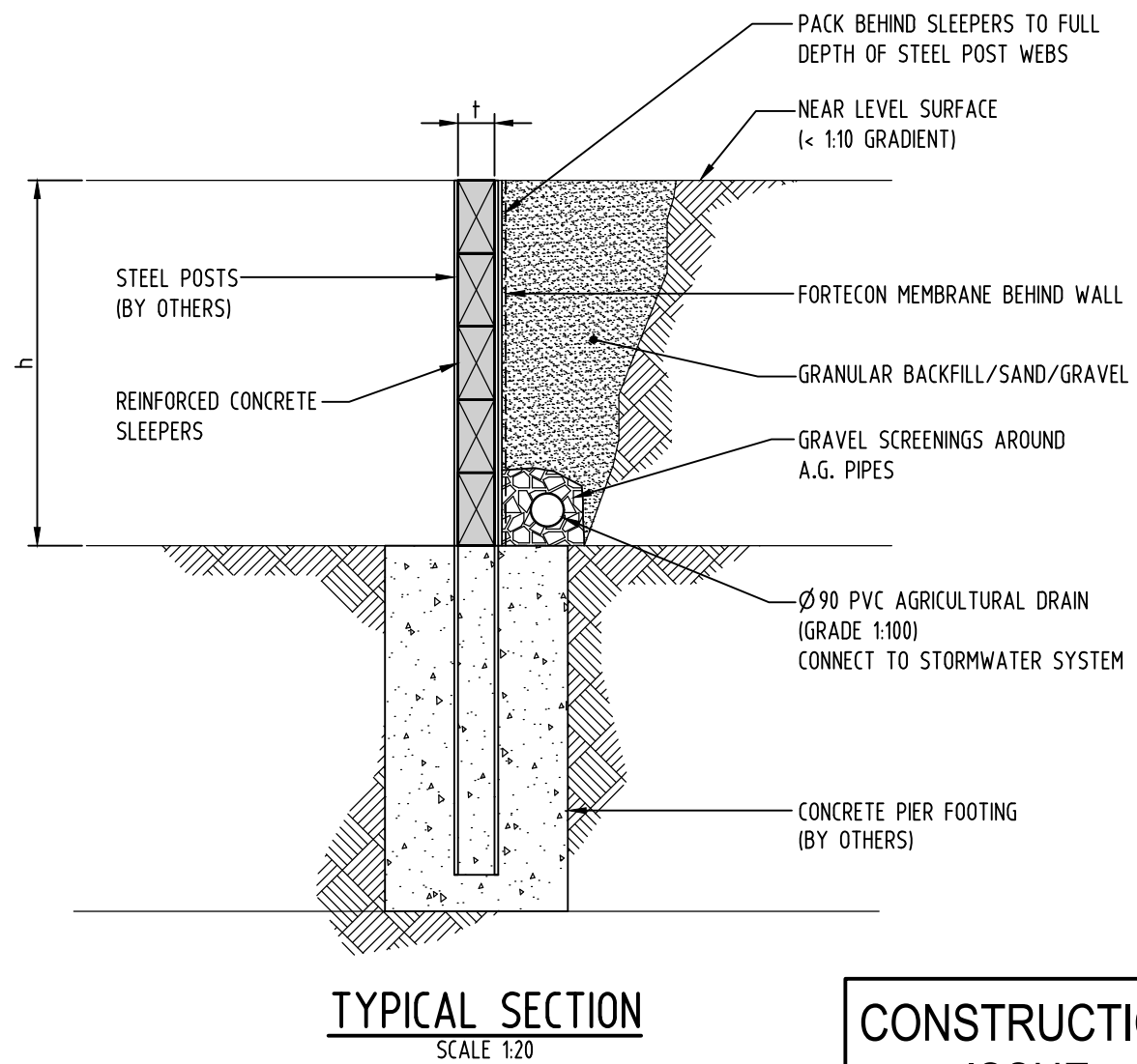


**NOTE:**  
PATTERN FACE SHALL NOT ENCR OACH INTO SLEEPER MIN. THICKNESS 't'



**CONSTRUCTION ISSUE**

- ### SPECIFICATIONS
- SLEEPER CONCRETE GRADE TO BE S50. RIGID FORMWORK & INTENSE CONCRETE COMPACTION IN ACCORDANCE WITH AS 3600 IS REQUIRED FOR CASTING EACH SLEEPER.
  - HAND COMPACTING EQUIPMENT ONLY IS PERMITTED TO BE USED ADJACENT SLEEPERS (WITHIN DISTANCE = 0.75H)
  - THESE SLEEPER SPECIFICATIONS ARE ONLY SUITABLE FOR USE WITH RETAINING WALLS WHICH SATISFY THE FOLLOWING CONDITIONS/LIMITATIONS.
    - THE WALL IS NOT SUBJECT TO HEAVY SURCHARGE LOADS. FOR EXAMPLE, NEARBY EXISTING RETAINING WALLS, STRUCTURES OR BUILDINGS WITHIN A DISTANCE EQUAL TO TWO TIMES THE WALL HEIGHT.
    - THE FINAL SURFACE GRADIENT ABOVE THE WALL IS LEVEL OR ONLY SLIGHT - ie. LESS THAN 1 VERTICAL RISE IN 10 HORIZONTAL.
    - THE WALL BACKFILL IS FREE DRAINING, CONSISTING OF SAND &/OR GRAVEL.
    - ALL SUB-SURFACE WATER IS DRAINED BY MEANS OF AN AGRICULTURAL DRAIN, OR OTHER SUITABLE METHOD.
    - SLEEPERS ARE HANDLED WITH DUE CARE DURING TRANSPORTATION & ERECTION.
  - SLEEPER MINIMUM END BEARING LENGTH SHALL NOT BE LESS THAN 25mm EACH END.
  - FOR DETERMINATION OF THE APPROPRIATE SLEEPER TYPE, THE HEIGHT IS MEASURED FROM THE TOP OF THE WALL TO THE APPLICABLE SLEEPER. A WALL FACE CROSS SECTION MAY CONSIST OF VARIOUS SLEEPER TYPES.

ASSUMED SOIL PROPERTIES	
$\gamma_s$	= 18kN/m <sup>3</sup>
$\phi$	= 30°
ASSUMED MAX. SURCHARGE	
Q	= 5kPa

SLEEPER LENGTH (l) = 2400mm			
WALL TYPE	WALL HEIGHT (h)	THICKNESS t (mm)	REINFORCEMENT
2.4m STANDARD	$\leq 1.4$	80	2-N10
2.4m HEAVY DUTY	$1.4m < h \leq 2.5m$	100	2-N10
2.4m EXTRA HEAVY DUTY	$2.5m < h \leq 4.0m$	130	2-N10

REV.	DATE	DESCRIPTION	DRAFT	ENG.	CHK.
0	24.11.17	CONSTRUCTION ISSUE	RB	NM	CL
1	09.02.21	REVISED CONSTRUCTION ISSUE	EB	HAB	CL

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**CONCRETE SLEEPERS**  
OUTBACK SLEEPERS AUSTRALIA P/L

**2400mm LONG SLEEPER**

**A3**

Design: C.LINDNER  
Drawn: R.BROWN

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