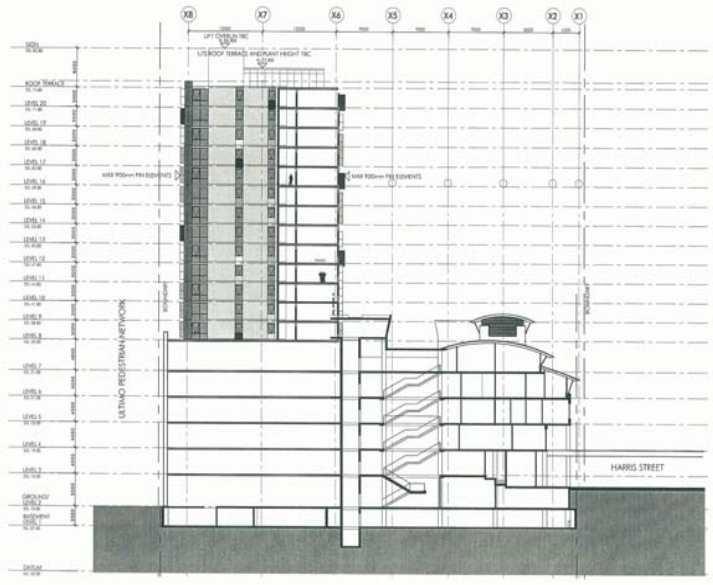
STRUCTURAL REPORT FOR DA APPLICATION FEBRUARY 2009

Prepared for:
Hutchinson Builders
23 Dunning Avenue
ROSEBERY NSW 2018

17 February 2009

Ref: S08032

PETER JOHNSON BUILDING



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1 INTRODUCTION

This report has been compiled for our client Hutchinson Builders to assist in the DA application of the proposed UTS development at UTS Peter Johnson Building site.

The report outlines the proposed works to be carried out and the impact of the proposed structural additions to the existing building.

2 BACKGROUND

The Peter Johnson Building (Building 6) was built in 1993 and is located at 702-730 Harris St Ultimo, Sydney. See attached Site Plan (Appendix A).

The building is currently being used by the University of Technology, Sydney and houses the Faculty of Design, Architecture and Building. The existing building consists of 6 levels and a basement. It accommodates car parking, lecture theatres, workshops, offices and a café.

The current building was constructed with an allowance for additional floors to be built over parts of the existing building. It is our understanding from the existing structural drawings that the building has a capacity generally for 11 additional levels of office space.

3 EXISTING STRUCTURE

The existing structure from Level 2 to Level 7 consists typically of a mix of post-tensioned and reinforced slabs supported by post-tensioned and reinforced beams.

These horizontal elements are supported by reinforced concrete columns and walls.

Currently there is also a lightweight metal roof which covers level 7 slab which will be demolished in the proposed development.

The foundation system consists of concrete piles founded on rock with a capping beam and slab on ground over the top. The site is typically surrounded by a reinforced (in-situ) concrete wall.

Building gravity loads (including structure self-weight, super-imposed dead loads and live loads) are supported conventionally by structure as described above

Building stability for lateral loads caused by wind and earthquakes appears to be resisted by concrete stair and lift cores constructed of reinforced concrete.

4 PROPOSED STRUCTURE

The proposed development will consist of the construction of fourteen (14) additional floors and a lightweight metal roof over the existing Peter Johnson Building. See attached section (Appendix B).

The extent of the floors being added has changed slightly since the building was originally designed and there are areas in the corners of the building which have not been designed for additional levels.

The proposed structure from level 9 and above consists typically of one-way post-tensioned slabs supported by post-tensioned beams supported on a combination of load bearing precast walls and reinforced concrete columns and walls.

Building gravity loads, including structure self-weight, superimposed dead loads and live loads are supported by the post-tensioned slabs and beams as described above and the load is transmitted to concrete columns, wall or precast walls.

The vertical load path from level 9 and above is transferred at level 8 into existing vertical support below.

Due to the use of load bearing precast façade the load at level 8 requires to be transferred to existing columns and walls below.

Level 8 structure consists of typically 1100m deep post-tensioned transfer beams supported on reinforced concrete columns below.

Building stability for lateral loads will be achieved by utilizing concrete core walls and the load bearing precast façade.

After preliminary analysis and column load take downs, it was discovered that numerous foundations for the Peter Johnson Building will be over stressed by approximately 5% in the final condition based on the current geotechnical information. Further geotechnical investigation will need to be carried out to test rock for the potential upgrade of the current bearing capacities provided on existing structural drawings.

