CARLSBAD INN VACATION OWNERS ASSOCIATION

WATERPROOFING EVALUATION STUDY

NOVEMBER 22, 2017

GRAND PACIFIC RESORTS
Time Away... Time Together...

To: Carlsbad Inn Board of Directors

From: Tim Stripe I Keith Whaley

RE: Carlsbad Inn Waterproofing Evaluation Study

TABLE OF CONTENTS

GRAND PACIFIC RESORTS
Time Away...Time Together...

To: Carlsbad Inn Board of Directors

November 28, 2017

From: Tim Stripe | Keith Whaley

Re: Carlsbad Inn Waterproofing Evaluation Study

Overview

As a result of water leaking into the parking structure this Evaluation Study was conducted to evaluate the condition of the waterproofing system on and around the parking structure. By way of background, the garage is over 30 years old, and has been leaking for over 20 years. Most recently with the last rainy season, these conditions have become more evident resulting in (1) damage to vehicles and (2) water backing up into five timeshare units. Six consultants were engaged to evaluate the structural integrity of the parking structure, garage surface structures and services, waterproofing systems and drainage systems.

Consultants Engaged were

Burkett and Wong Engineering (BWE) – Structural Engineer and Waterproofing
Cyrus Cowasjee Architects (CCA) – Architect
Reed Consulting (RC) – Waterproofing Consultant
Xpera Group (EG) – Waterproofing Consultant
Specialized Pipe Technologies (SPT) – Drainage Expert
Excel Engineering (EE) – Civil Engineer

The waterproofing evaluation study was approached in three phases

Phase 1: Field investigation to verify existing conditions, develop a rough composite plan outlining relevant building elements, mapping of water intrusion locations, summarize findings. (See tabs 1 through 3)

Phase 2: Plot recommended test pit areas for destructive testing, 15 test pit locations were selected and destructive testing of waterproofing systems (RC & EG) was performed. An evaluation of each test pit and reseal of the waterproofing system was done (BWE &CCA) followed by backfill and restoration of landscaping.

Phase 3: Consultant team submit final evaluations and recommendations. (See tabs 4 through 6.)

Evaluation Summary

Waterproofing: The waterproofing membrane observed drastically varied in thickness, from pit to pit and, in many locations the membrane was no longer adhered to the substrate and in at least two locations no membrane was encountered. The membrane, where it was encountered, was not installed with protection board or drainage board. This condition can contribute to

damage of the membrane and lessens the effective longevity of the membrane. In all instances but one the waterproofing was not at an acceptable mil thickness due to age and deterioration.

Structure: The Structural damage caused by the water leaking through the garage deck (waterproofing) falls under three main categories; 1. Corroded hold down anchors that extend through the depth of the precast planks and secure to a bearing plate on the underside of the deck. 2. Areas where fireproofing has disengaged from the bottom of the hold downs and utilities. 3. Damage, i.e. cracking and spalling that has occurred on the precast concrete beams and columns.

Drainage System: Through visual and video tracing and mapping it has been determined that 52% of the existing drainage system is compromised as a result of debris, crushing or root infiltration. Overall 116 drains and related drain lines were located at the site, 61 of them were found to be damaged or blocked. The survey also revealed that there appears to be no known subterranean drainage system in place to evacuate water from on top of the structure, resulting in a ponding affect which in turn results in flooding of units.

Recommendations

Waterproofing: It is the consulting team's recommendation that the existing waterproofing system at CIR be replaced in its entirety. This includes all horizontal and vertical subterranean deck and wall surfaces.

Structure: Evaluate existing hold down anchors and replace if the net section of bolt has been reduced. Clean non-degradated hold down anchors and bearing plates, reapply fireproofing. Cracking and spalling concrete will need to be evaluated on a case by case basis to determine the exact extent of repair.

Drainage system: It is recommended that a subterranean drainage system be installed to evacuate water from the structure. It is also recommended that all site drainage be replaced with a system designed for the property. Note: current building codes require filtration systems be installed within the storm drain system prior to the discharge point leading to the local utility as sited by the State Regional Water Quality Control Board SWPPP program.

Path of travel: Develop an overall plan for the project at the same time that the waterproofing system is being redesigned.

Additional Information

Site survey – a site survey was taken to determine spot elevations of the concrete structure relative to the finish floor of the existing buildings and amenities. The intent of the survey is to help the team better understand subterranean drainage opportunities as well as address elevation constraints between structures.

Phasing plan – a draft phasing plan (map) is provided for consideration, the intent of this plan is to begin the necessary conversation about the approach to this significant project to include disruption.

Next Steps

Option 1

- Engage a separate team to give a second opinion to the waterproofing and drainage conditions.

Option 2

- Further engage the existing team to:
  - Prepare plans for the location of the work to be performed
  - Engage an ADA Consultant to support the efforts of the design team
  - Select the materials to be applied and used for the project
  - Prepare a detailed description of how the materials are to be applied
  - Design a water filtration system the meets SWPPP standards
  - Engage a Landscape Architect to prepare a landscape design for the area over the parking garage that:
    - Includes new project amenities (Spas, fire pits, etc)
    - Addresses the project need for ADA compliance
    - Selection of the new materials to be used
    - Merges the new improvements with the existing landscaping condition of the Hotel
  - Phasing plan approval
  - Establish the construction budget
  - Construction budget approval
  - Evaluate/Secure project financing
  - Solicit proposals for construction
  - Execute construction contracts
  - Proceed with construction

CARLSBAD INN
WATER INTRUSION STUDY TIMELINE

Water Intrusion Study – Phase 1: (estimated)

(1) Week Field Investigation to verify existing conditions

(2) Weeks Development of Rough Composite (Architectural / Structural / Mechanical / Electrical / Landscape) AutoCAD + PDF Construction Document Set

(1) Week Field Investigation - Mapping Out Water Intrusion Locations

(1) Week Identify Water Intrusion Locations on the Rough Composite Construction Document Set

(2) Weeks Phase 1 – Summary letter to include Determination of Sample Areas for Destructive Investigation based on DRC recommendation

(7) Weeks Complete Phase-1 7/25/17 THRU 9/12/17

Water Intrusion Study – Phase 2: (estimated)

(1) Week Coordinate with Contractor the Sample Areas recommended for Destructive Investigation.

(3) Week (Estimated) Destructive Field Investigation to verify existing waterproofing Conditions.

(4) Weeks Complete Phase-2 9/13/17 THRU 10/11/17

Water Intrusion Study – Phase 3

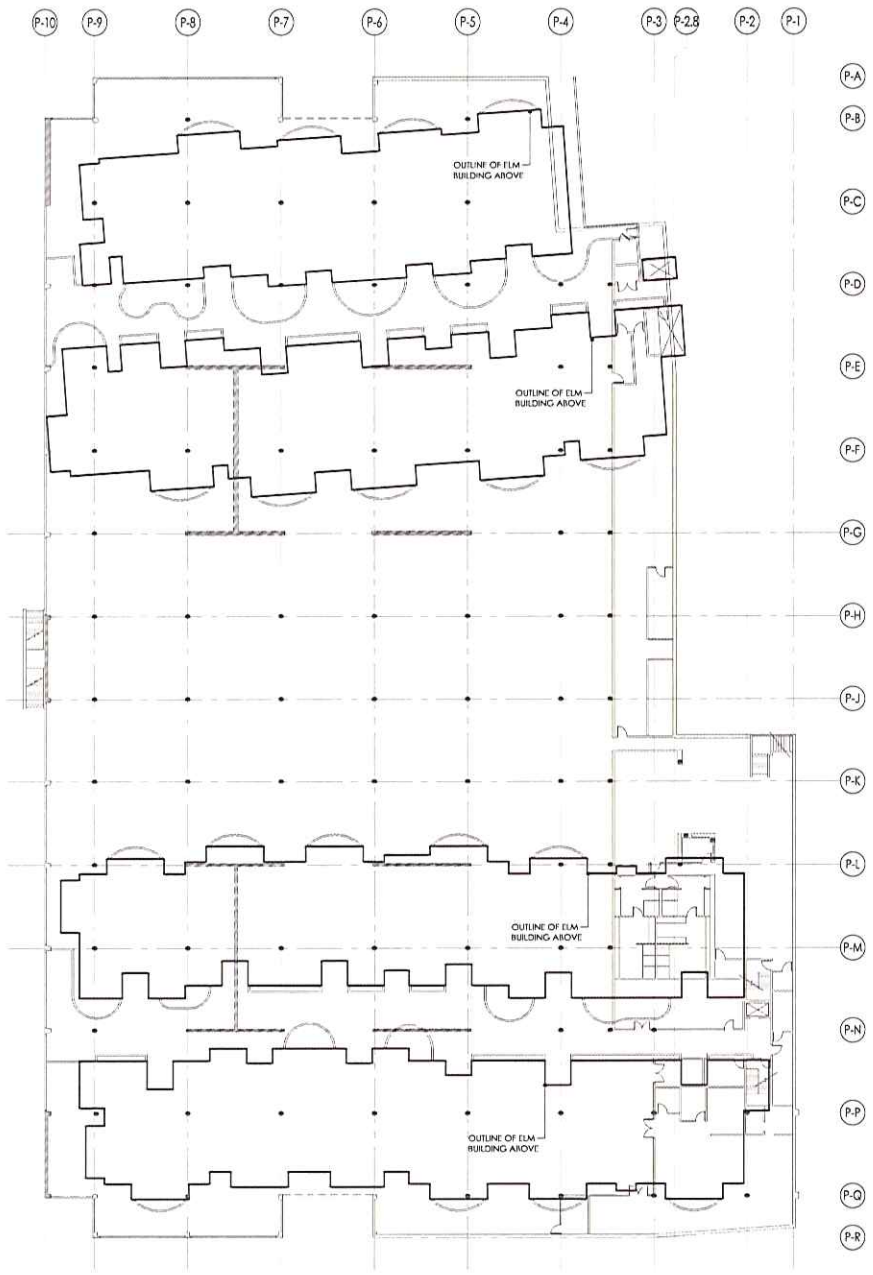
(1) Week DRC to provide recommendation for mitigation and a repair strategy.

