INTRODUCTION | SCHEMATIC-DATING

DEVELOPMENT-PRENUP

DOCUMENTATION-TYING THE KNOT

**OUESTIONS** 

# **BEYOND SWIPING RIGHT**

MAKING MATCHES THAT LAST FROM DESIGN TO MANUFACTURING



Ilka Cassidy, CPHC Holzraum System C2 Architecture Passive House Accelerator



**Shannon Pendleton, CPHC** Sanderson Sustainable Design Passive House Accelerator Source 2050



**Steve Hessler, CPHC** Holzraum System

## BEYOND SWIPING RIGHT | MAKING MATCHES THAT LAST



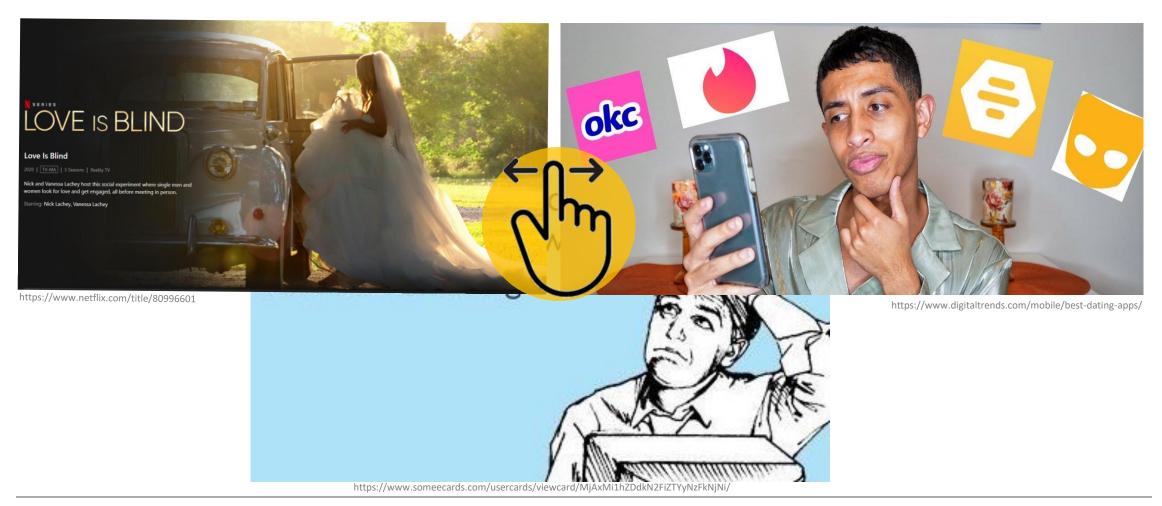
## ARE YOU A CANDI'DATE' FOR PREFAB? | HOW DO YOU KNOW?



## WHAT'S ATTRACTIVE? | FIRST IMPRESSIONS



## WHAT'S ATTRACTIVE? | LET'S PLAY THE PHIELD

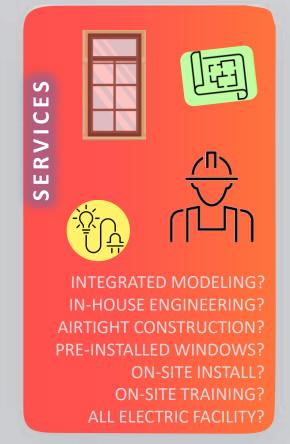


## PROJECT DEVELOPMENT | YOUR PROFILE MAKEOVER











## PROJECT DEVELOPMENT | FRONTLOADING LOCATION



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DELIVERY RADIUS \*
INSTALL RADIUS

LOCAL MATERIALS / LABOR \*

BARRIER FREE ENTRY \*



- **DELIVERY RADIUS \***
- INSTALL RADIUS \*
- LOCAL MATERIALS / LABOR
  - **BARRIER FREE ENTRY \***



- CLIMATE \*
- **DELIVERY RADIUS \***
- **INSTALL RADIUS \***
- LOCAL MATERIALS / LABOR \*
  - BARRIER FREE ENTRY \*

https://www.freepik.com/vector

## PROJECT DEVELOPMENT | FRONTLOADING MATERIALS



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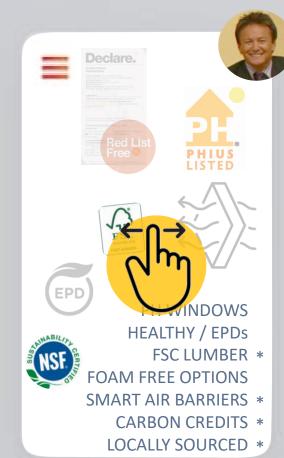
DEVELOPMENT-PRENUP

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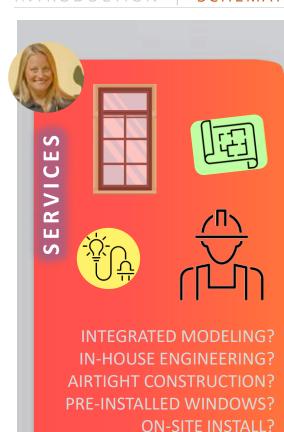


LOCALLY SOURCED \*

#### PROJECT DEVELOPMENT | FRONTLOADING SERVICES



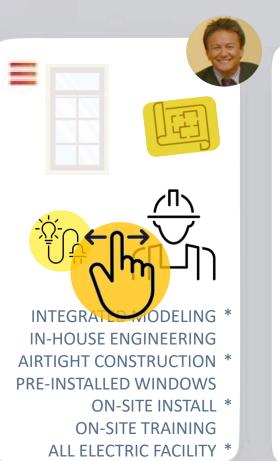
INTRODUCTION | SCHEMATIC-DATING | DEVELOPMENT-PRENUP | DOCUMENTATION-TYING THE KNOT | QUESTION



**ON-SITE TRAINING?** 

ALL ELECTRIC FACILITY?







#### PROJECT DEVELOPMENT | FRONTLOADING SCHEDULE



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**WARRANTIES?** 

PENALTIES FOR DELAYS?







