

SINGLE-UNIT CARAVAN

Referred to as
GARDEN ANNEXE

PREFABRICATED SINGLE-UNIT FINAL ASSEMBLY METHODOLOGY

Project: Kevin Inskip | 16 Oakleaze, Minety, Malmesbury, SN16 9RD | Drawing Revision 002

Purpose and construction principle

This methodology describes the manufacture, delivery, final structural assembly, internal completion and future movement of the proposed single-unit garden annexe. The annexe is designed from the outset as one complete movable unit rather than as a conventional building constructed in situ.

The primary structural shell comprises an engineered steel base/floor structure together with complete insulated steel-framed wall panels and complete insulated steel-framed roof panels. The wall and roof panels are prefabricated off site and delivered to the application site ready for final mechanical assembly.

On site, the prefabricated structural elements are positioned in accordance with the project drawings and joined by bolted mechanical connections, followed by service connections and installation of fixtures and fittings. The full installation is expected to take approximately 3–5 days.

Once assembled, the completed annexe is specifically designed and engineered to be lifted intact as a single unit using suitable lifting equipment and the lifting provisions incorporated within the engineered steel structure. The unit can therefore be removed and placed onto a suitable transport vehicle without demolition or destructive dismantling.

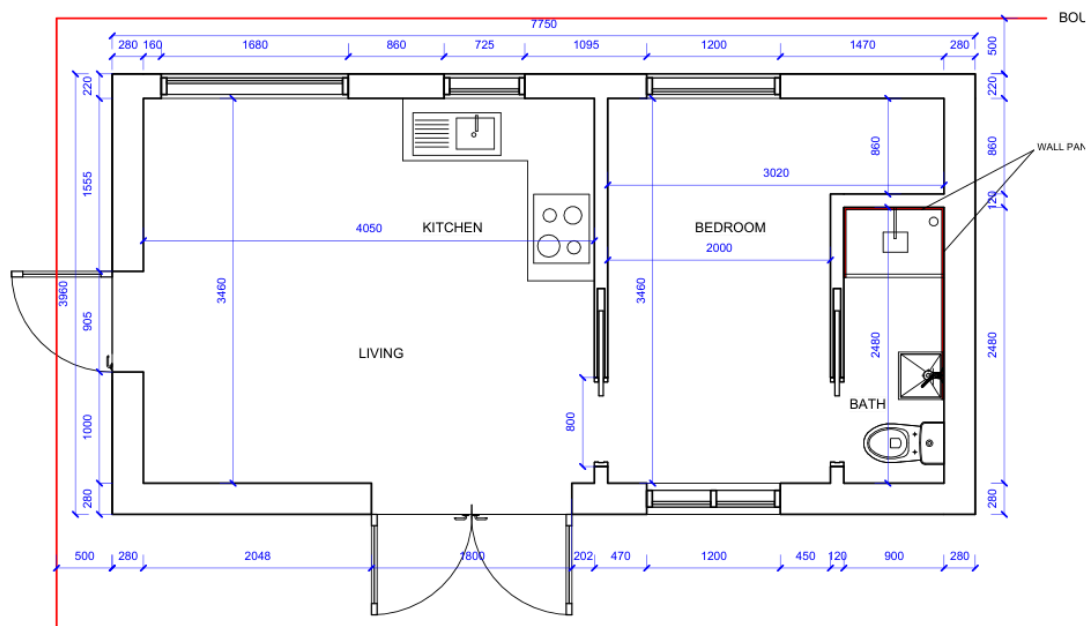


Figure 1. Project floor plan – drawing sheet 2 of 7, revision 002. Main body approximately 7,750 mm × 3,960 mm.