(1) Week Complete Phase-3 10/12/17 THRU 10/19/17

Water Intrusion Study – Follow up (TBD)

The specific scope and fee associated with Phase 3 extension is dependent on the findings generated by Phases 1 and 2, but in general, it would include the following:

- CCA to develop an architectural mitigation detail package for the GPR selected General Contractor to perform the repairs.
- CCA and DRC to develop a Final Report with potential design resolutions.
- BWE to develop repair and augmentation details for the structural elements.



GARAGE PLAN - EXISTING

SCALE: 1/16"=1'-0"

NORTH

CARLSBAD INN BEACH RESORT

UNDERGROUND PARKING GARAGE ENVELOPE
WATER INTRUSION STUDY

3075 CARLSBAD BLVD, CARLSBAD, CA 92008

SHEET INDEX

NOTE:
PRELIMINARY COMPOSITE PLANS NEED TO BE VERIFIED IN THE FIELD

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806 Bufforest Lane - Encinitas - CA 92024
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CARLSBA INN BEACH RESORT
WATER INTRUSION STUDY

GARAGE PLAN - EXISTING

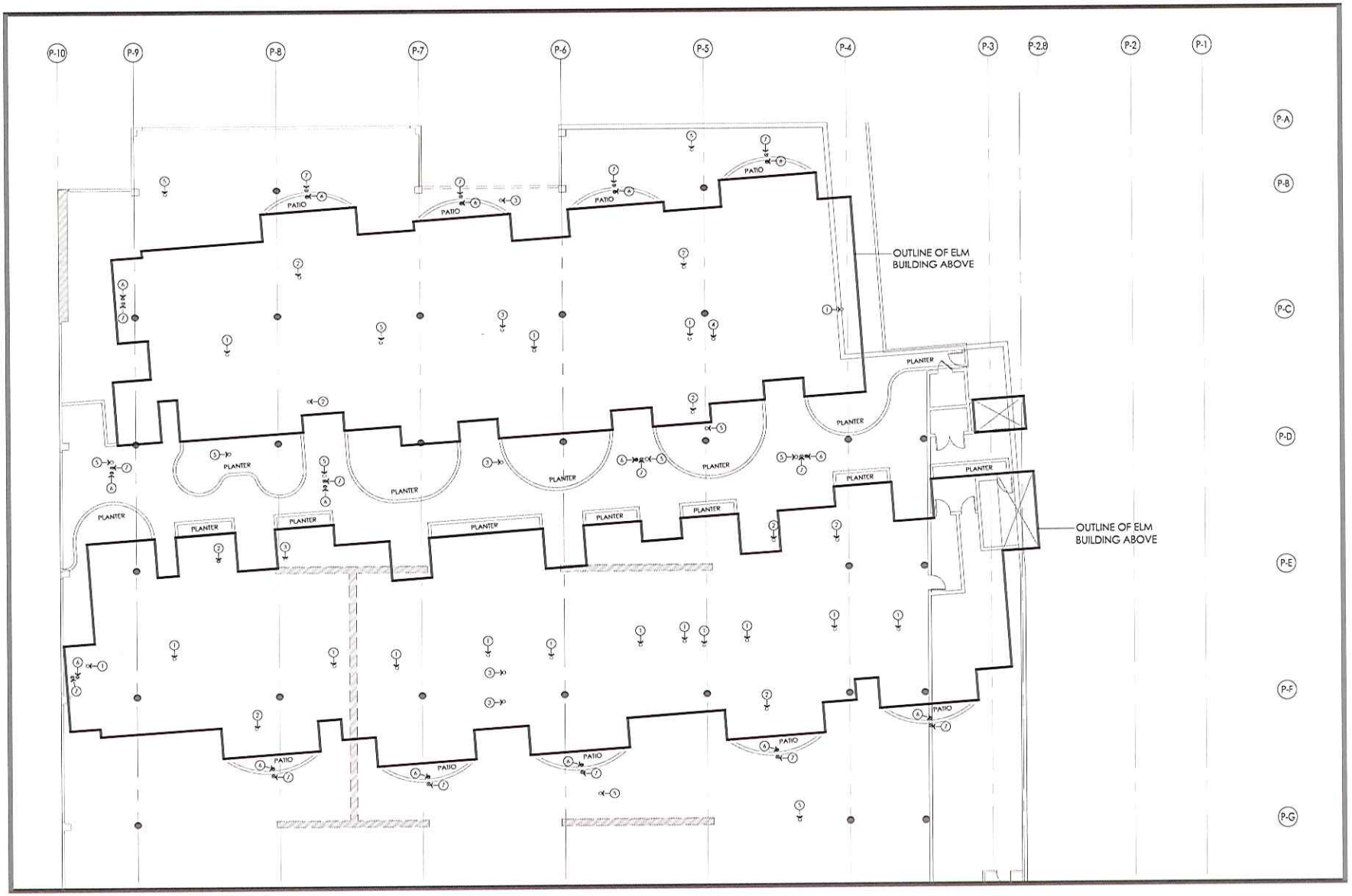
PROJECT NO
1312

PROGRESS DATE
08.31.2017

ISSUE DATE

REVISIONS

SHEET
G1.1



1 **PARTIAL GARAGE PLAN - EXISTING**
SCALE: 1/8"=1'-0"

NORTH

KEYNOTES

1. (1) 4" WATER RISER FROM CONDOMINIUM ABOVE.
2. (1) 3" DOWNSPOUT FROM ABOVE TO STORM DRAIN LINE.
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4. (1) 1 1/2" VENT THRU ROOF.
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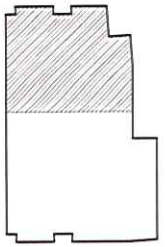

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DRAWN

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CARLSBAD INN BEACH RESORT
WATER INTRUSION STUDY

SHEET TITLE
PARTIAL GARAGE PLAN - EXISTING

PROJECT NO.
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PROGRESS DATE
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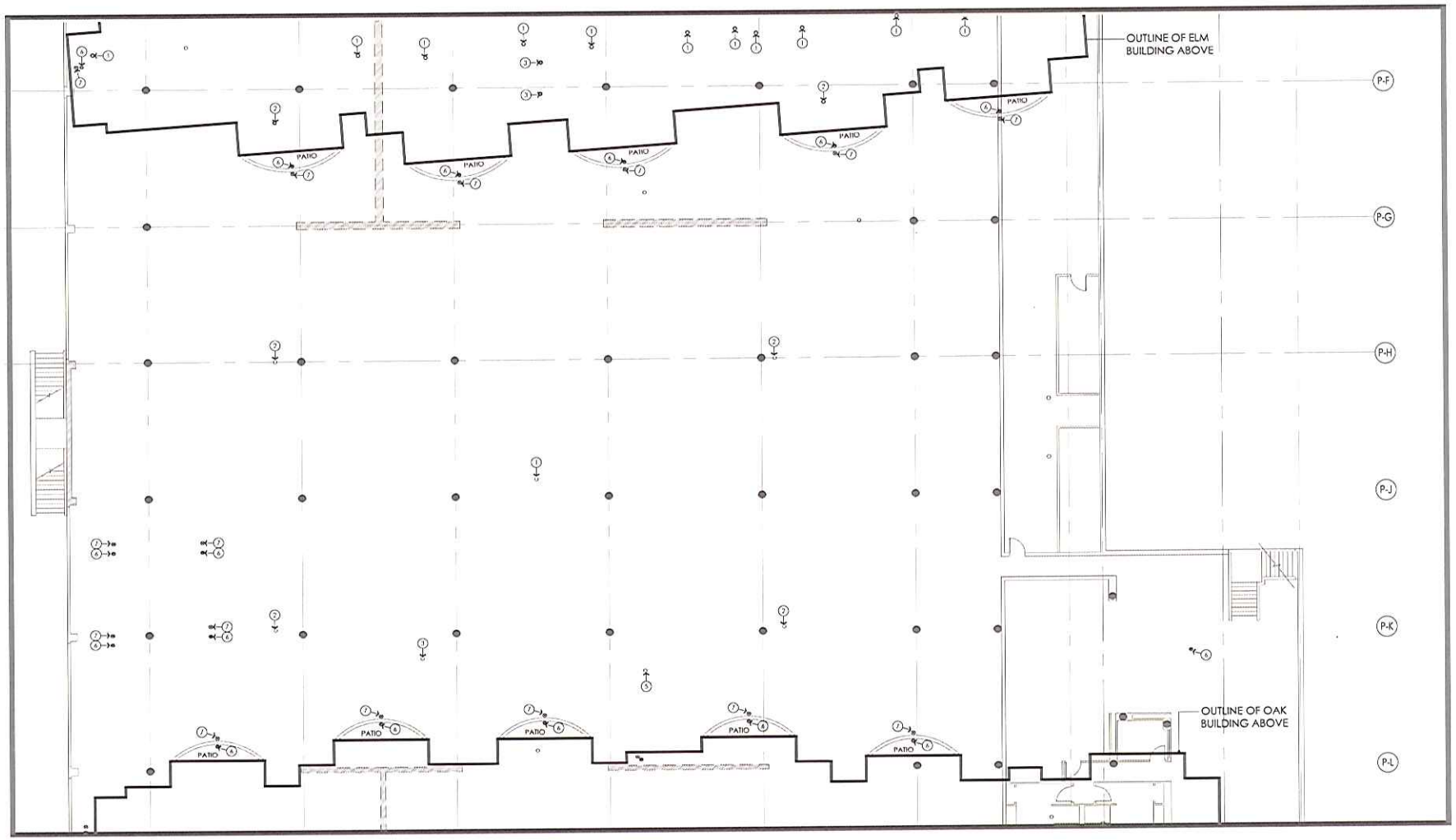
ISSUE DATE

