



# Illinois Department of Transportation

## Memorandum

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To: DEPUTY SECRETARIES, DIRECTORS AND BUREAU CHIEFS  
From: Becky Koehler  
Bureau Chief of Personnel Management  
Subject: Technical Vacancy  
Date: May 29, 2018

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Attached are the Position Summary Sheet and Position Description for the vacant technical position listed below. Please post this vacancy announcement May 31, 2018 in the designated areas.

The deadline for applicants to submit their applications for consideration is **4:30 p.m. on Wednesday, June 13, 2018**. Applications will not be accepted after that time and date.

**NOTE: A copy of each applicant's ACTIVE Illinois Professional Engineer License must accompany application for this position. Please be advised that if a high volume of applications are 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.**

If you have any questions, please contact the Bureau of Personnel Management at 217/782-5594.

CE V

Bridge Ratings Group Engineer  
Bureau of Bridges & Structures  
Office of Highways Project Implementation  
Springfield

Attachments  
42712

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](mailto:DOT.CO.BPM.EmploymentApplications@Illinois.gov) by **Wednesday, June 13, 2018**, 4:30 p.m. Please include address, daytime phone and position for which applying if not already listed on application. Applicants will be notified in writing to schedule interviews.

**NOTE: A copy of each applicant's ACTIVE Illinois Professional Engineer License must accompany application for this position. Please be advised that if a high volume of applications are 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.**



An Equal Opportunity Employer

## Position Summary Sheet

<b>Classification:</b>	<b>Civil Engineer V</b>	<b>Salary:</b>	<b>\$6,315 - \$8,263*</b>
<b>Position Title:</b>	<b>Bridge Ratings Group Engineer</b>	<b>Union Position:</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>Position Number:</b>	<b>PW115-23-75-906-31-01</b>	<b>IPR#:</b>	<b>42712</b>

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### Office/Central Bureau/District/Work Address:

Office of Highways Project Implementation / Bureau of Bridges and Structures / 2300 S. Dirksen Parkway, Springfield, IL

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### Description Of Duties:

This position is responsible for maintaining the department's bridge load ratings on the state highway system, performing the structural engineering analysis of state maintained structures required for permit overloads, capacity ratings, and load restrictions of deficient bridges or closure of structures.

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### Special Qualifications:

#### Required:

- Current Illinois Professional Engineer license
- Valid driver's license
- Occasional statewide travel which may require overnight stays

#### Desired:

- Nine years of experience in civil engineering of which at least five years should be in the areas of design, planning, repairs, and rating of bridge structures, three years of which should have been supervising engineering functions
- Management and supervisory experience is beneficial
- Current Illinois Structural Engineer license
- Knowledge of the Manual for Bridge Evaluation, the Illinois Department of Transportation (IDOT) Structural Services Manual, and the Illinois Structure Information and Procedures (SIP) Manual
- Strong oral and written communication skills

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### Shift/Remarks:

8:00 am – 4:30 pm / Monday – Friday

\*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.

\*\*Technical Application PM1080 (revised 6/1/17) is required. No previous version of the PM1080 will be accepted.

**ILLINOIS DEPARTMENT OF TRANSPORTATION  
POSITION DESCRIPTION**

<b>DATE:</b>	February 5, 2018	<b>POSITION:</b>	Bridge Ratings Group Engineer
<b>APPROVED BY:</b>	Timothy Armbrecht	<b>OFFICE/DIVISION:</b>	Office of Highways Project Implementation/Bridges and Structures
<b>CODE:</b>	PW115-23-75-906-31-01	<b>REPORTS TO:</b>	Bridge Ratings and Permits Unit Chief

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***Position Purpose***

This position is responsible for maintaining the department's bridge load ratings on the state highway system, performing the structural engineering analysis of state maintained structures required for permit overloads, capacity ratings, and load restrictions of deficient bridges or closure of structures.

***Dimensions***

Subordinate Personnel:	2-5
Number of Structures Analyzed:	250-300 annually
Number of Structure Posting/Closure:	10-20 annually

***Nature and Scope***

This position reports to the Bridge Ratings and Permits Unit Chief. Reporting to this position are a Senior Bridge Ratings Engineer, a Bridge Ratings Engineer, an Associate Bridge Ratings Engineer, an Assistant Bridge Ratings Engineer, and an Assistant Bridge Ratings Engineer Trainee. In addition, the incumbent may be required to manage consultants working directly under his/her guidance.

