

R.C. BURDICK, P.E. P.P. P.C.

1023 OCEAN RD. PT. PLEASANT, N.J. 08742

PHONE 732-892-5050

FAX 732-892-5888

Borough of Atlantic Highlands
Construction Code Official
100 First Ave.
Atlantic Highlands, N.J. 07716

March 7, 2025

Re: 39 Hooper Ave.
Lot 5, Block 55
Borough of Atlantic Highlands
Project 25-9012

Dear Construction Code Official,

We have performed a footing analysis for the lifting of an existing single family home at the above mentioned referenced address. Enclosed are our calculations and a copy of the soil boring.

Soils per soil boring performed by RC Burdick PE PP PC on 3/4/2025 shows 6' of silty loam. Seasonal high water was not indicated, and groundwater was not encountered. Based on the soils and considering the prescriptive soil bearing capacities listed in the IRC, a conservative soil bearing capacity of 3000 psf for silt, can be used for analysis.

As shown in the attached calculations, the existing footing is adequate to support the addition of second floor to the existing one-story residence.

We trust that this information and report will be adequate for your analysis of the foundation. Should you require additional information or have any questions, please call.



Sincerely yours,

A handwritten signature in cursive script that reads "Mussie Eyob".

Mussie Eyob, MSCE PE
NJPE # GE52932

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Foundation Analysis

39 Hooper Ave.

Lot 5, Block 55

Borough of Atlantic Highlands

Monmouth County, New Jersey

Project No. 25-9012

This analysis is to determine the acceptability of an existing 24" footing and 6' high foundation to construct an additional story to an existing single family residence at the above referenced address. The soils were excavated adjacent to the home but a soil boring was performed near the bottom of the footing. Soils encountered were 6' of silty loam per the soil boring performed by RC Burdick PE PP PC on 3/4/25. Neither seasonal high water nor groundwater were encountered in the boring. Based on the soils and considering the prescriptive soil bearing capacities listed in the IRC, a conservative soil bearing capacity of 3000 psf for silt, can be used for analysis.

The largest unsupported span is 26.5' with one row of support columns. Therefore, the maximum design width is $26.5'/4 = 6.2'$ wide, and a value of 10' is used for design. The following loads are expected:

Roof:	Live Load	=	30 #/sf
	Dead Load	=	<u>11 #/sf</u>
	Total	=	41 #/sf
Attic:	Live Load	=	20 #/sf
	Dead Load	=	<u>10 #/sf</u>
	Total	=	30 #/sf
First Floor:	Live Load	=	40 #/sf
	Dead Load	=	10 #/sf
	Ceiling	=	<u>10 #/sf</u>
	Total	=	60 #/sf
Second Floor:	Live Load	=	30 #/sf
	Dead Load	=	10 #/sf
	Ceiling	=	<u>10 #/sf</u>
	Total	=	50 #/sf

Total Structure Load: $41\# + 30\# + 60\# + 50\# = 181\#$

Load Per Foot: $181\#/sf \times 10\text{ ft.} = 1810\#/lf$

Exterior Walls:	Siding	15.0 #/sf
	Sheathing	2.5 #/sf
	Studs	2.0 #/sf
	Interior Siding	<u>10.0 #/sf</u>
	Total	29.5 #/sf x 25' = 737.5 #/lf

Footing: $(12''\text{h} \times 24''\text{w}) / (144 \text{ in}^2 / \text{ft}^2) \times 150 \text{ #/cf} = 300.0 \text{ #/lf}$

Foundation: $(72''\text{h} \times 8''\text{w}) / (144 \text{ in}^2 / \text{ft}^2) \times 110 \text{ #/cf} = 440.0 \text{ #/lf}$.

Total Load: $1810 \text{ #/lf} + 737.5 \text{ #/lf} + 300.0 \text{ #/lf} + 440.0 \text{ #/lf} = 3,287.5 \text{ #/lf}$.

Soil Boring Capacity : 3,000 psf.

Footing Width: $24'' / (12''/\text{ft.}) = 2.0 \text{ ft}$

Available Capacity: $2.0 \text{ ft} \times 3,000 \text{ psf} = 6,000 \text{ #/lf}$.

Available Capacity 6,000 #/lf. Vs. Existing Load 3,287.5 #/lf

According to this analysis the existing footing is adequate for the proposed addition of 2nd floor to the existing one-story residence.



Mussie Eyob

Mussie Eyob MSCE, NJPE No. GE52932

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Soil Boring
39 Hooper Ave.
Lot 5, Block 55
Borough of Atlantic Highlands
Monmouth County, New Jersey
Project No. 25-9012

0 – 6'0"	Excavated area, no soils
6'0" – 10'2"+	Strong brown silty loam, 7.5 YR 5/8

Boring performed on 3/4/25
Seasonal high water not indicated
Standing water not encountered
Boring performed by RC Burdick PE PP PC

Mussie Eyob, MSCE NJPE No. GE52932

