

PUBLIC NOTICE FOR THE
MARYLAND DEPARTMENT OF TRANSPORTATION

BCS 2014-18

STRUCTURES CONSTRUCTION INSPECTION SERVICES

NOTICE TO ARCHITECTS & ENGINEERS

TRANSPORTATION PROFESSIONAL SERVICES SELECTION BOARD

REQUEST FOR PROFESSIONAL SERVICES

The Secretary of the Maryland Department of Transportation (MDOT) has certified to the Transportation Professional Services Selection Board the need to utilize the services of architects or engineers for the following project(s).

Firms interested in being considered for work on any Project must submit an Expression of Interest for that Project as set forth herein. The Expression of Interest shall be in an envelope marked with the specified contract number for the Project. The letter portion of the Expression of Interest shall indicate the firm's desire to perform services and indicate the specific tasks or areas of expertise, which will be subcontracted, and to whom. Interested firms must submit the material required herein or the interested firm will not be considered for the Project.

Of all the firms expressing interest in a Project, those adjudged most qualified shall be requested to submit Technical Proposals. Additional information will be supplied to the selected firms so that they can prepare such proposals for the Project. The firms that submit the highest rated Technical Proposal will be requested to submit Price Proposals. For projects that are 100% State funded, Price Proposal cost limitations such as, but not limited to, a payroll burden and overhead limitation of 130%, may apply. This project will be federally funded and Price Proposal cost limitations on payroll burden and overhead shall not apply. However, MDOT reserves the right to require that split payroll burden and overhead rates be submitted appropriate for the type of services to be provided (example, Office Rate for planning/design activities and Field Rate for construction inspection). If negotiations with the firm are timely and successful, a contract may be awarded to that firm. If an interested firm is requested to submit proposals, their proposals should substantially reflect the same composition and area of involvement as their Expression of Interest.

If a Joint Venture responds to a project advertisement, the Department of Transportation will not accept separate Expressions of Interest from the Joint Venture constituents. A firm will not be permitted to submit on more than one (1) Joint Venture for the same project advertisement. Also a firm that responds to a project advertisement as a prime or a prime joint venture constituent may not be included as a designated subcontractor to another firm that responds as a prime to the project advertisement. Multiple responses under any of the foregoing situations may cause the rejection of all responses of the firms involved. The above does not

preclude a firm from being set forth as a designated subcontractor to more than one (1) prime responding to the project advertisement.

All questions concerning submissions and procedures must be submitted by email to opcm@sha.state.md.us no later than 4:00 pm one (1) week prior to the due date. The BCS number must be referenced in the email subject line. Problems submitting emails shall be reported to the Consultant Services Division (CSD) telephone number 410-545-0434.

All addendums to this advertisement will be posted only on eMaryland Marketplace and the Maryland State Highway Administration's Webpage.

Consultants shall have the ability to provide background investigation results for Consultant personnel assigned to work on Maryland State Highway Administration (SHA) projects.

Minority business enterprises are encouraged to respond to this solicitation notice.

RESPOND TO:

Norie A. Calvert
MARYLAND STATE HIGHWAY ADMINISTRATION
OFFICE OF PROCUREMENT AND CONTRACT MANAGEMENT
Fourth Floor, Mail Stop C-405
707 North Calvert Street
Baltimore, Maryland 21202

1. Project Description:

To provide Structures Construction Inspection Services, Statewide for the preservation and minor rehabilitation of bridges and other structures such as culverts and retaining walls for the Maryland State Highway Administration's (SHA) Office of Structures (OOS).

SHA anticipates awarding four (4) contracts for these services, each for a five (5) year duration and not to exceed Six Million Dollars (\$6,000,000). SHA reserves the right to modify the number of contracts and the dollar value of each as deemed appropriate.

This contract will be administered solely by SHA's OOS, to support the Architectural and Engineering needs of SHA, statewide, and will be funded with both State and Federal Funds. Assignments may be made to support other SHA Offices with the prior approval of the SHA Deputy Administrator. In addition, this contract may be used to provide services to the Maryland Department of Transportation (MDOT), or any of the MDOT modal administrations, at the direction and with the express prior written authorization of the Secretary of Transportation or the Secretary's designee. Any tasks assigned under this contract must be for services as outlined in the contract scope of work and in conformance with all contract terms and conditions and payment provisions.

