

# FBD

# BUILD



# IN

# SAFETY



An Advisory Booklet for Farmers

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Nothing in this document constitutes legal or technical advice and should be treated as guidance only. This document is subject to periodic review and every effort has been made to ensure the accuracy of its contents. The information in this document was updated in June 2016. Any reference to insurance in this document is provided by FBD Insurance plc. FBD Insurance plc is regulated by the Central Bank of Ireland.

# INTRODUCTION

“Construction work is potentially very dangerous, especially work at height and because of this it is essential that Farmers and Contractors construct buildings in a safe manner. With this in mind FBD Insurance, Teagasc and the Health and Safety Authority have produced this practical guidance booklet on safe farm building practices. The guidelines highlight the major construction hazards and the practical preventative measures that need to be taken to prevent serious or fatal accidents.



Ciaran Roche,  
FBD Risk Manager

The guidelines also outline risk assessments and safe methods of work for excavations, steel erection, roof cladding and demolition, and summarise the main health and safety legal requirements of farmers (clients), designers, project supervisors and contractors. In the interest of safety it is hoped all farmers and contractors will refer to these guidelines before they carry out any farm building work.”

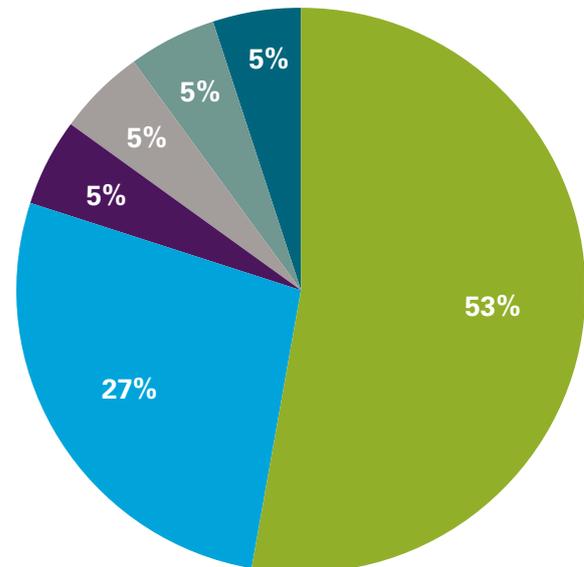
## How Can You Prevent an Accident on Your Building Site?

**Before any work starts, you must ensure the following:**

- Adequate Insurance Cover must be put in place.
- A Project Supervisor Design Process (PSDP) & Project Supervisor Construction Stage (PSCS) must be appointed. If a contractor is being used to carry out the work then you should agree with the contractor who is assuming responsibility for these positions. (Refer to the Legal Duties Attaching to Construction Work-Page 5).
- A Risk Assessment must be carried out.
- The necessary building equipment, protective equipment, appropriate precautions and safe systems of work must be provided and implemented. Systems for ensuring a safe site and good housekeeping must also be put in place.
- All construction workers including farmers must be trained and competent.
- Every new contractor or new employee to a site must undergo an induction process when they first arrive on site. This induction should inform the attendees about site rules and procedures, and the arrangements for their safety and welfare on the site, and also who the key duty holders are.
- Measures are taken to ensure the safety of members of the public and children.

**Prevent the heartache by making your building site a safe one. Always think safety first!**

## Breakdown of main causes of fatalities in the construction industry



# GENERAL SAFETY GUIDELINES FOR ALL FARM OUTBUILDING CONSTRUCTION WORK

## Child Safety and Safety for Members of the Public

Many children have been killed by moving construction vehicles, falls from heights and in excavations on farms. Therefore it is essential that children are kept away from the construction site.

! Secure Fencing and appropriate Warning Signs must be placed around the construction site.



## Cards Recognised by SOLAS

All construction workers must have a **Safe Pass**. The Safe Pass is a one day course aimed at promoting safety awareness and basic safety principles amongst all construction workers.

In addition workers engaged in specialist activities should have **Construction Skills Certification Scheme (CSCS) Cards**. There are 21 categories of activities that require such cards and details of these are outlined in the 2013 Construction Regulations and are available on the Health and Safety Authority Website.

Listed below are some of the specialist activities that are common to Farm building work that require CSCS cards.

- 360 degree excavator operation.
- Telescopic handler operation.
- Mobile crane operation.
- Roof and wall cladding/sheeting.
- Scaffolding.

In order to obtain such cards workers engaged in these activities must attend SOLAS Safety Training Courses.

Details of Training Providers for Safe Pass Cards and CSCS cards are available from SOLAS on 01-607 0500.

## Personal Protective Equipment (PPE)

PPE protects individuals from residual harm when all other methods have been employed to eliminate the risk. PPE is a last resort.

All construction workers must wear a hard hat, steel toecap boots, and a high visibility vest; they must also wear eye protection, ear protection, safety gloves, dust masks, respiratory equipment, face protection, safety overalls (appropriate clothing) and safety harness when appropriate.

**Note:** the height for safe use of harness restraint system should be checked with the manufacturers data before use to ensure that it can be used safely for the work at hand. A safety harness only protects the worker during a fall. If a person becomes suspended in the harness a new risk arises called "suspension trauma". Suspension trauma can lead to unconsciousness after 10 minutes because the blood collects in the legs and may result in death in less than 30 minutes unless the person is rescued. Any use of a harness must be complemented by an emergency rescue procedure that can rescue the person from the harness within the above timeframe. The use of a harness must be considered with reference to Part 4 Work at Height of the General Application Regulations 2007.

**Collective protection such as safe working platforms and safety nets should always be given priority over individual protection like safety harnesses.**



### Excavation

Excavation can cause serious accidents from the collapse of their sides, resulting in the burial or crushing of workers inside the excavation. When excavations are being carried out the sides must be “battered back”. When digging trenches a “Trench Box” must be used or the sides must be “Shored”.

The ground area surrounding the excavation should be inspected to ensure that it is capable of taking the weight of any load applied, e.g. plant or equipment which may be used. Daily inspections must also be carried out.

Before excavating, the adjacent area should be checked to ensure that the excavation work will not cause other structures to become unstable or collapse.

### Plant and Lifting Operations

It is a legal requirement that a construction plant is tested and examined on a regular basis, in particular all lifting appliances and lifting gear. The operators of these machines must be certified operators.

