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# PROTECTION OF THE GENERAL PUBLIC -



## Safety of Construction Sites Guidelines

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## Amendments Issue Dates

<b>ISSUE No.</b>	<b>DATE of ISSUE</b>	<b>AMENDMENTS</b>	<b>AUTHOR</b>
1.0	March 2006	Sections removed from Doc. 1 to make separate detailed doc.	John Rizzolo
1.1	May 2006	Additional information on external works risk assessments. Separate section on mobility impaired added	John Rizzolo
1.2	Nov.2006	Legislative update	John Rizzolo

## FEEDBACK FORM

Comments on the documentation and improvement suggestions are welcome. Feedback may be provided using this form, or by email to:

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(Comments or suggestions may be attached as marked up copies of pages from the document)

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**Document NO. and reference:**

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**Issue or comment:**

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**Specific change proposed:**

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**From:**

Name: \_\_\_\_\_ Position: \_\_\_\_\_

Contractor: \_\_\_\_\_

Date: \_\_\_\_\_

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# PROTECTION OF THE GENERAL PUBLIC - Safety at Construction Sites Guidelines

## 1.0 PURPOSE

The aim of these guidelines is to reduce as far as practicable the risks to the safety and health of members of the public at or adjacent to construction sites and construction activity.

## 2.0 SCOPE

The guidelines applies to all construction work undertaken directly by Ballymun Regeneration Ltd., DCC, Utility Companies or the private sector developments, and applies to the management of Contractors undertaking construction work within the Ballymun Scheme.

## 3.0 OBJECTIVES

- The general public is adequately protected from construction activities occurring within the sites or in the public spaces.
- The PSCS has documented strategies to provide a safe and secure work site.
- Working on the road and protection of Council assets is well managed.
- The work site is kept neat and tidy to maintain public safety and local amenity.

## 4.0 REFERENCES

The PSCS shall comply with the following health & safety statutory requirements:

### Applicable Legislation Includes:

- *Safety, Health and Welfare at Work Act, 2005*
- *Safety, Health and Welfare at Work (Construction) Regulations, 2006*

### Applicable Codes of Practice or Guidance Notes Includes:

- *Guidance Note HS (G)151, Protecting the Public -your next move- HSE Books,1997.4.*

## 5.0 DEFINITIONS

**5.1 Public** is defined for the purpose of these guidelines as:-

- a) a resident;
- b) bystander
- c) pedestrian and road users who could be affected by work activities on site locations
- d) Employees of neighbouring businesses;
- b) or other person in the immediate area of the construction site (but not employed, contracted or subcontracted in connection with the construction works).

**5.2 Construction Site** Within these guidelines means any location (whether segregated from the public or not) BRL sites, Private Developers or public property on which assets are being erected, modified or dismantled by BRL appointed contractors, DCC, utility companies or private developers within the Ballymun Regeneration Scheme.

## 6.0 INTRODUCTION

Construction sites create risks not only for the construction worker, but also for the public who move around the site or who may live adjoining them. Children and other members of the public have been killed or injured because construction activities have not been adequately controlled. Protecting the public from the hazards created by construction work should be a fundamental objective of any construction project.

Local authorities, construction companies, and workers all have a part to play in ensuring the public are not endangered by construction work. The general public must be protected from the hazards associated with construction work that may be carried out in a public area or adjacent to such area.

Contractors frequently undertake construction activities in areas accessible to the public. Children, local residents and other members of the public are often attracted to construction activities. These same persons are generally much less aware of hazards and necessary precautions on construction sites than are the construction workers and site personnel. Contractors clearly has responsibilities to do all that is reasonably practicable to prevent public injury at our construction sites, even where access to the site by the public has been prohibited.

The first step in any construction project with regard to public protection is the identification of hazards and the planning of the best methods of elimination or control of the hazards. The PSCS must incorporate the following in his Safety & Health Management plan for the project.

- Identification of the hazards to the public;
- Evaluate the risk of harm those hazards create;
- Define safe design criteria or construction methods and prescribe physical safeguards to avoid or reduce injury and prevent property damage, and

- Inform all levels of management of the degree of risk and ensure appropriate training is implemented.

In determining what is “reasonably practicable” it is necessary to assess risk (i.e. the likelihood and probable severity of an injury to the public).

The **likelihood** of an injury to the public is influenced by factors including:

- proximity of the construction works to public areas (eg. adjacent residences, shopping centres etc)
- proximity to children or others with little awareness of hazards (e.g. adjacent schools, playgrounds etc)
- the number and nature of hazards on the site
- the duration of the construction work
- existing perimeter fencing or other features which may be a deterrent.

Similarly the **probable severity** of an injury to the public is mostly determined by the nature of hazards on site.

An assessment of risk (likelihood and probable severity of public injury) must be conducted for all construction work undertaken by BRL appointed contractors, DCC or its contractors Private Developers or Utility Companies.

## 6.1 Hazards

Non exhaustive list of construction site hazards that can affect the public in the vicinity include:

- Changes to surface levels;
- Excavations, holes and trenches;
- Plant and equipment;
- Dust,
- Mists/Sprays, vapours or other hazardous substances;
- Noise;
- Vibration;
- Site visitors;
- Objects falling from buildings. These have included concrete debris, chisels, bolts, timber off-cuts, scaffold planks and even steel beams.
- Overhead loads in occupied areas, bundles and pallets of building materials swung above people’s heads.
- Construction trucks crossing footpaths, or emerging suddenly and unseen from a site.
- Lighting/arcs/ glare that are a hazard
- Broken and uneven footpaths, holes not filled in, footpaths covered in mud and in water.
- Public ingress and egress of adjoining properties
- Paint, water, concrete or grit sprinkled on people or cars.



