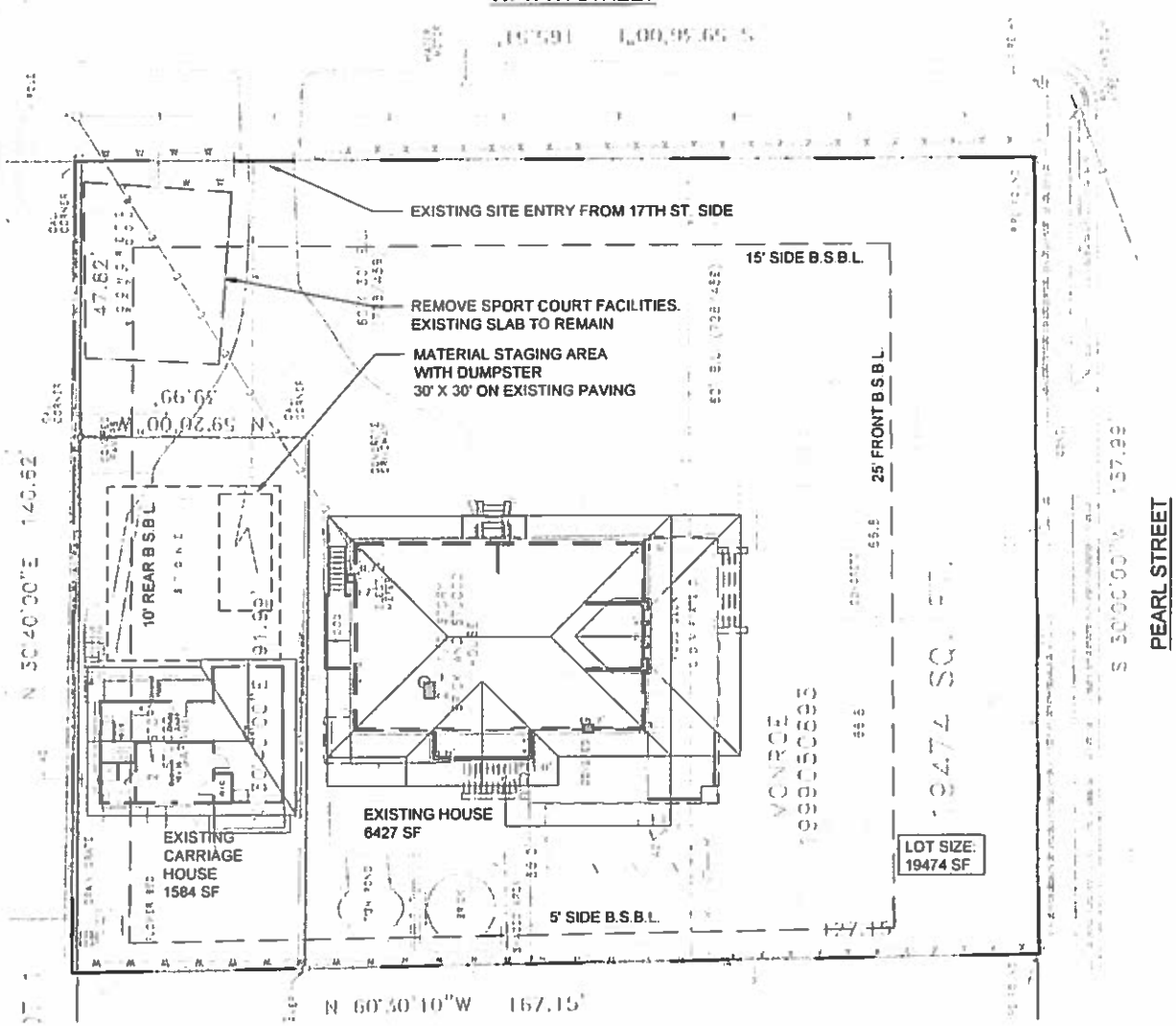

PROJECT DATA

1606 Pearl - SF-3-H Zoning

LEGAL DESCRIPTION:
.4471AC OF OLT 11 DIVISION E AND .0848AC OF OLT 11 DIVISION E,

SURVEY BACKGROUND REFERENCE:
JOSEPH ALLEN STEARNS, R.P.L.S. #4990, STEARNS AND ASSOCIATES, INC. AUSTIN, TEXAS. DATED JUNE 14TH, 2010. JOB NUMBER 23096

