



HP Designjet Tips and Tricks

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HP Designjet Tips & Tricks

Objectives

- How to set-up an optimal digital workspace
- Understand how to optimize your HP Designjet
- Understand how media and ink choices affect your print output
- Basic understanding of HP Designjet ePrint and Share
- Basic understanding of the AutoCAD WS plot option
- Understand the features of the HP Designjet printer driver
- Understand basic printing set-up from AutoCAD, Revit and Inventor

Table of contents

- HP Designjet Printer History and Support
- Troubleshooting common issues
- Technologies that help to maximize print productivity

HP Designjet Models That Are Still In Use

Designjet Family	Launch Date	EOL Support Date	Supported
Designjet 600	1994, 1994	2000	No
Designjet 200	1994, 1995, 1996	1999, 2000	No
Designjet 700	1995, 1996	1996, 2000 (755CM)	No
Designjet 300	1995, 1996	1996, 1997	No
Designjet 400	1997	April 2010, (DJ 430 E size – C4714A) April 2011	Only one model
Designjet 3500	1998	2006	No
Designjet 3800	1999	2006	No
Designjet 2500	1997	2006	No
Designjet 1050C, 1055CM	1999	2006	No
Designjet 1050C Plus, 1055CM Plus	2001	November 2014	Yes
Designjet 5000	2001	2007	No
Designjet 5500	2002	November 2012	Yes
Designjet 500	2000	May 2011	Yes
Designjet 800	2000	November 2012	Yes

HP Designjet Models That Are Still In Use

Designjet Family	Launch Date	EOL Support Date	Supported
Designjet 4000	2004	2014	Yes
Designjet 4500, 4200 Scanner, 4500MFP	2006	2014	Yes
Designjet 90, 70	2005	2011	No
Designjet Z3100	2006	2013	Yes
Designjet T1100	2007	2014	Yes
Designjet T1120, T1120MFP	2009	2015	Yes
Designjet T610	2007	2014	Yes
Designjet 820MFP	2006	2012	No
Designjet 815MFP	2003	February 2011	No
Designjet cc800ps	2002	2008	No
Designjet T1200	2009	2016	Yes
Designjet T770HDV	2009	2016	Yes
Designjet Z6100	2010	2016	Yes

Troubleshooting Common Problems

- Print color does not match my screen color
 - Workspace set-up
 - Monitor calibration
 - Printer tools & calibration
 - Media and Ink Choices
 - My new printer does not match my old printer

Color of Print Does Not Match My Screen

Questions to ask yourself:

- What is my workspace lighting?
- Is my monitor calibrated?
- Is my printer calibrated?
- Are you using HP Inks?
- Do you have the correct media profile chosen?
- Are you using the correct printer driver?

Color of Print Does Not Match My Screen

Work environment

- Ambient lighting (Turn down the lights)
- Display brightness (5000-5500K)
- Room colors (Dark is better)
- Workstation (HDMI connection is better)
- Graphics Card
- Calibration (Calibrate every two weeks)
- Use a display that is up to the job! (You are an artist, use artists tools)



Color of Print Does Not Match My Screen

Monitor Calibration

- Monitor often is the only visual reference of an image before it is printed
- All data in the digital creative workflow needs to be displayed on the monitor
- The challenge is to make sure that all the data throughout the workflow, from input to final output, is the same or as closest to the image on the Monitor.
- The difference in color reproduction between various monitors is one of today's largest problems.



ColorMunki Display

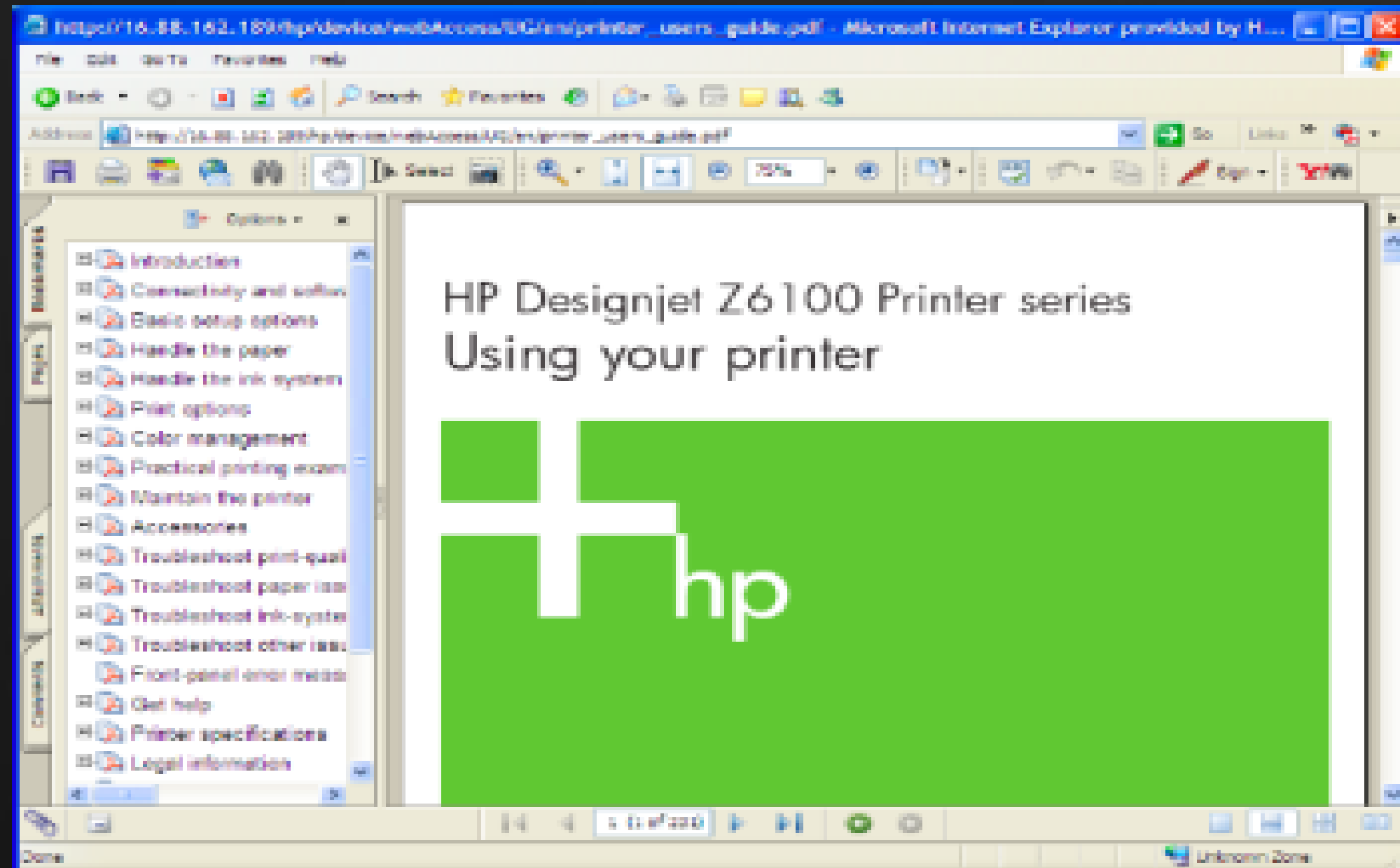


i1Display Pro

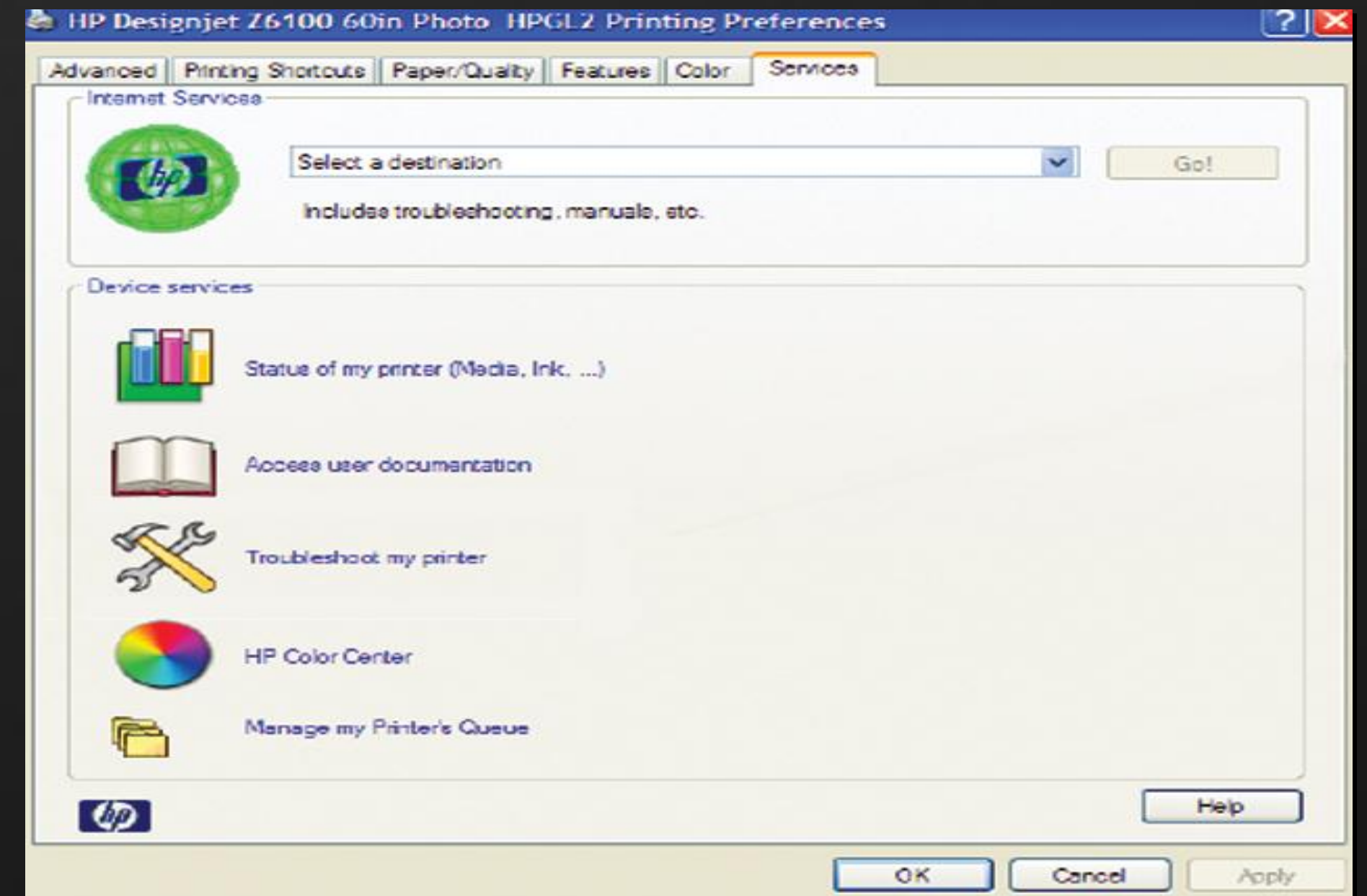
MSRP:	\$189	\$269
Target Markets:	Photo & Design	Pro-photo, Design, Prepress, & Publishing
User Proficiency Level:	Serious enthusiast to professional	Professional
UI Focus:	Simplicity but professional quality	Color precision with high level of speed, options and controls
Key Features:	• Accuracy on new displays technologies • Better display to print matching • Projector profiling • Ease of use	• Highest accuracy on new displays technologies • Better display to print matching • Projector profiling • Advanced options & workflows • Pantone optimization • Quality Analysis

Color of Print Does Not Match My Screen

Printer tools and calibration



Read your user documentation



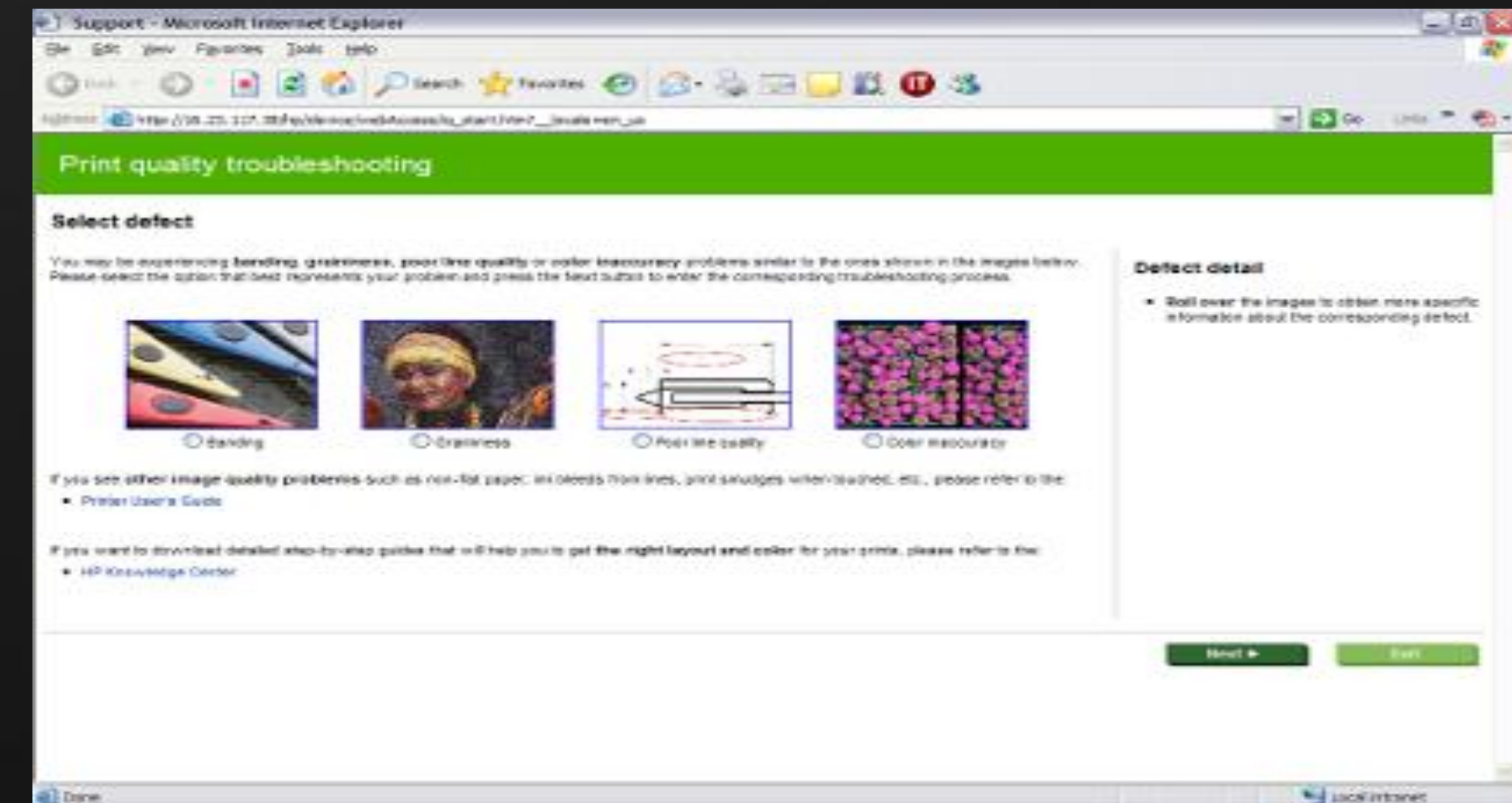
Let your printer help you

Color of Print Does Not Match My Screen

Printer tools and calibration

- Print quality defects can be caused by the following reasons:
 - Print heads in bad shape
 - Misaligned print heads
 - Incorrect paper advance (select printers only)
- Corrective actions are available for each of these reasons:
 - Cleaning print heads
 - Aligning print heads
 - Calibrating paper advance

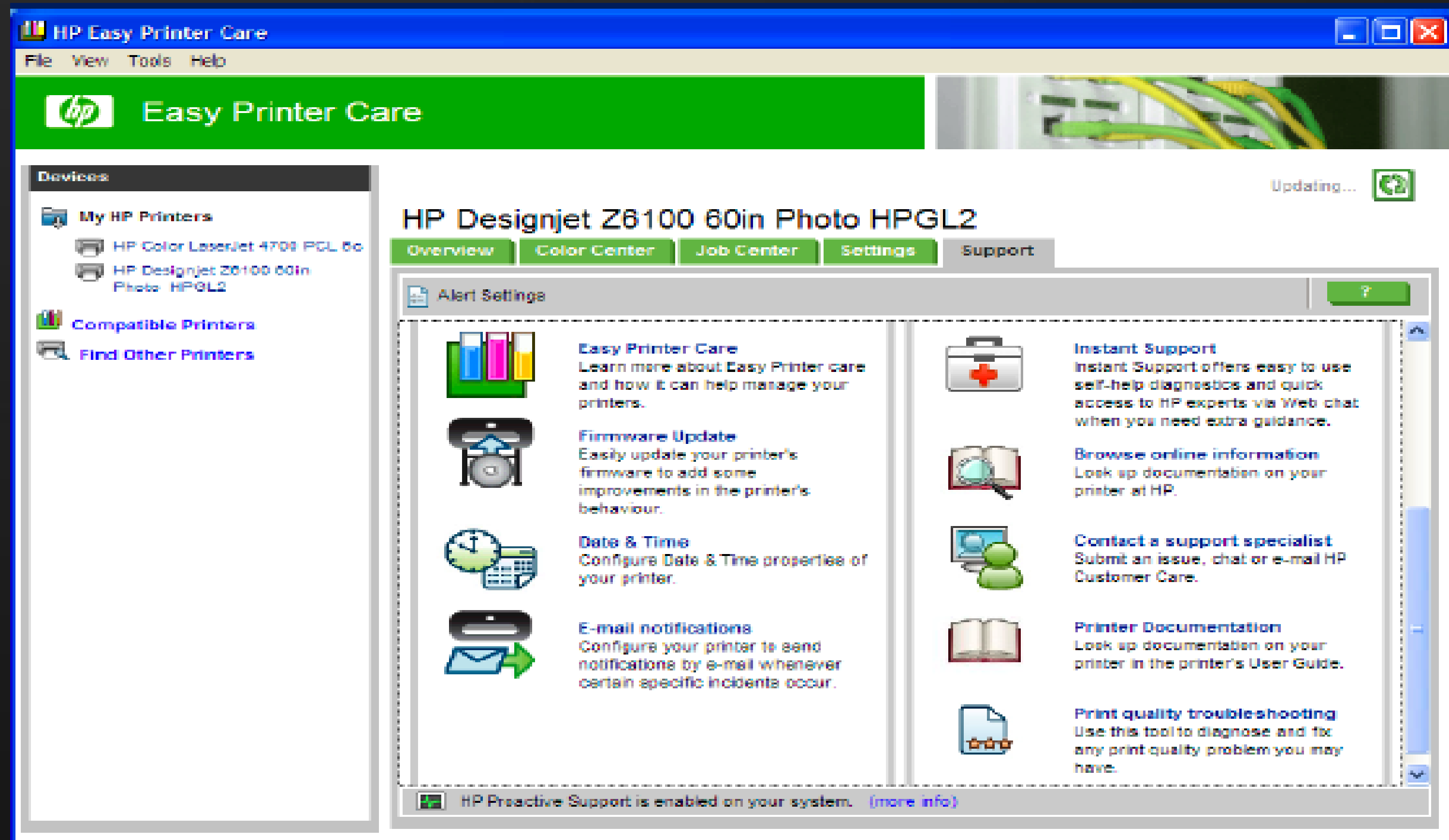
In order to simplify the task, Designjets T and Z series include a Print Quality troubleshooting wizard



Color of Print Does Not Match My Screen

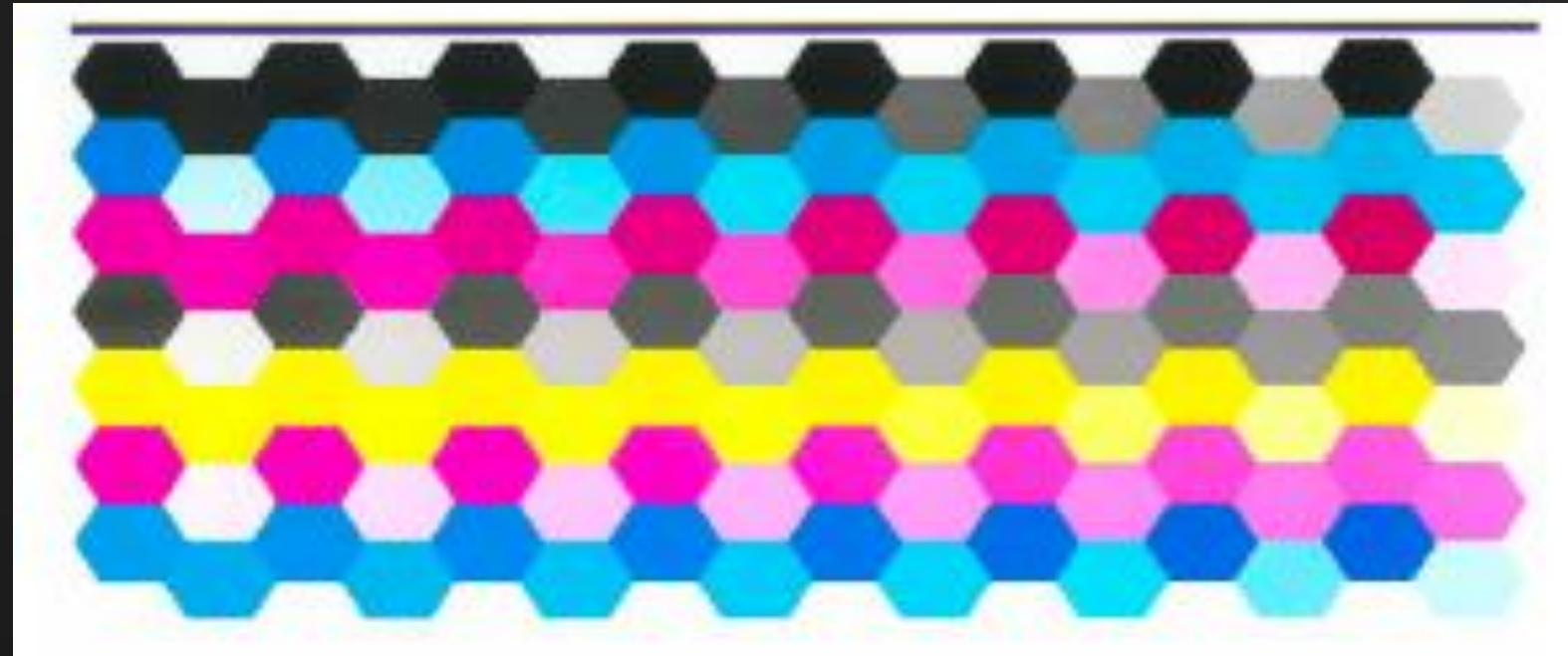
Printer tools and calibration

HP Utility
Download from
www.hp.com –
Support and Drivers

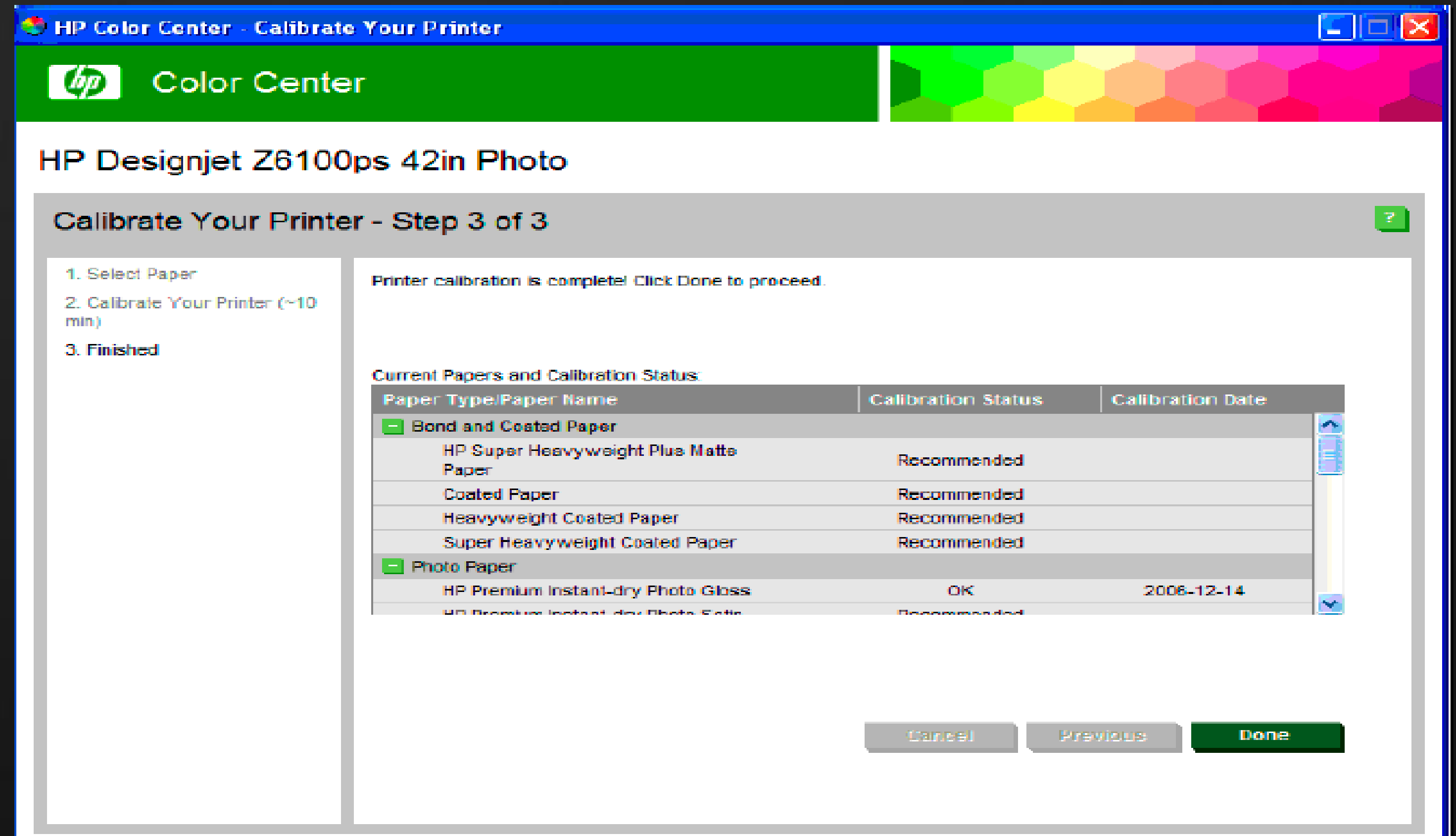


Color of Print Does Not Match My Screen

Printer tools and calibration



- Clean print heads
- Align print heads
- Calibrate color



Color of Print Does Not Match My Screen

Media and Ink



HP Media

HP media is designed to optimize output from HP Designjet printers

If your HP Designjet printer utilizes
Dye Ink (111r, 130, T series, 4xxx, 1xxx) use
swellable media.



- Not waterfast
- *Long* dry-time
- Not compatible with pigment inks

Swellable

Examples of Swellable Media
HP Premium Plus Satin Photo Paper
HP Premium Plus Gloss Photo Paper
HP Universal Semi-gloss Photo-Paper
HP Universal High-gloss Photo Paper



PROBLEM SOLVING

If you print on **porous** media using a Dye based ink system, the image will fade very fast.

If you print on **swellable** media using a Pigment base ink system, the ink may never dry.

If your HP Designjet printer utilizes
Pigment Ink (Z2100, Z3100, Z5200, Z6100, Z6200)
use **porous** media.



- Water-fast
- *Instant* dry-time
- Dyes and pigments compatible

Porous

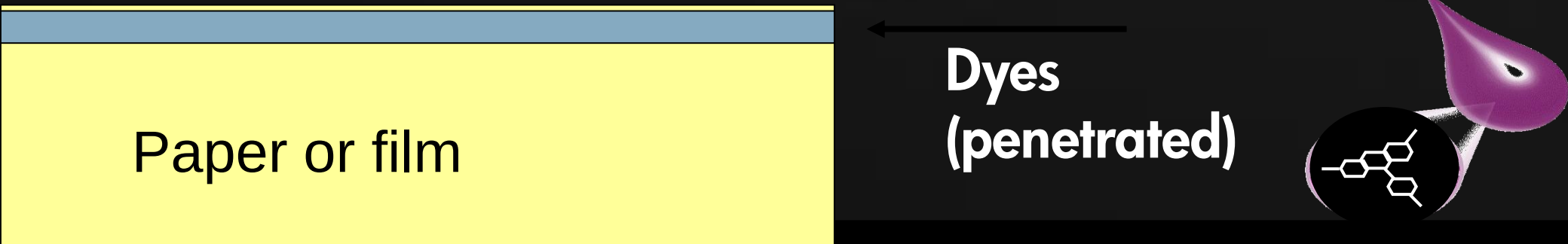
Examples of Micro-Porous Media
HP Everyday Pigment Ink Gloss Photo Paper
HP Everyday Pigment Ink Satin Photo Paper
HP Universal Instant-dry Semi-gloss Photo Paper
HP Universal Instant-dry Gloss Photo Paper
HP Premium Instant-dry Satin Photo Paper
HP Premium Instant-dry Gloss Photo Paper
HP Professional Satin Photo Paper

HP Designjet Ink

Designjet Model	INK TYPE			
	Dye Based Color Ink (CYM)	Pigment Based Black	Pigment	Latex
Designjet 110plus/510	Yes	Yes		
Designjet T620, T770, T1100, T1120, T1200, T790, T1300, T2300	Yes	Yes		
HP Designjet Z2100, Z3100, Z3200			Yes	
HP Designjet Z5200, Z6100, Z6200			Yes	
HP Designjet L25500, L26500, L28500				Yes
HP Designjet 4000, 4500, 4020, 4520	Yes	Yes		
HP Designjet 130	Yes	Yes		

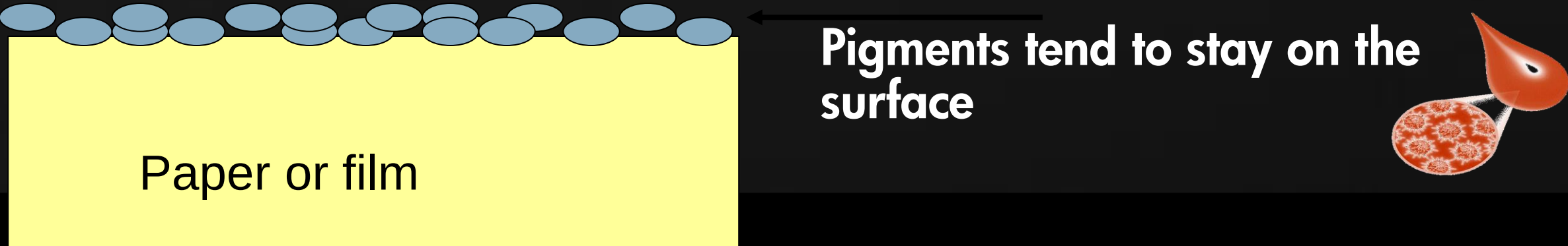
Dye Ink

- Ultra small & water soluble— give brighter, vibrant colors
- Ultra small size – penetrates paper, therefore high-gloss possible
- Highly-exposed individual molecules – rely on paper for protection
- (if any) from light and air



Pigment Ink

- Non water soluble solid particles can potentially have very good light-fastness
- Forming smooth high-gloss film difficult
- Long-term pen reliability more difficult plain paper colors are dull, not vibrant



Getting the right colors

My colors do not match my previous Designjets

- Newer Designjet printers have better inks and color management systems than older models, providing a better match to the screen.
- This means that, by default, their colors will be different from previous models.
- In order to provide backwards compatibility, emulation modes are included:
 - Designjet 4000/4500 emulates Designjet 1050/1055
 - Designjet Z6200, Z6100 emulates Designjet 5500 and Designjet 1050
 - Designjet T2300, T1300, T1200, T1100, T790 emulate Designjet 1050 and Designjets 500/800



