THE AUSTIN HOME INSPECTOR

Property:	801 Ferndale Dr Round Rock, TX 78664
Client:	Koustav Bhattacharya
Inspection Type:	Property Assessment Report
Lead Inspector:	Andy Jordan #9458
Date:	August 31, 2016

To Whom It May Concern:

On August 31, 2016, a site visit to the above-referenced property was made in order to assess and investigate the property and/or associated systems. A list of noted concerns, recommendations, and/or issues has been provided in the report below. This report is not a TREC associated document and should not be used or perceived as such. Based on the scope of work, a full TREC report and/or additional information may be delivered in addition to this document.

Multiple limitations were present and additional issues, both minor and significant, may not be documented in delivered reports or discovered during the assessment of the property. The assessment process is not designed to be intrusive, destructive, or all encompassing. Rather, the assessment and report represent this inspector's professional opinion of the overall condition of the structure and/or associated systems. This third party assessment and report has been provided to the client for the purposes of due diligence, filing of available information, and additional client protection. The assessment process and report do not, in any manner, represent a guarantee or warranty of the above-referenced property.

Below is a limited list of information gathered at the time of assessment.

This is not an official TREC report document and should not be used as such.

ADDENDUM: REPORT SYNOPSIS

The following is a synopsis of the recommended repairs noted in this report. Most of the recommended repairs are considered to be minor. However, there may be some potentially significant improvements that should be budgeted for over the short term. Other significant improvements, outside the scope of this inspection, may also be necessary. Please refer to the body of this report for further details on these and other recommendations:

STRUCTURAL SYSTEMS

Foundations

FOUNDATION AND STRUCTURAL INFORMATION:
FOUNDATION TYPE: Concrete Slab
FOUNDATION AGE: Under 40 Years
APPX. SQUARE FOOTAGE: Under 3500
EVIDENCE OF SETTLEMENT: Common Settlement Only
EVIDENCE OF FOUNDATION REPAIR: None Discovered

RELATIVE ELEVATION SURVEY: Performed - See Below
EQUIPMENT USED: Altimeter - ZipLevel Pro 2000
PRIMARY PURPOSE OF MEASUREMENT: Determine Elevation - Real Estate Transaction
MEASUREMENTS INDICATE: Elevated Level of Shifting and Settlement

SURROUNDING GEOLOGICAL FORMATIONS:
ASSOCIATED ROCK/SOIL TYPES: Expansive Clays
EXPANSIVE SOILS PRESENT: Typical for Central Texas
MAP REFERENCED: N/A

PREVIOUS FOUNDATION REPAIRS NOTED:
Evidence of previous foundation repair was noted. Concrete patches at the driveway and front porch are typical indicators of previous pier placement. Consulting with the current owner is recommended to determine if documented repair information is available. Contacting the repair company (if applicable) is recommended to determine what, if any, warranty protections are associated with the structure.

STRUCTURE CONSTRUCTED ON EXPANSIVE SOILS:
The general soil type and natural topography of the land associated with this structure increases the home's susceptibility to foundation settlement, stresses, and failure. Proper maintenance of the foundation and structure as a whole is critical to reduce the likelihood of foundation failure. Additional information in regards to foundation maintenance can be found at the following link: http://theaustinhomeinspector.com/?p=291

ADDRESS GRADING AND DRAINAGE CONCERNS:
Recommendations to improve grading and drainage are detailed in the following section. These recommendations, if followed, may reduce foundation settlement/movement and improve the overall protection of the structure.

ADDITIONAL PLUMBING TESTS RECOMMENDED:
Structures that have undergone foundation settlement and remediation often suffer from plumbing issues. It is recommended that further plumbing analysis, to include a hydro-static testing be conducted. Requesting all repair and remediation documents from the current owner may aid in determining what repairs and analysis of the home have been conducted.

Foundations (continued)

