

**SINGAPORE CIVIL DEFENCE FORCE  
FIRE SAFETY & SHELTER DEPARTMENT**



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Our File Ref: CD/FSSD/12/01/03/04

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2 March 2005

President, Singapore Institute of Architects (SIA)  
President, Institution of Engineers, Singapore (IES)  
President, Association of Consulting Engineers, Singapore (ACES)  
President, Real Estates Development Association of Singapore (REDAS)  
Registrar, Board of Architects (BOA)  
Registrar, Professional Engineers Board (PEB)

Dear Sir,

**DESIGN SPECIFICATIONS FOR STOREY SHELTER BLAST/ RESCUE HATCH**

In the interest of promoting design flexibility and the achievement of better cost effectiveness, alternative proposals for the design of storey shelter (SS) blast/ rescue hatch can now be considered for use in SS developments.

2 For suppliers of SS blast/ rescue hatches, the following options are available:

a Adopting Standard Design

This is the current practice already in place, where suppliers fabricate their products according to the standard BCA-approved design. The standard design details for SS blast/ rescue hatch can be found in Annex A of this circular.

b Design to Performance Specifications

Suppliers may submit alternative design proposals for assessment and approval by BCA. By means of engineering calculations endorsed by qualified Professional Engineers, these alternative proposals shall be designed for compliance with stipulated performance specifications including dynamic and static loading requirements, as well as dimensional requirements for interchangeability. Please see Annex B for the performance specifications.

3 We would appreciate it if you could disseminate the contents of this circular to members of your Institution or Association.

4 Please contact me at 68481470 or MAJ Ng Shu Heng at 68481406, should you require further clarifications.

Yours faithfully,

Cpt Yoong Eng Chee  
for Commissioner  
Singapore Civil Defence Force

cc

Members of FSSD Standing Committee

President, SISV

CEO, HDB

Attn: Mr Lau Joo Ming

CEO, URA

CE, LTA

Attn: Dr Chin Kian Keong

CEO, BCA

Attn: Deputy CEO (Building Control)

Director (Special Functions)

Senior Manager (CDSD)

Senior Engineer (CDSD)

