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Risk Assessment

Community Centre

8 -16 Park Grove, Manchester M19 3AQ

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1.0 Introduction

The Design 4 Build Services has carried out this risk assessment for the community centre at Park Grove Manchester. Currently the premises is used as a mosque. It is proposed to demolish the existing building structure and erect a 2-storey structure with dome on the top storey.

1.1 How to do Risk Assessment?

The Design 4 Build Services engineer has followed the instructions mentioned on website www.hse.gov.uk/simple-health-safety/risk/ in identification the hazards and risks, he:

- Walked around the existing centre, noting the activities that might pose a risk and base on HSE's construction guidelines.
- Discussed the issues with the expected builder about the worker's health and safety concerns.
- Discussed the issues with builder's labour to learn from their detailed knowledge.
- looked at the accident books to gather the information on past problems.
- The engineer made the notes, who could be harmed by the hazards and how?

The engineer then noted what was already being done on site to control the risks and recorded any further actions required.

The engineer discussed the findings with the builder and gave copies of notes related with health and safety measures to builder.

The engineer will review the risk assessment whenever there are any significant changes, such as new work equipment, work activities or workers on site.

2.0 Managing Risks and Risk Assessment at Work

Managing health and safety at work is an integral part of managing construction business. The need to do a risk assessment and to find out about the risks at workplace, put sensible measures in place to control them, and make sure they stay controlled is the expertise which a project engineer should have.

2. 1 Steps Required to Manage Risk

Risk management is a step-by-step process for controlling health and safety risks caused by hazards on the workplace.

This report base on 5 points as following:

- a. Identify hazards
- b. Assess the risks
- c. Control the risks
- d. Record the findings
- e. Review the controls

2.2 Identify Hazards

Look around your workplace and think about what may cause harm (these are called hazards). Think about:

- how people work and how plant and equipment are used?
- what chemicals and substances are used?
- what safe or unsafe work practices exist on site?
- the overall view of the premises in terms of health and safety

Look back at your accident and ill health records as these can help you identify less obvious hazards. Take account of non-routine operations, such as maintenance, cleaning, or changes in production cycles.

Think about hazards to health, such as manual handling, use of chemicals and causes of work-related stress.

For each hazard, think about how employees, contractors, visitors or members of the public might be harmed.

- Some workers have particular requirements, for example young workers, migrant workers, new or expectant mothers and people with disabilities.
- Talk to workers
- Involve your employees as they will usually have good ideas.
- Assess the risks

Once identified the hazards, decide how likely it is that someone could be harmed and how serious it could be.

2.3 Assessing the Risk

The level of assessing the risk base on to decide:

- Who might be harmed and how?
- What you're already doing to control the risks?
- What further action you need to take to control the risks?
- Who needs to carry out the action?
- When is the action needed by?
- Can I get rid of the hazard altogether?
- If not, how can I control the risks so that harm is unlikely?

2.4 Review the Controls

If you need further controls, consider:

- Re-designing the job.
- replacing the materials, machinery, or process.
- organizing your work to reduce exposure to the materials, machinery, or process.
- identifying and implementing practical measures needed to work safely.
- providing personal protective equipment and making sure workers wear it.
- Put the controls you have identified in place. You're not expected to eliminate all risks, but you need to do everything 'reasonably practicable' to protect people from harm. This means balancing the level of risk against the measures needed to control the real risk in terms of money, time or trouble.

You must review the controls you have put in place to make sure they are working.

You should also review them if:

- they may no longer be effective
- there are changes in the workplace that could lead to new risks such as changes to:
 - staff

- a process
- the substances or equipment used
- Also consider a review if your workers have spotted any problems or there have been any accidents or near misses.
- Update your risk assessment record with any changes you make.

3.0 Choose whichever topics are relevant to your workplace

3.1 Electricity

Electricity can kill or severely injure people and cause damage to property. However, you can take simple precautions when working with or near electricity and electrical equipment to significantly reduce the risk of injury to you, your workers, and others around you.

