

Notice to Professional Engineers Grade Beam and Pile Foundation Standata

In May 2001 the Safety Codes Council and Alberta Municipal Affairs issued a Standata that permits the use of pre-engineered designs for pile and grade beam foundations for attached garages to detached single family dwellings. The Standata is:

97-DR-008 Grade Beam and Pile Foundations for Attached Garages to Detached Single Family Dwellings

The Standata is based on and relies on designs prepared by Beardon Engineering Consultants Ltd. The designs are documented in a report prepared for the Alberta Housing Industry Technical Committee (AHITC) entitled "Grade Beam and Pile Foundations for Garages Attached to Detached Single Family Dwellings" Dec. 1999.

There are two stages that require the involvement of Professional Engineers.

1) The first stage is that a Professional Engineer must verify that the pile design given in the report will be capable of supporting a service load of 11 kips (49 kN). The pile design in the report is a minimum of 12" (305 mm) diameter by 12 feet (3.66 m) long. The pile is to be reinforced with 2-#15M verticals extending 22 inches into the grade beam. It is the Professional Engineer's responsibility to consider:

- The nature of the soil
- Ground water conditions
- The possibility of fill
- The potential for frost heave

Should the Professional Engineer determine that the conditions are such that the pile design is inappropriate, then he or she should design a pile that is appropriate.

2) The second stage of Professional involvement is in the site review of the pile. Single storey garages with or without masonry veneers up to 3 m high can be inspected by an experienced member of the builder's staff. All other piles require review by a knowledgeable person (independent party). In the case of a 2 storey, masonry clad superstructure the review must be done by a Professional Engineer. The Professional Engineer must review the holes prior to concreting and confirm the diameter, length, reinforcing, ensure that the soil is consistent with what was assumed and that the holes are clean with no loose soil.

There have been some concerns raised that proper evaluation of the pile capacities and proper inspection procedures are not being followed. APEGGA's Practice Standards Committee reminds Professional Engineers that the public is relying on their expertise to ensure that the design and construction of the piles is properly done.