IMPERVIOUS COVER

Lot area: 19474 SF

INTERIOR REMODEL AND RENOVATION - NO NEW IMPERVIOUS COVER PROPOSED TO BE ADDED

GENERAL SITE NOTES

1. No setback averaging.
2. No new structure in the 25 year flood plain.

TREE PROTECTION NOTES

1. Prior to development, contractor to provide a root zone mulch layer and maintain tree protection fencing (chain link, five foot tall) for all protected trees on the site for the duration of the project.
2. A 6 " layer of mulch within the entire available root zone area is required for trees which have any disturbance indicated within any portion of the critical root zone.
3. There shall be no utility routes or meters within the 1/2 CRZ of protected trees on the site.
4. There shall be no access routes, material staging, concrete washouts, dumpsters, scaffolding, or portable toilets within the CRZ of protected trees on the site.

BUILDING AREA

Residence	6428 SF
(Level 1 main exist	1888 SF)
(Level 2 upper exist	2128 SF)
(Level 3 attic exist	1180 SF)
(Basement exist	1232 SF)
Porches	1123 SF
(covered exist	709 SF)
(uncovered exist	144 SF)
(uncovered steps exist	270 SF)
Carriage House	1584 SF
(Level 1 garage exist	792 SF)
(Level 2 ADU exist	712 SF)
(Level 2 covered porch exist	80 SF)
Total building area.	9135 SF

REGISTERED ARCHITECT J. BART WHATLEY 17672 STATE OF TEXAS
10/4/2017

1 Site Plan
SCALE: 1" = 20' 0 20'

DELINEATE studio
916 Springdale, Bldg 5 #102 512.522.3511
Bart Whatley - Reg. # 17672

McLendon-Price House

Interior Remodel and Renovation
1606 Pearl Street, Austin TX 78701

Site Plan
JOB 1712
DATE 10.04.2017
SHEET
BP 1

RDHammond, Consulting & Engineering, LLC
Residential & Small Commercial Structural Solutions
Texas Firm# 17051

102 Deercreek Lane
Leander, Texas 78641

08/23/2017

Mr. Richard Gift
Gift-Neuhaus Properties, Inc.
Austin, Texas

Dear Mr. Richard Gift,

On August 22nd, 2017 R. Derek Hammond PE on behalf of RD Hammond Consulting & Engineering, LLC (RDH C&E, LLC) performed a structural engineering observation of the two story apartment behind the residence located at 1606 Pearl Street in Austin, Texas to determine the condition of the framing, second story framing, stud framing and foundation. There are multiple issues with most of the major structural elements of the structure, based on the observations made on the visit.

Issues that are causing this rotting and corrosion of some of these components are due to the structures low elevation in respect to the rest of the property, its location to the surface drain on the SW corner of the property, a lack of a moisture barrier, and the lack of a drainage system to prevent run off water from entering the building. The most severe settling and deterioration being present on the west side of the structure.

Other major issues are due to how the addition was constructed. The framing and walls studs are inadequate for residential occupancy due to these deficiencies. Because of this, replacement would be necessary where items are rotten or improperly constructed. Remediation's are to the degree where demolition should be considered due to cost and safety concerns. At a minimum it is recommended that the structure is shored laterally and vertically on the second floor, for safety reasons, before any construction is performed, if it is not determined that it should be demolished. All findings of the site observation, supporting photos, and further discussion of the issues are contained in the report herein.

