WHY PRINT?

[EXPANDED TEXT]

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WHAT IS A PRINT?

The negative is comparable to the composer's score and the print to its performance. Each performance differs in subtle ways.

– Ansel Adams

WHAT DOES A PRINT MEAN TO YOU?

ART?

INCOME?

EXPRESSION?

PERFECTION?

PERMANENCE?

WHY PRINT?

When was the last time you made a print?
Was it for yourself or for a client?
Are your prints digital or analog?
Do you make your own prints, or use a lab?
Do you sell your prints?
Do you give prints as gifts?
Have you made a book of your photographs?
Do you think of prints as art or product?

WHY DO YOU PHOTOGRAPH?

WHY NOT PRINT?

TOO EXPENSIVE.
TOO DIFFICULT AND/OR TIME CONSUMING.
NEVER LOOKS LIKE MY SCREEN.
TOO MANY CHOICES FOR PAPERS.
NO NEED. EVERYTHING IS ONLINE NOW.

FINE ART PRINTING

With apologies to Ansel Adams:

The *RAW FILE* is the composer's score,
the *MASTER FILE* is its performance,
and the *PRINT* is like listening to a recording of that performance.

Each recording medium (vinyl, CD, mp3...) differs in subtle ways.

– Mark Berndt

STEPS TO SUCCESSFUL PRINTING

IMPECCABLE CAPTURE

MONITOR CALIBRATION

THE MASTER FILE
THE OUTPUT TEMPLATE

SOFTWARE: PRINTERS AND PROFILES

PROOF PRINTING AND FINE-TUNING

MAKING THE FINE PRINT
HANDLING WORKS ON PAPER

IMPECCABLE CAPTURE

IT ALL STARTS WITH THE ORIGINAL IMAGE.

TECHNICAL FLAWS IN THE CAPTURE WILL LIMIT YOUR ABILITY TO CREATE A FINAL IMAGE WORTH PRINTING.

PRINTING WILL NOT MAKE YOUR PHOTOGRAPH BETTER.
YOU *CAN* MAKE AN EXCELLENT PRINT OF A BAD IMAGE.

MONITOR CALIBRATION

YOU

MUST

CALIBRATE YOUR MONITOR!

IT'S EASY!

COLOR MANAGEMENT

EACH DEVICE - CAMERA, MONITOR, PRINTER, PAPER - DISPLAYS COLOR DIFFERENTLY.

COLOR MANAGEMENT USES “PROFILES” TO ADJUST EACH DEVICE TO DISPLAY/REPRODUCE COLOR TO AN AGREED-UPON STANDARD.

WITHOUT COLOR MANAGEMENT, THE LOOK OF YOUR IMAGE CANNOT BE PREDICTED OR CONTROLLED.

MONITOR CALIBRATION
CREATING A MONITOR PROFILE

THE FIRST STEP IN COLOR MANAGEMENT

Your monitor must be calibrated to reproduce a file's color information accurately.

Adjusting images using a monitor that is not calibrated means you can't see what you're doing.

Calibration software sends known colors to the screen, which are read by a spectrophotometer ("puck") placed on the screen.

Those values are compared to the sent values generated by the software, and a profile is created to correct any difference and display the colors correctly.

** Photos are of a generic "puck".*

MONITOR CALIBRATION

DATA-COLOR SPYDER 4 ELITE or X-RITE i1 DISPLAY PRO

CALIBRATION PROCESS:

INSTALL software

CONFIGURE room (subdued lighting)

ATTACH measuring device

SET BRIGHTNESS LEVEL of monitor to MID-POINT

SET BASIC CALIBRATION INFO

monitor type (LCD)

whitepoint - D65

brightness - **120** ~ 150

RUN calibration program **TWO TIMES**

NAME monitor profile by screen & date

THE MASTER FILE

YOUR FINISHED IMAGE

Build one full-resolution, full frame NORMAL COLOR image in a layered Photoshop document.

Apply various *non-destructive* creative TREATMENTS to the image using layers and layer groups. *Example - convert to B&W.*

SAVE the layered MASTER FILE (all treatments will be retained, whether "on" or "off")

THIS IS THE *PERFORMANCE* OF THE DIGITAL CAPTURE.

THE MASTER FILE
ONE LAYERED PHOTOSHOP FILE FOR EACH IMAGE

Create a consistent workflow to build your images

Work in a specified order for proper results

Build a full-resolution NORMAL COLOR IMAGE first

Apply creative TREATMENTS to the NORMAL COLOR IMAGE within the MASTER FILE using layers.

SAVE the MASTER FILE (with all treatments)

Create individual OUTPUT FILES for prints, web, publications, email using OUTPUT TEMPLATES.

