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Balcony construction

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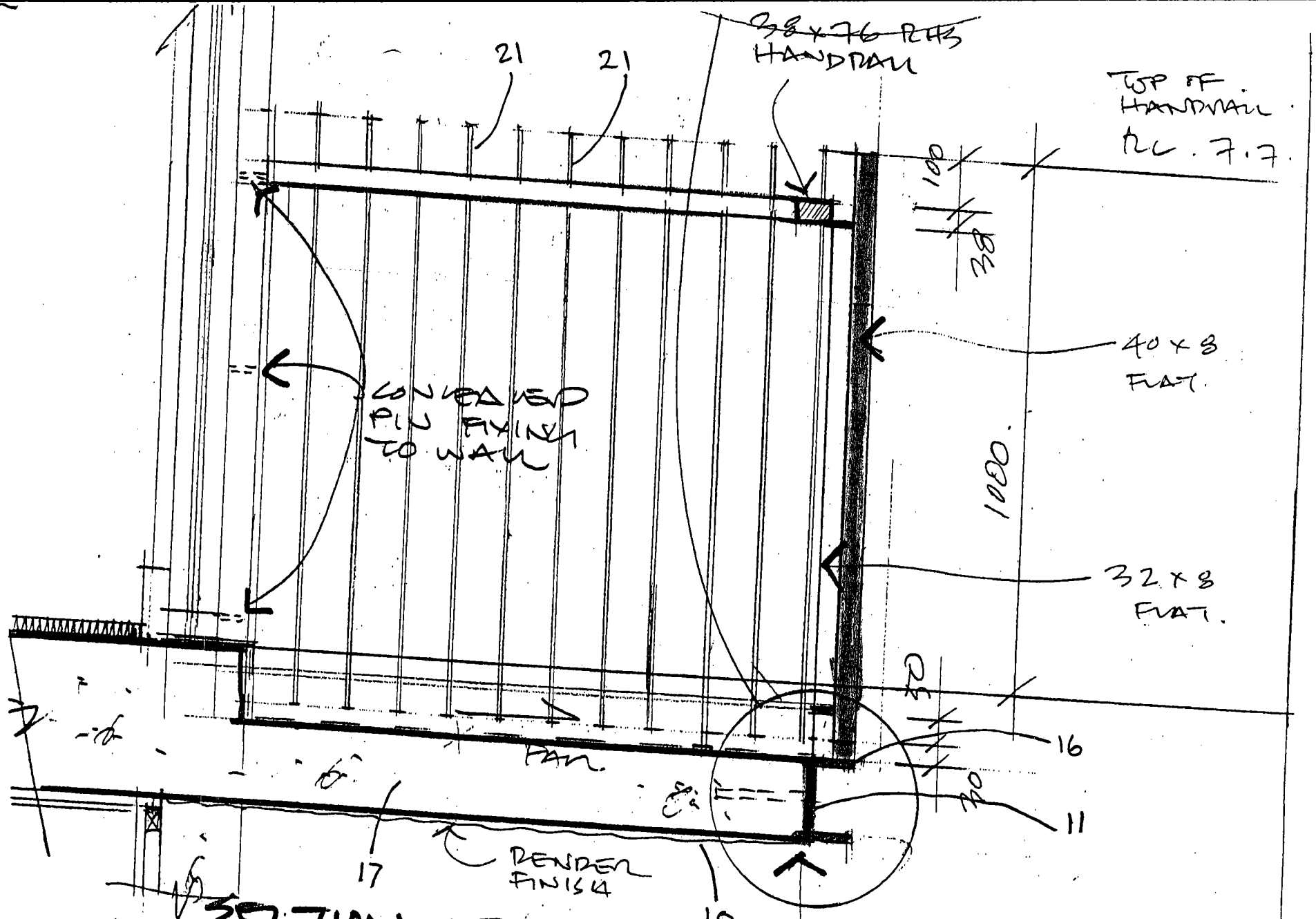
ABSTRACT

A method of balcony construction which includes the steps of prefabricating balcony formwork and placing said formwork on a removable support base adjacent a building, attaching the formwork to a building and pouring concrete into the formwork to form the balcony base the support base may be removed when the concrete is set and balusters attached if not integrally moulded with the formwork which is integral with the completed balcony. The invention also includes a balcony formed by this method.



SECTION. DETAIL HANDRAIL TYPE A

D21 / A11

Fig. 1.