REVISIONS

SHEET
G1.2



2 PARTIAL GARAGE PLAN - EXISTING
SCALE: 1/8" = 1'-0"

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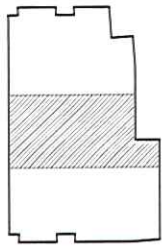

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STAMP

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WATER INTRUSION STUDY

SHEET TITLE
PARTIAL GARAGE PLAN - EXISTING

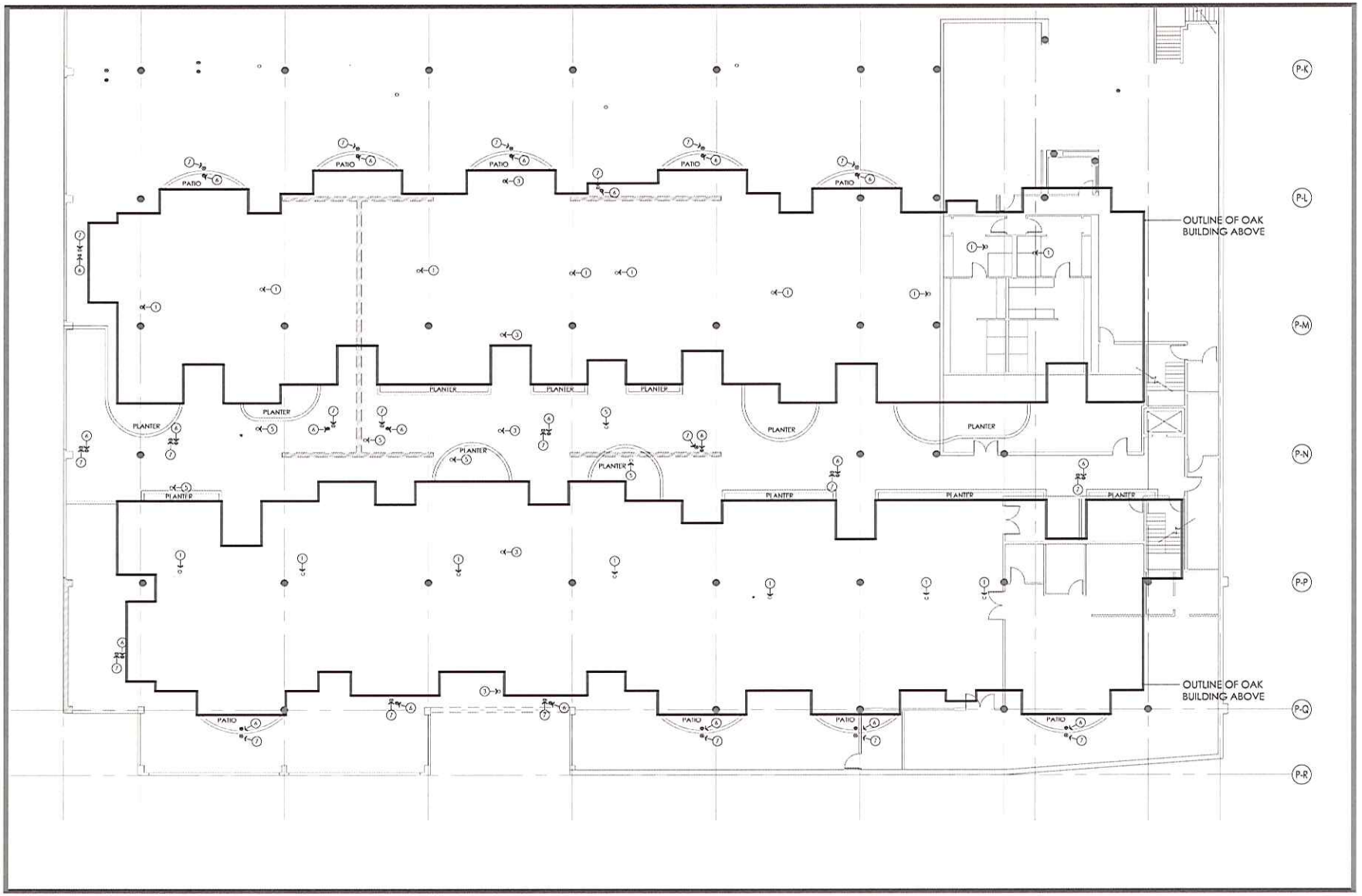
PROJECT NO
1312

PROGRESS DATE
08312017

ISSUE DATE

REVISIONS

SHEET
G1.3



3 PARTIAL GARAGE PLAN - EXISTING

SCALE: 1/8"=1'-0"

NORTH

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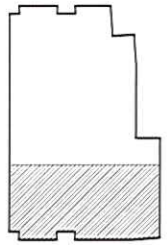

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PROJECT: CARLSBAD INN BEACH RESORT WATER INTRUSION STUDY

SHEET TITLE: PARTIAL GARAGE PLAN - EXISTING

PROJECT NO.: 1312

PROGRESS DATE: 08.31.2017

ISSUE DATE:

REVISIONS:

SHEET: G1.4

INTERIM PROJECT SUMMARY MEMO

Date: September 14, 2017
Project: Carlsbad Inn – Water Intrusion Study
Project No.: 12945A.1.00
To: Keith Whaley GPR/KM Consulting Group LLC
Re: PHASE 1 - Project Status

Phase 1 of this project consisted of the following scope items:

I) Field Investigation to verify existing conditions.
II) Develop a composite drawing set including arch/struct/mech/plumbing/elec/landscape
III) Field investigation to map out water intrusion locations
IV) Note the water intrusion locations on the drawings
V) Prepare a summary letter with recommended sample areas for destructive investigation

Project Status:

I) Initial site visit and project kick-off was held on-site with Keith Whaley (KM Consulting Group) on July 25, 2017. This is essentially complete with on-going confirmation and documentation of conditions with each site visit.
II) The composite assembled and it is continually being updated as new information is obtained. Receipt of TI drawings for the fitness center is still pending.
III) On Monday, August 28, 2017, Cyrus Cowasjee Architects (CCA), David Reed Consulting (DRC) and BWE visited the site to document confirmation of existing conditions, including existing construction and evidences of water intrusion. The following summarizes this visit:

Reed Consulting

- documented all of the planters against the buildings onto the drawings
-documented all of the water staining on the lid and walls of the parking garage onto the drawings.
-documented the water intrusion issues in the enclosed areas of the garage level

Cyrus Cowasjee Archs - Visited the Site and meet with Keith Whaley – KMCG and Dan Gibbons - Carlsbad Inn Facilities Director to access secured areas below the podium level.

- performed on site field investigation to identify discrepancies between

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available documentation and the composite site drawings developed by CCA.
- Field measured the existing exterior planters between the Oak Buildings and Elm Buildings.
- Photographed various areas of the property for reference.

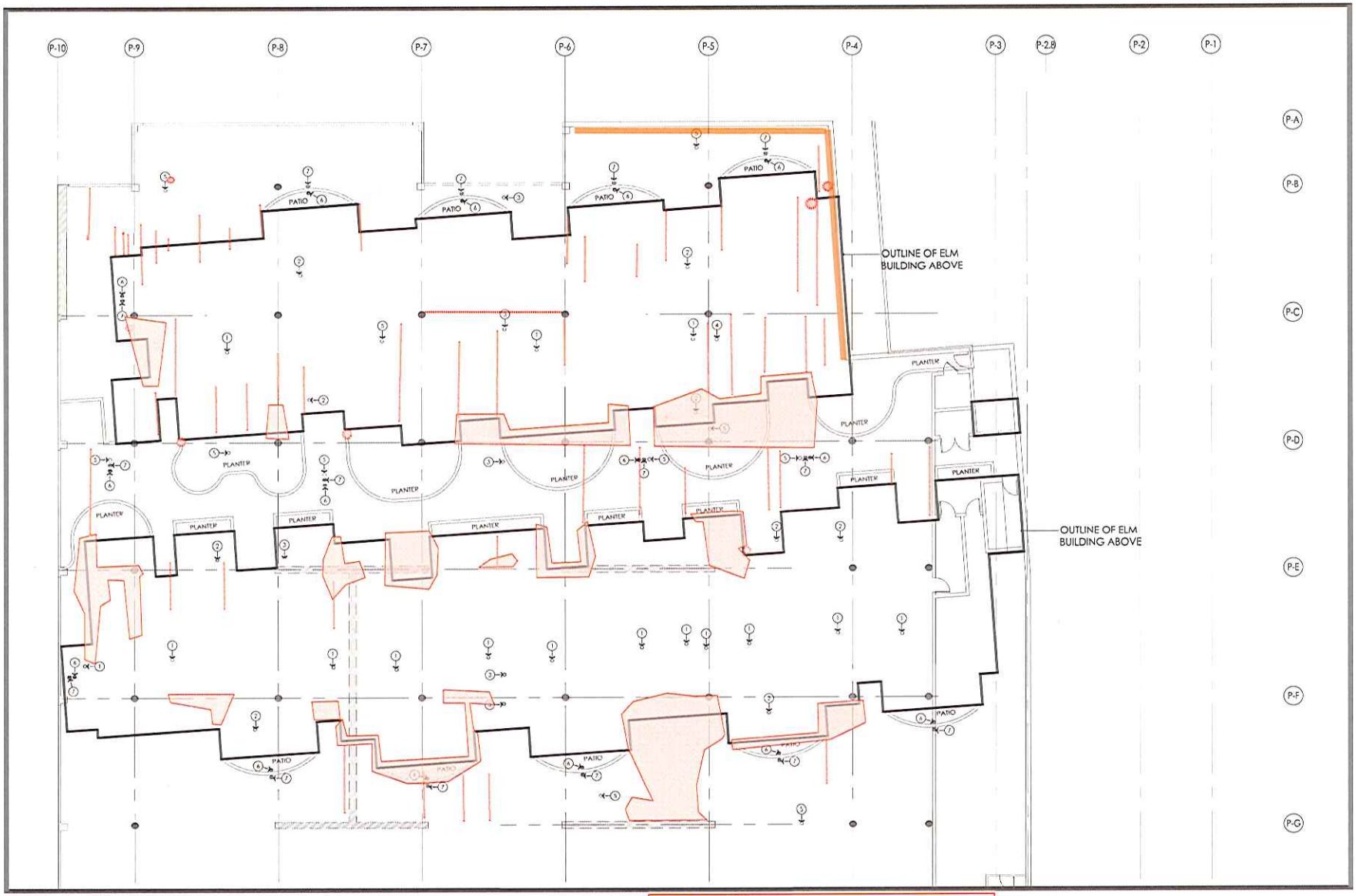
IV) With this summary memo, we are submitting a preliminary drawing markup of the types of water intrusion observed and their general locations. This will be updated and submitted with the final Phase 1 drawing package.

