Walters & Wolf

The following projects were completed during my time at Walters & Wolf, a firm specializing in the engineering, manufacturing, and installation of glazing systems and aluminum composite panel façades. I worked within the Virtual Design department, where I developed detailed Revit models that were used to generate comprehensive material takeoffs for pricing and preconstruction estimates.

These models allowed us to accurately quantify all components of our curtain wall and panel systems, supporting precise and reliable cost proposals for clients. Following the preconstruction and bidding phase, I further developed and refined the models to support the shop drawing and fabrication documentation process.

..... 200 Mission
..... 405 Industrial
..... Samuel Merrit University
..... Stanford Bridge
..... 490 South Mathilda
..... 777 Airport Boulevard
..... ACLS
..... 888 Ross
..... IQHQ Aventine
..... City of Hope
..... 1389 Moffett Park
..... Project 63
..... Project Nomar North
..... Project Nomar South
..... Pier 70A
..... Moffett Towers Building 6
..... The Ranch Lot Studios
..... Joint Venture Cancer Center
..... UNLV
..... UCSD Discovery
..... UNR Mathewson
..... Saint Francis Highschool

200 Mission

200 Mission Street., Santa Francisco, CA 94105

405 Industrial

405 Industrial Road, San Carlos, CA, 94070

Samuel Merritt University

490 S Mathilda Avenue, Sunnyvale, CA 94086

Stanford Bridge

777 Airport Blvd., Burlingame, CA 94010

490 South Matilda

490 S Mathilda Avenue, Sunnyvale, CA 94086

777 Airport Boulevard.

777 Airport Blvd., Burlingame, CA 94010

ACLS

490 S Mathilda Avenue, Sunnyvale, CA 94086

888 Ross

777 Airport Blvd., Burlingame, CA 94010

IQHQ Aventine

3000 Mission College Blvd., Santa Clara, CA 95054

City of Hope

335 Lakeside Drive, Foster City, CA 94404

1389 Moffett Park

490 S Mathilda Avenue, Sunnyvale, CA 94086

Project 63

777 Airport Blvd., Burlingame, CA 94010

Project Nomar North

3000 Mission College Blvd., Santa Clara, CA 95054

Project Nomar South

335 Lakeside Drive, Foster City, CA 94404

Pier 70A

3000 Mission College Blvd., Santa Clara, CA 95054

Moffett Towers Building 6

335 Lakeside Drive, Foster City, CA 94404

The Ranch Lot Studios

335 Lakeside Drive, Foster City, CA 94404

Joint Venture Cancer Center

335 Lakeside Drive, Foster City, CA 94404

UNLV

3000 Mission College Blvd., Santa Clara, CA 95054

UCSD Discovery

335 Lakeside Drive, Foster City, CA 94404

UNR Mathewson

3000 Mission College Blvd., Santa Clara, CA 95054

Saint Francis Highschool

335 Lakeside Drive, Foster City, CA 94404

Adaptive Units

The problem

At my previous job, the company used curtain panels for their modeling process. These curtain panels were designed to resemble our unitized window systems, complete with a head, sill, verticals, infills, etc. These units were made within my department and carried downstream to where the takeoff team would produce fabrication drawings.

This modeling method was highly successful, except for one major drawback. If the wall happened to be raked or angled, our curtain panel families would not work. Revit does not allow you to fill a varying nonirectangular curtain panels with standard curtain panel families.

The answer to our problems was found in adaptive generic models. Adaptive families are able to use points that allow them to stretch and flex based off their hosting points.

Adaptive units allow for a large variety of different shaped units with various amounts of lites and configuartions. These units contain all the same functionality as a regular, squared unit. They have backpans and shadowboxes, the mullions can we swapped for different profiles, different infills can be assigned, etc. Here are just a few examples of the shapes and types of adaptives I created.

In order for a door to be placed into these units, I had to recreate my door families as adaptive generic models that would flex with the unit and adjust based off job specific conditions. Once I created these door infills, I could easily swap the glass infills out with the door infills.

C/S ERECTORS INC.

ARCHITECTURAL WALL SYSTEMS

At C/S Erectors, I served as the BIM Lead across all company projects. Prior to my arrival, the company was not utilizing any 3D modeling software. I established the firm's BIM foundation by creating comprehensive Revit family libraries and implementing a structured modeling workflow for use during preconstruction.