Single-Unit Final Assembly Methodology

The annexe is delivered as factory-prepared structural elements. The wall and roof elements arrive as complete insulated steel-framed panels, ready to be aligned and mechanically joined on site. The following final assembly sequence applies:

1. **Support and setting out** — the removable support system is prepared and levelled to receive the annexe, and the engineered base/floor structure is positioned to the project setting-out dimensions.
2. **Wall-panel placement** — complete insulated wall panels are lifted into position around the perimeter of the base/floor structure. Each panel arrives as a prefabricated steel-framed structural element rather than being constructed from loose framing materials on site.
3. **Bolted wall assembly** — the steel frames of adjoining wall panels are aligned at their designed interfaces and secured by bolts. The wall assembly is progressively fixed to the base/floor structure using the same mechanical connection principle.
4. **Roof-panel placement** — complete insulated roof panels are lifted into their final positions over the assembled wall structure.
5. **Bolted roof assembly** — the roof-panel steel frames are mechanically secured to the wall-frame assembly and to adjoining roof elements using the designed bolted connection points.
6. **Weatherproofing and junction completion** — the panel interfaces are sealed and completed with the required membranes, flashings, trims and weatherproof junction details. These works complete the envelope without altering the primary steel-frame configuration.
7. **Structural completion** — following completion of the bolted wall and roof connections, the primary structural shell forms one integrated unit following this comes the service connections and bathroom and kitchen fitting. The process takes approximately 3-5 days

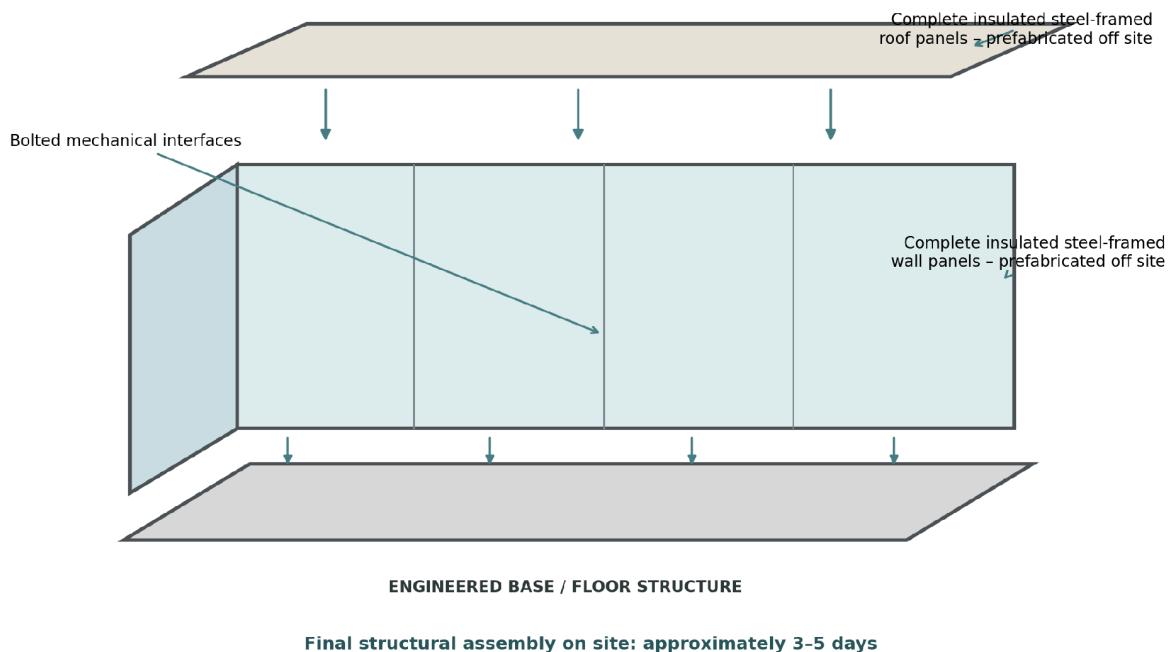


Figure 2. Single-unit assembly principle showing the prefabricated wall and roof panels being mechanically assembled onto the base/floor structure.