It was our pleasure to provide structural engineering services to you. The original full size photos and all photos from the site visit can be provided if necessary, for added clarity. If you have any questions, comments, or concerns please feel free to contact me,

Respectfully,

R. Derek Hammond, PE

Owner RDH C&E LLC

08/23/2017
TX Firm 17051

RDHammond, Consulting & Engineering, LLC
Residential & Small Commercial Structural Solutions
Texas Firm - 17051
102 Deercreek Lane
Leander, Texas 78641

General Structure Information

The original home was constructed between 1906 and 1907. The apartment construction is not known, but based on the original slab's construction method, it can be estimated the original portion of the apartment was likely constructed about the same time period. The original structure is composed of wood roof framing, and floor framing with load bearing wood stud walls. The original exterior walls were clad with tongue and groove wood siding (Photo 1). This based on the interior wall siding still left on the lower interior wall between the addition and original construction on the West side.

An addition (time unknown, but likely between 1949-1970) was constructed and had the original siding partially demolished to allow the new addition. The addition is a two story structure which was added to the East side of the apartment. The stair on the east side of the original construction was demolished to allow the addition (Photo 1), and a new deck and stair was added to the North side of the structure (Photo 2) to allow access to the second story. The addition is similarly composed of wood roof framing, wood floor framing, load bearing wood studs, and a wood floor deck partly composed of the old siding from the original apartment (Photo 3). Although not known, the entire structure was likely clad with the current stucco after the addition had been completed (Photo 4).

Site Observations

Foundation Deficiencies

There were several foundation issues that require remediation because they have either become corroded and deficient, or the elements were constructed inadequately. Each of the issues are elaborated on below, and the photos can be found at the end of the document.

The interior columns supporting the main girder for the second floor have been replaced recently and are not bearing on the existing foundation location, the original indicated by the to of the original stub column showing in the floor. The floor has begun to sink and crack likely because the columns are not on the foundation causing the floor to fail, and because water is allowed to enter and pond on the area (Photo 5).

The location on the property, elevation of the apartment compared to other elements on the property, lack of drainage, and its location near the surface drain for the property has resulted in several foundation issues;

- The rotting of the exterior cladding, foundation likely corroded too (Photo 6)
- The rotting out of the bottom load bearing plate on the addition (Photo 7)
- The settling of the west side of the structure and the failure of the stucco cladding on the West side of the structure (Photo 8 & Photo 9)

To compound the issue, the apartment is on a low point on the property and is in the direct path of the runoff from the not only the main residence but also any structures that are located to the North of the property. The roads and driveways serve as conduits to get the water to the apartment (Photo 10).

The interior column serving as support for the porch framing, original lintel framing, and partial second floor framing has an inadequate foundation. The base of the column is composed of a tin can form with a concrete infill (Photo 11). Typically, minimum pier diameters are recommended, founded at a depth of 3'-0" or deeper.

The existing slab and newer slab for the addition are both higher in elevation than the bottom plate on the interior load bearing wall. The bases of the studs have begun to rot out and the plate is likely rotted and will continue to corrode (Photo 12). Additionally it is likely that the foundation may not be adequate to support both the load of the existing structure and the addition.

Floor Framing Deficiencies

Several framing issues were observed, as well, at major structural components. Most were due to inadequate construction methods and each of the issues are discussed below. The photos can be found at the end of the report.

The second story main girder that serves as the support for the majority of the second floor is improperly braced at the interface with the West wall. A minimum of two-three stud jacks should be located at each end (Photo 13).

The second story main girder appears undersized, and partially corroded. Further investigation would be necessary, but the depth is not consistent with framing seen in current homes.

