

## Walk-in Slide: AU 2014 Social Media Feed

1. Click on the link below, this will open your web browser

<http://aucache.autodesk.com/social/visualization.html>

2. Use “Extended Display” to project the website on screen if you plan to work on your computer. Use “Duplicate” to display same image on screen and computer.



# **We Were Small and Now We Are BIM We Have All the Right Tools—The Question is "How" ?**

**Russell Fleischer**

Principal - Turner Fleischer Architects Inc. O.A.A., MAA, AANB, NSAA, AAPEI, AAA, SAA, MRAIC, LEED AP

**Viorel Iosif**

Associate, Manager of Systems and Technology - Turner Fleischer Architects Inc.



# Introduction

- **Turner Fleischer Architects Inc.**

Founded in 1974, the practice initially focused on residential infill revitalization which evolved into large scale residential developments. Since the early 1990's the firm has expanded into substantial commercial and mixed-use projects with site planning and urban design as key components. Today, its five partners, eight associates and 110 support staff are integrated within 12 distinct departments. In 2013, the firm acquired the interior design firm deSignum Design, founded in 1990, which specialized in restaurants, hospitality and retail design. The two firms had worked effectively together since 2009 on a three year design initiative for a national restaurant chain. This strategic union has become Turner Fleischer Interiors which allows us to fuse our individual and complementary expertise and skills extending our design services into a full range of commercial and residential interiors.



TURNER FLEISCHER



# Autodesk Building Suite Ultimate

- AutoCAD
- AutoCAD Architecture
- REVIT
- 3D MAX Design
- Navisworks Manage
- ReCap
- Buzzsaw Standard (not in the suite bundle)
- AutoCAD MEP
- AutoCAD Structural Detailing
- Showcase
- AutoCAD Raster Design
- Inventor
- Robot Structural Analysis
- Infraworks



# From AutoCAD to Revit...

## ■ AutoCAD

- Like many firms, AutoCAD was the drafting program of choice.
- In 2005 TF moved to Architectural Desktop (ADT).
- In 2006 TF attended our first Autodesk University.
- In 2007 TF started Revit integration with Revit Release 8
- Today AutoCAD is still being used for:
  - Legacy Projects
  - Legacy Details
  - Small Retrofits
  - Coordination / Exports

# From AutoCAD to Revit...

## ■ Revit

- **With the implementation of Revit, we began develop our BIM Ecosystem:**
  - Training & Internal BIM Sessions
  - Team Collaboration & Knowledge Sharing
  - Academia Speaking Engagements
- **Towards the end of 2008 we experienced a recession and internally reassessed ways to leverage the possibilities of Revit and BIM to provide more services and more value to our clients. TF started on the journey of implementing our firm wide BIM initiative.**























































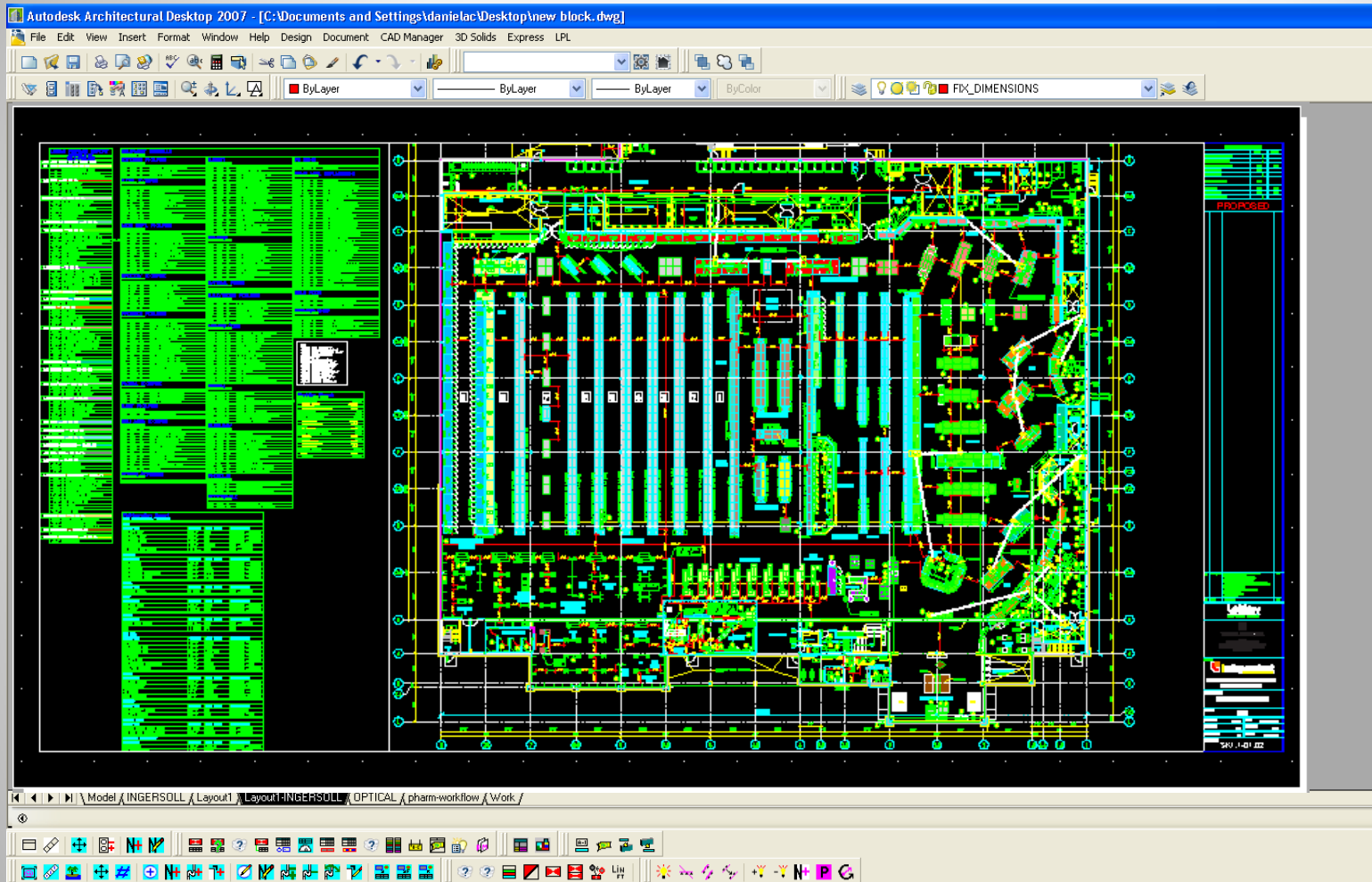


# REVIT

- Transition from a custom ADT add-on
- Better coordination of changes within the model and between teams
- Smart content / Smart scheduling
- 3D model review
- Material and equipment quantification
- Area take-off