The lifting plant selected must be capable of carrying out the work safely. It must be capable of lifting the maximum load at a specific radius, for example lifting steelwork over and onto a building under construction. Accessories such as slings should be capable of lifting in excess of any load specified and should be checked for any obvious defects such as fraying and should be certified.

A trained slinger / signaller aka “banks man” must also be used to sling the loads and guide any crane lift etc. Workers and bystanders must always be kept at a safe distance from working plant.



### Work at Heights

Falls from heights are the main cause of fatalities and serious injury on construction sites. Every precaution must be taken to ensure all work at heights is adequately planned and carried out in a safe manner.

Work at Heights: The Safety, Health and Welfare at Work (General Application) Regulations 2007 (Part 4, Work at Height) is based on a risk assessment approach and requires, in selecting the most appropriate work equipment for a particular activity, that the selection process takes into account the hierarchy of controls:

- Firstly to avoid work at heights where possible.
- Then to prevent falls from heights; and, failing that
- To reduce the consequences of a fall.

Work at heights must never be carried out in icy, rainy or windy conditions.

Roof workers need the appropriate knowledge, skill and experience to work safely. They need to be able to recognise the risk, understand the appropriate system of work and be competent in the skills to carry out work such as installing and wearing harness systems; installing safety nets; installing edge protection; operating a mobile access platform.



## Scaffolding / Working Platforms

Scaffold platforms should where possible be used as working platforms for all work at heights but in particular for all work where there is a high risk of falling or serious injury from a fall. The scaffold must be designed, planned and subsequently erected by fully trained personnel, in accordance with all relevant legislation, codes of practice, and manufacturer's instructions. Scaffolds should include dedicated ladder access bays, properly constructed loading bays and should be certified. All working platforms must be adequate and secure. In many cases the roof itself will provide this (where the slope is less than 10 degrees and a risk assessment allows it). Edge protection should be used to prevent falls from heights and it must be ensured that the protection is of adequate strength to stop someone who is rolling or sliding off a roof.

When working on existing fragile roofs extra precautions must be taken such as the use of crawl boards.

## Mobile Elevated Work Platforms (MEWP)

Mobile Elevated Work Platforms (e.g. Boom Hoists & Scissors Lifts) can also be used for carrying out work at heights. Only competent and trained operators should be allowed control the movement of mobile elevated platforms.



## Nets / Bean Bags / Safety Harness Restrain Systems

If it is not possible or reasonably practicable to provide an adequate working platform with proper edge protection then a safety harness and / or safety net, beanbag, or airbag arrangement will be required.



**The appropriate safe system of work should be identified through the risk assessment.**

## Ladder Access

Getting on and off the roof is a major risk. A secure means of entry and exit is essential. A properly secured ladder is a minimum. The ladder must extend at least 1m above the landing or platform area that is used for access.

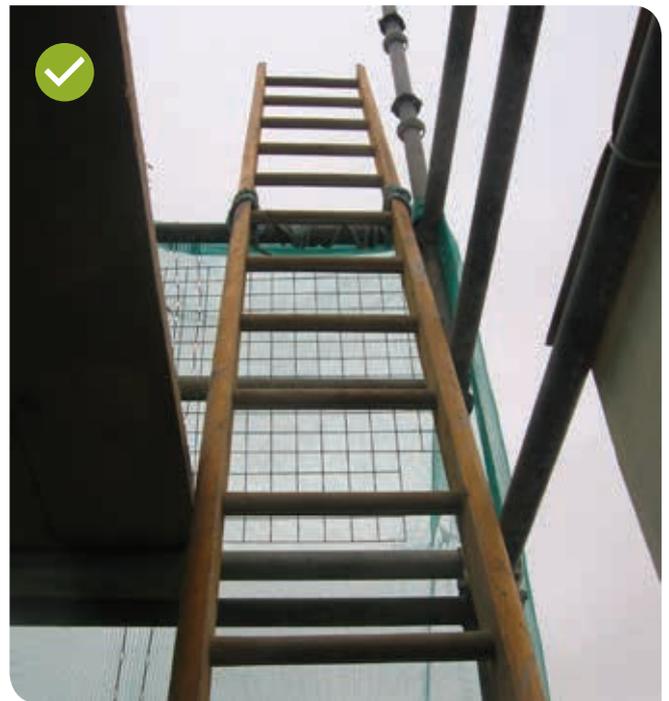
## Ladder Safety

In general ladders should only be used for accessing areas at height and not for doing work at heights. Ladders must only be used for work at heights if your risk assessment has demonstrated that the use of more suitable work equipment is not justified because of:

- the short duration of use and minimum risk or
- existing features on site prohibit the use of other types of access equipment e.g. M.E.W.P.

All ladders should be of sound construction and maintained in good condition.

Ladders must be securely held in place and placed at a safe angle (e.g. 1m out from the building for every 4m in height). Platform or podium ladders are a safe alternative to ladders for carrying out work at heights.



## Electrical Hazards

Overhead lines and underground cables can kill; ensure that the necessary preventative measures are taken to avoid any electrical contact (e.g. use goal post to maintain a safe distance **from overhead lines** and **underground** cable detectors to safely locate live underground cables. **The service provider should be consulted.**) The site power must be supplied through a Residual Current Device (RCD) and all power tools should be 110 volt tools. A qualified electrician must carry out all electrical work.



## Manual Handling

Manual handling aids should be used to lift heavy loads. Where manual handling is unavoidable, maximum guideline weight that a man should lift is 25kg. Before doing any manual handling lifting, manual handling training is required.



## Health

Appropriate precautions must be taken to protect workers from dust, gases, chemical and biological hazards e.g. avoid or reduce the hazard and risk, use safe systems of work, wear appropriate PPE.

## Asbestos

Removing old asbestos sheeting from buildings can be dangerous due to health risks associated with fine fibres of asbestos. These fibres can cause cancer and other diseases, and because of this, it is essential that extreme care and appropriate precautions are taken when handling old asbestos sheeting. Detailed information on issues dealing with asbestos can be found on the **HSA website [www.hsa.ie](http://www.hsa.ie)** in the **“Asbestos Containing Materials (ACMs) in Workplaces” Guide**. The Safety Health and Welfare at Work (Asbestos) Regulations, 2006 & 2010 deal with how asbestos in the work place should be addressed. Disposal of Asbestos sheeting should be undertaken in a safe manner in accordance with the Waste Management Act.