CONCLUSIONS AND RECOMMENDATIONS: FURTHER ACTION REQUIRED:
The visual analysis of the structure and foundation revealed indicators associated with excessive foundation movement and failure. Evidence of moderate phenomena (structural damaged caused by settlement) was noted. Relative height differences recorded by foundation surveying equipment (ZipLevel Pro) indicate that excessive settlement has occurred. In this inspector's professional opinion, the structure is likely in need of stabilization and repair, however, further evaluation and monitoring is advised. It is recommended that any information available from the previous foundation repair be requested in order to cross reference data (foundation survey from date of repair). At the time of inspection, it could not be determined if the visual signs of settlement (wall cracks/foundation cracks/uneven doors/etc.) were associated with issues prior to or after the previous foundation repair work. It is advised that updates to grading and drainage take place in a timely fashion to reduce settlement caused by excess moisture intrusion in and around the structure. Contacting a landscaping and irrigation specialist is recommended. A foundation expert (structural engineer) should be contacted if further assessment and additional information/recommendations are required. If stabilization does not take place in the near future, the structure should be re-assessed in no less than one year in order to cross reference elevation points and visually assess the structure for signs of increasing damage. A site drawing will be provided in a separate report. Areas of noted concerns recorded at the time of inspection include, but are not limited to:
-Slab Crack/Fracture at Right Exterior Foundation: Appx. 1/8" Running Vertically
-Slab Fracture at Front Porch: Appx. 1/4" Gap and Height Offset of 1/4" Running Horizontally
-Fractured Driveway Slab: Evidence of Soil Shifting and Damage
-Various Drywall Cracks and Flaws: Most Crack Gaps 1/8" or Less Running Diagonal, Horizontal, and Vertical
-Uneven Doors Throughout: Evidence of Settlement
-Elevated Survey Readings (ZipLevel Pro - Calibrated 10/2016): Total Difference of 3.7"

Grading and Drainage

GRADING AND DRAINAGE INFORMATION
GRADING IMPROVEMENTS: Updates Needed to Protect Structure
DRAINAGE IMPROVEMENTS: Updates Needed to Protect Structure
MOISTURE DIVERSION: Updates Needed to Protect Structure
FLOODPLAIN SEARCH: N/A
MAP REFERENCED: N/A
A visual inspection of the drainage improvements and slope of the yard indicates moisture diversion away from the structure is in need of updates, adjustments, or further evaluation. Excess moisture caused by inadequate grading has likely contributed to noted structural issues. Ensure all concerns noted below are properly addressed. Further evaluation by a specialist may be needed.

MULTIPLE GRADING AND DRAINAGE ISSUES NOTED:
Multiple issues associated with grading/drainage and moisture diversion away from the structure was discovered. Proper grading and drainage is essential to the overall protection and maintenance of the structure as a whole. If not properly diverted away from the structure, excess moisture will continue to cause material damage, structural settlement, and/or insect attraction. All areas of concern should be addressed or further investigated by an irrigation specialist. Common issues and concerns noted at the time of inspection include, but are not limited to:
-Rain Gutter Improvement Needs
-Low Spots (Pooling Water Areas) Near Foundation: Excess Moisture Concern
-Marginal/Negative Drainage (Various Areas) - Excess Moisture Concern
-Improper Slope at Back Porch: Causing Excess Moisture to Settle at Foundation

Roof Covering Materials

ROOFING INFORMATION:
ROOF TYPE: Composite Shingles
VIEWED FROM: Walked the Roof
HAIL DAMAGE: No Significant Damage Noted
GENERAL CONDITION: Fair - Normal Wear and Tear
MATERIAL LIFE SPAN: nachi.org/life-expectancy.htm (Central Texas: Subtract 5-7 Years)
The roof coverings are considered to be in generally fair condition and consistent with the age and type of material. The installation practices and materials present appear to meet or exceed general standards. Typical wear/tear was noted. Any listed maintenance recommendations and/or update needs (if present) should be addressed to reduce the likelihood of moisture entry or more substantial issues. Ensure the roof and structure are monitored and maintained per general maintenance guidelines.

COMMON UPDATE AND REPAIRS RECOMMENDED:
Common roofing issues and concerns were noted. The areas of concern noted below are considered to be common for a structure of this age and type. Addressing all common issues should take place to prevent additional and/or more significant damage. Consulting with a roofing expert is recommended to ensure all repairs, adjustments, and/or improvements take place. Common issues and concerns noted at the time of inspection include; but are not limited to:
-Tree Limb in or Nearing Contact at Various Locations: Trim to Prevent Damage
-Caulk/Seal Nail Heads at Vent Boots and Flashing: Moisture Entry Prevention
-Missing/Torn Shingle Right Slope Perimeter: Replace Per General Maintenance

Roof Structures and Attics

ROOF STRUCTURE INFORMATION:
VIEWED ROOF FROM: Entered the Attic
OVERALL INSULATION: Low By Today's Standards
ROOF FRAMING: Engineered Truss
VENTILATION: Present - No Significant Issues Discovered
LIMITATIONS: Access/Material Limited Visual Assessment
Overall, the roof structure and attic appear to be in fair condition and properly supporting material loads. The framing design and installation appears to have been performed in a professional manner and within the general standards observed at the time of construction. Recommendations and/or concerns, if any, are noted below. Any noted concerns are considered to be common for a structure of this age and type.