Saving paper and ink

- Remove top/bottom blank areas
- Auto-rotate
- Nesting
- Saving ink

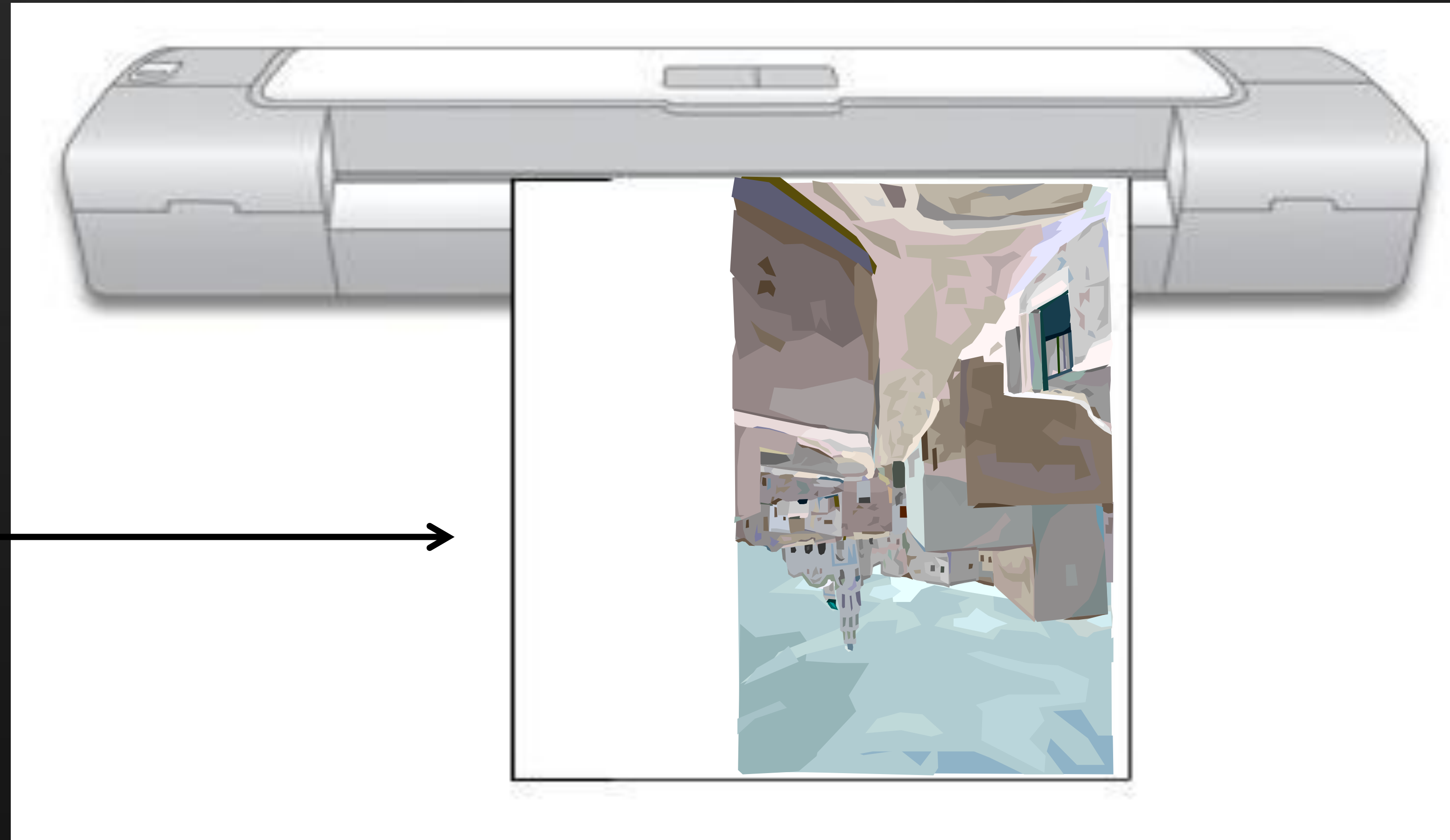
Saving paper

Remove top/bottom blank areas

Image on
Workstation
screen



**REMOVE TOP/BOTTOM
BLANK AREAS**

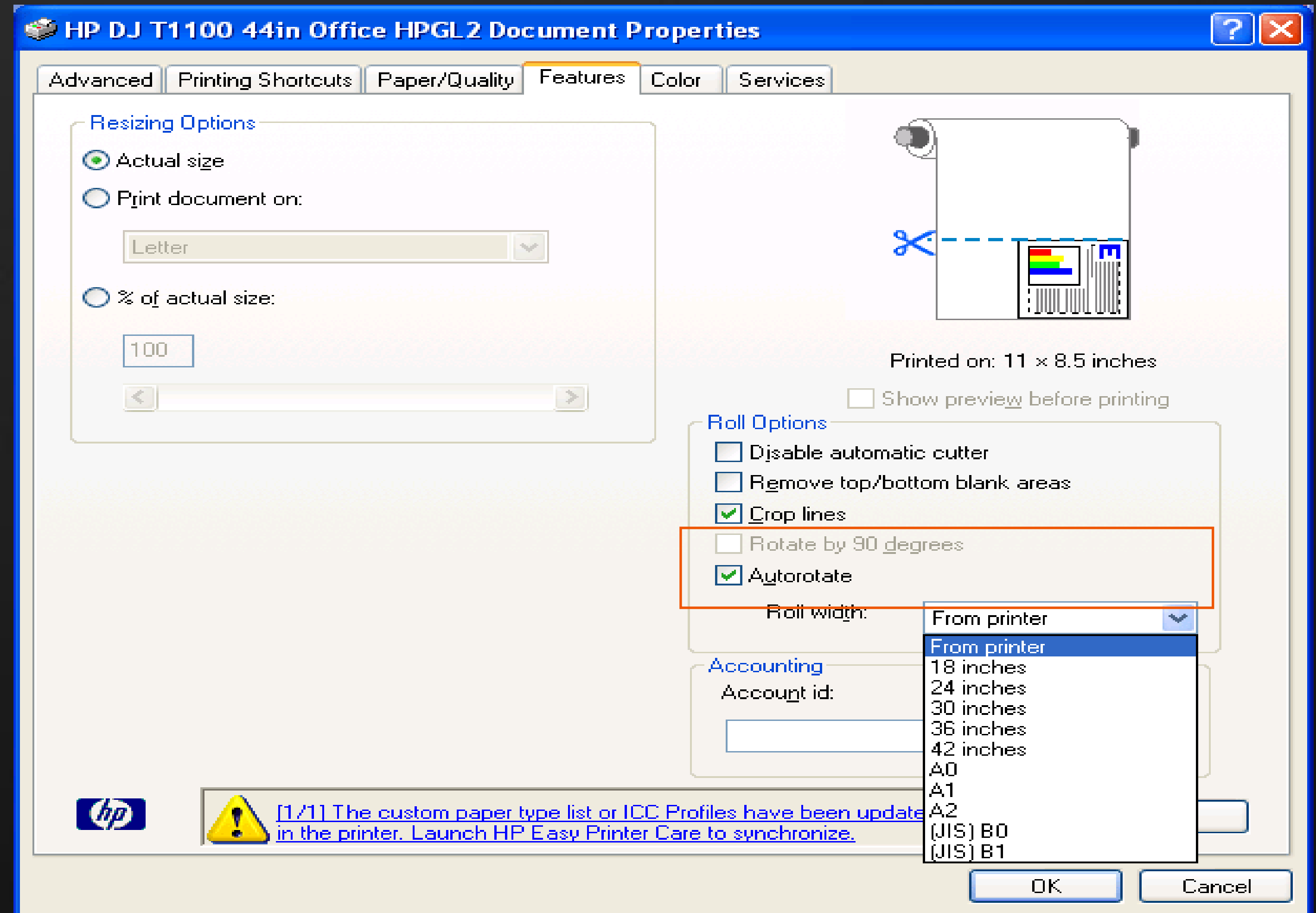


Saving paper

Auto-rotate

It rotates the drawing only if:

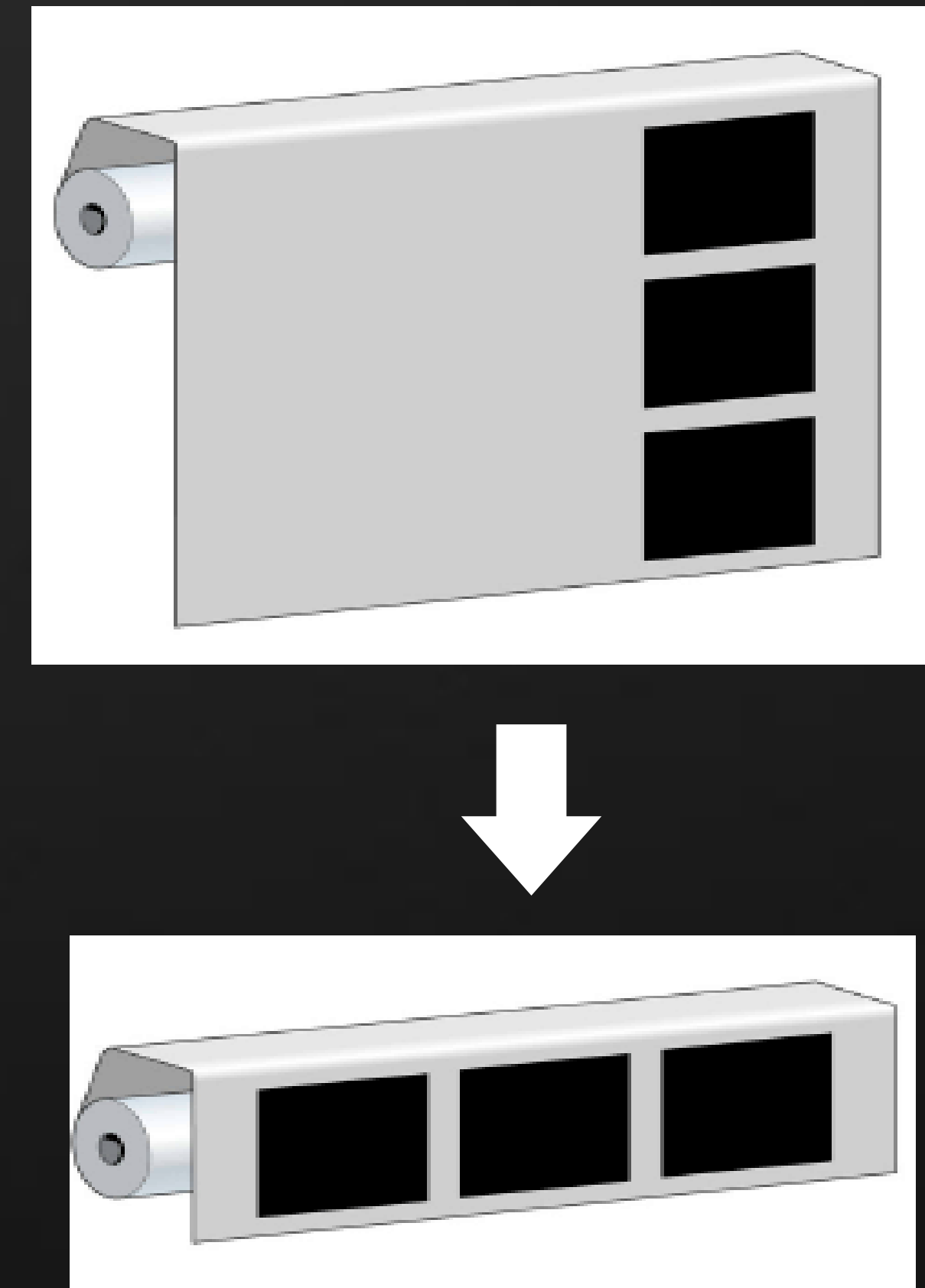
- It fits on the loaded roll with no clipping
- It saves paper



Saving paper

Nesting

- Nesting
 - Placing pages side by side on the paper, rather than one after the other
 - Avoids wasting paper
 - Can be accessed through
 - Front panel
 - The EWS
- Designjet T2300PS, T1300PS and Z6200PS adds two new nesting features
 - Nesting in optimized order
 - Crop lines when nesting



Saving Ink

- Make sure you have selected the correct media profile
- Print in normal mode for final versions
- Economodes – Switch on economode in printer driver
- Newer print models – use minimal ink usage during service routines

Troubleshooting Common Problems

- Clipping
- Out of memory

Clipping

- Clipping
- Inco
- Inco
- Inco
- Inco

To troubleshoot
Check the
where
the page
printable

Printer/plotter

Name: HP Designjet T1100ps 44in HPGL2

Plotter: HP Designjet T1100ps 44in HPGL2 - Optimized driver - b...

Where: IP_16.23.117.38

Description:

☐ Plot to file

Paper size

Oversize: C (portrait)

Number of copies

1

Plot area

What to plot:

Window

Plot offset (origin set to printable area)

X: 0.000000 inch ☐ Center the plot

Y: 0.000000 inch

Plot scale

☐ Fit to paper

Scale: Custom

1 inches

20.04 units

☐ Scale lineweights

Shaded viewport options

Shade plot

Quality

DPI

Plot options

☐ Plot in background

☒ Plot with plot style

☒ Plot paperspace

☐ Hide paperspace

☐ Plot stamp on

☐ Save changes

Drawing orientation

☐ Portrait

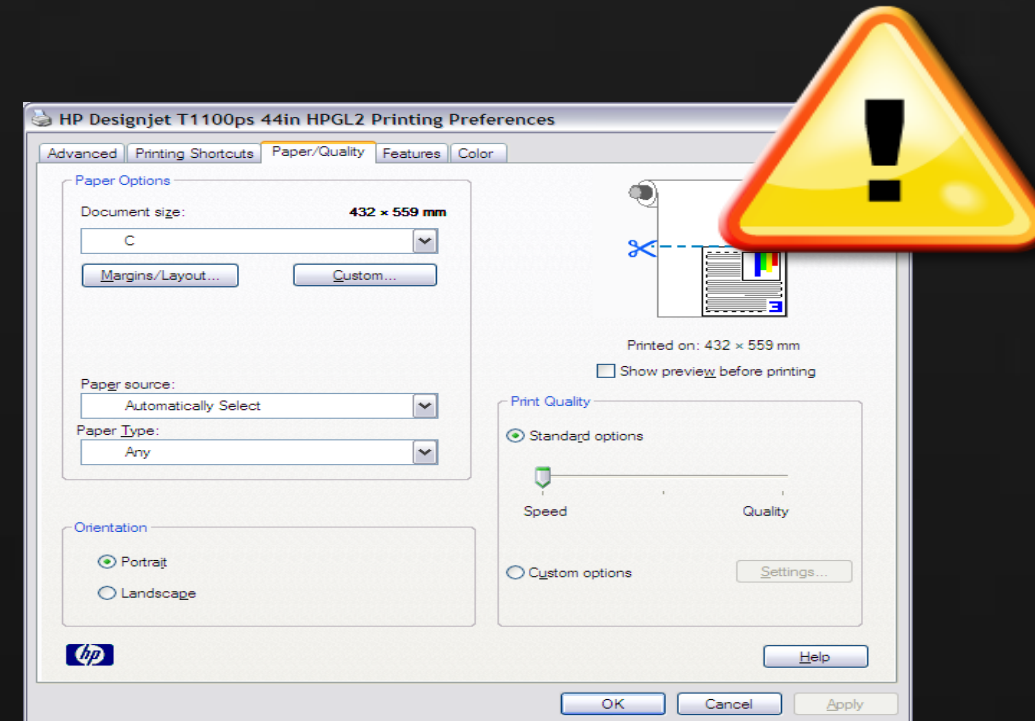
☒ Landscape

☐ Plot upside down

Paper size: 17.00 x 22.00 inches
Printable area: 17.00 x 22.00 inches

Out of memory

- Out of memory problems can happen in different stages of the printing workflow
- The symptoms can be:
 - A explicit message in the computer or the printer
 - Slow performance of the computer or the printer
 - Missing content from the output



Resolving Out of Memory problems

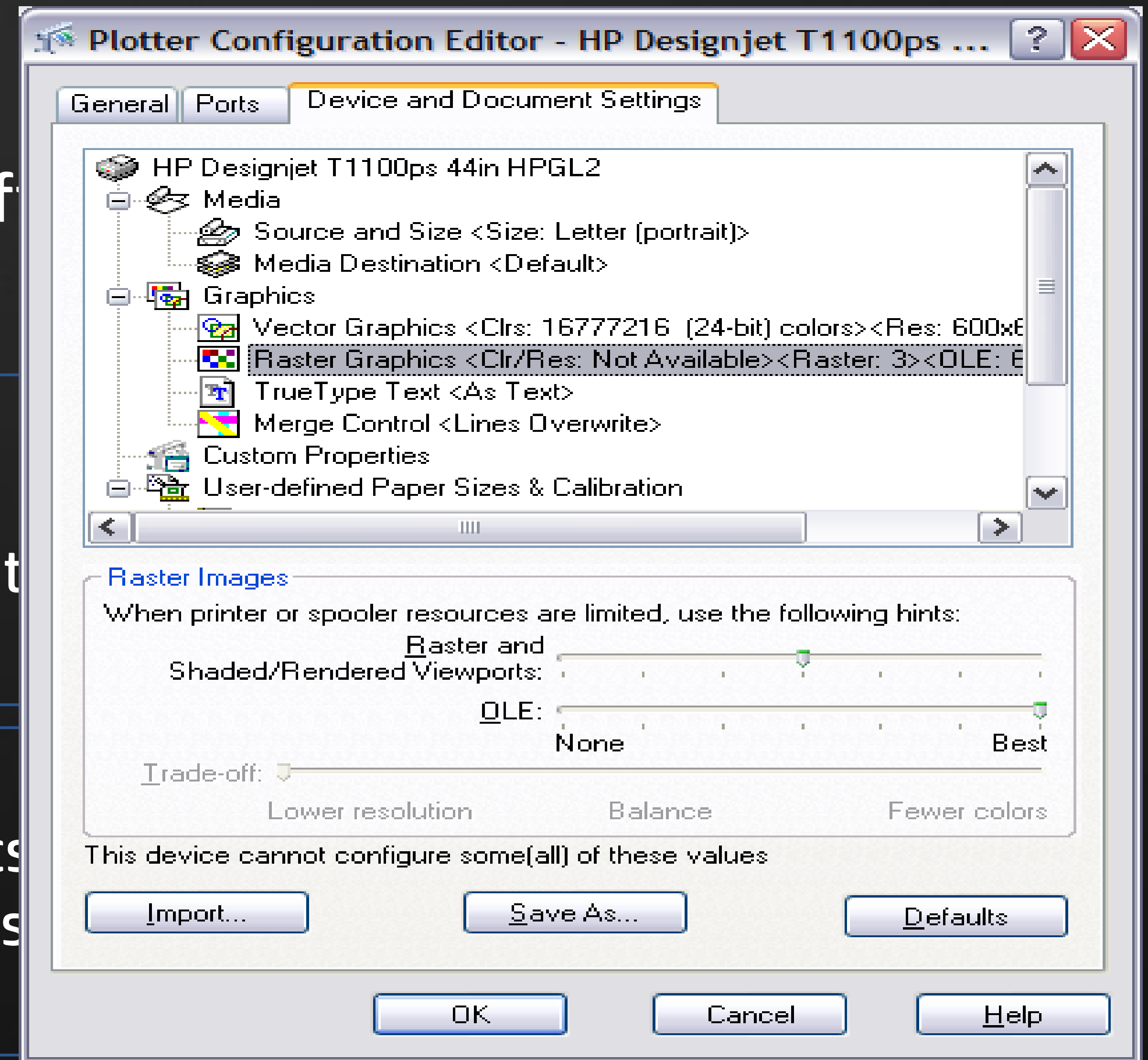
The following settings help solving different issues:

In the driver:

- Advanced tab → Send job as bitmap
- Advanced tab → Max. Application resolution 300dpi

In the application:

- Properties → Graphics → Raster graphics
- Lower the resolution of OLE objects and send viewports



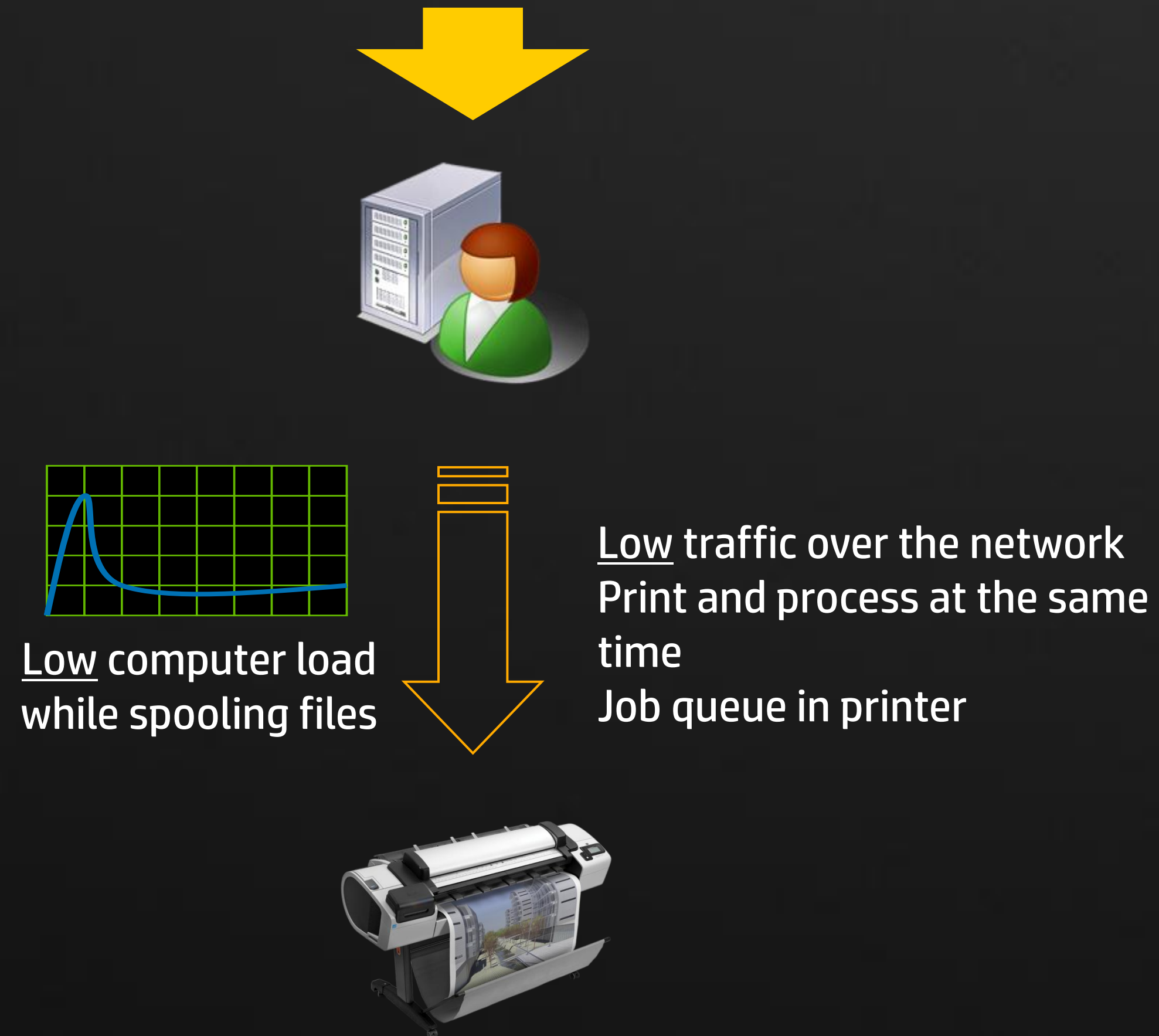
Technologies that help to maximize productivity

- Job management technologies
- Cost tracking
- HP Designjet ePrint and Share
- Printing from AutoCAD WS

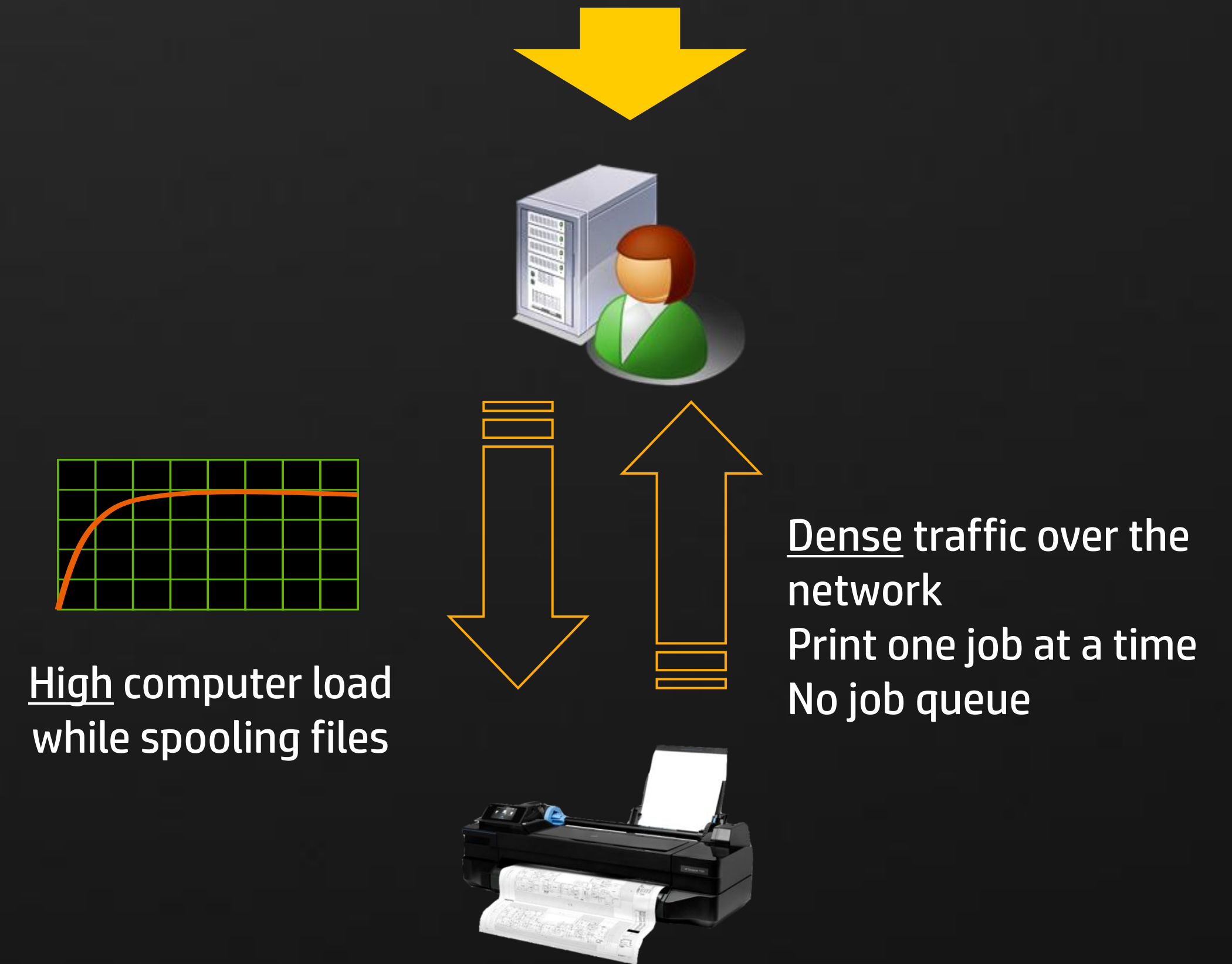
Processing Print Job Options

In-printer versus PC

In-printer processing architecture



Raster/in-computer processing architecture



Processing Print Job Options

In-printer versus PC

Free up your
workstation



Send and print
jobs reliably over
the network



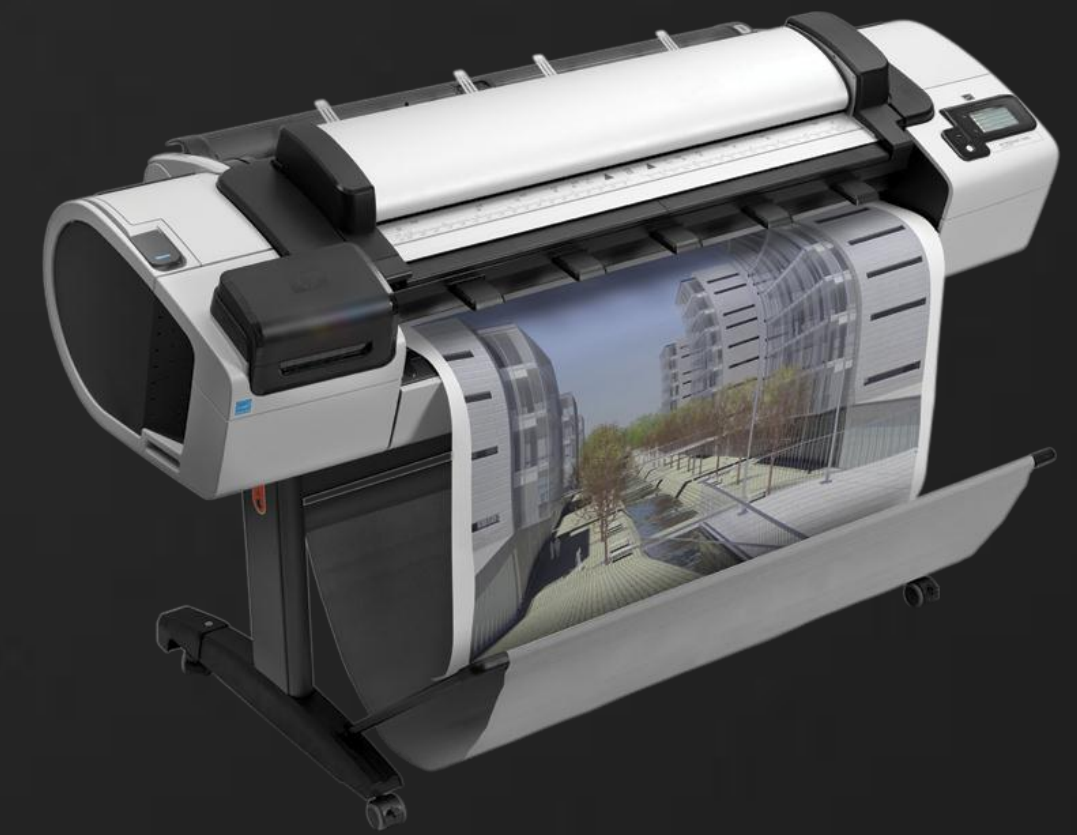
Job management

A job queue allows to:

- Manage job priorities
- Manage the printer from the desktop
- Free user's computers from the task of queuing jobs
- Parallel processing and printing

But how can you handle situations where:

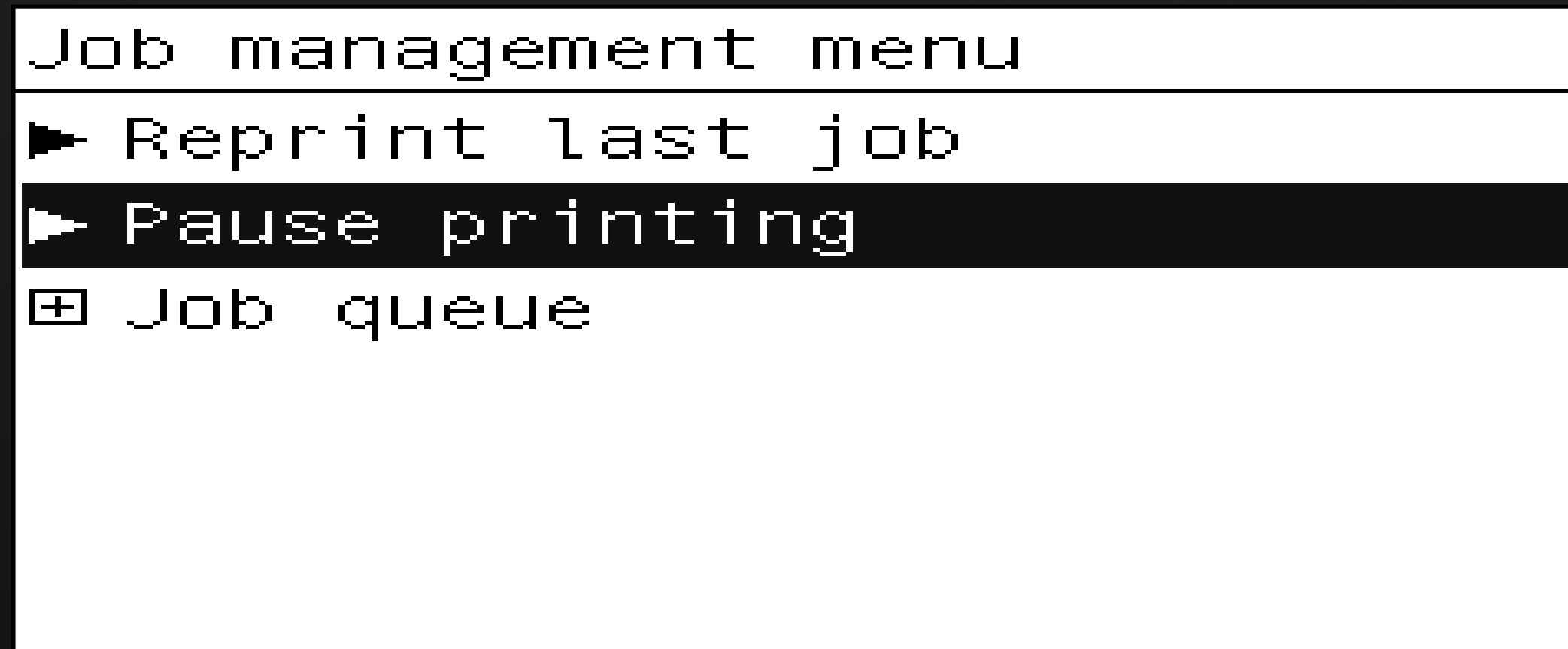
- Different papers are needed for different jobs in the queue
- The queue is full but an intervention on the printer is needed?