2. Consultant Services Required:

Firms with expertise in Structures Construction Inspection for the preservation and minor rehabilitation of bridges and other structures such as culverts and retaining walls. Examples of work include, but are not limited to the Structures Construction Inspection of: repairs to piers, pier caps, and abutments; jacking beams under traffic and restoring bearings on piers and abutments; replacing deteriorated beams, girders, and other structural steel; constructing temporary bents and rebuilding existing bents, piers, and abutments; repairing and/or replacing damaged fender systems and dolphins; underpinning footings of piers and abutments; replacing timber bridge components; posting timber piles; repairing piers and piles in water; maintenance of traffic required for repairs; machinery and electrical repairs on movable bridges; cleaning and painting bridges (which may include lead paint removal); pile and sheet pile experience; and small structure replacement. This is not an all-inclusive list as this contract may include all professional work related to Structures Construction Inspection for both routine and emergency projects. Note: Emergency projects will require an accelerated response timeframe.

In addition to the Key Staff, to perform the required services, the Consultant shall furnish personnel to perform the required inspections as directed by SHA such as, but not limited to the following SHA job classifications:

- Transportation Engineer Manager (TEM) - See attachment A
- Transportation Engineer Technician (TET) V - See attachment B

- TET IV - See attachment C
- TET III - See attachment D

*Attachments A, B, C, and D will not be included at the end of this Advertisement. Please see E Maryland Marketplace or the SHA Web Page, Consultant Services Center for the job classification specifications attachments. For Support Staff, these Attachments are provided for reference purposes only. Any Licenses, Registrations and Certification Exemptions for Support Staff, will be provided in the Request for Proposal (RFP).

3. Potential Restrictions:

The firm(s) selected for a given Contract will be required to provide architectural and/or engineering services for any SHA design and construction project, including Design/Build projects. This may limit the firm's potential for pursuing work with a contractor on the same Design/Build project after advertisement. State Government Article 15-508 of the Annotated Code of Maryland will dictate the Consultant's eligibility to pursue work on Design/Build projects after advertisement.

As per State Finance & Procurement, State Government Article 17-701 – 17-707 of the Annotated Code of Maryland the firm(s) selected for a given Contract will be required to provide "Certification Regarding Investments in Iran". See below 4(f.)

4. Required Information: The Consultant shall submit the following per the specified requirements listed below of:

- A Compact Disc (CD) in a protective case labeled with the BCS number, Project Title and Prime/JV's firm name to include: One (1) full pdf version of the Expression of Interest (EOI) submittal as well as Sub-Folders containing the associated individual pdf files for each Section required herein. Sub-Folders and Sections must be labeled to identify each accordingly. All pdf documents must follow the naming convention of (BCS #-Prime/JV Name-Name Identifying the Document (ie: BCS XXXX-XX-ABC Firm-Letter of Interest);
- One (1) original and five (5) copies of the EOI comprised of:
 - a. One (1) Letter of Interest - Limited to one (1) page which must contain information supporting the assertion that the Consultant has the financial capacity to provide the services requested, has measures in place to protect the State against errors and omissions, and provide the names, contact numbers and email addresses of the Primary Liaison, Disadvantaged Business Enterprise (DBE) Consultant Liaison Officer for Minority Affairs, and your firm's contact person for this procurement process. The Primary Liaison, DBE Officer, and the firm's procurement contact may be the same or different individuals.

Note: US Government forms are to be completed with standard size typing and are not to be photo reduced. Computer generated forms are acceptable; however, the

format and spacing is to be identical to that of the Standard Forms 254 and 255 unless otherwise directed.

- b. One (1) US Government Form SF 254 for each firm, including each subcontractor, proposed.
- c. One (1) US Government Form SF 255.

