SCHEDULING DO’s AND DON’Ts

✓ Time is Money:
Reduce costs with accurate and efficient CENTRALIZED scheduling

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Baltimore Convention Center

Your Presenter: Joe Stoddard, Principal
Mountain Consulting Group, LLC
Typical Builder Approach to Project Scheduling
What We’ll Cover

- Benefits of centralized, computerized scheduling
- Selecting a system
- Our detailed “everything on the calendar” scheduling method
- Expectations for PMs/ Supers
- Lessons learned from 30 yrs. of computerization

- YOUR Questions (if time.. If not, email me jstoddard@mountainconsulting.com)
Today

“Centralized” means “Cloud”
SCHEDULING PROCESS TOP-DOWN

1) “SR. MANAGEMENT” BUILDS SCHEDULING TEMPLATES
   A. Each type of project… or by plan… or level of detail, etc.

2) Job Start: “Load” template…
   A. Load Template
   B. REVIEW AS A TEAM (during EPO)
   C. Start Date - Publish Updated Version

3) FIELD – DAILY UPDATES
   A. BEST: Each Super enters own data – updates own schedule
   B. “OK”: Coordinator POLLS THE FIELD Daily – Updates system

4) End-Of-Project
   A. POST-MORTEM… CONTINUOUS IMPROVEMENT

5) Closed-Loop Feedback – Rinse and Repeat
   A. Time required will decrease with every job
   B. Errors will decrease with every job
Benefits of Centralized Scheduling

- “Speak with One Voice” (Central Publishing)
- Supers/PMs no longer have to build schedules *(Just upkeep daily)*
- Enforce On-Time, Defect-Free completion
  - Between Trades
  - End-of-Job
- Develop benchmarks for continuous improvement
- Visualize the “holes” upcoming in your schedule
  - Over-or- Under Commitment of Staff, Subs, Equipment
  - Cash flow issues
- …Many More
Start Off On the Right Foot

PREREQUISITES
CRITICAL FOR CENTRALIZED SCHEDULING SUCCESS
Does Your Company have…?

- COMMITMENT to PROCESS IMPROVEMENT?
- Culture of On-Time, On-Budget, and Defect-Free completion?
- Culture of “Build It 7 Times in Your Head?”

- Supporting systems and documentation?
  - DOCUMENTATION
    - Scopes of Work, Vendor Agreements, Construction Details
  - SYSTEMS:
    - Estimating, Bidding/Purchasing, Production, Warranty

- Reasonable budget for technology – that includes training?
- TOP-DOWN Commitment to centralized, collaborative scheduling?
- Reasonable EXPECTATIONS for requirements?
  - Time? Money? Effort?
PM’s /Superintendents Have?…

- Committed to on-time, defect-free completion?
- Innate sense of **URGENCY**?
- Willingness to cooperate –update daily?
- At least *some* experience scheduling?
- Understanding of basic business topics
  - Approved Direct Cost Budget?
  - “Critical Path”?
  - “Production Gain”?
- Some Basic Understanding of Technology
  - Use “Data” features of a **SmartPhone** or Tablet?
  - Basic **Computer Skills**?

*IF NOT…* Centralized Scheduling is not (yet) in the cards for you.
Vendors and Subcontractors…?

- Committed to on-time, defect-free completion?
- Responsive to your Project Management team?
- Technology savvy, at least at a basic level? (Smartphones - Email, Text, View websites?)

*IF NOT…* You may have some decisions to make about your vendors. *We have many clients today with 90+% participation by their vendors. IT CAN BE DONE.*
LESSONS LEARNED

- Clean-up / Stabilize **processes before** trying to automate/computerize.
  - Get rid of the junk. Garbage In – Garbage Out (GIGO)
  - MINIMIZE # of STEPS.
  - SEE “LEAN” HAND-OUT

TRAINING!

- If PMs don’t do consistent “daily walks” today – they are not going to do consistent “daily data entry” tomorrow!
- If PMs have never actually managed a schedule (on paper) – expecting them to manage a schedule on their phone is a long shot at best.
What to Look For

FEATURE-FUNCTIONALITY
Features to Look For -1

(NOT exhaustive)

- Multi-Platform – view/edit on any device
- Data center redundancy, back-up, mirroring, safety
- Require only a web connection to access (no VPN, etc)
- Ability to work with/filter MULTIPLE projects
- Ability to create multiple templates (per job type) and quickly apply those templates to a new job
- Lag/Lead Time feature (Waiting for the paint to dry)
Features to Look For -2

*(NOT exhaustive)*

- Configurable by ROLE (PM, Owner, Sub, etc)
- Separate view of schedule for the project owner
  - Ex. – Milestones only for the owner… complete schedule for back-office… complete schedule plus “private activities” for PM
- Configurable messages/notice/updates
- Ability to set BASELINE schedule
  - “Budget vs. Actual” – with “Shift” reason codes
- “Critical-Path”-ish
  - Automatically push out schedule – yes.
  - Automatically contract schedule…. Debatable.
- Multiple Views including List, Calendar, Gantt
Conventional “Inside Firewall”