3.2 Fire Safety

Most fires are preventable, and those responsible for workplaces and other buildings to which the public have access can avoid them by taking responsibility for and adopting the right behaviours and procedures. There is a danger of fire, explosion, gas leaks and carbon monoxide (CO) poisoning, from gas appliances and the gas supply itself if they are not properly installed and maintained.

3.3 Harmful substances

Many materials or substances used or created at work could harm the health. These substances could be dusts, gases, or fumes that you breathe in, or liquids, gels or powders that come into contact with your eyes or skin. You can find advice on controlling these harmful substances, such as asbestos and lead in the Machinery, plant

3.4 Machinery Plant and Equipment

This covers the different aspects of using machinery and maintaining plant and equipment in the workplace. Employers should consider not only how their workers use machinery but how they ensure that they have adequate maintenance

arrangements in place to make sure these are safe to use.

3.5 Manual Handling

Manual handling causes over a third of all workplace injuries. These include work-related musculoskeletal disorders (MSDs) such as pain and injuries to arms, legs and joints, and repetitive strain injuries of various sorts.

3.6 Noise

Loud noise at work can damage your hearing. This usually happens gradually, and it may only be when the damage caused by noise combines with hearing loss due to ageing that people realise how impaired their hearing has become.

3.7 Personal Protective Equipment

Employers have duties concerning the provision and use of personal protective equipment (PPE) at work. PPE is equipment that will protect the user against health or safety risks at work. It can include items such as safety helmets, gloves, eye protection, high-visibility clothing, safety footwear and safety harnesses. It also includes respiratory protective equipment (RPE).

3.8 Pressure Equipment

Many types of pressure equipment can be potentially hazardous, and these include steam boilers and associated pipework, pressurised hot-water boilers, air compressors, air receivers and associated pipework, autoclaves, gas (e.g., LPG) storage tanks and chemical reaction vessels.

3.9 Radiation

Every day in the UK, all manners of radiation types are used in a diverse range of industrial, medical, research and communications applications. Some of these applications cause harmful exposure risks that must be effectively controlled.

3.10 Slips and Trips

Most slips occur when floors become wet or contaminated and many trips are due

to poor housekeeping. The solutions are often simple and cost-effective, and a basic assessment of the risks should help to identify any slip or trip hazards in your workplace.

3.11 HAV

Hand-arm vibration (HAV) is vibration transmitted during work into hands and arms. It can be caused by operating handheld power tools, such as road breakers, and hand guided equipment, such as powered lawn-mowers, or by holding materials being processed by machines, such as pedestal grinders. Occasional exposure is unlikely to cause ill health.

3.12 Working at Height

Working at height remains one of the biggest causes of fatalities and major injuries. Common cases include falls from ladders and through fragile surfaces. 'Work at height' means work in any place where, if there were no precautions in place, a person could fall a distance liable to cause personal injury (for example a fall through a fragile roof).

3.13 Working in Confined Spaces

A confined space is one which is both enclosed and has a reasonably foreseeable risk to workers of fire, explosion, asphyxiation, or drowning.

It may be small and restrictive for the worker, or it could be far larger such as a grain storage silo with hundreds of cubic metre capacity.

3.14 Workplace Transport

Every year, there are accidents involving transport in the workplace, some of which result in people being killed.

People are knocked down, run over, or crushed against fixed parts by vehicles (e.g. HGVs, lift trucks and tractors), plant and trailers. People also fall from vehicles whether getting on or off, working at height, or when loading or unloading.

4.0 Major Risks in construction projects and how to avoid them

An in-depth academic study of risks in construction projects has identified ten key areas where building projects can be significantly derailed.

