

## Civil Engineering Drafting Technician

(Class Code 7232)

### Competency List

1. Knowledge of equipment, materials, tools, and their application to civil engineering drafting, (e.g., scales, triangles, protractors, scanners, plotters, CADD work station, storage media/devices).
2. Knowledge of the drafting disciplines (e.g. structural, civil, and architectural), nomenclature/terms (e.g. section, details, enlargement and elevations), and symbols (e.g. wood, steel, concrete, & flow-lines) used in different types of drawings.
3. Knowledge of arithmetic, algebra, geometry, trigonometry, and curve data tables and their application to the computation of distances, angles, areas, and traverses.
4. Knowledge of the types of information (e.g., tract information, permits) available from public and private industries for the updating of map information.
5. Ability to gather, read, and interpret various technical documents such as legal property descriptions (e.g., title information, easement, private streets and tracts), schematics, plans, and specifications relating to the construction, alteration, and repair of various utilities and public works improvements (e.g., buildings, bridges, roadways, sewers and waterways).
6. Ability to communicate orally in order to obtain and provide information.
7. Ability to draw design plans, cross-sections and profiles of streets, storm drains, sewers, sewage treatment plants, bridges, buildings, runways, airport lighting systems, street lighting systems, water distribution systems, power distribution systems, marine structures, retaining walls and earthwork, using computer graphics software (e.g., CADD).
8. Ability to interpret design plans, charts, graphs and tables of streets, storm drains, sewers, sewage treatment plants, bridges, buildings, runways, airport lighting systems, street lighting systems, water distribution systems, power distribution systems, marine structures, retaining walls and earthwork for the production of graphs and tracking the progress of work projects.
9. Willingness to work in a variety of outdoor weather conditions (e.g. heat, cold, rain).
10. Knowledge of safety policies, precautions and procedures.

11. Ability to use a variety of computer graphic and office application software.
12. Knowledge of the characteristics of various reproduction processes and features such as reduction, enlargement, reproduction quality, and dimensional stability.
13. Knowledge of potential problem areas in construction as relating to details that appear in diagrams, schematics, and plans, in order to notify engineers, avoid construction errors, and correct drawings.
14. General knowledge of national and local standards such as American National Standard Institute and CAL/OSHA