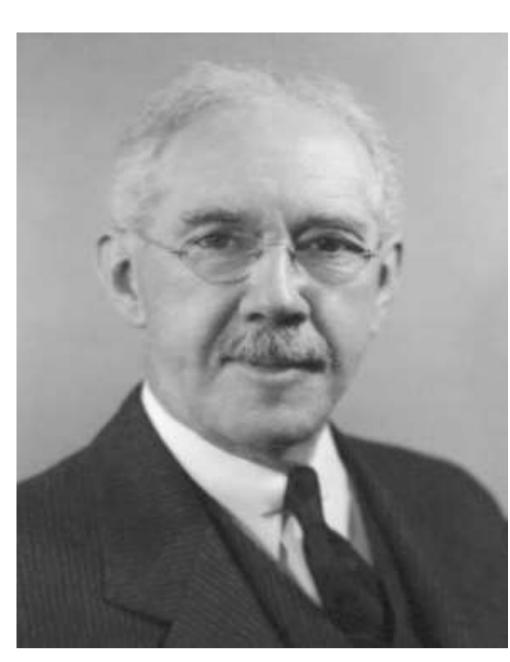


# Introduction of TURNERINTERNATIONAL



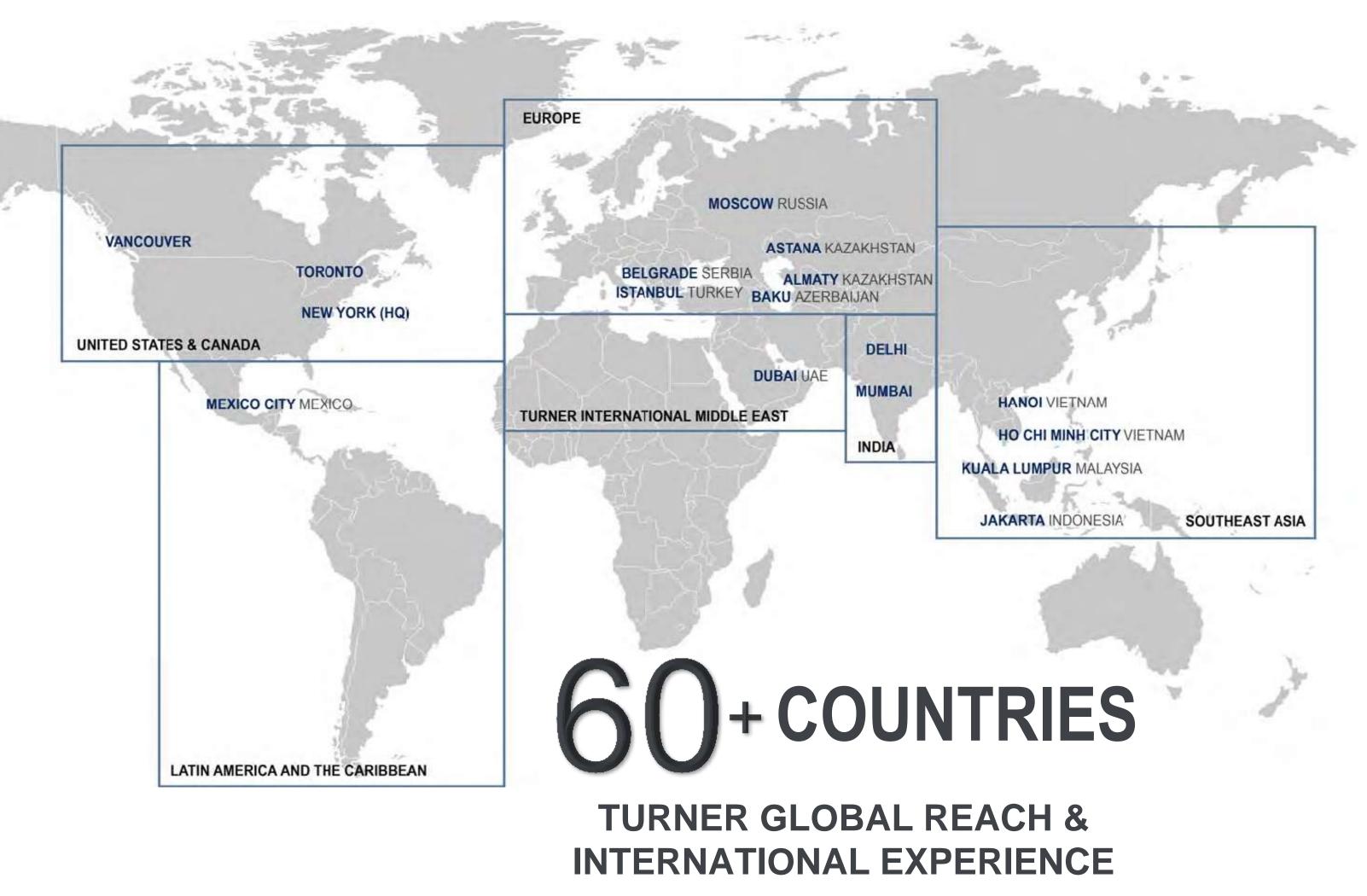
\$14+ Billion Annually

5600+Employees 1500+ Annual Projects



Henry C. Turner, Founded 1902 Turner Construction Company

"WE ARE AWARDED MOST OF OUR WORK BASED ON REPUTATION. THIS IS THE FOUNDATION OF OUR COMPANY"





# Turner and SUSTAINABLECONSTRUCTION





## Economic Sustainability:

increasing profitability by making more efficient use of resources including labor, materials, energy and water



## **Environmental Sustainability:**

protecting the environment from the impact of emissions, effluent and waste and where possible, enhancing it and using natural resources, carefully



## Social Sustainability:

recognizing the needs of all stakeholders impacted, from inception of a project to demolition, including workforce, community, the supply chain and end users.



THE TRIPLE BOTTOM LINE



Driver for change	Improving the project process	Target for improvement	Goal
