AN ASSESSMENT OF THE HEALTH & SAFETY AND LEGISTLATION OF THE PROPOSED BRIDGE AT BAGLAN ENERGY PARK.

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1. Executive Summary.

HSE (2019) stated there were an estimated 79,000 work- related ill- health cases in the Construction Industry in 2018/2019. The importance of Health and Safety has been a growing rapidly in the industry in the U.K and around the world over the last decade with increasing legislation to adhere to. Despite this, work- related injuries still occur in construction. HSE (2019) reported 30 fatal

injuries to workers and 7 to members of the public between 2018 and 2019. The Health and Safety Executive continue to make new policies whilst reviewing current ones, to ensure that the risk of injury or death at the workplace is limited, making areas of work safer. Approval has been granted to build a bridge linking two halves of Baglan Energy Park, Port Talbot. The proposed project is to allow access from one industrial estate to another, crossing a railway line. In the report below, a detailed Construction Phase Plan will be created, identifying all major work activities linked to the project, while creating 3 Risk And Method Statements (RAMS) for three of the major works that will be undertaken, adhering to Health and Safety legislation and identifying the responsible duty holder under the separate regulations.

2. Terms of reference

2.1 The principal focus is:

2.1.1: To identify and apply the role in the regulation specific task identified.

2.1.2: To identify relevant regulations, appropriate to the specific site tasks

3. Procedure

This section identifies sources used.

3.1. The research included secondary sources about Health and Safety in Construction and the management of this from websites and textbooks set out in the references and bibliography.

3.2 University Lecture notes also provided background information to the topic.

4. Findings

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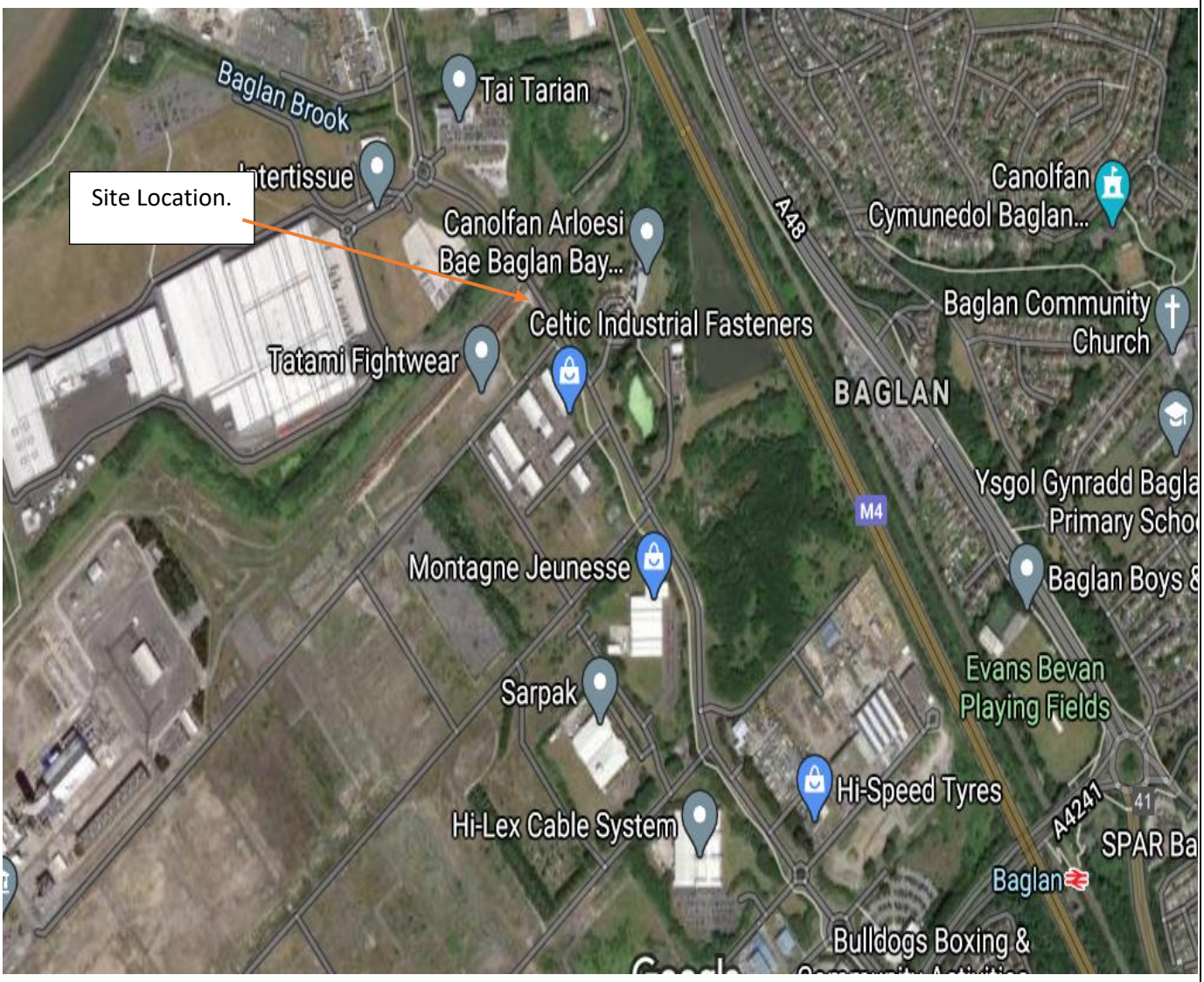
Construction Phase Plan

Maesteg Engineering LTD: New bridge at Baglan Energy Park, Port Talbot.

Location and Address:

Brunel Way, Baglan Energy Park, Neath Port Talbot SA11 2FP



Description and Scope of The Works

Activity Start	**End Date**
06/05/2021	May 2022
Contract duration:	52 weeks

This Construction Phase Plan & Method Statement describes the method to be followed when carrying out work associated with building the new bridge at Baglan Energy Park, Port Talbot, providing access to one side of the industrial estate to another over a rail line.