## General Maintenance and Repair of Buildings and Roof Structures

Many fatal accidents occur when general maintenance work is being carried out (e.g. numerous farmers have fallen through fragile skylights and fallen off poorly secured ladders) and so it is essential that safe working practices are always adhered to.

## Building Design

Well designed buildings can help ensure safe maintenance and operation of the building, e.g. sliding doors, safe agitation points, shatterproof skylights, etc. The Department of Agriculture and Food provides specifications for buildings which are grant aided. Teagasc provides an extensive Advisory Service related to building design.



Further information on Grants and Building Specifications can be obtained on the DAF Website at [www.agriculture.gov.ie](http://www.agriculture.gov.ie).

# LEGAL DUTIES ATTACHING TO CONSTRUCTION WORK

The Safety Health and Welfare at Work (Construction) Regulations, 2013 were put in place to help create a safer place of work for all persons involved in construction work. The regulations impose legal duties on Clients (Farmers), Designers, Project Supervisors and Contractors and outline General and Specific Health and Safety Provisions.

Key duties of Clients (Farmers), Designers, Project Supervisors and Contractors under the Design and Management sections of the Construction Regulations.

## Client Duties

You are a client if you are a person (including a company) for whom construction work is being carried out. **As a client you must, for every project:**

- Appoint, in writing, a project supervisor for the design process (PSDP) and a project supervisor for the construction stage (PSCS) who have adequate training, knowledge, experience and resources.
- Be satisfied that each designer and contractor appointed has adequate training, knowledge, experience and resources for the work to be performed.
- Co-operate with the project supervisor and supply necessary information.
- Retain and make available the Safety File for the completed structure. The Safety File contains information on the completed structure that will be required for future maintenance or renovation.
- Notify the Authority of the appointment of the PSDP where construction is likely to take more than 500 person days or 30 working days.

## Designer Duties

You are a designer if you are engaged in preparing drawings, particulars, specifications, calculations and bills of quantities in relation to a project.

**As a designer you must:**

- Identify any hazards that your design may present during construction and subsequent maintenance.
- Where possible, eliminate the hazards or reduce the risk e.g. can roof-mounted equipment be placed at ground level or can guardrails be provided to protect workers from falling?
- Communicate necessary control measures, design assumptions or remaining risks to the PSDP so they can be dealt with in the Safety and Health Plan.
- The Safety Health and Welfare at Work Act 2005 requires designers to ensure that the project is capable of being constructed to be safe, can be maintained safely and complies with all relevant Health and Safety legislation.

## Project Supervisor for the Design Process (PSDP) Duties

A competent PSCS must be appointed, in writing, by the client for each project. In many cases the Contractor will assume the role of PSCS but in some cases Farmers themselves will adopt the role of Managing the Construction Project and may take on the role and responsibilities of the Project Supervisor Construction Stage. In such instances it is vital that they are competent to do so and that they carry out the duties attaching to this role.

### As a PSCS you must:

- Co-ordinate the construction of the project. Be involved in the identification of hazards, their elimination and the reduction of risks during construction.
- Develop the Safety and Health Plan initially prepared by the PSDP before construction commences.
- Co-ordinate the implementation of the construction regulations by Contractors.
- Organise co-operation between Contractors and the provision of information.
- Co-ordinate the checking of safe working procedures.
- Co-ordinate measures to restrict entry onto the site.
- Co-ordinate arrangements to ensure that craft, general construction workers and security workers have a Safety Awareness card, e.g. Safe Pass and a Construction Skills card where required.
- Monitor the compliance of Contractors and others and take corrective action where necessary.

## Duties of Contractors

You are a Contractor if you are an employer whose employees carry out or manage construction work. Local Authorities, manufacturers and self employed persons may also be "Contractors" under these regulations

The Contractor has significant duties relating to a wide range of issues. Some of these duties are summarised below. **As a Contractor you must:**

- Co-operate and comply with directions of the PSCS.
- Provide a copy of the relevant extract from your Safety Statement and relevant information to the PSCS.
- Comply with site rules and any other Safety and Health Plan and ensure that your employees comply.
- Identify hazards, eliminate the hazards or reduce risks during construction.

### Relevant legislation includes:

- Safety Health and Welfare at Work Act 2005.
- Safety Health and Welfare at Work (General Application) Regulations 2007.
- In particular Part 4, Work at Height sets out the basic principles for safe work at height for all sectors of employment and provide a fundamental framework for safe working at height, based on risk assessment, applicable to the wide range of work activities carried out at height.
- Safety Health and Welfare at Work (Construction) Regulations 2013.
- There are also important regulations dealing with asbestos, noise, vibration and chemical agents.



More detailed information is available at [www.hsa.ie](http://www.hsa.ie)



### IMPORTANT NOTICE

The information given above is not a legal interpretation of the Acts mentioned. Anyone seeking a legal interpretation of the Acts should obtain legal advice.

FBD Insurance plc or Teagasc cannot accept any responsibility for loss or damage occasioned by any person acting or refraining from acting as a result of the information contained in this document.

# INSURANCE

It is vital that appropriate Insurances are arranged to provide you with protection against any legal liability you may have in the event of an accident on your construction site to any person, whether they be direct employees, employees of contractors, delivery persons to your site or indeed members of the Public.

Remember just because you may employ Contractors to do a job, who have their own Insurances, their Insurances may not protect your legal Liability if you are drawn into a claim arising from an accident for which you as a Farmer may be deemed responsible or partially responsible for:

## Outbuildings constructed by a Single Contractor:

### Farmers Must:

Request the Contractor to confirm in writing that they are performing the role and responsibilities of Projects Supervisor Construction Stage (PSCS) as defined in the Construction Regulations 2013. (A PSCP appointment form is available from your local FBD office on request.)

Request and retain details of Insurances for Contractor engaged and check such insurances for:

- Public Liability covers with Limits of Indemnity of no less than €2.6 million.
- Employers' Liability covers with Limit of Indemnity of no less than €13 million.
- An Indemnity to Principals Clause under both Employers' and Public Liability.

