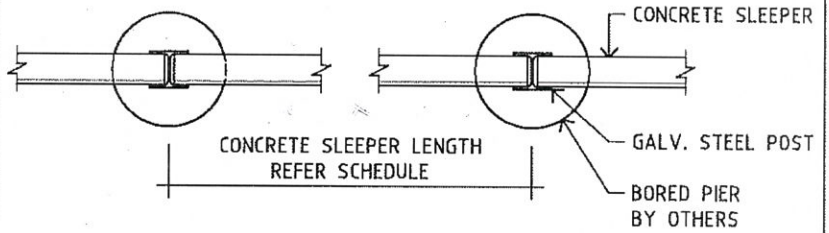
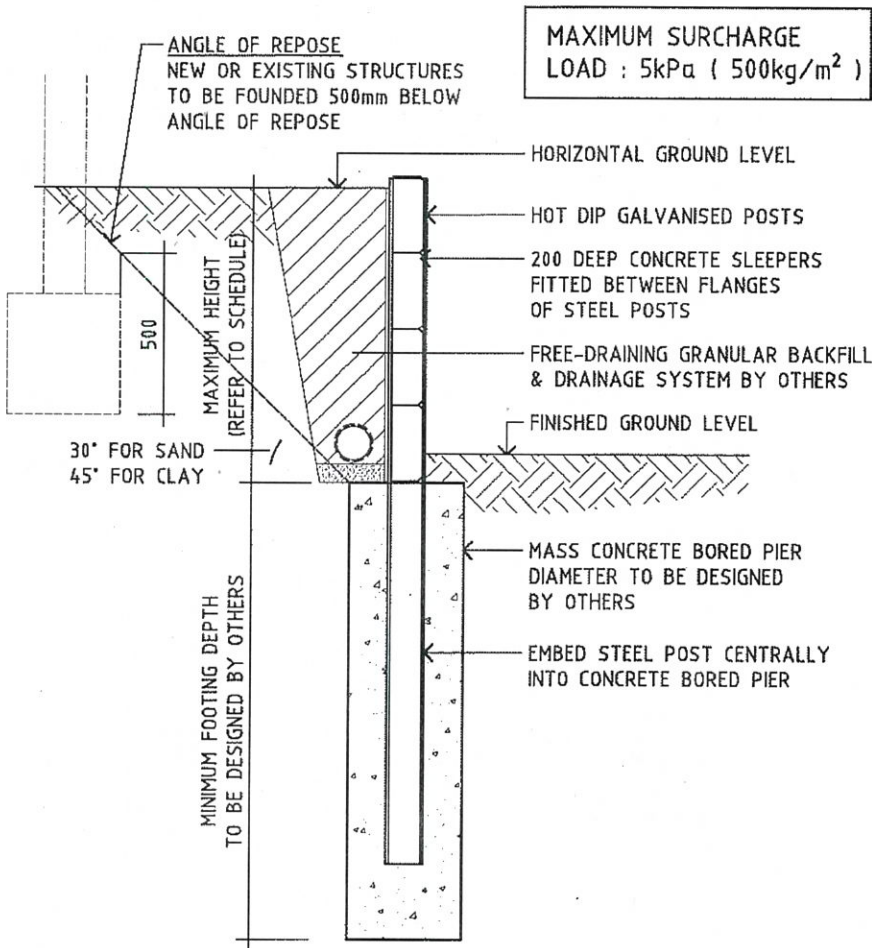


