

# Black Stump®

## Pavers and Retaining Blocks

### Concrete Sleeper Retaining Wall

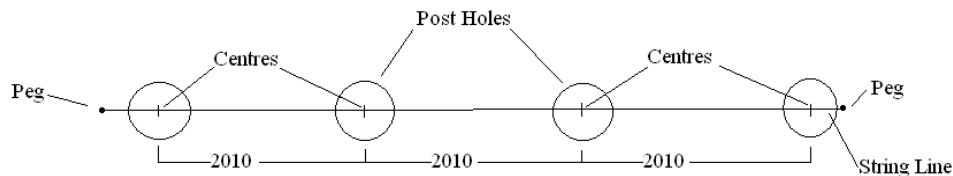
#### Installation Guide

The following is a guide only, for retaining walls up to one metre high.  
**Any retaining wall over one metre high requires an Engineers design and Local Council approval, before construction.**

#### 1. SET OUT

- Set a string line along the proposed wall alignment and for 2 metre sleepers, measure and mark on the ground, along the string line the hole spacings at 2010 mm centre to centre.

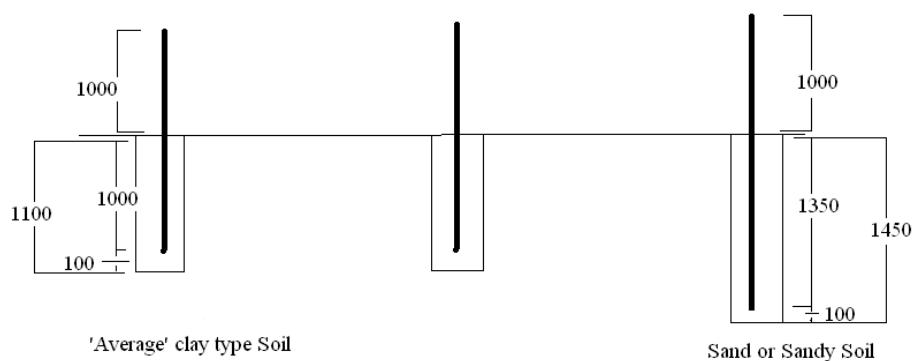
**Note:-** for 2.4m sleepers the hole centres should be 2410mm



#### 2. POST HOLES

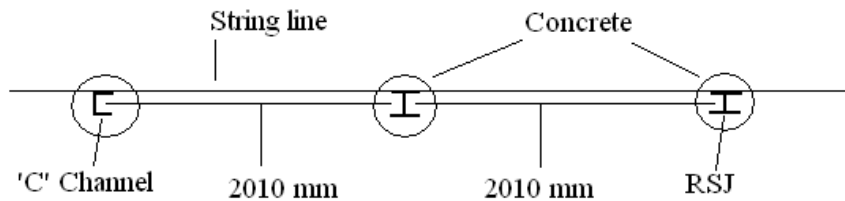
- Remove the string line and bore the holes to the required depth. For most 'average' soils this would be the same as the height of the wall plus 100mm. With a hole diameter of 300mm minimum.

**Note:-** For sandy soils the hole should be at least one third larger. If a fence is to be attached to the wall another one third should be added again to allow for wind load.



### 3. PLACING STEEL POSTS

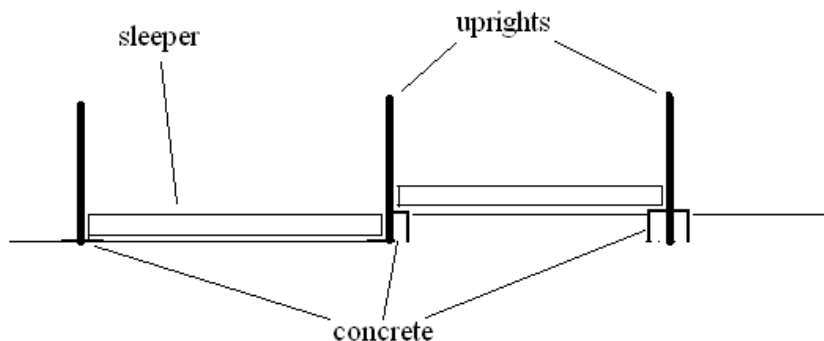
- Replace the string line. Measure down the length of the RSJ or 'C' Channel steel upright, the height of the wall (1 metre) and mark the steel.
- Fill the hole approximately 1/3 with concrete and lower the RSJ into the hole, using the string line as a guide.
- Place a piece of scrap timber across the top of the hole and clamp to the RSJ at the mark previously made. This will ensure the RSJ remains 100mm off the bottom of the hole, while you are making adjustments, leaving it fully encased in concrete.
- Ensure the uprights are straight to the string line, upright with a spirit level and internally 2010 mm apart, top and bottom.