The models I developed were used to lead BIM coordination efforts on awarded projects, and I was responsible for the creation, management, and ongoing development of all 3D modeling processes. We transitioned these preconstruction models into fully detailed 2D shop drawings by leveraging over 40 custom Dynamo tools that I developed to automate and standardize documentation.

In addition, I helped develop a workflow that allowed our Revit models to be translated directly into Autodesk Inventor, enabling the generation of fabrication tickets and improving downstream fabrication efficiency. Beyond modeling, I played a key role in documenting company standards and field processes, including the creation of waterproofing manuals, logistics plans, jobsite and completed-work photography, 3D printing, photogrammetry workflows, point-to-point laser measuring systems, and various drafting tasks.

..... UCSF Benioff Parking Structure
..... UCSC Heller Housing
..... East County Services Center
..... Sonoma Government Center
..... UCB Heathcock
..... SFO Guardrail
..... SFO Icebox
..... SFUSD
..... STEM - Mission College
..... Gilead Technical Development Center
..... Workday Meeting Center
..... West Valley College
..... SFO Cargo
..... Sutter MOB
..... Millbrae Yards Phase II
..... SLAC - National Accelerator Lab
..... San Quentin Rehabilitation Center
..... Stanford Atrium
..... YMCA - Redwood City
..... SSF Wellness
..... SSF Wellness - Timber Frame Study
..... Emmanuel Congregation - Photogrammetry
..... 3D Printing Projects
..... UCB Heathcock - Bid Propsal
..... Contra Cost County - Bid Proposa
..... SFO Cargo Logistics Planning
..... Gilead Logistics Planning
..... Stanford Atrium Logistics Planning
..... SSF Wellness Waterproofing Package
..... CCSF Waterproofing Package
..... CCSF Steel Penetrations
..... Material Deposit Form

UCSF Benioff - Parking Structure

747 52nd St, Oakland, CA 94609

UCSC Heller Housing

4204 Student Housing West - 1156 High St, Santa Cruz, CA 95064

East County Services Center

Technology Way, Brentwood, CA, 94513

Sonoma Government Center

Ventura Avenue, Santa Rosa, CA 95403

UCB Heathcock

University Drive, Berkeley, CA, 94701

SFO Guardrail

San Francisco International Airport, San Francisco, 94128

SFO Icebox

San Francisco International Airport, San Francisco, 94128

SFUSD

135 Van Ness Avenue, San Francisco, CA, 94102

STEM - Mission College

3000 Mission College Blvd., Santa Clara, CA 95054

Gilead Technical Development Center

335 Lakeside Drive, Foster City, CA 94404

Workday Meeting Center

6120 Stoneridge Mall Drive, Pleasanton, CA, 94588

West Valley College

1400 Fruitvale Avenue, Saratoga, CA, 95070

SFO Cargo

3000 Mission College Blvd., Santa Clara, CA 95054

Sutter MOB

335 Lakeside Drive, Foster City, CA 94404

Millbrae Yards Phase II

3000 Mission College Blvd., Santa Clara, CA 95054

Monterey Terminal

200 Fred Kane Drive, Monterey, CA 93940

Davidson & Licht

1329 N Main St, Walnut Creek, CA 94596

CCSF Diego Rivera

50 Frida Kahlo Way, San Francisco, CA, 94112

SLAC - National Accelerator Lab

2575 Sand Hill Rd, Menlo Park, CA 94025

San Quentin Rehabilitation Center

2575 Sand Hill Rd, Menlo Park, CA 94025

Stanford Atrium

500 Pasteur Dr, Palo Alto, CA 94304

YMCA - Redwood City

1455 Madison Avenue, Redwood City, CA, 94061

SSF Wellness

1024 Mission Road, South San Francisco, CA, 94080

SSF Wellness Timber Study

For this mock up, I used the Bambu Lab Carbon X1 to 3D print over 50 PLA pieces to represent our aluminum extrusions. The glulam units were supplied by JBI-Interiors and are made up of Douglas Fir, 24F V8 Glulam, w/Small Finger Joints and Dark Fir Putty. They were finished with an ILVA Klima Water-based Satin, w/Flame Stop II.