- Pedestrians having to negotiate between scaffolding tubes or possibly tripping over awkwardly placed sole plates.
- Contact with chemicals or hazardous materials stored either on site or in skips for waste materials
- Stormy weather can also create hazardous conditions e.g. where hoarding or site protection collapse or barriers are overturned
- Open excavations that an adult or child could fall into.
- Noisy concrete pumps or compressors near where the public walk.
- Pedestrians being forced to walk on the roadway, without any protection from traffic.
- Trucks, vehicles double-parked on the roadway, or with protruding loads impeding traffic.
- Welding flashes, and an absence of suitable hoardings.
- Site security during non-working periods.
- Footpath obstacles for the aged, people with disabilities, and push pram that force them to step over, walk around hoses, debris, or building material, or detour over kerbs, where simple ramps or run-ups could be provided.

Where practicable (determined by risk assessment), the public should be *prevented from entering the site* or approaching construction activities. Where this is not practicable (or to the extent that measures to keep the public off the site cannot be relied on) precautions must be taken within the site such that it is safe for the public to enter. Specific hazards within the site that should be considered include but are not limited to –

- open excavations
- holes and openings
- falls from height
- welding flash
- access to hazardous substances, flammable materials, plant and equipment when unattended
- operation of equipment such as mobile plant, nail guns, lasers
- disposal of site wastes (eg. hazardous substances containers; asbestos cement).

So far as practicable, at the end of each day's work the sites are to be made safe (in event of unauthorised access by the public) by means such as –

- backfilling excavations
- bunting/fencing of boring pits, open excavations and similar structures
- securing of plant and materials
- covering of holes
- warning signs
- locking of access gates (fenced sites)
- presence of a security guard if necessary

Attached to this procedure is a guide to appropriate controls for typical public hazards at construction sites, for 'low' and 'high' public risk areas. Frequently a site will not neatly fit either such description, or may have additional hazards. The guide should not be taken as

a definitive or exhaustive list of necessary controls (as should be identified through an initial risk assessment and ongoing observation on site).

Welding screens should be erected around arc welding locations generally, but particularly in areas where welding can be viewed by the public.

The size, complexity and location of a project often dictate's the amount of public protection required. For example an addition to a primary school will have far greater requirements than an addition on a mine site. The mine site is isolated with no public access as compared to a primary school which is usually never isolated and encourages public access.

In assessing the risks to the public it is also essential to analyse who would be at risk and how, eg age factors, physical impairments etc.

## **6.2 Changes to Surface Level, Excavations, Holes and Trenches**

Site works, footpath alterations, etc often create hazards to the public which can easily be eliminated or controlled by the following:

- Erection of barriers around hazards;
- Display of warning signs/lights;
- Arrange for a traffic/person controller to redirect traffic/persons;
- Provide a temporary by-pass for traffic/persons;
- Provision of additional lighting at night;
- Where the construction process breaks into site perimeter fencing, temporary fencing must be provided to maintain the same level of protection and security;
- Where practicable, arrange so that excavation across driveways and roadways is backfilled before the end of a working day. If this is not practicable provide access and temporary fencing across the excavation;
- Maintain vigilance of hazard during work breaks eg ensure a controller is in position during breaks, and

## **6.3 Adjoining Properties**

The proximity and type of adjoining properties must be taken into account. For example a school located nearby will provide a large number of children who are generally always intrigued by construction sites. If the site location is in a business area, pedestrian movement would be high in the early morning, lunchtime and late afternoon.

Construction work which affects the stability of adjoining structures must also be assessed to ensure that the structural integrity of the buildings alongside are maintained. The construction methods used may also create hazards. For example the use of sheet piling may provide a noise and vibration nuisance.

## 6.4 Falling Material and Debris

Falling materials and debris can cause serious injury to the public. Multi-storey construction adjacent to the footpath requires planning to ensure that public safety is maintained at all times. Example measures which can be implemented to alleviate the hazard of falling material and debris are:

- The use of scaffolds with fans - eg catch platforms;
- The erection of hoarding or barricades;
- The erection of gantries;
- The use of Brick guards
- The use of chutes for discharge of debris;
- The maintenance of efficient work practices - eg overhead work areas maintained clean and clear;
- Clear area maintained around perimeter of building;
- Scheduling of work to minimise risk, and
- Fence at 2:1 ratio (height to distance from building).

### **Dust, Smoke and Fume Control**

That air quality (airborne dust and pollutants) in and around a construction site is to be maintained at acceptable levels throughout the construction period.

*(See Doc. 3-Po-CSM: ENVIRONMENTAL MANAGEMENT, section for compliance details)*

### **Vibration and Noise**

Noise and vibration often provide more of a perceived hazard to the public than actually cause physical damage.

*(See Doc. 3-Po-CSM: ENVIRONMENTAL MANAGEMENT, section for compliance details)*

## 6.5 Adjoining Roads

If traffic disruption is expected the impact to the traffic flow must be assessed. The volume of traffic flow and times of day of such flow are also important. For example on a busy major arterial road the disruption to traffic flow on weekdays may preclude such work. The implication of this may be that only weekend access is viable. The planning of operations on site therefore becomes imperative as prudent access scheduling can minimise traffic disruption.