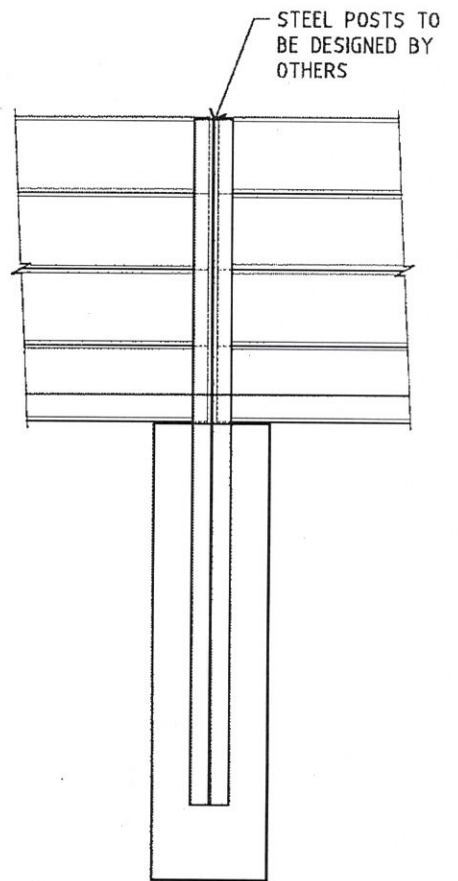
CONCRETE SLEEPER MEMBER SCHEDULE		
LENGTH	SECTION	MAX RETAINING HEIGHT
2700	200 x 110 with 35 REBATE EACH END	2000
3000	200 x 110 with 35 REBATE EACH END	1600
2700	200 x 110	2200
3000	200 x 110	1800



PLAN VIEW



SECTION VIEW



FRONT VIEW

TYPICAL SLEEPER RETAINING WALL SCHEMATIC DIAGRAM

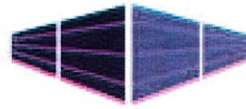
SC: 1/20

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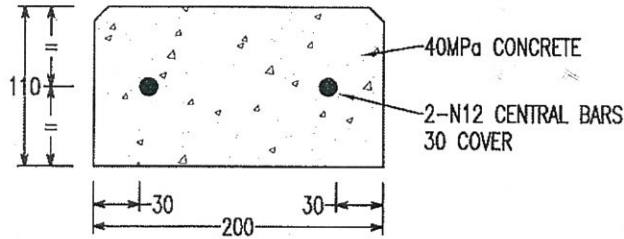
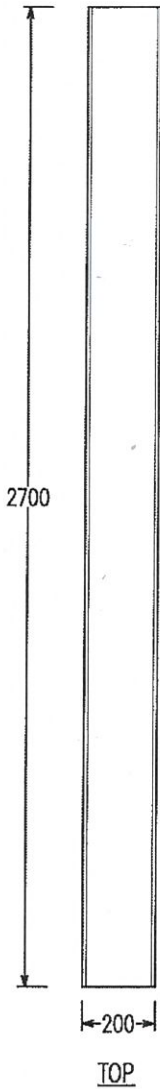
SPECIFICATIONS FOR CONCRETE SLEEPERS:

1. CONCRETE STRENGTH $f'_c = 40MPa$
2. STEEL REINFORCEMENT = 2-N12 BARS CENTRAL, 30 COVER
3. SURCHARGE LOAD ASSUMED TO BE 5kPa MAXIMUM
4. SLOPE AT TOP OF WALL ASSUMED TO BE ZERO
5. NO HYDROSTATIC PRESSURE
6. SOIL DENSITY ASSUMED TO BE 20kN/m³
3. ALL SLEEPERS ARE MECHANICALLY VIBRATED DURING PLACEMENT OF CONCRETE AND STEEL