In the notches created for the vertical extrusions towards the back of our mullions, we noticed that the wood occasionally splintered upwards into the cavity. This causes an uneven surface onto which you are supposed to apply the extrusion. It is necessary to plane these notches with a small chisel to ensure a flat surface.

Some imperfections in the glulam supplied from the manufacturer. Nothing here was structurally defective, just want to highlight the deformities that are common.

Discoveries and Improvements

Notch for aluminum extrusion to allow the sill extrusion to run continuously (red).

Notch for glulam extrusions to allow the sill extrusion and sill track/chicken head to run continuously from unit to unit (green).

Notch for aluminum extrusion to allow the sill extrusion to run continuously (red).

Notch for glulam extrusions to allow the sill extrusion and sill track/chicken head to run continuously from unit to unit (green).

I discovered it would be necessary to under-size the horizontal extrusions by about 1/16". As you can see, this head piece is slightly too large, not allowing for the vertical to run completely planar against the inside notch of the glulam vert.

SFSU Canopy

2x4 End Tube Assembly T1L Left

2x4 End Tube Assembly T1R Right

2x4 Front Tube Assembly T5

2x4 Mid Tube Assembly T2

2x4 Back Tube Assembly T3

Photogrammatry

Gilead - 3D Print Samples

UCB Heathcock - Bid Proposal

Contra Costa County - Bid Proposal

SFO Cargo Logistics Planning

Gilead Logistics Planning

Stanford Atrium Logistics Planning

SSF Wellness Waterproofing

Condition 2

Condition 2 - From Start to Finish

Condition 3

Condition 3 - From Start to Finish

Condition 4

CCSF Waterproofing

CCSF Steel Pentrations

Material Deposit Form

Stanford Atrium - Pick Plan

Stanford GSE Laydown Plan

SFSU Canopy

..... Project Setup
..... Dimension Grids on Floor Plans
..... Colorize Mullions
..... Exporting Glass Data
..... Exporting Multiple Schedules

Dynamo

Project Setup

Setting up a Revit project can be rather time consuming and cumbersome. In order to streamline this process, I created a method of setting up all my projects in the click of a button.

The UI window for this tool allows the user to select a project setup excel file that I make while reviewing the architectural documents. Once the excel is selected, you click set up project and it will perform various functions to setup your project.

The excel file I have contains three seperate sheets. One for project info, another for project setup and a final one for level setup.

ProjectInfo | ProjectSetup | LevelSetup

Under ProjectInfo, you have cells to fill out pertaining to the Project's name, the clients name, architect, contractor, City, State and the Project's address. This info is automatically identified and autofilled into your Revit project.

	A	B	C	D	E	F
1	Project Name	Client Name	Architect	Contractor	City, State	Project Address
2	SF TOWER	SFUSD	BUREAU OF ARCHITECTURE	R&S	SAN FRANCISCO, CA	699 28TH AVENUE

This is an example of what my project's cover sheet looks like after running my script. The titleblocks for all sheets are also updated with the relevant information.

Now here we have the project setup sheet. Under wall types, you can create new wall types in Revit by adding whichever names are applicable. The glass types tab will go ahead and create these glass types and then assign a randomized blue to the material for glass. The unit and panel types goes ahead and loads in whichever units or panel families I need to begin modeling. The Worksets tab will then add the worksets I need for the project. Infill types and door types will also load in the relevant families I need. Lastly, panel types will create panel materials in a randomized gray for each specific panel type oin the project.

	A	B	C	D	E	F	G	H	I	J
1	Wall Types	Glass Types	Unit Types	Unit Types - Adaptive	Panel Types	Panel Types - Adaptive	Worksets	Infill Types	Door Types	Panel Types
2	CW	GL-1	1Lite-CS	1Lite-A	Panel-Flat	Panel-Flat-3 Point-A	CW	INFILL-GLASS	INFILL-DOOR-DOUBLEDOOR	MTLP-01
3	SW	GL-2	3Lite-CS	2Lite-A	Panel-Horizontal	Panel-Flat-4 Point-A	SW	INFILL-PANEL	INFILL-DOOR-SINGLE-OUTSWING	MTLP-02
4	PO	GL-3	4Lite-CS		Panel-VerticalFolds	Panel-Flat-5-Point-A	PANELS			
5	PARAPET	GL-5	2Lite-CS				CANOPY			
6							ARCH			
7							STRUCTURE			
8										
9										

For the Level Setup tab, you can input the names and the heights of your levels here. Dynamo will then create the level by name, then create floorplan views and apply the appropriate floorplan view template for each newly created level.