*(See BPM 4 TRAFFIC CONTROL AND MANAGEMENT OF ROADWORKS for compliance details)*

## 6.6 Transient Persons

The location of a site in terms of pedestrian access taking the shortest route is essential. The site may be located between a bus stop, a school or an office area for example. Therefore the amount of pedestrian flow at various times of the day must be taken into account in particular when the site is adjacent the footpath.

## 6.7 Construction Plant and Equipment Machinery

Construction machinery movement to, around and on construction sites creates hazards. The public can be isolated by the following measures:

- Enclosure of entire construction/worksite site via fencing;
- Display of warning signs/lights;
- Arrange for a trained competent traffic/person controller to redirect traffic/persons;
- Provide a temporary by-pass for traffic/persons;
- Erection of barriers around work area;
- Utilisation of temporary barriers such as heaps of sand to prevent access;
- Use of spotters working with the plant, and
- Locking of site at night and tagging out of all plant and equipment

Contractors' deliveries will cause extra hazards on the road for all road users, especially children. Contractors must try to ensure deliveries are made outside school starting and finishing times whenever possible, especially on sites near schools. All deliveries will utilise the authorised routes for entry and exit from the site and not from the roadway where feasible to do so.

Those that could be affected by the works must be notified in advance wherever possible so that where necessary, their normal safety arrangements can accommodate additional safety provisions necessary for the safe use of temporary works.

*(See Appendix 1, RISK ASSESSMENT FOR OVERALL PUBLIC SAFETY for compliance details)*

## 6.8 Pedestrian Traffic

When footpaths could be affected by the works all appropriate guards/barriers and signs must be displayed. Temporary walkways for pedestrians must be at a safe distance from the work. The walkways should be defined with red and white continuous rigid guard-rails or hoarding or similar. Where temporary pedestrian walkways have to be located in roads, red and white secured road timbers or bollards should be used and all appropriate road signs/lights and cones must be displayed. Notice regarding planned closures and diversions of roads and footpaths forming part of work sites must be given by the contractor to the Dublin City Council **Roadworks Control Unit**, the Gardai, the Fire Brigade and other emergency services sufficiently in advance of the required closure or diversion dates so that all appropriate precautions and controls are taken.

Special attention should be given to pedestrian safety when the normal pedestrian routes are closed or obstructed. Detours from footpaths to sidetracks or walkways should be clearly defined and kept clear of any obstructions. Barricades should be erected to protect the public from entering hazardous areas of the work site. It is important that all walkways are clean and free from debris and that walking surfaces are not slippery from mud, oil spillage, etc.

## 6.9 Consideration for Mobility Impaired People

It is important that contractors involved in the provision of any temporary structure, or other obstruction on the roadway, consider the needs of persons who are blind or partially sighted, use wheelchairs, people with buggies, children as well as ordinary pedestrians or persons who have other mobility difficulties and they must all be considered when diverting/closing footpaths.

Contractors are to ensure that all footpath users are inconvenienced as little as possible and that their safety is not prejudiced by inconsiderate activities.

Where it is necessary to provide an alternative or restricted pedestrian route, you must make adequate provision for all persons including those with limited mobility. Temporary pedestrian walkways should have uniform surfaces; there should be no steps, must comprise of ramps, handrails if necessary, good lighting and a suitable surface like smooth non slip/trip concrete or tarmacadam only.

Clear signing should be provided at all times for each pedestrian route, particularly where the destination building has been obscured by the construction site.

All pedestrian routes diverted onto the carriageway must be clearly defined by continuous barriers.

Always make every effort to ensure that pedestrian routes are kept free from clutter or debris that could endanger the public like trip hazards, particularly people who are blind or partially sighted or who have mobility difficulties.

Additionally, great care is required in the consideration of wheelchair bound persons needs, such as the condition and location of access ramps, uneven surfaces.

- **TEMPORARY FOOTPATHS SHOULD BE A MINIMUM 1600 mm WIDE (to allow the free passage of both pedestrians and wheelchair, buggy users), located to take into account the possible "short cut route" that some pedestrians will use.**
- **KERBS TO BE DISHED AS APPROPRIATE MAXIMUM 20 mm height difference between road surface and dished surface.**
- **Ramp slope of 1 in 20, NO GRADIENT STEEPER than 1 in 12 .**
- **NO ACCESS RAMP TO PROTRUDE EXCESSIVELY INTO CARRIAGEWAYS.**

## 6.10 Authorised Visitors and Third Parties

Local residents or other members of the public may occasionally be authorised to temporarily access a construction site.

- Contractors have a responsibility not to jeopardise any person's safety. This covers not only each contractor's Employees, but also the Client's Employees, Sub-Contractor's Employees, Consultants, Visitors and persons making deliveries, etc.
- Visitors being directed to report to the site office (or site supervisor) on arrival (with an appropriate sign at site entrances where applicable)
- Where visitors are allowed onto site locations, they should be made aware of the safety standards and any special hazards. They should be accompanied by a

responsible person and provided with protective clothing/equipment where appropriate.

- Visitors are to be precluded from areas of the site which require specific training to access safely (e.g. Confined Spaces).
- All necessary measures required for the protection of the public must be allowed for and planned.