Committed leadership  Focus on customer  Product team integration  Quality- driven agenda  Commitment to people	Product Development  Partner with supply chain  Project implementation  Production of components	Capital Cost Construction time Predictability Defects Accidents Productivity Turnover & Profit	-10% -10% -20% -20% -10% +10% +10%

### Turner's Experience

ENR Ranked
GREN Builder
2007 - 2016

LEED Certified Projects

B B C Registered Projects

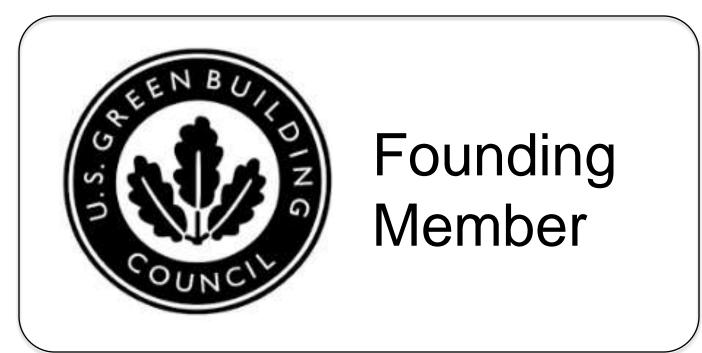
Accredited Professionals



#### **ENR 2016 Top 100 Green Building Contractors**

Rank 2016/2015	Firm	Green Accredited Staff	Green Contracting Revenue
1/1	THE TURNER CORP., New York, N.Y.	1,477	5,701.00
2/2	CLARK GROUP, Bethesda, Md.	375	2,620.00
3/16	HENSEL PHELPS, Greeley, Colo.	304	2,285.83
4/6	SKANSKA USA, New York, N.Y.	481	1,941.40
5/10	SWINERTON INC., San Francisco, Calif.	350	1,918.00
6/4	GILBANE BUILDING CO., Providence, R.I.	424	1,746.36
7/5	THE WHITING-TURNER CONTRACTING CO., Baltimore, Md.	296	1,602.63
8/9	STRUCTURE TONE, New York, N.Y.	163	1,460.80
9/7	DAVID E. HARVEY BUILDERS, Houston, Texas	56	1,339.00
10/19	HOLDER CONSTRUCTION CO., Atlanta, Ga.	190	1,335.00









