

**Ground Improvement
By
SOIL MIXING COLUMNS**

Eco Foundations can offer the following that deal with the poor ground with very little on site disruption.

- **Mass In-situ Soil Mixing** will provide a solid base on top of the gravels for the paving area.
- **Integrated In-situ Soil Mixed Transfer Slab with Deep Soil Mixed Columns**, soil mixing provides a stiff slab supported on homogeneously mixed columns.

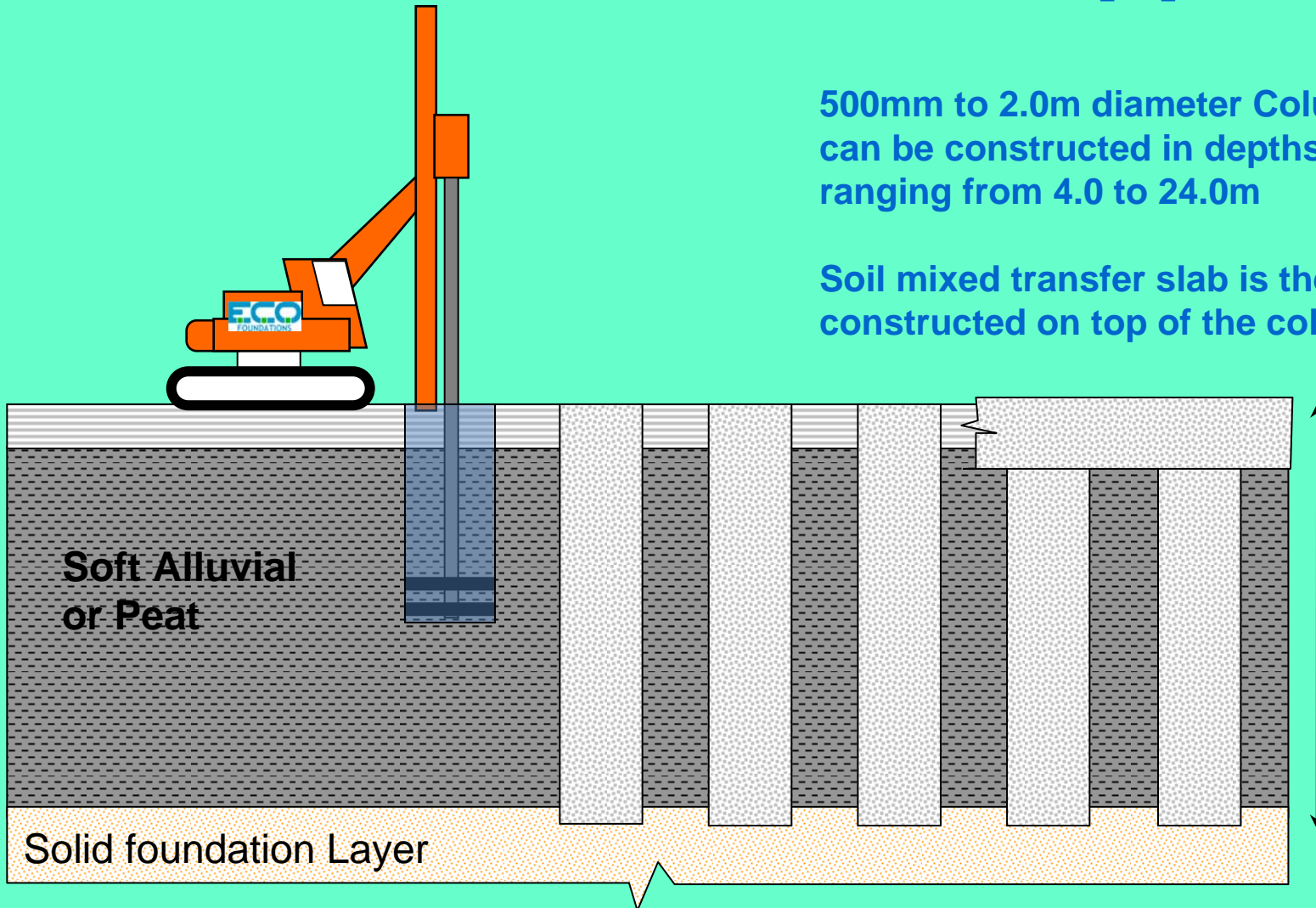
Soil Mixed Foundations

- Use the Existing Ground
- No Waste Material to Dispose Off
 - Reduced Lorry Movements
- Reduced Construction Programme
 - Lower Carbon Footprint
- Provides Savings to the Project