## 7.0 PERFORMANCE REQUIREMENTS

An assessment of risk to the public shall be conducted for all construction work undertaken by Contractors. In determining the overall risk posed to the public, the assessment shall consider –

- a) the location of the works (proximity to housing areas, schools etc)
- b) specific public hazards likely to be at the site.

Following the risk assessment, a clear strategy shall be established to either:

1. Prevent unauthorised persons from entering within the boundaries of a site by fencing, signs and other means, or
2. Where the above is not practicable (or not fully reliable), to as far as practicable make the site safe for public access by means such as –
  - the presence of site personnel at hazardous locations within the site
  - signs/fences around hazards within the site
  - the securing of equipment and materials and covering of holes when unattended, and
3. Appropriate management, in the case of authorised public visitors having business at the site.

Means of excluding the public from site, or protecting the public who may enter the site shall be described in relevant Job Safety Analysis, Safe Work Procedures, or Safety & Health Management Plan (and in a Traffic Management Plan where applicable). In the case of construction work undertaken by contractors, intended precautions are to be either included in the Contract Specification, or in documents submitted by the tenderer/contractor (but in either event are to be agreed prior to work commencing).

The adequacy of existing precautions shall be reviewed if unauthorised public persons are barred from the site but have managed to enter.

### 7.1 Responsibility for Public Safety

Employers have a legal responsibility to ensure that nothing they or their workers do will endanger members of the public by any action.

This means they should take steps to ensure that:

- Pedestrian detours are clearly defined, and pedestrians protected from the dangers of road traffic when using any detour.
- General public areas are kept free from any unsafe obstructions and activities that could be a hazard. Where general public areas have to be guarded-off due to the nature of work, all necessary temporary safeguards must be provided and adequate control measures put in place. Areas of possible danger to the general public must be safely guarded-off and appropriate warning notices displayed.
- Those that could be affected by the works must be notified in advance wherever possible so that where necessary, their normal safety arrangements can accommodate additional safety provisions necessary for the safe use of temporary works.
- The passage of vehicles across footpaths is to be supervised, to remove danger to the public.
- Flagmen, barriers, signs or traffic lights are used to stop the public passing under suspended loads (unless there is a protective gantry).
- Excavations are fenced, and, if they are likely to retain water, are covered and securely fenced to prevent access for children. If in public places, they should have warning signs and warning lights at night.
- If scaffolding must intrude onto footpaths, it is to be clearly marked, and padded if there is any risk of causing injury. Where appropriate, scaffolding should be erected/dismantled after hours to reduce risk to pedestrians.
- Adequate security of the site is to be provided during non-working periods. This involves ensuring excavations and openings are covered or fenced, materials are stacked safely, plant immobilised, ladders removed or lowered to the ground.

## **8.0 RECORDS**

Records of risk assessments shall be retained for a period of FIVE years ordinarily from their preparation.

Job Safety Analysis, Safe Work Procedures or Safety & Health Management Plans (or BRL Specifications or tender documents) nominating controls for public safety shall be retained for a period of FIVE years.

## Appendix 1

### **RISK ASSESSMENT FOR OVERALL PUBLIC SAFETY**

**Area/Activity – Public Roads/Construction Traffic Movements**

**Area/Activity – Public Areas/Construction Activity**

## Appendix 2

### **HAZARD PROTECTION PLAN FOR PUBLIC SAFETY, AMENITY AND SITE SECURITY**



## Area/Activity – Public Roads/Construction Traffic Movements

*Note: risk assessments to be read in conjunction with the BRL Project Safety, Health and Environment Strategy document.*

Hazard	Risk Assessment	Control Measures	Responsible Parties
<p><b>1. Construction machinery/plant travelling to &amp; from site compound/s-via Public Roads will cause extra hazards on the road for all road users, especially children &amp; elderly</b></p> <p>i. Vehicular Traffic accidents</p> <p>ii. Injuries to pedestrians</p> <p>iii. Damage to road surface</p>	<p><b>Low –High</b> (dependent on time of day, day of week and weather conditions etc.)</p>	<p>The following requirements are/to be in place to reduce risks to a minimum concerning the general public:</p> <ul style="list-style-type: none"> <li>▪ Systems of control and notices to be placed at all entrances/exits to the site compounds to protect and warn all persons approaching or in the vicinity where plant is being operated near persons, near underground or above ground services (any other workers, visitors, etc.).</li> <li>▪ All compound site entrances/exits are to be manned at <u>all times</u> or gates <u>closed</u> when unmanned.</li> <li>▪ Ensure designated traffic routes are used.</li> <li>▪ The Traffic Management Plan is kept up to date.</li> <li>▪ Construction vehicle speed restriction –posted signs 30 Km/h on all approach roads to &amp; within Ballymun and adjacent to works.</li> <li>▪ Contractor's plant operators exceeding speed limit will face disciplinary action.</li> <li>▪ Vehicle routes avoid sharp or blind bends.</li> <li>▪ Contractor &amp; sub-contractor must try to ensure deliveries are made outside school starting and finishing times whenever possible, especially on sites near schools.</li> <li>▪ <b>NOTE:</b> DCC School Wardens patrol appointed/designated areas in front of schools during school opening &amp; closing times &amp; control all road vehicles to stop to allow school children/adults to cross safely.</li> <li>▪ All vehicles entering or leaving the compound site access points are to be controlled by trained &amp; appointed banksmen/site security personnel.</li> <li>▪ Areas of possible danger to the general public must be safely guarded-off and appropriate warning notices displayed.</li> <li>▪ The use of flashing amber lights and audible reversing alarms and/or other technologies or other safe work practices.</li> <li>▪ Minimise the number of moving plant working at one time. Where multiple plant is being operated to &amp; from site compounds and around the work site a competent person should be used to direct the plant:</li> </ul>	<p><b>Contractors</b></p> <p><b>BRL</b></p> <p><b>Statutory Authorities</b></p> <p><b>Statutory Undertakers</b></p>

