CONCEPT

Lean Construction and the Last Planner System: Pull Planning, Takt and Make-Ready

20 – 24 December 2026
Riyadh - KAFD district five-star



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Introduction:

Lean construction starts from a plain fact: on most projects a large share of weekly site assignments are not finished as planned, because crews start work whose prerequisites are missing and trades hand over late or incomplete. Float disappears, rework grows and completion dates drift. This Core Concept course teaches production teams on building, plant and offshore or marine works to run the Last Planner System, pull planning, takt planning and make-ready screening so that promises made on site become reliable. Participants finish with a Phase Pull Plan and Six-Week Lookahead with Constraint Log for a case project phase.

Course Objectives:

- Identify the forms of waste and variability in construction and project delivery that break workflow between trades and work fronts
- Facilitate a milestone and phase pull planning session that sequences handoffs backwards from a phase milestone
- Run a six-week lookahead with make-ready screening, constraint analysis and a maintained constraint log
- Prepare weekly work plans from sound assignments and track Percent Plan Complete with categorised reasons for non-completion
- Design a takt plan with work zones, trade trains and location-based flowlines for repetitive work and control it on site
- Produce a Phase Pull Plan and Six-Week Lookahead with Constraint Log that links to the contract master schedule

Target Audience:

- Planners responsible for connecting the contract master schedule to short-interval production plans
- Site production leads who assign daily work to crews and subcontractor foremen
- Package and trade leads who hand work fronts to the next trade in the sequence
- Project managers on building, plant and offshore or marine projects who report progress and forecast completion
- Owner-side delivery representatives who want reliable workflow and visible production data from contractors

Course Outline:

Day 1: Lean Construction Thinking and Workflow Variability

- Transformation-Flow-Value View of Construction Production
- Eight Wastes Mapped to Site, Fabrication Yard and Offshore Hook-Up Work
- Workflow Variability and Plan Reliability as a Production Problem
- Push Scheduling versus Pull Scheduling: Handoff and Buffer Comparison
- Current-State Workflow Diagnosis Using a Plan Reliability Survey

Day 2: The Last Planner System and Collaborative Delivery Models

- Last Planner System Five Conversations: Should, Can, Will, Did and Learn
- Milestone Planning and Phase Scheduling from the Contract Master Schedule
- Pull Planning Session Protocol: Sticky-Note Handoffs Sequenced Backwards from a Milestone
- Integrated Project Delivery and Multi-Party Agreements for Shared Production Risk
- Big-Room Setup and Visual Production Boards for Cross-Trade Planning

Day 3: Make-Ready, Weekly Work Plans and Reliable Promises

- Six-Week Lookahead Build: Screening Activities for Readiness
- Constraint Categories and Constraint Log Ownership: Design, Materials, Permits, Access and Prior Work
- Sound Assignment Criteria and the Weekly Work Plan Meeting
- Daily Huddle Routine and Reliable Promise Conversation
- Percent Plan Complete Calculation and Reasons for Non-Completion Coding

Day 4: Takt Planning, Location-Based Scheduling and Site Material Flow

- Takt Planning: Work Zone Definition, Takt Time and Trade Train Design
- Line-of-Balance Flowlines and the Location-Based Management System
- Takt Control Boards and Recovery When a Zone Falls Behind
- Just-in-Time Delivery, Prefabrication Kitting and Laydown Pull Signals
- First-Run Studies and Linking Lean Plans to a CPM Baseline

Day 5: Case Project Phase: Pull Plan, Lookahead and Constraint Log

- Case Brief: Mid-Rise Superstructure and Offshore Module Hook-Up Phase
- Team Pull Planning Exercise for the Case Phase Milestone
- Lookahead Drafting and Constraint Log Population with Named Owners
- Lean Production Metrics Dashboard: PPC Trend, Constraint Removal Rate and Takt Adherence
- Phase Pull Plan Presentation and Peer Readiness Challenge

Skills You Will Gain:

- Pull Planning Facilitation
- Make-Ready Screening
- Constraint Log Management
- Weekly Work Planning
- Plan Reliability Measurement
- Takt Zone Design
- Location-Based Flowline Scheduling
- Site Material Flow Coordination

Why Attend This Course:

- Take back a Phase Pull Plan and Six-Week Lookahead with Constraint Log, already challenged by peers for readiness
- Run a pull planning session and weekly work plan meeting with trades the week you return
- Read PPC and non-completion data to find the recurring causes that stall work fronts
- Compare lean site practice with planners from building, plant and offshore or marine projects

Conclusion:

Reliable site production comes from plans that crews and trades build together and can keep. The week moves from waste and workflow variability, through the Last Planner System, pull planning, collaborative delivery and big-room practice, to lookahead screening, constraint removal, weekly work plans and PPC tracking, then to takt planning, location-based flowlines, just-in-time material flow and first-run studies. The final day applies these methods to a case project phase and produces a Phase Pull Plan and Six-Week Lookahead with Constraint Log.