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Yield Hall Place, the Oracle Reading

Structural statement

Hammerson

Report No. L1451-ST-R001

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1 Introduction

1.1 Report Objectives

Planning permission is sought for the repurposing and redevelopment of sites at the eastern end of the Oracle to provide a mixed use development comprising residential and town centres uses. The proposals focus around two main sites:

- Former Debenhams department store at the eastern end of the Oracle shopping centre building and northern side of the River Kennet, to be known as Yield Hall Place 1; and
- Vue cinema building on the southern side of the River Kennet and to the east of the Oracle Riverside multi storey car park, to be known as Yield Hall Place 2.

Two detailed planning applications are submitted; one application for Yield Hall Place 1 and one application for Yield Hall Place 2. These applications will be submitted concurrently to Reading Borough Council and expected to be considered and determined in this way by the local planning authority. This report is submitted in respect of both applications and considers the proposals as a single scheme for the purpose of the technical assessment undertaken. This report sets out the preliminary structural design concepts for the redevelopment.

1.2 Introduction

The two areas of the site are referred to as Yield Hall Place 1 (the former Debenhams site) and the Yield Hall Place 2 (the former Vue Cinema site) as shown on figure 1 below.

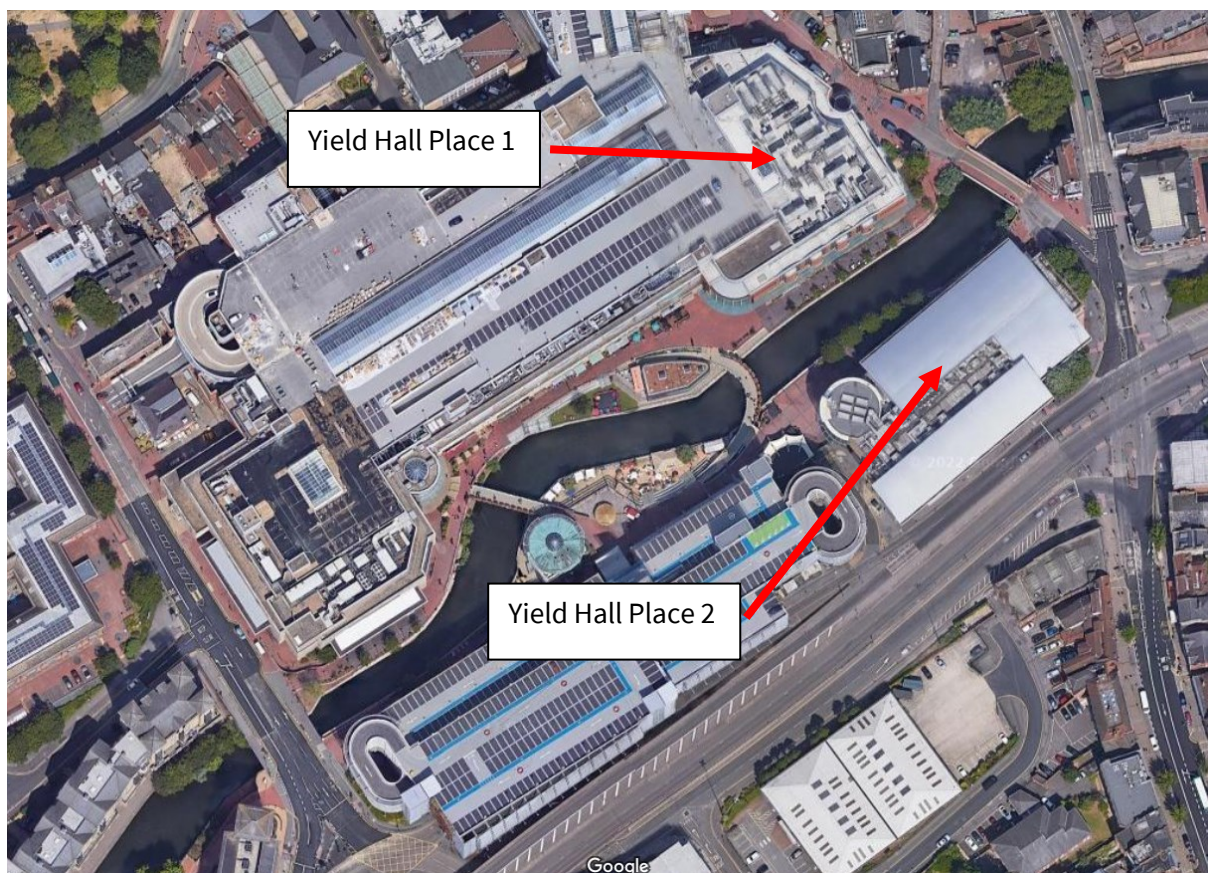


Figure 1 – site location

1.3 Project description

