

Roof Inspection Report



File Number: 05-15-RF-005

Status of Property: occupied

Type of Property: Single Family Home

Square Footage: 1800± Total SF (not verified)

Age of Home: 1974± (not verified)

Date of Inspection: 04/04/2006

Time of Inspection: **Start:** 11:30 AM **Finish:** 12:30 PM

Weather conditions today: 85° F, Partly Cloudy

Recent weather conditions: no significant precipitation (within last 48 hours)

Inspector: Craig P. Milliken, PE # 32779

Phone: (561) 866 9956

Scope of Inspection: This inspection was requested by Maureen (Donnelly) Mazzoli to determine the following:

1. The cause of the sagging in the roof
2. The cause of cracks in the ceiling and wall near the living room
3. The cause or roof leaks in the master bedroom
4. Assess the overall condition of the roof

History – The home was constructed in the mid 1970's. The roof was replaced in 1994. The roof was stripped to the plywood sheathing at that time. New base sheets and cap sheets were installed and covered with new flat concrete roofing tiles set in mortar. The owner stated that the roof had no leaks from 1994 till hurricane Wilma in 2005. Roof leaks have occurred in the master bedroom ceiling and the master bedroom closet ceiling. It was noted by the owner after hurricane Wilma that the roof has two sagging fields. One is located above the kitchen area and one over the living room area. There are also hairline cracks in the drywall ceiling and wall near the living room. The roof has numerous loose, cracked and missing tiles.

The roof was visually inspected on April 4, 2006 from the top surface of the roof and from the accessible attic space under the roof. **Photos and notes follow the summary section.**

Summary Findings

1. The cause of the sagging sections of the roof appears to be due to poor design and workmanship in the structure of the roof.

- The top chords of two trusses supporting the roof over the kitchen area are cut and spliced. The splices are likely the contributing factor in the weakness of the roof in this area and the hurricane force winds may have loaded this area and caused the sagging.
- A brace and loose shim was noted under the sagging roof section over the living room. This area of the roof was inaccessible through the attic because of the low pitch of the roof and lack of adequate clearance to safely maneuver. It is likely that splices were placed in this section of the roof as well.

Hurricane force winds may be a contributing factor in creating the sags in the roof in these two areas; however, some structural elements were not installed properly and were weaker than the other trusses throughout the roof. The roof trusses in these areas will need to be repaired when a new roof is installed. It is recommended that a general contractor be consulted prior to any new roofing work to correct these structural problem areas. These repairs can only be made by removing the roof tiles and sheathing over these areas.

The roof appears stable and secure in these two areas; however, the sagging is evidence of weakness that should be corrected by a general contractor.

2. The cause of the cracks in the ceiling and walls of the living room are likely due to minor settling caused by hurricane Wilma.

- These appear to be hairline cracks that are similar to those found in most homes due to normal settling of the foundation or structure. Trauma from hurricane force winds can cause the entire structure to shake and settle. The cracks are less than 1/32 of an inch wide and show no offset displacement. There is no indication of any foundation settling. The sagging of the roof over the kitchen and living room may have transferred some stress to the framing of the walls and ceiling; however these elements appear stable and secure at this time.

3. The cause of the roof leaks in the bedroom ceiling and bedroom closet ceiling appears to be from gaps in flashing under the gable end of the roof.

- There may be gaps in the flashing under the eave of the gables over the garage and master bedroom. Normally the pitch of the roof and the depth of the eave at these points should keep water from penetrating small openings under these eaves. The hurricane force winds may have widened or created gaps in the flashing under these eaves and driven water through the gaps. The points under the eaves in the gable on the east end of the home align with the water stains in the ceilings in the bedroom area.

The stains were dry at the time of this inspection; however the owner stated that rains after hurricane Wilma have widened the stains. The gaps can be filled temporarily with expanding foam sealant. There may also be some other entry point in this area of the roof. There are damaged and missing tiles in this area and the water proofing membranes may be breached as well. This section of the attic space is inaccessible to observe the exact points of the leaks. The roof in this area needs to be cleared of the tiles and inspected by a roofer to determine the necessary repairs.

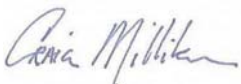
4. The roof has sustained significant damage to the tiles on the roof.

- All ridge tiles are loose and many are missing. Tiles throughout the fields of the roof are cracked and loose. The sagging of the roof is a cosmetic issue; however these two areas cannot be realigned without removal of a significant portion of the roof sheathing to access the trusses. It is recommended that a new roof be considered instead of repairing the damage. A general contractor should be consulted prior to soliciting bids for a new roof. Most roofing contractors do not have the qualifications to make modifications to the trusses. A general contractor can determine how much of the roof sheathing needs to be removed to find all structural elements needing repair, further bracing and shimming to align the roof surface. Adding new roofing materials without first performing these steps will not produce adequate results.

This Roof Inspection Report is based on a limited visual inspection of the roof over the structure at the Subject Property Address. CPM Real Estate Inspections makes no warranty that all deficiencies have been identified and described in this report or that other deficiencies do not exist. Elements of the roof that are not visible or safely accessible cannot be addressed by this type of limited non invasive inspection.