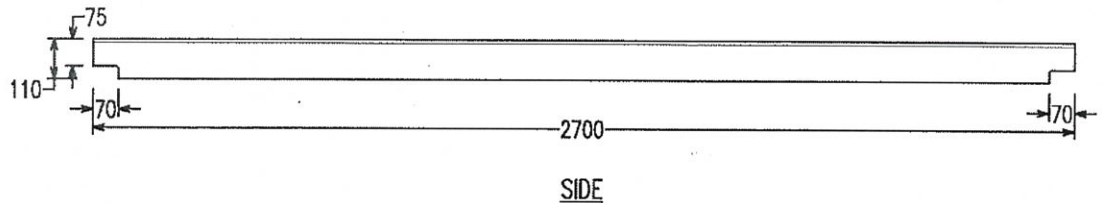
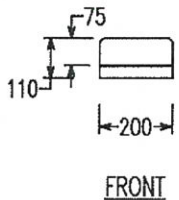
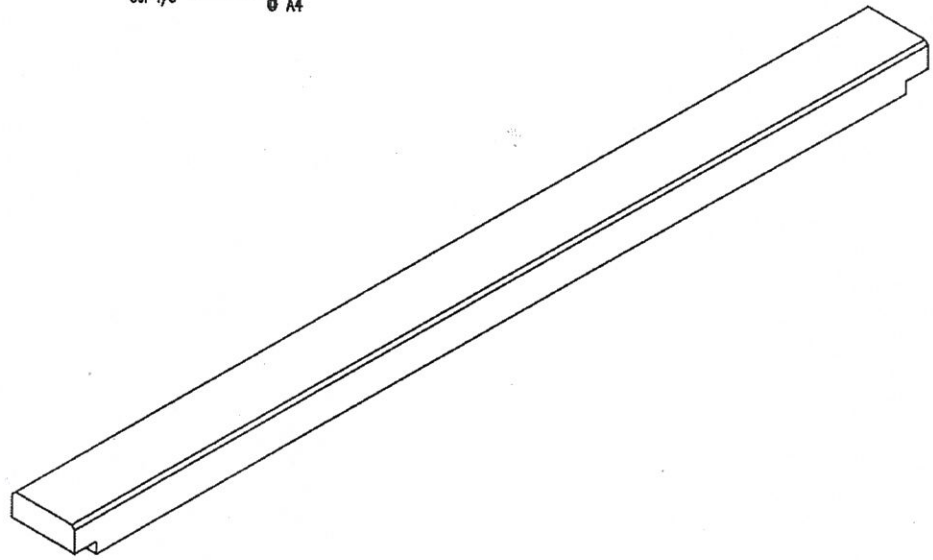
LES KROENERT & ASSOCIATES PTY LTD		REV C	----
CONSULTING STRUCTURAL AND CIVIL ENGINEERS ABN 55 006 235 365		REV B	----
4 COLLINS PL KILSYTH 3137 9723 0300		REV A	----
PROJECT	NEW CONCRETE SLEEPERS	Ref.	19-423AS
NAME	SLEEPERS DIRECT	Org. No.	02
ADDRESS	VARIOUS	Date	25/03/2020



SLEEPERS
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TYPICAL SECTION
SC: 1/5 © A4



2700mm LONG x 200mm WIDE x 110mm THICK (35 rebate each end) CONCRETE SLEEPER
SC: 1/20

© A4

MAX RETAINING HEIGHT = 2000mm

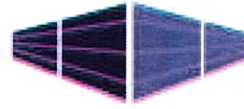
SPECIFICATIONS FOR CONCRETE SLEEPERS:

1. CONCRETE STRENGTH $f'_c = 40\text{MPa}$
2. STEEL REINFORCEMENT = 2-N12 BARS CENTRAL, 30 COVER
3. SURCHARGE LOAD ASSUMED TO BE 5kPa MAXIMUM
4. SLOPE AT TOP OF WALL ASSUMED TO BE ZERO
5. NO HYDROSTATIC PRESSURE
6. SOIL DENSITY ASSUMED TO BE 20kN/m^3
3. ALL SLEEPERS ARE MECHANICALLY VIBRATED DURING PLACEMENT OF CONCRETE AND STEEL

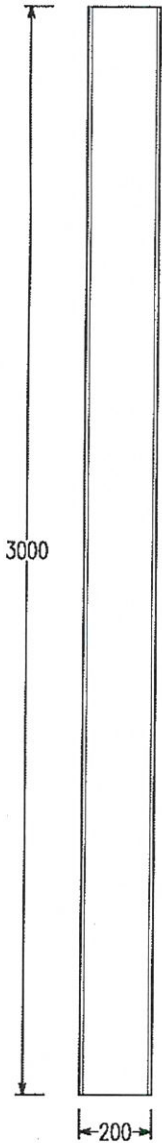
LES KROENERT & ASSOCIATES PTY LTD
CONSULTING STRUCTURAL AND CIVIL ENGINEERS ABN 55 006 235 365
4 COLLINS PL. KILSYTH 3137 9723 0300