Job management

Pausing the queue

- Pauses the queue of jobs
- Enables user to replace consumables, load media, or perform other activities to prepare the printer for unattended printing
- To continue printing, use the “Release” option that appears in the same menu

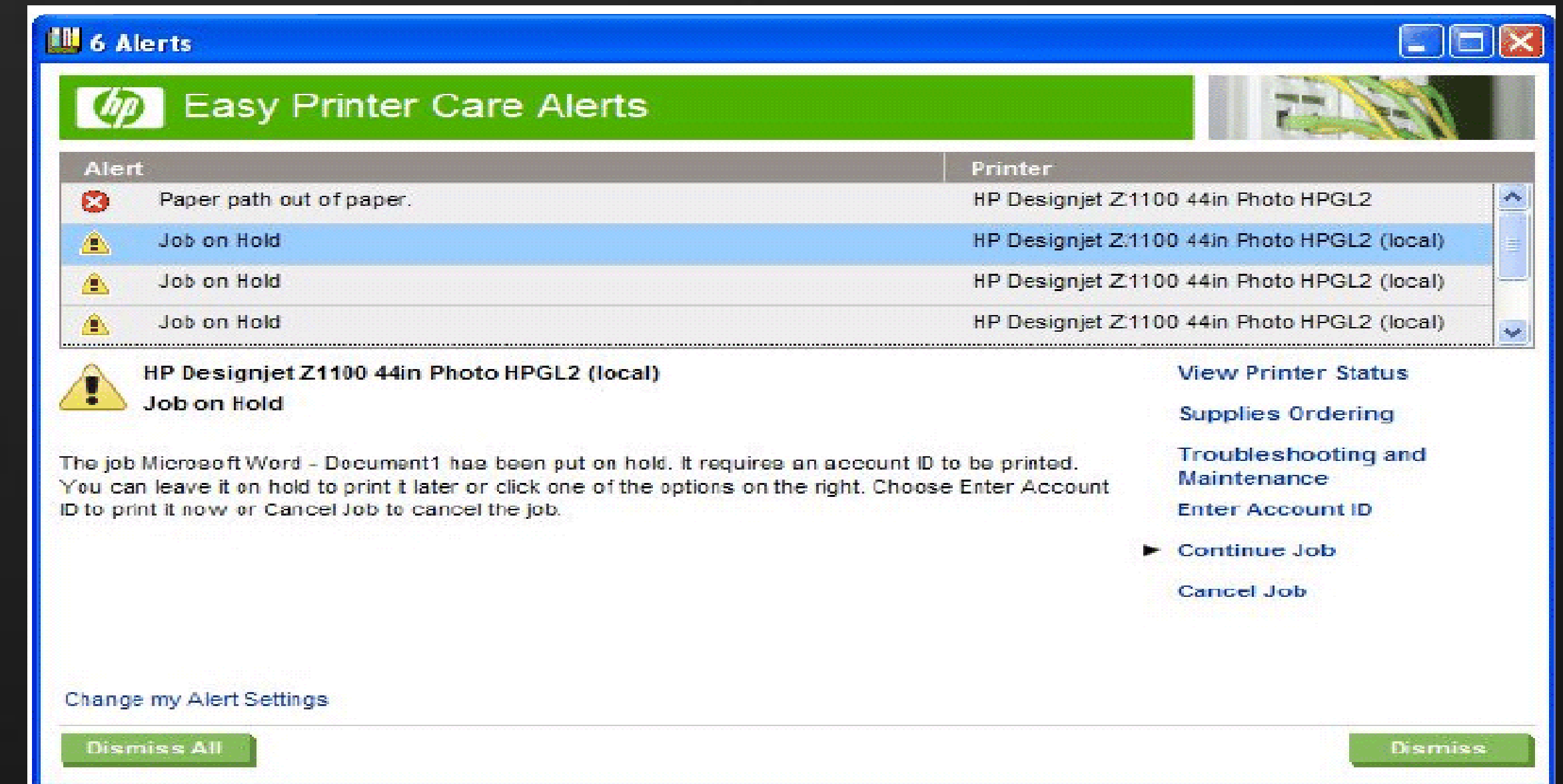


Menu -> Job management

Job management

Job alerts for Designjet T790, T1300, T2300eMFP, T7100

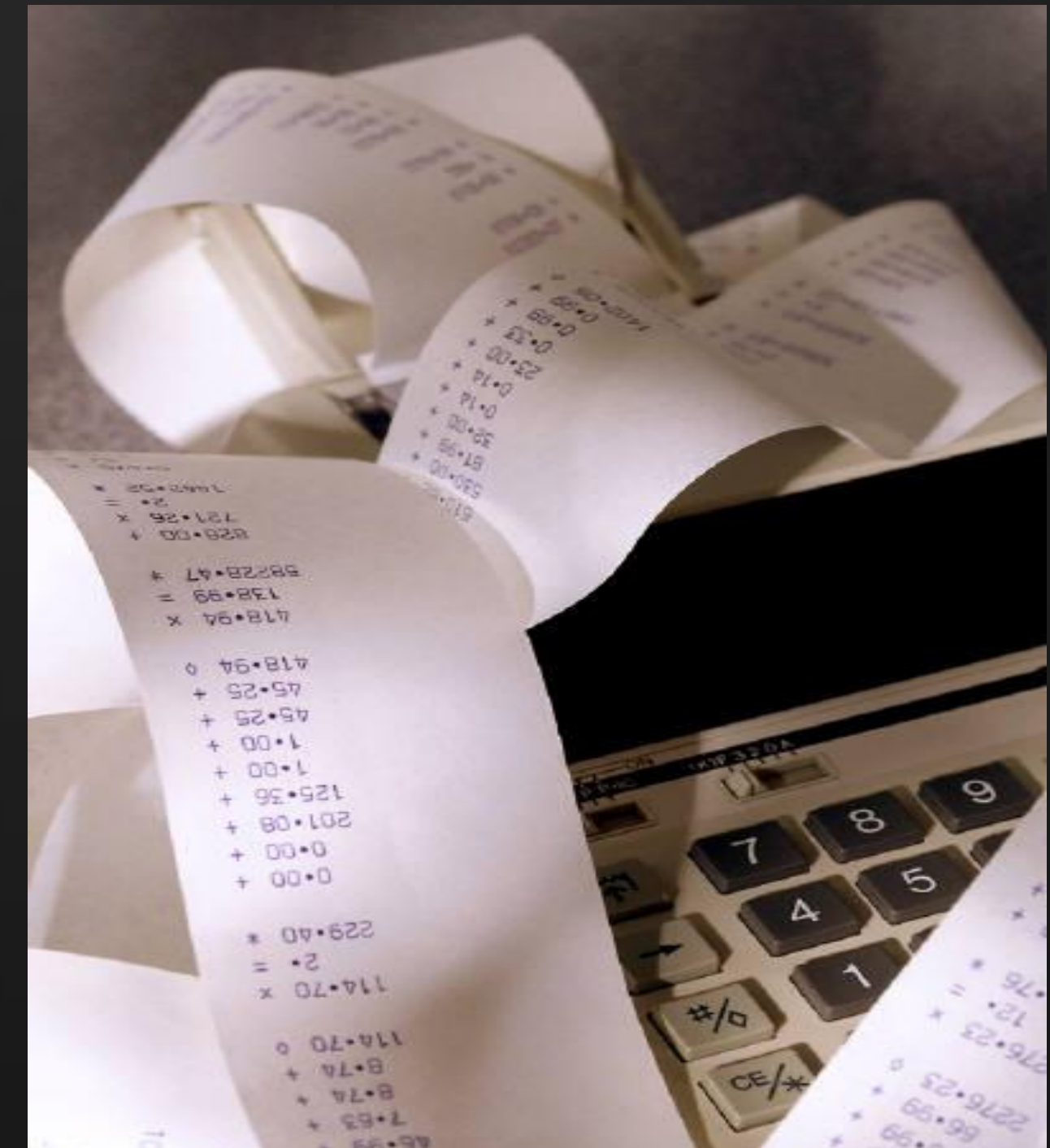
- If configured to do so, the printer will hold jobs if the paper requirements can't be met for:
 - Paper type
 - Paper size (clipping)
 - Paper source (sheet vs. roll)
- An alert will be issued
- Held jobs won't be printed until:
 - The user continues them proactively through the Front Panel, the Embedded Web Server, or the Printer Utility
 - The required paper is loaded



Cost tracking

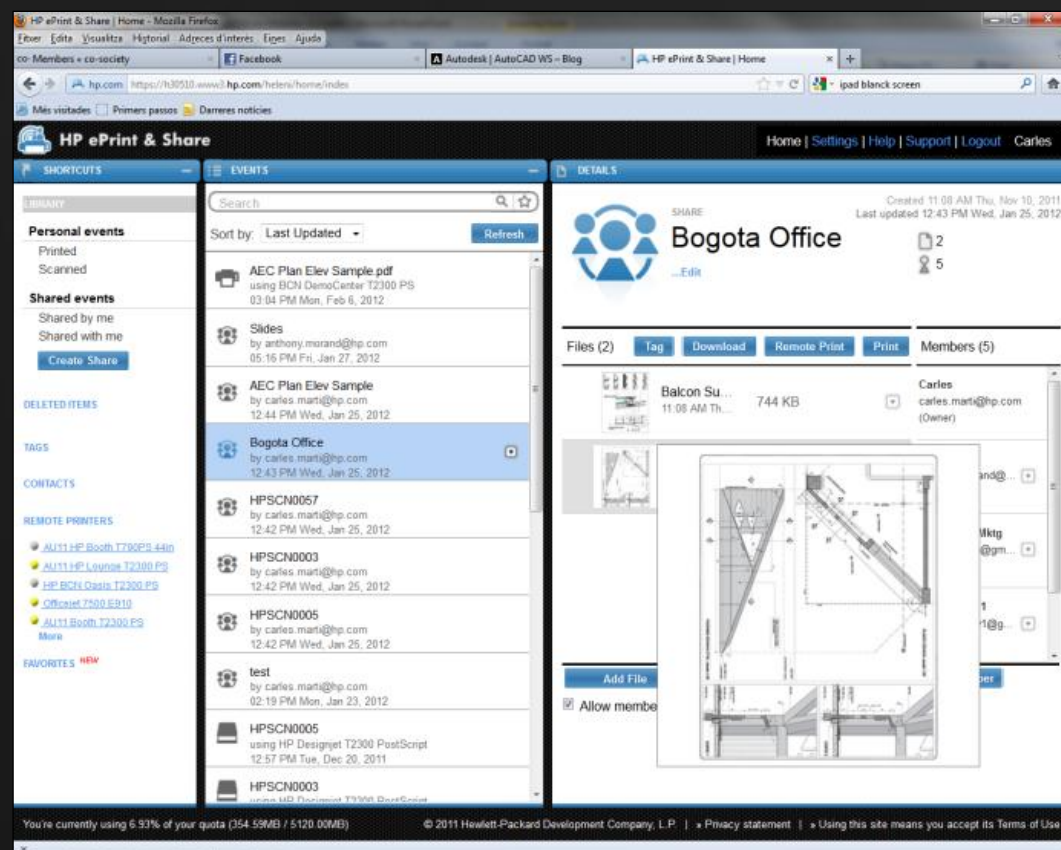
www.hp.com/go/designjet/accounting

- Workgroup Designjet printers allow users to track and report precise consumption and cost data per:
 - Job
 - User
 - User group
 - Type of plot (ink coverage)

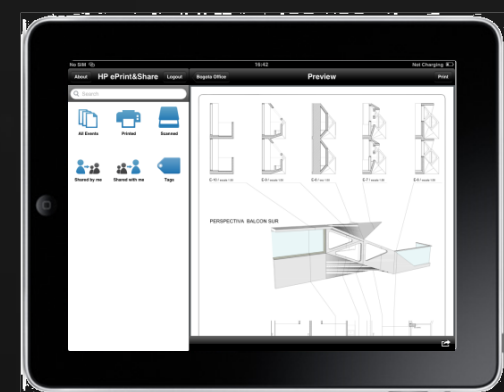


What is HP Designjet ePrint & Share?

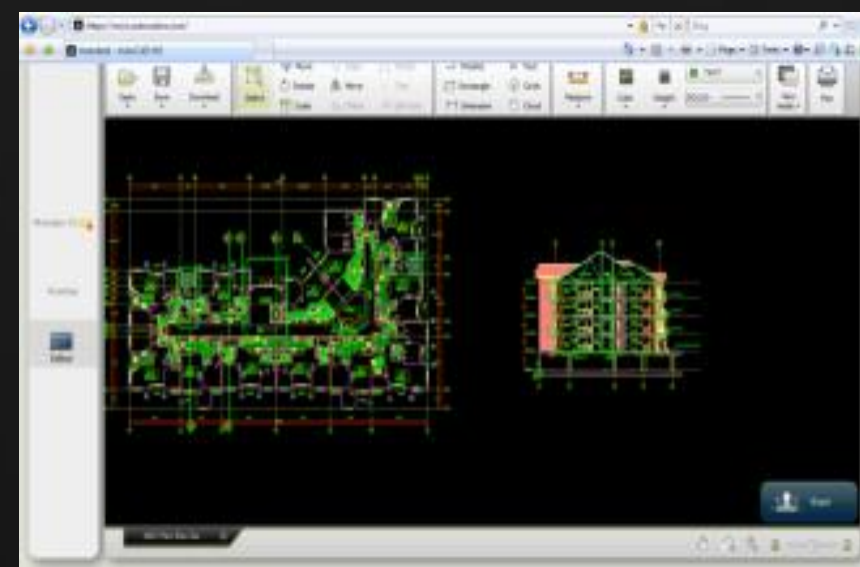
Experience cloud printing from virtually anywhere—a conference room, the job site, or even home—using HP Designjet ePrint & Share. This free web service makes it easy to access and print large-format documents, using your tablet, smartphone, laptop, or printer touchscreen.



Desktop / Web browser access



Mobile apps
iOS and Android



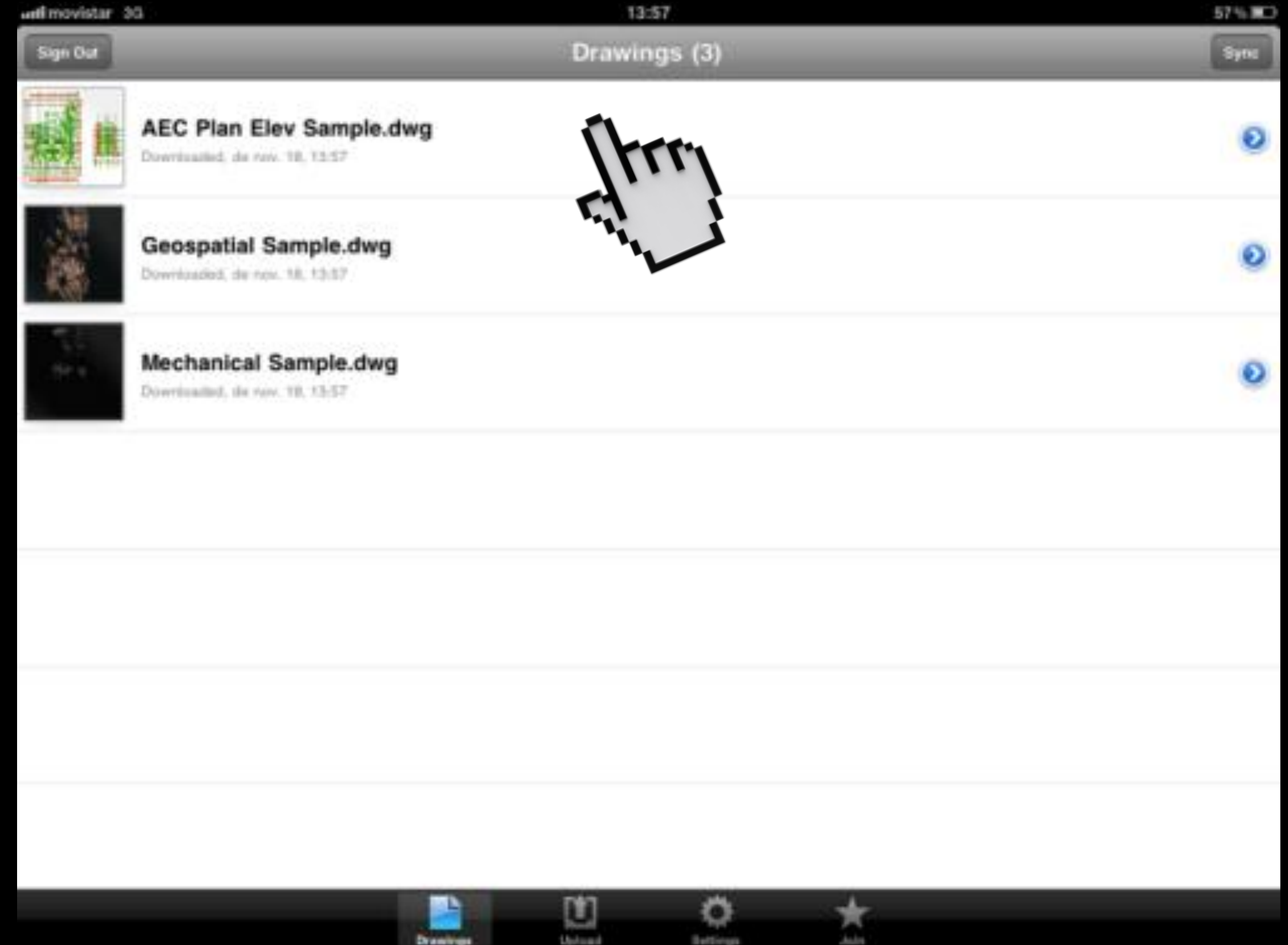
Print to Plot from AutoCAD WS



Web connected MFP
with touch panel

Print and scan directly to and from the cloud through HP Designjet ePrinter touch screen interface.

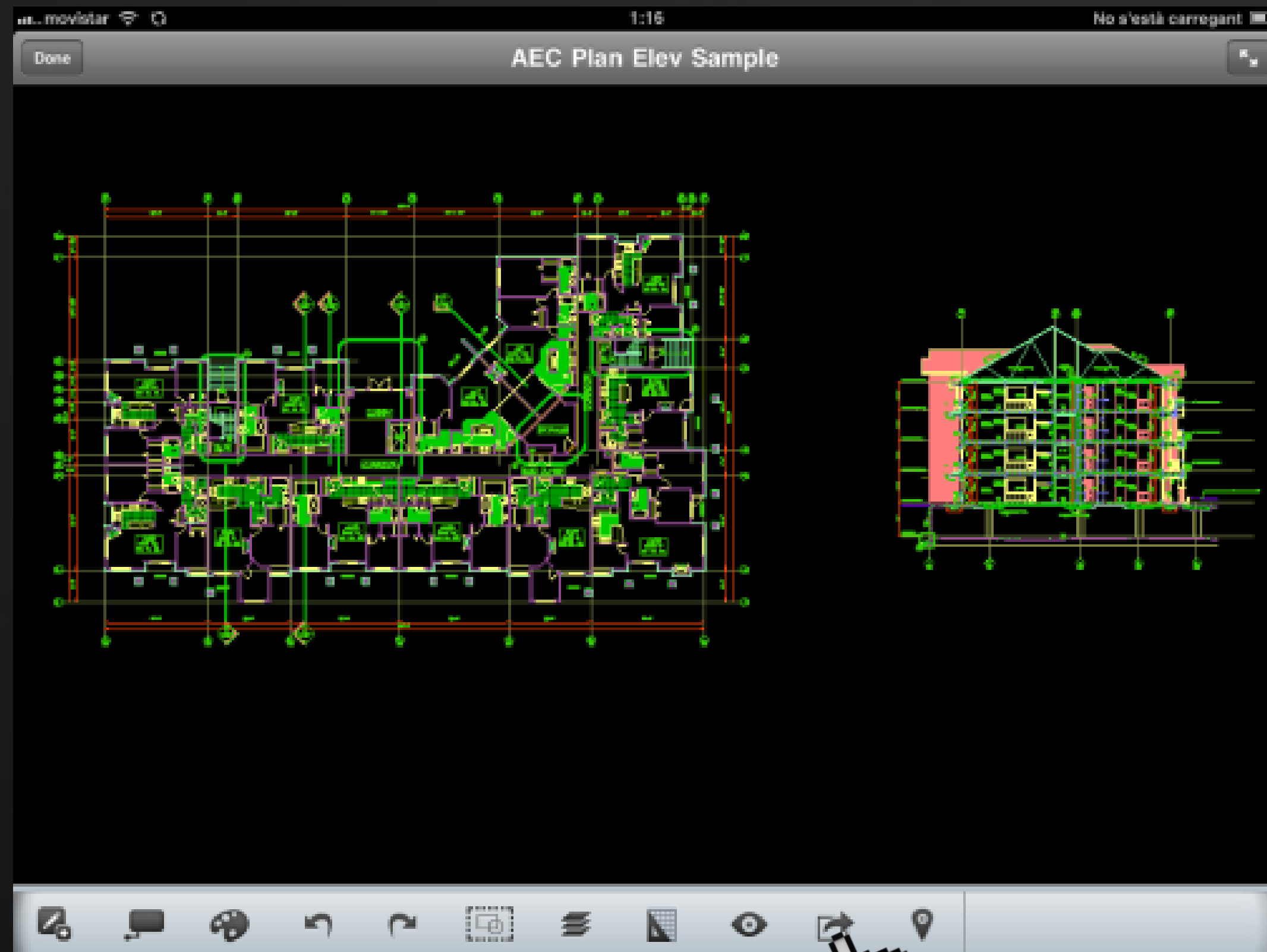
AutoCAD WS



- You can plot your files to any HP ePrinter and HP Designjet ePrinter
- Must have HP Designjet ePrint and Share account (free)
- Manage your printers from HP Designjet ePrint and Share

AutoCAD WS: iPad App Workflow

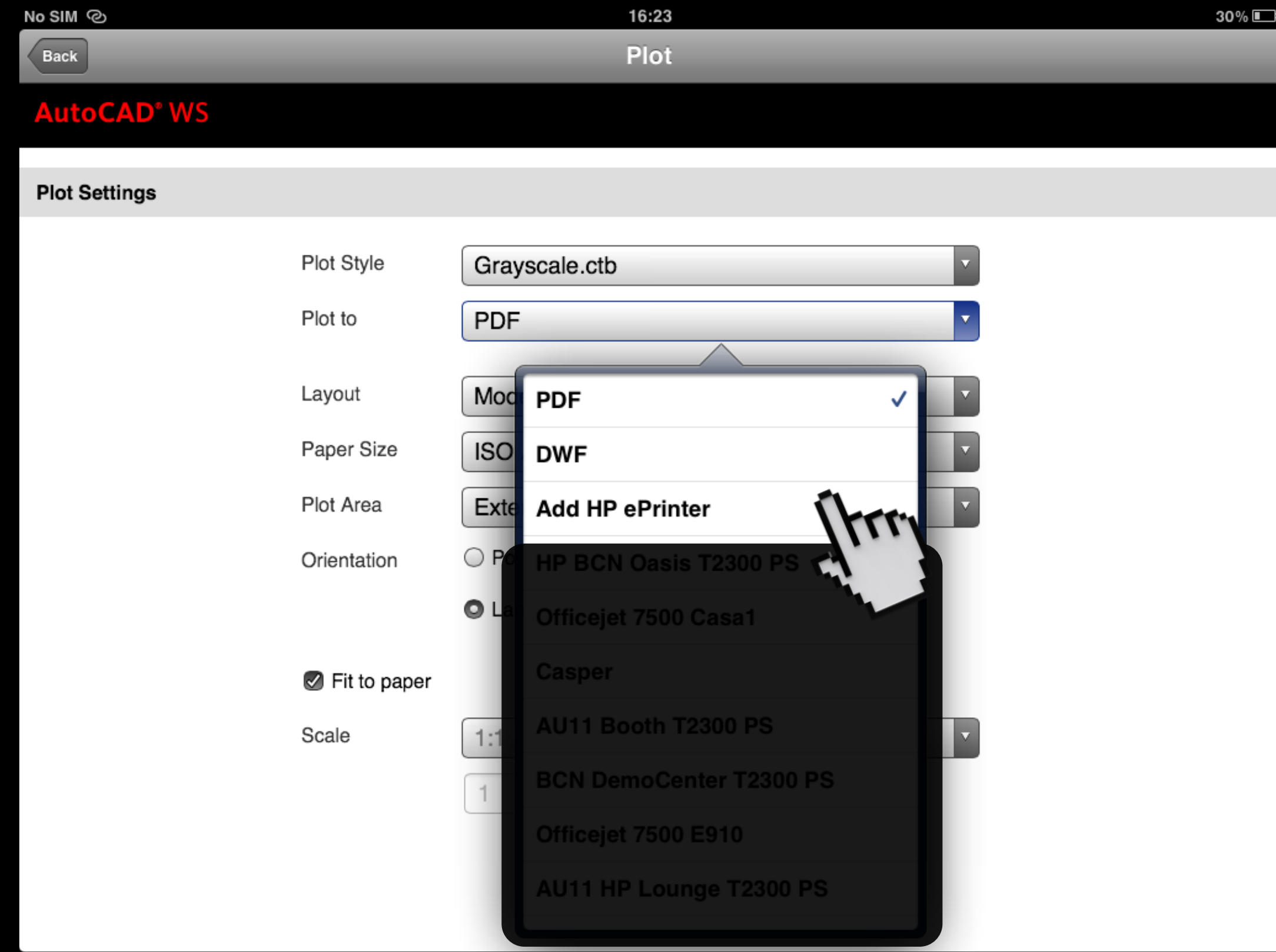
Select “Share with” icon and “Plot”



- To access plot options tap in Output arrow icon.
- Two options available: Share by email, or Plot.

AutoCAD WS: iPad App Workflow

eP&S Remote Printers will show up



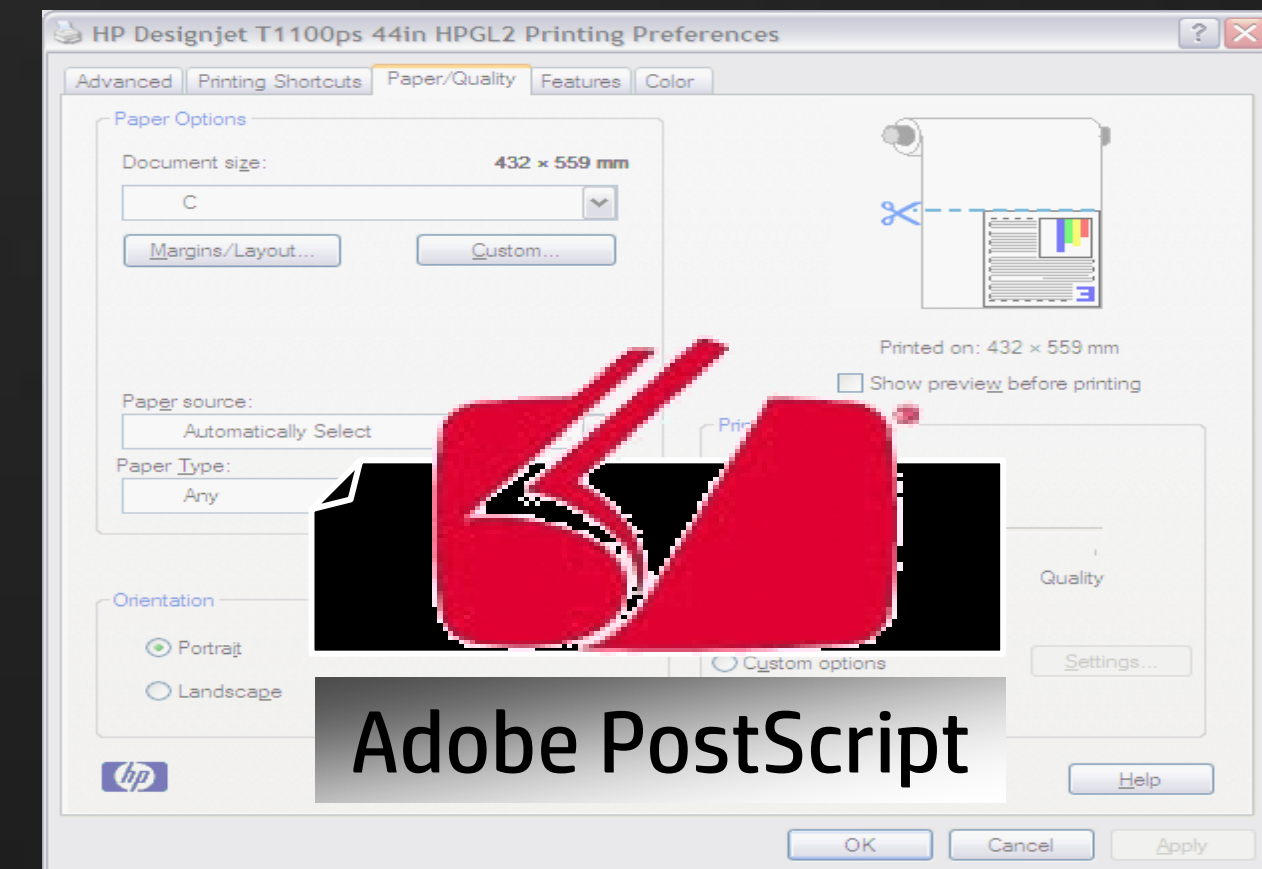
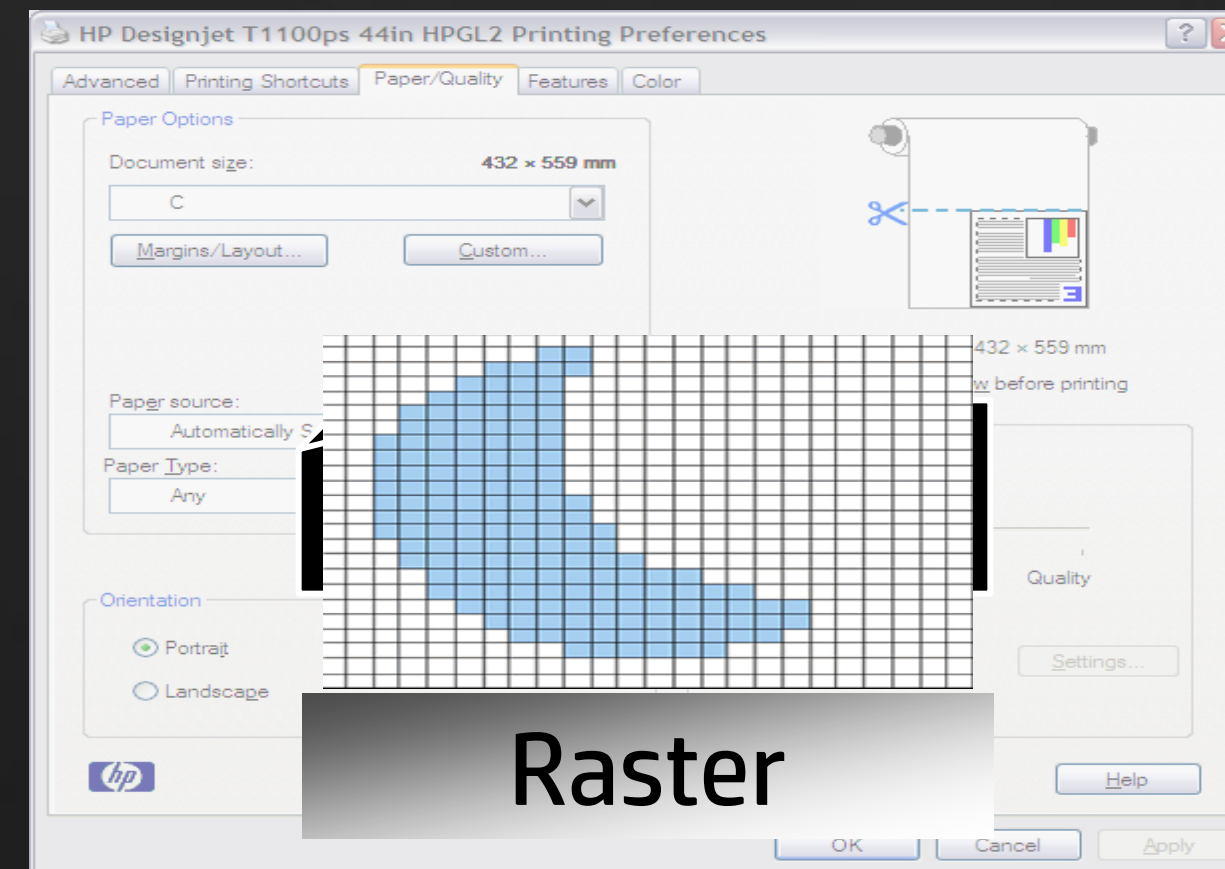
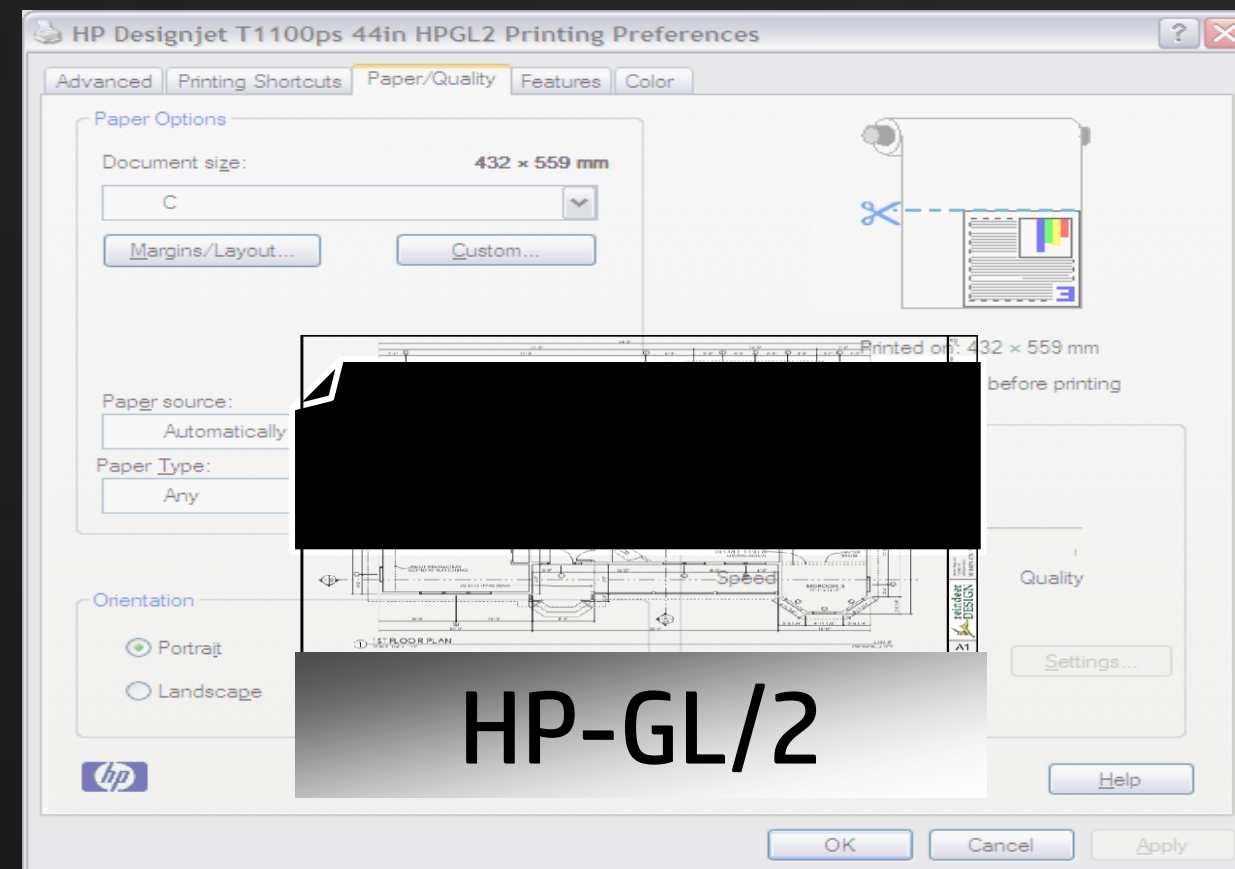
- Selecting Plot shows menu.
- Plot can be to PDF, DWF, or to print to an HP ePrinter.
- Tap Add HP ePrinter to start connecting printers.

HP Designjet Printer Settings with AutoCAD

- Which drivers should you use?
- Print workflow from AutoCAD
- Creating custom media sizes

Which drivers should be used?

Available drivers for HP Designjet printers

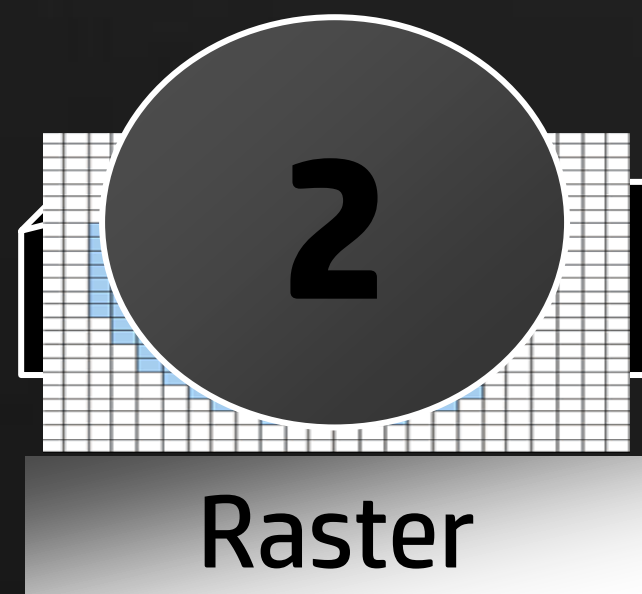


There are no HDI drivers for HP Designjet printers. Windows HP-GL/2 and Raster drivers are optimized to work with AutoCAD through a special SW module in the application

Which drivers should be used?



