



DESIGN NOTE

TO: Ed Britton & Jemma Brabrook
CC:
FROM: Hilson Moran
DATE: 16/09/22
FILE REF:
PROJECT: Alberton House
SUBJECT: Embodied Carbon Planning Query (Alberton House - application ref no 134287/FO/2022 - Embodied Carbon and Options Analysis Dated 10th August 22)

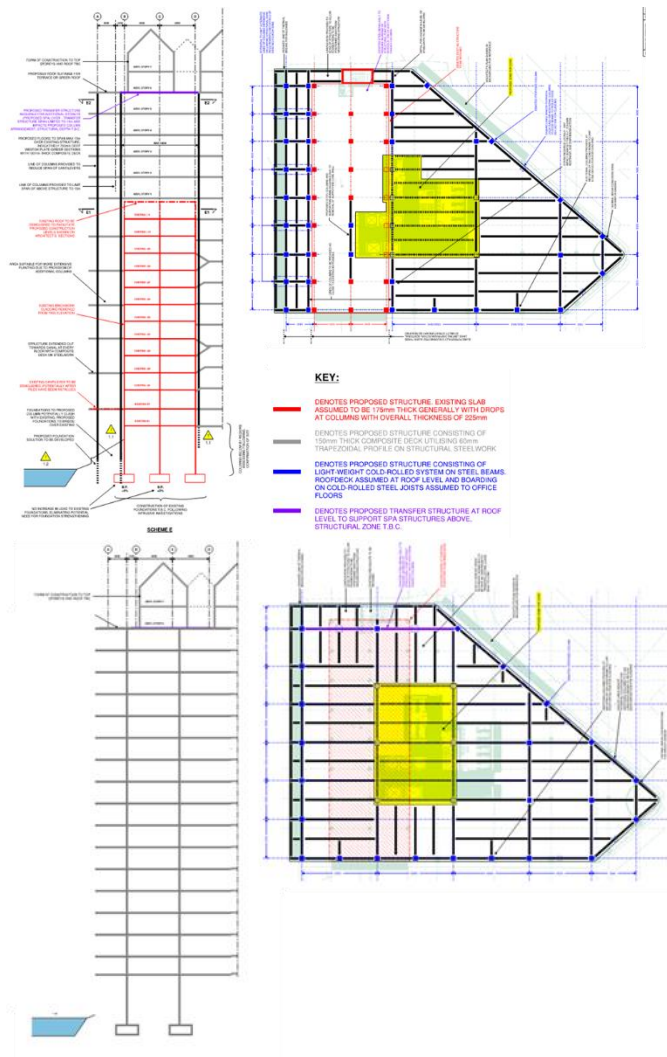
As set out in the DAS, Bruntwood undertook early options analysis to explore potential development options for the site. The analysis was informed by consideration of high level carbon performance (both embodied and operational), structural considerations and viability. The carbon performance of each option was not subject to detailed analysis, as there wasn't sufficient detail to inform the early assessment. However, a specific analysis was carried out comparing partial demolition to an earlier version of the proposed scheme. Whilst there were pro's and con's associated with the different options tested, the decision to demolish was ultimately dictated by the existing structure's likely poor quality (1970s concrete frame), the extent of new structural reinforcement required, and practical constraints around regular maintenance of and access to the retained structure. The associated costs and impact on scheme viability relative to the limited carbon saved from the partial-retention resulted in a decision to pursue the preferred option. In the interest of achieving the appropriate balance of reducing whole life carbon, whilst also delivering a viable high quality office building with improved longevity, Bruntwood decided to progress with the current proposals.

Regarding the embodied carbon lost as a result of demolition, this was estimated to be circa 533tonsCO₂ or 17 kgCO₂/m² GIA relative to the proposed scheme.

Overall, the proposal will result in an impact of 19,578 tCO₂eq (641 kg CO₂/m² GIA) at Practical Completion [A1-A5] and 28,344 tCO₂eq (928 kg CO₂/m² GIA) over the Whole Life Cycle (this includes embodied carbon during construction [A1-A5], use [B1-B5] and end-of-life [C1-C4], excluding operational carbon [B6-B7], and excluding demolition works to the existing building which according to RICS guidance should be reported separately). This represents a sustainable office building and is identified as being below current industry benchmarks and in line with the Council's strategic climate change objectives.