1.3.1 Yield hall Place 1

Mixed use development comprising part demolition of former department store and erection of new building comprising build to rent residential use (Class C3) and commercial uses within Uses Class E. Reconfiguration and change of use of remaining department store floorspace (Class E) to uses within Use Class E and / or bar (Sui Generis Use) and / or experiential leisure use (Sui Generis Use). Associated public realm, infrastructure works and external alterations to shopping centre, including creation of new shopping centre entrance. A typical floor plane is shown in figure 2.



Figure 2 – typical floor plan

1.3.2 Yield Hall Place 2

Mixed use development comprising demolition of existing buildings and erection of new building comprising build-to-rent residential use (Class C3), cinema (Sui Generis) and ground floor commercial uses within Use Class E. Associated public realm and infrastructure works. A typical floor plan is shown in figure 3.



Figure 3 – typical floor plan

2 Demolition

2.1 Yield Hall Place 1

The demolition for the Debenhams site cuts off part of the remaining buildings from the cores that provide its lateral stability. It will therefore be necessary to install new bracing in each direction as shown indicatively below. The existing building is a steel frame with profiled metal deck floors. The bracing can therefore be provided as steel flats cross bracing between existing columns. The bracing will be in the line of new blockwork walls to separate the new construction from the existing. Demolition will be taken down to underside of ground floor slab, pits and pile caps.

