



# Health & Safety Authority

## Pedestrian Guidance Toolbox Talk

Via Webex  
2<sup>nd</sup> March 2021



# SPRING QUARRY SAFETY CAMPAIGN 2021

**1ST - 12TH MARCH 2021**



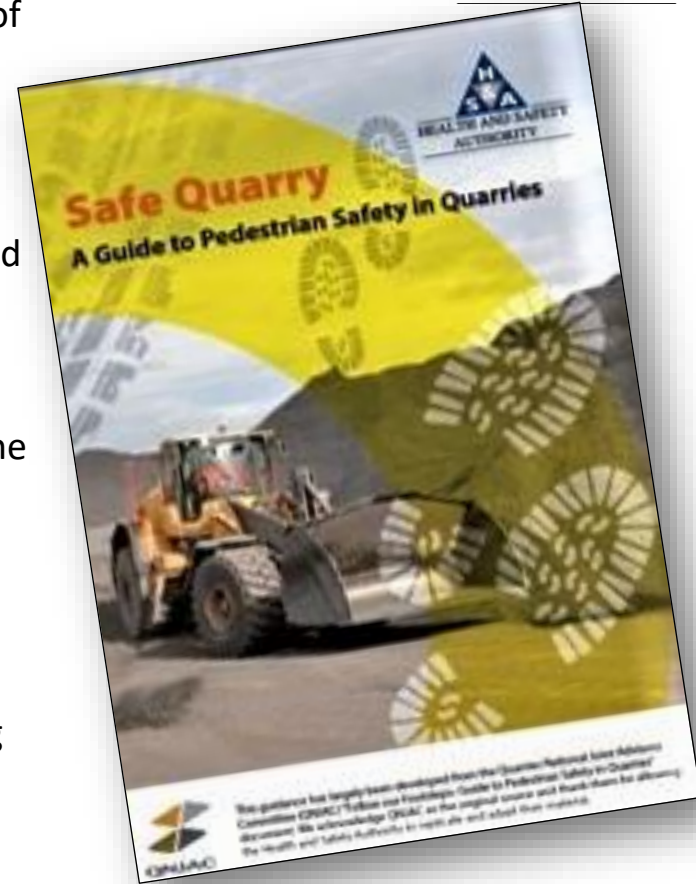
**#BESEENANDBESAFE**

# Pedestrian Safety Toolbox Talk

- Up until the most recent fatality at a quarry, the quarrying sector was almost 5-years fatality free, maybe good fortune or possibly because of increased health and safety awareness in the sector.
- There seems to be a greater emphasis placed on managing and controlling risks and more company resources given to H&S.
- This does not mean that the quarry industry can relax its focus as the potential for serious and fatal incidents at quarries remains high.
- Vehicles account for over 50% of all workplace fatalities across all sectors.

# Pedestrian Safety

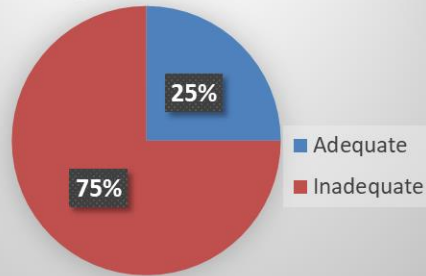
- Quarries rely heavily on large vehicles to excavate, load, and transport rock and other products with high levels of vehicle movements. Any impact with a pedestrian is extremely serious and often fatal.
- The Guide to Pedestrian Safety in Quarries (a New Publication) shows Quarry Operators how to identify and manage pedestrian movements in their quarry.
- It enables the Quarry Operator to consider appropriate control measures to ensure the safety of pedestrians, the elimination of pedestrians from production areas, establishment of traffic routes, dedicated pedestrian routes with appropriate crossing points.
- The guidance also identifies the importance of well-maintained high visibility PPE and the benefits of having adequate visibility aids on vehicles to reduce the risk of vehicle/pedestrian incidents.



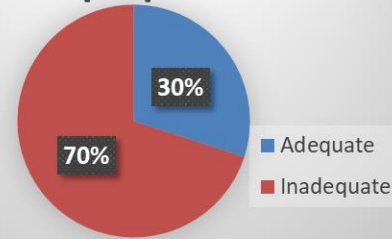


# 2019 Campaign Negatives

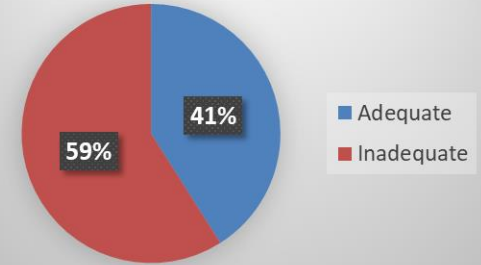
### Is there a Traffic Management Plan



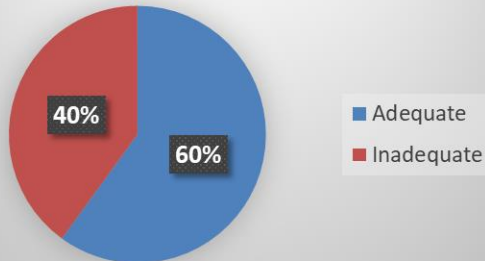
### Customers/Visitors rules prepared



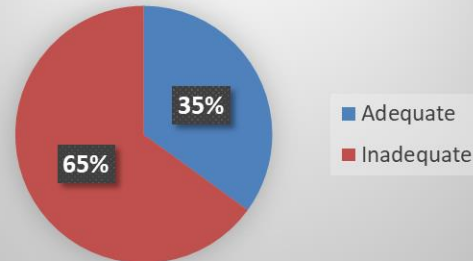
### Procedures for Light Vehicle drivers