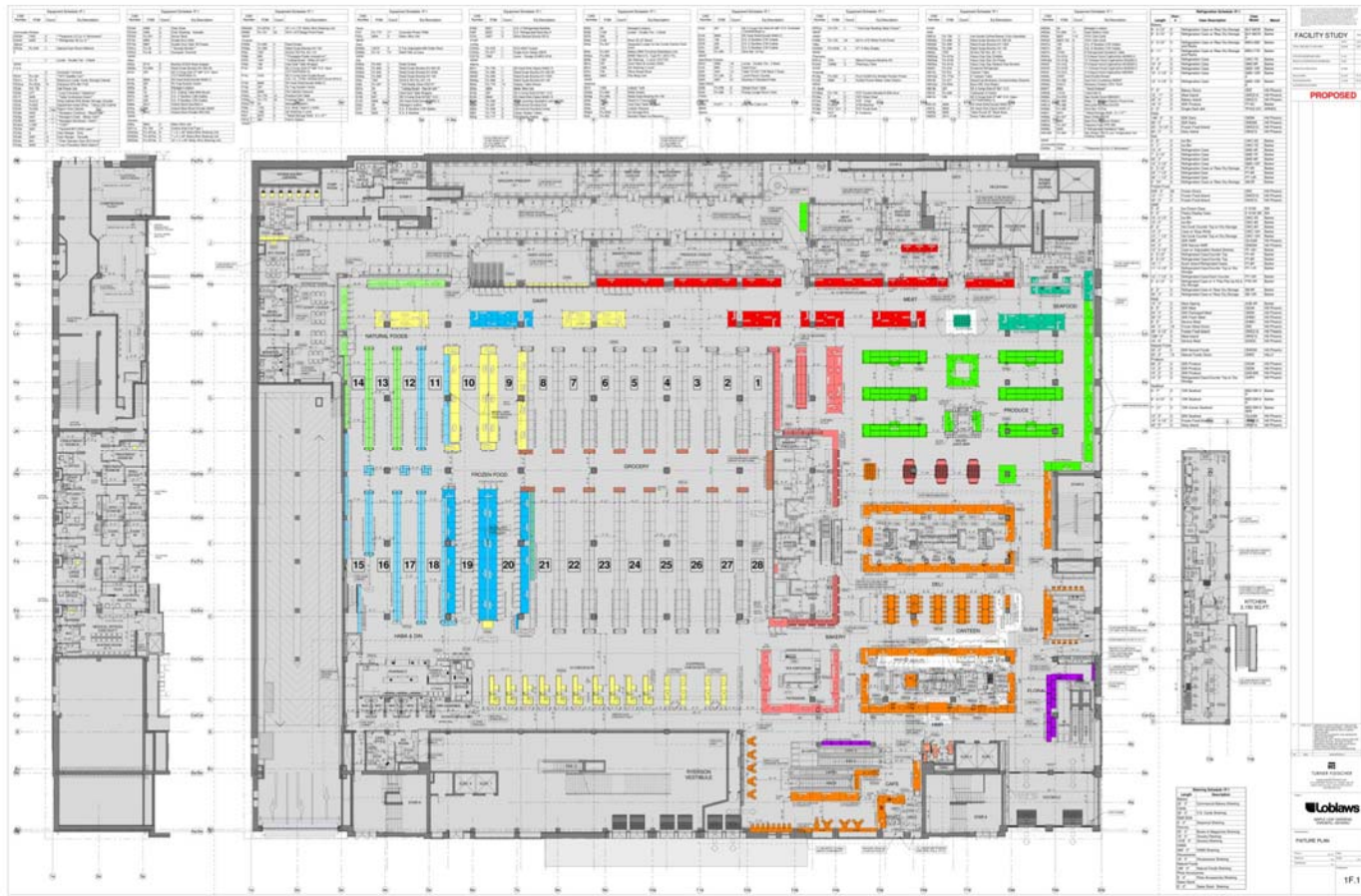


# REVIT – Transition from ADT

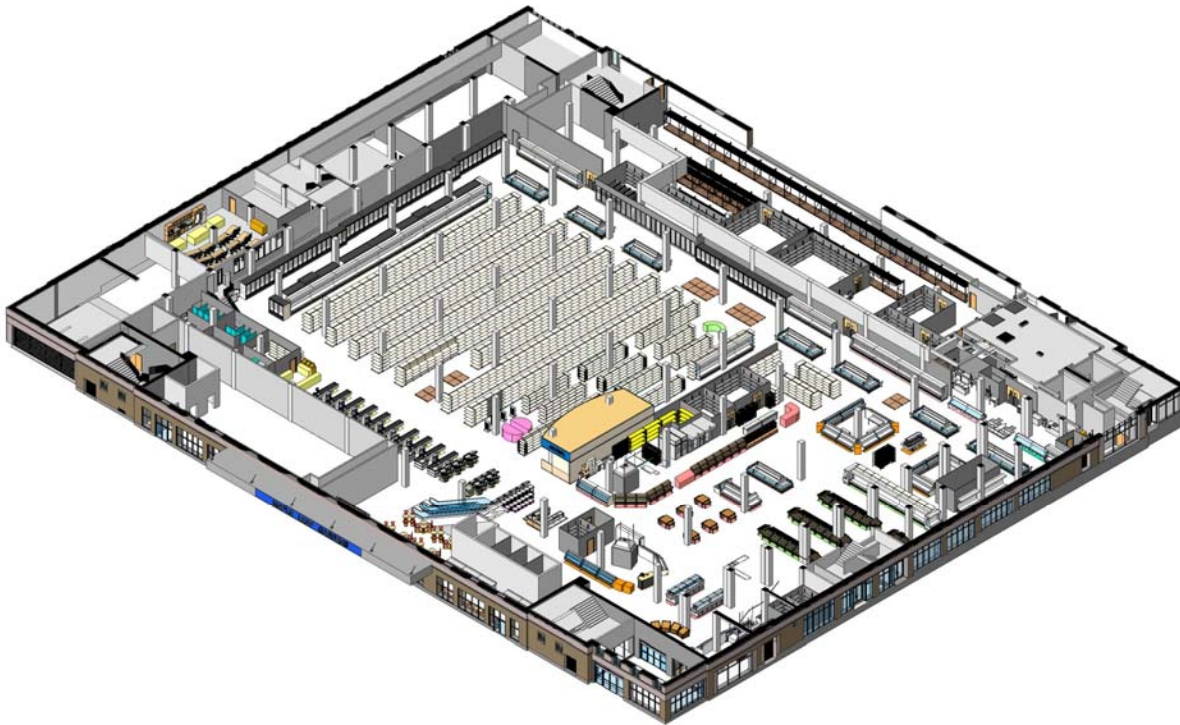




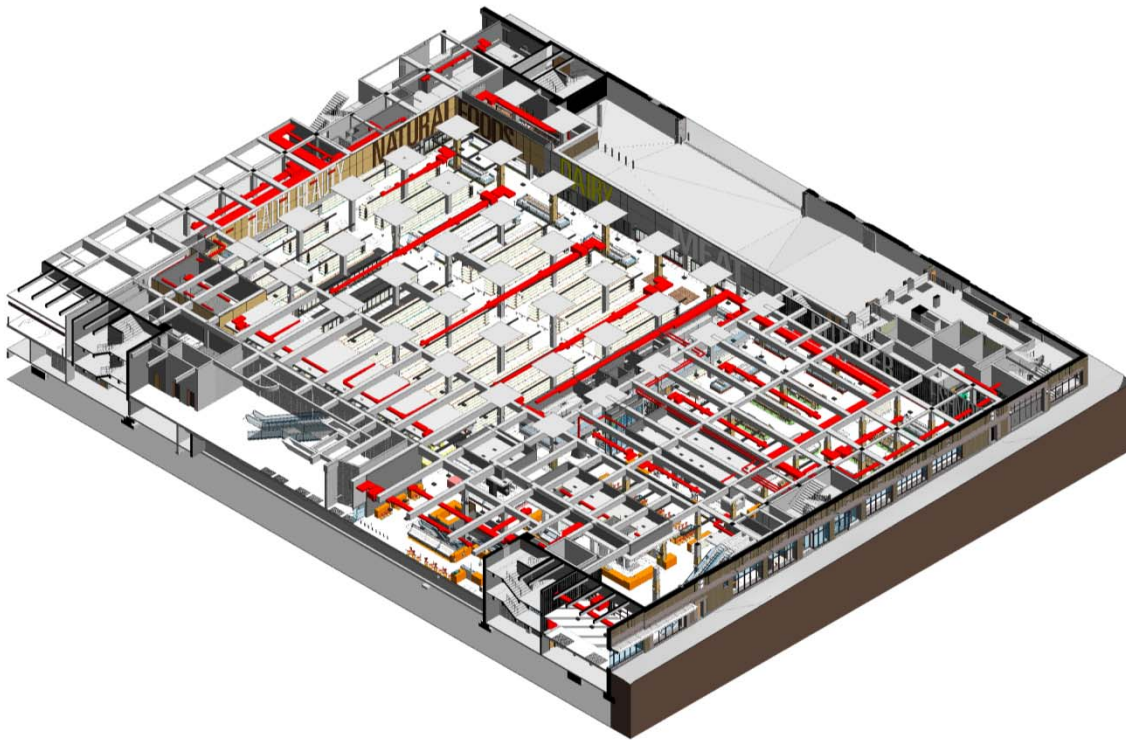
# REVIT – Transition from ADT



# REVIT - Better coordination of changes within the model and between teams

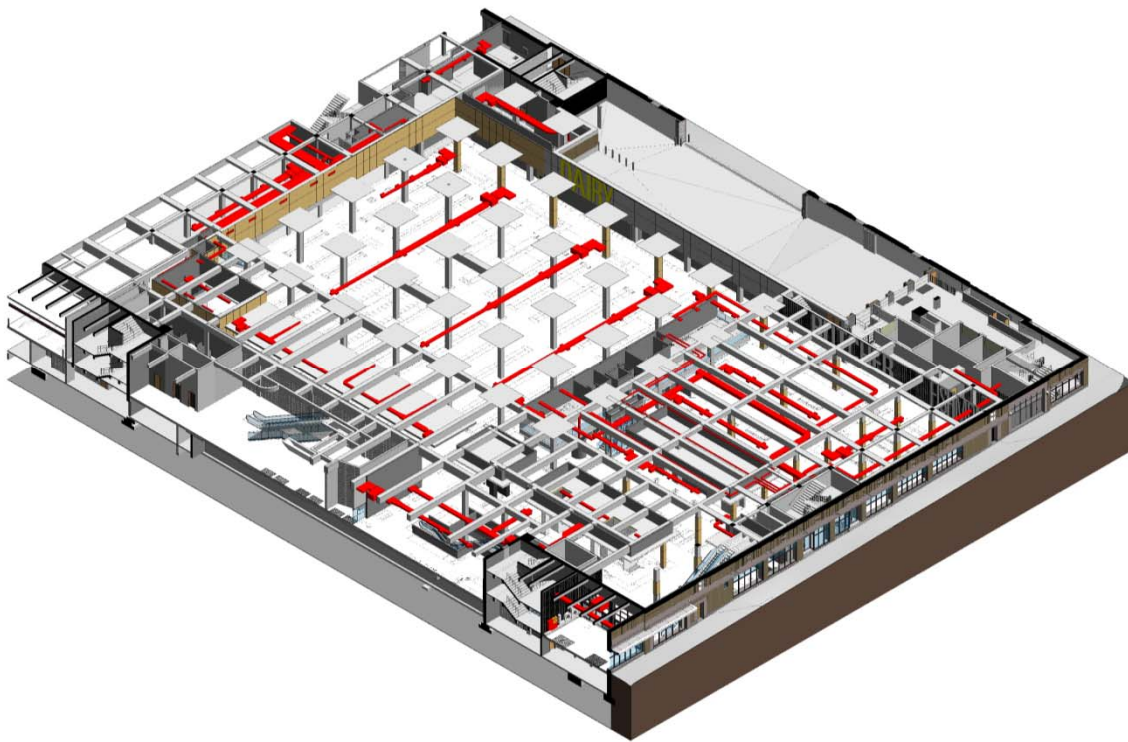


# REVIT - Better coordination of changes within the model and between teams

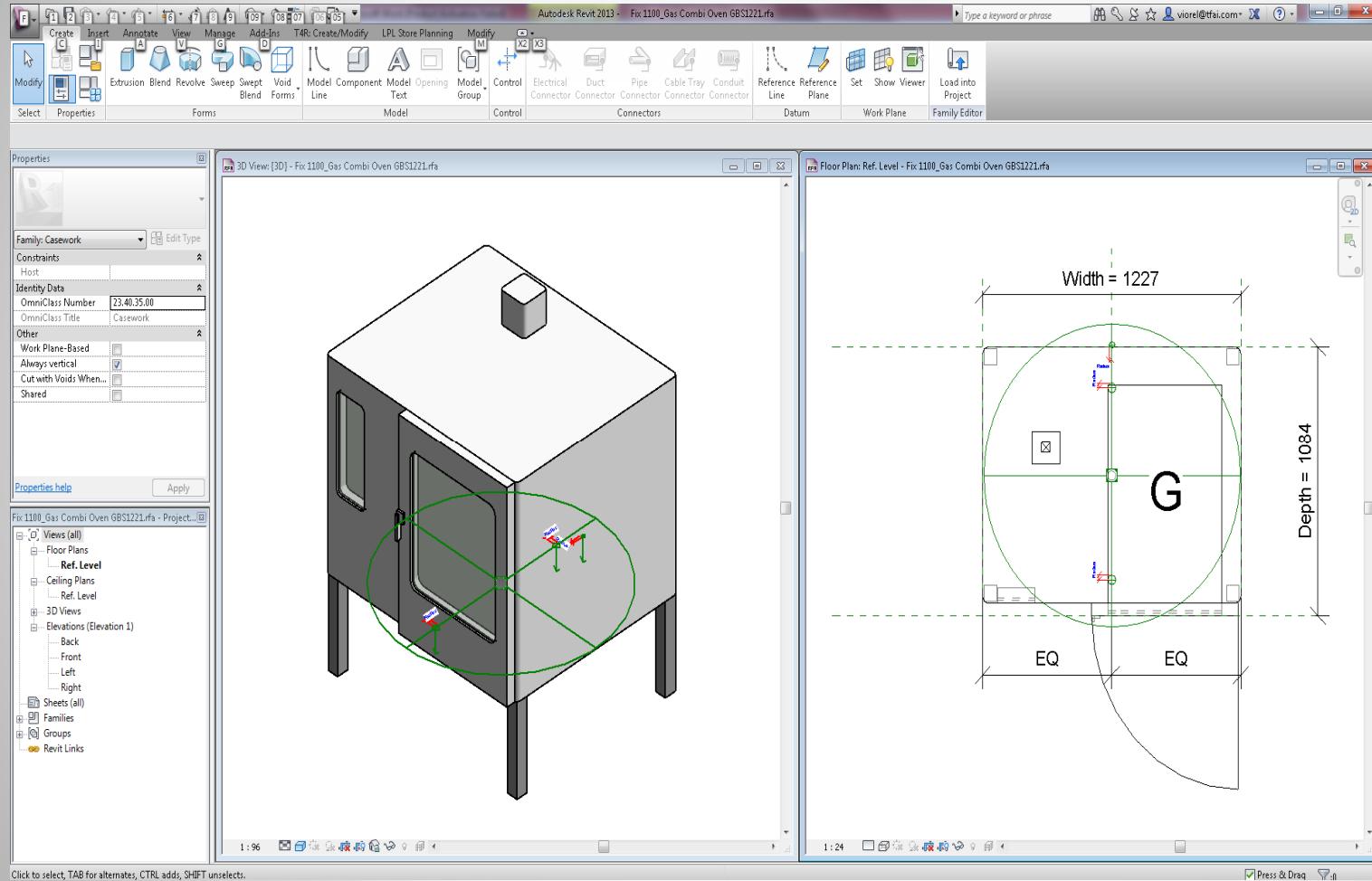




# REVIT - Better coordination of changes within the model and between teams



# REVIT – Smart content / smart scheduling

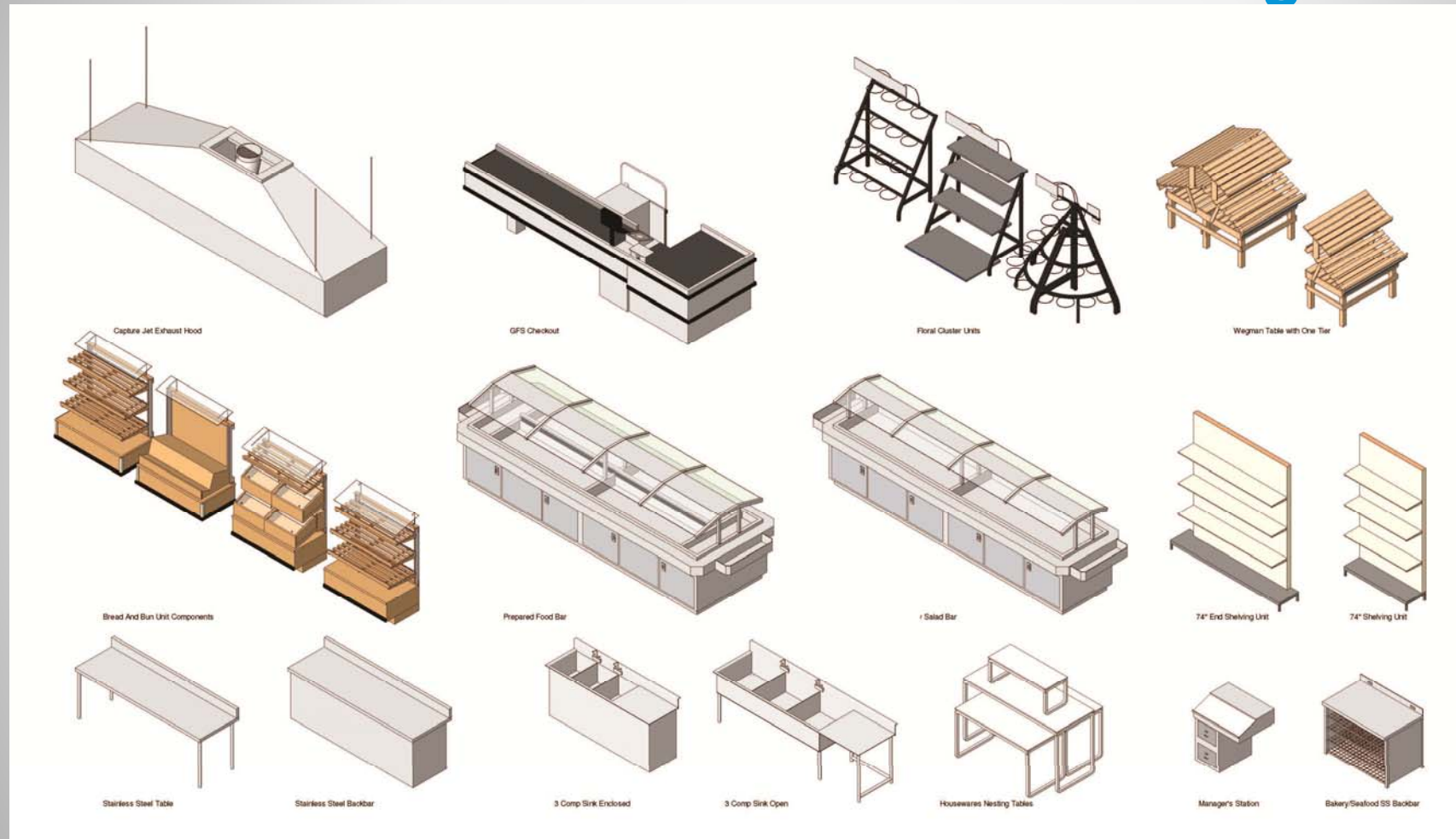


Click to select, TAB for alternates, CTRL adds, SHIFT unselects.

Press & Drag



# REVIT – Smart content / smart scheduling



# REVIT – Smart content / smart scheduling

The screenshot displays the Autodesk Revit Architecture 2011 interface, specifically the 'Schedule: Equipment Schedule' window. The interface is divided into several panes:

- Properties Panel (Left):** Shows the 'Schedule: Equipment Schedule' with various tabs like 'Identity Data', 'Phasing', 'Fields', 'Filter', 'Sorting/Grouping', 'Formatting', and 'Appearance'.
- Schedule: Equipment Schedule (Center):** A table listing equipment items with columns for CAD Number, FOM, Count, and Eq Description.
 

CAD Number	FOM	Count	Eq Description
GR01e	VS 29	3	1BL Modular Water Unit
GR19a	416	18	Wing Box 3"
GR29	Fix 15	20	76"H x 8"D Beige Profit Panel
<b>36000 Produce</b>			
P02c	7257	1	SCALE RETAIL, SC-115
P06b	695	1	Pineapple peeler w/stand on
P07b	1447	1	"Cutting Board - White 24"x24"
P08a	196	1	Heat Seal Table Wrapper
P12b	207	1	SS 3 Comp Sink 24"x31" O.D.
P13h	8848	1	SS Hand Sink (Closed) M46C-C
P24e	Fix 56	5	Sloped Produce Satellite Bunk (7X3")
P40f	8223	1	S.S. Refrigerated Back Bar 8'
P68h	Fix 52	6	Produce End Table
P68i	Fix 51	4	Produce End Table
P68j	Fix 51	30	Produce Center Table
<b>37000 Floral</b>			
F05a	9904	9	Metro Wire Unit
F22a	Fix 65	8	Floral - 4' Center Display Steps
F22b	Fix 65	8	Floral - 4' End Display Steps
F26a	Fix 74	1	Balcon Unit
F26a	Fix 74	1	Floral Counter - 8x13'
<b>38000</b>			
- Refrigeration Schedule (Bottom Center):** A table listing refrigeration equipment with columns for Length, Doors, Case Description, Case Model, Manuf, and Ref No.
 

Length	Doors	Case Description	Case Model	Manuf	Ref No
<b>Bakery</b>					
6' - 0"	0	30K Bakery	O2SUM	HB Phoeni	0
12' - 11"	0	Bakery Island	OIWZ-G	HB Phoeni	15
32' - 0"	0	Bakery Island	OIWZ	HB Phoeni	15
8' - 0"	0	30K Bakery	SCON_HVR	Structural	56
8' - 0"	0	Self Serve Bakery	SCON_HVRS	Structural	56
<b>Dairy</b>					
12' - 0"	0	30K Dairy	OSDM	HB Phoeni	14
12' - 11"	0	Dairy Island	OIWZ-G	HB Phoeni	14
32' - 0"	0	Dairy Island	OIWZ	HB Phoeni	14
64' - 0"	0	30K Deli	O3SUM	HB Phoeni	40
26' - 10"	0	30K Deli	O3SEM	HB Phoeni	40
24' - 0"	0	30K Deli	S2SB	HB Phoeni	41
16' - 0"	0	30K Deli	S2SGC	HB Phoeni	46
<b>Frozen Food</b>					
232' - 6"	93	Frozen Doors	ORZ	HB Phoeni	16
12' - 11"	0	Frozen Food Island	OIWZ-G	HB Phoeni	16
24' - 0"	0	Frozen Food Island	OIWZ	HB Phoeni	16
<b>Meat</b>					
12' - 0"	0	30K HMR	O3SUM	HB Phoeni	40