The project involves construction that will be follow "1974 act", where a single carriageway will be built to link two sides of Baglan Energy Park. The new road will provide a 7.3-metre-wide carriageway with a 3m wide footway/cycle track and a 1.0m verge. Drawings of the project are attached in the appendix section.

The scope of the work that is included in the project can be observed below.

Road Restraint System Parapet

- H4a reinforced concrete.
- Parapet is to be 1.5m high (above footway).

Safety Fence

- Safety barrier is to be provided on the verge (more details on drawing).

Carriageway

- Carriageway is to be 7.3m wide to provide one lane in each direction
- Gradient on Carriageway to be 1inch.

Footway/Cycleway

- 3m wide combined footway / cycleway is to be provided on one side of the carriageway.
- A 1m wide maintenance strip is to be provided on the other side.

Deck

- Bridge deck is to be reinforced concrete on steel beams
- Beams are to be painted Gainsborough blue.

Abutments/Piers

- Reinforced concrete abutments and piers, with smooth F4 finish to all exposed faces.

Foundations

- Foundations are to be piled. Piles will need to be bored reinforced concrete - piles cannot be driven due to proximity to gas main.

Embankment

- Embankment slopes to be 1:2. For details of planting see landscaping drawing.

Drainage

- Drainage over the structure is to be provided by kerb drainage system.

Fencing

- No new fences will be provided as a result of the scheme.

Overhead lines

- Clearance to overhead lines has been approved by National Grid. The lines are presently operating at 275kV. National Grid have permission to upgrade the lines to 400kV - clearance for 400kV has been provided.

The identification of hazards and the avoidance, elimination or reduction and control of risks, with the objective of achieving a safe working environment, will be a priority. Maesteg Engineering Ltd. will promote and maintain the health & safety and welfare of all staff and any other persons who may be affected by these works.

Personnel

CDM Duty Holders:

Client – NPTCBC Project Manager: John Jones
E mail: John.JonesNPTCBC.com
TEL: 07867 151511

Principal Designer / Designer – NPTCBC Principal Designer: David Davies
E mail: David.Davies@NPTCBC.com
TEL: 07827252545

Site Supervisor – Geoffrey Johnson
Email: Geoffrey.Johnson@NPTCBCcom
TEL: 07584 530861

Principal Contractor – Maesteg Engineering Ltd
Site Project Manager: Aled Evans
Email Aled.evans2@maestegengirltdcom
TEL: 07710177542

Electricity Contractor: National Grid
Operations Manager: David Berry
Email: davidB@natgrid.com
Tel: 07778764532

Sub- Contractor: Griffiths Civil Engineering
Operations Supervisor: Peter Jones
Email: Peter.Jones@Griffithscivils.co.uk
Tel: 01656 653387

Sub-Contractor – Evans Engineering

Operations Manager - Mark Davies

Email: mark@evans.co.uk

TEL: 07976 973456

Personnel on site:

Site Supervisor
Operatives X20

Communication
The Maesteg Engineering Ltd. Site Agent will be the senior person on site and will ensure that there is always a nominated point of contact for the contract in his absence.

Health and Safety Objectives

- Identify any potential Risks and Hazards in the pre-construction phase plan and resolve (or limit the risk of these) by including safe systems of work.
- Organise specific roles and responsibilities in the project team to ensure compliance with CDM 2015.
- Guarantee that the project is feasible and safe enough within reason, without putting any operator's Health, Safety and Welfare at risk.

Site Rules and Induction

All site rules and induction are set out in the site's safety file.

A site sign- in sheet will be used and all site attendees must sign in and out when arriving or leaving the site. The sign- in sheet will also act as an acceptance that the person(s) will always adhere to site rules.

Site induction and toolbox talks will be provided by the site supervisor. Each member on site must have a site induction and will be required to attend the toolbox talks. Toolbox talks will include all necessary requirements of the site including all characteristics of the work. The topics that will be covered in the Site Induction:

- Construction Phase Plan
- Welfare Facilities
- Fire arrangements
- Chemicals on site
- Any deliveries that are due
- Site Safety
- Locations of Heavy Machinery on site
- Site Rules
- Emergency Procedures
- Site Entry Requirements (PPE etc).
- The Responsible Officers

Topics Toolbox talks will also include:

- Location of First Aid Facilities
- PPE and RPE requirements
- Manual Handling
- Accident reporting -the rule of 2. (Reporting an accident within 2 hours of it happening).
- Safe Systems of Work.
- Emergency Evacuation Procedures.
- Any recently identified risk or hazard on the site.

First Aid

- Qualified First Aiders will always be on site. There will be a trained operator who is first aid qualified, with the Site Supervisor or the acting Site Supervisor at the time trained in First Aid.
- First Aid equipment will be in the site office and will always be accessible.
- A First Aider will always be present on site when there is work being undertaken.

