

POSITION DESCRIPTION							
1. Position Number			2. Explanation (show any positions replaced)				
3. Reason for Submission <input type="checkbox"/> New <input type="checkbox"/> Redescription <input type="checkbox"/> Reestablishment <input type="checkbox"/> Standardized PD <input type="checkbox"/> Other							
4. Service <input type="checkbox"/> HQ <input type="checkbox"/> Field	5. Subject to Identical Addition (IA) Action <input type="checkbox"/> Yes (multiple use) <input type="checkbox"/> No (single incumbent)						
6. Position Specifications Subject to Random Drug Testing <input type="checkbox"/> Yes <input type="checkbox"/> No Subject to Medical Standards/Surveillance <input type="checkbox"/> Yes <input type="checkbox"/> No Telework Suitable <input type="checkbox"/> Yes <input type="checkbox"/> No Fire Position <input type="checkbox"/> Yes <input type="checkbox"/> No Law Enforcement Position <input type="checkbox"/> Yes <input type="checkbox"/> No		7. Financial Statement Required <input type="checkbox"/> Executive Personnel-OGE-278 <input type="checkbox"/> Employment and Financial Interest-OGE-450 <input type="checkbox"/> None required		10. Position Sensitivity and Risk Designation <u>Non-Sensitive</u> <input type="checkbox"/> Non-Sensitive: Low-Risk <u>Public Trust</u> <input type="checkbox"/> Non-Sensitive: Moderate-Risk <input type="checkbox"/> Non-Sensitive: High-Risk <u>National Security</u> <input type="checkbox"/> Noncritical-Sensitive: Moderate-Risk <input type="checkbox"/> Noncritical-Sensitive: High-Risk <input type="checkbox"/> Critical-Sensitive: High-Risk <input type="checkbox"/> Special Sensitive: High-Risk			
		8. Miscellaneous Functional Code: -- BUS: --	9. Full Performance Level Pay Plan: Grade:				
11. Position is <input type="checkbox"/> 2-Supervisory <input type="checkbox"/> 4-Supervisor (CSRA) <input type="checkbox"/> 5-Management Official <input type="checkbox"/> 6-Leader: Type I <input type="checkbox"/> 7-Leader: Type II <input type="checkbox"/> 8-Non-Supervisory		12. Position Status <input type="checkbox"/> Competitive <input type="checkbox"/> SES <input type="checkbox"/> Excepted (specify in remarks) <input type="checkbox"/> SL/ST		15. Fair Labor Standards Act <input type="checkbox"/> Exempt <input type="checkbox"/> Nonexempt			
		13. Duty Station	14. Employing Office Location				
		16. Cybersecurity Code #1:                      #2: --                      #3: --	17. Competitive Area Code: Competitive Level Code:				
18. Classified/Graded by	Official Title of Position		Pay Plan	Occupational Code	Grade	Initial	Date
a. Department, Bureau, or Office							
b. Second Level Review			--		--		
19. Organizational Title of Position (if different from, or in addition to, official title)			20. Name of Employee (if vacant, specify)				
21. Department, Agency, or Establishment U.S. Department of the Interior			c. Third Subdivision				
a. Bureau/First Subdivision			d. Fourth Subdivision				
b. Second Subdivision			e. Fifth Subdivision				
22. Supervisory Certification. I certify that this is an accurate statement of the major duties and responsibilities of this position and its organizational relationships and that the position is necessary to carry out Government functions for which I am responsible. This certification is made with the knowledge that this information is to be used for statutory purposes relating to, but not limited to: FLSA determinations; position sensitivity and requirements; and appointment/payment of public funds. False or misleading statements may constitute violations of such statutes or their implementing regulations.							
a. Typed Name and Title of Immediate Supervisor			b. Typed Name and Title of Higher-Level Supervisor or Manager (optional)				
Signature		Date	Signature		Date		
23. Classification/Job Grading Certification. I certify that this position has been classified/graded as required by Title 5, U.S. Code, in conformance with standards published by the U.S. Office of Personnel Management or, if no published standards apply directly, consistently with the most applicable published standards.			24. Position Classification Standards Used in Classifying/Grading Position				
Typed Name and Title of Official Taking Action							
Signature		Date					
25. Position Review	Initials	Date	Initials	Date			
a. Supervisor				Information for Employees. The standards, and information on their application, are available in the personnel office. The classification of the position may be reviewed and corrected by the agency or the U.S. Office of Personnel Management. Information on classification/job grading appeals, and complaints on exemption from FLSA, is available from the personnel office or the U.S. Office of Personnel Management.			
b. Classifier							
26. Remarks							

