

# CRITERIUM<sup>®</sup> **SCHIMNOWSKI ENGINEERS**

CRITERIUM-SCHIMNOWSKI ENGINEERS  
161 DUNBAR WAY  
MAHTOMEDI, MN 55115  
TEL 651 779-7700  
FAX 651 779-7114  
www.criterium-schimnowski.com

May 27, 2016

Quintin Kidd  
1064 Pacific Street  
St. Paul, MN 55106

Re: Visual Structural Inspection of Detached Garage  
Project Location: 1064 Pacific Street, St. Paul MN 55106  
Criterium File No.: 16-2186

Dear Mr. Kidd:

At your request, a visual structural inspection of the detached garage at the above address has been completed. The report that follows has been prepared based on that inspection. This inspection was performed by Paul Schimnowski, PE.

My work includes the following:

1. Visual observations during a physical walk-through on May 26, 2016.
2. Observe factors influencing the performance of the structure.
3. Provide a written report containing the following:
  - a. Scope of services.
  - b. Observations, site characteristics, and data deemed pertinent by me.
  - c. Discussion of major structural factors influencing the performance of this house.
  - d. Conclusions and any recommendations for further investigation and remedial or preventative measures.
  - e. You asked me to pay special attention to:
    - i. Cracked CMU wall
    - ii. Roof framing
    - iii. Loft framing

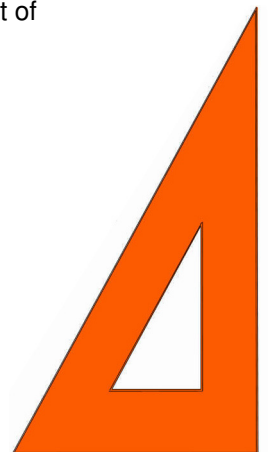
I have prepared the following summary of the condition of the major structural systems of the building including specific items that have been noted as well as recommendations to address those items.

## **SUMMARY**

The overall structural condition of this building is considered to be **fair** when compared to others of similar age and construction type. Some structural repairs are recommended. With repairs, the structure could be suitable for use as a detached garage or shed. Considerable renovations exceeding the cost of replacement would be required to make it useable as an occupied space.

**LICENSED  
PROFESSIONAL  
ENGINEERS**

HOME & BUILDING INSPECTIONS  
STRUCTURAL EVALUATIONS  
ASSOCIATION RESERVE/TRANSITION STUDIES  
RESIDENTIAL/COMMERCIAL  
RETAINING WALL DESIGN & EVALUATIONS



SPECIFIC ITEMS NOTED & ASSOCIATED RECOMMENDATIONS:

1. The CMU walls are in fair condition. The NW corner is displaced and cracked. No recent changes are reported.
  - At a minimum, the existing cracks in the foundation walls should be monitored for additional movement. A good way to do this would be to take measurements at several spots along each existing crack periodically. A photographic record can also be useful. Please note that cracks will vary throughout the year due to temperature and humidity changes. If this gap increases by more than 1/4", further evaluation is recommended.
  - Seal exterior cracks to prevent water intrusion.
  - Consider masonry wall tie-back anchors to limit additional movement at the NW corner.
2. The concrete floor is in fair condition.
  - Fill work trenches with compacted fill
  - Top with 5" concrete slab for use as vehicle garage.
3. The attic/roof framing is in fair condition with rot and deterioration of roof joists, collar ties, and ceiling joists.
  - Repair or replace damaged joists (see details below) to prolong expected performance.
  - Alternatively, complete replacement of roof/attic framing can be considered.
  - In current condition, limit storage load to 10 lbs per square foot.
4. The roof covering is in poor condition. The flashing is in poor condition.
  - The roof and flashing should be replaced to prevent further water intrusion into the garage. However, replacement of the roof covering without extensive framing repairs or framing replacement is not recommended.

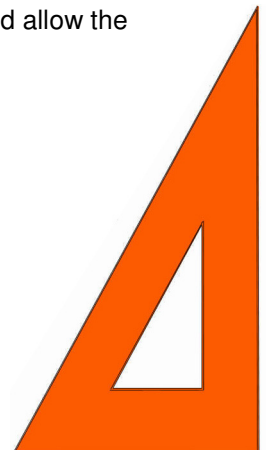
RECOMMENDATIONS FOR ALL BUILDINGS:

1. Verify that grading adequately directs all surface water to flow away from the house.
2. Maintain gutter/downspout water control system to be sure that all gutters are unplugged and flowing properly and all downspouts are directed to flow away from the house.
3. In addition to specific issues noted, the integrity of the entire building envelope should be verified and maintained to eliminate water intrusion into the structure. The house envelope includes such features as roofing, flashing, siding, and trim.