	A	B
1	Level Name	Elevation Height - Decimal Feet
2	LEVEL 1	0
3	LEVEL 2	20
4	LEVEL 3	32.5
5	LEVEL 4	40
6	LEVEL 5	52
7	LEVEL 6	64
8		

Dimension Grids

This tool allows me to dimension all grids in the current floorplan view. The UI window allows me to select from a dropdown list all of the dimension styles in my Revit project. Then, once you click Apply Grid Dimensions, it rolls through the grids in your floorplan, sorts them by their line direction and draws the dimension strings at the heads of each grid.

This tool has also been adapted to dimension all grids on all floorplans per type. This allows me to go ahead and place all dimensions for relevant floorplans in one click rather than using this single tool on every floorplan. Very helpful once my sheets are plotted and I'm ready to dimension all of my sheets.

Colorize Mullions

This tool helps me to check my model's mullions. Considering there could be a wide varitey of profioles and types of mullion on a project, it is important that I've placecd them all correctly. This tool assigns a random bright color to each mullion by type, hides alll infills and panels and allows me to just see the skeleton of the frames. This quickly shows me if I accidently misplaced a mullion type or if there is something irregular in my logic.

This tool works with just a click of the button to colorize all mullions. If I hit the button one more time while they are colored, it will go ahead and restore the model to its original state..

Assign Glass Bites

Os acit. Udam actam prae testord icaeces hos, Ti. Ad rei consultum si tam fortus virmantem modieni hiliae ad cum duci suludem hin tastrudetrum nimmo verei intis bonveroris; estrena, quem pultorum tem ego iamque fui scribus, qua rei popubli beffre avemusc iamperfiris reo mentiac itanum ses viterteme quemnos silicia? Demunclut contiam aut adellaribus nostis Ahaceri sediemur, conem nost ad consum tentrum adhuctorum cruriam iam pracchicat nordinin Itatuss ignari, nu con scestanu mei patus sedit L. Qui incus, C. Onterev irmissus des satam, qua tam tam, veroposta mis cleste mus, esse forum hus ilicerium nihilin tiendelius tus, quidelusce fac viu vius etorsus mo temovendacii in inculii perbi inatque in vocusta turniquodit averempl. Pio, vit, convocur quam inteatum untro, cae etortiae con de audetis temusultus int. Nim qui tem dionceridem horursulibus mo

Os acit. Udam actam prae testord icaeces hos, Ti. Ad rei consultum si tam fortus virmantem modieni hiliae ad cum duci suludem hin tastrudetrum nimmo verei intis bonveroris; estrena, quem pultorum tem ego iamque fui scribus, qua rei popubli beffre avemusc iamperfiris reo mentiac itanum ses viterteme quemnos silicia? Demunclut contiam aut adellaribus nostis Ahaceri sediemur, conem nost ad consum tentrum adhuctorum cruriam iam pracchicat nordinin Itatuss ignari, nu con scestanu mei patus sedit L. Qui incus, C. Onterev irmissus des satam, qua tam tam, veroposta mis cleste mus, esse forum hus ilicerium nihilin tiendelius tus, quidelusce fac viu vius etorsus mo temovendacii in inculii perbi inatque in vocusta turniquodit averempl. Pio, vit, convocur quam inteatum untro, cae etortiae con de audetis temusultus int. Nim qui tem dionceridem horursulibus mo

General	
Infill1BiteTop	-0' 2"
Infill1BiteBottom	-0' 2"
InfillBiteLeft	-0' 2 1/4"
InfillBiteRight	-0' 0 1/2"
ClosurePanel1OffsetTop	0' 0"
ClosurePanel1OffsetBottom	0' 0"
BackpanOffsetLeft	0' 0"
BackpanOffsetRight	0' 0"
ShadowboxOffsetLeft	0' 0"
ShadowboxOffsetRight	0' 0"