4' - 0"	0	30K HMR	O3UM	HB Phoeni	40
12' - 0"	0	30K Floral	OSDM	HB Phoeni	43
8' - 0"	0	30K HMR	S2SB	HB Phoeni	41
- 3D Views (Bottom Right):** Two 3D perspective views of the grocery store layout. The left view shows a 'Produce' section with a sign, and the right view shows a 'Meat' section with a sign.



# REVIT - 3D model review



FACILITY STUDY				NO.
Facility Name	5000	Room		10-1
Address	5000			
City	5000			
State	5000			
Zip	5000			
Phone Number	5000			
Room Number	5000			
Room Name	5000			
Room Type	5000			
Room Size	5000			
Room Use	5000			
Room Description	5000			
Room Notes	5000			
Room Status	5000			
Room Condition	5000			
Room Age	5000			
Room Owner	5000			
Room Manager	5000			
Room Contact	5000			
Room Contact Title	5000			
Room Contact Phone	5000			
Room Contact Email	5000			
Room Contact Fax	5000			
Room Contact Mobile	5000			
Room Contact Home	5000			
Room Contact Other	5000			
Room Contact Address	5000			
Room Contact City	5000			
Room Contact State	5000			
Room Contact Zip	5000			
Room Contact Country	5000			
Room Contact Postal Code	5000			
Room Contact Business Hours	5000			
Room Contact Business Email	5000			
Room Contact Business Phone	5000			
Room Contact Business Fax	5000			
Room Contact Business Mobile	5000			
Room Contact Business Home	5000			
Room Contact Business Other	5000			
Room Contact Business Address	5000			
Room Contact Business City	5000			
Room Contact Business State	5000			
Room Contact Business Zip	5000			
Room Contact Business Country	5000			
Room Contact Business Postal Code	5000			
Room Contact Business Business Hours	5000			
Room Contact Business Business Email	5000			
Room Contact Business Business Phone	5000			
Room Contact Business Business Fax	5000			
Room Contact Business Business Mobile	5000			
Room Contact Business Business Home	5000			
Room Contact Business Business Other	5000			
Room Contact Business Business Address	5000			
Room Contact Business Business City	5000			
Room Contact Business Business State	5000			
Room Contact Business Business Zip	5000			
Room Contact Business Business Country	5000			
Room Contact Business Business Postal Code	5000			
Room Contact Business Business Business Hours	5000			
Room Contact Business Business Business Email	5000			
Room Contact Business Business Business Phone	5000			
Room Contact Business Business Business Fax	5000			
Room Contact Business Business Business Mobile	5000			
Room Contact Business Business Business Home	5000			
Room Contact Business Business Business Other	5000			
Room Contact Business Business Business Address	5000			
Room Contact Business Business Business City	5000			
Room Contact Business Business Business State	5000			
Room Contact Business Business Business Zip	5000			
Room Contact Business Business Business Country	5000			
Room Contact Business Business Business Postal Code	5000			
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Room Contact Business Business Business Business Business City	5000			
Room Contact Business Business Business Business Business State	5000			

