NIBS OSCC 3.13.15
Meeting Notes

PRE-CONSTRUCTION
Participants:
Laurie Robert, NRB Inc
Charlie Walden, Silver Creek
Mark Taylor, PCL
Greg Rohr, Pivotek
Amy Marks, Xsite Modular
Tom Cleveland, Vectorbloc
Julian Bowron, Vectorbloc
Tom Hardiman, Modular Building Institute
Clifford Cort, Triumph

DESIGN PARAMETERS

i) Decision Making Process
(1) Sequence
(2) Stakeholders (integration/collaboration)
(3) Approval Agencies (Regulatory – TPAs)
(4) Performance Standards – Specifications
(5) Define on-site/off-site scope of work
(6) Effect of off-site component on overall design
(7) Effect of design on installation
(8) Tolerances (variation)

ii) Effective Formation (owner, architect, engineer, contractor, PMC builder)

iii) Effective Team Behavior – The project management system
(1) Aligned to one goal, accountable to each other
(2) Behavior measurement
(3) Decision making is early and planned
(4) Deliberate planning and scheduling “no surprises”

Example: Millmonte School
Participant Comments, Clifford Cort

CONTRACTS

i) Hawl to multisource – every mod builder different
ii) WHO is the lead? Arch? Eng? Should be modular builder.
iii) Contract is “Design-Assist”
iv) Completion is = Mod Drawings _______
v) Who pays Pre-Const Cost?
vi) Award on Budget + Trust  
vii) Doesn’t Work for Government  
viii) Does work for informed owner  
ix) AIA Contract  
x) Need to enable partnering/coordinated influence of EARLY design  
xii) IPD and Design-Build contracts as good example  
ixi) Timed – when does the contract get signed?  
   (1) Lack of incentive to save time/$ in contract  

Participant Comments: Amy Marks & Tom Cleveland  

PROCUREMENT  
Coordination of off-site and on-site materials to assure common finance types within one facility, Participant Comments: Greg Rohr & Clifford Cort  

i) Informed and empowered owner RRD  
ii) Does not suit government due to bid rules  
iii) Next 10 years – private sector only  
iv) Creating a spec is central – must be supplier neutral  
   Participant Comments: Julian Bowron  

v) Owner procurement process – to hire Arch, Contractor  
   (1) Varies and is often set in stone by procurement/risk management departments and difficult to change  
   (2) Leverage other industries that get sale-sourced from these same owners  
   (3) Constraints on contractor and arch  
      (a) Individual agreements  
      (b) Traditional behaviors  
vii) GOB network  

viii) Lack of value seen for partnering  
ix) Very limited supply chain depth  
   (1) Too few competitors  
   (2) Lack of specific experience  

x) Estimators, ProjectExecs, large established subcontractors, off-site supply chain  

xi) Better metrics (to understand total costs), scope definition, grow supply chain  

xii) Limited supply chain, “buy IBM”, poor communication of value proposition, ‘GOB’ problem, educate trade on their savings  
   Participant Comments: Amy Marks & Tom Cleveland
CONSTRUCTION

TRADE COORDINATION/SAFETY/PRODUCTIVITY

i) Owners knowing the process Greg Rohr & Clifford Cort
ii) Skill level/knowledge (specialization?) Greg Rohr & Clifford Cort
iii) Number of trades people Greg Rohr & Clifford Cort
iv) Scope delineation Laurie Robert, Charlie Walden, Mark Taylor
v) Critical path/sequence Laurie Robert, Charlie Walden, Mark Taylor
vi) Inspections/sign-off Laurie Robert, Charlie Walden, Mark Taylor
vii) Commissioning Laurie Robert, Charlie Walden, Mark Taylor
viii) Connections Laurie Robert, Charlie Walden, Mark Taylor
ix) Handover from manufacturer to installer Laurie Robert, Charlie Walden, Mark Taylor
x) Tolerances at site Laurie Robert, Charlie Walden, Mark Taylor
xi) Value from friction (old school to new ways) Julian Bowron
xii) Value from coordination (old school to new ways) Julian Bowron
xiii) Labor issues (union claiming work) Julian Bowron

PHASING CONSTRUCTION
Example: Tacony Palmyra Bridge NRB

i) Start excavation + building simultaneously Julian Bowron
ii) Modularize foundation Julian Bowron
iii) Seeking compression Julian Bowron
iv) Owner fails to participate Julian Bowron
v) Early packages may sub optimize Greg Rohr & Clifford Cort
   1) Who is responsible?/scope gap/overlap
   2) When are elements best implemented into sequence
   3) How do off-site elements work into the QA/QC program
vi) CMs/GCs, clients waiting to start sooner Greg Rohr & Clifford Cort
vii) Must educate about limiting options/ value Greg Rohr & Clifford Cort
   1) More holistic approach
   2) This is a result of previous phases
viii) Lack of education and a plan upfront Greg Rohr & Clifford Cort
    1) Conventional has 100 years of success – failure?

TRANSPORTATION AND INSTALLATION

i) Protection – precip and vandals Julian Bowron
ii)  Transportation forces (effects) – shock/cycles Laurie Robert, Charlie Walden, Mark Taylor
iii) Installation Sequencing – runs factory Laurie Robert, Charlie Walden, Mark Taylor
iv) Staging areas/laydown Laurie Robert, Charlie Walden, Mark Taylor
v) Security Laurie Robert, Charlie Walden, Mark Taylor
vi) Routes + Load Sizes – ALB, SASK, ND, MONT, World Leaders Laurie Robert, Charlie Walden, Mark Taylor
vii) Craning/Lift plans Laurie Robert, Charlie Walden, Mark Taylor
viii) Coordination with Government Community Laurie Robert, Charlie Walden, Mark Taylor
ix) Key award/lost driver Julian Bowron
x) Move max quantity of completion vs. don’t ship air Julian Bowron
xi) Rigging choices – must minimize cost Julian Bowron
xii) Labour skill dependent Julian Bowron

MISC

i)  YouTube account
   (1) For presenting case studies; research ‘teasers’ to join institutes & defragment off-site industry
   (2) Fund-raiser for research
   (3) Marketing and advancement opportunities