### Policies should not contain restrictive clauses such as:

- Hot Works exclusion (particularly relevant for steel and fitting out aspects).
- Height and/or Depth Limits of less than 10 metres in Height and 5 metres in Depth.

## Outbuildings constructed by Direct Labour / Multiple Contractors:

Outbuildings constructed in this manner expose Farmers to more significant Potential Legal liability in the event of a claim arising from accidents on site and therefore Farmers need to take a more active role in ensuring that a safe site is maintained and safe systems of work are implemented. A PSCS must be appointed for the whole project or each contractor must be appointed to take on the role of PSCS for each individual stage for the project, such as, ground works, steel erection, roofing etc.



**AT ALL TIME CONTACT YOUR OWN INSURER TO ENSURE THAT APPROPRIATE COVER IS IN PLACE OR ARRANGED FOR YOUR CONSTRUCTION PROJECT.**

### Farmers must:

1. Complete the Questionnaire in the "Build in Safety" booklet as this will help you identify important health and safety issues that need to be addressed during the construction project.
2. Check all workers and contractors engaged are experienced and competent in the works they are participating in and have "Safe Pass" and CSCS cards as appropriate.
3. Ensure that a Safety and Health Plan, a Risk Assessment and a Method Statement for the project are prepared.

Farmers must also request and retain details of Insurances for any Contractor engaged and check such insurances for:

- Public Liability covers with Limits of Indemnity of no less than €2.6 million.
- Employers' Liability covers with Limit of Indemnity of no less than €13 million.
- An Indemnity to Principals Clause under both Employers' and Public Liability.

### Policies should not contain restrictive clauses such as:

- Hot Works exclusion (particularly relevant for steel and fitting out aspects).
- Height and/or Depth Limits of less than 10 metres in Height and 5 metres in Depth.

**FBD Farm Multiperil clients with existing Employers and Public Liability insurance in place are afforded protection for farm outbuilding construction work under their farm multiperil policy subject to wage roll adjustments. Increases in wage roll for additional works undertaken must be declared to FBD prior to the commencement of any construction works on farm.**

The following categories of construction works are covered if farming clients are deemed legally liable for an incident giving rise to a claim;

- (a) Maintenance & repair of outbuildings
- (b) Alterations or extensions of existing outbuildings
- (c) New farm outbuilding construction projects

**We would encourage farmers to engage a fully insured competent contractors to carry out works of this nature who are experts in this field.**

**In addition we will be pleased to check contractor's insurance details for you at no charge.**

# SAFETY FILE, SAFETY AND HEALTH PLAN, RISK ASSESSMENT AND METHOD STATEMENTS



Before any work begins it is crucial that a Health and Safety Plan with Method Statements is created, and Risk Assessments are carried out. When the work is completed it is important that a Safety File is written up where required.

## What is a Safety File?

The Safety File is a record of information, prepared by the Project Supervisor design Process (PSDP) for the end user (the Client), which focuses on safety and health. The information it contains will alert those who are responsible for the structure and services in it of the significant safety and health risks that will need to be addressed during subsequent maintenance, repair or other construction work.

*Guidelines on what a Safety File should contain are available from your local FBD Insurance or Teagasc office.*

## What is the Safety & Health Plan?

The safety and health plan is concerned with the arrangements in place for the management and co-ordination of health and safety matters on site. The plan prepared on a preliminary basis by the Project Supervisor Design Process (PSDP) must be developed before the commencement of work by the Project Supervisor Construction Stage (PSCS) into a safety and health plan for the construction stage.

*Guidelines on what a Safety & Health Plan should contain are available from local FBD Insurance or Teagasc office.*

## What is a Risk Assessment?

A risk assessment is a careful examination of what could cause harm to people as a result of a work activity. It allows you to take the necessary precautions to prevent any harm occurring. In considering the necessary precautions the General Principles of Prevention must be taken into account. In a risk assessment you need to:

- Look at the hazards.
- Decide who might be harmed and how.
- Evaluate the risks and decide whether the existing precautions are adequate or whether more should be done.
- Record your findings.
- Review your assessment.

## What is a Method Statement?

A Method Statement identifies the major hazards associated with construction work activities and helps to ensure that appropriate controls are in place before work commences.



# Sample Risk Assessments and Method Statements for the Construction of Farm Building

(It should be noted that these risk assessments are generic and they must be modified to ensure that they are specific to the particular project work being carried out)

Hazard identification and risk assessment for excavation, shuttering, concreting, block work and placing slats

Activity	Main Hazards	Main Risks	Control Measures
<b>1 Checking the site</b>	Unusual ground conditions, e.g. sandy soil, springs, watercourses, etc.	Collapse of excavation causing crushing or burial of persons in the excavation	<ul style="list-style-type: none"> <li>• Dig trial holes, divert watercourses, tap springs, install drains to lower water table, consider alternative site</li> </ul>
	Contact with over ground or under ground electrical cables	Electrocution causing death or serious injury	<ul style="list-style-type: none"> <li>• Contact ESB, use goal posts, use electric cable detectors, disconnect or re-route supply. Hand dig around underground cables. Inform visitors of hazard.</li> <li>• Employ trained persons for all electrical work.</li> </ul>
	Unauthorised access to the site	Accident involving unauthorised persons	<ul style="list-style-type: none"> <li>• Secure the site with fencing and erect appropriate warning signage</li> </ul>
	Unsafe access routes to and from the site	Somebody being hit by a vehicle, vehicle accident or vehicle overturning causing serious injury or death	<ul style="list-style-type: none"> <li>• Clearly signpost unsafe routes. Use warning signage. Identify safe access routes</li> </ul>
<b>2 Excavation</b>	Collapse of excavations	Collapse of excavation causing crushing or burial of persons in the excavation	<ul style="list-style-type: none"> <li>• Excavate a safe distance from other structures or shore to prevent collapse, excavate using a safe method and examine excavations daily</li> </ul>
	Vehicles ending up in the excavation		<ul style="list-style-type: none"> <li>• Park trucks 3m away from excavations, have site vehicles in good working order and use stop blocks when parking</li> </ul>
	Persons falling into excavations		<ul style="list-style-type: none"> <li>• Provide edge protection and safe access to excavation by ladder</li> </ul>
<b>3 Shuttering</b>	Lifting steel and shuttering pans sections	Back injury	<ul style="list-style-type: none"> <li>• Use mechanical lifting equipment.</li> <li>• Adopt correct manual handling procedures</li> </ul>
	Cutting steel and handling reinforcing steel	Amputations, cuts, puncture wounds and eye injuries	<ul style="list-style-type: none"> <li>• Use safe system of work</li> <li>• Wear eye protection, safety gloves and safety footwear</li> <li>• Use mushroom caps on exposed bars of fixed steel</li> </ul>
	Collapsing or shifting load during transportation	Load falling on worker or road traffic accident causing serious injury or death	<ul style="list-style-type: none"> <li>• Secure loads safely and correctly at all times</li> </ul>
<b>4 Concreting</b>	Slipping or falling from height when pouring or compacting concrete	Falling from scaffolding causing serious injury or death	<ul style="list-style-type: none"> <li>• Use cantilever scaffolding or scissors lift. Provide safe access to scaffolding</li> </ul>
	Conveyor coming in contact with power lines or existing buildings	Electrocution causing death or serious injury	<ul style="list-style-type: none"> <li>• Use safe system of work</li> <li>• Ensure all power lines are properly signposted and a safe distance maintained at all times using goal posts etc. Disconnect power if necessary.</li> <li>• Discuss site access with each truck driver</li> </ul>