**DOI Standard PD  
PD# DI00700**

**Classification: Engineering Technician, GS-0802-10**

**INTRODUCTION**

This position is located within an operating office (Office) within a bureau or bureau equivalent (Bureau) within the Department of the Interior (Department). This position works as an Engineering Technician with substantive experience working with a wide range of work situations aligned with and/or supporting professional engineering and architecture fields. Specializations of technical engineering work may include architecture, civil, drafting, electrical, materials, and mechanical.

**MAJOR DUTIES (Accounts for a minimum of 25% of work time)**

**Technical Evaluation and Analysis**

Performs difficult but precedented technical engineering evaluation and analysis assignments, or analyzes segments of broader issues or problems. Analyzes the issues and project objectives. Assesses unusual circumstances; applies qualitative and quantitative analytical techniques to resolve complex, interrelated problems; develops or modifies work methods; and advises on or resolves issues.

Examples of technical evaluation and analysis include:

- Gathers and validates accuracy of data to be used as baseline data for engineering decisions; provides a technical leadership role in ensuring data integrity. Data is gathered from a variety of sources, including databases, field notes, maps, land classification resources, environmental analyses, geotechnical reports, design charrettes, laboratory reports, and reports. Additional data collection may include arranging for laboratory reports and performing market research. Performs quality assurance and data integrity review of electronic data and records.
- Conducts design surveys and/or field site visits to collect samples and data. This includes taking measurements and photos to document cases of infrastructure failures or errors, or to document site, equipment, and/or facility conditions.
- Develops, prepares, and/or reviews plans, specifications, and cost estimates for construction and/or proposed/ongoing projects.
- Interprets sophisticated and complex testing results.
- Reviews, affirms accuracy of invoicing, and prepares reports on pay quantity including analysis of government estimated quantities compared to quantities paid.
- Evaluates proposed material designs and makes recommendations concerning adequacy of construction materials or constructability of the design.
- Collects and/or evaluates geotechnical field samples for such characteristics as moisture content, compaction, gradation, soil classification, and soil, rock, or concrete strength.
- Performs technical analysis of construction schedules, proposals, submittals, modifications, and other contractor-provided documentation.

## **Drafting**

Prepares original drawings and preliminary layouts, as well as updates and revisions to drawings, including final as-built drawings. Reviews drawings, the basis for the design, and the design analysis for conformance with established engineering standards and criteria and the project requirements. Plans the method to effectively portray information contained in the specifications or descriptions and obtains additional information from the designer when needed. Utilizing three-dimensional projections and automated design applications, portrays simple drawing designs to include materials and contours. Prepares charts, graphs, tables, or other visual representations from data gathered during analysis and evaluation and from notes submitted by field crews and other available information sources. Ensures appropriate storage of drawings.

## **Instrumentation and Equipment**

Installs, tests, calibrates, troubleshoots, operates, and maintains instrumentation and equipment associated with engineering and architecture projects and activities, including scientific data collection. Performs difficult but precedented installations. Determines information needed concerning characteristics, capabilities, and limitations of test items, and selects and devises appropriate laboratory tests for simulating conditions. Interprets and analyzes data and test results for specific performance characteristics, failures in materials, and for equipment or instrumentation deficiencies; presents conclusions and recommendations. Determines feasibility and method of modifying test equipment to meet special test requirements. Conducts difficult performance evaluations of instrumentation and equipment and calibrates accordingly. Employs unique and specially designed precision instruments for both testing and operational data gathering and compiles readings for further evaluation and analysis. Maintains one-of-a-kind scientific equipment, custom equipment, or equipment which is continually being modified and adapted and does not usually have adequate documentation. Assesses capability and reliability of instrumentation and equipment in relation to new technological developments. Reduces and prepares presentations of instrumentation field data, checks processed data for anomalies to determine whether they are the result of errors or abnormal readings, and resolves and corrects errors.