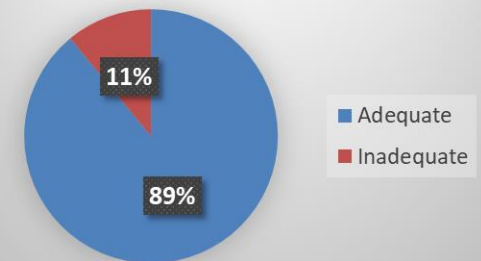
### locations not carrying out Brake testing



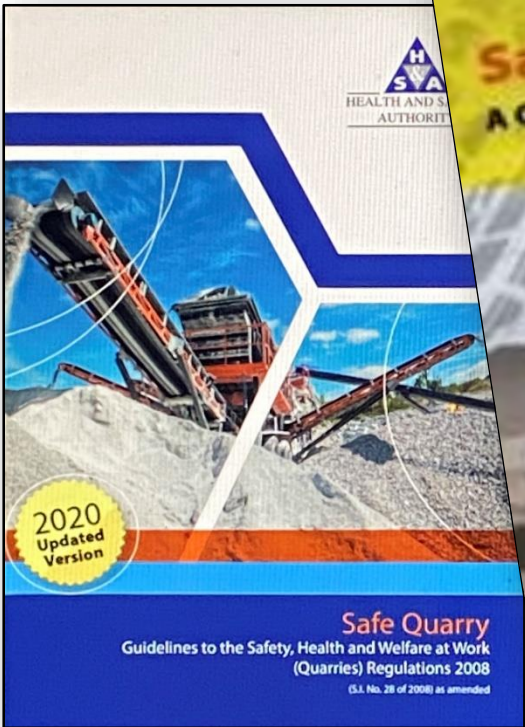
### Identifying/Mark Pedestrian Routes



### Reversing Aids on Vehicles



# Specific Guidance



# Pedestrian Guidance for Quarries

## Guidance

1.1	Scope of this guidance .....	2
1.2	Who is a pedestrian? .....	3
1.3	What should site management consider? .....	4
1.4	What should site management do? .....	6
1.5	Who do you involve? .....	8
1.6	When to review? .....	8

## Appendices

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2.2	Illustrated examples of improvements to pedestrian safety controls on site .....	10
2.3	Personal Protective Equipment (PPE) for pedestrians .....	12



Our Vision:  
Healthy, safe and  
productive lives and  
enterprises



# Pedestrian Walkways clearly Signed



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Keep pedestrians safe  
where you work