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Patents Act 1990

COMPLETE SPECIFICATION

INNOVATION PATENT

APPLICANT: GEM (AUST) ENGINEERING PTY. LIMITED
NUMBER:
FILING DATE:

Invention Title: BALCONY CONSTRUCTION

The following statement is a full description of this invention, including the best method of performing it known to us:

BALCONY CONSTRUCTION

Technical area

This invention relates to the area of building construction and in particular to a method of constructing balconies for buildings which minimises the amount of actual on site measurement and construction.

Background to the Invention

It is customary in the building construction industry when balconies are being constructed for each balcony on a building to be individually constructed. This involves each balcony site to be measured up and form work appropriate for that site to be prepared.

Clearly this approach is labour intensive, and therefore expensive, as well as exposing workers to the dangers associated with working on the outsides of what can be major developments and at great heights.

Summary of the Invention

It is an object of this invention to provide a balcony and a method of forming such a balcony which minimises the amount of on site activity which is associated with its construction.

The invention in one aspect is a method of balcony construction which includes the steps of:

- prefabricating balcony formwork;
- placing said formwork on a removable support base adjacent a building;
- attaching the formwork to a building;
- pouring concrete into the formwork to form the balcony base; and

removing the removable support base once the concrete is set.

The invention in another aspect is a balcony formed in accordance with the method described above wherein the balcony formwork is integral with the completed balcony and said balcony formwork includes a prefabricated balcony perimeter having an upper and lower edge with means on an interior face of the perimeter for connection of the perimeter to the building, the lower edge of which perimeter rests on a removeable support base during construction such that when the perimeter abuts the building a hollow volume interior to the perimeter may be filled with concrete to form the balcony base.

It is preferred that the balcony formwork used be a balcony perimeter which can be supported at the site on a plywood base supported by scaffolding. It is further preferred that the balcony be provided with ties to attach to the building reinforcing. While it is preferred that a perimeter be used it is also envisaged that the formwork could include a base internal to the perimeter. It is however preferred that the balcony formwork be incorporated as a permanent part of the balcony once construction is completed.

It may also be preferred that the edges of the balcony perimeter be bonded to the building in some manner such as by welding or bolting or the like although the precise method is not germane to the invention.

It is however preferred that the perimeter be provided with means for attachment of balusters however the precise shape of the perimeter or location of the attachment means is not germane to the invention. It is also envisaged that the balusters could be formed integrally with the perimeter.

In order that the invention may be more readily understood, we shall describe by way of non limiting example different embodiments of the invention with reference to the accompanying drawings.

Brief Description of the Drawing Figures

In these drawings:

Fig. 1 Is a side view of the balcony of the invention as assembled;

Fig. 2 Shows a side view of the outside edge of the balcony;

Fig. 3 Shows a plan view of the assembled balcony;

Fig.4 Shows the balcony perimeter on its support prior to assembly;

In a first embodiment of the invention 10 a mould is prepared for a balcony perimeter 11 the dimensions of which mould are taken directly from architectural drawings. By this means as many such identical perimeters as are required can be formed and used at a construction site.

In the preferred embodiment of the invention shown in Figures 1, 2 and 3 a perimeter 11 is provided having an upper edge 12 and lower lip 13 such that concrete or the like can be held within it. It is not essential however for any lips to be present however the perimeter may have a lip at its upper edge and preferably has a lip13 at its lower edge.

When a balcony is to be constructed the perimeter 11 is placed on a plywood base 14 supported by scaffolding at the balcony site. Ties 15 located on the interior face of the perimeter are then tied to the building reinforcing 16 to attach it to the building.

It may however be preferred that the edges of the perimeter which abut the building are welded or bolted to the building although the precise method of such attachment can include any appropriate method.

Once the attachment is completed concrete 17 can be poured into the perimeter/plywood arrangement and, once it is set the plywood can be disposed of and the concrete will form the balcony base 20. The concrete being retained within the perimeter by its lower lip. By this means the perimeter is used as permanent formwork and becomes integral with the balcony.

In the embodiment of the balcony shown in Figure 1 an outwardly directed upper edge 16 to the perimeter is provided with ferrules for the attachment of balusters. It is however envisaged that in another embodiment of the invention shown in Figure 4 this upper edge could be absent and the concrete lie flush with the top of the perimeter. In this case attachment points 40 for the balusters are provided on the exterior of the

perimeter or alternatively the balusters may be pre fixed or cast in some unitary manner with the perimeter.

In another embodiment of the invention a base can be provided internally to the perimeter however the prefabricated balcony formwork would still have to be tied to the building reinforcement prior to the pouring of the concrete.

