

**28/07/66 RFJ to DNS – Summary Statement:** Ted Johnson, Warrnambool City Engineer, phoned Mr. Thomson, Manager of GKN Lysaght asking them to get approval for the Safe-T-Climb device as otherwise he cannot certify that the project can proceed. 1/08/66: Letter to Department of Labor & Industry (DLI). Mr. Thompson and RFJ to visit Mr Fahey of DLI to expedite. Note: The Safe-T-Climb device makes it possible to safely climb the ladders attached to the legs without a continuous safety cage surrounding the ladder. Apparently this device had never been used before in such an application.

Some correspondence, drawings and illustrations are enclosed in the yellow folder marked **28-7-66 Saf-T-Climb**, which includes a photograph published in SAA MA1.3-1971 "Steel Structures Part 3 – Forms of Construction", showing how the Saf-T-Climb rail is attached to the completed FJ water tower to enable the user to move from the bottom of the ball (underneath the ball) to the top of the ball with the user always remaining "belly down". On two occasions the Saf-T-Climb sleeve has to be removed from the end of a guide channel and attached to a different guide channel. A rope attached to the user's harness, can be clipped to a ladder rung at any time to ensure safety while unattached during such manoeuvres.

**1971 SAA MA1.3-1971 Part 3 – Form of Construction at completed FJ Water Tower.**

**1965 Drg of GKN SAF-T-Climb equipment 1965**

**01/08/66 GKN to City Engineer, Warrnambool**

**01/08/66 GKN to Dept. of Labor & Industry.**

# STEEL STRUCTURES

A MANUAL FOR USE IN THE  
DESIGN AND CONSTRUCTION OF  
STRUCTURAL STEELWORK

COPY  
EXTRACTS.

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PREPARED BY THE  
AUSTRALIAN INSTITUTE OF STEEL CONSTRUCTION  
84 PACIFIC HIGHWAY, NORTH SYDNEY, N.S.W. 2060

AND PUBLISHED BY THE  
STANDARDS ASSOCIATION OF AUSTRALIA  
STANDARDS HOUSE, 80 ARTHUR STREET, NORTH SYDNEY, N.S.W. 2060

S.A.A. MA1.3 - 1971

PART 3 - FORMS OF  
CONSTRUCTION

FIG. 3.53 :

PIPE - SUPPORTED  
ELEVATED SPHERICAL  
TANK (WARRNAMBOOL VIC)

## Foreword

The modern steel structure represents the competence, skill and ingenuity of a number of different groups: the designing engineers; the steelmakers who produce the plates and sections; those who set out and fabricate the various components in the workshops; and finally the team on the site erecting these components to form the finished structure. As the structural steelwork industry has expanded these groups have become larger and their activities more complex and separated, giving rise to a very real problem of co-ordination which can only be solved by ensuring that each group has a proper understanding of the tasks of the others. It is in this context that many people associated with the industry have long felt the need for a comprehensive manual applicable to Australian practices and conditions, and covering every aspect of the use of structural steel in building. This need was further recognized at a meeting convened by the Australian Institute of Steel Construction in the latter part of 1964 when a committee was formed with the responsibility of drafting a manual to meet the above requirements.

This Manual is intended to be complementary to the Australian standard code CA1, The Use of Steel in Structures, but is written in a more discursive and instructive form and covers a somewhat wider range of information than is possible in the code. The Manual itself is not therefore an "Australian Standard" in the accepted sense of that term.

The Manual has been divided into the following nine parts:

- Part 1—Planning
- Part 2—Properties of Steel
- Part 3—Forms of Construction
- Part 4—Connections
- Part 5—Protection of Steel from Corrosion
- Part 6—Fire Protection
- Part 7—Design
- Part 8—Fabrication
- Part 9—Erection.

In the initial stages each part will be produced under a separate cover; it is intended that at a later date all parts will be published in one or more bound volumes. The committee will from time to time review the various parts of the Manual and make any necessary amendments in the light of current knowledge and practice. In this connection, the committee would welcome suggestions and constructive criticism from all who have occasion to use the Manual.