If HP-GL/2 is available, always use it

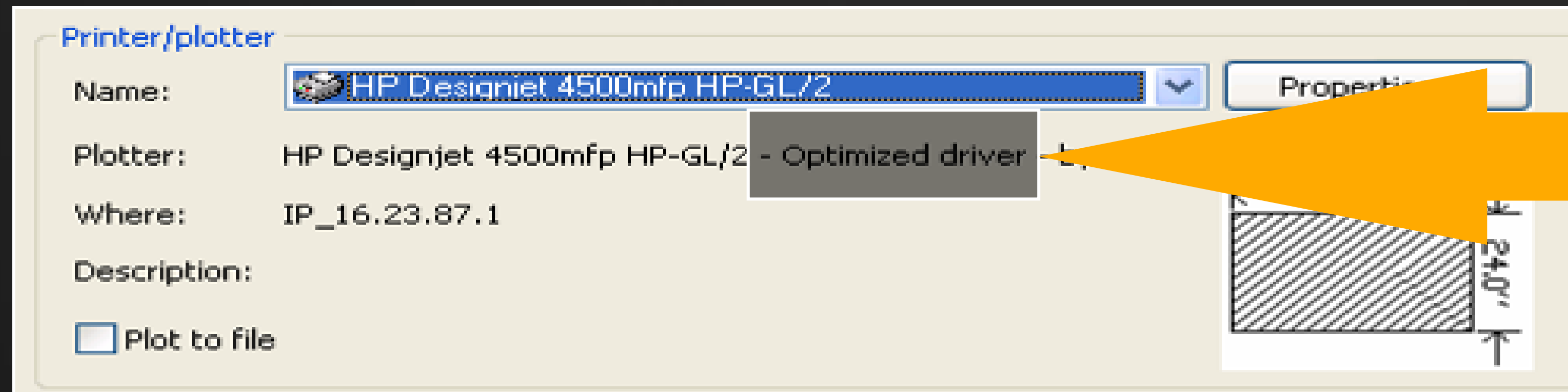


If HP-GL/2 is not available, use the Raster driver



Use the PS3 driver as a third option

Optimized drivers

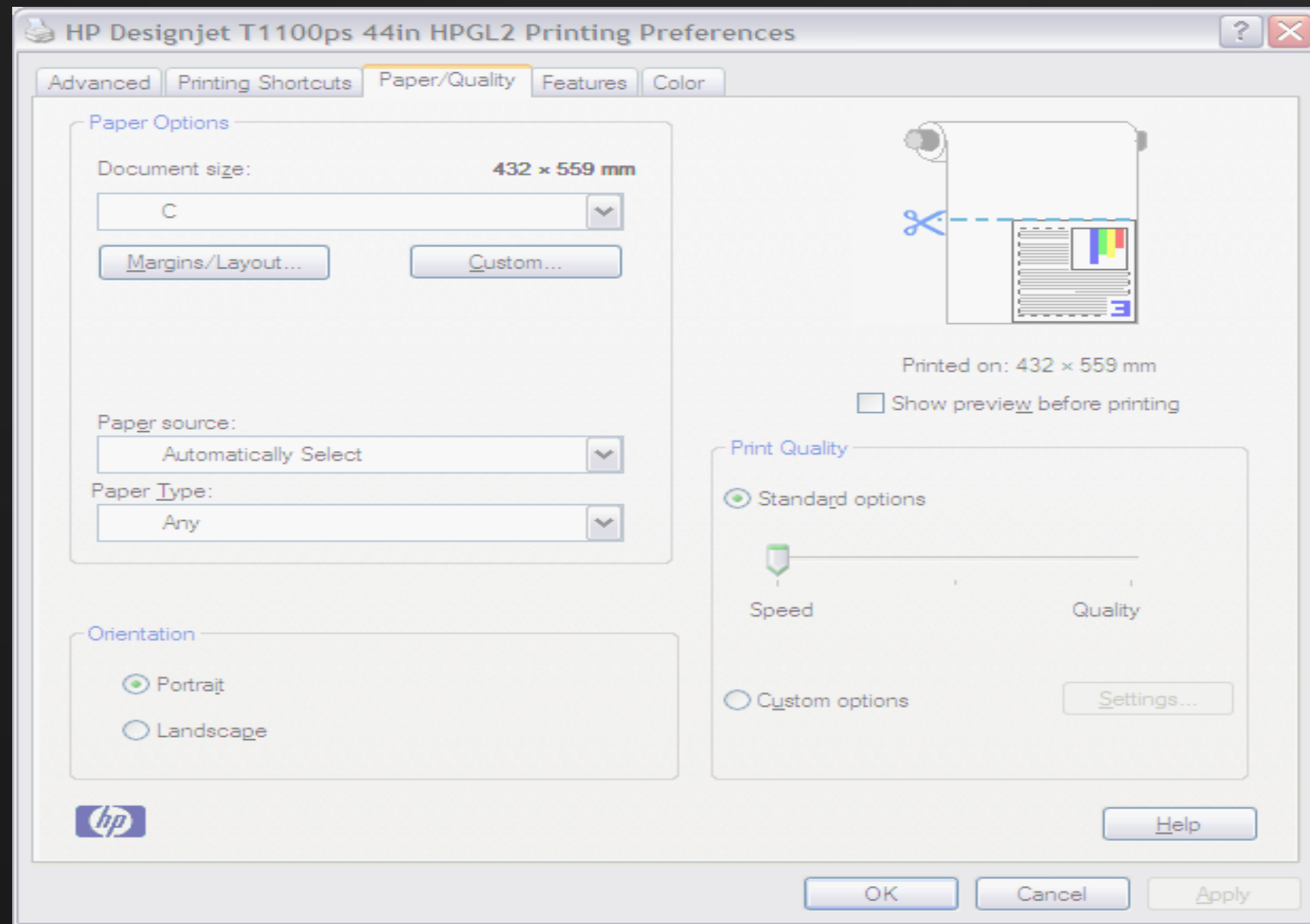


Printer should have the “optimized driver” tag in the “Plotter” field.

- Installed via the standard Windows installation process
- Common User Interface for all applications, including Autodesk products
- Interfaces transparently with Autodesk products
- Better line quality than standard Windows drivers
- HP provides the best-in-class Autodesk integration working directly with Autodesk engineers

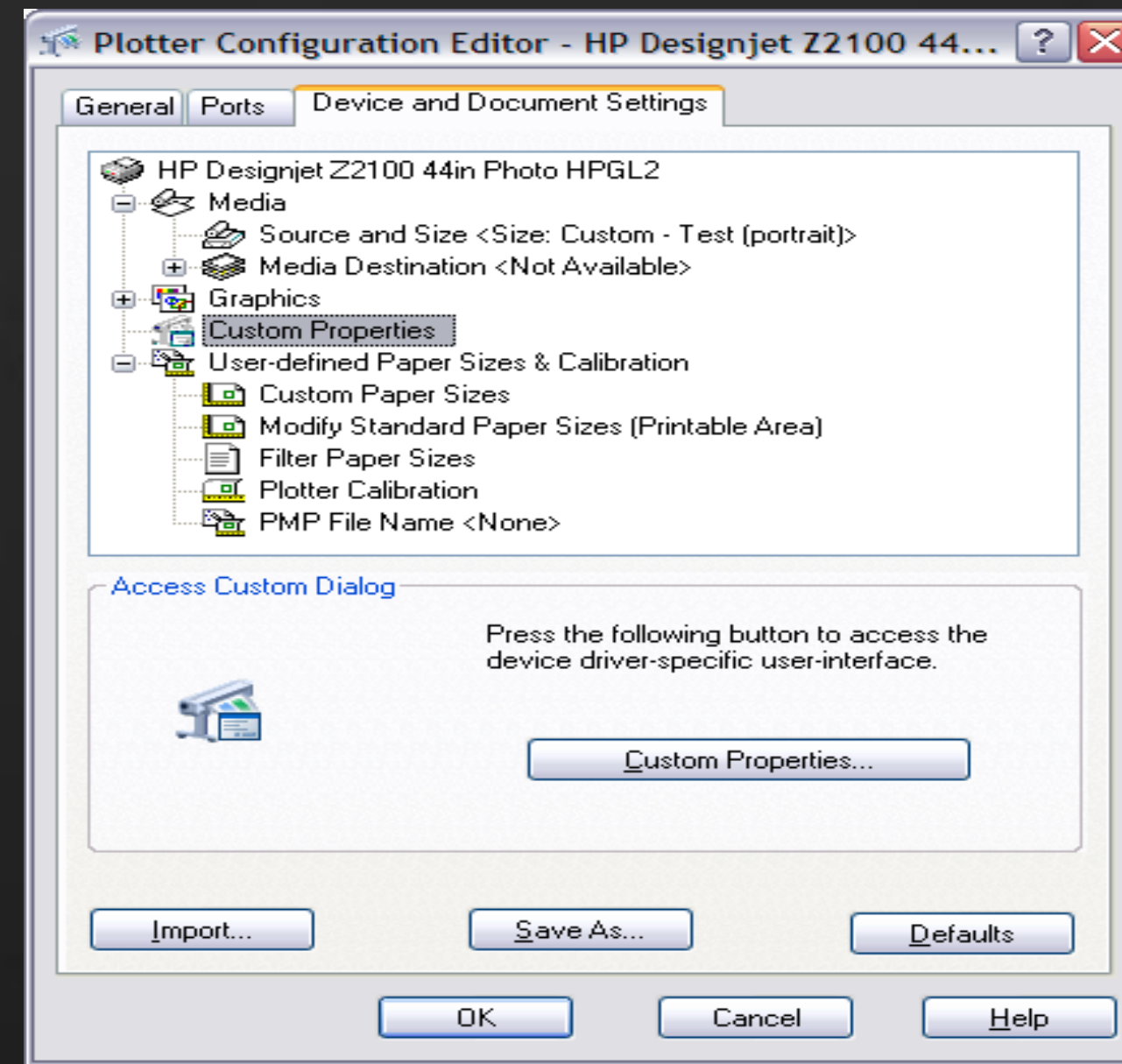
“HP has developed the only Windows large-format printer driver optimized for AutoCAD combining high quality and performance in the technical market”

PC3 files



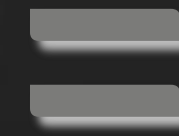
Printer driver settings

- Print quality
- Paper source and type
- Color options
- etc.



AutoCAD plotter configuration

- Filter page sizes
- Raster and OLE object resolution
- Plotter calibration

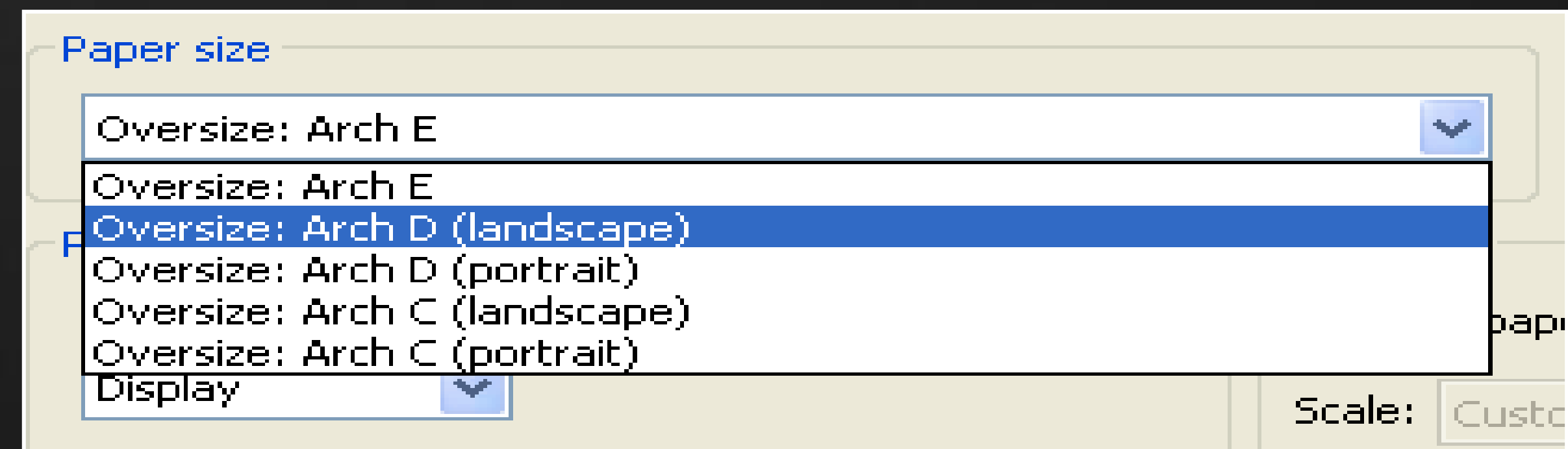
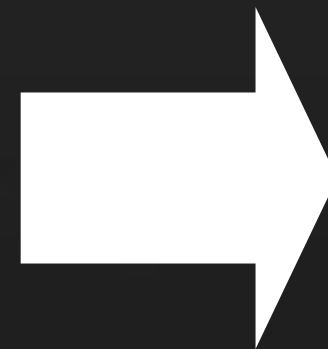
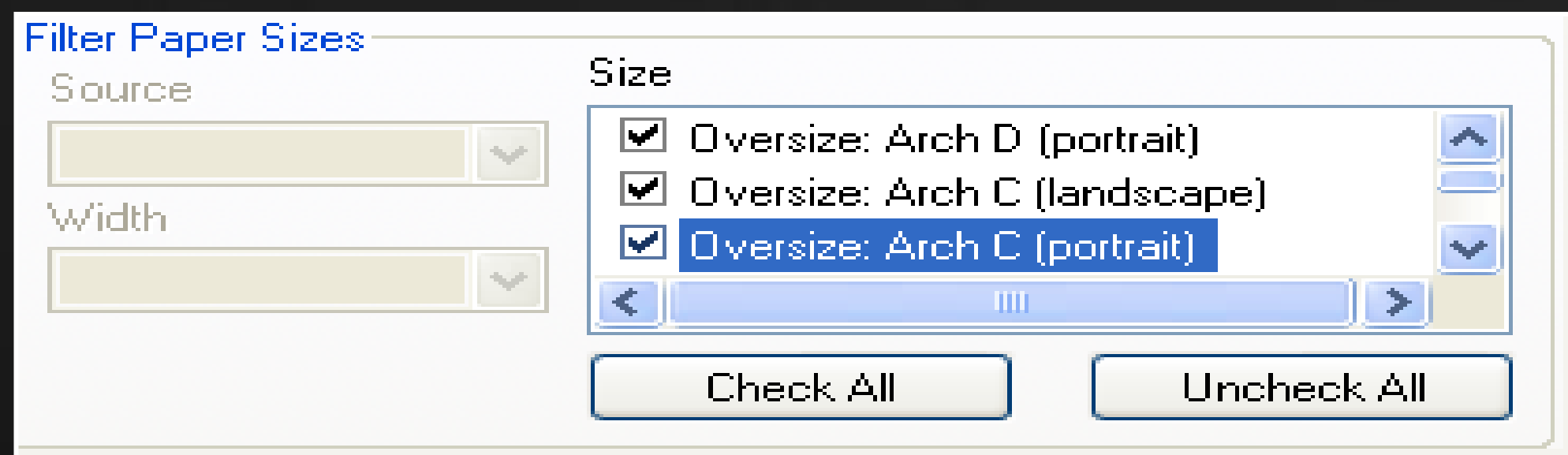


PC3

AutoCAD Plotter configuration file

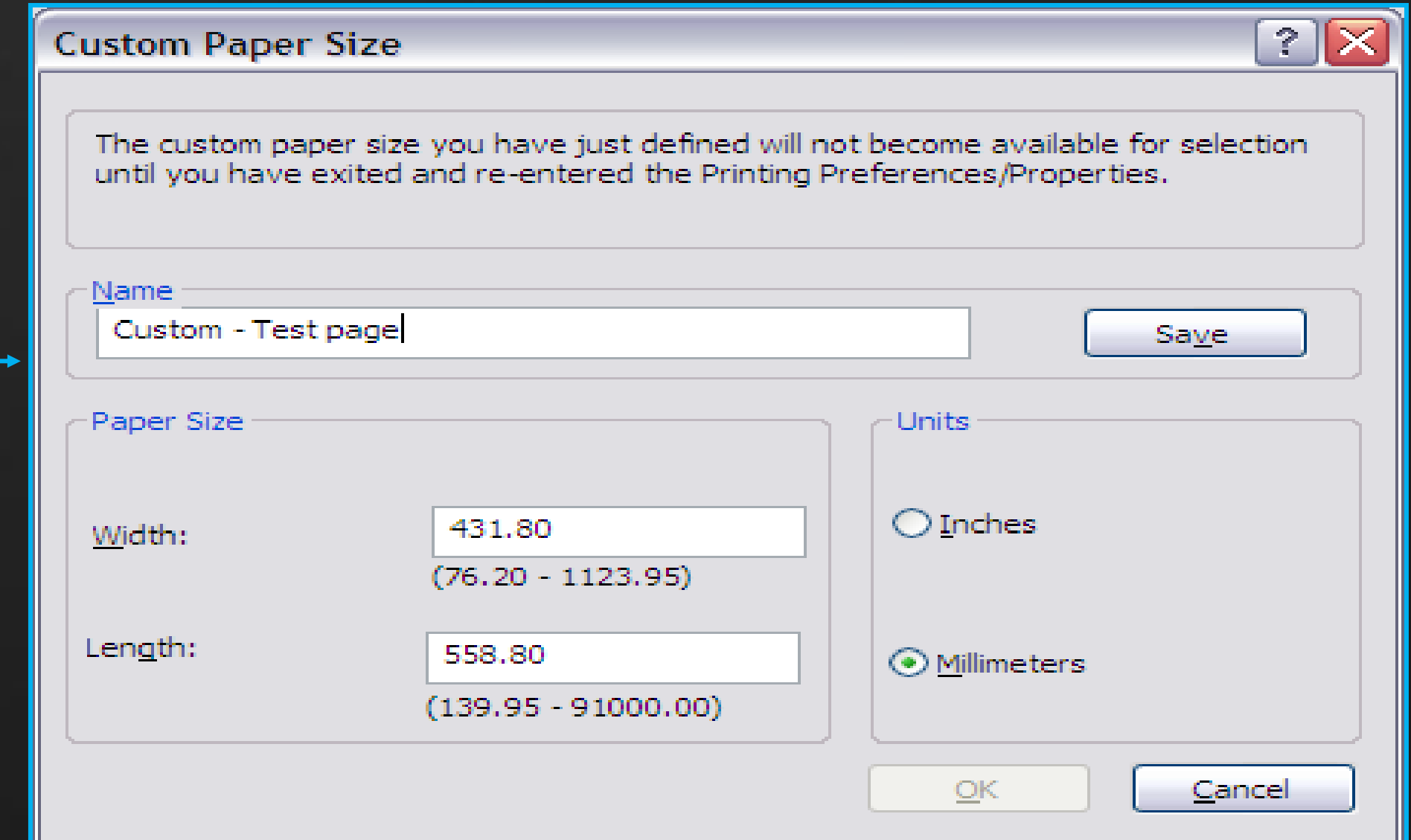
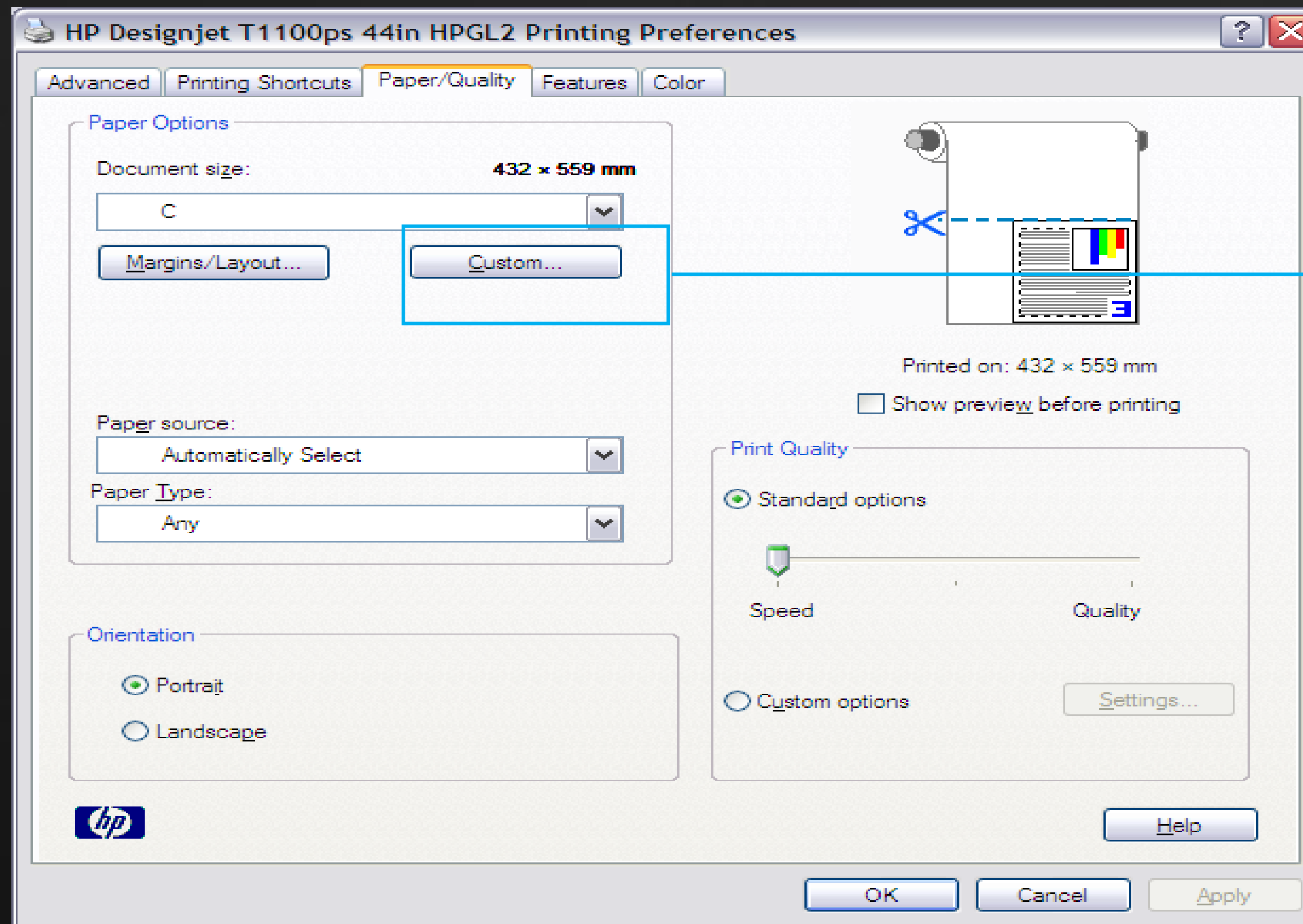
Filter paper sizes

- You can select which ones you want in:
Plot dialog -> Printer properties ->
Plotter configuration editor -> Filter paper sizes



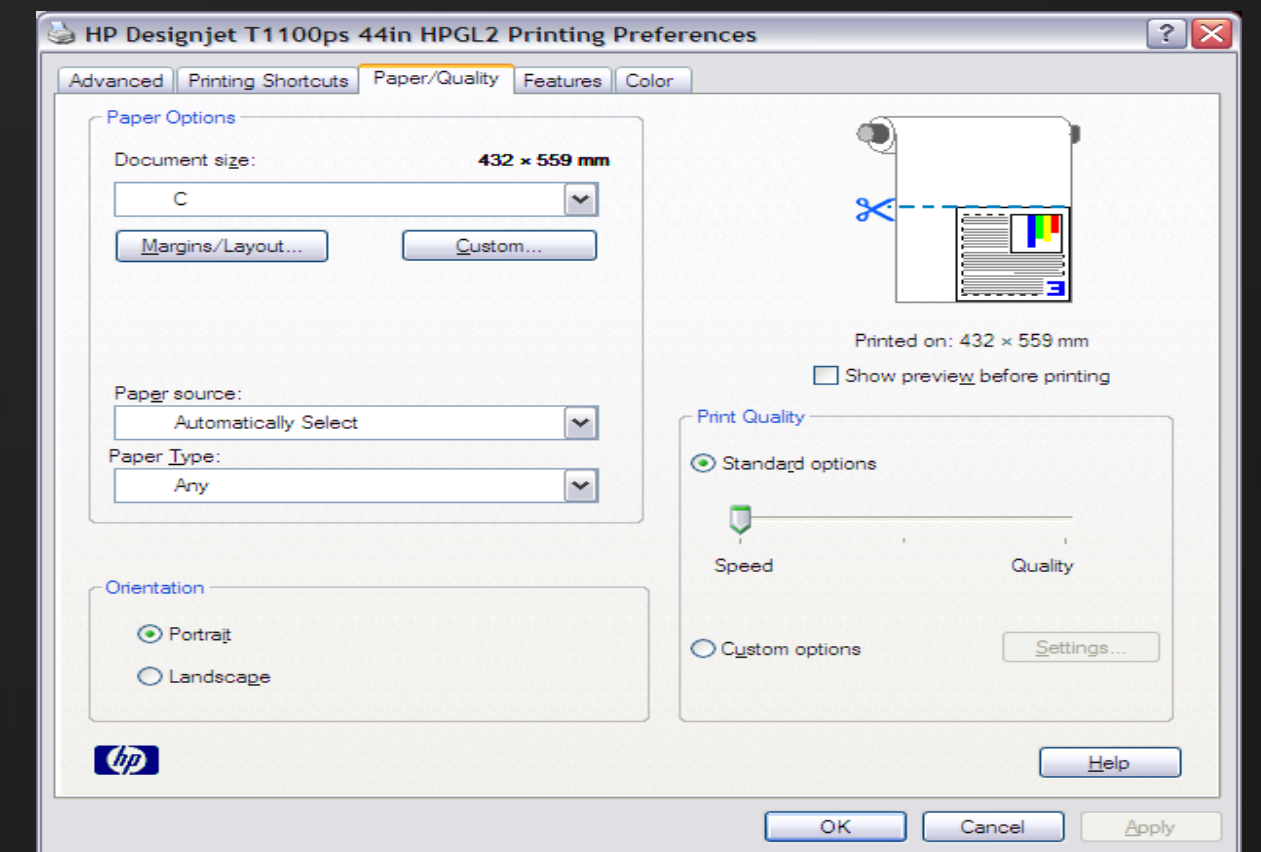
- You can restore it later by rechecking the boxes

Creating and sharing custom page sizes



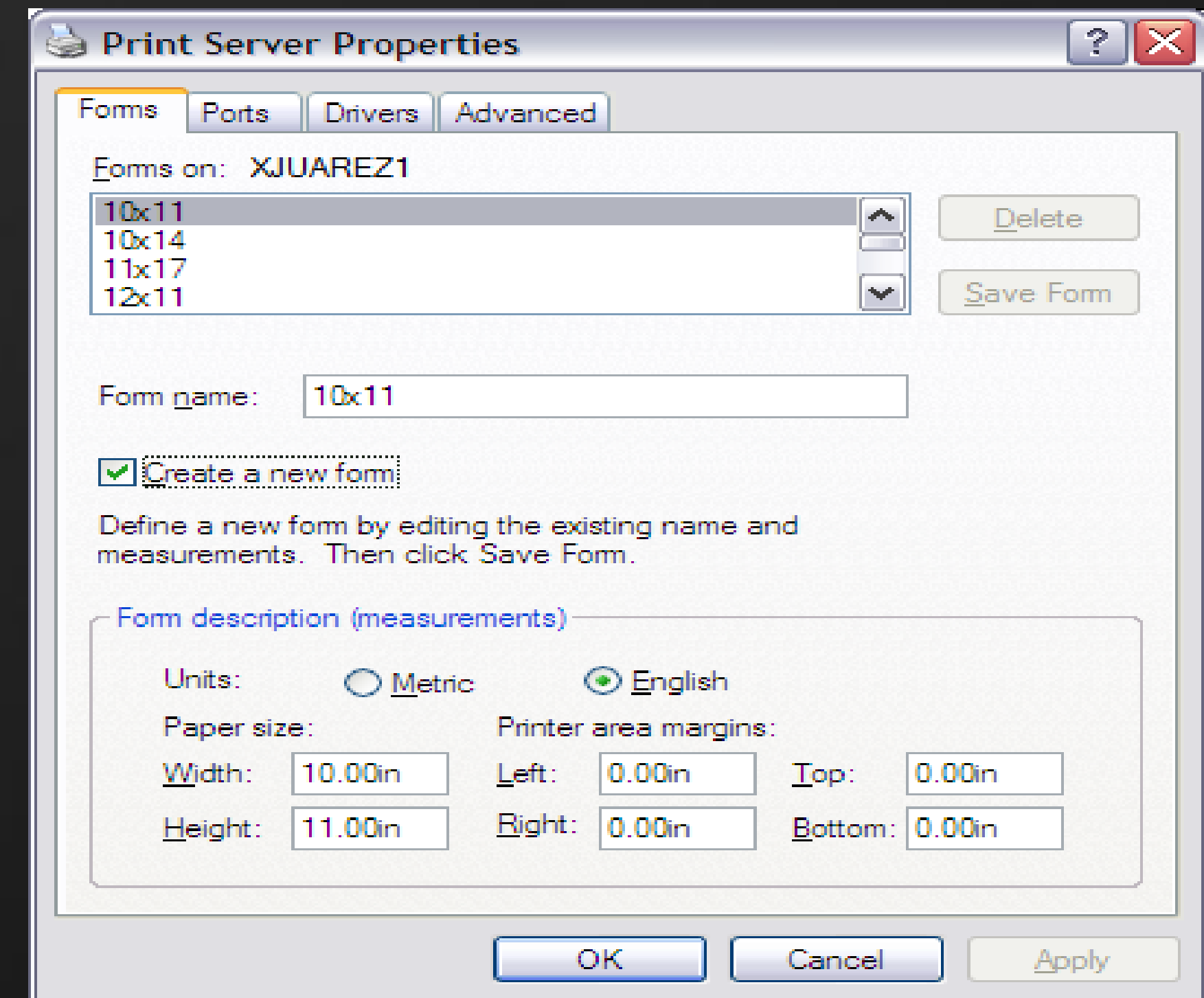
Creating and sharing custom page sizes

- Custom page sizes created from the driver are local. This means that they can only be accessed from the computer where the page size was created, even if the driver is shared.



Creating and sharing custom page sizes

- A user with administrative rights can create custom sizes in the server that will be shared to client workstations by using the following process:
 1. Go to Start → Printers and Faxes
 2. Go to File → Server properties
 3. In the “Forms” tab, create a new Form with the desired custom size
- This form will be available in the driver and shared to client workstations, enabling the previous PC3 file sharing workflow



Printing From Autodesk Products

- Printing from AutoCAD
- Printing from Inventor
- Printing from Revit

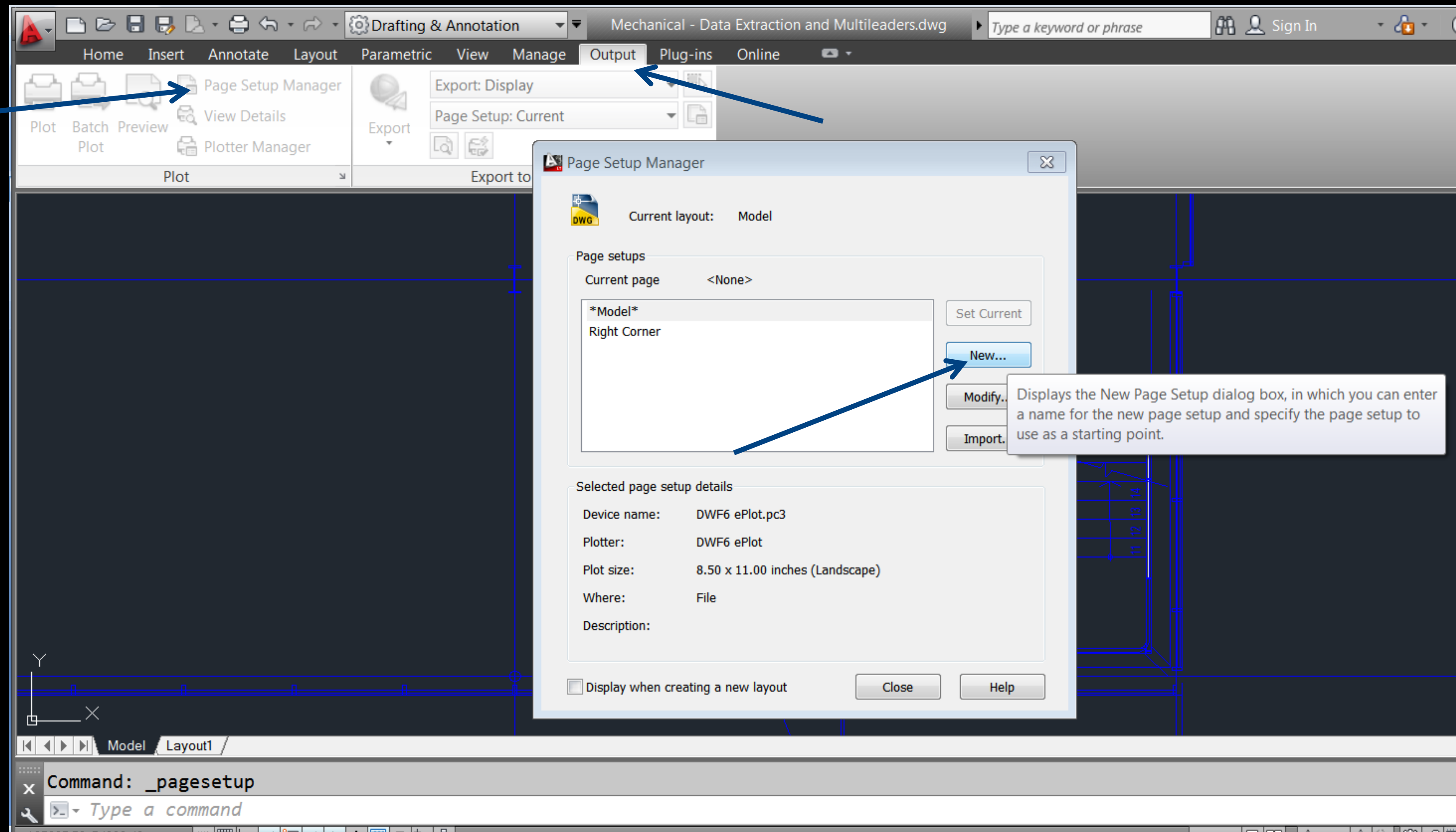
Printing from AutoCAD

A Few Notes:

1. You can just print directly to printer without setting up PC3 files (plotter configuration files) or other drawing templates, but most users do not do this since you have very little control over output
2. Not as intuitive as other Autodesk packages
3. HDI (Heidi Device Interface) drivers are no longer needed – since 2009

