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March 3, 2025

PROJECT NO. MDBCH24002

Marci Forbes
Community Development Director
City of Madeira Beach
MForbes@madeirabeachfl.gov

RE: LIMITED STORM DAMAGE ASSESSMENT OF "SNACK SHACK" CAFE
15100 GULFVIEW BLVD
MADEIRA BEACH, FL 33708

Ms. Forbes,

At your November's request, on **December 18, 2024**, Carlos Figueroa Vidal (CC) and Vince Barnes, PE, SI, representing Pennoni, performed an onsite limited visual assessment of the "Snack Shack" Café, building identified in **Figure 1** below (See **Photos 1 & 2**), to review reported damage from Hurricane "Milton" and evaluate its structural integrity.

Two months later, demolition was completed to expose a portion of interior framing between February 17-18, 2025 by Puroclean. Carlos Figueroa Vidal (Pennoni CC) returned on **February 20, 2025**, to complete the limited evaluation of the building's structure.

As part of our review, a review of the following systems was provided by Pennoni subconsultants:

- Architectural - Klar and Klar Architects
- Electrical – Gulf Coast Electrical Design

This report will summarize Pennoni's observations, findings, and recommendations.

Figure 1 Subject Building

1.0 Building Description:

The subject building is an original 2-story 2x wood framed structure reported to have been originally built in 1934 but has undergone several repairs and renovations over the past 50 years. The most recent renovations, carried out in 2013 and 2017, added new air conditioning, exhaust fans, and plumbing systems, a metal roofing, a new wood deck at the rear, and new windows and doors and current interior and exterior finishes.

Pennoni has not been able to obtain any previously completed renovation projects and is therefore cannot comment to the extent of improvements or repairs made:

The inspected building was basically a wood frame structure composed by wooden beams (4" x 8") and columns that are supported by a 5 x 8 foundation grid of 1' diameter wooden piles spaced 8'/ 8 ½' in both directions. Under the wooden structure that makes up the first level, as a crawlspace, run all the hydraulic, sanitary and electrical installations of the building. (See **Photos 3 – 5 and SK-2**)

On the central axis of the building, 16 feet from its main side, there are 4 wooden columns spaced each one at 16 feet, the 2 exterior ones have a section of 3" x 7" and the two interior ones are composed of 2 wooden columns of 5" x 5". The exterior and interior walls are made of 2" x 4" wooden studs separated by 16", and of each corner of the building they form a double 2" x 4" wooden column. (See **Photos 6 - 10** and **SK-2**)

On the exterior walls the original wall sheathing (wooden boards) was cover by ornamental wooden siding and the finishing of interior was solved basically using drywall sheets. The first wooden floor is covered by ceramic tiles and the second one by plywood sheathing and wooden boards.

The exterior corridors and stairs that give access to the building and surround it are also made of wood, were built and renewed later, have their own foundation pillars and only rest on the structure of the building on the side that borders it. (See **Photo 5**)

It was reported that storm surge from the 2024 Hurricane Helene was approximately 4 feet above finished floor. The structure was also impacted by gusting winds of approximately 101 MPH from Hurricane Milton on October 9, 2024

2.0 Structural Site Observations:

Listed below are issues identified during our limited visual structural inspection of the building. Relevant photos have been included in **Exhibit A**.

2.1 Foundations:

The building foundations appear to be intact with no readily identifiable signs of heave or displacement that would be associated with the storm event. There are **widespread corrosion and detached/failed uplift connecting straps** present between the main floor beams and the piles below the building. The corroded strapping is likely due to long term expose to the elements and not a single event such as the 2024 hurricanes.

Although the perimeter corridor and the outside deck have their own supports on the side that borders the Cabin their connect to the foundation system of the building.

In the northwest corner of the exterior deck the existing **connection failed** due to the impact of the storm surge and on the southeast side of the building, the failure of several of the connections was

detected where the wooden beams that support the side corridor rest on the foundation piles and at these places the floor is in danger of failure.

The reparation of this connections and the replacement of the failed or heavy rusted strapping is recommended and the revision of the temporary repair did it bellow the wooden staircase to the 2nd Floor. (See **Photos 11 – 14 and 56 & SK-3**)

2.2 First Floor Deck:

At the time of the inspection, it was still partially covered by sea sand and only the breakage or loose of some areas of the ceramic tiles floor could be seen. There does not appear to be signs of major floor settlement. Once small area of interior was found to be depressed. This may be due to damaged floor joists or hangers. However the removal of sand and interior cleaning of the floor will be required to determine any damage in the floor structure or its connections. On the back porch some of the floorboards were missing. (See **Photos 15 – 16 & SK-3**). These can be replaced in kind.

2.3 First Floor Walls (Exterior and Interior):

There does not appear to be signs of major readily identifiable displacement of the exterior wood framed walls. Only the **west facing door thresholds was damaged** where the failed doors connected and in the southeast corner of the building there seems to have been a **slight movement of the column** which caused some of the planks that hide it to separate from the impact of the storm surge also two of the glass windows located there are broken as well. (See **Photos 17 - 20** and **SK-3**)

After the removal of interior drywall it was found that in several areas of the perimeter wall, as a result of the systematic penetration of water, the lack of an effective impermeable barrier, especially under the windows, and the fact that in many places the original plywood sheathing were never renewed but only covered with the new ornamental boards, there are many **rotten or broken studs** near the bottom plate of the wooden structure. In other cases, with signs of **termite damage**, **rusted metal connections**, and in some areas the **original plywood plank is rotten and broken**. (See **Photos 21 -32** and **SK-4**)

It is recommended to have the subject building reviewed by for termites/ insect activity and tree as required prior to completing repairs.

The lower +/- 2 feet of **interior drywall are damaged** by the storm surge and humidity, also some areas of the exterior **wood sidings are rotten**, and exterior **paint coating is damaged**. (See **Photos 33 -34**)

Pennoni recommends carrying out an inspection to evaluate the level of humidity and moisture still present inside the building and thus be able, as part of the repairs to be undertaken in it, to determine all the areas that need to be dried and protected from future water penetration, so that the repairs to be executed are more effective in the long term and therefore better than those previously carried out.

There does not appear to be signs of major readily identifiable displacement of the exterior wood framed walls. The west facing door thresholds appear to be damaged where the failed doors connected. The lower 4 ft of interior drywall were removed for inspection of the 2x4 walls. . In the southeast corner of the building there seems to have been a slight movement of the column which caused some of the planks that hide it to separate from the impact of the storm surge also two of the glass windows located there are broken as well. The lower +/- 2 feet of interior drywall are damaged and exterior paint coating is damaged. (See **Photos 11 -16**)

2.4 Cabin Second Floor Framing:

No structural damage is observed visually or when walking on this floor.

However, in the ceiling of the kitchen preparation area there are **cracks** that may show the excessive deformation of one of the wooden beams that make up the structure of the second level and **multiple signs of water penetration** can be seen on some points of these as well as the **failure of several joints between the plasterboards of the ceiling**, and it is not known whether they also affected any wooden beams.

