

RiskTopics

Tips for protecting the public on or adjacent to construction sites

Zurich Resilience Solutions - Risk Engineering

Public exposure is one of the greatest concerns facing all construction projects. Pedestrian traffic, vehicular traffic, adjacent operations, and attractive nuisances all contribute to the need for increased awareness throughout the construction industry.

Introduction

Contractors are faced with challenges in considering appropriate planning and policies to reduce their exposure to the general public. Failure to manage these exposures effectively can result in injuries to the public, damage to adjacent property and can quickly become a source of legal liability.

How does a contractor reduce or control their risk of injury to the general public? The American Society of Safety Engineers (ASSE) recognized the growing concern to protect the public and developed the ANSI/ASSE A10.34- 2001 (R2005) Standard: Protection of the Public on or Adjacent to Construction Sites - American National Standard for Construction and Demolition Operations. The requirements in the standard provide broad guidelines that can help a contractor in their ongoing efforts to protect the general public on or near construction sites.

Discussion

There have been many high-profile examples of incidents where the general public was directly affected by construction activities. What if we could prevent incidents like material falling off a project onto pedestrians below or slips, trips and falls from damaged sidewalks adjacent to jobsites? What if we could prevent highway construction zone accidents where materials and/or equipment strike passing motorists, potentially damaging a vehicle, or injuring the occupants inside? What if we could prevent crane incidents like a tower crane collapse that injures or kills people nearby and/or damages adjacent businesses and homes? We all can remember tragic incidents like these. Many construction site accidents that result in death, serious injury, bad publicity and soaring legal costs could potentially be mitigated or avoided with greater focus on protecting the public.

Many construction activities are inherently hazardous in nature and contractors must implement controls to help reduce the risk of injury to the public. The ANSI/ASSE A10.34-2001 (R2005) standard establishes safety requirements to help protect the general public from hazards generally associated with construction, demolition, repair, and maintenance activities with exposure to the public. These hazardous activities include, but are not limited to cutting, welding, forming, shoring, hoisting/lifting, excavating, blasting, drilling, tunneling, erecting, operating equipment and conducting street and highway work. The standard goes even further and requires protection for the public from dusts, mists, fumes, smoke, noise, radiation, pollution, deterioration of structures, falling debris, loosening of components and material fatigue/failure.

Guidance

One key element of the standard is the Public Hazard Control Plan (PHCP). The PHCP is a guideline to aid the contractor in identifying, evaluating, preventing, or minimizing exposures as identified in the standard. Effective implementation of a PHCP requires a management commitment and a policy to protect the general public. There must be clearly defined responsibilities for implementation and execution of the plan. The plan should also include coordination of accident investigation and communication with appropriate authorities. Construction operations are constantly changing with hazards changing daily or, in some cases, hourly. When new hazards develop or conditions change, the PHCP must be reviewed for adequacy of prevention and mitigation measures and updated if deemed necessary. The plan should be prepared by a “qualified person”. The plan should be communicated to the appropriate authorities. The plan should be updated as new hazards arise or if subcontractors or conditions change.

The PHCP should designate:

- A person responsible for:
 - Monitoring and inspections
 - Accident investigations
 - Public notices, complaints, and community relations
- Who will develop action plans and implement actions to minimize hazards to the public.
- All persons authorized to access the security area after hours

A basic PHCP should start with an evaluation of all potential hazard areas at the site and should include:

- Pedestrian hazards - such as changes in elevation, cracks in sidewalks, and debris that can cause slip, trip, and fall incidents. Where it is necessary to close sidewalks adjacent to projects, appropriate directional signage should be in place to direct pedestrians safely around work areas per applicable standards.
- Traffic control - such as traffic cones, barricading, lane closures and lane changes. Appropriate signage must be in place per applicable standards. All construction sites, especially those in urban and metropolitan areas, should have the following:
 - Internal Traffic Control Plan (ITCP) to address traffic within the tight confines of the site
 - External Traffic Control Plan (ETCP) to address road barricades, lane closures/changes, pedestrian travel and coned areas for concrete pumping, truck staging, and temporary closures
- Housekeeping - maintain a clean work area including the site perimeter with adequate debris removal and dust control
- Hot work programming - develop and execute a strict hot work program to better control the exposure of fire on site, to adjacent structures, and to the general public
- Lighting - provide adequate lighting on site and the perimeter of the site for the general public
- Radiation - evaluate potential radiation risks such as x-ray and laser usage on site
- Machinery and vehicles - monitor machine and vehicle use on site and those entering and/or leaving the site
- Falling and windborne objects - secure materials and debris that could fall from, or be blown off, the construction site causing injury to those below
- Security - provide adequate security to prevent trespassing on site
- Threats - develop and implement planning for events such as a bomb threat
- Pollution - evaluate hazards such as soil runoff, chemical spill, dust control, concrete clean-out, and maintain the Storm Water Pollution Prevention Plan (SWPPP)
- Utilities and utility strike - identify existing utilities and use local “call before you dig” program to avoid utility strike that could affect adjacent operations

- Hazardous materials - understand and manage hazardous materials properly to avoid spill or release that could affect the general public
- Vibration and subsidence - document the conditions of adjacent structures prior to beginning work activities and continue monitoring for vibration and/or subsidence for the duration of the project
- Emergency action plan - develop and implement appropriate Emergency Action Planning to anticipate and respond to those emergencies that are identified as reasonably expected
- Silica Dust – develop and implement plans for protecting the public from silica dust exposure.
- Noise
- Dust, fumes, mists, smoke, vapors
- Injuries/damage
- Public complaints
- Equipment/scaffolding

Conclusion

Depending on the site and operations, contractors face numerous challenges to control hazards, reduce exposures and protect the public from the work activities on their jobsites. Construction incidents involving the public yield a variety of claims including personal injury and property damage. These incidents receive a great deal of media exposure and legal costs continue to soar.

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References

ANSI standards ANSI/ASSE A10.34 – 2001 (R2012) and Overview of ANSI/ASSE A10.34 – 2001 may be purchased here: <https://webstore.ansi.org/>

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