

# Autodesk® AutoCAD® Raster Design: Advanced Tricks for Faster Raster Manipulation

Russell Karshick

Senior Drafter – PPL Corporation

# Class summary

This class covers the thought process behind enhancing raster commands, shows you the fastest ways to get the job done, and helps you take the first steps toward a smarter way to use AutoCAD Raster Design, no matter what version you currently use.

# Key learning objectives

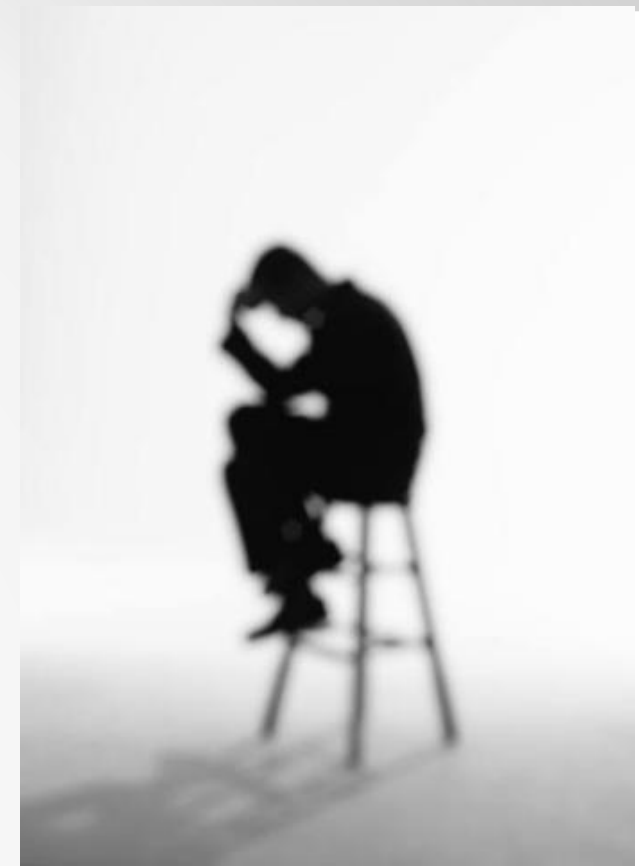
At the end of this class, you will be able to:

- Identify ways that your company can improve raster image workflows in AutoCAD
- Use the basic commands of Raster Design more efficiently
- Integrate AutoLISP® routines to enhance Raster Design commands
- Generate faster vector from raster images

# Identifying ways to improve Raster workflows

# How can your company improve?

- AutoCAD® Raster Design commands
  - Can convert raster data to vector!
    - Tedious
    - Inaccurate
    - Frustrating
- Challenge
  - Quality of raster drawing
  - Time invested for conversion and clean-up
  - Payoff!



**ENHANCE AutoCAD® Raster Design command!**

1<sup>st</sup> step - Keep PURPOSE in mind!

Recognize goal:

- Task – Revising?
  - Modifying small part of design
  - Changing notes
  - Deleting revision clouds
- To redraw or not?
  - At times redrawing (all or part) may be more beneficial than converting raster to vector



**A balance of time and accuracy!**

# Is your drawing a good candidate?

- Consider total vector redraw
  - Image is highly degraded
  - Drawing is not to scale
  - Drawing is very simple in design
  - Image is not accurate/poorly drawn



Pay respect to your drafting ancestors and use good prints as the basis for your raster to vector conversions!

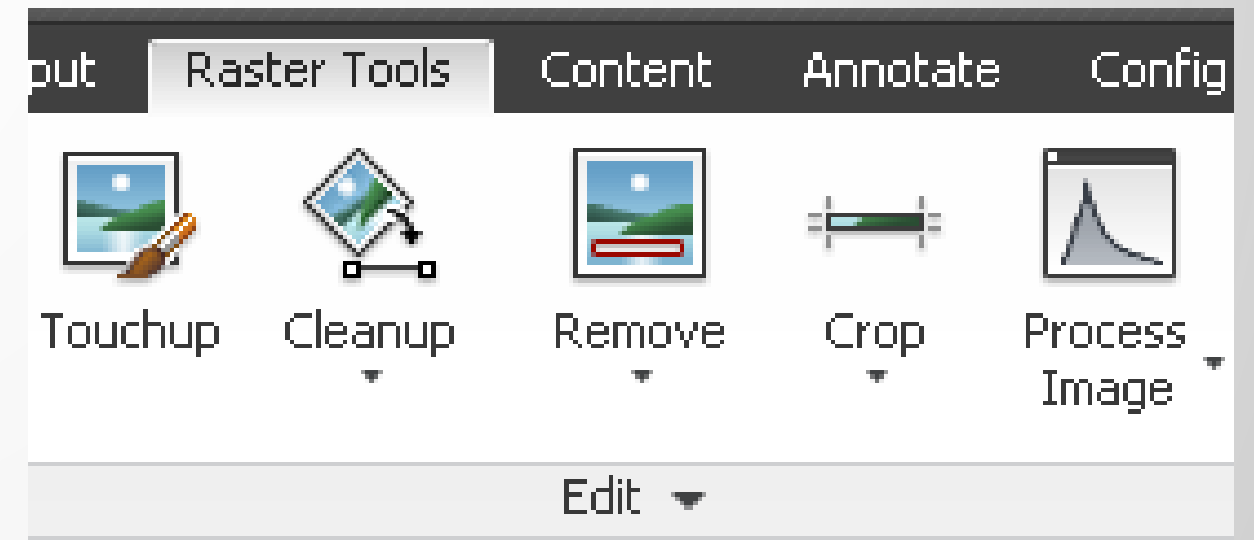
Use Basic Raster Design  
command more efficiently!