The incumbent's working environment is characterized by the utilization of extensive structural knowledge and expertise that is required to determine and evaluate the load carrying capacities and ratings for state maintained structures. These ratings are important parts of sufficiency ratings that are used in replacement or rehabilitation funding programs. In addition to these responsibilities, when condition of a structure calls for load restriction or closure of a structure, the incumbent analyzes the structure to provide load limit or, in some cases, recommends closure to safeguard the traveling public. H/She is also responsible for the maintenance of a structure database which is mandated by the National Bridge Inspection Standards.

Typical problems faced by the incumbent include the necessity to evaluate the load carrying capacities of simple to complex structures that may be deteriorating rapidly, sound engineering decisions must be made quickly when public safety may be in jeopardy. Also, requests for overloads and construction loads are oftentimes accompanied with economic necessities or politically sensitive issues where the incumbent must make decisions that are not greatly inconvenient to outside entities. The greatest challenge faced by the incumbent is to determine load carrying capacities of structures that reflect actual physical condition. This position has to monitor and control the diverse activities of the group and establish priorities so that information pertaining to lettings of structures are distributed in a timely manner, structural analysis of deteriorated or damaged structures is performed in order to determine load carrying capacity and the Illinois Structure Information System (ISIS) is updated to prevent structural failures resulting from overstress due to structures in bad condition. The incumbent must make or manage a thorough site investigation in the presence of the district's Bridge Maintenance Engineer and provide appropriate supporting structural calculations. If the results indicate less than required capacity, he/she recommends posting or sometimes closure of the bridge to the public for their safety.

The incumbent personally reviews structure ratings performed by others and ensures that ratings are compatible with design, legal and permit loads. The incumbent ensures a Structure Load Rating Summary (SLRS) is developed for each load rating. H/She shall ensure the SLRS and all supporting calculations and notes are saved and readily accessible. Any unusual rating, specifically less than current standards, must be reported to his/her superior for resolution. The incumbent calculates applied moments due to these loads and calculates moment capacity of a section incorporating any section loss or deterioration in the structure member. H/She also performs shear analysis where webs of steel beams have holes or section loss. H/She must review results obtained from AASHTOWare BrR or, when necessary, by manually performing the required computations, to ensure accuracy and modify ratings to meet departmental policies. H/She is required to respond to inquiries concerning the department's rating policy and procedures, recommend approval and/or conditions of traffic and construction Overload Permits and advise district personnel concerning the effects of resurfacing projects on existing structures.

The incumbent accomplishes these accountabilities with the following staff: A Senior Bridge Ratings Engineer, a Bridge Ratings Engineer, an Associate Bridge Ratings Engineer, an Assistant Bridge Ratings Engineer, and an Assistant Bridge Ratings Engineer Trainee, who are responsible for the maintenance of the load ratings for a structure data inventory of 8,000 to 9,000 state maintained bridges, the computation and the maintenance of bridge records, and the preparation of special reports utilizing information contained in ISIS. The incumbent may also be required to manage consultant contracts to ensure load ratings are being performed in a timely manner.

The incumbent has wide latitude in accomplishing the responsibilities assigned to this position. However, the incumbent must consult with his/her immediate superior concerning issues involving actual or potential policy violations. The incumbent is guided by American Association of State Highway and Transportation Officials (AASHTO) specifications, current interim specifications, applicable departmental policies and Federal Highway Administration policies.

The incumbent has frequent contact with other states concerning the load carrying capacity and/or load restrictions of state-line bridges. H/She responds to inquiries from consultants, fabricators, other state agencies, professional organizations, and research groups. H/She also has contact with the district Bureaus of Project Implementation and Operations concerning construction Overload Permits, structure ratings, and resurfacing projects. H/She maintains a constant contact with the department's AASHTOWare consultant to clarify or implement departmental policies and resolve any problems that may arise utilizing AASHTOWare computerized rating outputs. Occasional statewide travel with overnight stays is required of this position.

The effectiveness of this position can be measured by the quality of the structural engineering expertise and judgment displayed by the incumbent in balancing the necessary movement of traffic over structures with the absolute safety of the travelling public, AASHTOWare BrR management, and the timely approval/disapproval of construction and traffic Overload Permit requests.

### ***Principal Accountabilities***

1. Determines the safe load carrying capacities for all state maintained structures. Reviews structural ratings and recommendations made by in-house staff and consultants.
2. Ensures all load rating information is up-to-date within ISIS and a SLRS and all supporting calculations and notes are saved and readily accessible.
3. Manages AASHTOWare software, including trouble shooting and development.
4. Provides engineering expertise in review and analysis of permit overloads to the Bureau of Operations and construction overloads to the Bureau of Construction.
5. Provides structural engineering analysis for the district's resurfacing projects.

6. Trains, motivates, and evaluates subordinates and consultants to ensure a well-developed and competent staff who comply with all departmental safety rules and practices.
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 required or assigned.