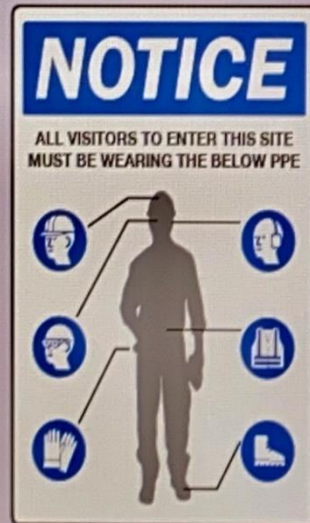


Warn them

Control them

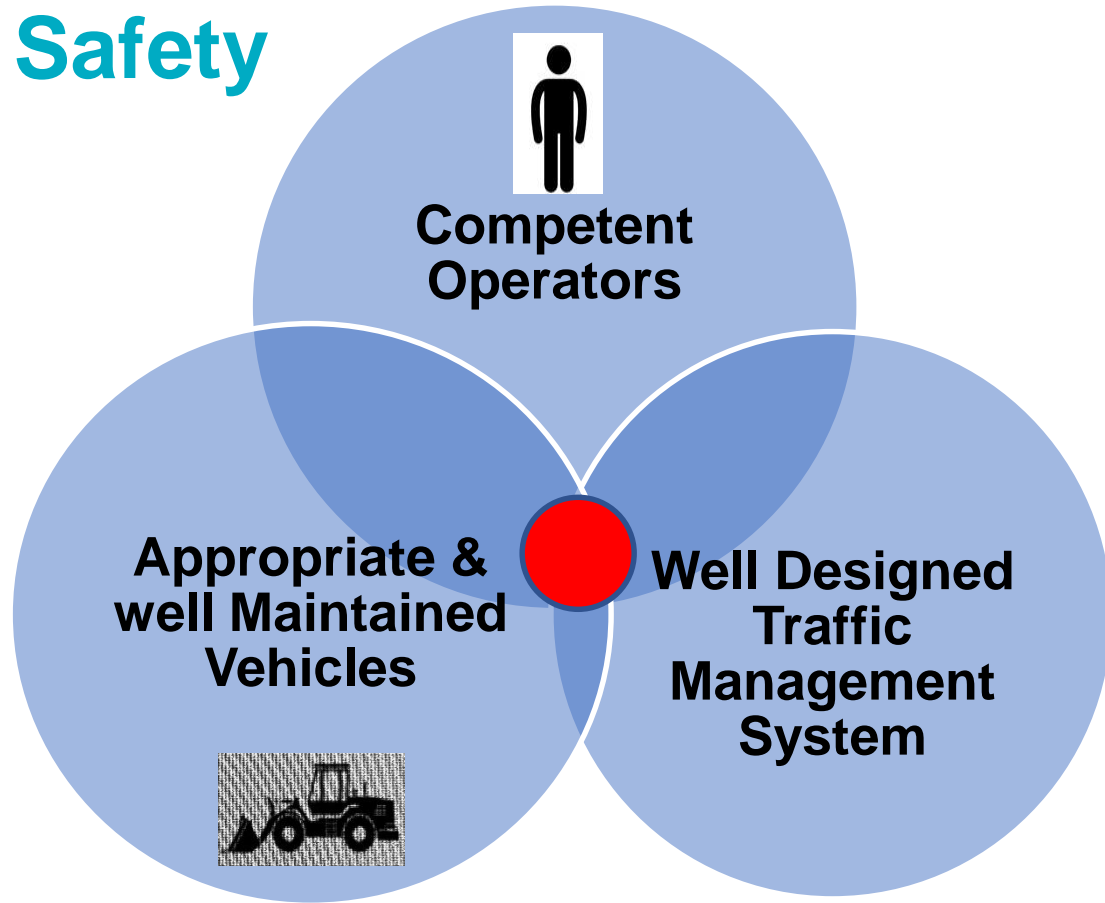
Equip them

Stay with them





# Improving Vehicle & Pedestrian Safety



# Operators

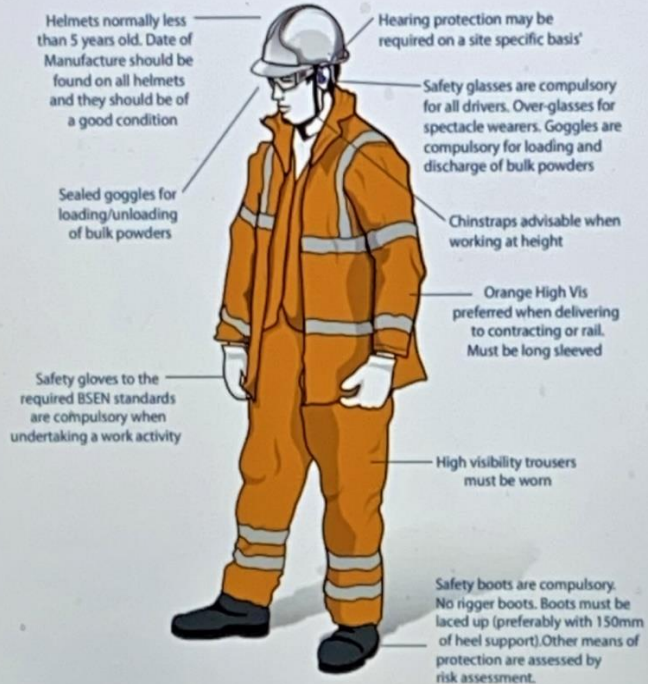
Do Operators follow safe driving practices;

- Maintain their driver competency, (QSCS)
- Comply with Speed Limits,
- Follow one-way systems and minimize reversing,
- Know & follow the Traffic Management Plan,
- Follow mobile phones policy...
  
- Mobile phone policy should also apply to pedestrians

# Operators – Fit & Ready for Work

## PPE for all Drivers

### Delivery Drivers



High Visibility Clothing to  
EN471 Class 3 - High Speed Roads

## Are your vehicle operators;

- ✓ *Trained*
- ✓ *Experience*
- ✓ *Assessed COMPETENT*
- ✓ *QSCS where required*
- ✓ *Suitable for tasks (attitude)*
- ✓ *Fit for Work*
- ✓ *Monitored*
- ✓ *Supervised*