REV	C	---
REV	B	---
REV	A	---
Ref.	19-423AS	
Drg. No.	03	
Date	25/03/2020	

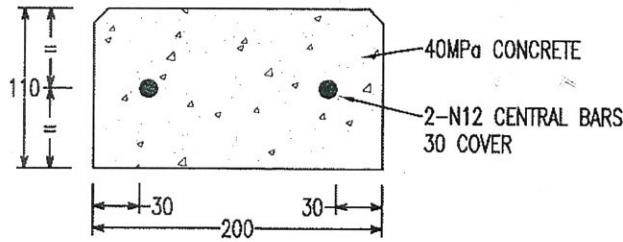
PROJECT NEW CONCRETE SLEEPERS
NAME SLEEPERS DIRECT
ADDRESS VARIOUS



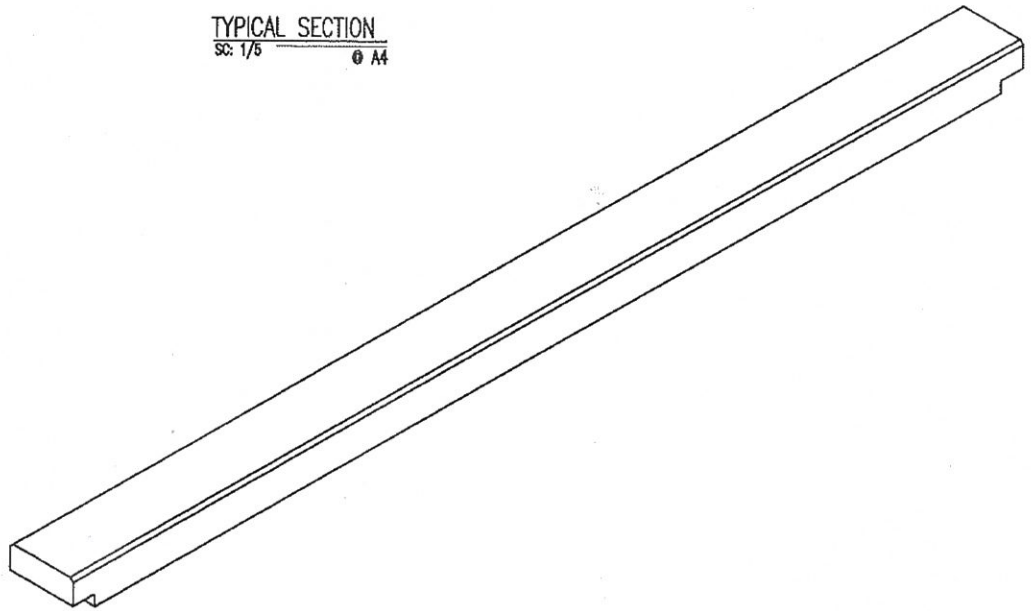
SLEEPERS
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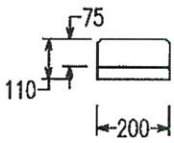
TOP



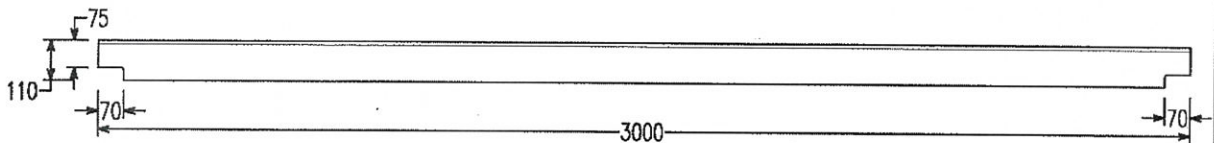
TYPICAL SECTION
SC: 1/6 @ A4



ISOMETRIC



FRONT



SIDE

3000mm LONG x 200mm WIDE x 110mm THICK (35 rebate each end) CONCRETE SLEEPER
SC: 1/20

