



LOOKING BACK: **HOW HAS DRAFTING CHANGED OVER THE YEARS?**

(5-minute read)

By: Randy Patterson

From Manual Drafting to Digital Design

Even though I have not been drafting for a full 40 years, I can relate to nearly every one of these changes. I started learning how to draft on a drafting table in high school in the early 1980s, and in the early 1990s I made a life change that has taken me down this path of drafting as a career. Over the years, drafting has undergone a remarkable transformation. What was once a profession built around pencils, paper, and precision instruments has evolved into a technology-driven field that relies on advanced software, digital modeling, and automated design tools. While the methods used to create drawings have changed significantly, the purpose of drafting remains the same: to communicate ideas accurately and provide the foundation for architecture, engineering, and construction projects.

The Era of Hand Drafting

In the 1980s, drafting was a manual process. Drafters worked at large drafting tables using tools like T-squares, triangles, scales, and mechanical pencils to create detailed technical drawings. Every line had to be carefully measured and placed by hand, without creating any smudges or smearing the pencil graphite across the paper.



I remember working on a floor plan project drawn with pen on Mylar for an architectural drafting class at HACC. There were several mistakes I had to fix, and I had to be extra careful not to burn a hole in the Mylar while correcting them. If that happened, there was no fixing it – the entire floor plan had to be redrawn, which was very time-consuming. Creating a complete set of drawings could take weeks or even months, depending on the complexity of the project. Making changes was often time-consuming because revisions required erasing, redrawing, or creating entirely new sheets.

The Introduction of Computer-Aided Drafting (CAD)

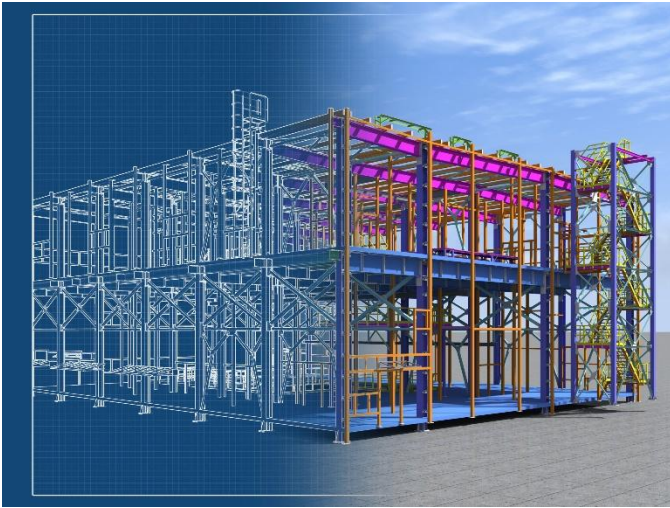
The introduction of Computer-Aided Drafting (CAD) in the 1980s and 1990s marked one of the biggest changes in the industry. Programs like AutoCAD allowed drafters to create drawings electronically instead of by hand. I recall working at my first job as a draftsman using AutoCAD, back when the computers were not as fast as what we have today – it would take 30-45 minutes to regenerate the screen, refresh, and even longer to save the plans. Still, CAD improved accuracy, reduced the time needed for revisions, and made it easier to store, copy, and share drawings. Drafters no longer spent most of their time manually drawing lines. Instead, we focused more on design development, digital organization, and problem-solving.

The Rise of 3D Modeling and Building Information Modeling

As computers became more powerful, drafting moved beyond simple two-dimensional drawings. Three-dimensional modeling became an important part of the design process, allowing us to visualize objects, buildings, and systems before they were ever built. Today, many industries use Building Information



Modeling (BIM), which creates intelligent digital models containing information about materials, dimensions, costs, and performance. These models help architects, engineers, contractors, and owners work together more efficiently than we ever could with paper drawings.



Improved Collaboration and Digital Workflows

Communication and collaboration have also changed dramatically. In the past, physical drawings were often mailed, hand-delivered, or carried between offices for review and approval. Changes were marked by hand, and keeping everyone updated could be difficult. Modern drafting relies on cloud-based platforms and digital file sharing, allowing teams in different locations to review and modify designs in real time. This has improved teamwork and cut down on mistakes that used to come from working off outdated information.

This is common practice at my current employer, NUTEC, where we work with all disciplines, using BIM – specifically Revit – to coordinate and collaborate. Together we build complex models that become the construction documents needed to bring the client's vision to life.

The Changing Role of the Drafter

The role of the drafter has also evolved. Today's drafters need more than traditional drafting skills. They must understand advanced design software, 3D modeling, and digital workflows. Many of us work closely with

architects, engineers, and project managers as key members of the design team. The profession has shifted from creating drawings by hand to managing complex digital design information.

The Future of Drafting Technology

Technology continues to push drafting forward. Artificial intelligence, virtual reality, and automated design tools are beginning to influence how drawings and models are created. These innovations may allow designers to explore ideas faster and identify problems earlier in the design process. However, human knowledge, creativity, and attention to detail remain essential – no tool will ever replace that.

The Importance of Drafting in a Changing World

Although drafting has changed greatly over the past 40 years, its core purpose has stayed the same. Whether created with a pencil on paper or through advanced computer software, a good drawing must clearly communicate an idea. The tools will continue to evolve, but the skill of turning concepts into accurate designs will always be an important part of architecture, engineering, and construction.

Looking back on my own journey from manual drafting to digital design, I see it as one of the most significant technological changes our industry has ever gone through. Today's drafter combines traditional design knowledge with cutting-edge technology, proving that while the tools have changed, the importance of good drafting has never disappeared.

Randy Patterson is a Senior Lead Drafter at NUTEC with more than 35 years of experience using multiple methods of drafting. Starting in the late 1980s and continuing to today, he began by hand-drafting drawing sets in college, then progressed through early AutoCAD on slow desktop computers, to AutoCAD Architecture, and now works in Revit and other BIM programs.