PREFAB TECHNOLOGY 3 PTE LTD

99 Pioneer Road

Singapore 639580

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31 Senoko Drive

Singapore 758216

Attn: Ms Celia Lim

TACAM STEEL PTE LTD

541 Bukit Batok St 23

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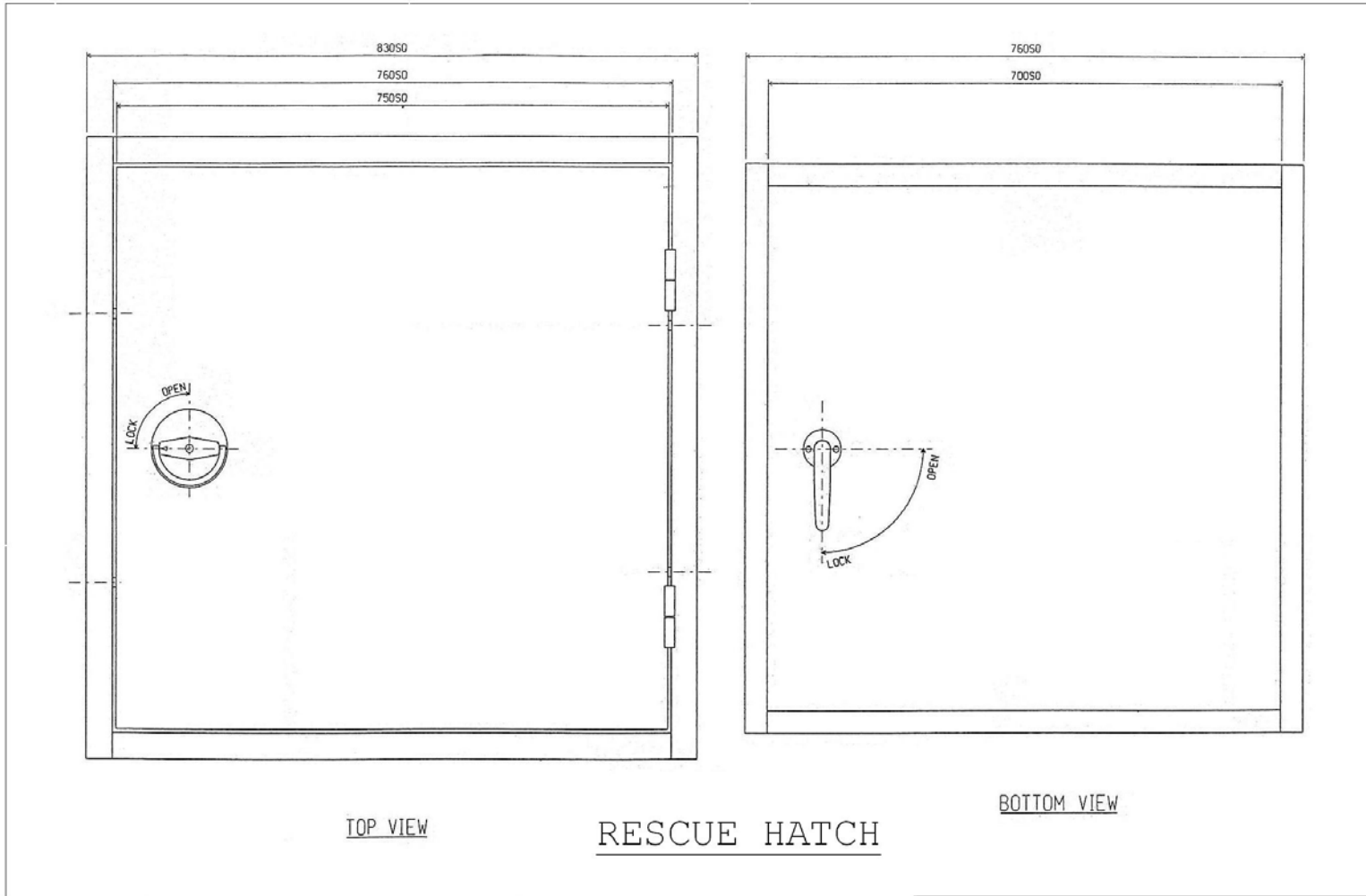
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