Exploratory removal of some areas of the ceiling and inspection of beams is recommended to determine if floor framing is damaged. It is unclear if the existing wood beams were designed to take the current storage and equipment load. (See **Photos 35 – 38** and **SK-4**)

Deflection of the second-floor structure due to the weight of the mechanical systems likely has contributed to the interior ceiling drywall cracking found throughout the building.

2.5 Exterior Second Floor Walls:

There does not appear to be signs of major readily identifiable displacement of the exterior wood framed walls, but at the southeast façade, where there was originally an opening, **one of its sidings is broken**, apparently due to the impact of the storm wind. The removal of interior wall sheathing will be required to determine the exact reason of the exterior damage and if the wall studs or connections have been affected. (See **Photos 43 – 44** and **SK-3**)

2.6 Cabin Roof Framing:

Intact, no visual indication of structural damage. The existence of a wooden ceiling prevents the structure of the ceiling from being observed, although signs of termite damage can be seen on these ceiling, and it is not known whether they also affected any wooden trusses. Removal of some areas of the ceiling and inspection of trusses is recommended to determine if roof framing is damaged. (See **Photo 22**)

2.7 Cabin Metal Roofing:

Intact, no visual indication of structural damage on the metal roofing, but corrosion is visible at some points on the fascia and eaves. (See **Photos 23 - 25**)

2.8 Back Porch Roof and Framing:

The built up covering of this roof is destroyed and needs to be renovated and a good part of the plywood and wooden boards of the roof sheathing, especially in both corners of the porch where is totally rotted. The joint between the porch joist and the original building lacks the appropriate fixing to secure it to that structure as required by FBC. About 90% of the joist's connections were severely corroded. This is due to salt exposure and atmospheric conditions. (See **Photos 26 - 30**)

Existing Tiki Huts for sitting on the outside deck were moved for the storm surge from their original location to the building and hit the exterior structure of the back porch. Although no severe damage was seen in the structure, this impact undoubtedly contributed to aggravating the damage to this roof. (See **Photo 2**). Review of the Tiki Huts or the West wood framed deck were not in our scope of work.

2.9 Other Comments:

- The detached wood west deck was not inspected in detail, but was observed to have separated from the North section of porch that extended from the main building. (See **Photos 6 & 7**)
- All the floor and plumbing drains on the first floor were clogged by sea sand (See **Photos 34**) and numerous signs of corrosion were observed on the metal corner beads of the windows, doors, and interior walls and on some pipes and the cover of the electrical panel. (See **Photos 31 & 32**)
- One of the exterior impact glass windows of the south façade was completely broken and another partially broken. (See **Photo 13**)
- The presence of Mold is observed in numerous places on the walls toward the interior of the building, especially at the approximate height that the sea reaches (14" above finish floor level) (See **Photo 33**)

3.0 Structural Repair Recommendations:

The following repairs are recommended to repair the damage caused by Hurricane "Milton" and to strengthen other deficiencies found:

1. Add new stainless steel hold-down connectors at the wooden walls to supplement or substitute the existing corroded steel connectors.

2. Repair of +/- 16 LF of wood rim beam and deck that have been eroded and are unlevel. The piles are in good condition and do no need to be replaced.

3. Replace exterior door and windows damaged and specially reinforce the frame of the first one.

4. Replace roof shearing at west elevation flat porch (750 SF).

5. Repairs to approximately 10% of exterior load bearing 2x4 wall studs

6. Repair to exterior sheathing where it is rotten. Estimated this extends for 25% of the exterior building perimeter and extends 2 feet above the finished floor. The removal of the timber finished exterior siding will be required to replace the sheathing.

4.0 Limited Assessment of Electrical Systems by Gulf Coast Electrical Design (Exhibit B):

The following Electrical Systems are recommended for replacement:

Much of the branch circuitry wiring and conduit that feeds lights and receptacles throughout the Snack Shack has been damaged due to flooding:

1. Recommend replacing all branch circuit wiring.
2. Minimum replacement number of branch circuits are as follows.
3. (6) single pole 20 amp circuits.
4. (5) two pole 20 amp circuits.
5. (1) two pole 30 amp circuit.
6. (1) two pole 50 amp circuit.
7. (1) two pole 60 amp circuit**.**

4.0 Limited Assessment of Architectural Systems by Klar and Klar Architects (Exhibit C):

The following Architectural/ Building Envelope Systems are recommended for replacement:

1. Replace damaged doors and windows.
2. Replace all drywall +/- 4 ft along the interior damaged by flood waters
3. Replace all flooring.
4. Replace all roofing as it appeared near the end of is useful like and is likely leaking.

5.0 Limited Assessment of Architectural Systems by Klar and Klar Architects (Exhibit D):

At our request a cost estimate was developed by 3rd party cost estimator CC&A to repair the above described damages.

6.0 Considerations for FEMA Flood Requirements:

It is possible that these repairs will be considered a Substantial Improvement as defined in 44 CFR 59.1 from the National Flood Insurance Program (NFIP) administered by the Federal Emergency Management Agency (FEMA). A Substantial Improvement means any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the start of construction of the improvement. The term includes structures that have incurred "substantial damage", regardless of the cause of the damage and regardless the cost of repair work performed.

If the repair work exceeds the 50 percent FEMA rule, the structure must be brought into compliance with flood plan management and local building code requirements based on the current flood zone. Therefore, additional measures would likely be required to meet ASCE 24-14 requirements to wet flood proof the building:

- *Install breakaway walls and frangible interior slabs.*
- *Addition of scour resistant foundations (piles).*
- *Installation of standard floor opening in the west and north wall of building.*
- *Verify that MEP is at approved elevation.*
- *Installation of flood damage resisting flooring.*
- *Installation of flood damage resisting exterior finish.*

Given the low elevation of the building, retrofits of the building to meet current code requirements would likely be cost prohibitive as the whole structure would be required to be elevated to meet these requirements.

Figure 2 – Enlarged Area from FEMA Flood Map

Closure:

The sign and seal on this project indicates professional engineering responsibility for the structural portion only. General architecture, life safety, accessibility, electrical, mechanical, etc. are the responsibility of Pennoni Subconsultants.

Sincerely,
Pennoni Associates

J. Vincent Barnes III, P.E. SI-Limited #77754
Forensic Division Manager

See attached:
Exhibit A – Relevant Site Photos
Exhibit B – Electrical Review by Gulf Coast Electric
Exhibit C – Architectural Review Klar and Klar
Exhibit D – Cost Estimate by CC&A.

EXHIBIT A – RELEVANT SITE PHOTOS

Photo 1 – Northwest view of the "Snack Shack" Café (Dec.18, 2024)

Photo 2 – South view of the "Snack Shack" Café (Dec.18, 2024)

Photo 3 – View of one of the Foundation Piles

Photo 4 – Partial Underside View of the Wood Structure of the First Floor.

Photo 5 – View of one of the Foundation Piles that support the Perimetral Hallway.