#### TURNER SUSTAINABILITY PRACTICES





TRAIN OUR PEOPLE



LEAN OUR COMPANY



**GREEN OUR PROJECTS** 

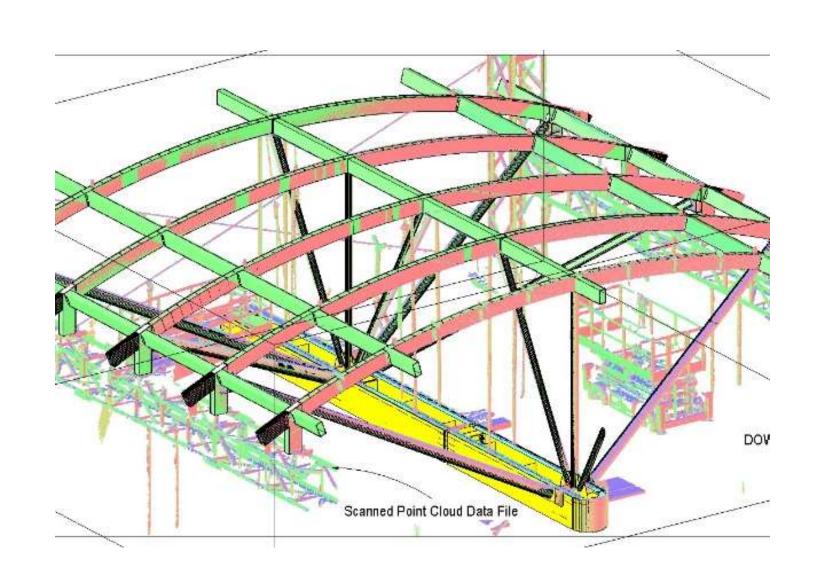


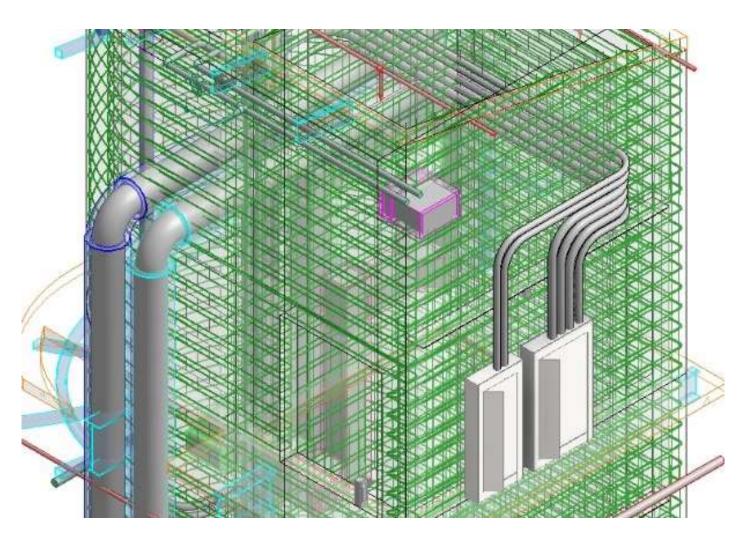


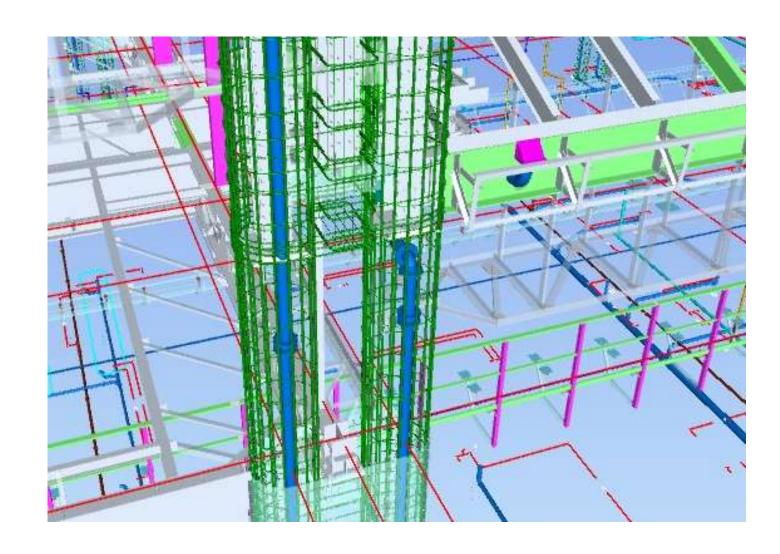
# Achieving LEANCONSTRUCTION

A CULTURE OF CONTINUOUS IMPROVEMENT





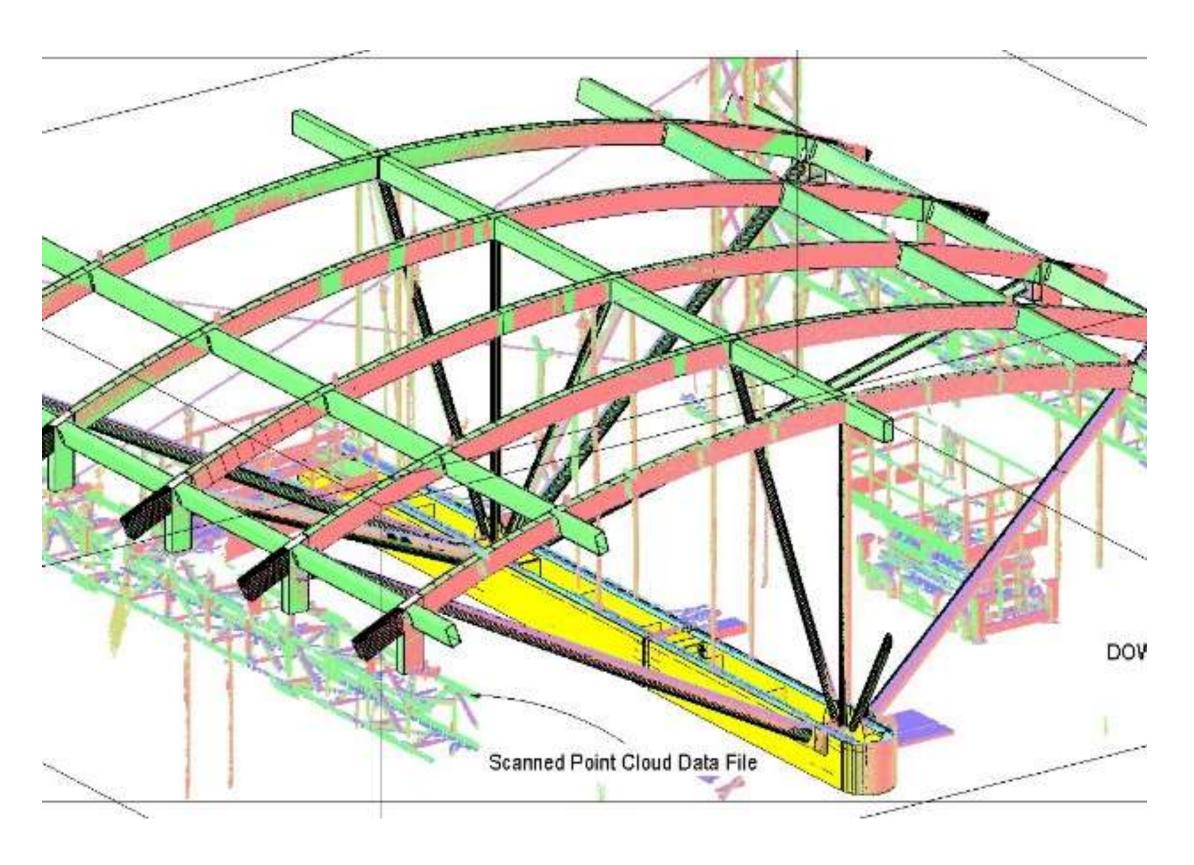




### BUILDING INFORMATION MODELING [BIM]

• Turner has taken the BIM model beyond MEP coordination and has utilized it for site logistics, scheduling and increasing production. The model was utilized to help support the self perform concrete operation by creating fully coordinated shear wall lift drawings as well as modeling and coordinating the rebar within the round 42" double columns. The team used the model to create templates for the column reinforcing and coordination of items which allowed for increased productivity and quality assurance. The project team is also utilizing the BIM model to create coordinated exterior envelope detail drawings that can be reviewed by the team in the field to confirm sequence of installation as well as quality. The project team also utilized laser scanning and the model to confirm tolerances for the prefabricated steel modules prior to them being erected in place. All of this has helped the team find and solve problems before physically building.