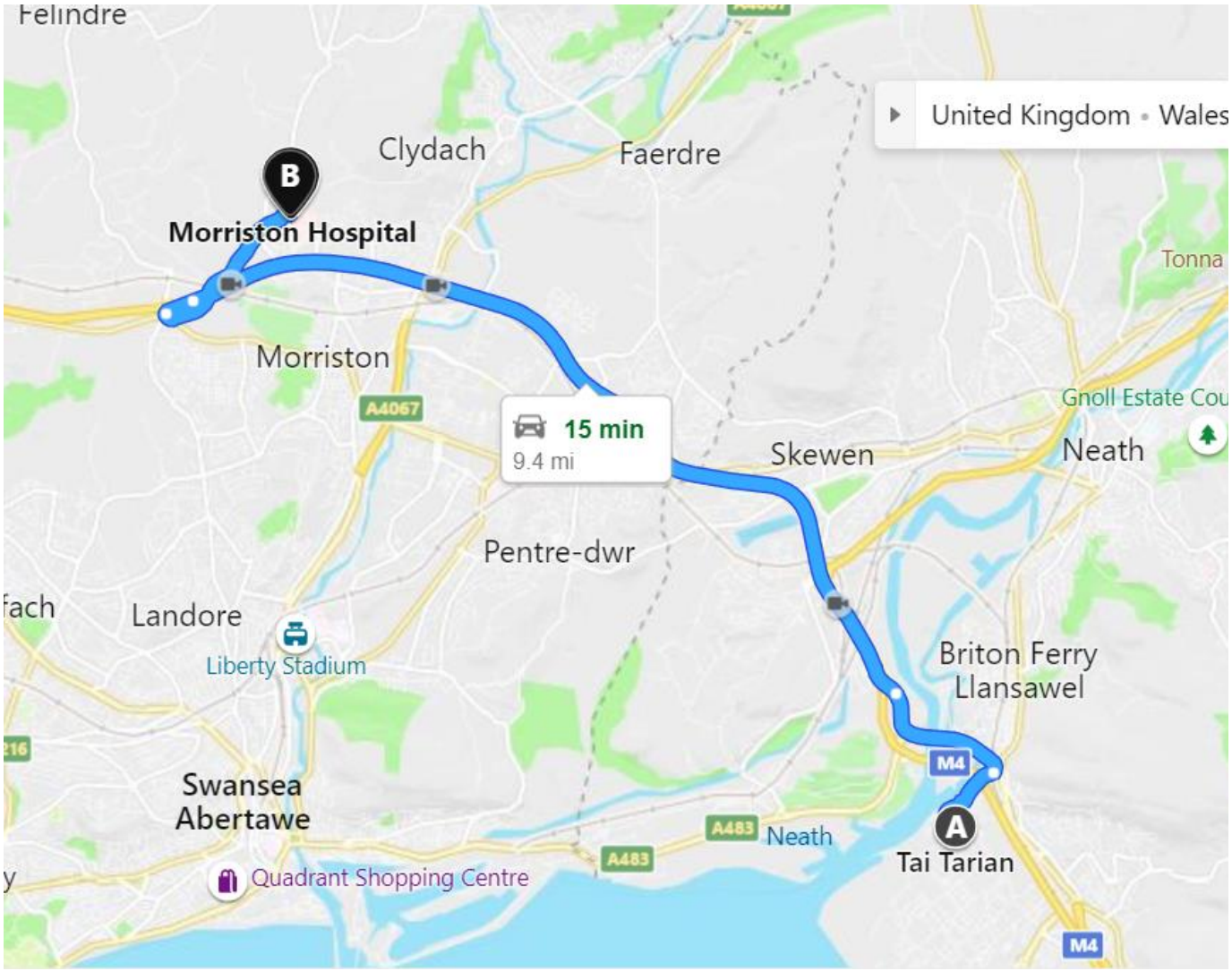
Further information regarding First Aid can be observed in the Site Health and Safety file.

Emergency Procedures

- All on site personnel will be given the emergency procedures in the site induction.
- A trained First Aider will always be on site during the work.
- A site safety notice board will always be present.

The address and Route to the nearest Accident and Emergency department is displayed in the RAMS and Health and Safety File and can also be observed below.

Hospital Address: Heol Maes Eglwys, Morriston SA6 6NL



The hospital will take 15 minutes by car from the site.

All accidents will need to be reported following the HSE guidance on Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013 (RIDDOR).

RIDDOR involves reporting certain serious workplace accidents, near misses and occupational diseases. This includes:

- Deaths and injuries caused by workplace accidents.
- Occupational Diseases.
- Carcinogens mutagens and biological agents
- Dangerous occurrences
- Gas Incidents

If there are accidents that include death, injury or any non-fatal accidents requiring hospital treatment to non-workers or dangerous occurrences. The site supervisor must notify the enforcing authority at a without hesitation. Adhering to the reporting procedure.
Otherwise, for fatal accidents or specific injury to workers only the telephone number: 0345 300 9923 is available.

A report must be received within 10 days of the incident.

If an accident occurs that results in the worker being incapacitated for over seven days, the enforcing authority must be notified within 15 days of the accident.

Fire Safety

Appointed Fire Marshalls will always be on site. The Fire Marshalls would have received appropriate training on how to carry out a fire risk assessment based on the following approach:

- Identifying the hazards
- Identifying the people at risk
- Evaluating, removing, reducing and protecting people from risk.
- Record, plan, inform and instruct
- Review.

Maesteg Engineering Ltd. will adhere to the code of practice in the HSE manual on fire risk (HSE, 2020). This includes the below:

- A no smoking policy on site.
- Hot PTW systems to be implemented where there will be hot works.
- Bonfires or burning of any rubbish or vegetation on site is prohibited.
- Fencing to be installed around the site to prevent trespassers that can cause arson.
- Regulators and hoses should be of a recognised standard (eg BS EN ISO 2503:2009 and BS EN 559:1994).
- Petrol fuelled tools or generated to not be operated in poorly ventilated areas.
- Obtaining the correct fire equipment to be able to put a fire out quickly.
- Installing fire detection systems. This includes installing fire/smoke alarms or bells.
- All workers to receive the correct training on procedures they need to follow including fire drills.
- Keeping sources of ignition and flammable materials apart.

Other practices will be adhered to limit any risk of a fire occurring.

- Good housekeeping practices.

- Keep materials in appropriate storage locations.
- Non- flammable materials to be used where possible.
- Keep a safe storage all compressed gasses and flammable liquids.
- Daily safety checks on site by the fire marshals.
- All operators to be informed if there are any changes on site and all files to be updated accordingly.
- Fire exit routes and assembly points to be shown to all personnel on site during site induction.
- Sign in sheet to be used at the assembly point if fire occurs.

Fire safety assembly points to be planned by Maesteg Engineering Ltd. This includes easily distinguishable exit routes. All safety routes must be kept tidy with nothing obstructing the pathway.

