

Construction Business Environment

Question A

The first part of the process would be to read through the project scenario and the report from Soil and Rock Geotechnical Engineers Limited, and then to go through the drawings, so after reading the scenario and report and looking through the drawings and also using the experience we have gained on other projects with similar contamination conditions we came up with what we believe to be the specific aspects of legislation and the impact on the groundworks

The groundworks contractor would need to understand firstly all of our own roles and responsibilities to our own workforce and other contractors and have a good understanding of the key aspects of legislation, regulations, and any codes of practice.

A Legislative requirement being a duty to act according to the law as defined by an Act of Parliament. The specific aspects of legislation which we consider the most relevant and important whilst carrying out the groundwork contract would be Health and Safety at Work Act 1974, Environmental protection Act 1990 Part II A Contaminated Land, Construction Design and Management Regulations 2015. (CDM), Environmental Permitting (England and Wales) Regulations 2016, The Hazardous Waste (England and Wales) Regulations 2005 and the following guidelines Contaminated Land Statutory guidance, (Health and Safety at Work etc. Act 1974, 2022)

The Health and Safety at Work Act 1974 (HSW1974) is the act that everyone has to comply with regarding to Health and Safety in any place of work in the UK and the General duties 2, employers to employees, 3 employers and self-employed to persons other than their employees. (Health and Safety at Work etc. Act 1974, 2022)

Environmental Protection Act 1990 Part 2 A Contaminated Land is the act that defines a scheme of identification and compulsory remedial action for contaminated land

The Hazardous Waste (England and Wales) Regulations 2005 - In relation to measures relating to the prevention, reduction and elimination of pollution caused by waste Part 2, 6, 7

"Construction Design and Management Regulations 2015 is the main set of regulations for managing the health, safety, and welfare of construction projects. CDM applies to all building and construction work .And" as part of the CDM Part 3 regulations 8 general duties, 12 Construction Phase Health and Safety File and 15 duties of contractors CDM Part 4 regulations 22 Excavations. (The Construction (Design and Management) Regulations 2015, 2022)

Environmental Protection Act 1990 Part 2 A (EPA1990Part2A) / Contaminated Land (Contaminated Land Statutory guidance 2012 section 6) "This Guidance is intended to explain how local authorities should implement the regime, including how they should go about deciding whether land is contaminated land in the legal sense of the term. It also elaborates on the remediation provisions of Part 2A, such as the goals of remediation, and how regulators should ensure that remediation" requirements are reasonable. (Contaminated land statutory guidance, 2022)

Environmental Permitting (England & Wales) Regulations 2016 - In England and Wales, the key statutory instrument is the Environmental Permitting (England and Wales) Regulations 2016. Schedule 22 section 8 (f) groundwater activities for which a permit may be granted (f) construction, civil engineering and building works and similar activities on or in the ground which come into contact with groundwater. (Legislation.gov.uk 2022).

Building Regulations 2010 Approved document C-C1 Site preparation and resistance to contaminants 2004 edition incorporating 2010 and 2013 amendments, Page 17 Section 2.15 Remedial measures

We believe that all of the aforementioned legislation will cover the works to be undertaken for this project.

The HSW1974 will cover the general health and safety and we are aware of our duties to our employees and others, EPA1990Part2A cover working on contaminated land, the statutory guidelines2012 section 6 which covers what sort of remediation work is required and how the work needs to be carried out, CDM2015 duties of contractor's part 3 regulations 8 general duties,12 and15 and then making sure we have the right permits in place for the works by following the Environmental Permitting (England & Wales) Regulations 2016 The Hazardous Waste (England and Wales) Regulations 2005 covers hazard waste, movement of hazardous waste, records and returns

The legislation and Regulations that we believe would have the biggest specific impact on the groundworks is the Environmental Protection Act 1990 Part 2 A (EPA1990Part2A) and Contaminated Land (Contaminated Land Statutory guidance 2012 section 6). The Hazardous Waste (England and Wales) Regulations 2005, they will have the biggest impact on the groundworks because they cover different elements of the works, and we would have to make sure that we adhere to every element of the Legislation and work closely with the Government agencies.

The following environmental concepts which will have a significant impact on the works:

Ground Water

The ground water being so high in the ground is going to have a large impact on the works not only environmentally but could also with Health and safety as in risks in excavations like flooding causing collapses, added expensive and time for dewatering the ground and having to pump the water out to drains, polluted water affecting the environment

Flora

A survey will be required to establish what plants are present, after the survey is completed a mitigation plan would need to be developed and submitted as part of the planning application and we would then work to any guidelines and have to minimise any damage. (Anwar, 2022)

Fauna

Whilst unlikely to cause an issue during the works if anything is found in the ground or any sightings on the site work will have to stop and go through the right procedures, get licences from Natural England (Anwar, 2022).

Air pollution

Due to the construction work taking place and the number of vehicles is going to increase in the area the air pollution needs to be looked at and control measures put in place like diesel particulate filters (DPF's), air monitoring, don't leave engines running unnecessarily. (Anwar, 2022).

Drainage

Due to the changes in the levels of the ground and excavations the natural surface water runoff will change which could cause short term puddling / flooding which could affect the fauna and flora in the area and also the conditions on the site. (Anwar, 2022)

Question B

The monitoring methods that we would use when we are working to a master programme

The contractor would work to a separate Construction programme that would have all the key dates in a Gantt chart format which will have an identified critical path for the construction phase of the works, also with task dependencies between the critical path activities and milestones in the programme.

