PALMER engineering company
PECGA LLC dba Palmer Engineering Company

18 September2018

Piedmont Park Conservancy
1071 Piedmont Ave NE
Atlanta, Georgia 30309

Attention: Mr. Mark Banta

Re: **Piedmont Park Community Center**
Under-slab Void Evaluation
PEC Project No.: **18236**

Dear Mr. Banta:

Palmer Engineering was on the site indicated above the afternoon of September 12, 2018. The purpose of our visit was to review the condition of the slab demolition and under slab void to determine the current safety of the building and assist in determining methods for repairing the existing condition.

Limitations

Palmer Engineering performed no structural tests and took no material specimens. The systems and components have been assessed based on the observations made on site. No analysis has been made of specific structural elements or systems except where noted in the report. No geotechnical investigation was performed. In addition, our observations are limited to what could be seen with the naked eye standing on the floor.

Existing Construction

For the purpose of this report, the side of the building facing Piedmont Ave, is the west elevation.

The area of concern pertains to the small space on the north side of the building under renovation to be converted to a "Grab and Go" style restaurant. The original building dates back to the 1920's, approximately, and was renovated in 2002. The building is a mix of steel and wood frame construction.

The existing slab on grade is placed on top of 4" of GAB placed on top of the original slab on grade. The roof over this space is constructed with plate connected wood roof trusses spanning north south. Several are reinforced with LVL beams to support mechanical units. There are two steel columns, one each side of the space that is approximately 17'-0" wide. These columns support a

steel roof beam that supports a mansard roof screening the mechanical units on the main roof.

Existing Conditions

The cause of concern and the instigation of our evaluation is a portion of the slab on grade falling into a void under the slab approximately 6'-0" x 8'-0" x 6'-0" deep. This was discovered when demolishing a portion of the slab on grade to install below slab plumbing. During saw cutting operations in early July, a portion of slab approximately 8'-0" x 8'-0", rotated and fell into the hole.

Upon further investigation by the parties involved with the project and the city of Atlanta, it was identified that an old granite sewer runs under the building approximately 13'-0" below the slab on grade, in a roughly north-south direction. It was speculated that the sewer has a hole and erosion of this soil had occurred over a period of time.

It is our understanding that the city of Atlanta came to the site shortly after this was discovered to investigate. It is our understanding that they flushed water and dye down the hole with a hose to determine where the water went and had observed the dye in the sewer downstream from the void in question. We understand that city of Atlanta personnel briefly walked the sewer to observe the condition and identify obvious holes in the sewer but did not find any. A report or images from their investigation has not been released.

An additional concern raised was the issue of the sides of this hole sloughing off, making a wider hole. This appears to be occurring mostly on the west side of the hole and moving toward the steel column and footing holding up the mansard roof. This concern is twofold. First, the hole may be actively getting bigger. Secondly, that the hole is going to undermine the column and cause a building collapse.

Evaluation and Recommendations

Based on our observations on site and the anecdotal evidence provided by those familiar with the condition during construction and since the void was discovered, we believe this void has been formed by soil erosion over a long period of time. We suspect that this soil has been washed away by the sewer and at least one small hole in the sewer. By the estimation of those involved with the project, the sewer is located below this void.

While on site, we could see evidence of the soil in the void and on the west wall of the void having been wet and drying out. We believe the majority of this moisture is from the wet saw cutting of the slab and the washing of the dye to identify the

water pathway. The addition of this water is the likely culprit causing the sloughing, as a result of the soils loosing shear capacity from high moisture content. Once dry, we expect the sides of the void to become more firm and stable.

The load on the footing in question is not that great based on a unit pressure at the base of the footing. The base of the footing is approximately 24" below the top of slab based on 2001 construction drawings. This pressure is well below the design capacity of the soil. While the void is and has encroached on the soil that is within a cone under the footing sloping at 45 degrees, the actual load and unit pressure, and the fact that most of the soil on all four sides of the footing is still confined by soil in place, a soil bearing failure at this column is unlikely at this time.

However, in the interest of caution, we recommend installing one foundation underpinning helical pile at the corner of the footing in question to provide an added measure of stability while the cleanout and repair takes place.

While on site, we were provided an opportunity to review a report by m2 Structural, LLC, dated July 25, 2018. While our specific recommendations and methods for repair may be different, we believe our evaluation and conceptual recommendations are the same as offered in this earlier report.

Following are our general recommendations for repair:

1. Locate the sewer in the construction area to avoid damage by underpinning and or excavation.
2. Confirm the location of the infiltration into the sewer with the city. Confirm the repair approach for the sewer based on the actual damage found.
3. Engage a geotechnical engineer to confirm the side walls of the void are reasonably stable to perform prep work and underpinning activities.
4. Cut the slab away from the footing at the column of concern. Install a helical pier or similar foundation underpinning at the southeast corner of this footing. Install to refusal, but not more than 5,000 lb capacity. Locate the sewer to avoid hitting the sewer.
    a. If the sewer is a potential conflict with the underpinning, consider filling the hole as is with soil. This will stabilize the soil such that you can begin saw cutting the concrete in the hole and placing a trench box for deeper excavation.
5. Once the footing under the column is stabilized, proceed to cut the remaining slab and concrete fallen into the hole.
6. Insert trench box and fill voids around trench box.