V) The determination of sample areas is in process. The final phase 1 drawing package will be submitted, noting water intrusion locations and sample locations, no later than EoD Wednesday, September 20.

BWE, Inc.

Respectfully,

Mark B. Batten
Principal



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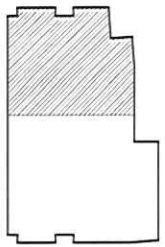

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CYRUS COWASJEE architects, inc
Reed Consulting

PROJECT
CARLSBAD INN BEACH RESORT
WATER INTRUSION STUDY

SHEET TITLE
PARTIAL GARAGE PLAN - EXISTING

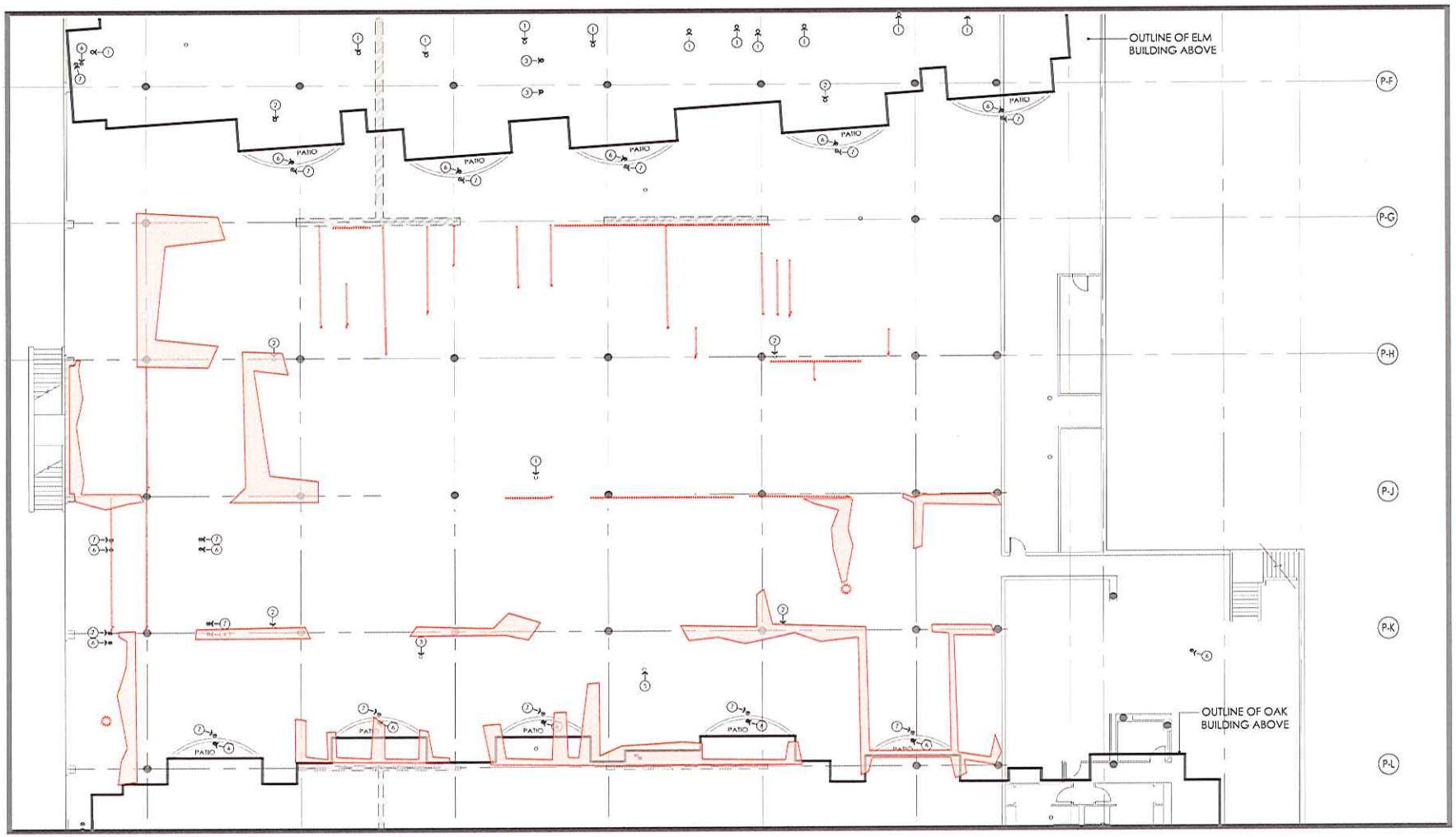
PROJECT NO.: 1312

PROGRESS DATE: 09.14.2017

ISSUE DATE: 09.14.17 WATER INTRUSION

REVISIONS:

SHEET
G1.2



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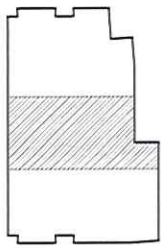

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CARLSBAD INN BEACH RESORT
WATER INTRUSION STUDY

SHEET TITLE
PARTIAL GARAGE PLAN - EXISTING

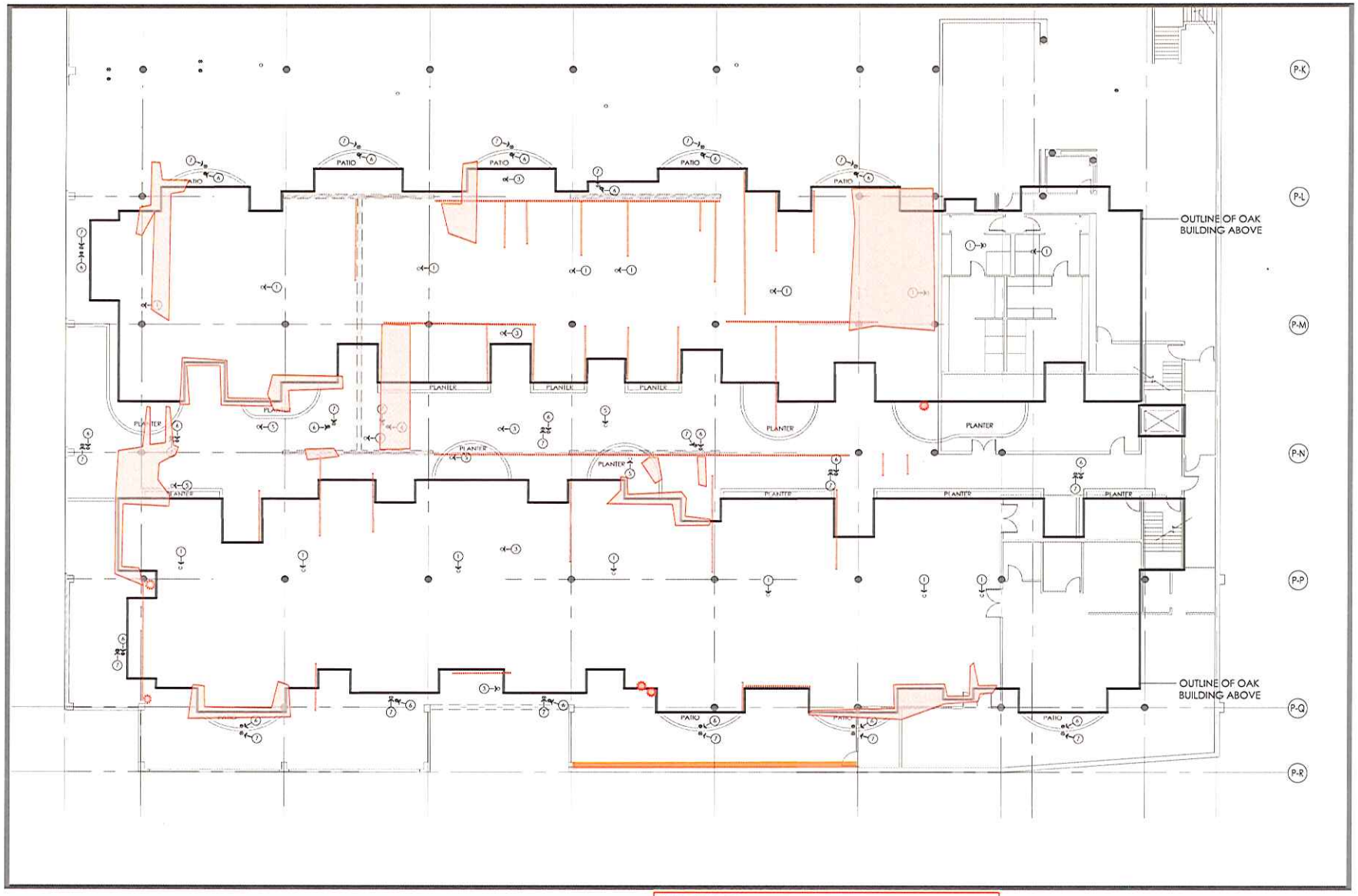
PROJECT NO.: 1312

PROGRESS DATE: 09.14.2017

ISSUE DATE: 09.14.17 WATER INTRUSION

REVISIONS:

SHEET: G1.3



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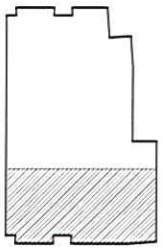

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CARLSBAD INN BEACH RESORT
WATER INTRUSION STUDY

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CCA.
- Field measured the existing exterior planters between the Oak Buildings and Elm Buildings.
- Photographed various areas of the property for reference.