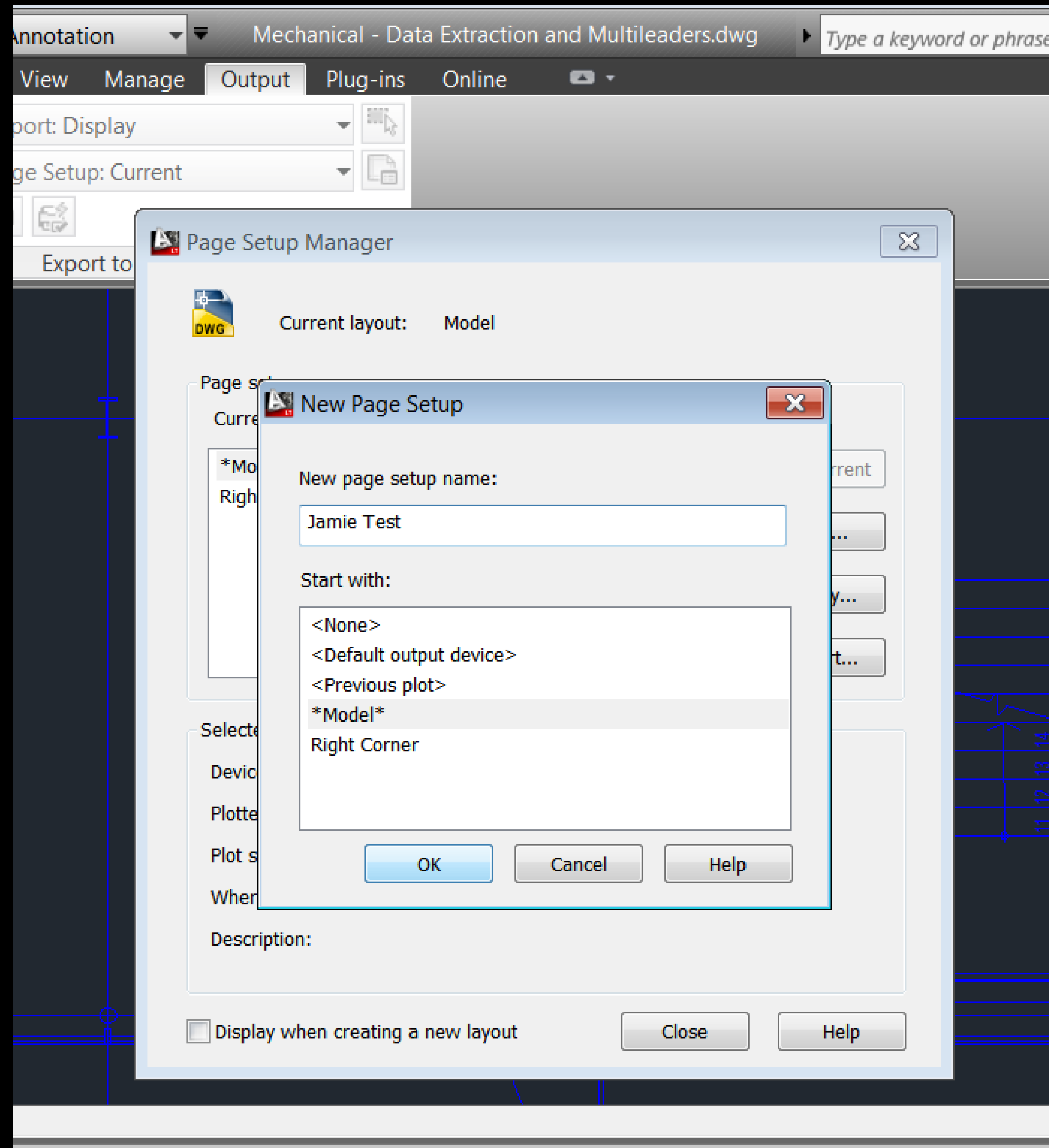
Printing from AutoCAD

Step 1: Select Output then Page Set-up Manager then New



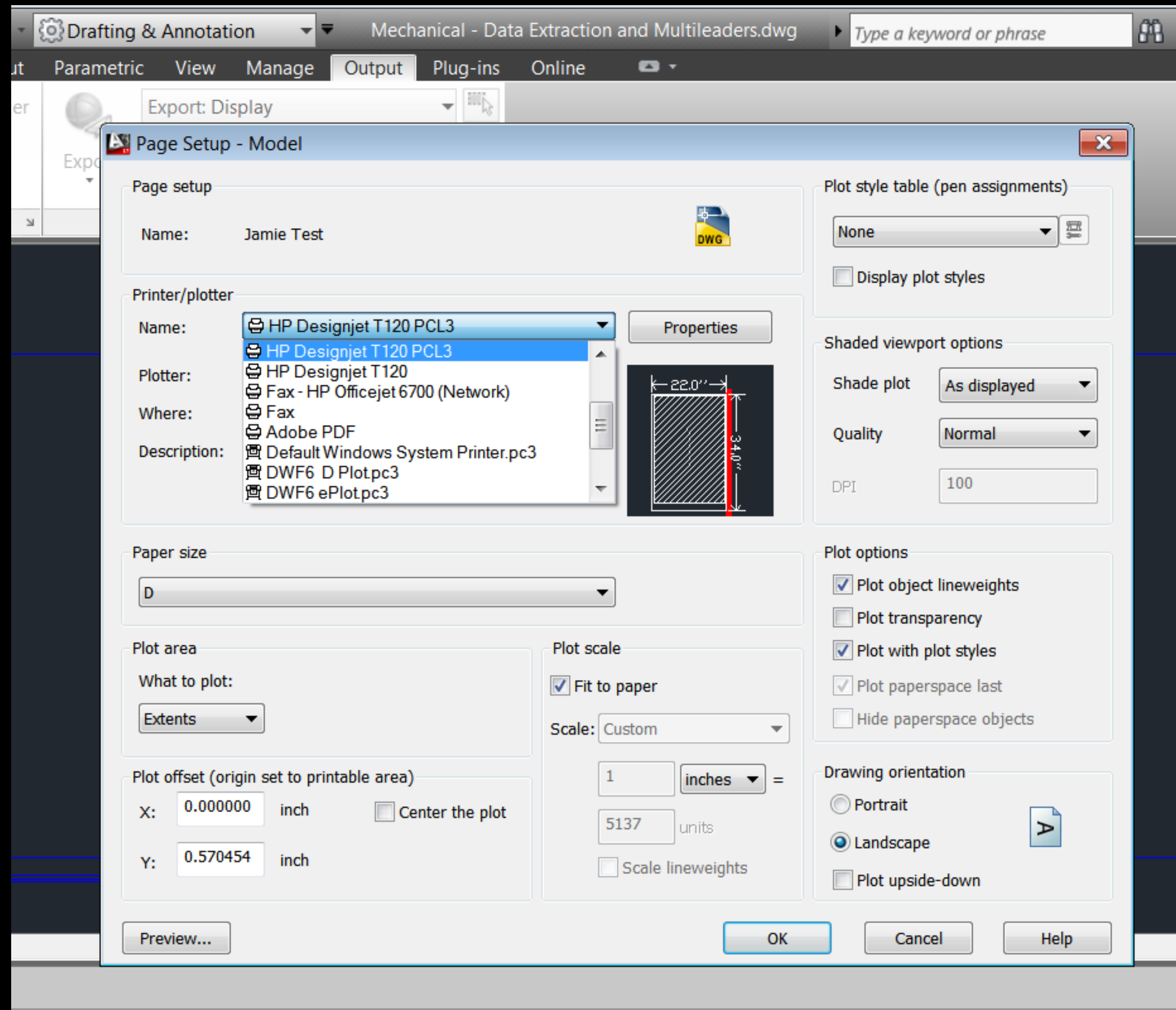
Printing from AutoCAD

Step 2: Name new page set-up



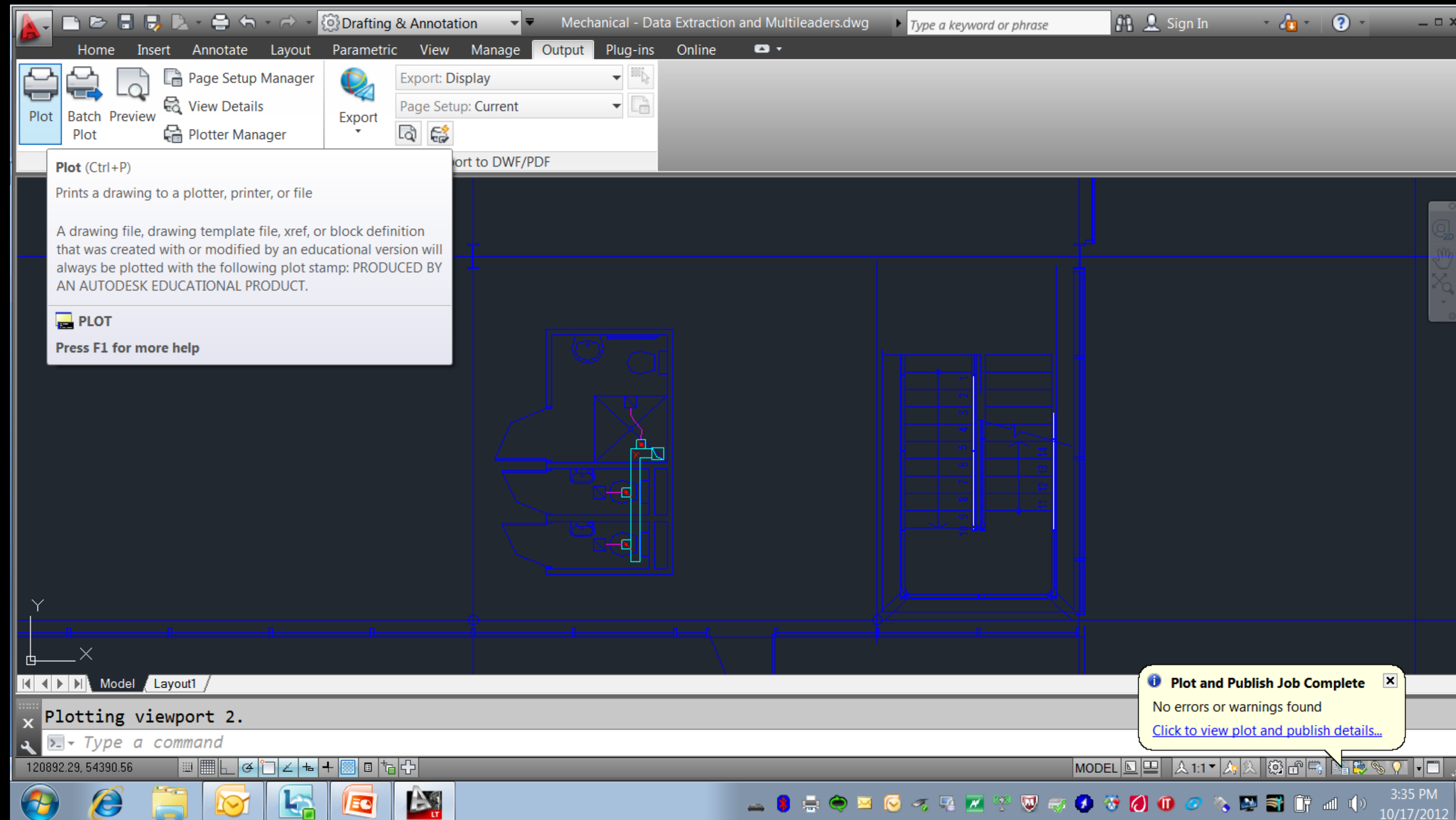
Printing from AutoCAD

Step 3: Select device and other options



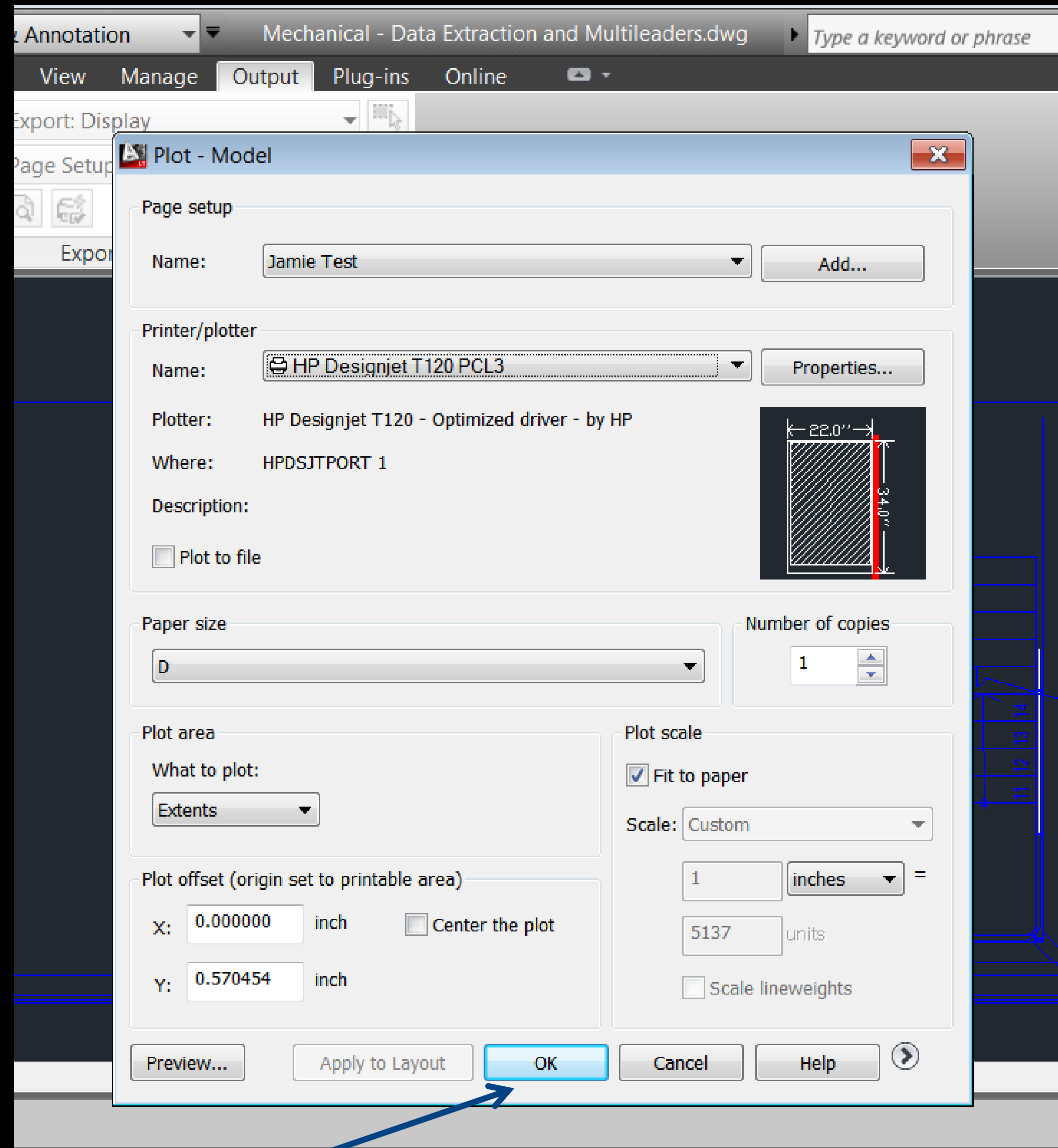
Printing from AutoCAD

Step 4: Select Plot



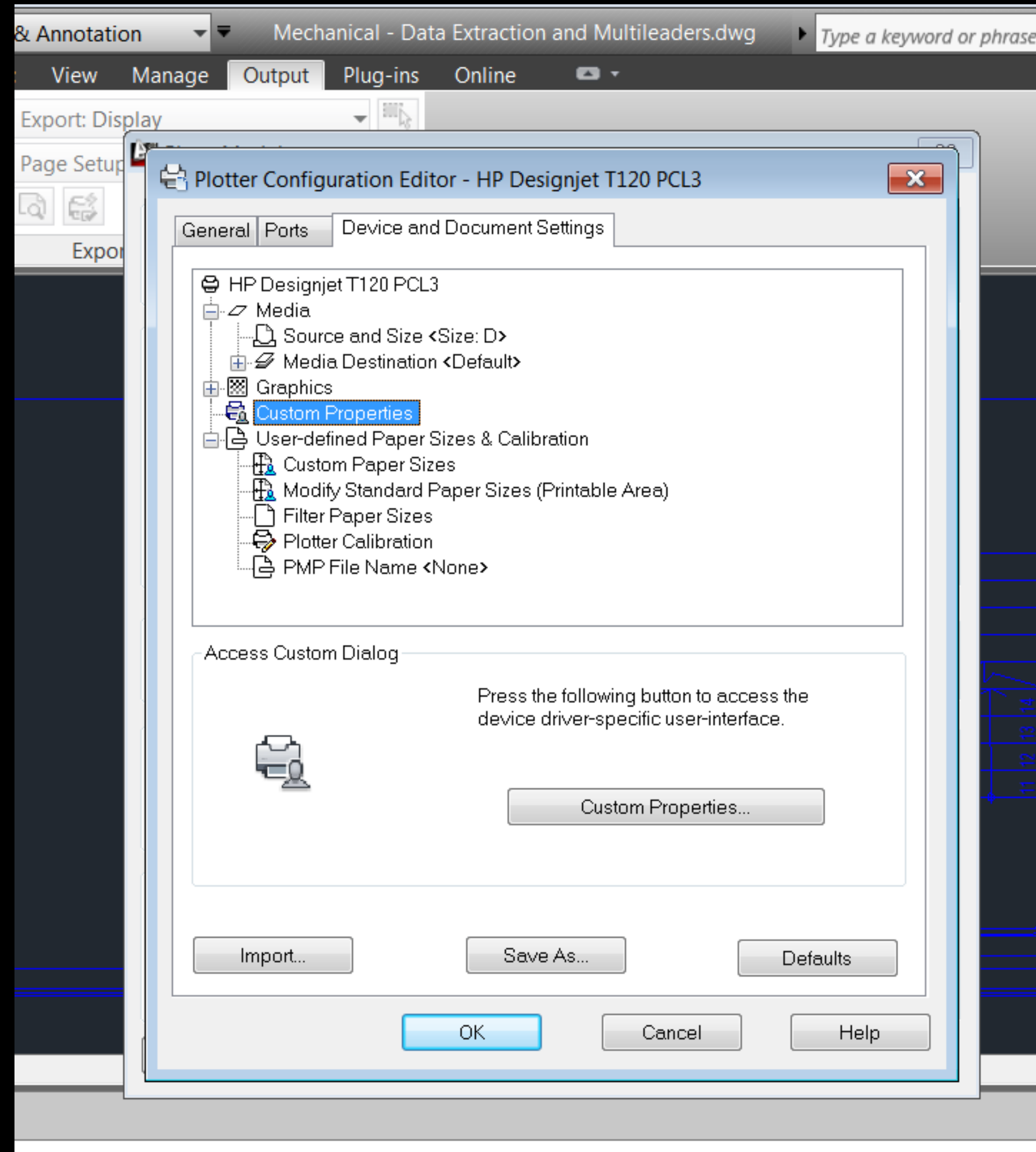
Printing from AutoCAD

Step 5: Review set-up



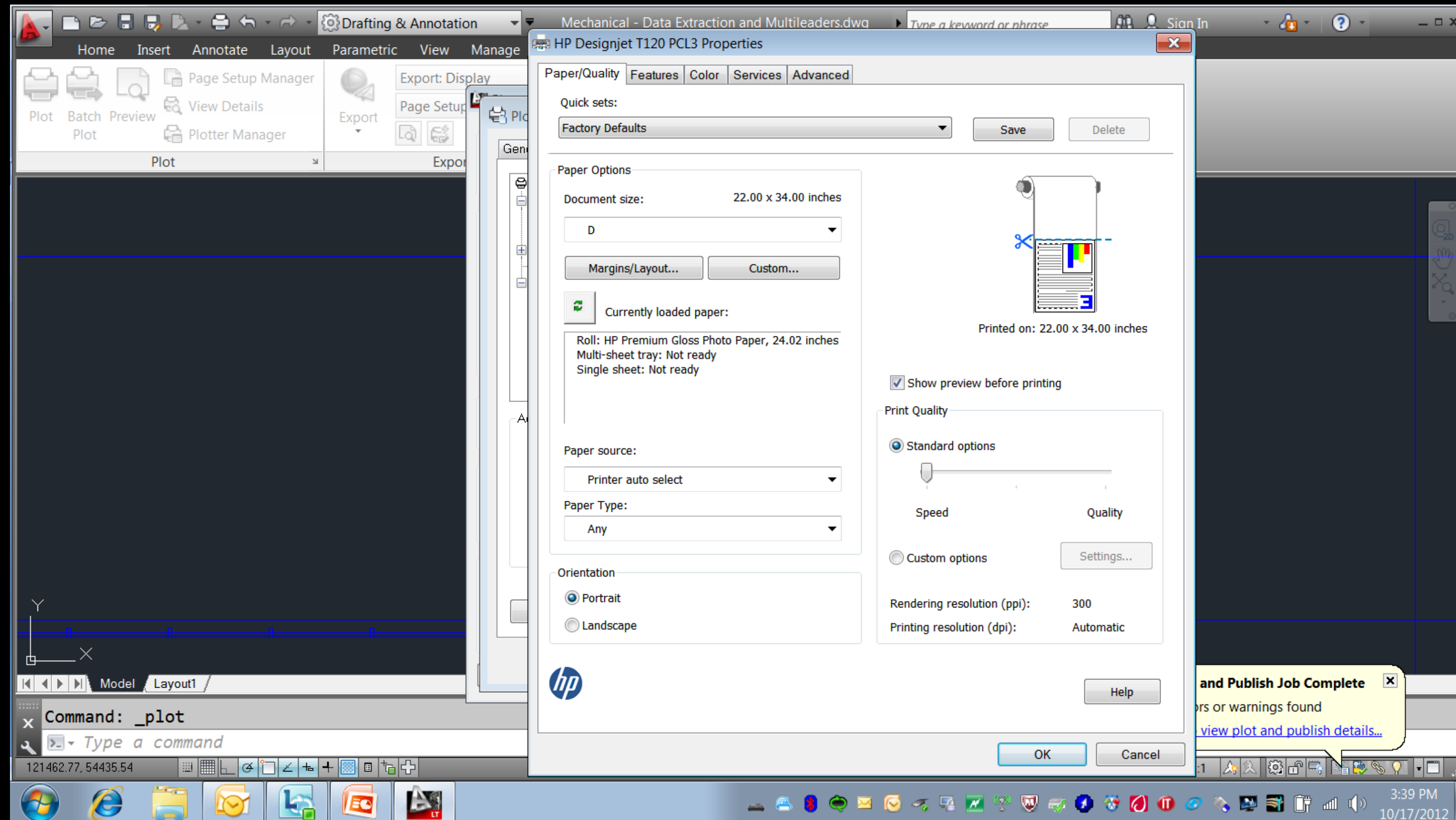
Printing from AutoCAD

Step 6: Properties- Device and Document Settings



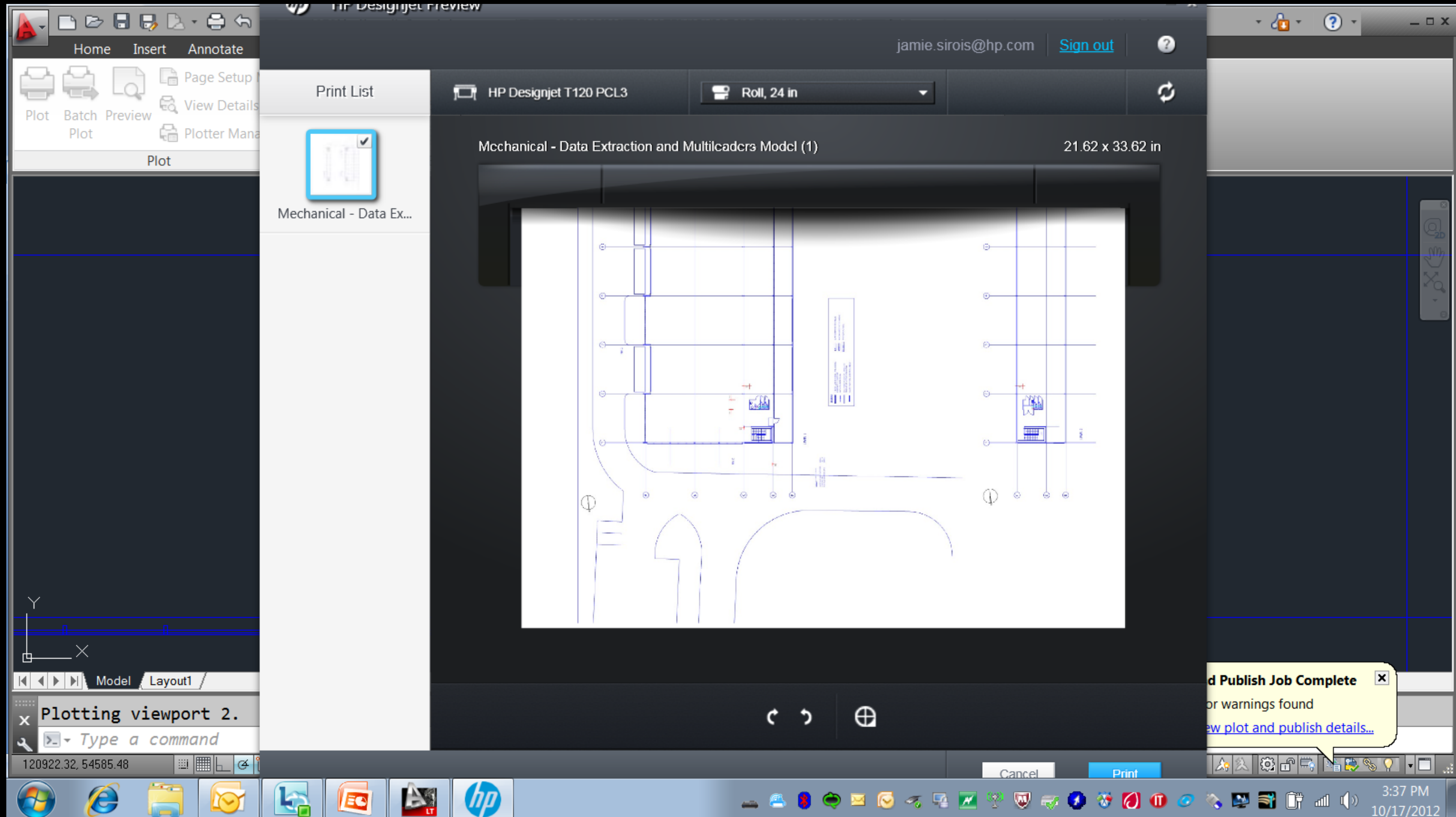
Printing from AutoCAD

Step 7: Custom Properties



Printing from AutoCAD

Step 7: Print



Printing from Inventor

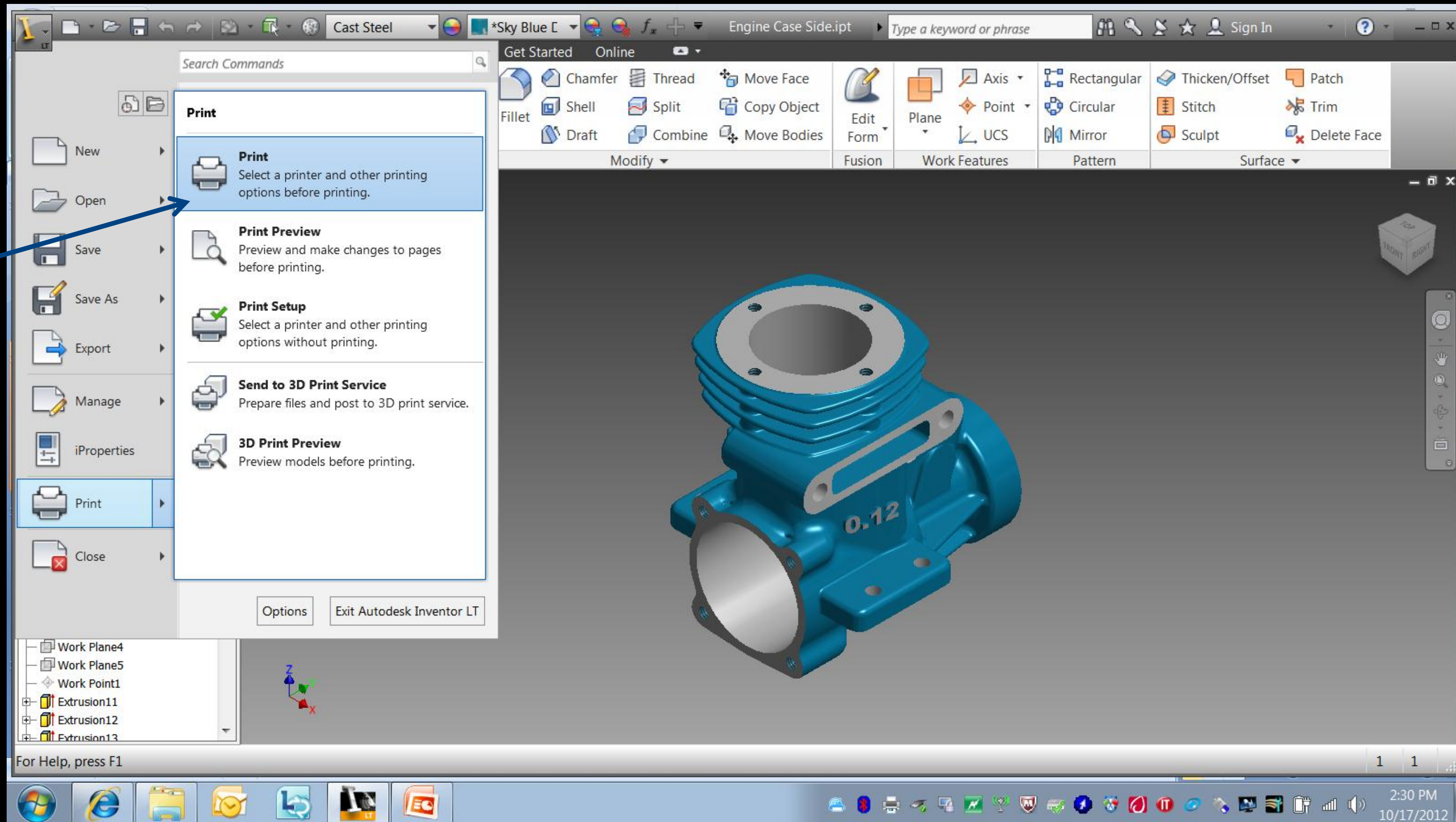
A few notes:

1. Typical workflow is not directly from Inventor to printer
 - a. Usually will convert to a DWG and then print.
 - b. Combine multiple parts and sections to one page to print



