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CLAIMS

1. A ground improvement method comprising:

burying, in a target ground, a super well point device that

evacuates air with a vacuum pump so that groundwater flows into a strainer pipe buried underground, the strainer pipe including a water-permeable strainer provided at a lower end of the strainer pipe and a filter formed on an outer circumference of the strainer pipe,

sucks the groundwater with a drainage pump provided inside the strainer pipe, and

drains the groundwater out to a ground surface through a drainpipe;

lowering a groundwater level by sucking pore water in the ground; and

causing settlement of the ground by facilitating vacuum evaporation,

wherein the method further comprises applying an impact force to the ground to compress a soil particle structure in the ground so that settlement and consolidation of the ground is facilitated, in which the pore water between soil particles of the soil particle structure is replaced with vacuum evaporated air through the evacuation with the vacuum pump and the drainage with the drainage pump of the super well point device,

wherein the target ground includes a water-permeable stratum constituted of a sandy soil under an improvement target stratum constituted of a cohesive soil,

wherein the super well point device is buried such that a lower end of the device reaches the water-permeable stratum,

wherein the applying of the impact force includes:

hammering a casing pipe into the target ground so that a lower end of the casing pipe reaches the water-permeable stratum and so that a position of the lower end of the casing pipe is higher than a position of the lower end

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of the super well point device;

putting sand into the casing pipe; and

vibrating the casing pipe containing the sand with a vibratory hammer,

wherein the method further comprises removing the casing pipe so that a sand pile is formed.

2. The ground improvement method according to claim 1,

wherein the method further includes forming, on an upper end of the sand pile, a cap layer with the cohesive soil that constitutes the improvement target stratum.

3. The ground improvement method according to claim 2, wherein the applying of the impact force further includes:

further adding a surcharge on the target ground by laying a second embankment on a first embankment laid on the target ground; and

running a vibration roller over the laid second embankment,

whereby the settlement and the consolidation of the ground is secondarily facilitated.