- MS Project et al
- FastTRAK
- Primavera

Great schedulers, but not appropriate for what we’re talking about - for a number of reasons

- Difficult to “webify”
- Difficult to send updates/notices
- Not geared to Owner-Builder views
Reporting is an Issue – Ideally…

- Pre-construction kept as separate reporting
- Overall Time of Construction
- Shifts/Changes from “Budget” (Baseline)
- Subcontractor reports – time of trade
- IF/THEN analysis

Unfortunately - the current crop of schedulers all need help in the reporting dept.. Export to Excel is your work-around.
Systems for Custom Remodelers/Builders

- BuilderTREND
- Co-Construct
- BuildTools
- Virtual Boss *(Not cloud – on-premises)*

*Note that these are not just stand-alone schedulers*
Systems for Production Builders

- Kova (MiTek “Sapphire Build”)
- MARK System
- BuilderBOSS (Re-write of T.O.M.)
- PROSoft (New web version) (Rob McKisick)
- BuilderMT
- BuildTopia, FAST, et al (Constellation HB)

(Older systems are not true “cloud” and may require on premise server and installation. May have web-enabled features or add-ons requiring VPN or other complex technology)
The right approach

IMPORTANCE OF THE USER EXPERIENCE (UX)
“Good” Vs “Bad” Technology

- Good Technology makes it very easy to do the right thing, and very difficult to do the wrong thing. *(Dan Smith – OmWare)*

- Manual scheduling concepts certainly apply – but computers and cloud technology are not limited by the paper systems they replace.

- DO NOT limit your thinking to what “we did on paper”
Lessons Learned
The Users’ Perspective

- **DO** listen - place very high value on the “UX” – User Experience
- If the software is truly unpleasant or confusing - users will avoid it no matter what the consequences, including dismissal
  - Truly unhappy users will destroy company morale.
  - **However** **DO NOT** accept minor, insignificant complaints as fact. Lead your team to keep the “big issues” in front at all times.
- If the software is enjoyable and intuitive, users will band together and teach themselves to use it in unexpected and creative ways. Encourage that process. Esprit de Corps
  - **DO** channel the energy into documented process and procedure.
  - **DO NOT** let team members “go rogue” and “do their own thing” Team software has to be used uniformly
SCHEDULING IN PRACTICE
### Build/Mock-up in Spreadsheet

**MASTER SCHEDULING MODEL:**

For PROJECT TYPE: **2-story** Single-Family Detached  
FOUNDATION TYPE: **Stemwall**  
Approximate Construction Time: Custom-Luxury with Swimming Pool  
Size; Trim-Finish Level: 3000-6500 SF  

*All items in red and purple require review before finalizing the schedule in BuilderTREND. Change to Black when completed.*

<table>
<thead>
<tr>
<th>PHASE</th>
<th>ID#</th>
<th>Task Type Name</th>
<th>TITLE (Schedule Item)</th>
<th>NOTES:</th>
</tr>
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<tbody>
<tr>
<td>GENERAL REQUIREMENTS</td>
<td>5</td>
<td>Building Permit Received (Start Date)</td>
<td>Milestone for Multiple Items to Begin</td>
<td></td>
</tr>
<tr>
<td>PRE-CONSTRUCTION</td>
<td>6</td>
<td>Order Port-O-Let (Job Toilet)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PRE-CONSTRUCTION</td>
<td>7</td>
<td>Survey Lot</td>
<td></td>
<td></td>
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<tr>
<td>SITE WORK</td>
<td>8</td>
<td>TEAR-DOWN of EXISTING STRUCTURE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PRE-CONSTRUCTION</td>
<td>9a</td>
<td>SCHEDULE WELL DRILLER (if required)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PRE-CONSTRUCTION</td>
<td>9b</td>
<td>SCHEDULE CITY WATER</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SITE WORK</td>
<td>n.a.</td>
<td>ToDo</td>
<td>Call Water District for BFP and Water Cert.</td>
<td>Reminder for Supt. To call for required items.</td>
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<tr>
<td>GENERAL REQUIREMENTS</td>
<td>10</td>
<td>Schedule Back flow preventer</td>
<td></td>
<td></td>
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<tr>
<td>SITE WORK</td>
<td>11</td>
<td>Schedule Water certification</td>
<td></td>
<td></td>
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<tr>
<td>SITE WORK</td>
<td>12</td>
<td>Clear lot</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SITE WORK</td>
<td>13</td>
<td>Install Silt Fence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SITE WORK</td>
<td>14</td>
<td>Rough Grade Lot</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SITE WORK</td>
<td>15</td>
<td>Compaction test</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PRE-CONSTRUCTION</td>
<td>16</td>
<td>Hub &amp; tack</td>
<td>Milestone for Excavation to Begin</td>
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<tr>
<td>GENERAL REQUIREMENTS</td>
<td>17</td>
<td>Schedule Dumpster Delivery</td>
<td>CONFIRM - want delivery 2 (?) days after rough grade</td>
<td></td>
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<tr>
<td>SHELL</td>
<td>18</td>
<td>Dig footings</td>
<td>Confirm duration</td>
<td></td>
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<tr>
<td>SHELL</td>
<td>19</td>
<td>Dig Column Pads</td>
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<td></td>
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<tr>
<td>SHELL</td>
<td>20</td>
<td>Form Corner Set</td>
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<tr>
<td>SHELL</td>
<td>21</td>
<td>Order Form-Check</td>
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<tr>
<td>SITE WORK</td>
<td>22</td>
<td>Drill Well</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GENERAL REQUIREMENTS</td>
<td>n.a.</td>
<td>ToDo</td>
<td>Phone Concrete Engineer to set-up testing</td>
<td>Prompt to call the Engineer</td>
</tr>
<tr>
<td>GENERAL REQUIREMENTS</td>
<td>23</td>
<td>Schedule Concrete testing</td>
<td>Confirm Predecessor and lag. Requires what to be</td>
<td></td>
</tr>
</tbody>
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“Second Brain in the Sky”

