

# 8292 - Extracting Value from BIM in Construction

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## FIG Working Week 2016

CHRISTCHURCH, NEW ZEALAND 2-6 MAY 2016

Recovery

from disaster

Organised by



Platinum Partners



Diamond Partner





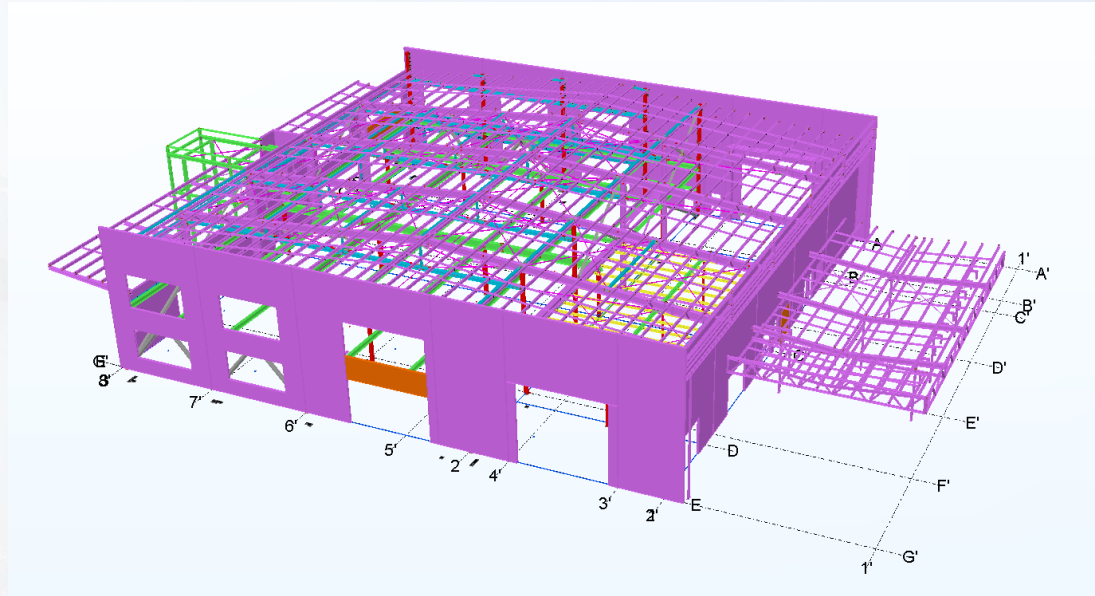
## Context

- Recent events in NZ have accelerated change in the construction industry
- Contractors are utilising technology to adopt new construction layout workflows
- Value drivers for contractors differ from traditional survey practise



## Evolving Technologies

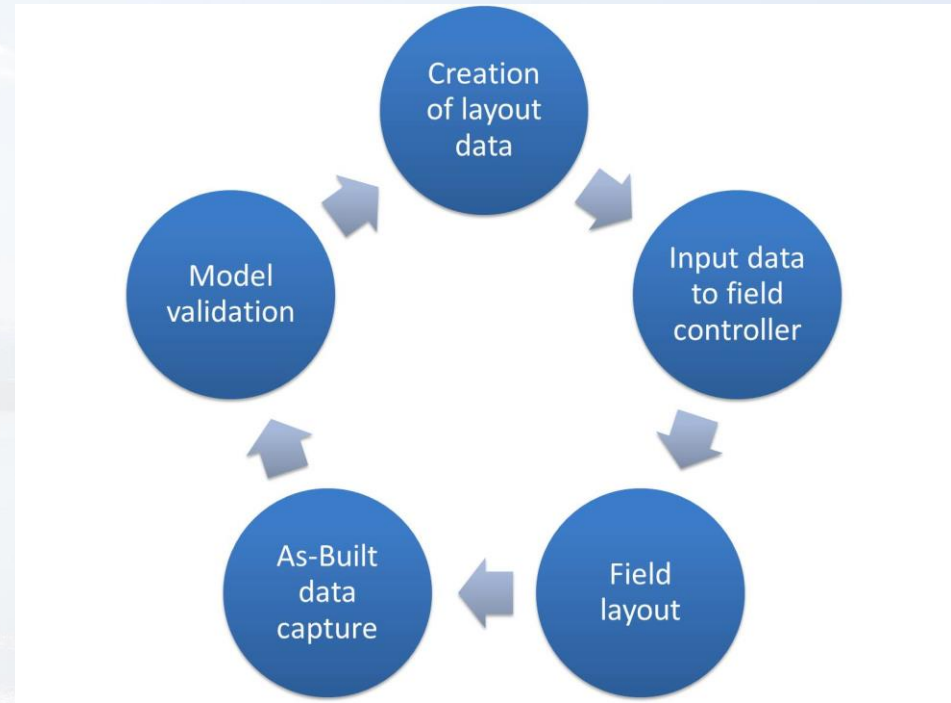
- BIM
  - Not just 'big' projects
- Robotic Total Station
  - Democratising precision layout
- Integrated Workflows
  - Blurring traditional roles





## 'BIM to Field' Workflow

- Continuous
  - Enter or exit the workflow anywhere
- Collaborative
  - May involve multiple stakeholders
- Technology Driven
  - Data exists and exchanged as part of the BIM