JOIST AND SHEATHING REPAIR RECOMMENDATIONS

Because of deterioration or damage noted to the loft floor joists and/or sheathing, the following corrections should be considered:

1. Floor joist correction:
  - a. Repair of the first floor joists can be accomplished by adding sistered joists alongside all damaged joists. The sistered joist should be attached to the existing joist with 2 lines of construction adhesive and three 16d nails every 12 inches on center.
  - b. Alternatively, the joists could be removed and replaced.
2. Sheathing Correction:
  - a. The damaged sheathing could be reinforced by adding supplemental sheathing at time of joist removal and replacement.
  - b. Alternatively, access could be obtained by removing flooring above which would allow the removal and replacement of the sheathing.



## DESCRIPTION OF TERMS

Terms used in this report to describe the condition of observable components and systems are listed and defined below. It should be noted that a term applied to an overall system does not preclude that a part or a section of the system or component may be in different condition:

- Excellent-** Component or system is in “as new” condition, requiring no rehabilitation, and should perform in full accordance with expected performance.
- Good-** Component or system is sound and performing its function. Although it may show signs of normal wear and tear, some minor rehabilitation work may be required.
- Fair-** Component or system falls into one or more of the following categories: a) Evidence of previous repairs not in compliance with commonly accepted standards, b) Workmanship not in compliance with commonly accepted standards, c) Component or system is obsolete, d) Component or system approaching end of expected performance. Repair or replacement is required to prevent further deterioration or to prolong expected life.
- Poor-** Component or system has either failed or cannot be relied upon to continue performing its original function as a result of having exceeded its expected performance, excessive deferred maintenance, or state of disrepair. Present condition could contribute or cause the deterioration of other adjoining elements or systems. Repair or replacement is required.

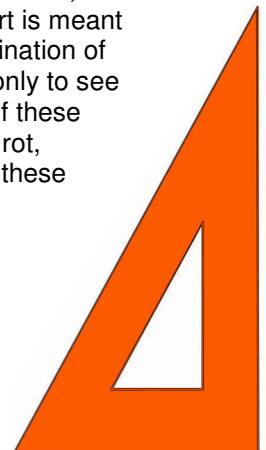
## SCOPE OF SERVICES and LIMITATIONS (See also, Terms and Conditions below)

The purpose of this inspection and report is to evaluate the current condition of the **structural system** of this building and to determine what, if any, significant maintenance, repairs, and/or replacement to this system might be expected within the next few years.

The report is not to be considered a guarantee of condition and no warranty is implied.

This scope of this inspection does not include a comprehensive evaluation for code compliance, governmental regulation compliance, fire safety, or hazardous materials in or around this building. It does not include an inspection of heating, cooling, plumbing and electrical systems or repair designs. Indoor air quality is a growing concern. Mold and mildew, fostered by moisture accumulation, can lead to respiratory discomfort and aggravate allergies and other respiratory conditions. Inspecting for mold is not included in the scope of a structural inspection. Evidence of any moisture-related problems in the home is not always visible. We cannot be responsible for any such conditions that might be discovered later. This report is not a termite inspection and no responsibility is assumed for any damage caused by wood-destroying organisms. However, if damage is encountered as part of the inspection, however caused, it has been reported.

This report is based on an examination of the structural system and is an opinion about the condition of the structural system of the building. It is based on evidence available during a diligent inspection of all reasonably accessible areas. No surface materials were removed, no destructive testing undertaken, nor furnishings moved. This report is not an exhaustive technical evaluation. Specifically, this report is meant to evaluate the attic framing, the property drainage, and structural columns and/or posts. Examination of the exterior veneer, exterior siding, interior walls, trim, windows, doors or frames is completed only to see if any signs of differential movement are present and not to render an opinion of the condition of these items. Issues concerning the veneer, siding, trim, windows, doors or frames, or any associated rot, caulking, etc., are not included in the scope of a structural inspection and, if we address any of these



items in our report, it is only as a courtesy and should not be considered an opinion of these items or an all-inclusive list of deficiencies

As Professional Engineers, it is our responsibility to evaluate available evidence relevant to the purpose of this inspection. We are not, however, responsible for conditions that could not be seen or were not within the scope of our service at the time of the inspection.