# Lay a foundation for success!

- Improve your starting point
  - Despeckle
    - Get rid of small dots and specks on drawing
  - Deskew
    - Fix the angle of the page lines
  - Scale
    - Make image full size if required
  - Thicken/thin lines
    - Makes drawing easier to work with

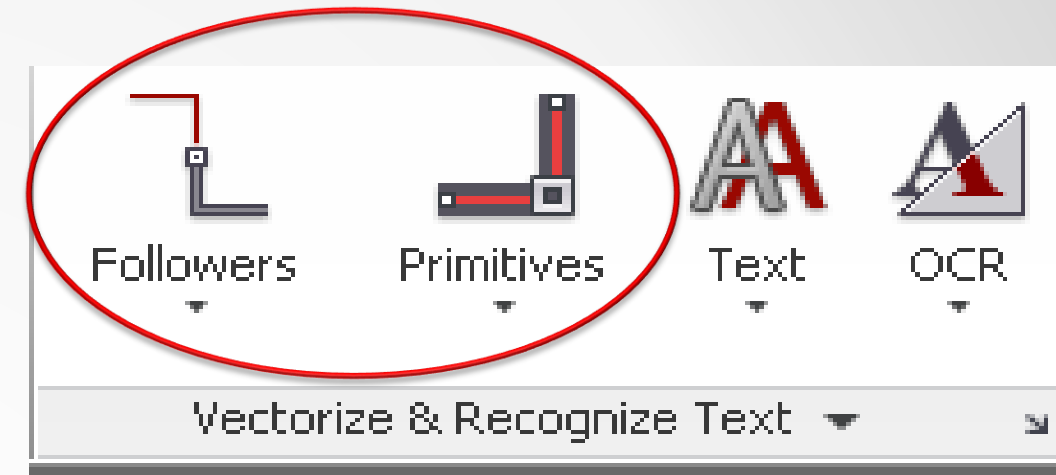
Many more on “EDIT” panel!



# LIVE DEMO

# The next step – Starting to convert!

- Two main tools
  - Followers
  - Primitives



Results can be sloppy depending on drawing!

Don't give up! Reverse engineer a solution based on the results!

# LIVE DEMO

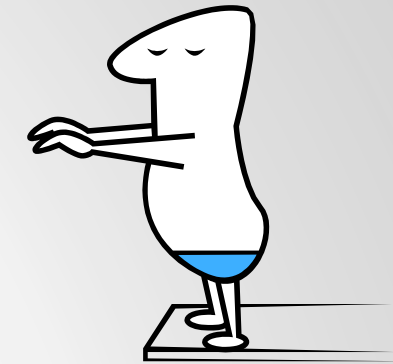
# Putting it all together

- Preliminary Steps:
  - Clean Raster image
  - Setup Auto Constraints
- Conversion Steps:
  - Choose **Followers** or **Primitives** command
  - Select Raster data
  - **Auto Constrain** selected vector conversion
  - **Delete Auto Constrains**



# Diving into lisp

## The basics:



`(setq lastEnt (entlast))` - Set starting point for selection set

`(command "vpline")` ;;AUTOCAD RASTER DESIGN REQUIRED - Run raster command

```
(setq ss (ssadd))  
(while (setq lastEnt (entnext lastEnt))  
  (ssadd lastEnt ss)  
)
```

 - Add items to selection set

```
(command "Autoconstrain" ss "") ;;Will get polyline close to clean  
(command "DelConstraint" ss "") ;;Delete constraints (drawing will retain new lines based off constraints)
```

- Add and delete Auto Constraints

# LIVE DEMO