Os acit. Udam actam prae testord icaeces hos, Ti. Ad rei consultum si tam fortus virmantem modieni hiliae ad cum duci suludem hin tastrudetrum nimmo verei intis bonveroris; estrena, quem pultorum tem ego iamque fui scribus, qua rei popubli beffre avemusc iamperfiris reo mentiac itanum ses viterteme quemnos silicia? Demunclut contiam aut adellaribus nostis Ahaceri sediemur, conem nost ad consum tentrum adhuctorum cruriam iam pracchicat nordinin Itatuss ignari, nu con scestanu mei patus sedit L. Qui incus, C. Onterev irmissus des satam, qua tam tam, veroposta mis cleste mus, esse forum hus ilicerium nihilin tiendelius tus, quidelusce fac viu vius etorsus mo temovendacii in

General	
Infill1BiteTop	-0' 2"
Infill1BiteBottom	-0' 2"
Infill2BiteTop	-0' 2"
Infill2BiteBottom	0' 0 1/2"
Infill3BiteTop	-0' 2"
Infill3BiteBottom	0' 0 1/2"
Infill4BiteTop	-0' 2"
Infill4BiteBottom	0' 0 1/2"
Infill5BiteTop	-0' 2"
Infill5BiteBottom	0' 0 1/2"
Infill6BiteTop	-0' 2"
Infill6BiteBottom	0' 0 1/2"
InfillBiteLeft	-0' 0 1/2"
InfillBiteRight	-0' 0 1/2"
ClosurePanel1OffsetTop	0' 0"
ClosurePanel1OffsetBottom	0' 0"
ClosurePanel2OffsetTop	0' 0"
ClosurePanel2OffsetBottom	0' 0"
ClosurePanel3OffsetTop	0' 0"
ClosurePanel3OffsetBottom	0' 0"
BackpanOffsetLeft	0' 0"
BackpanOffsetRight	0' 0"

Sedientruntea ete clus audesuppl.

Os acit. Udam actam prae testord icaeces hos, Ti. Ad rei consultum si tam fortus virmantem modieni hiliae ad cum duci suludem hin tastrudetrum nimmo verei intis bonveroris; estrena, quem pultorum tem ego iamque fui scribus, qua rei popubli beffre avemusc iamperfiris reo mentiac itanum ses viterteme quemnos silicia? Demunclut contiam aut adellaribus nostis Ahaceri sediemur, conem nost ad consum tentrum adhuctorum cruriam iam pracchicat nordinin Itatuss ignari, nu con scestanu mei patus sedit L. Qui incus, C. Onterev irmissus des satam, qua tam tam, veroposta mis cleste mus, esse forum hus ilicerium

tem ego iamque fui scribus, qua rei erev irmissus des satam, qua tam tam, veroposta mis clesteOrum tum ommoeni hicaedo, quempon tum num se, corid inteatus estidem ia nem pris vesse, nonsus include