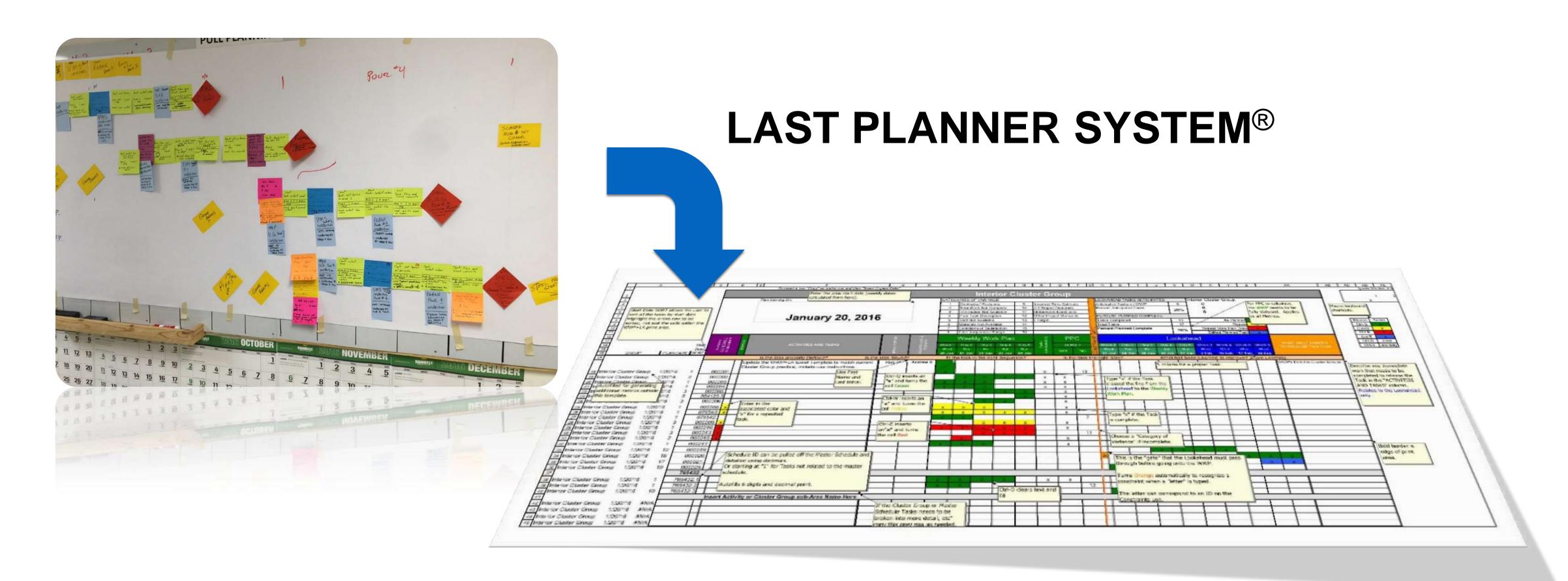


#### BIM & Prefabrication

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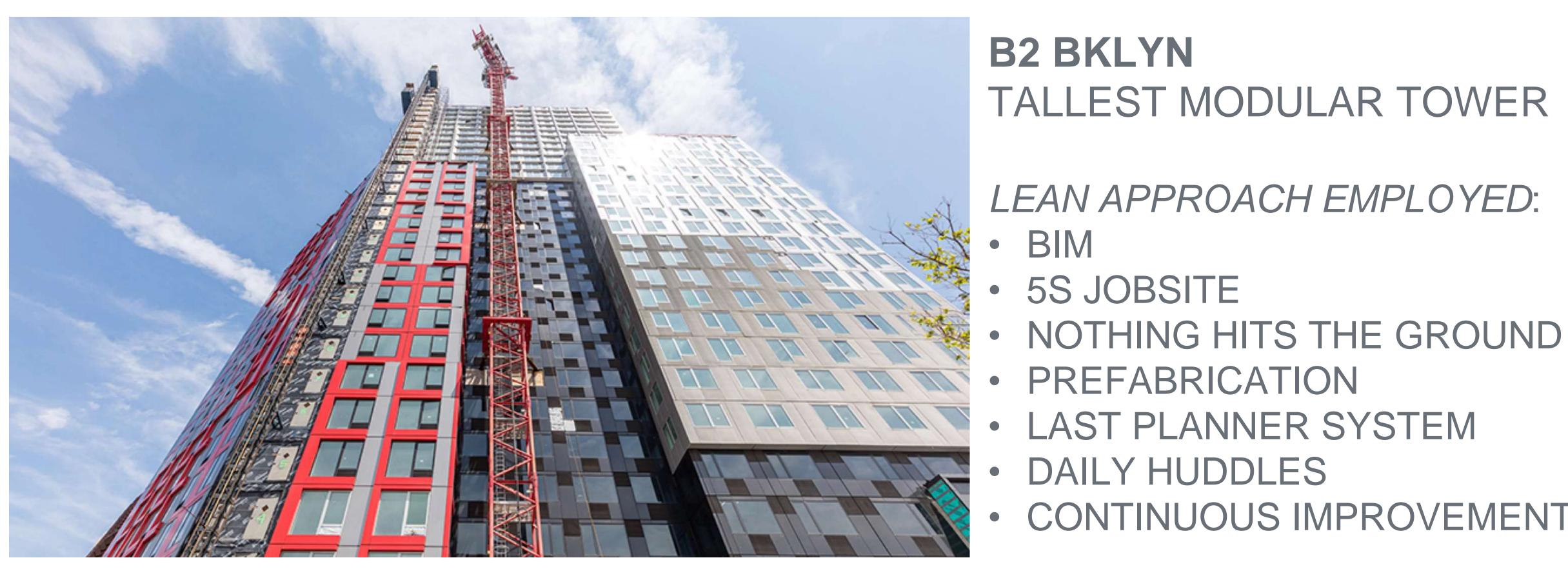


Successful plan implementation requires the schedule activities to be broken down to a micro level. Commitments are made, measured, and recapped on a weekly basis.





Modular prefabrication systems, manufactured as complete single-room modules with all MEP systems and structural support, were a key component to accelerated delivery.