Each part of the Manual has been drafted by a sub-committee responsible to the main committee under the chairmanship of Professor J. W. Roderick, Professor of Civil Engineering, University of Sydney, who was also chairman of the committee which prepared AS CA1. The other members of the Manual Committee are as follows:

H. H. Brown	Bates, Smart & McCutcheon
Professor F. B. Bull	University of Adelaide
I. G. Cameron	Cameron & McNamara
W. C. Farrar	Johns & Waygood Limited
I. J. Ferris	Defence Standards Laboratories
Dr G. B. Hill	G. B. Hill & Partners
D. V. Isaacs M.B.E.	Commonwealth Experimental Building Station*
F. M. Mathews	Australian Iron & Steel Pty Ltd†
J. M. McKenzie	Australian Iron & Steel Pty Ltd
R. J. McWilliam	R. J. McWilliam & Partners
J. E. Parker	Public Works Department of W.A.
J. Rankine	Rankine & Hill
L. G. Rowe	Perry Engineering Co. Ltd
J. P. Shields	Drysdale & Ridgway Pty Limited
C. Stuart	Sydney Steel Company Pty Limited
H. G. Wolfram	Gutteridge, Haskins & Davey
A. R. Wylie	The Broken Hill Proprietary Co. Ltd
B. R. Longfoot	The Broken Hill Proprietary Co. Ltd (Technical Secretary)

\*Until September 1969

†Until June 1968

*Sydney*

*July 1971*

## Acknowledgments

The Australian Institute of Steel Construction wishes to thank all those who have taken part in the task of the preparation of the Manual and those who have contributed through comment during its preparation.

The Institute is deeply indebted to The Broken Hill Proprietary Co. Limited and Australian Iron and Steel Pty Limited, for their assistance and for their support during the organization of the committee and throughout the preparation of the Manual.

The Institute is also indebted to the Standards Association of Australia for editing and publishing the Manual.

**STEEL STRUCTURES**

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**Part 3**

**FORMS OF  
CONSTRUCTION**

(vii)

Fig. 3.53: PIPE-SUPPORTED  
ELEVATED SPHERICAL TANK  
(WARRNAMBOOL VIC)