The method of the invention of providing a prefabricated formwork which is attachable to a building and which can be manufactured off site, if required, and installed by means of a crane or other such device has the advantage that there is no wastage of formwork and that ease of construction is provided. In addition, for any given design of balcony all balconies manufactured will be identical and each balcony will cooperate precisely with the blusters used.

By this means the requirement for onsite measurement is removed and the speed of balcony installation over conventional techniques is greatly improved.

Whilst we have described herein several specific embodiments of the invention it is to be understood that variations and modifications in this can be made without departing from the scope thereof.

The claims defining the invention are as follows:

1. A method of balcony construction which includes the steps of:

   – prefabricating balcony formwork;

   – placing said formwork on a removable support base adjacent a building;

   – attaching the formwork to a building;

   – pouring concrete into the formwork to form the balcony base; and

removing the removable support base once the concrete is set.

2. A balcony formed in accordance with the method of claim 1 wherein the balcony formwork is integral with the completed balcony and said balcony formwork includes a prefabricated balcony perimeter having an upper and lower edge with means on an interior face of the perimeter for connection of the perimeter to the building, the lower edge of which perimeter rests on a removeable support base during construction such that when the perimeter abuts the building a hollow volume interior to the perimeter may be filled with concrete to form the balcony base.

3. A balcony as claimed in claim 2 wherein means are provided on the perimeter for balusters to be attached.

4. A balcony as claimed in claim 2 wherein the balusters are integral with the perimeter.

5. A balcony as claimed in any one of claims 2 to 4 wherein the perimeter is provided with an interior floor connected adjacent its lower edge

DATED this 9th day of November, 2001

GEM (AUST) ENGINEERING PTY. LIMITED
By its Patent Attorneys
A TATLOCK & ASSOCIATES