Photo 6 – View of one of the Corner of the Walls Wood Frame Structure.

Photo 7 – View of one of the Exterior Intermediate Columns of the Walls Wood Frame Structure.

Photo 8 – View of one of the Interior Intermediate Double Columns of the Walls Wood Frame Structure.

Photo 9 – View of the Interior Walls Wood Frame Structure.

Photo 10 – View of the Exterior Walls Wood Frame Structure.

Photo 11 – Failed Connection between the Exterior Wood Deck and the Perimeter Corridor.

Photo 12 – Failed Connection between the Beam that support the Southeastern Perimetral Corridor and the Wood Column that Support its Wooden Handrail (its bottom is rotten).

Photo 13 – Broken Exterior Wood Beam at the Outside Deck (in December 2024).

Photo 14 – Broken Exterior Wood Beam at the Outside Deck Repaired in February 2025 BUT Note the Weak Support of the Column that Supports the Staircase.

Photo 15 – Broken Ceramic Tiles at First Floor Deck.

Photo 16 – One of the Areas with Possible Floor Depression

Photo 17 – Exterior Door Broken (outside view).

Photo 18 – Exterior Door Broken (inside view).

Photo 19 – Impact Glass Window Broken (inside view).

Photo 20 – Minor Signs of Possible Movement in SE Corner of the Building.

Photo 21 – Wooden Studs Broken at Exterior Wall Wood Frame.

Photo 22 – Wooden Studs Broken and Rutten at Exterior Wall Wood Frame.

Photo 23 – Wooden Bottom Plate Rutten and Loosen at Exterior Wall Wood Frame.

Photo 24 – Wooden Bottom Plate Broken and Rutten at Interior Wall Wood Frame.

Photo 25 – Broken and Rutten Wood Studs at Interior Wall Wood Frame due to Water Intrusion.

Photo 26 – Signs of Water Intrusion at Exterior Wall Sheathing of the Cabin Wood Frame.

Photo 27 – Broken Wood Board of the Exterior Wall Sheathing of the Cabin Wood Frame.

Photo 28 – Broken and Rutten Original Plywood Sheathing of the Exterior Wall of the Cabin due to Water Intrusion and Note the Absence of Steel Connectors.

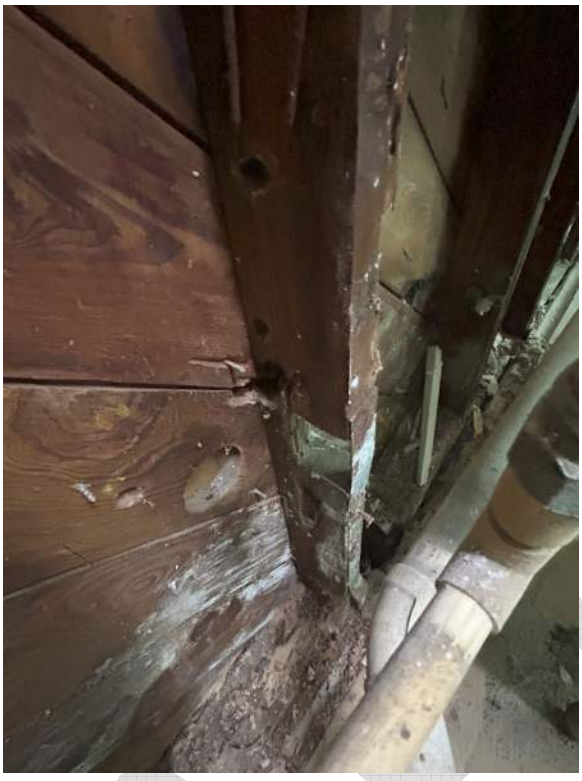


Photo 29 – Termite Damages at Wooden Studs.

Photo 30 – Termite Damages at Wooden Studs.

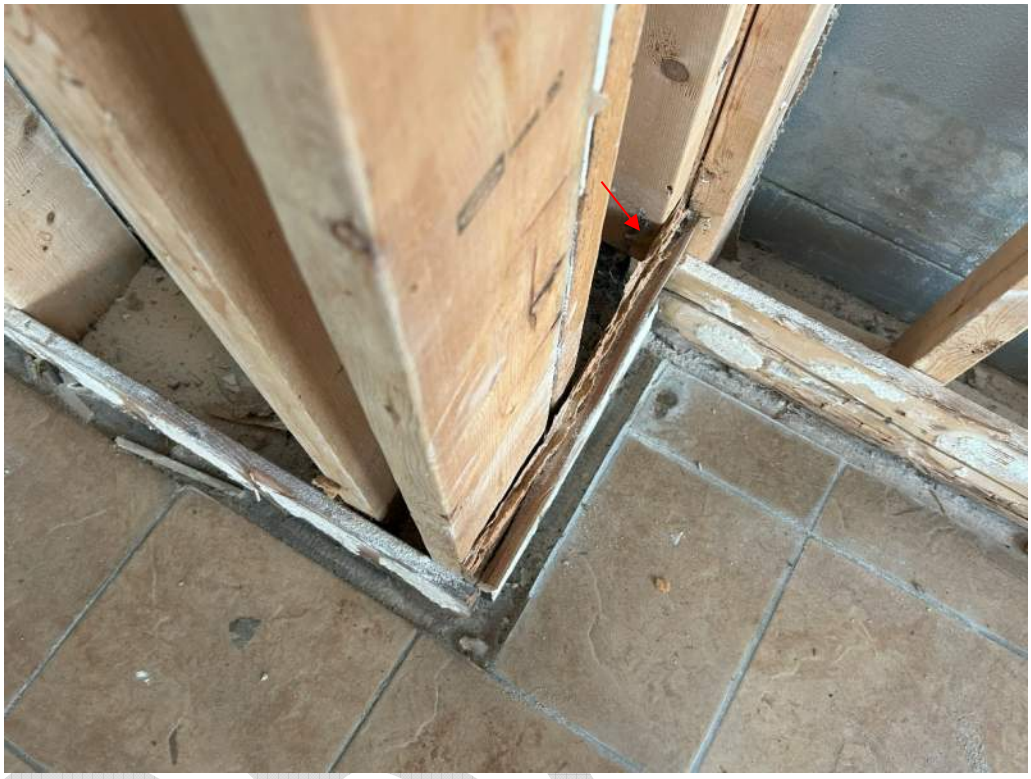


Photo 31 – Termite Damages at Interior Wood Frame.