All personnel on site must always adhere to the fire safety policies and procedures that can be obersevd in the sites Health and Safety File.

Training and Qualifications

All operatives on site to have carried out an Operational Induction and carry an ID card

All operatives to have received a briefing on site rules and on the contents of this Risk Assessment and Method Statement prior to commencing work. Record of Method Statement briefing will always be kept

All plant operators to hold a valid CPCS or NPORS relating to the plant used

For works in the highway a minimum of one person on site must hold the required New Road and Street works Qualification

Plant and Equipment which will be used

Plant Item	Vibrating tool (Y/N)	Additional PPE (Y/N)	Specific Training (Y/N)
Mechanical Excavator	N	N	Y
Hand Tools	N	N	N
Grit Saw	Y	Y	Y
Generator	Y	Y	N
CAT and Genny	N	N	Y
Wacker	Y	Y	N
Testing equipment	NA	NA	NA
Grab Lorry & Reinstating Lorry	N	N	Y
Transit Van (fully equipped)	N	N	Y

- **LOLER** – Any Lifting Equipment and Accessories must hold a valid certificate – proof available on site
- **PUWER** – All plant and equipment must be maintained and checked – proof available on site
- **HAVS** – Operatives using vibrating tools must record usage on the daily site risk assessment.

Details regarding additional PPE and Training will be recorded in the risk assessment controls and within the method statement.

Noise Pollution and Vibration.

Maesteg Engineering Ltd. will always adhere to the Control of Noise at Work Regulations 2005.

A specific set of RAMS will be created for Noise and Vibration and it will be in accordance with the guidelines set by the HSE,(2020).

Adequate PPE will also be supplied to the operators when working with HAVS or when a lot of noise is being generated.

Materials

- Temporary fencing / barriers
- Signing & Guarding
- Reinstating Materials

COSHH assessments including PPE requirements will be detailed in the Health and Safety file.

Welfare

Suitable provision for Welfare will be established before construction starts taking into consideration the numbers of persons on site and the duration of the works in accordance with HSE Guidance CIS 59.

All site persons and site visitors will be instructed where provision for welfare is made as part of their site induction briefing.

Smoking is prohibited on site.

An adequate number of portable toilets will be provided. These portable will be emptied on a weekly basis. BS6465–1:2006 recommends a ratio of 1 toilet to 7 persons and 3 portable toilets will be available on site. In line with the guidance, the toilets will be ventilated and put in a position that has plenty of sunlight. Due to COVID.19, a cleaner will always be on site during the opening hours. The cleaner will clean all surfaces to limit the risk of spreading the virus. This includes the 3 portable toilets, handwashing facilities and all surfaces in the site offices.

In addition, handwashing facilities will be provided near the toilets and in the changing areas. The handwash bowls will be large enough so that hands, face and arms can be washed. Hand sanitising stations will also be installed around the site to promote handwashing, reducing the spread of coronavirus.

There will also be a welfare room. The room will contain a handwash bowl and will have a kitchen where a microwave and a kettle will be stored. The welfare room will contain tables and chairs which the workers can use to rest and have food and drink. The welfare room will be kept at a reasonable temperature.

Personal Protective Equipment

The following PPE is a standard requirement of all operational sites (HSE, 2020):

- Safety helmet
- Flame Retardant Clothing (two piece or overalls)
- Long Sleeved Hi-visibility Clothing
- Eye Protection – glasses as a minimum and protection increased dependant on task
- Gloves – minimum cut resistance level 1 and suitable for task to be carried out
- Safety boots – Toe and midsole protection (No Rigger boots)

Additional PPE listed below will be provided and worn as required
Ear Defenders
Dust Masks
COVID19 Guidelines Followed as per RAMS

NOTE: All Hi-Visibility Clothing to be clean and un-obstructed.

COVID19 - RPE at Work
All operatives who are working within 2m of each other and unable to follow social distancing rules must wear adequate RPE

- Driver and passenger in vehicles, encourage fresh air to also circulate by opening the window and turning off the Air Con
- Working with-in close proximity of each other within an excavation
- Completing activities such as lifting where you are within 2m of each other
- The mask used whilst driving can be used for the week, however if this becomes damaged or defective, a new one must be acquired

Manual Handling

Procedures will be put in place to ensure no operator will injure themselves attempting to lift anything heavy. This will include using mechanical support or reducing the weight of the material.

In addition, manual handling will also be included in toolbox talks where the operators will be shown how to lift materials and equipment correctly to avoid injury.

Slips Trips and Falls

All personnel on site will be wearing the appropriate footwear as stated in the PPE section.

All materials will be stored away and arranged safely. General housekeeping will always be maintained on site making the site tidier and less hazardous.

Further information regarding slips, trips and falls can be observed in the sites Health and Safety File.

Risk to the Public

The whole site will be surrounded by Harris fencing with a lock and chain attached to it. Only the operators and Site Supervisor will have the key. The site will always be locked unless it is to get access or leave the site.
The site to be well lit at all times.

Existing Services

Existing services have already been identified in plan (see appendix).
A CAT will be on site to trace the utilities if there is a suspicion of a utility main in proximity to the work.
If an excavation is required where a utility will be in proximity of the excavation, then the excavation will be carried out following safe digging practices e.g. toothless buckets.

Asbestos

If Asbestos is discovered during the work, the work in the area is to be suspended until the material has been removed by asbestos trained individuals.

Working at height

In order to work at height safely, the work will need to be properly planned, supervised and undertaken by competent people with the skills, knowledge and experience of working at heights.
The right type of equipment must also be used for working at height. This will be in accordance with the HSE,(2020) as stated below.

When working at height the following will need to be limited to limit the risk.

- Minimising the distance and consequence of a fall by using the correct equipment where the risk cannot be removed.
- Where work at height cannot be avoided, falls can be prevented by using an existing place of work that is already safe or the correct type of equipment.
- Avoid working at height if possible.

