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Name of Assignment CHANGES IN DOMESTIC CONSTRUCTION SINCE THE VICTORIAN ERA
1837 TO 1901

FLOORING CONSTRUCTION IS LINKED TO FOUNDATION CONSTRUCTION. WHAT CHANGES
HAVE TAKEN PLACE IN BOTH FOUNDATION AND FLOORING

Task 1.....3

HOW HAS WALL CONSTRUCTION CHANGED AND FROM WHAT DATE

Task 2.....Page number here

WINDOW MATERIALS AND STYLES HAVE CHANGED ENORMOUSLY. HIGHLIGHT SOME OF THE
CHANGES THAT HAVE TAKEN PLACE WITH PARTICULAR EMPHASIS ON INSULATION

Task 3.....Page number here

ROOF CONSTRUCTION LOOKS THE SAME EXTERNALLY BUT IMPORTANT CHANGES HAVE TAKEN
PLACE

Task 4.....Page number here

Task 5.....Page number here

Task 1.

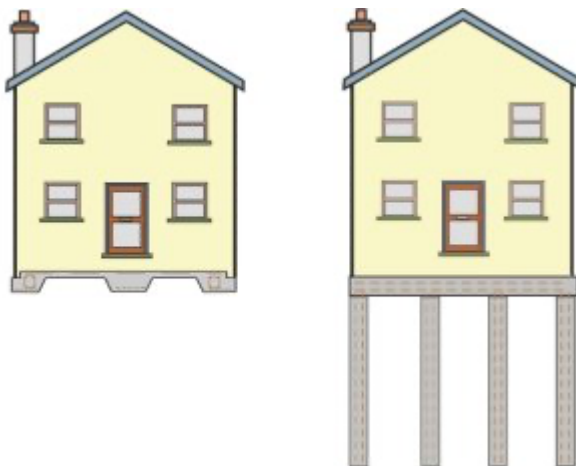
1. CHANGES IN FLOORING AND FOUNDATION

A Victorian house generally means any house built during the reign of Queen Victoria. According to Marshall, John; Willox, Ian (1986), during the Industrial Revolution, successive housing booms resulted in the building of many millions of Victorian houses which are now a defining feature of most British towns and cities.

The 1848 Public Health Act was the very first law on public health to be passed in the United Kingdom. It established a Central Board of Health whose job was to improve sanitation and living standards in towns and populous areas in England and Wales. In 1875, the Public Health Act was introduced. It required urban authorities to make byelaws for streets to ensure structural stability of houses, prevent fires and also provide drainages for buildings and provision of airspace around buildings.

Byelaws established for foundation purposes stated that walls should have stepped footings. This implied that concrete (9" thick-225mm) should be placed under the footings unless the subsoil is gravel or rock (solid ground). At the time, Portland cement was suggested to make the best concrete although hydraulic lime was the next best thing.

During the 1920s and 1930s, foundations remained much the same. Texts from the 1930s suggested that clay soil foundations should be 3ft deep (900mm) which in fact is not much different from today. In the late 1940s and 1950s, most new houses were built with strip foundations. Raft foundations were also popular at the time. Raft foundations were also popular, particularly under system-built properties or over areas of fill. A typical raft comprised a concrete slab 6" to 9" thick (150mm to 225mm), suitably reinforced. A few foundations were piled - short bored piling systems became common during the early 1960s. The piles were typically 6' to 12' long (1.8 to 3.6m), not normally reinforced but with a reinforced ground beam over the top, cast on some form of compressible material (ash or clinker).



In the 1920s and 1930s, this type of foundation was common with brick footings also permitted. The graphics below show typical foundations at the end of the 1800s. The depths varied according to circumstances but generally they were shallower than their modern counterparts.

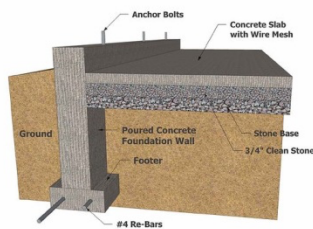
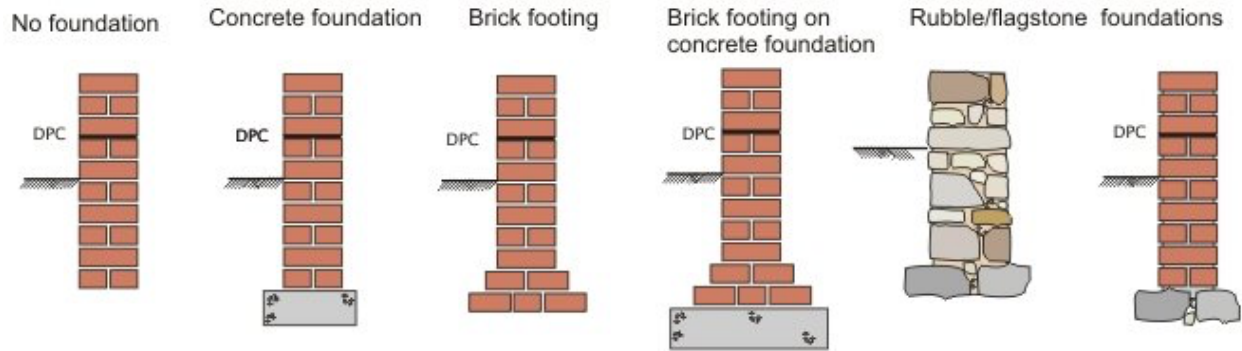


Image showing a concrete foundation.