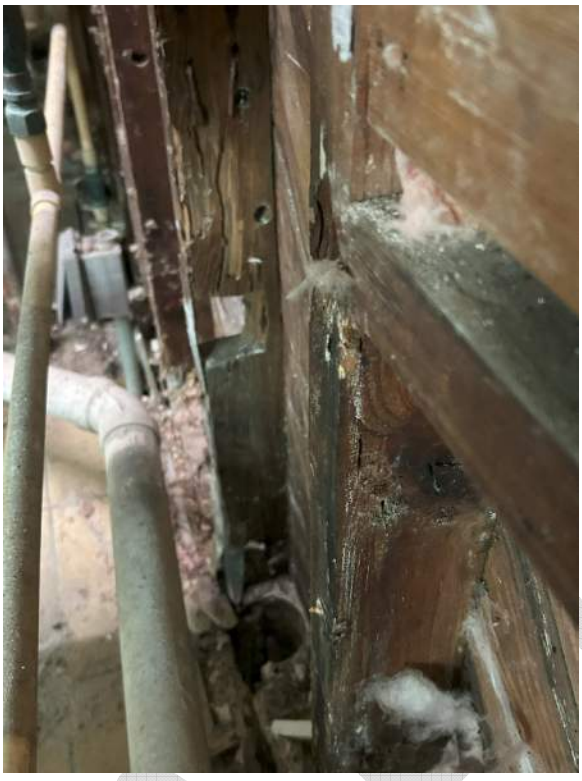


Photo 32 – Termite Damages at Wooden Studs.

Photo 33 – Damages at Exterior Wooden Sidings.

Photo 34 – Damages at Exterior Wooden Sidings.

Photo 35 – Signs of Water Intrusion through the 2nd Floor / Cracks in the Ceiling.

Photo 36 – Signs of Water Intrusion through in the Ceiling

Photo 37 – Signs of Water Intrusion through the Ceiling and Longitudinal Crack in a Wood Truss direction.

Photo 38 – Signs of Water Intrusion through in the Ceiling.

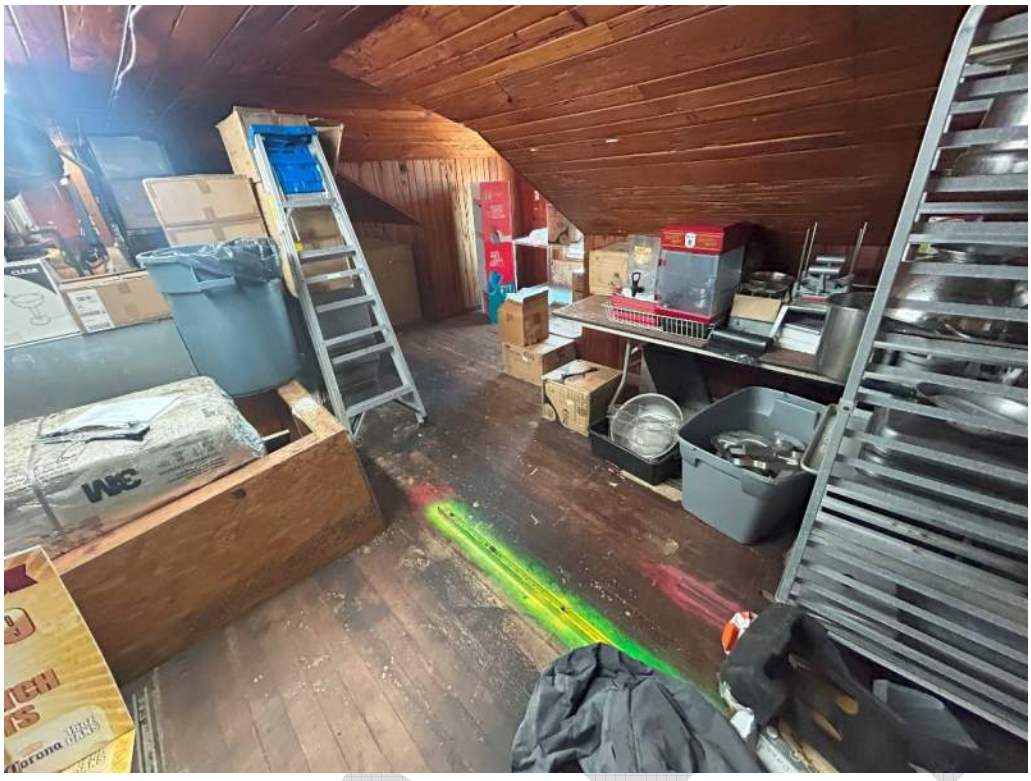


Photo 39 – Inside view of 2nd Floor (Attic).

Photo 40 – Inside view of 2nd Floor (Attic).

Photo 41 – Interior View of Wood Ceiling of the Attic (see Signs of termites' damages).

Photo 42 – Termite Damages in Wood Ceiling of the Attic.

Photo 43 – Exterior Siding Broken at Southeast Façade of 2nd Floor (Attic).

Photo 44 – Close Up View of Exterior Siding Broken at Southeast façade of 2nd Floor (Attic), also Note Wooden Nails Corroded.

Photo 45 – Outside View of Metal Roofing.

Photo 46 – Outside View of Metal Roofing.

Photo 47 – Corrosion on Metal Roofing Edges.

and **SK-5**

Photo 48 – Corrosion on Metal Roofing Edges.

Photo 49 – Outside View of Built-up Roofing Destroyed.

Photo 50 – Back Porch Roof Frame and Sheathing Destroyed.

Photo 51 – Back Porch Roof Sheathing Destroyed.

Photo 52 – Corroded Connections at Back Porch Frame.

Photo 53 – Lack of Connections in the Roof Structure at Back Porch Frame.

Photo 54 – Top of one of the Wood Column of the Back Porch that was Impacted by Outside Tikis.

Photo 55 – Outside View of the Rear Wood Deck and Back Porch that was Impacted by Outside Tikis.

Photo 56 – Northwest Corner of the Perimetral Corredor at the Top of the Concrete ADA Ramp.

Photo 57 – Bottom Section of the Wooden Columns of the Back Porch.

Photo 58 – Wooden Boards Loose at the Back Porch.

Photo 59 – Corrosion in Metal Corner Beads of Interior Walls.