# REVIT - Material and equipment quantification

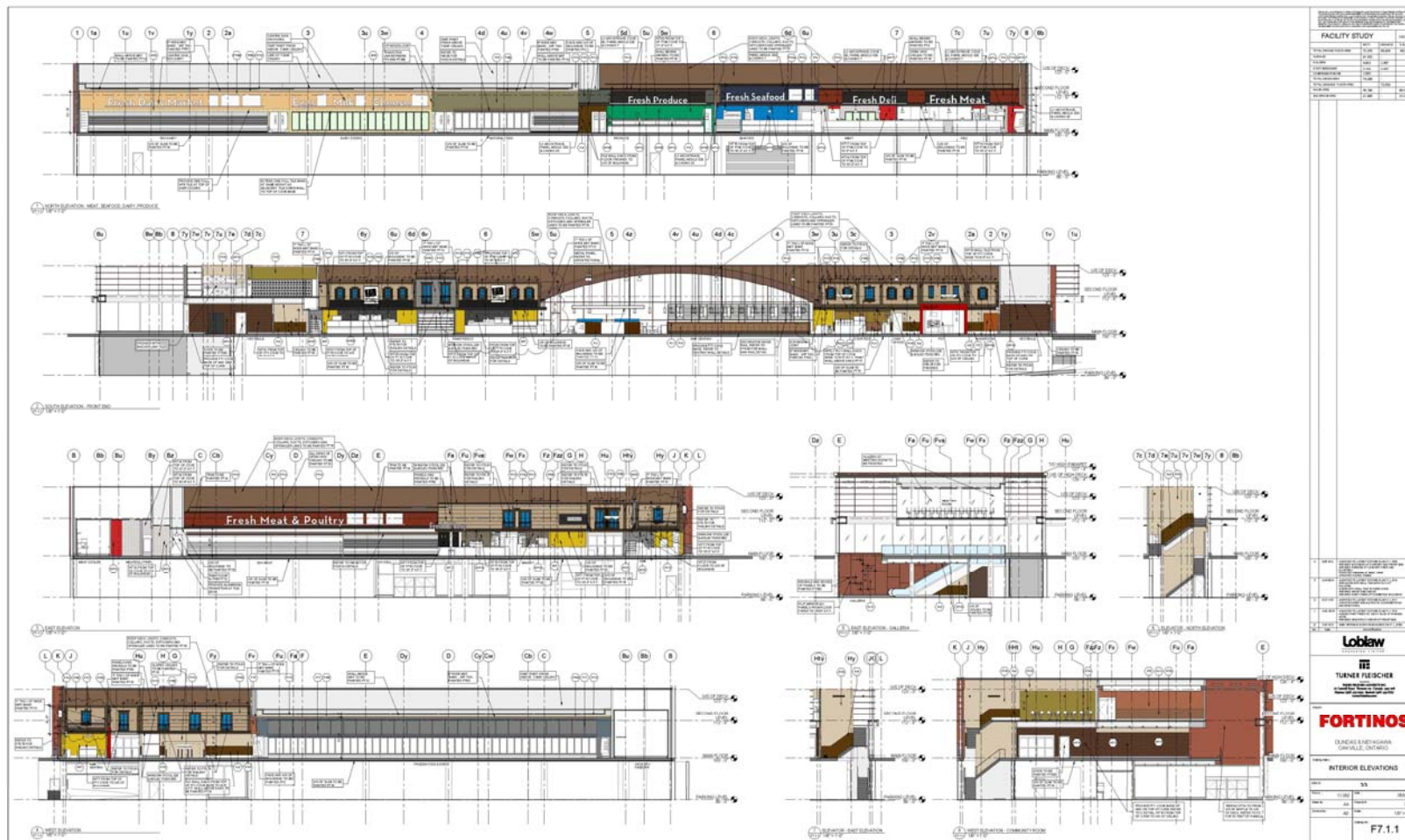


# REVIT - Material and equipment quantification



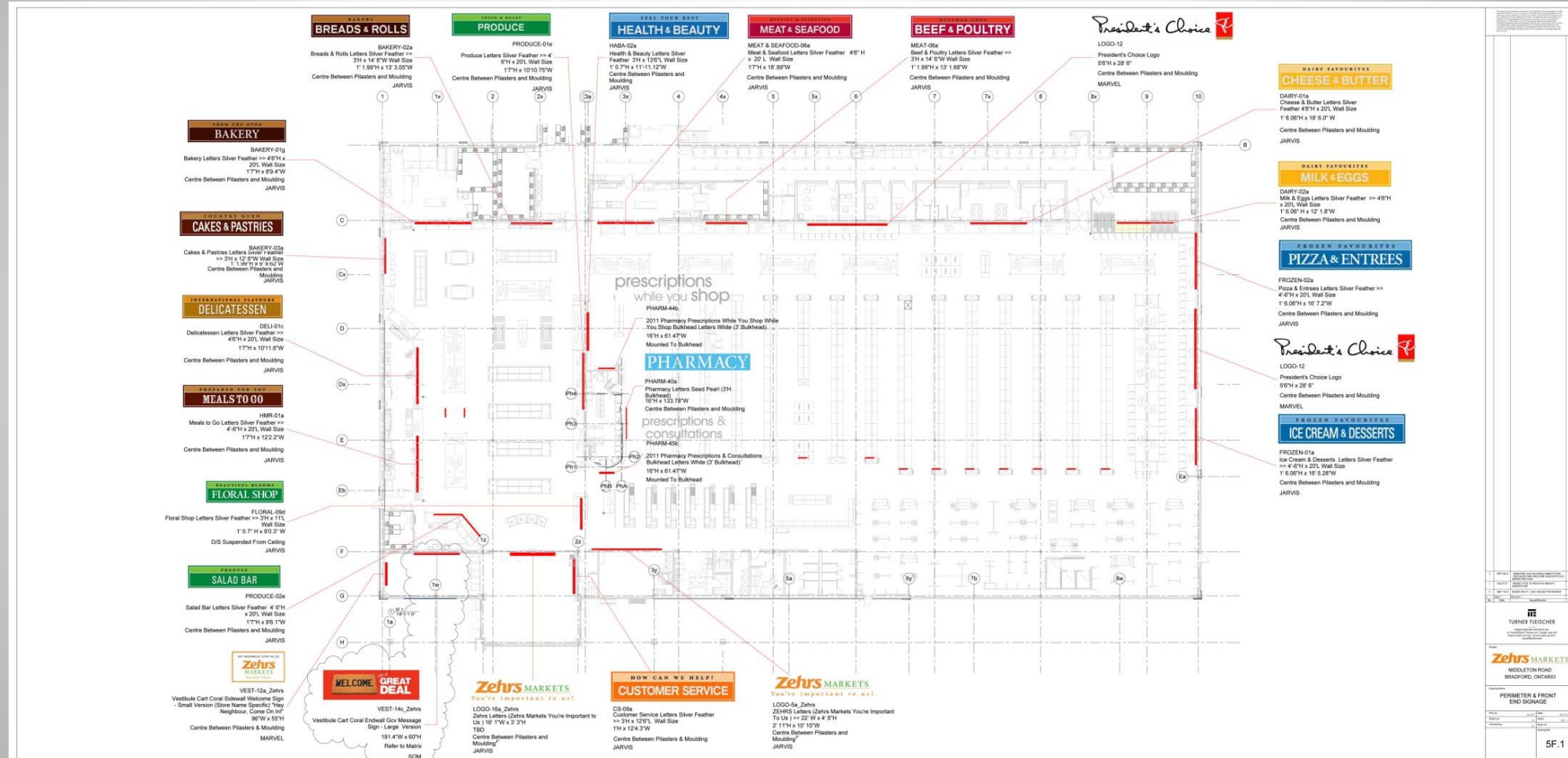


# REVIT - Material and equipment quantification





# REVIT - Material and equipment quantification



# REVIT - Material and equipment quantification

Autodesk Revit Architecture 2013 - 04.107\_Signage\_R04.rvt - Schedule: Signage Schedule by DEPARTMENT

Architecture Structure Insert Annotate Analyze Massing & Site Collaborate View Manage Add-Ins Modify Modify Schedule/Quantities

Properties Group Ungroup New Delete Hide Unhide All Highlight in Model

Properties Headers Rows Columns Element

Modify Schedule/Quantities

Properties Schedule

Schedule: Signage Schedule Edit Type

Graphics Visibility/Graphic Edit

Identity Data View Template <None> View Name Signage Sched... Dependency Independent Worksheet View Sched...

Edited by Phasing Phase Filter Show All Phase New Constr...

Other Fields Edit Filter Edit Sorting/Group... Edit Formatting Edit Appearance Edit

Properties help Apply

04.107\_Signage\_R04.rvt - Project Browser

- Bakery
  - Joe Fresh
  - Level 2
  - Natural Food
  - Pharmacy
  - Site
  - Vestibule / Customer Ser
  - Ceiling Plans
  - 3D Views
  - Elevations (Building Elevatio
  - Sections (Building Section)
  - Legends
  - Schedules/Quantities
    - Signage Schedule by DEPA
    - Signage Schedule by SUPPL
  - Sheets (all)
    - 5F.1 - PERIMETER & FRONT
    - 5F.2 - MARKETING & AISLE
    - 5F.3 - FASCIA & PACKAGES
    - 5F.4 - PHARMACY & BAKER
    - 5F.5 - FRONT END & JOE FR
    - 7F.1 - INTERIOR ELEVATION
  - Families
    - Annotations

Ready

DEPT	Signage Item	Signage Material	Signage Size	Count	Current Supply	Comments for Supplier
AISLE DIRECTORY						
AISLE DR-01_ORANGE	Aisle Directories Boards 3 Sided Triangular - Orange Inside	1/8" PVC c/w 5/16" Reveal J-Track & 5/8" Reveal	27.5"H x 46.25"W & 22.7"	26	SOM	
AISLE DR-01_WHITE	Aisle Directories Boards 3 Sided Triangular - White Inside	1/8" PVC c/w 5/16" Reveal J-Track & 5/8" Reveal	27.5"H x 46.25"W & 22.7"	7	SOM	
BAKERY						
BAKERY-00a	Weston's Bakery Heritage Signs (7pc kit) 4' shelving	Digital Output on .060 Styrene, s/s	4'	1	AD	None
BAKERY-01g	Bakery Letters Silver Feather >> 46"H x 20"L Wall Size	1.5" Thick Gatorfoam Letters, Painted to Match Pittsbu	17"H x 89.4"W	1	JARVIS	
BAKERY-01h	From The Oven Letters Phantom Mat > 46"H x 20"L Wall Size	0.5" Thick Gatorfoam Letters Painted to Match Pittsbu	5.52"H x 13.10.3"W	1	JARVIS	
BAKERY-02a	Breads & Rolls Letters Silver Feather >> 3H x 14 6"W Wall Size	1" Thick Gatorfoam Letters, Painted to Match Pittsbu	1' 1.99"H x 13' 3.05"W	1	JARVIS	
BAKERY-02d	Bakery Letters Phantom Mat >> 3H x 14 6"W Wall Size	0.5" Thick Gatorfoam Letters Painted to Match Pittsbu	47"H x 32.8"W	1	JARVIS	
BAKERY-02a	Cakes & Pastries Letters Silver Feather >> 3H x 12 6"W Wall Size	1" Thick Gatorfoam Letters, Painted to Match Pittsbu	1' 1.99"H x 9' 9.62"W	1	JARVIS	
BAKERY-03c	Bakery Letters Phantom Mat >> 3H x 12 6"W Wall Size	0.5" Thick Gatorfoam Letters Painted to Match Pittsbu	1' 1.99"H x 9' 9.62"W	1	JARVIS	
BAKERY-11_Zehrs	Country Oven Manager By Department Board c/w Finished Brown Trim Frame	Digital Output Mounted on 1/4" PVC; c/w Acrylic P	35.5"H x 35.5"W	1	SOM	Only Required For New Stores As This W
BAKERY-23a	Commercial BREADS wall BAKERY signs (6pc kit) 4' shelving includes ACE bakery	Digital Output on .060 Styrene, s/s	34.5" W x 13" H	1	AD	None
BAKERY-24	Pod Table Signs (8pc Kit) Coffee Cakes/Muffins/Cookies/Pies/Todays's Feature/New/Tasty Treats/D	Digital Output on .060 Styrene, s/s	15"W x 11"H	1	AD	None
BAKERY-25	Bakery Service Counter Top Signs (2pc kit) Specialty Cakes/Just As Us!	Digital Output on .060 Styrene, s/s	24"W x 9"H	1	AD	None
BAKERY-26	Wegmans Signs Mounted to Centre of Display Fixture d/s (3pc kit) Sliced Breads/Packaged Rolls/S	Digital Output on .040 Styrene d/s	7"H x 35"W	1	AD	None
BAKERY-27	Wegmans Signs Mounted to Centre of Display Fixture d/s (2pc kit) Today's Feature/New	Digital Output on .040 Styrene d/s	7"H x 35"W	2	AD	None
BAKERY-29	Frozen Bunker Sign d/s Breads & Desserts	Digital Output on .040 Styrene d/s	72"W x 12"H	1	AD	None
BAKERY-30	Fascia Framed Signs s/s Donuts/Bagels/Buns & Rolls/Sweets (4pc kit)	Digital Output on .060 Styrene Insert s/s; Erasable	32"W x 9"H	1	AD	None
BAKERY-31	Commercial Gondola Signs Mounted to Centre of Display Fixture d/s Sweet Goods (Front)/Breakfa	Digital Output on .040 Styrene d/s	35"W x 7"H	5	AD	None
BAKERY-32	Bakery - Sliced to Your Specifications Boards c/w Different Sliced Bread Thicknesses 3D Cut Outs.	Digital Output Mounted to 3/4" thick BLACK Matte B	34.5"W x 13"H	1	AD	
BAKERY-33	Bread Slicer Vinyl Decal	Digital Output on Vinyl; s/s	8"H x 11"L	1	AD	
BAKERY-34	Bread Slicer Vinyl Decal for Metal Shoot	Digital Output on Vinyl; s/s	27"H x 4"W	1	AD	
BAKERY-35a	Bakery 1 Back Wall Faux Tie Image Panel >> 1/16" Grout (Prima Blanco/White 0)	Digital Output on ABS c/w Protective Coating and Cha	35.5"W x 35.5"H	1	AD	
BAKERY-36	Weston's Bakery Heritage Signs (7pc Kit) Gondola	Digital Output on .040 Styrene, d/s	35"W x 7"H	1	AD	
BAKERY-45_Zehrs	Bakery - Service Boards (4pc Kit) - c/w Finished Brown Trim Frame & Smaller Erasable Chalkboar	1/8" Thick Printed Sign Panel (Inside Frame) 1" x 3/	35.5"H x 50"W	1	SOM	Sign to be s/s and Painted Black Matte Fini
BAKERY-46_Zehrs	Bakery - Service Boards Message Panel - c/w Finished Brown Trim Frame >> Generic Version	1/8" Thick Printed Sign Panel (Inside Frame) 1" x 3/	35.5"H x 35.5"W	1	SOM	
BULK FOODS						
BULK FOODS-06	Bulk Foods Pick Your Mix Sign c/w Feet For Mounting to Fixture, d/s	0.25" Sintra Letters "Pick Your Mix" to Match Pittsb	15"H x 72"W	6	MARVEL	NONE
CS						
CS-09a	Customer Service Letters Silver Feather >> 3H x 126"L Wall Size	1" Thick Gatorfoam Letters, Painted to Match Pittsbu	1'H x 124.3"W	1	JARVIS	
CS-09b	How Can We Help? Letters Phantom Mat >> 3H x 126"L Wall Size	0.5" Thick Gatorfoam Letters Painted to Match Pittsbu	3.7"H x 7'10.6"W	1	JARVIS	
CUSTOMER SERVICE						
CS-01_Zehrs	Customer Service Signage - 4 Posters Orange - Ontario Version	Digital Output Mounted on 1/4" PVC; c/w Acrylic P	24"H x 24"W	1	AD	
CS-04	Customer Service Letters Electric Orange	1/4" Thick PVC Letters Painted to Match BJ 2015	5"H	1	MARVEL	
DAIRY						
DAIRY-01a	Cheese & Butter Letters Silver Feather 46"H x 20"L Wall Size	1.5" Thick Gatorfoam Letters, Painted to Match Pittsbu	1' 6.06"H x 18' 6.0"W	1	JARVIS	
DAIRY-01d	Dairy Favourites Letters Phantom Mat 46"H x 20"L Wall Size	0.5" Thick Gatorfoam Letters Painted to Match Pittsbu	5.52"H x 11.4.75"W	1	JARVIS	
DAIRY-02a	Milk & Eggs Letters Silver Feather >> 46"H x 20"L Wall Size	1.5" Thick Gatorfoam Letters, Painted to Match Pittsbu	1' 6.06"H x 12' 1.8"W	1	JARVIS	
DAIRY-02d	Dairy Favourites Letters Phantom Mat >> 46"H x 20"L Wall Size	0.5" Thick Gatorfoam Letters Painted to Match Pittsbu	5.52"H x 11.5"W	1	JARVIS	
DAIRY_05	Fascia Letters Dairy (23 pc Kit)	6 mm White PVC; Letters Elevated 3/8" Above 1 1/	4'H	1	SOM	
DELI						
DELI-01c	Delicatessen Letters Silver Feather >> 46"H x 20"L Wall Size	1.5" Thick Gatorfoam Letters, Painted to Match Pittsbu	17"H x 10.11.6"W	1	JARVIS	
DELI-01d	International Flavours Letters Phantom Mat >> 4 6"H x 20"L Wall Size	0.5" Thick Gatorfoam Letters Painted to Match Pittsbu	5.52"H x 13.10.3"W	1	JARVIS	
DELI-08a	Del 1 Back Wall Faux Tie Image Panel 1/16" Grout	Digital output on ABS c/w protective coating and cha	36"W x 36"H	1	AD	NONE
DELI-08b	Del 2 Back Wall Faux Tie Image Panel 1/16" Grout	Digital output on ABS c/w protective coating and cha	36"W x 36"H	1	AD	NONE
DELI-09_Zehrs	Delicatessen Manager By Department Board c/w Finished Dark Orange Trim Frame	Digital Output Mounted on 1/4" PVC; c/w Acrylic P	35.5"H x 35.5"W	1	SOM	Only Required for New Store Orders As
DELI-13_Zehrs	Del - Service Boards (4pc Kit) - c/w Finished Dark Orange Trim Frame & Smaller Erasable Chalkbo	1/8" Thick Printed Sign Panel (Inside Frame) 1" x 3/	35.5"H x 50"W	1	SOM	Sign To Be s/s And Painted Black Matte F
DELI-14_Zehrs	Del - Service Boards Message Panel - c/w Finished Dark Orange Trim Frame	1/8" Thick Printed Sign Panel (Inside Frame) 1" x 3/	35.5"H x 35.5"W	1	SOM	

