

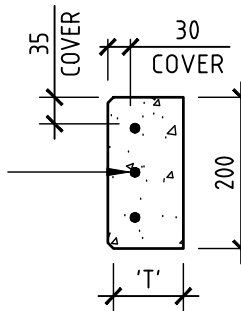
TYPICAL SLEEPER RETAINING WALL DETAIL

SCALE 1:20

ASSUMED SOIL PROPERTIES	
SOIL DENSITY, γ (kN/m ³)	19
ANGLE OF FRICTION, ϕ (°)	30
COHESION, c (kPa)	0

MAXIMUM ALLOWABLE SURCHARGE, Q	
HEIGHT, 'Hs' (mm)	'Q' (kPa)
< 1500	2.5
≥ 1500	5.0

REINFORCEMENT NEAR FRONT FACE
30 COVER, $F'c=50MPa$
REFER TABLES FOR REINFORCEMENT,
THICKNESS & LENGTH



TYPICAL CONCRETE SLEEPER DETAIL

SCALE 1:10

SPECIFICATIONS:

- SLEEPER CONCRETE GRADE TO BE 50MPa. RIGID FORMWORK & INTENSE CONCRETE COMPACTION IN ACCORDANCE WITH AS3600 IS REQUIRED FOR CASTING EACH SLEEPER. THE MIX CONCRETE SHALL HAVE A MAXIMUM AGGREGATE OF 14mm.
- 35mm CONCRETE COVER SHALL BE PROVIDED AT BOTH ENDS OF REINFORCEMENT.
- HAND COMPACTING EQUIPMENT ONLY IS PERMITTED TO BE USED ADJACENT SLEEPERS (WITHIN DISTANCE=0.75Hs)
- SLEEPERS SHALL BE HANDLED WITH DUE CARE DURING TRANSPORTATION & ERECTION. CRACKED OR DAMAGED SLEEPER WILL NOT BE USED.
- SLEEPER MINIMUM END BEARING LENGTH SHALL NOT BE LESS THAN 25mm EACH END.
- FOR DETERMINATION OF THE APPROPRIATE SLEEPER THICKNESS, THE HEIGHT IS MEASURED FROM THE TOP OF THE WALL TO THE APPLICABLE SLEEPER. A WALL FACE CROSS SECTION MAY CONSIST OF VARIOUS SLEEPER THICKNESS.

NOTE:

THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION. A STRUCTURAL ENGINEER FAMILIAR WITH SLEEPER RETAINING WALL TO CERTIFY AND APPROVE ALL OF THE DESIGN ON AN INDIVIDUAL SITE BASIS.

PROJECT:
PROPOSED CONCRETE SLEEPERS WITH
OFFSET REINFORCEMENT

CLIENT:
ICON WALLS PTY LTD



DAVID NOVAK GROUP PTY. LTD.
CONSULTING STRUCTURAL AND CIVIL ENGINEERS
ABN 23 659 088 445
407 High Street, Ashburton 3147
Telephone 9885 2252 Email info@davidnovak.com.au

scale
1:10 & 1:20
drawn
BY

date
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checked
JH

job no.
22146

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S01

TABLE 1: 200mm WIDE x 1200mm LONG REINFORCED CONCRETE SLEEPERS

SLEEPER LENGTH (l) = 1200mm		
RETAINING WALL HEIGHT, 'Hs' (mm)	THICKNESS 'T' (mm)	REINFORCEMENT NEAR FRONT FACE
UP TO 2200	75	2-N10
2201 - 5600	95	2-N12 OR 3-N10
5600 - 7600	115	2-N12 OR 3-N10

TABLE 2: 200mm WIDE x 1500mm LONG REINFORCED CONCRETE SLEEPERS

SLEEPER LENGTH (l) = 1500mm		
RETAINING WALL HEIGHT, 'Hs' (mm)	THICKNESS 'T' (mm)	REINFORCEMENT NEAR FRONT FACE
UP TO 1200	75	2-N10
1201 - 3200	95	2-N12 OR 3-N10
3201 - 6000	115	2-N12 OR 3-N10

TABLE 3: 200mm WIDE x 1800mm LONG REINFORCED CONCRETE SLEEPERS

SLEEPER LENGTH (l) = 1800mm		
RETAINING WALL HEIGHT, 'Hs' (mm)	THICKNESS 'T' (mm)	REINFORCEMENT NEAR FRONT FACE
UP TO 800	75	2-N10
801 - 2000	95	2-N12 OR 3-N10
2001 - 3800	115	2-N12 OR 3-N10
4601 - 6600	145	3-N12

TABLE 4: 200mm WIDE x 2000mm LONG REINFORCED CONCRETE SLEEPERS

SLEEPER LENGTH (l) = 2000mm		
RETAINING WALL HEIGHT, 'Hs' (mm)	THICKNESS 'T' (mm)	REINFORCEMENT NEAR FRONT FACE
UP TO 600	75	2-N10
601 - 1400	95	2-N12 OR 3-N10
1401 - 2800	115	2-N12 OR 3-N10
2801 - 6000	145	3-N12

