



PROFESSIONAL BUILDING SERVICES & ENERGY REDUCTION CONSULTANTS

DESIGN RISK ASSESSMENT

*Emergency Works Scheme 2026 – Electrical & Life
Safety Upgrade Works*

*Templemore College of Further Education,
Richmond, Templemore, Co. Tipperary*

Mechanical & Electrical Design Risk Assessment

INTRODUCTION

Under the Safety, Health and Welfare at Work (Construction) Regulations 2013 to 2021, the duties of the designer extend to the following:

- Taking account of the Health & Safety Plan and Safety File,
- Providing in writing all relevant information necessary to the Project Supervisor for the Design Process (PSDP), so as the project supervisor can carry out his / her duties as per the regulations,
- Co-operating with other designers, the PSDP and the Project Supervisor for the Construction Stage (PSCS) to enable them to comply with the regulations,
- Providing all information known to the PSDP regarding particular risks to safety, health and welfare of persons at work,
- Identify any hazards that a design may present during the construction stage and subsequent maintenance and where possible eliminate,
- Providing information to the appropriate contractor if no project supervisor has been assigned,

DISCLAIMER

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Mechanical & Electrical Design Risk Assessment

PROJECT DESCRIPTION

The site is the existing Templemore College of Further Education Richmond, Templemore, Co. Tipperary, which is easily accessible from the road. The contractor however shall allow for areas of the school being in operation during the works and is to allow for phasing of the works to ensure there is no interruption to servicing the school.

Please refer to the accompanying drawings and specification documents for full details of the proposed works.

Electrical Services Installation Works

The proposed works comprise upgrade works to the existing electrical and life safety systems within the existing building (Templemore College of Further Education, Richmond, Templemore, Co. Tipperary)

The works entail:

- Disconnection /removal of the existing Main and Sub Distribution Boards.
- New Main Distribution Board, Sub Distribution Boards and associated sub-main cabling.
- Installation of new electrical containment systems, including cable tray and trunking.
- Replacement of the fire detection and alarm system in accordance with I.S. 3218:2024.
- Replacement of the existing emergency lighting system in accordance with I.S. 3217:2023.
- Associated alterations to existing distribution and small power installations to facilitate.
- Associated interfacing works to retained building services
- Earthing and bonding upgrades associated with the electrical installation works.
- Testing, commissioning, certification and demonstration of all new electrical installations.
- All associated builders' works, making good and fire stopping required

General Construction Notes:

The Contractor shall review all relevant tender documentation, drawings, specifications, existing record information and available Safety File documentation prior to commencing the works, and liaise with the Employer's Representative where necessary. Existing electrical installations and concealed services shall be identified and verified before any drilling, cutting, containment installation or demolition works are undertaken.

The Contractor shall note that the works are to be carried out within an operational Further Education College. Although the majority of the works are intended to be undertaken during the summer period, parts of the building may remain occupied and the works shall be planned and phased accordingly. Prior to any disconnection, stripping out or intrusive works, the Contractor shall review the asbestos register and Safety File, implement appropriate isolation procedures and maintain all necessary temporary life safety and essential building services throughout the construction period.

THE PRINCIPLES OF PREVENTION:

Regulation 15(1) of S.I. No. 291 of 2013 states that all designers must take account of the General Principles of Prevention which are contained in Schedule 3 to the Safety, Health and Welfare at Work Act 2005. They are as follows:

- a) The avoidance of risks.
- b) The evaluation of unavoidable risks.
- c) The combating of risks at source.
- d) The adaptation of work to the individual, especially as regards the design of places of work, the choice of work equipment and the choice of systems of work with a view, in particular to alleviating monotonous work, and work at a predetermined work rate and to reducing their effect on health.
- e) The adaptation of the place of work to technical progress.
- f) The replacement of dangerous articles, substances or systems of work by non-dangerous or less dangerous articles, substances or systems of work.
- g) The development of an adequate prevention policy in relation to safety, health and welfare at work which takes account of technology, organisation of work, working conditions, social factors and the influence of factors related to the working environment.
- h) The giving to collective protective measures priority over individual protective measures.
- i) The giving of appropriate training and instructions to employees.