Activity	Main Hazards	Main Risks	Control Measures
4 Concreting	Working with fresh concrete Silica dust, noise and flying particles from working with hardened concrete.	<ul style="list-style-type: none"> <li>Chemical burns and abrasion from fresh concrete</li> <li>Lung disease, hearing damage and eye injury</li> </ul>	<ul style="list-style-type: none"> <li>Wear appropriate PPE, adopt a safe system of work and wash hands regularly</li> <li>Wear appropriate PPE, adopt a safe system of work</li> </ul>
5 Block work	Slipping or falling when working on scaffolding	Falling from scaffolding causing serious injury or death	<ul style="list-style-type: none"> <li>Erect scaffolding safely and inspect it regularly</li> <li>Use scaffolding correctly</li> </ul>
	Collapse of fresh block work	Crushing causing serious injury or death	<ul style="list-style-type: none"> <li>Use trained block layers, take account of weather conditions,</li> <li>Height of blockwork built in any one day should not exceed 1.5 metres</li> </ul>
	Working with fresh cement mix Silica dust, noise and flying particles from working with hardened concrete	<ul style="list-style-type: none"> <li>Chemical burns and abrasion from fresh concrete</li> <li>Lung disease, hearing damage and eye injury</li> </ul>	<ul style="list-style-type: none"> <li>Wear appropriate PPE, adopt a safe system of work, wash hands regularly</li> <li>Wear appropriate PPE, adopt a safe system of work</li> </ul>
6 Placing slats	Working close to an open tank	Falling into the open tank causing serious injury or death	<ul style="list-style-type: none"> <li>Supplier to place slats with mechanical lifting equipment using a safe system of work</li> <li>Use edge protection</li> </ul>
	<ul style="list-style-type: none"> <li>Guiding the slats into place</li> <li>Collapsing or shifting load during unloading and transport</li> </ul>	Crushing fingers and toes	<ul style="list-style-type: none"> <li>Use safe system of work and ensure good co-ordination / communication between driver and person co-ordinating the lift when positioning the slats</li> <li>Wear appropriate PPE</li> <li>Ensure clear access and stable ground conditions for delivery trucks, park trucks in a safe manner and use stabilisers when unloading</li> <li>Secure loads properly at all times. Ensure that the Safe Working Load (SWL) of the lifting equipment is not exceeded</li> </ul>
	Collapsing or shifting load during unloading and transport	Crush causing serious injury or death	<ul style="list-style-type: none"> <li>Trained personnel from the supplier. Park trucks in a safe manner and use stabilisers. Secure loads properly at all times.</li> </ul>
7 Electricity	<ul style="list-style-type: none"> <li>Contact with overhead and underground cables</li> <li>Electrocution due to using unsafe equipment and unsafe power source</li> </ul>	Electrocution causing death or serious injury	<ul style="list-style-type: none"> <li>Use goal post and underground cable detectors Contact the ESB to move networks</li> <li>Dig around underground cables with a shovel</li> <li>The site power must be supplied through a Residual Current Device and 110 volt portable appliances must be used. Cables and equipment must be maintained in good condition</li> <li>Use appropriate heavy duty extension leads</li> <li>Use a qualified electrician</li> </ul>

These risk assessments are generic, they will need to be amended so they are specific to the particular project work being carried out.

# Method Statement for Excavation, Shuttering, Concreting, Block Work and Placing Slats



## Site

- Check the site for unusual ground conditions such as sandy soil nearby springs or watercourses.
- Check the site for overground and underground electrical cables and take appropriate action to avoid the risk of contact with them. For example, erect goalposts to warn machine operators of the presence of overhead power lines, use a hand shovel to dig around underground cable or contact the ESB to move wires.
- Check the access routes to and from the site for persons, machinery, and delivery trucks to ensure the safety of all.
- The site should be secured and unauthorised people not involved in the Project should not be allowed onto site.

## Excavation

- Where possible keep buildings far enough away from existing buildings to avoid undermining structures of adjacent buildings. If you must build close to an existing structure be sure to underpin or support the structure.
- Examine the integrity of the excavations on a daily basis.
- Excavations must be carried out in accordance with diagram 1.
- Safe access to and from the excavation must be provided.
- When digging trenches a trench box must be used or the sides of the trench must be shored up (e.g. diagram 2).

- Trucks must be parked at least three meters away from the edge of excavations and chocks must be used to prevent the truck from moving.
- If the excavation needs to be dewatered it should be done on a 24 hour basis.

## Shuttering

- Use mechanical lifting plant to place steel and shuttering near the work area.
- Co-ordinate and supervise all lifts.
- Always use safe manual handling techniques.
- Wear appropriate PPE when working with steel e.g. eye protection and gloves.
- Mushroom caps should be fitted on all exposed ends of steel reinforcement bars.
- Ideally prefabricated shuttering should be used and it must be adequately propped and supported.
- Take extra care when shuttering is being removed after striking.