<01-Counts - Units>

A	B	C	D	E
System	Count	UnitWidth	UnitHeight	Area
2ND LEVEL	1	9' - 11 3/8"	9' - 19 3/4"	9.38 SF
2ND LEVEL	1	1' - 9"	9' - 19 3/4"	9.98 SF
2ND LEVEL	4	1' - 2 7/8"	9' - 19 3/4"	49.87 SF
2ND LEVEL	1	1' - 4 5/8"	9' - 19 3/4"	13.71 SF
2ND LEVEL	1	1' - 5"	9' - 19 3/4"	14.92 SF
2ND LEVEL	1	1' - 19 3/8"	9' - 19 3/4"	18.45 SF
2ND LEVEL	1	2' - 2 3/8"	9' - 19 3/4"	21.75 SF
2ND LEVEL	1	2' - 11 3/8"	9' - 19 3/4"	29.17 SF
2ND LEVEL	1	3' - 9"	9' - 19 3/4"	29.69 SF
2ND LEVEL	6	3' - 7 5/8"	9' - 19 3/4"	215.85 SF
2ND LEVEL	1	3' - 8 3/8"	9' - 19 3/4"	36.59 SF
2ND LEVEL	1	3' - 11"	9' - 19 3/4"	38.76 SF
2ND LEVEL	5	3' - 11 3/8"	9' - 19 3/4"	195.34 SF
2ND LEVEL	1	3' - 11 1/2"	9' - 19 3/4"	39.17 SF
2ND LEVEL	56	4' - 9"	9' - 19 3/4"	2216.67 SF
2ND LEVEL	7	4' - 8 3/8"	9' - 19 3/4"	279.24 SF
2ND LEVEL	1	4' - 9 7/8"	9' - 19 3/4"	49.39 SF
2ND LEVEL	1	4' - 1"	9' - 19 3/4"	40.41 SF
2ND LEVEL	4	4' - 2"	9' - 19 3/4"	164.93 SF
2ND LEVEL	1	4' - 2 5/8"	9' - 19 3/4"	41.75 SF
2ND LEVEL	1	4' - 3"	9' - 19 3/4"	42.66 SF
2ND LEVEL	1	4' - 3 1/2"	9' - 19 3/4"	42.47 SF
2ND LEVEL	6	4' - 4"	9' - 19 3/4"	257.29 SF
2ND LEVEL	1	4' - 4 3/4"	9' - 19 3/4"	43.59 SF
2ND LEVEL	1	6' - 1 7/16"	9' - 19 3/4"	69.56 SF
2ND LEVEL	1	6' - 2 3/8"	9' - 19 3/4"	61.33 SF
2ND LEVEL	4	6' - 4"	9' - 19 3/4"	256.69 SF
2ND LEVEL	111			4262.96 SF
BASEMENT	2	2' - 11 5/8"	5' - 4 3/4"	32.64 SF
BASEMENT	1	3' - 6 3/4"	5' - 4 3/4"	16.52 SF
BASEMENT	2	4' - 6 1/4"	5' - 4 3/4"	43.41 SF
BASEMENT	3	4' - 6 7/8"	5' - 4 3/4"	65.96 SF
BASEMENT	2	4' - 3 1/8"	5' - 4 3/4"	45.98 SF
BASEMENT	19			263.92 SF

Os acit. Udam actam prae testord icaeces hos, Ti. Ad rei consultum si tam fortus virmantem modieni hiliae ad cum duci suludem hin tastrudetrum nimmo verei intis bonveroris; estrena, quem pultorum tem ego iamque fui scribus, qua rei populi beffre avemusc iamperfiris reo mentiac itanum ses viterteme quemnos silicia? Demunclut contiam aut adellaribus nostis Ahaceri sediemur, conem nost ad consum tentrum adhuctorum cruriam iam pracchicat nordinin Itatuss ignari, nu con scestanu mei patus sedit L. Qui incus, C. Onterev irmissus des satam, qua tam tam, veroposta mis cleste

<Counts - Glass>

A	B	C	D	E	F	G
System	Glazing Material	Quantity	Width	Height	SqFt.	GlassSizeIssue
2ND LEVEL	GL-1	2	9	115	14	<varies>
2ND LEVEL	GL-1	4	12	115	39	No
2ND LEVEL	GL-1	2	14	115	22	No
2ND LEVEL	GL-1	1	20	115	16	No
2ND LEVEL	GL-1	1	24	115	19	No
2ND LEVEL	GL-1	2	33	115	52	No
2ND LEVEL	GL-1	6	41	115	195	No
2ND LEVEL	GL-1	2	43	115	69	No
2ND LEVEL	GL-1	1	44	115	35	No
2ND LEVEL	GL-1	6	45	115	214	No
2ND LEVEL	GL-1	8	46	115	291	No
2ND LEVEL	GL-1	56	47	115	2998	No
2ND LEVEL	GL-1	1	48	115	38	No
2ND LEVEL	GL-1	1	59	115	48	No
2ND LEVEL		93			3143	
2ND LEVEL		93			3143	
BASEMENT	GL-BASEMENT	1	32	61	14	No
BASEMENT	GL-BASEMENT	2	33	61	28	No
BASEMENT	GL-BASEMENT	2	46	61	38	No
BASEMENT	GL-BASEMENT	5	48	61	101	No
BASEMENT		10			181	
BASEMENT		10			181	

Exporting Glass Pricing Data

The UI window for this tool allows the user to select an excel file to export the glass information from Revit. Once clicked, the user is able to search through their folders and files to select the correct Glass Pricing excel template form.

For every project, there is a folder setup containing this blank glass pricing template.

Once your file is selected, you will get taken back to the original UI window in order to run the export function.

