



TOWN OF AMHERST

BUILDING DEPARTMENT

ERIE COUNTY, NEW YORK

5583 MAIN STREET

WILLIAMSVILLE, NEW YORK 14221

PHONE: (716) 631-7080

FAX: (716) 631-7192

THOMAS C. KETCHUM, P.E.
Commissioner of Building

DATE: June 8, 2015

TO: All Code Enforcement Officers

FROM: Thomas C. Ketchum, P.E., Commissioner of Building

RE: Residential Building Permits - Code Compliance Issues for Foundations

This memorandum serves to supersede the memoranda, dated June 2, 2004 and May 8, 2006 (as revised), regarding the same topic.

Effective June 8, 2015, no building permit shall be issued for a foundation associated with construction of a residential principal building or a lateral (horizontal) addition to a principal building unless the following minimum requirements have been met or exceeded:

In the area of the Town of Amherst located north of the Onondaga Escarpment, a soil test consisting of at least one soil boring and a geotechnical analysis shall be provided for each principal building.

1. In general, a soil boring shall extend to the greater of 1) a depth of fifteen feet beneath the depth of the proposed footing or 2) a depth that extends to competent soil through any soft, very soft, loose or very loose soil layers, also noted as cohesive soils with a Standard Penetration Test N-value of 4 or less or granular soils with a Standard Penetration Test N-value of 10 or less as specified by ASTM D1586. A soil boring test may also be terminated at any depth whenever "refusal" is reached (N-values of 100 or greater).
2. The geotechnical report shall include a soil classification of each soil layer encountered at a site. The soil classification shall be based upon the Unified Soil Classification System
3. The geotechnical engineer shall determine if the soil encountered at the building site is classified as expansive in accordance with Section R403.1.8.1 of the Residential Code of New York State (RCNYS) or Section 1802.3.2 of the Building Code of New York State (BCNYS), as applicable.
4. The geotechnical engineer shall determine the Seismic Design Category of the soil encountered at the building site. The Seismic Design Category shall be provided in written form.
5. Using good engineering judgement, the geotechnical engineer shall determine the allowable bearing capacity of the soil located beneath the foundation. The allowable bearing capacity of the soil shall be provided in written form.

6. Backfill material and installation standards shall be included in the permit application. If silt or clay soil is proposed for backfill material, the geotechnical engineer shall provide the lateral earth pressure that could be anticipated. The structural engineer or architect shall specifically certify in writing that the design of the foundation wall is capable of withstanding the anticipated lateral earth pressure. Calculations supporting the certification may also be required at the discretion of the Commissioner of Building.
7. Allowable uniform settlement and differential settlement shall be limited to a maximum of 1 inch and $\frac{3}{4}$ inch respectively. The design engineer or architect shall provide written certification that these design criteria have been met. Calculations shall be provided to support the certification.
8. The design engineer or architect shall provide written certification that the design recommendations of the geotechnical engineer have been included in the design of the structure.
9. The design engineer or architect shall provide written certification that the design of the structure is in compliance with all applicable sections of the RCNYS or BCNYS.

For additions to a principal structure, that are to be constructed over an existing foundation, a soil test shall not be required if the design professional provides a written determination that there are no significant problems with the existing foundation.

In the area of the Town of Amherst located on the face of or above the Onondaga Escarpment, a soil test consisting of a soil boring, a hand-auger test, geoprobe, test pit or other test acceptable to the Commissioner of Building shall be provided for each principal building or lateral addition to a principal building. Items 2 through 9 as detailed above shall also be provided.

In general, accessory structures that are not attached to a principal building can continue to be built without a soil analysis if the soil contact pressure is reduced to 2000 lbs./sq.-ft. or less and the foundation is reinforced with structural steel. Accessory structures that are attached to a principal building can continue to be built without a soil analysis if the soil contact pressure is reduced to 1500 lbs./sq.-ft. or less and the foundation is reinforced with structural steel.

Please refer to Chapter 4 of the RCNYS and Chapter 18 of the BCNYS for building code requirements associated with soils and foundations.

Please contact me if you have any questions regarding the contents of this memo.

Thomas C. Ketchum, P.E.
Commissioner of Building