## Concreting

- Wear appropriate PPE when working with fresh concrete e.g. protect eyes and skin from chemical burns and abrasion.
- Wear appropriate PPE when working with hardened concrete. In particular protect eyes from flying particles, protect lungs from dust and protect the ears from noisy power tools, e.g., concrete saws. Use correct steel toe cap footwear.
- Always use safe manual handling techniques.

- Concrete truck should be parked at least 3m away from the edge of the excavation and the wheels should be chocked.
- The concrete should be poured using one of the following methods; a crane and skip, using a conveyor, using a concrete pump and pipe or using a purposely designed pipe attached to the chutes of the concrete truck.
- All operators of mechanical equipment must be properly trained.
- Use a safe platform for pouring and vibrating concrete walls, e.g. a scissor lift or cantilever scaffolding system.

### Block work

- Only trained blocklayers should be used.
- Wear appropriate PPE.
- Always use safe manual handling techniques.



- Use mechanical aids whenever possible.
- Use scaffolding as required and in an approved manner.

### Placing slats

- When work on the tank is complete and concrete is sufficiently hardened excavated areas must be backfilled before slats are laid.
- Insist that slats are placed in position by the supplier's trained personnel.
- Use mechanical lifting equipment for placing slats e.g. cranes on delivery trucks, forklifts, etc.
- Ensure that persons placing slats are not in danger of falling from heights.
- Park trucks on undisturbed ground and use stabilisers to prevent overturning or a shift in the load.
- Take care to prevent bruising or crushing of fingers and toes.
- Check slats for cracks, rocking or other damage and replace, repair or secure as necessary.



Diagram 1

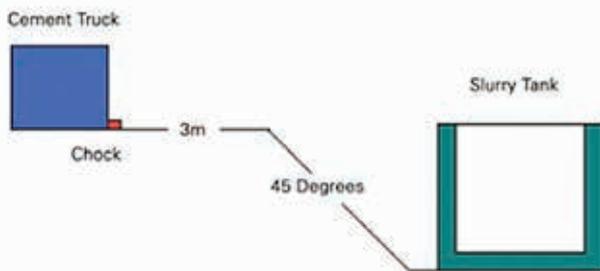
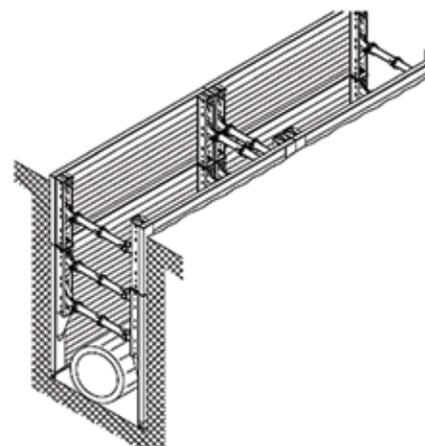


Diagram 2



# Hazard identification and risk assessment for erecting steel framed building and roof cladding

Activity	Main Hazards	Main Risks	Control Measures
1 Standing stanchions (Columns) upright	Handling and manoeuvring steel stanchions into place	Finger crush injury from handling steel sections	<ul style="list-style-type: none"> <li>Use safe system of work</li> <li>Use levers to separate steel sections</li> </ul>
		Back injury from lifting steel sections	<ul style="list-style-type: none"> <li>Use mechanical means and safe manual handling techniques</li> </ul>
		Crushing from falling stanchion causing serious injury or death	<ul style="list-style-type: none"> <li>Use mechanical means to secure stanchion when lifting. No makeshift fasteners to be used.</li> <li>Avoid working in unsuitable weather</li> <li>Ensure adequate help is available.</li> </ul>
2 Attaching rafters (Beams)	Handling and attaching rafters into place	Finger crush injury from handling rafters	<ul style="list-style-type: none"> <li>Use safe system of work, Use PPE</li> </ul>
		Back injury from lifting rafters	<ul style="list-style-type: none"> <li>Good manual handling techniques. Use mechanical lifting equipment</li> </ul>
		Crushing from falling rafters Collision from swinging rafters	<ul style="list-style-type: none"> <li>Use safe system of work and good work co-ordination</li> </ul>
		Fall from heights when fixing rafters to stanchions	<ul style="list-style-type: none"> <li>Use MEWP, podium ladder, or platform ladder</li> </ul>
3 Attaching bracing	Handling stanchions and working at height while attaching bracings	Back injury from lifting steel sections Crushing from falling bracing	<ul style="list-style-type: none"> <li>Use mechanical means for lifting and a safe system of work</li> </ul>
		Fall from height causing serious injury or death	<ul style="list-style-type: none"> <li>Use MEWP, podium ladder, or platform ladder</li> </ul>
4 Attaching roof purlins (Timber or metal)	Working at height when fixing purlins	Fall from height causing serious injury or death	<ul style="list-style-type: none"> <li>Use MEWP, podium ladder, or platform ladder</li> </ul>
5 Fixing of roof cladding	Working on roofs and fragile roofs	Slipping on roof and sliding off Falling through fragile cladding causing serious injury or death	<ul style="list-style-type: none"> <li>Take account of weather conditions, e.g. wind. Use safe system of work.</li> <li>Use edge protection, safety nets, safety harness restraint systems, crawl boards, etc.</li> <li>Grant-aided roof cladding materials have a specified non-fragile rating.</li> </ul>
6 Attaching of side rails and cladding	Working at height	Fall from height causing serious injury or death	<ul style="list-style-type: none"> <li>Use MEWP, podium ladder, or platform ladder</li> </ul>
7 Gutters / Flashings	Working at height	Fall from height causing serious injury or death	<ul style="list-style-type: none"> <li>Use MEWP, podium ladder, or platform ladder</li> </ul>