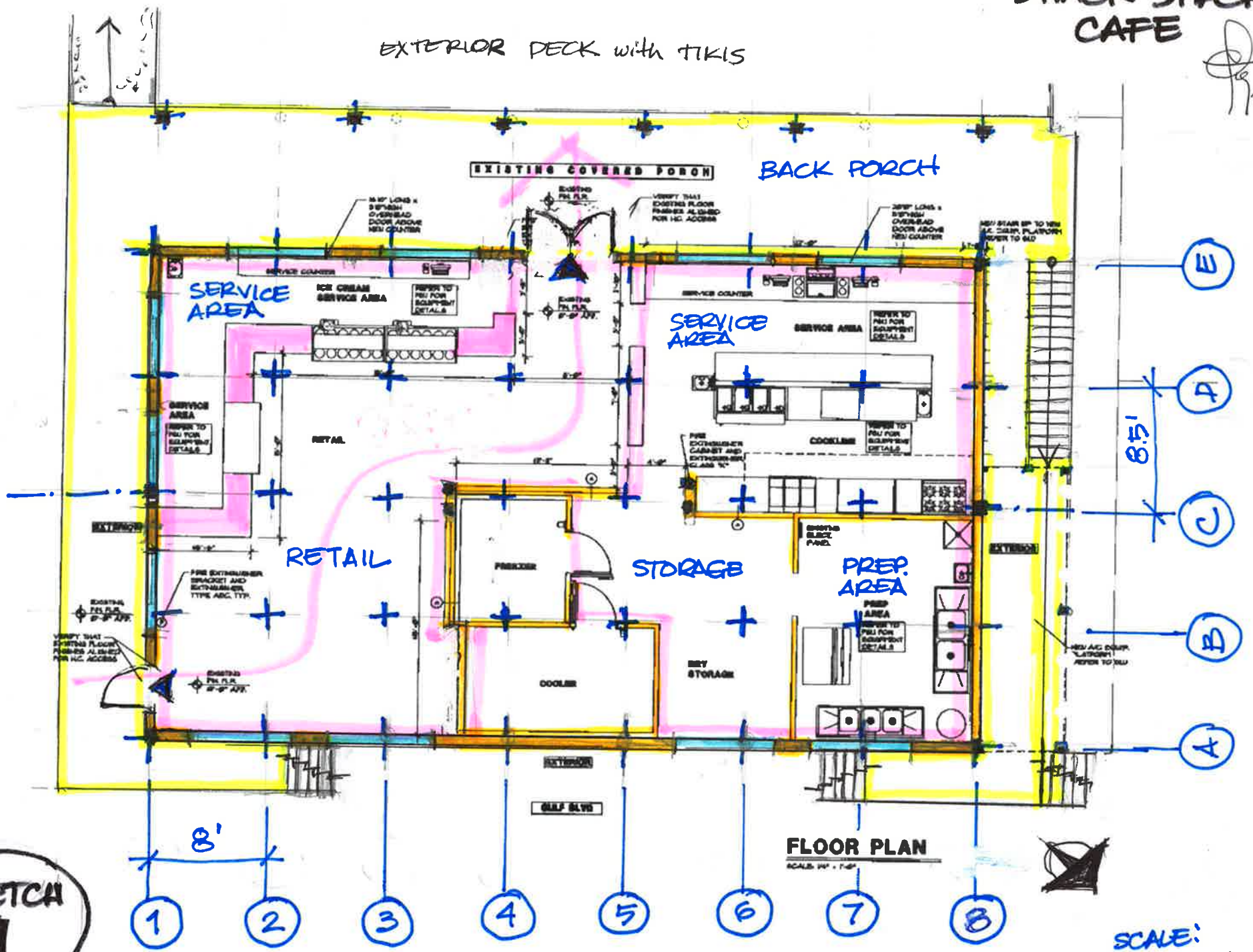
Photo 60 – Several Damages in Interior Walls Finishes.

Photo 61 – Signs of Mold and Water Intrusion in the Interior of the Building (14” over finish floor).

Photo 62 – Floor Drains Clogged.

"SNACK SHACK" CAFE

EXTERIOR DECK with TIKIS



FLOOR PLAN

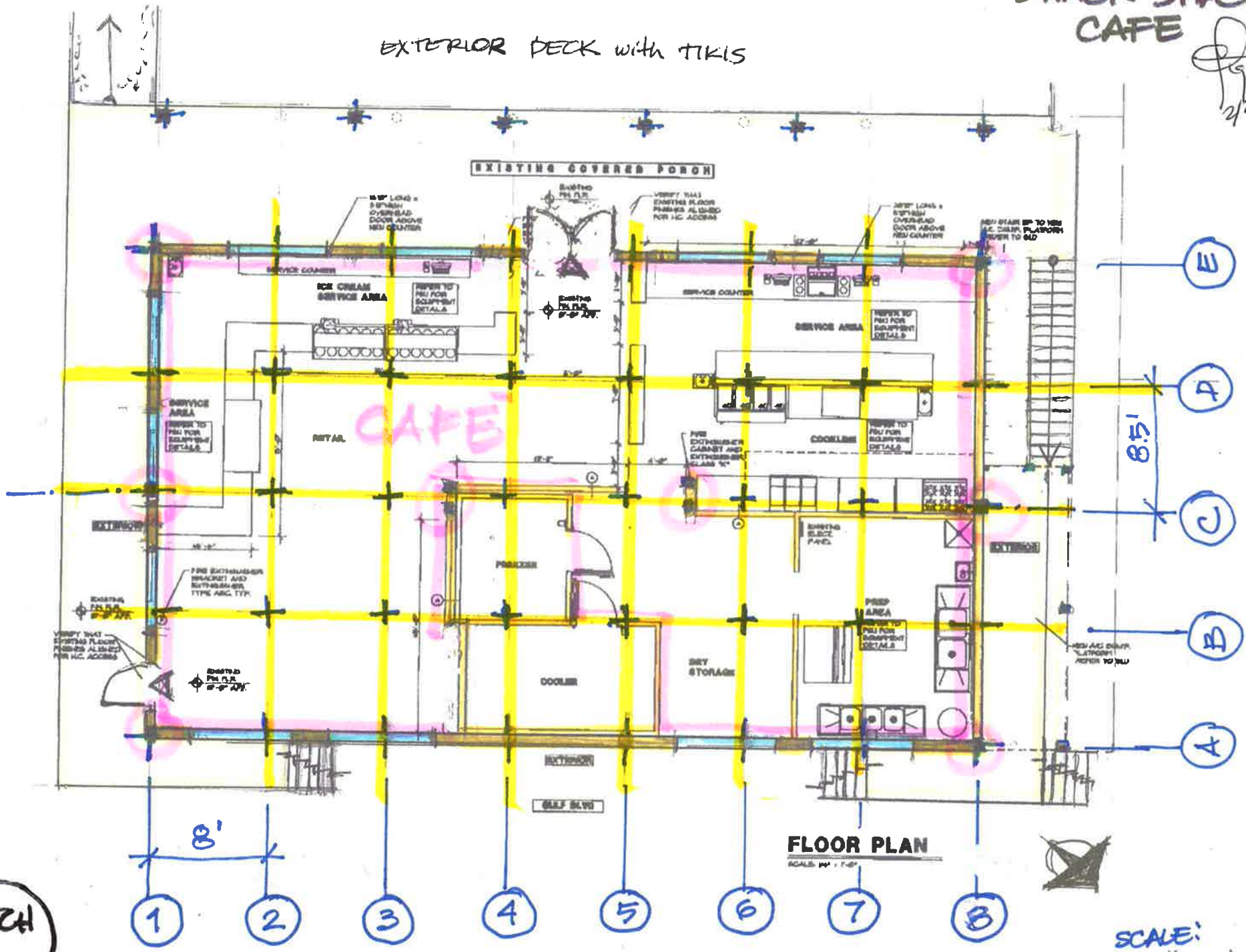
SKETCH 1

SCALE: 14.5" / 16 ≈ 8'