PENALTIES FOR DELAYS \*

## **EARLY DESIGN | YOU HAVE A MATCH!**



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CLIMATE \*
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INSTALL RADIUS \*

LOCAL MATERIALS / LABOR \*
DELIVERY \*

BARRIER FREE ENTRY \*

PH WINDOWS \*

HEALTHY / EPDs

FSC LUMBER \*

FOAM FREE OPTIONS \*

SMART AIR BARRIERS \*

**CARBON CREDITS** 

LOCALLY SOURCED \*

INTEGRATED MODELING

IN-HOUSE ENGINEERING
AIRTIGHT CONSTRUCTION \*

PRE-INSTALLED WINDOWS \*

ON-SITE INSTALL \*

ON-SITE TRAINING \*

**ALL ELECTRIC FACILITY \*** 

CONTRACT PRICING \*

**DESIGN FREEZE DATE \*** 

WINDOW ORDER DATE \*

**DELIVERY DATES** 

PROJECT CLOSEOUT \*

WARRANTIES \*

PENALTIES FOR DELAYS \*

ERIA

om/free-vector/it-s-match-dating-app-interface 7763982 h

## WE ARE GETTING SERIOUS | SETTING EXPECTATIONS



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# WE ARE GETTING SERIOUS | SETTING EXPECTATIONS



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### SETTING EXPECTATIONS | PRODUCT

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IT'S GOING TO BE A HIGH QUALITY, HIGH PERFORMING BUILDING-AND WE'LL GENERATE LESS WASTE THAN WITH A SITE BUILT **PROJECT** 

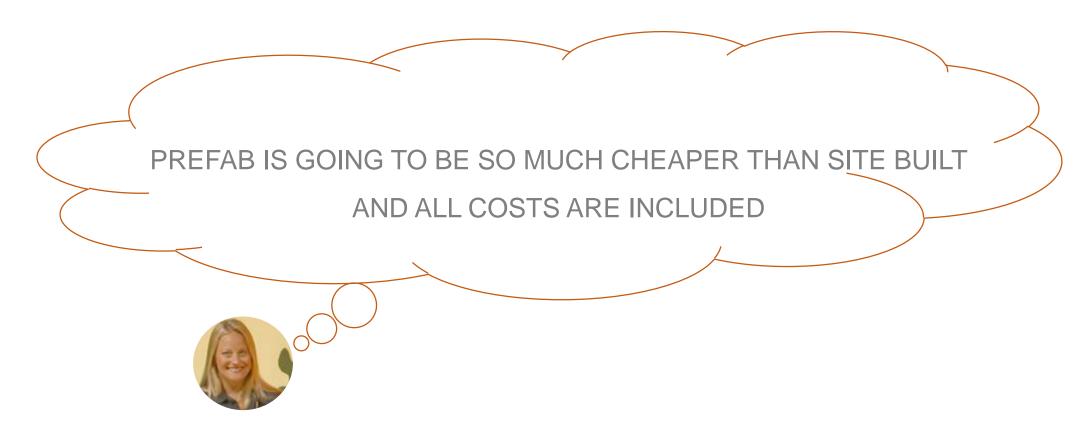


## SETTING EXPECTATIONS | PRODUCT





## SETTING EXPECTATIONS | COST





## SETTING EXPECTATIONS | COST

- BETTER QUALITY FOR COMPARABLE COST
- LESS CHANGE ORDERS
- THE COST IS PREDICTABLE



## SETTING EXPECTATIONS | SCOPE





### **SCOPE DEFINITION** | WHAT IS INCLUDED IN THE CONTRACT?

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#### **FACTORY SCOPE**

- PRODUCTION MODEL | LOD400
- SHOP DRAWINGS
- PANEL PRODUCTION
- PANEL DELIVERY
- PRE-MEP BLOWER DOOR TEST

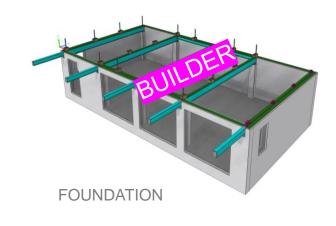


- (- PANEL AND CONNECTION
- **ENGINEERING**)
- (- PANEL INSTALL)
- (- WINDOW INSTALL)

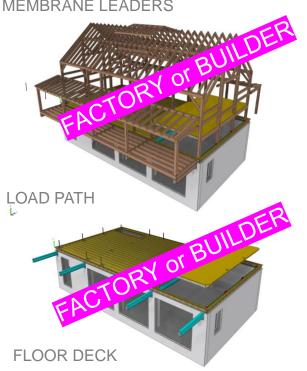
#### TYPICALLY NOT IN FACTORY SCOPE

- BUILDING PERMIT (LOCAL ARCHITECT)
- ENGINEER OF RECORD
- SITE PREPARATION (LOCAL BUILDER)
- CONSTRUCTION MANAGEMENT
- FINISHES
- ENERGY MODELING (CPHC)
- SYSTEM DESIGN
- FINAL BLOWER DOOR TEST

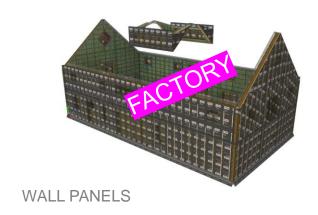
## SCOPE DEFINITION | WHAT IS INCLUDED IN THE CONTRACT?