7. Excavate to the sewer and expose damage area for repair. Repair as required (repair yet to be determined)
8. Once repairs are made, back fill excavation at the direction of a geotechnical engineer, in layers not to exceed 6", and compact as directed.

Building Use Considerations

Based on observations made on site, we believe this void to be a localized issue resulting from soil erosion due to a hole in the storm sewer below the building. We have no reason to believe there are other holes or voids under the building resulting from other holes in the sewer at this time. The city inspection of the sewer will inform this understanding. As a point of comparison, there is a significant length of this sewer line that is not under the building and no voids are observed in the exterior grade or flatwork.

Since this is a localized situation, it is our opinion that the remainder of the building and the construction site on the south west corner of the building can continue and resume normal activities. As an added measure of caution until the void is repaired, the void should be observed at least once a week and after each rain event to confirm no changes in the existing conditions. If conditions change or worsen, please contact us for further review.

We hope this provides adequate information and direction for you to make adequate stabilization and repairs to the sewer and subgrade. If you have further questions, please feel free to contact us if we can be of further assistance. We appreciate the opportunity to provide structural expertise.

Sincerely,
PALMER ENGINEERING COMPANY

Eric Hagberg, PE
Vice President

Gmail

Re: Letter for City

1 message

Mark Banta <mbanta@piedmontpark.org> Wed, Sep 12, 2018 at 8:31 PM
To: Katherine Drolett <drolettlaw@gmail.com>
Cc: "Dave Duley (dave@icanfixamerica.com)" <dave@icanfixamerica.com>

You are welcome. You have misunderstood what I said. What I told your attorney was that we had an initial assessments, both soils engineer and structural engineer who came to the site and analyzed it. We also have approved shoring drawings that have been evaluated by the engineer of record.
But nothing has substantially changed in the condition of the void. The Shoring was to be put in place before we began the concrete slab removal process.

What report, analysis or expert have you or your contractor brought into place to substantiate the claim that there has been any meaningful change in the conditions or any additional engineering risk to the structure? I'm very concerned that you have made a decision to stop work based on inaccurate facts. The superintendent Chris was continuously correcting the suppositions that were being put forward by your attorney.

It is your choice, but if you do have any documentation that supports additional risk to the building or changes in the conditions in the void from when the first analysis was done, please bring those forward. In the meantime, we've brought the original engineer back in order to help analyze the situation.

Have a good evening.

On Wed, Sep 12, 2018, 8:09 PM Katherine Drolett <drolettlaw@gmail.com> wrote:

> Thank you Mark. In receipt of your email. In the thick of things now at The Nook, but will read first thing tomorrow.
>
> As follow up to our meeting today, please forward the stamped engineer's/engineering report you referenced stating that the location does not pose a life safety issue. We were not aware you had such a report. If you can forward that in the morning, I can send it to our insurance and lender directly, and see about getting their approval to get back to work on the project. As you know, every day we lose because of that sinkhole, it's costing us money. Look forward to receipt of the report.
>
> Thanks,
>
> Katherine
> 404-610-0800
>
> On Wed, Sep 12, 2018 at 6:15 PM Mark Banta <mbanta@piedmontpark.org> wrote:
>
> > Katherine,
> >
> > Here is our response letter. Please note that we immediately began to work on alternate plans after learning Thursday afternoon September 6, 2018 that JMWILLIAMS- NORTON was no longer willing to execute an agreement with the Conservancy to do the exploratory work. On a parallel path, we have asked for a face to face meeting with the Commissioner Powell with Watershed Management.
> >
> > The attached letter is self explanatory but please reach out with any questions or concerns. I hope you have a great weekend at the Nook.
> >
> > Thank you,

Mark

Mark Banta
President & CEO
Piedmont Park Conservancy
W: 404-875-7275, ext**.** 226
C: 770-402-8814
E: mbanta@piedmontpark.org

https://www.piedmontpark.org/

On Mon, Sep 10, 2018 at 11:16 PM, Katherine Drolett <drolettlaw@gmail.com> wrote:

> Mark,
>
> As requested, attached is a letter from us specific to the sink hole that you can forward to the City. I will have another letter tomorrow, more specific regarding all of the items we discussed as landlord issues.
>
> Thank you for your time today. Dave and I both appreciate it.
>
> Please let us know your next steps.
>
> I also reached out to John Norton today to request that he provide you with any quotes he had on the shoring project.
>
> We look forward to hearing from you soon.
>
> Go get 'em this weekend!
>
> Katherine
> 404-610-0800

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