"SNACK SHACK"
CAFE

2/25

EXTERIOR DECK with TIKIS



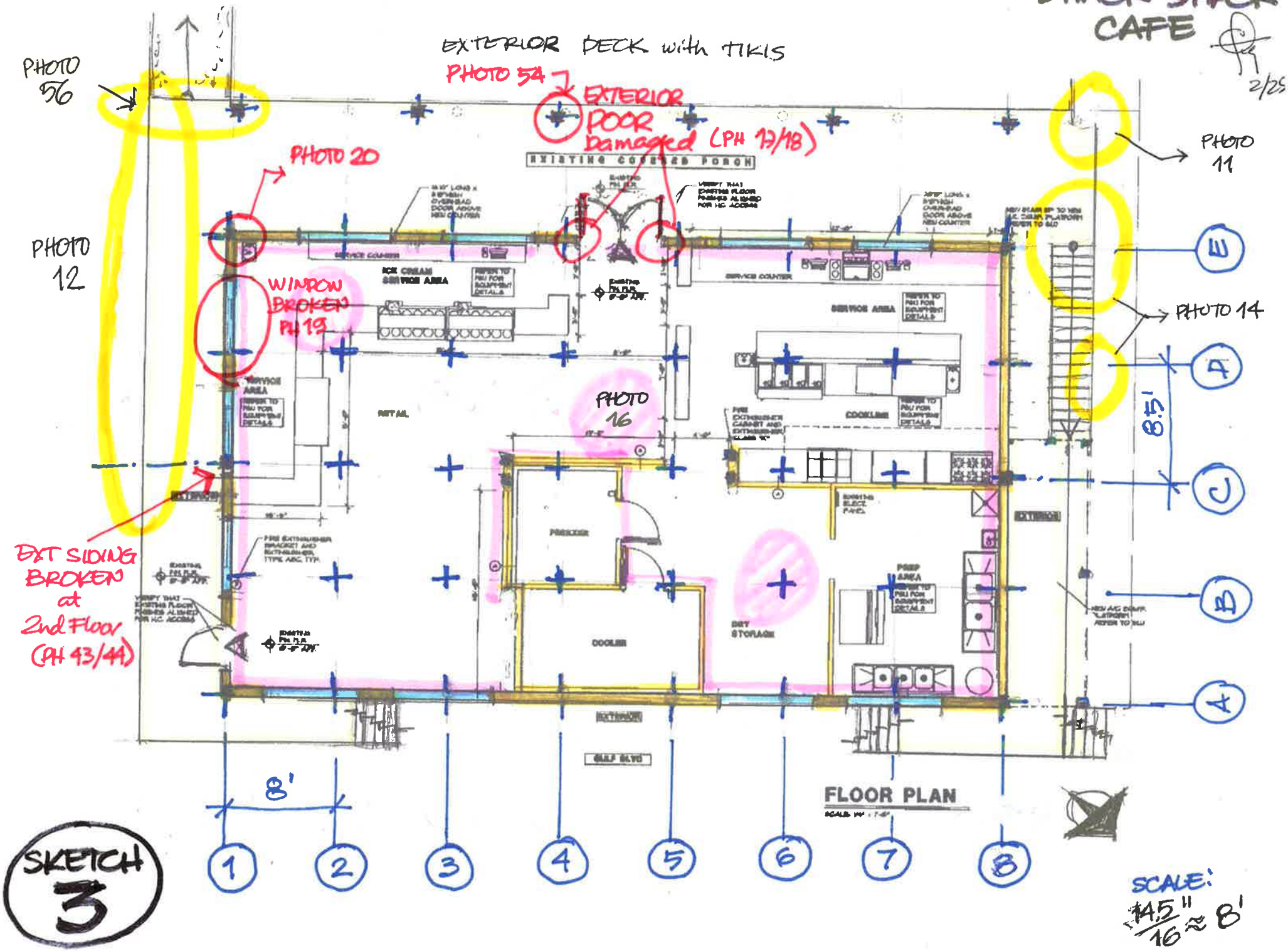
FLOOR PLAN

SCALE:
14.5" / 16 ≈ 8'