# Operator – PPE Adequate & Maintained



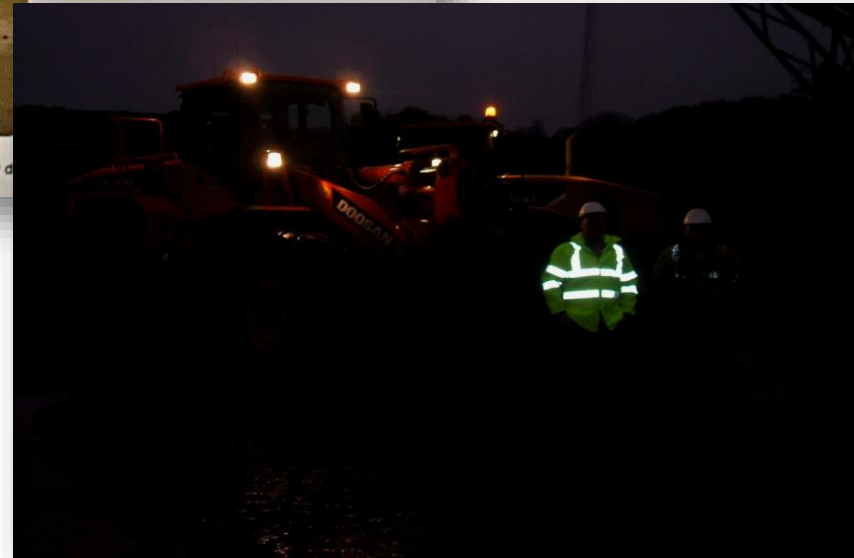
against any background. Each site will have its unique shades of whatever minerals are being processed there, so consider the contrast.

The same goes for faded PPE, in that it may have started as a stark contrast to its background but when dulled over time, will often blend dangerously with its background.



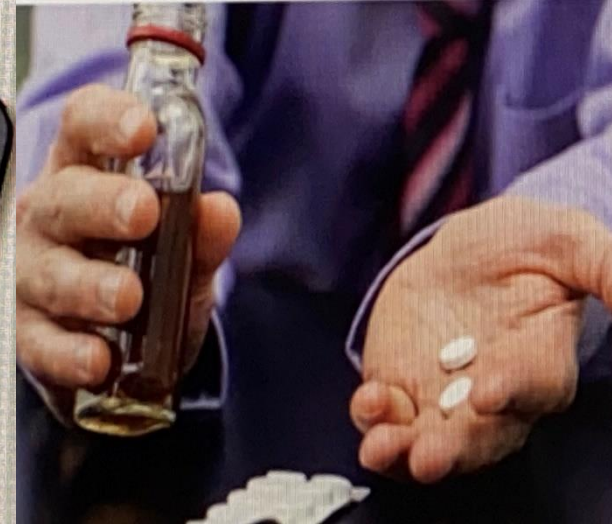
This photograph illustrates how faded PPE can start to blend with the

This photograph illustrates how the light source behind the high visibility clothing reduces the effectiveness of the reflective material.



# Know Your Operators

- X DON'T** - Use hand-held phones or other electronic devices whilst driving
- X DON'T** - Use phones on customer sites unless the vehicle is stationary
- X DON'T** - Use mobile phones or two way radios in an MPA member production and loading areas.



# Safe well maintained Quarry Vehicles

- Use vehicles which are suitable for the work to be undertaken
- Well Maintained particularly Brakes, Tyres,
- Operator all round visibility,
- Provided with FOPS & ROPS,
- Suitability of Access/Egress,
- Use of Seat belts promote,
- Driver protected from noise, dust & vibration ...
- “Daily Checks carried out” must include all vehicles operating in quarry (including contractors’ vehicles)
- ***Completed by vehicle operator***
- ***Record findings in vehicle inspection book***
- ***Report defects to quarry manager***

## Vehicle Daily Inspection

- ✓ Brakes
- ✓ Tyres, wheels
- ✓ Steering
- ✓ Mirrors
- ✓ Oil levels
- ✓ Safety and warning devices e.g. horn,
- ✓ Flashing beacons,
- ✓ Reverse beepers,
- ✓ Camera/s





# Safe Vehicle Access and Egress & Operator Protection



*All excavators operating  
at the quarry face must  
have FOPS protection.*



# Ensure all Round Visibility

- Operator must be able to see all round the vehicle
- Dump trucks, loading shovels, telescopic handlers, excavators, lorries – all vehicles operating inside the quarry





# Reversing Cameras Checked



- ***Kept Clean?***





# Mirrors

***Adjusted & Kept Clean!***



# Quarry Vehicle Tyres Checked

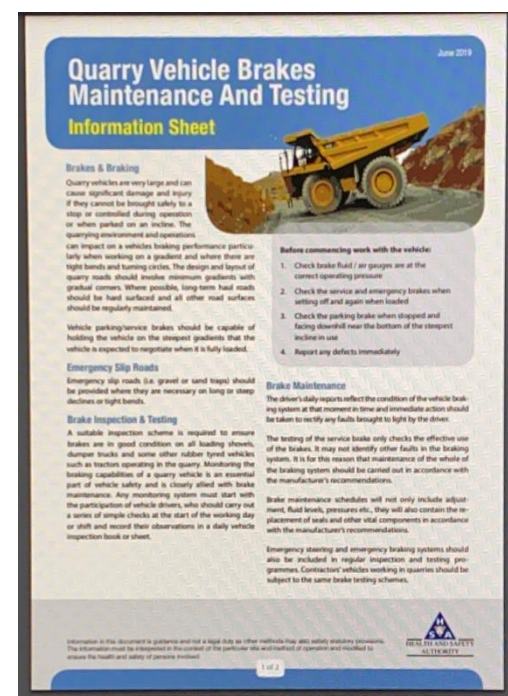


- Inspect tyres as part of daily inspection scheme
- Replace tyres when necessary eg damaged, wire showing, chunks missing, slick