Where foundations in the building have not been designed for additional building load the existing foundations will need to be upgraded. We also note that we have obtained the piling records of foundation piles installed in the existing building, this information will enable us to accurately calculate the pile capacities.

There are also numerous columns for the Peter Johnson Building that will be theoretically over stressed by approximately 5%. It is envisage than with aid of concrete testing a higher concrete strength can be achieved and therefore the justification of the increased load can be achieved. Minor upgrading may be required.

Where columns in the building have not been designed for additional building load the columns are significantly over-stressed and therefore columns will require upgrading.

5 CONCLUSION

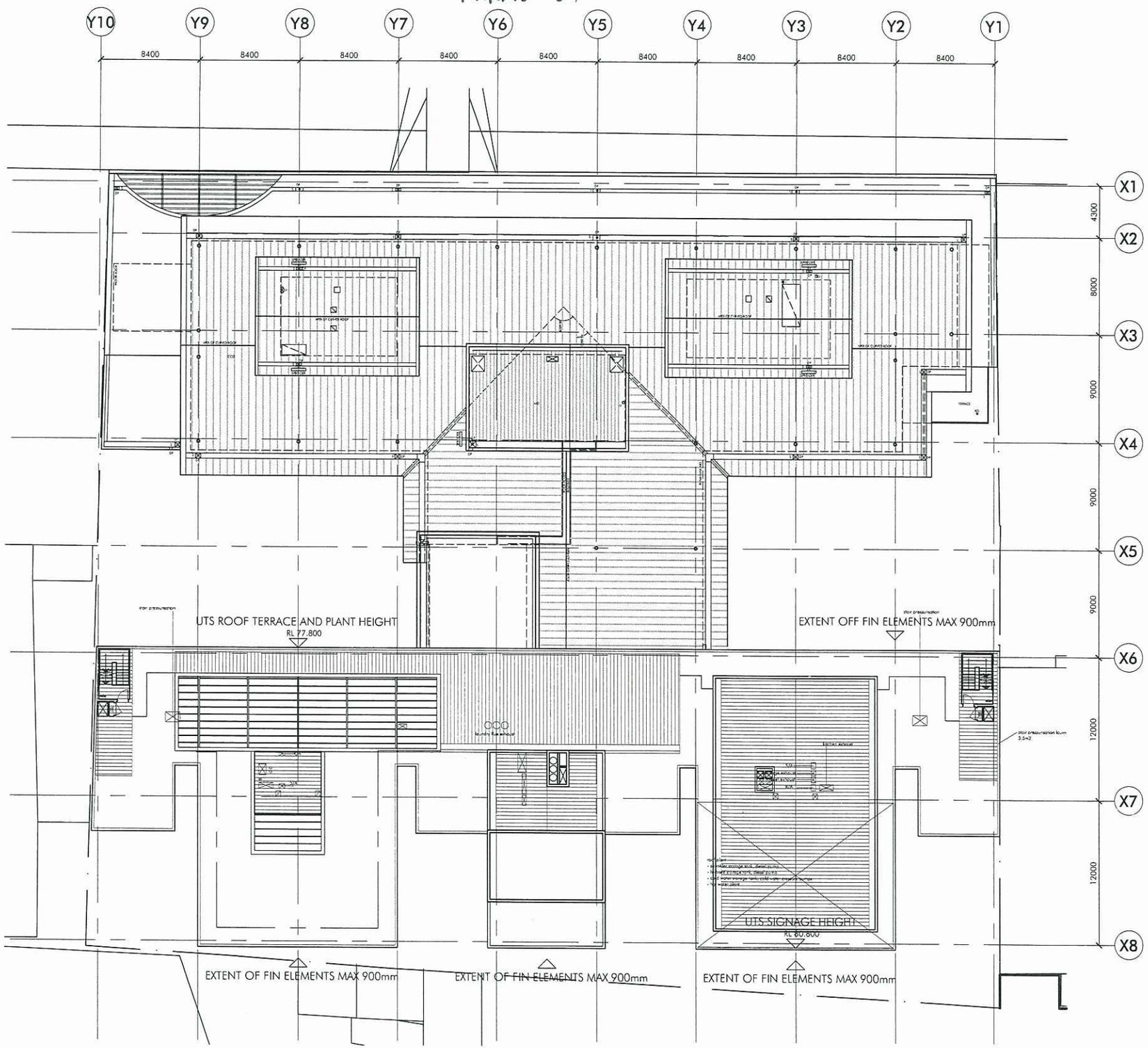
Based on the information provided to us on the proposed development, in our professional opinion we believe that the existing structure could accommodate the additional levels.