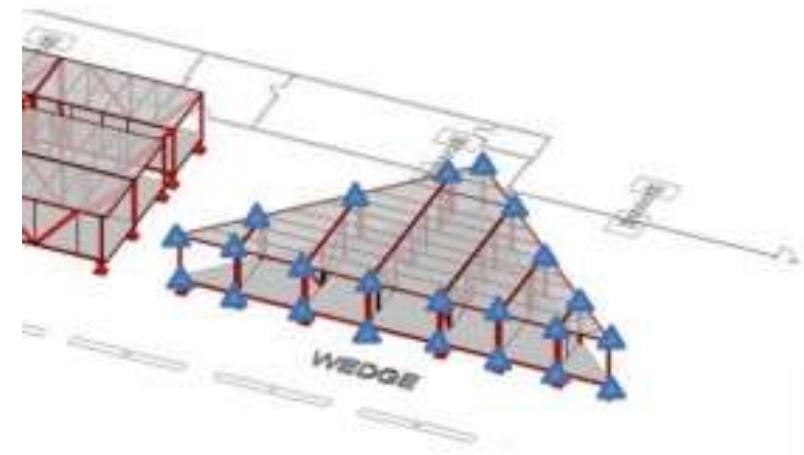
### **B2 BKLYN** TALLEST MODULAR TOWER

#### LEAN APPROACH EMPLOYED:

- BIM
- 5S JOBSITE
- NOTHING HITS THE GROUND
- PREFABRICATION
- LAST PLANNER SYSTEM
- DAILY HUDDLES



Modular prefabrication systems, manufactured as complete single-room modules with all MEP systems and structural support, were a key component to accelerated delivery.



World Coordinate datum and points in 3D Model.

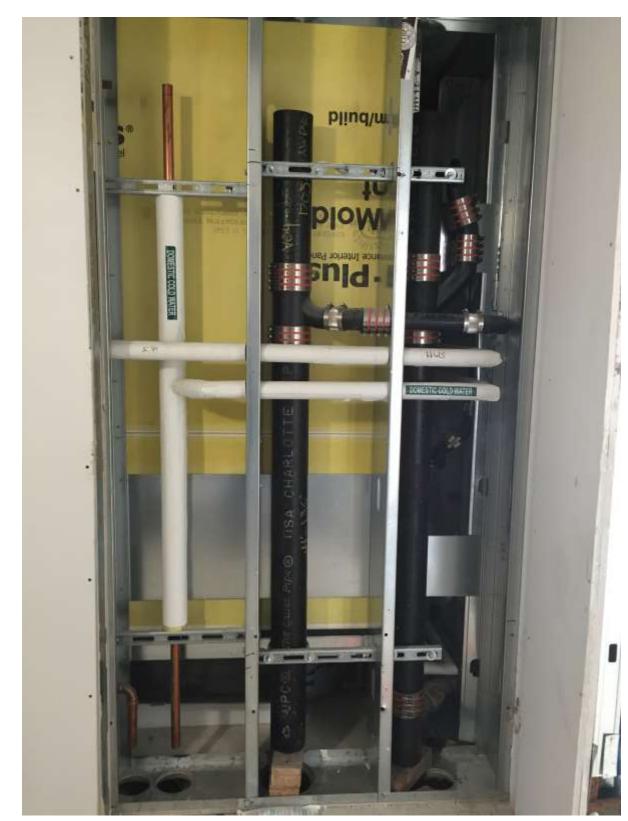
Coordinates replicated in factory to mimic exact site positions.





Modular prefabrication systems, manufactured as complete single-room modules with all MEP systems and structural support, were a key component to accelerated delivery.