It should be noted that:

- Only risks that can reasonably be foreseen at design stage can be assessed.
- Risks to those building and to those who might be affected by this work (eg: members of the public) must be considered. Risks during construction, and subsequent maintenance or repairs must be considered.
- Risk assessment may be simple or elaborate depending on the nature of the project and the risk in question. Conventions, generally taken, define a “hazard” as a condition or event with the potential to cause harm, and define a “risk” as the probability (P) that harm from a particular hazard will occur, combined with the likely severity (S) of the harm. $R = S \times P$. Note: it is accepted that this is a very subjective area where good judgement counts more than rigid formulae.
- As the project proceeds, designers need to assess the design and the materials to be used, to establish whether a risk is being introduced and to consider whether this risk can be removed or minimised.

Mechanical & Electrical Design Risk Assessment

RISK ASSESSMENT

A Design Risk Assessment has been completed. The risk ratings and action bands are defined as follows:

Likelihood

L	–	So unlikely that it can be assumed that it may never occur
M	–	Is unlikely but possible to occur during the life of the project
H	–	Is likely to occur during the life of the project

Severity

L	–	All other injuries or illnesses
M	–	3 day injury or illness
H	–	Death or major injury

Risk Rating

L	–	Minimal Risk
M	–	Low Risk
H	–	Immediate Risk

Action Required

L	–	Maintain Control Measures
M	–	Review & Improve Control Measures if necessary
H	–	Improve Control Measures Immediately

DESIGNER'S RISK ASSESSMENT

Designer: Geaney Engineering Consultants							Project: <i>TEMPLEMORE COLLEGE OF FURTHER EDUCATION RICHMOND, TEMPLEMORE, CO. TIPPERARY</i>			
Project No. 0834							Date: 22/06/2026			
Ref. No.	Activity / Element	Potential Hazards	Population at Risk	Risk Rating			Action at Design Stage	Action Taken		Possible Control Measures (Contractors)
				L	S	R		By	Date	
1.	Works near high voltage power lines or underground services	a) Sever Injury / Death	Electrical Contractors, General Contractors	L	H	H	Full Review of all relevant information required by the Main Contractor, review all drawings and information from Utility Providers, and liaise where necessary			Contractor to comply with the requirements of ESB and H.S.A. "Avoidance of Electrical Hazards when working near underground electric cables". GRP Survey and identification of all services within area of proposed works. Hand Digging in high risk areas where unclear.
2.	Work within attic spaces, ceiling voids, at high level, on roofs, etc.	a) Risk of personnel fall.	Public, General Contractors, Clients and Employees	M	M	M	Inform design / construction teams by issue of this document.			Contractor to co-ordinate all works. Contractor to provide safety signage and barriers where required and immediate area to be restricted from general personnel circulation routes. Any work required at height must have the necessary safety precautions, such as safety harnesses, scaffolds, etc. Use approved personnel mechanical access equipment where possible.
		b) Risk of falling equipment, tools, etc..	Public, General Contractors, Clients and Employees	M	M	M	Inform design / construction teams by issue of this document.			Contractor to co-ordinate all works. Contractor to provide safety signage and barriers where required. Where project work at height is required, area to be appropriately restricted from personnel circulation routes.

Key:

L = Likelihood (Low, Medium, High)

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		c) Working within confined space.	General Contractors	M	M	M	Identify as far as is reasonably practicable, any work required within a confined space. Minimise project work required within those confined spaces identified. Inform design / construction teams of possibility of confined spaces by issue of this document.			Contractor to co-ordinate all works. Contractor to provide safety signage and barriers where required. Review all project work to identify the possibility of confined space limitations, discuss potential risks and take measures to reduce risk to all personnel. If in doubt, ask.
3.	Installation of Electrical Services	a) Risk of Musculo-skeletal injuries.	Electrical Contractors, General Contractors	M	M	M	Identify as far as is reasonably practicable, any equipment items / services runs which must be handled as part of the project work, which may be heavy, difficult to handle and/or must be installed in space restricted locations. Inform design / construction teams by issue of this document. Where possible, select new equipment that can be easily installed, thus minimising project work at height, in confined areas, etc.			Allow for the appropriate mechanical handling equipment and personnel access equipment to be utilised where possible. Schedule access to the project work areas in advance and allow sufficient time / manpower to complete the works. Complete frequent "Toolbox Talks" with contract personnel during the course of the project work.