1. Design risks
2. Design errors and omissions
3. The design process takes longer than anticipated
4. Stakeholders request late changes
5. Failure to carry out the works in accordance with the contract
6. External risks
7. New stakeholders emerge and request changes
8. Public objections
9. Laws and local standards change
10. Tax change

The study showed that from the factors described above, design errors and design process delays, were the most frequently mentioned risk factors. Respondents also believed that these risk events were most responsible for the poor quality of work, delays, and associated losses.

5.0 Who needs to conduct a Risk Assessment?

By law, every employer must conduct risk assessments on the work their employees do. If the company or organization employs more than five employees, then the results should be recorded with details of any groups of employees particularly at risk such as older, younger, pregnant, or disabled employees.

Risk assessments should be simple to conduct, following a process that includes:

- looking for and listing the risks to health and safety
- deciding who might be harmed and how
- checking that protective measures are effective
- evaluating the risks arising from the hazards and deciding whether existing precautions are adequate
- recording the findings

Reviewing the assessment from time to time and revising it when required, particularly if the building is refurbished, moved, or when there is a change in staffing.

The classifications of construction trades used here are those used in almost every country of the world. It includes the construction trades as classified in the Standard Occupational Classification system. This system classifies the trades by the principal skills inherent in the trade.

Occupations	Hazards
Brick masons	Cement dermatitis, awkward postures, heavy loads
Stonemasons	Cement dermatitis, awkward postures, heavy loads
Hard tile setters	Vapour from bonding agents, dermatitis, awkward postures
Carpenters	Wood dust, heavy loads, repetitive motion
Drywall installers	Plaster dust, walking on stilts, heavy loads, awkward postures
Electricians	Heavy metals in solder fumes, awkward posture, heavy loads
Electrical power installers and repairers	Heavy metals in solder fumes, heavy loads
Painters	Solvent vapours, toxic metals in pigments, paint additives
Plasterers	Dermatitis, awkward postures
Plumbers	Lead fumes and particles, welding fumes

Pipefitters	Lead fumes and particles, welding fumes
Steamfitters	Welding fumes
Carpet layers	Knee trauma, awkward postures, glue and glue vapour
Soft tile installers	Bonding agents
Concrete and terrazzo finishers	Awkward postures

Glaziers	Awkward postures
Insulation workers	Synthetic fibres, awkward postures
Paving, surfacing and tamping equipment operators	Asphalt emissions, gasoline and diesel engine exhaust, heat
Rail- and track-laying equipment operators	Silica dust, heat
Roofers	Roofing tar, heat, working at heights
Sheet metal duct installers	Awkward postures, heavy loads, noise
Structural metal installers	Awkward postures, heavy loads, working at heights
Welders	Welding emissions
Soldiers	Metal fumes, lead, cadmium
Drillers, earth, rock	Silica dust, whole-body vibration, noise
Air hammer operators	Noise, whole-body vibration, silica dust
Pile driving operators	Noise, whole-body vibration
Hoist and winch operators	Noise, lubricating oil
Crane and tower operators	Stress, isolation
Excavating and loading machine operators	Silica dust, histoplasmosis, whole-body vibration, heat stress, noise
Grader, dozer and scraper operators	Silica dust, whole-body vibration, heat
Highway and street construction workers	Asphalt emissions, heat, diesel engine exhaust
Truck and tractor equipment	Whole-body vibration, diesel engine
Demolition workers	Lead, dust, noise
Hazardous waste workers	Heat, stress

5.1 Risk Register

A Risk register help the employer to identify the hazard and take the measures to control.