# Carry Out Brake Testing

- To indicate sudden or progressive deterioration of the braking performance
- Test performed by vehicle operator
- Operators to check brakes on a daily basis at the start of shift
- Check service and emergency brakes
- Check parking brake when stopped and facing downhill near bottom of steepest haul road
- Record observations in vehicle inspection book
- Report defects to Quarry Manager immediately





# FOPS & ROPS Provided



# Now Consider the System of Work

- Develop a Traffic Management Plan
- Make a detailed Sketch of the Quarry
- Consult all who work at or regularly visit the Quarry
- Identify with them common / frequent vehicle and pedestrian routes
- Design traffic flows and pedestrian walkways to ensure segregation
- Designate Production areas/haul roads as pedestrian free areas
- Provide dedicated pedestrian routes and crossing points
- Design system to minimise interaction between all vehicles & pedestrians
- Implement, Monitor & Improve

# Workplace must be designed to minimise the hazards

Are haul roads adequate in relation to:

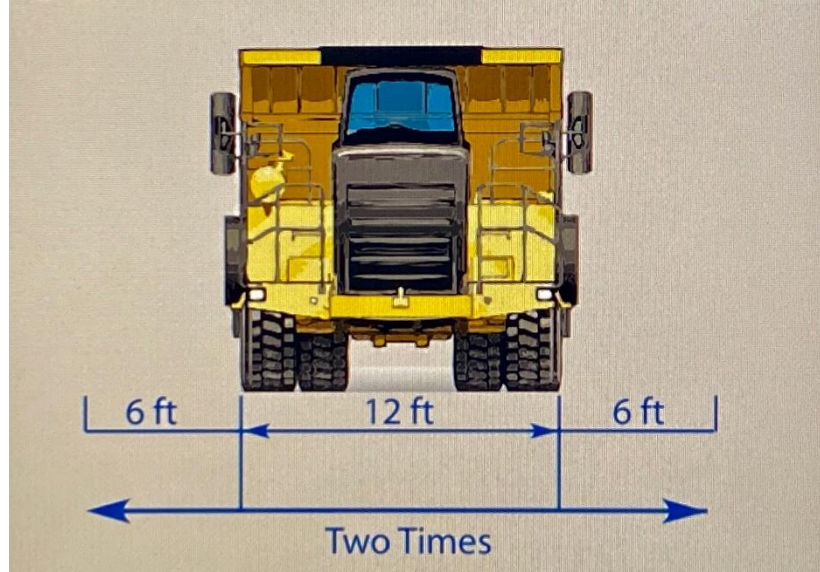
- ✓ One way systems established (where possible) that minimise reversing
- ✓ Width of roadways
- ✓ Edge protection
- ✓ Passing points
- ✓ Gradients
- ✓ Run Off Areas
- ✓ Road Surfaces
- ✓ Pedestrian Safety



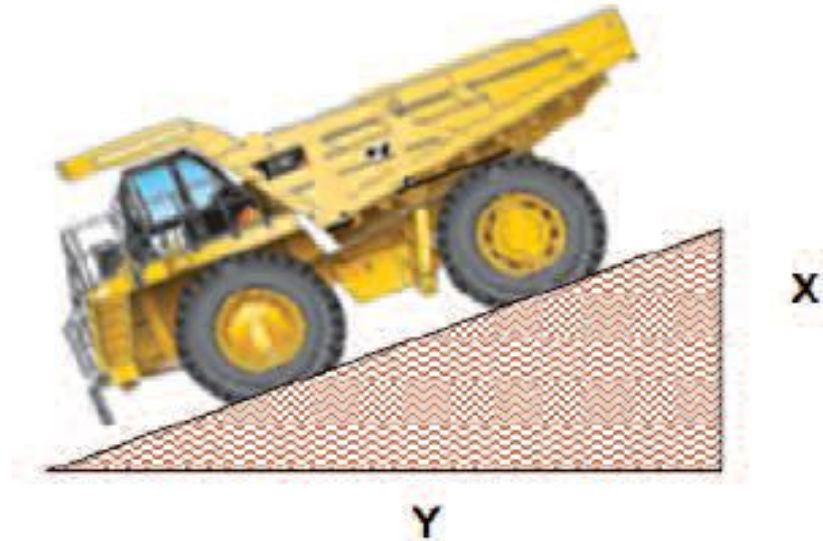


# Haul Road Width & Gradient

Figure 6: Recommended haul road width (single vehicle).



