DPS Better Engineered Solutions

Construction Management Considerations Post-COVID-19 for Life Sciences and Semiconductor Manufacturing Facilities

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THE WORLD HAS CHANGED

With the onset of COVID-19, the world has come face-to-face with a new reality. The novel coronavirus has created a global pandemic with immeasurable effects on physical and economic health and has forced us to change how we live our lives and conduct business. As a result, the construction industry is confronted with a unique set of challenges that DPS Group is well-positioned to address and ready to support. We collaborate with life science and semiconductor clients to design and build manufacturing facilities that produce life-changing products and therapies. These client projects have been brought into even sharper focus in the context of a global pandemic.

Safety is without a doubt our number one priority, and because we have a clear understanding of how to protect our people, we can effectively propose how to safely manage a worksite. With recent health and safety guidelines constantly evolving, we are committed to continuously evaluating and updating our protocols. Our focus remains on ensuring the safety of our team and yours while continuing to deliver the quality service you are accustomed to from DPS. As we navigate this new environment together, this focus will continue to guide our decisions, our offerings, and our commitment as they relate to safety, quality, and adherence to cost and schedules.

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CONSTRUCTION SITE IMPACT

In a post-COVID-19 world, the pre-construction phase of any project will be more vital to a project's overall success than ever before. Our recommendation? Taking the time to address issues like logistics, trade planning, scheduling, waste flows, and employee flow are all essential and will help you to maintain social distancing, adhere to cleaning requirements, and meet the overall goals of the project.

Consider modularization as a great way to allow contractors to work remotely in their shops and facilities to advance the project while limiting their exposure to potential seen and unseen hazards at the job site.

By shifting work to vendors' facilities, the risk of COVID-19 exposure (through social distancing, area segregation, HVAC filtration, shift work, etc.) can be more easily and cost-effectively addressed than on the job site.

The psychological impact on project teams should also be taken into consideration. During the pre-construction phase, the Construction Management team will need to have an understanding of new post-COVID-19 construction practices for each project. Contractors who are accustomed to working and socializing together may feel disconnected in this post-COVID-19 era, particularly since the need for additional shifts to reduce team size at any given time (a good best-practices solution) may further separate usual work-groups.

► Quick Tip

Prefabrication can be a powerful tool in the fight against the pandemic when prefabricated products are utilized and installed effectively.

Video technology allows people a sense of connection, and COVID-19 has shown us that virtual meetings are an effective means of replacing face-to-face encounters and the time and costs associated with travel. This technology also lends itself well to creative activities that promote positivity and engagement among work teams. At DPS, our sense of well-being and heightened morale has come from doing things to stay connected as a company. Any way that we can foster a sense of community while maintaining social distancing will help the overall health and happiness of our contractors.

ONSITE SAFETY MANAGEMENT HAS BECOME MORE COMPLEX

The need for social distancing means that we need to find creative ways to manage tasks that are typically multi-person or team tasks. Consider this: Can innovative uses of equipment, tools, and materials help to reduce the number of people needed to complete the task? Can we relocate the task to an area that is segregated from others? Other practical ideas that can be easy to implement include:

- Staggered lunch breaks (and limiting the number of people at a time in break areas), placing occupancy limits on elevators, and designating staircases unidirectional.
- The continuation of increased sanitary practices – frequent handwashing, the sanitizing of tools and work surfaces during and between shifts, the use of PPE, and ensuring that supplies and tools are not shared.
- The implementation of area designations to help limit the number of people each craft encounters, as well as providing traceability in the event a COVID case is confirmed. On larger, more complex projects, area designations are being used to help segregate the workforce and limit each crew to one area per day (unless otherwise approved).
- Social distance monitoring through security badge tracking
  If a case of COVID-19 is confirmed, it will be easy to identify everyone the individual came into contact with (within the safe 6-foot distance) and communicate this information quickly.

SUPPLY CHAINS HAVE BEEN AFFECTED

We recognize that short- and long-term supply chains are taxed and need to be addressed sooner in the Front-End Loading (FEL) process. In recent years, the market has been utilizing vendors with reasonable and reliable lead times. Now, in this post-COVID-19 world, lead times on key pieces of equipment will likely increase, meaning that project teams will be looking at how to best minimize the additional time impact on the project. While construction costs will inevitably rise, we recommend greater upfront planning to help keep your costs down and mitigate the challenges.

You may also want to have a critical look at your supply chain to consider:

- If your key suppliers are facing any challenges in terms of production and supply time.
- If you can diversify the number of vendors you use for materials and services.

COSTS AND SCHEDULES HAVE NEW COMPONENTS

The potential impact of cost and schedule changes need to be considered in the early FEL stages of the project. Items to address such as additional PPE, increased job site cleaning and sanitization, temperature checks, social distancing approaches, logistics considerations, reporting, and the overall encouragement of increased hygiene practices could affect the overall cost and schedule of the project if not handled correctly. We recommend that you consider these factors and build in schedule risk and cost risk factors into each project.

A CHANGE FOR THE BETTER?

The COVID-19 pandemic has accelerated the adoption of technologies and approaches in which DPS is already an industry leader and could prompt a positive change in the use of these methods by the construction industry. At DPS, we are industry leaders in the application of Building Information Modeling (BIM) and Virtual Design and Construction (VDC) technologies. The use of Augmented Reality (AR) and Virtual Reality (VR) can play an important part in terms of facilitating social distancing rules, while also adding practical benefit and value to any construction project from the various viewpoints of designer, constructor, and owner. The benefits of broader use of collaboration tools like Procore, Microsoft Teams, and WebEx have become self-evident during the pandemic.

The following are examples of several Lean practices that when used thoughtfully, can minimize the spread of a virus. Consider implementing these practices at every step of the planning stage:

- Last Planner/Pull Planning
- Takt Planning
- Target Value Delivery (TVD)

Adaptable and responsive to your needs, DPS is here to support your projects, with interesting and flexible solutions that address the unexpected and unprecedented challenges created by this worldwide health crisis.