

ENGINEERING REPORT

November 10, 2021

Neil Wasser
400 Ocean Park Avenue
Bradley Beach, NJ 07720



Re: Structural Review of Existing Footings
KSI Project No. 2100_235

Dear Neil,

Pursuant to your request we performed a site visit to the above referenced property on Thursday October 14, 2021 to review the existing foundations. The purpose of our visit was to determine the structural feasibility of adding an additional story to the existing one and a half story residence. We reviewed the existing foundation wall conditions from within the basement and crawl space areas and from the exterior at holes dug by others to review the foundation system. For the purposes of this report, locations will be referenced as viewed from Ocean Park Avenue.

STRUCTURAL OBSERVATIONS

The existing structure contained a partial basement in the right and rear with areas of crawl space in the front, left side and very rear addition. The basement and crawl space walls were constructed of CMU block. The base of the basement wall on the right-side of the house and base of crawl space wall on right and left sides near the front were exposed for our review at the time of our visit. No existing footing was observed in any of the exposed areas. The basement was about 6'-4" in depth to underside of floor joists and the exterior grade was approximately 4'-0" above the basement slab.

Based on the soil boring conducted by Mr. Jonas Endreson on September 29, 2021, we have determined the existing soil is adequate to support an allowable load of 3000 psf below a depth of 4'-0" below grade. Mottling was encountered at a depth of 4'-0" in the boring and a static water level of 6'-7" below grade was determined by Mr. Endreson. Monitoring of water conditions will be required during any new construction and dewatering may be necessary.

Due to lack of footings below the CMU foundation walls, additional load can't be placed on the existing basement walls unless the existing foundation walls are underpinned or the foundation system removed and replaced in its entirety. It's our understanding due to limitations on lot setback and building coverage, complete removal and replacement of the structure and foundations may not be feasible. The attached schematic underpin detail can be used for order of magnitude pricing in discussions with contractors to determine your options.

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Based on the width of the house, we assumed the new roof and floor framing will clear span the house and bear on the exterior walls. The exterior walls will require underpinning, but the interior foundations may not require any work if we do not add new load to the interior walls. Although not exposed during our review, it is safe to assume the interior walls are constructed in a similar manner and most likely do not have concrete foundations. If the structure above clear spans the house, the interior CMU wall will only support the first floor framing so underpinning won't be required at this location. If loads of the new floors and supported from this wall, it should be underpinned as well.

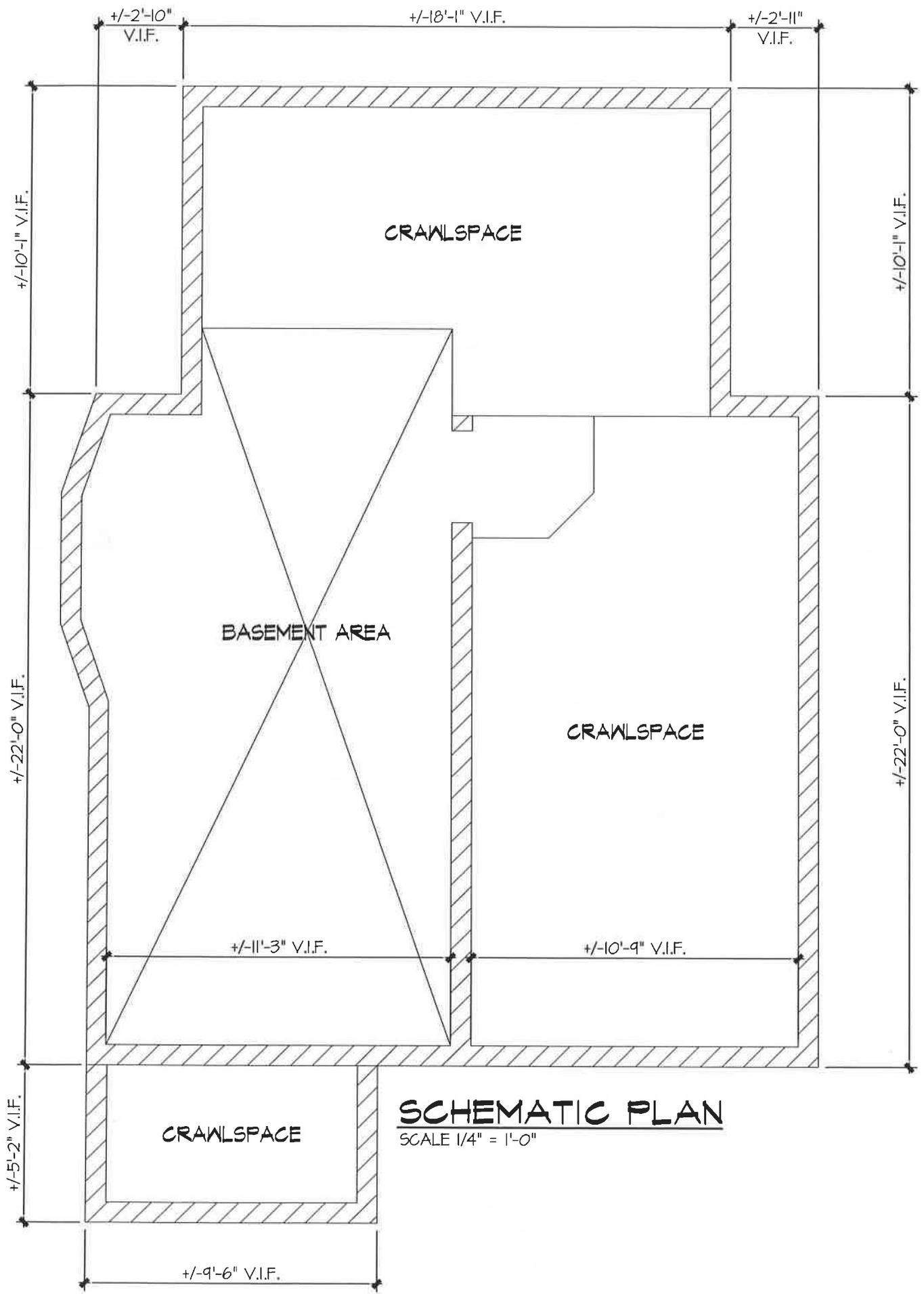
Our observations and recommendations are based on our visual review of the exposed areas of the footing, the soil boring provided and our experience reviewing this type of construction. We performed limited calculations concerning the existing foundations only to provide schematic details and offer no guarantee or warranty for any part of the existing building. If you move forward with the additional story, Construction Documents must be prepared by a licensed Architect or Engineer including any foundation improvements noted in this report. If you have any questions or need clarification, please do not hesitate to contact us.

