

Pacifica Lighthouse Hotel Repair Project

2019

Engineer Building Inspection Report

THE PURPOSE OF INSPECTION

Hotel to attempt to determine the causes for the water infiltration and mildew observed along the perimeter walls.

DESCRIPTION OF THE ISSUES

Building structural components at cantilever decks including connection to floor systems and subfloor diaphragms.

- We found that all cantilevered decks are beyond repair as the structural supporting elements are decayed to a point where repair is not feasible.
- Evaluation of lateral force resisting elements i.e. shears walls, anchor bolts, hold downs, seismic restrains, collector systems, etc.
- We found that the exterior shear walls are partially affected by decay due to water

infiltration, the anchor bolts and hold downs are rusting and some of them present severe evidence of decay

- Evaluation of building envelope for water infiltration
We found defective flashing systems and decayed building paper particularly around window openings, at the roof decks, around the light house and at the top of the parapet wall where the flashing has allowed blown in rain to infiltrate the wall cavity. The waterproofing coating applied at the decks was done incorrectly over the stucco which allows water seepage from behind the stucco to infiltrate into the wall cavities
- Evaluation of floor level condition
We found that the floor levels have not been substantially affected yet and only small areas at points of cantilevered penetrations are presenting evidence of water damage.

As part of the pre-investigation phase (part of Phase I), we collected plans and documents from your office to establish building layout and as built conditions, we have done the following:

- Review all available drawings
We found enough information to reconstruct a floor plan and elevation for the part of the building being investigated
- We have completed the preparation of CAD drawings for all the exterior walls of building "B" the wing of complex for which this investigation is being conducted

As part of the investigation process (Part of Phase I) we have done the following investigative activities:

- Exposed wall cavities to identify structural systems including exterior walls, Decks and floors.
We opened wall cavities by removing portions of sheetrock at strategic locations to establish conditions of interior members as follows:

Wall assemblies

- o Interior walls are not generally affected except for those locations where wall is adjacent to area of highwater infiltration near the exterior walls, typically at demising walls between rooms and particularly below the corners of the building where lower level roof areas meet exterior walls. We found evidence of failed waterproofing membranes.
- o Exterior walls have severely been impacted by decay most of the exterior plywood presents evidence of deterioration due to water damage. The supporting studs for the exterior walls have approximately 35% of the exterior side damaged. They still provide adequate support for vertical loads but their capacity for lateral loads has been impaired.

Exterior deck assemblies

- o All exterior decks are severely decayed; they are unsafe and shall be removed.

Floor connections

- o Interior floor to wall connections are adequate and only small evidence of decay was found which can be repaired and can be mitigated with re-flashing and a new watertight envelope.

Deck connections and waterproofing

- o Cantilevered beams are extremely impacted by decay and must be removed. Fortunately, the damage has reached only small portions of the interior walls yet, the points where the cantilever beams were resting are the most severely affected

- Interior and exterior surveys included:

Visual inspection of wall, floor, ceiling and deck surfaces including railings

- o We found rusted and defective flashing at floor/slab joints, at all windows and doors assemblies and at the parapet wall cap. We also found that all roof deck to wall connections present problems of flashing and allow for water infiltration particularly around the light house tower

Identification of areas presenting problems

- o Top of parapet wall where roofing membrane meets the wall presents evidence of inefficient construction which allows water infiltration creating a problem from the top down
- o Intersection of roof decks and stucco walls
- o Corners of lower area decks and exterior walls with evident cracks and penetrations
- o Fascia and belly band boards are decayed and allow for water infiltration

Uncovering, investigation, documenting and covering of problem areas

- Wall cavities and portions of exterior walls were exposed, and we found evidence of water infiltration particularly at the following locations:
 - Top of parapet wall
 - At window and door headers
 - At wall penetrations where cantilevered beams for supporting decks were installed
 - At exterior walls where previous repairs were attempted, and plywood was incorrectly nailed

The following series of photographs are intended to document our findings:

Biological growth due to water infiltration



Decay of structural members



Decay at Interior walls



Decayed Deck members and connectors



Damage at exterior walls



Exterior wall water infiltration



Mold and Decay around windows



Windows installed without headers above



Damage at post and /beam connections at exterior walls



Shear wall damage



Saturation of wood at exterior wall



Damage below roof deck



Window Header decay



Based on the results of our investigation the following areas are the most urgent ones in order of priority:

1. Removal of deteriorated balconies, decks and decorative columns
2. Replacement of deteriorated framing elements including
 - a. exterior plywood that has been compromised
 - b. window headers affected by dry rot
 - c. framing members with high level of decay
3. Installation of new flashing system at the top of the parapet wall and at the intersection of roof deck and wall
4. New Window and door flashing systems
5. Building waterproofing envelope
6. Installation of replacement balconies

We have prepared a set of investigation plans that indicate the typical areas presenting problems with quantities of estimated damage and solutions for the implementation of the repairs. These plans have been distributed among qualifying contractors along with the attached scope of work for each phase of the building, to estimate the construction cost for the repairs of the work depicted therein. We have obtained the preliminary cost by evaluating the four cost breakdown received and averaging the cost associated to each activity which is depicted on attached cost breakdown.

With the above information, we have prepared a floating timeline (see attached timeline) for the implementation of the remaining of the investigative work and design work for the implementation of the repairs. Please bear in mind that for the type and volume of work to be done a building permit must be obtained for all the structural repairs. The work included on phase IV of the presented proposal will cover the preparation of the necessary construction documents for obtaining a building permit and accurate bids. For the architectural changes planned for the replacement of the balconies from the current shape and type to a more durable and less intrusive system, a planning permit shall also be obtained as the appearance of the building would change. That work is also part of the scope included in Phase IV of the proposal.

With the result of the investigations, the engineer's estimate and the timeline, we have concluded the work authorized and we will be waiting for your authorization to proceed with the rest of the work required to repair the building.

If you have any questions, please call.

Sincerely,

JCE BY:

Javier M. Chavarría