		<ul style="list-style-type: none"> <li>- operating in close proximity to each other</li> <li>- reversing</li> <li>- where persons are in the vicinity</li> <li>- in other situations as indicated by the site specific risk assessments.</li> </ul> <ul style="list-style-type: none"> <li>▪ All required vehicle indicators &amp; lights are correctly functioning.</li> <li>▪ Road surface continually monitored and maintained to avoid potholes rutting etc.</li> </ul> <p style="text-align: center;"><b>+</b></p> <p style="text-align: center;"><b>DETAILED SITE SPECIFIC RISK ASSESSMENTS PROVIDED BY CONTRACTOR/S CONCERNED</b></p>	
<p><b>2. Construction machinery/plant parking or travelling across public footpaths/pavements to work sites</b></p> <p>(i). Injuries to pedestrians</p> <p>(ii). Change in surface levels</p> <p>(iii). Damage to services above/below ground</p>	<p><b>Low –High Risk</b> (dependent on time of day, day of week and weather conditions)</p>	<p>The following requirements are/to be in place to reduce risks to a minimum concerning the general public:</p> <ul style="list-style-type: none"> <li>▪ Construction vehicle speed restriction –posted signs 30 Km/h on all approach roads to &amp; within Ballymun.</li> <li>▪ Contractors must try to ensure deliveries are made outside school starting and finishing times whenever possible, especially on sites near schools.</li> <li>▪ Where appropriate School Wardens to patrol appointed/designated areas in front of schools during school opening &amp; closing times &amp; control all road vehicles to stop to allow school children/adults to cross safely.</li> <li>▪ All vehicles entering or leaving the site access points are to be controlled by trained &amp; appointed banksmen/site security personnel.</li> <li>▪ General public areas are kept free from any unsafe obstructions and activities that could be a hazard.</li> <li>▪ Where general public areas have to be guarded-off due to the nature of work, all necessary temporary safeguards are provided.</li> <li>▪ Footpaths/pavements affected by the works all appropriate signs must be displayed and protective fencing in place.</li> <li>▪ Pedestrian detours are clearly defined, and pedestrians protected from the dangers of road traffic when using any detour.</li> <li>▪ Temporary walkways for pedestrians are at a safe distance from the works area.</li> <li>▪ The walkways would be defined with appropriate rigid guardrails, fencing or similar where appropriate. Where temporary pedestrian walkways have to be located in roads, red and white bollards or similar are used and where appropriate road markings defining the pathway route and all appropriate road signs/lights and cones must be displayed.</li> </ul>	<p><b>Contractors</b></p> <p><b>BRL</b></p> <p><b>Statutory Authorities</b></p> <p><b>Statutory Undertakers</b></p>

		<ul style="list-style-type: none"> <li>▪ Where pavements are required to be closed off, the contractor is to inform the <i>Dublin City Council Roadworks Control Unit</i> so that all appropriate precautions and controls are taken.</li> <li>▪ Those that could be affected by the works are notified in advance wherever possible so that where necessary, their normal safety arrangements can accommodate additional safety provisions necessary for the safe use of temporary works.</li> <li>▪ Contractors are required where there is a possibility of the plant coming into contact with underground/overhead services, to liaise with the relevant services authority and provide all necessary protection to prevent injury to workers, public and damage to the services.</li> <li>▪ Ensure suitable public lighting is maintained or temporary lighting provided.</li> </ul> <p style="text-align: center;">+</p> <p style="text-align: center;"><b>DETAILED SITE SPECIFIC RISK ASSESSMENTS PROVIDED BY CONTRACTOR/S CONCERNED</b></p>	
<p><b>3. Construction machinery/plant travelling to &amp; from work sites - via Public Roads</b></p> <p>(i). Vehicular Traffic accidents</p> <p>(ii). Injuries to pedestrians</p>	<p><b>Low –High Risk</b></p> <p>(dependent on time of day, day of week and weather conditions, etc.)</p>	<p>The following requirements are/to be in place to reduce risks to a minimum to the general public:</p> <ul style="list-style-type: none"> <li>▪ Systems of control and notices to be placed at all entrances and exits to the site compounds to protect and warn all persons approaching or in the vicinity where plant is being operated near persons, near underground or above ground services (any other workers, visitors, etc.).</li> <li>▪ All site entrances/exits are to be manned at <u>all times</u> or gates <u>closed</u> when unmanned.</li> <li>▪ All vehicles entering or leaving the work site access points are to be controlled by trained &amp; appointed banksmen/site security personnel.</li> <li>▪ Construction &amp; public vehicle speed restriction- posted signs 30 Km/h.</li> <li>▪ Contractors must try to ensure deliveries are made outside school starting and finishing times whenever possible, especially on sites near schools.</li> <li>▪ School wardens to patrol designated areas in front of schools during school opening &amp; closing times &amp; control all road vehicles to stop to allow school children/adults to cross safely.</li> <li>▪ Areas of possible danger to the general public, must be safely guarded-off and appropriate warning notices displayed.</li> <li>▪ The use of flashing amber lights and audible reversing alarms and/or other technologies or other safe work practices.</li> <li>▪ Minimise the number of moving plant working at one time. Where multiple plant is being operated to &amp; from work sites and around the work site a competent person should be used to direct the plant:             <ul style="list-style-type: none"> <li>– operating in close proximity to each other</li> <li>– reversing</li> <li>– where persons are in the vicinity</li> </ul> </li> </ul>	<p><b>Contractors</b></p> <p><b>BRL</b></p> <p><b>Statutory Authorities</b></p> <p><b>Statutory Undertakers</b></p>

