

October 7, 2019

Palos Verdes Peninsula USD
375 Via Almar
Palos Verdes Estate, CA 90274

Attn: **Mr. Terry Kamibayashi**
Director, Maintenance and Operations

Subject: **STRUCTURAL INVESTIGATION OF THE LUNADA BAY LITTLE LEAGUE
SNACK SHOP - PALOS VERDES PENINSULA USD**

It is our understanding that the Lunada Bay Little League Snack Shack building, Division of the State Architect (DSA) Application No. 03-102808, was constructed without DSA's oversight thus was subsequently not closed-out. As part of DSA's request from the District, we performed a structural investigation of the building. Our structural investigation included review of available record drawings, performance of a visual site observation, and preparation of this structural report outlining out structural findings and recommendations.

STRUCTURAL INVESTIGATION

Existing Building

As shown in the photograph below, the existing building is a 24'-0" wide by 60'-0" long one-story structure. The perimeter walls and two interior partition walls are 8" wide reinforced slump block walls, and the roof is a wood framed two-way pitched mission tile roof with an approximate ridge height of 14 feet. On the east side is a timber framed trellis covering the serving windows.



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The existing roof framing system appears to be constructed of plywood sheathing nailed on to 2x8 roof rafters spaced at 16" on-center as shown in the photograph to the right. The roof rafters are supported by 3x wood sill plates on top of the block walls at the eaves and at the ridge supported by a glued-laminated beam. The glued-laminated beam is supported by either tubular steel or 6x6 wood posts.



The existing perimeter wall and two interior partition walls are constructed of 8" wide slump block with vertical and horizontal reinforcing detected via non-destructive methods as depicted by the red lines in the photograph to the right. However, the reinforcing steel size and placement within the wall thickness could not be determined.



The existing concrete slab-on-grade was also tested to determine if reinforcing steel was present. As depicted by the red lines in the photograph to the right, the slab-on-grade has reinforcing placed in two directions. However, the reinforcing steel size and placement within the slab thickness could not be determined.



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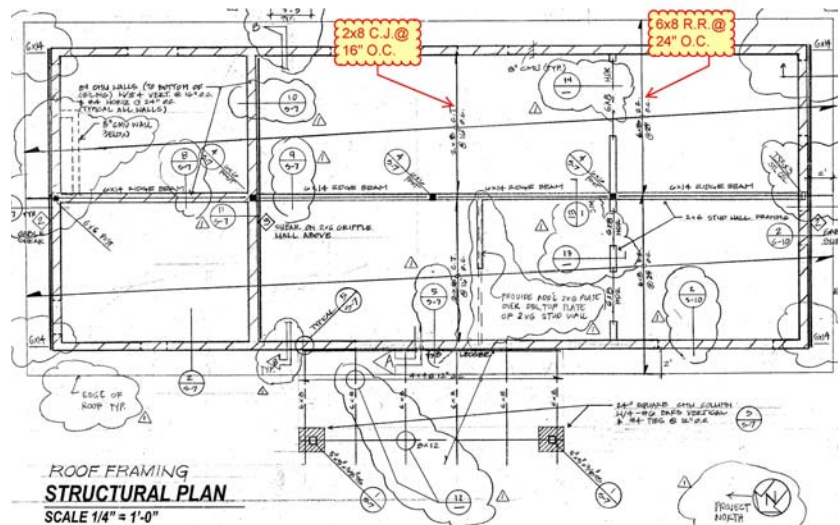
The existing block wall concrete foundation was exposed at one location as shown in the photograph to the right. The existing foundation was x-rayed, and it was detected that reinforcing steel was present. However, the size and exact location could not be determined by the x-ray method.



Structural Findings

We reviewed the DSA-approved Application No. 03-102808 structural drawings sheets 5 to 11 as prepared by Degenkolb Engineers dated June 8, 1999. Based our review and our visual observation of the existing as-built conditions, there appears to be a significant number of as constructed deviations from the DSA-approved drawings. The following are what we were able to visually observe.