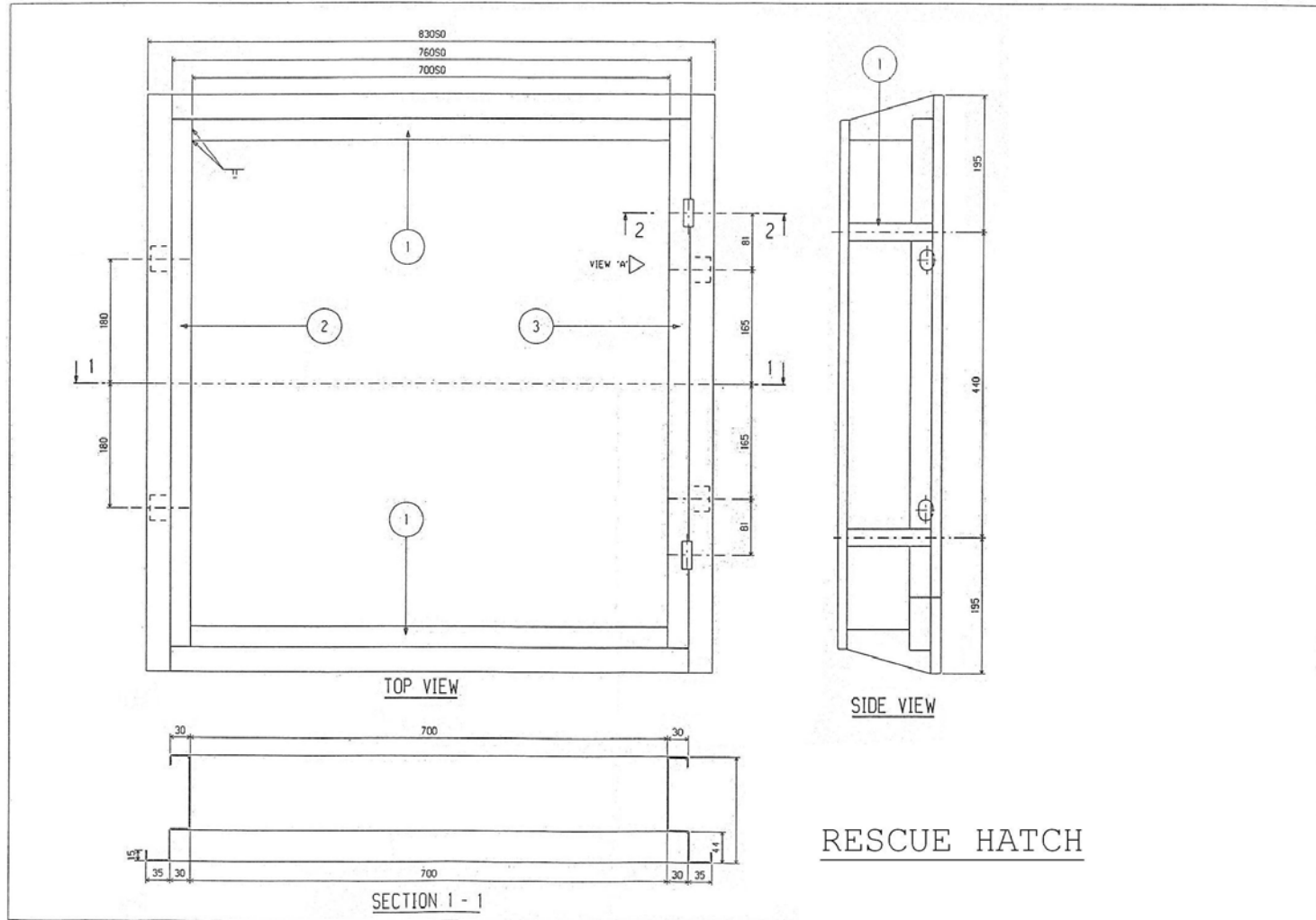
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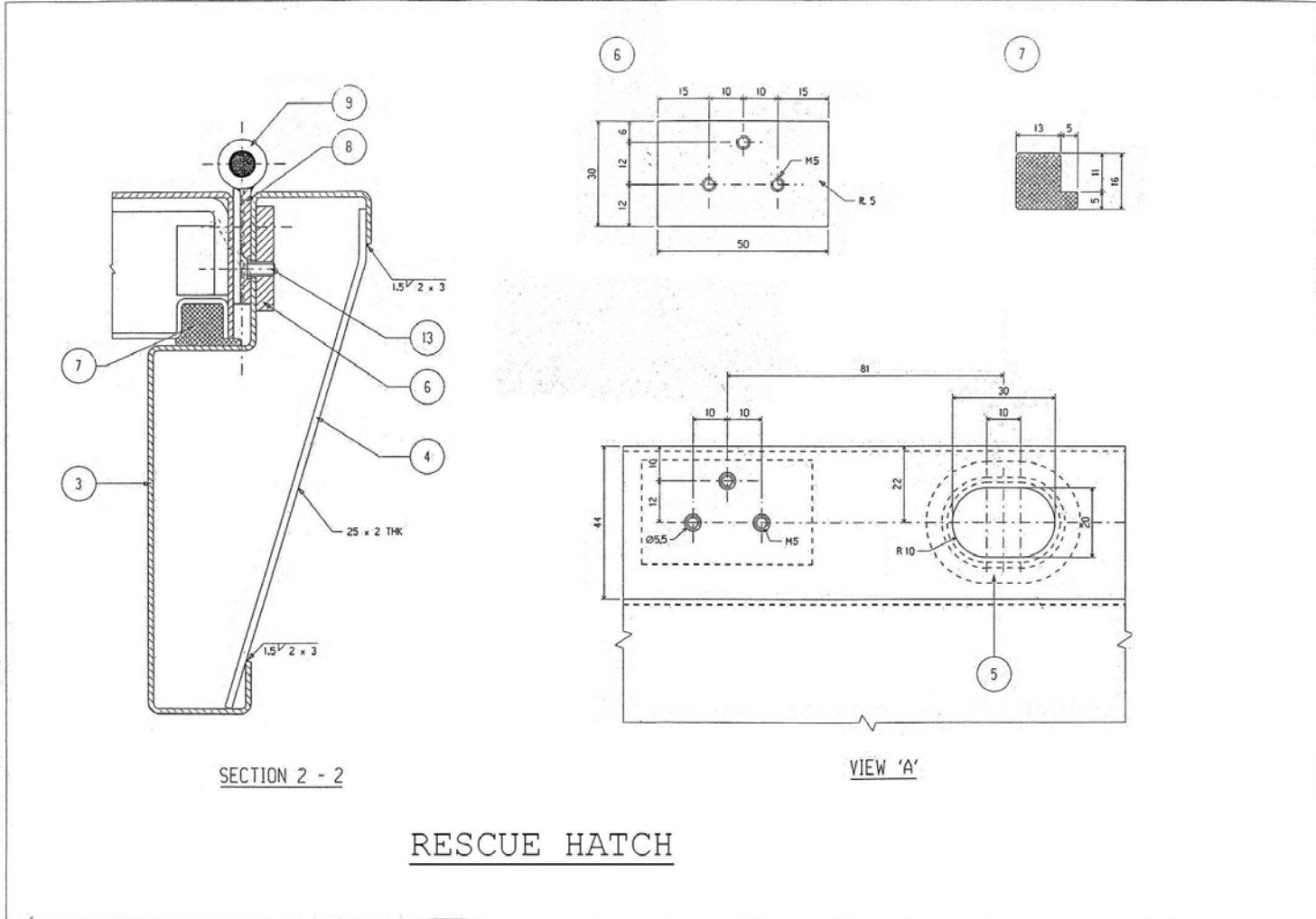
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