When the porch and addition where added, the Northern wall of the original construction at the first floor level was moved approximately five feet North. The original lintel and framing for the porch were supported improperly by a column that is beginning to lean in the northern direction creating a moment at the top of the column. If not braced, or demolished, the deformation will continue and will eventually fail. Thusly, this needs to be shored immediately to prevent harm or injury to workers if demolition is not chosen. Additionally the attachment from the girder to the column is in adequate and a safety hazard. Shims were added and improperly attached to the column to get to the proper elevation, no hold downs are present, and the splice between the existing girders and member over the column are 2x8 timbers which are inadequate (Photo 14).

Roof Framing Deficiencies

Some roof framing members were also observed having rotten members (Photo 15). The roof framing for the addition where it meets the existing is rotting and inadequately framed as well (Photo 16). The photos can be found at the end of the report.

Global Structural Deficiencies

As a result of the poor drainage, ponding water, moist conditions, and lack of a moisture barrier, a majority of the base of the structure is rotting, and will continue to rot if measures are not taken to correct the drainage issue. Dry rot was present in the cladding (Photo 17), signs of termites and mold were found, the mold likely due to paper backed gyp wall boards used on the addition (Photo 18). The structure also appears to be settling on the West side. Doors, windows, and the garage doors have racked to some extent, and the garage doors can no longer close (Photo 19). Cracking was observed in the stucco around openings as well.

Conclusions & Recommendations

Foundations Summary

In most cases, the existing concrete slab floor will need to be partially demolished. New adequate foundations will need to be added below the columns in the original structure and likely at the interior wall between the addition and the existing construction. Foundations on the west side will need to be evaluated to the extent of the corrosion and damage from the water draining through the area and may need to be replaced.

Framing Summary

The existing framing will need to be shored immediately before occupancy or before any work is to be performed on the building. Both aforementioned girders and connections will need to be removed, redesigned, and replaced to meet required loading per code. The inadequate wall studs and interior porch support columns will need to be removed and replaced as well as any rotten roof framing.

Global Summary

The existing structure will need to have all rotting items removed, which is a majority of the cladding and floor plates while only partially the roof framing, floor framing, and wall studs. Additional investigation would be required to determine the degree of the rotting on the West well that is settling. There is a possibility the entire wall could be rotten beyond repair, and therefore replacement would be required.

Actions will need to be taken to build up the building pad to an elevation that will allow drainage away from the structure rather than through it. Trench drains could be another option, and may be required in tandem with raising the pad. However, this may require substantial trenching through the structures slab and possibly foundations.

Conclusion

It is highly recommended that the pad be built up and trench drains added to provide adequate drainage away from the building. However, trenching and building up the pad would be extremely difficult with the building in place. The foundation and framing remediation are also so severe, that the entire building would basically need to be dissembled to provide the safest means of repair. Most of the exterior cladding that was on the original construction is rotten, reused as floor decking, or is covered with stucco on the rotting West wall. Therefore, based on the discussed deficiencies and methods for repairing all of the issues, demolition, and rebuilding would provide the most cost efficient and safest means of replacing the building. It is recommended at a minimum that the structure, specifically interior columns and girders are braced to prevent failure and a resultant injury until all repairs can be made if that route is chosen.

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Photos of existing addition, taken 08/22/2017;