@ A4

MAX RETAINING HEIGHT = 1600mm

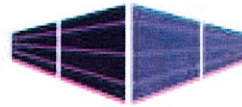
SPECIFICATIONS FOR CONCRETE SLEEPERS:

1. CONCRETE STRENGTH $f_c = 40\text{MPa}$
2. STEEL REINFORCEMENT = 2-N12 BARS CENTRAL, 30 COVER
3. SURCHARGE LOAD ASSUMED TO BE 5kPa MAXIMUM
4. SLOPE AT TOP OF WALL ASSUMED TO BE ZERO
5. NO HYDROSTATIC PRESSURE
6. SOIL DENSITY ASSUMED TO BE 20kN/m^3
3. ALL SLEEPERS ARE MECHANICALLY VIBRATED DURING PLACEMENT OF CONCRETE AND STEEL.

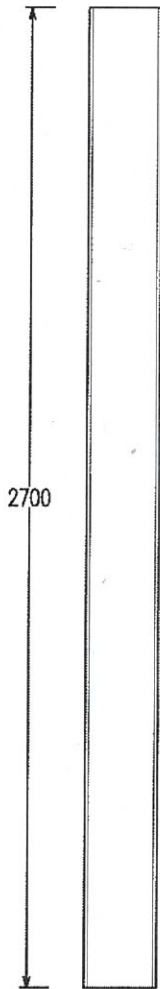
L&S KROENERT & ASSOCIATES PTY LTD
CONSULTING STRUCTURAL AND CIVIL ENGINEERS ABN 55 006 235 365
4 COLLINS PL KILSYTH 3137 9723 0300

PROJECT NEW CONCRETE SLEEPERS
NAME SLEEPERS DIRECT
ADDRESS VARIOUS

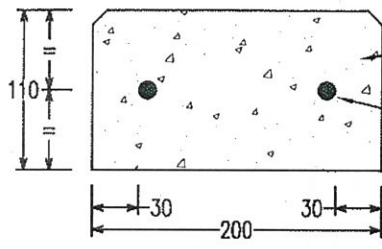
REV C	---
REV B	---
REV A	---
Ref.	19-423AS
Drng. No.	04
Date	25/03/2020



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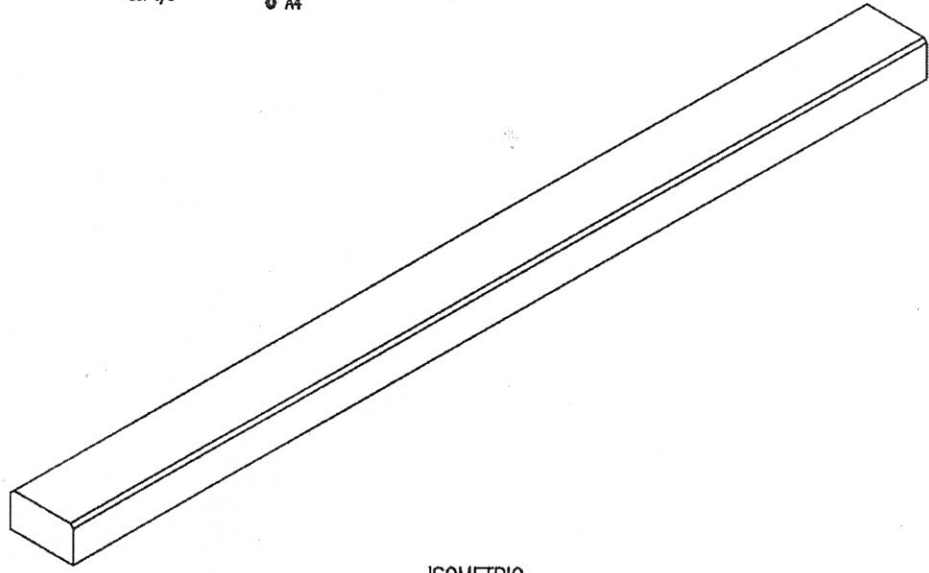