THE COMPOSITE LAYER
A SINGLE-LAYER VERSION OF YOUR MASTER FILE

OPEN the MASTER FILE

ACTIVATE the topmost *visible* LAYER or LAYER GROUP

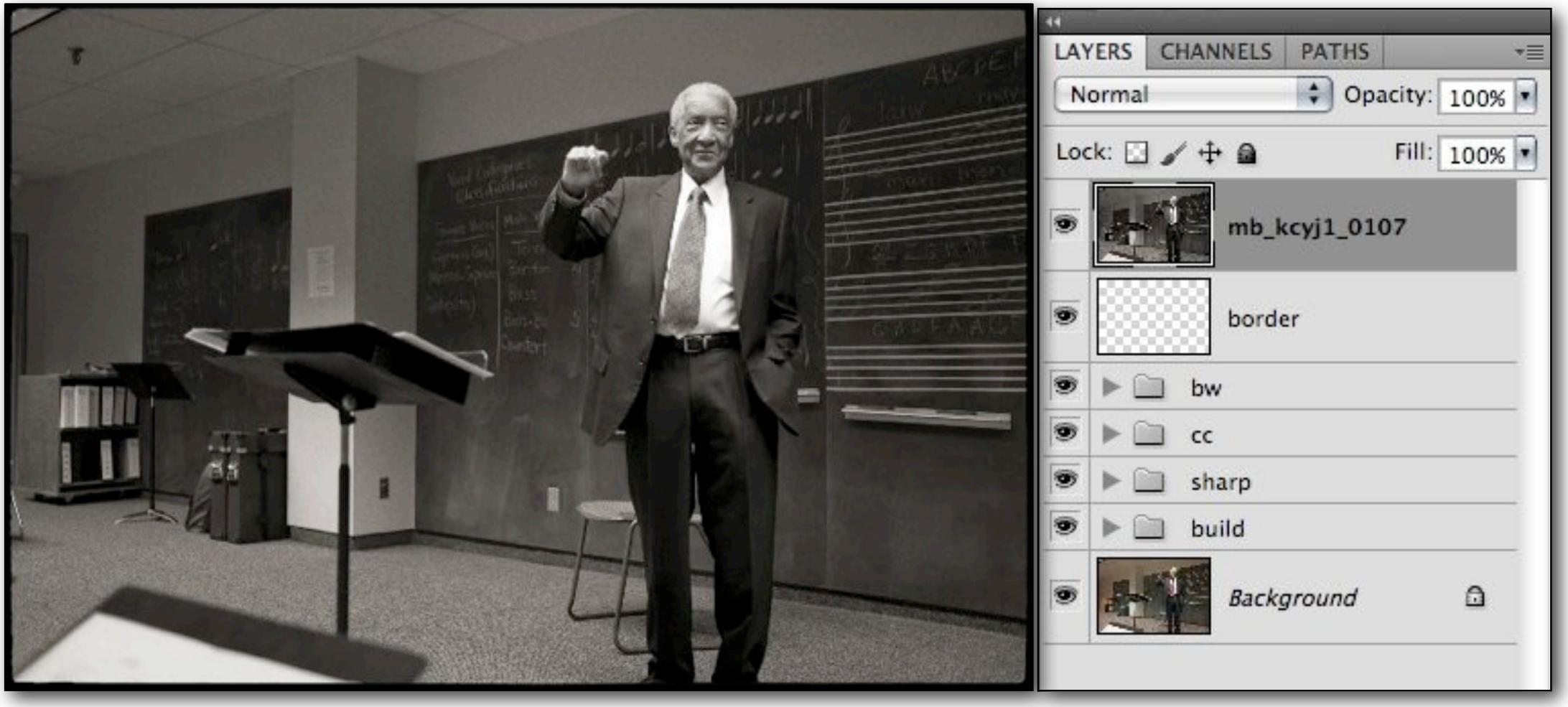
PRESS **SHIFT + OPTION + COMMAND + E** to create a
COMPOSITE LAYER as the TOP LAYER of your MASTER FILE

LABEL the COMPOSITE LAYER the same as your MASTER FILE

SAVE the MASTER FILE

THE COMPOSITE LAYER

A SINGLE-LAYER VERSION OF YOUR MASTER FILE



THE OUTPUT FILE

TRANSLATES

the MASTER FILE to each output device.

THE OUTPUT TEMPLATE

CREATE IT ONCE - USE IT FOREVER

Once you create an OUTPUT FILE for an 8x10 in sRGB, you can save it as a TEMPLATE for every sRGB 8x10 after that.

The template stays EMPTY. You open the template, insert your images*, then SAVE AS the current print session.

** Place and re-size a COMP LAYER from your MASTER FILE.*

THE OUTPUT TEMPLATE
CONSISTENT & REPEATABLE PRINTING

OUTPUT TEMPLATES allow pixel-accurate control of the size, crop and image placement of your image *in any medium* (print, web, projection)

Increase printing efficiency and reduce printing costs

Control the look of your work by outputting consistent files

Eliminate arbitrary lab choices like cropping and image placement

Supply READY-TO-PRINT files to save $$

CREATING OUTPUT TEMPLATES
A CUSTOM PHOTOSHOP FILE FOR *EACH* OUTPUT

DETERMINE the requirements for output

Example 1: Aspen Creek Photo needs an 8x10, 300dpi JPEG in sRGB color space

Example 2: EPSON 3800 needs an 11x14, 300dpi, 16-bit PSD in Adobe 1998 color space, to print onto 13x19” paper.

Example 3: The Nelson-Atkins needs a 1000 pixel wide jpeg in sRGB color space for a slideshow.

In Photoshop, go to **FILE > NEW**

Set FILE DIMENSIONS + RESOLUTION + COLOR SPACE + WHITE BACKGROUND, and OPEN

USING THE OUTPUT TEMPLATE
#1 - TO CREATE AN INDIVIDUAL PRINT FILE

OPEN your MASTER FILE

FLATTEN the file or create a COMPOSITE LAYER

Using the MOVE TOOL, **SHIFT DRAG** MASTER FILE or COMPOSITE LAYER into the TEMPLATE FILE

Press **F** TO change SCREEN MODES

COMMAND + - (minus) to reduce IMAGE SIZE

COMMAND + T to activate FREE TRANSFORM

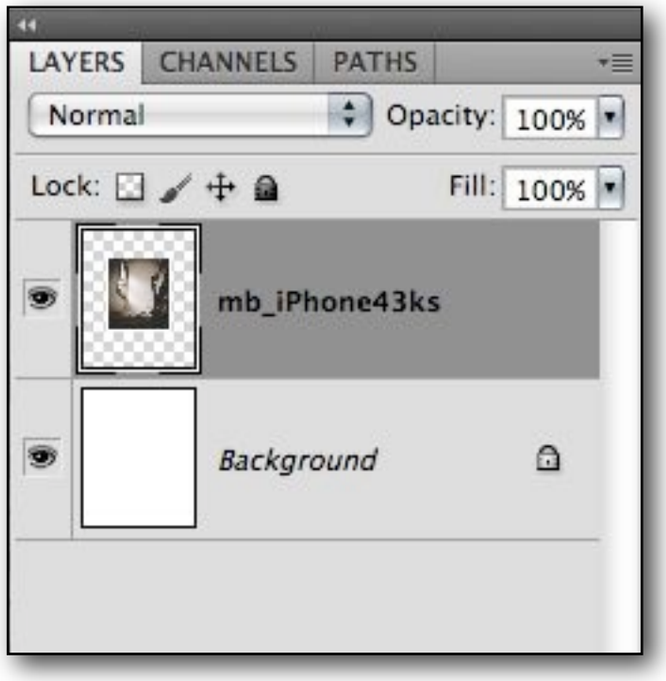
Set HORIZONTAL DIMENSION + UNITS in **OPTIONS BAR**

PRESS ENTER TWICE to initiate the TRANSFORM

Use **MOVE TOOL + SHIFT** to reposition if necessary

USING THE OUTPUT TEMPLATE

#1 - TO CREATE AN INDIVIDUAL PRINT FILE



An 8X10” vertical OUTPUT TEMPLATE, image size is 5” wide.