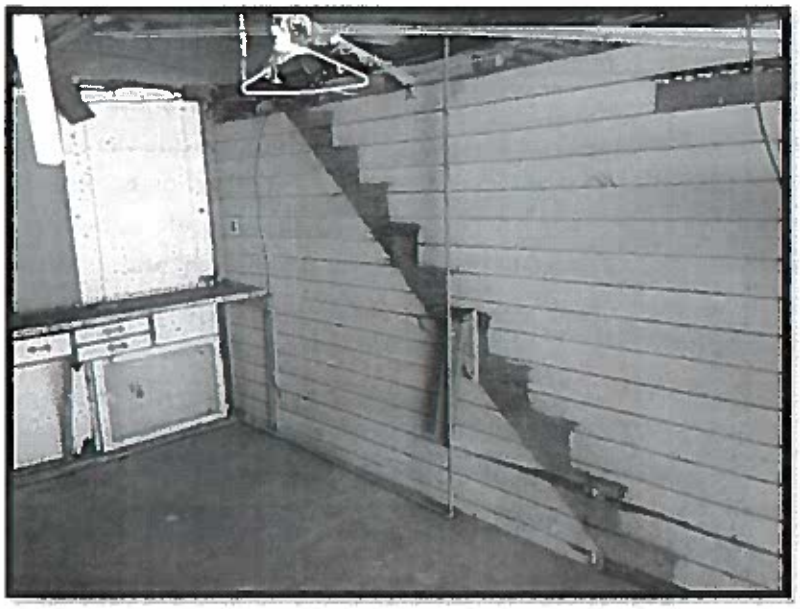

Photo 1; Interior wall/east wall between addition and original construction

Photo 2; Exterior porch and stair addition

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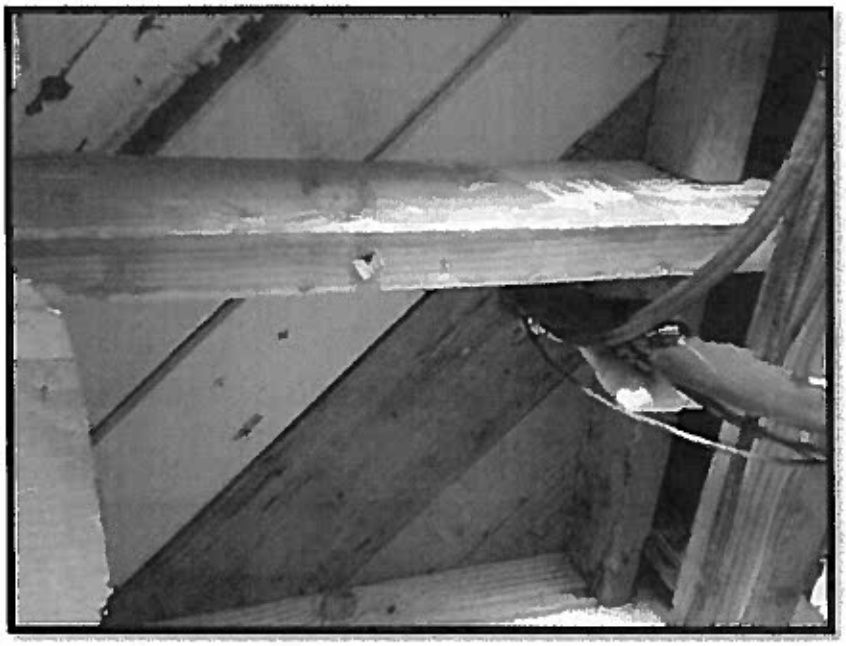

