

### 3. OPERATION (and maintenance)

**Operation** refers to the management of a built environment in use. It can involve:

- controlling and monitoring of heating, cooling and lighting systems
- provision of security, cleaning and other services, including testing and evacuation procedures.

**Maintenance** is the repair / prevention of decay and damage caused by weather, ageing and general use. Maintenance will be either:

Planned maintenance, i.e. carried out on a regular basis, to keep something in working order and extend its life

OR

Corrective maintenance, which involves repairing something that has broken.

#### **Building Operation and Maintenance Manual:**

A document given to the client on completion of the construction stage. It contains detailed information regarding the operation, maintenance and subsequent demolition of a building.

### 4. DEMOLITION

Demolition is a hazardous activity that requires efficient risk control, environmental and site management, and careful planning. It involves the taking down of a structure and the disposal of the resulting waste materials. It may involve the use of explosives, machine demolition or taking down by hand.

### Demolish or Repurpose

Vacant buildings are prone to vandalism and natural degradation and have often been demolished, as this was thought to be more profitable than repair.

As an alternative, repurposing of disused buildings can play an important role in the regeneration of the built environment, getting empty properties back into use to meet changing needs. Repurposing will extend a building's lifecycle and is a sustainable way of construction.

Repurposing can be described as the alteration of a building to suit new conditions, such as a change in use, size or performance requirements, and may include:

- Conversion: a change in function or use, such as converting an office block to residential use.
- Extension: increase in size, which can be horizontal or vertical expansion.
- Refurbishment: work related to a change in performance.

In the UK approximately 40% of all construction work is involved in the refurbishment and maintenance of existing buildings.

### Permissions to carry out demolition

**Planning permission** is required to demolish any listed building, any building in a conservation area, a public amenity building, such as a theatre, and for any building that has been rendered unsafe or uninhabitable, by the action or neglect of the building owner.

**Building Regulations:** Six weeks prior notice must be given to the Local Authority Building Control department before demolition begins.

### Demolition procedures

The CDM (Construction Design and Management) Regulations state that all demolition work must be planned and carried out to prevent danger in accordance with a **pre-demolition plan** that must be recorded in writing before the demolition work begins, to provide details of:

- hazardous materials
- utilities and disconnections
- structures and party walls
- site conditions, constraints and security
- method statements for
  - soft strip of non-structural elements
  - taking down of superstructure
  - removal of slab and foundations
  - site finish.

### Materials arising from demolition

Demolition waste can be removed to landfill, which will involve financial and environmental costs, or can be broken down and used as foundations and sub-bases for new construction. Valuable building elements, such as stone blocks, bricks, roofing slates and steel sections, can be recovered for reuse with limited reprocessing, or be recycled, conserving raw materials, the energy used to create new products, and reducing pollution arising from landfill and manufacturing.

### Brownfield sites

Demolition will result in a brownfield site that has existing services and infrastructure and therefore potential for re-development. This may involve some costs due to land contamination but will clean up a possible health hazard and likely eyesore.