CS500178

Finish on time every time: Optimize work planning and master scheduling

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Learning Objectives

- Understand how schedules fit in the construction lifecycle
- Learn about Skanska's approach to scheduling on projects: how they build out their master schedule and then incorporate the work plan
- Hear tips and tricks on how to leverage technology to optimize and connect the master schedule and work plan

Description

Project delays in construction happen quite frequently, and typically result from poor planning. With such long time-tables, it's difficult to plan for unforeseen schedule disruptions while managing the many moving parts of a project. Arguably the toughest part of a project manager's job is managing the impact of those schedule disruptions across several teams working on the same project. What are some best practices when defining the master schedule, and how do you avoid pitfalls? How can you leverage technology to better collaborate and integrate the master schedule with short-term work plans?

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Scheduling on Projects

Define the Master Schedule

- As you're building out the master schedule, there are some pitfalls to avoid: (1) Building out the schedule in silos without getting buy-in from project stakeholders. (2) Limiting access to the master schedule by having multiple versions of the schedule that you show to only certain Subcontractors or Owners. (3) Creating a master schedule that is too detailed, which hinders project teams from collaboratively working together to build out a short-term plan.

Challenges Teams Face

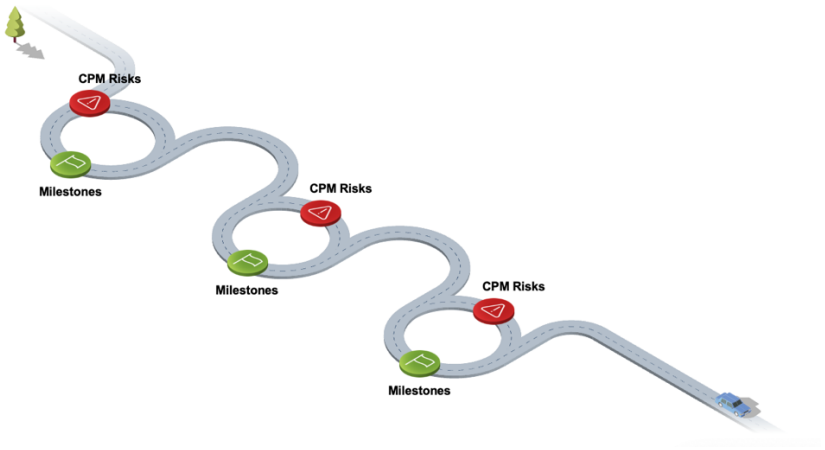
- Once the master schedule is built out, teams face challenges from quickly getting schedule updates out to the field, having multiple versions of the schedule floating around, not being able to find the information they need, and communicating schedule updates back to the scheduling team in HQ.

Building out the Short-Term Plan

- Where master scheduling provides the overall direction, work planning provides the step-by-step instructions real time. Short-term planning is a series of collaborative planning sessions with all project stakeholders – the General Contractor team, Subcontractors, and Owners. Planning sessions are held frequently, with weekly workplans created to commit to what work will actually be able to get done that week.

Technology Needs

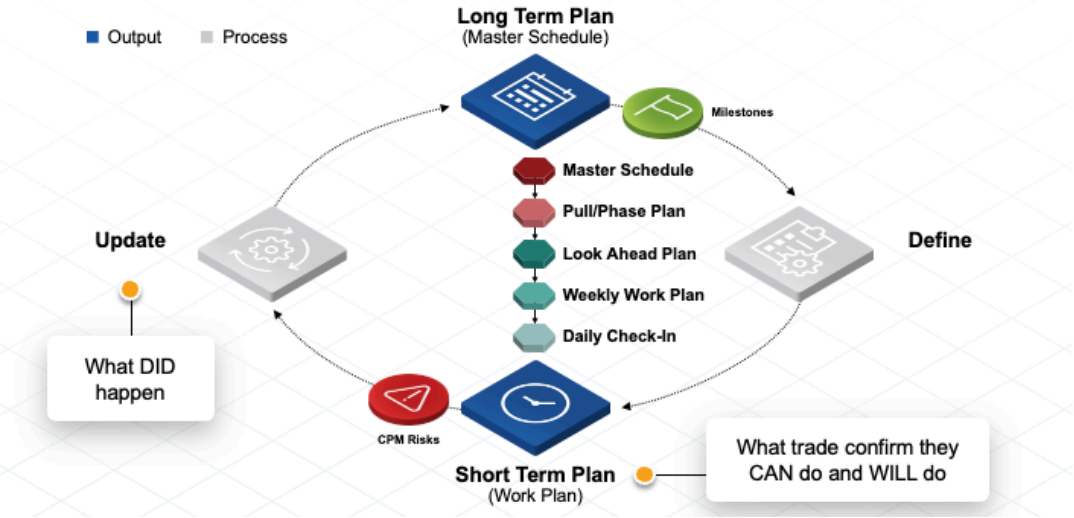
- The pull planning process should inherit some of the phasing and critical path logic from the master schedule. At the conclusion of a pull plan, the process should generate a list of actionable insights that inform refinements to the master scheduling process. There needs to be a mechanism to track roadblocks within the discipline of risk management, and it would be great to correlate work planning activities to model elements so as to achieve 4D visualizations during the pull plan, to enhance the exploration of different handoff scenarios. The Ui and workflows should enhance the iterative nature of work planning, with a focus on ensuring well committed handoffs and achieving flow on the jobsite.