USING THE OUTPUT TEMPLATE
#2 - TO CREATE A *STACKED* PRINT FILE

Using the MOVE TOOL, **SHIFT DRAG** MULTIPLE MASTER FILEs into the TEMPLATE FILE

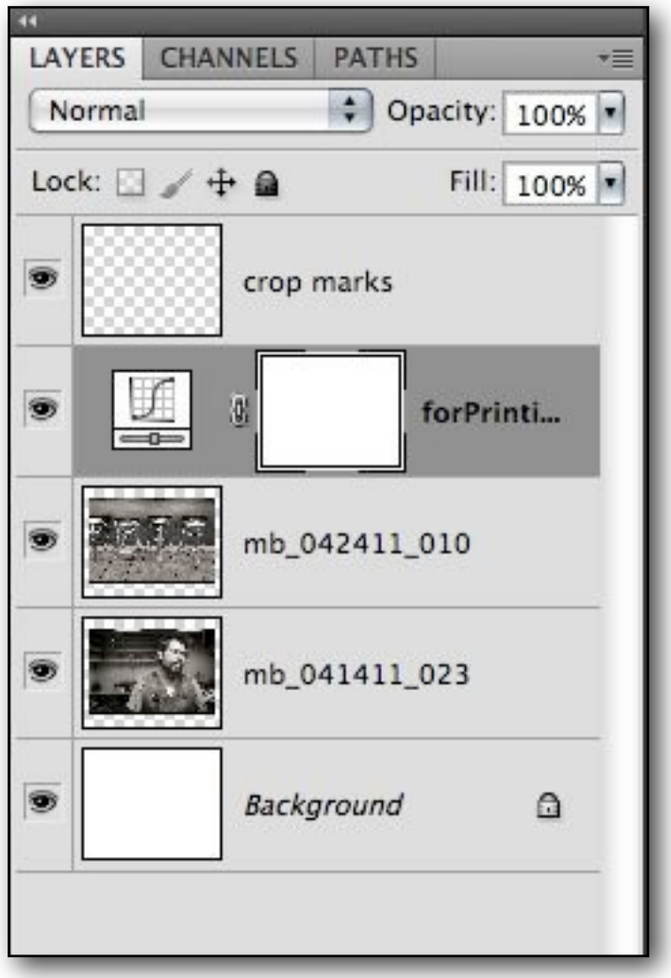
Each addition will create its own layer

USE FREE TRANSFORM to REPOSITION each layer as needed.

SET GUIDES and use STANDARD DIMENSIONS to create a consistent set of images

USING THE OUTPUT TEMPLATE

#2 - TO CREATE A *STACKED* PRINT FILE



A 16X20” horizontal OUTPUT TEMPLATE, image size is 19” wide.

THE OUTPUT TEMPLATE

CREATE ONCE - USE FOREVER

Once you create an OUTPUT TEMPLATE for an 8x10 in sRGB, you use the SAME TEMPLATE for every sRGB 8x10 after that.

The template stays EMPTY. You open the template, insert your images, then SAVE AS the current print session.

This provides fast, repeatable and reliable prints with a minimum of effort

APPLIES TO ALL OUTPUT - print, web, books, postcards...

SOFTWARE
PRINTER DRIVERS & PROFILES

An engineer at Epson once told me:

“We don’t make photo printers, we make INK-DELIVERY DEVICES.”

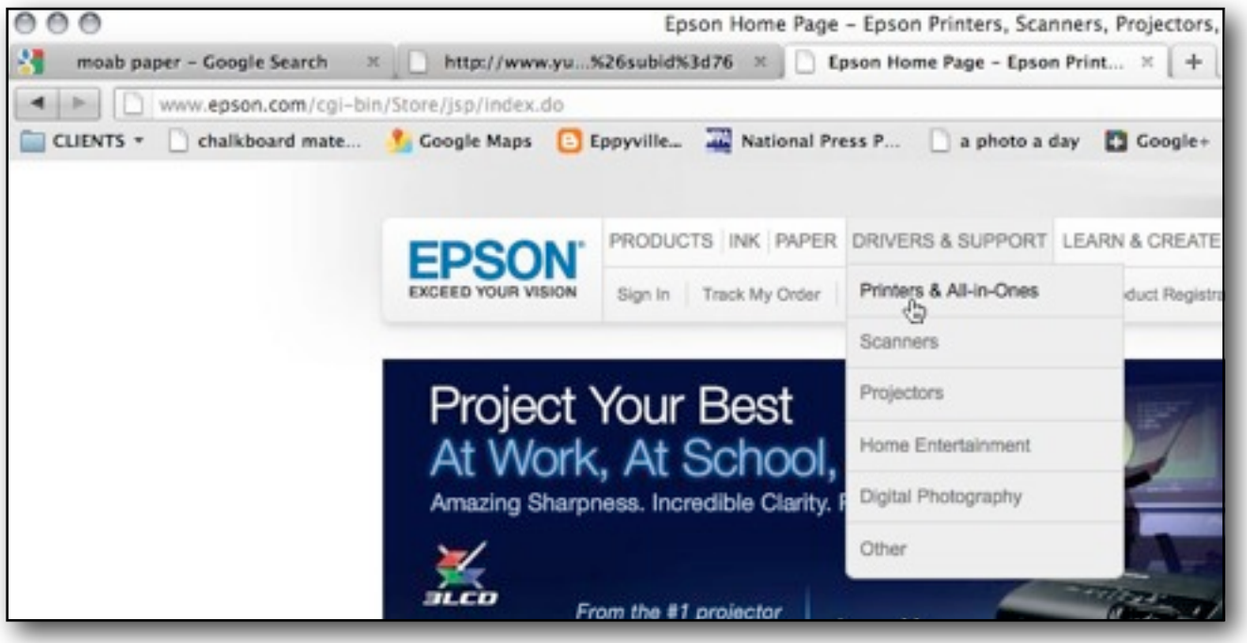
ESSENTIAL SOFTWARE
PRINTER DRIVERS & PROFILES