Photo 3; Addition's second floor decking

Photo 4; Exterior stucco cladding

Photo 5; Columns supporting second floor main girder

Photo 6; Rotting and failing exterior cladding

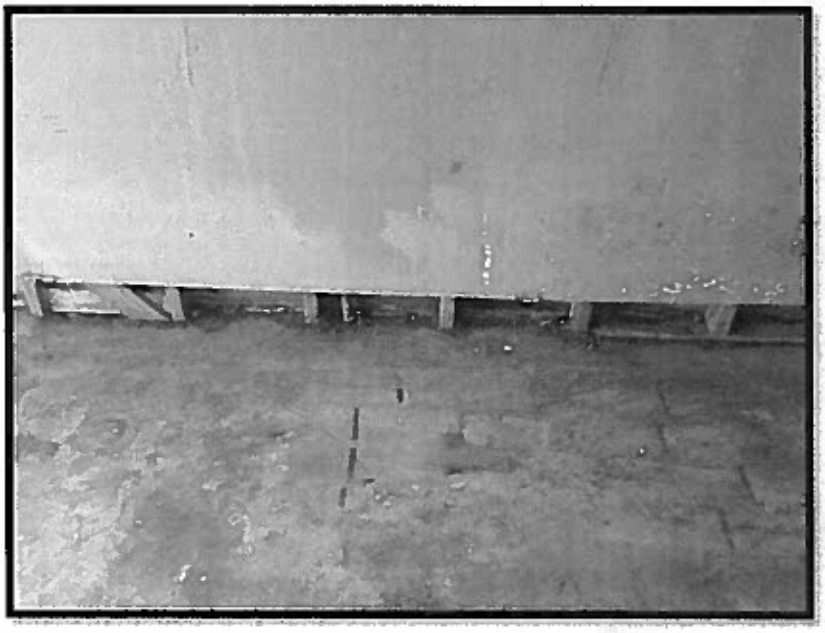

Photo 7; Rotten bottom plate West wall of addition

Photo 8; Failing and settling wall, NW corner

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Photo 9; SW Corner of apartment, exterior cladding failing

Photo 10; Satellite view of existing residence and apartment

Photo 11; Interior column foundation with tin can form

Photo 12; Interior wall, original slab and addition slab

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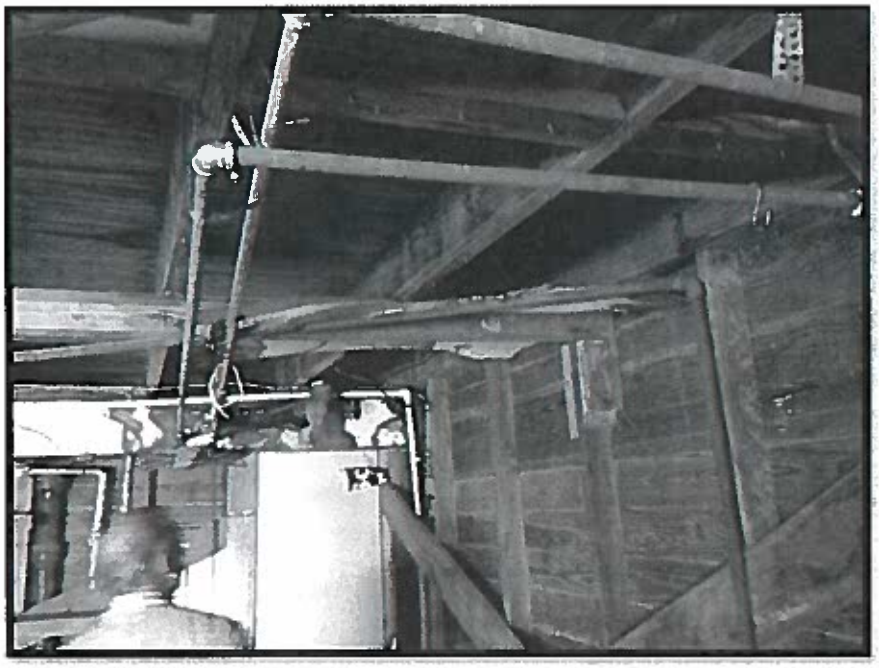