**Gradient should not exceed 10%**



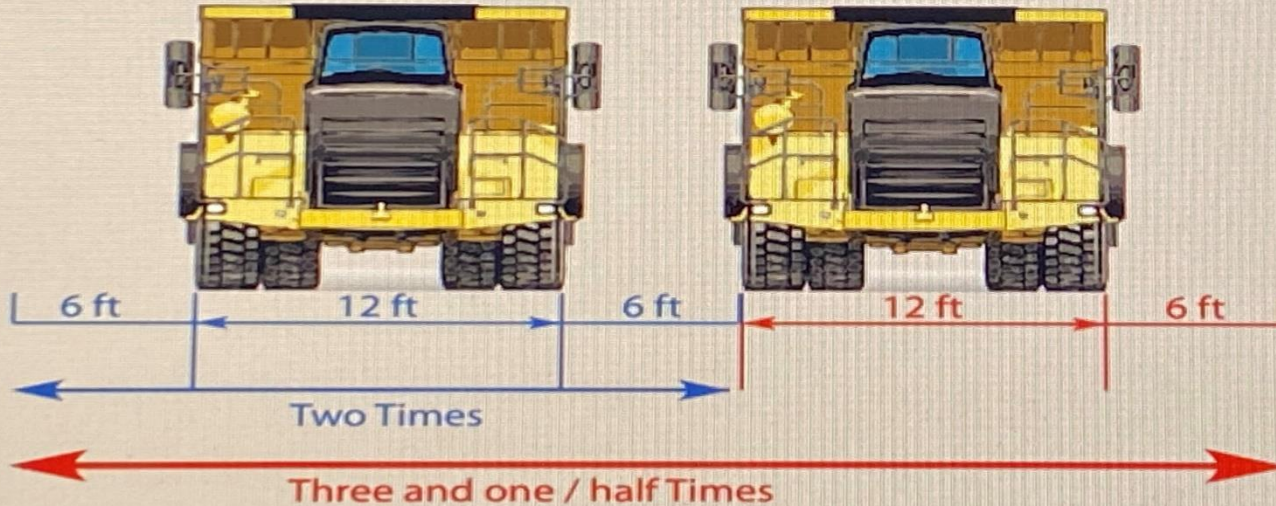
$$X/Y \times 100 = \% \text{ Gradient}$$

# Width of Haul roads



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*Figure 7: Recommended haul road width  
(two-way traffic)*



*Where possible small vehicles should have separate dedicated routes, use beacons/flags.*

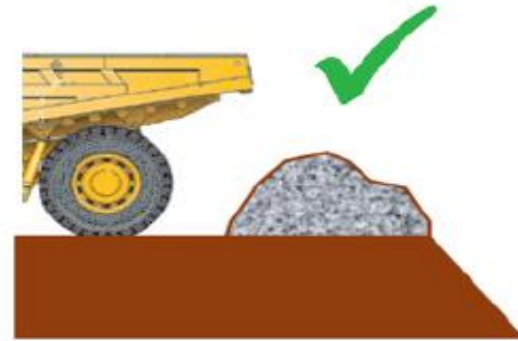
# Vehicle Edge Protection

- Required on all free edges where there is a drop
- Min. height 1.5 m or radius of the largest wheel (whichever is greater)
- Additional protection in high risk areas e.g. sharp bends, steep haul roads
- Adequate to stop the largest fully loaded vehicle breaking through edge protection when travelling at max foreseeable speed