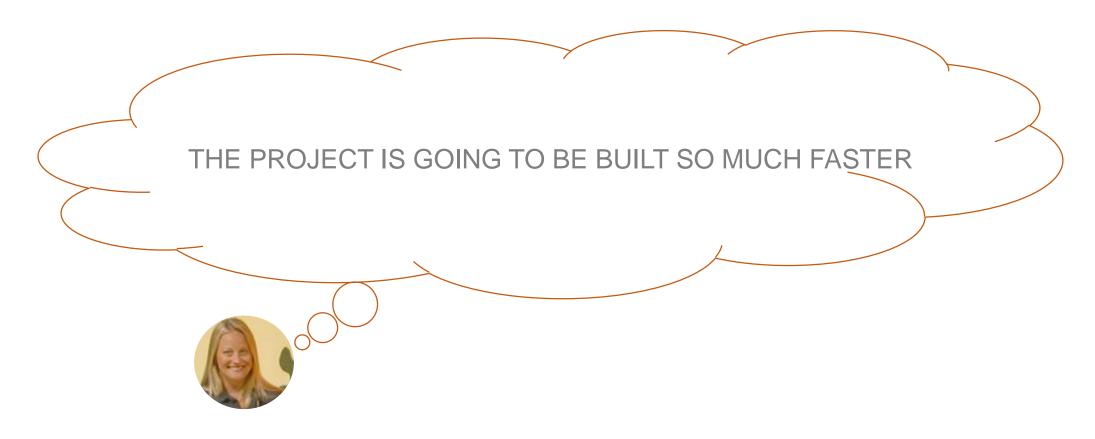






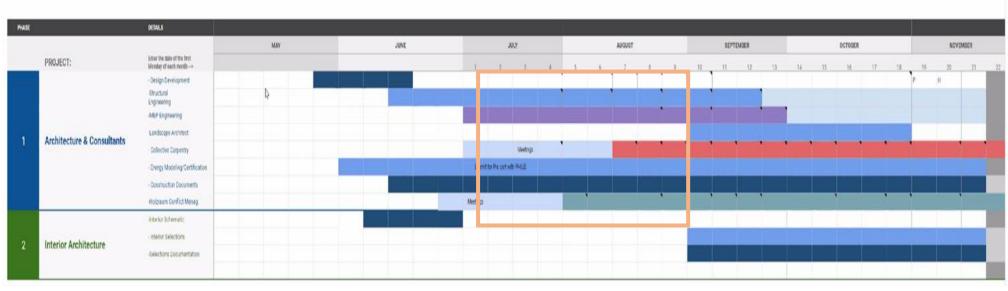


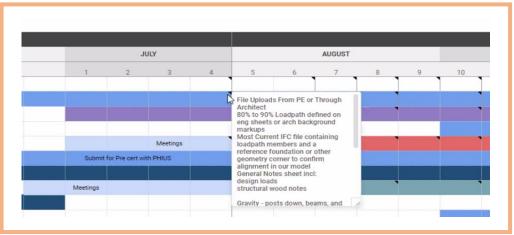
## SETTING EXPECTATIONS | SCHEDULE

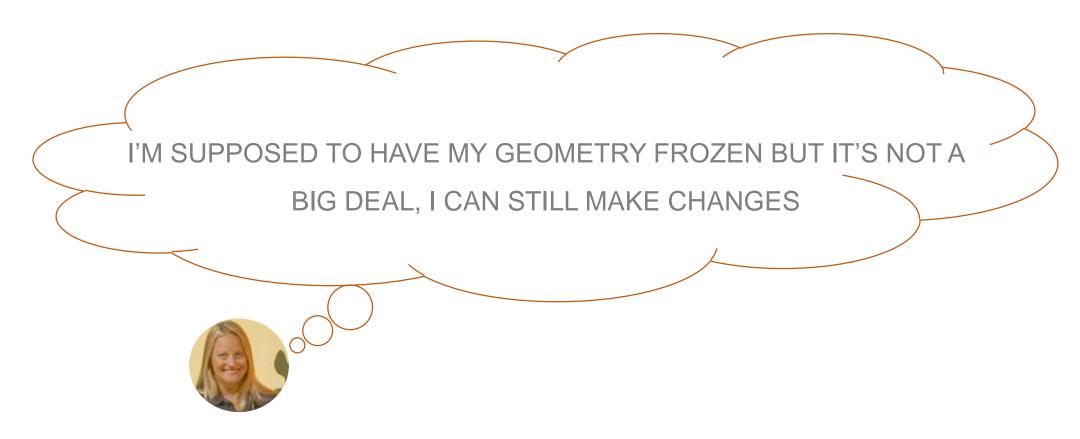




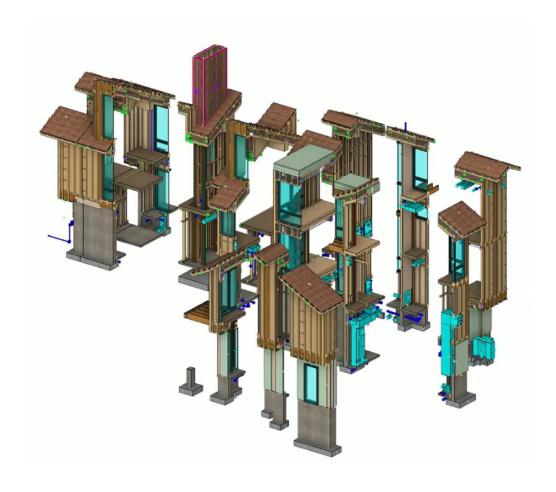
## SCHEDULE | ALIGNING TO FACTORY MILESTONES AND DELIVERABLES

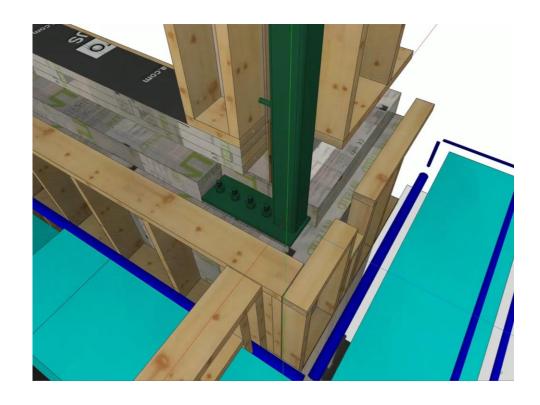
















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THE ARCHITECT / BUILDER TEAM IS EXPERIENCED. THE DRAWINGS SHOW ALL THE INFORMATION WE NEED FOR **PRODUCTION** 



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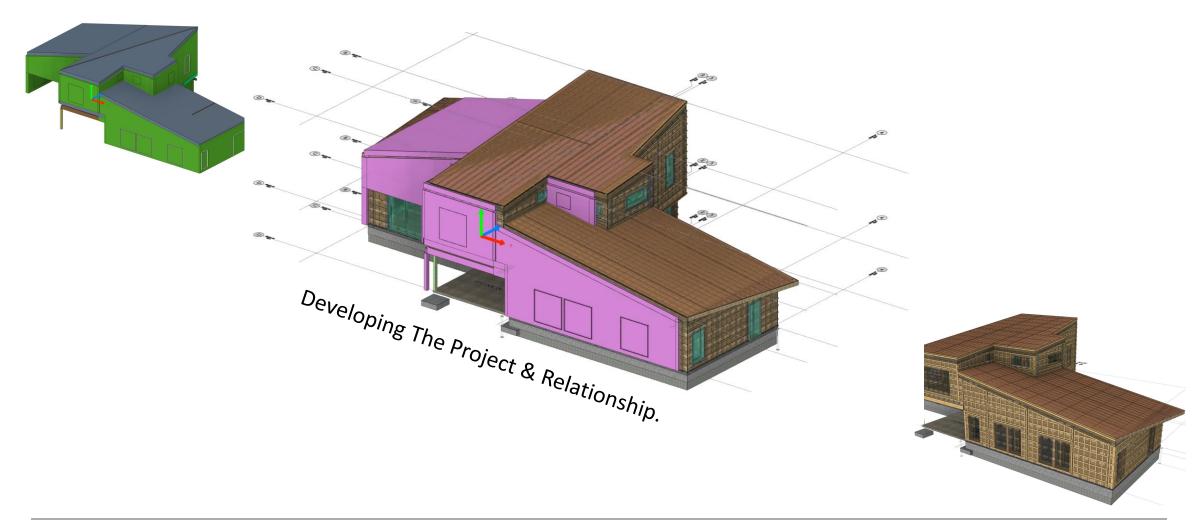
#### DRAWING CHECKLIST & EVALUATION

- ARCHITECTURALS | WINDOW SCHEDULE
- 2D CAD: PLANS, ELEVATIONS, SECTIONS
- 3D MODEL: IFC, SAT, SKETCHUP, VECTORWORKS, REVIT,...
- COLLABORATOR 2D/3D CONTENT
- STRUCTURAL ENGINEERING
- MEP
- (- STRUCTURAL STEEL)
- (- STAIR FABRICATOR)

## GOAL FROM CONTRACT TO CONTRACT DELIVERABLE

INTRODUCTION | SCHEMATIC-DATING | DEVELOPMENT-PRENUP | DOCUMENTATION-TYING THE KNOT | QUESTIONS Contracted Scopes & Geometry C<sub>ontract</sub> Deliverables