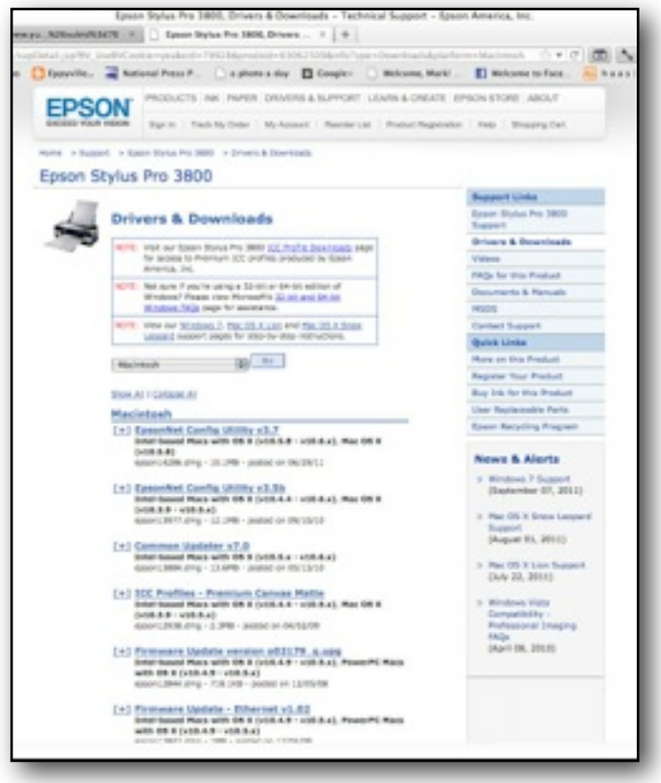
INSTALL PRINTER SOFTWARE from download rather than CD whenever possible.

DOWNLOAD paper profiles for each PRINTER/INK/PAPER set you intend to use.

PRINTER DRIVERS usually include that manufacturers' current paper choices.

THIRD PARTY PAPERS usually supply PRINTER PROFILES for different printer brands and models on their website. Download the profile for your specific paper/printer.





ESSENTIAL SOFTWARE
LAB PROFILES AND FILE REQUIREMENTS

VISIT your lab's website and LEARN their requirements for file submission.

DOWNLOAD printer profiles for each PRINTER/PAPER you intend to use.

CREATE PRINTING TEMPLATES for each LAB/Print Size/Printer/Paper

THE SECRET OF DIGITAL PRINTING

THE "PRINT" IS IN THE FILE

Digital printing TRANSLATES the digital information in your image file from screen display to ink & paper.

PROFILES maximize the ability of the specific printer/paper/ink to reproduce color and contrast in a color space inferior to that of both the file and the monitor.

No matter how well-calibrated the monitor, images change when reproduced on paper and again when viewed under various light sources*.

Every printing device creates color differently.

FINE ADJUSTMENTS to the *printing* file (not the MASTER FILE), based on evaluation of a proof UNDER PROPER LIGHTING, allow us to compensate for the limitations of printer profiles.

Proofing smaller images, and gang-proofing groups of images, SAVES TIME, PAPER and INK and helps ensure satisfactory results in the final print - whether from your own printer or from an outside lab.

** Consistent calibrated viewing light is as important as a calibrated monitor.*

PRINTING FROM PHOTOSHOP
TO YOUR PRINTER

LOAD paper into the printer

OPEN your OUTPUT TEMPLATE FILE in PHOTOSHOP

SELECT **FILE > PRINT** to open the PRINT DIALOGUE BOX

SET **PRINT SETTINGS**
SET **PHOTOSHOP MANAGES COLOR**
SELECT the proper **ICC PROFILE** from the profile drop-down menu
SET RENDERING INTENT based on PAPER SPECIFICATIONS (usually perceptual)
CLICK “PRINT”

PRINTING FROM PHOTOSHOP
TO AN OUTSIDE LAB

Determine the LAB or PAPER/PRINTER you wish to print with.

OPEN your **OUTPUT TEMPLATE FILE** in PHOTOSHOP

SELECT **THE LAYER** containing the image you wish to print

CHOOSE FILE>SAVE AS, then:

NAME YOUR FILE (“hh_8x10GlossyChromira_sunset1”)