# Vehicle Edge Protection



SUITABLE EDGE PROTECTION BERM PROFILE



UNSUITABLE EDGE PROTECTION BERM PROFILE

# Working Environment – Consider Changing Weather Conditions

- **Working Environment**

*Weather*

*Rain/Storm*

*Flooding's*

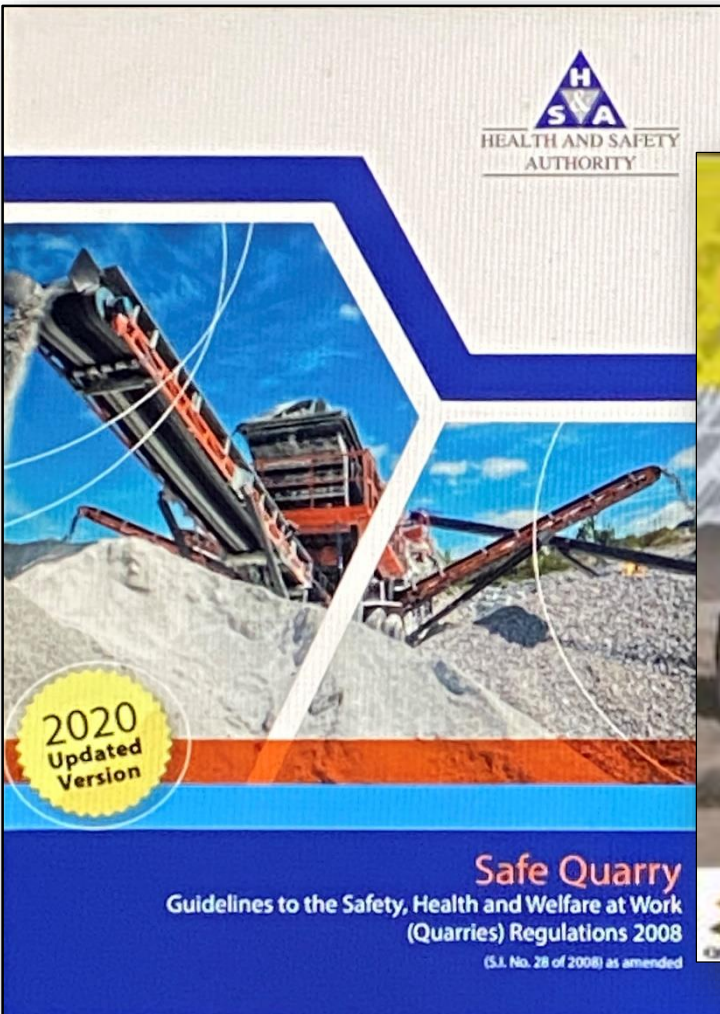
*Heat*


*Sun Glare*

*Dust*



# Guidance



  
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**2020  
Updated  
Version**

**Safe Quarry**  
Guidelines to the Safety, Health and Welfare at Work  
(Quarries) Regulations 2008  
(S.I. No. 28 of 2008) as amended



  
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**Safe Quarry**  
A Guide to Pedestrian Safety in Quarries

  
This guidance has largely been developed from the Quarries Safety Committee (QSCAC) 'Follow-up Framework Guide to Pedestrian Safety' document. We acknowledge QSCAC as the original source and that the Health and Safety Authority is not to be held responsible for any errors or omissions in this guidance.

**Pedestrian Safety in the Workplace  
Information Sheet**

December 2019

This information sheet deals with pedestrian safety in fixed and temporary workplaces. It is aimed at employers, self-employed people and people in control of places of work. It explains the importance of managing pedestrian safety in workplaces where vehicles, mobile plant or machinery operate.

Pedestrians can be exposed to potential harm in their own workplaces from vehicle movements, falling objects, or slips, trips and falls. Particular attention should be paid to visitors and visiting workers, e.g. delivery drivers, who are unfamiliar with workplace operations. It is very important that visitors are supervised and controlled from the time they enter a workplace to the time they leave.

**Who is at risk?**

Everyone who works in a job or who is being recruited, including information technology workers in their workplaces. This includes office environments.

Employees who people affected at risk in the workplace. They can be employees, members of the public or visiting workers. Other visitors include people in the vicinity of vehicles. This is only people who are mobile and liable to step into the path of a vehicle. They are not people who are stationary and who are not in the workplace with the person using the work vehicle.

**What the law requires**

For the pedestrians and vehicles that the safety committee will have to make a risk assessment of work. The risk assessment should be carried out by an appropriate person for the nature of your activity. Vehicles must be used safely and visitors must be supervised from the time they enter and leave the workplace. Other visitors and pedestrians must be supervised from the time they enter the workplace and the pedestrian, who will be carrying work equipment in a bag, should be supervised in passing pedestrian routes during the work day. If pedestrians must be through any door or entrance route in a place to prevent employees from being...



  
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<b>Location :</b> _____	<b>Date:</b> _____			
<b>Quarry Entrance and Office</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Comments</b>
Is there adequate Signage at Quarry Entrance? (Warning of Vehicle Movements/Speed Limits/Parking areas/Customers & Visitors to report to reception or Office or Weighbridge)				
Are Procedures in place for small load customers? (Trailers etc.)				
Are Rules Prepared and provided to Customers/Visitors?				
Are there identified Pedestrian routes with directions from parking areas?				
<b>Traffic Routes</b>				
Is there a Traffic Management Plan?				
Are traffic routes identified and sign-posted?				
Are roadways well designed with surfaces well maintained?				
Are there speed limits signs?				
Are speed limits enforced?				
Are rights of way signposted?				
Are appropriate one-way systems in use?				
Is reversing minimised?				
Are actions taken to protect pedestrians? (identified routes & segregation)				
<b>Light Vehicles &amp; Service Vehicles</b>				
Are light vehicle movements restricted in the quarry? (Who/When/Where)				
Do Light vehicles have roof mounted flashing amber/hazard lights on?				
Are Procedures in place for Light Vehicle drivers to follow? (Rights of way/ Traffic Routes)				
Do Tractors/Fuel Bowsers/Water Bowsers/Road Sweepers have beacons and warning lights?				
Are PTO Shafts adequately guarded?				