No building is perfect. As you read this report, pay particular attention to our notes that often our observations and recommendations are typical of many structures we inspect.

## **DESCRIPTION OF STRUCTURE**

This building is a detached garage facing east.

Our evaluation of this structure is based on many indirect observations. We cannot see most of the framing. We look for cracks, bulges, and other evidence of distress or deterioration to help us evaluate the condition. As with any limited inspection, it is possible that there are structural deficiencies that cannot be known. The following areas were inaccessible or not visible, and this limited the extent of our structural inspection:

- Parts of the foundation system and slab (underground)

## **DOCUMENT REVIEW**

No documents were provided.

## **ROT**

Rot is noted at some areas of trim. Some roof joists are rotted as well due to water intrusion.

In addition, it should not be assumed that no rot exists in any of the inaccessible areas. Rot can result from moisture accumulating underneath the siding, behind trim, or within wall cavities should the normal drying process be restricted by insulation or other obstacles.

## **WOOD-DESTROYING INSECT ACTIVITY**

Based on evidence available in accessible areas, there is no significant structural damage from wood-destroying organisms.

Although no evidence of wood destroying organism activity in action is reported, because of the insidious habits of these organisms, no responsibility is assumed for such conditions that may exist, or may be starting, and was not visible. Further, this report is not a warranty or guarantee that there are no wood-destroying organisms, but an inspection report.

## **FOUNDATION**

The garage has a concrete masonry unit foundation system. It is accessible and unfinished. The visible areas of the foundation walls are in fair condition with vertical and stepped cracks noted on the north, south and west walls. There is displacement noted at the northwest corner which displaced outward. No recent changes reported by owner. Repairs to the corner should be considered. All other cracks should



be monitored for further movement and sealed exteriorly to prevent water intrusion. See Specific Items Noted & Recommendations above.

### ATTIC

The attic is accessible. Flooring is present. The roof joists, collar ties and ceiling joists are in fair condition due to areas of rot and age-related deterioration. Water intrusion has contributed to damage as well. Extensive repairs will be needed in the next several years. Repair of all affected framing would likely exceed cost of replacement. The storage space can continue to be used with loads limited to 10 pounds per square foot but the attic space is approaching the end of its expected life. See Specific Items Noted & Recommendations above.

### ROOF

The roof covering of this home is of asphalt/fiberglass and is in poor condition. The flashing is in poor condition. The absence of a gutter/downspout water control system is noted with some correction suggested. The poor condition of the roof and flashing is accelerating the deterioration of the attic/roof framing. The roof covering is at the end of its expected performance. See Specific Items Noted & Recommendations above.

### EXTERIOR

The exterior walls of the garage are comprised of CMU block in fair condition. Seal exterior cracks to prevent water intrusion and further deterioration of block. See recommendations above.

### CONCLUSION

In summary, I consider the structural condition of this garage to be fair to poor when compared to others of similar age and construction type. Repairs would likely exceed cost of replacement. The garage is approaching the end of its expected performance. In addition, this type of structure is not suitable for use as a living space. Considerable foundation and framing modifications would be needed.

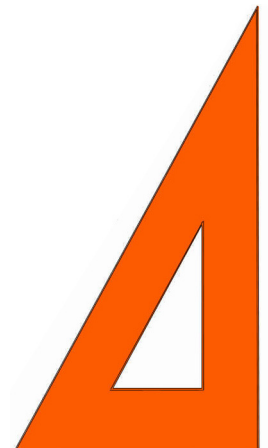
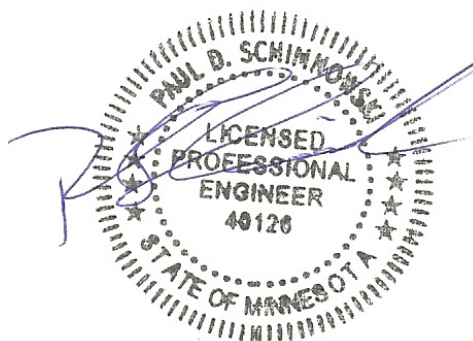
This report has been prepared in strict confidence with you as our client. We will not release this report to anyone without your permission.

Many things have been discussed in this report. However, we realize that there may still be other things of interest to you that have not been discussed. Therefore, we encourage you to call with any additional questions you may have. Thank you for the opportunity to be of assistance to you.