■ Schedule Item (Task)
  □ Checklists for trade completion
  □ Jobsite “Hot Spots” (Pop-up notice)

■ Other Management Tied To Scheduled Task Items
  □ **Bid Packages** due (respond by) dates
  □ **PO Release dates**
    ■ EPO meetings pre-release

■ Also on the Calendar
  □ Daily To-Dos –Date/Responsible
  □ Personal Time Management Items
    ■ Meetings, Inspections, Private Items
The Detailed, Granular Schedule

- I accept you will be skeptical of this approach
- The degree of detail we use would not be practical in a manual system – but manual systems use your brain to “remember”
- Computers are excellent at one thing – perfect digital copies of information
Demo

- BuilderTREND and/or Co-Construct
Daily Procedures

- What happens today gets entered TODAY
  - Preferably in real-time, but at least daily
- Everyone enters their OWN data (Ideal)
  - If not possible – use const. coord and poll field
- Teach PMs to look ahead to see “holes” (air) in the schedule. Daily production gain
Advanced Concepts

- Trigger PO payment from task completion
More Lessons Learned

- Messaging/Transmittal capability #1 Importance
- Use Excel or other spreadsheet to “wireframe” (mock-up) templates. *Easier to edit in spreadsheet initially*
- Build extremely granular/detailed templates.
  - Unlike paper scheduling – this will not be a burden
- Tie EVERYTHING to the calendar. Not just tasks
  - Meetings
  - To-Dos
  - Bidding and Purchasing deadlines
- SUBTRACTIVE approach works best for us.. We build longest, most complicated product schedule first… copy and simplify for other job type/templates.
Subtractive Example

(Develop templates in this order)

- Template #1 – 2-story on Basement
  - Template #2 – 1-Story on basement
  - Template #3 – 2-Story on SLAB
  - Template #4 – 1-Story on Slab

DO NOT BUILD DIRECTLY IN YOUR CLOUD SCHEDULING APP.

- Use Excel to build/debug – then import or re-enter
- Keep and review these Excel templates
  - Continuous Improvement – Post-Mortem on every job
Questions
THANK YOU FOR ATTENDING!

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About the Presenter:

A former (and still once-in-a-while) homebuilder, remodeler, and general contractor, Joe Stoddard has been knee-deep in process improvement and the smart use of technology for the building industry for 30 years, from DOS 1.0 in 1981 to mobile and cloud computing today. Joe is widely regarded as the “go-to” when it comes to evaluating what’s going right and wrong at a company, and helping his clients “lean up” their processes before automating with the appropriate software.

His “top-down” philosophy focuses entirely adding value to the contractor’s customers, product line, and operation and his “crawl-walk-run” implementation approach makes it possible for builders and remodelers to have immediate success, enjoy a return on their investment right away – while still “building bridges” between the high-tech and low-tech pieces of their operation.

As a regular contributing editor in the pages of the Hanley-Wood family of publications and over 250 articles in-print, Joe is read in print by tens of thousands of builders, remodelers, designers, and general contractors. He moderates the popular “Computer Solutions” online forum at the Journal of Light Construction Online (http://www.jlconline.com), and is a founding partner and principal of Mountain Consulting Group, LLC.

Mountain Consulting assists builders, remodelers, and allied industry professionals improve their business processes and automate their operations. Clients have included top-400 homebuilders, “Big-50” remodelers, other nationally-known management consultancies, as well as industry-leading software providers.

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