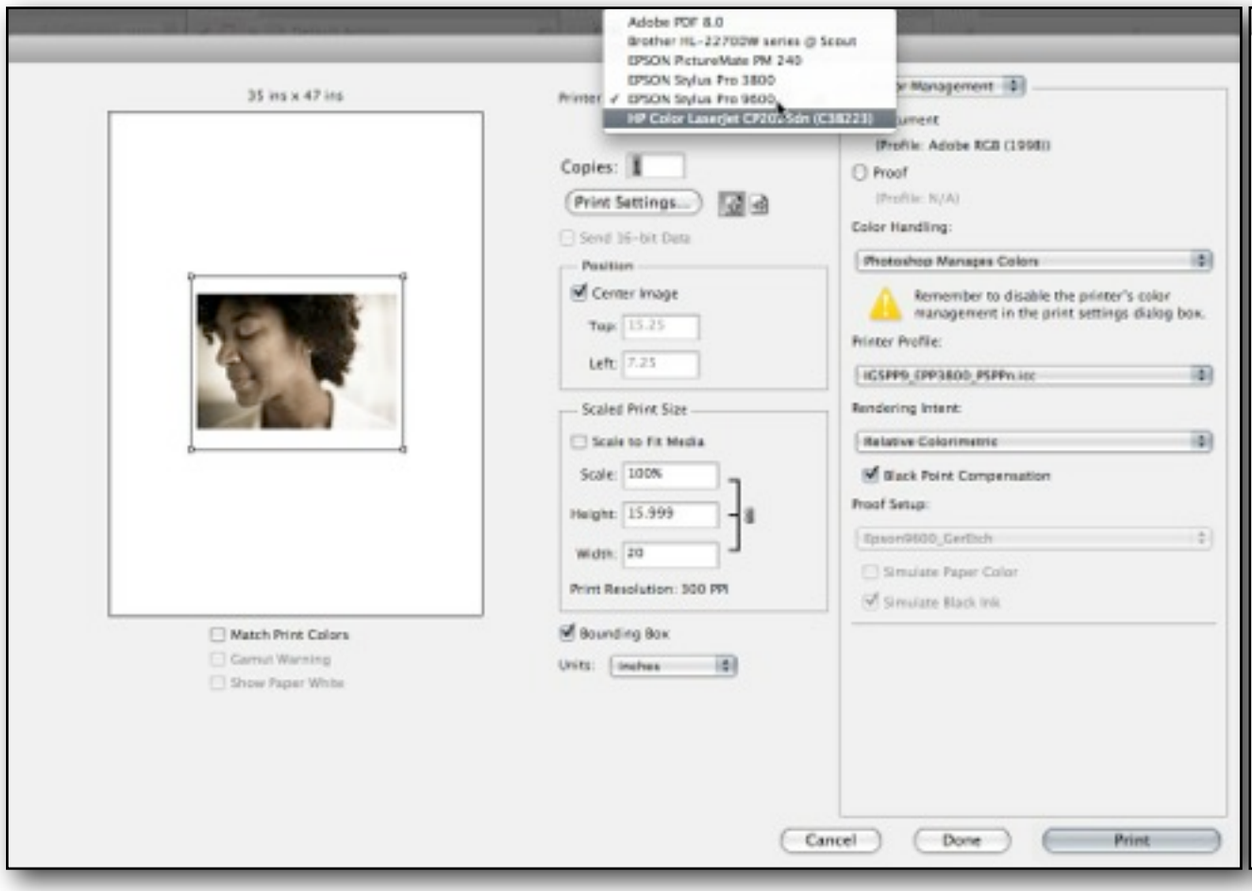
SELECT “JPEG” as the file type

SELECT “12” as the quality setting

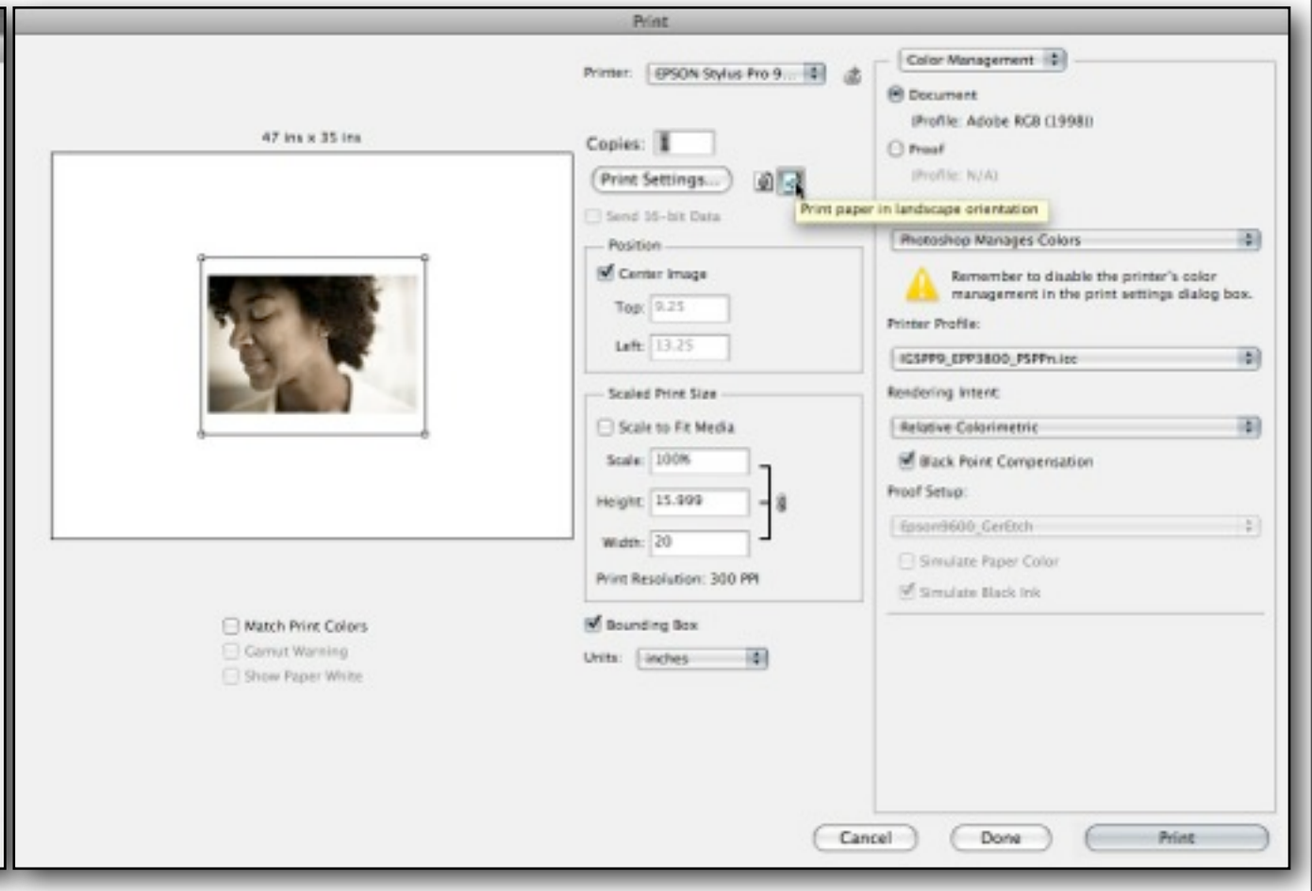
SAVE into a folder for this print session (“hhPrints_Aug2014”)