Soil Mixed Column Supports

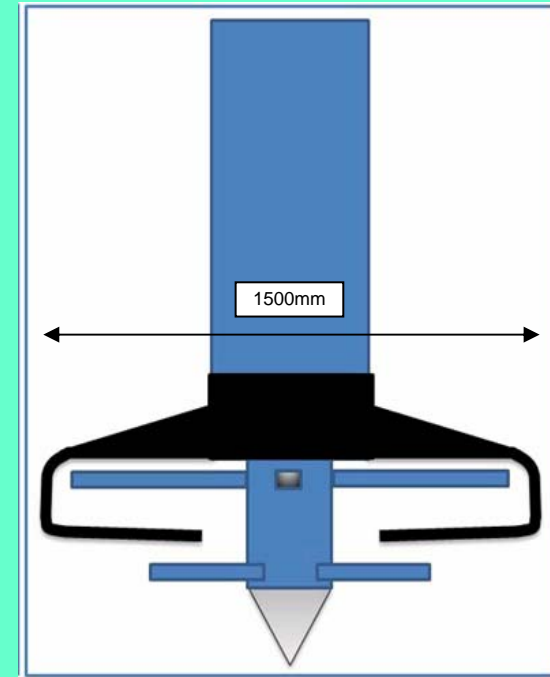
500mm to 2.0m diameter Columns
can be constructed in depths
ranging from 4.0 to 24.0m

Soil mixed transfer slab is then
constructed on top of the columns

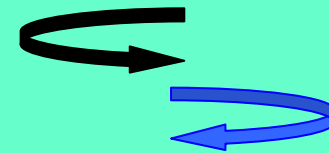




Eco's Double Rotary Mixing Head



For Soil Mixing to be successful the ground must achieve a good homogeneous mix of the required binder and Eco's purpose built mixing head will achieve this in a wide range of soils. With over 1800 paddle revolutions per meter in opposite directions for each vertical meter of mixed ground this head provides a very homogeneous mix.



