Jeff Wagner, Vice President of Operations, McCarthy, Dallas, TX. A seven-year McCarthy veteran and a 24-year veteran in the construction industry, Wagner has played an integral role in the successful completion of major projects including the award-winning AT&T Performing Arts Center Dee & Charles Wyly Theatre and the $128-million W Dallas Victory Hotel & Residences, including the Dallas “hot spot” inside the W Hotel, the Ghostbar. Wagner also had the opportunity to work with a team on a $25-million facility at Iowa State University, his alma mater, to house the engineering college’s teaching and research facility. Currently, Wagner is working on the $60-million KDC Park Tower in downtown Dallas and the Dallas City Performance Hall, a 124,000-square-foot multi-phase theatre facility.

“Behind the Aluminum Skin of the Wyly Theatre

Jeff Wagner
Senior Project Manager
Chris Arpaia
Project Superintendent

Special thanks to a legend: Beau Johnson

Theatre Equipment

- Four Possible Seating/Stage Configurations (600 Capacity)
- Three 3-level Seating Towers
  - Towers “Fly” Into the Ceiling Above for Storage
- Catwalk Structure Above
- Fly Tower for Curtains and Proscenium Wall
- Nine Performance Seating Lifts Including the Orchestra Pit Lift
- $1 Million Sound/Video System
Stacked Vertical Theatre

- Architects vision to create a tall Theatre with stacked floors to balance the size of the huge opera house next door.

Subgrade work

- Shotcrete and tie backs for soil retention.
- Columns and one sided gang walls on drilled piers in excavation.
- Blue Carlon Flex conduit used for extensive conduit runs in Audience chamber sub floor.
- Large beams in AC subfloor create Theatre vomitory.

Shear Wall and Columns

- Two columns per side and one side a shear wall that rise 135 feet above grade.
- Shoring towers and decks provide support for 15-20 foot lifts on columns.
- Shear wall for elevators use Jump gangs.
On the way up

• Imbeds that weigh up to 6500 pounds.
• 18 #11 bars in columns/ nelson studs/ stirrups/ How does it fit?
• Bottom pumping columns for quality of finish.
Immediate Challenges

- Column forming and temporary shoring
- Embed placement and welding of embeds to each other
- Construction joint locations and rebar coordination
- Exposed Concrete columns must be linear when we are done

Column Placement

Columns are pumped from the bottom with 3/8" aggregate mix due to rebar and embed congestion

How’s it Going to Stay up?

- Ellis shores carry battered column’s dead load inside formwork.
- Exterior elevator steel framework modified to be wind bracing for shear wall.
- Knitting the entire thing together with some of the permanent steel
Developing the Erection plan

- Structural Engineer MK
- Support Engineer TY LIN
- Rebar Installer Great Western
- Forming sub Skyline
- Erector Bosworth Steel
- Architects/Engineers/Contractors build the plan over 15 plus meetings.
Temporary Supports

• Corners have temporary columns.
• Temporary supports at the battered columns.
• Temporary supports for wind bracing at the battered columns.
Placing the Decks

- Floor seven goes first
- Followed by levels 4, 5, and 6.
- While 4, 5, and 6 are being poured, we start pouring sheer walls and columns again above level 7.
Removing Temporary Steel

- Wind braces
- Battered column braces
- Corner braces
- Engineer calculates 5/8” deflection and we measure…5/8”.