		<ul style="list-style-type: none"> <li>- in other situations as indicated by the site specific risk assessments.</li> <li>- designated delivery and turning areas. The movement of delivery vehicles on construction sites frequently presents a hazard particularly when reversing, loading and unloading. Procedures implemented to warn all persons affected by the potential hazard.</li> </ul> <ul style="list-style-type: none"> <li>▪ All required vehicle indicators &amp; lights are correctly functioning.</li> <li>▪ Road surface continually monitored and maintained to avoid potholes, rutting etc.</li> <li>▪ Ensure suitable public lighting is maintained or temporary lighting provided.</li> </ul> <p style="text-align: center;">+</p> <p style="text-align: center;"><b>DETAILED SITE SPECIFIC RISK ASSESSMENTS PROVIDED BY CONTRACTOR/S CONCERNED</b></p>	
<p><b>4. Contractors' deliveries -will cause extra hazards on the road for all road users, especially children &amp; elderly</b></p> <p>(i). Vehicular Traffic accidents</p> <p>(ii). Injuries to pedestrians</p> <p>(iii). Damage to road surface</p>	<p><b>Medium – High Risk</b> (dependent on time of day, day of week and weather conditions)</p>	<p>The following requirements are/to be in place to reduce risks to a minimum concerning the general public:</p> <ul style="list-style-type: none"> <li>▪ Delivery vehicle speed restriction- posted signs 30 Km/h.</li> <li>▪ Contractors must try to ensure deliveries are made outside school starting and finishing times whenever possible, especially on sites near schools.</li> <li>▪ <b>NOTE:</b> DCC School Wardens patrol appointed/designated areas in front of schools during school opening &amp; closing times &amp; control all road vehicles to stop to allow school children/adults to cross safely.</li> <li>▪ All vehicles entering or leaving the site access points are to be controlled by trained &amp; appointed banksmen/site security personnel.</li> <li>▪ All required vehicle indicators &amp; lights are correctly functioning.</li> <li>▪ Road surface continually monitored and maintained to avoid potholes rutting etc.</li> </ul> <p style="text-align: center;">+</p> <p style="text-align: center;"><b>DETAILED SITE SPECIFIC RISK ASSESSMENTS PROVIDED BY CONTRACTOR/S CONCERNED</b></p>	<p><b>Contractors</b></p> <p><b>BRL</b></p> <p><b>Statutory Authorities</b></p> <p><b>Statutory Undertakers</b></p>

### Area/Activity – Public Areas/Construction activity

**Note: risk assessments to be read in conjunction with the Doc. 1-Po-CSM BRL Project Safety, Health, Environment and Community Management Strategy**

Hazard	Risk Assessment	Control Measures	Responsible Parties
<p><b>5. Construction activity occurring in or adjacent to public areas</b></p> <p>(i). Injuries to pedestrians</p> <p>(ii). Damage to property/material</p> <p>(iii). Change in surface levels <i>ie trip hazard</i></p> <p>(iv). Damage to services above/below ground</p>	<p><b>Medium – High Risk</b></p> <p>(dependent on time of day, day of week and weather conditions, etc.)</p>	<p>The following requirements are/to be in place to reduce risks to a minimum concerning the general public:</p> <ul style="list-style-type: none"> <li>▪ Wherever practicable, all work activities occurring in public areas with high pedestrian &amp; vehicular movements should be enclosed by suitable fencing/barriers so all construction machinery are kept safely within such enclosures</li> <li>▪ All vehicles entering or leaving the site access points are to be controlled by trained &amp; appointed banksmen/site security personnel.</li> <li>▪ Construction &amp; public vehicle speed restriction posted signs 30 Km/h.</li> <li>▪ Special attention should be given to pedestrian safety when the normal pedestrian routes are closed or obstructed. Detours from footpaths to temporary footpaths/ walkways should be clearly defined and kept clear of any obstructions. Barricades should be erected to protect the public from entering hazardous areas of the work site. It is important that all walkways are clean and free from debris and that walking surfaces are not slippery from mud, oil spillage, etc. to avoid trip hazards</li> <li>▪ Implement safe working distances – including exclusion zones.</li> <li>▪ Great care is required in the consideration of <b>wheelchair bound persons needs</b>, such as the condition and location of access ramps, uneven surfaces, the cleaning and clearing of stones and other debris from footpaths etc.</li> <li>▪ Temporary footpaths should be: <ul style="list-style-type: none"> <li>A <b>minimum 1800 mm</b> wide;</li> <li>Kerbs to be <b>dished</b> as appropriate;</li> <li><b>No gradient</b> steeper than <b>1 in 20</b>.</li> </ul> </li> <li>▪ Contractors are required where there is a possibility of the plant coming into contact with underground/overhead services, to liaise with the relevant services authority and provide all necessary protection to prevent injury to workers, public and damage to the services.</li> </ul> <p style="text-align: center;"><b>+</b></p> <p style="text-align: center;"><b>DETAILED SITE SPECIFIC RISK ASSESSMENTS PROVIDED BY CONTRACTOR/S CONCERNED</b></p>	<p><b>Contractors</b></p> <p><b>BRL</b></p> <p><b>Statutory Authorities</b></p> <p><b>Statutory Undertakers</b></p>