## **Inspections and Assessments**

In addition to assessments and inspections described under “Technical Evaluation and Analysis” and “Instrumentation and Equipment” conducts difficult inspections and assessments, including condition assessments of civil works facilities, buildings, marine vessels, hydraulic systems, mechanical and electrical systems, materials laboratories or mixing plants, transportation infrastructure, and construction site conditions. May conduct evaluations of existing conditions, safety inspections, and investigations of minor incidents. Conducts inspections and assessments that involve a wide variety of test and inspection techniques. Identifies and makes recommendations for correcting deficiencies.

## **Documentation and Communication**

Drafts technical documentation for assigned technical engineering work assignments and reviews documentation of lower graded technicians. Prepares reports to present findings, conclusions, and recommendations based on evaluation, analysis, inspection, and/or assessments.

Documentation includes construction material test results and reports, technical construction reports, and final inspection/construction reports and other technical reports. Advises on work

efforts to resolve operating problems by working collaboratively with individuals and groups who are working toward mutual goals and objectives. Delivers presentations or briefings on technical documentation.

**Other Duties (Cannot account for more than 75% of work time)**

- **Project Management:** Monitors project plans that outline the scope, schedule, and/or budget of assigned projects. This includes collaboration and communication; participating on teams; and identifying procedural issues prior to adverse impacts to the schedule and budget. Participates in coordination meetings with a variety of government and/or non-government stakeholders.
- **Contract Administration:** Serves as the Contracting Officer's Representative (COR)/Grants Officer's Technical Representative (GOTR)/Awarding Official Technical Representative (AOTR) and/or assists the COR/GOTR/AOTR in working with the Contracting Officer/Grants Officer/Awarding Official to implement and administer a variety of assigned contracts, including construction contracts, service or supply contracts, P.L. 93-638 Indian Self Determination and Education Assistance Act as amended contracts/agreements, interagency agreements, and financial assistance agreements. Initiates timely actions and technically monitors the contract/agreement to ensure that they are carried out to completion as outlined in the contract/agreement. Researches the background on problems, identifies and devises courses of action in coordination with Architects and Engineers and the Contracting Officer, Grants Officer, or Awarding Official as appropriate, and prepares recommendations for decision by management. Oversees and tracks official correspondence between the government and contractor. Reviews and tracks reimbursement for contract work, including progress payments and final payment. Manages the contract close-out process, including data and records retention, in accordance with agency guidelines. Difficulty of technical work performed in this role is commensurate with above description of Major Duties.
- **Compliance:** Provides administrative support in connection with regulatory program oversight.
- **Database and Records Management:** Uses databases to maintain engineering data and records. Participates in the development, maintenance, and/or operation of engineering data collection and storage systems. Ensures necessary data and records are properly classified, stored, collected, updated, maintained, archived, and retained in accordance with applicable records management policies and practices.

Performs other related duties as assigned.

**FACTORS**

**Factor 1. Knowledge Required by the Position (Level 1-6 950 points)**

Practical knowledge of a wide range of technical engineering methods, principles, requirements, work techniques, and practices, and skill in applying standardized, analytical, and evaluative methods and techniques sufficient to advise on and/or resolve difficult but well-precedented, factual, procedural, and/or recurring issues (e.g., failure of equipment components in service); make informed decisions on problems and issues (e.g., determine information and data needed

for testing, evaluate proposed material mix designs, evaluate instrumentation data for validity and anomalies); analyze segments of broader issues or problems (e.g., the impact of a change in one area on the entire system); perform installation, maintenance, operation, and testing duties (e.g., interpret sophisticated and complex test results); employ unique and specially designed precision instruments (e.g., assess the capability and reliability of test equipment to meet special test requirements); maintain one-of-a-kind equipment, custom equipment, developmental equipment, or equipment which is continually being modified and adapted.