Examples of equipment that will be used to avoid working at height are temporary guardrails, scissor lifts and tower scaffolds

If working at height is the only option to do the work, then the following steps will be will need to be considered:

- Do as much work as possible on the ground
- Do ensure workers can get safety to and from where they work at height
- Do ensure that all the equipment us stable, suitable and sturdy enough for the job.
- Check equipment and maintain regularly and report any defects immediately.
- Provide protection from falling objects.
- Plan emergency evacuation and rescue procedures.

The following should undertaken and will increase the risk of injury

- Overload ladders.
- Overreaching on stepladders or ladders.
- Leaning a ladder on a weak upper surface.
- Use ladders for heavy or strenuous jobs.
- Let anyone who is not competent to work at height

Overhead Services
400KV and 275KV overhead swinging cables will be on site and clearance has been approved by the National Grid Any work that will occur near the overhead cables will need to be planned and managed so that the risks from accidental contact or proximity to the lines are controlled as per HSE (2020) manual. Safety can be ensured by a combination of measures such as • Planning and preparation. • Eliminating danger. • Controlling access. • Controlling work. The ensure the above, the following must be carried out to make it as safe as possible when working in proximity to overhead cables. • Allowing enough time so that the lines can be made dead or diverted when work is going to be in proximity to the cables. • Finding out if the work can be accomplished without getting close to the cables. • If work underneath live overhead power lines cannot be avoided, barriers, goal posts and warning notices should be provided at the correct distances from the overhead power cables. **Further information can be observed in the site's Health and Safety File.**

5. Legislation and Regulations

Health and Safety is fundamental in construction. In order to enable the Health, Safety and Wellbeing of all workers on each construction site, legislation must be adhered to and Health and Safety principles maintained. In the section below, the Health and Safety legislation that is relevant to the bridge project at Baglan Energy Park will be acknowledged, where the responsible person under the separate regulations will be identified. The information below was extracted from the Construction Design Management Regulations Procedures Manual, (2015).

5.1 CDM Regulations 2015

Twenty years after the original was published on 31st March 1995, the third version of the Construction (Design and Management) Regulations was and became part of the legislative framework of the Construction Industry. The Regulations aim to define how health and safety management in construction can be delivered effectively via a 'team-based' ethos, whilst recognising this is an industry that can be fragmented and is dynamic (HSE, 2015). All affected by the work outcomes of relevant industries should have a 'duty of care', prescriptive legislation should be avoided and a 'deemed to satisfy' approach based on 'management by objectives' should be established. The legal requirement of a risk assessed approach, essential in the development of the

identification of hazards and method statements in the workplace, was introduced in the Management of Health and Safety at Work Regulations (1992). Regulation 3 states that every employer shall make a suitable and sufficient assessment of:

"(a) the risks to the health and safety of his employees to which they are exposed whilst they are at work;" and

" (b) the risks to the health and safety of persons not in his employment arising out of or in connection with the conduct by him of his undertaking, for the purpose of identifying the measures he needs to take to comply with the requirements and prohibitions imposed upon him by or under the relevant statutory provisions and by Part II of the Fire Precautions (Workplace) Regulations 1997." (Summerhayes. D, 2016)

5.2 Duty holders

The 'Construction Professional' should have a good understanding of these Regulations, in relation to appreciating the roles undertaken by other team members as well as his or her own duties (Summerhayes. D, 2016). Within the project, in order for the management of health and safety to be effective, Duty holders must interact, and good communication and co-operation is vital. Duties to be carried out and roles such as Client, Designer and Contractor should be identified either formally or on an informal basis under CDM Regulations 2015 on all construction projects (Summerhayes. D, 2016). Irrespective of the cost or duration of a project, positions such as these carry statutory obligations. Summerhayes, (2016) states that the Client must identify the Principal Contractor and Designer and in writing if more than one contractor is involved on a project.

Client

The person for whom the project is being undertaken is the Client and this person exerts much influence, together with advice and guidance from a team of professional advisors. Vital to the success of the project is the support the Client will provide to the Principal Designer, whilst also recognising and understanding the role of the Principal Contractor (Summerhayes. D, 2016). The only duty holder whose capability, experience, knowledge and skills are not assessed is the Client. However, it is incumbent on Designers and Contractors to make sure Clients understand their duties fully (Summerhayes. D, 2016).

Designer

Summerhayes, (2016) notes that the Designer is the Client's professional advisor and is responsible for devising and/or amending the bridge's design and also provides other duty holders with information before construction commences in relation such areas as design concept, planning stages, to the delivery of the construction work. By effective planning, managing, monitoring and coordinating the health and safety matters at this stage, this will be achieved.

Contractor

The Contractor will undertake, manage and control the construction work, in the course of a business, either together will other Contractors or independently (Summerhayes. D, 2016). Under CDM Regulations 2015, the definition of Contractor ensures that a larger Contractor with a reservoir of operatives that are employed directly, and a Sole Operator are both defined as a single

Contractor. The Sole Contractor or Principal Contractor could be the author of the statutory 'construction phase plan' (HSE, 2015).

Principal Contractor

The Client must appoint in writing a Principal Contractor when there is more than one. All activities undertaken within the area of the construction site are the responsibility of and are managed by, the Principal Contractor (Summerhayes. D, 2016). Summerhayes, (2016) states that once the Principal Contractor is appointed, the Client cannot legally interfere with the management of the construction phase and the Principal Contractor retains control of the site. This control is vital and includes the planning of the construction phase, communication between the Client and Principal Designer, organisation of sub-contractors and-contractors, monitoring progress and consulting workers, ensuring welfare facilities provided are appropriate, ensuring toolbox talks and inductions are being undertaken and that Health, Safety and Wellbeing regulations are adhered to, including the security of the site.

