap type).

## SUMMARY OF UTILITY SYSTEMS OBSERVATIONS

ONLY DISCREPANT ITEMS ARE NOTED. SEE PROVIDED CONTRACT OR ATTACHED NOTES FOR SCOPED ITEMS.

### GAS LINES & CONNECTIONS (METERED NATURAL GAS)

- Gas piping is not securely strapped to framing adjacent shut-offs (esp. at attics).
- Furnace gas connectors (through sheet metal housing) is not bushed.

### PLUMBING (MUNICIPAL SUPPLY SOURCE)

- Main water shut-off valve covered by silt or soil (the valve housing is apparent, next to meter).
- Missing backflow preventer at right hose bibb.

### KITCHEN

- Leaky control swivel (if pushed, common with this type).
- Cosmetic sink damage (normal wear/tear).
- No shut-off valve or catchbox for icemaker hook-up.

### FRONT (3/4) BATHROOM

- Pedestal sink basin is not securely mounted to the wall.
- The sink 'cold' stop valve leaks.



Exterior Service Entrance (right wall)



Interior Subpanel (upper bedroom)

### ELECTRICAL SERVICE ENTRANCE (125A)

- Extreme foliage contact with utility drop cabling.
- Foliage (bamboo) is blocking access to the panel and meter.
- Antiquated (3-wire) 220V feeds (major appliances need exterior grounding).

Note this is a minimal service capacity for this size of house. There is no expansion capacity at the main (entrance) panel.

### GROUND FAULT CIRCUIT INTERRUPTION (GFCI)

- The GFCI unit adjacent the kitchen sink failed (no protection).
- Inadequate countertop GFCI protection (required at all countertop service receptacles).
- The GFCI unit adjacent the rear (porch) entry door failed (no protection).
- The GFCI unit in the ¾ bath failed (would not reset – no power).
- GFCI remote-protected receptacles are not labeled (not a hazard).

**HAZARDS**

Note that in a couple of areas (¾ bath and rear porch) the lights and plugs are supplied by the GFCI. This is not a hazard (and actually remediates one at the shower enclosure light), but can be a nuisance.

### BRANCH CIRCUITS & FIXTURES

- Improper receptacle saddles at main house floors (floor receptacles must have covers).
- A few faceplates were missing at the addition.
- A few workboxes were open at the attic.
- Some of the (existing work type) workboxes at the main house interior walls are loose.
- Missing overhead fixture at front living room.
- Missing lens for (damp location) shower enclosure light.
- Many light bulbs appear burned-out (limited verifications).
- Missing bulb cages at keyless fixtures (attic, closets, etc.).

## SUMMARY OF ANCILLARY SYSTEMS OBSERVATIONS

### OUTBUILDING (GARAGE/UTILITY)

- Extreme foliage contact all around.
- Exterior siding and trim need paint (same as addition).
- Side and rear (alley) walls have no shear bracing / Front wall bracing is inadequate.
- The rafters have no barges or bridging (open to exterior, rafters free to rotate).
- Window screens are not mounted.

The garage slab foundation is missing a few conventional details (stem walls and curbstops) but appears to be functioning adequately.



### **RECOMMENDED REPAIR PRIORITY**

REPAIRS ARE CLIENT PREROGATIVE AND RESPONSIBILITY. WE RECOMMEND THAT REPAIRS BE PRIORITIZED TO MITIGATE RECOGNIZED AND/OR POTENTIAL HAZARDS FIRST, LOSS PREVENTION SECOND, HEAVY MAINTENANCE THIRD, THEN ADDRESS ITEMS WHICH AFFECT OCCUPANT COMFORT & COSMETICS. INDICATED REPAIRS INCLUDE, BUT ARE NOT LIMITED TO:

1. Recognized Hazards (GFCI's, smoke detectors).
2. Potential Hazards (gas line conditions, handrails, glazing, etc.).
3. Heavy Maintenance (foundation work, roofing, HVAC, exterior paint, mech. replacements, etc.).
4. Specialist Evaluations (environmental, gas distribution).

### **RECOMMENDATIONS FOR FOUNDATION MAINTENANCE (STANDARD)**

The supporting soils at this residence may include components which shrink and swell with changing moisture content. For this reason, a maintenance program should be followed to include keeping the moisture content of soil around the foundation perimeter constant and uniform. We generally recommend guttering roof drip edges over all lawn areas. Exterior stormwater and condensate drains should be extended 36-48" from the foundation perimeter, preferably downslope. Any low areas adjacent to the foundation should be filled. Do not operate sprinkler systems in wet weather (most systems do not have rain sensors). During dry weather periods, routine watering to keep healthy grass green (about 1" per week) is ordinarily sufficient to keep the soil uniformly moist.

### **SUMMARY OF WOOD DESTROYING INSECT REPORT (WDI)**

No evidence of (recent) infestation was observed. There is a treatment sticker beneath the sink dated 1990. The wood rot, ground contact, debris and foliage around the house are recognized conducive conditions, in our view within the scope of owner maintenance. The rubble footings and concealed slab control joints are major conducive conditions generally not feasible to correct. We therefore recommend preventive treatment of these conditions. We also recommend continuous maintenance of a renewable emergence warranty for subterranean termites.

Refer to your WDI report for more details, a site diagram and specific scope of inspection.

### **CERTIFICATION**

I hereby certify that I am a Professional Engineer, Professional Real Estate Inspector and Pest Control Applicator licensed in the State of Texas, that I have no personal interest in the inspected property nor anyone involved with the property, and that this inspection was performed in a diligent manner to accurately represent conditions on the date of survey.

Stone Creek Engineering Services, Inc. is a registered engineering service provider in Texas.

Stone Creek Engineering Services, Inc. is a licensed pest control business in Texas.

## GENERAL LIMITATIONS

The facilities inspected are not new. Various wall, floor, ceiling coverages and/or household goods prevent observation of many surfaces. Concealed discrepancies and/or latent defects necessarily limit the accuracy and scope of this report. There was no geotechnical soil analysis available for review.

Stone Creek Engineering Services, Inc. and its associates have no control regarding conditions in which these facilities were built and do not accept responsibility for future structural damage as a result of selections made by the builder and/or designer. Stone Creek Engineering Services, Inc. disclaims any control regarding site work practices and does not accept responsibility for future damage or injury as a result of actions taken by other parties. Any recommendations herein are made to improve conditions.

**This report makes no determinations or representations regarding the presence or absence of any environmental pathogens. Findings regarding apparent fungal growth are strictly limited to considerations of termite conductivity and/or structural rot.**

This report does not represent any warranty, express or implied, and this company is not licensed to insure, warranty, or guaranty against future changing conditions.

Stone Creek Engineering Services, Inc. and its employees and representatives do not have and disclaim any contractual relationship with, or any obligation to, any party other than the addressee of this report.

Please contact us if additional information becomes available for analysis, or if you have any questions.

Witness my signature & seal:

### **REFERENCE ONLY**

Russell D. Strahan, P.E.  
Consulting Engineer / Inspector  
Stone Creek Engineering Services, Inc.