

Critical Risks - A Proposed Potential Demolition Sequence

The Problem / Challenge

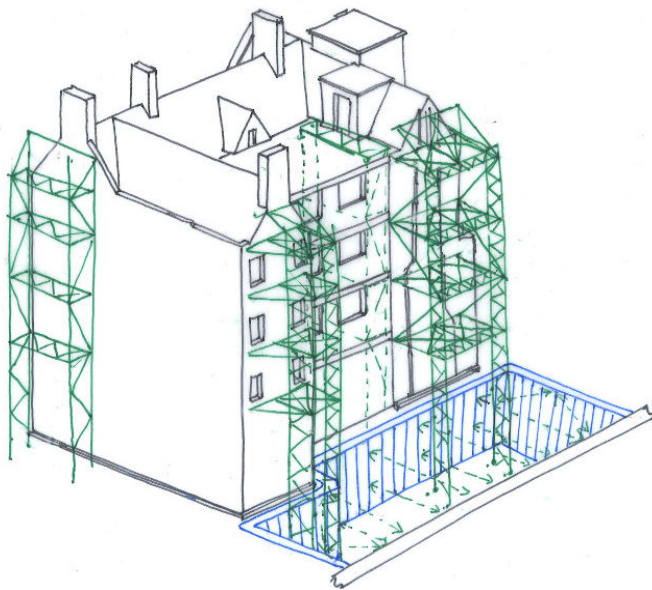
The roof and most of the floors and some internal walls were to be removed whilst the façade of the building was to be retained. This meant that complex sequencing of the demolition was required.

The risks

- The unplanned collapse of the structure.
- Movement of steel within the structure
- The failure of contractors to account for or follow the required sequence.

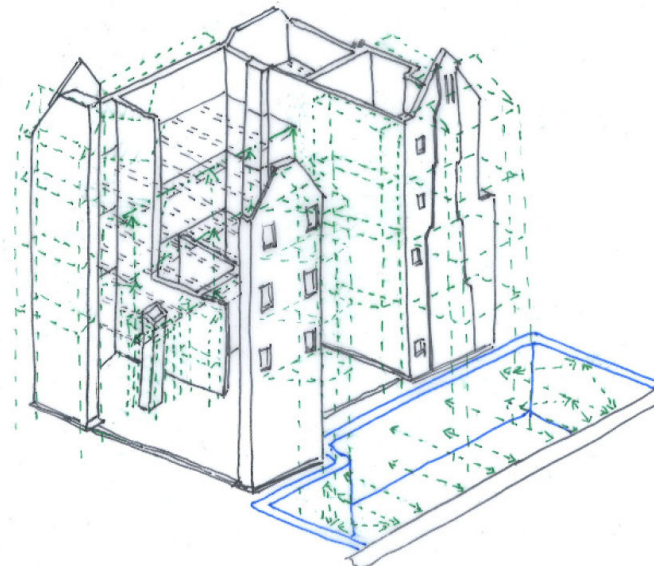
The solution

- The scheme designer communicated his anticipated sequence and understanding of the building to the contractor's temporary works designer.
- The sequence could be understood and agreed by all parties.
- A sequence of sketches was developed with explanatory notes, as **extracted** below:



- TRENCH DOWN TO INSTALL TEMPORARY PROPS TO SECANT WALL AND EXCAVATE FOR PROPOSED BASEMENT.
- INSTALL TEMPORARY LATERAL SUPPORT TO FULL HEIGHT OF RETAINED WALLS. TEMPORARY LATERAL SUPPORT TO HAVE OWN FOUNDATIONS INDEPENDANT OF THE EXISTING STRUCTURE. LOCAL OPENINGS THROUGH EXISTING FLOORS MAY BE REQUIRED.

STEP 2: EXCAVATE AND PROP



- FLOOR STRUCTURE SHOWN RETAINED ON DRAWINGS TO BE PROPPED DOWN TO GROUND, LOCALLY THROUGH EXISTING FLOORS, PRIOR TO REMOVAL OF EXISTING SUPPORT.
- LATERAL SUPPORT PROVIDED TO RETAINED WALLS BY PROPPED FLOORS SHOULD BE CONSIDERED NEGLIGIBLE.
- WALLS SHOWN TO BE DEMOLISHED ARE TO BE CAREFULLY TAKEN DOWN FROM SECOND FLOOR TO FIRST FLOOR LEVEL.
- RETAINED WALLS AT GROUND TO UNDERSIDE OF FIRST WILL REQUIRE TEMPORARY LATERAL SUPPORT.

N.B. NEW FLOORS TO BE IN INSTALLED PRIOR TO TAKING DOWN ANY TEMPORARY LATERAL SUPPORT.

STEP 6: DEMOLISH FIRST TO GROUND

The benefits

The sketches formed a sound basis for the initial discussions with the temporary works designer, helping to develop the temporary works scheme. Pre-planning provided reassurance of maintaining the integrity of the building during the work.

Key points

The survey information was collected and provided to the designer and assisted him in understanding the structure. Important and relevant information was communicated to other designers.