

### Module: Construction Business Environment

#### Question 1

#### Refer to your drawings and scenario.

The client requires the successful contractor to complete the design based on the concept design, obtain detailed planning permission, and construct the building and external works on a design and build basis.

The client is not willing to consider qualified bids.

#### TASK:

As the client's project manager, prepare a report identifying the commercial, operational, and environmental risks that a contractor would have to consider and evaluate when designing and costing the substructure and other works below ground level carried out on a design and build basis.

The report should also advise the client on a cost-effective procurement procedure that would reduce or eliminate disproportionate risk premiums that may be added at the tender stage by the tenderers.

**(30 Marks)**

#### Indicative answers

Markers – Please refer to the marking descriptors.

The site was remediated in 1972 which was before the Health and Safety at Work Act 1974 was enacted.

The legislation now in place dealing with remediation of contaminated ground is far more comprehensive than the standards in place that the site was remediated to in 1972.

Prior to the introduction of the Health and Safety at Work Act, the UK had no comprehensive legislation that dealt with workplace health and safety.

The HSWA repealed and replaced the Factory and Workshops Act 1901 to 1929.

There is now further development of the HSWA that control the remediation of contaminated ground that must be complied with.

There may be risks associated with existing structures that may not have been completely removed or have the toxic substances remaining within them. In addition, the surrounding ground may not meet the

permissible contamination levels under current legislation. This will influence the precautions that may have to be taken to protect operatives and others employed on the project and people beyond the site boundaries.

**So in summary, the standards that the remediation was carried out to have been surpassed by current legislation.**

A detailed site investigation will be needed to determine the level of residual contamination to assess whether further works are needed to comply with the permitted levels of contaminants for the proposed development.

The next risk that the contractor will be expected to hold is the suitability of the ground for taking the loads of the new building. It is not known how many gas holders the gas works had or where they were located from the tender information supplied. The gas holder pits could be 30- 60 metres diameter and will have been many metres deep. The compaction of the fill in 1972 and its bearing capacity will be an unknown and although it has had more than 50 years to settle, it may not be adequately compacted to avoid differential settlement caused by the loads transferred from the raft shown on the concept design drawings.

To eliminate this risk, another option, depending on the findings of the SI relative to the location of the gas holder(s), could be to use precast concrete piles driven to the required set which would accommodate varying lengths if the building straddles the gas holder pit(s), to found on suitable load bearing strata.

The site investigations should begin with a desktop study to determine the position(s) of the gas holder(s) so that an appropriate assessment of the foundation design can be designed and costed.

Once the historic locations within the Gas works have been determined, a full SI should then be undertaken.

Since the cost of doing the SI at risk is unlikely to be attractive to tenderers, the options include either for the client to fund this work and include the SI in the tender documents or consider a 2 stage tender process where the client and a selected contractor together gather the information needed to reduce risk, and therefore the premiums, to an acceptable level for both parties.

### **Pass/Merit/Distinction**

To obtain a pass grade candidates should recognise and report on the primary commercial, operational, and environmental risks outlined above and say why the current tender information would discourage potential tenderers from submitting a bid.

**(30 Marks)**

To obtain a merit grade candidates should expand on and report on the primary commercial, operational, and environmental risks outlined above referring to current legislation and advise how the current tender information could be improved to increase the attraction of the project.

To obtain a distinction grade candidates should expand on and report on the primary commercial, operational, and environmental risks outlined above, referring to current legislation. Also suggest potential foundation engineering solutions to reduce the need to excavate into the lower strata and possible differential settlement. Also, advise how the current tender information could be improved to increase the attraction to tenderers and explain the possible options on how this information could be obtained.

### Module: Construction Business Environment

#### Question 2

**Refer to your drawings and scenario.**

The lease on the building in which the benefactor's artefacts have been stored is shortly to expire and the building owner is insisting on a five-year lease, as a condition for the lease to be extended.

The Client has no other facilities with the required storage conditions available. The duration of the planning process to obtain full planning permission for the project has become uncertain because of a pressure group formed by nearby residents concerned about the potential dangers from airborne contaminants if onsite remediation of the soil to comply with current regulations is required, which may contain hydrocarbons and include benzene, cyanide and naphthalene in an open-air "soil hospital" which it has been suggested, maybe a cost-effective way of remediating to comply with current standards.