Before issuing the Construction programme we would compare the two programmes to make sure that nothing has been missed or if there are any mistakes or if it highlights any issues

Risk Register which highlights all tasks that have a risk factor and the impact it could have on the project and any counter measures if required this a live register that evolves with the project as risks are omitted or added

We would have a procurement schedule which would help with identifying any long lead in items and making sure they are ordered early, the schedule would be regularly checked and updated

Fortnightly progress meetings with sub-contractors so we have a realistic view of where we are on the programme and then we would produce a progress report and an updated programme that would be sent to all contractors, design team, client, and any stakeholders

H&S review meeting to cover all aspects of the project this is an important part of any programme any accidents or incidents can cause delays to the programme

A Request for Information (RFI) schedule would be in place so that any information that is required no matter how big or small should be answered in a designated timeframe and all of the RFIs would be recorded on the RFI schedule, the schedule would have an owner who would update when needed for RFIs sent and responses received, this should help with the flow of information and hopefully stop any delays because of design issues or changes with a design

We would use Request For Change (RFC) schedule so that we have a record for financial and up to date design information being recorded, plus this would trigger updates to drawings which should minimise delays or mistakes

Question C

The business are members of ISO 26000:2010 so we are working with their guidance and trying to achieve their standards and would try and address any that we need to improve in

Construction had a bad image in the past because of the way the sites looked and were run, and generally the majority of the workers attitude and appearance, and no consideration for the local community, so as a company policy for each project we register with the Considerate Constructors Scheme (CCS) and agree to follow their code of considerate practice. CCS state that this can be broken down into 3 areas: "Respect the community, Care for the Environment and Value the workforce".

The site is audited as a minimum twice during the project to make sure that you are achieving or trying to achieve the codes, there is a marking system to actually see how you are doing and where you need to improve. They will give you some advice as to where you can improve, and there is a scoring system for each element which tells you where you need to improve

Produce a weekly newsletter so the local community can read about the progress on site, this is distributed amongst the local community including schools and colleges and it will also be shown on the site hoarding for passers-by to see

As a business we employ local people especially school leavers for training schemes, a lot of our workforce are related and live in the local area, and there are opportunities for everyone to progress through the company from Labourer to Site Manager so staff can see there is a career for them

The business will have a training plan set out annually for all employees so that everyone is up to date with all the site associated training and health and safety regulations also mental health first aid training for people in each section of the business so there is a better understanding of the different issues with mental health.

The business arranges visits to our sites from the local college and schools so that they can have an insight of what goes on, on a construction site and hopefully people can see that the construction

industry is changing for the better. A big focus at the moment is trying to employ more females into the company as groundworkers not just office staff

Use local suppliers for all our projects, who we have good relationships with, which can help when you need something the next day, plus this helps the local economy



Figure 1 Considerate Constructors Scheme

Anwar, S., 2022. *Basic Concepts related to the Environment and Ecology*. [online] Jagranjosh.com. Available at: <<https://www.jagranjosh.com/general-knowledge/basic-concepts-related-to-the-environment-and-ecology-1518784514-1>> [Accessed 18 June 2022].

App.croneri.co.uk. 2022. *The rough guide to environmental permitting | Croner-i*. [online] Available at: <<https://app.croneri.co.uk/feature-articles/rough-guide-environmental-permitting>> [Accessed 18 June 2022].

Assets.publishing.service.gov.uk. 2022. *Environmental Protection Act 1990: Part 2A: Contaminated Land Statutory Guidance*. [online] Available at: <https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/223705/pb13735cont-land-guidance.pdf> [Accessed 18 June 2022].

Ccscheme.org.uk. 2022. *CCS homepage | ccscheme*. [online] Available at: <<https://www.ccscheme.org.uk/ccs-ltd/what-is-the-ccs2/>> [Accessed 18 June 2022].

Designingbuildings.co.uk. 2022. *CDM 2015*. [online] Available at: <https://www.designingbuildings.co.uk/wiki/CDM_2015> [Accessed 18 June 2022].

Hse.gov.uk. 2022. *Construction - Construction Design and Management Regulations 2015*. [online] Available at: <<https://www.hse.gov.uk/construction/cdm/2015/index.htm>> [Accessed 18 June 2022].

ISO. 2022. *ISO 26000:2010*. [online] Available at: <<https://www.iso.org/standard/42546.html>> [Accessed 18 June 2022].

Legislation.gov.uk. 2022. *Health and Safety at Work etc. Act 1974*. [online] Available at: <<https://www.legislation.gov.uk/ukpga/1974/37/contents>> [Accessed 18 June 2022].

Legislation.gov.uk. 2022. *The Environmental Permitting (England and Wales) Regulations 2016*. [online] Available at: <<https://www.legislation.gov.uk/uksi/2016/1154/contents/made>> [Accessed 18 June 2022].

Legislation.gov.uk. 2022. *The Hazardous Waste (England and Wales) Regulations 2005*. [online] Available at: <<https://www.legislation.gov.uk/uksi/2005/894/contents/made>> [Accessed 18 June 2022].