The US Government Form SF 255 must be completed paying special attention to the following:

- i. Item #4, Personnel by Discipline. The Consultant shall document personnel by discipline presently employed at the work location proposed. If more than one (1) location is being proposed by the Consultant, the Consultant must clearly document all locations proposed and show the total number of personnel by discipline for all locations proposed. Subcontractor personnel are not to be included.
- ii. Item #6, Outside Key Consultants (Sub-Consultants). Please follow the instructions provided in Step 5 – Special Requirements – DBE Provisions to complete Item #6 of the SF 255.
- iii. Item #7, Key Staff. Provide a brief resume for each of the Key Staff individuals outlined below, limited to two (2) Key Staff per page, not to exceed two (2) pages total. Key Staff individual experience shall be recent experience performed within the past ten (10) years. The Consultant must document in writing in Item #7 that the Key Staff individuals meet the following requirements:
 - 1. **Key Staff 1:** A Professional Engineer (PE), Registered in the State of Maryland, with expertise in bridge construction practices and an employee of the Prime/JV Consultant; who will serve as the Project Manager and the Primary Liaison;
 - 2. **Key Staff 2:** An individual equivalent to SHA's TET V (Attachment B), with the exception that the eight (8) years of required experience must be in Structures Construction Inspection. This individual may be from either the Prime/JV or any of the Subconsultants and will serve as an Inspection Team Leader;
 - 3. **Key Staff 3:** An individual equivalent to SHA's TET IV (Attachment C), with the exception that the five (5) years of required experience must be in Structures Construction Inspection. This individual may be from either the Prime/JV or any of the Subconsultants and will serve as a Construction Inspector; and,

4. **Key Staff 4:** An individual equivalent to SHA's TET IV (Attachment C), with the exception that the five (5) years of required experience must be in Structures Construction Inspection.

This individual may come from either the Prime/JV or any of the Subconsultants and will serve as a Construction Inspector.

All Key Staff (1-4) must have and maintain a valid driver's license. In addition, Key Staff 2, 3, and 4 (Attachments B and C) must have and maintain during the contract, a current SHA Temporary Traffic Control Manager's Training Course card in addition to the required Licenses, Registrations and Certifications outlined in attachments B and C.

It is the Prime's responsibility to clearly and accurately represent all information for Key Staff individuals (education, years of highway and/or bridge construction inspection/engineering experience, and licenses/certifications listed).

Where Maryland Registrations are required for the professional Key Staff, the Consultant shall include on line "f" of Item #7 of the SF 255 the words "Maryland Registered" and the Maryland License Registration Certificate Number for the individual. Failure of the Consultant to properly document Key Staff requirements in writing will result in the firm being precluded from further consideration for the Project.

- iv. Item #8, Similar Projects: Item #8, Similar Projects: Limited to five (5) similar projects, one (1) similar project per page for a total of not to exceed five (5) pages. The columns below the Similar Project Information entered under the Column A-E headers may be removed to create one large block to answer only Column B "Nature of the Firm's Responsibility." Photos are acceptable; however, all photos count in the overall space limitations for the page and are considered illustrations and not rated. The Similar Projects set forth shall be recent experience performed within the past ten (10) years. (Information provided in this section shall become part of the rating/evaluation criteria for this project.)
- v. Items #9 and #10 are not required. Any information presented in Items #9 and #10 will not be reviewed or considered in the evaluation process.
- d. In addition to the Key Staff's brief resumes required in Item #7 of the SF Form 255, a one (1) page resume for each of the four (4) proposed Key Staff, for a total of four (4) pages, outlined above in Section 4. c. iii. Format is at the firm's discretion.
- e. A copy of the firm's current certificate(s) of insurance.

- f. As per State Finance and Procurement, State Government Article 17-701 - 17-707 of the Annotated Code of Maryland, a firm engaging in investment activities with companies appearing on the Investment Activities in Iran list is ineligible for bid/proposal/award. The Investment Activities in Iran list is located at www.bpw.state.md.us of the Maryland Board of Public Works (BPW) web site. As per the BPW Advisory No.: 2013-11, Date Issued January 1, 2013, an officer of the firm shall provide a signed original certification as per language listed on the BPW Advisory page.
- g. The Consultant shall comply with the "Required Information" and "Special Requirements" set forth hereinafter when completing the aforesaid documentation

5. Special Requirements - DBE Provisions:

The Maryland Department of Transportation (MDOT) hereby notifies all proposers that in regard to any contract entered into pursuant to this advertisement; DBEs will be afforded full opportunity to submit expressions of interest in response to this notice and will not be subject to discrimination on the basis of race, color, sex or national origin in consideration for an award.