Worksheet (Not Editable)

Main Model



# REVIT – Model to fabrication



## STL Exporter for Revit



Autodesk

26/03/2012

The STL Exporter for the Autodesk Revit Platform is a proof-of-concept project designed to create an STL file from a 3D building information model, thereby enabling easier 3D printing. STL is a popular file format for stereolithography (3D Printing) used for rapid prototyping and computer aided manufacturing. In the building space, it is used by architects and engineers to build 3D models. This is an add-in for Revit products that provides the ability to export geometric data from Revit to ASCII and Binary STL files.

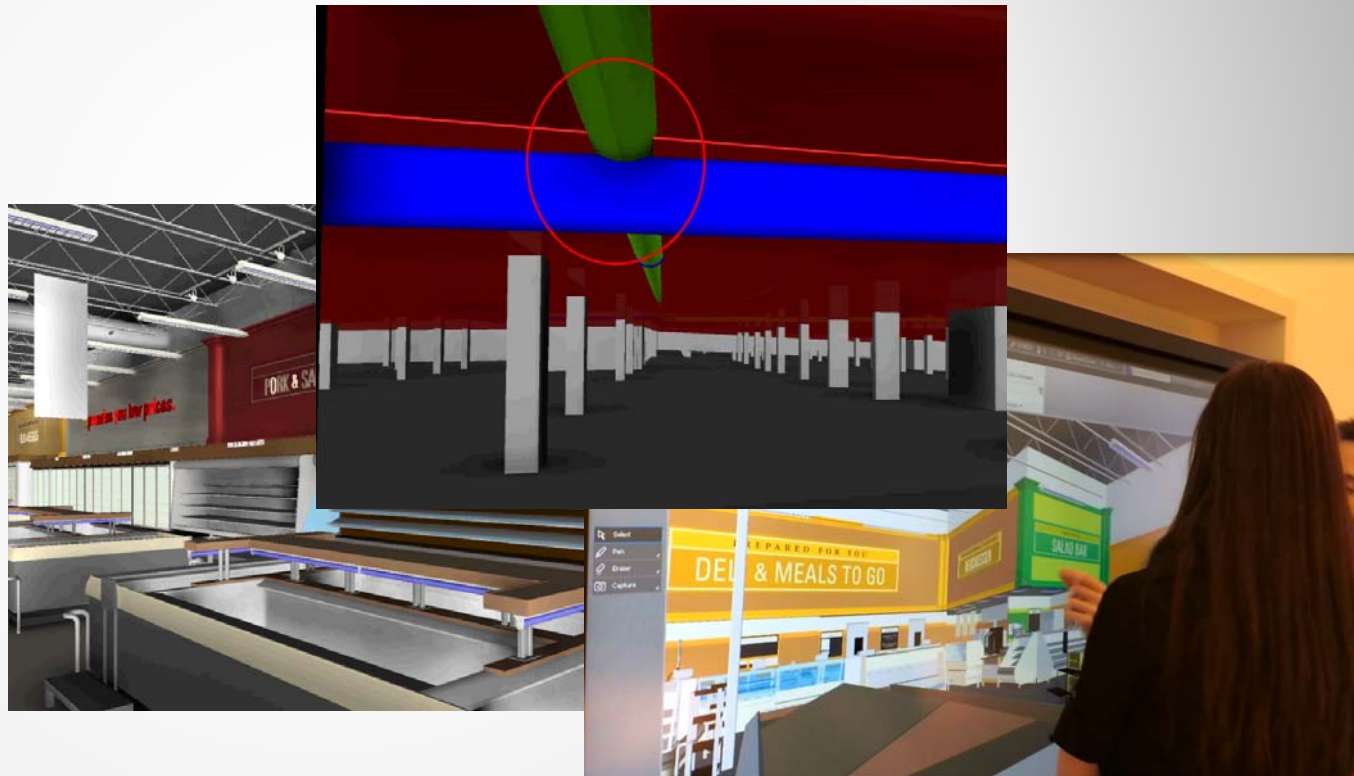
Free

2 Reviews | [sign in to write a review](#)



# Navisworks Manage

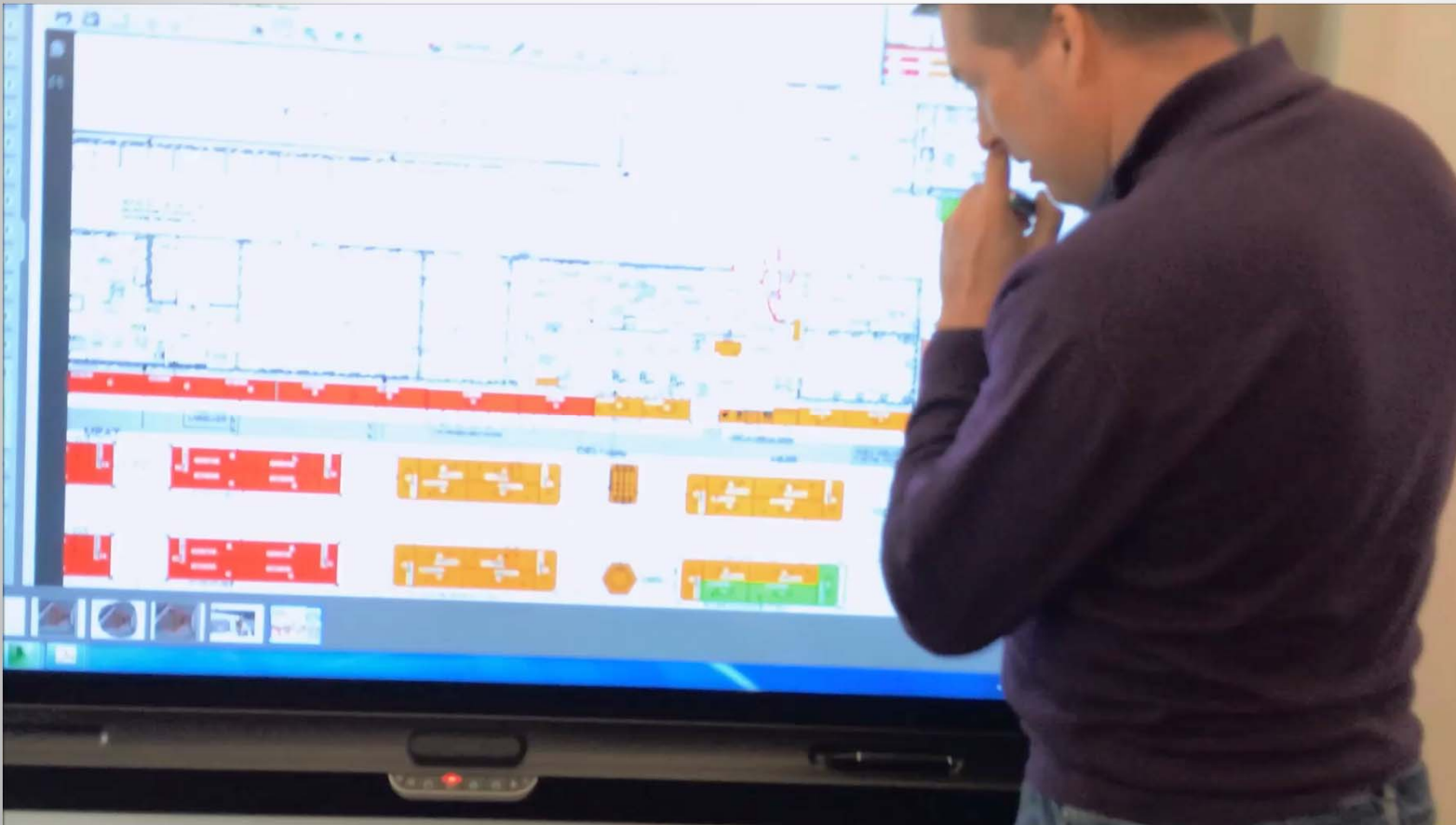
- Design intent review and coordination
- Clash detection