Because of the uncertainty of a site possession date for the contract, the order for the project has not yet been placed with the preferred main contractor. The project will be carried out on a design and build basis.

If the order for the steel frame is not placed in accordance with the programme the overall works will be delayed. When the lease on the existing property expires there will not be a suitable environment to house the delicate items that require a controlled environment.

The client is considering issuing a letter of intent to procure the steel frame in advance to comply with the project's programmed completion date.

#### **TASK:**

Prepare a report that explains how the letter of intent may be written to secure the design, manufacture and erection of the steel frame and explain why each of the terms in the letter of intent should be included.

**(30 Marks)**

<b>Indicative answers</b>	
Markers – Please refer to the marking descriptors.	
<b>Marking guidance</b>	
In deciding what should be written in the letter of intent the candidate should recognise that the client fully expects to be able to instruct the entirety of the works detailed within the tender documents once uncertainty of the timing of reaching agreement with the Environment	

Agency on how remediation could be safely carried out is eliminated. Otherwise, it would be illogical to start the procurement process by using a letter of intent

Also, the candidate should recognise that at the present time it is envisaged that the only work to be authorised by the letter of intent is to carry out sufficient design of the project to allow design of the members and connections of the structural steel frame, produce detail drawings for fabrication, and then fabricate and then either deliver to site or another place for safe storage. That comprises the scope of the work and it should be carefully defined and authorised by the letter of intent along with a cost ceiling.

*.....It is a fundamental requirement in English law that for a contract to be concluded the parties must have reached agreement and negotiations on all but minor terms must be finished.....* (Lord Denning).

It is possible that if sufficient and relevant detail is contained within the letter of intent, it may be held that the letter of intent is the basis of a **contract** between the parties. This is a usually a complex matter and may require a legal judgment to provide an answer in the event that performance by either party falls short of expectation.

If the letter of intent is to be effective and not be capable of being rejected as **not** forming a contract between the parties at some later stage, it should address the following:-

**The client must authorise the contract administrator to represent them.** It is possible that even if the letter of intent is issued by an architect, a project manager or other professional with apparent authority, the person sending the letter may actually have no authority to bind the client into a contract with the contractor.

**A full description of the proposed form of contract.** Also detailing any performance bonds and including warranties. The form of contract (including any amendments) under which the contractor will be engaged will also form part of the documentation. This avoids doubt about the obligations of both parties.

**Acceptance of the contractor's offer.** Including definition of the project, reference to the tender documents and subsequent amendments (with dates). At this stage it is probable that there will be only the Employers Requirements and the client's outline design that define the work to be executed since the contractor's design will not yet be fully developed, and so the Contractors Proposals and any other documents defining the project along with the contractors response to the invitation to tender need to be referenced in the Terms.

**The agreed contract sum.** Stating the method of remuneration and timing and basis of payments are vital to avoid disputes arising in the period before the contract is signed. Also, care needs to be taken to

have a clear and realistic cost allowance to ensure it is adequate to procure the steel frame.

**Instruction to proceed on a certain date.** The programme will be the source of this information and it will need to contain enough information for the contractor's design team/design consultants to complete design sufficiently enough to allow structural design to progress to a stage to ensure the timely design, procurement, fabrication and erection of the structural steelwork is possible.

**Site possession date.** This will require some careful thought by the candidate. The client has a commercial need to complete the project by the programmed date to avoid bearing the cost of taking on a lease which will extend far beyond the time needed to store the delicate items. However, the client is unable to predict the outcome or the effect on timing of the local residents' protests, who have strong objections to the scheme.

There may be a need for a fallback position if the steel frame is fabricated before site possession can be given or the site is insufficiently advanced in its remediation process to provide lay down space on site if the site possession date is delayed beyond the programmed date.

If this happens once fabricated, the steel frame could held at the manufacture's premises if space is available or at other offsite storage facilities (at an agreed cost). Delivering the steel frame to site and storing it there may be unwise as it could inflame the residents who may think they are being ignored and the outcome(s) of the necessary Environment Agency considerations taken for granted. These options, or variations on them, should be agreed between the parties.