It is the goal of MDOT that certified businesses participate in all contracts. Each contract may contain a goal for DBE participation, on a contract-by-contract basis. Consultants interested in submitting an Expression of Interest must comply with the "SPECIAL PROVISIONS, AFFIRMATIVE ACTION REQUIREMENTS, UTILIZATION OF DISADVANTAGED BUSINESSES, THE SURFACE TRANSPORTATION AND UNIFORM RELOCATION ASSISTANCE ACT OF 1987 AND ISTEA OF 1991, ATTACHMENT 6", as modified June 8, 2000, which is obtainable from the Consultant Services Division at the address or phone number noted herein.

To comply with the aforesaid SPECIAL PROVISIONS, Consultants who submit Expressions of Interest must clearly set forth the DBE Prime firm(s) or DBE subcontractor(s) proposed for goal attainment indicating:

- a. The proposed work,
- b. Percentage of total work,
- c. MDOT certification number, and
- d. Applicable NAICS Codes

for each DBE. **Said information shall be shown in Item #6 of the Federal Government SF 255 form.** Proposed DBE firms must be certified by MDOT to participate on federally funded Projects. If the proposed DBE firm is not certified by MDOT, the Consultant shall indicate the certification status of the proposed DBE firm in lieu of the certification number.

The Consultant's failure to submit all of the required DBE information, in the specified areas, will result in the Consultant being disqualified from further consideration for the

Reduced Candidate List on this Project, unless it is in the best interest of the State to seek clarification or additional information from the Consultant.

CONTRACT GOALS

For the purpose of this contract, a goal of **Thirty percent (30%)** has been established for DBEs. DBE proposers have to meet the established DBE goal by either their own forces or approved DBE subcontractor(s).

6. Additional Information: SHA reserves the right to develop multiple Reduced Candidate Lists from those firms responding to this advertisement or to make multiple selections from one (1) Reduced Candidate List.
7. Electronic Transfer: By submitting a response to this solicitation, the Consultant agrees to accept payments by electronic funds transfer unless the State Comptroller's Office grants an exemption. The selected Consultant shall register with the EFT Registration, General Accounting Division using the COT/GAD X-10 Vendor Electronic Funds (EFT) Registration Request Form, available at <http://compnet.comp.state.md.us/gad/pdf/GADX-10.pdf> . Any request for exemption must be submitted to the State Comptroller's Office for approval at the address specified on the COT/GAD X-10 form and must include the business identification information as stated on the form and include the reasons for the exemption.
8. Rating Criteria: The major factors/criteria for the establishment of a Reduced Candidate List for this Project, in descending order of importance, will be:
 - a. Key Staff;
 - b. Similar Project Experience;
 - c. Past Performance; (Shall be based on the past two (2) years performance rating for work performed for SHA. Firms with no ratings shall be given an average of all the firms rated.)
 - d. Capacity to accomplish proposed work in required time;
 - e. Compatibility of size of firm with size of proposed project;
 - f. Firm's location;
 - g. Financial Responsibility; and,
 - h. Consultant has measures of protection for the State against errors and omissions.
9. Additional Information: SHA may carry forward Key Staff and Similar Projects submitted at the Expression of Interest (EOI) stage. Changes to Key Staff are allowed at any time. All Key Staff changes must be approved by SHA and substitutions will be evaluated using the same rating criteria.

10. Respond by: 01/07/2015 prior to 12:00 P.M. (NOON)

RESPOND TO:

Norie A. Calvert

MARYLAND STATE HIGHWAY ADMINISTRATION
OFFICE OF PROCUREMENT AND CONTRACT MANAGEMENT

Fourth Floor, Mail Stop C-405

707 North Calvert Street

Baltimore, Maryland 21202

ATTACHMENT A



TRANSPORTATION ENGINEERING MANAGER I

Code 0515 Salary Grade 20

TRANSPORTATION ENGINEERING MANAGER II

Code 2707 Salary Grade 21

I. CLASSIFICATION DEFINITION:

This is supervisory, administrative and managerial transportation engineering work over engineers applying engineering theories, principles and standards to a variety of complex engineering projects and processes in highway, traffic, construction, structural, rail, port, airport, maintenance, materials, or other transportation areas. These managers are typically section managers, assistant division managers, or are assigned area-wide responsibility. Work includes managing and coordinating work assignments of the unit, setting standards and providing quality assurance reviews and coordinating work with other divisions. Staff level, non-supervisory nationally recognized expert positions may also be assigned to these levels. Positions assigned to this class may require expert level knowledge within one or more highly specialized areas within the field of Transportation Engineering such as highway, bridge, airport, rail, port, facility design, traffic, or hydraulics.