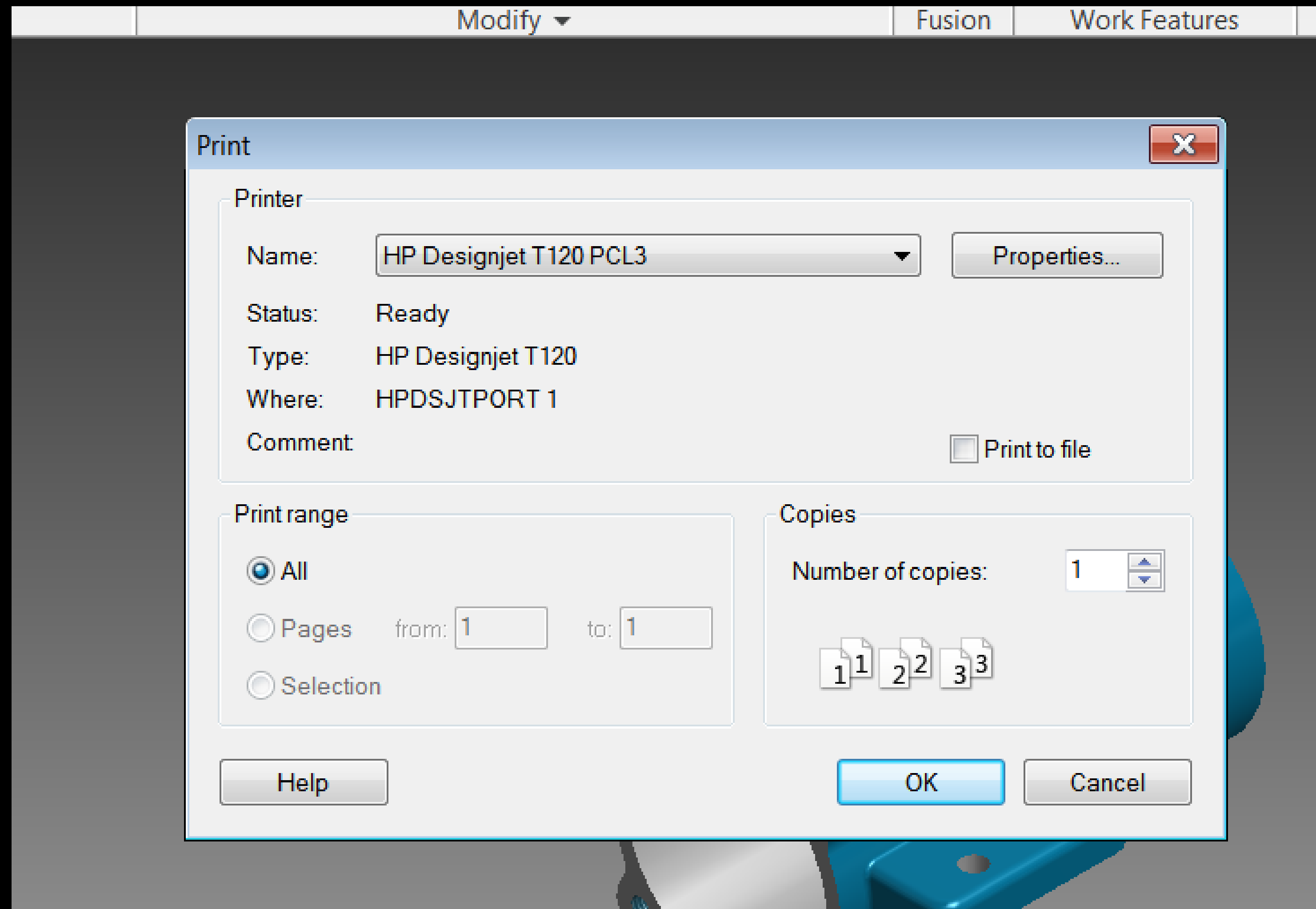
Printing from Inventor

Step 1: Select Inventor Icon and then Print- Print



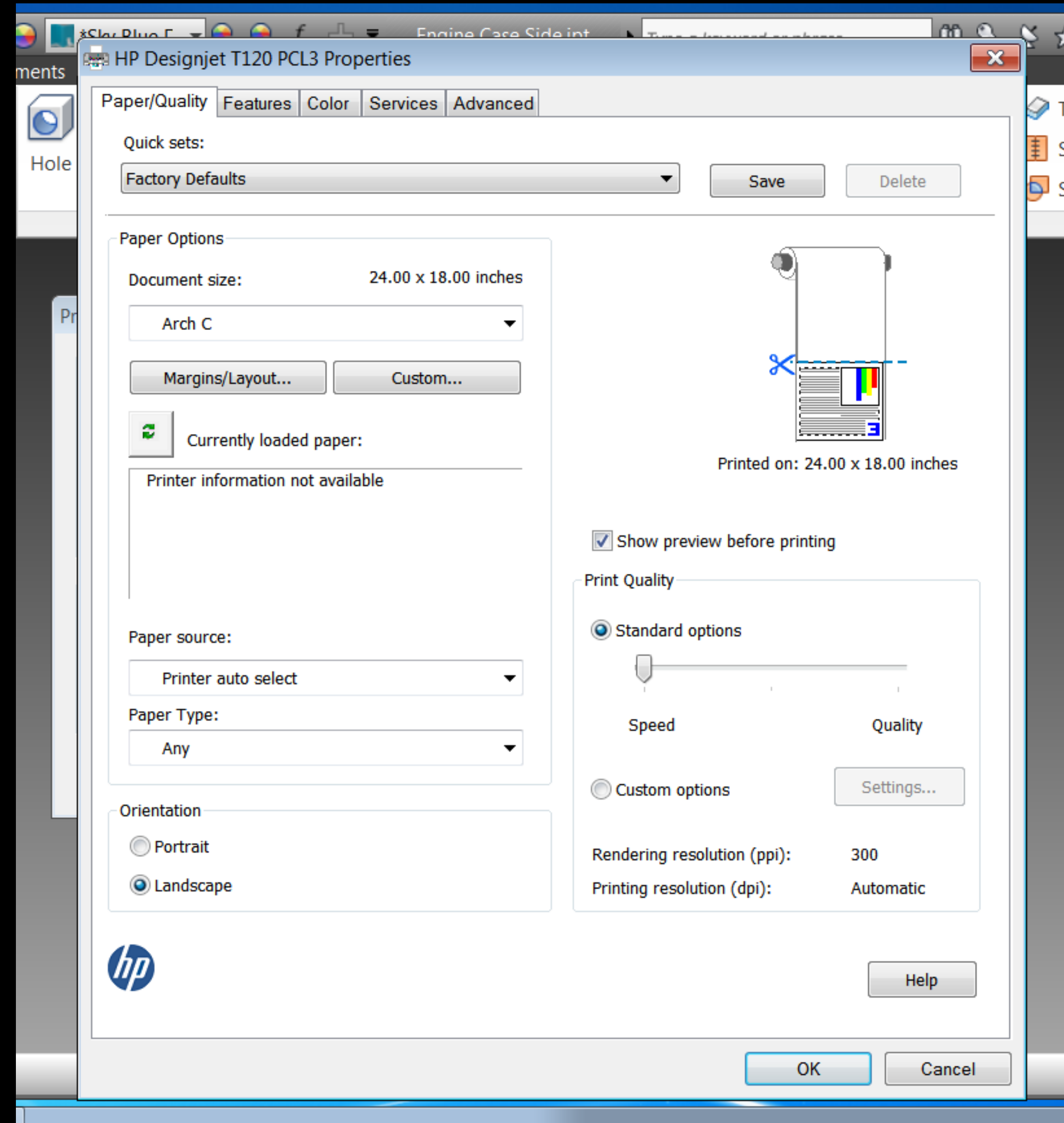
Printing from Inventor

Step 2: Select Printer- driver first window



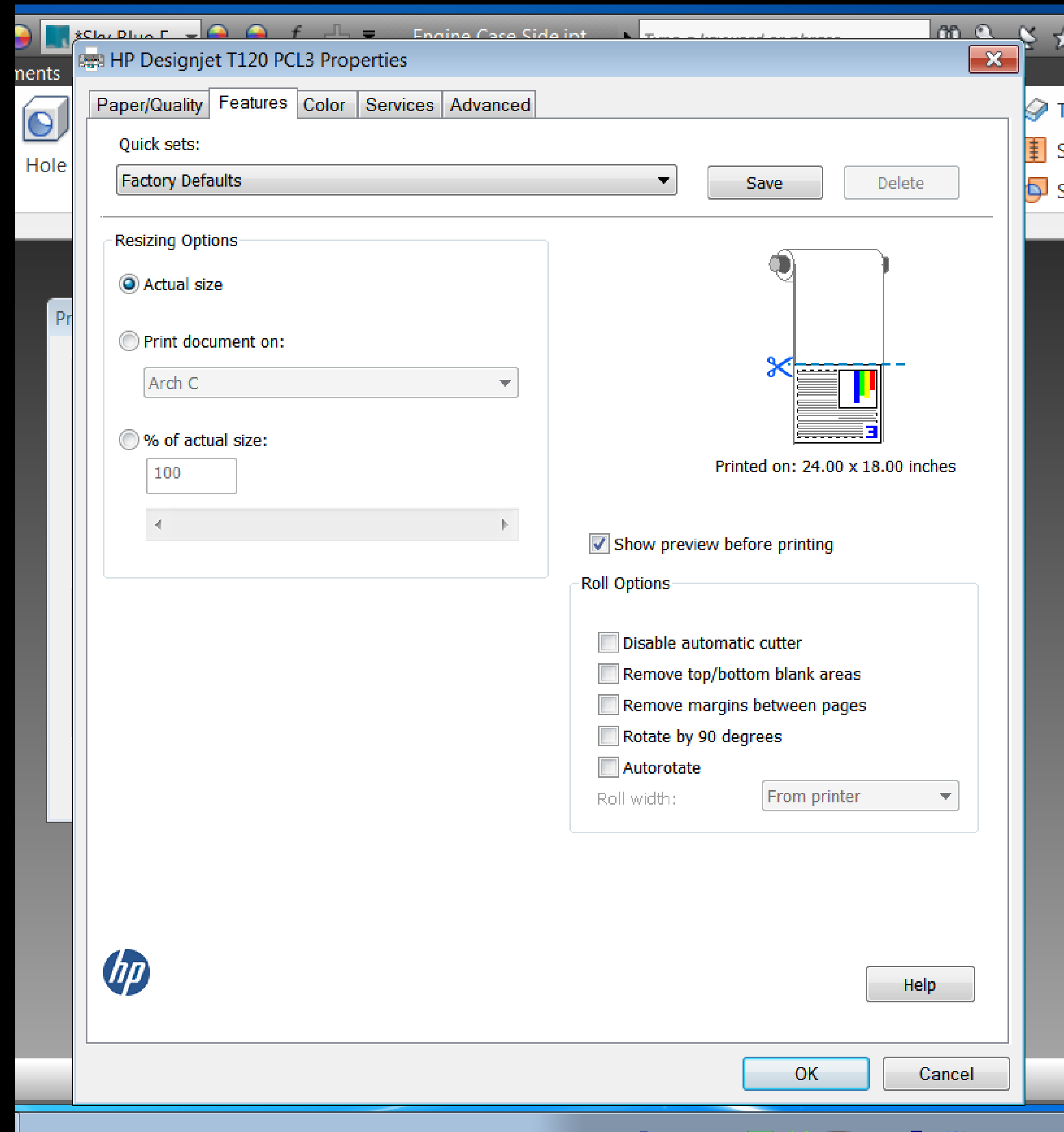
Printing from Inventor

Step 3: Properties- Paper/Quality



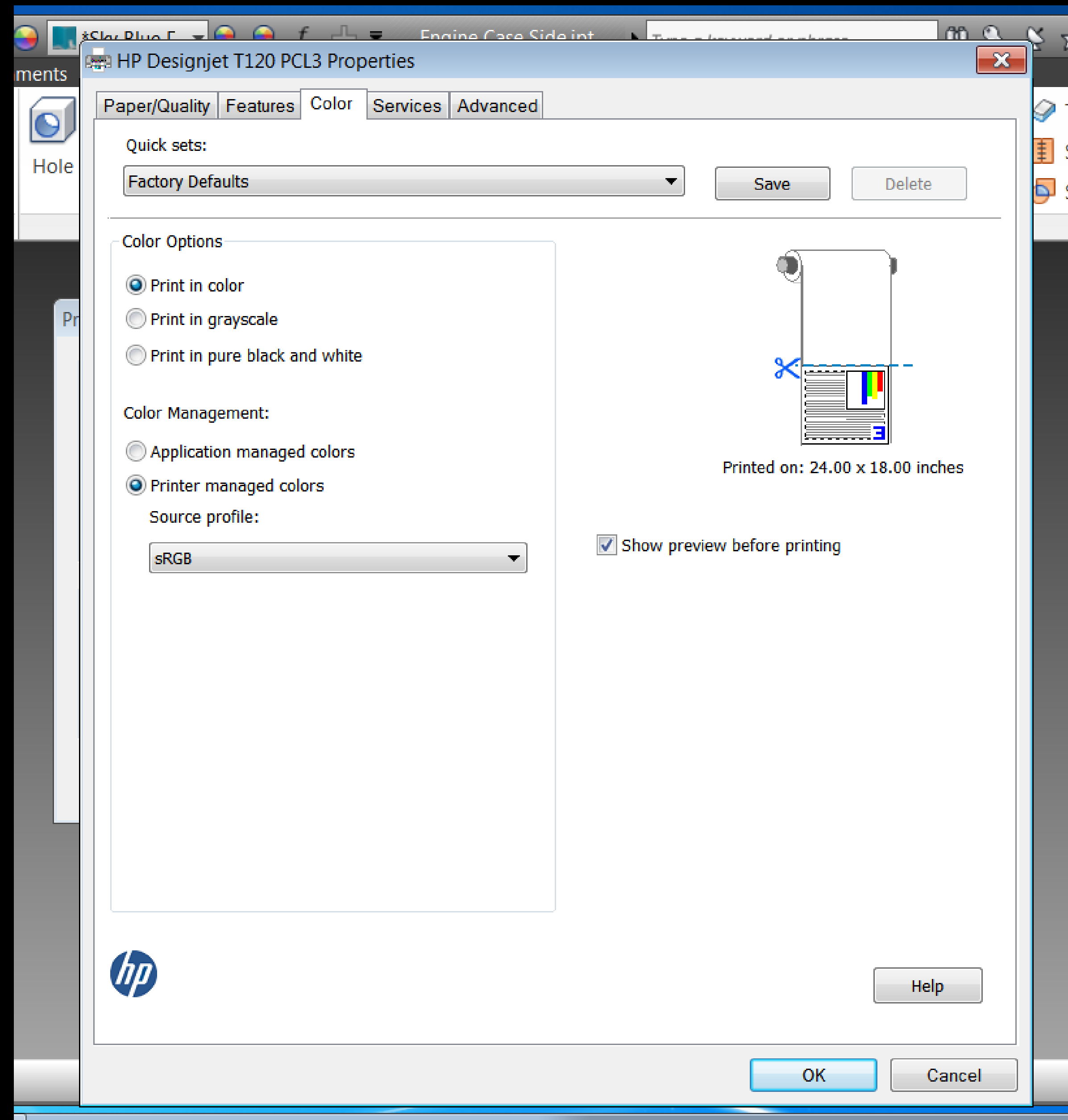
Printing from Inventor

Step 3: Properties- Features



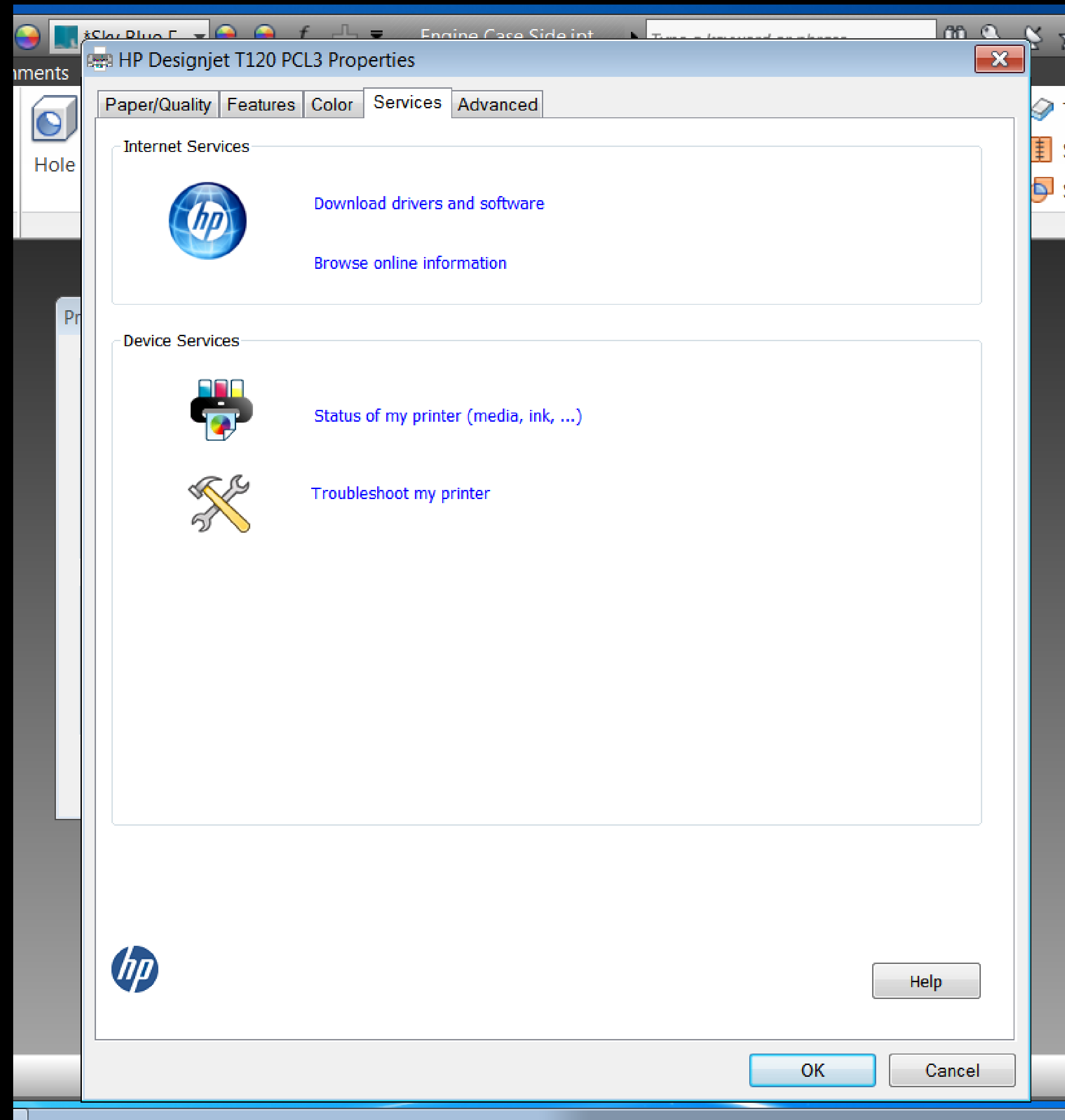
Printing from Inventor

Step 3: Properties- Color



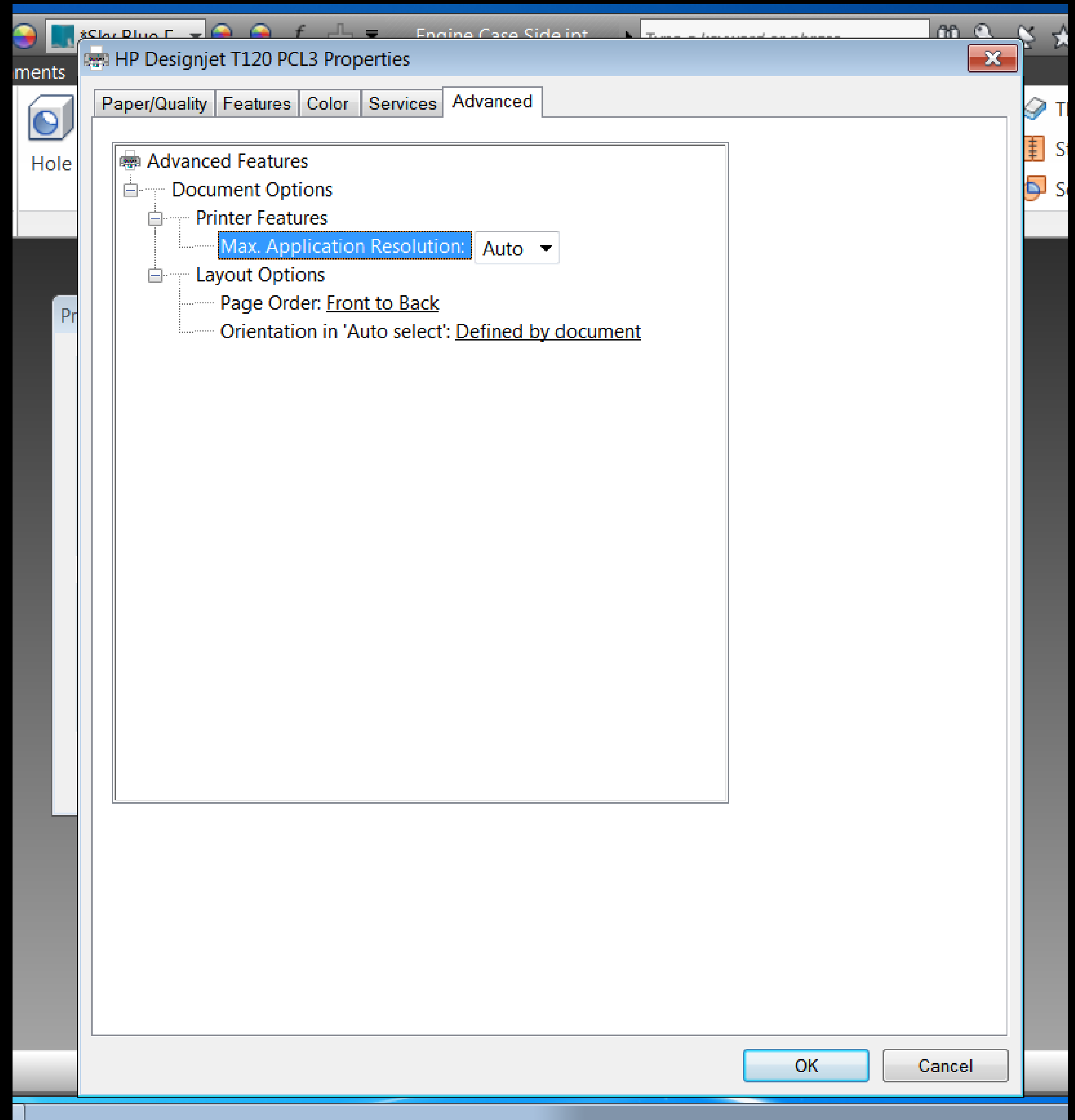
Printing from Inventor

Step 3: Properties- Services



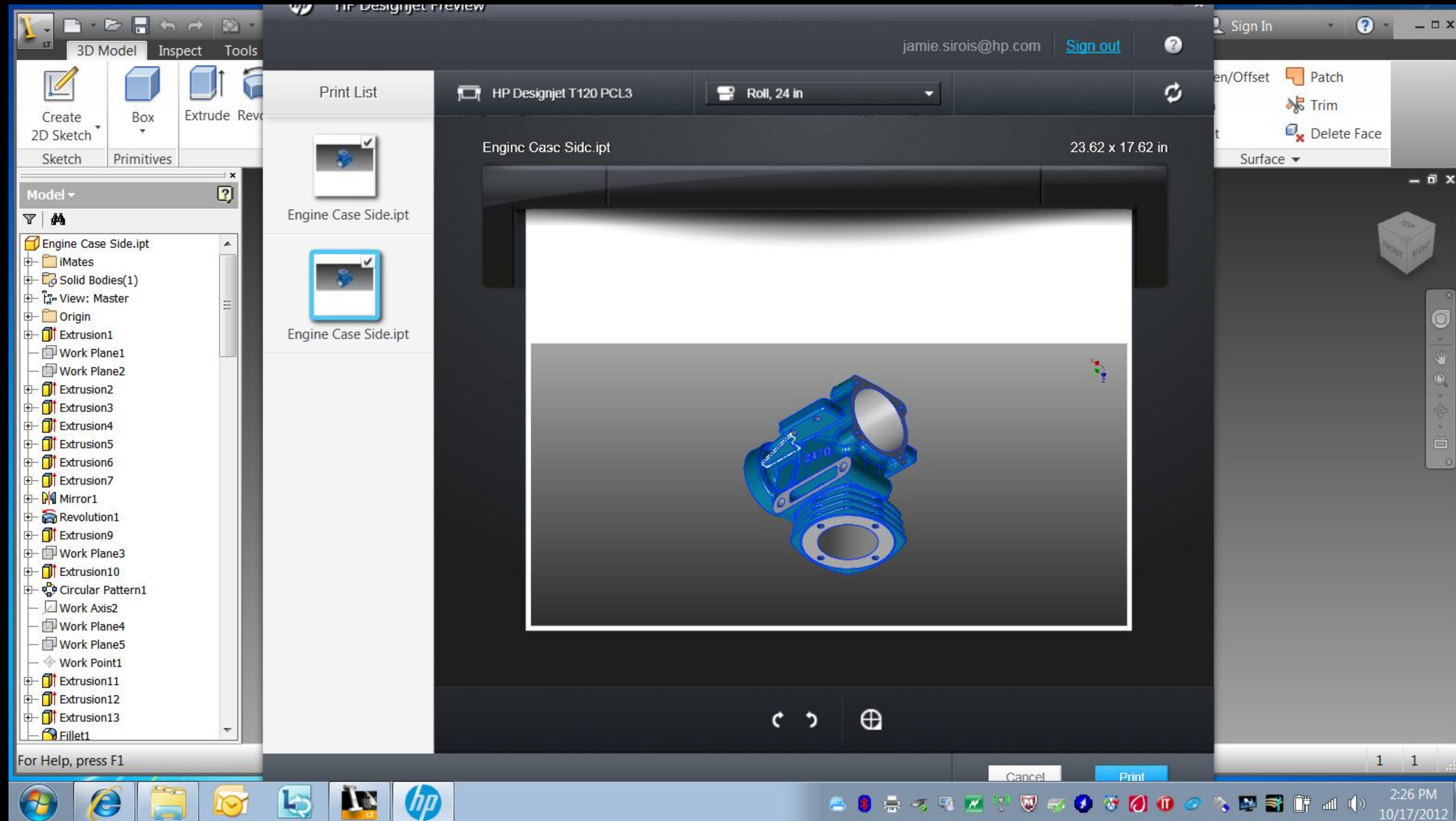
Printing from Inventor

Step 3: Properties- Advanced



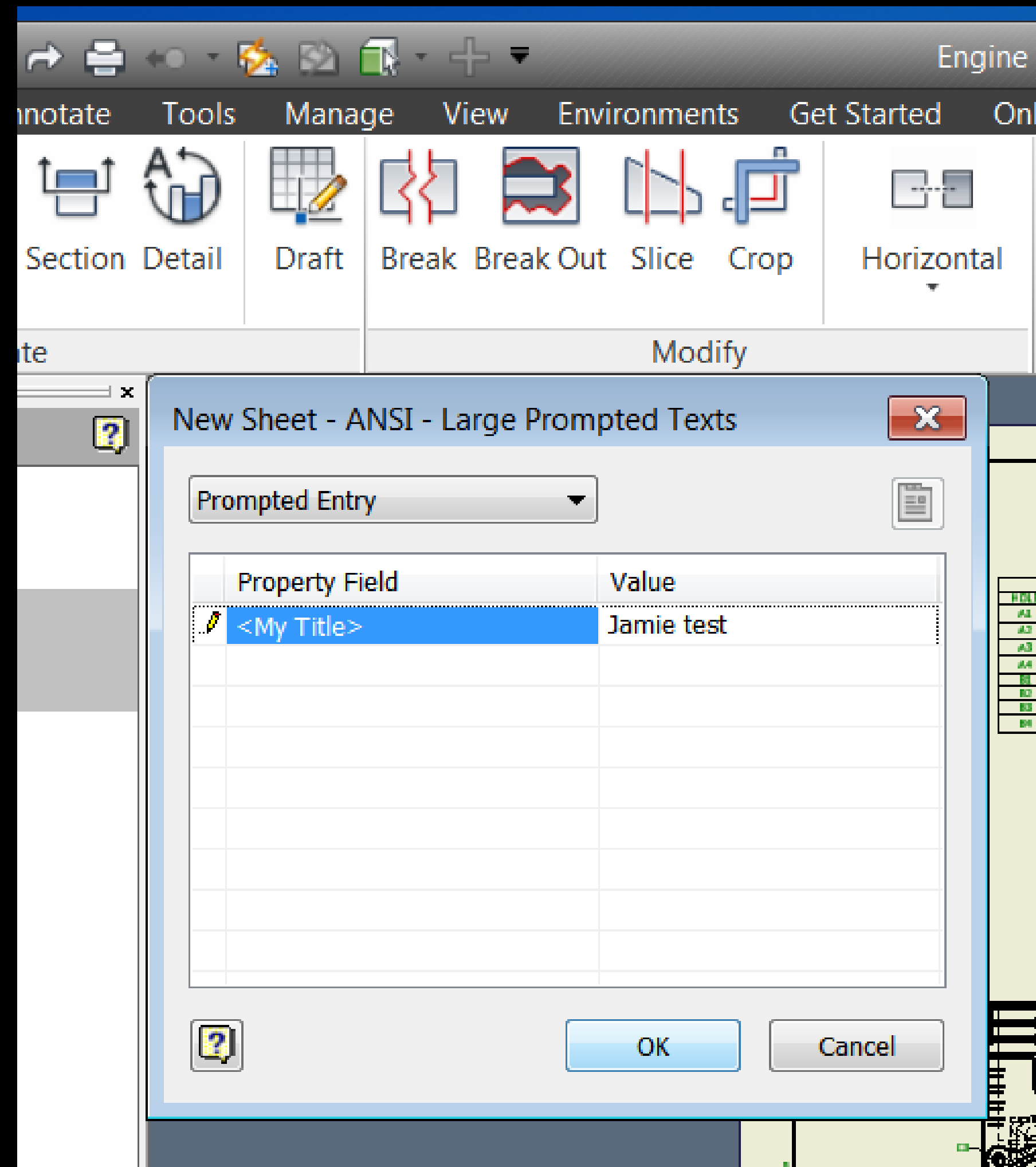
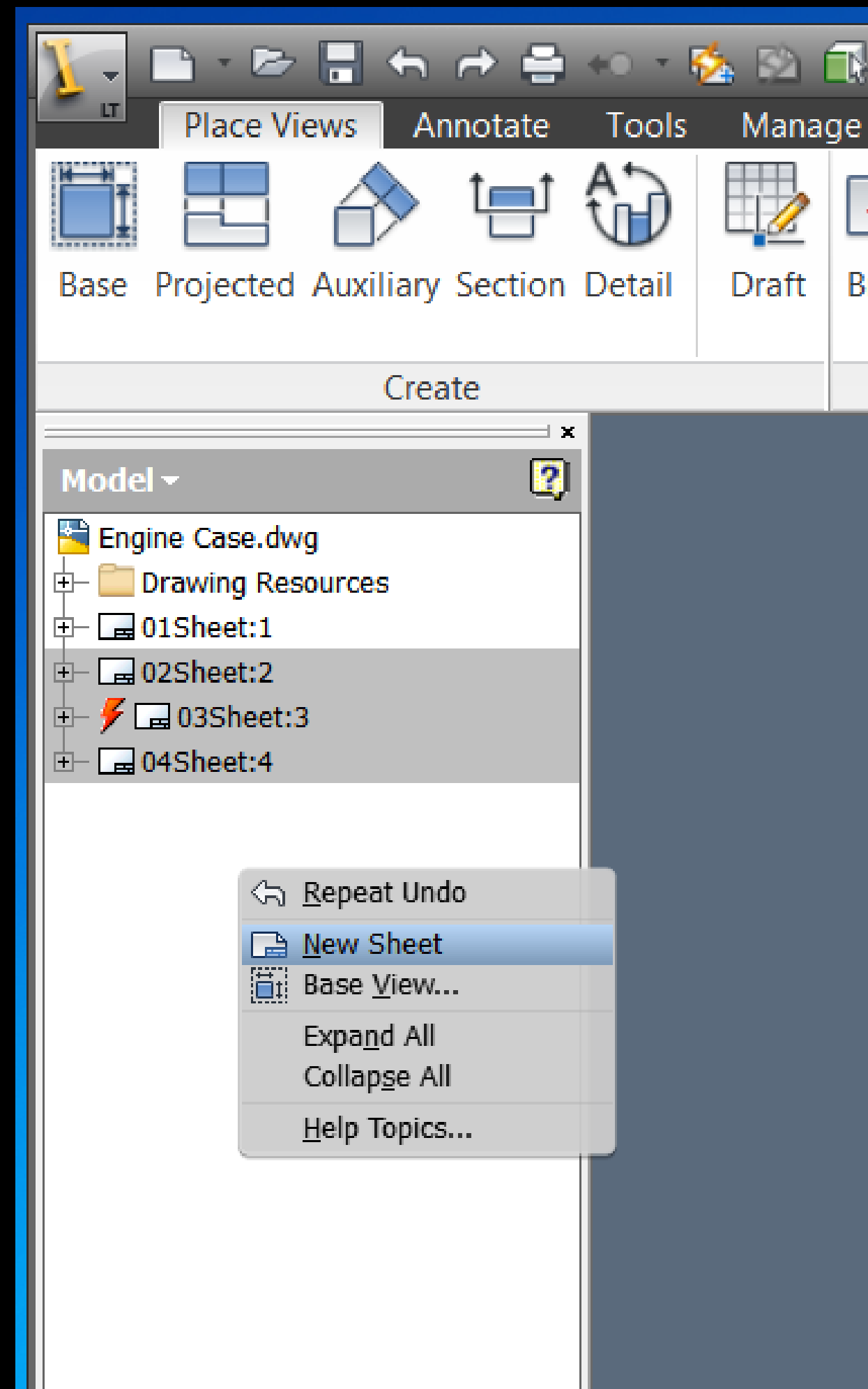
Printing from Inventor

Step 4: Print



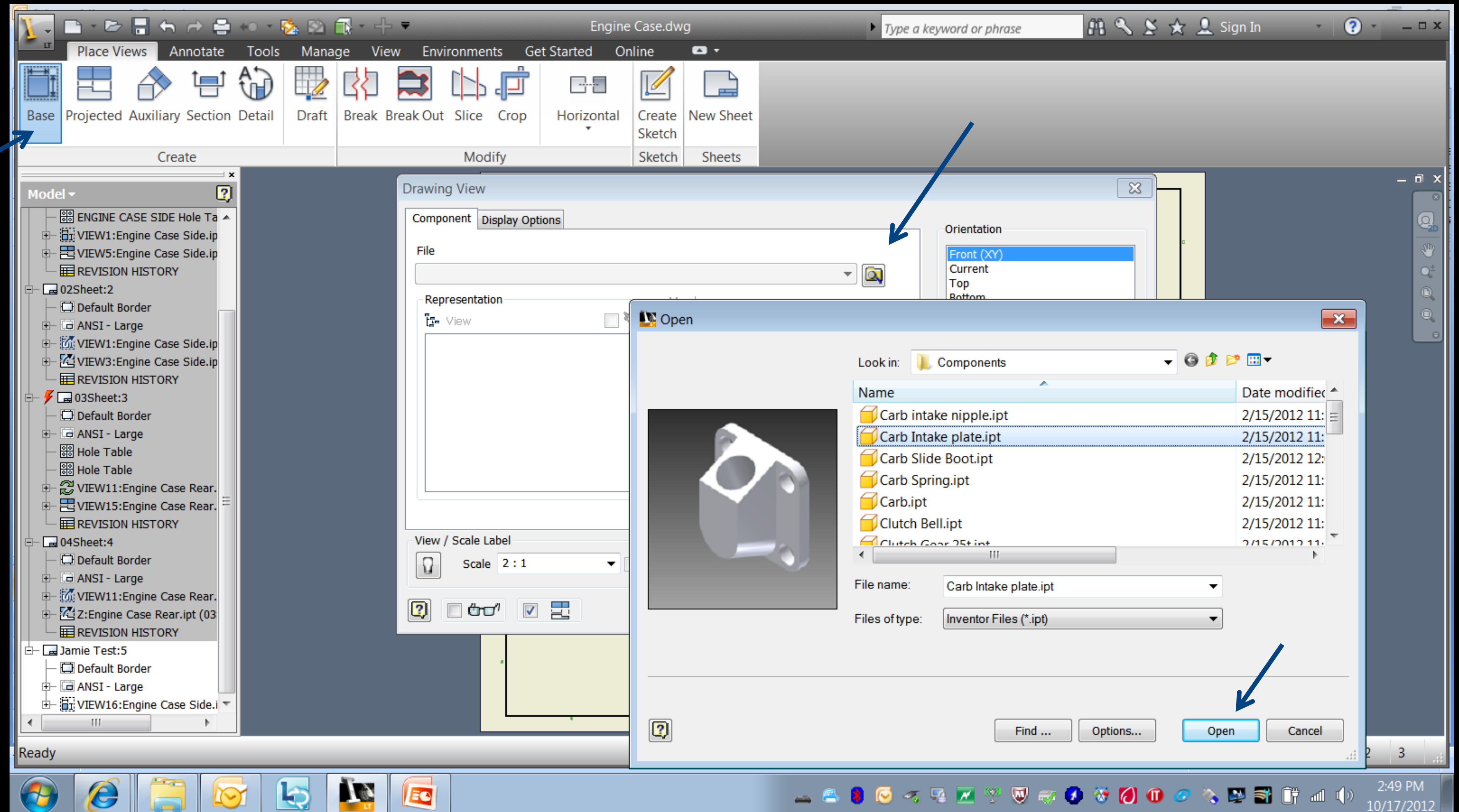
Creating a Drawing & Printing in Inventor

Step 1-2: Create New Sheet & Name New Sheet



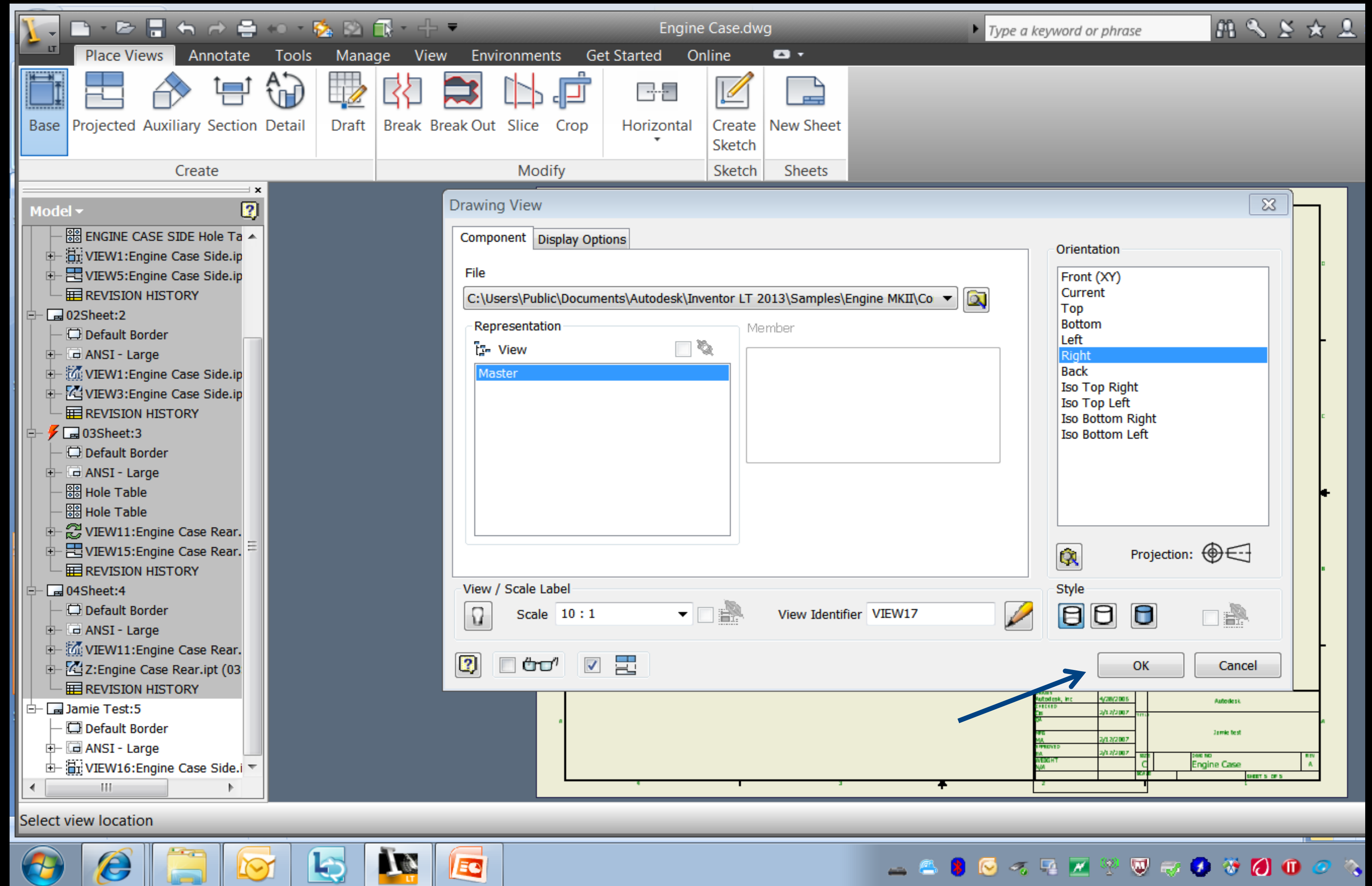
Creating a Drawing & Printing in Inventor

