



# Illinois Department of Transportation

## Memorandum

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To: DEPUTY SECRETARIES, DIRECTORS AND BUREAU CHIEFS  
From: Dianna L. Taylor  
Bureau Chief of Personnel Management  
Subject: Technical Vacancy  
Date: May 10, 2017

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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 12, 2017 in the designated areas.

The deadline for applicants to submit their names for consideration is **4:30 p.m.** on **Thursday, May 25, 2017**. Applicants 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.**

All applicants will receive a position description for the position they are applying for. If you have any questions, please contact the Bureau of Personnel Management at 217/782-5594.

CE V

Mixtures Control Engineer  
Region 2/District 2/Project Implementation  
Highways Project Implementation  
Dixon

Attachments  
41634

Technical Applications (PM 1080 rev 9/19/16) **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 **Thursday, May 25, 2017**, 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.**



## Illinois Department of Transportation

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>Mixtures Control Engineer</b>	<b>Union Position:</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>Position Number:</b>	<b>PW115-23-52-203-20-01</b>	<b>IPR#:</b>	<b>41634</b>

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

Office of Highways Project Implementation/Region 2/District 2/Bureau of Project Implementation/819 Depot Avenue, Dixon, IL

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#### Description Of Duties:

This position is accountable for planning and directing activities that ensure bituminous concrete and Portland Cement Concrete mixtures are acceptable for use on state and local highway improvement projects where federal and state aid, and Motor Fuel Tax funds are involved.

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#### Special Qualifications:

##### **Required:**

- Current Illinois Professional Engineer license
- Valid driver's license

##### **Desired:**

- Nine years experience in civil engineering of which at least five years should be in the specific area of highway engineering, three years of which should have been supervising engineering functions
- Working knowledge of materials testing
- Extensive knowledge of the principles and practices of civil engineering
- Ability to supervise a staff engaged in field functions
- Ability to maintain cooperative relationships with departmental and industry staff
- Strong oral and/or written communication skills

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#### Shift/Remarks:

8:00 am - 4:30 pm / Monday - Friday

**THIS POSITION IS COVERED UNDER THE REVOLVING DOOR PROHIBITION (RDP) POLICY.**

\*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.

**ILLINOIS DEPARTMENT OF TRANSPORTATION  
POSITION DESCRIPTION**

<b>DATE:</b>	July 2013	<b>POSITION:</b>	Mixtures Control Engineer
<b>APPROVED BY:</b>	<i>Paul Loete</i>	<b>OFFICE/DIVISION:</b>	District 2 / Project Implementation
<b>CODE:</b>	PW115-23-52-203-20-01	<b>REPORTS TO:</b>	Materials Engineer

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***Position Purpose***

This position is accountable for planning and directing those activities that ensure that bituminous concrete and Portland Cement Concrete mixtures are acceptable for use on State and local highway improvement projects where Federal and State aid, and where Motor Fuel Tax funds are involved.

**Dimensions**

Subordinate Personnel:	2 directly; 8 indirectly
Operating Budget Payroll:	\$490,000
Number of Projects Annually:	90 - 100
Annual Value of Mixtures:	\$40 - \$80 Million
Number of Plants:	36 Bituminous, 40 P.C.C.

**Nature and Scope**

This position reports to the District Materials Engineer, as do the Geotechnical Engineer, the Physical Tests Engineer, and an Executive Secretary I. Reporting directly to this position are the Senior QC/QA Concrete Mixtures Technician and the Senior QC/QA Bituminous Mixtures Technician.

The incumbent and his/her staff are responsible for the quality of Portland Cement Concrete (PCC) and Hot Mix Asphalt (HMA) materials produced at many locations and used in the construction of transportation facility improvements. This quality control is achieved directly through Department staff and by directing the Mixtures QC/QA portion of the Department's Quality Management Program in the District. Through subordinates and staff, the incumbent must 1) ensure properly inspected aggregates and materials are utilized, 2) design or verify contractor mixture designs and perform quality control or quality assurance sampling and testing, 3) survey and calibrate plants to assure predictable uniform mixtures, 4) provide daily inspecting, sampling, testing, and adjustment of mixes or monitor contractor quality control under the Quality Management Program, and 5) evaluate mixture performance at the project site and resolve placement problems. These functions require a great deal of expertise involving detailed knowledge of materials, the interaction of components of a mixture, and the resulting effects on the properties of the final product.