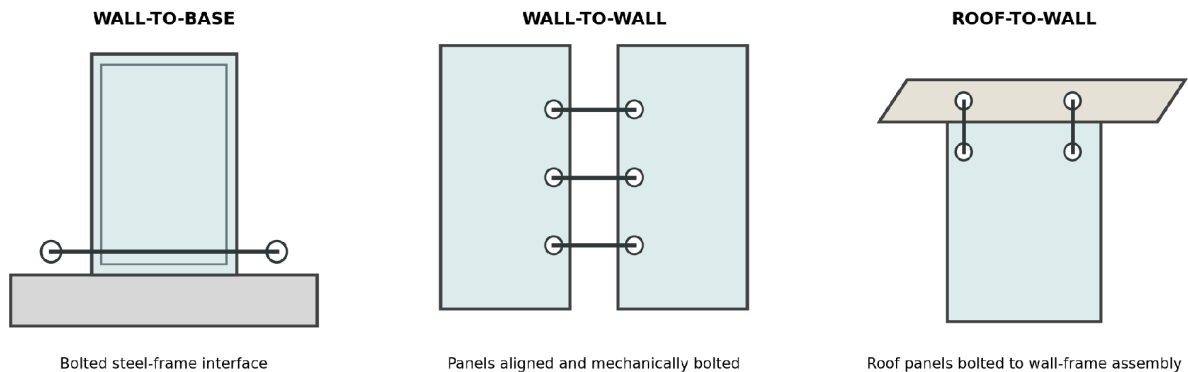
Bolted Connection Principles

The single-unit annexe is not formed by conventionally constructing walls and a roof from individual loose materials on the application site. The substantive wall and roof elements are manufactured as complete insulated steel-framed panels before delivery. Site operations are principally the alignment, positioning and bolting together of those prefabricated structural elements.

The primary structural interfaces comprise:

- wall-to-base/floor connections, mechanically securing the prefabricated wall frames to the engineered lower structure;
- wall-to-wall connections at adjoining panel interfaces, including corners and intermediate panel junctions; and
- roof-to-wall and roof-to-roof connections, mechanically securing the prefabricated roof panels to the completed wall-frame assembly.

All principal connections are formed using bolts. This provides a rapid, controlled method of structural assembly while preserving the unit as a mechanically assembled steel-framed structure.



Typical connection principles - diagrammatic representation of the bolted steel-frame assembly

Figure 3. Typical bolted connection principles for the single-unit steel-frame assembly.

Internal and external completion

After the primary structure has been assembled and the external envelope made weather-tight, the remaining on-site works are non-structural completion works. These include localised finishing at panel junctions, internal and external trims, decoration, sealing, and the final connection or second-fix of fixtures, fittings and services.

Electrical, water and drainage services are connected after the unit has been structurally assembled. The connections are demountable and can be disconnected for future movement of the annexe. Internal finishing does not create the primary structure and does not alter the annexe's designed ability to be lifted intact as a single unit.

Whole-Unit Mobility

The completed annexe is specifically designed and engineered to be lifted intact as one complete unit. Lifting loads are carried through the engineered steel structure and the unit is configured so that removal does not require demolition, cutting apart of the primary frame or destructive dismantling.

If the annexe is to be relocated or removed, the services can be disconnected and made safe, any removable access or external finishing items can be dealt with as required, and the complete annexe can then be lifted from its support system by suitable lifting equipment and placed onto a suitable transport vehicle.

See Engineer Lifting Detail

Completed annexe specifically designed and engineered to be lifted intact as a single unit

Figure 4. Whole-unit lifting principle – the completed single-unit annexe is designed and engineered for lifting intact.

Planning Statement in Support of Certificate of Lawfulness

The methodology above demonstrates that the on-site operation is the final assembly of a prefabricated single movable unit. The principal wall and roof elements are completed off site as insulated steel-framed panels; on site they are positioned, aligned and joined by bolts over a short period of approximately 3–5 days.

Following structural assembly, the remaining works are weatherproofing, non-structural internal and external finishing and demountable service connections. These works do not change the fundamental nature of the unit or its engineered whole-unit mobility.

Once complete, the annexe forms a single integrated structure designed for human habitation and specifically engineered to be lifted and transported intact. Its method of construction, mechanical assembly and retained physical mobility are consistent with the proposal being treated as a single-unit caravan rather than a conventional building constructed permanently on the land.