Sincerely,



Paul Schimnowski, P.E.  
PE #40126 (Minnesota)



---

---

## TERMS AND CONDITIONS

This report is expressly made subject to the following terms and conditions to which all persons that receive and rely thereon agree:

1. **STANDARD OF SERVICE:** Services performed by ENGINEER under this agreement shall be performed in a manner consistent with the skill and care ordinarily used by members of the engineering profession practicing under similar conditions at the time and in the locality the services are performed.

- Client recognizes that interpretations and recommendations of ENGINEER are based solely on the information available to the company.
- ENGINEER will be responsible for those interpretations and recommendations, but shall not be responsible for the interpretation by others of the information developed.
- Services provided reflect the professional judgment of ENGINEER, to the best of ENGINEER's knowledge, information, and belief as of the date hereof.
- No other warranty or guarantee, express or implied, is made.

2. **SCOPE OF SERVICE:** Services performed by ENGINEER are expressly limited by the scope of services ENGINEER has been employed by Client to perform.

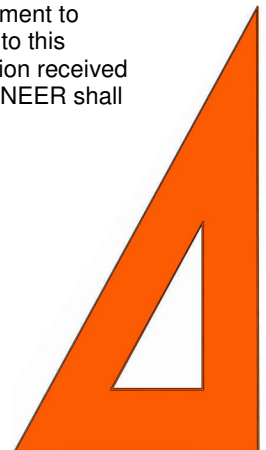
- Our observations were non-destructive, and limited to those portions of the facility that could be visually examined without excavation, removing surface finishes, disassembling equipment, or removing finishes, furnishings and equipment.
- Our scope of services did not include an exhaustive technical investigation. No material sampling, analytic tests, precise measurements or engineering calculations were performed.
- We did not determine whether the facility and its operation or use conform to any building codes, or regulations, or restrictions that may be enforced within the jurisdiction.
- Probable cost estimates figures, if provided, are based on statistical construction records, past project experience, and judgment. The actual cost will vary based on economic and bidding conditions. We recommend that the actual be determined by obtaining competitive bids.
- The parties acknowledge that ENGINEER's scope of services does not include any services related to Molds or Hazardous Environmental Condition (the presence of asbestos, PCBs, petroleum, hazardous substances or waste, and radioactive materials). If, however, during the inspection, we knowingly encounter such substances, we will notify you of the presence of these substances without accepting any liability whatsoever for any damage or harm caused by the substances. It is your responsibility to determine if further testing is required and to retain an independent, qualified professional to perform such tests.

3. In the event that construction work is involved, it is understood that the Contractor, not ENGINEER, is responsible for the construction of the project, and that ENGINEER is not responsible for the acts or omissions of any contractor, subcontractor or material supplier; for safety precautions, programs or enforcement; or for construction means, methods, techniques, sequences and procedures employed by the Contractor.

4. **OWNERSHIP OF DOCUMENTS:** All reports, field data, field notes, calculations, estimates and other documents ('reports') prepared by Engineer, as instruments of service, shall remain the property of Engineer. Client agrees that all reports furnished to Client or his agents, which are not paid for, will be returned upon demand and will not be used by Client for any purpose whatever. ENGINEER will retain all pertinent records relating to the services performed for a period of five years following submission of the report, during which period the records will be made available to Client at all reasonable times.

5. **TERMINATION:** This agreement may be terminated by either party by written notice. In the event of termination, ENGINEER shall be paid for services performed and expenses incurred up to the termination notice date. Neither Client nor ENGINEER may delegate, assign, sublet or transfer his/her duties or interest in this Agreement without the written consent of the other party.

6. To the fullest extent permitted by law, Client and ENGINEER (1) waive against each other, and the other's employees, officers, directors, agents, insurers, partners, and consultants, any and all claims for or entitlement to special, incidental, indirect, or consequential damages arising out of, resulting from, or in any way related to this report, (2) agree that ENGINEER's total liability to Client shall be limited to the total amount of compensation received by ENGINEER, and (3) if an action is brought against the ENGINEER and the ENGINEER prevails, ENGINEER shall be entitled to recover costs and expenses, including reasonable attorneys' fees and costs.