TOP

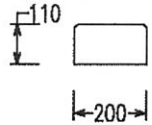


TYPICAL SECTION
SC: 1/6 © A4

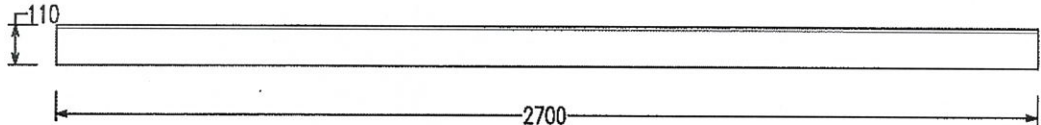
40MPa CONCRETE
2-N12 CENTRAL BARS
30 COVER



ISOMETRIC



FRONT



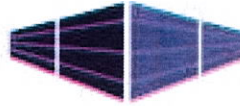
SIDE

2700mm LONG x 200mm WIDE x 110mm THICK CONCRETE SLEEPER
SC: 1/20 © A4

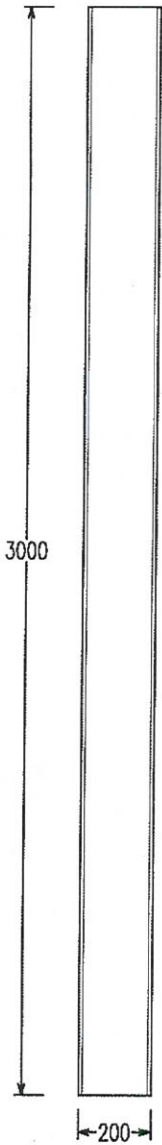
MAX RETAINING HEIGHT = 2200mm

- SPECIFICATIONS FOR CONCRETE SLEEPERS:**
1. CONCRETE STRENGTH $f'_c = 40\text{MPa}$
 2. STEEL REINFORCEMENT = 2-N12 BARS CENTRAL, 30 COVER
 3. SURCHARGE LOAD ASSUMED TO BE 5kPa MAXIMUM
 4. SLOPE AT TOP OF WALL ASSUMED TO BE ZERO
 5. NO HYDROSTATIC PRESSURE
 6. SOIL DENSITY ASSUMED TO BE 20kN/m^3
 3. ALL SLEEPERS ARE MECHANICALLY VIBRATED DURING PLACEMENT OF CONCRETE AND STEEL

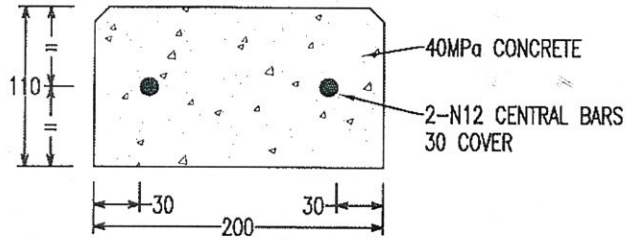
LES KROENERT & ASSOCIATES PTY LTD		REV C	---
CONSULTING STRUCTURAL AND CIVIL ENGINEERS ABN 55 006 235 365		REV B	---
4 COLLINS PL KILSYTH 3137 9723 0300		REV A	---
PROJECT	NEW CONCRETE SLEEPERS	Ref.	19-423AS
NAME	SLEEPERS DIRECT	Drg. No.	05
ADDRESS	VARIOUS	Date	25/03/2020