Practical knowledge of related disciplines such as geology, hydrology, electrical, mechanical, soil science, and economics in order to work cooperatively with professionals, specialists, and technicians of these disciplines when performing technical engineering support assignments.

Skill in installing, calibrating, testing, and reading instruments for data collection.

Knowledge of common engineering data collection methods. Knowledge of data sources within the Bureau and industry. Skill in identifying and assessing the data needed for technical engineering assignments.

Skill in drafting original drawings, preliminary layouts for renovations, or updates to drawings based on specifications provided and an understanding of design intent. Skill in reviewing drawings, the basis for the design, and the design analysis to determine conformance with established engineering standards and project requirements.

Skill in reading, interpreting, and formulating field notes, engineering drawings, regulations, policies, legal descriptions, topographic maps, aerial photographs, geologic reports, drill hole logs, land classification reports, and other technical resource material to extract data from these sources for presentation in drawings, charts, graphs, and tables, and for generation of new technical drawings; and to determine areas, boundaries, quantities, and distances from reference material.

Knowledge of basic mathematical principles and logic relative to algebra, trigonometry, and geometry and the ability to calculate area, quantities, and volumes based upon application of standard mathematical formulas.

Skill in conducting difficult but preceded or recurring inspections and assessments and making on-site determinations and recommendations for improvement.

Knowledge of and skill in using automated engineering systems, applications, and instrumentation in order to perform technical engineering support assignments such as drafting original engineering drawings, performing calculations, and assessing, interpreting, and analyzing the validity of generated results.

Skill in effectively conveying information to individuals or groups, taking into account the nature of the information (e.g., technical) and making clear and convincing presentations of information and data. Skill in writing in a clear, concise, and organized manner. Ability to establish collaborative working relationships; identify and evaluate preceded or procedural problems;

and determine relevancy of information to make logical decisions and develop technical solutions.

Practical knowledge of administrative activities associated with administration of contracting and agreement actions, procedures, and options, and working knowledge of the associated documents and contract and agreement actions sufficient to assist the Contracting Officer/Grants Officer/Awarding Official in performing contract administration functions. Knowledge of and skill in applying Federal Acquisition Regulation (FAR) requirements and Construction Specifications Institute (CSI) guidelines for drafting contract documents. COR, GOTR, or AOTR responsibilities may require specific training and/or certification.

### **Factor 2. Supervisory Controls (Level 2-4 450 points)**

The supervisor outlines overall objectives and available resources and, in consultation with the employee, discusses the projects and timeframes of work assignments and determines the parameters of the employee's responsibilities. The employee determines the most appropriate avenues to pursue and decides the practices and methods to apply, including the approach to take and the depth and intensity needed. The employee interprets regulations on own initiative and applies new methods to solve complex, intricate, sensitive, and/or unprecedented problems and resolves most conflicts as they arise. The employee coordinates projects with a variety of stakeholders and keeps the supervisor informed of progress and potentially controversial matters. The supervisor reviews completed work for soundness of overall approach, effectiveness in producing results, feasibility of recommendations, and adherence to requirements.

### **Factor 3. Guidelines (Level 3-3 275 points)**

The employee uses a variety of guidelines, manuals, precedents, and standard reference materials; however, they are not completely applicable to the work or have gaps in specificity. The employee uses judgment and initiative in interpreting and adapting guidelines, such as policies, regulations, precedents, and work directions for application to specific cases or problems. The employee analyzes results and recommends changes to local practices and guidelines.

### **Factor 4. Complexity (Level 4-4 225 points)**

Work consists of many different and unrelated processes and methods requiring ingenuity and skill to resolve a broad range of problems. The employee analyzes, selects, and adapts appropriate methods from a wide range of alternatives to assess unusual circumstances. The employee evaluates operations, equipment, and activities and applies qualitative and quantitative analytical techniques to resolve complex, interrelated problems and to develop new or modified work methods, approaches, or procedures. The employee exercises seasoned judgment and skill to interpret considerable, incomplete, or conflicting data and to resolve new or unique problems. The employee may participate on teams that complete work of an experimental nature where many applications require feasibility studies, cost estimates, time studies, revised design, and performance testing.

