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Careful Site Preparation Lays the Groundwork for a Successful Construction Project

Written by Dustin White

Preparing the construction job site is crucial to the safe and efficient execution of a project.

Coming onto a new job site, the top three critical concerns are safety, the environment and logistics. Safety must not only look at protecting workers on the job, but also the general public adjacent to the site. Any potential environmental disruptions must also be taken into account and planned for in the site analysis and preparation. And logistics concern everything from who is on the job site, to material storage, to parking and site preparation.

Following is a closer look at these critical components, and how they must all work together for a successful project.

Safety is always the first concern at a job site, so protecting workers and the general public must be considered when planning a site. The critical question to ask is, "What can hurt or kill someone?"

To answer this question, you have to examine every aspect of the site and take appropriate actions to mitigate potential accidents or injuries. You start by identifying the visible dangers – that is, things that could cause puncture, fall or crush risks. These could be sharp objects, rebar or wires sticking out of walls, holes or utility trenches, for example. As part of a "live check" for anything that is active on the site, identify overhead power lines that cross into the work area and turn them off where possible. Otherwise, mark the lines on the ground to alert equipment operators so they can avoid them.

Next, look for the hidden dangers on the job site. Some of these are below ground, such as electric service, natural gas lines, storage tanks, or soil contaminants, among many possibilities. Other dangers can't be seen but must be identified as well. If there are hazardous gases stored at the site, workers may need to get specialized training to safely navigate the site. If the job site contains confined spaces, which are OSHA regulated, a confined space permit will be required. Workers may

also need specialized training to do confined-space work, and special environmental monitoring may be necessary to assure safe working conditions. Any construction activity that produces a spark needs special hot work permits. Some projects may even call for a master hot work permit given by the fire department before work on the job is allowed. You must also establish special procedures, such as the duration of a safety watch after hot work is completed.

Educate everyone who comes onto the job site – including construction personnel, subcontractors, engineers, architects and even property owners – about safety on the job, emergency plans, required precautions, and potential hazards. Usually the temporary construction office is the best place to conduct triaging and to keep safety information and equipment. This is where you should post OSHA signage and keep emergency contact information and lists. There should also be maps locating everything from site parking areas, to first aid stations, to the nearest hospital. Keep extra personal protective equipment here as well for those who do not have it. Conduct job hazard analysis as often as needed, depending on scope of the job, to outline work activities and any potential hazards. Post clear signage throughout the site to direct and inform workers about the locations of safety equipment, construction offices, parking areas, loading zones, clean out stations and any restricted areas.

After establishing the procedures for maintaining the safety for the people who are supposed to be on your site, it's time to consider the safety of the general public. This is critical because someone who knows nothing about how a construction site functions can be seriously hurt if they wander onto the property. For example, pedestrians do not have the right-of-way in a construction zone, so it's up to the individual to stay out of the way of equipment and vehicles. Sturdy fencing should be used to secure the site, supplemented with a large amount of site specific signage to alert and protect the public. Barricades may be used to block sidewalks as well. On some jobs, guards or cameras may be placed along the perimeter to protect people and property on the jobsite.

Environmental issues must also be taken into account on the jobsite. Soil erosion protection needs to be evaluated and a storm water pollution prevention plan put in pace with measures taken to minimize the impact of soil erosion. Drainage or debris from a construction site can have a negative impact on the land, nearby water sources or neighboring areas. Containing runoff and properly disposing of waste materials helps prevent problems and protects the environment. In some circumstances special equipment and supports may be required to secure the ground from shifting. This can cause hazardous conditions at the site and damage to adjacent property.

Finally, logistics plays a key role in construction site management. For instance, you must consider laydown areas for work related materials and parking for construction workers. Make sure your laydown areas take into account places where equipment and supplies can be stored or equipment

arms can extend. The amount of space needed depends on project duration, and the amount of supplies required. Staging and logistics for this area must be timed carefully so there are places for specific materials and equipment as they are needed.

Dumpster placement and sizing is important. Carefully consider where to locate the dumpster so that it is accessible on your site. The size must be appropriate to the job, but right for the environment. There may also need to be an area for cleaning out cement trucks located on the site. Temporary restrooms are essential, with the standard ratio being one portable toilet for every six to eight people on the job.

Parking for personnel is also necessary and the space needed will vary based on the number of subs on the job site. Different phases of construction will probably require more or less people. Consider remote parking options for the heaviest staffing periods and providing a shuttle as needed if adequate space is not available. Both parking and laydown areas can be particularly challenging to obtain on jobs in dense urban areas.

Careful site preparation protects the safety of workers and the public, preserves the environment and ensures a smooth, efficient workflow as the construction project progresses. This is why it is important to prepare the site thoughtfully, anticipate issues and make adequate allowances. Then, once it begins, construction can continue on schedule without delays due to accidents, environmental remediation or logistic bottlenecks.

Dustin White is a construction project manager with Dallas-based C1S Group. An engineering, construction and sustainability consulting firm, C1S specializes in the design and installation of projects for existing facilities. For more information, visit www.c1sinc.com.