Supporting images

Scheme E = Part demolition



SCHEME E

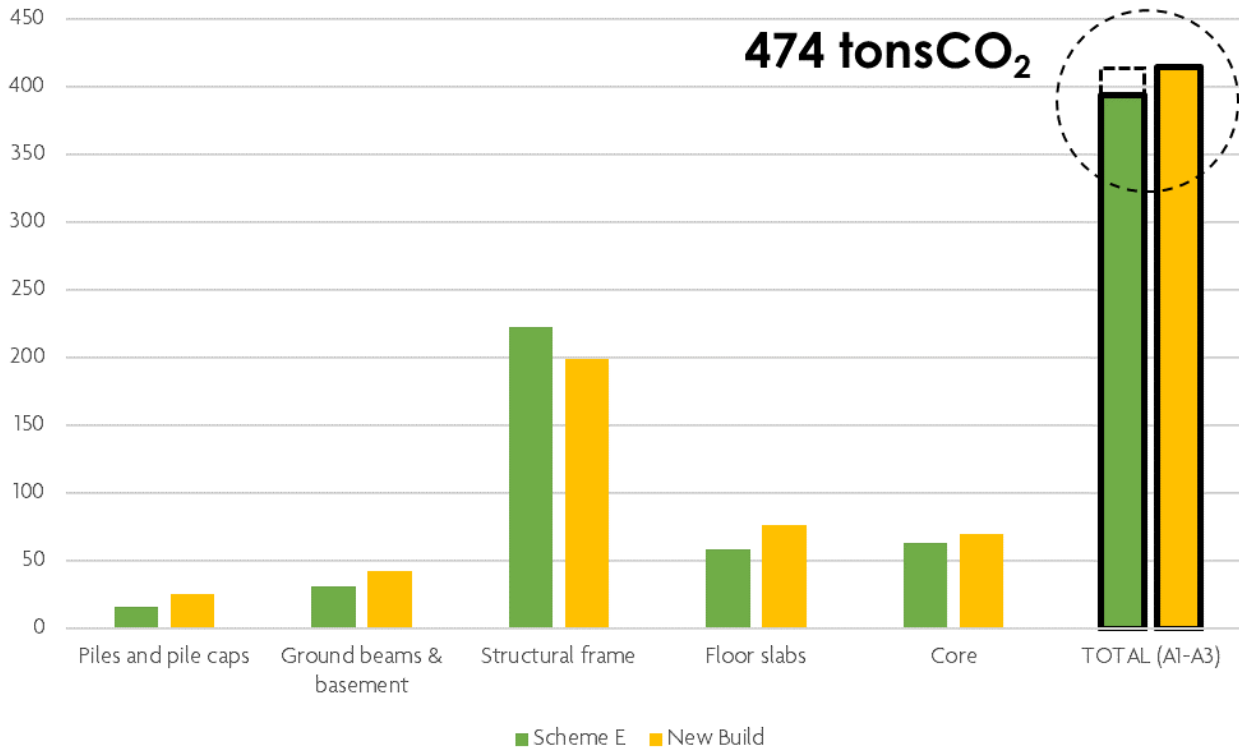
- > Partial structural retention
- > Treatment of retained structure
- > Structural reinforcement of retained structure
- > Sideways and upwards extension
- > Steel frame with composite concrete slabs, piles

NEW BUILD

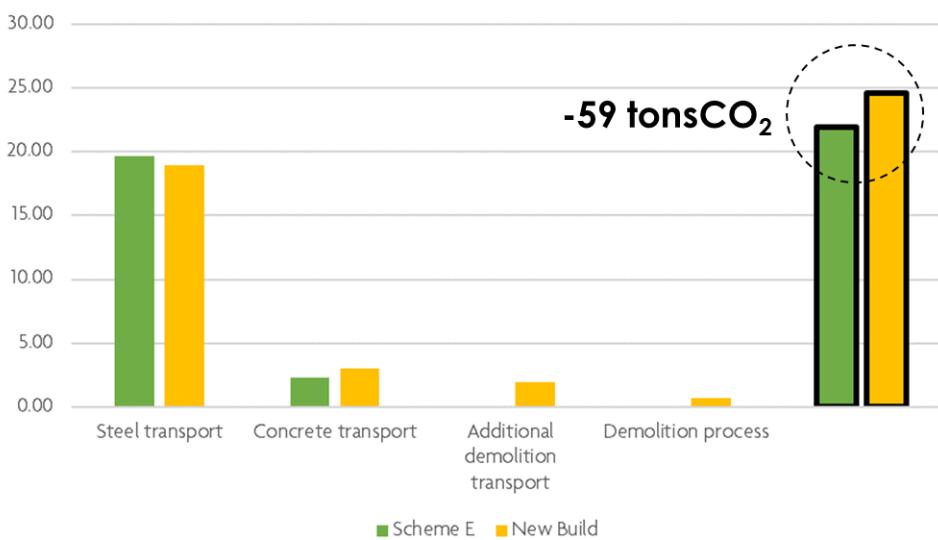
- > Full new build
- > Same FtF as extensions in Scheme E
- > Steel frame with composite concrete slabs, piles

Product Stage Embodied Carbon Rate

kgCO₂/m²GIA



Embodied Carbon - Transport to/ from site (A4) and demolition (C4)



Cumulative difference: **474 + 59 tonsCO₂**



Total difference **533 tonsCO₂**