

# Higher Nationals

## Construction and the Built Environment

Unit Study Guide

Unit 4: Construction Practice & Management

Higher National  
Certificate Lvl 4

Higher National  
Diploma Lvl 5

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# About this Unit



A construction company must be managed, like any business, to ensure it operates smoothly and achieves its goals. However, given the nature of construction practice, there are areas in which construction is a unique form of business. While other units will look at the specific business practices associated with construction, this unit looks more specifically at the ways in which we establish and manage construction practice.

Management can be described as the organisation and coordination of a business' activities to achieve defined objectives. Given the range of different types of company in the construction industry, these 'defined objectives' will be diverse. However, as construction is a collaborative process, this range of companies will also share an objective when working together on a project – the successful delivery of the **built asset**.

The construction industry has developed in many different directions, related to the types of project that may be undertaken, the relationships formed between individuals and companies (to undertake projects), the establishment of professional and membership organisations (to support and formalise specific professions), and legislation. Today, the construction industry is one of the largest global employers and economic drivers.

In this global marketplace, the roles and structures within construction organisations, and the ways in which organisations define and manage complex relationships, have evolved. The contracts, procurement and tendering processes have grown to reflect the many different ways that projects are funded, built and managed.

## ***LO1 Describe the construction industry with reference to company structures and other activities***

### **Essential Content**

#### ***Topic: Information required to produce a tender***

How has the construction industry developed over time? What are the key drivers for the way the construction industry works today?

What are the professional bodies, councils and societies that play a role in the construction industry? Which of these have a role to play in safeguarding the profession and the public?

How do professionals, technicians and skilled operatives work together in the construction industry?

What are the relationships between the site contractor(s) and head office?

How are roles and responsibilities on a site structured? How does this reflect an organisational structure?

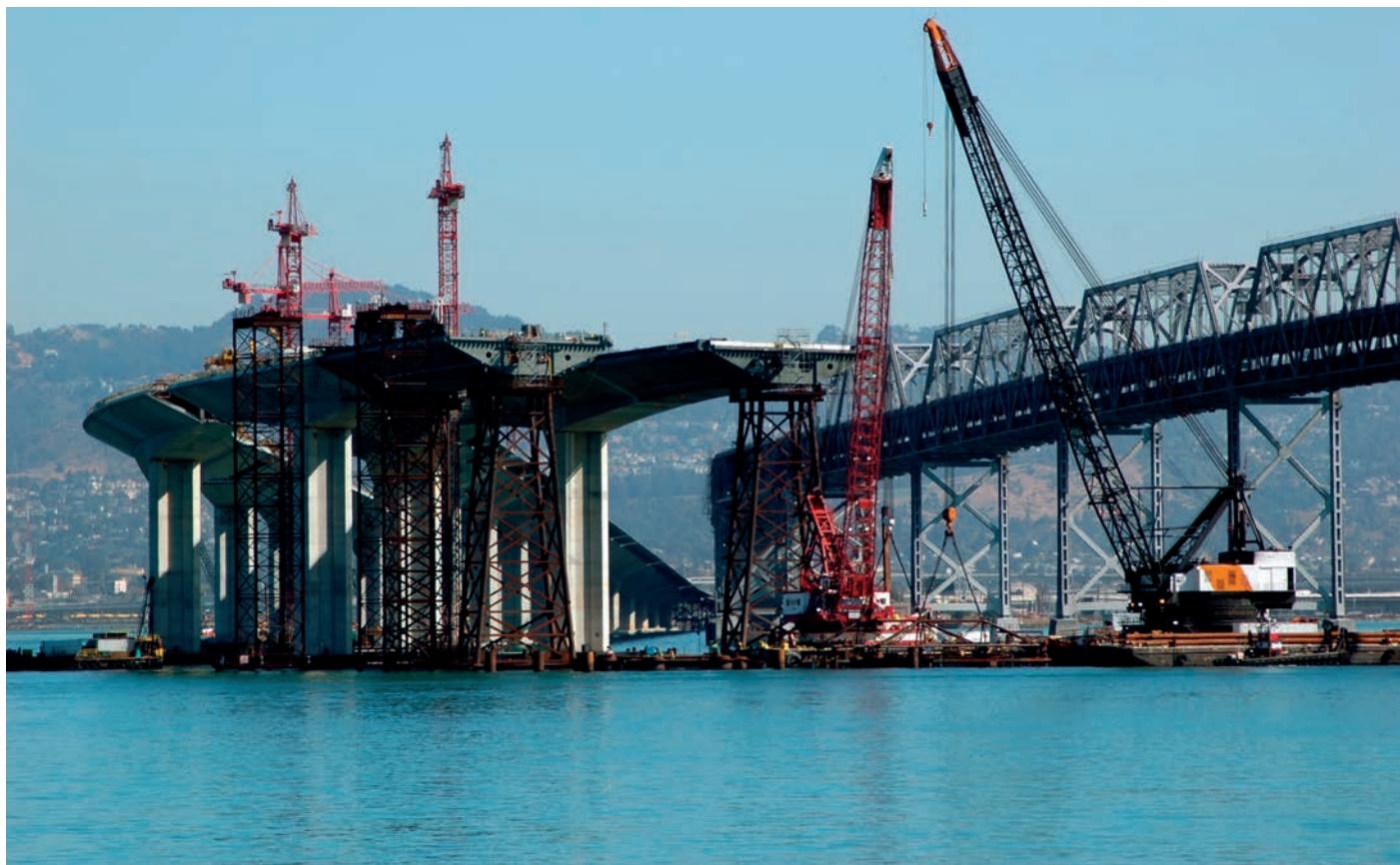
What types of work does a construction company undertake? How is this reflected in their contractual relations?