Activity	Main Hazards	Main Risks	Control Measures
8 Using welders/ gas torches	<ul style="list-style-type: none"> <li>Flammable gas</li> <li>Flame and sparks from the welder Brightness of the flame</li> </ul>	<ul style="list-style-type: none"> <li>Fire and explosions</li> <li>Burns, eye injury</li> </ul>	<ul style="list-style-type: none"> <li>Use safe systems of work</li> <li>Have fire extinguishers available</li> <li>Check gauge, use flash back arrest</li> <li>Wear appropriate PPE and have eyewash and first aid equipment available</li> </ul>
9 Using angle grinders/ other power tools	<ul style="list-style-type: none"> <li>The grinder</li> <li>Sparks and flying debris from angle grinder</li> <li>Noise</li> </ul>	<ul style="list-style-type: none"> <li>Cuts and amputation</li> <li>Burns, eye injury, hearing damage</li> <li>Fire</li> </ul>	<ul style="list-style-type: none"> <li>Use safe system of work</li> <li>Ensure angle grinder is well maintained.</li> <li>Wear PPE and have eyewash and first aid equipment available Have fire extinguishers available</li> <li>Don't work near flammable material</li> </ul>
10 Using Lifting equipment	Poorly secured materials falling	Materials hitting somebody causing serious injury or death	<ul style="list-style-type: none"> <li>Secure loads properly at all times. Use correct and well maintained systems of attachment.</li> <li>Use safe system of work and ensure good co ordination / communication between the driver and the person supervising the lift.</li> <li>Wear appropriate PPE</li> </ul>
	Poorly maintained equipment and exceeding the SWL	Collapse of the lifting mechanism causing serious injury or death	<ul style="list-style-type: none"> <li>Ensure that the Safe Working Load SWL of the lifting equipment is not exceeded.</li> <li>Inspect the lifting equipment regularly.</li> </ul>
	Overturning Collisions with structures, scaffolding, etc.	Causing serious injury to the operator and the persons working on the scaffolding	<ul style="list-style-type: none"> <li>Trained operators. Risk assess the terrain</li> <li>Trained operators, good warning signage, well maintained equipment and speeds to suit the terrain</li> </ul>
11 Electricity	<ul style="list-style-type: none"> <li>Contact with overhead and underground cables</li> <li>Electrocution due to using unsafe equipment and unsafe power source</li> </ul>	Electrocution causing death or serious injury	<ul style="list-style-type: none"> <li>Use goal posts and underground cable detectors. Contact the ESB to move networks.</li> <li>Dig around underground cables with a shovel.</li> <li>The site power must be supplied through a Residual Current Device and 110 volt portable appliances must be used. Cables and equipment must be maintained in good condition. Use appropriate heavy duty extension leads.</li> <li>Use a qualified electrician.</li> </ul>

# Method Statement for Erecting Steel Framed Building and Roof Cladding

## Site

- Site should have a secure hard standing area, preferably graded with broken stone.
- There should be adequate access for delivery trucks with clear turning areas.
- Any tanks, excavations or holes should be guarded by Stop Blocks.
- The site should be secured and unauthorised people not involved in the Project should not be allowed onto the site.

## Foundations for Stanchions

- The best practice is to pour foundations for stanchions first, preferably by casting in holding down bolts. This allows Stanchions to be erected safely with less risk of falling over.
- All bolts and bases should be checked for play in the bolts, cleanliness of the threads, damaged bolts and for levels, packers (or shims) should be placed where required.
- The concrete stanchion foundations should be sufficient to support the structure of the building.
- If Stanchions are being set in concrete, they must be securely supported until the concrete has hardened.



## Steel Frame Erection

- Steel sections should be lifted into place by mechanical means (e.g. teleporter or crane).
- Stanchions should be erected and secured by the holding down bolts.
- Work should be planned to minimise working at height, e.g. rafters and purlins should preferably be assembled at ground level and lifted mechanically into place, and connected to the uprights.
- Use a Mobile Elevation Work Platform (MEWP), scaffolding system, podium ladder, or platform ladder for connecting the bolts between the rafters and the stanchions.



## Roofing and Cladding

- For safety the roof structure must be netted and fitted with suitable edge protection to prevent injury from falls. Only competent certified persons should carry out this work.
- Access to or from the roof should only be done by properly secured ladders.
- Cladding should be lifted by a teleporter or loader to a secure area on the roof adjacent to where fitting is to commence. Fitting can then proceed from this point across the roof.
- Netting and edge protection should be removed before the side and gable cladding is fitted.
- Side and gable cladding, flashings and gutters should all be fitted using a mobile elevation work platform, podium ladder, or platform ladder.

# Hazard identification and risk assessment for building demolition



Activity	Main Hazards	Main Risks	Control Measures
1 Demolition	<ul style="list-style-type: none"> <li>Contact with live power source</li> <li>Contact with overhead and underground cables</li> <li>Using unsafe equipment and unsafe power source</li> </ul>	Electrocution causing death or serious injury	<ul style="list-style-type: none"> <li>Disconnect the power source before work begins Use a qualified electrician</li> <li>Use goalposts and underground cable detectors Contact the ESB to move networks</li> <li>Dig around underground cables with a shovel</li> <li>The site power must be supplied through a Residual Current Device and 110 volt portable appliances must be used.</li> <li>Cables and equipment must be maintained in good condition. Use appropriate heavy duty extension leads.</li> </ul>
	Collapsing building	Death or serious injury due to crushing	<ul style="list-style-type: none"> <li>Plan the demolition (safe system of work)</li> <li>Use temporary supports if necessary (used when the building is in a very poor state of repair)</li> <li>Use appropriate plant to knock the building</li> <li>Keep workers and members of the public out of the danger zone Fence off the site</li> <li>Wear appropriate PPE</li> </ul>
2 Work at height	Slipping or falling when work at height	Fall from height causing serious injury or death	<ul style="list-style-type: none"> <li>Ensure that work at height is planned carefully and that appropriate fall prevention and fall arrest equipment is used</li> </ul>
3 Handling Asbestos Cement Sheeting	Asbestos Dust	Cancer and other lung diseases	<ul style="list-style-type: none"> <li>If in doubt have a competent person carry out a risk assessment and remove the asbestos sheeting in accordance with the Asbestos Regulations.</li> <li>To minimise release of asbestos fibres - Do not damage the sheeting</li> <li>Wear appropriate PPE</li> </ul>

## Method Statement Building Demolition

### Site

- A risk assessment of the structure and its materials should be carried out first.
- If asbestos materials are present extra appropriate precautions should be taken to ensure the safety of all workers and the environment.
- Children and members of the public must be kept away from the demolition site.
- Any electrical power source must be safely disconnected by a qualified electrician before any work commences.