Task/Activity	Period/Work Stage	Hazard	Design Control Measures Taken
Construction Access	Action Required	Construction Traffic and pedestrians. Visitors to and from site and staffing routines	Isolate and secure construction route. Establish route into site area; use appropriate warning signage for plant and vehicle routes. Secure / maintain all site areas within Heras fencing and appropriate warning signage temporary route for staff to be established
Construction site establishment for Contractors / school staff and all pedestrians on foot. Defined routes for drop off and collection points.	Pre Construction Information	Live site – danger to school.	Isolate and secure construction route. Use trained banks person
Deliveries to site	General	Lifting (Muscular)	Use good manual handling techniques
Materials on site	General	Cutting	Use appropriate PPE equipment / trained operatives
Power tools / Electrical	General	Electrocution	Use 110v on site only / Check equipment before use
Removal of existing doors	General	Lifting (muscular)	Use good manual handling techniques
Window works	Removal of existing windows	Working at heights, Falls falling materials, lifting, maintenance, hot works	Provision and maintain scaffold / edge protection. Provide fall arrest harness. Wear PPE. Provide hoists Safe high level working practices, undertaken by specialist contractors

Fire access and evacuation	Include item within H and S file	Escape and fire engine access	Safety design and procedures. Assembly point
Asbestos Removal	First Operation	Working at height and asbestos exposure	Safe access capability by Design and correct removal and disposal of asbestos contained material

Research has identified the following hazards, their harm and actions to be taken when occurred.

What are the hazards?	Who might be harmed and how?	What are you already doing to control the risks?	What further action do you need to take to control the risks?	Who needs to carry out the action?
Slips, trips and falls	All staff may suffer sprains or fractures if they trip over debris or slip-on spillages.	Flooring kept dry and quality maintained. All staff trained to maintain good housekeeping standards and ensure stock does not project into gangways. Cleaner empties bins and removes loose debris daily. Pallets stored safely in designated area. Protective non-slip footwear supplied and worn.	Suitable absorber to be made available for liquid spills.	Supervisor
			Staff to be trained to clean and dry any spillages immediately.	Supervisor
			Extra bins to be provided for waste material near loading bays.	Manager

What are the hazards?	Who might be harmed and how?	What are you already doing to control the risks?	What further action you need to take to control the risks?
Operation of lift trucks	Serious injuries or fatalities can be caused by: - the vehicle crashing into other vehicles and/or other objects; - staff and visitors being hit by lift trucks; - objects falling from lift trucks onto staff and visitors; - lift trucks toppling over; - people falling from the vehicle or parts of the vehicle; and - being crushed by the mast.	All operators trained and competent to use lift truck. Trucks serviced regularly and examined by suppliers every six months. Drivers instructed to keep keys with them at all times. System in place for refresher training of drivers. Gangways and aisles big enough for lift trucks to load and unload from the racking safely. System in place to separate vehicles and pedestrians. Access to warehouse restricted to staff. Floor condition maintained on a regular basis, housekeeping standards maintained by cleaner and workforce. Warning signs located around the traffic route. Trucks have seat belts and roll cages.	Supervisor to ensure truck drivers check trucks each day before starting.
			Separate pedestrian entrance(s) with protective barrier rail to be provided next to roller-shutter doors.
			Housekeeping standards and floor condition to be covered by a monthly inspection by manager and brief record kept.
			Strict requirement that only competent drivers may operate lift trucks to be explained to all staff. Disciplinary action to be taken against anyone involved in breaking

What are the hazards?	Who might be harmed and how?	What are you already doing to control the risks?	What further action do you need to take to control the risks?
Traffic movements (deliveries etc)	Injuries such as fractures or even fatalities can be caused by: staff and visitors being hit by vehicle; people falling from a vehicle or parts of a vehicle; and objects falling from vehicle onto staff and visitors.	Floor and traffic routes suitable for the vehicles using them. Vehicle routes kept free of obstructions (with spillages being cleaned up promptly). Parking of cars and vans only allowed in marked spaces, well away from external delivery/dispatch area. Outside area gritted when frosty, snow cleared. Sensible speed limits imposed and kept to. Adequate signage to warn of hazards. Reversing of delivery vehicles avoided unless absolutely necessary. Any reversing that is necessary should be overseen by a trained reversing assistant (banksman).	Anyone working in the vicinity of moving vehicles should be given training and high-visibility clothing.