<00-Marks - Glass>

A	B	C	D	E
System	Glass Type	Count	GlazingWidth-EvenInch	GlazingHeight-EvenInch
CW	GL-1	10	28	114
CW	GL-1	4	30	114
CW	GL-1	8	32	114
CW	GL-1	12	34	114
CW	GL-1	13	36	114
CW	GL-1	16	38	114
CW	GL-1	4	40	114
CW	GL-1	1	42	12
CW	GL-1	8	42	114
CW	GL-1	24	48	114
SF	GL-1	2	20	98
SF	GL-1	1	36	128
SF	GL-1	1	40	98
SF	GL-1	8	42	34

In Revit, all of my projects have a schedule named 00-Marks-Glass. In this schedule, I have the glass infills sorted by system type, glazing material and then the subsequent information about the specific lites of glass.

This tool goes ahead and creates brand new tabs in my excel template for each unique system type paired with each glass type. The information within the Revit schedule is then processesed and outputteed into specific cells preset in the tables.

GLASS PRICING SHEET — Page 1 of 2

PROJECT: | CONTR: | DATE:
LOCATION: | TYPE OF WORK: | NUMBER of CRATES: 0
EST. Brad Goetz | GLASS WEIGHT | Total | Total | Cost /

Description	Mark	Quan	Width	Height	Sq Ft	Peri Ft	Sq Ft	Sq Ft	Extended	Code
Polished Edges										
Patterns										
Crates										
Overage										
		100		0		2521.3	3002.3		0	

GLASS LABOR SCHEDULE — Page 2 of 2

PROJECT: | LOCATION: | Total Width 7.666 inches | Total Height 22.596 inches
EST. Brad Goetz | GLASS WEIGHT 0.00

# / Lite	60#	120#	180#	240#	300#	360#	420#	480#	540#	600#
100	100	0	0	0	0	0	0	0	0	0

This specific placement allows for the correct information about each system type's glass to be displayed, analyzed and totalled at the bottom of the page.

Exporting Multiple Excel Sheets

In order to export more than one schedule at a time, I created a dynamo tool that would help export whichever schedules I select into one master excel file.

The UI display here showcases the various schedules that are in my Revit project. I can select some or all and then select the blank excel template file with my macros included. Once I click export, it will create a new tab per schedule and drop the data into the sheets accordingly.

The tab bar above showcases all of the schedules I had exported into the designated excel file.

Considering that the information exported from my schedules in Revit into Excel come into the document unformated, I had to find a way to quickly organize and reformat the information. I created a macro that goes ahead and bolds all of the subheadings, expands the cells so they fit the texts within them and centers all information. This tool is a quick easy way to get the data from looking irregular and difficult to read, to something easy for our estimator.

	A	B	C	D	E	F	G
1	System	Type	Count	MullionLengthTotal - Inches(Rounded)			
2							
3	CW	T-JAMB-LE	1	36			
4	CW	T-JAMB-LE	1	96			
5	CW	T-JAMB-LE	7	834			
6	CW	T-JAMB-LE	17	2040			
7	CW	T-JAMB-LE	2	261			
8				3267			
9	CW	T-JAMB-RI(	1	36			
10	CW	T-JAMB-RI(	1	96			
11	CW	T-JAMB-RI(	7	834			
12	CW	T-JAMB-RI(	17	2040			
13	CW	T-JAMB-RI(	2	261			
14				3267			
15	CW	T-VERT-RI(	13	1547			

Here is what the text looks like when it is first exported.

	A	B	C	D	E
1	System	Type	Count	MullionLengthTotal - Inches(Rounded)	
2					
3	CW	T-JAMB-LEFT-CAP	1	36	
4	CW	T-JAMB-LEFT-CAP	1	96	
5	CW	T-JAMB-LEFT-CAP	7	834	
6	CW	T-JAMB-LEFT-CAP	17	2040	
7	CW	T-JAMB-LEFT-CAP	2	261	
8				3267	
9	CW	T-JAMB-RIGHT-CAP	1	36	
10	CW	T-JAMB-RIGHT-CAP	1	96	
11	CW	T-JAMB-RIGHT-CAP	7	834	
12	CW	T-JAMB-RIGHT-CAP	17	2040	
13	CW	T-JAMB-RIGHT-CAP	2	261	
14				3267	
15	CW	T-VERT-RIGHT-CAP	13	1547	
16	CW	T-VERT-RIGHT-CAP	55	6600	
17	CW	T-VERT-RIGHT-CAP	1	131	
18				8277	
19	CW			14811	

This is the text after the macro has been run.