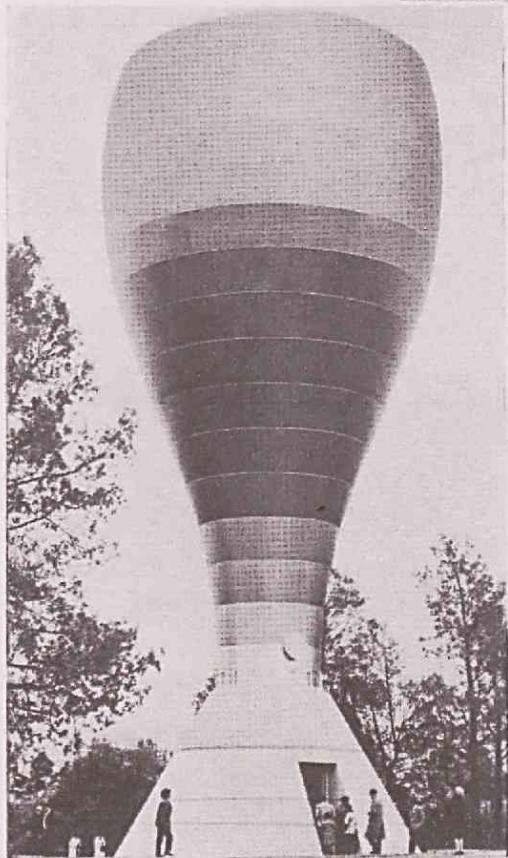
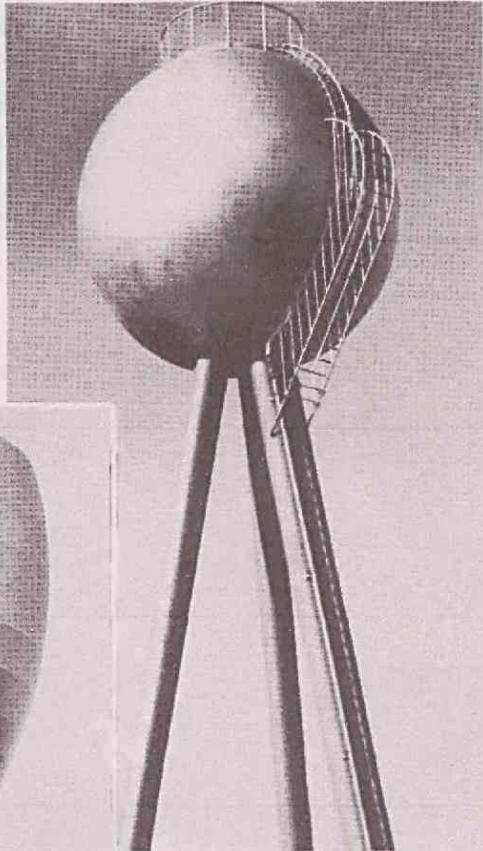
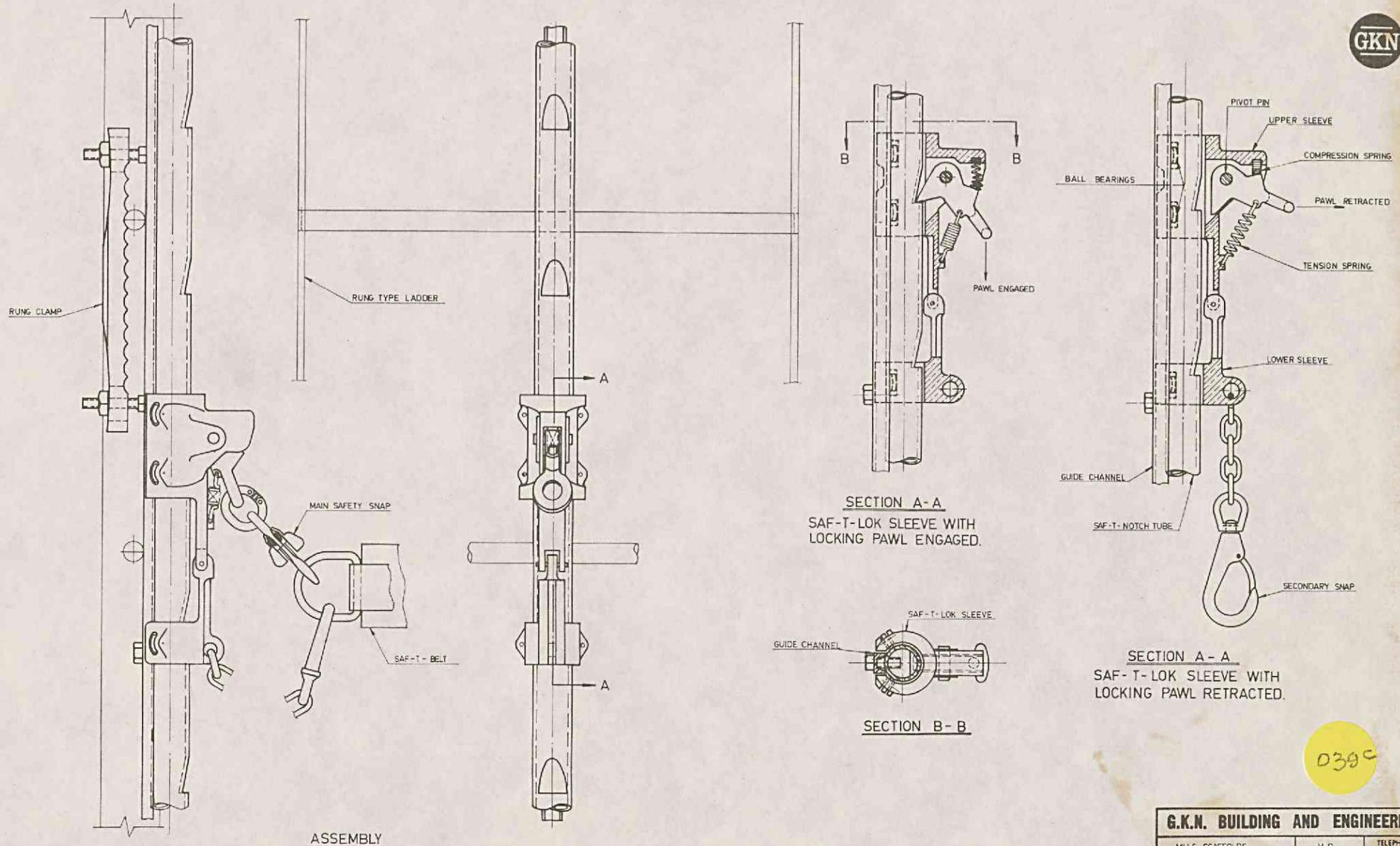