PRINT SETTINGS IN PHOTOSHOP

USE PHOTOSHOP TO PROOF AND PRINT YOUR IMAGE FILES



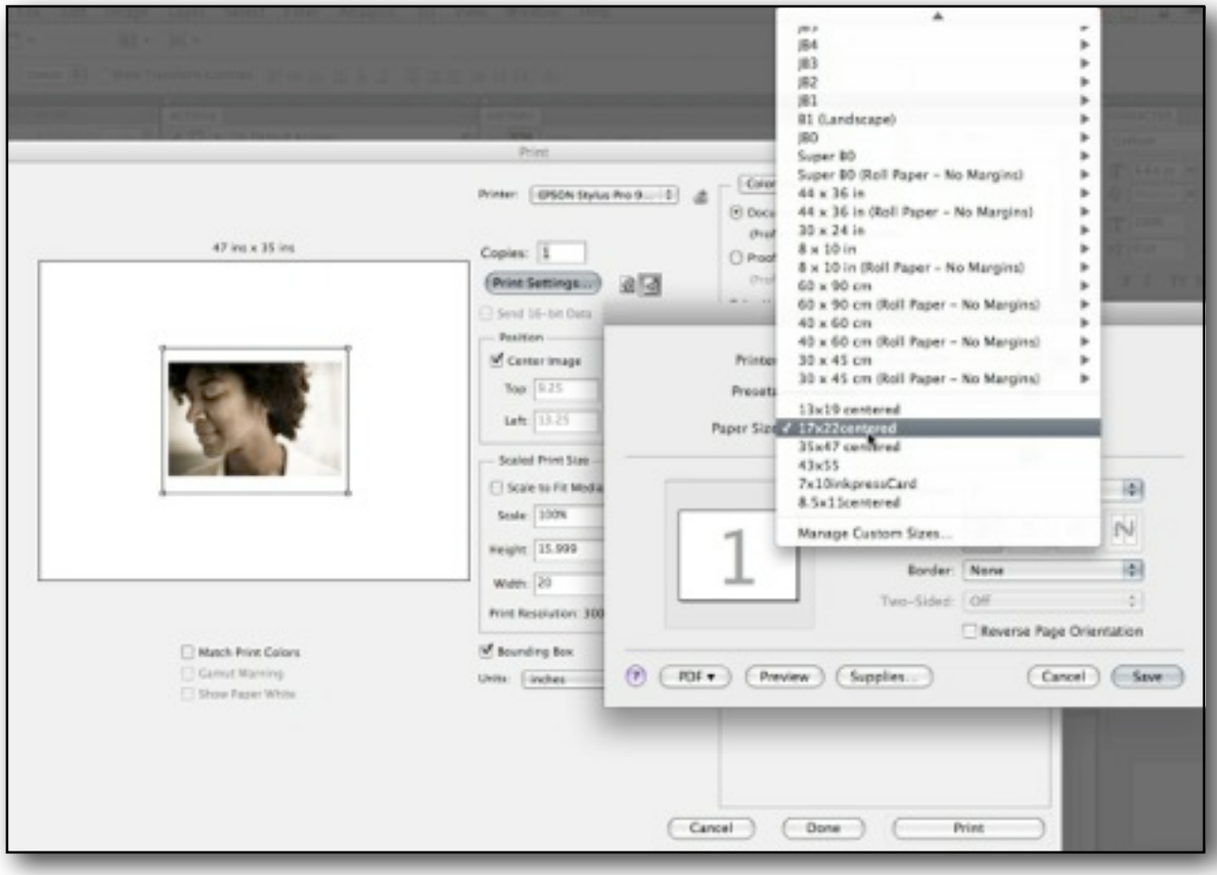
SELECT PRINTER

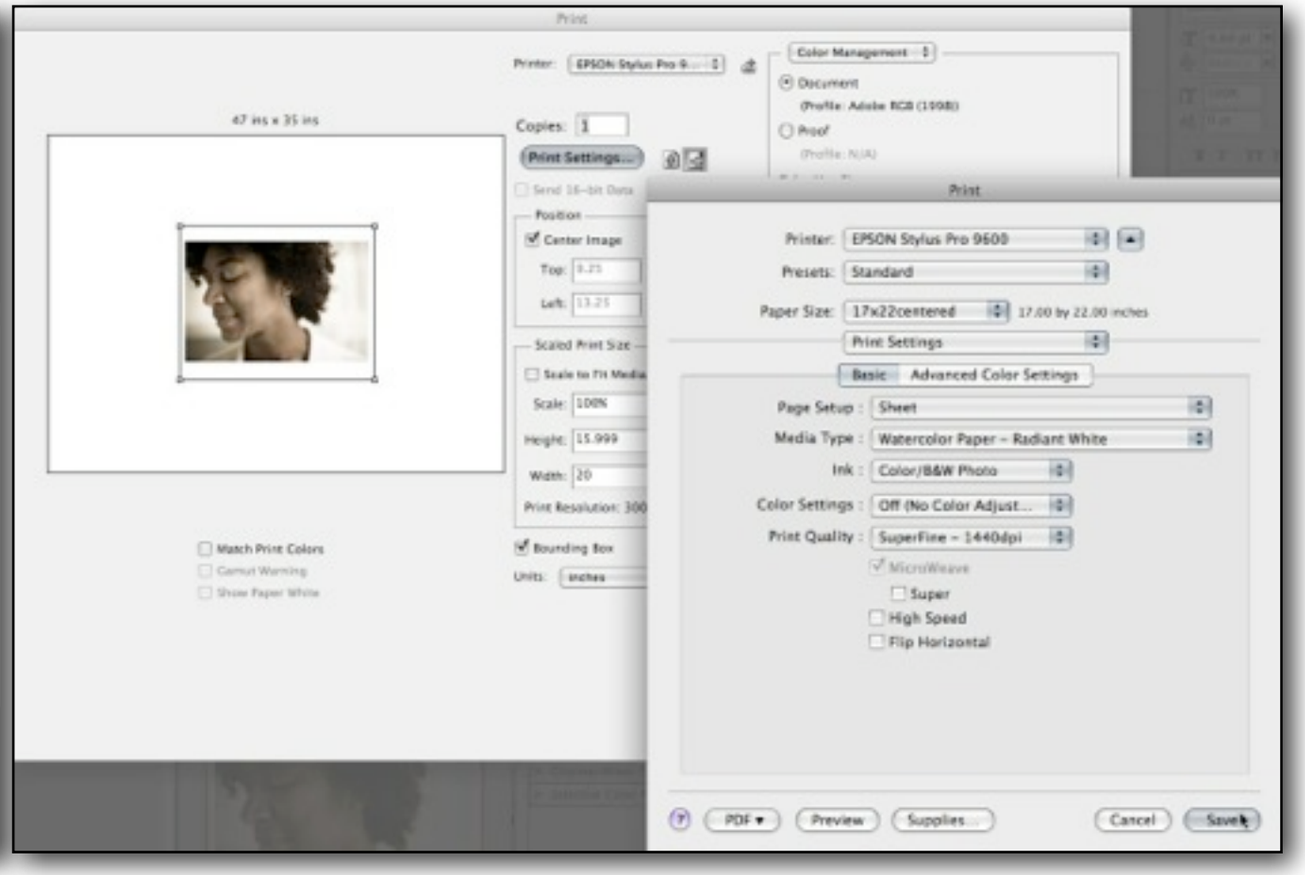


SELECT ORIENTATION

PRINT SETTINGS IN PHOTOSHOP

USE PHOTOSHOP TO PROOF AND PRINT YOUR IMAGE FILES



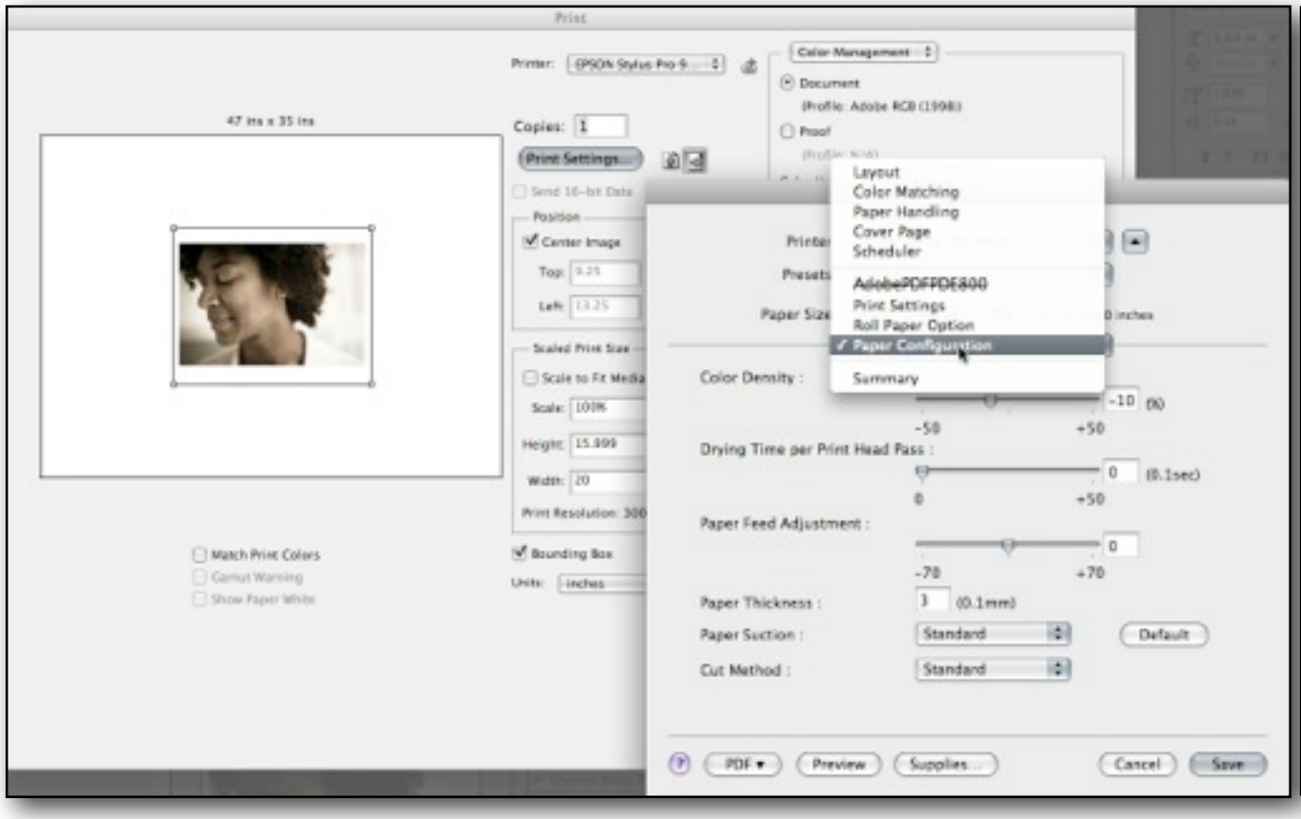


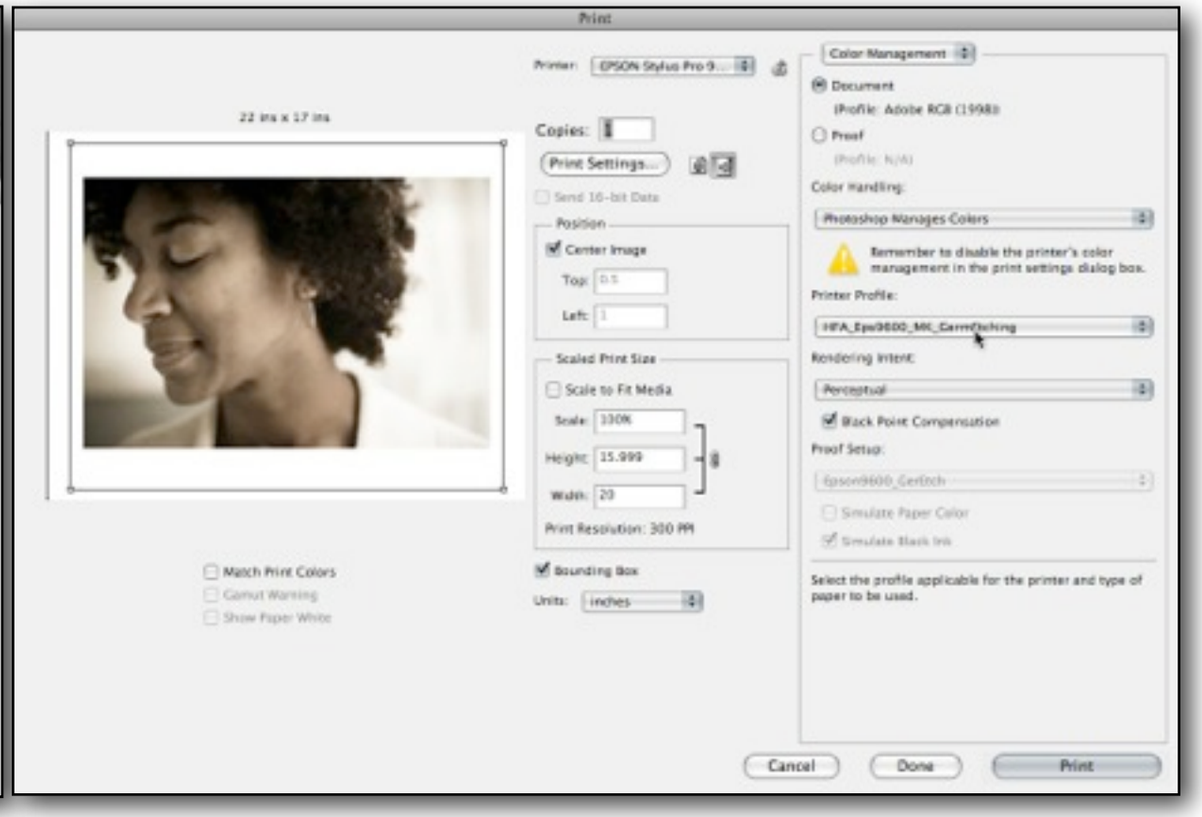
SELECT PAPER SIZE
NOTE: CREATE CUSTOM PAPER SIZES
TO ENSURE CENTERED PRINTING

SET PRINT SETTINGS
BASED ON PAPER SPECIFICATIONS
CHOOSE COLOR SETTINGS: “OFF”

PRINT SETTINGS IN PHOTOSHOP

USE PHOTOSHOP TO PROOF AND PRINT YOUR IMAGE FILES





ADJUST COLOR DENSITY IN PAPER CONFIGURATION
TO REDUCE INKFLOW
(I FIND THIS PREVENTS BLOCKED SHADOWS
WITHOUT NOTICEABLE CONTRAST LOSS)

CHOOSE “Photoshop Manages Color” + proper profile

PROOF PRINTING & FINE TUNING

PRINT REDUCED-SIZE PROOFS AND CREATE A FINE-ADJUSTMENT BEFORE MAKING LARGE FINAL PRINTS

PRINT, LABEL & EVALUATE your first proof print.
(Your proof should look very close to the images you see on-screen).