Sincerely,



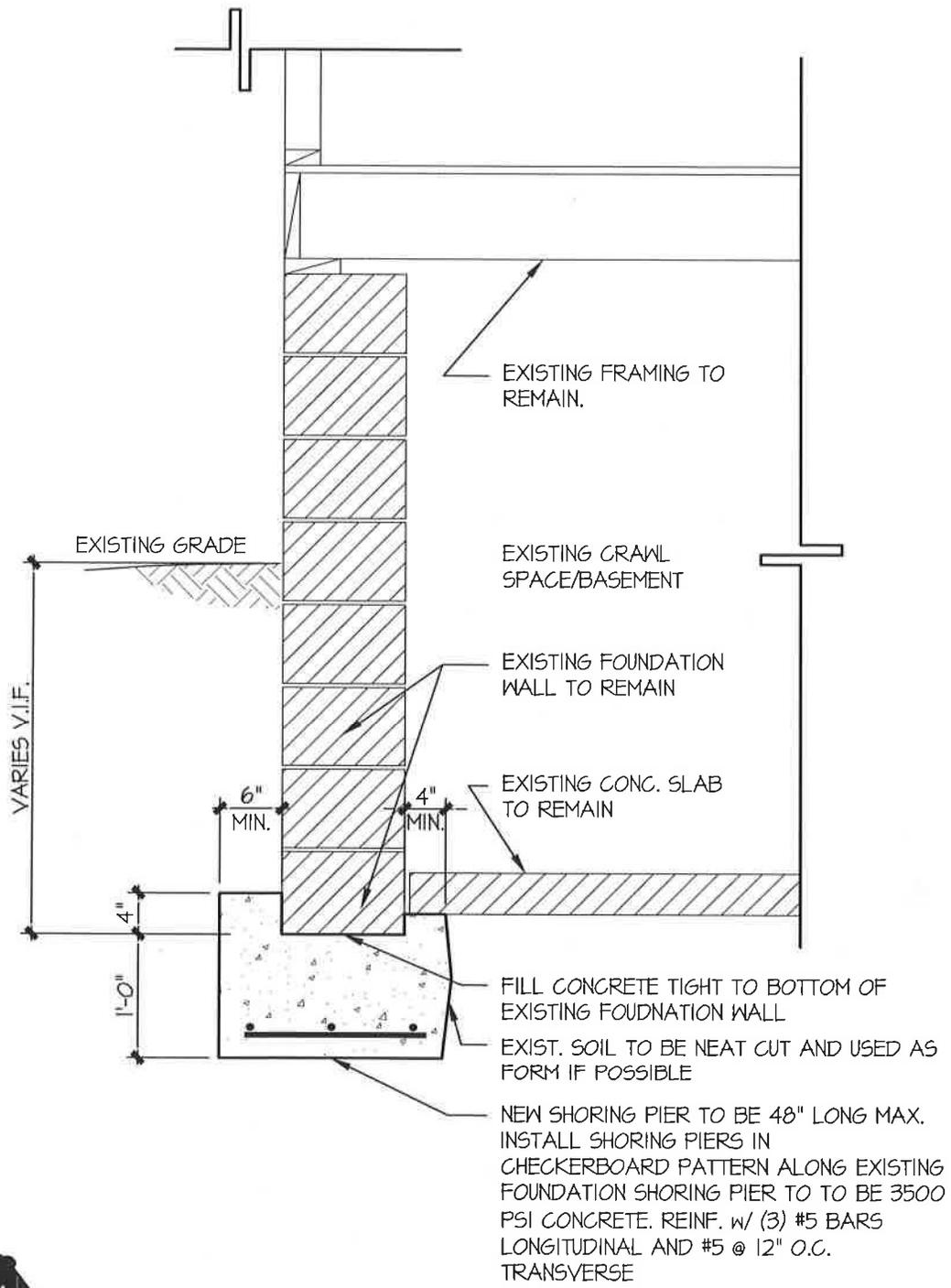
Patrick M. Cronin, P.E.
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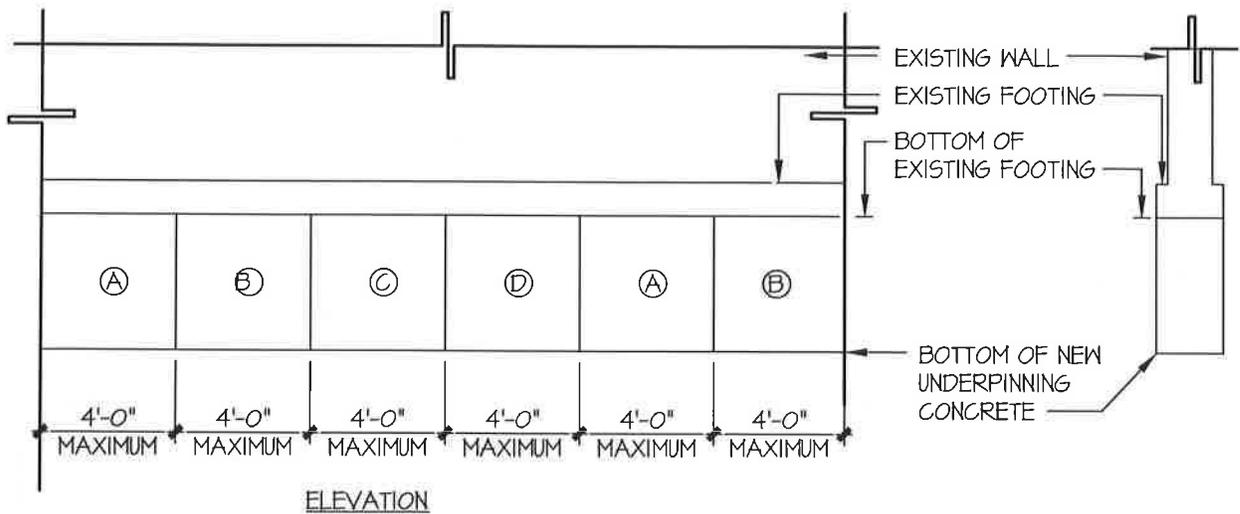
SCHEMATIC PLAN

SCALE 1/4" = 1'-0"



SCHEMATIC UNDERPIN DETAIL

SCALE: 3/4" = 1'-0 UNLESS NOTED OTHERWISE



NOTE:

1. UNDERPINNING OF THE EXISTING BUILDING WALLS SHALL BE OF PLAIN CONCRETE HAVING A 7 DAY COMPRESSIVE STRENGTH OF 3500 PSI. UNDERPINNING SHALL BE CONTINUOUS ALONG THE WALLS AND BEAR ON UNDISTURBED EARTH. BEARING MATERIAL SHALL BE APPROVED BY A REGISTERED GEOTECHNICAL ENGINEER PRIOR TO CONCRETE PLACEMENT. EXISTING WALL SHALL BE ADEQUATELY BRACED AND SUPPORTED UNTIL NEW FOUNDATION IS IN PLACE.
2. ALTERNATE UNITS, IN APPROACH PIT FASHION, AS FOLLOWS: INSTALL ALL "A" UNITS BEFORE PROCEEDING WITH "B" UNITS. ADJACENT UNITS SHALL NOT BE PLACED WITHIN 4 DAYS OF EACH OTHER OR UNTIL CONCRETE HAS ATTAINED $f'_c = 2500$ PSI MINIMUM. ALLOW 24 HOURS MINIMUM.
3. PROVIDE TEMPORARY TIE BACKS OR BRACING AS REQUIRED TO PREVENT LATERAL MOVEMENT OF UNDERPINNING UNTIL BACKFILL OR PERMANENT BRACING HAS BEEN INSTALLED.

B

TYPICAL DETAIL WALL UNDERPINNING

SCALE: 3/4" = 1'-0 UNLESS NOTED OTHERWISE