Typical problems encountered by this position include ensuring acceptable mixture designs to improve skid-resistant properties and other safety and wear features of pavement surfaces; approving the design of new mixtures thereby reducing the demand for scarce materials and enabling the use of available by-products; developing end-use specifications for quality assurance applications and providing for the monitoring of the use of these specifications under operating conditions; determining the capability of sophisticated electronic plant proportioning equipment, the value and use of complex chemical additives and the impact of experimental products on mixtures; evaluating the effectiveness of consultant testing equipment and consultant personnel engaged in materials proportioning and inspecting; and establishing District policy in the areas of material and equipment testing and specifications interpretation. The greatest challenge to this position is to extend pavement life and improve highway safety through the proper design and inspection of HMA and PCC mixtures.

The incumbent personally determines what HMA and PCC materials will be used on all projects; reviews and approves contractor quality plans for QC/QA projects; approves HMA and PCC mixture designs to meet unusual project demands; ensures prompt investigation and resolution of complaints regarding mixture design; approves new types of HMA compacting equipment; establishes subordinate performance objectives and evaluates performance; determines subordinate training needs and recommends appropriate action; provides work safety for employees enforcing Departmental safety rules, providing necessary training and seeing that employee safety hazards are investigated and eliminated; and participates in the preparation of the Materials operating budget.

The incumbent accomplishes the accountabilities of this position through the following personnel:

Senior QC/QA Concrete Mixtures Technician – Supervises technicians in the field of PCC proportioning and related mixtures; engages in plant surveys and calibrations, and progress and final sampling testing.

Senior QC/QA HMA Mixtures Technician – Supervises technicians in the field of HMA concrete proportioning and related mixtures; engages in plant survey and calibration, and progress and final sampling and testing.

The incumbent operates within the guidelines included in the standard specifications, but is required to exercise considerable technical judgment in designing and establishing appropriate inspection procedures for HMA and PCC mixtures; in establishing proper HMA density and compaction procedures; and evaluate the impact of substitute materials on the effectiveness of existing mixtures. The incumbent participates in employee selections, recommends promotions, salary adjustments, and disciplinary actions.

The incumbent has frequent contacts with the Studies & Plans Section of Program Development, the Construction and Local Roads & Streets Sections of Project Implementation, and Operations to coordinate schedules to ensure proper design and the timely and effective proportioning and inspection of mixtures. The incumbent negotiates the acceptability of special provisions covering unique mixture problems with the Bureau of Program Development, the Central Bureau of Materials and Physical Research, and the Federal Highway Administration. He/She deals continuously with contractors, consultants, material suppliers, and local officials to ensure understanding of guidelines governing conditions of material acceptability.

The incumbent supports the improvement of the concrete and HMA industry by serving on technical working groups and specification committees in Springfield.

The effectiveness of this position is measured by pavement life and safety with respect to skid-resisting and wearing capabilities of HMA and PCC mixtures used on improvement projects.

**Principal Accountabilities**

1. Designs, verifies, and approves HMA and PCC mixtures that are acceptable for use on highways.
2. Establishes appropriate inspection methods and density and compaction procedures that ensure material acceptability on highways.
3. Prepares special provisions to cover mixture design and proportioning required for the solution of unusual problems that arise.
4. Determines the acceptability of substitute materials and chemical additives in mixture designs.

5. Establishes training methods to adequately prepare assigned personnel for field proportioning and inspection assignments.
6. Surveys and calibrates all PCC and HMA plants at least annually and as required.
7. Visits construction projects and producer plants to monitor procedures and makes recommendations for possible effective modifications.
8. Directs the QC/QA mixture portion of the Department's Quality Management Program.
9. Organizes the annual HMA producers' meeting each spring.
10. Responsible for providing and maintaining a safe work environment for subordinate personnel.
11. Performs duties in compliance with departmental safety rules. Performs all duties in a manner conducive to the fair and equitable treatment of all employees.