### **Factor 5. Scope and Effect (Level 5-3 150 points)**

This position works as an Engineering Technician in a variety of work situations typically aligned with and/or supporting professional engineering and architecture fields. Specializations of technical engineering work may include architecture, civil, drafting, electrical, materials, and mechanical. The work requires applying a considerable number of different basic but established methods, procedures, and techniques. The work affects the design or operation of systems, programs, processes, or equipment (e.g., the adequacy of field investigations, testing operations, or conclusions; safety of employees through proper equipment operations and testing and through proper construction methods); and the timeliness and economy of operations, services, or equipment.

### **Factors 6 & 7. Personal Contacts/Purpose of Contacts (Levels 6-3/7B 110 points)**

Contacts include employees, supervisors, and managers within the Department, both inside and outside of the immediate office or related units. Contacts may also include vendors and members of the general public in moderately unstructured settings. Contacts within the Department/Bureau may be from various levels, such as: headquarters; regions; districts; field offices; or other operating offices. Contacts are to acquire or exchange information or facts needed to complete an assignment, such as exchanging information regarding the purchase, repair, maintenance, or design of equipment. Contacts are also to plan, coordinate, or advise on work efforts or to resolve operating problems by collaborating with individuals and groups who are working toward mutual goals and objectives.

### **Factor 8. Physical Demands (Level 8-1 5 pts; 8-2 20 pts; 8-3 50 pts)**

FL 8-1: The work is primarily sedentary, although there is some walking in offices, production areas, utility plants, maintenance, and work areas. Work may involve carrying lightweight items, such as briefcases, notebooks, test equipment, and work papers or may involve operating a motor vehicle. The work does not require any special physical effort or ability.

FL 8-2: The work requires some physical exertion, such as long periods of standing; walking over rough, uneven, rocky, or slippery surfaces; recurring bending, crouching, stooping, stretching, climbing, or similar activities; recurring lifting of light to moderately heavy items weighing less than 50 pounds (i.e., 23 kilograms), such as testing or measuring equipment; and/or regular visits to construction, industrial, marine, or other outdoor sites.

FL 8-3: The work requires considerable and strenuous physical exertion, such as: frequent climbing of tall ladders, staging, or scaffolding in dry-dock and vessel areas; working in areas where footing can be treacherous (e.g., on rocky banks of bodies of fast-water, slippery docks, or steep hillsides); lifting heavy objects weighing 50 pounds (i.e., 23 kilograms) or more; and frequent crouching or crawling in restricted areas.

**Factor 9. Work Environment (Level 9-1 5 pts; 9-2 20 pts; 9-3 50 pts)**

FL 9-1: The work area is usually an office setting adequately lighted, heated, and ventilated. The work environment involves everyday risks or discomforts requiring normal safety precautions.

FL 9-2: Work involves regular and recurring exposure to moderate risks and discomforts, such as the following: dust, strong odors, or fumes from fuels, chemicals, or engine exhaust; high levels of noise and vibration, dust, grease, electrical hazards, uncovered moving parts of machinery, moving machinery; or outdoor conditions involving moderate exposure to rain, cold/hot weather, icy streams, and rivers. The work environment requires the employee to stay alert continually and to take special safety precautions including wearing special protective items of clothing.

FL 9-3: The work environment involves high risks of exposure to potentially dangerous situations or unusual environmental stress requiring a range of safety and other precautions where conditions cannot be controlled (e.g., working at great heights under extreme outdoor weather conditions).

**Total Points and Grade Conversion**

Point Range = 2170 (low) to 2260 (high)

Grade Conversion Point Range = 2105-2350 for GS-10

Final Grade = GS-10

**Other Significant Facts**

Certification: Certification to serve as a Federal Acquisition Certification (FAC) COR or AOTR may be required as articulated in Department and/or Bureau policies.