Operators

The Contractors will be responsible for the control of Operators on site, whilst the Operators are responsible for maintenance of a safe working environment through adherence to rules and regulations on site. Operators must also ensure all work is carried out in a safe manner (HSE, 2015).

The Health and Safety Act provides information in relation to maintaining good site health and safety. Each duty holder has a responsibility to ensure adherence to all Health and Safety rules and regulations.

5.2. Health and Safety Legislation

Information below has been extracted from the HSE website and Health and Safety at work act 1992.

Slips and Trips

The most common causes of injuries at work are slips and trips. A third of all major injuries on average arise from slips and trips, whilst other accidents such as falls into machinery of from heights are a result of slips and trips (HSE, 2020).

Identification of the causes of slips/trips and any preventative action necessary is the responsibility of the Client, Principal Contractor, Contractors and CDM and when risks have been identified, they must be controlled Procedures in relation to slips and trips must be in accordance with the Health and Safety at Work etc Act 1974, Management of Health and Safety at Work Regulations 1999 and Workplace Regulations 1992 (HSE, 2020).

Manual Handling

In the workplace, Operators have to be protected from the risk of injury from the manual handling of hazardous items. The transporting or supporting of a load by bodily force or by hand is a definition

of manual handling, and can also involve moving loads through carrying, pushing, pulling, lifting and putting down (HSE, 2020).

The HSE (2020) states that Client, Principle Contractor, Contractor and CDM are responsible for ensuring:

- Hazardous manual handling is avoided as far as is possible.
- The risk of injury from hazardous manual handling activities that cannot be avoided is assessed.
- The risk of injury from hazardous manual handling is reduced to as low as reasonably possible. Although the law does not define specific weights, the weight of a load is important.

PPE

The provision and utilisation of Personal Protective Equipment (PPE)at work is the responsibility of the Client, the Principal Contractor, Contractors and the CDM team.

The Personal Protective Equipment Regulations 2016/425 is the legislation that details the supply of personal protective equipment and is enforced by the Personal Protective Equipment Regulations 2018. HSE is the enforcing authority for the supply of PPE designed for use at work. The Personal Protective Equipment at Work Regulations 1992 is the legislation relating to the use of personal protective equipment (HSE, 2020).

6. Method Statement

Maesteg Engineering Ltd.

7 Talbot Street, Maesteg

Bridgend

CF34 9GB

01656 736360

www.queries@maestegengltc.com

Written by: Aled Evans

Date: 03/11/2020

Project: Linking two sides of Baglan Energy Park, Port Talbot.

Site address:

The Quays,

Brunel Wat

Baglan Energy Park,

Neath,

SA11 2GG

Date of works: 06th May 2021 – May 2022

Description of activity

Building a new bridge to link two sides of Baglan Energy Park.

The project involves planning, liaising, installing and building the following:

Road Restraint System Parapet

- H4a reinforced concrete.

- Parapet is to be 1.5m high (above footway).

Safety Fence

- Safety barrier is to be provided on the verge (more details on drawing).

Carriageway

- Carriageway is to be 7.3m wide to provide one lane in each direction
- Gradient on Carriageway to be 1inch.

Footway/Cycleway

- 3m wide combined footway / cycleway is to be provided on one side of the carriageway.
- A 1m wide maintenance strip is to be provided on the other side.

Deck

- Bridge deck is to be reinforced concrete on steel beams
- Beams are to be painted Gainsborough blue.

Abutments/Piers

- Reinforced concrete abutments and piers, with smooth F4 finish to all exposed faces.

Foundations

- Foundations are to be piled. Piles will need to be bored reinforced concrete - piles cannot be driven due to proximity to gas main.

Embankment

- Embankment slopes to be 1:2. For details of planting see landscaping drawing.

Drainage

- Drainage over the structure is to be provided by kerb drainage system.

Fencing

- No new fences will be provided as a result of the scheme.

Overhead lines

- Clearance to overhead lines has been approved by National Grid. The lines are presently operating at 275kV. National Grid have permission to upgrade the lines to 400kV - clearance for 400kV has been provided.

Access on-site to be after hours between 11pm-4am.

Supervision and personnel

- Mr. A. Evans – 07710177542
- Mr. D. Davies - 07827252545
- Mr. G. Johnson - 07945 443321
- Mr. D. Berry - 07778764532
- Mr. P. Jones – 01656 653387
- Mr. M. Davies - 07976 973456
- Operators: x20

Training

All operatives are adequately trained to carry out required tasks.

All site operatives hold current certification and have the following training:

- Plant and Equipment training and training on how to accomplish equipment and plant checks properly such as LOLER, PUWER and HAVS.
- Fire Safety Training
- Working at heights training
- First Aid (Number is dependent on how many operators are on site).
- Risk Management.
- Manual Handling
- COSHH

Legislation

- Health and Safety Work Act 1974
- The Management of Health and Safety at Work Regulations 2006
- Workplace (Health, Safety and Welfare) Regulations 1992
- The Control of Asbestos Regulations 2012
- Provision and Use of Work Equipment Regulations (PUWER) 1998
- Lifting Operations and Lifting Equipment Regulations (LOLER) 1998
- Control of Substances Hazardous to Health Regulations 2002
- The Work at Height Regulations 2005
- The Personal Protective Equipment at Work Regulations 2002
- The Manual Handling Operations Regulations 1992
- The Construction (Design and Management) Regulations 2015
- Control of Noise at Work Regulations 2005

Working at height

In order to ensure that there is always a safe and clear working area that can help prevent falls and slips, operatives on site must ensure that the working area is cleared regularly. Work at height must be effectively planned, supervised and undertaken by operatives who are competent and possess the skills, knowledge and experience of working at heights and using the correct equipment (HSE, 2020). If an operator is working on an edge from which a fall more than 2 metre could occur, when working at height cannot be avoided, control measures must be applied. To make working at height as safe as possible, a combination of measures should be implemented as stated by the working at height regulations, (2005) below;

- If work can be undertaken without working at height, then it should be, so a risk does not have to be taken.
- Minimise the consequence and distance of a fall.
- Install a fall prevention device such as an elevating platform or scaffold, including a guard rail.
- If no work is being undertaken in the area. all manholes should be appropriately covered.
- Tested and approved safety harnesses should be worn by all operators working at height. Each individual should have their own safety harness.
- All equipment required to be used at the height will be mechanically elevated to the fall prevention device.