Employees receive managerial supervision from a higher level engineering manager or administrative official.

Specific position allocation to these levels is determined by application of the Position Appraisal Method of Job Evaluation and the point to grade conversion contained in the Transportation Engineer July 1, 2008 ASR classification standards.

II. MINIMUM QUALIFICATIONS:

Education: Possession of a bachelor's degree in engineering from an accredited college or university.

Experience: Seven (I) Eight (II) years experience in professional engineering, including one (I) two (II) years of supervisory experience.

Notes:

1. Additional work experience in professional engineering, or in technical engineering at the journey level or above, may be substituted on a year for year basis for the required education.
2. Possession of a Master's Degree in engineering may be substituted for one year of the non-supervisory experience.

3. Persons currently registered as Professional Engineers in the State of Maryland, or in a state with comparable requirements, are considered to have met the education requirements.

Licenses, Registrations and Certificates:

1. Employees in this class may be required to possess a Professional Engineer, Land Surveyor, or Property Line Surveyor License.
2. Employees in this classification may be assigned duties which require the operation of a motor vehicle. Employees assigned such duties will be required to possess a motor vehicle operator's license valid in the State of Maryland.

III. EXAMPLES OF WORK: (Examples are illustrative only)

Plans, manages, organizes, coordinates, supervises and evaluates the work of a major division or subdivision of professional engineers; oversees training and work performance counseling as needed;

Manages the preparation of engineering designs, plans, specifications and cost estimates for the construction/rehabilitation of roads, bridges, communication systems, traffic management systems, construction and maintenance equipment, storm drains, rail, buildings and other transportation facilities; participates in public hearings; approves the finalizing of plans and specifications;

Manages the administering of consultant contracts;

Manages the review of design submittals from consulting engineers to ensure compliance with standards and regulations; meets with consultants to resolve problems;

Manages the review of plans and specifications for transportation facilities submitted for new construction, rehabilitation or improvements to ensure compliance with contracts, regulations and engineering standards;

Manages the preparation and maintenance of a variety of engineering documents including plans, specifications, contracts, maps and standards;

Assures effective project management of a variety of engineering projects;

Assures the effective conduct of administrative and fiscal activities, including proper documentation, contract and budget monitoring;

Answers inquiries from other agencies, interested parties and the public regarding engineering projects;

Assures the proper maintenance of a variety of records pertaining to public works installations and projects; prepares reports related to the work;

Manages and coordinates research and evaluation of proposed and existing laws, standards and policies;

Manages and oversees the preparation of contracts for engineering services, requests for proposals and related documents; oversees the selection of engineering consultants and contractors;

Initiates and manages special studies and research to analyze and project present and future needs as they relate to engineering designs and solutions to current and anticipated problems;

Directs or supervises special projects as needed;

Prepares a variety of correspondence and technical reports and attends a variety of meetings related to the work;

Provides technical guidance and advice to other employees and other agencies;

Attends and makes presentations at public hearings, seminars and conferences;
Performs other related duties.

IV. REQUIRED KNOWLEDGE, SKILLS AND ABILITIES:

Knowledge of professional transportation engineering principles, practices and methods;
Knowledge of design principles, strength of materials and stress analysis required in planning construction/rehabilitation projects;
Knowledge of computer applications suitable to engineering projects;
Knowledge of construction standards and regulations;
Knowledge of effective managerial methods and practices;
Ability to organize and coordinate human and material resources in the carrying out of large and complex program activities;
Ability to assure program effectiveness, including the organization and maintenance of records and proper documentation;
Ability to assure the effective application of proper engineering standards and principles to the work;
Ability to plan, organize, coordinate, assign and evaluate the work of subordinate professional supervisors;
Ability to communicate effectively and prepare technical, complex reports;
Ability to establish and maintain effective working relationships with other employees, engineers and architects, representatives of other agencies and the general public;
Ability to physically perform essential duties.

V. SPECIAL REQUIREMENT:

Applicants may be subject to a background check which may impact employment. A history of arrest or conviction is not an automatic disqualification to employment. Applicants, who are considered for work at the Maryland Aviation Administration, are subject to an extensive pre-employment security background check as required by the Federal Aviation Administration, Federal Aviation Regulation Part 107.

