

The Registered Builder is responsible for the design and construction of the adjacent framework, and is to provide any additional strengthening which may be required, to achieve adequate support for the stairs.

**TREADS FOR NEW STAIRS**

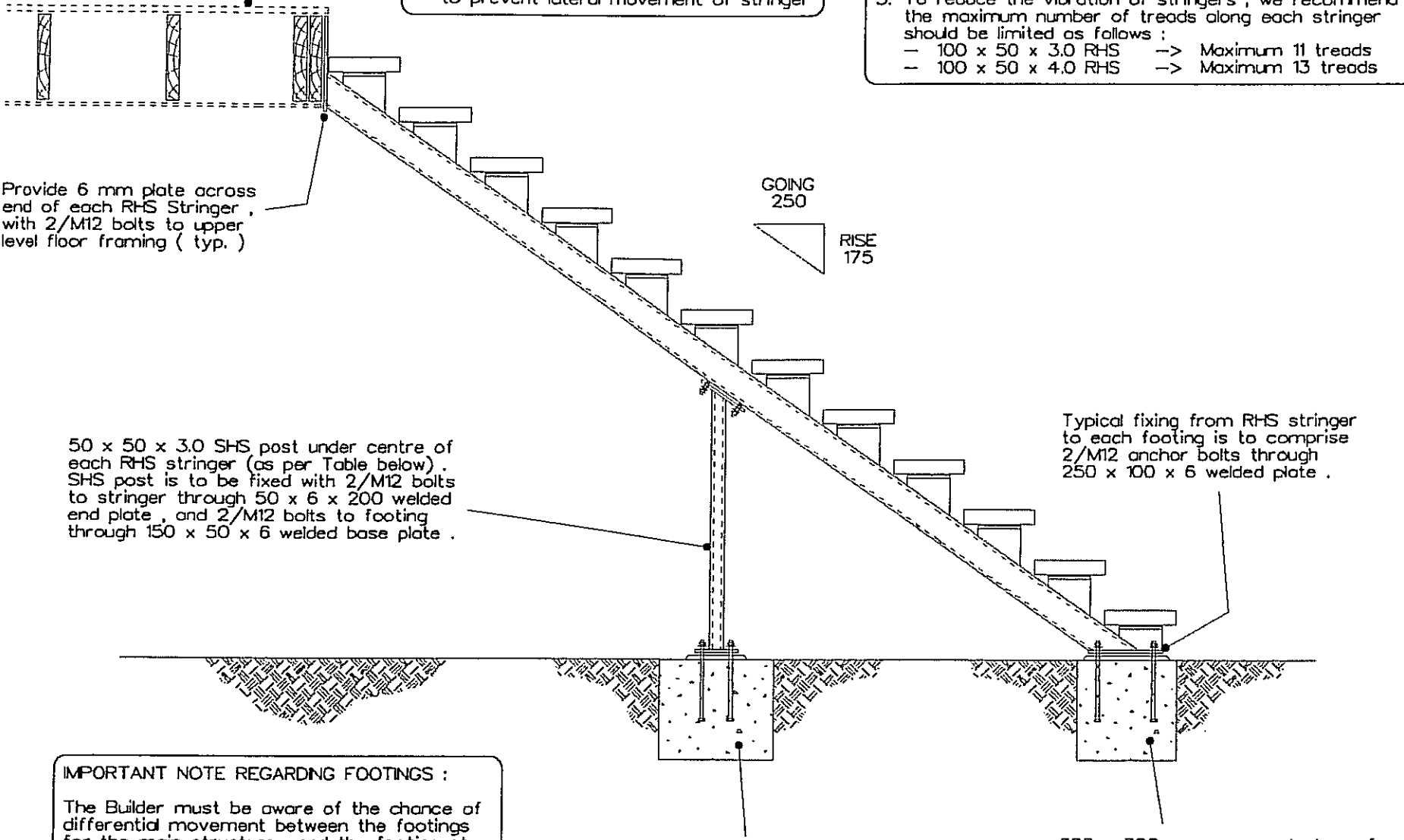
1. Treads have not been specified in this drawing, but must comply with relevant Australian Standards and Building Codes
2. Treads are to be securely fixed to the brackets along top of each RHS stringer (typical 2/M10 coach screws per fixing) to prevent lateral movement of stringer

**DEFLECTION / VIBRATION OF RHS STRINGERS**

1. Maximum deflection of RHS stringers is estimated to be less than "Span/250" (based on DL + 0.7 LL)
2. However, we believe stringers may experience some vibration at the spans outlined below (with deflection of more than 2 mm, for a Live Load of 1.0 kN).
3. To reduce the vibration of stringers, we recommend the maximum number of treads along each stringer should be limited as follows:
  - 100 x 50 x 3.0 RHS -> Maximum 11 treads
  - 100 x 50 x 4.0 RHS -> Maximum 13 treads