## Appendix 2

# GUIDELINES FOR ENSURING PUBLIC SAFETY FOR EXTERNAL WORKS TO HOARDED OFF CONSTRUCTION SITES

External Works (any works occurring outside the site perimeter or in the public space)

**NOTE 1:** 'Low public risk sites ' are those sites that are located where few members of the public (as pedestrians or traffic) would be expected to approach, for example

- public open space, not adjacent to housing or roads, or
- Within premises/works areas which are already secured with existing rigid perimeter fencing of minimum 1.8m height

**NOTE 2:** 'High public risk sites' are those sites that are located where members of the public (as pedestrians or traffic) would be expected to approach

HAZARD	GUIDE TO PRECAUTIONS FOR PUBLIC SAFETY AT LOW PUBLIC RISK SITES (Note 1)		GUIDE TO PRECAUTIONS FOR PUBLIC SAFETY AT HIGH HAZARD PUBLIC RISK SITES (Note 2)	
	During working hours	After working hours	During working hours	After working hours
<b>General security for whole of work site</b>	<p>Preclude access to the public where practicable. Visitors must be required to report when on site, and sight-seers are not to be allowed to remain within the work area.</p> <p>Display signs to warn of specific hazards (eg. Nail gun in use, deep excavation, safety helmet area etc.)</p>	<p>Hazards to be made safe, or access to be precluded. Display reflective signs and/or lighting as necessary.</p>	<p>Public access to be strictly controlled. Where practicable install perimeter fencing around the site, or around major hazards. Visitors must be required to report when on site, and sight-seers are not to be allowed to remain within the work area. Display signs to warn of specific hazards (eg. Nail gun in use, deep excavation, safety helmet area etc.).</p> <p>Erect welding screens where arc welding is visible to public.</p>	<p>Hazards to be made safe, or access to be precluded.</p> <p>Install perimeter fencing where practicable, and install Heras type or similar fencing around individual hazards where necessary (do not always rely on perimeter fencing). Display reflective signs and/or lighting as necessary. Provide distinct routes for pedestrians and traffic to safely pass.</p>
<b>Attended manhole opening</b>	<p>Attendance to be continual and watch maintained, otherwise pennant tape or better visual barrier to surround opening</p>	N/A	<p>install cover to opening or Heras type fencing preferred, otherwise attendance must be continual and watch maintained</p>	N/A
<b>Unattended manhole openings</b>	<p>tape or better visual barrier.</p>	<p>Covers to be fitted to manholes after hours</p>	<p>install cover to opening or Heras type fence.</p> <p>If the manhole is within 5m of a pedestrian route, fit the mesh cover and a Heras type fence</p>	<p>Covers to be fitted to manholes after hours.</p>
<b>Plant, chemicals etc which may be hazardous in the hands of the public</b>	<p>To be secured (if public may approach items when unattended)</p>	<p>Secured to prevent public access or operation.</p>	<p>To be secured (if public may approach items when unattended)</p>	<p>Secured to prevent public access or operation.</p>



HAZARD	GUIDE TO PRECAUTIONS FOR PUBLIC SAFETY AT LOW PUBLIC RISK SITES (Note 1)		GUIDE TO PRECAUTIONS FOR PUBLIC SAFETY AT HIGH HAZARD PUBLIC RISK SITES (Note 2)	
	During working hours	After working hours	During working hours	After working hours
<b>Excavation to 1m depth (Note 3)</b>	Warn pedestrians, horse riders, etc by pennant tape or better visual barrier, and divert vehicles, if they may approach while excavation is unattended	Fill excavation where practicable, otherwise – a) warn pedestrians, horse riders etc with pennant tape or better, and b) divert vehicles if they may approach excavation	Heras type fence if – ♦ Job site does not have perimeter fencing and ♦ Excavation is unattended	Fill excavation where practicable. If not filled and there is no perimeter fencing to site, install Heras type fencing to the excavation.
<b>Excavation deeper than 1 metre (Note 3)</b>	Heras type fence around excavation and divert traffic ( if pedestrians, horse riders or vehicles etc may approach while excavation is unattended).	Fill excavation where practicable, otherwise – a) Heras type fence around excavation and, b) divert vehicles if they may approach excavation.	Provide perimeter fencing to the site, or fit Heras type fence around unattended excavations	Fill excavation where practicable. If not filled and there is no site perimeter fencing – a) install Heras type fencing to the excavations to 3m deep b) Heras type fence to excavations deeper than 3m.
<b>Structures with vertical edges 1 to 3m at or about ground level (eg retaining walls)</b>	Heras type fence at approaches to edges, and divert traffic (if pedestrians or vehicles may approach while the edge is unattended).	Heras type fence at approaches to edges.	Heras type fence at approaches to edges, and divert traffic (if site is unfenced and pedestrians or vehicles may approach while the edge is unattended)	Heras type fence at approaches to edges, and divert traffic (if site is unfenced)
<b>Structures with vertical edges more than 3m at or about ground level (eg below ground tanks; boring pits)</b>	Heras type fence at approaches to the edge and divert traffic (if pedestrians or vehicles may approach while the edge is unattended).	Heras type fence at approaches to edges.	Heras type fence at approaches to edges, and divert traffic (if site is unfenced and pedestrians or vehicles may approach while the edge is unattended)	Heras type fence at approaches to edges, and divert traffic (if site is unfenced)