Step 3: Add items to sheet



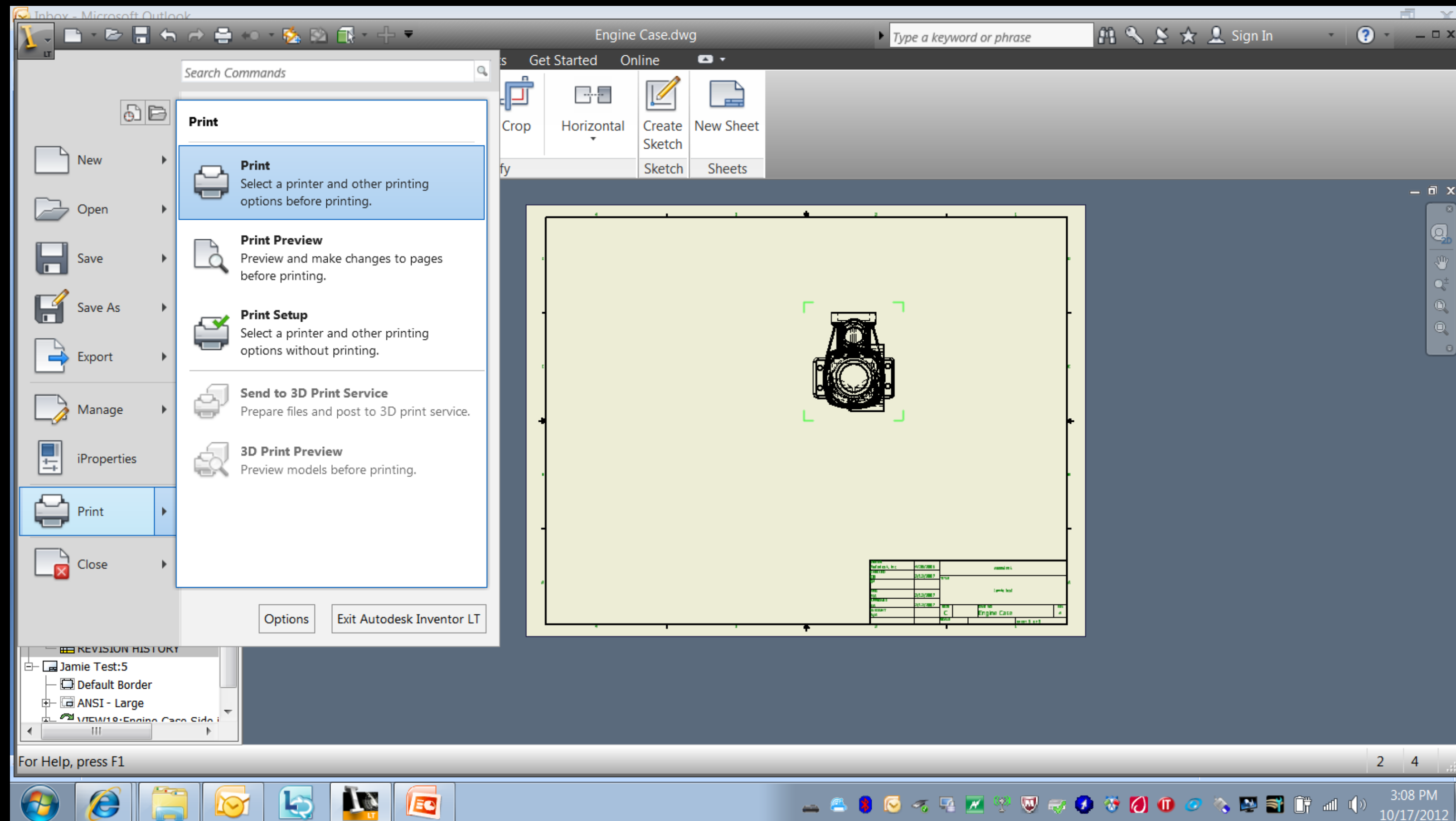
Creating a Drawing & Printing in Inventor

Step 4: Position the item on the sheet



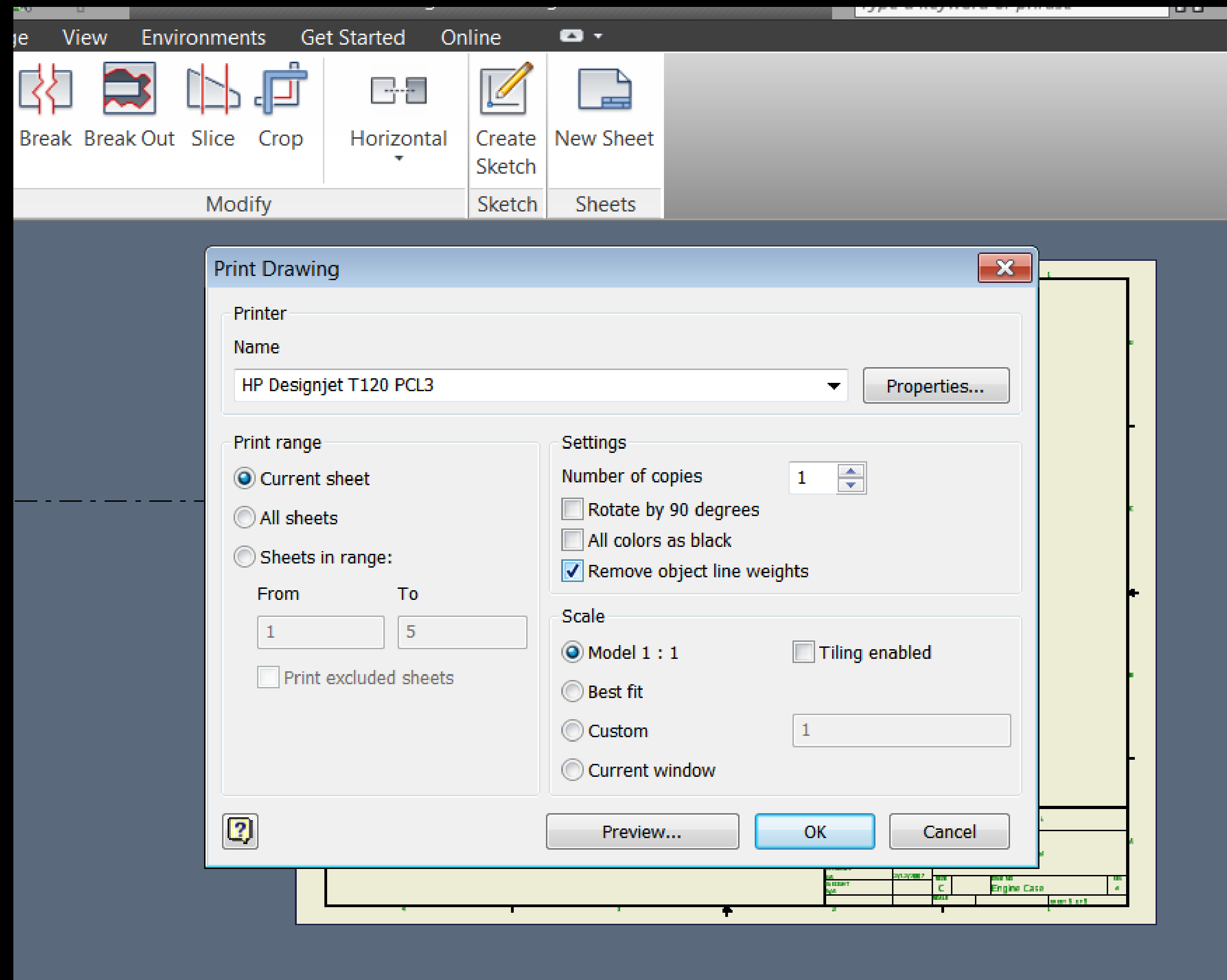
Creating a Drawing & Printing in Inventor

Step 5: Select Inventor Icon and Print-Print



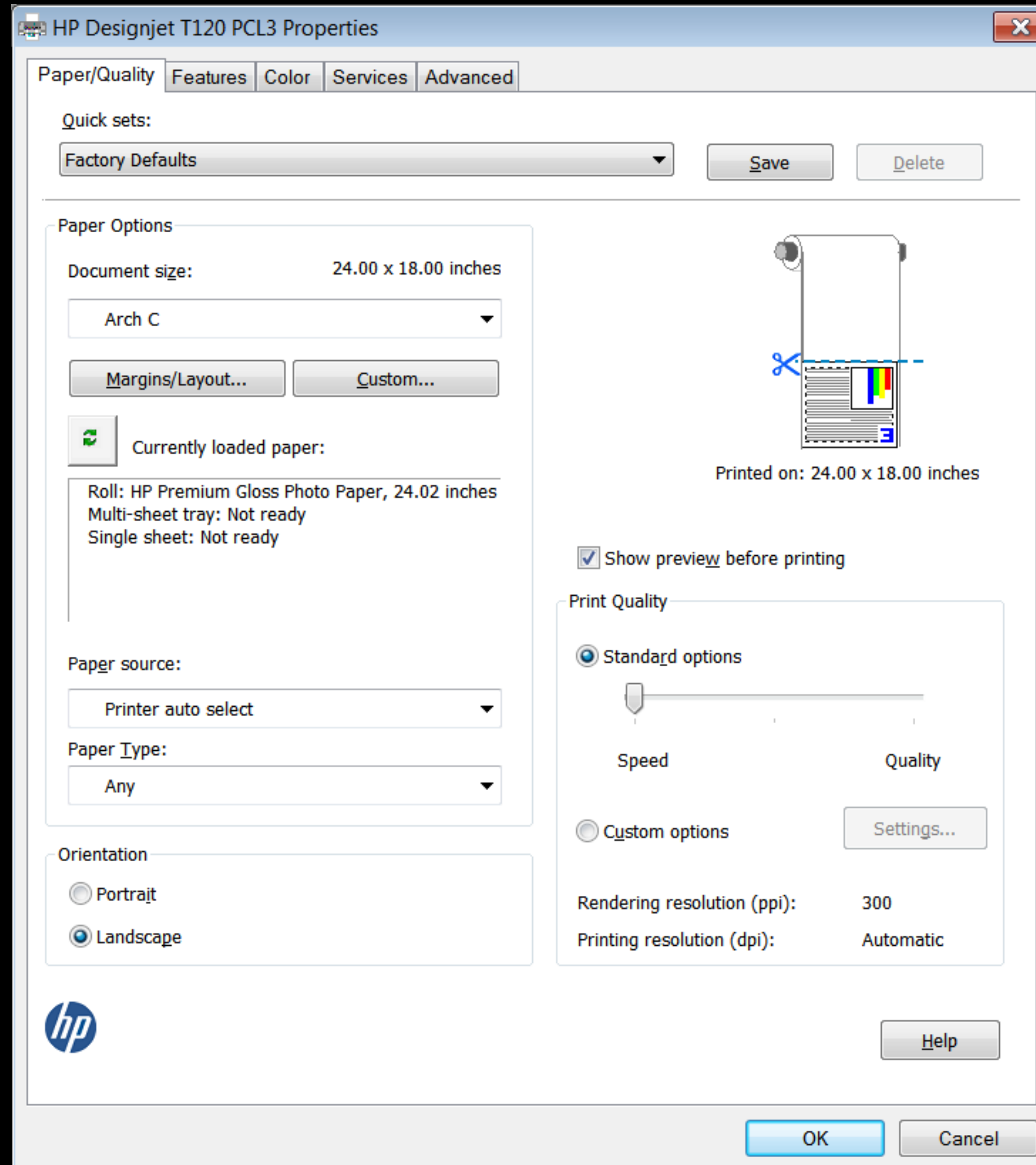
Creating a Drawing & Printing in Inventor

Step 6: Print Driver first window



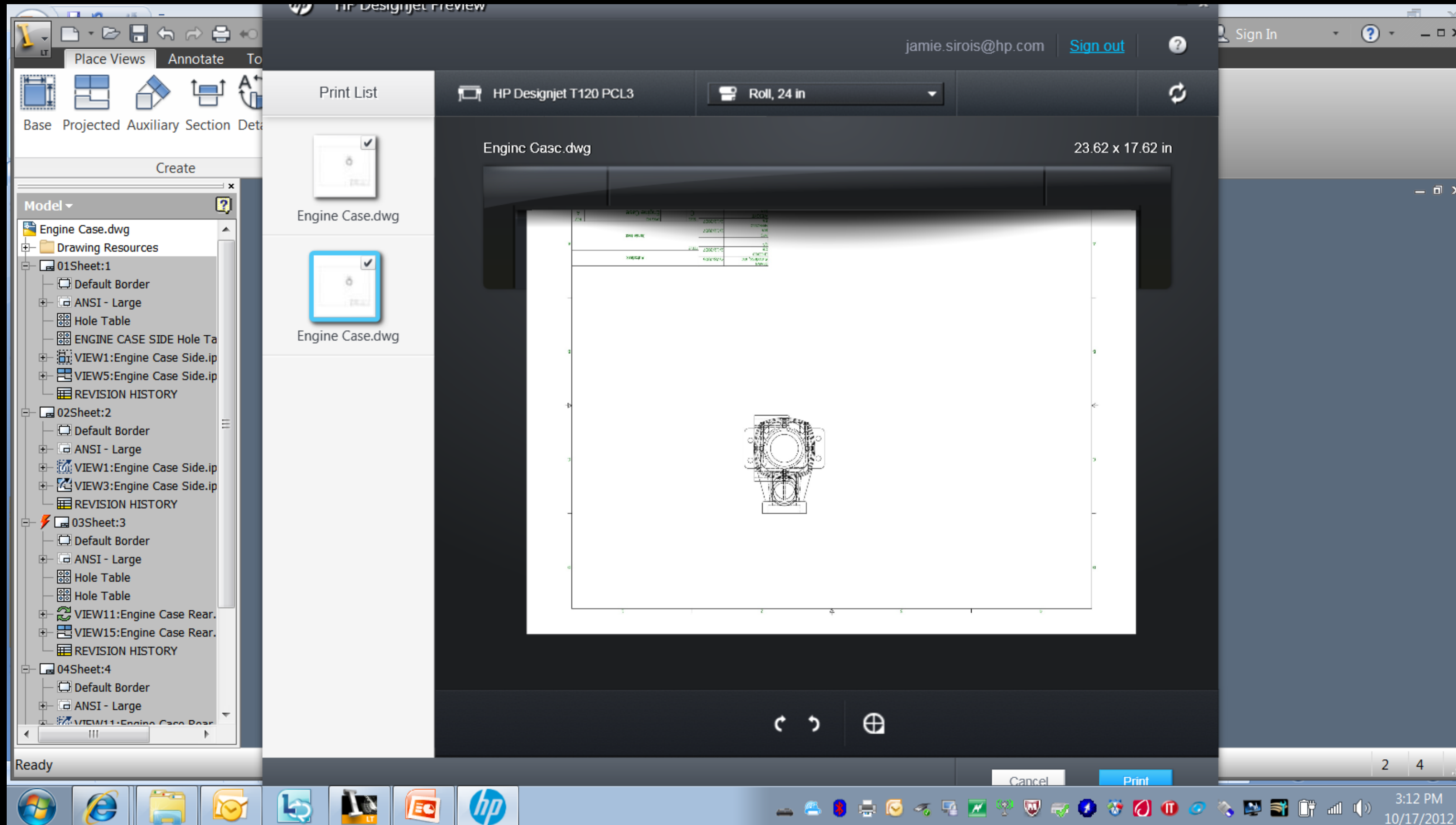
Creating a Drawing & Printing in Inventor

Step 7: Properties



Creating a Drawing & Printing in Inventor

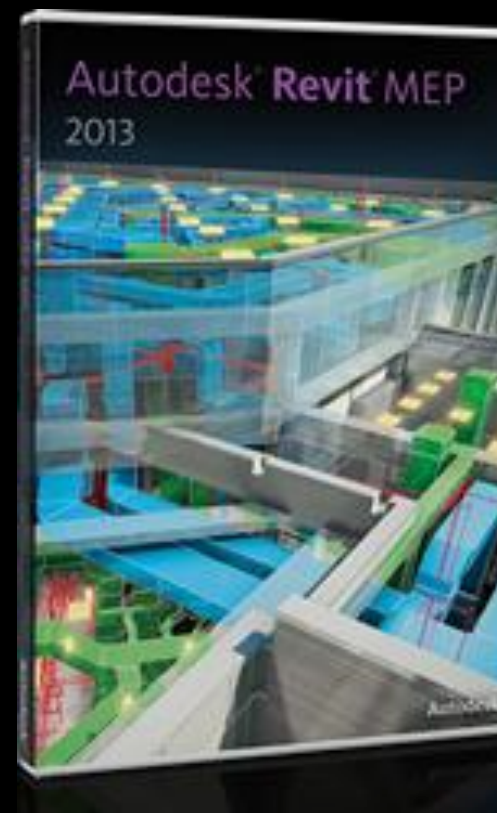
Step 8: Print



Printing from Revit

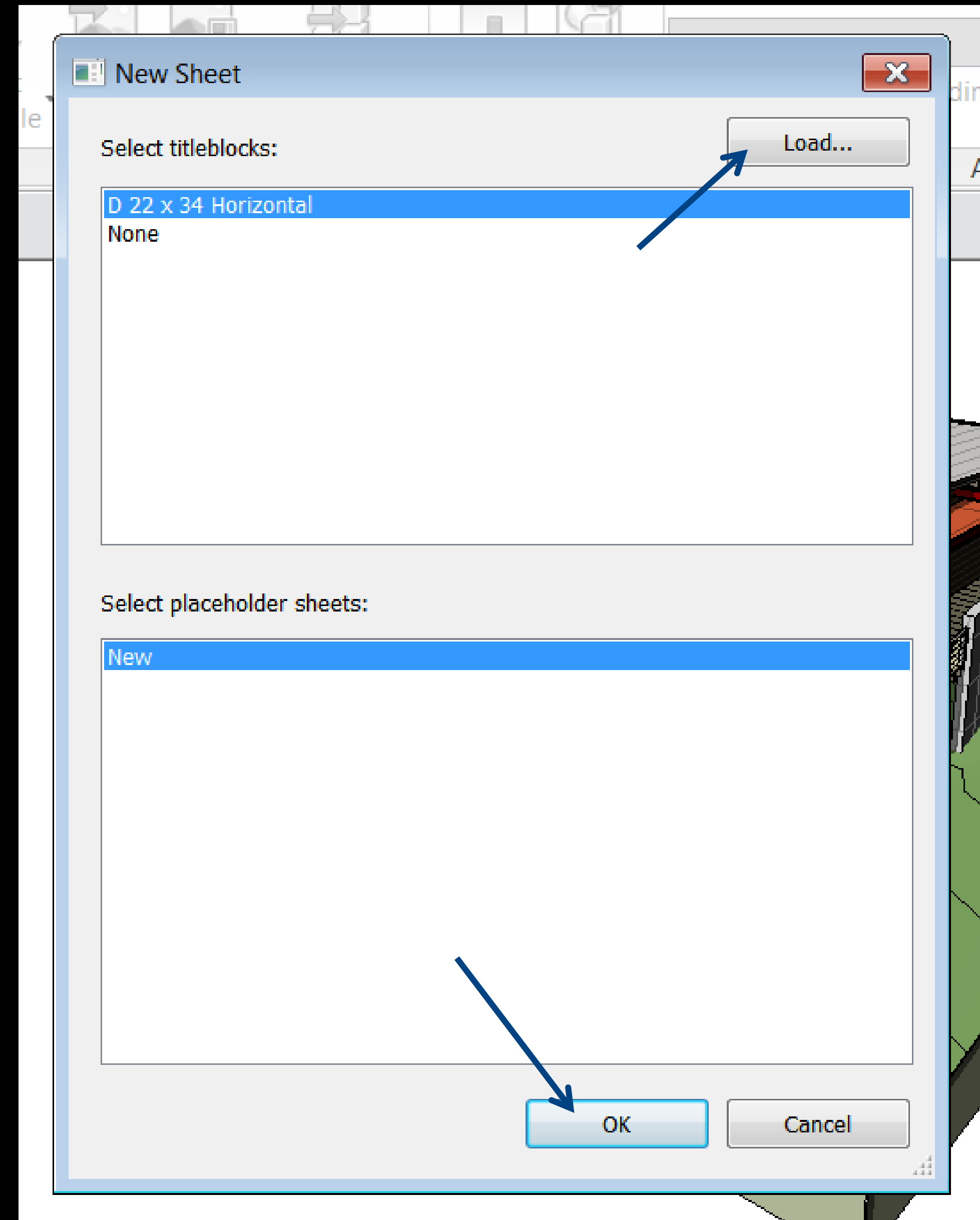
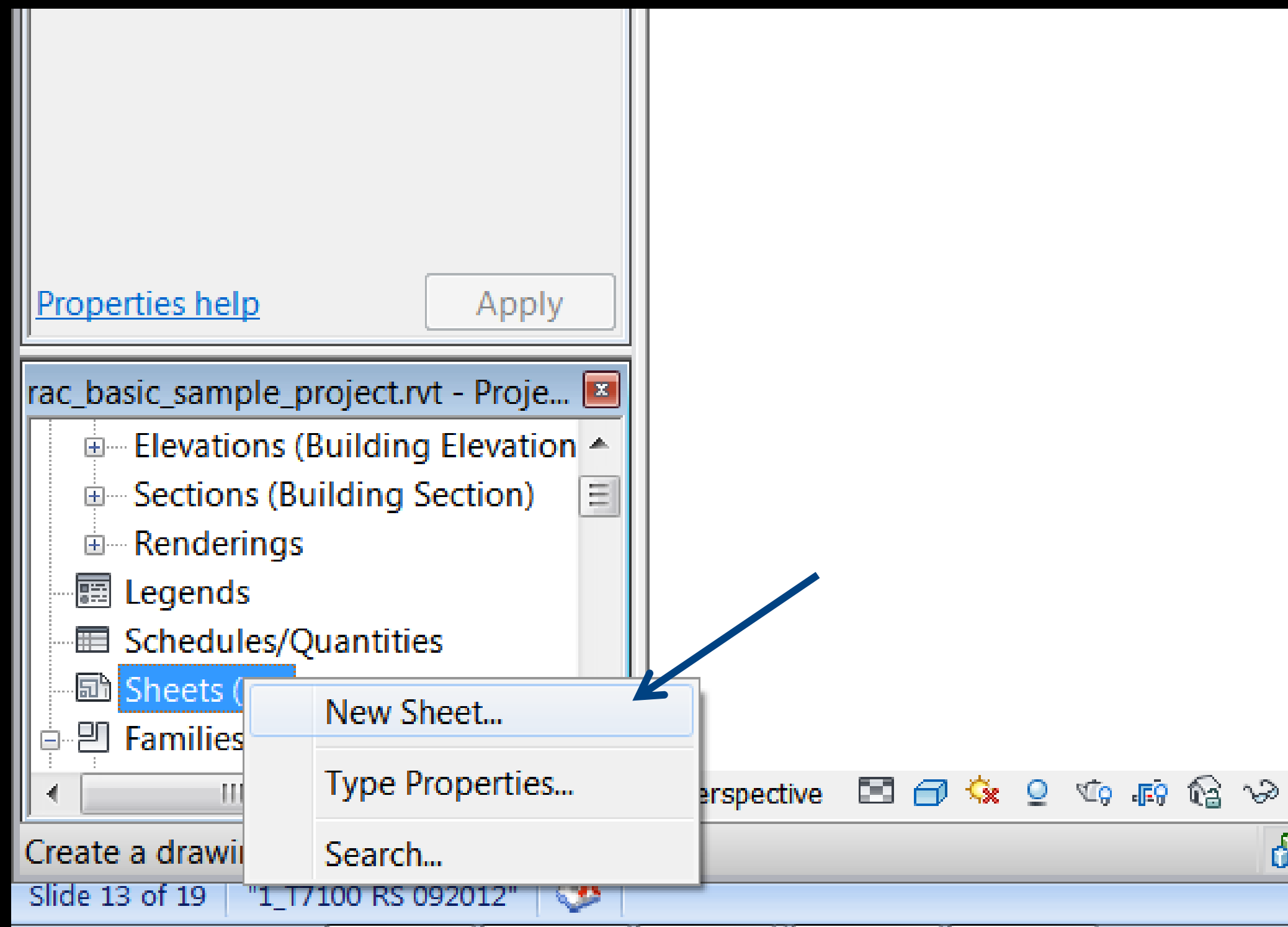
A few notes:

1. Projects are based off project templates
2. One model per discipline- not many dwg files
3. Ribbon interface- not buttons/icons/commands
4. No special drivers or pc3 file creation before printing