# Checklist matches Question Set

Vehicle and Pedestrian Safety Checklist



2021 Initiative

--	--	--	--	--

<b>Vehicles</b>				
Do vehicles have adequate Reversing and visibility aids?				
Is Brake testing carried out on Loading Shovels and Dumper Trucks?				
Can tyre inflation take place without endangering persons?				
Is there a policy on "No Children Allowed" in quarry or vehicles?				
Do procedures require drivers to remain in vehicles during loading?				
<b>Pedestrians</b>				
Are Pedestrians segregated where possible?				
Is appropriate High-Vis PPE provided, used and maintained?				
Are Pedestrian Routes identified and Marked?				
Are vehicles restricted from passing close to Pedestrian Doors at Canteens/Welfare Facilities/Workshops/Offices?				
Are Concave/Convex Mirrors provided at blind spots at exits from offices/workshops/canteen/welfare facilities? etc				

**Additional Suggestions;**

# Pedestrian and Vehicle Interactions



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- Dedicated Parking Areas for Visitors/Employees Vehicles
- Pedestrian Routes to be immediately identifiable
- Dedicated small load pick up area
- Segregation of Pedestrians & Vehicles at all times
- Hauliers to remain in their Vehicles During loading
- <https://vimeo.com/189619601>

(Drone - Traffic Management)


[https://www.youtube.com/watch?v=xikTo809p\\_g](https://www.youtube.com/watch?v=xikTo809p_g)  
<https://www.youtube.com/watch?v=2kjBg9oWk84>





# Consider Other Company Drivers

- Company Reps
- Engineers
- Contracts



**Managing Driving for Work My Responsibilities**  
Information Sheet October 2016

This information sheet will help you learn about the relevant legislation, duties of employers, and how to implement a safe systems approach to managing driving for work. It will help:

- employers who provide staff with vehicles (including powered two wheelers) to drive for work,
- employers who provide staff with bicycles to use for work,
- self-employed people who drive vehicles or ride motorcycles or bicycles for work,
- employees who drive their own vehicle for work.

This information sheet complements the Managing Driving for Work e-learning course which can be found at [www.hse.ie/eng/forwork/](http://www.hse.ie/eng/forwork/).

Driving for work involves a risk not only for drivers, but also for fellow workers and members of the public such as pedestrians and other road users who share the road space. People who drive for work have a higher collision rate than the general driving population, even after their higher mileages are taken into account.




As an employer or self-employed person, you have a legal duty to manage the risks that employees face (and create for others) when they drive for work. Businesses, employees and the community all benefit from safe driving for work.

You should have systems in place to make sure that employees comply with your driving for work policies. Employers cannot directly control road or weather conditions, but they can influence the way their employees act and behave on the road.

**What the law requires**

Health and Safety law applies to driving for work in the same way as for all work activities. As an employer, you should have a safety management system in place for managing all work related risks. Driving for work risks should be managed as part of this system. You must also make sure your employees are:

- legally entitled to drive the vehicle they are using,
- using a vehicle that is safe and roadworthy,
- trained, competent and fit to drive their vehicle safely, and
- using their vehicle safely.

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Road Safety Authority

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**Make Sure your Next Step isn't your Last!**

**Thanks For Your Attention – Q's**



# Thank you



**Our Vision:**

**Healthy, safe and  
productive lives and  
enterprises**

Health and Safety Authority

**Tel: 1890 289 389**

International callers

00353 1 614 7000

[www.hsa.ie](http://www.hsa.ie)



# Useful Videos

## New Traffic Management

<http://safequarry.com/BestPracticeView.aspx?kBestPractice=1961&fkActivity=32&fkLocation=7>

## Traffic Pods for Pedestrians

[https://m.youtube.com/watch?v=7Tg42qc6\\_KY&feature=youtu.be](https://m.youtube.com/watch?v=7Tg42qc6_KY&feature=youtu.be)

## Quarry Traffic Management by Drone

<https://vimeo.com/189619601>

## High Speed Site Deliveries

<http://safequarry.com/BestPracticeView.aspx?kBestPractice=2006&fkActivity=32&fkLocation=31>

## Blue Lights for Tarmacking

<http://safequarry.com/BestPracticeView.aspx?kBestPractice=1999&fkActivity=40&fkLocation=10>

## H.S.A. Quarry Video Playlist

[https://www.hsa.ie/eng/Your\\_Industry/Quarrying/Events\\_Organisations\\_Publications/Publications\\_and\\_Videos/](https://www.hsa.ie/eng/Your_Industry/Quarrying/Events_Organisations_Publications/Publications_and_Videos/)

# Brake Testing

- To indicate sudden or progressive deterioration of the braking performance
- Test performed by vehicle operator
- Operators to check brakes on a daily basis at the start of shift
- Check service and emergency brakes
- Check parking brake when stopped and facing downhill near bottom of steepest haul road
- Record observations in vehicle inspection book
- Report defects to Quarry Manager immediately

# Brake Testing Area

- Consider safety of personnel and vehicle
- Ideally away from normal traffic route
- Level ground
- Good visibility
- Signposted





# Brake Testing

- Instrumented test by competent person using an electronic brake efficiency meter
- Every 500 hours or every 3 months
- Some vehicles have permanently fitted meters

## Electronic Brake Testing

- Driver accelerates to test speed and maintains to marker post 1
- Brakes applied at 'Brake Start' marker post
- Driver records stopping distance using distance marker posts
- If outside acceptable stopping distance WITHDRAW vehicle from use