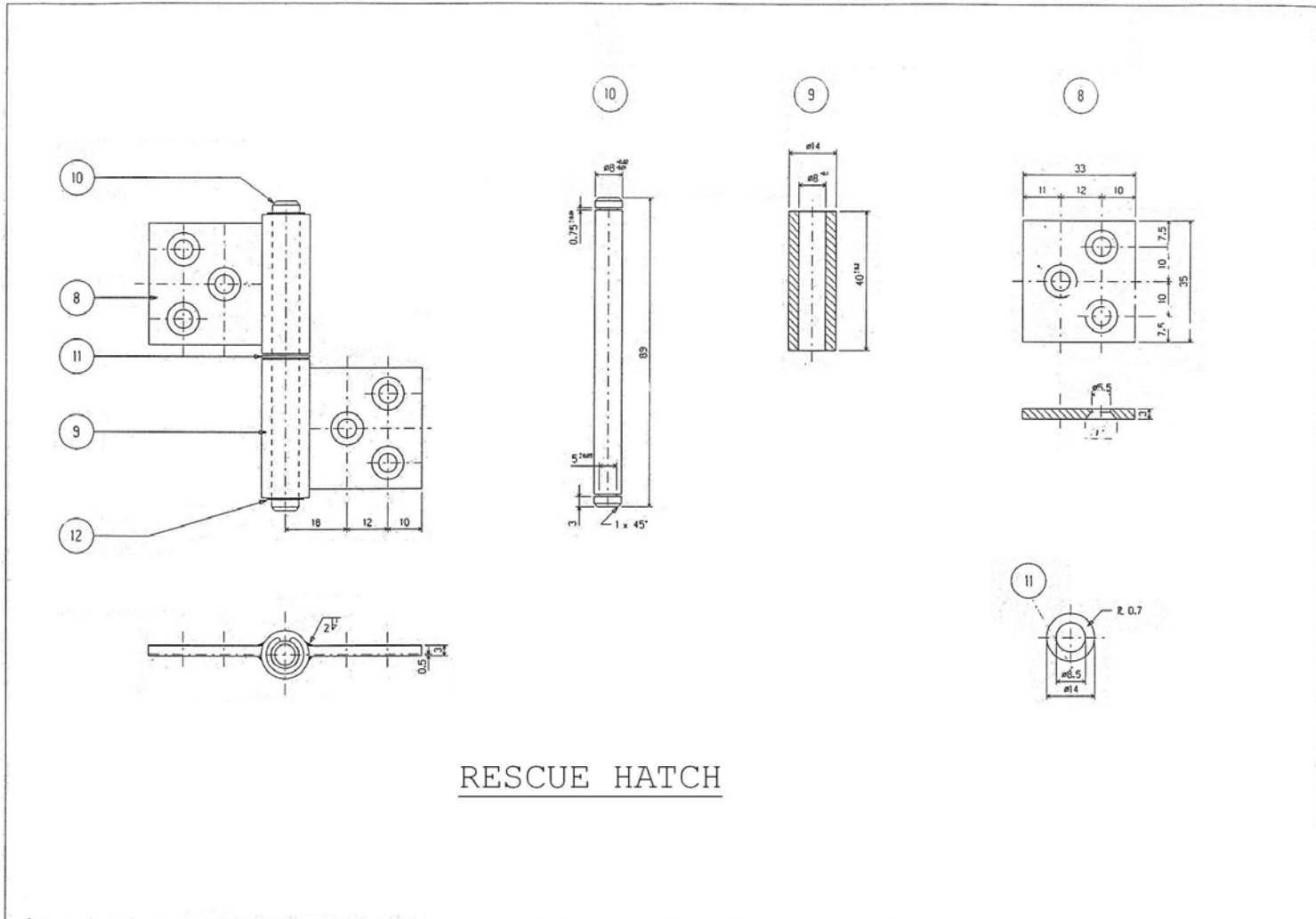
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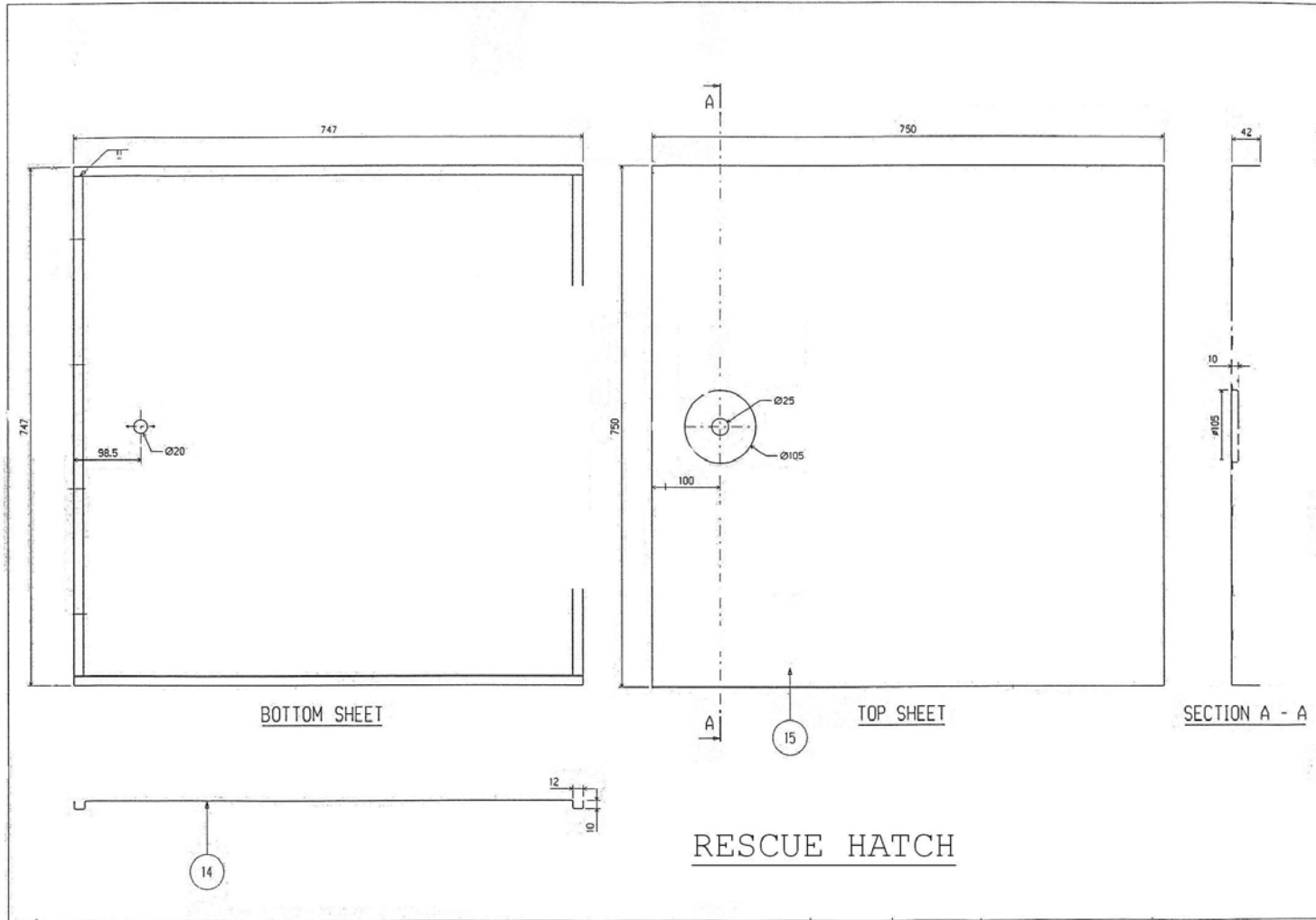
Attn: Mr Yong Boon Meng