Photo 13; Second floor main girder attachment at West wall

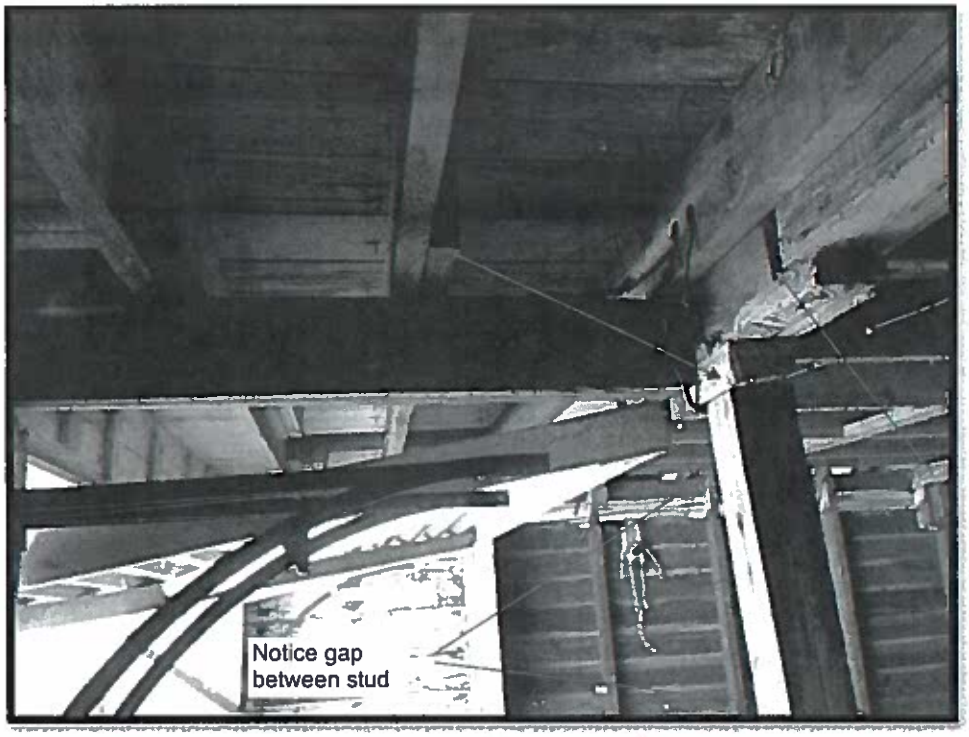

Photo 14; Additions, Northern porch, support girder/existing lintel connection at column

Photo 15; Roof framing, rotting outrigger

Photo 16; Rotting framing and improperly framed built up roof

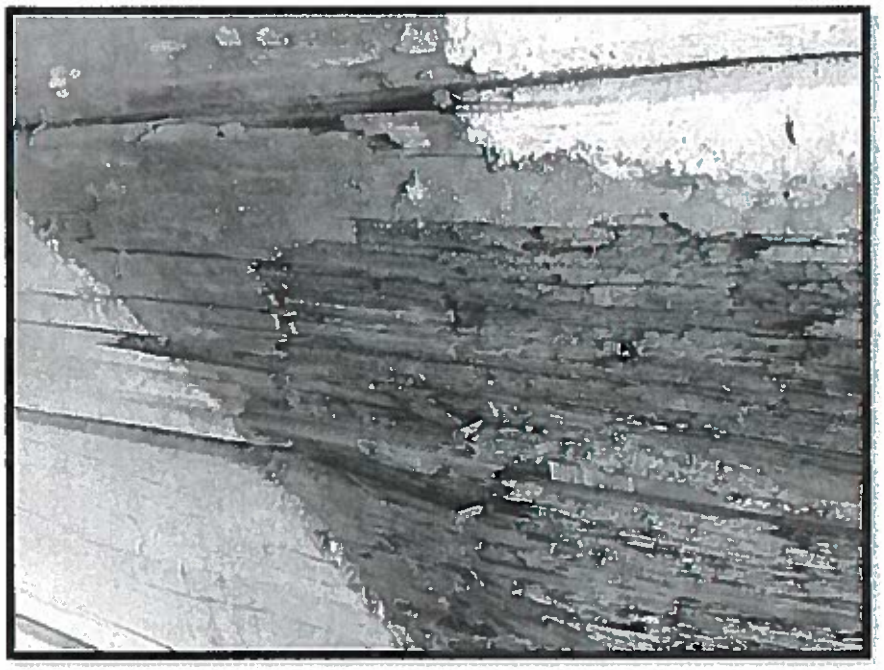

Photo 17; Dry rot present on cladding

Photo 18; Mold in laundry room addition on South end, due to poor ventilation and drainage, extents unknown

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Photo 19; Garage doors at North wall