# Navisworks Manage – Design Intent Review and Coordination

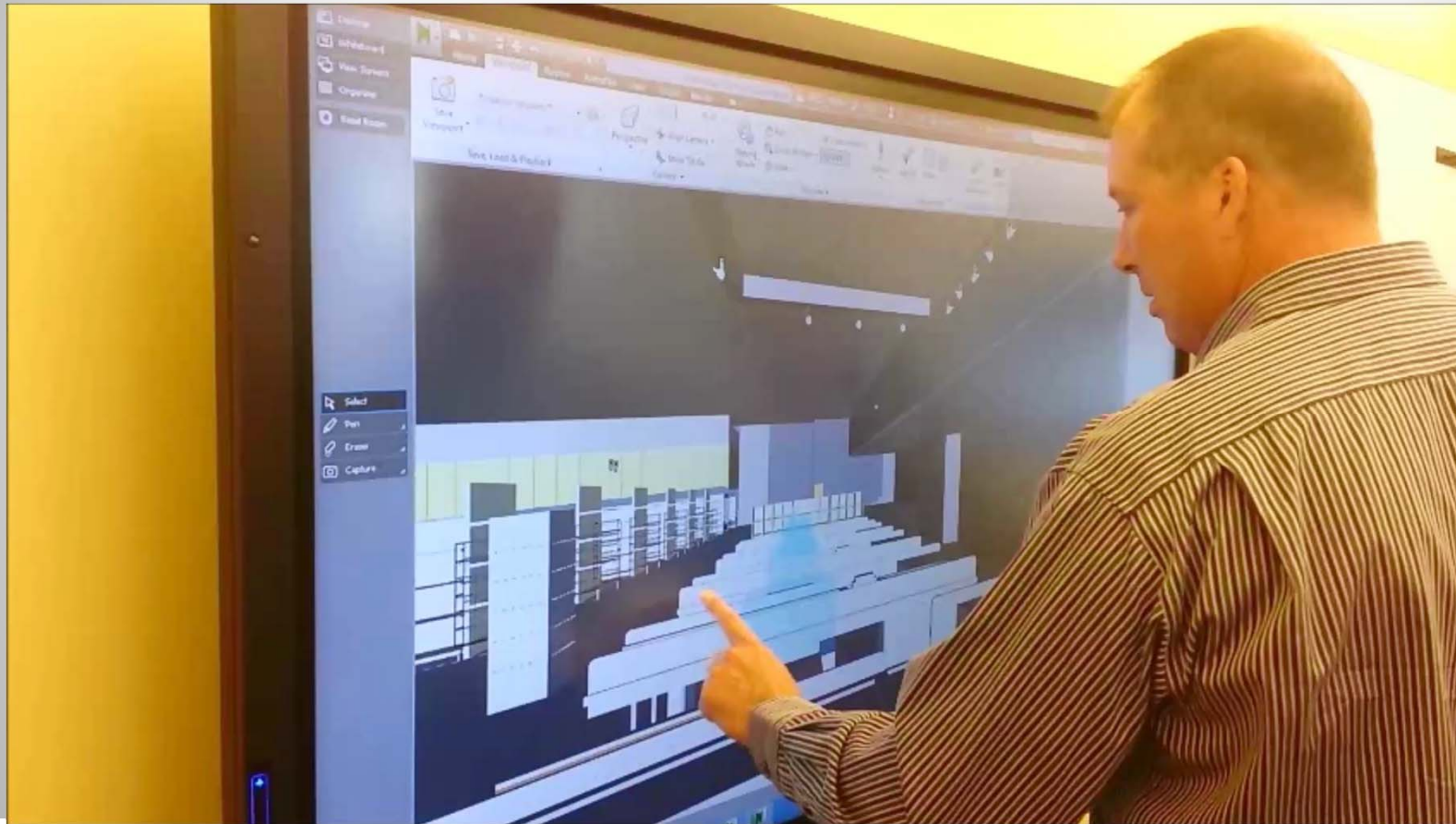
- **Use of SmartBoards**
- **Visual Inspection**
  - Virtual walk
  - Pre-saved Store Department views for ease of navigation
  - REVIT parameters used to identify equipment
  - Built-in links to equipment specs posted on Autodesk Buzzsaw
- **Model markups for coordination with the team**

# Navisworks Manage – Design Intent Review and Coordination





# Navisworks Manage – Design Intent Review and Coordination



# Navisworks Manage – Design Intent Review and Coordination

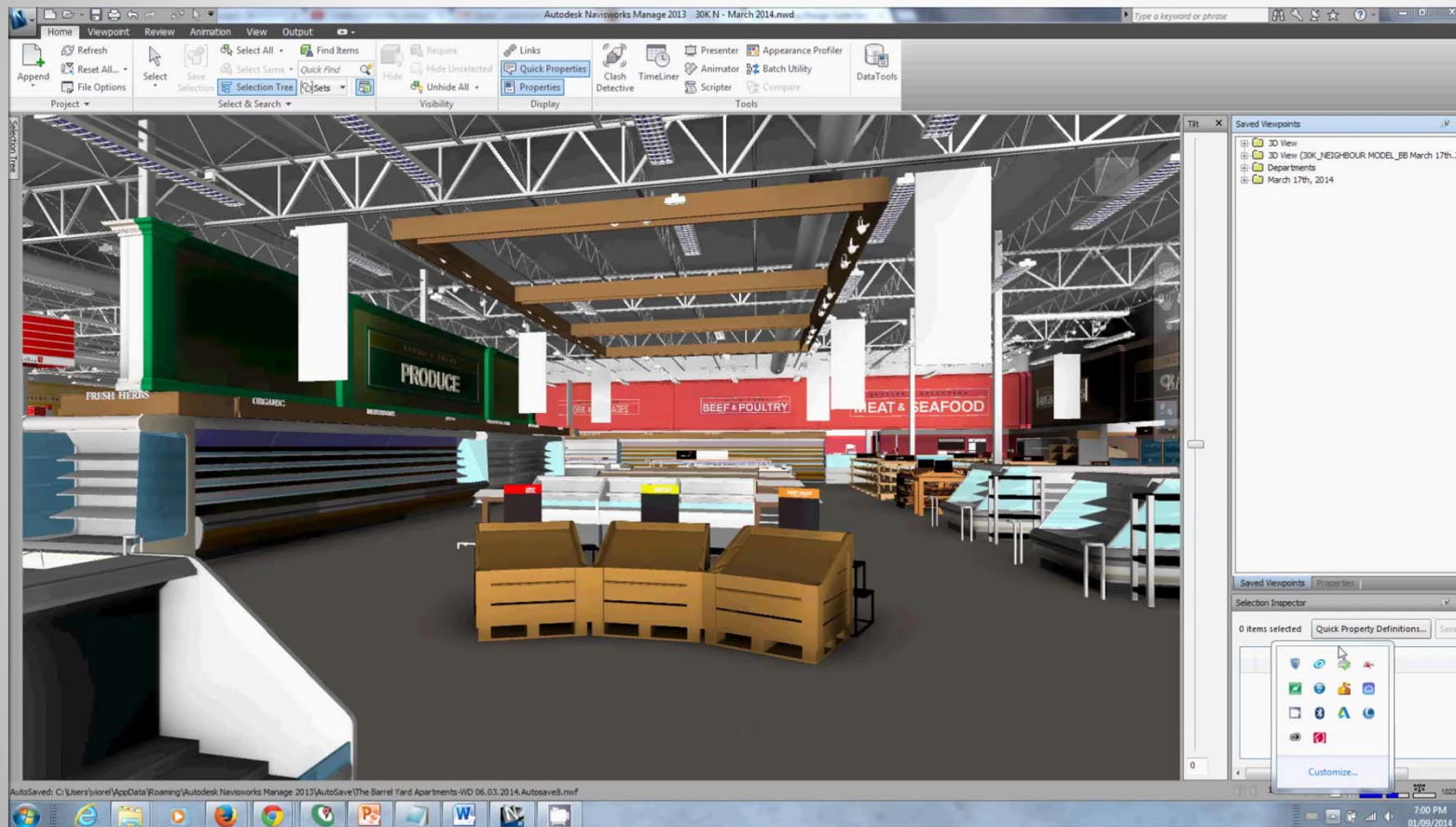


# Navisworks Manage – Design Intent Review and Coordination

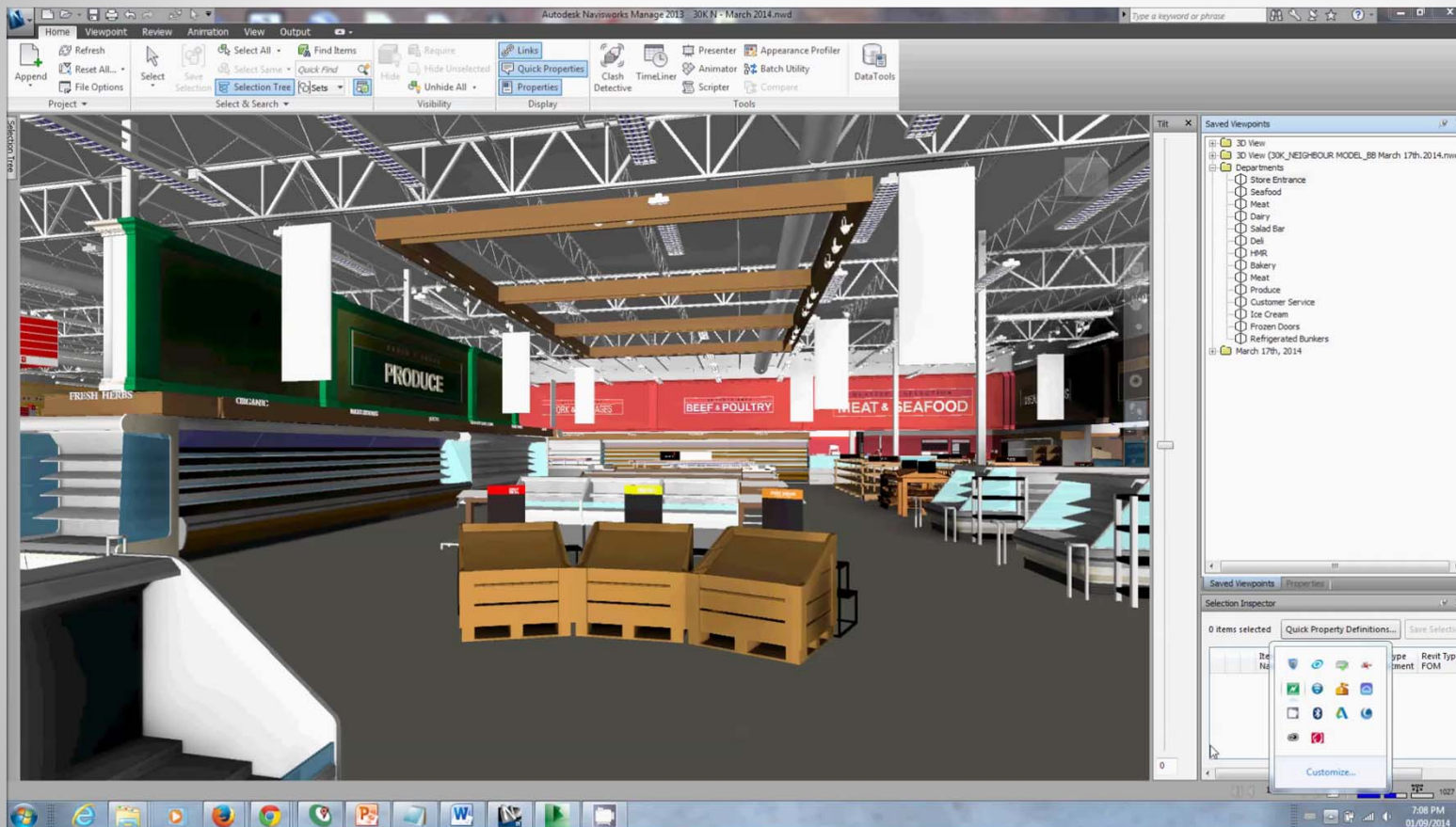




# Navisworks Manage – Design Intent Review and Coordination



# Navisworks Manage – Design Intent Review and Coordination



# Navisworks Manage – Design Intent Review and Coordination





# Navisworks Manage – Clash Detection

The screenshot displays the Autodesk Navisworks Manage 2014 interface. The main 3D view shows a complex building model with a red beam and a green wall, indicating a clash. The left sidebar contains the 'Clash Detect' panel, which shows a table of clashes and a list of items. The right sidebar shows the 'Properties' panel and a 'Saved Viewports' list.