IV) With this summary memo, we are submitting sheets G1.2, G1.3 and G1.4. These drawings denote the locations of observed water intrusion and the recommended locations for excavation, exposure of the waterproofing system and documentation of that condition. The recommended areas for destructive investigation are based on the level of water damage observed at the garage ceiling with a variety of possible causes. Any new information obtained could affect these recommendations.

V) Per David Reed's observations and evaluation, it is most probable that the planters that are located adjacent to the buildings are responsible for the most water intrusion. This may be from planter drains, substrate cracking or non-functioning waterproofing membrane. Other areas of concern are walkway area drains, spa leaks and landscaped area waterproofing membrane.

BWE, Inc.

Respectfully,

Mark B. Batten
Principal

Attachments: Drawing sheets G1.2, G1.3 and G1.4

1 PARTIAL GARAGE PLAN - EXISTING

SCALE: 1/8"=1'-0"

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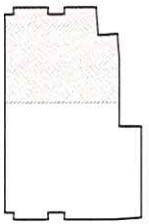

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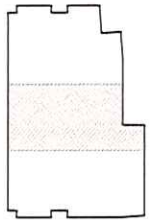
KEYNOTES

1. (E) 4" WATER RISER FROM C.T. 10M ABOVE.
2. (E) 3" DOWNSPOUT TIE. "OPEN DRAIN LINE
3. (E) DRAIN TO 18" STORM.
4. (E) 1 1/2" VENT THRU ROOF.
5. (E) 4" OR 6" SUB DRAIN ABOVE IN LANDSCAPING.
6. (E) 4" DECK DRAIN IN CONCRETE SLAB / ROOF ABOVE GARAGE.
7. (E) 4" OVERFLOW DECK DRAIN + 2" ABOVE 4" DECK DRAIN.

KEY PLAN



2 PARTIAL GARAGE PLAN - EXISTING
SCALE: 1/8" = 1'-0"

NORTH

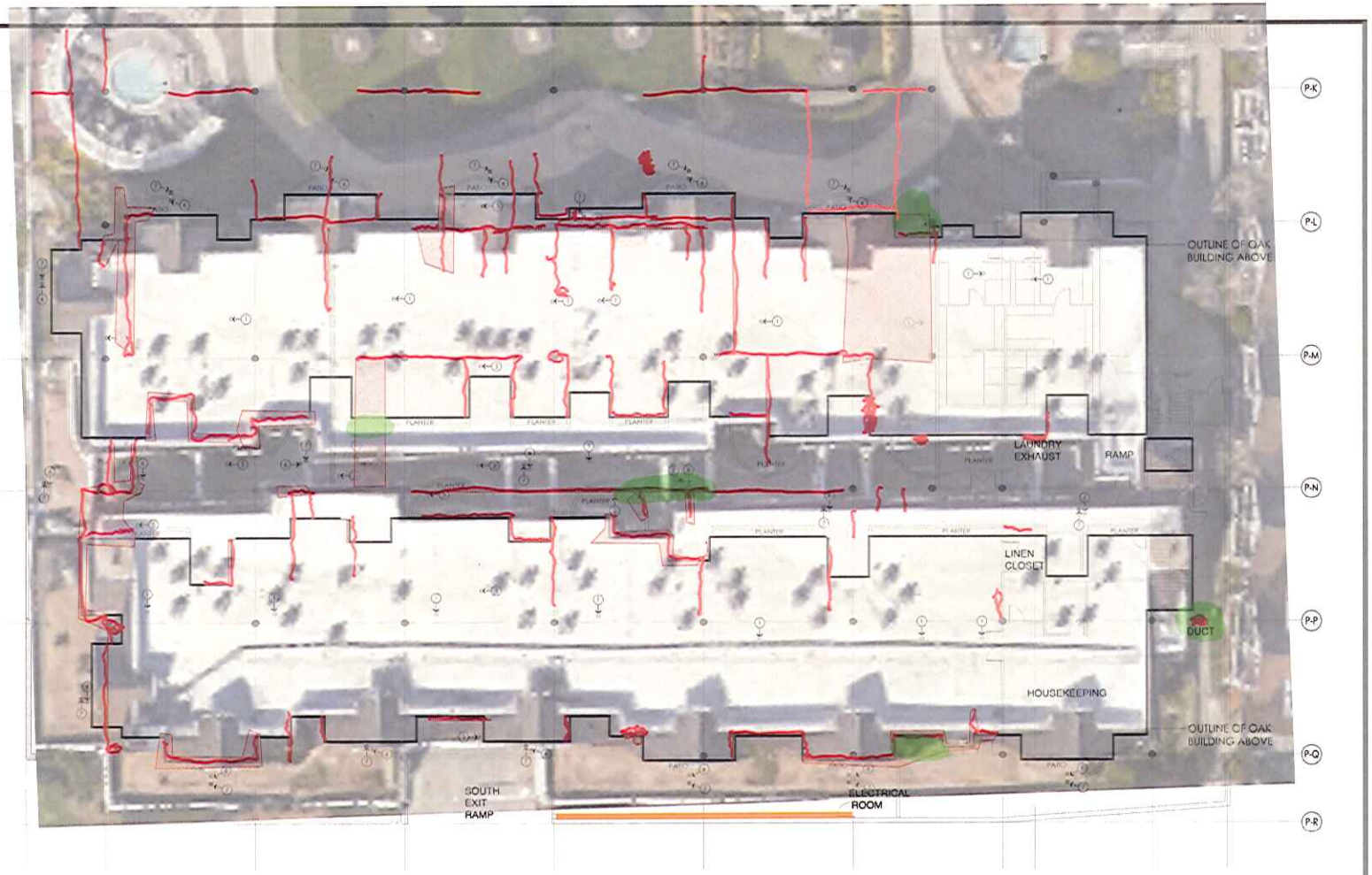
BWE CYRUS COWASJEE architects, inc Reed Consulting

CARLSBAD INN BEACH RESORT
WATER INTRUSION STUDY

PARTIAL GARAGE PLAN - EXISTING

PROJECT NO. 1312
PROGRESS DATE 09.14.2017
ISSUE DATE 09.14.17 WATER INTRUSION
REVISIONS

SHEET G1.3



3 PARTIAL GARAGE PLAN - EXISTING
SCALE: 1/8"=1'-0"

NORTH

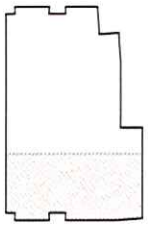
FIELD NOTES

1. DENOTES EVIDENCE OF LEAKS AND/OR WATER TRACKING ACROSS THE UNDERSIDE OF THE STRUCTURE.
2. DENOTES EVIDENCE OF SPECIFIC LEAKS.
3. DENOTES EFFLORESCENCE ON THE UNDERSIDE OF THE STRUCTURE.
4. DENOTES EFFLORESCENCE AT THE BASE OF THE WALL.

KEYNOTES

1. (E) 6" WATER RISER FROM CONDOMINIUM ABOVE
2. (E) 3" DOWNSPOUT FROM ABOVE TO STORM DRAIN LINE
3. (E) DRAIN TO 18" STORM DRAIN LINE
4. (E) 1 1/2" VENT THRU ROOF
5. (E) 4" OR 6" SUB-DRAIN ABOVE IN LANDSCAPING
6. (E) 4" DECK DRAIN IN CONCRETE SLAB / ROOF ABOVE GARAGE
7. (E) 6" OVERFLOW DECK DRAIN + 3" ABOVE 4" DECK DRAIN

KEY PLAN



CONSULTANTS
BVE
CYRUS COWASJEE architects, inc
Reed Consulting

PROJECT
CARLSBAD INN BEACH RESORT
WATER INTRUSION STUDY

SHEET TITLE
PARTIAL GARAGE PLAN - EXISTING

PROJECT NO.
1312

PROGRESS DATE
09.14.2017

ISSUE DATE
09.14.17
WATER INTRUSION

REVISIONS:

SHEET
G1.4

November 16, 2017

Keith Whaley
Project Manager
KM Consulting Group, LLC

(858) 401-9409 Cell
kwhaley@kmcgroup-llc.com

Re: **Grand Pacific Resorts – Carlsbad Inn Beach Resort**
Underground Parking Garage Envelope Water Intrusion Study – Phase 1 + 2
3075 Carlsbad Blvd, Carlsbad, CA 92008

Dear Keith,

Reed Consulting (RC), in association with BWE and Cyrus Cowasjee Architects (CCA) has conducted on on-site survey of the existing waterproofing system that has been installed atop the concrete podium deck at the Carlsbad Inn Resort (CIR.) The motive for this survey was evidence observed from the parking level below the podium, that the existing waterproofing system had failed or, at least, had deteriorated or become severely compromised.

The initial step in this process, Phase 1, was led by CCA. Their task was to develop composite drawings that could be used by our team to document existing conditions, including areas of water infiltration and damage, in addition to being made available to other consultants working for CIR. They accumulated all obtainable record drawings in the formats that were available and, with that information, verified and documented the as-built conditions that were found on-site. With that, a CAD background was generated that was usable and editable by our team and other consultants.