# GOAL | A SUCCESSFUL RELATIONSHIP



## GOAL | A SUCCESSFUL RELATIONSHIP





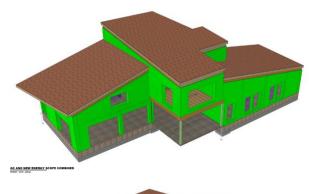
## BEYOND SWIPING RIGHT | FROM DESIGN INTENT TO PRODUCTION FIDELITY

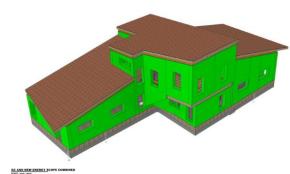
INTRODUCTION | SCHEMATIC-DATING

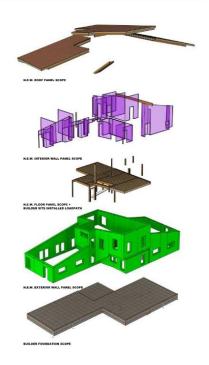
DEVELOPMENT-PRENUP

DOCUMENTATION-TYING THE KNOT | QUESTIONS









GR2

Geometry Review Two - LOD 350/400











#### BEYOND SWIPING RIGHT | DFMA - OVERALL PROCESS

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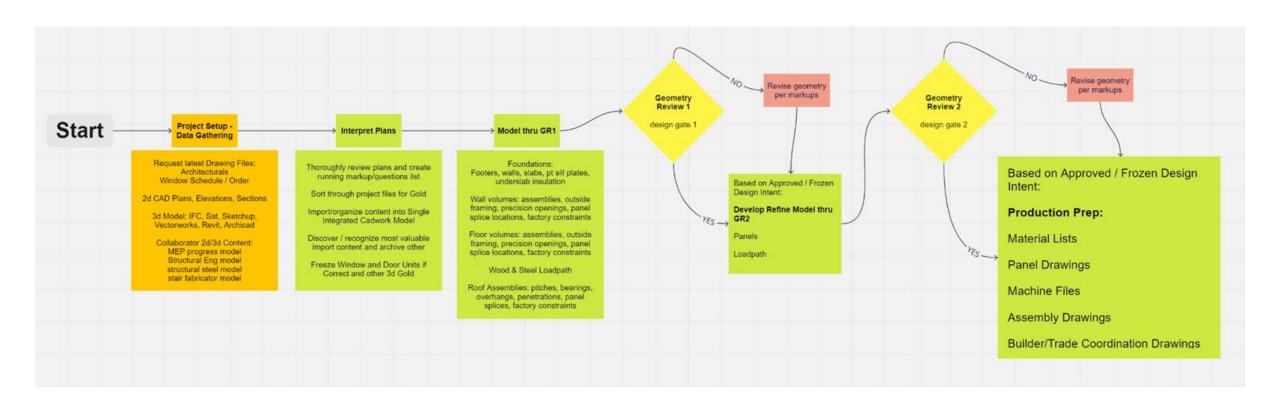
SCHEMATIC-DATING

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DOCUMENTATION-TYING THE KNOT

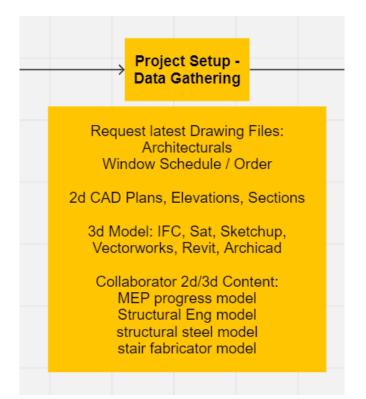
OUESTIONS

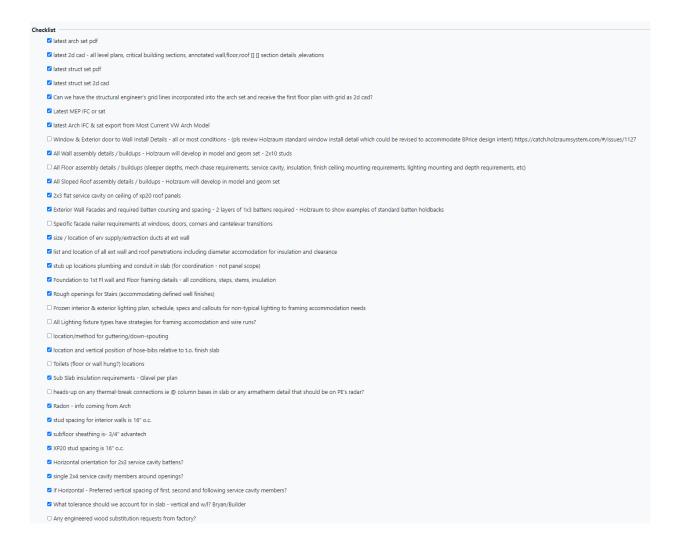
#### DFMA - DESIGN FOR MANUFACTURING ASSEMBLY



#### BEYOND SWIPING RIGHT | DFMA - DATA GATHERING







## BEYOND SWIPING RIGHT | DFMA – DATA GATHERING

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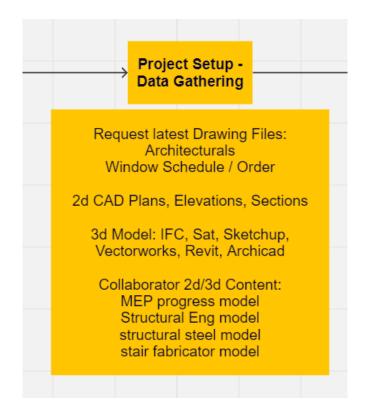
ZIP O.S.