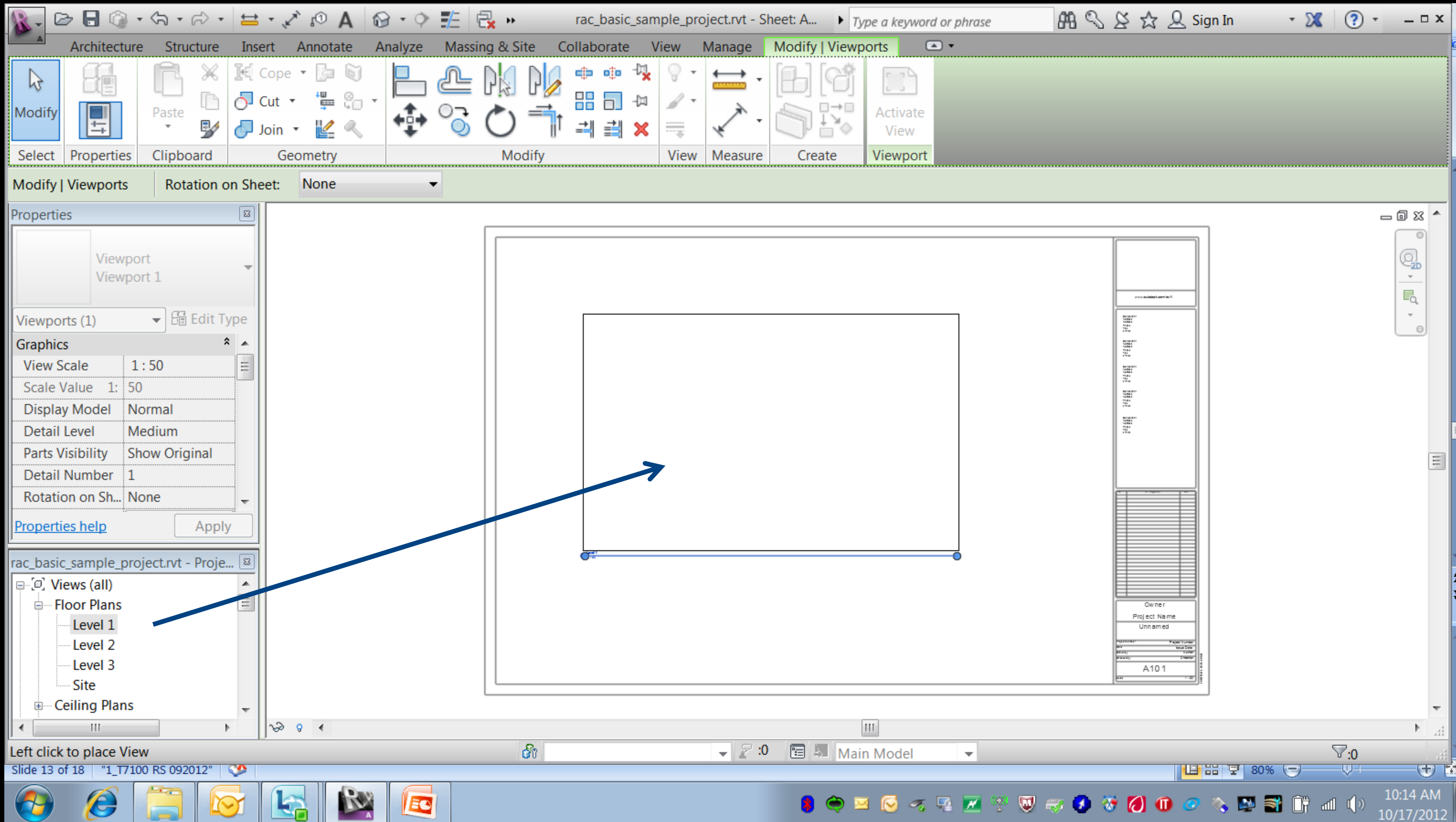
Printing from Revit

Step 1: Create Sheet



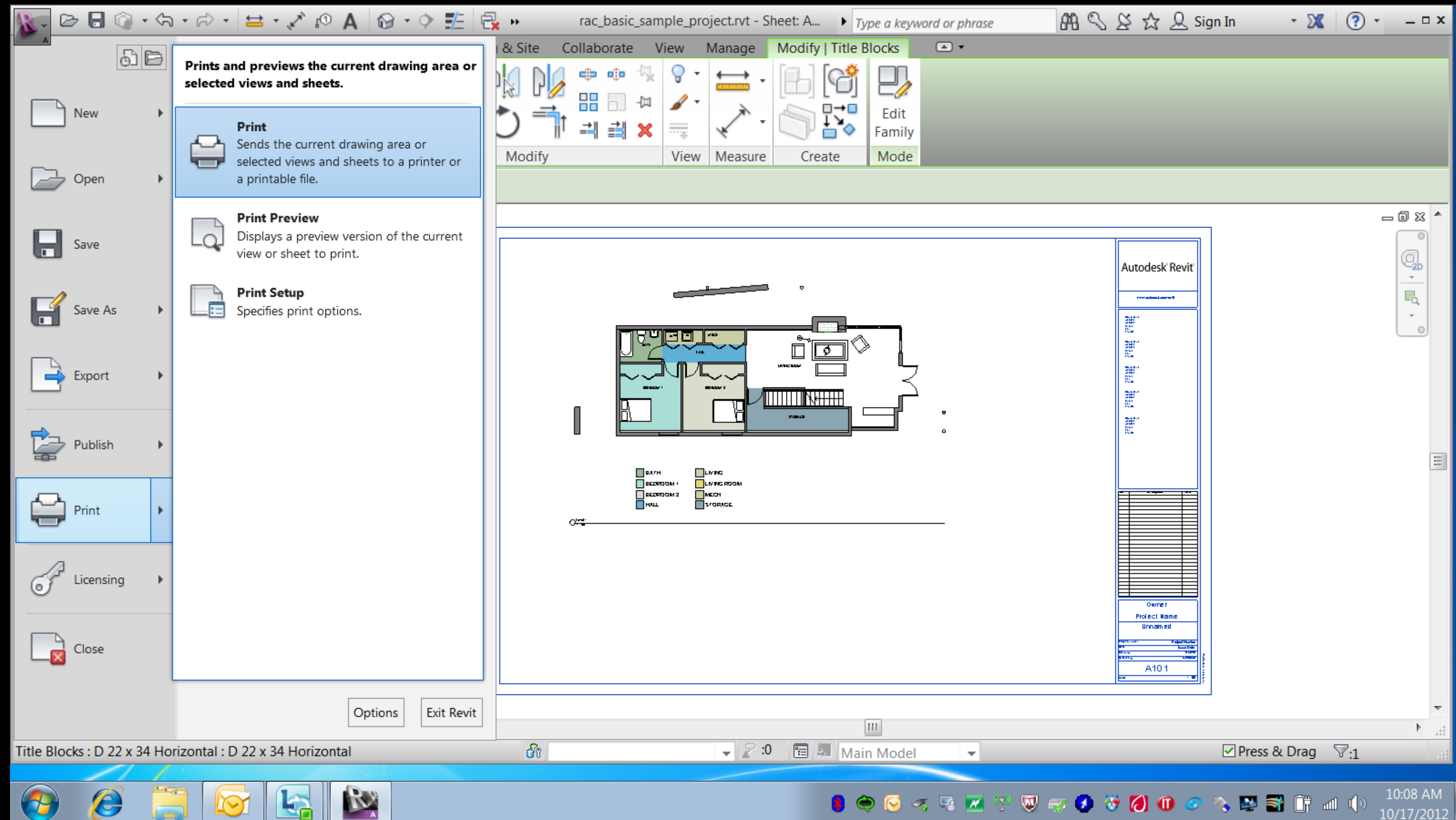
Printing from Revit

Step 2: Drag View onto Sheet



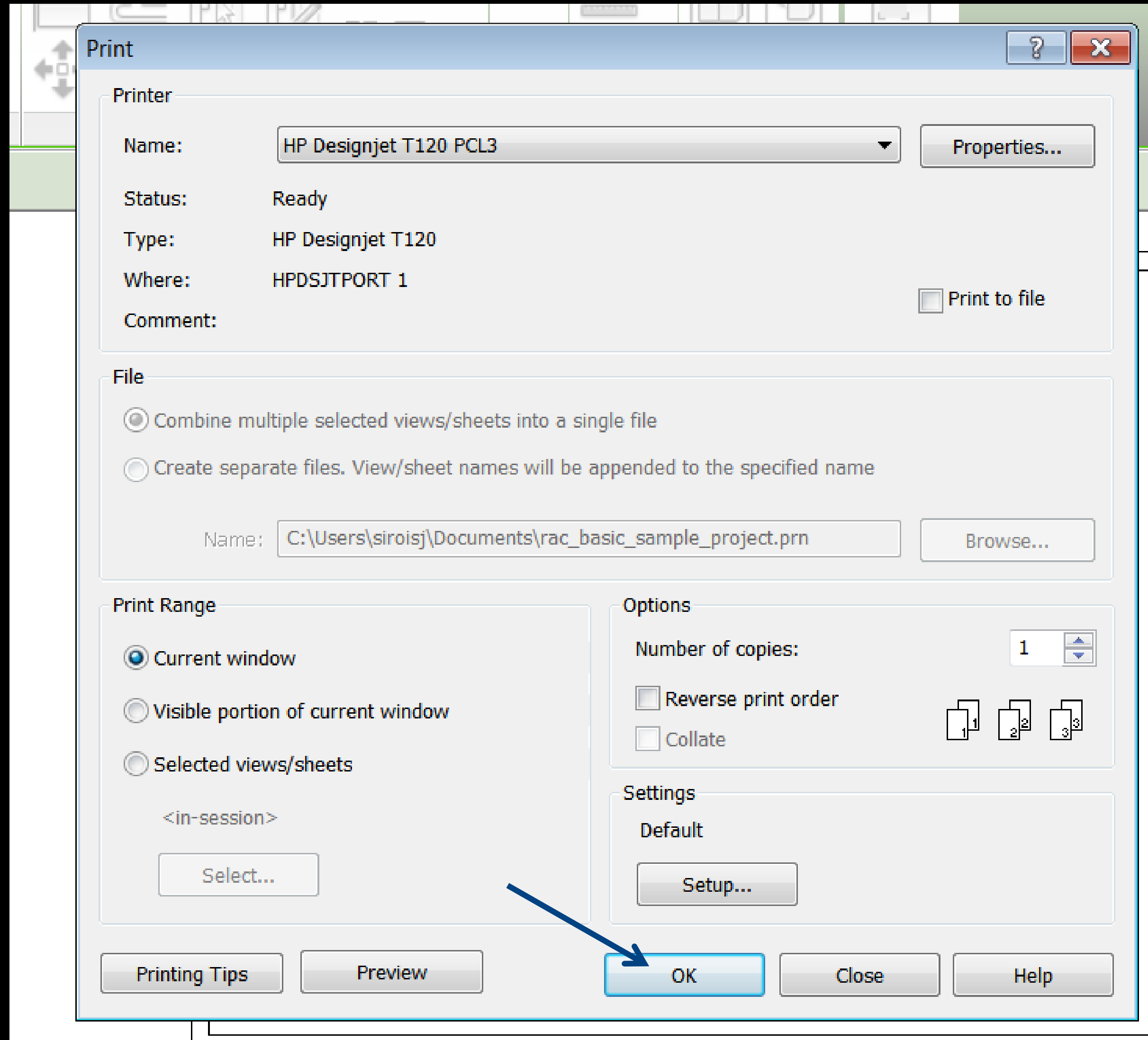
Printing from Revit

Step 3: Select Revit Icon, then Print-Print



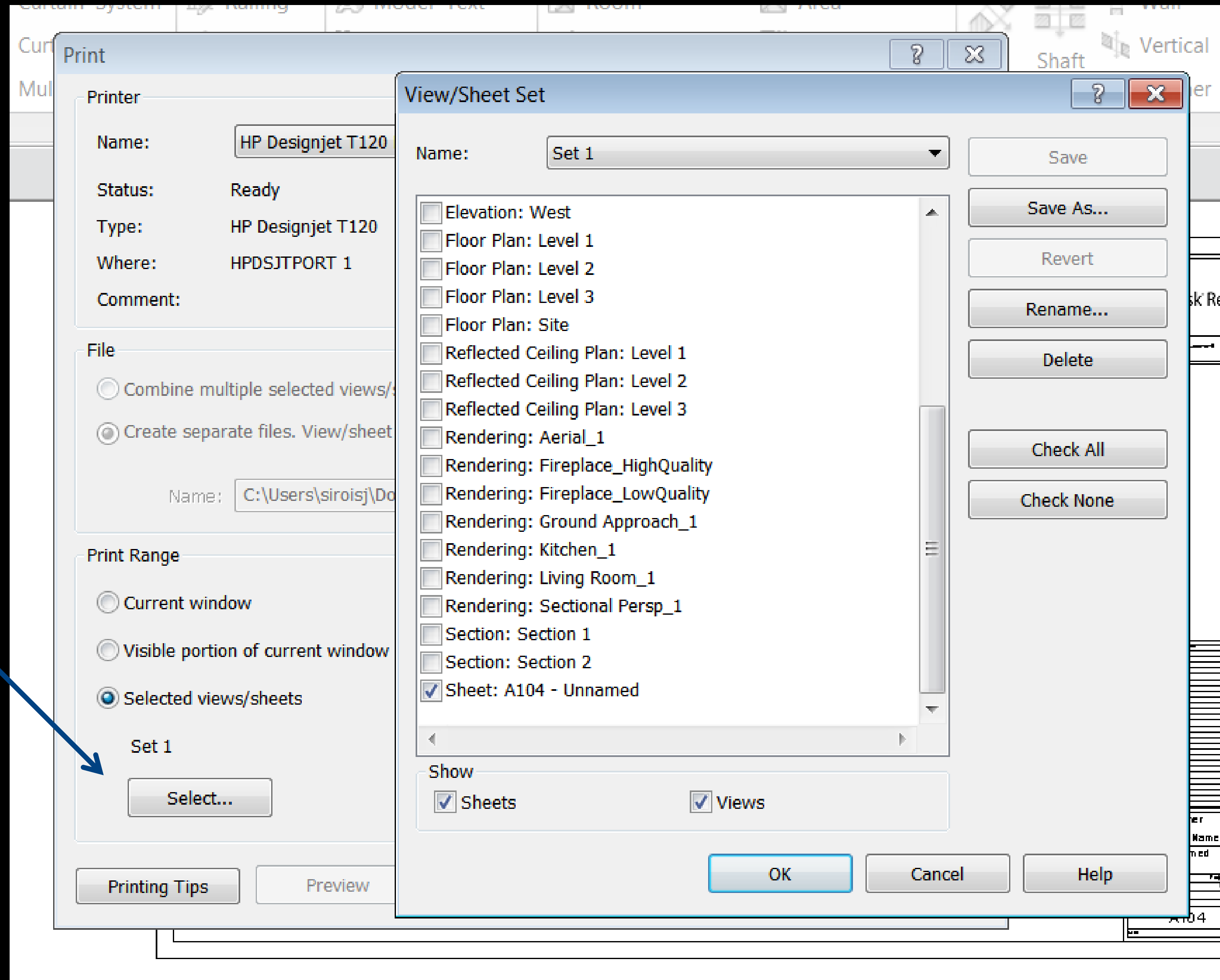
Printing from Revit

Step 4: Select Printer- Driver First Window



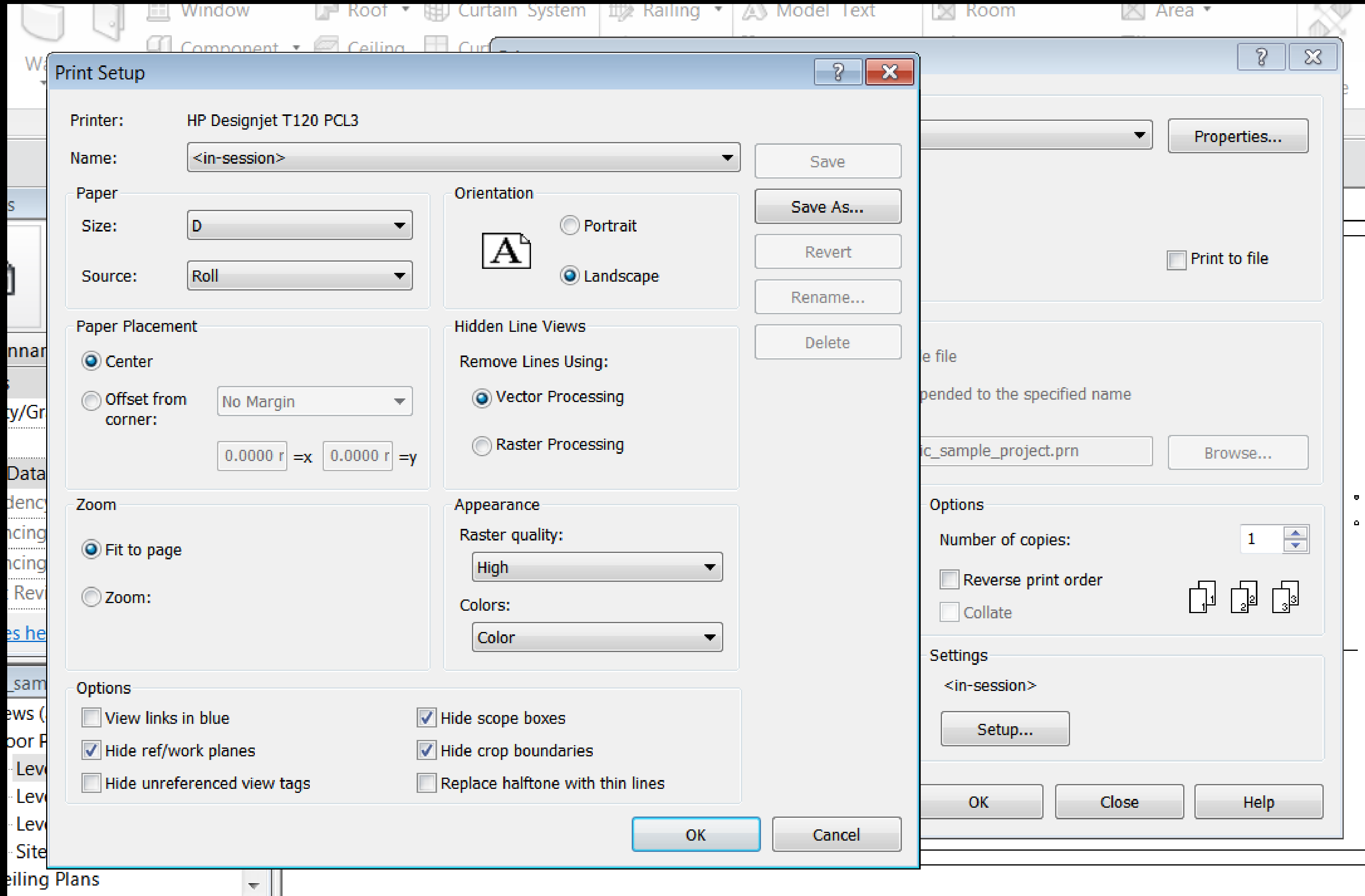
Printing from Revit

Step 5: Select what to print



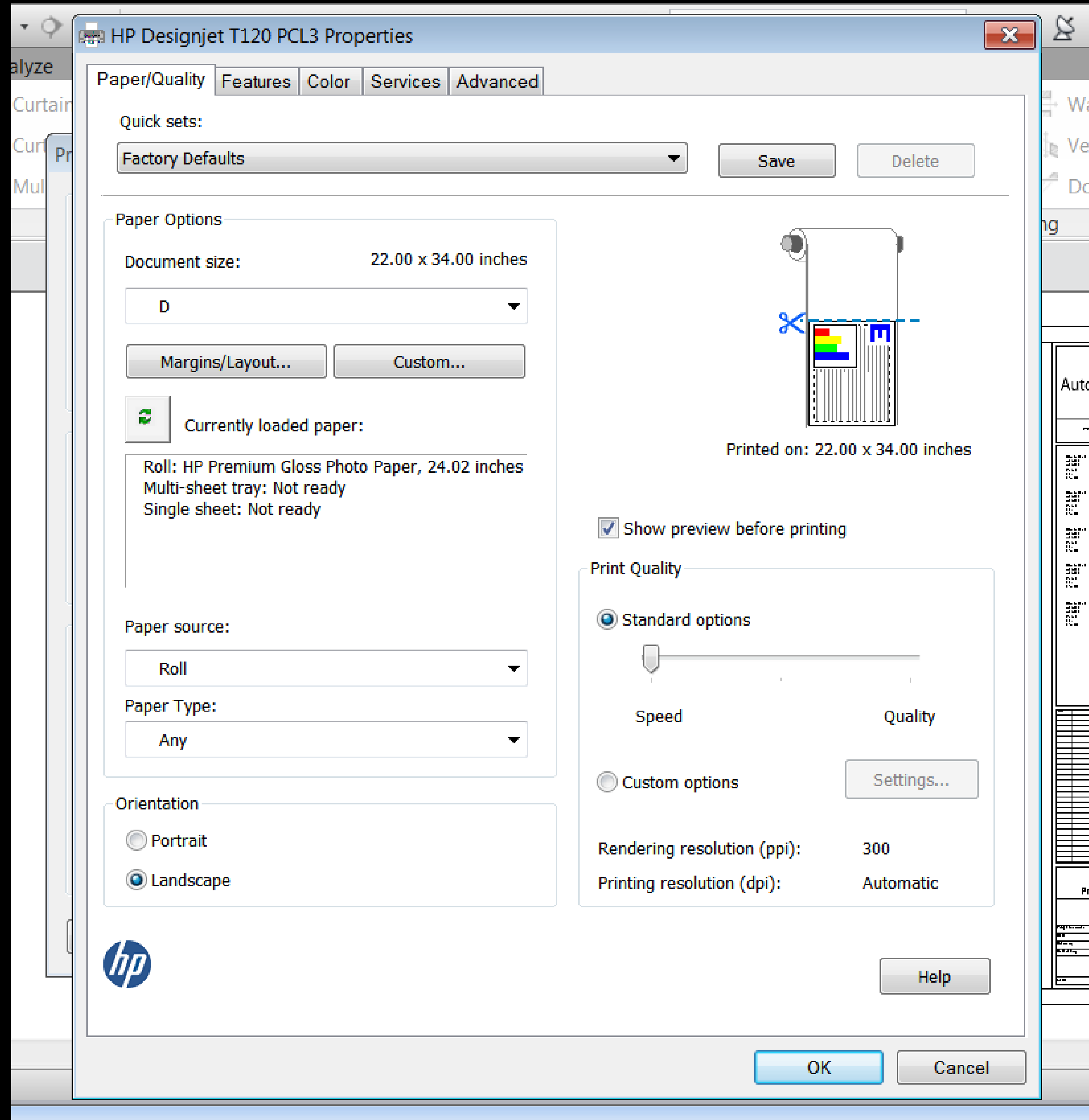
Printing from Revit

Optional Step: In-session set-up



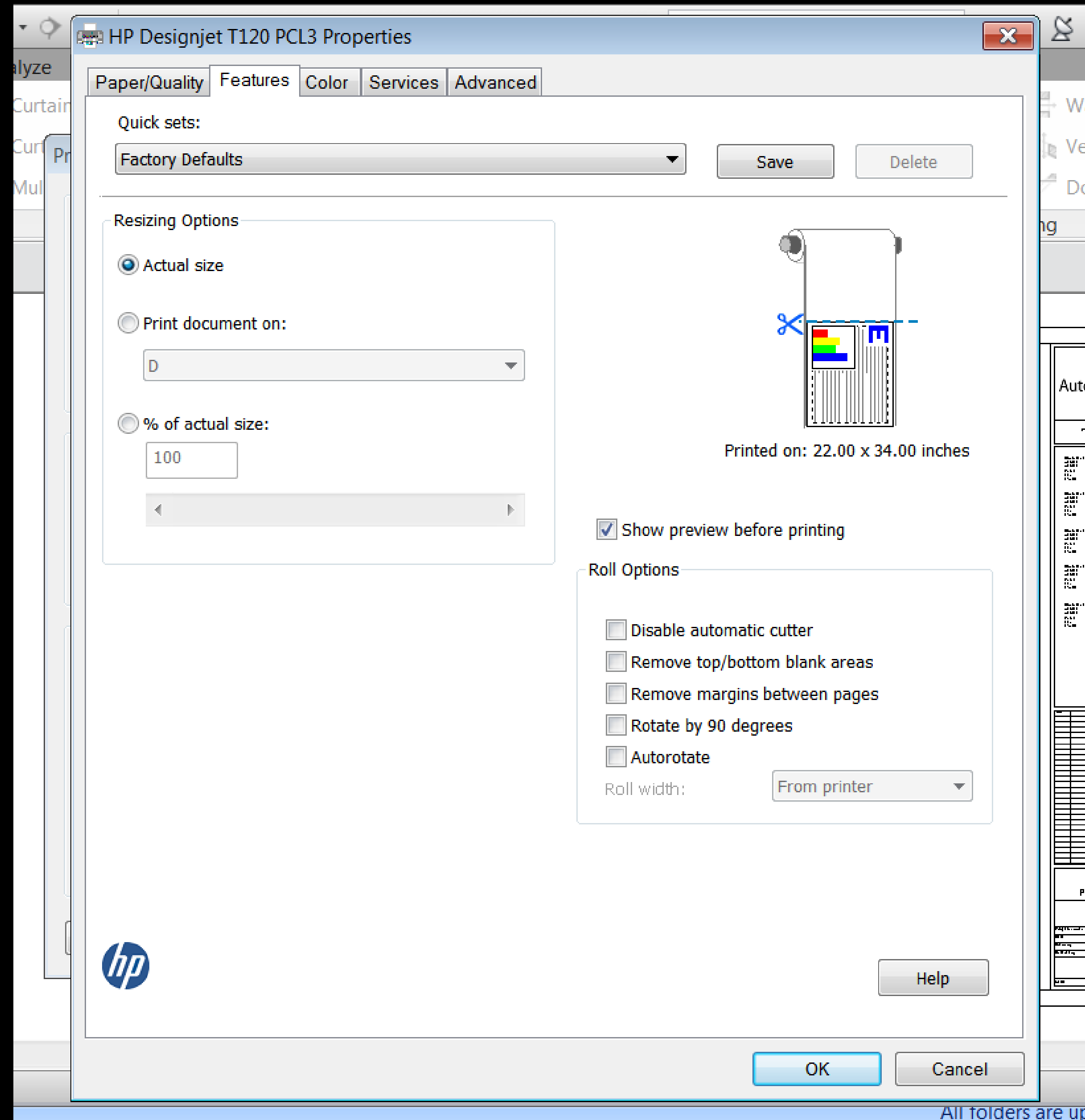
Printing from Revit

Step 6: Properties- Paper/Quality



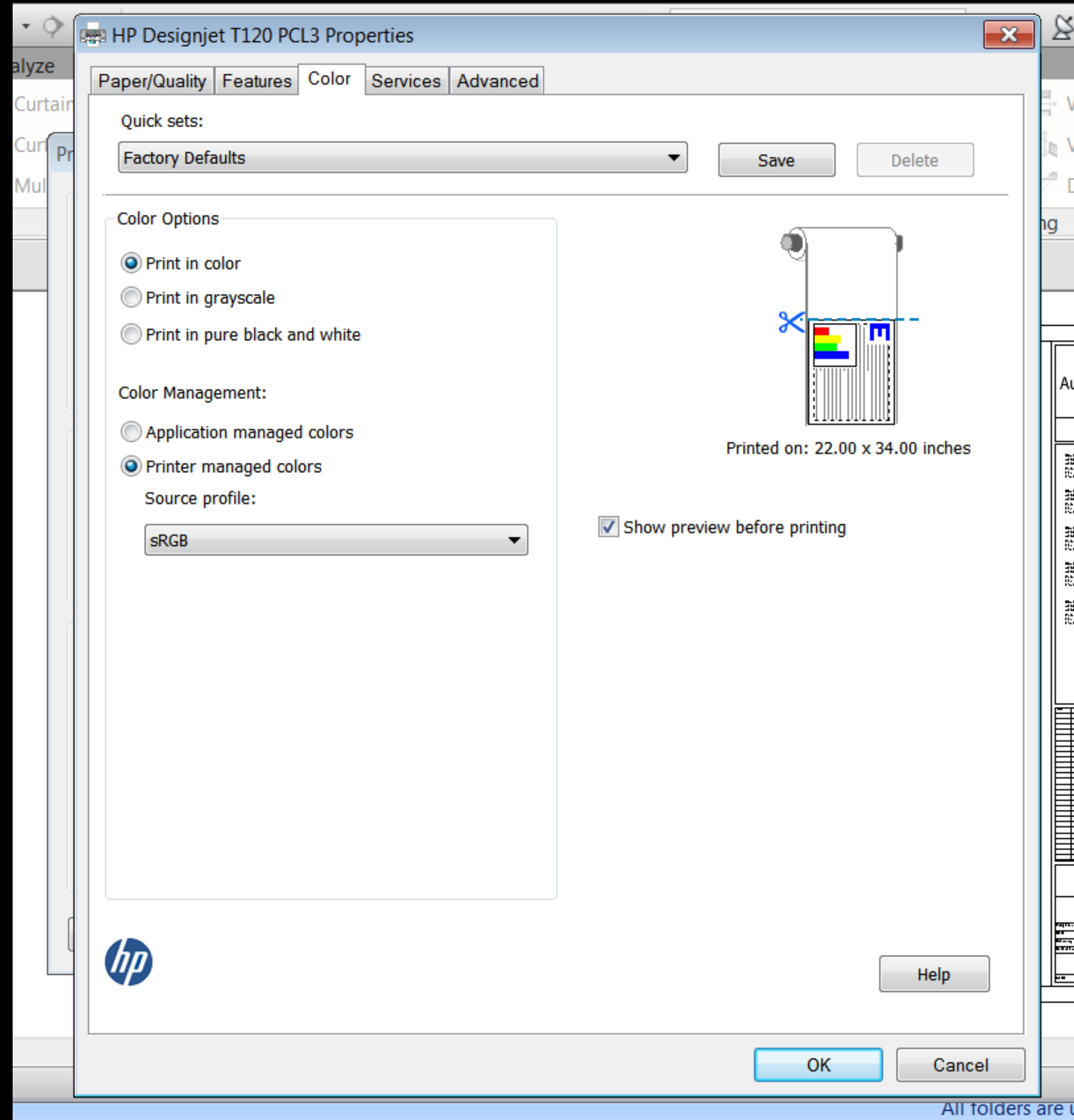
Printing from Revit

Step 6: Properties- Features



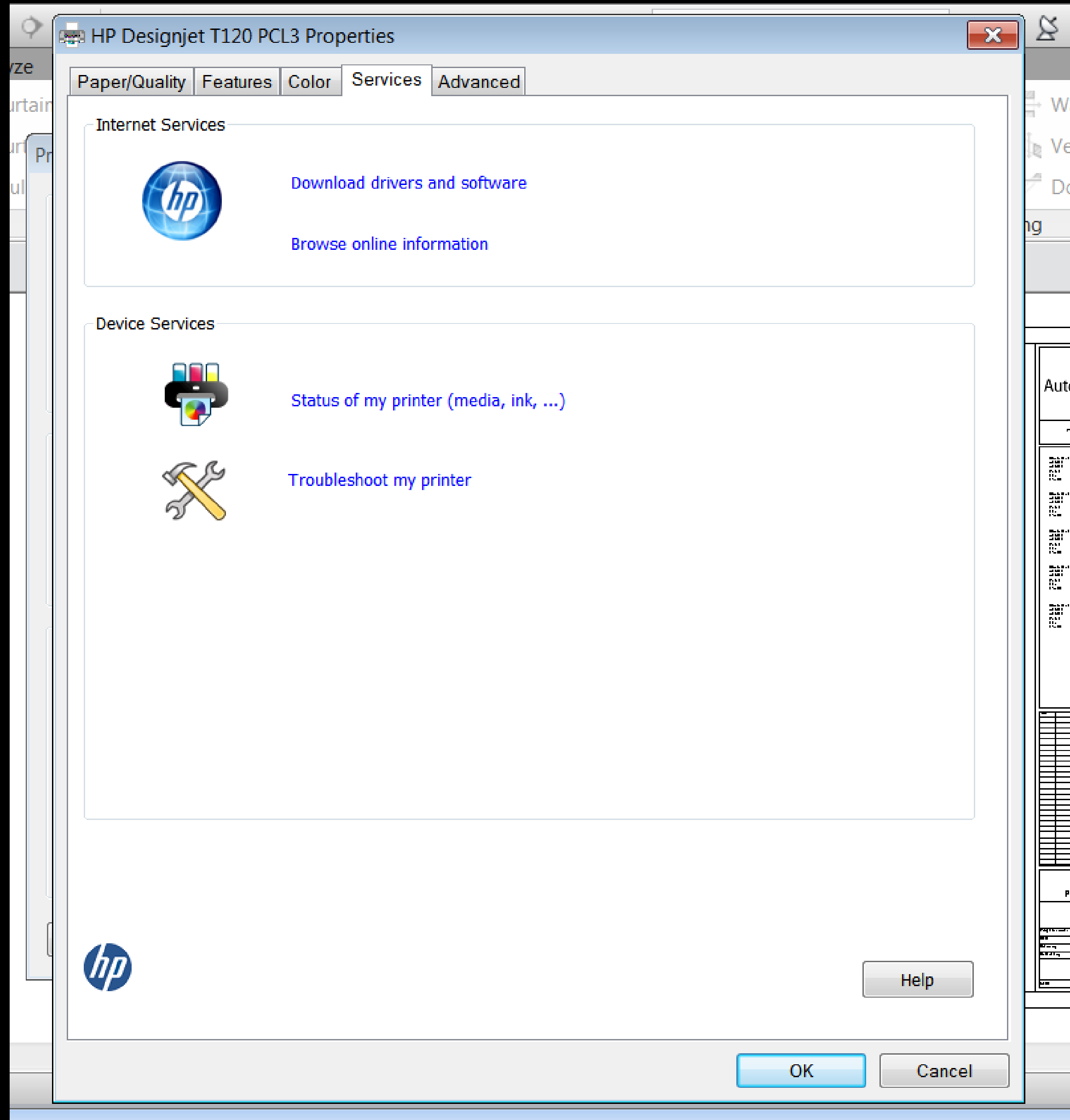
Printing from Revit

Step 6: Properties- Color



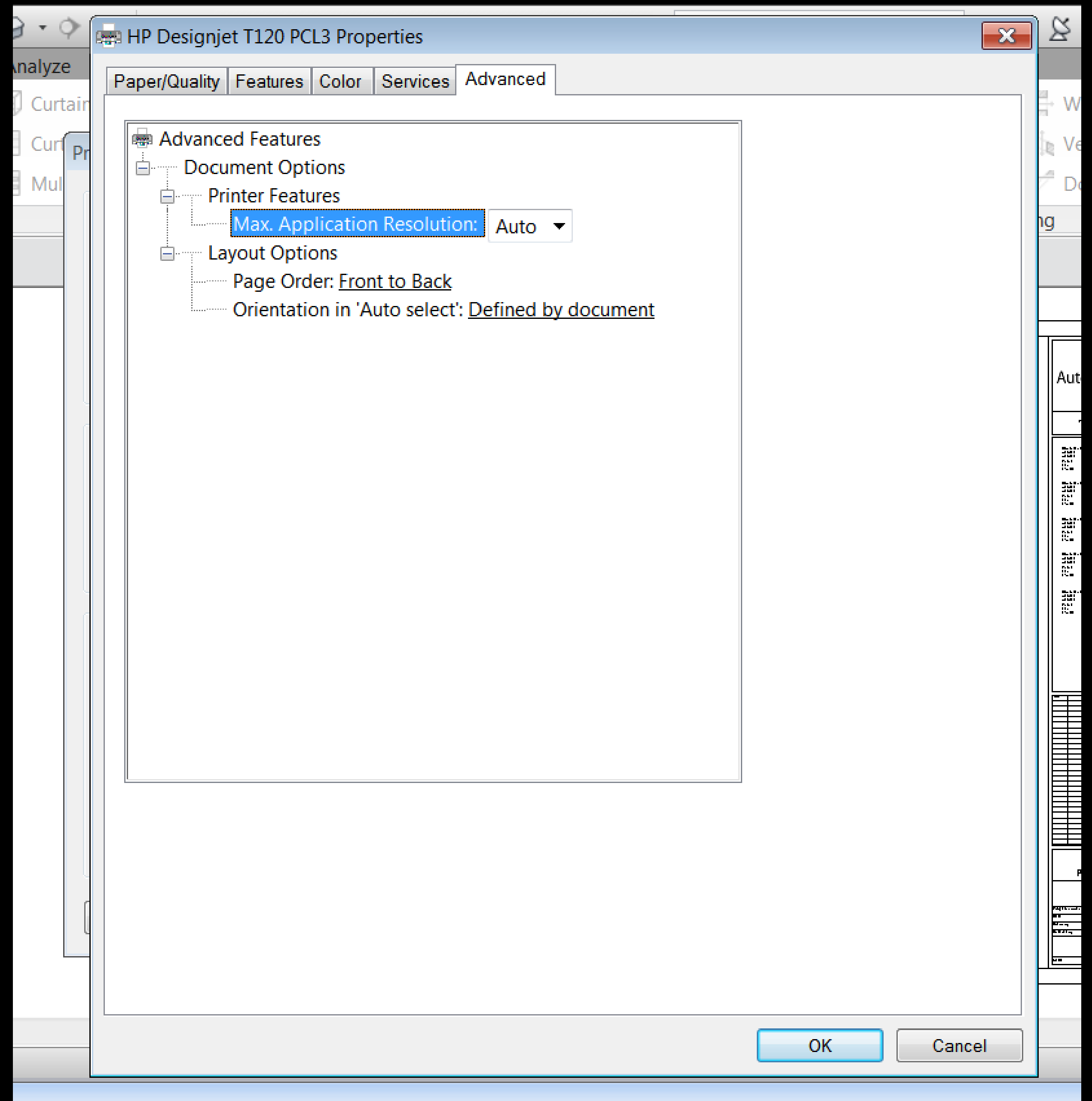
Printing from Revit

Step 6: Properties- Services



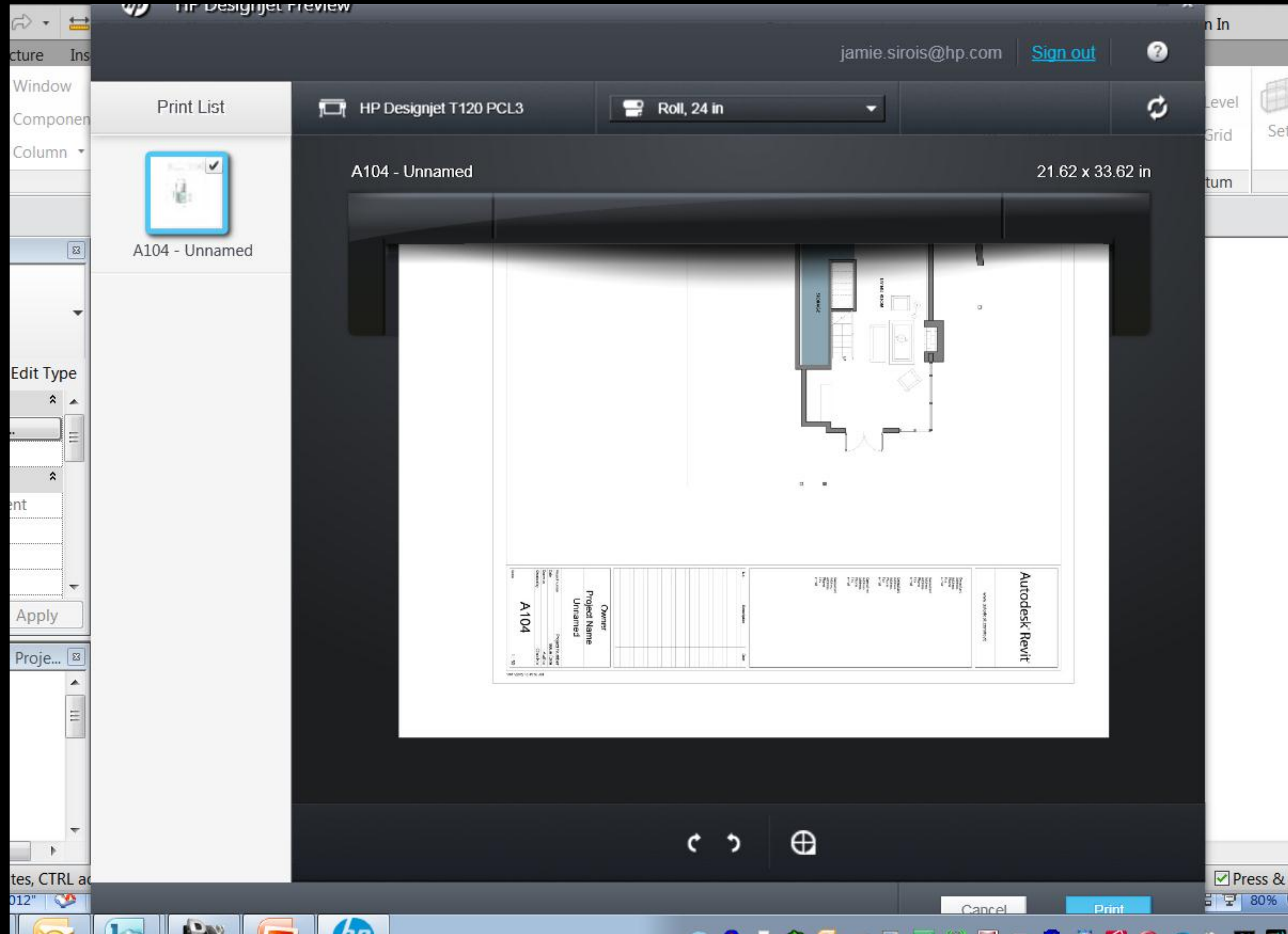
Printing from Revit

Step 6: Properties- Advanced



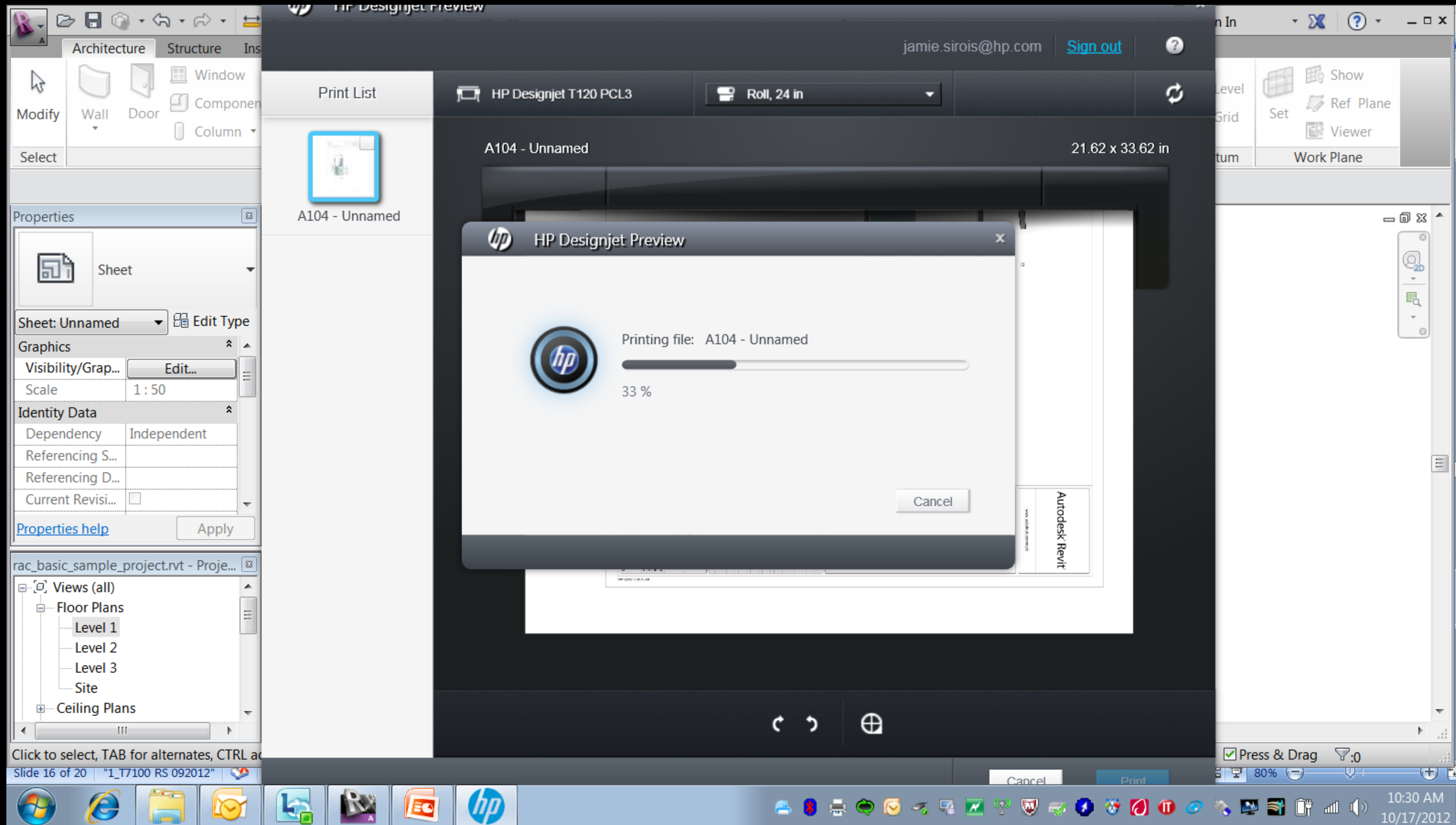
Printing from Revit

Step 7: Print



Printing from Revit

Final Step: Printing



Questions?