Our preliminary design indicates that some footings and columns will be over-stressed but with further testing and upgrading of footing and columns the increased loads could be justified.

Appendix A

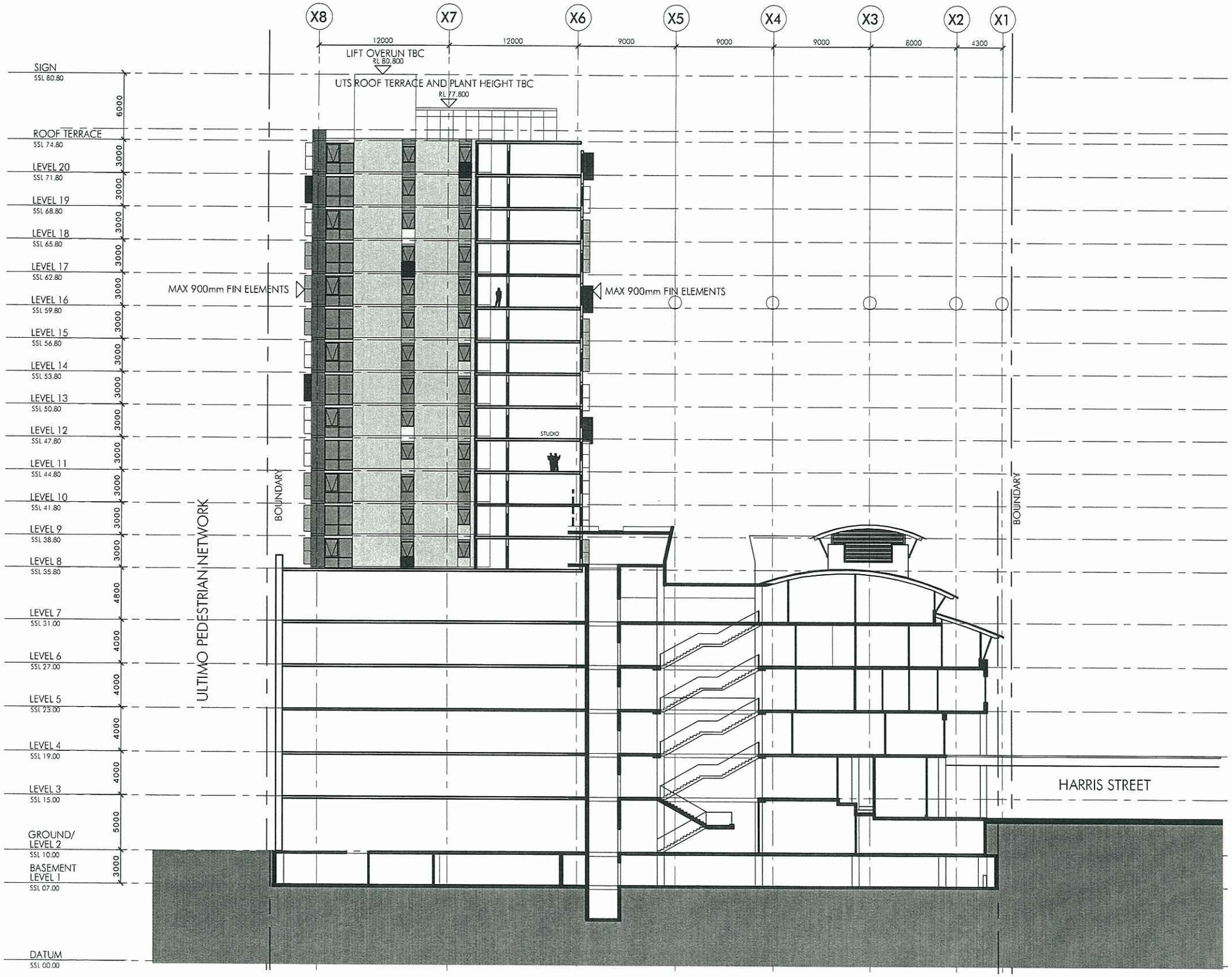
Site Plan

HARRIS ST



Appendix B

Building Section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STUDIO
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