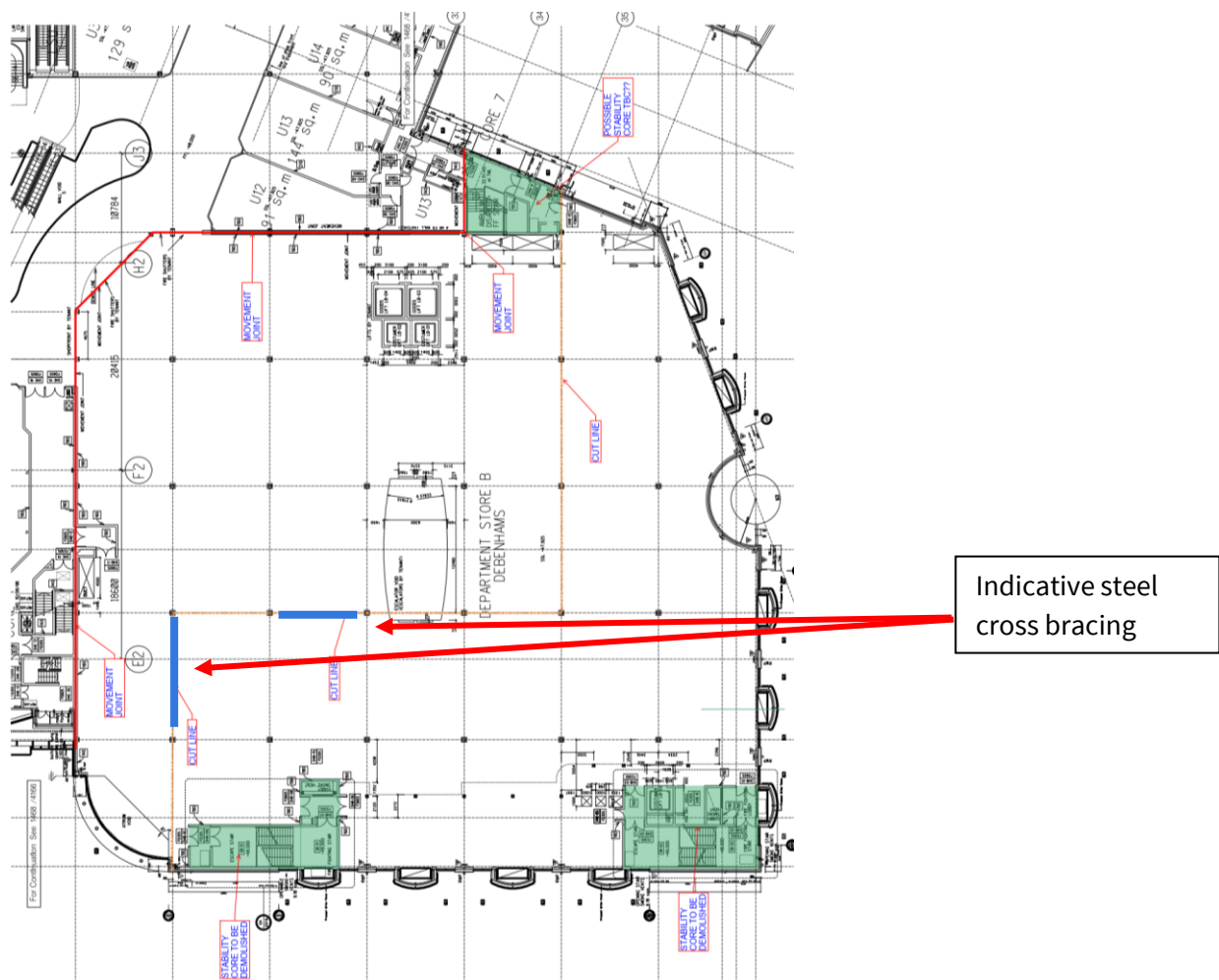


Figure 4 – bracing requirements

2.2 Yield hall Place 2

The whole of the existing building on Vue site will be demolished down to underside of ground floor slab, pits and pile caps.

3 Foundations

Both sites are underlain by made ground over Taplow gravels over chalk. The existing buildings are on piled foundations taken down into the chalk at depths of around 6-8m. The new buildings will also have piled foundations. There may be requirements for additional ground beams and extended pile caps to allow foundations to bridge over existing piles. Full details of the existing piles are available and there is a possibility of reusing existing piles for the new development. This will be explored at the detailed design stage.

4 Superstructure

4.1 Yield Hall Place 1

The residential blocks will be designed as reinforced concrete structures with flat slabs spanning to walls and columns within the architectural wall lines. These columns will generally be carried through the ground floor to avoid transfer structures. Lateral stability will be provided by the stair and lift cores. Due to the eccentric location of the cores additional shear walls will be introduced where necessary. At the south end of the blocks the residential units cantilever out beyond the structure below. The cantilevers will be achieved by downstand beams within the wall lines.



Figure 5 – lateral stability

Within the retained part of the building a new escalator is to be installed. This will require installation of an additional column and trimmer beams to support the existing mezzanine floor and escalator box.

