June 11, 2019

City of Canton
218 Cleveland Avenue SW
Canton, Ohio 44702

Attn: Mr. Donn Angus – Director of Planning

Re: Addendum
Geotechnical Engineering Exploration Report
Proposed Market Square Project
"Centennial Park"
NWC of Market Avenue N & 3rd Street NW
Canton, Stark County, Ohio
PSI Project Number 01451259

Dear Mr. Angus:

At the request of Mr. Matt Manda, Senior Associate, with MKSK, PSI has been asked to provide an addendum to our geotechnical report (originally issued March 17th, 2017) to Mr. Daniel J. Moeglin, P.E. – City Engineer for the City of Canton. In our original geotechnical report, PSI based our recommendations on the understanding that the Market Square Project (now called Centennial Park) would consist of the construction of a five-legged tower rising approximately 150-feet above the existing surface grades at the site. PSI has now been informed by Ms. Nicole C. Zechman, PE of Thorson Baker + Associates (via email on April 30th, 2019) that the project will entail a small, single-story building structure measuring about 1,500 square feet in plan area. The proposed structure will be designed using a conventional shallow foundation system. Maximum column loads of about 20 kips and max wall loads of about 1.5 kips per lineal foot were provided by Ms. Zechman. In response to the change of plans for this project, PSI has been asked to provide recommendations for shallow foundation design utilizing the six (6) test borings and associated lab work performed as part of the original geotechnical investigation.

The following geotechnical-related recommendations have been developed on the basis of the subsurface conditions encountered and PSI's understanding of the proposed development. If any changes in the project criteria occur, a review must be made by PSI to determine if modifications to our recommendations will be required.

SITE PREPARATIONS

PSI recommends that the existing topsoil and asphalt surficial layers, along with any excessively wet soils, highly organic soils, soft/loose or obviously compressible materials, and any other unsuitable materials in the construction areas be stripped and removed from the proposed building areas. Underlying the surficial topsoil and/or asphalt, fill materials were encountered at test boring locations B-1 thru B-5 to depths of about 8.5 to 14 feet below the existing surface grades. PSI believes that the majority of the fill materials can remain in-place, provided that they pass a proofroll. However, PSI recommends that the upper 12-18 inches of the fill materials be removed and replaced with acceptable structural fill within the floor slab areas. Please note that the engineering characteristics of the miscellaneous fill materials, such as strength, composition, and compressibility, are considered to be extremely variable.

After stripping, the subgrade for the proposed building structure should be proof-rolled with a loaded tandem axle dump truck (or similar heavy rubber-tired vehicle), typically with a single-axle load of at least 10 tons. Soils that are observed to rut or deflect excessively under the moving load should be undercut and replaced with properly compacted fill material. The proof-rolling and undercutting activities should be witnessed by a representative of the geotechnical engineer and should be performed during a period of dry weather if possible. Care should be taken during construction activities not to allow excessive drying or wetting of exposed soils.

SHALLOW FOUNDATION RECOMMENDATIONS

The proposed construction can be supported on conventional spread-type footings bearing on either competent naturally deposited soils, or acceptable existing fill materials. If it is desired for the planned foundations to bear on properly compacted and documented new structural fill, the geotechnical engineer should be allowed to review the proposed fill material as to ensure its consistency with the recommended bearing pressures. Individual spread footings for building columns and continuous footings for bearing walls can be designed for a maximum allowable soil bearing pressure of 2,000 pounds per square foot (psf), respectively, based on dead load plus design live load. These net-allowable pressures can be increased by a factor of 1.3 for transient loads (i.e., from seismic and wind loading).

PSI recommends a minimum dimension of 24 inches for square footings and 18 inches for continuous footings to minimize the possibility of a local bearing capacity failure. Perimeter footings and footings in unheated areas of the building should bear at a minimum depth of 36 inches below the final exterior grade to provide adequate frost protection. If the building is to be constructed during the winter months or if footings will likely be subjected to freezing temperatures after foundation construction, then the footings should be protected from freezing. PSI recommends that interior footings be set at least 18 inches below the finished floor elevation. The foundation excavations should be observed and documented by a representative of PSI prior to steel or concrete placement to assess that the foundation materials are consistent with the materials discussed in this report, and therefore are capable of supporting the design loads. Soft or loose soil zones encountered at the bottom of the footing excavations, as indicated by blows with a dynamic cone penetrometer (DCP) equivalent to N-values of less than 8 blows per foot, should be removed to the level of suitable natural soils, and replaced with adequately compacted structural fill. If over-excavation of the foundations is required to remove soft or unsuitable soils, the excavation should extend outward horizontally from the edge of the footing for a distance equal to ½ the depth of the unsuitable soils. A representative of PSI should be present on site to verify proper excavation depths.

Backfilling and compaction procedures, as described above, should then be implemented to re-establish the design bottom of footing elevation. In lieu of compacted and tested soil backfill, a controlled low strength flowable fill material (CLSM) with a minimum 28-day specified compressive strength of 100 psi could also be used as backfill. After opening, footing excavations should be observed and concrete placed as quickly as possible to avoid exposure of the footing bottoms to wetting and drying conditions. Surface run-off water should be drained away from the excavations and not be allowed to pond. If possible, the foundation concrete should be placed during the same day the excavation is made. If footing excavations are left open for more than one day, they should be protected to reduce evaporation or moisture entry.

Based on the provided maximum column and wall loads and footing size no larger than 6 feet, designed as discussed above, should experience a total and differential settlement between adjacent footings less than 1-inch and ¾-inch, respectively. However, actual settlements will be dependent upon the depth of the foundations, column spacing, structural loads and other related factors. The structural and architectural design should include provisions for

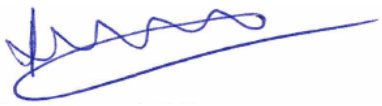
liberally spaced, vertical control joints to minimize the effects of potential settlement. Please note that as a part of the foundation selection process, there is a cost/benefit evaluation. A cost/benefit evaluation is not within the scope of PSI's services.

All other recommendations provided in PSI's Geotechnical Report #01451259 (dated March 17, 2017) should be followed for the proposed development.

If you have any questions pertaining to this addendum, please contact our office at (330) 478-0081. PSI would be pleased to continue providing geotechnical services throughout the implementation of the project, and we look forward to working with you and your organization on this and future projects.

Respectfully submitted,

PROFESSIONAL SERVICE INDUSTRIES, INC.



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