SKETCH 2

"SNACK SHACK" CAFE

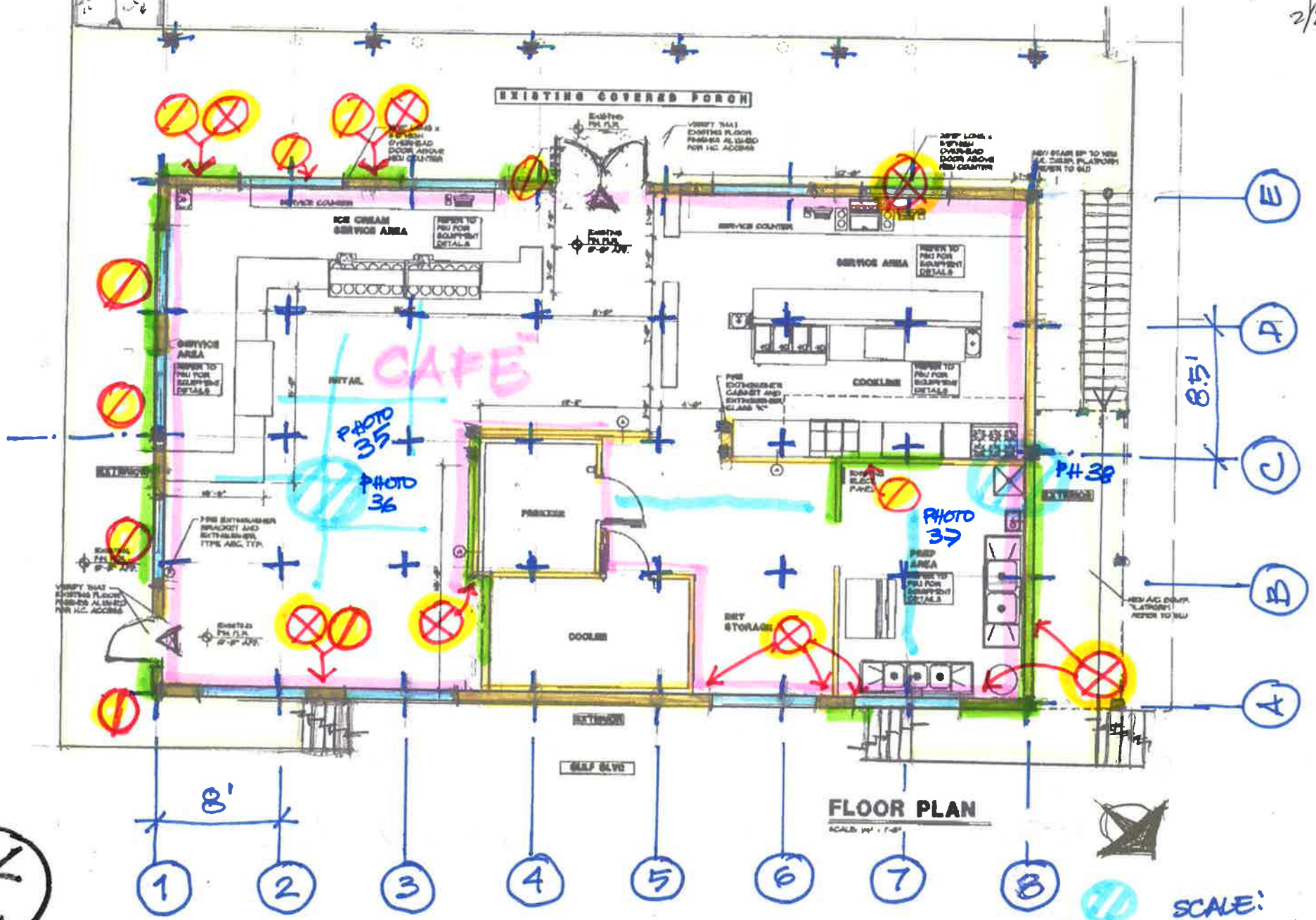
2/25



"SNACK SHACK" CAFE

2/25

EXTERIOR DECK with TIKIS



FLOOR PLAN

SK 4

LEGEND:

ROTTEN

BROKEN

TERMITES

CEILING CRACKS

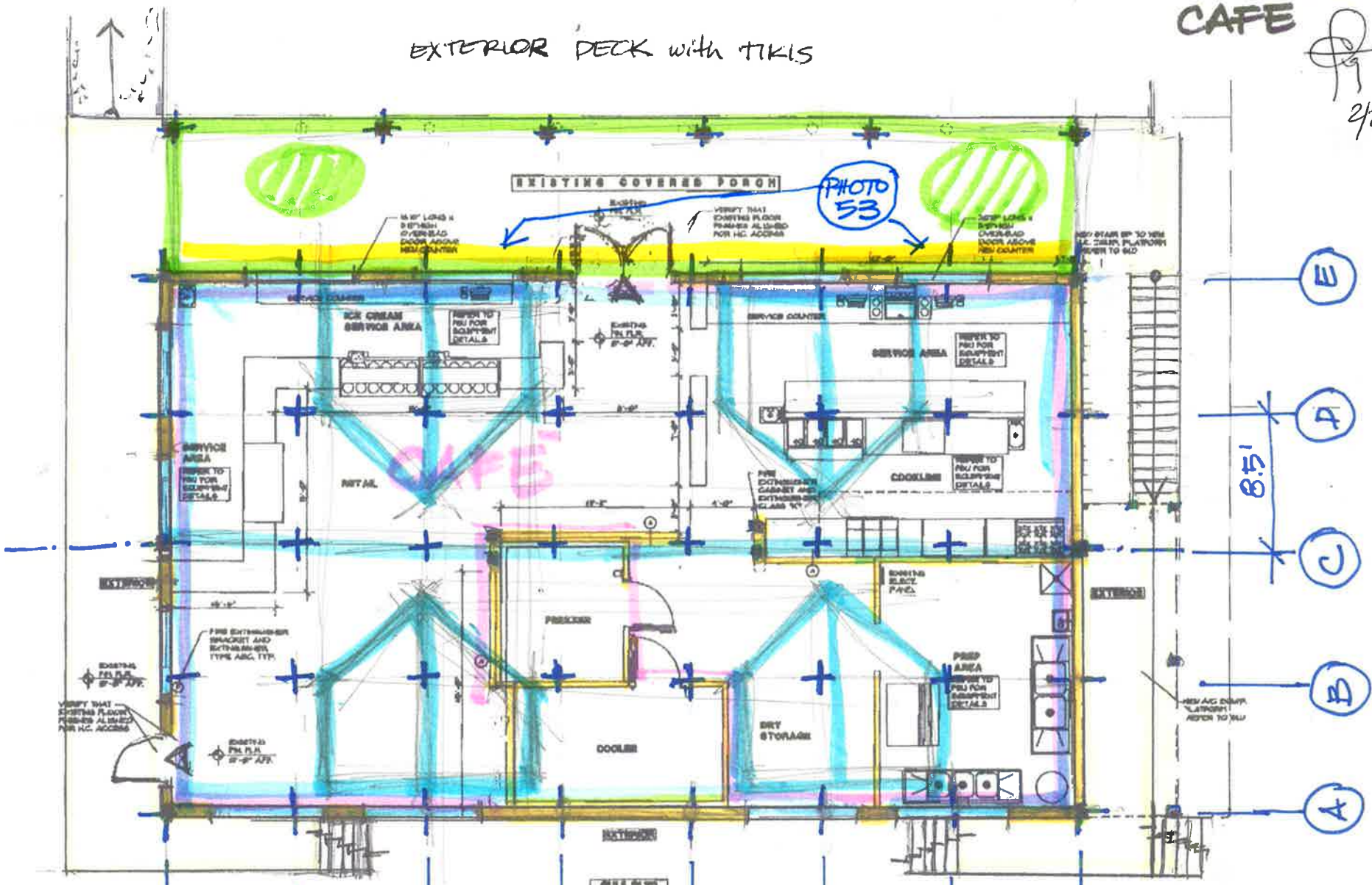
WATER INTRUSION SIGNS

SCALE: 14.5" / 16 ≈ 8'

"SNACK SHACK CAFE

2/05

EXTERIOR DECK with TIKIS



FLOOR PLAN

SKETCH 5

ROOF

METAL

BUILT UP

ROTTEN

JOIST without CONNECTORS

SCALE: 1 45/16" ≈ 8'

EXHIBIT B
Electrical Review by Gulf Coast Electric

GULF COAST
ELECTRICAL DESIGN

Maderia Beach Snack Shack
Electrical - Limited Visual Assessment
Hurricane Milton

Walkthrough:

A site walk was conducted by Josh Wiswell on December 18, 2024. Power was on to the building during the site walk. I was not able to access the upstairs of the building at the time of the walk through.

Snack Shack Observations and Recommendations:

- The electric meter on the exterior of the building and electrical panel on the interior of the building did not receive water damage due to flooding.

- Much of the branch circuitry wiring and conduit that feeds lights and receptacles throughout the Snack Shack has been damaged due to flooding
    - Recommend replacing all branch circuit wiring.
    - Minimum replacement number of branch circuits are as follows.
    - (6) single pole 20 amp circuits.
    - (5) two pole 20 amp circuits.
    - (1) two pole 30 amp circuit.
    - (1) two pole 50 amp circuit.
    - (1) two pole 60 amp circuit.

GULF COAST
ELECTRICAL DESIGN

Conclusion:

We do not recommend the client re-energize any electrical equipment that was submerged in water, or any equipment that feeds (directly or indirectly) equipment that was submerged in water.

Building electrical systems are complex and connected in ways that are not always apparent at first look. Corrosion due to submersion is also not always apparent at first look and can continue to worsen over time. Failure of equipment due to submersion can happen at any time either in the near or distant future.

Therefore, we recommend all equipment that was submerged or significantly exposed to flood waters be replaced.