All work undertaken will be in accordance with the Work at Height Regulations 2005. Additionally, the work equipment will be installed according to the manufacturer's instructions and in keeping with the guidelines set by the Work at Height Regulations 2005. Once the equipment has been installed, the equipment will not be used until it has been inspected and tested by a trained and competent person. All operatives on site will be notified when the examination of the equipment has taken place.

The use of chemicals and substances on site and the Control of Substances Hazardous of Health (COSHH)

A register will be required, detailing information about the harmful substances that will be used, if less harmful substances cannot be utilised in place of harmful substances A task specific COSHH Assessment should be completed and a Material Data Sheet issued, for each hazardous process or substance identified and should be maintained in the site office. Evidence must be provided that the findings of each COSHH Assessment has been communicated to all operatives and those affected by the use when using hazardous substances and the records maintained in the project office (HSE, 2013). The company will have completed COSHH Assessments for the usual site activities and these will included in the site's Health and Safety. Further COSHH Assessments should be carried out by trained personnel for any additional substances used (HSE, 2013). The HSE, (2013) states that all operatives would have had received training on how to handle the substances prior to working with

them and trained personnel only will be authorised to handle them. All work will be in accordance with the Control of Substances Hazardous to Health Regulations, (2002).

Drilling and Excavation

All excavation works will be undertaken using PAT tested equipment. In order to trace out the locations of any utilities present on site, a Cat and Genny will be used prior to any excavation work. If a utility is in the proximity of the excavation, then safe digging practices will be used and toothless buckets will be installed on diggers, incorporating dust, noise and vibration. In order to undertake digging and excavation safely, all operator will have the correct PPE. This includes the correct gloves to protect from vibration and Respiratory Protective Equipment (RPE) when working with dust. Using dust suppression systems to control at source where possible, dust levels are to be kept to a minimum. However, RPE will always be used when the generation of dust is likely to occur.

To make best use of natural light, excavation work will be undertaken during daylight hours and this will also help to avoid noise pollution during unsociable hours. The work on site will adhere to the Control of Noise at Work Regulations, (2005).

7. Risk Assessments.

Risk assessments for the three works identified are recorded below.

Activity to be Assessed	Assessment Number
Working at Height	000351

Persons undertaking or affected by the activity

[X] Employees [X] Contractor [ ] Public [ ] Service User

[ ] Other …….

	Identified Hazards and Associated Risks	Likelihood	Severity	Risk Level
1	Falling from height – Death	3	5	15
2	Unstable surface – slips, trips and falls	3	3	15
3	Proximity to Electricity Services – Electric Shock	3	5	15
4	Wet / Windy weather – poor vision/less stability; risk of falls	3	5	15
5	Overhead obstructions – risk of banging head against an obstruction	3	3	9
6	People working from above – falling objects	3	3	9

	Existing Control Measures / Additional Control Measures Required
1	Only work at height if there is no other option. If there is no other option a fall prevention device such as a scaffold or an elevating platform will be erected. Cherry pickers will also be used if the task at height required one person and is only a small job. A guard rail will also be installed on the fall prevention device.
2	A fall arrest system will be implemented on site, where each operator will their own specific safety harness. In addition, a safety net will be installed underneath the location of work.
3	Weather monitoring will be undertaken and no working at height will take place in wet or windy conditions
4	If an electric cable is in proximity to the location of work, then the Electricity Supplier can be contacted and requested to isolate or lower the voltage of the cable for the duration of the work.
5	Full PPE to be worn when working at height. This includes appropriate footwear with strong grips underneath and a hard hat all times.
6	Site to be always kept clean and tidy. Only bring the necessary equipment when working at height.

	Reassessment of Activity Hazards	Likelihood	Severity	Risk Level
1	Falling from height – Death	1	5	5
2	Unstable surface – slips, trips and falls	2	3	6
3	Proximity to Electricity Services – Electric Shock	1	5	5
4	Wet / Windy weather – poor vision/less stability; risk of falls.	1	5	5
5	Overhead obstructions – risk of banging head against an obstruction	3	1	3
6	People working from above – falling objects	3	1	3

Name : Aled Evans Position : Principal Contractor	Signed A.Evans	Date of Completion: 10/11/2020

Reviews	Key	

Review Date:	Likelihood	Severity	Severity of Injury	5	5Y	10R	15	20	25
Reviewed by:	1 very unlikely 2 unlikely 3 likely 4 very likely 5 certainty	1 nuisance 2 minor 3 medical treatment 4 major 5 fatal		4	4	8	12	16	20
Review Date :				3	3	6G	9	12	15
Reviewed by:				2	2	4	6Y	8	10Y
Review Date :				1	1	2	3	4	5G
Reviewed by:				0	1	2	3	4	5
Review Date :					Likelihood of Injury				
Reviewed by:			Low Risk		Medium Risk		High Risk		

Activity to be Assessed	Assessment Number
COSHH	00352

Persons undertaking or affected by the activity

[X] Employees [X] Contractor [X] Public [ ] Service User

[ ] Other ……

	Identified Hazards and Associated Risks	Likelihood	Severity	Risk Level
1	Inhaling substances causing asthma	5	3	15
2	Contact with the substances can cause dermatitis, rashes or burns.	5	3	15
3	Loss of consciousness/death	3	5	15
4	Loss of sight / Blindness	3	4	12
5	Cancer	3	5	15
6	Viral Infection	4	3	12

