



**S**crew piles are a fast growing technology in Manitoba which are being used with more and more frequency and on a wide range of projects. As a result, various screw pile companies are popping up.

It is good in that credible competition locally validates the technology of screw piles and helps it advance towards common use and acceptance.

It is also concerning. At the time that this article is being written, proper local criteria and guidelines for screw piles is largely lacking in Manitoba. Unless some logical guidelines for screw piles are put in place, engineers, consumers and installers will make costly mistakes.

Below are 3 important requirements that any professional screw pile contractor should meet before earning consideration for a project.

### #1. TORQUE MONITORED INSTALLATIONS VERIFY THE CAPACITIES REQUIRED ARE ACHIEVED.

Engineers with extensive experience working with screw piles have gained very high levels of confidence in the technology because they understand the empirical relationship between installation torque and the capacity. Such engineers require installers to achieve minimum torque values on every project.

From time to time, screw piles will be pre-engineered using formulas and information from a geotechnical report. When this is the case, the probability of screw pile failure is low but due to the unpredictable nature of soil from one point to a few feet over, savvy engineers still require installers to monitor and confirm the torques achieved during installation.

### #2. ENGINEER STAMPED LETTER OF COMPLIANCE FROM 3<sup>RD</sup> PARTY ENGINEER.

Requiring a letter of compliance, allows design engineers to specify screw pile locations and capacities on a plan without having to become experts in screw pile design and installation.

A professional screw pile company can provide you with an engineer stamped letter compliance. This is where an engineer with expertise in screw piles, reviews the installation logs and then certifies that the screw piles installed meet design criteria. To avoid conflicts of interest it is best for a letter of compliance to come from a third party engineer.

### #3. THE SCREW PILES ARE DEEP ENOUGH FOR AN UP TO 8 FOOT MANITOBA FROST LINE.

Screw piles have earned a reputation for unparalleled stability in expansive soils; this is especially true for screw piles with a shaft of 3.5in (89mm) or less which are commonly considered non-displacement piles. The catch of course is that the screw pile must be long enough to anchor the helical blade(s) below Manitoba's extreme frost line.

It is important to measure a screw pile from the top of the helical and then negate 6in (152mm) above grade to allow for ground swell; therefore, a 7ft (2.13m) screw pile is really a 6in (152mm) screw pile or, depending on helical pitch, less than a 6ft (1.83m) screw pile. A popular DIY screw pile has a helical that is 26in (660mm) from the base of the pile, so the 8ft (2.44m) screw pile is really only 5ft-10in (1.78m)!

Insisting that the 3 criteria above are met will help to weed out the "cowboys" and reinforce screw piles as a foundation solution that is both predictable as well as dependable.






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Got a project in mind for screw piles? Let's talk! Contact Dale Plett, B.Sc.Eng. at 204.793.0653 or [dale@screwpiling.ca](mailto:dale@screwpiling.ca) to discuss a project, request technical information or book a lunch and learn.

Learn more at [www.screwpiling.ca](http://www.screwpiling.ca).