Connecting Master Schedule and Short-Term Plans

Best Practices

- It is critical to view master schedules and short-term planning as an integrated process, especially as you connect the two
- The master schedule provides teams with the phasing, structure, and milestones. From there, the teams use the phase, structure, and milestones and the foundation for the short-term plan.
- It's important to keep a balance between the master schedule and short-term plan. If the master schedule is too detailed, teams tend to go into autopilot and don't put enough focus on the short-term plan. However, if teams are overly focused on the short-term plan and lose sight fo the master schedule, when delays impact the short-term plan teams may not see the ripple effect of what gets broken in the master schedule.



Leveraging Technology

- When it comes to the master schedule, our customers face much of the same frustrations surrounding lack of "one plance of truth," difficulty consuming schedules, system connectivity, communication.

Schedule in Autodesk Build

- To address the challenges faced by customers today, we have built the Schedule tool, now available for all Autodesk Build users. With the schedule tool, you can easily important multiple schedules into Build. Once your P6, MSPP, or Asta schedule is imported, you can update it with newer versions to make sure the most updated version is there for project teams.
- Users can set viewing permissions for each and every schedule you import. One schedule can be available for all project team members while the other can have more strict permissions and be accessible to only chosen members.

- Search through thousands of schedule items or filter by date, resources, or any other activiy codes or outline codes imported with the schedule. You can now create and share unique views and find that critical information you are looking for, quickly.
- Schedule is also available on mobile. Teams can see what is this week or next month, and search and filter to get the schedule information you need from anywhere.
- Connect schedule activities to issues, RFIs, submittals, forms, and much more. Project members can not find related information inside the activity itself, and these references will stay put when a new schedule version is uploaded.
- Leverage activity comments and mentions to start a thread with the people that matter and solve schedule problems way before they get into the lookahead.

Work Plan in Autodesk Build

- When it comes to customers looking for a technology solution to help with the work planning process, they need the ability to conduct short-term planning sessions remotely, reduce manual processes, and more easily track construction progress and monitor how things are going compared to the plan.
- Work Plan in Autodesk Build provides users with key features to preform their short-term planning requirements.
- Collaborative planning: Import, create, or copy existing activities and collaboratively build out workplans during in-person and remote planning sessions.
- Shared access: Provide instant access to work plans, commitments and progress to all project team members via our web or mobile application
- Constraint management: Identify and remove roadblocks before the work happens; tag activities as roadblocks, create a constraint log and monitor resolution
- Commitment tracking: Document commitments made by each stakeholder during weekly work planning session. As work progresses, track actuals against commitments on web or mobile application.
- Key performance metric dashboards: Leverage pre-built dashboards to track construction progress against targets and identify common root causes for incomplete activities

Lessons Learned

- The importance of integrating short term plan with the master schedule
- Some best practices and pitfalls to avoid
- How leveraging technology can help you create more efficient processes and at the end of the day finish on time, every time

Resources:

- Autodesk Build | Schedule Web Page
- Autodesk Build | Schedule Video Overview
- BIM 360 Plan Web Page