### Demolition

- The demolition must be carefully planned and executed.
- If buildings are in a poor state of repair, they may need to be made safe with temporary supports before demolition can proceed.
- Appropriate plant must be used to knock down structures (as identified in the plan).
- A safe system for work at height must be ensured (where work at height is deemed necessary).
- All workers must be kept out of the danger zone (in the area where the building will collapse).



## QUESTIONNAIRE

The following questionnaire should be completed before any construction work is carried out as it will help identify practical and legal issues that need to be addressed. The questionnaire is broken into 4 sections. The first section must always be completed and the other section must be completed as appropriate to your building work.

Questions that must be answered before any construction work is carried out on site.	Yes	No	Action required
Have you designed your building with safety in mind (e.g. sliding doors, safe agitation points, shatterproof skylight, etc.)?			
Have you appointed a Project Supervisor Design Process (PSDP) and a Project Supervisor Construction Stage (PSCS)?			
Have you created a "Safety & Health Plan"?			
Have you carried out a "Risk Assessment"?			
Have "Method Statements" been written up?			
Have you ensured that all work at height is properly planned and that it is carried out in a safe manner?			
Are persons you have selected to carry out work on the project competent (safety advisors, contractors, plant operators, scaffolding erectors, netting erector, electricians, roof workers, general operatives, etc.)?			
Safe Pass and Construction Skills Certification Scheme cards as appropriate?			
Have you made provision for the supply of appropriate Personal Protective Equipment (PPE)?			

Questions that must be answered before any construction work is carried out on site.	Yes	No	Action required
Have you ensured that all plant and equipment used on site is certified and appropriate for the job/task to be performed?			
Have you ensured adequate supervision to help ensure the safe lifting of goods?			
Have you put in place the safe handling procedures for lifting of materials (e.g. use manual handling aids where practicable, safe manual handling techniques, etc.)?			
Have you established site safety rules?			
Have you checked for overhead and underground power lines and cables and taken appropriate action to avoid the risk of contact with them (e.g. goalposts)?			
Have you arranged for safe supply of electricity on site including protection by a 30 mA RCD and use of 110 volt portable equipment?			
Have you put measures in place to ensure the safety of children and members of the public?			
Have you erected appropriate warning signs and fenced off hazardous areas?			
Have you ensured safe access and egress to the site?			
Will it be ensured that work is not carried out in adverse weather conditions?			

Questions that must be answered before any Excavations/Shuttering/Concreting/Block Work is carried out.	Yes	No	Action required
Have you examined the site for hazards like unusual ground conditions?			
Have you made arrangements to underpin or support adjacent building where necessary?			
Will excavations be battered back at a 45 degree angle and will the bottom of the excavation be at least 1.5m away from the side walls of the tank (to allow a safe working area)? (Refer to diagram 1.0)			
When digging trenches will a Trench Box be used or will the sides be Shored?			
Will excavation examinations be carried out before anybody enters them and on a daily basis? (especially after wet weather)			
Will trucks be parked at least 3m away from the edge of the excavation and will chocks be used?			
Will safe access to and from the excavation be ensured?			
Will lifting plant be used to lower steel and shuttering into the excavations?			

Questions that must be answered before any Excavations/Shuttering/Concreting/Block Work is carried out.	Yes	No	Action required
Will shuttering be adequately propped / supported? (ideally prefabricated shuttering should be used)			
Will mushroom caps be used to cover the exposed ends of steel reinforcement bars?			
Will a scaffolding / cantilever scaffolding be used for work at height (e.g. when pouring concrete and vibrating concrete)?			
Will the excavations be back filled before the slats are fitted?			
<p>Have you put a safe method of work in place for ensuring the safety of all persons for the following tasks;</p> <ul style="list-style-type: none"> <li>• During excavations?</li> <li>• When working in an excavated area?</li> <li>• When pouring concrete? (e.g. using a crane and skip, using a concrete pump and pipe, using a purposely designed pipe attached to the chutes of the concrete truck)</li> <li>• When fitting slats on the tank?</li> <li>• When working at heights?</li> <li>• When using plant and equipment?</li> </ul>			
Will adequate foundations for the walls of the shed be provided?			
Will the walls of the shed be keyed into the stanchions? (ideally the wall should be made of reinforced concrete)			

Questions that must be answered before any Steel Erection or Roof Cladding Work is carried out.	Yes	No	Action required
Will you ensure that the concreted stanchion foundations are sufficient to support the structure of the building?			
Will a safe system for erecting steel be put in place?			
Will a mechanical system be used for lifting steel?			
Will it be ensured that the area where steel and roof materials are being lifted over is kept clear of people?			
Have you ensured that all work at height is properly planned and that it is carried out in a safe manner?			
Have you organised the work so that work at height is minimised? (e.g. rafters assembled at ground level)			
If anchor bolts are used will they be securely cast in concrete?			

Questions that must be answered before any Steel Erection or Roof Cladding Work is carried out.	Yes	No	Action required
Will all bolts be securely tightened?			
Will a mobile elevated work platform, scaffolding, a podium ladder or a platform ladder be used for work at height?			
Will safety netting be placed under the span of the building that is being sheeted?			
Will sheets be lifted up safely?			
Will a safety barrier be placed around the sheeted edges of the building?			
Will shatterproof skylights be used?			

Questions that must be answered before any Demolition Work is carried out.	Yes	No	Action required
Have you carried out a risk assessment?			
Have safe methods of work been put in place? (work should be carried out from the top down)			
Have you inspected the building for asbestos? (If asbestos is present (e.g. asbestos sheeting) appropriate safe systems of work must be put in place)			
Have you disconnected the electric power supply?			
Will you put measures in place to ensure the safety of children and members of the public?			
Will you erect appropriate warning signs and fence off hazardous areas?			



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## Further Information

For further information please contact your local FBD or Teagasc office or log on to the following websites:

[www.fbd.ie](http://www.fbd.ie) | [www.teagasc.ie](http://www.teagasc.ie) | [www.hsa.ie](http://www.hsa.ie)



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