**GENERAL CONSTRUCTION NOTES**

- G 1 THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE ARCHITECTURAL DRAWINGS, AND CONSULTANT'S DRAWINGS AND SPECIFICATIONS, AND OTHER INSTRUCTIONS ISSUED IN WRITING DURING THE COURSE OF CONSTRUCTION. ANY DISCREPANCY IN THE DOCUMENTATION IS TO BE REFERRED TO THE SUPERVISOR FOR CONFIRMATION, PRIOR TO CONTINUATION OF ANY WORK.
- G 2 ALL DIMENSIONS ARE TO BE CHECKED BY THE CONTRACTOR ON SITE FOLLOWING THE INITIAL SET-OUT, TO ENSURE NO CONFLICT OCCURS WITH THE NEW STRUCTURE, OR EXISTING STRUCTURES. THE CONTRACTOR IS TO BE RESPONSIBLE FOR ALL SETOUT, DIMENSIONS AND LEVELS ON THE SITE.
- G 3 IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN THE STABILITY OF THE NEW STRUCTURE, AND EXISTING STRUCTURES DURING THE COURSE OF THE CONSTRUCTION, AND TO ENSURE THAT APPROPRIATE SAFETY PRACTICES ARE ADHERED TO.
- G 4 WORK TO BE IN A TRADESMANLIKE MANNER, AS PER RELEVANT STANDARDS, BUILDING CODES AND COUNCIL REQUIREMENTS.
- G 5 STRUCTURAL WORK ON THESE DRAWINGS HAS BEEN DESIGNED IN ACCORDANCE WITH AS 1170, FOR THE FOLLOWING LOADS:
  - LIVE LOAD FOR DOMESTIC STAIRS -> 2.0 kPa / 2.7 kN
  - LIVE LOAD FOR COMMERCIAL STAIRS (NOT suitable for wheeled trolley) -> 4.0 kPa / 4.5 kN
  - LIVE LOAD FOR TREADS (NOT suitable for wheeled trolley) -> UDL as above / 2.2 kN/m



**IMPORTANT NOTE REGARDING FOOTINGS:**  
The Builder must be aware of the chance of differential movement between the footings for the main structure, and the footing at base of stairs. Flexible connections may be required, to allow this movement to occur. Alternatively the base of the stairs could be fixed to the footings for the main structure.

**STRUCTURAL STEELWORK**

- S 1 WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 4100, AS1554, AND OTHER RELEVANT STANDARDS.
- S 2 UNLESS NOTED OTHERWISE, SHS AND RHS SECTIONS SHALL BE GRADE 350 MPa, IN ACCORDANCE WITH AS1163
- S 3 UNLESS SPECIFIED OTHERWISE, ALL WELDS TO BE 6 mm CFW (CONT. FILLET WELDS), ALL BOLTS SHALL BE M16-8.8/S, AND ALL GUSSET PLATES SHALL BE MINIMUM 10 mm THICK.
- S 4 BOLT DESIGNATIONS (GRADE 4.6/S UNLESS NOTED OTHERWISE)
- S 5 CHANGES TO STEEL SECTIONS ON THE DRAWINGS SHALL NOT BE MADE WITHOUT WRITTEN APPROVAL OF DESIGN ENGINEER, AND THIS APPROVAL IS TO BE OBTAINED BEFORE ANY FABRICATION.
- S 6 IT IS BUILDER'S RESPONSIBILITY TO PROVIDE ANY EXTRA CLEATS WHICH ARE NECESSARY FOR FIXING STEEL, TIMBER AND OTHER ELEMENTS, WHETHER OR NOT DETAILED ON THE DRAWINGS.
- S 7 THE FABRICATION, ERECTION AND FINISHING OF THE STEELWORK IS TO BE SUPERVISED BY A QUALIFIED BUILDER, TO ENSURE THAT THE REQUIREMENTS OF THE DESIGN ARE SATISFIED.
- S 8 STRUCTURAL STEELWORK TO BE FABRICATED AND ERECTED IN ACCORDANCE WITH RELEVANT AUSTRALIAN STANDARDS AND SPECIFICATIONS AND IN ACCORDANCE WITH DESIGN DRAWINGS.
- S 9 ALL BOLTS & FASTENERS TO BE HOT-DIP GALV. OR GRADE 316 STAINLESS STEEL, TO PREVENT ANY FUTURE CORROSION.
- S 10 STEELWORK NOT ENCASED IN CONCRETE TO BE HOT-DIP GALV. (OR SUITABLY PROTECTED), TO PREVENT FUTURE CORROSION.
- S 11 IT IS THE BUILDER'S RESPONSIBILITY TO MAINTAIN THE STABILITY OF THE STRUCTURE DURING CONSTRUCTION, AND TO AVOID ANY DAMAGE OR DISTURBANCE OF ANY ADJACENT STRUCTURES.

MAXIMUM NO. OF TREADS (RISERS - 1)	SIZE OF RHS STRINGERS ( 2 REQUIRED PER STAIR )			
	DOMESTIC LOADING ( 2.0 kPa / 2.7 kN )		COMMERCIAL LOADING ( 4.0 kPa / 4.5 kN )	
	WIDTH OF STAIRS		WIDTH OF STAIRS	
	900	1200	900	1200
8 TREADS	100 x 50 x 2	100 x 50 x 2	100 x 50 x 2	100 x 50 x 2
12 TREADS	100 x 50 x 3	100 x 50 x 3	100 x 50 x 4	100 x 50 x 4
14 TREADS	100 x 50 x 3	100 x 50 x 4	100 x 50 x 4 #	100 x 50 x 4 #
15 TREADS	100 x 50 x 4 #	100 x 50 x 4 #	100 x 50 x 4 #	100 x 50 x 4 #
17 TREADS	100 x 50 x 4 #	100 x 50 x 4 #	100 x 50 x 4 #	100 x 50 x 4 #

# Provide 50 x 50 x 3 SHS post under centre of RHS stringer (max. 1300 high), as detailed

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Per: *[Signature]* Date: 11/12/09

**CONSTRUCTION DETAILS FOR RHS STRINGERS 1 : 20**

Project : STEEL STRINGERS FOR NEW STAIRS

Site : PROJECT BY GLACIER CEILING BATTENS

For : GLACIER CEILING BATTENS

Job No. 49275-09 Drwg No. 49275-01 A