What are the hazards?	Who might be harmed and how?	What are you already doing to control the risks?	What further action do	Who needs to carry out
Stretch-wrap machine	Staff using the machine. Moving parts can trap fingers, hands, arms etc, causing crush injuries. The whole body may also get trapped between moving pallet load and fixed structure. Staff can also be cut by sharp edges or scalded by hot parts.	Machine is relatively new and instructions show it meets the relevant guarding standard. Only standard palletised loads wrapped. Emergency stop button provided. Fixed guards on moving parts. Mechanical parts maintained regularly. Staff trained to use correctly.	Keep area around machine unobstructed	Machine operators
			Indicate area around machine using	Machine operators
			Weekly check on guarding and condition of machine.	Machine operators
Conveyor belt for unloading from lorries	As above, particularly where the belt meets rollers.	Guards provided for moving parts. Conveyor instructions show it meets guarding standards. Emergency stop button	Weekly check on guarding and condition of conveyor.	Supervisor
Portable electrical equipment Rest area: industrial cleaner, kettle and heater	All staff could receive potentially fatal electrical shocks or burns if they use faulty electrical equipment.	Fixed electrical installations are maintained to a suitable standard and inspected every five years.	Manager to arrange and record the six-monthly inspection	Manager
			Instruct staff to report faults	Manager and supervisor

What are the hazards?	Who might be harmed and how?	What are you already doing to control the risks?	What further action do you need to take	Who needs to carry out
Fire Bulk storage of easily burnt materials Ignited through electrical fault, battery recharging etc	If trapped in the warehouse, all staff and visitors could suffer from smoke inhalation or burns which could potentially kill.	Building designed with fire-resisting materials. Exits/fire exits marked and kept clear. Fire extinguishers well located. Clear access kept at all times to all exits and fire extinguishers. Fire detection and alarm system. Each fire alarm point displays evacuation procedures. Maintenance contracts for extinguishers and detection/alarm system. Annual fire drill and training in correct use of extinguisher. Cleaner ensures no debris	Talk to insurer about providing automatically closing, roller-shutter doors linked to the fire alarm.	Manager
Hazardous substances Vehicle exhaust fumes Bleach and cleaning fluids Recharging of forklift truck batteries – potential explosion through release of	Fumes may irritate eyes, cause respiratory irritation. May irritate cleaner's skin, or vapour cause eye irritation breathing difficulties. Burns or fractures from material ejected could affect any worker	Only few vehicles delivering so exposure is limited, which prevents build-up of fumes. Drivers not allowed to leave engines running. Roller-shutter doors and windows kept open, to Cleaner told safe procedures. Rubber gloves used. First-aid facilities (including eye wash) are readily Batteries charged in designated bay that is well ventilated. Safe system of work used which includes provision and use of	No further action required. Investigate availability of safer alternatives for cleaner. Supervisor to monitor and ensure protective equipment is being worn.	Supervisor Supervisor

What are the hazards?	Who might be harmed and how?	What are you already doing to control the risks?	What further action do
hydrogen, spillage of acid	nearby.	goggles and gloves. Potential sources of ignition controlled.	
Lighting	Poor lighting is likely to result in higher levels of work error and accidents.	Good quality lighting provided throughout the warehouse. Stacking of materials in warehouse on top of racking is restricted to avoid blocking light and creating shadows. Cleaner checks that light units are operating and are replaced by electrician when necessary.	No further action required.
Hygiene/comfort	All staff could suffer varied discomfort, eg being too hot/cold.	Heated rest area provided with hot and cold water. Area kept clean. Lockers available for staff members' belongings. Toilets a short walk away, cleaned daily.	No further action required.

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6.0 Conclusion

The author of this report has identified the hazards on site as above and the protective measures. The builder is responsible to take the required action before the start of work, considering:

- What are the hazards?
- Who might be harmed and how?
- What are we already doing?
- What further action is necessary?

and keeping the safety measures on site, first.