



Sample Pearson BTEC Set Assignment Brief

Single Part Assessment

Unit 2 – Construction Design

For use with:

Pearson BTEC International Level 3 qualifications in Building Services Engineering, Civil Engineering, Construction and the Built Environment

Certificate / Subsidiary Diploma / Foundation Diploma / Diploma / Extended Diploma

Advised Supervised hours	11
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For completion by the centre

Qualification (select as appropriate)	Certificate / Subsidiary Diploma / Foundation Diploma / Diploma / Extended Diploma
Assessment date	



Instructions to Teachers/Tutors and/or Invigilators

The Pearson Set Assignment will be assessed internally by the centre using the unit Assessment Criteria detailed in the qualification specification. The assignment will be sampled by the Standards Verifier as part of the standards verification annual centre visit.

Conditions of supervision

The Pearson Set Assignment should be carried out under supervised conditions. We advise that the Set Assignment be taken in more than one supervised session.

The Set Assignment should not be shared with learners before the supervised session arranged by the centre. Teachers/tutors and invigilators should note that they are responsible for maintaining security and for reporting issues to Pearson.

Outcomes for Submission

Learners may submit handwritten or word-processed evidence. Learners must also complete this set assignment on a computer using CAD. Learners must save their work regularly and ensure that all materials can be identified as their work.

Learners must submit their own, independent work as detailed in the set assignment. Each learner must complete an authentication sheet.



Instructions to Learners

Read the Set Assignment Information and Set Assignment carefully.

You will be asked to carry out specific written activities, under supervised conditions, using the information provided.

At all times you must work independently and must not share your work with other learners. You must complete an authentication sheet and submit this along with your work.

Set Assignment Information

Scenario

You are working as an assistant to the Design Manager for a medium-sized, regional construction organisation that has been awarded a contract to design and build drive-thru coffee shop.

The client's vision

The client is a large national chain that wishes to provide a drive-through coffee shop in an expanding residential and light retail area. It wants to create a friendly, safe environment with ample car parking spaces for those who wish to eat and drink inside. It is keen to create a modern, environmentally friendly and sustainable site once completed which is bright, light and finished to a high specification.

Site details

- Site is approximately 75 m by 40 m at its widest point.
- There is a one-metre difference in the ground level - rising from east (36.600m) to west (37.600m) on the site.
- Site plan as shown in Figure 1.
- Sub-soil ground conditions as shown in Figure 2.
- New prestigious car dealership to the east housed in a modern glazed building.
- Need to retain vehicle access to, and operation of, the car dealership at all times.
- Site delivery access restricted to a small roundabout on the junction off the main road.

General project information

- The total budget for the project is \$3 million.
- Six-month programme to ensure that the building is complete before winter.
- Outskirts of the town centre in a growing modern retail park.
- Site ready for excavation, see Figure 4.

Aesthetic requirements

- The external envelope should improve and enhance the visual appearance of the local area.
- The completed development should enhance and improve the character of the site.



Spatial requirements

- The design is restricted to a single storey.
- The design requires seating capacity for 150 people inside and 30 outside.
- There needs to be a range of seating options including lounge style and bar seating.
- The design requires a food storage and preparation area.
- The design requires space for 50 cars and must include electric charging points for hybrid and electric vehicles.
- A condition of outline planning permission states that the building footprint must not occupy more than 40% of the total site area.

Service requirements

- The building design should allow for as much natural light as is reasonably practicable.
- The building must be air conditioned.
- The building must include toilet facilities for people with disabilities, and parent and baby changing rooms.