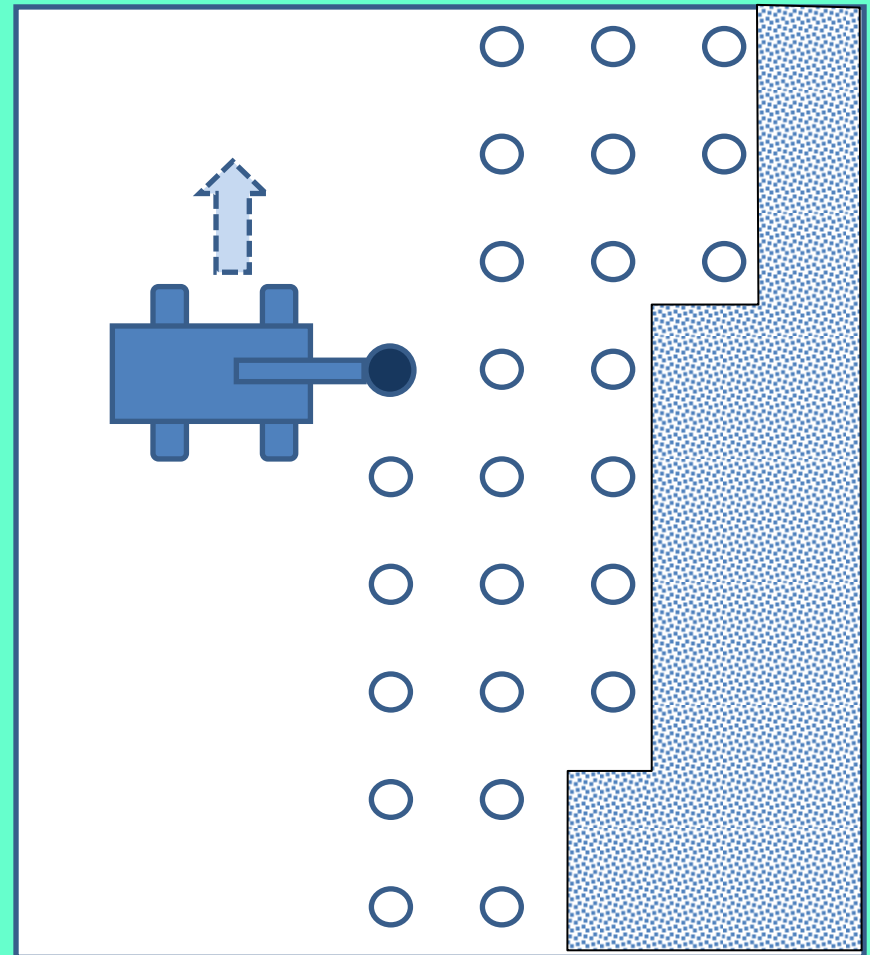
Quality Control

For Soil Mixing to be successful a reliable QA system must be adopted, Eco's system measures & records the following;

- **Quantities of each mixed batch, time mixed, binder volumes,**
- **Depth of injection,**
- **Rotation speed of head and count of revolutions per meter mixed,**
- **Quantity of binder being injected per meter mixed,**
- **Torque pressure of the mixing head gives an indication of the soil layers being mixed,**
- **Speed of vertical decent and then removal of mixing head during the mixing of each column.**
- **Total volume of binder installed in column.**

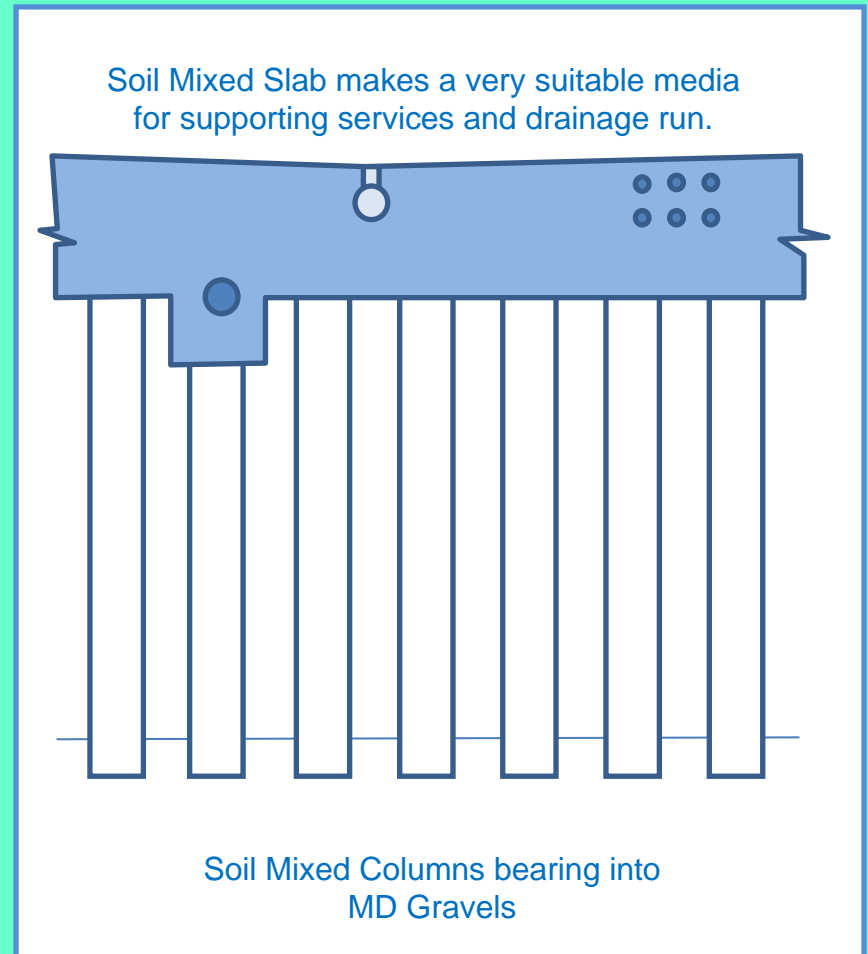
Construction of columns followed by transition slab

- Installation of columns is carried out in a row by row strategy that minimises the rig movement between columns.
- GPS positioning can be installed on the rig for setting out each column and providing as built construction records.



Soil Mixed Slab

- While the primary action of the Soil Mixed Slab is to act as a transfer mattress there are advantages to constructing this slab out of soil mixed material.
- Slab can be shaped to the required gradients.
- The slab makes a very useful media to support services and drainage runs.





Excavation through mass soil mixed material provides stable support for service & drainage runs.