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		b) Risk of falling equipment, tools, etc..	Public, General Contractors, Clients and Employees	M	M	M	Inform design / construction teams by issue of this document.			Contractor to co-ordinate all works. Contractor to provide safety signage and barriers where required. Where project work at height is required, area to be appropriately restricted from personnel circulation routes.
		c) Risk of electric shock, Risk of fire	Electrical Contractors, General Contractors	M	H	H	Communicate to construction teams by way of this document that all circuits must be isolated before project work can commence on same.			Identify electrical circuits prior to work and test to ensure that they are isolated. Contractor to carry out audit to identify any electrical risks prior to carrying out project work. Use safety signage and correct work wear as deemed appropriate.
4.	Main / sub-main cable Installation Works to SUB distribution board's Works to Main Distribution board	a) Risk of burn, Risk of injury through explosion, Risk of fire.	Public, General Contractors, and Clients Employees	L	L	L	Provide correct selection of protective devices. Specify methodology of cable clamping.			Ensure cables are correctly secured with cable clamps suitable for the fault energies possible and with clamps correctly spaced.

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5.	Project work required to main low voltage switch panels, distribution boards, sub distribution boards, within D.C.C. rooms, etc.	a) Risk of electric shock, risk of burns	Electrical Contractors, General Contractors, Maintenance personnel.	L	H	H	Where possible, allow for adequate maintenance clearance / space. If not available communicate to project team and agree an alternative solution. Allow for minimum “throw back” distance in front of switchgear as detailed per regulations. No equipment to be obstructed by other mechanical / electrical / general equipment. Eliminate live working. Provide as much record information as possible to contract firms undertaking the works.			Ensure equipment is isolated prior to carrying out any project work. Test to confirm isolation. Apply appropriate safety measures, i.e. notices, restricted areas, etc. Operate a work permit policy. Use padlocks on switches, isolators etc. where deemed necessary.
		b) Unauthorised access to L.V. switchgear	Maintenance personnel, General Contractors, Public	L	M	M	Inform design / construction teams by issue of this document.			Restrict access to only those trained to work within these areas. Safety files to detail personnel whom are appropriately trained to work within these areas. Communicate risks to contract personnel. Use appropriate signage within these areas.

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6.	Electrical Containment	a) Risk of contact with live electrical cables.	Electrical Contractors	L	H	M	General condition of containment to be noted and communicated to contract personnel. New cabling to use trays, be they new or existing. All cabling to comply with design guidelines and layouts.			Communicate risks to contract personnel. Hold frequent "Toolbox Talks" with contract personnel.
		b) Risk of cables overheating	All	L	M	M	All cabling to be sized correctly to prevent heat gains. Cable trays are to be sized correctly, so as to avoid over loading. Inform design / construction teams by way of issue of this document.			Communicate risks to contract personnel.
7.	Is there a risk of crushing electrical equipment during the project works?	a) Risk of contact with electrical cables.	Electrical Contractors	M	M	M	Identify electrical equipment within the vicinity of the works and determine if same can be / needs to be isolated to facilitate the project work. Inform contractor by way of issue of this document.			Identify any equipment whereby project work may pose a risk to same. Provide for the use of appropriate signage. Take the necessary precautions to eliminate risk to contract personnel during the course of the project work.

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8.	Cable tray, trunking etc. penetrations through fire rated walls.	a) Risk of fire spread through building	Public, Clients Employees	L	M	M	Specify fire sealing around cable tray / trunking penetration. Inform design / construction teams by issue of this document.			Contractor to inform designer of any discrepancy discovered within the building. Contractor to ensure any wall penetrations are correctly sealed.
		b) Are there cable trays / trunking systems being removed that would leave a break in containment, for example through fire walls?	Public, Clients and Employees	L	L	L	Inform design / construction teams by issue of this document. Identify as far as is reasonably practicable any instance in which this may occur.			Contractor to inform designer of any discrepancy discovered within the building.
		c) Ope in floor levels, resulting in personnel fall		L	M	M	Inform design / construction teams by issue of this document. Identify as far as is reasonably practicable in the design, locations where an ope in the floor level could result in a risk to personnel within any area.			Contractor to make known to teams the risk of falling through or tripping over a service ope in the floor level. All opes should be appropriately marked and made secure from passing traffic.