**Location**  
1064 Pacific Street,  
Saint Paul, MN

**Photos Taken by:**  
Paul D Schimnowski, P.E.

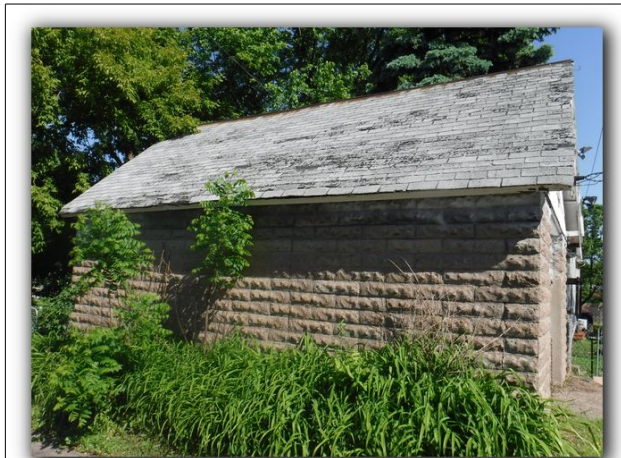
**Inspection Date:**  
May 26, 2016



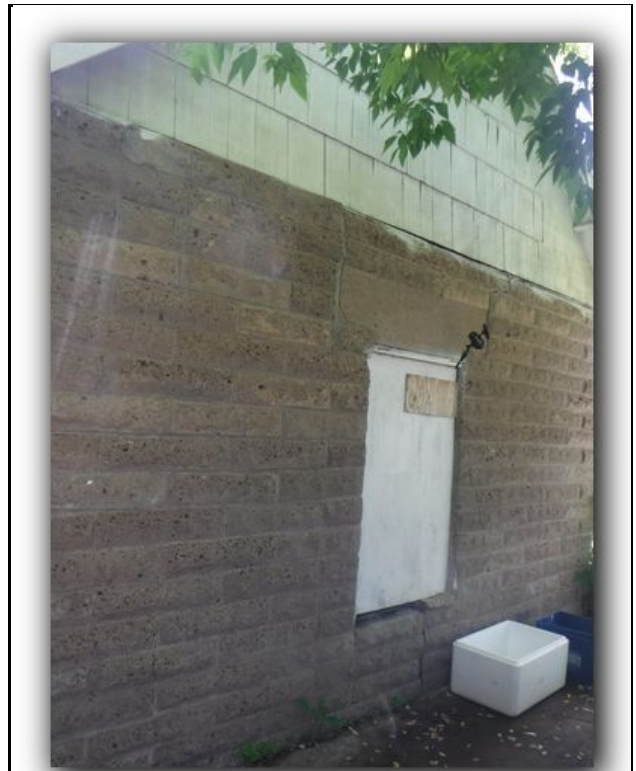
**1** Front/east side of garage.



**2** West side of garage.



**3** South side of garage. Exterior is CMU block.



**4** West side of garage.



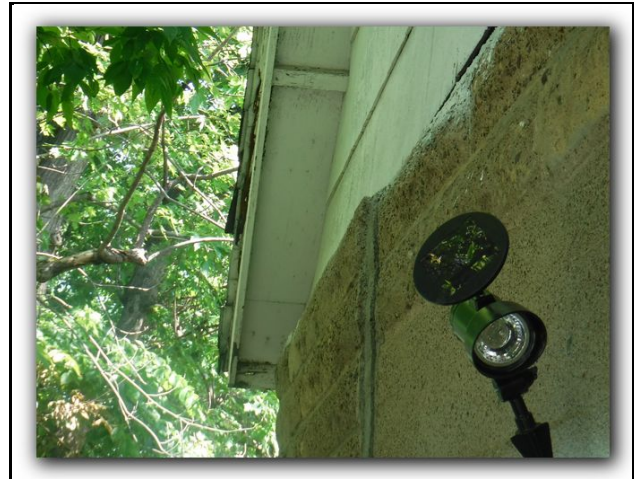
**Location**  
1064 Pacific Street,  
Saint Paul, MN