DATED INSULATION LEVELS:
By today's standards, the attic has been provided with minimal insulation coverage. Workman, vermin, and general aging has further reduced insulation coverage in various areas. Updates to the overall quality of insulation would be considered an overall improvement to the structures efficiency and general quality of comfort.

COMMON VERMIN ACTIVITY:
Evidence of vermin activity (minor - droppings/insulation trails) was noted in the attic space. Vermin entry into attic spaces is common. Consulting with a pest control specialist is recommended to reduce or eliminate any vermin issues and entry points.

Roof Structures and Attics (continued)

SOFFIT/FASCIA MAINTENANCE UPDATES NEEDED:
Maintenance updates and repairs to exterior portions of the roof and framing material (soffit and fascia) are required to protect exposed material and prevent increasing damage. Caulking of material joints, re-painting/sealing of exposed wood material, and minor repairs at various areas should be conducted by a roofing specialist.

Interior Walls

INTERIOR WALL INFORMATION:
MATERIALS TYPE: Drywall
GENERAL CONDITION: Settlement Damage Throughout
NOTE: Damage at Covered Material May Be Present
Generally speaking, the interior walls are in fair condition for the age and type of structure. An above average amount of wall damage/issues were noted due to settlement. For the most part, the wall damage appears to be cosmetic in nature and should be updated at the owner's discretion.

Exterior Walls

EXTERIOR WALL INFORMATION:
SIDING MATERIAL: Brick/Masonite
GENERAL CONDITION: Moderate Distress and Deferred Maintenance
NOTE: Additional Damage at Non-Visible Areas of the Wall May Be Present
Overall, the exterior walls appear to be in need of general maintenance and repair. General aging, wear/tear, and deferred maintenance has allowed for various areas of damage. A repair specialist should be contacted to determine what updates and replacements will best benefit the structure.

MASONITE SIDING PRESENT:
Masonite siding at the exterior walls was noted. Masonite siding naturally absorbs water and swells slightly. With proper sealant application, caulking and regular paint maintenance, this process can be controlled and the material can re,main in good condition. However, improperly installed and maintained Masonite siding can undergo serious deterioration in a relatively short amount of time. At the time of inspection, the Masonite siding appeared to be in the early stages of disrepair. Maintenance updates will be needed. Issues noted include; but are not limited to:

GENERAL UPDATES AND REPAIRS REQUIRED:
Caulking and sealing improvements are needed at the exterior walls and trim to prevent continued material damage. Caulking, sealing, and painting updates are typically required every 5-7 years. At the time of inspection, the exterior walls appeared to be in need of general maintenance updates (caulking, sealing, painting, minor repair). Areas in need of general maintenance updates include; but are not limited to:
- Caulking/Sealing Updates at Trim Boards and Siding
- Repairs to Minor Material Damage Throughout

Doors

MULTIPLE ADJUSTMENTS AND UPDATE NEEDS:
Multiple issues at doors, door framing, and/or door material were noted at the time of inspection. General updates and adjustments will be needed at various locations. Most door issues are associated with previous and current foundation settlement. Issues noted at the time of inspection include' but are noted limited to:
-Uneven Doors: Settlement Issue
-Weather Stripping Update Needs: Energy Efficiency Improvement
-Missing Door Stops: Wall Damage Protection

Windows

SINGLE PANE WINDOWS PRESENT:
By today's standards, single pane windows are considered to be a low energy efficiency feature. Single pane windows were the product standard of the time of construction. Updating the windows would be considered an efficiency and general improvement to the structure. Budgeting for window improvements is recommended.

UPDATE WINDOW SCREENS:
Window screens were removed or damaged at the time of inspection. Ensure that all screens are present and in good condition. Any missing or damaged screens should be replaced.

Porches, Balconies, Decks, and Carports

EXTERIOR FEATURES INFORMATION:
PORCH TYPE: Monolithic and Separate
BALCONY PRESENT: No
WOOD DECK PRESENT: Pergola
FENCING TYPES: Standard Wood
Overall, the exterior features noted above appear to be in need of update, adjustment, repair, and/or replacement. Any listed recommendations should be addressed as needed. Ensure all exterior material is monitored and maintained per general maintenance guidelines. Consulting with a fencing/decking or repair specialist will aid in determining what repair options are available and warranted.