	Existing Control Measures / Additional Control Measures Required
1	The correct and relevant PPE and RPE to be worn when dealing with substances that are hazardous to health. This includes wearing impervious gloves when handling the substances and wearing the appropriate masks, glasses and goggles when near the substances. Site operators to also wash hands after work and prior to eating. Eye wash stations to also be situated around the site.
2	Adhere to the EH40/2005 Workplace exposure limits at all times.
3	Ensure that the area of work where there is a likelihood of exposure to hazardous substances to be well ventilated. This includes managing confined spaces correctly, where a confined space is vented correctly and a gas monitor is used before and when entering/working in a confined space. All generators used on site to be placed as far as possible from the work to avoid workers getting into contact with any fumes. Wind direction and work proximity must also be considered.
4	All substances on site to be stored correctly and labelled. For example, store hazardous substances in fume cupboards to keep any fumes escaping from the container in the cupboard. All hazardous substances should also be stored on the lowest shelves to avoid disruption if a spillage occurs.
5	Do not put hands or any other body part in places where they cannot be seen.
6	All relevant personnel to receive the correct training on COSHH. COSHH assessments to be always stored on site in the Health and Safety File.

	Reassessment of Activity Hazards	Likelihood	Severity	Risk Level
1	Inhaling substances causing asthma	1	3	3
2	Contact with the substances can cause dermatitis, rashes or burns.	1	3	3
3	Loss of consciousness/death	1	5	5
4	Loss of sight / Blindness	1	4	4
5	Cancer	1	5	5
6	Viral Infection	2	3	6

Name: Aled Evans Position: Principal Contractor	Signed A.Evans	Date of Completion: 10/11/2020

Reviews	Key								
Review Date:	Likelihood	Severity	Severity of	5	5Y	10R	15	20	25
Reviewed by:		1 nuisance		4	4	8	12	16	20
Review Date :		2 minor		3	3	6G	9	12	15

Reviewed by:	1 very unlikely	3 medical treatment		2	2	4	6Y	8	10Y
Review Date :		4 major		1	1	2	3	4	5G
Reviewed by:	2 unlikely	5 fatal		0	1	2	3	4	5
Review Date :	3 likely				Likelihood of Injury				
Reviewed by:	4 very likely 5 certainty		Low Risk		Medium Risk		High Risk		

Activity to be Assessed	Assessment Number
Working in an excavation and creating an excavation.	00353

Persons undertaking or affected by the activity

[X] Employees [X] Contractor [ ] Public [ ] Service User

[ ] Other …….

	Identified Hazards and Associated Risks	Likelihood	Severity	Risk Level
1	Falling of materials	3	5	15
2	Excavation collapse could be caused by undermining of nearby structures.	3	5	15
3	Inhalation of dust	3	3	9
4	Damage to underground services causing explosion, electrocution, gas escape or flooding.	3	5	15
5	People falling into excavation.	3	5	15
6	Flooding caused by an ingress of water	3	5	15

	Existing Control Measures / Additional Control Measures Required
1	All excavated spoil, plant or materials will not be stored in proximity to the sides of excavations as loose material can fall in. All spoil that has been excavated will be stored at least 1.5 metres away from the edge of excavation. Only necessary items will remain close to the excavation and the number of tools and plant that will remain in proximity to the excavation will be kept at a minimal.
2	Utility and service plans will be utilised to understand the whereabouts of underground services, which should be marked on the ground and where practicable, digging should take place as far as possible from them. A CAT and Genny will be used prior to and during the excavation work. Great care will be taken to ensure that mechanical means of digging are not used within 0.5 metres of underground services. A toothless bucket will also be used to avoid going through these utilities and services and hand tools be used when in proximity to the utilities. Once services are located and exposed, they will be supported. The utilities discovered will be permanently marked using appropriate tapes and by placing permanent markers above the ground, indicating the service type, depth, route etc.
3	All operators to wear the correct PPE, RPE and equipment when drilling and creating the excavation. This includes safety steel toe capped boots, high vis, work trousers (no shorts), hand protection, safety helmet, safety spectacles and ear defenders. All equipment to be PAT tested, approved and labelled before any work starting.
4	Excavation to have appropriate barriers around it always with the correct signage and guards at all times. Only authorised personnel to be in the area of the excavation. If work is being undertaken in the excavation, a banksman will always be present. No lone working is permitted when working in the excavation.
5	Ground conditions to be assessed from initial trial dig. Trench support will be installed if required. This includes sheeting and proprietary support systems. All operators who will be carrying out excavation work will have had the correct and appropriate training and deemed competent for working in excavations. Clear instruction will be set out prior to the excavation work.

6	A pump will be readily available near the excavation to use to take care of any flooding. It will be ensure that outflow from the pump does cause flooding elsewhere.

Reassessment of Activity Hazards		Likelihood	Severity	Risk Level
1	Falling of materials.	1	5	5
2	Excavation collapse could be caused by undermining of nearby structures.	1	5	5
3	Inhalation of dust.	1	3	3
4	Damage to underground services causing explosion, electrocution, gas escape or flooding.	1	5	5
5	People falling into excavation.	1	5	5
6	Flooding caused by an ingress of water	1	5	5

Name: Aled Evans Position: Principal Contractor	Signed A.Evans	Date of Completion: 10/11/20

Reviews	Key	
Review Date:	Likelihood	Severity
Reviewed by:	1 very unlikely	1 nuisance
Review Date :		2 minor
Reviewed by:	2 unlikely	3 medical treatment
Review Date :	3 likely	
Reviewed by:	4 very likely	4 major
Review Date :	5 certainty	5 fatal
Reviewed by:		

Severity of Injury					
5	5Y	10R	15	20	25
4	4	8	12	16	20
3	3	6G	9	12	15
2	2	4	6Y	8	10Y
1	1	2	3	4	5G
0	1	2	3	4	5
	Likelihood of Injury				

	Low Risk		Medium Risk		High Risk

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