Fig. 3.54: SHAPED  
ELEVATED TANK  
(COLEAMBALLY NSW)

# SAF-T-CLIMB DRG. D263C 28-08-65



039c

**MILLS**

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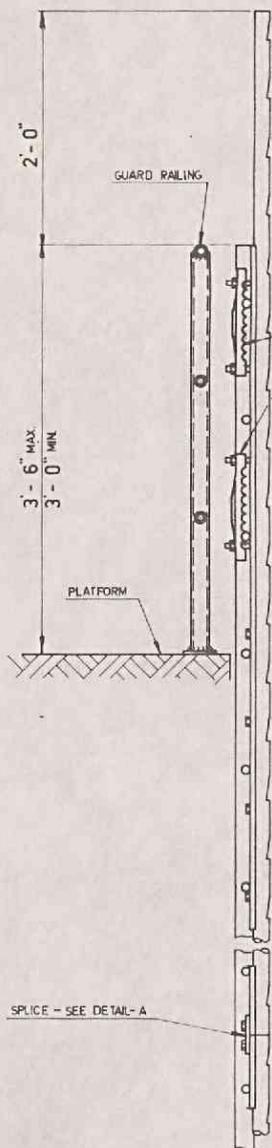
**SAF-T-CLIMB**  
ASSEMBLY OF SAF-T-LOK SLEEVE AND SAF-T-NOTCH RAIL