**Clash Detect Panel - F vs M**

Name	Status	Clashes	New	Active	Reviewed	Approved	Resolved
R vs M	Old	41	0	1	1	0	39
A vs S	Old	10984	10984	0	0	0	0
F vs M	Done	203	99	104	0	0	0
S vs m	Done	1	1	0	0	0	0

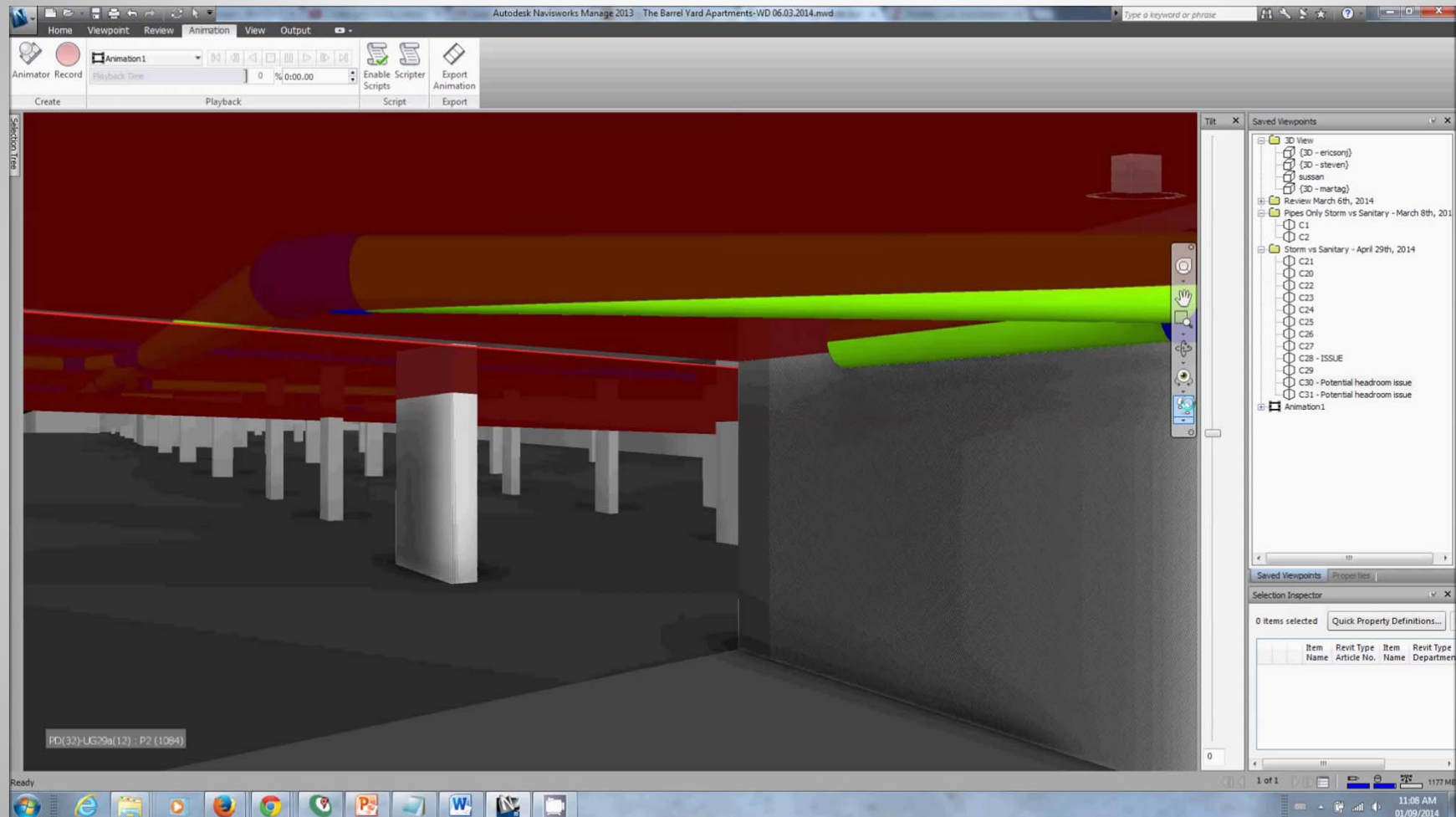
**Clash List (Left Sidebar)**

Name	Status	Found	Approved
Clash18	New	10/19/05 29-11-2013	
Clash19	New	10/19/05 29-11-2013	
Clash20	New	10/19/05 29-11-2013	
Clash22	New	10/19/05 29-11-2013	
Clash23	New	10/19/05 29-11-2013	
Clash24	New	10/19/05 29-11-2013	
Clash25	New	10/19/05 29-11-2013	
Clash26	New	10/19/05 29-11-2013	
Clash27	New	10/19/05 29-11-2013	
Clash28	New	10/19/05 29-11-2013	
Clash29	New	10/19/05 29-11-2013	
Clash30	New	10/19/05 29-11-2013	
Clash31	New	10/19/05 29-11-2013	
Clash32	New	10/19/05 29-11-2013	
Clash33	New	10/19/05 29-11-2013	
Clash34	New	10/19/05 29-11-2013	
Clash35	New	10/19/05 29-11-2013	
Clash36	New	10/19/05 29-11-2013	
Clash37	New	10/19/05 29-11-2013	
Clash38	New	10/19/05 29-11-2013	
Clash39	New	10/19/05 29-11-2013	
Clash40	New	10/19/05 29-11-2013	
Clash41	New	10/19/05 29-11-2013	
Clash42	New	10/19/05 29-11-2013	
Clash43	New	10/19/05 29-11-2013	

**Saved Viewports (Right Sidebar)**

- 3D View
- 3D - nicholasa
- Top of escalators
- View from bottom of escalators looking up to vestib
- Parking Garage
- Parking Garage looking @ entrance vestibule
- Dairy Cooler Area
- Pharmacy
- Main floor looking 1/4 South East corner
- View from Vestibule, Main floor
- 3D - samth
- Produce Wall
- Backroom View
- Prep Area
- View 1/4 kids area
- Checkout
- 3D - martag
- Clash 22 RvsM
- Clash 25 RvsM
- Clash 27
- Clash 28
- Ref Un

# Navisworks Manage – Clash Detection



# 3D MAX Design

- **Renderings**
  - Preliminary renderings
  - Photorealistic renderings
  - Interactive renderings
- **Animations**
  - Walkthroughs
  - Flythroughs



# 3D MAX Design - Renderings

- **Preliminary renderings**
- **Photorealistic renderings**
- **Interactive renderings**