Date Adopted: July 1, 1997
Date Revised: July 1, 2008

APPROVED:


Office, Director of Human Resources

ATTACHMENT B
TRANSPORTATION ENGINEERING TECHNICIAN V

MINIMUM QUALIFICATIONS:

EDUCATION: Graduation from a standard high school or possession of a high school equivalency certificate.

EXPERIENCE: Eight years of full-time employment in highway construction engineering activities.

LICENSES, REGISTRATIONS & CERTIFICATES:

- 1) Mid-Atlantic Region Technician Certification Program (MARTCP)
 - a) Soils & Aggregate Compaction Technician
 - b) Concrete Field Technician
 - c) HMA Field Technician
- 2) Maryland Department of the Environment's Green Card
- 3) State Highway Administration Erosion & Sediment Control Certification Card (Yellow Card)

NOTES: 1) Applicants may substitute education in a civil engineering curriculum at an accredited junior college, college or university at the rate of 30 semester credit hours for each year of the required experience, up to a maximum of three (3) years.

2) Applicants who possess an Associates Degree in an Engineering or Construction Management from an accredited community college, college or university are considered to have met two years of the eight year experience requirement.

CONDITIONS OF EMPLOYMENT:

Applicants must be in good health and physically able to perform the duties required of the position. Applicants must also be able to read, write, comprehend and fluently speak the English language.

Applicants must have a valid driver's license, and must have use of a vehicle to travel to, from and while on the project site.

Candidates must be willing to travel and be available for work in any part of the State, subject to change of assignment, as work requires. Candidates may also be required to work various shifts and on weekends depending on assignments.

Applicants must have Mid-Atlantic Region Technician Certification Program (MARTCP) certifications in Soils & Aggregate Compaction Technician, Concrete Field Technician, and HMA Field Technician (as referenced above). All other certifications which the Consultant firm or the Consultant employee feels are equivalent to MARTCP shall obtain reciprocity through SHA's Office of Materials & Technology for this condition of employment to be satisfied. The costs for the various certifications and re-certifications will be paid for by the Consultant firm or the Consultant employees, not the State Highway Administration. These costs include, but are not limited to, course fees, exam fees, reciprocity fees, time, and travel expenses. Other construction related training may also be required.

ESSENTIAL REQUIREMENTS OF WORK:

Knowledge of algebra, geometry, trigonometry and English; introductory knowledge of basic civil engineering principles, practices, and methods; knowledge of highway construction inspection principles, practices, AASHTO and ASTM test specifications and methods; knowledge of surveying principles and techniques; care and use of survey instruments, of making field notes and computations and establishing control points for linear measurement; Knowledge of Temporary Traffic Control Standards and the Manual on Uniform Traffic Control Devices; ability to read and interpret complex plans and specifications; to use engineering tables and reference materials; ability to, lend technical guidance and train lower level classifications; to perform clerical and statistical work requiring application of basic engineering knowledge in all areas aforesaid and prepare necessary reports; ability to effectively supervise the inspection of medium or large size highway construction projects for conformance to plans and specifications; ability to establish and maintain effective working relationships with other State Highway Administration employees and the general public; ability to prepare project correspondence required by the District Office; ability to schedule, conduct, and document required project meetings.

NATURE OF WORK:

This is advanced technical work in highway engineering with project management responsibilities. Work at this level is characterized by the responsibility for supervision of projects of moderate to large scope and complexity in construction inspection engineering work. Assignments are received orally or in written form and are general in nature permitting opportunity for the use of a degree of independent judgment.

Employees in this class receive supervision from a higher level Transportation Engineer or professional engineer.

Work effectiveness is determined through a review of written reports, project documentation, and complete assignments.

Supervision will be exercised over lower level aides as assigned from time to time.

EXAMPLES OF WORK: (Examples are illustrative only)

Serves as the senior inspector on a medium, to large-size construction project; may lend technical guidance to State & Consultant personnel assigned to project, and reviews contractor's operations to assure technical adherence to plans and specifications; advises interested parties as to contractor's progress, possible over-run and under-run in quantities, and delays due to utility adjustments, lack of right-of-way, or lack of materials clearance; assigns, coordinate, and reviews survey work on the project; maintains accurate records and reports; performs and analyzes results of field tests.