FENCING UPDATE NEEDS:
Updates, repairs, and/or replacement needs to fencing material was noted throughout the property. Contacting a fencing repair specialist is recommended to address general deterioration issues.

BACK DECK/PERGOLA IN POOR CONDITION:
The decking and pergola features are in a state of disrepair. Consulting with a fencing and decking expert is recommended to determine what repair options are available and warranted. Issues noted at the time of inspection include; but are not limited to:
-Significant Deterioration of Decking Material
-Various Areas of Wood to Soil Contact
-Unprofessional Installation and/or Repair
-Uneven Slab Sloping Towards Structure
-Loosening and Damaged Framing and Roofing Material

ELECTRICAL SYSTEMS

Main Disconnect Panel

MAIN SERVICE AND PRIMARY COMPONENTS INFORMATION:
SERVICE ENTRY: Protected Overhead Service
SERVICE MATERIAL: Properly Utilized Aluminum
MAIN DISCONNECT: N/A
GROUND ROD: Not Visible - Not Verified
PANEL BONDED: None Discovered
LOCATION: Exterior Wall
Information available during the assessment of the main panel and associated components indicate that the system as a whole meets most general standards. No evidence of significant failure or system errors were discovered during the inspection process. Typical update and improvement needs were discovered. The concerns and recommendations listed below are considered to be common for a system of this age and type. Additional updates, adjustments, and repairs should be expected and budgeted for as components meet or surpass their functional life expectancy.

PANEL AT BREAKER CAPACITY:
The panel is full (no space for additional breakers). If additional breakers are required, the circuit will need to be ran to a panel with available space, adjustment/replacement of the breakers will be needed at the sub panel, or the current panel will require replacement. If electrical updates are needed/expected, an electrician should be consulted.

COMMON UPDATE NEEDS:
Areas in need of update, improvement or further investigation include; but are not limited to:
-Main Supply Line In Contact w/ Tree: Contact Tree Specialist to Trim Branches as Needed
-Label Main Panel Breakers: Improved Safety and General Update
-No Bonding Screw/Strap Discovered: Bond Main Panel to Improve Safety and Meet General Standards

Outlets and Switches

OUTLETS AND DEVICES INFORMATION:
OUTLETS GROUNDED: Most Outlets Tested Meet Grounding Standards - Isolated Issues
GFCI DEVICES PRESENT: Meet Construction Date Standards - Isolated Issues
AFCI DEVICES PRESENT: N/A
Overall, the inspected outlets, switches, fixtures, and alarms appeared to function as intended and meet or exceed the standards observed at the time of construction. Update, adjustment, or repair needs noted below are considered common for a system of this age and type. All common issues should be addressed (by a licensed professional) to protect the structure and prevent more significant damage or hazards. Common issues and concerns noted at the time of inspection include; but are not limited to:
-Open Ground Guest Bath: Update to Improve Functionality and Safety
-Open Ground at Back Porch: Update to Improve Functionality and Safety
-Loose/Exposed Outlet Back Porch: Properly Install to Improve Functionality and Safety
-Refrigerator Not Plugged Into Dedicated Outlet: Update As Needed (Plugged Into Counter Top Outlet)
-Install Additional Fire Alarms in Bedrooms: Safety Update
-Protect Exposed Wires at Back Porch: Place in Conduit to Improve Safety
-Remove/Protect Porch Fan: Ensure Fan Rated for Outdoor Use and Protect From Weather

HEATING, VENTILATION AND AIR CONDITIONING SYSTEMS

Cooling Equipment

COOLING SYSTEM INFORMATION:
COOLING TYPE: Central
TOTAL UNITS: 1
MANUFACTURER:
REFRIGERANT TYPE:
TONNAGE:
APPX. TONNAGE REQUIRED:
MFG DATE:
APPX. LIFE EXPECTANCY (TEXAS): 12-15 Years w/ Proper Maintenance
UNIT RECALLS: None Discovered
WARRANTY: 5 Year Limited - Contact Manufacturer
AMBIENT TEMPERATURE: °F
INDOOR TEMPERATURE: °F
SUCTION LINE TEMPERATURE: Within Normal Levels
LIQUID LINE TEMPERATURE: Within Normal Levels
SYSTEM SET TO (FOR 1.0 HOURS): °F
SYSTEM REACHED: °F
SUPPLY TEMPERATURE: 59 °F
RETURN TEMPERATURE: 75 °F
SYSTEM SPLIT: °F (Within General Parameters)
NOTE: Various System Issues May Cause False 'Split' Readings
INSPECTION LIMITATIONS: See Below
Information gathered during the testing process of the HVAC indicate that the system was operating within basic functionality parameters. The system responded properly to controls and temperature drops recorded at the evaporator coil were within acceptable ranges. Unless recent service documents are available, an initial servicing by an HVAC specialist is strongly advised. Annual maintenance and service visits by a professional HVAC technician is essential to the proper functionality and longevity of the heating and cooling system. Additional recommendations/concerns, if any, should be addressed during the system servicing.