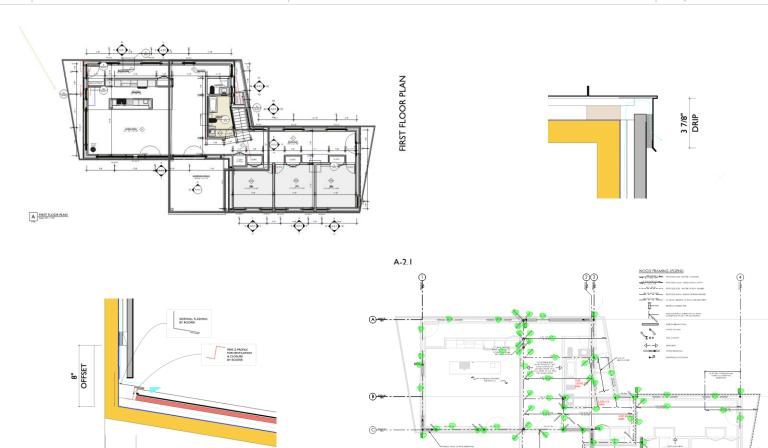
DOCUMENTATION-TYING THE KNOT

SECOND FLOOR FRAMING PLAN

QUESTIONS







#### BEYOND SWIPING RIGHT | DFMA - DATA GATHERING

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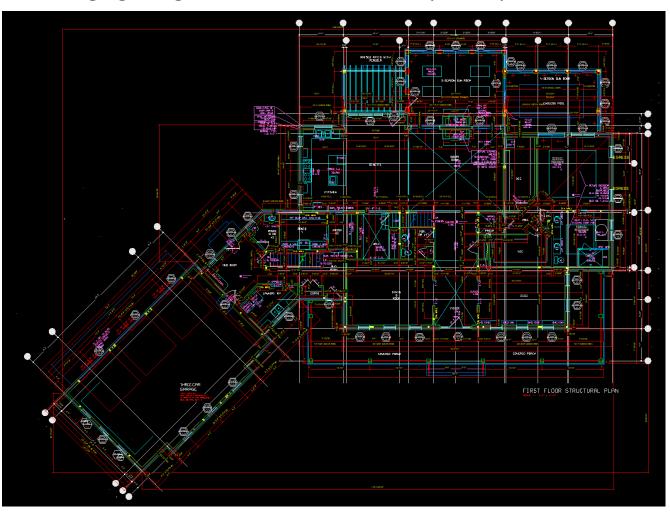
Request latest Drawing Files:
Architecturals
Window Schedule / Order

2d CAD Plans, Elevations, Sections

3d Model: IFC, Sat, Sketchup, Vectorworks, Revit, Archicad

Collaborator 2d/3d Content:
MEP progress model
Structural Eng model
structural steel model
stair fabricator model

#### Exchanging design intent can be like a very cloudy conversation.



## BEYOND SWIPING RIGHT | DFMA - DATA GATHERING

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Project Setup -Data Gathering

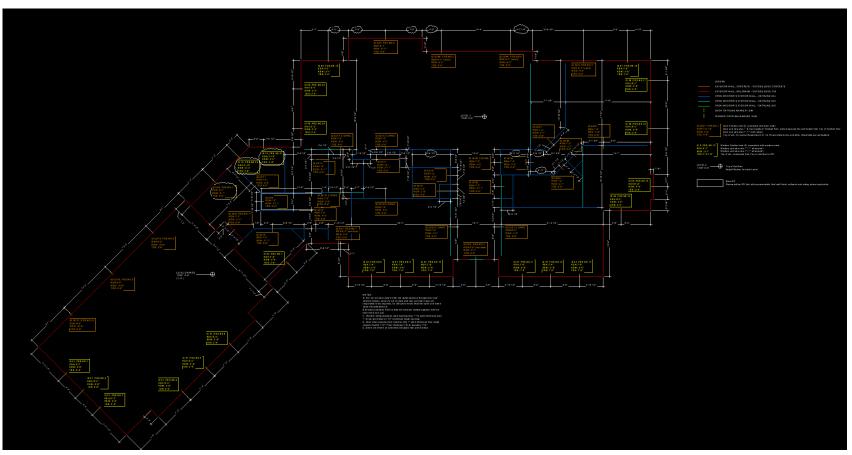
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3d Model: IFC, Sat, Sketchup, Vectorworks, Revit, Archicad

Collaborator 2d/3d Content:
MEP progress model
Structural Eng model
structural steel model
stair fabricator model

A more direct approach – find common ground and make it the center of attention.



### BEYOND SWIPING RIGHT | DFMA - DATA GATHERING

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#### Project Setup -Data Gathering

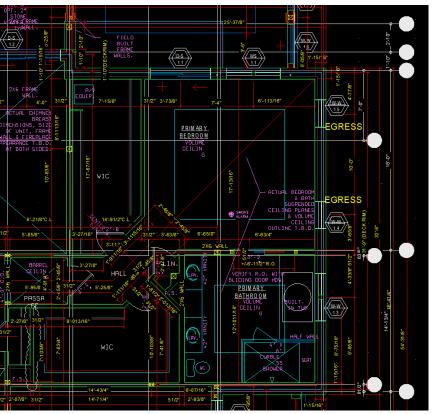
Request latest Drawing Files:
Architecturals
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2d CAD Plans, Elevations, Sections

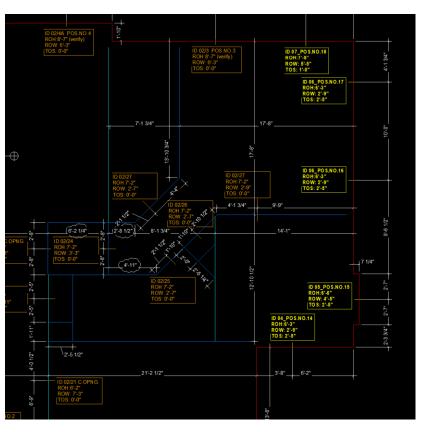
3d Model: IFC, Sat, Sketchup, Vectorworks, Revit, Archicad

Collaborator 2d/3d Content: MEP progress model Structural Eng model structural steel model stair fabricator model

#### Competing Agendas!



#### On the same page!



### BEYOND SWIPING RIGHT | DFMA – PLAN INTERPRETATION

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#### Interpret Plans

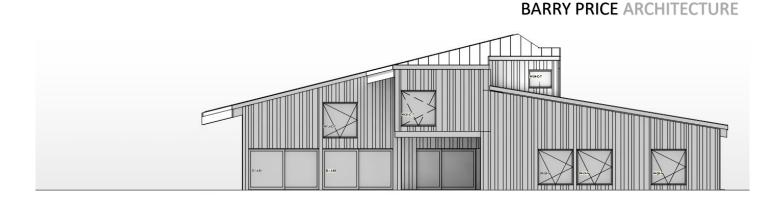
Thoroughly review plans and create running markup/questions list

Sort through project files for Gold

Import/organize content into Single Integrated Cadwork Model

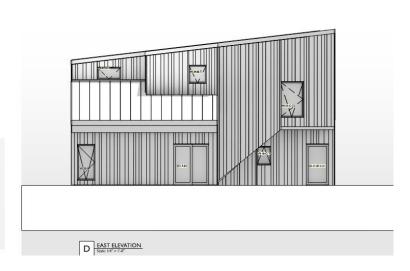
Discover / recognize most valuable import content and archive other

Freeze Window and Door Units if Correct and other 3d Gold









### BEYOND SWIPING RIGHT | DFMA – PLAN INTERPRETATION

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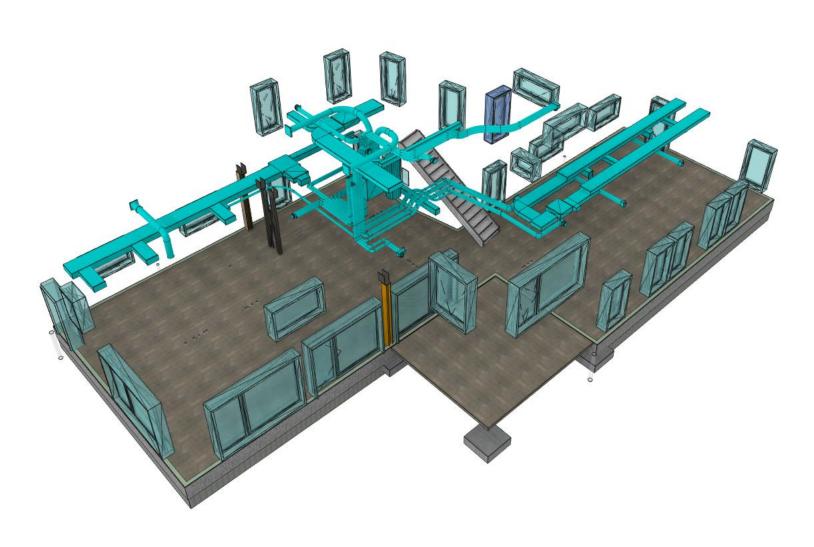
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**OUESTIONS** 



