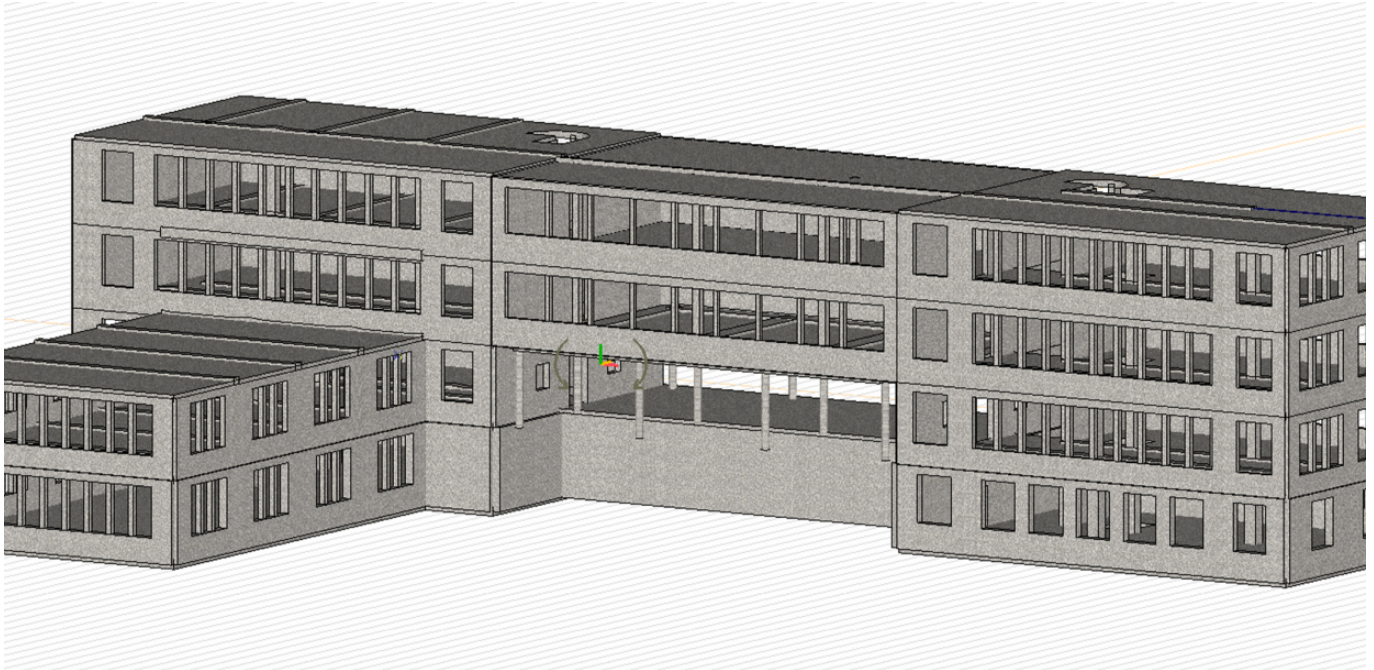


Assessing the earthquake resistance of historic buildings in Biel



In the context of a current-state inspection of three heritage-protected buildings located on the Quellgasse in Biel, EBP also examined the buildings' earthquake resistance and drafted preliminary plans for their subsequent reinforcement.

EBP was commissioned to provide the following services: rate the earthquake resistance of the three buildings according to the relevant standard issued by the Swiss Society of Engineers and Architects (Norm SIA 269/8); develop a reinforcement concept along with a rough estimate of the costs; and determine whether the reinforcement measures would remain proportionate.

Challenge: heritage protection and hybrid load-bearing systems

All three buildings are listed in the register of heritage-protected buildings. This means that no essential changes can be made to their exteriors. The building at Quellgasse 21 was originally built in the year 1899, and a reinforced concrete extension was added onto the northern part of the building in 1980. The property at Quellgasse 10-12 consists of two main buildings dating back to 1925/26, as well as an addition from the year 1958. Owing to the different years of construction, the load-bearing system here is essentially a hybrid system that includes natural stonework, hourdi ceilings and various steel, wood, and reinforced concrete structures.

On-site inspections provide essential insight

Given that only a few of the original technical drawings were

Client

Universal Gebäudemanagement AG

Facts

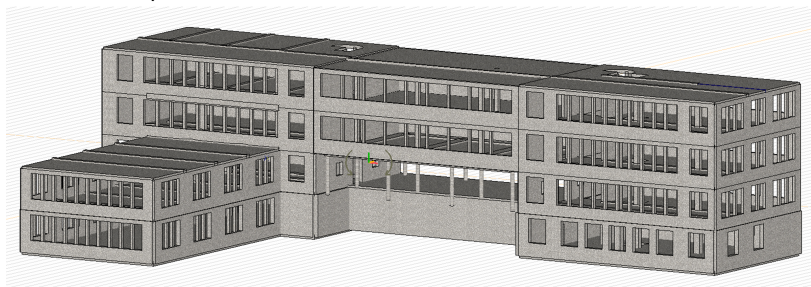
Period 2024 - 2018

Project Country Switzerland

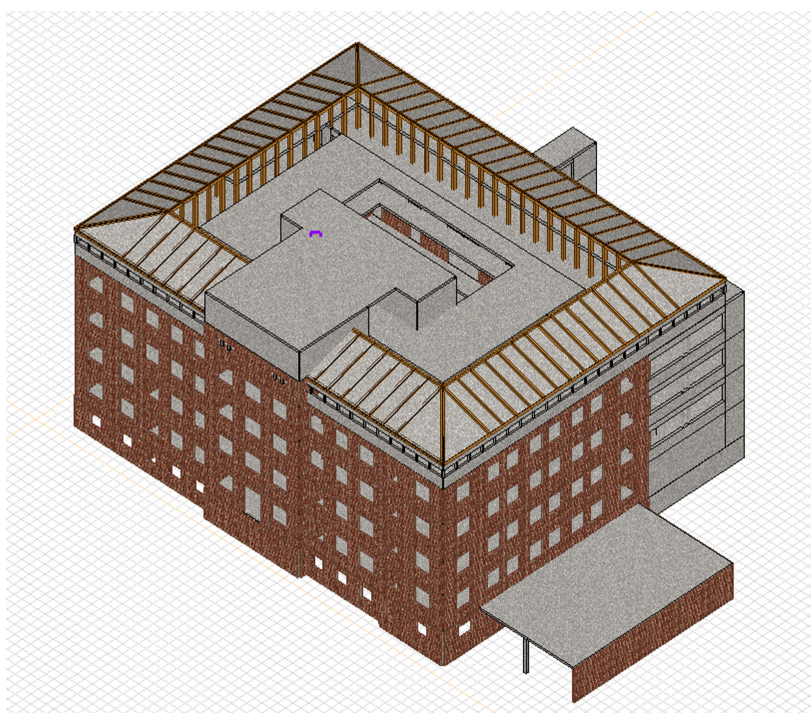
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available, we carried out on-site inspections of each building. This allowed us to gather the necessary information pertaining to the load-bearing systems. On the other hand, the circumstances permitted us to refrain from carrying out invasive inspections.



Structural model of the buildings at Quellgasse 10-12 (Source: EBP)



Structural model of the building at Quellgasse 21 (Source: EBP)