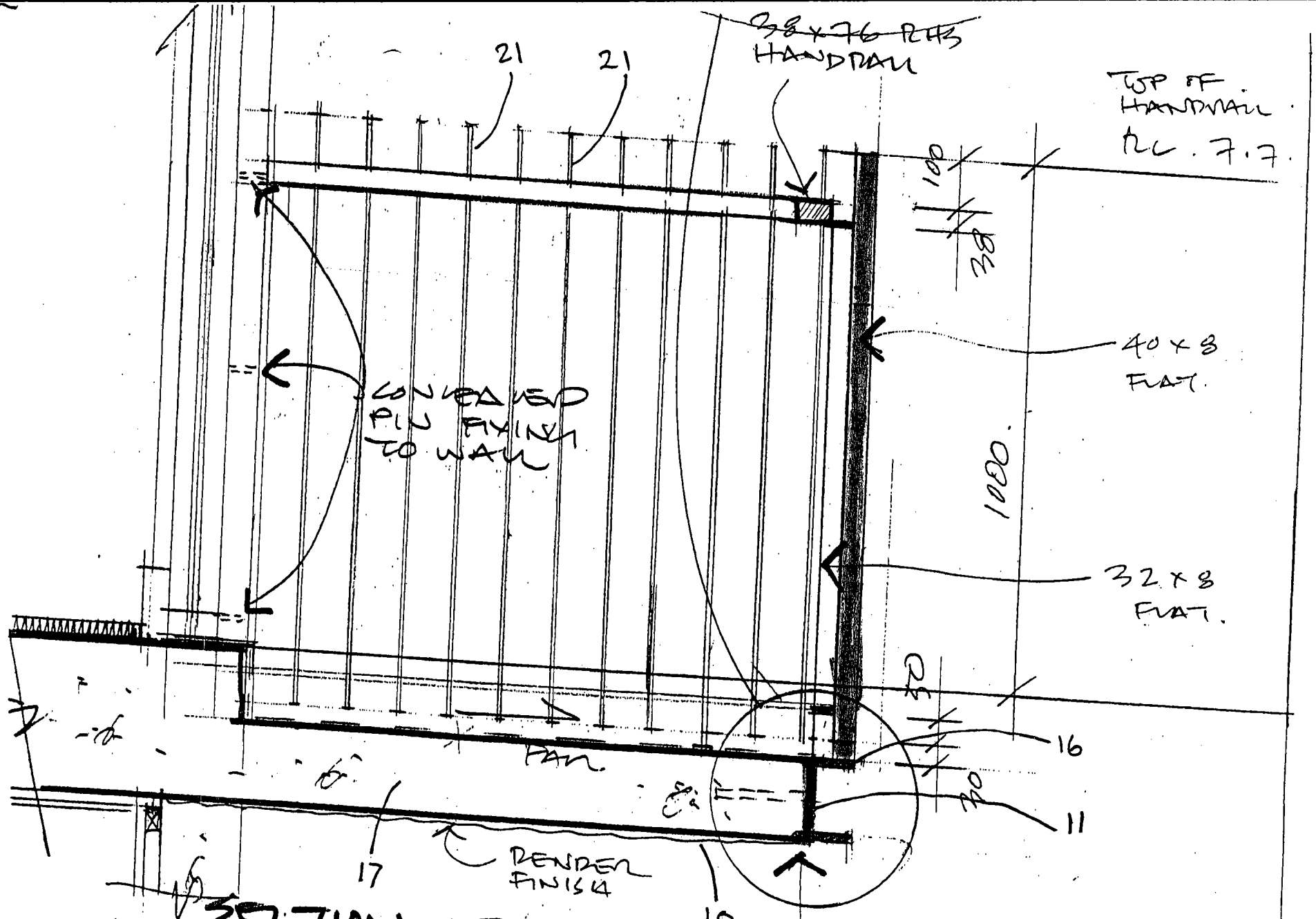

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Fig. 1.

