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Date: February 3, 2022

Project #: 00343421.005

Service Task: 01OBSFR

To: Ms. Stacy C. Milo, Borough Manager

From: Tomasz Slowik, P.E.

Copy to: Mr. Charles Myers, P.E.; File

RE: TOPTON BOROUGH HALL AND COMMUNITY POOL – INITIAL STRUCTURAL ASSESSMENT

205 S. Callowhill Street, Tipton, Berks County, Pennsylvania 19562

On January 12, 2022, Barry Isett & Associates, Inc. performed a site visit at the subject location. Mr. Tomasz Slowik, P.E., from our office performed the visit. The purpose of the visit was to structurally assess the Borough Hall building and community pool structure for signs of settlement. The purpose of this memorandum is to provide the Borough of Tipton with opinion of significance and recommendations for further investigation.

It was reported that the pool is losing approximately 1 to 2 inches of water per day during the season and the loss of water has been occurring for at least two seasons. Reportedly, an underground stream was discovered when the new well located in Water Control building was drilled a few years ago. It was also reported that a dividing wall was added to the larger pool; however, the exact date of construction is unknown.

The findings in this memorandum are based on the conditions readily visible at the time of the site visit. No diagnostics, sampling, and/or testing of the existing building materials was performed, nor has subsurface testing or invasive investigations (i.e. soil borings, geotechnical auger probes, geophysics, etc.) been performed.

For the purposes of this memorandum, the side of the subject building facing west shall be taken as "front." All locations will be indicated with cardinal directions, unless noted otherwise.

Mr. Slowik observed the following:

1. The Borough Hall building is a single-story masonry building (see Photo #1). The original building was a pool house, but it was converted into an office building.
2. The exterior wall finishes consisted of stucco and brick wall. No cracking or movement to the exterior wall finishes indicating building settlement were observed (see Photo #2).
3. The grade around the building was flat and consisted of asphalt pavement. The pavement was settled on the left side of the building, and cracks and depressions were noted throughout. No recent movement was noted (see Photo #3).

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4. No cracking or movement of the interior slabs or wall finishes were noted (see Photo #4).
5. The community pool is located behind the building. The pool consisted of a larger deep pool toward the north and a smaller shallow pool toward the south. The larger pool was partially divided by a wall (see Photo #5).
6. Deteriorated sealant and separation between the dividing wall and pool slab were noted along the wall base. The separation measured approximately 1/2-inch (see Photo #6).
7. The slab along the dividing wall was sounded with a hammer. The slab sounded hollow toward the west end of the wall. No cracks in the slab near the hollow-sounded slab were noted.
8. A crack measuring approximately 1/2-inch in the pool concrete wall near the west end of the dividing wall was noted. The crack extended from the top of the wall through the pool concrete slab and continued toward the dividing wall. The crack was previously sealed, but the sealant was deteriorated and missing (see Photo #7).
9. Cracks in the pool walls were observed in multiple locations. Some cracks were sealed but the sealant was deteriorated. The cracks varied in length and width, and were from hairline to approximately 1/4-inch wide (see Photos #8 and #9).
10. Most of the pool slab was covered with ice and could not be assessed.
11. No deterioration to the smaller pool was noted.
12. No cracking or movement to the Water Control building was noted (see Photo #10).

The site is underlain by a formation known for sinkhole activity. The loss of water from the pool through cracks in the walls and separation in the pool slab along the dividing wall is significant and can contribute to sinkhole formation under the pool. The hollow-sounding pool slab indicates that there is a void under the slab; however, the extent and significance of the void is unknown.

No cracking or movement to the Borough Buildings was observed, which indicates that the structures are safe for occupancy.

Isett recommends that further investigations of the subgrade are performed to determine if there is a sinkhole under the pool. The investigation should be performed by a Professional Geologist and/or Geotechnical Engineer and may include but not be limited to:

1. A geophysical survey of both pool slabs and adjacent lot, as well as accessible areas on the first floor of the Borough and Water Control buildings.
2. A geotechnical engineering study, including the advancement of standard earth borings at the exterior of the Borough Building and the pool.

Until the void can be diagnosed and repaired, and the pool structure repaired, the pool should not be used or occupied.

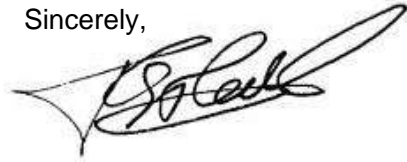
A structural engineer should work with the geotechnical engineer to develop the appropriate repairs to the void and the pool.

Isett can provide a proposal for the above investigative services, if requested.

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Thank you for the opportunity to perform this assessment. If you have any questions concerning this memorandum, please feel free to contact us.

