



Construction and the Built Environment – Unit 1

1.1 The Sector (1 of 2)

BUILDINGS AND STRUCTURES

- The construction industry is responsible for designing, building, and maintaining the buildings and structures that surround us.
- These buildings must be connected by transport networks and provided with essential services such as energy, water, and sewerage. These services are delivered through infrastructure such as roads, railways, bridges, tunnels, powerlines, and pipelines.
- The typical components of buildings and structures include walls, floors, roofs, openings (such as windows and doors), and foundations.

RESIDENTIAL BUILDINGS

These are the buildings in which we live, and they include various types of properties:

- **Detached houses** are stand-alone and do not share any walls with other structures.
- **Semi-detached houses** share at least one common wall with another house.
- **Terraced houses** are connected in a row of houses forming part of a street.
- **Flats** are homes comprising several rooms, typically located on one floor within a larger building.

NON-RESIDENTIAL BUILDINGS

These buildings are not intended for people to live in; instead, they are the places where we carry out the various activities and responsibilities that shape our everyday lives, such as work, socialising, entertainment, education, and healthcare. This category includes:

* Shops * Offices * Public buildings * Factories * Warehouses * Hospitals * Schools * Cafés and restaurants * Cinemas * Sports stadiums

INFRASTRUCTURE AND CIVIL ENGINEERING PRODUCTS

Infrastructure is the system by which people, products, and services (such as energy, water, and telecommunications) are transported from place to place.

- **Roads** connect the places where we live to wherever we need to go.
- **Bridges** allow us to overcome obstacles in the landscape, such as rivers, roads, and railway lines.
- **Railways** carry trains along a network of lines running between cities and towns. Some major cities also have underground, tramway, or light rail systems.
- **Tunnels** help overcome obstacles such as rivers, hills, and crowded parts of cities.
- **Water supply** comes from reservoirs, which are filled by rainwater transported via rivers and streams. The water is treated to remove impurities before being pumped through a vast pipeline network to its destination.
- **Sewerage systems** treat wastewater from homes and industry so it is clean and hygienic before being released back into rivers and seas.
- **Electrical grids** transport electricity from its generation in power plants to the customers who use it daily.
- Electricity in the UK is increasingly generated by renewable energy sources such as wind and solar, alongside fossil fuels like gas and coal. Some electricity also comes from nuclear reactors. Electricity is transmitted via a vast grid of high-voltage cables, raised on pylons or buried underground, before being distributed to homes and businesses.
- **Telecommunications** infrastructure consists of the networks enabling us to communicate and access information via fixed telephone cables, satellites, internet television, and mobile phone technology.