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		d) Obstacles hanging from high level	General Contractors	L	L	L	Inform design / construction teams by issue of this document. Appropriately specify all equipment such as cable trays, ducting systems, lighting, etc., so that no hanging obstacles will present a risk to passing personnel. Suggest use of hard hat helmets and other approved safety equipment.			Contractor to make known to all team members, this risk. No equipment should be left hanging dangerously throughout the course of these works. Frequent spot checks should be completed by the contract teams.
9.	Work associated with the installation of the new fire alarm system.	a) System components located in inaccessible locations, at heights, etc.	General Contractors	L	M	M	Components of the fire alarm system to be located in accessible locations. If working at heights, safety equipment to be used, with appropriate means of access, e.g. G.P. Hall area.			Use correct safety equipment. Use appropriate signage when working at heights. Use an appropriate means of height access, e.g. within the G.P. Hall.
		b) Risk of fire during fire alarm system downtime.	All	L	M	M	Inform design/ construction teams by issue of this document.			Procedure to be put in place in the event of a fire, e.g. assembly points, fire watchers for dangerous tasks, first aid locations, etc..
10.	Location of Fire Alarm Sounders	a) Risk of Fire	Public, and Clients Employees	L	H	H	For final installation ensure sounder location takes into account acoustic properties of surrounding environment. Determine feasibility of installing combination fire alarm detector sounder units.			Carry out sound pressure readings to ensure compliance.

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11.	General Electrical	a) Conflict between security and safe means of escape on final exits	All	L	L	M	Specify suitable security equipment to maintain means of escape at all times, e.g., door locks to fail open in the event of an emergency.			
		b) Earth bar - risk of electric shock.	Public, General Contractors, and Clients Employees	L	M	M	Link to be provided on earth bar to facilitate testing of installation whilst still maintaining an effective earthing system.			Contractor to ensure that main equipotential conductor is separated from other equipotential conductors.
		c) Hygiene - protection from lamp breakage, dust and foreign bodies where applicable	Public, and Clients Employees	L	L	L	Specify luminaries of the safe type, with fully enclosed and captive diffusers.			
		d) Exposed metalwork - risk of electric shock.	Public, and Clients Employees	L	M	M	Specify equipotential bonding to be carried out.			Contractor to identify all elements of extraneous metalwork that may require bonding. Where in doubt contractor to carry out tests to ascertain the earth potential.

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12.	Commissioning	a) Risk of electric shock.	Public, General Contractors, and Clients Employees	L	M	M	Inform design / construction teams by issue of this document			Contractor to carry out audit and to take responsibility to identify any electrical risks prior to carrying out any commissioning works. Method statement and safety procedures to be issued. Competent electrician to connect with qualified personnel in attendance.
		b) Rotating Machinery	General Contractors, and Clients Employees	L	M	M	Correct safety guards (if applicable) to be specified.			Make hazards known to construction teams.
		c) Risk of hot surfaces during commissioning activities.	General contractors	M	M	M	Specify equipment to have thermal insulation to protect against accidental burns from contact with hot surfaces. Allow for adequate labelling within the area.			Ensure that contract personnel are protected from hot surfaces. Ensure that appropriate safety equipment, such as lagging, has been installed correctly.
13.	External Groundwork	a) Contact with existing underground live electrical services	General Contractors	M	H	H	Inform construction teams by issue of this document.			Make all known service routes knowledgeable to all affected. Contractor to scan area thoroughly for live electrical services before opening ground.

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		c) Risk of cave-in, or collapse of a trench?	General Contractors	L	M	M	Inform construction teams by issue of this document.			Where large excavations are required, identify this risk and take the necessary steps to avoid an accident.

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