

Date 29/05/2018

Scentre Group Design
85 Castlereagh Street
SYDNEY NSW 2000

For the attention of: -Nicolas Thioulouse & Craig Marshall

Dear Nicolas,

**Section 75W Modification (MOD1) to the Approved Commercial Tower Building Envelope
Concept Approval Major Project MP10_0068
Westfield Shopping Centre Parramatta**

Structural Review of Tower

INTRODUCTION

At your request enstruct has undertaken a review of the structural engineering aspects relating to the proposed development in response to Department of Planning SEAR's letter 29/9/2017.

This letter is related to the Commercial Tower Concept and is similarly general in nature. Further investigations and detailed structural analysis will be required to determine the precise extent of the structural upgrade, required strengthening and the detailed sizing of the structural system. The proposed development will also require a comprehensive geotechnical review of the existing data and possibly additional geotechnical work. These investigations will be undertaken in the project delivery stage.

The centre was originally constructed in the 1970's and has had a number of alterations and additions over the subsequent years. The structural drawings of the existing building are available. The centre has been separated into zones or blocks. The proposed building is located in the regions of Block 3 to Block 6 and Block 6B also referred to as the Myer Box.

STRUCTURAL ASPECTS

The new building will comprise a side building core with internal columns. The building core will be constructed with reinforced concrete and will be supported by piles which will socket into the sandstone rock. The structural framing of the tower will comprise a one way banded system with one way slabs. The floor structure will be post tensioned concrete.

There will be 20 tower columns which will range in size from 1400 mm diameter at the lower tower levels to 600 mm diameter at the top. High strength concrete will be used to minimise the size and number of the columns. A column transfer will occur between Lobby at Level 6 and Office Building Level 2. The tower columns will be combined in groups to individual columns through the existing retail levels. Consequently the number of columns supporting the office tower in the retail zone reduces from 20 above Commercial Office Level 2 to 6 columns in the retail zone. Due to the increased loads the columns in the retail portion supporting the tower above will be approximately 1800 mm diameter. These columns will be supported off piles which

will socket into the sandstone rock. Additional smaller retail columns will be required between the tower columns to support the retail floors. These retail columns will range in size from 600 mm diameter to 850 mm diameter.

CONSTRUCTION METHODOLOGY

The proposed construction methodology for the building is;

- Back-prop portions of the Myer Box and strengthen structure where required.
- Demolish a section of the Myer box to allow the construction of the foundation and structure supporting the new building.
- Install structural piles for the new building.
- Construct core, tower columns and retail columns and connecting floor plates.
- Remove temporary propping.

DESIGN STANDARDS

The following Australian Standards will apply to the building design including;

- AS/NZS 1170.0 - 2002;
- AS/NZS 1170.1 - 2002;
- AS/NZS 1170.2 - 2011;
- AS/NZS 1170.4 - 2007;
- AS3600 – 2009;
- AS3700 – 2011;
- AS4100 - 1998.

CONCLUSION

Enstruct have undertaken a review of the structural engineering aspects relating to the proposed development in response to Department of Planning SEAR's letter 29/9/2017.

The structural review has been based upon the proposed modification to the approved concept plan MP10_0068 for Tower envelope and location and is similarly general in nature. Further reviews and development of the design will be required in the project delivery phase to refine the design. The building shown is structurally feasible to build.

Should you have any further queries related to structural matters please don't hesitate to contact the undersigned.

Yours Sincerely,



for
enstruct group pty ltd

Martin O'Shea
Senior Associate