#### **Things to Remember**

The construction industry, as it exists today, is the product of developments over a long time. In researching this, you don't need to go back to the earliest days of formal construction (which would take you back to the ancient Egyptians and Babylonians). Rather, we are interested in how the modern construction industry has developed. While we might argue about when the 'modern' construction industry began, it is safe to say that the industrial revolution (18th–19th century) saw the first steps in a modern professional industry.

As the construction industry developed, there was a need to ensure the people involved in the industry had acceptable standards of knowledge and skill, to ensure their work was safe. Professional bodies set accepted minimum standards of knowledge and skill required to be recognised as a professional in their particular sector of the industry. Today, there are many different types of organisation that play a role in the establishment and maintenance of professional standards, for example:

- the Royal Institute of British Architects (1837)
- the Royal Institution of Chartered Surveyors (1868)
- the Chartered Institute of Building (1834)
- the American Institute of Architects (1857).



## Activities

### Activity 1

Consider the subject/pathway you are studying. Find a regional professional body that relates to your area of study and answer these questions.

- What are the requirements for membership?
- Does the professional body accredit individuals?
- Are there legal matters associated with professional recognition?

### Activity 2

Prepare a diagram that illustrates the professional and operational relationships between the following roles:

- main contractor
- sub-contractor
- architect
- engineer
- site supervisor
- project manager.

## LO2 Explain different types of construction companies within the market and their relationships within the tendering process.

Assessment Criteria	Areas for consideration
<b>P4</b> Identify the different types of construction companies in the market	To achieve this criterion, you will need to research the diversity of types of company in the industry. Do not simply list companies that offer construction services. Instead, you are asked to consider the types of company (in terms of their formation) and how this may relate to the type(s) of work they do.
<b>P5</b> Explain the relationship between different construction organisations	Many companies work together on construction projects. Here you are asked to explain the types of relationship that can exist between companies when working on projects.
<b>M2</b> Analyse the relationships between construction companies through contracts and tendering	Between companies, there are both working relationships and formal legal relationships. For this criterion, you will need to undertake a thorough and methodical investigation (analysis) into the relationships present in contracts and tendering.
<b>D2</b> Compare the factors that influence contract relationships between different organisations involved in tendering	Given the investigations and analysis above, this distinction criterion calls upon you to consider the different factors that may influence contract relationships between organisations in a tender process. You are asked to compare, so you will need to look at the factors you identify in relation to different types of contract and tender.



Unit 13: Tender & Procurement will provide further information about tendering and the tender process. You may find it useful to review this unit.

## Activities

### Activity 1

Research the process for setting up a limited company in your country/region.

- What is required? What are the costs?
- How long will it take?

### Activity 2

Look at websites for some local construction companies (both large and small).

- Can you identify the type of company they are (partnership, limited company, public limited company)?
- Do you see any correlation between the size of the company and the type of company?



### ***LO3 Discuss the key stages in a construction project, and how Building Information Modelling informs the different stages***

## **Essential Content**

### ***Topic: Master programmes and contract planning techniques***

- What is the master programme?
- When is the master programme developed?
- What is included in the master programme?
- What is meant by contract planning?
- What techniques do we use in contract planning?

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There are many free project management software tools available. These can help you to understand the key principles involved in project and contract planning. Many of them will allow you to represent the same information in different types of diagram. It may be worth downloading some examples and trying out different graphical representations of schedules and programmes.

## Topic: Sustainability

What do we mean by 'sustainability'?

How do construction companies seek to address sustainability?

How does BIM support sustainability?

### Things to Remember

With about 40% of CO<sub>2</sub> emissions being generated by the construction industry, there is a clear need to address sustainability within the industry. Most people think of sustainability as meaning to protect the environment. However, there are many other aspects we can consider, such as:

- cultural sustainability
- social sustainability
- economic sustainability.

All of these influence, and are influenced by, the built environment and the construction industry. In addition, there are intrinsic links between these different forms of sustainability.

Construction companies must seek to address different forms of sustainability.

- In their use of materials, transport and equipment, companies will seek to reduce their environmental impact.
- When working in culturally sensitive areas (such as historic districts), companies will need to consider how their works affect neighbouring areas, traffic, etc.
- In many countries, construction is one of the largest employers, so it plays a key role in the economy of these regions. Therefore, companies will need to manage their operations effectively to ensure continued employment and income, so that the company, its employees and the region continue to see economic benefit.

As a process, Building Information Modelling has the potential to support sustainability in many different ways.

- Through improved awareness of material use and sourcing, it can reduce waste and transport.
- Through better management of the built asset – based on the data available within the model – energy consumption may be reduced.
- By optimising internal processes, BIM can promote a more economical approach to projects.



When thinking about sustainability, don't just consider the environment. Remember that true sustainability is an interrelationship between many different factors.

# Additional Resources

Additional resources, to accompany this Study Guide, can be found on **HN Global** here:

<https://hnglobal.highernationals.com/study-guide-unit-4-construction-practice>

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