In PHOTOSHOP, **ADD A CURVE ADJUSTMENT LAYER** to the top of the layer stack in the OUTPUT TEMPLATE to make GLOBAL ADJUSTMENTS to the images based on what you see in the proof.

NOTE: Your adjustments create changes that are THE OPPOSITE of what you feel is wrong with the file - ie. if the proof is too dark, and the image looks correct on screen, you will make an adjustment that renders the view on-screen looking too light. You will adjust the file so that it doesn't look exactly right on-screen, but prints properly.

PROOF AGAIN (#2) and compare the effects of your adjustment layer to the original un-adjusted PROOF #1.

Continue this process until your are happy with the printed proof.

SAVE this CURVE! It is the fine adjustment for **ALL** prints made to this printer or output device.

PROOF PRINTING & FINE TUNING

PRINT REDUCED-SIZE PROOFS AND ADJUST BEFORE MAKING LARGE FINAL PRINTS

USE THE SAME PROCESS WHEN USING A LAB.

This may take two or three test prints, but once you're calibrated you should be able to use the same adjustment curve to make predictable prints from future printing orders.

HANDLING WORKS ON PAPER

EXTEND LONGEVITY AND REDUCE WASTE

Wear COTTON GLOVES to prevent oil contamination

Store papers in MODERATE TEMPERATURE and HUMIDITY

HANDLE PAPER by HOLDING THE CORNER to prevent kinks and creases

Select and stack paper sheets gently to prevent surface scuffing.

DRY PRINTS for 24 HOURS to allow ink out-gassing and extend longevity

TRIM PAPER to actual print size using crop marks using a high-quality rotary paper cutter for straight edges, or hand tear prints for deckled edges.

SIGN, NUMBER, TITLE and “CHOP” prints for identification and authenticity

STORE in ARCHIVAL PLASTIC SLEEVES with ARCHIVAL INTERLEAVING TISSUE in ARCHIVAL STORAGE BOXES

HANDLING WORKS ON PAPER

SCORING, HAND-TEARING, SIGNING, PACKAGING

WHY PRINT?

QUESTIONING DIGITAL PRINTMAKING

MARK BERNDT

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GO MAKE SOME PRINTS!