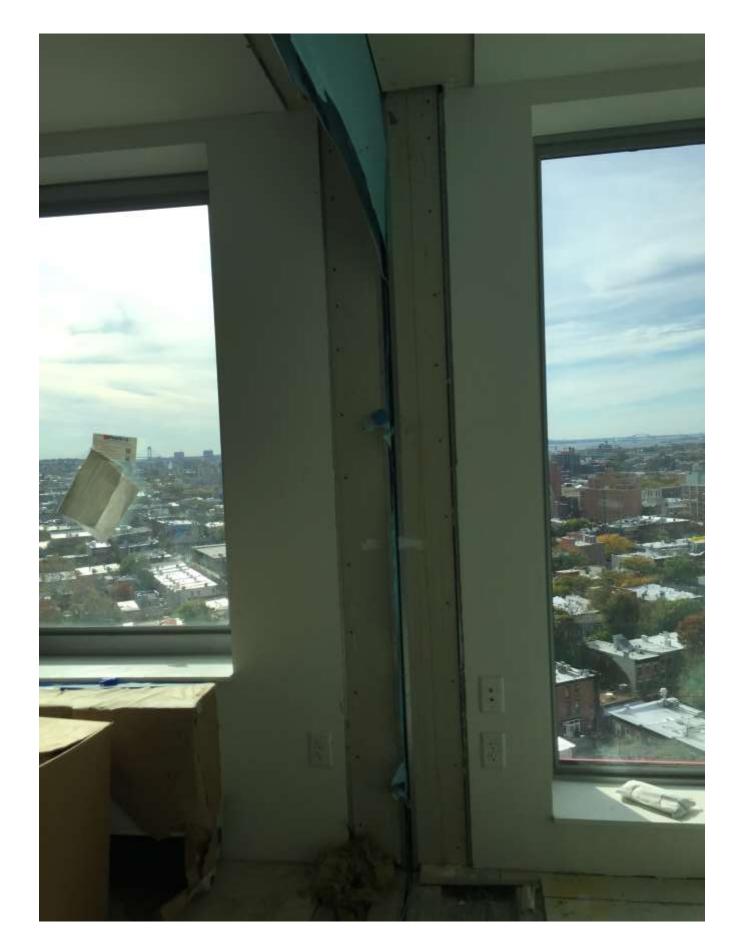






Modular prefabrication systems, manufactured as complete single-room modules with all MEP systems and structural support, were a key component to accelerated delivery.







Modular prefabrication systems, manufactured as complete single-room modules with all MEP systems and structural support, were a key component to accelerated delivery.





## MARKETREALITIES

#### Real Estate Bill: Errant promoters and builders face 3-year jail

Home buyers can now look forward to a better deal from builders with the Real Estate (Regulation and Development) Bill, 2013, being approved by the Lok Sabha on Tuesday five days after it was cleared by the Rajya Sabha.



Mail Today | Posted by Bijaya Kumar Das New Delhi, March 16, 2016 J UPDATED 08:27 IST

A + A -



EXPAND IMAGE

Home buyers can now look forward to a better deal from builders with the Real Estate (Regulation and Development) Bill, 2013, being approved by the Lok Sabha on Tuesday five days after it was cleared by the Rajya Sabha.

It will now be difficult for promoters and builders to delay projects as the ne imprisonment of up to three years apart from monetary penalty for violation Bill provides for setting up of a Real Estate Regulatory Authorities (RERAs) v timely execution of projects. RERAs will regulate transactions related to bot commercial projects and ensure their timely completion and handover.



#### Cabinet clears 20 major amendments to Real Estate Bill

By Ravi Teja Sharma, Kallash Babar, ET Bureau | 10 Dec., 2015, 10:38AM IST

NEW DELHI | MUMBAI: The Cabinet has approved 20 major amendments to the real estate regulatory Bill that seeks to protect home buyers as well as help boost investments in the real estate industry.

These changes are based on the recommendations of a Rajya Sabha committee that examined the Bill pending in the upper house of Parliament.

Under the amendments, projects on at least 500 sq metres of area or with eight flats will

be registered with the proposed regulatory authority, instead of the im size of 1,000 sq metres suggested earlier, bringing a larger number of s under the regulator's ambit.

Builders will have to deposit at least 70% of the sale proceeds, including land cost, in an escrow account to meet construction cost, compared with the earlier proposal for 50% or less, and pay interest to home buyers for any default or delays at the same rate they charge them. Builders will be liable for structural defects for five years, instead of two years earlier.

#### **House That!** Some of the major amendments:

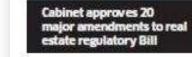
#### Projects on at least 500 SQ m or with 8 flats will have to be

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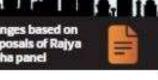
Aggrieved buyers can approach Carpet area has been clearly defined instead of only the real estate

Changes based on proposals of Rajya Sabha panel They seek to protect home buyers as well as help boost



construction cost









#### **Turner Project Management India**

**Building the Future** 

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