**Photos Taken by:**  
Paul D Schimnowski, P.E.

**Inspection Date:**  
May 26, 2016



**5** Vertical crack in CMU wall. Seal to prevent water intrusion.



**6** NW corner - cracked and displaced CMU wall. Consider tie back repair.



**7** Masonry wall tie back anchors would help limit additional movement.



**8** Roof in poor condition. Contributing to water intrusion and rot of roof/attic framing.



**9** NW corner. Cracked and displaced. Consider repairs.



**10** No recent movement reported. Monitor for movement if not proceeding with repairs.



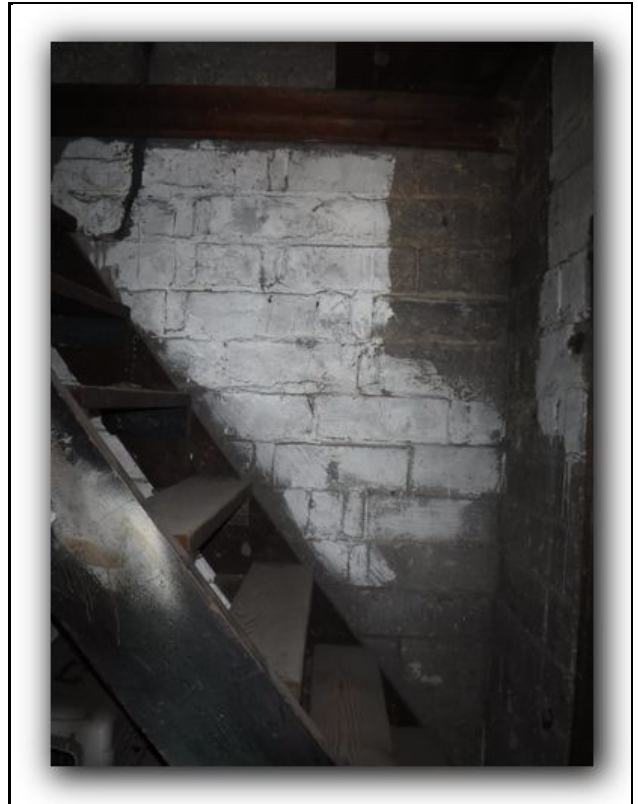
**Location**  
1064 Pacific Street,  
Saint Paul, MN

**Photos Taken by:**  
Paul D Schimnowski, P.E.

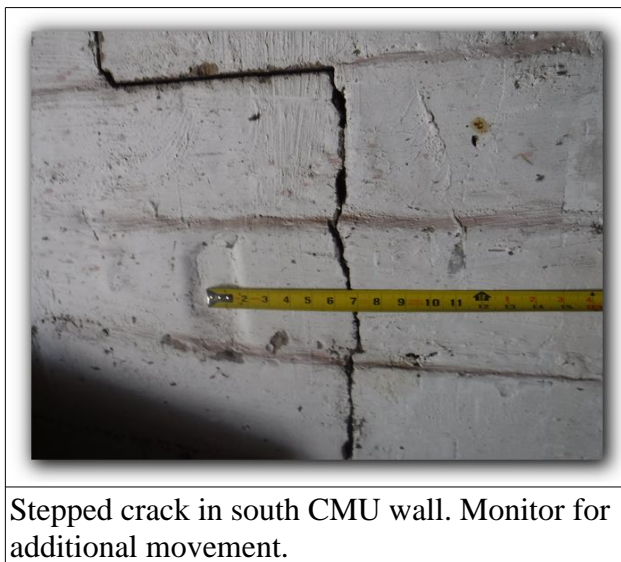
**Inspection Date:**  
May 26, 2016



**11** "Work trench" at garage floor. Fill with compacted sand and top with concrete.



**12** NW corner. Cracked and displaced. Consider repairs.



**13** Stepped crack in south CMU wall. Monitor for additional movement.



**14** Roof joists and collar ties in fair condition due to rot and deterioration.

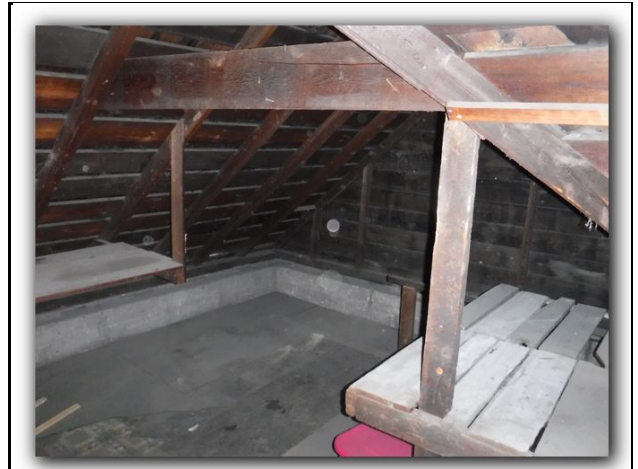
**Location**  
1064 Pacific Street,  
Saint Paul, MN

**Photos Taken by:**  
Paul D Schimnowski, P.E.

**Inspection Date:**  
May 26, 2016



**15** Attic framing - including ceiling joists, roof joists and collar ties in fair condition.



**16** Do not load ceiling/attic floor with more than 10 pounds per square foot.