#### Model thru GR1

# Foundations: Footers, walls, slabs, pt sill plates,

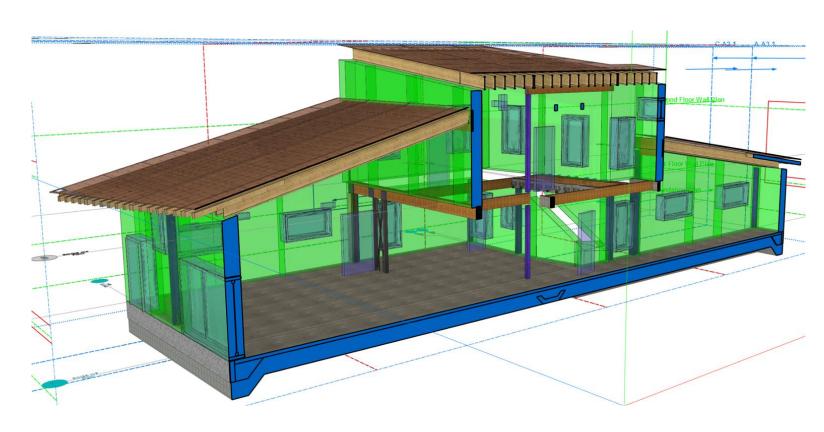
poters, walls, slabs, pt sill plates, underslab insulation

Wall volumes: assemblies, outside framing, precision openings, panel splice locations, factory constraints

Floor volumes: assemblies, outside framing, precision openings, panel splice locations, factory constraints

Wood & Steel Loadpath

Roof Assemblies: pitches, bearings, overhangs, penetrations, panel splices, factory constraints



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**QUESTIONS** 



#### Model thru GR1

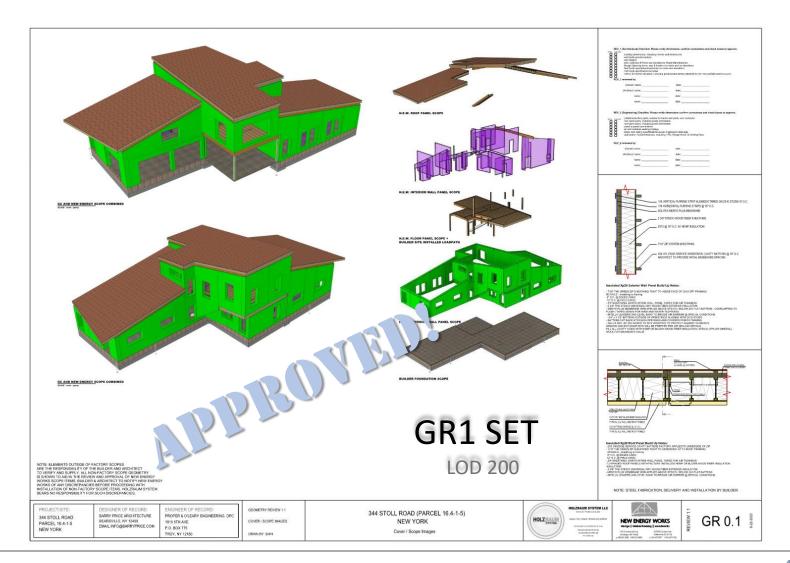
Foundations: Footers, walls, slabs, pt sill plates, underslab insulation

Wall volumes: assemblies, outside framing, precision openings, panel splice locations, factory constraints

Floor volumes: assemblies, outside framing, precision openings, panel splice locations, factory constraints

Wood & Steel Loadpath

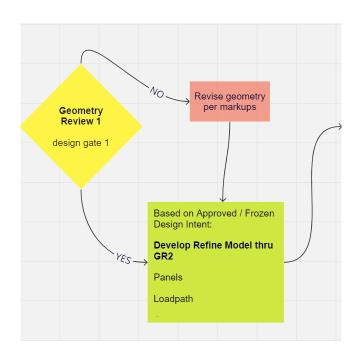
Roof Assemblies: pitches, bearings, overhangs, penetrations, panel splices, factory constraints

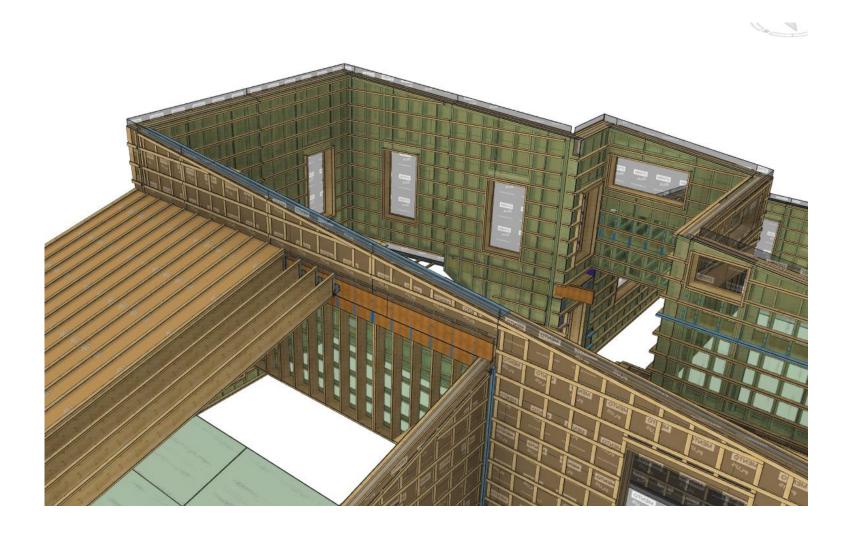


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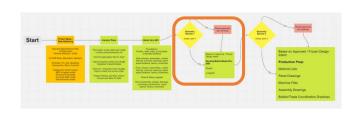


