Technical Vacancy Announcement

Civil Engineer Trainee (1 Position)
Geotechnical Engineer Trainee

IPR Number: 43424  Union Position: ☒Yes ☐No
Position Number: PW110-23-75-905-30-01  Shift: 8:00 am – 4:30 pm
Opening Date: March 11, 2019  Monday – Friday
Closing Date: April 5, 2019  Salary: $4,275 – $5,118*

Office/Central Bureau/District/Work Address:
Office of Highways Project Implementation / Bureau of Bridges and Structures / 2300 S. Dirksen Parkway, Springfield, Illinois

Position Purpose:
This position provides structural engineers with geotechnical recommendations on simple projects so that the most cost effective, safe, and durable structure is constructed. This is accomplished by performing simple analyses, to design foundations supporting bridges, retaining walls, culverts, and other traffic structures or to review foundations designed by consultants. The incumbent provides foundation and geotechnical design parameters, plan modifications, and specification input to the structural engineer so the contract documents do not create construction delays or contractor claims. In addition, this position assists the districts, contractors, consultants, and in-house structural engineers in responding to or resolving soils related design and construction problems.

Qualifications:

Position Requirements:

• Bachelor of Science in Civil Engineering from an ABET accredited university prior to date of employment or must be a Licensed Engineer Intern in the state of Illinois (includes those expecting to graduate in spring 2019)
• Minimum 2.5 cumulative GPA in engineering related courses (If GPA is between a 2.0-2.5, candidate must have passed Fundamentals of Engineering Exam.)
• Occasional overnight travel

Position Desirables:

• Strong oral and written communication skills

How to Apply/Remarks:
Technical Applications PM1080 (rev 6/1/17) must be received by the Bureau of Personnel Management, Room 113, 2300 South Dirksen Parkway, Springfield, IL 62764 (Fax# 217/557-3134) or emailed to DOT.CO.BPM.EmploymentApplications@Illinois.gov by 4:30 pm on the closing date listed above. Applications will not be accepted after this date and time. Applicants will be notified in writing to schedule interviews.

Agency Contact: Bureau of Personnel Management, 217/782-5594

To be considered for a permanent position within IDOT, you must either be a US citizen or a non-citizen with permanent work authorization.

Only education/coursework listed within the application will be considered for determining eligibility for this position.

NOTE: Unofficial college transcripts must be included with the application. Official college transcripts must be submitted upon date of employment. Applicants possessing an Engineer Intern license must also include a copy with application. Applicants not submitting these documents by the posting deadline will not be considered for employment. Please include IPR number on the application.

NOTE: Please be advised that if a high volume of applications is received, the applications may be screened to establish a smaller pool of applicants for interview. The screening will be based on the information contained in the application.

*Individual salary offers are computed based on an applicant’s current position and experience level in comparison to the posted title as well as internal equity of staff in the organizational unit.
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**Dimensions**

- Annual projects: 25 – 50
- Contract value: $75 M

**Nature and Scope**

This position reports to the Geotechnical Group Engineer. There are no subordinates reporting to this position.

This position operates in an environment where multiple projects are assigned to the incumbent, the general review scope is provided, and the incumbent is expected to work for the most part independently to provide competent recommendations to the Geotechnical Group Engineer by the requested completion date. The incumbent has broad latitude in utilizing judgment on how to complete assignments, as well as having the responsibility to seek input and concurrence from the Geotechnical Group Engineer when deviating from policy and resolving simple issues to maintain unit productivity. As part of the incumbent’s duties, s/he may be asked to perform geotechnical analyses on simple projects. This may involve working with consultants (both geotechnical and structural), as well as district and bureau staff, to ensure cost effective, safe, accurate geotechnical recommendations along with resolving problems and considering the site and subsurface design constraints.

The incumbent is responsible for developing and maintaining a comprehensive knowledge of geotechnical engineering theories and practice so that s/he is capable of solving and reviewing somewhat unique and simple problems by utilizing advanced geotechnical analyses and procedures. As such, innovative analyses and designs not normally required on more common projects are necessary. The greatest challenge faced by the incumbent is to be resourceful and apply the latest technological developments in geotechnical engineering to these simple departmental projects.

The incumbent prepares in-house Structure Geotechnical Reports (SGRs) on simple projects, reviews consultant-prepared SGRs, and communicates review comments to the consultants to ensure completeness of the SGR which is used in the development of the Type Size and Location (TSL) plans, design computations,
final contract plans, and construction specifications. The position ensures appropriate subsurface soils data has been gathered and is commensurate with the complexity of the projects. In addition, TSL plans, final plans, local agency designs, and construction submittals on simple projects are reviewed and recommendations are issued by the incumbent to address any geotechnical problems uncovered. The recommendations made by the incumbent will be often related to a foundation, retaining wall, or site soils ability to carry design loads, the adequacy or development of plan details, and the review or writing of specifications. S/He is responsible for the analyses, design, or review of simple bridge foundations, earth retaining systems, ground modification, ground anchors, river cofferdams, temporary soil retention systems as well as sign, light, and traffic structure foundations, construction control of pile driving, and drilled shaft installation. The incumbent may need to conduct field inspections to view and address geotechnical challenges in either the planning, design, or construction phases.

The incumbent must maintain a working knowledge of and be guided by the American Association of State Highway Officials (AASHTO) design and construction specifications and applicable departmental policies.

This position maintains contact with bureau and district staff. S/He maintains moderate contact with the Federal Highway Administration on foundation policies as well as technology transfer and occasional contact with university personnel involved in previous or current research to answer questions on geotechnical issues. Occasional overnight travel is required.

The effectiveness of this position is measured by the accuracy and expertise observed by the Geotechnical Group Engineer, the timeliness with which tasks are completed, and the ability to communicate simple issues with the supervisor, consultants, and co-workers.

**Principal Accountabilities**

1. Prepares and/or reviews consultant Structure Geotechnical Reports on simple projects.

2. Reviews foundations and geotechnical aspects of structural consultant and in-house TSL plans for simple structures.

3. Reviews foundations and geotechnical aspects of structural consultant and in-house final plans for simple structures.

4. Reviews simple construction submittals including cofferdams, seal coats, temporary soil retention systems, drilled shaft installation procedures, ground modification designs, tie-back anchor and micropile designs, value engineering, construction problems, Mechanically Stabilized Earth (MSE) and soil nailed wall internal stability, noise wall foundations, and other less common requests.

5. Reviews simple local agency structure foundations and geotechnical reports as well as repair plans for foundations, slopes, and retaining walls.

6. Designs simple shaft foundations for high mast light towers, overhead sign trusses, and traffic signal mast arms when standard design tables provided on the standard base sheets and manuals cannot be used.

7. Performs duties in compliance with departmental safety rules. Performs all duties in a manner conducive to the fair and equitable treatment of all employees.

8. Performs other duties as assigned.
Subordinates of this position (if applicable, list subordinate information in the chart below)

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Supervisor of this position

Immediate Supervisor Position Classification: Civil Engineer V
Working Title: Geotechnical Group Engineer
Position Number: PW115-23-75-905-30-01

Position Requirements

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- Occasional overnight travel is required

Position Desirables

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Agency Approvals

[Signatures]
Bureau Chief of Personnel Management
Secretary, Department of Transportation