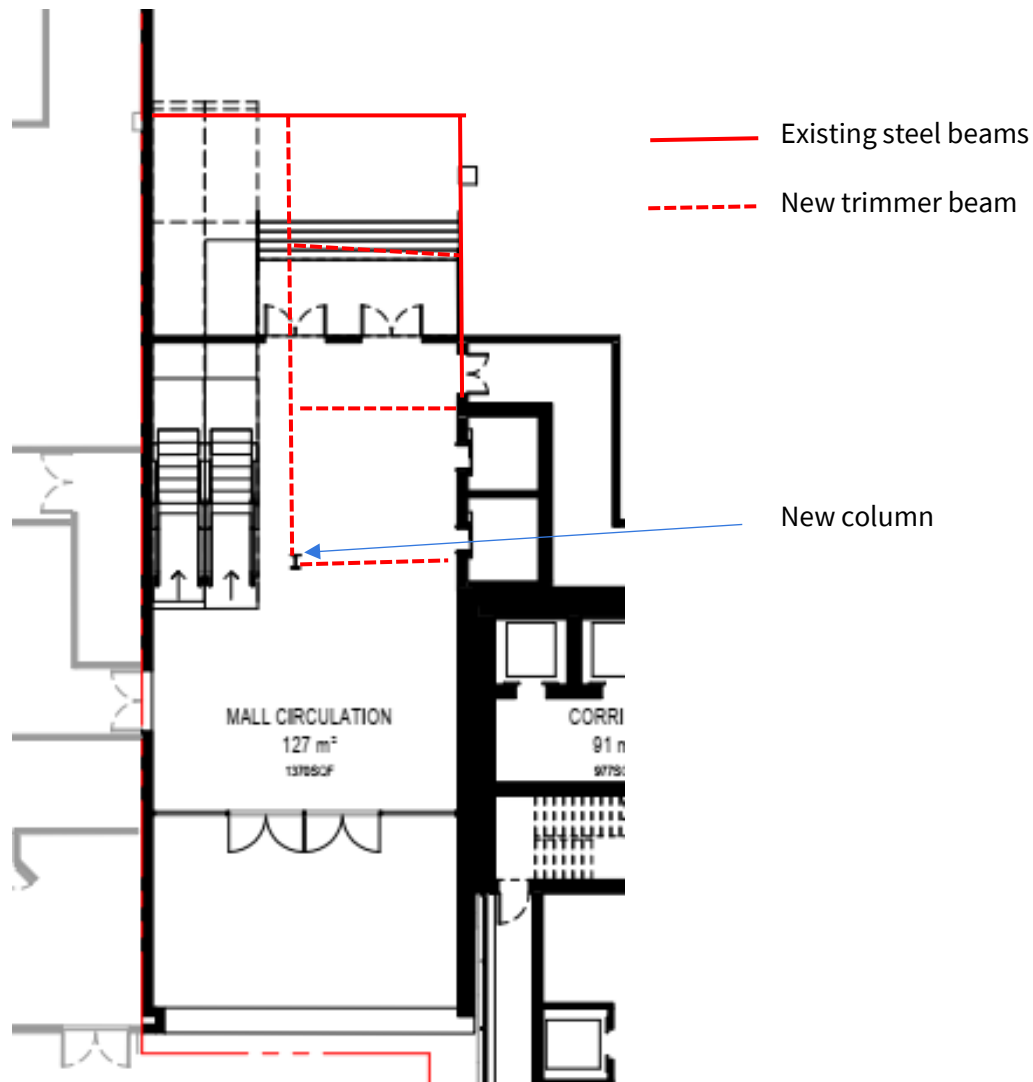


Figure 6 – indicative trimming to new escalator

4.2 Yield Hall Place 2

Again the residential blocks will be designed as reinforced concrete structures with flat slabs spanning to walls and columns within the architectural wall lines. These columns will generally be carried down to first floor level where there will be a 1.2m deep transfer zone to carry the residential loads over the cinema spaces.

Lateral stability will be provided by the stair and lift cores which all descend through the cinema space to ground floor.

At the south end of the blocks the residential units cantilever out beyond the structure below. The cantilevers will be achieved by downstand beams within the wall lines.



Figure 7 - lateral stability



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