Ground Floors:

Most houses at the end of the Victorian period (1900) were built with suspended ground floors. There were exceptions to this as many houses had floors constructed with stones or clay flags. Basements were also covered with flags. These were laid on a bed of ashes or directly on the compacted earth.

Since the mid-1990s, the building regulations have required insulation of ground floors. Rapid insulation trends are used. They have a closed-cell structure and are impervious to water and vapour. Modern building regulations nowadays require under floor space to be vented. Before 2004, it was only necessary to ventilate the space if the ground is not well drained or there is risk of gas build up.



TASK 2

EVOLUTION OF WALL CONSTRUCTION

A wall transfers the load of a building structure vertically downwards to transfer it to foundation. It encloses the building area into different compartments and provides privacy and safety from burglary and insects.

During the 1700s, there were a number of improvements in brick making. Blended clays, better moulding and more firing gave greater consistency in brick shapes and sizes. It was in the latter part of the 19th century that houses were built with cavity walls. These cavity walls later became greatly accepted in the 1920s as a form of wall construction. Cavity walls were cheaper to build than solid walls and they offered improved thermal insulation and better protection from harsh weather conditions.

TASK 3

WINDOWS

Early windows were usually fixed light or side-hung casement. Starting from the 19th century, these designs were used up until the Gregorian period. Window tax was introduced during the Gregorian period. This made lots of window space in homes blocked up. This tax was however dropped in the mid-19th century. Metal windows were introduced in the very late 19th century and they became very common until the 1970s. Early windows were plain, mild steel; they became mostly galvanized from the 1930s. As houses became better insulated and less ventilated, these shortcomings became quite obvious. The cold inner face of the frames resulted in condensation. Aluminium windows became popular in the 1970s, but in recent years, have almost completely been eclipsed by plastic. Like steel, aluminium windows are good conductors of heat and condensation is always likely to be a problem. By the end of the 19th century most houses had walls of at least one-brick thickness. Houses over three storeys often had thicker walls, usually reducing in thickness at each upper-floor level. The brickwork itself (at least the brickwork on view) was generally laid to a very high standard. Most houses were built in Flemish bond although rear walls or walls hidden by render were often laid in Garden wall bond (usually English).

The window on the right has a fixed light directly glazed into the stonework and a hinged iron casement.



Nowadays, windows are usually made from imported softwoods and hardwoods, or from plastic. Plastic replacement windows are a focus for concern in such areas because they affect character and appearance. Even outside conservation areas the replacement of wooden sash windows will have a significant visual effect on a street of Victorian terraced houses as shown in the image below right. The windows on the far right are mock Georgian; the glazing bars are sandwiched between the double glazing.

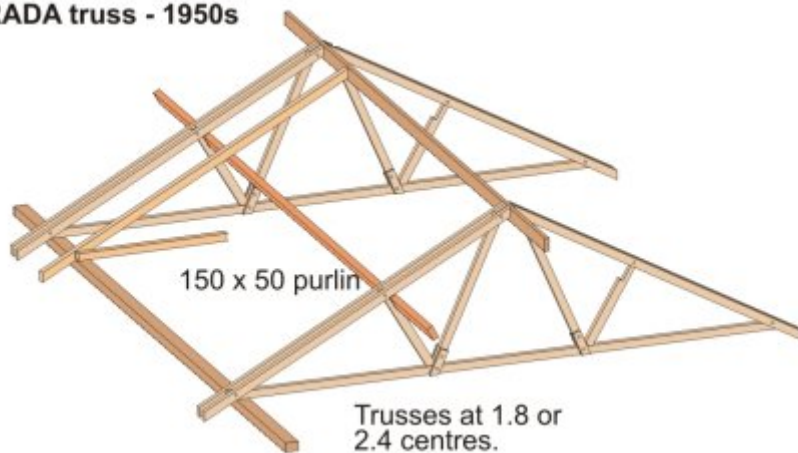


TASK 4

ROOF CONSTRUCTION

During the 1800s, timbers were cut by machines rather than by hand while fixings in the form of nails, screws and bolts were cheaper and more readily available. In the 1980s a typical roof comprised of series of sloping timbers known as rafters which were fixed at the top of a ridge board and at the bottom, to a wall. The ceilings joints supported the ceilings and acted as a tie to the rafters. Post war techniques for constructions developed roof patterns like TRADA truss to limit wood/timber consumption as timber was scarce and sourcing was expensive.

TRADA truss - 1950s



Modern trussed rafters and traditional roofs are both supported on softwood wall plates bedded in mortar on the inner leaf of the cavity wall. It is normal practice to strap the roofs to the blockwork inner leaf to prevent them lifting or moving in high winds. Modern roofs are normally ventilated to help minimize condensation. This is usually done by installing air vents at the eaves. There are other methods and these are explained elsewhere on this web site.

TASK 5

In my own opinion, i think the major changes are (1) window which i think they are lighter interns on wight easy to assemble and dismantle.

(2) Concrate foundation which also gives a stronger base for wall and allow stability for both walls and cavity in between.

(3) ROOF A modern trussed that is secure design which is more safe.

APPENDICES

REFERENCES

1. Marshall, John; Willox, Ian (1986). [*The Victorian House*](#). London: Sidgwick and Jackson Limited. [ISBN 0-283-99363-4](#).
2. University of the West of England, Bristol.