- Level the concrete off at the mark on the RSJ previously made. This becomes the support for the sleeper when placed, to stop it from sinking into the soil under it.
- Let the concrete cure overnight before installing sleepers.

### 4. SLEEPER PLACEMENT

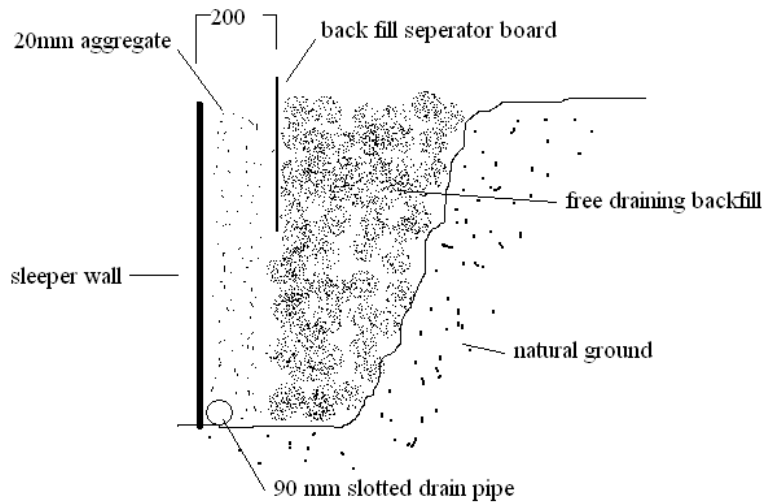
- Place the first row of sleepers between the uprights, setting them down on the concrete pads at the base of the uprights. Check each one for level and all line up, use a bit of packing (ie. pieces of fibro/ cement sheet) if needed to for fine adjustment.
- Carefully place the rest of the sleepers.



- Leave the wall for at least a week for the concrete to cure properly before placing drainage and backfill.

### 5. DRAINAGE and BACKFILL

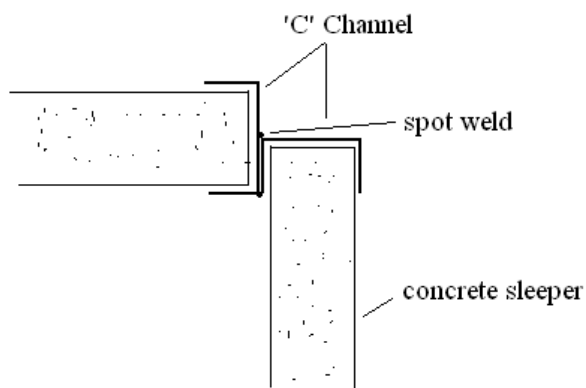
- Place slotted drain pipe behind the wall, ensuring adequate fall along the length of the wall for the water to run away from the base of the wall.



**Hint:-** Place a sheet of ply or similar 200mm out from the back of the wall. Hold vertical between some stakes. Fill one side with the drainage aggregate and the other with suitable back fill. As the wall height increases slide the separator board up to the new level. Keeps it neat, doesn't waste expensive aggregate.

## 6. CORNERS

- Corners are easily achieved by using two sections of 'C' channel spot welded together.



**Hint:-** When placing a number of sleepers. Hiring a Rippla Grippa – Sleeper Grab will save time, squashed fingers and back injuries. Contact your supplier for details.