

A Test of the Construction Pier

Aug. 8, 2005 @ UHH and ML Site

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w/ Sunny and Jamie

Construction Piers @ HPM



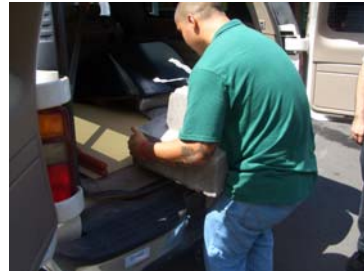
The pallet size is 4' x 4' and 18 blocks per pallet

Loading @ HPM



Plywood was placed to protect the Suburban from the blocks. The bed size is 4'x 4'. This is the same size as the pallet.

HPM guy load the block by himself, but this is impossible for us to do same thing.



Carrying Test @ UHH



It was very heavy as expected, but we could lift it by using the pole and ropes.

(* to use the shackle, the hole of the strip on the block was a little bit enlarged.



Placing Test @ ML Site (1)



At first, we put pea gravel (50 lbs 3/8" crashed rock) on the surface. 50 lbs was minimum to fill the space between lavas and make a flat surface. It might be better to get gravels with darker color.

Placing Test @ ML Site (2)



Second, we lifted the pillar block by the pole as tested at UHH. The weather was very bad (it was raining heavily). I think we can place several pillar blocks by ourselves with this method. However, we need crawler crane to place large amount of blocks

Placing Test @ ML Site (3)



When placing, the pillar block sank a little bit due to the movement of pea gravel. It might be difficult to adjust levels below 1 cm, but I think it is possible to adjust the level between blocks within 2cm. As Jay suggested, tamper would be helpful.

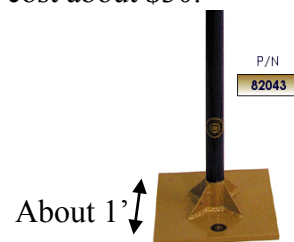


Placing Test @ ML Site (4)



Left photograph shows a placed Pillar block. The block was not well leveled at this time. We need a water level to check the local level of the pea gravel.

Tamper looks like below picture and will cost about \$30.



Wheelbarrow @ ML Site (1)



We tried to carry the pillar block using wheelbarrow. But the wheelbarrow easily was stuck by a bit of a bump. I could not push the wheelbarrow well.

Wheelbarrow @ ML Site (2)



Sunny could push the wheelbarrow well. But it was still difficult for him, too. It should be helpful to push it if we make a simplified road by arranging the plywood board. Moreover, it must be much helpful if we have a tractor (without mowing machine) with trailer.

Bad Weather @ ML Site



Unfortunately, it was heavily raining at the site. There was high cloud around the mountain, and it was totally different from usual. It was a good experience to know that we might have such condition during the construction phase.

Summary

- **We have placed the pillar block (construction pier) on the level 3 at the site.**
 - The block was movable by human power.
 - The pallet size was 4'x 4' (same as Subarban's bed)
Although we should not use the Subarban to deliver the concrete blocks because it would be too much load for the Subarban.
- **Pea gravels were useful to prepare the lava surface.**
 - Make level (local & between detectors)
 - Get as much as contact area
 - The accuracy of the level will be limited to ± 1 cm by the movement of the gravel when placing the pillar block and/or the detector itself.
- **Wheelbarrow was hard to push.**
 - It might be helpful to make a simple road by plywood.
 - It must be much helpful to use a tractor with trailer.