DATED REFRIGERANT TYPE:
In an effort to reduce the consumption of HCFC pollutants, the EPA has called for the phase out of R22 refrigerants. Although the manufacture of R22 will be allowed up to year 2020, prices for the product are increasing significantly. Budgeting for increased servicing and repair costs is advised. The benefits and cost reduction of an updated system should be considered prior to the purchase of any significant system repairs or updates.

TENANT INFORMATION INDICATES INSUFFICIENT FUNCTIONALITY:
The indoor temperature was 75 °F when the A/C analysis began. The system thermostat was set to 70 °F and allowed to run for approximately 1.0 hours. During that time, the system was unable to meet cooling demands or reduce indoor temperatures. This indicates that the cooling equipment may struggle sufficiently and efficiently condition the home during peak weather conditions (generally mild weather at time of inspection). Further analysis of the system is needed to determine what updates and improvements will best benefit the efficiency and overall comfort of the home. NOTE: The current tenant confirmed that system inadequacies are an issue during peak temperatures.

Cooling Equipment (continued)

COMMON SYSTEM ISSUES:
Common issues and concerns were noted. The areas of concern noted below are considered to be common for a system of this age and type. All common issues should be addressed to protect the system and prevent more significant damage. Common issues and concerns noted at the time of inspection include, but are not limited to:
-Partial Coil Blockage at Condenser: Service and Clean System
-Drain Leak at Float Switch Connection (HVAC Closet): Repair As Needed
-Duct Deterioration (Attic - Gray Duct): Monitor and Update As Needed (No Major Air Leaks Discovered)
-Air Leak at Plenum: Service and Eliminate at Leaks at Plenum (Duct Connection at Closet Unit)

PLUMBING SYSTEMS

Plumbing Supply, Distribution Systems and Fixtures

PLUMBING SYSTEM INFORMATION:
WATER SOURCE: Public
SEWAGE TYPE: Public
METER/MAIN VALVE LOCATION: Front Yard
WATER PRESSURE: (Meets Pressure Standards 40-80 PSI)
PRESSURE REDUCING VALVE:
ANTI-SIPHON DEVICES:
ADVANCED ANALYSIS PERFORMED: No - Not Requested
OVERALL CONDITION: Meets General Standards
Overall, plumbing and plumbing equipment and material available for inspection appeared to meet the standards observed at the time of construction. General wear/tear from common usage was noted. No evidence of significant system errors, damage, or failure was detected during the partial assessment of the system. Any noted recommendations or areas of concern (if applicable) should be addressed by a licensed professional. Regular maintenance, servicing, and update needs should be expected and budgeted for.

INSTALL ANTI-SIPHON DEVICES:
The installation of anti-siphon devices at the exterior hose bibs is recommended. These devices prevent water from flowing back into the plumbing supply lines. Anti-Siphon devices are easily installed, inexpensive, and available at most hardware stores.

REPLACE DATED VALVES:
As a general maintenance recommendation, all dated supply fixture valves (located at sinks, commodes, laundry, water heater, etc.) should be updated and replaced every 10 years or as needed. As these valves age, the material becomes weak and is prone to damage/leakage. Replacement of dated valves would reduce the likelihood of future leaks and improve the system as a whole. At the time of inspection, no active valve leaks were discovered. NOTE: Valves were not turned due to general age and concerns of damage if tested.