Sincerely,

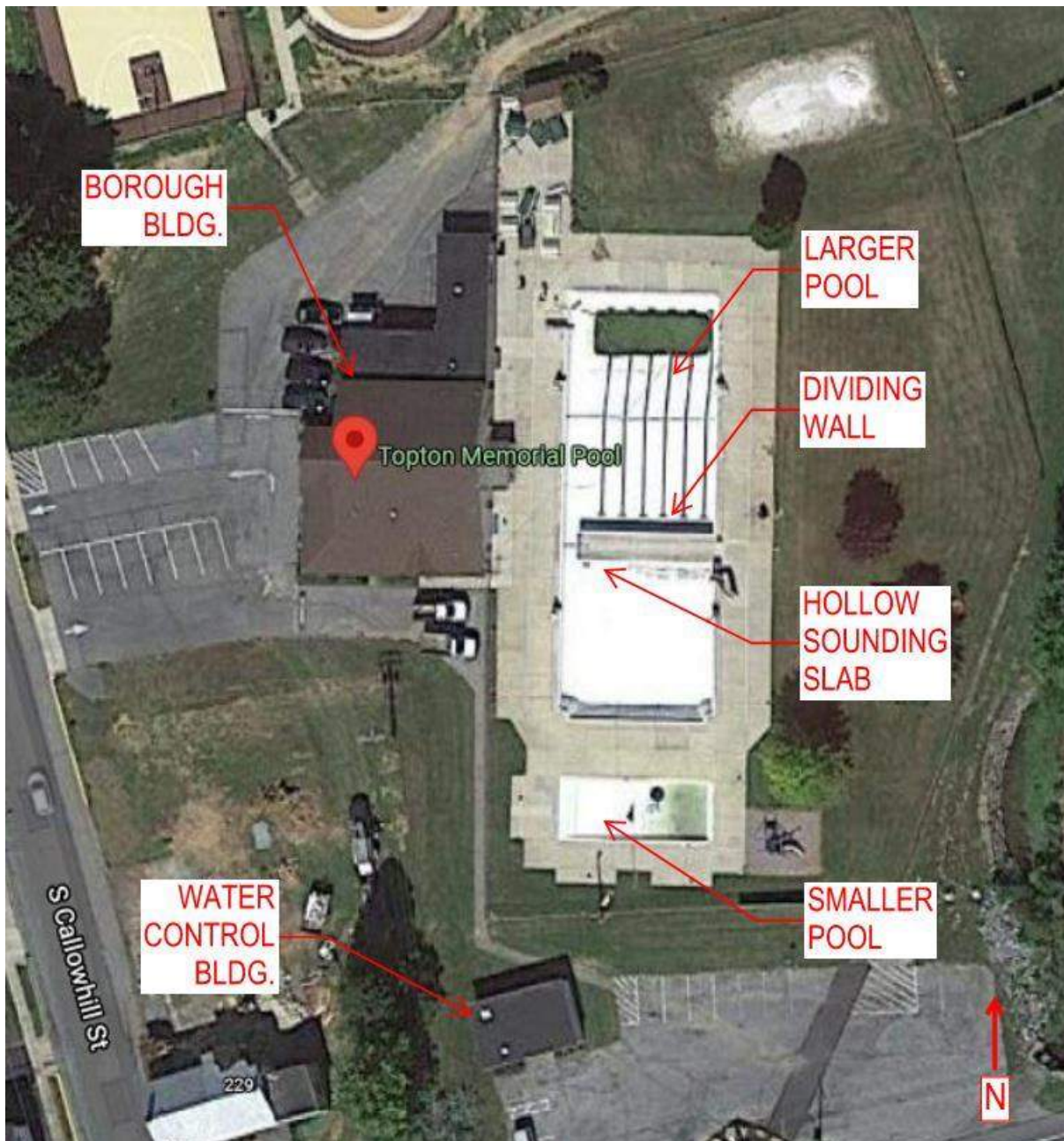
A handwritten signature in black ink, appearing to read 'T. Slowik', with a stylized flourish extending to the left.

Tomasz Slowik, P.E.
PA Registration #PE085904
Senior Forensic Engineer
Forensic Engineering Department

Attachments:
Photos

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Memorandum



Site Aerial
(source: Google Earth)

Memorandum



Photo #1 – Borough Hall building



Photo #2 – No damage to exterior wall finishes noted

Memorandum



Photo #3 – Settled pavement on left side, cracks and depressions noted



Photo #4 – No cracking or movement of slab or wall finishes

Memorandum



Photo #5 – Larger pool, and dividing wall (arrow)



Photo #6 – Deteriorated sealant and separation between dividing wall and pool slab

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Photo #7 – Crack in pool wall and slab, deteriorated sealant



Photo #8 – Cracks in pool walls in multiple locations

Memorandum



Photo #9 – Cracks in pool walls in multiple locations



Photo #10 – No cracking or movement of Water Control building

Memorandum