



SENIOR CAD DRAFTER

JC: 000166
PG: SEIU-10
FLSA: Non-Exempt

BU: 04 (SEIU)
Created: January 2018

*Class specifications are intended to present a descriptive list of the range of duties performed by employees in the class. Specifications are **not** intended to reflect all duties performed within the job.*

DEFINITION

Under direction of the Drafting/CAD Supervisor or Division Manager, responsible for producing complex 2D drawings as well as 3D models and designs in one or more of the following disciplines: Mechanical, Electrical, Plumbing (MEP), Civil, Structural, Architectural and/or HVAC used for various engineering, construction and maintenance projects. This role represents a skilled 2D and 3D CAD modeling expert with a solid understanding and knowledge of design and construction concepts, as well as mechanical systems, and advanced drafting/modeling techniques using various 2D and 3D design applications, systems and equipment utilized by the District.

CLASS CHARACTERISTICS

Incumbents at this level possess specialized technical and functional expertise in 2D and 3D CAD techniques and technology to coordinate and generate Geolocated project designs and drawings between multiple projects and stake holders. Incumbents in this class also require strong organizational, analytical and communication skills and may be asked to lead or provide instruction and direction to other project and team members. Incumbents may specialize in one or more disciplines, but are expected to be capable of utilizing the full scope of 2D and 3D CAD software used by the District to create 2D and 3D models and drawings. The class is distinguished from the CAD Drafters in that the latter does not perform advanced 3D modeling designs and coordination tasks.

REPORTS TO

The Manager of Drafting and Configuration or his/her designee

EXAMPLES OF DUTIES – *Duties may include, but are not limited to, the following:*

1. Design, develop and produce 3D models in one or more of the following disciplines: Mechanical, Electrical, Plumbing (MEP), Civil, Structural, Architectural and/or HVAC.
2. Assist Drafting/CAD Supervisor and Project Managers in preparing Virtual Design and Construction Guidelines for project specific requirements.
3. Develop, manage and maintain 2D and 3D models and drawings for constructability reviews, quantity take-offs, value engineering, building systems studies and asset management.

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4. Coordinate with Project Managers, consultants and stake holders to generate 3D laser scans and models of existing/as built facilities, track way and structures. Process scanned data as necessary.
5. Attend project coordination and review meetings to collaborate with project personnel, consultants and other stake holders on schedules and other details as necessary.
6. Assist in providing projects, consultants and others with 3D model data and information.
7. Develop schematic and detailed level models, including modeling structure, interior and exterior architectural elements and MEP systems (as applicable).
8. Produce Geolocated engineering and construction 2D CAD drawings and 3D virtual models.
9. Create and manage 3D laser scans, family and library components.
10. Utilize clash detection software to identify conflicts, incomplete or ambiguous design information.
11. Stays current on new technologies in the field of 2D and 3D virtual design and 3D laser scanning.
12. Assist Drafting/CAD Supervisor in performing QA/QC of other users CAD data and models for compliance with District standards.
13. Perform other related duties as assigned.

QUALIFICATIONS

Knowledge of:

3D virtual modeling design processes and technologies.

3D Modeler roles and responsibilities.

Data sharing using AutoCAD Map3D.

Design and construction industry workflows.

Document Control, retrieval and filing systems.

Generating and processing 3D laser scans.

Knowledge of the following software is preferred: Revit (MEP, Structure or Architecture), AutoCAD, AutoCAD Map3D, AutoCAD Civil 3D, Inventor, Autodesk ReCap, Navisworks, FARO Scene and Microsoft Office software.

Skill in:

Reading and understanding engineering and construction plans and specifications.

Using independent judgment, problem-solving, self-starting and sense of urgency.

Strong verbal and written communication skills.

Taking verbal and general written direction well and turning that direction into appropriate working design models and documents.

Creating and utilizing 2D and 3D design data and understanding work sharing processes.

Using various 3D scanning hardware and software to create 2D and 3D models and drawings.

Creating and maintaining accurate Geolocated 2D and 3D as-built data.

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Developing Revit libraries and family components.

Personal and project organization and planning to effectively set and meet schedules and goals.

MINIMUM QUALIFICATIONS

Education:

A Bachelor's Degree in Architecture; Construction Management; Drafting Technology or a closely related field from an accredited college or university.

Experience:

Two (2) years of (full-time equivalent) verifiable professional experience creating and utilizing 2D or 3D design data using software such as AutoCAD Map3D, Civil 3D, Revit, and/or Inventor.

Other Requirements:

Possession of a valid California Drivers License and a satisfactory driving record.

Substitution:

Additional professional experience as outlined above may be substituted for the education on a year-for-year basis.

WORKING CONDITIONS

Environmental Conditions:

Office environment; exposure to computer screens.

Field environment; travel from site to site; exposure to noise, dust, grease and inclement weather. Must be willing to work on uneven surfaces, underground and near live voltage.

Physical Conditions:

Walking, standing, or sitting for prolonged periods of time.

Must possess physical strength to lift and carry up to 55 pounds, with mobility to climb, stoop and crawl to reach work and perform field inspections and investigations.

BART EEO-1 Job Group: 3500 – Professionals

Safety Sensitive: No