TABLE 5: 200mm WIDE x 2400mm LONG REINFORCED CONCRETE SLEEPERS

SLEEPER LENGTH (l) = 2400mm		
RETAINING WALL HEIGHT, 'Hs' (mm)	THICKNESS 'T' (mm)	REINFORCEMENT NEAR FRONT FACE
UP TO 400	75	2-N10
401 - 1000	95	2-N12 OR 3-N10
1001 - 1800	115	2-N12 OR 3-N10
1801 - 4200	145	3-N12

TABLE 6: 200mm WIDE x 3000mm LONG REINFORCED CONCRETE SLEEPERS

SLEEPER LENGTH (l) = 3000mm		
RETAINING WALL HEIGHT, 'Hs' (mm)	THICKNESS 'T' (mm)	REINFORCEMENT NEAR FRONT FACE
UP TO 400	95	2-N12 OR 3-N10
401 - 1000	115	2-N12 OR 3-N10
1001 - 2000	145	3-N12

NOTE:
THE VALUES LISTED IN TABLE 1 TO 6 HAVE TAKEN MAXIMUM DEFLECTION LIMIT OF L/200 INTO CONSIDERATION IN CONCRETE SLEEPER DESIGN.

PROJECT:
PROPOSED CONCRETE SLEEPERS WITH
OFFSET REINFORCEMENT

CLIENT:
ICON WALLS PTY LTD



DAVID NOVAK GROUP PTY. LTD.
CONSULTING STRUCTURAL AND CIVIL ENGINEERS
ABN 23 659 088 445
407 High Street, Ashburton 3147
Telephone 9885 2252 Email info@davidnovak.com.au

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TABLE 7: 200mm WIDE x 1200mm LONG REINFORCED CONCRETE SLEEPERS

SLEEPER LENGTH (l) = 1200mm		
RETAINING WALL HEIGHT, 'Hs' (mm)	THICKNESS 'T' (mm)	REINFORCEMENT NEAR FRONT FACE
UP TO 3800	75	2-N10
3801 - 5600	95	2-N12 OR 3-N10
5601 - 7600	115	2-N12 OR 3-N10

TABLE 8: 200mm WIDE x 1500mm LONG REINFORCED CONCRETE SLEEPERS

SLEEPER LENGTH (l) = 1500mm		
RETAINING WALL HEIGHT, 'Hs' (mm)	THICKNESS 'T' (mm)	REINFORCEMENT NEAR FRONT FACE
UP TO 2800	75	2-N10
2801 - 4400	95	2-N12 OR 3-N10
4401 - 6000	115	2-N12 OR 3-N10

TABLE 9: 200mm WIDE x 1800mm LONG REINFORCED CONCRETE SLEEPERS

SLEEPER LENGTH (l) = 1800mm		
RETAINING WALL HEIGHT, 'Hs' (mm)	THICKNESS 'T' (mm)	REINFORCEMENT NEAR FRONT FACE
UP TO 1600	75	2-N10
1601 - 3600	95	2-N12 OR 3-N10
3601 - 5000	115	2-N12 OR 3-N10
5001 - 6600	145	3-N12

TABLE 10: 200mm WIDE x 2000mm LONG REINFORCED CONCRETE SLEEPERS

SLEEPER LENGTH (l) = 2000mm		
RETAINING WALL HEIGHT, 'Hs' (mm)	THICKNESS 'T' (mm)	REINFORCEMENT NEAR FRONT FACE
UP TO 1200	75	2-N10
1201 - 3200	95	2-N12 OR 3-N10
3201 - 4400	115	2-N12 OR 3-N10
4401 - 6000	145	3-N12

TABLE 11: 200mm WIDE x 2400mm LONG REINFORCED CONCRETE SLEEPERS

SLEEPER LENGTH (l) = 2400mm		
RETAINING WALL HEIGHT, 'Hs' (mm)	THICKNESS 'T' (mm)	REINFORCEMENT NEAR FRONT FACE
UP TO 800	75	2-N10
8001 - 2600	95	2-N12 OR 3-N10
2601 - 3600	115	2-N12 OR 3-N10
3601 - 5000	145	3-N12

TABLE 12: 200mm WIDE x 3000mm LONG REINFORCED CONCRETE SLEEPERS

SLEEPER LENGTH (l) = 3000mm		
RETAINING WALL HEIGHT, 'Hs' (mm)	THICKNESS 'T' (mm)	REINFORCEMENT NEAR FRONT FACE
UP TO 800	95	2-N12 OR 3-N10
801 - 2800	115	2-N12 OR 3-N10
2801 - 3800	145	3-N12

NOTE:
THE VALUES LISTED IN TABLE 7 TO 12 ARE BASED ON THE STRENGTH REQUIREMENTS ONLY. REFER TO TABLE 1 TO 6 IF DEFLECTION LIMIT IS TO BE TAKEN INTO CONSIDERATION.