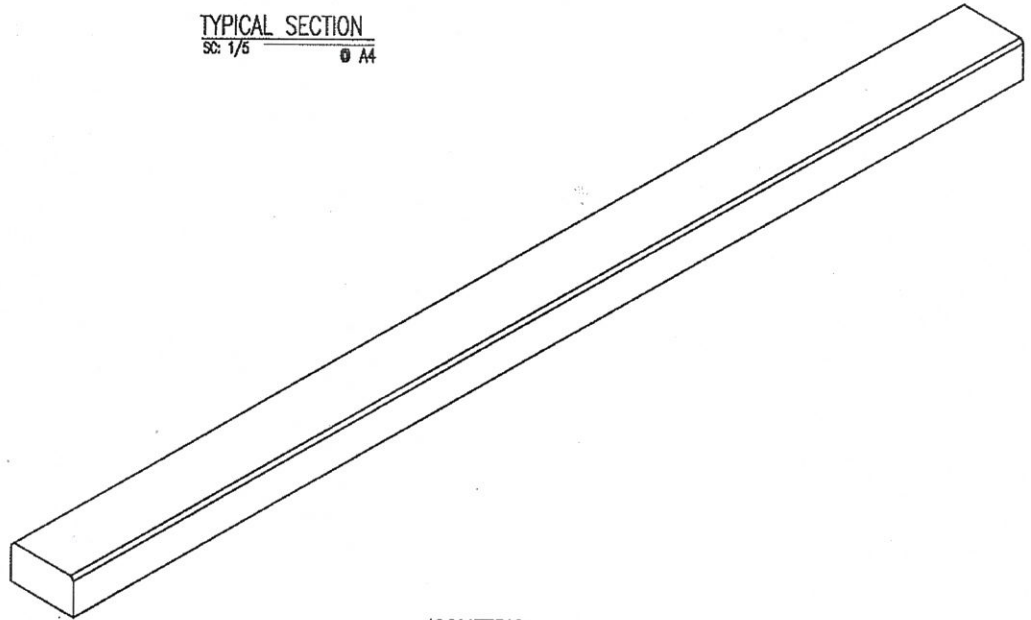
SLEEPERS
DIRECT.COM.AU



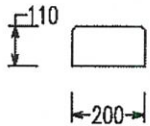
TOP



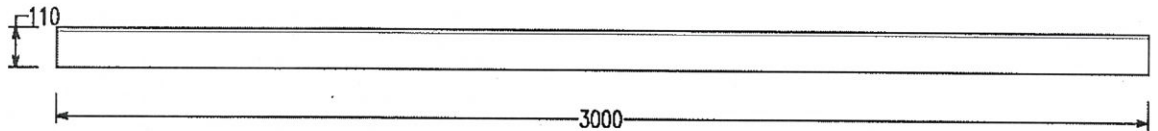
TYPICAL SECTION
SC: 1/5 © A4



ISOMETRIC



FRONT



SIDE

3000mm LONG x 200mm WIDE x 110mm THICK CONCRETE SLEEPER

SC: 1/20

© A4

MAX RETAINING HEIGHT = 1800mm

SPECIFICATIONS FOR CONCRETE SLEEPERS:

1. CONCRETE STRENGTH $f'_c = 40\text{MPa}$
2. STEEL REINFORCEMENT = 2-N12 BARS CENTRAL, 30 COVER
3. SURCHARGE LOAD ASSUMED TO BE 5kPa MAXIMUM
4. SLOPE AT TOP OF WALL ASSUMED TO BE ZERO
5. NO HYDROSTATIC PRESSURE
6. SOIL DENSITY ASSUMED TO BE 20kN/m^3
3. ALL SLEEPERS ARE MECHANICALLY VIBRATED DURING PLACEMENT OF CONCRETE AND STEEL

L&S KROENERT & ASSOCIATES PTY LTD
CONSULTING STRUCTURAL AND CIVIL ENGINEERS ABN 55 006 235 365
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PROJECT NEW CONCRETE SLEEPERS
NAME SLEEPERS DIRECT
ADDRESS VARIOUS

REV C	---
REV B	---
REV A	---
Ref.	19-423AS
Drg. No.	06
Date	25/03/2020