Fifteen separate test pits were recommended and their general location is shown on the attached sheet SK-1. The actual test pits were provided by CIR. On October 03, the test pits had been completed and RC visited the site to document the condition of the waterproofing. BWE and CCA visited the site on October 04.

The waterproofing membrane observed drastically varied in thickness, from pit to pit and, in many locations, the membrane was no longer adhered to the substrate and in at least two locations, no membrane at all was encountered. The membrane, where it was encountered, was not installed with protection board or drainage board. This condition can contribute to damage of the membrane and lessens the effective longevity of the membrane.

9449 Balboa Avenue • Suite 270 • San Diego • CA • 92123
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The following summarizes our observation of the test pits:
-In only one location, test pit 1, the existing membrane was found to be of adequate thickness and adhesion. This particular installation appeared to be a relatively new installation.
-In the following test pit locations, the membrane was either found to be non-existent or the membrane thickness was inadequate - test pits 2, 3, 5, 7, 11, 13, 14 and 15.
-No protection board was installed at test pits 5, 6, 7, 8, 11, 12, 13, 14 and 15.
-At test pits 3, 4, 8, 11 and 13, the membrane was in place but the adhesion of the membrane, either to the concrete or between layers of membrane, was either inadequate or non-existent.
-Standing water was encountered in test pits 9 and 10 making documentation of the existing conditions difficult. And at test pits 11 and 12, wetness was observed between the membrane and the concrete podium.
-No filter fabric was observed to be installed at test pits 2 through 10.
-Three test pits were provided adjacent to planter walls allowing observation of the vertical waterproofing system applied to the walls. In all three of these locations, the membrane was thin and compromised.

None of the test pits revealed an adequate waterproofing membrane installation. It is apparent from the observations noted above, that the existing waterproofing systems applied to the podium deck and planter walls at CIR are inadequate and have either failed or in the process of failing. This had resulted in water intrusion through planter walls into residential units and water intrusion throughout the podium deck into the garage below and contributing to the deterioration of mechanical and structural elements that are part of or are supported by the podium deck.

It is our recommendation that the existing waterproofing system at CIR should be replaced. This includes the systems applied to both horizontal (podium slab) and vertical surfaces (planter walls.)

In the basement level, below the podium slab, there is evidence of water infiltration at the base of the concrete wall at the level of the concrete slab on grade as well as some efflorescence in some locations on the face of the wall. This is an indication that the waterproofing system applied to the exterior face of the basement walls has either failed or is not functioning properly. The exterior face of the basement walls will need to be exposed, any existing waterproofing materials removed and a new waterproofing system installed. This new system would include application of sheet waterproofing over the face of the wall with a drainage mat installed over the waterproofing. At the joint between the wall and its supporting footing, a piped drainage assembly will be required to direct this water appropriately.

Preliminarily, the recommended new waterproofing system is CIM 1000 *(CIM 1000 is a two-component high performance coating and lining that forms a seamless, tough elastomeric membrane. The cold applied materials are asphalt-extended polyurethanes that combine both the water impermeability characteristics of asphalt with the tough flexibility of a urethane to create a system that will last for years)* covered with a Delta

drain board that protects the membrane and controls the flow of below-grade water. Specific areas may require a below grade piped water collection system, but the drain board will function as the primary water evacuation system. This system should be effective for the life of the building.

In addition, the effect of the water intrusion on the podium structure has been observed and evaluated.

The structural damage observed falls into three main categories as observed:

1. The corroded holdowns that extend through the depth of the precast concrete planks and bolt + bearing plate to the underside of the planks.

2. Areas where the fireproofing has disengaged from the bottom of the planks though the bolt + bearing plate are in an acceptable condition.

3. Damage, i.e. cracking and spalling that has occurred on the precast concrete beams, particularly on the western side of the garage building.

BWE recommends the following proposed repairs:

Where the holdowns are observably damaged, and the existing fire protection has disengaged, the corroded bearing plate will need to be removed. The condition of the existing anchor bolt can then be observed. The anchor bolt, if the corrosion has not reduced the net section of the bolt and the threads are still intact, can be cleaned, and a new steel bearing plate, nut and washer connected tight to the underside of the planks would be installed.

Where the corrosion has reduced the net section of the anchor bolt, the corrosion on the bolt will need to be removed using appropriate measures to expose bright metal and the bearing plate, given that the bolt threads will not be intact, will need to be welded to the remaining anchor bolt. An epoxy modified mortar cementitious cap would then be applied to the exposed steel including those areas where the bolts are not damaged. This cap needs to provide three inches of cover over the exposed steel.

At the cracked and spalled precast beams, all unsound concrete should be removed. At cracks, a structural epoxy should be injected into the crack. At spalls, an epoxy modified concrete mortar will be used to replace the damaged concrete. At column/beam bearing conditions, after the removal of any unsound concrete, the structural steel elements of the connections will need to be evaluated for potential repairs.

Timing implications:

The holdown elements have no effect on the gravity load (dead + live load) resisting system of the building. The holdowns serve to connect the plywood shear walls of the

wood framed section of the building supported by the concrete podium, to the actual elements of the podium. The holdowns only are called on to resist load due to lateral loads, i.e. wind and seismic load. Typical wind loads should not have much of an effect but given the damaged holdowns, a significant seismic event could lead to an increase in lateral building movement above. This would lead to a higher level of damage to the building than would be expected for undamaged conditions, including cracking of existing finishes, both interior and exterior. BWE recommends that a program and schedule of repair be prepared and initiated as soon as practical.

This damage is primarily due to exposure and will continue to worsen with time. It is not an urgent matter to initiate these repairs, but we would recommend that they not be delayed more than two years. We can be available to observe conditions at four month intervals to ensure that no changes have taken place which would require more urgency.

Additionally, the water intrusion has affected plumbing systems and their supports. Some of the piping and hangers below and supported by the podium have corroded and will need to be repaired or replaced.

This report is intended to present our opinions based on data compiled from a limited investigation of observed conditions within readily accessible areas of the site and analyzed in accordance with the scope of work provided by the client. The recommendations provided in this report are conceptual in nature and are provided for the use of our client and may be inadequate for the use of other parties. This memo does not imply the structural adequacy or code compliance of any other portion of or system in the building. This report is subject to change as additional information becomes available.

Thank you for this opportunity to be of service. Please contact us if you have any questions or comments or if additional information and/or analysis would be helpful. We would be happy to meet with you to discuss this report if that would be beneficial.

Respectfully,

BWE, Inc.

Mark B. Batten, SE for Cyrus Cowasjee and David Reed, CEIC
Principal Cyrus Cowasjee Architects, Inc. Reed Consulting

XPERA
GROUP
Construction Experts

November 8th, 2017

Keith Whaley
KM Consulting Group
C/O Grand Pacific Resorts
5900 Pasteur Court, Suite 200
Carlsbad, CA 92008

RE: Carlsbad Inn - 3075 Carlsbad Blvd, Carlsbad, CA 92008
SUB: Carlsbad Inn - Waterproofing Conditions Inspection October 4th, 2017

Mr. Whaley,

Introduction

Xpera Group (Xpera) was retained to evaluate the waterproofing conditions at test pit locations by others at the above referenced property, supply expert recommendations for repair of the structure, and write repair recommendations.

This report was written by Kris Worley on behalf of and supervised by Steve Easton and Xpera Group.

Observations

Xpera's inspection took place on October 4, 2017, and was conducted by Kris Worley. The following comments reflect Xpera's visual observations at (13) test pit locations referenced as numbered our annotated site plan. Waterproofing membrane samples were taken at (6) locations.

Test Pit #1

Location: North Elevation, foundation wall adjacent parking garage entry at retaining wall.
Refer to Xpera's photos 7 - 27.

Observations:
Vertical fluid-applied waterproofing membrane appeared to be re-application; no UV protection at area above grade; protection board broken away; footing not exposed for examination; 12" tree/bush stump and root growth at this location. Adjacent garage interior CMU wall base etched and stained.

Test Pit #2:

Location: Elm Bldg, East Elevation at raised planter.
Refer to Xpera's photos 31 - 42

Observations:
Horizontal fluid-applied waterproofing membrane and protection board at structural slab; poor membrane adhesion; vertical transition not exposed for examination; membrane sample taken by others; burrito-wrapped drain pipe and area drain.

Test Pit #3

Location: Elm Bldg, Southeast Elevation at planter area between sidewalk and water feature.
Refer to Xpera's photos 43 - 56.

Observations:
Unidentified ¾" membrane at mid-excavation; very thin membrane at structural slab, poor adhesion.

Test Pit #4

Location: Elm Bldg, South Elevation at raised planter area.
Refer to Xpera's photos 57 - 71.

Observations:
Very poor adhesion of fluid-applied horizontal and vertical membrane; lack of surface preparation/debris on slab; samples taken by Xpera and others.

Test Pit #5

Location: Courtyard, East side, adjacent swimming pool enclosure.
Refer to Xpera's photos 76 - 85.

Observations:
No vertical membrane at structural slab to flatwork-on-grade transition. Inter-ply delamination and poor adhesion of membrane; sample taken by Xpera.

Test Pit #6

Location: Courtyard, East side, adjacent stamped concrete sidewalk.
Refer to Xpera's photos 86 - 92.

Observations:
Membrane over structural slab; membrane wet/muddy this location; sample taken by others.

Test Pit #7

Location: Courtyard, East side, planted area
Refer to Xpera's photos 93 - 100.

Observations:
Poor adhesion of membrane to structural slab; lack of surface preparation/debris on slab; samples taken by Xpera and others.

Test Pit #8

Location: Courtyard, West side, Southeast of Jacuzzi.
Refer to Xpera's photos 101 - 106.

Observations:
One inch standing water in excavation; membrane not documented.

Test Pit #9

Location: Courtyard, West side, Northeast of Jacuzzi .
Refer to Xpera's photos 107 - 111.