Oversees or performs plan review, field inspections, and field investigations during design, construction and maintenance of roadways, structures and traffic control devices for conformance to plans and specifications;

Operates electronic and mechanical equipment required in surveying, field inspection, and materials testing;

EXAMPLES OF WORK: (Continued)

Provides information to and works with engineers, and contractors to ensure adherence to standards and codes;

Conducts or participates in project milestone meetings on transportation related projects;

Prepares correspondence to respond to or inform the public, elected officials, federal, state or local government agencies of project information;

Schedules and directs the work of construction inspectors assigned to construction and maintenance projects;

Monitors contract performance and project status for major construction and maintenance projects;

Develops and oversees material testing programs in permanent and portable labs and at material supplier facilities;

Monitors contractors, producers, and fabricators and assures quality control of materials used in the construction of roadways, bridges and facilities, and assures materials used meet state specifications;

Prepares construction drawings based on engineer's notes, survey notes, field and records research, and engineering calculations, updates plats, and other engineering records based on "as built," survey notes and other information, and conducts engineering surveys as needed;

Compiles quantities and reviews construction reports and other data;

Provides technical guidance and support to office and field personnel concerning design, survey, software, hardware and procedures;

Reviews special provisions, design agreements, and continuity of plans as necessary, and assists in determining if contract plans are complete;

Performs complex calculations to translate raw data into information for the construction of public works and other transportation-related projects;

Maintains records and prepares reports pertaining to public works installations and projects; Compiles, documents, and reviews maintenance reports/studies including costs and other data, determining if maintenance contracts adhere to current maintenance practices and standards; Oversees and is responsible for the clearance of utilities and other underground obstructions prior to and during construction activities;

Oversees and is responsible for locating subsurface features through the use of construction plans and documents;

Reviews and evaluates Quality Control plans submitted by material producers and fabricators;

Provides data, analysis, recommendations and corrective measures for Erosion & Sediment Control and Maintenance of Traffic;

Reviews work of other employees;

Perform other necessary duties as required.

ATTACHMENT C

TRANSPORTATION ENGINEERING TECHNICIAN IV

MINIMUM QUALIFICATIONS:

EDUCATION: Graduation from a standard high school or possession of a State high school equivalency certificate.

EXPERIENCE: Five years of full-time employment in highway construction technician activities. Two years of which must have been at the level of responsibility equivalent to a Transportation Engineering Technician III.

LICENSES, REGISTRATIONS & CERTIFICATES:

- 1) Mid-Atlantic Region Technician Certification Program (MARTCP)
 - a) Soils & Aggregate Compaction Technician
 - b) Concrete Field Technician
 - c) HMA Field Technician
- 2) Maryland Department of the Environment's Green Card
- 3) State Highway Administration Erosion & Sediment Control Certification Card (Yellow Card)

NOTES: Applicants may substitute N.I.C.E.T. Level 3 or higher certification or education in an engineering curriculum at an accredited junior college, college or university at the rate of thirty semester credit hours per year for up to one (1) year of the required experience.

CONDITIONS OF EMPLOYMENT:

Applicants must be in good health and physically able to perform the duties required of the position.

Applicants must also be able to read, write, comprehend and fluently speak the English language.

Applicants must have a valid driver's license, and must have use of a vehicle to travel to, from and while on the project site.

Candidates must be willing to travel and be available for work in any part of the State, subject to change of assignment, as work requires. Candidates may also be required to work various shifts and on weekends depending on assignments.

Applicants must have Mid-Atlantic Region Technician Certification Program (MARTCP) certifications in Soils & Aggregate Compaction Technician, Concrete Field Technician, and HMA Field Technician (as referenced above). All other certifications which the Consultant firm or the Consultant employee feels are equivalent to MARTCP shall obtain reciprocity through SHA's Office of Materials & Technology for this condition of employment to be satisfied. The costs for the various certifications and re-certifications will be paid for by the Consultant firm or the Consultant employees, not the State Highway Administration. These costs include, but are not limited to, course fees, exam fees, reciprocity fees, time, and travel expenses. Other construction related training may also be required.

ESSENTIAL REQUIREMENTS OF WORK:

Elementary knowledge of algebra, geometry, trigonometry and English; introductory knowledge of basic civil engineering principles; working knowledge of highway construction inspection principles, practices, methods and tests, working knowledge of surveying principles and techniques; care and use of survey instruments, of making field notes and computations and establishing control points for linear measurement; ability to read and interpret plans and specifications; to use engineering tables and reference materials; ability to supervise, lend technical guidance and train lower level classes; to perform clerical and statistical work requiring application of basic engineering knowledge in all areas aforesaid and prepare necessary reports; ability to supervise the inspection of small or medium size highway construction projects for conformance to plans and specifications; to deal effectively with other employees of the State Highway Administration as well as others.