## Case Study Overview

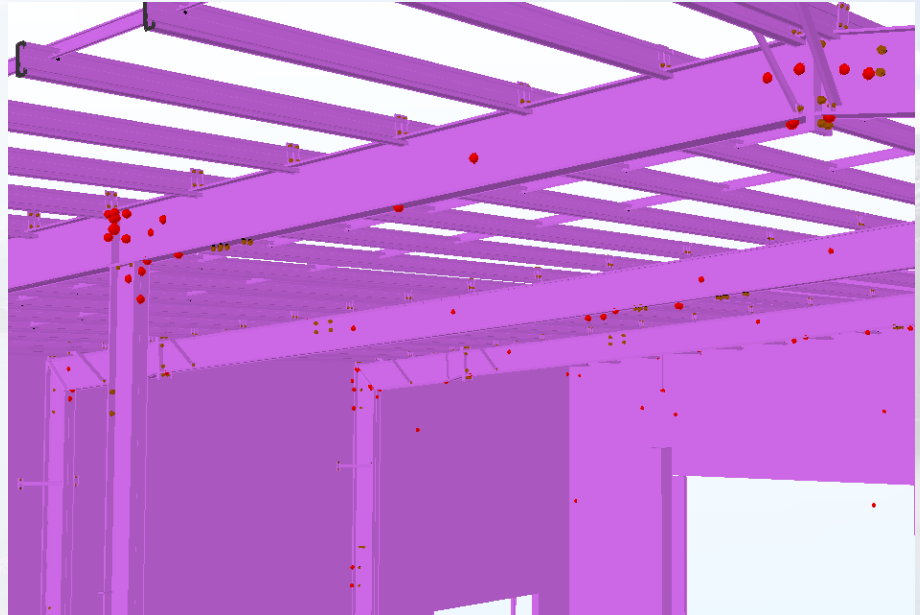
- Seismic strengthening & upgrade
  - ~1700m<sup>2</sup> 'Brownfield' site working in existing structure
- Structural Steel contractor engaged over 5 phases of work:
  1. Roof Bracing
  2. Panel & Wall Bracing
  3. New mezzanine floor
  4. New canopy & stairs
  5. New suspended ceiling





## Model Validation

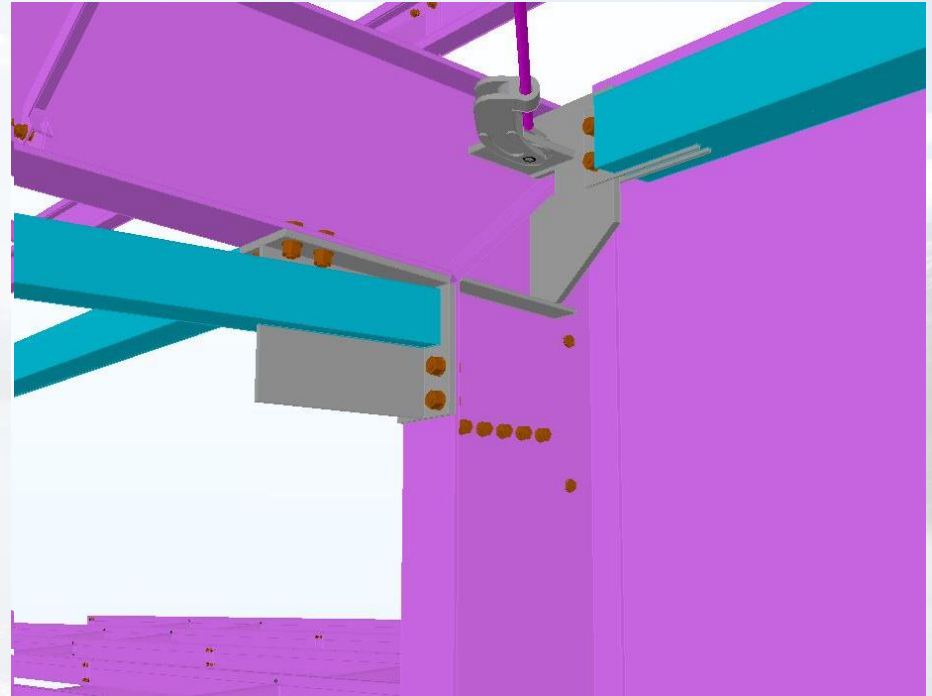
- Onsite conditions captured





## Model Validation – Value

- Enabled confidence in connection design
- Reduced risk of rework during installation onsite
- Reduced risk of delays during installation onsite





## Value Drivers for Contractors

- Contractor focus on productivity
- Surveyor focus on accuracy
- Manage the Risk



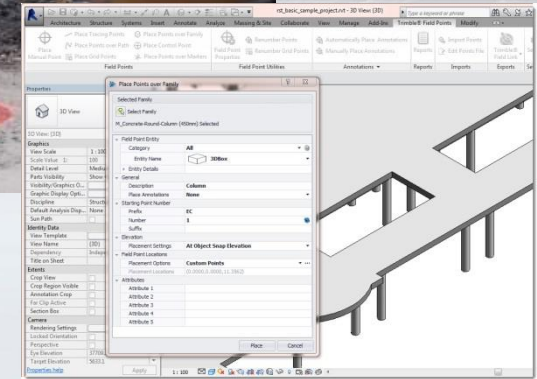




## BIM to Field Challenges

- Survey Control
  - Documented and shared (BIM Execution Plan)
- Data Management
  - In a 3D environment
- Services opportunity for Surveyors

Q. "Where is the control?"  
A. "Just use the wall mate"





## Conclusions

- Building Information Modelling continues to drive change within the building construction industry
- Evolving technology is allowing Contractors to connect the virtual model to the real site with high precision
- Surveyors have an opportunity to add value with services in this emerging environment