FIELD ENGINEER REMINDERS

FIELD ENGINEER COMMANDMENTS

- Always traverse primary control. Achieve LEOC less than .02', or 3rd or 2nd order accuracy. Compare Civil coordinates with the traverse coordinates. Analyze X, Y and rotation.
- Tie back to or verify basis of bearings (or legal property corners) from project coordinate system. Verify existing structure (columns, foundation, NOT FASCIA) for proper tie-ins.
- Always perform a level loop (level circuit) of all primary control points and include the design/project benchmark in that analysis.
- All level loops are to be performed by going through 2 known benchmarks, estimating to the nearest thousandth for rod measurements, using three-wire leveling, and closing the loop back to the start point within acceptable accuracy. Achieve less than .02' or, 3rd or 2nd order accuracy.
- Horizontal distance measurements to be done with a total station, tape measure, or a steel chain. No plastic, cloth or uncalibrated steel tapes allowed.
- Always check using a different technology, direction, person, and approach.
- Label everything you lay out and keep good field notes with pen. Strike through mistakes or corrections. No erasing.
- All benchmarks to be set as a part of a closed level loop and documented. Every building to have a minimum of two benchmarks to back sight.
- Establish a baseline with 2 accurate end points. Intermediate points (minimum of 2) to be set in-line from end-points as a complete line. Always four points to a line.
- Never burn a foot. Learn how to use the end of your tape or chain. Always have tape ends in good condition.
- When radial staking, always tie into a known and established field point before beginning radial layout. Check back into back sight throughout and at end of survey.
- Use a true plumb to calibrate 4'-0" prism poles. Use mini prisms with 1'-0" or less extension rod for tolerances less than .01'.
- Always calibrate your equipment.

FIELD ENGINEER REMINDERS

Phase Reminders

Job Startup
- Lift Drawings
- Order Equipment
- Schedule Your Work
- Primary Control
- Secondary Control
- Benchmarks
- Documentation – RFI
- Field Book
- Job Site Photos
- As-Builts
- Production
- Trend Charts
- Daily Reporting
- Concrete Log

Concrete
- Lift Drawing
- Review Drawings
- Quantities
- Submittal Updates
- RFI Updates
- M/E/P Coordination
- Line and Grade
- Pour Check
- Double Check Layout
- Placement Tracking Sheet
- Mix Designs
- Quantity Take-off

Working with Trades
- Layout Left for Trades
- As-Builts Complete
- Safety Requirements
- Completion Checklists
- Submittals Approved
- Contract – Scope
- Schedule
- Quality Control Plan
- Cleanup
- Daily Reporting
- Backing Drawings
- In Wall/Ceiling Inspections
- Identify Phasing Requirements

Punch List
- Punch List Mockup
- Incomplete Work Lists
- Owner Requirements
- Recording Process
- Startup and Commissioning
- Sign Off
- Trade Completion Lists
- Trade Completion Stats

Double Check Options
- ABC vs. ZXY
- Use a Different Person
- Close Your Work
- Use a Different Technology
- Do a Duck Check
- Get Some Help

QC Process
- Pre-Install Meeting
- In-Place Mockup
- Initial Inspection
- Follow-up Inspection
- Follow-up Observations

Redeeming Habits
- Knowing Your Drawings
- Keeping a To-Do List
- Follow-up with To-Do List
- Good Attitude Towards Learning
- Double Check Everything