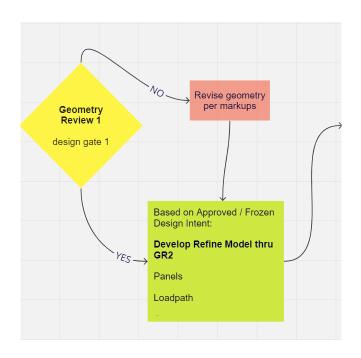


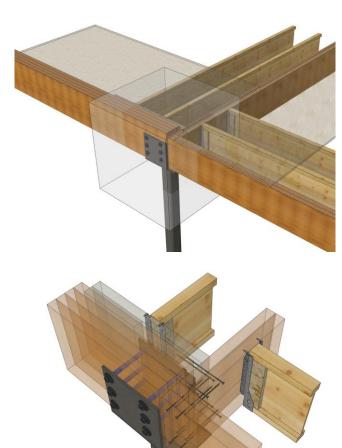


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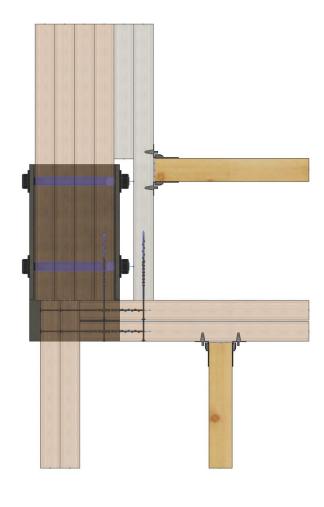
DEVELOPMENT-PRENUP





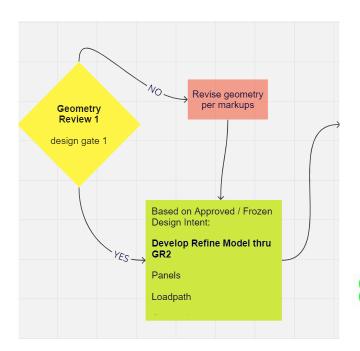


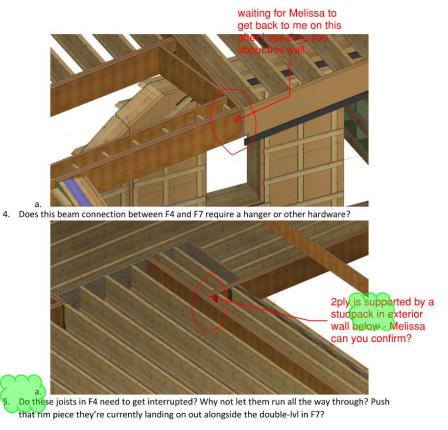




INTRODUCTION | SCHEMATIC-DATING | DEVELOPMENT-PRENUP | DOCUMENTATION-TYING THE KNOT | QUESTION







Because there are many layers and part relationships it makes this a lot of work. I can make the change to 1/4" – at roof panel splices but would prefer to do this after GR2 is out.

#### Roof

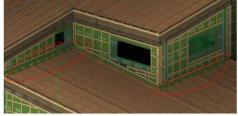
- Hyperthetically, how much work is it to change our panel gap in the roof from 1/8" to ¼"? With
  the Bardin roof panels coming in real tight, and knowing that these panels are even thicker (and
  some much longer) we're tossing around the idea of giving ourselves a little more room to work.
- ER4 we need a concealed hanger for this edge of panel, or a doubled-up ledger that the rafters can bear on so that hangers are no longer needed?



looking for HUC316 with slope per Melissa. don't see it on simpson page

check hanger selector for alt

> Shouldn't the roof sheathings get held back on the right to match what you did on the left? Also needs adjusted on the West roof.



Originally as a group we discussed using TJI's for roof edges however I thought after that we
discussed changing the roof perimeter members to LSL so we don't have to worry about
insulating that web

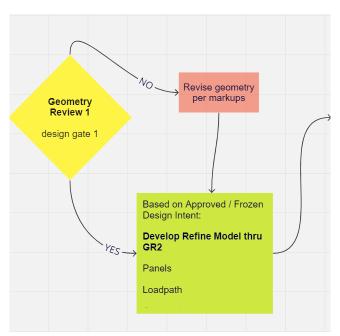
INTRODUCTION | SCHEMATIC-DATING |

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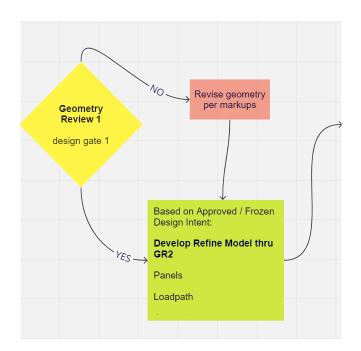
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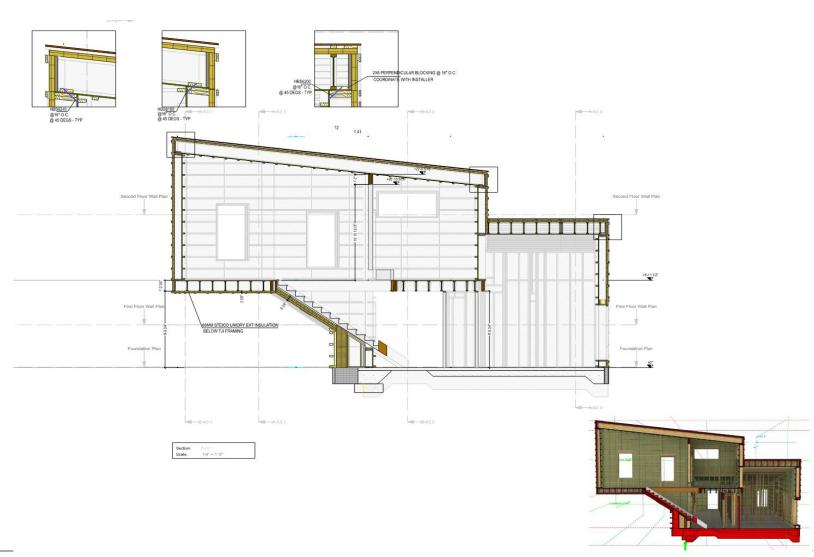
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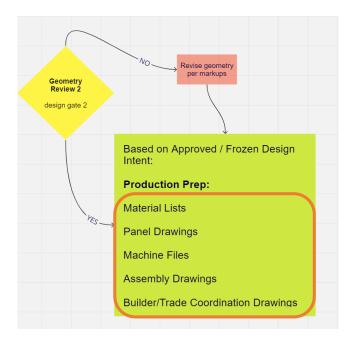
# BEYOND SWIPING RIGHT | DFMA - CLIENT APPROVAL

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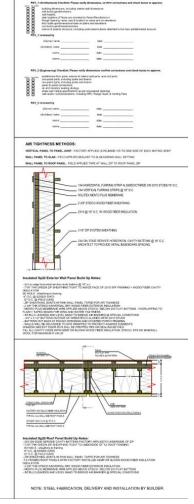
SCHEMATIC-DATING