## **APPENDIX 2**

# HAZARD PROTECTION PLAN FOR PUBLIC SAFETY, AMENITY AND SITE SECURITY

## Project Contacts:

Company Name .....  
Company Business Address .....  
Company Contact Number .....

## Onsite contact person responsible for compliance with this Construction Management Plan

Name .....  
Contact Number .....  
After Hours Contact Number .....

## Contact person in control of the site

Name .....  
Contact Number .....  
After Hours Contact Number .....

## Construction Works

**Is construction in stages?                      Yes/No**

If Yes give details. ....

- Demolition
- Excavations
- Construction

I ..... have due authorisation and delegation to sign this Construction Management Plan on behalf of the Company listed above and take responsibility for ensuring compliance with our commitment specified herein, the and any other relevant legislation.

Signed ..... Dated .....

## Please return a signed copy to:

Health, Safety & Environmental Manager  
Mr John Rizzolo  
*Ballymun Regeneration Limited*  
*Civic Centre,*  
*Main Street, Ballymun*  
*Dublin 9*

Directions: A qualified person or his designee shall complete the applicable portions of this and describe the actions taken and responsibilities for reduction or elimination of the hazards noted. Any parts not applicable to this scope or this contract should be marked with N/A. Attach additional pages as necessary.

<b>A</b>	<b>General Matters of project</b>	<b>Person responsible to implement actions or develop action plans</b>	<b>Shown on S &amp; H Plan Y/N</b>	<b>Describe Action Required - Plan to abate Hazards, Conflicts Noted (attach separate procedures, rules and policies as related to this area)</b>
<b>1.</b>	Name of Project			
<b>2.</b>	Location of Project			
<b>3.</b>	Project Contractor			
<b>4.</b>	Contractor/scope this Public Hazard Protection Plan covers (enter "whole job" if this plan is not for one trade or one activity)			
<b>5.</b>	Scope of work this plan covers (enter "whole job" if this plan is not for one trade or one activity)			
<b>6.</b>	Plan prepared by:			
<b>7.</b>	Project Contractor review by:			

<b>B</b>	<b>After Hours</b>	<b>Person responsible to implement actions or develop action plans</b>	<b>Shown on S &amp; H Plan Y/N</b>	<b>Describe Action Required - Plan to abate Hazards, Conflicts Noted (attach separate procedures, rules and policies as related to this area)</b>
<b>1.</b>	Is an after hours work permit required? If so, has application been made to Council?			
<b>2</b>	Provide details about after hours site security.			

<b>C</b>	<b>Monitoring and inspections</b>	<b>How Often</b>	<b>Person responsible to implement actions or develop action plans</b>	<b>Shown on S &amp; H Plan Y/N</b>	<b>Describe Action Required - Plan to abate Hazards, Conflicts Noted (attach separate procedures, rules and policies as related to this area)</b>
<b>1.</b>	Describe the monitoring and inspection procedures				
<b>2</b>	Has a dilapidation survey report of surrounding footpath, roadway & drainage been undertaken?				

<b>3</b>	How is graffiti and unauthorised bill posting on hoardings being reduced? How often are they being cleaned?				
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<b>D</b>	<b>Notifications for Hoardings, footpaths, roads, mobile crane/hoist/ vehicle</b>	<b>Date and initial changes</b>	<b>Person responsible to implement actions or develop action plans</b>	<b>Describe Action Required - Plan to abate Hazards, Conflicts Noted (attach separate procedures, rules and policies as related to this area)</b>
<b>1</b>	Has a hoarding licence been issued?			
<b>2</b>	Provide details of any permit for a mobile crane, tower crane or hoist.			
<b>3</b>	Person on project/ this contractor responsible for public notices, complaints, communications and community relations			

<b>E</b>	<b>Fencing, Lighting and Site Security</b>	<b>Person responsible to implement actions or develop action plans</b>	<b>Shown on S &amp; H Plan  Y/N</b>	<b>Describe Action Required - Plan to abate Hazards, Conflicts Noted  (attach separate procedures, rules and policies as related to this area)</b>
<b>1</b>	Is the construction site secure in accordance with the requirements of Council's requirements and in accordance with BRL Policies?			
<b>2</b>	Are all works adequately fenced to prevent danger to life?			
<b>3</b>	Have adequate lighting, safety signage and traffic controls been provided in accordance with Council's and Chapter 8 requirements?			
<b>4</b>	Show how building occupants are being adequately prevented from entering the site during construction works.			

<b>F</b>	<b>Security measures</b>	<b>Person responsible to implement actions or develop action plans</b>	<b>Describe Action Required - Plan to abate Hazards, Conflicts Noted (attach separate procedures, rules and policies as related to this area)</b>
<b>1</b>	List of persons authorised to access the works area after hours given to the Gardai and security personnel		

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