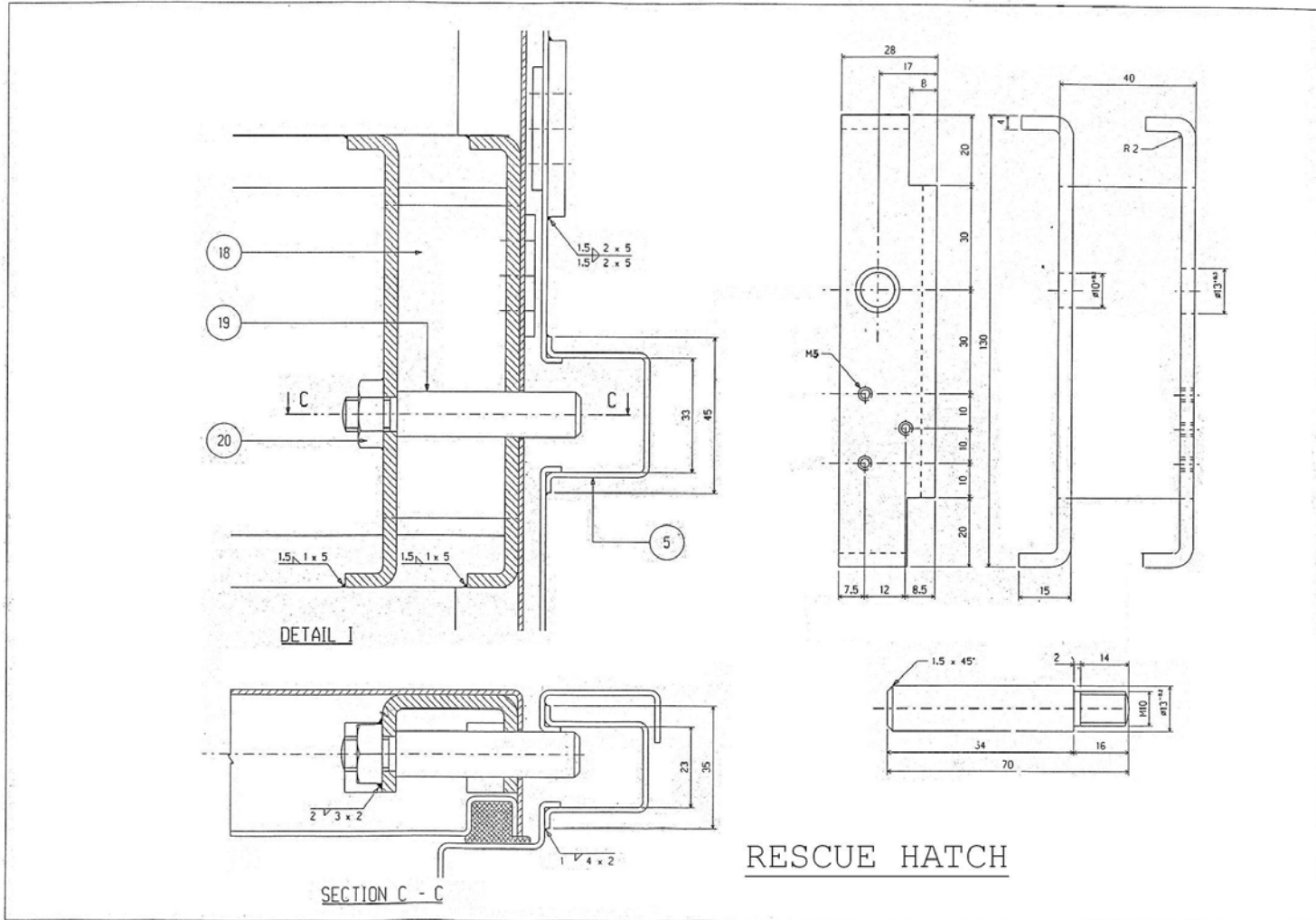


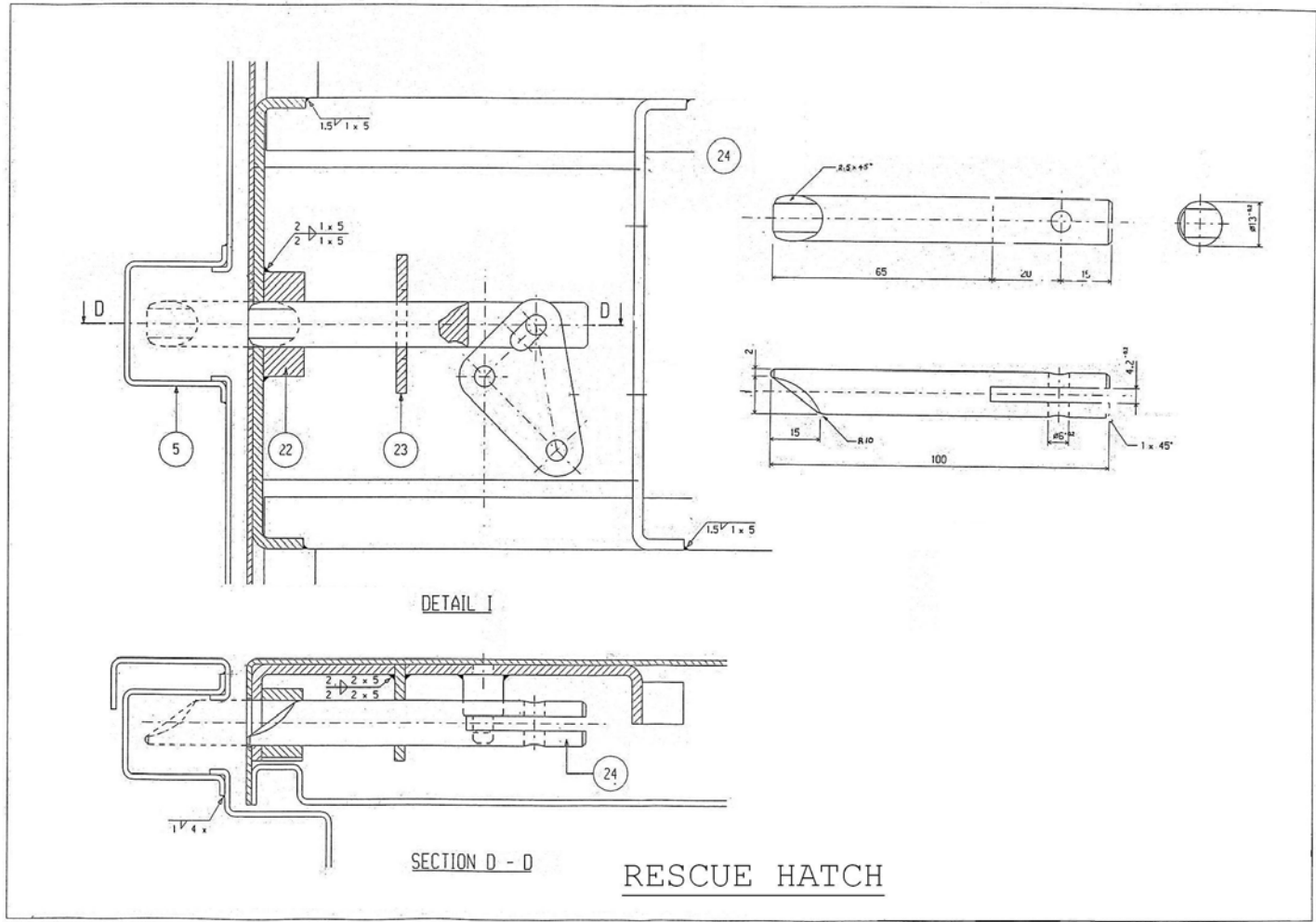












**Specifications for Storey Shelter**  
**Internal Blast/ Rescue Hatch (700 x 700mm clear opening)**

Loading Requirements

- a) Designed to dynamic blast load of 0.75 bars for 35ms with Ductility Ratio < 5;
- b) Designed to withstand a peacetime load perpendicular to the plane of the hatch of 5kN/m<sup>2</sup>.

The designs/calculations are to be endorsed by qualified Professional Engineer.

Operational Requirements

- a) External features (including locking mechanism and hinges) and dimensions need to cater for interchangeability with the blast/ rescue hatch leaf and the blast/ rescue hatch frame of the standard BCA approved design viz that the hatch leaf shall be usable with the standard frame and the hatch frame shall be usable with the standard leaf.
- b) Blast/ rescue hatch leaf weight not exceeding 25kg.