

Anthony Squires

Senior CAD Drafter & 3D Design Specialist

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PROFESSIONAL SUMMARY

Senior CAD Drafter and 3D Design Specialist with 30+ years of industry experience spanning electrical utility engineering, mechanical process design, and large-scale water treatment. Expert in AutoCAD (20+ years), Autodesk Inventor, and SolidWorks with a proven record delivering complex 2D/3D design packages for municipal water facilities, food and beverage manufacturing, and electrical utility infrastructure. Deep proficiency in GD&T, ANSI/ASME standards, fabrication drawings, P&ID interpretation, BOM management, and parametric parts library development. Currently advancing expertise in interactive 3D web environments, Flutter mobile application development, and AI-assisted design workflows.

CORE TECHNICAL SKILLS

CAD & 3D Software:

AutoCAD 2D/3D · Autodesk Inventor · SolidWorks · Fusion 360 · Blender · 3ds Max · 3DVista · KeyShot XR

Engineering Standards & Methods:

Fabrication Drawings · GD&T (ASME Y14.5) · ANSI/ASME · P&ID Interpretation · BOM Management · Parametric Modeling · Parts Library Development · Vendor Coordination

Engineering Domains:

Electrical Utility Infrastructure · Reverse Osmosis / Water Treatment · Municipal Water Systems · Food & Beverage Manufacturing · Process Equipment

Emerging & Digital Technology:

Flutter Mobile Development · 3D Printing / Additive Manufacturing · AI-Assisted Design Workflows · Interactive 3D Web (3DVista) · Adobe Photoshop

PROFESSIONAL EXPERIENCE

Senior CAD Drafter — Utility Engineering

Utility Engineering Company · San Diego, CA · Present

- Produce detailed 2D/3D CAD drawings and construction packages for electrical utility infrastructure projects using AutoCAD and Autodesk Inventor.
- Develop interactive 3D web-based training environments (3DVista + Blender) for field technician reference — including an immersive utility pole viewer deployed at anthonyws.com/pole.
- Collaborate with licensed engineers to translate design intent into precise fabrication and installation drawings conforming to utility industry standards.
- Champion digital transformation initiatives bridging traditional CAD workflows with mobile and web delivery using Flutter and AI-assisted tools.
- Create 3D-printed scale models of utility components used as training aids and stakeholder presentation tools.

Senior CAD Designer — Food & Beverage Manufacturing

Dennis Group · Engineering Consulting

- Engineered a complete Starbucks commercial coffee manufacturing line in AutoCAD 3D, modeling all equipment from vendor cut sheets to production-ready 3D assets.
- Developed detailed 2D fabrication and installation drawings for plant layout, equipment integration, and utility routing.
- Coordinated directly with equipment vendors to validate 3D model accuracy against supplied technical documentation.
- Produced as-built drawing packages and managed revision control through full project lifecycle.

3D Mechanical Designer — Water Treatment

Biwater · Water Treatment Engineering

- Designed large-scale reverse osmosis (RO) water treatment systems in Autodesk Inventor, producing full 3D assembly models for municipal water facilities.
- Delivered comprehensive fabrication drawing packages covering General Arrangement (G.A.), RO Structural Frame, FRP Hardware Locations, Pipe Spools, Water Sampling Stations, and Clean-In-Place (CIP) systems — all developed from client P&IDs and specifications.
- Built and maintained an extensive parametric parts library in Inventor covering valves, pipe fittings, tanks, flanges, and specialty components, significantly reducing design cycle times.
- Collaborated with fabrication teams and project engineers to resolve design conflicts and issue RFIs.
- Delivered completed models and drawing packages for multiple municipal clients; all systems successfully fabricated and commissioned.

EDUCATION & TRAINING

Autodesk Inventor — Beginning, Intermediate & Advanced

Authorized Autodesk Training Center

Completed full 3-level certification track in parametric solid modeling and assembly design

SolidWorks — Mechanical Design (Beginning through Advanced)

Formal Coursework

3D solid modeling, assemblies, technical drawing production, and design simulation

AutoCAD — 2D Drafting & 3D Modeling

20+ Years Production Industry Experience

Full proficiency in 2D production drafting, 3D modeling, sheet sets, xrefs, and CAD standards management across electrical utility, water treatment, and manufacturing industries

PROFESSIONAL DEVELOPMENT

52 self-directed technical courses completed via Udemy across disciplines including 3D modeling and visualization (3ds Max, Substance Painter), real-time 3D engines (Unreal Engine 4, Unity), CAD tools (Fusion 360), 3D printing and additive manufacturing, IoT hardware (Raspberry Pi), and mobile development. Demonstrates a consistent commitment to skill advancement well beyond formal training requirements.

PORTFOLIO & ONLINE PRESENCE

Portfolio: anthonyws.com | 3D Viewer: anthonyws.com/pole | LinkedIn: linkedin.com/in/anthony-squires | Sketchfab: sketchfab.com/asquires2009 | Behance: behance.net/asquires