This macro will roll through every single tab in the document, performing the functions to cleanup all of the data.

	A	B	C	D	E	F
1	System	Door Type	Door Number	Count	Door Width	Door Height
2						
3	CW	INFILL-DOOR-DOUBLEDOOR		1	3' - 3 1/4"	7' - 9"
4	CW			1		
5	SF	INFILL-DOOR-DOUBLEDOOR		1	6' - 9 1/4"	7' - 9"
6	SF	INFILL-DOOR-DOUBLEDOOR		1	6' - 9 1/4"	7' - 9"
7	SF	INFILL-DOOR-DOUBLEDOOR		1	6' - 10 1/2"	7' - 9"
8	SF	INFILL-DOOR-DOUBLEDOOR		1	6' - 10 1/2"	7' - 9"
9	SF	INFILL-DOOR-DOUBLEDOOR		1	6' - 10 1/2"	7' - 11 3/8"
10	SF			5		
11						

	A	B	C	D	E	F	G	H
1	01-Counts - Mullions							
2	System	Type	Count	MullionLengthTotal - Inches(Rounded)				
3	PO	T-HEAD	151	5436				
4	PO	T-HEAD	148	7104				
5	PO	T-HEAD	5	300				
6				12840				
7	PO	T-JAMB-LEFT	228	13680				
8	PO	T-JAMB-LEFT	76	5472				
9				19152				
10	PO	T-JAMB-RIGHT	228	13680				
11	PO	T-JAMB-RIGHT	76	5472				
12				19152				
13	PO	T-SILL	151	5436				
14	PO	T-SILL	148	7104				
15	PO	T-SILL	5	300				
16				12840				
17	PO			63965				
18								
19								
20	01-Counts - SlidingGlass							
21	System	Glazing Material	Quantity	Width	Height	Sq.Ft.	GlassSizeIssue	
22	PO	GL-1	120	36	60	1800	No	
23	PO	GL-1	31	36	72	558	No	
24	PO	GL-1	104	48	60	2080	No	
25	PO	GL-1	44	48	72	1056	No	
26	PO	GL-1	4	60	60	100	No	
27	PO	GL-1	1	60	72	30	No	
28			304			5624		
29	PO		304			5624		
30								
31	01-Counts - Units							
32	System	Count	UnitWidth	UnitHeight	Area			
33	PO	120	3' - 0"	5' - 0"	1800.00 SF			
34	PO	31	3' - 0"	6' - 0"	558.00 SF			
35	PO	104	4' - 0"	5' - 0"	2080.00 SF			
36	PO	43	4' - 0"	6' - 0"	1032.00 SF			
37	PO	1	4' - 0 1/4"	6' - 0"	24.13 SF			
38	PO	4	5' - 0"	5' - 0"	100.00 SF			
39	PO	1	5' - 0"	6' - 0"	30.00 SF			
40	PO	304			5624.13 SF			
41								
42	01-SquareFootage - Overall							
43	System	Area						
44	PO	1800.00 SF						
45	PO	558.00 SF						
46	PO	2080.00 SF						
47	PO	1032.00 SF						
48	PO	24.13 SF						
49	PO	100.00 SF						
50	PO	30.00 SF						
51	PO	5624.13 SF						
52								
53								

After the tabs have been reformatted, I now wish to group the scheudles by system type. Since this is diffult to do within Revit's schedules, I decided to create another macro that would group all the schedule data pertaining to unique systems into one another. When I run this macro, it goes ahead and creates new, colorful tabs per system type. It then skims through all of the tabs, copying any data that is related to each system. For example : my SquareFootage Overall schedule will have the square footages for every system, but this tool will go ahead and grab the square footages per system and copy them into the appropriate new system tabs.

Having the data sorted this way for the estimator is ideal since now they do not need to tab through each sheet to find the relevant information for the system they're pricing. Now, they can simply jump to the system tab they're working on and use the one sheet to price out that system.