Also, agreement should be reached with the main contractor (and likewise main contractor with the fabricator) concerning arrangements regarding re-mobilisation of the erectors should the frame be fabricated but site access is delayed.

Another aspect that the candidates should consider in the event of a severe delay preventing site possession, such that the validity period for the tender is exceeded, is an agreement on how the validity period can be extended, including the commercial considerations and arrangements. To prevent a dispute later, this should be agreed between the parties and defined in the letter of intent.

**Contract completion date.** The contract programme, including details of any phases, will define the completion date and should be contained in the documentation. It will be required to consider any extensions of time that the contractor may be entitled to, due to a delayed site possession date as well as other decisions about delays/entitlements by/to either party.

**Defining the work to be carried out and a specific cost ceiling authorised by the letter of intent.** By performance the parties are held to accept the terms of the letter of intent, but the scope of work and the cost ceiling must be made clear. If the contractor spends more

than the allowed level of cost, there is no certainty that this will be recovered, or alternatively an award made beyond the client's expectations. It is possible that the value awarded for overspend by the contractor may be greater or less than the expenditure by the contractor, as it will usually be determined by the value to the client and not the cost to the contractor.

In the event that client cancels the letter of intent prior to signing the contract, terms defining the client's liability for costs and excluding claims for loss of profit, opportunity, indirect or consequential losses should be defined in the letter of intent. This will give certainty to both parties and avoid prolonged disputes about entitlement and obligation.

**LADs.** The amount of LADs to be stated to simplify matters of financial settlement in the event of a delay to the completion of the project for which the contractor is culpable and which also allows the contractor to assess the financial risk exposure by undertaking the project. For this project it may be more complex than it may appear since there is no loss off profit to use for a calculation. The client's loss may be the cost of extending the current lease or of finding a new storage facility to temporarily house the delicate items including the cost of moving them, insurance, security etc.

**A fall-back date for signing the contract.** When work starts before a contract is signed, the incentive to sign may become less compelling – this commonly happens when a letter of intent is used to mobilise a project. This is likely to be the case if one of the parties becomes aware whilst performing obligations under the contract, in hindsight, of previously unapparent risks they are exposed to under the contract. Signing the contract without undue delay reduces the time and hence the opportunity of parties to do this.

**Clarity as to whether the contract will be executed by Deed, under seal or under-hand.** The party signing under deed will be bound to promises for 12 years as opposed to 6 years under hand; so, ensuring both parties sign in accordance with the intended obligations is important.

**Insurance provisions and indemnification.** To avoid disputes and ensure the correct protection is in place.

**Assigning the works.** That there are no rights to assign the works should be a condition to avoid the contractor transferring the benefit or disbenefits of the contract to another party.

**Dispute resolution.** The dispute resolution procedure is likely to be contained within the contract stipulated in the tender documents. Were it to be held that there was a contract formed by the letter of intent in the event that a dispute arose before the contract is signed, the terms of the intended contract would apply. However, agreeing the procedure prior to signing the contract reduces the possibility of a disagreement over how disputes may be resolved.

**(30 Marks)**

<p><b>Pass/Merit/Distinction</b></p> <p>Candidates merely listing the terms that could form a letter of intent without explanation of why they should be included should not be awarded a pass level.</p> <p>Candidates that include a number of the terms listed above, with a credible explanation of why they should be included should be awarded a pass.</p> <p>Candidates that include many of the terms listed above with well-informed explanations of why they should be included should be awarded a merit. They should also recognise the difficulty the client faces in setting a site possession date that satisfies the programme.</p> <p>Candidates should be awarded a distinction if they include most or all of the terms listed above with well-informed explanations and also expand on the difficulty the client faces in setting a site possession date that satisfies the programme and recognises the client may be unable to grant timely possession due to unforeseen circumstances, which if delayed beyond a specified period within many of the standard forms of contract, would allow the contractor to reject the contract without penalty. The candidate should propose a fair process to deal with those circumstance that includes such matters as price increases in line with inflation to prevent the contractor from becoming disinterested in finalising the contract.</p>	
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