Observations:
Four inches standing water in excavation; membrane not documented.

Test Pit #10

Location: Oak Bldg, Southeast Elevation
Refer to Xpera's photos 115 – 131.

Observations:
Very thin membrane over structural slab; poor adhesion. No UV protection at building foundation vertical membrane in this area.

Test Pit #11

Location: Oak Bldg, South Elevation
Refer to Xpera's photos 132 – 137 and 158-173.

Observations:
No waterproofing membrane on structural slab. Heavy hollow core plank staining and deterioration at garage ceiling below.

Test Pit #12

Location: Oak Bldg, Raised Planter at Unit Entry
Refer to Xpera's photos 138 - 146.

Observations:
No cant strip at horizontal to vertical transition; poor horizontal membrane adhesion; lack of surface preparation/debris on slab; samples taken by Xpera and others.

Test Pit #13

Location: Oak Bldg, Raised Planter at Unit Entry
Refer to Xpera's photos 147 - 156.

Observations:
Possible repair location; very thick membrane; felt protection course; poor membrane adhesion to structural slab.

Conclusions

Site-wide waterproofing deficiencies were observed resulting in water intrusion and damage to structures including deterioration of hollow core planks below garage structural slab. At test pit locations, we observed improper or lack of structural slab waterproofing membrane installation and lack of or improper integration with foundation edges, building and planter walls. Additionally, we observed inadequate irrigation drainage at the courtyard.

Repair Recommendations

- Stage repair work in 8 – 10 repair segments to allow for pedestrian flow and use of partial courtyard areas during repairs.
- Remove all landscaping, soil and flatwork to expose structural slab to include courtyard and raised planters.
- Shot blast structural slab and masonry walls to receive new fluid applied waterproofing membrane.
- Install sloping material where required to ensure drainage/prevent standing water.
- Install C.I.M. Industries CIM 1000 or Gaco Western LM-60 liquid applied, two component, elastomeric coating per manufacturer's recommendations.
- Imbed reinforcing fabric into membrane.
- Install waterproofing cant to bridge cold joints at horizontal to vertical transitions to include planter and building walls.
- Install horizontal and vertical drainage mat.
- Install protection board at vertical surfaces before backfilling.
- Repairs to be performed in conjunction with drainage repairs to existing drains and lines per recommendations by Specialized Pipe Technologies,
- Add additional drains as required.
- Install 2-stage drains: at structural slab and higher up in landscaping.

This concludes Xpera's report of observations, our evaluation and recommendations relating to the above-mentioned project. If you have any questions or comments please feel free to contact Steve Easton or Kris Worley.

Sincerely,

Steve Easton
Steve Easton
Xpera Group
seaston@xpera.net

Kris Worley
Kris Worley
Xpera Group
krisworley@me.com

3 PARTIAL GARAGE PLAN - EXISTING

DRAWING NOTES

1. GENERAL LOCATION OF RECOMMENDED TEST PITS

FIELD NOTES

1. DENOTES EVIDENCE OF LEAKS AND/OR WATER TRACKING ACROSS THE UNDERSIDE OF THE STRUCTURE.
2. DENOTES EVIDENCE OF SPECIFIC LEAKS.
3. DENOTES EFFLORESCENCE ON THE UNDERSIDE OF THE STRUCTURE.
4. DENOTES EFFLORESCENCE AT THE BASE OF THE WALL.

KEYNOTES

KEY PLAN

CARLSBAD INN BEACH RESORT
WATER INTRUSION STUDY
PARTIAL GARAGE PLAN - EXISTING

BWE CHRIS COWALIFF Reed Consulting

G1.4

XPERA GROUP
Carlsbad Inn
Test Pit Inspection
October 4, 2017
Pit # /Photo Range

SPECIALIZED PIPE TECHNOLOGIES
An Aquam Company

Prepared by:
Kevin McLin
619.218.1596
kevinm@sptpipe.com

Recommendations From Diagnostic Findings: Based on the diagnostic survey we were able to identify that:

Area drains - are primarily corrugated plastic

Patio drains - are primarily cast iron. These are primarily a short distance before the tie into the main drain system in the garage.

Oak Building

On the Oak building no planter drains were found in the middle between the two buildings. On site landscape staff reported not seeing any lines either.

On the North side of the Oak building no area drains were found.

Elm Building

On the North West side of the Elm building an additional area drain system was identified that drains out towards the street/city.

Additional Recommendations

Some of lines identified in the corresponding Drain Identification Sheet are blocked before they tie into the garage drain system or have significant amounts of dirt and mud caked on to the side of the pipe. These can potently be cleared out to reinstate service. Unfortunately much of the system is corrugated plastic which traps dirt in between the ridges leading to build up and blockages. Corrugated plastic is more difficult to clean do to its design.

SPECIALIZED PIPE TECHNOLOGIES
An Aquam Company

Prepared by:
Kevin McLin
619.218.1596
kevinm@sptpipe.com

Some of the lines were found to tie together but have no visible drain location indicating lines are in properly plumbed, draining into the deck area, or down lines are blocked. These lines we would recommend connecting into a drain system or excavating and replacing.

We would highly recommend having the main underground lines from the parking structure out to the city inspected be inspected. We suspect dirt, debris, and corrosion build up will be found that is limiting the hydraulic capacity of the system. Likely the underground section of the system would benefit from hydro jetting also. This should be performed before addressing clearing the lines higher up to ensure blockages don't occur on the main line.

Thank you for considering utilizing Specialized Pipe Technologies on your property again. We hope that you will consider us as a resource to maintaining your hotel and its infrastructure. Please don't hesitate to contact Kevin, or if you have further questions or would like to schedule inspections, or line cleaning services:

Kevin McLin with Specialized Pipe Technologies at

619-218-1596 or by e-mail at **kevinm@sptpipe.com**

Drain Identification Sheet

	Elm
1	area drain - 10' in blockage
2	planter drain - ties into 3
3	area drain - blocked
4	
5	planter drain - ties into garage
6	planter darin - ties into garage
7	planter - ties into garage
8	planter - ties into garage
9	planter - ties into garage
10	floor - ties into garage
11	floor - ties into garage
12	planter - ties into garage
13	floor - ties into garage
14	planter - ties into garage
15	planter - ties into garage
16	planter - ties into garage
17	floor - ties into garage
18	planter - blocked at 1 foot
19	planter - ties into garage
20	planter - ties into garage
21	planter - ties into garage
22	planter - ties into garage
23	floor - ties into garage - lots of dirt
24	floor - ties into garage
25	planter - ties into garage
26	planter - ties into garage
27	planter - ties into garage - losts of buildup
28	planter - blocked at 1 foot
29	floor - ties into garage
30	planter - ties into garage - root intrusion
31	planter - ties into garage - blocked 11'
32	planter - ties into garage - blocked 1'
33	planter - ties into garage - roots
34	floor - ties into garage
35	planter - ties into garage -blocked
36	planters-ties into garage
37	planters-ties into garage
38	area - blocked at 61' possible tie to garage
39	area - ties into 38 - dirt in pipe
40	area - ties into 38
41	area - crushed at 12'
42	area - blocked at 3'
43	area - blocked at 4'
44	area - could not get past 29' to many turns suspect goes to garage unkown tie ins seen, dirt throughout
45	area - see 44
46	area - see 44
47	area - blockage at 24' unkown tie in seen lots of dirt
48	floor-ties into garage
49	area - underwater heads twords grass crushed at 51' pipe full of water
50	area - blocked at 11' - underwater
51	area - blocked at entrence
52	area - blocked 24' - underwater
84	area - blocked at entrence
85	area - ties into garage - debris in line
86	patio - ties into garage
87	patio - ties into garage

88	patio - ties into garage - very clean
89	patio - ties into garage
90	planters - blocked at entry
91	patio - ties into garage - dirt caked to walls
92	patio - ties into garage - a lot of dirt
93	patio - ties into garage
94	patio - ties into garage - dirt mud debris caked to wall
95	patio - ties into garage - dirt
96	patio - ties into garage - dirt mud debris caked to wall
97	patio - ties into garage - dirt mud debris caked to wall
	Oak
53	patio - ties into garage
54	area - full of dirt no entry
55	area - ties into garage
56	area - ties into garage
57	patio - ties into garage - dirt
58	area - blocked at 9'
59	patio - ties into garage - build up / dirt in pipe
60	area - see 62
61	area - see 62
62	area - blocked at entry
63	patio - ties into garage - under water no visual
64	area - ties into garage - dirt in pipe
65	area - ties into garage - rocks and dirt in pipe
66	area - ties into garage
67	patio - ties into garage
68	area - ties into garage
69	patio - ties into garage
70	area - blocked at entry
71	area - no exit seen
72	area - no exit seen
73	area - no exit seen
74	area - no exit seen
75	patio - drains into houspeeking-end unkown
76	patio - goes down twords gym-end unkown
77	patio - goes down twords gym-end unkown
78	patio - ties into garage
79	patio - ties into garage
80	patio - ties into garage - debri in pipe causing standing water
81	patio - ties into garage - dirt mud caked to pipe
82	patio - ties into garage - dirt mud caked to pipe
83	patio - ties into garage
98	floor - ties into garage - full of water
99	floor - ties into garage
100	floor - ties into garage
101	floor - ties into garage
102	floor - ties into garage
103	floor - ties into garage
104	floor - ties into garage
105	floor - ties into garage - mud caked to pipe water in pipe
106	floor - ties into garage - some water
107	area - unkown possibly going down - water and/mud
108	area - unkown possibly going down
109	area - unkown possibly going down - mud caked to pipe
110	area - unkown possibly going down
111	area - broken and full of dirt 8' - in lawn - water/mude
112	floor - ties into garage - mud
113	planter - blocked at entry
114	area - no exit seen-unkown tie in(s) seen in fake grass
115	area - see 114

