



What are Rammed Aggregate Piers?

The Geopier Rammed Aggregate Pier™ System is a patented proprietary ground improvement system that comprises a series of piers constructed of uniformly graded aggregate (or stone) installed using specialist equipment. The piers are installed vertically in the ground in either a triangular or square grid to at least 4m depth below the ground surface. A layer of compacted gravel is then put over the top of the piers, ready for the construction of new house foundations.

How do Rammed Aggregate Piers improve the ground?

Rammed Aggregate Piers help to limit the amount and consequences of liquefaction by:

- Displacing soil laterally to densify the soil and increase soil stiffness
- Reinforcing the soil creating a stiff composite soil mass.

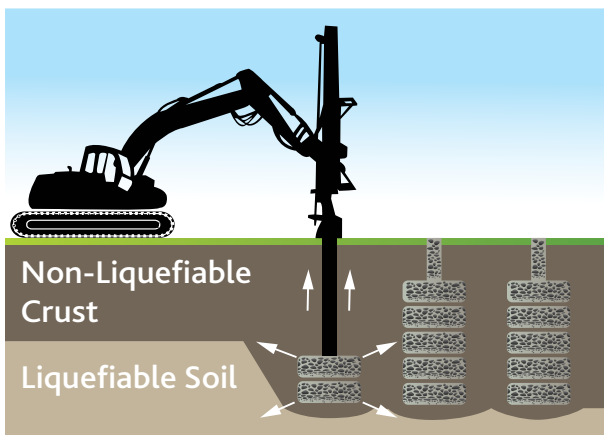
By achieving this, the non-liquefying soil crust is thickened and stiffened to reduce the likelihood of undulations, tilt and uneven ground surface subsidence from liquefaction of the underlying soil layers, therefore reducing damage to the house foundations.

How are Rammed Aggregate Piers constructed?

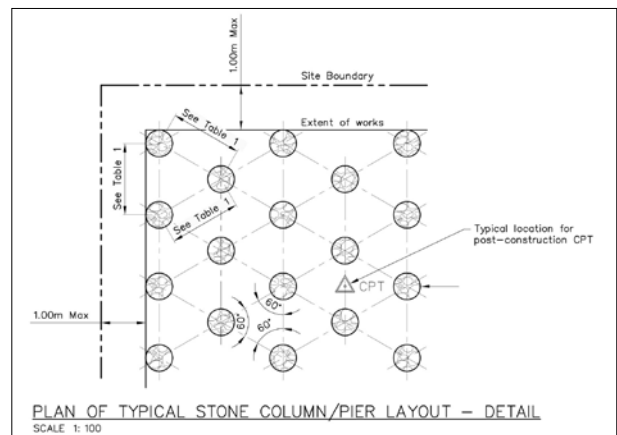
Rammed Aggregate Piers are installed by experienced contractors, using specialist equipment involving an excavator with a vibrating mandrel attachment. An excavator or tele handler continually loads stone into the hopper, feeding it down the mandrel and into the ground. The stone is compacted using a ramming and vibrating action to form a stiff, high-density, vertical aggregate pier within the ground.

An advantage of Rammed Aggregate Piers is that no dewatering or excavation is required for the construction and they typically have a short construction period.

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Geopier Rammed Aggregate Pier™ System (RAP)



Typical triangular grid installation pattern

What soils suit Rammed Aggregate Piers?

Rammed Aggregate Piers are best suited to sandy soils. A greater concentration of Rammed Aggregate Piers are required when used in siltier soils.

Because of the large equipment required and the requirement for an area to store the stone, this method may not be practical for smaller properties or those with limited access.

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Equipment required to construct Rammed Aggregate Piers