# 3D MAX Design – Preliminary renderings



## 3D MAX Design – Preliminary renderings





## 3D MAX Design – Photo realistic renderings



# 3D MAX Design – Photo realistic renderings





# 3D MAX Design – Photo realistic renderings





# 3D MAX Design – Photo realistic renderings



## 3D MAX Design – Photo realistic renderings



# 3D MAX Design – Photo realistic renderings

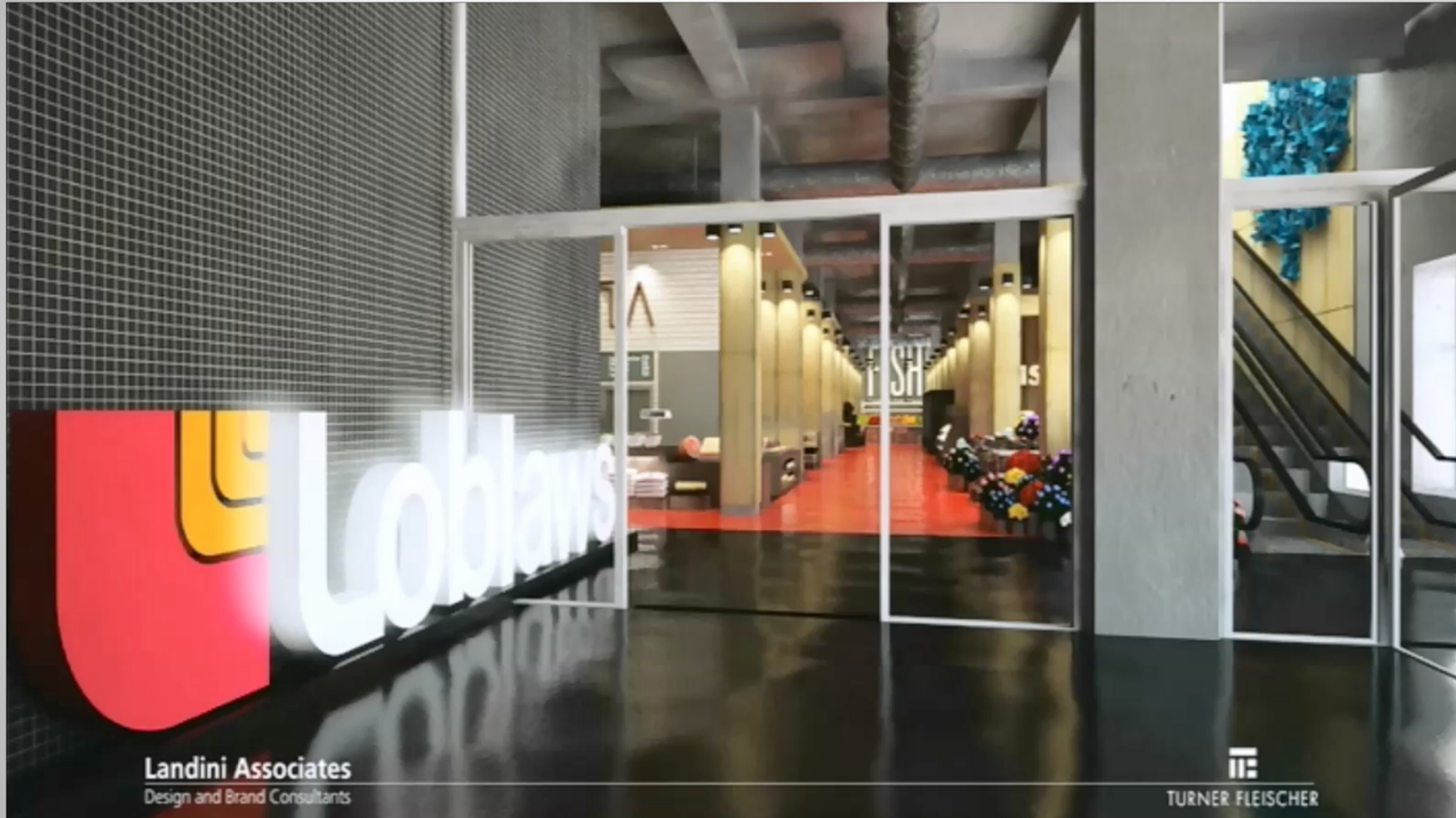




# 3D MAX Design – Photo realistic renderings



# 3D MAX Design – Animations



Landini Associates  
Design and Brand Consultants

TURNER FLEISCHER





# 3D MAX Design – Photo realistic renderings

West Link - Exterior Finish Options

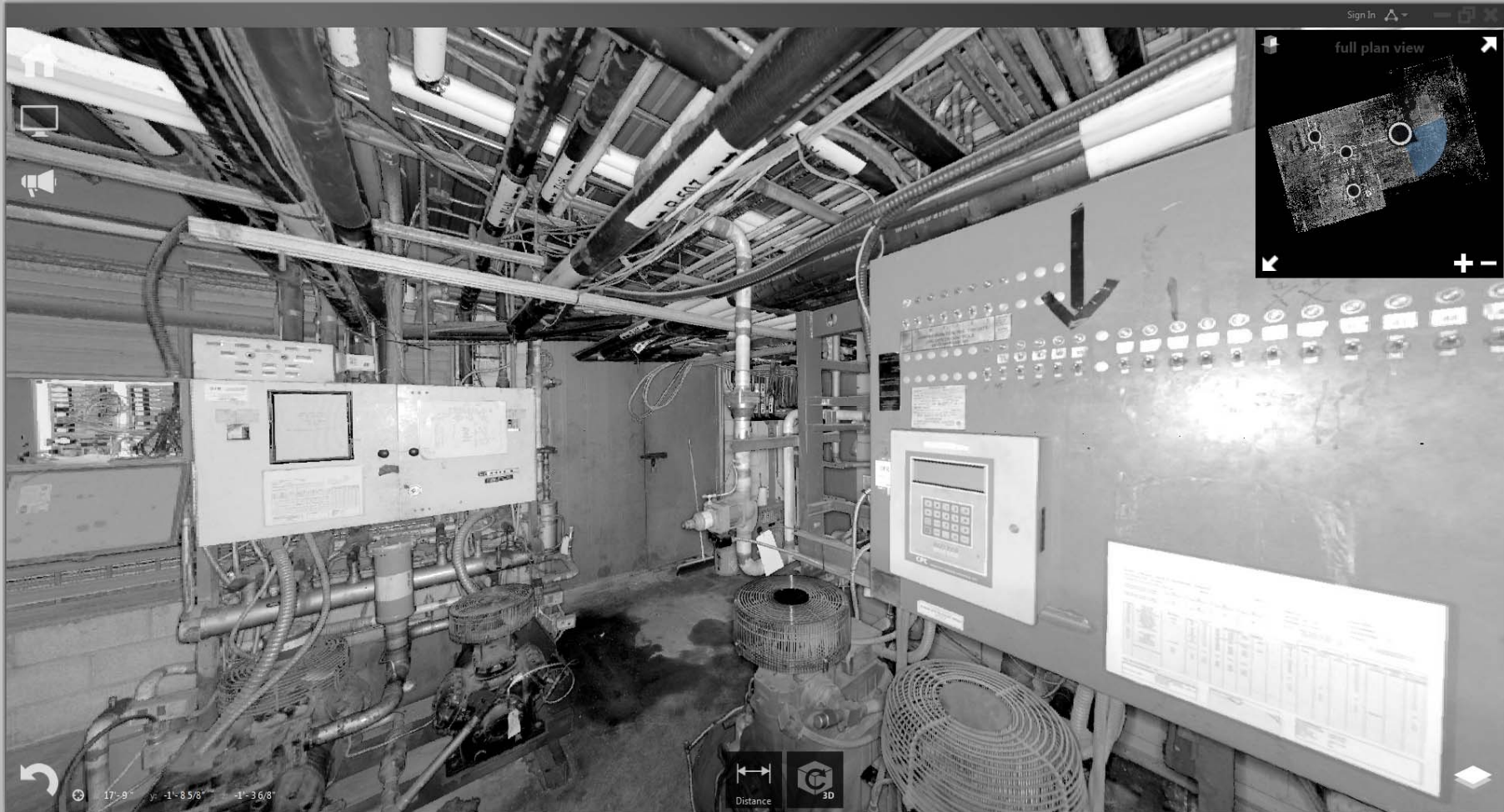




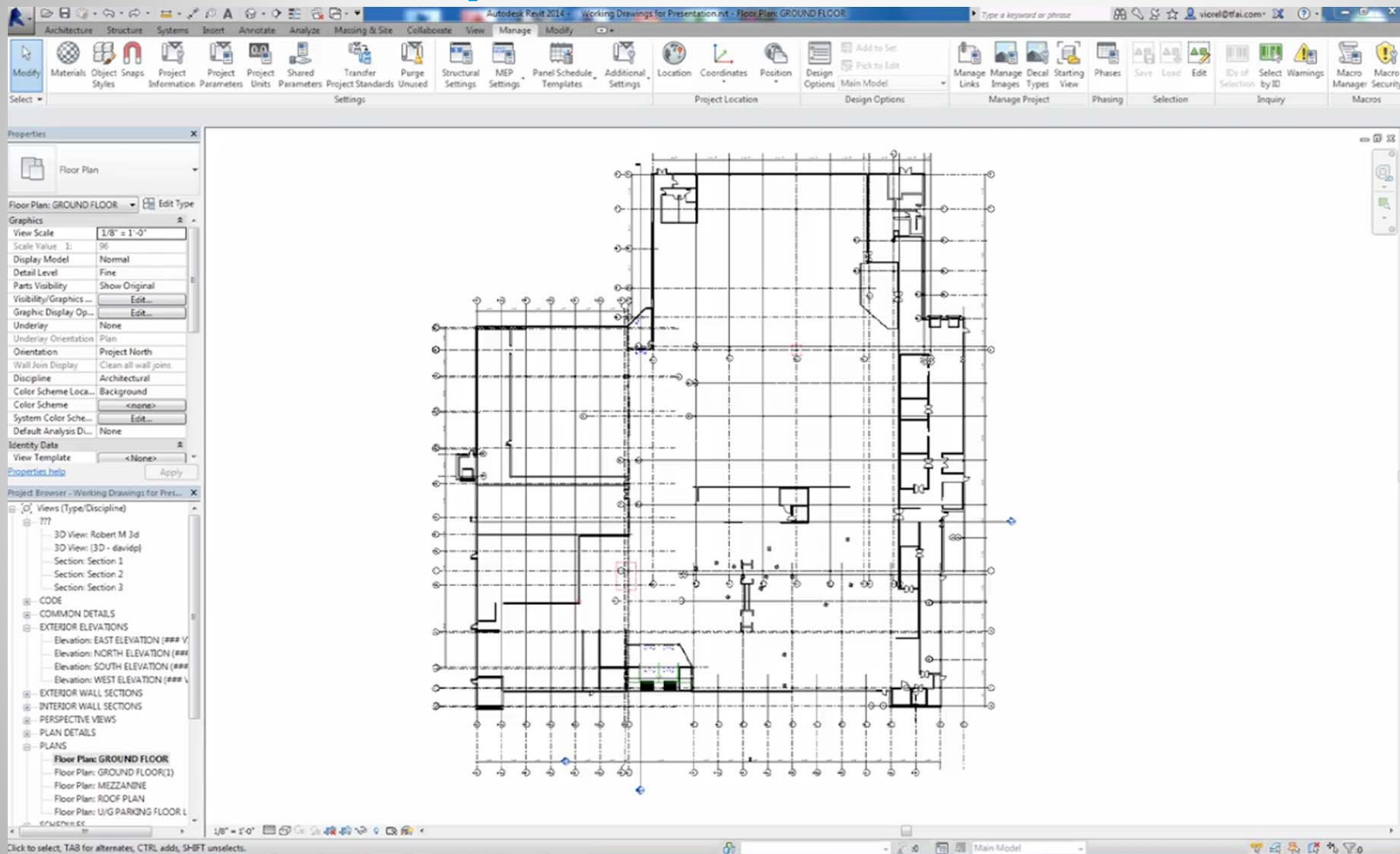
# Autodesk ReCap

- **Laser scanning**
  - Point cloud to be used as an as built reference
  - Panoramic imagery

# Autodesk ReCap – Accurate as-built reference

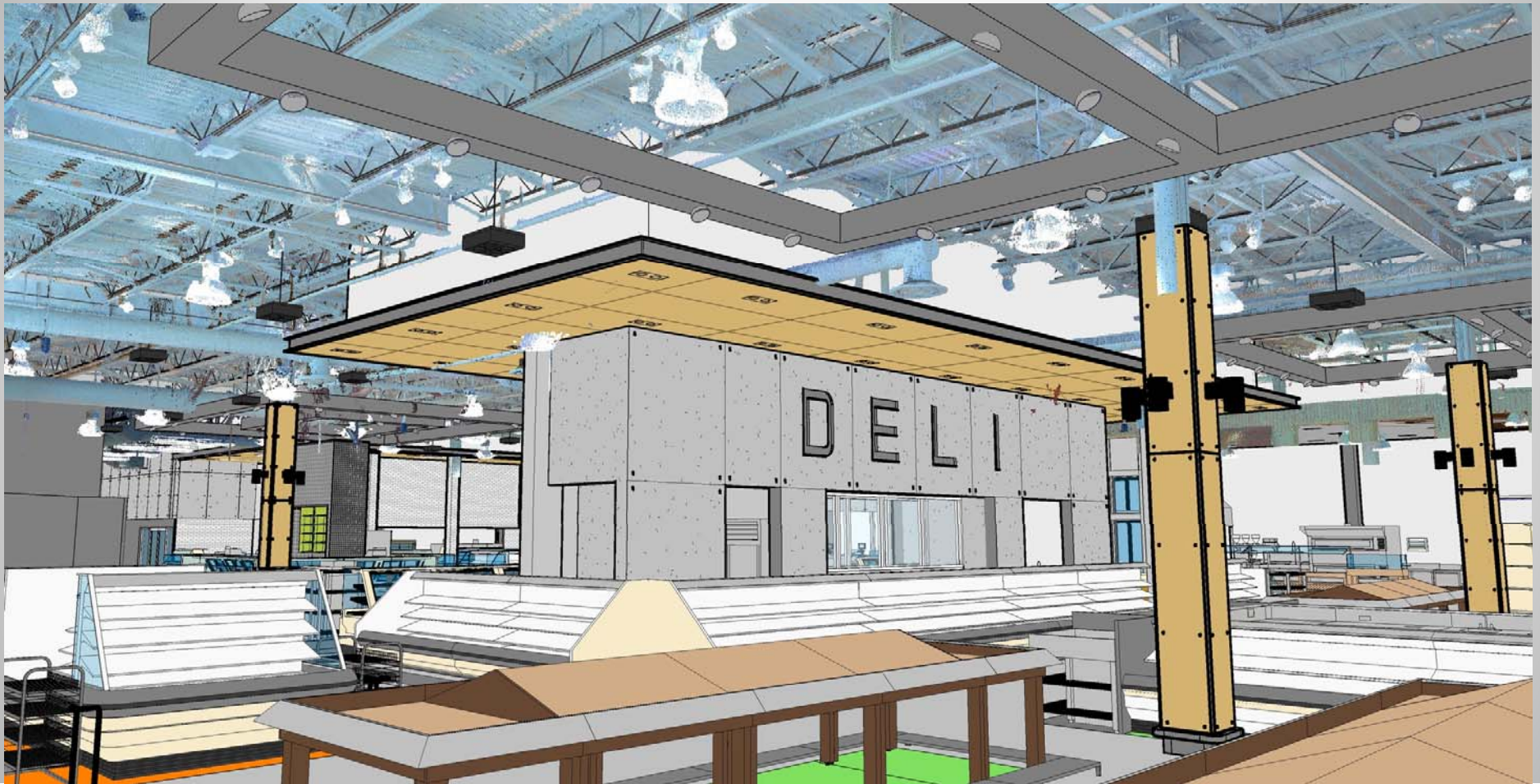


# Autodesk ReCap – REVIT & Point Cloud

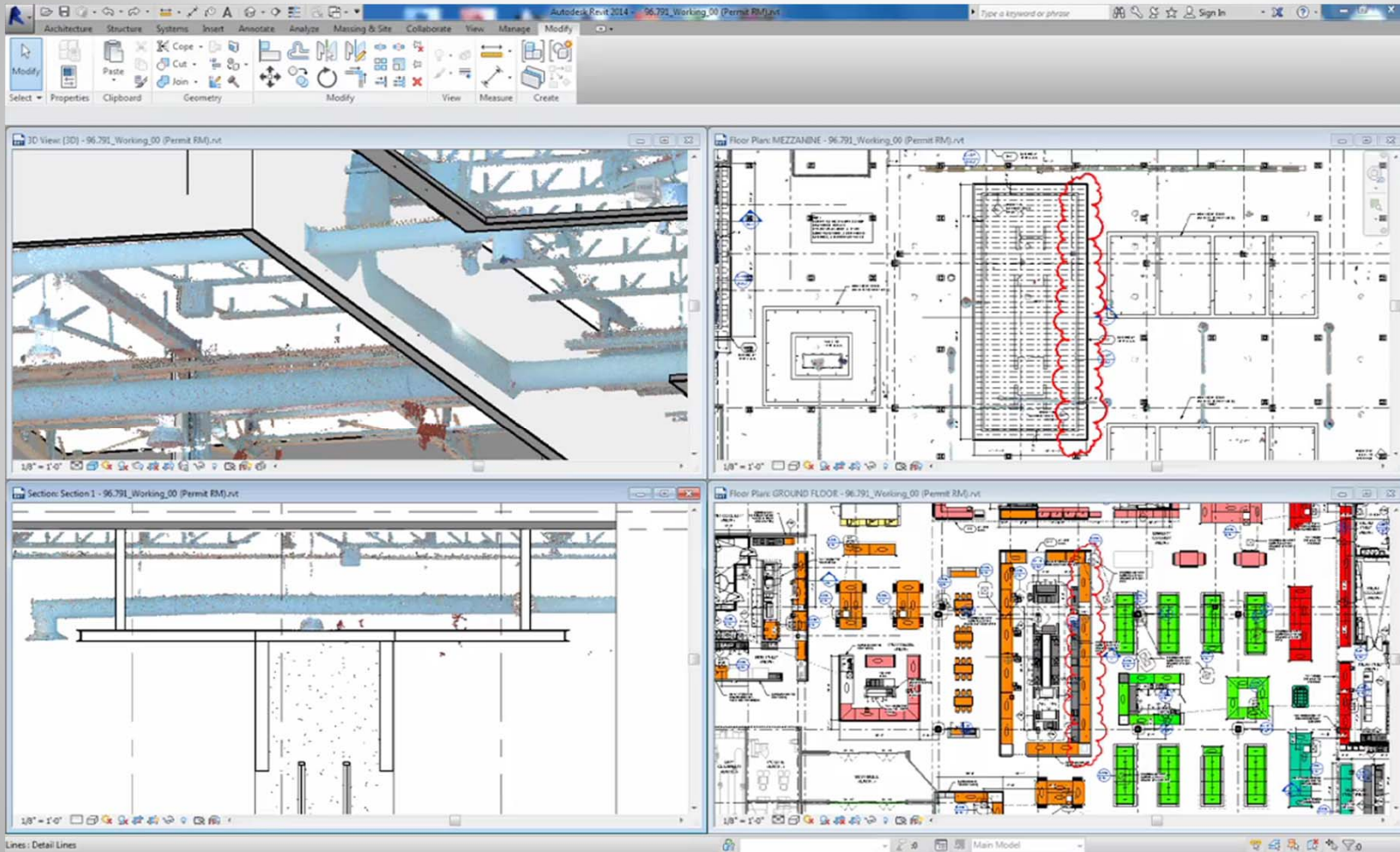




# Autodesk ReCap – REVIT & Point Cloud



# Autodesk ReCap – REVIT & Point Cloud





## Session Feedback

- Via the Survey Stations, email or mobile device
- AU 2014 passes given out each day!
- Best to do it right after the session
- Instructors see results in real-time







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