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APPRVD: # 1 2 15		

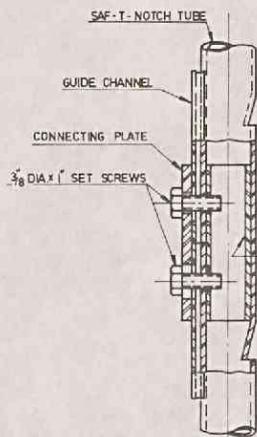
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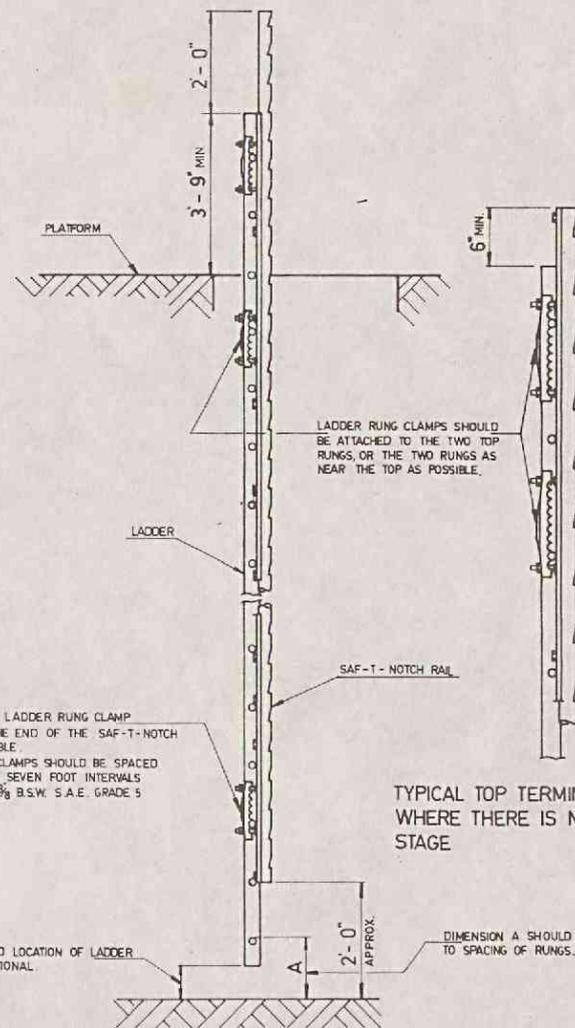
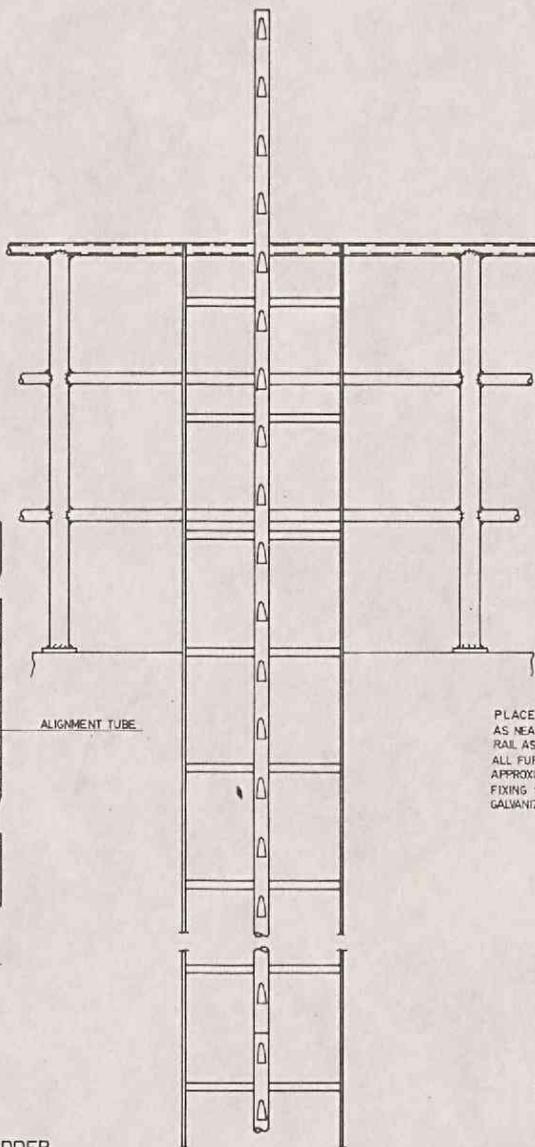
TOP TERMINATION OF LADDER.  
TYPICAL FOR LANDING PLATFORM OR STAGE.



LADDER RUNG CLAMPS SHOULD BE ATTACHED TO THE TWO TOP RUNGS, OR TO THE TWO RUNGS AS NEAR THE TOP AS POSSIBLE.



DETAIL - A



LADDER RUNG CLAMPS SHOULD BE ATTACHED TO THE TWO TOP RUNGS, OR THE TWO RUNGS AS NEAR THE TOP AS POSSIBLE.

PLACE FIRST LADDER RUNG CLAMP AS NEAR TO THE END OF THE SAF-T-NOTCH RAIL AS POSSIBLE.  
ALL FURTHER CLAMPS SHOULD BE SPACED APPROXIMATELY SEVEN FOOT INTERVALS  
FIXING STUDS 3/8 B.S.W. S.A.E. GRADE 5 GALVANIZED.

TYPICAL TOP TERMINATION OF LADDER WHERE THERE IS NO PLATFORM OR STAGE

BOTTOM TERMINATION OF LADDER.  
TYPICAL FOR GROUND OR PLATFORM.



