

**MECHANICAL ENGINEERING DRAFTING TECHNICIAN 7551
TASK LIST 2021**

Communication and Interpersonal Skills

1. Under general supervision, works from written or oral instructions such as designers' sketches, red-lined drawings, departmental standard handbooks, and manufacturers' catalogs in order to prepare and revise sketches, detail drawings, working drawings, and final design drawings within the drafting squad.
2. Prepares and maintains narrative and standard reports, such as daily logs of individual and project progress and productivity, in order to update supervisors.
3. Prepares brief correspondence, such as e-mails and memos, in order to communicate within the section or division.
4. Consults with the Engineer to select the best methods of reproduction of drawings, such as PDF drawings, Bond, or Vellum, in order to be used for each project.
5. Meets and coordinates with engineers, drafting technicians of other disciplines, and designers in order to resolve plan problems, such as equipment or piping interference with other disciplines, at the pre-design, design, and construction phases to discuss change orders or revisions.

Drawings and Drafts Preparation

6. Performs various drafting assignments such as the construction, installation, operation, and maintenance of a variety of mechanical equipment for pumping and water treatment plants, power generating, power distributing, power receiving stations, and industrial stations, gate towers, automotive and construction equipment, underground vaults, heating-ventilating and air conditioning, and plumbing systems in order to complete capital improvement projects, facility refurbishment, and compliance with government (Federal, State and Local) mandates, regulations, and standards.
7. Prepares detailed scale drawings using computer aided design software such as AutoCAD and Revit Mechanical Electrical Plumbing (MEP), to produce plans, sections, 3D renderings, piping/process and instrumentation, isometric, perspective, orthographic, schematic, and elevations; showing details of mountings, frames, guards, hangars, supports and fasteners, piping and equipment layouts, HVAC duct layout, shop drawings, and other accessories to equipment, machine parts, and special tools in order to fabricate necessary parts and facilitate the assembly or construction of various equipment or facilities.

8. Prepares or assists in the preparation of drawings such as preliminary and final drawings for design, construction and installation plans, and cross-sections for engineering projects in order to convey designs for user review meetings, and coordination with construction groups to prepare drawing packages for outside bidding.
9. Prepares or assists in the preparation of documents such as drawings, charts, graphs, or plans for special drafting projects, or to accompany special reports prepared by other sections in order to assist with planning scope of work, preliminary station design or layout, and engineering reports.
10. Prepares computations, such as area, volume, capacities, sizes, clearances, missing dimensions, and similar factors, and enters the data on drawings in order to properly size facilities, layout equipment installations, and the operation of HVAC and plumbing systems.
11. Prepares scale drawings detailing information such as locations, dimensions, couplings, valves, bends, connections and other features of piping and duct layouts, controls, and other aspects of machine and equipment layouts, and other mechanical design features in order to be properly modeled for the 3D CAD system, Revit Mechanical Electrical Plumbing (MEP), and Building Information Management (BIM).
12. Prepares items such as equipment list, schedules, and bill of materials in order to organize parts, assemblies, and layouts.

Information Gathering

13. Verifies information, such as field conditions, field notes, clarification of design requirements, by making trips to project sites to observe construction/installation or site conditions in order to complete or revise drawings.
14. Secures information such as data, design interpretations, and clarification of facts by conferring with engineers, contractors, and Departmental employees in order to resolve problems and suggest solutions.
15. Confers with manufacturers or manufacturers' representatives as it relates to drawings in order to secure information such as construction and drafting materials for design plan completion.
16. Researches records such as internal records and previous project drawings and makes field observations to obtain information on various pipelines (e.g., water, oil, gas) in order to complete design plans.