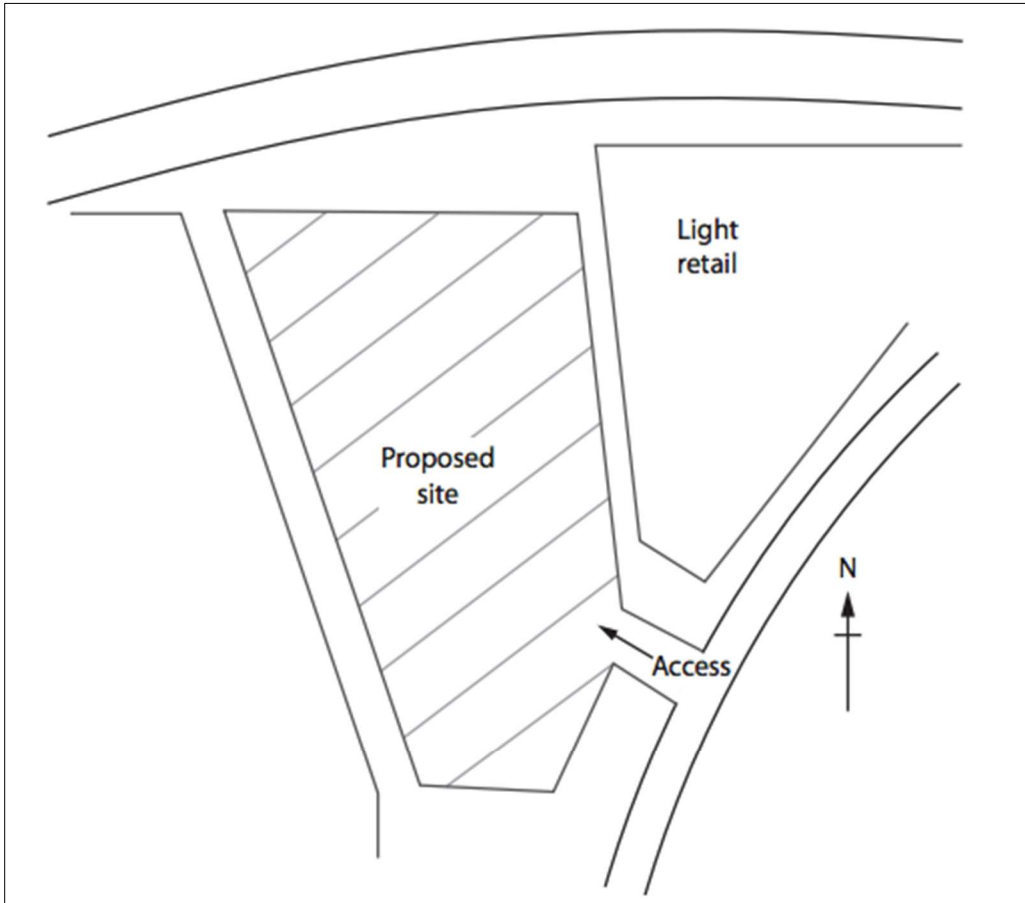


Figure 1: Site plan (not to scale)

Height (m)	Description
36.600	Ground level
35.900	Ground water table
35.350	Made ground – compact ash and clay
33.700	Stiff brown silty clay
31.300	Stiff brown boulder clay

Figure 2: Extract from project borehole report



Figure 3: View of the site from the south



Figure 4: Site ready for excavation – view of the site from the south



Set Assignment

You must complete ALL activities

ACTIVITY 1

Produce a report for your Design Manager that details the stages and tasks involved in the design process. Make sure that you consider the design factors and constraints of the project and the impact and influence of the design factors and constraints on the design and specification.

Make sure your report considers the spatial requirements, the desired project outcomes, site information and budget requirements.

This activity covers learning aims A.
A.P1, A.P2, A.M1, A.D1

You are advised to spend 3 hours on this activity.

ACTIVITY 2

Produce some annotated sketches of your design idea for your Design Manager. Your design sketches should show a 3D external view of the whole building, a plan view of the internal customer seating area and an internal view showing a 3D pictorial representation of the internal customer seating area. Your annotations must include dimensions, key features of the design, the operation of the building and how the building meets the needs of the client.

You should generate a virtual model of the design to show the external envelope and the interior of the customer seating area.

This activity covers learning aims B and C.
B. B.P3, B.P4, B.M2, B.D2
C. C.P5, C.P6, C.M3, C.D3

Print out your rendered 3D coloured images, scaled to fit one A4 sheet, for each of the following:

- 1 external envelope
- 2 interior of the customer seating area.

Attach these to your task booklet using a treasury tag.



Write your name, learner registration number and centre number on both sheets.

You are advised to spend 8 hours on this activity.