DEVELOPMENT-PRENUP |





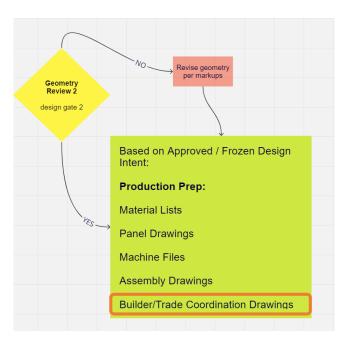


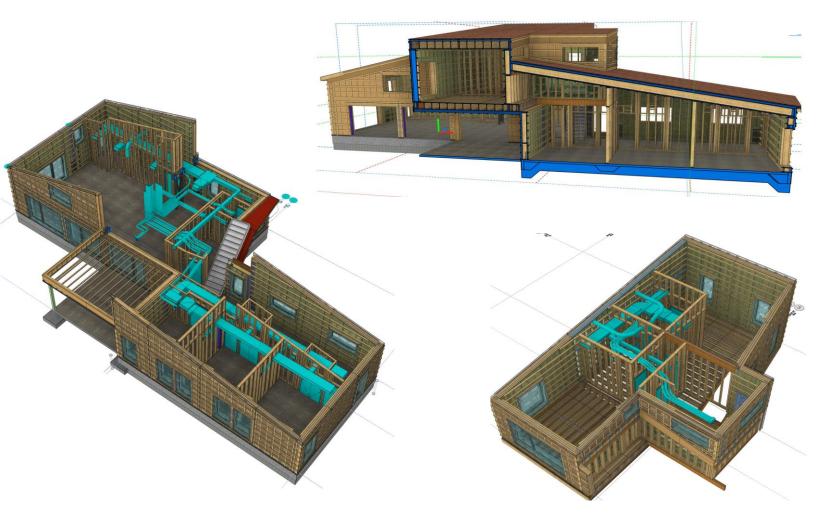


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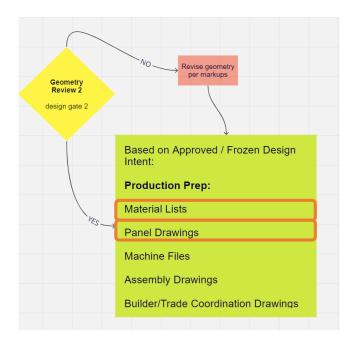


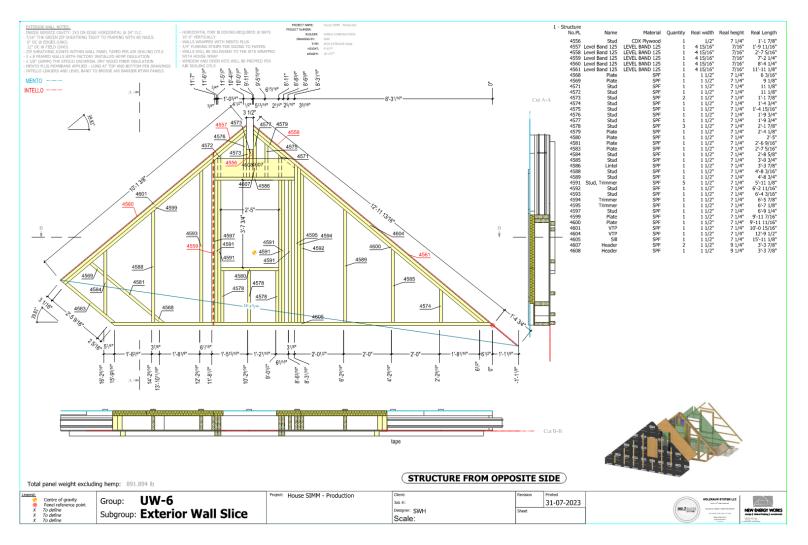


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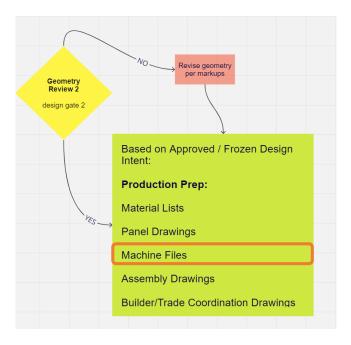




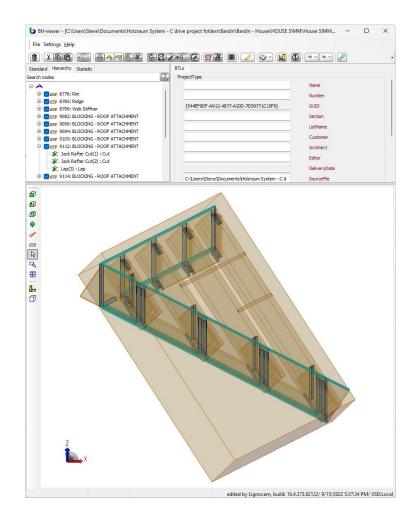


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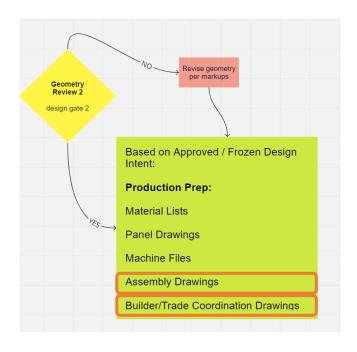
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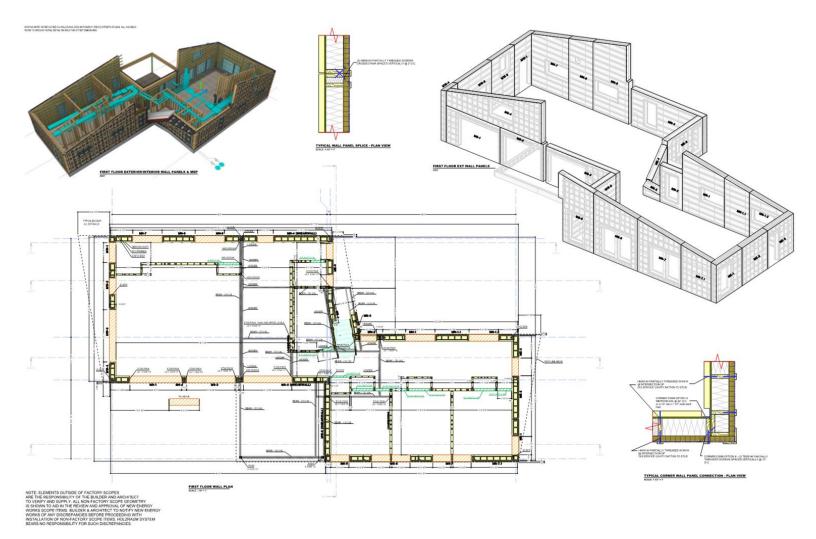


INTRODUCTION | SCHEMATIC-DATING |

DEVELOPMENT-PRENUP







### BEYOND SWIPING RIGHT | MAKING MATCHES THAT LAST

INTRODUCTION | SCHEMATIC-DATING | DEVELOPMENT-PRENUP | DOCUMENTATION-TYING THE KNOT | QUESTIONS



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