SLOW DRAINS DISCOVERED:
Slow drains at plumbing fixtures were discovered. All clogged or partially blocked drain lines should be cleared and serviced by a plumbing expert. Areas of noted blockage include; but are not limited to:
-Master Bath Tub
-Guest Bath Tub

Plumbing Supply, Distribution Systems and Fixtures (continued)

ADDITIONAL DRAIN PLUMBING ASSESSMENTS RECOMMENDED:
Evidence of settlement and/or foundation repair was noted. If documented evidence of a previous plumbing testing is not available, further analysis is advised. Further evaluation of the plumbing system, particularly buried portions of sewage and drain lines, are advised for structures where an elevated concern of system damage/issues are present. Structures of elevated concern include; but are not limited to:
-Structures Having Undergone Foundation Settlement and/or Repair
-Structures in Areas of Known Expansive Soils and Elevated Ground Swell

Drains, Wastes, and Vents

SLOW DRAINS DISCOVERED:
Slow drains at plumbing fixtures were discovered. All clogged or partially blocked drain lines should be cleared and serviced by a plumbing expert. Areas of noted blockage include; but are not limited to:
-Guest Tub

Inspection Photos

Foundations

PATCH FROM REPAIR

DRIVEWAY FRACTURES

1/8" CRACK RIGHT FOUNDATION

1/4" CRACK FRONT PORCH

1/4" VERTICAL SHIFT FRONT PORCH

DIAGONAL WALL CRACKS

IMPROPER SLOPE BACK SLAB

Grading and Drainage

UNUSED DRAIN EXTENSION

UNUSED DRAIN EXTENSION

NEGATIVE DRAINAGE BACK YARD

IMPROPER SLOPE AT BACK PORCH

Roof Covering Materials

MISSING SHINGLE

CAULK/SEAL NAIL HEADS

MINOR TREE CONTACT

Exterior Walls

MASONITE DAMAGE

MASONITE DAMAGE

Porches, Balconies, Decks, and Carports

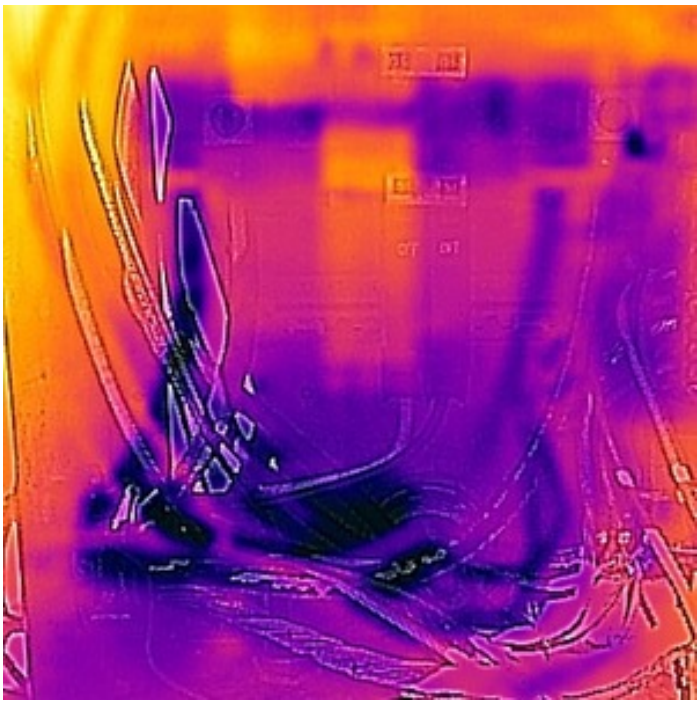
LOOSE/DAMAGED MATERIAL

LOOSE/IMPROPERLY SUPPORTED FRAMING

IMPROPER ELECTRICAL (EXPOSED WIRE)

WOOD/SOIL CONTACT

Outlets and Switches



THERMAL CAMERA - NORMAL READINGS

MAIN FEED CONTACTS TREE

LOOSE OUTLET

OPEN GROUND WIRING

Cooling Equipment

BLOCKAGE AT COIL FINS

MINOR LEAK

MINOR DUCT DETERIORATION

AIR GAP AT PLENUM

ADDENDUM: REPORT OVERVIEW

THE SCOPE OF THE ASSESSMENT

All components designated for inspection in accordance with the rules of the TEXAS REAL ESTATE COMMISSION (TREC) are inspected, except as may be noted by the “Not Inspected” or “Not Present” check boxes. Explanations for items not inspected may be in the “TREC Limitations” sections within this report. This inspection is visual only. A representative sample of building components are viewed in areas that are accessible at the time of the inspection. No destructive testing or dismantling of building components is performed. It is the goal of the inspection to put a home buyer in a better position to make a buying decision. Not all improvements will be identified during this inspection. Unexpected repairs should still be anticipated. The inspection should not be considered a guarantee or warranty of any kind.

THE STRUCTURE IN PERSPECTIVE

NOTE: This is not a full TREC report and should not be used as such. A full TREC report will be delivered at a later date/time. Please use this report as a partial and cursory document.