TOP TERMINATION OF LADDER.  
TYPICAL FOR LANDING PLATFORM PROVIDED WITH GUARD RAILING.

039<sup>c</sup>

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**SAF-T-CLIMB**

METHOD OF FIXING RAIL TO LADDERS

REV.	BY	DATE	PARTICULARS	CYD

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ADDRESS ALL MAIL TO:

BOX 73, P.O.  
PORT MELBOURNE

01-08-66 GKN to CITY

G.K.N. BUILDING AND ENGINEERING

A DIVISION OF GUEST, KEEN & NETTLEFOLDS (AUST.) PTY. LIMITED  
(INCORPORATED IN NEW SOUTH WALES)

78 BAY STREET  
PORT MELBOURNE  
VICTORIA

ENGR  
W'BOOL.

TELEGRAMS AND CABLES  
"MILLSCAFF" MELBOURNE

TELEPHONE:  
64 3421

JRT:NS  
REF: SME3160

1st August, 1966.

Copy - Mr. R. Jones ✓

Mr. E. Johnson,  
City Engineer,  
WARRNAMBOOL. VIC.

Dear Sir,

We have today discussed with Mr. Fahey, of the Department of Labour & Industry, the proposed installation of Saf-T-Climb on the water tower at Fletcher Jones & Staff Pty. Ltd.

This proposal, on the basis of the designs by Mr. Ralph Jones, is being examined by Mr. Fahey's department and we should receive advice from them within two or three days.

From our discussions this morning, we believe that the Department will indicate their approval for the use of Saf-T-Climb in this particular application provided that you are satisfied and may therefore, in effect, refer the final decision to you as Local Authority.

There are no specific regulations concerning this equipment, but we anticipate that

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1st August, 1966.

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the Department of Labour & Industry will take the course outlined and, under the circumstances, we do not see any problems in respect to its use either by Fletcher Jones or yourself.

Yours faithfully,  
G.K.N. BUILDING AND ENGINEERING

*J.R. Thompson.*  
(J. R. Thompson)  
AREA MANAGER  
VICTORIA.



01-08-66 GKN to D.L.I.

## G.K.N. BUILDING AND ENGINEERING

A DIVISION OF GUEST, KEEN & NETTLEFOLDS (AUST.) PTY. LIMITED  
(INCORPORATED IN NEW SOUTH WALES).

78 BAY STREET  
PORT MELBOURNE  
VICTORIA

ADDRESS ALL MAIL TO:

BOX 73, P.O.  
PORT MELBOURNE

TELEPHONE:  
64 3421

TELEGRAMS AND CABLES  
"MILLSCAFF" MELBOURNE

Copy - Mr. Jones ✓

JRT:NS  
REF: SME3160

1st August, 1966.

The Department of Labour & Industry,  
110 Exhibition Street,  
MELBOURNE. C.I.

Dear Sirs,

SAF-T-CLIMB INSTALLATION  
FLETCHER JONES & STAFF PTY. LTD.  
WARRNAMBOOL

We attach details of a proposed Safety Climb Installation to be incorporated with a water tower at the premises of Fletcher Jones & Staff Pty. Ltd., Warrnambool.

This installation is to give safety during access to the tank for inspection purposes and due to the design of the tank, we consider that the Saf-T-Climb installation is more practical than an arrangement using Ladder Caging.

It is intended that the climbers' safety belt and sleeve will be transferred between Saf-T-Climb Rails.

Access to the base will be by portable ladder so that unauthorised personnel cannot gain ready access to the base of the ladder.

We have discussed this proposal with Mr. E. Johnson, City Engineer of Warrnambool, who has no objections to the use of this equipment.

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039E

1st August, 1966.

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You will also appreciate that the proposed installation will be in accord with the design of the tank which will be aesthetically pleasing.

Your consideration of our request would be appreciated.

Yours faithfully,  
G.K.N. BUILDING AND ENGINEERING

*JR Thompson.*

(J. R. Thompson)  
AREA MANAGER  
VICTORIA.