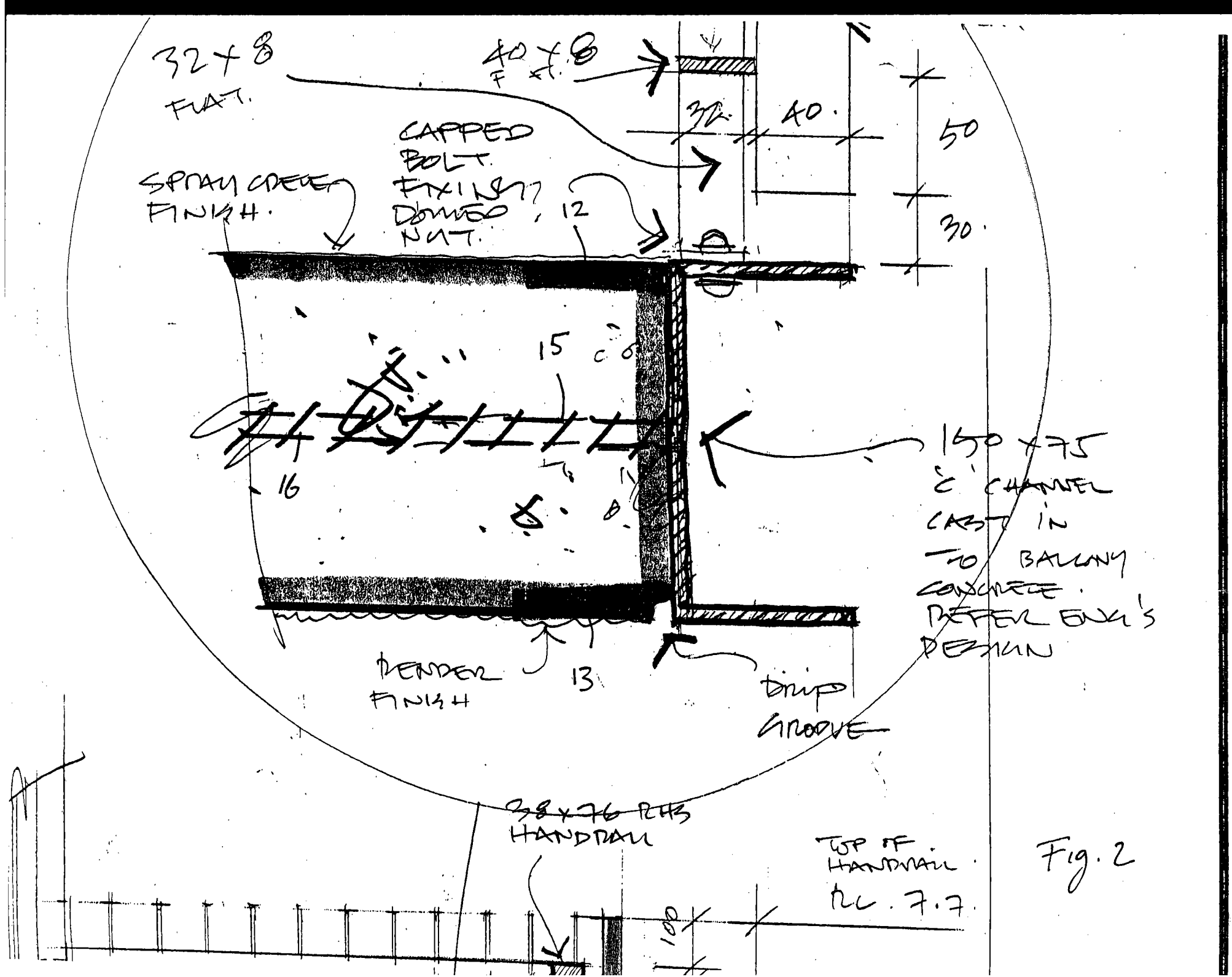

Fig. 2

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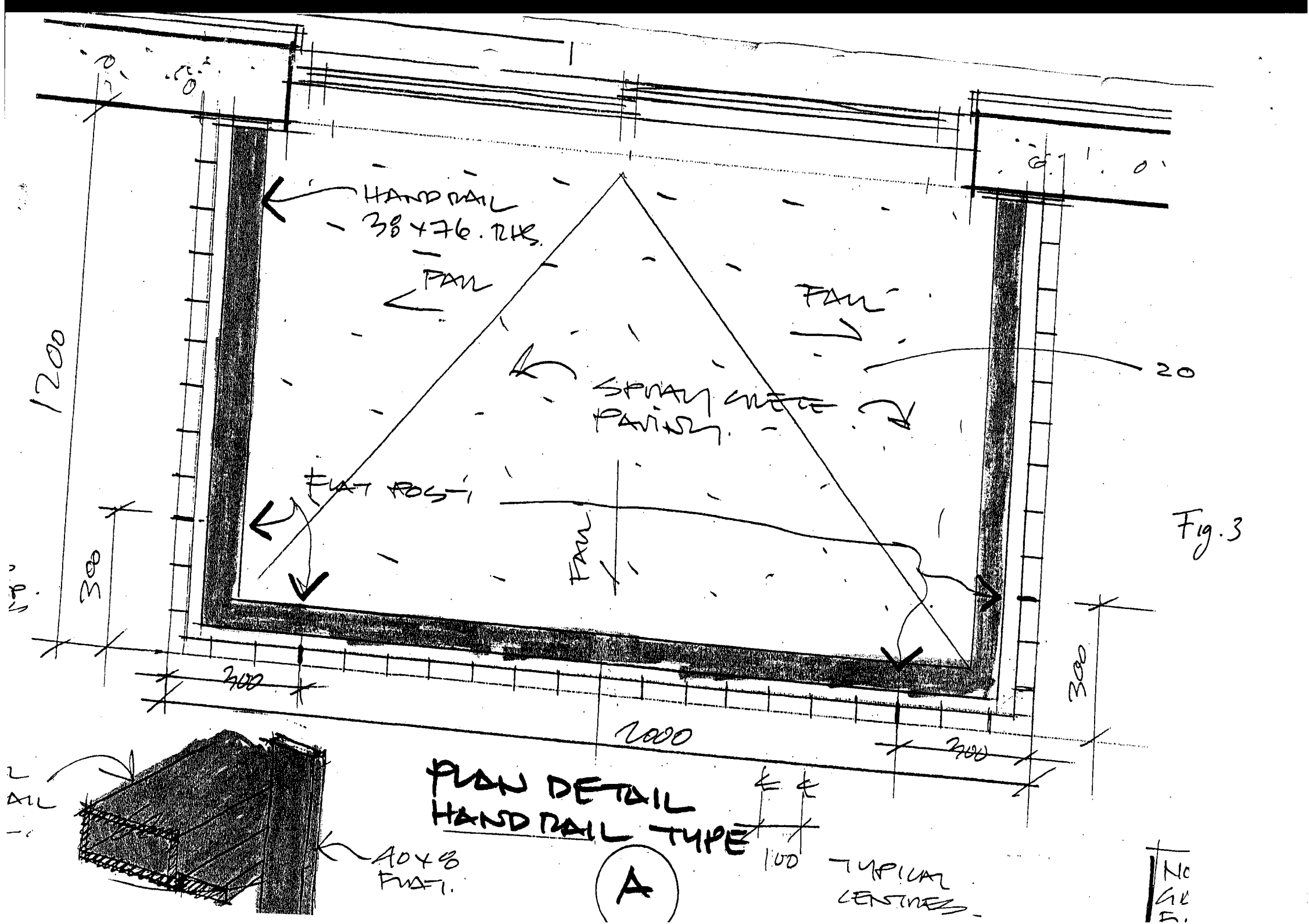