As indicated in the record drawing roof framing plan to the right, the existing roof framing system was to be constructed of 6x8 roof rafters (R.R.) spaced at 24" on-center. Instead, the existing roof rafters are 2x8 spaced at 16" on-center. Also, hardware such as the 2 1/16" wide Simpson MSTI ridge steel straps specified on the drawings to tie the 6x8 framing would not be recommended for installation on the existing the 1 1/2" wide 2x8 framing if installed.



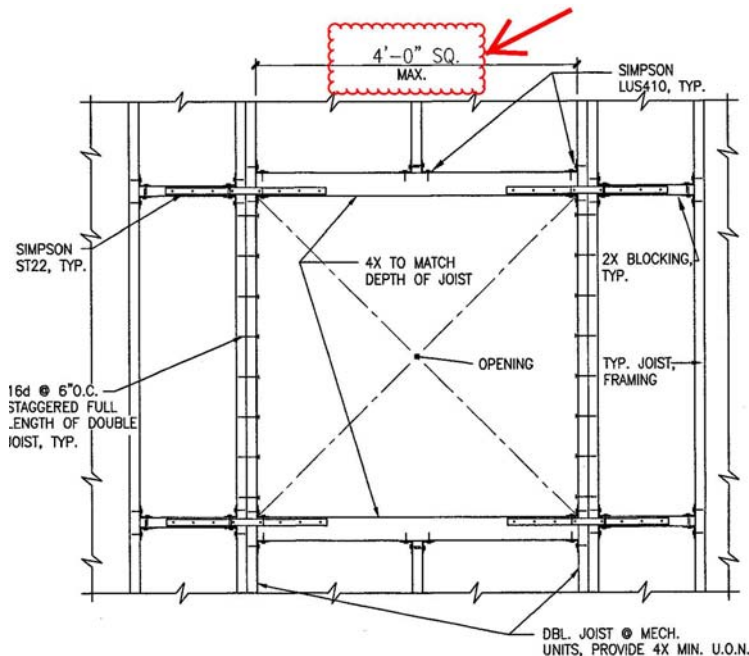
The 2x8 at 16" on-center hard lid ceiling joist (C.J.) framing system serving to tie the interior wood framed walls and perimeter block walls together was not constructed.

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The two existing roof skylights installed are larger than the maximum 4'-0" opening size as shown on the DSA-approved typical drawing detail attached to the right. It is unknown how the skylight opening framing was reinforced or if straps were installed. It should also be noted that no skylights are shown on the DSA-approved roof framing plan. The current skylights are large and would require the roof seismic diaphragm to be reinforced.



5 OPENING IN ROOF
N.T.S.

No structural evaluation of 8-inch wide reinforced block walls or concrete foundations could be performed at this time since the reinforcing size, quantity, and placement is unknown.

Structural Recommendations

Based on our review of the DSA-approved drawings and visual observation of the exposed conditions, it appears that the as-built existing roof framing system substantially deviates from the DSA-approved design. We anticipated that the existing roof framing system will need to be either seismically strengthened or replaced in its entirety to provide the vertical and lateral (seismic) capacity to meet the California Building Code minimum structural requirements.

The existing block walls and foundations are likely to be structurally adequate since it is a relatively lightly loaded building structure with a regular structural floor plan. However, these elements will still need to be fully verified once more as-built information is gathered of the existing reinforcing steel.

At this time, if the District elects to move forward with either seismically retrofitting or replacing the existing roof framing system, and verify that the existing wall and foundation elements are structurally adequate, we recommend first meeting with DSA to determine if they would be in agreement with our findings and discuss their requirements for the next step.

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We hope this report meets your current needs. Please feel free to contact me directly with any questions.

Sincerely,

RODRIGUEZ ENGINEERING, INC.



Eric F. Rodriguez, Principal
California License S4617