This report was prepared by a Professional Engineer licensed in the State of Florida under the Board of Professional Engineers.

I certify that all information in this report is accurate to the best of my knowledge.



Craig Milliken, PE (Florida Professional Engineer License # 32779)
CPM Real Estate Inspections, Inc.



Photo # 1

Ridge tiles are missing and those that remain in place are loose.



Photo # 2

There are many cracked tiles in the fields and valleys of the roof.



Photo # 3

The roof is sagging over the kitchen area.



Photo # 4
The roof is also sagging over the living room. This field faces south.



Photo # 5
Top chord of truss over the kitchen area is cut and spliced.

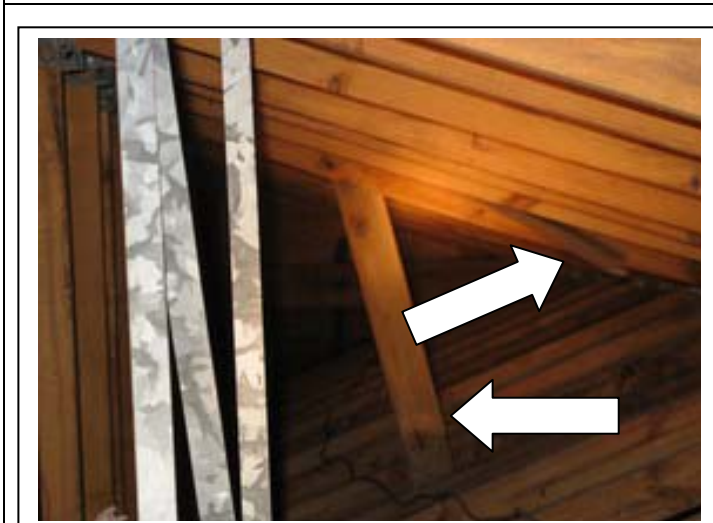


Photo # 6
Brace and loose shim under roof over the living room area.

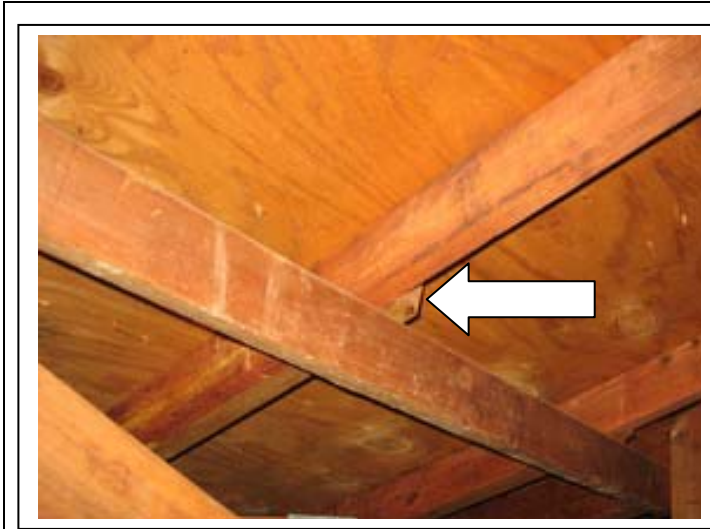


Photo # 7

Additional splice south of the area shown in photo # 5.

These splices need to be reworked by a general contractor after opening the surface of the roof to gain access to find all of them.



Photo # 8

Mortar tucked under a tile over the kitchen area indicates that the roofer in 1994 attempted to compensate for the sag in the roof over the kitchen area. The problem with the roof likely started when the home was constructed.

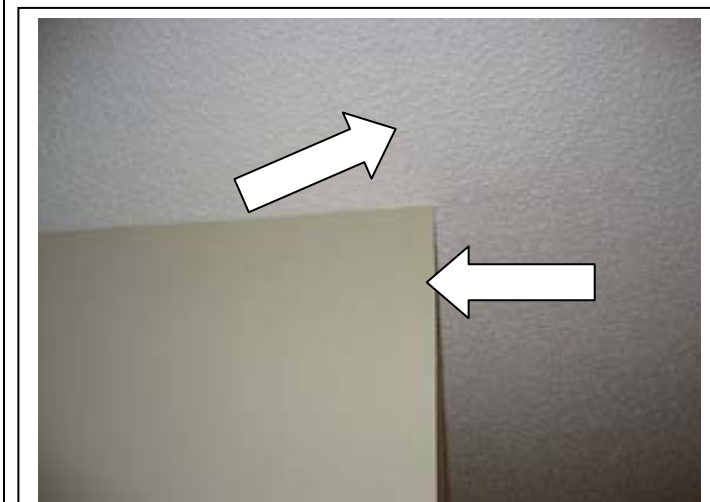


Photo # 9

Hairline cracks in the ceiling and wall of the living room area can be covered with paint.



Photo # 10
Stain in bedroom ceiling.



Photo # 11
Stain in bedroom closet ceiling.



Photo # 12
Possible entry point under eaves for water to damage ceiling in bedroom area.



Photo # 13

Eaves under gable ends of the roof may have flashing problems.



Photo # 14

Wood rot near entry door needs to be repaired.