116	floor - blocked and or capped 18' west to east at 28' blocked and or capped

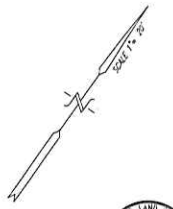
Summary

Percent of Drains Blocked = 32%
Percent of partially Blocked, Damaged Drains = 20%
Percent of Compromised Area Drains and Line - 52%

TOPOGRAPHIC SURVEY

APRIL 1, 2015

REV. 10-09-17



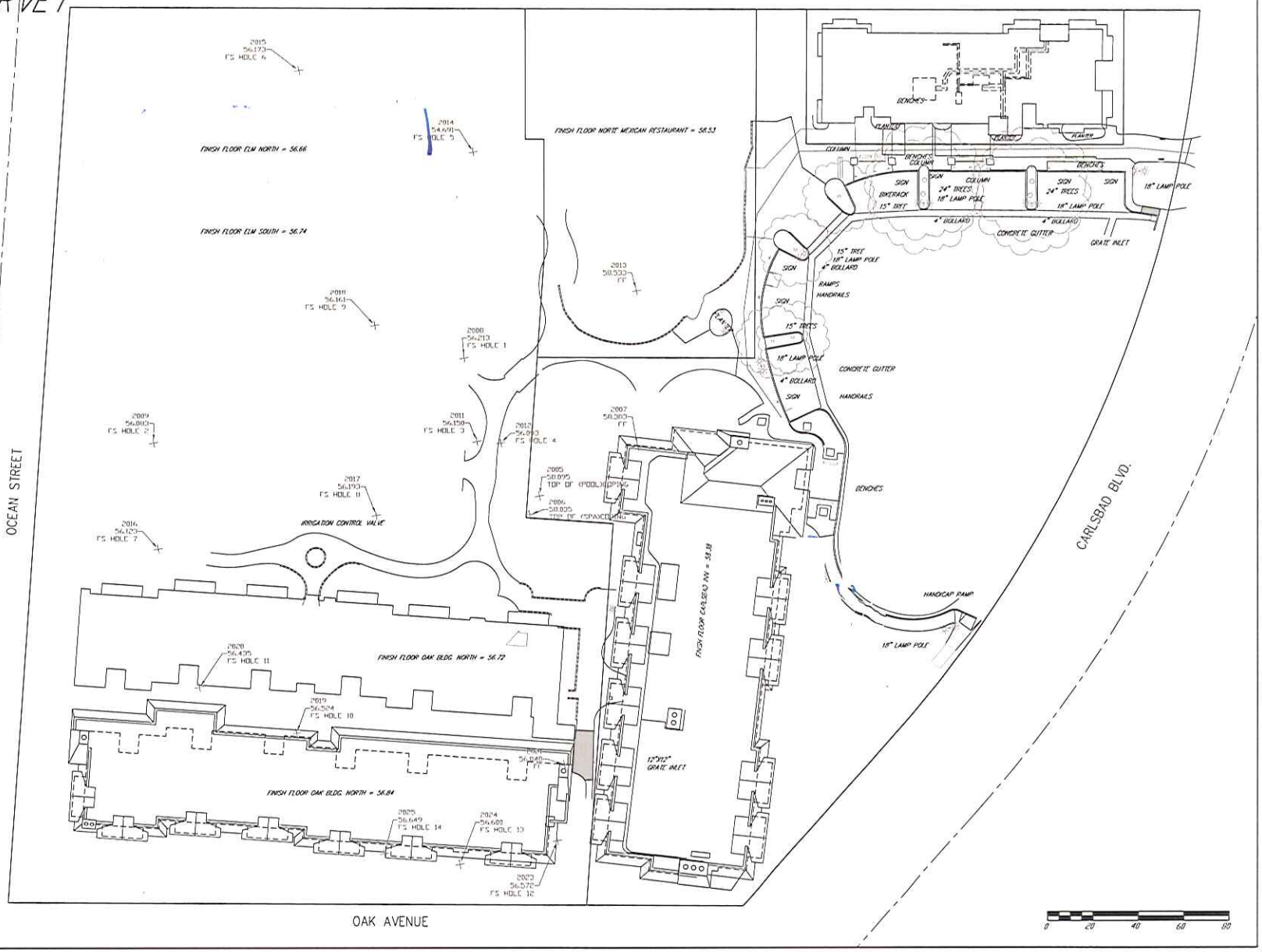
LICENSED LAND SURVEYOR
Michael D. Levin
Exp. 9-30-15
No. 6896
STATE OF CALIFORNIA

04/01/2015
MICHAEL D. LEVIN L.S. 6896 DATE

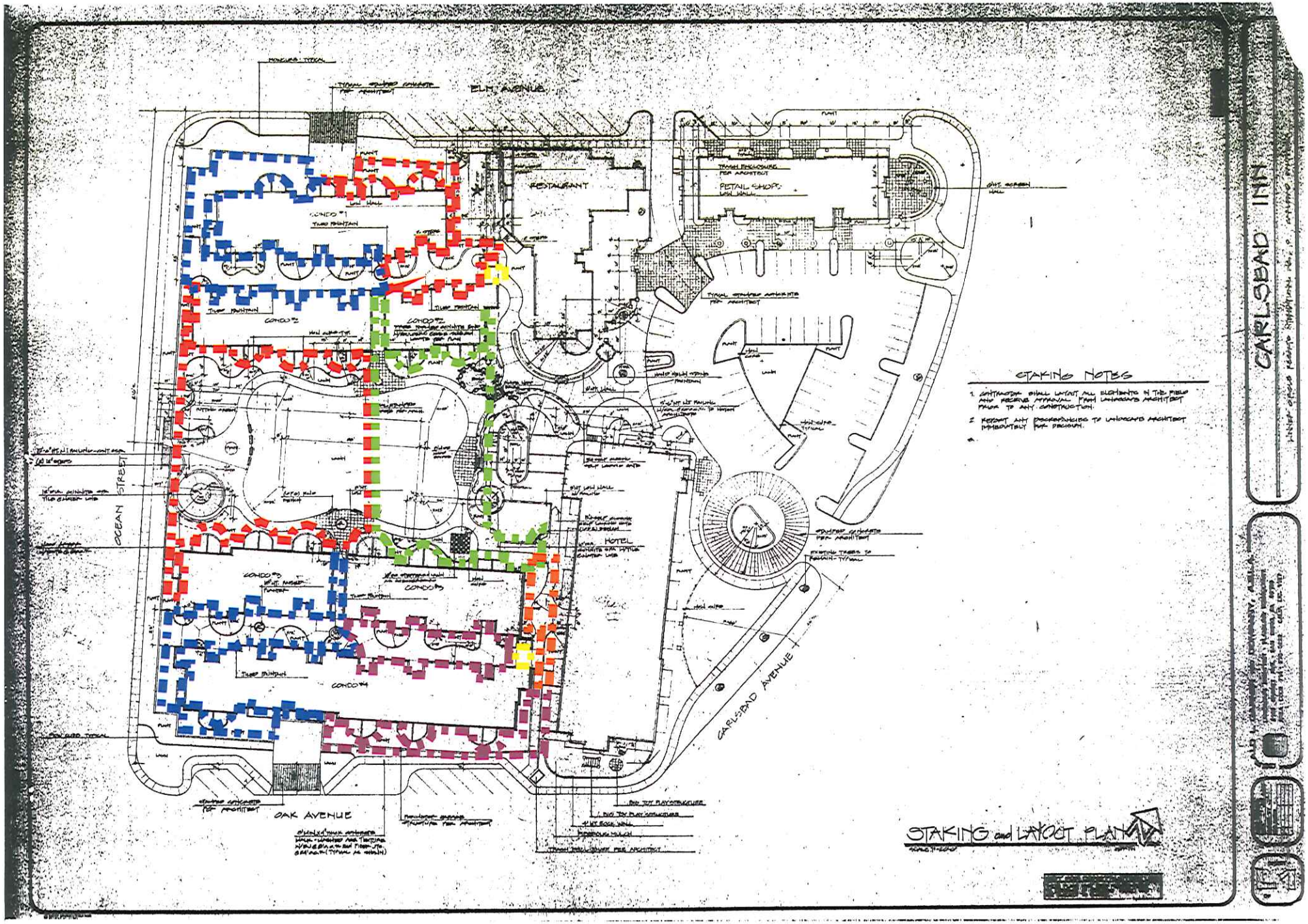
TOPOGRAPHICAL SURVEY PERFORMED MARCH 18, 2015 BY EXCEL ENGINEERING

BENCH MARK
CITY OF CARLSBAD POINT NO. 130, 2.5" BRASS DISK IN SOUTHEAST CORNER OF CATCH BASIN LOCATED AT END OF CURB RETURN NORTHEAST CORNER OF GRAND AND WASHINGTON
DISK STAMPED "12.58-130 LS6215"

ELEVATION=43.087



EXCEL ENGINEERING
440 STATE PLACE
ESCONDIDO, CA 92029
PHONE (760) 745-0118


ELM AVENUE
OCEAN STREET
CARLSBAD AVENUE
OAK AVENUE
RESTAURANT
RETAIL SHOPS
HOTEL
CONDO #1
CONDO #2
CONDO #3
CONDO #4
STAKING NOTES
1. CONTRACTOR SHALL LAYOUT ALL ELEMENTS IN THE FIELD AND RECEIVE APPROVAL FROM LANDSCAPE ARCHITECT PRIOR TO ANY CONSTRUCTION.
2. REPORT ANY DISCREPANCIES TO LANDSCAPE ARCHITECT IMMEDIATELY FOR RESOLVE.
STAKING and LAYOUT PLAN
CARLSBAD INN


ELM AVENUE
RESTAURANT
CONDO #1
CONDO #2
CONDO #3
CONDO #4
HOTEL
OCEAN STREET
OAK AVENUE