Sincerely,

Gulf Coast Electrical Design
2150 Range Road
Clearwater, FL 33765

Cory A. Glass
727-243-7023
FL-PE80467
FL-EC13008992

EXHIBIT C
Architectural Review Klar and Klar

klar and klar
architects inc.

Maderia Beach Snack Shack

January 10, 2025

Project # MDBCH24002 phase 01

Address: 1020/1040 Calumet St., Clearwater, FL. 33755

General Project Information:

28473 u.s. 19n. #602
clearwater
florida 33761

Maderia Beach Snack Shack:

2-story building structure with adjacent outdoor seating area. +/- 4,080 gsf. Since the original construction drawings are not available the structural systems remains unknown.

Walkthrough:

Site walks by Klar and Klar Architects Staff were completed on December 18, 2024.

The purpose of the site walks was to conduct a limited visual review of the building Interior and Exterior after hurricane winds and storm surge by both recent Hurricane's.

This limited Architectural assessment was based on information obtained from visual observations made at the site.

ph. (727)-799-5420
fax. (727) 799-9625
www.klarklar.com

Observations:

Exterior:

1. Exterior deck damge due to storm surge.
2. Exisitng exterior "Tiki" huts for seating have been displaced or completely destroyed.
3. Exisitng Paint/coating deterioration along bottom of wall on seaward side of building.
4. Exterior door on west side gone, needs new door and frame.
5. Several areas of roof deck damaged on west side.
6. Set of 3 windows on southside glazong cracked/broken and needs replacement.
7. Was not able to see roof or roof over porch for condition.

Interior:

1. Sand through-out the interior.
2. Broken floor tiles.
3. Broken tile base in a few areas. Tile base would need ot be removed when replacing dtywall and new tile base installed
4. Drywall and wall coverings should be removed up to window sill hieght at mininmum and reveiwed to see if further removal is required as water looks ot have penetrated the wall cavity.

tim g. knowles aia
kristina f. novisk

5. Ceilings are cracked and suspect water intrusion from roof above. Roof needs to be investiagted for any roof leaks/damage and repaired.
6. All kitchen equipment should be removed for cleaning and inspected by kithcen equipment provider.
7. Stainless steel wall panels in kithcen, panels should be removed for drywall removal, or at least a panel be removed for inspection of wall cavity.
8. Wood slate merchandise wall, lower section that was in flood waters should be removed / replaced.
9. Most of cabinetry and checkout areas have water damage and should be replaced.

View from parking area.

Overall view from exterior deck. damaged tiki huts/seating area.

Paint peeling.

Roof deck damage.

Sand/water intrusion in walls.

interior/ ceiling cracks and water damage on ceiling.

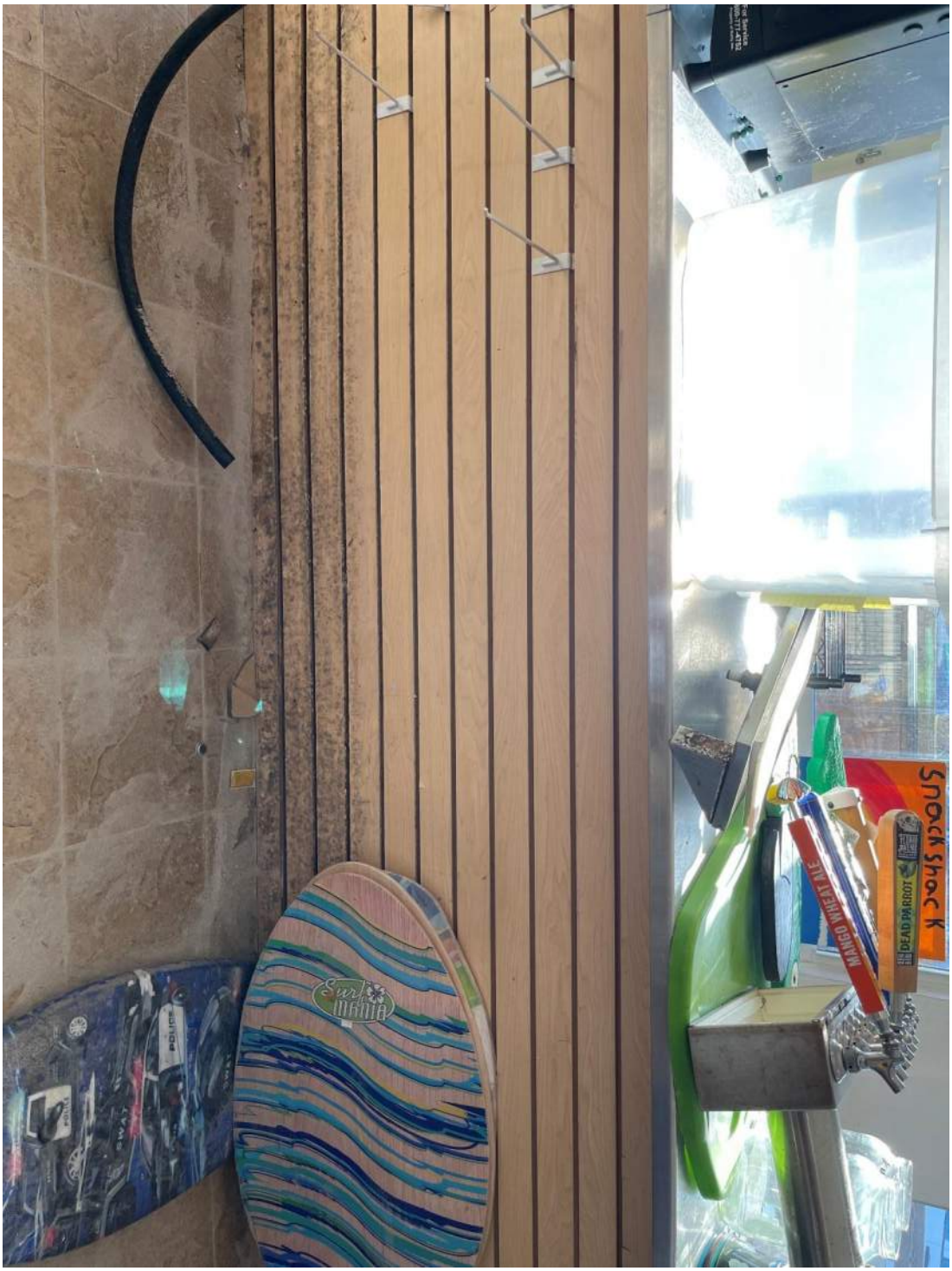
Wall base, hole in wall cavity with water intrusion.

Kitchen area.

Sand/ flood damage on wood slate wall.

Sand / flood damage , typical throughout

The outlet caught on fire due to flooding.



Sales area low wall/wood slate wall damage needs to be replaced.

If you have any questions about these issues, please call to discuss.

Respectfully,

Timothy G. Knowles,
Principal Klar and Klar Architects, Inc.

EXHIBIT D
Cost Estimate by CC&A