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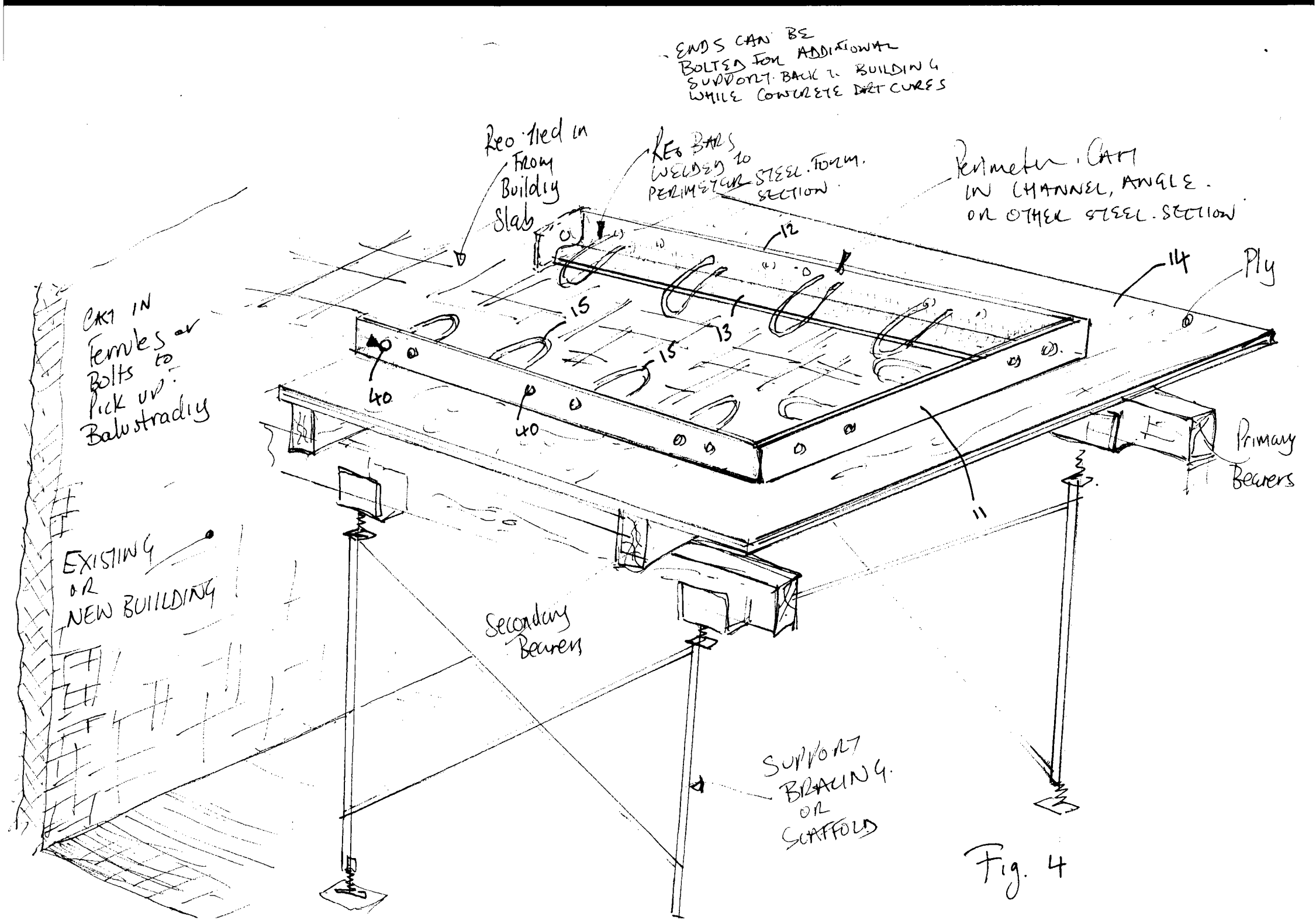
Fig. 3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REO BARS WELDED TO PERIMETER STEEL FORM SECTION
Perimeter CAT1 IN CHANNEL, ANGLE OR OTHER STEEL SECTION
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14
Ply
15
13
15
40
40
CAT1 IN Ferrules or Bolts to Pick up Balustradiy
EXISTING OR NEW BUILDING
Primary Bearers
11
Secondary Bearers
SUPPORT BRACING OR SCAFFOLD

Fig. 4