NATURE OF WORK:

This is advanced technical work in highway engineering. Work at this level is characterized by the responsibility for supervision of projects of moderate scope and complexity in construction inspection engineering work. Assignments are received orally or in written form and are general in nature permitting opportunity for the use of a degree of independent judgment.

Employees in this class receive supervision from a higher level Engineering Technician or professional engineer.

Work effectiveness is determined through a review of written reports and complete assignments.

Supervision may be exercised over lower level aides as assigned from time to time.

EXAMPLES OF WORK: (Examples are illustrative only)

Serves as a principal inspector on a small to medium-size construction project; may lend technical guidance to State personnel assigned to project, and reviews contractor's operations to assure technical adherence to plans and specifications; advises interested parties as to contractor's progress, possible over-run and under-run in quantities, and delays due to utility adjustments, lack of right-of-way, or lack of materials clearance; serves as instrument man of survey party; maintains accurate records and reports; performs and analyzes results of field tests.

Perform other necessary duties as required.

Revised 11/1/07

ATTACHMENT D

TRANSPORTATION ENGINEERING TECHNICIAN III

Code 8448 Grade Band 11-12

I. CLASSIFICATION DEFINITION:

This is the journey level of work performing a variety of engineering support tasks. Employees perform transportation engineering survey, inspection, design, materials testing, data collection, traffic analysis and administrative duties. Specific duties depend on job assignments and may include inspecting construction and maintenance projects; conducting roadway and bridge inspections; evaluating methods for maintenance operations; performing tests on soils and materials; serving on a survey crew; drafting design details, maintenance contract specifications, and construction notes; calculating quantities for construction projects and maintenance activities; preparing Computer Aided Design and Drafting (CADD) plans, maps, or right of way plats; collecting and recording traffic data and conducting traffic studies; and compiling planning data for reports. Employees in this class may serve as a Project Manager on small sized construction projects, or may serve as an experienced rodman on a survey crew. Employees in this class may supervise, and may serve as a lead worker over a crew and may be expected to give guidance and assistance to less experienced employees.

Work is performed under the general supervision of an engineer, surveyor, or higher level technical employees. Work conditions vary depending on assignments and are performed in the office or in the field during survey and inspection assignments with exposure to varying weather conditions and rough terrain and requirements for walking, standing, bending, and lifting loads weighing up to 80 pounds; may require working in close proximity with traffic on Maryland highways; requires hand/eye coordination in the efficient operation of computers and other office machines, survey equipment and the like. Employees in this position may be required to work various shifts and on weekends depending on assignment. Employees in some positions in this classification may be required to travel and be available for work in any part of the State, subject to change of assignment, as work requires.

Positions assigned to the Transportation Engineering Technician III classification function as journey level positions distinguished from the Transportation Engineering Technician II by the ability to perform more complex tasks requiring greater technical knowledge.

II. MINIMUM QUALIFICATIONS:

Education: Graduation from a standard high school or possession of a high school equivalency certificate.

Experience: Three years of experience in technical engineering related work in the areas of design, traffic, construction, materials testing, engineering surveys, maintenance, or planning.

Notes:

1. Applicants may substitute education in a civil engineering curriculum at an accredited college or university at the rate of 30 semester credit hours for each year of the required experience.
2. Applicants who possess an Associates Degree in Engineering, Construction Management or Surveying or Surveying Technology from an accredited community college, college or university are considered to have met two years of the required experience.

Licenses, Registrations and Certificates:

1. Employees in this classification may be assigned duties that require the operation of a motor vehicle. Employees in some positions in this classification may be required to possess a motor vehicle operator's license valid in the State of Maryland. A CDL license may be required for some positions.
2. National Institute for Certification in Engineering Technologies (NICET) certification, in-house certifications or state-sponsored, material-testing certification may be required for some positions.
3. Employees in this classification may be required to possess Federal Highway Administration (FHWA) certification for inspection of In-Service Bridges, or have the ability to acquire this certificate within a given time period.
4. Employees in this classification may be required to possess an American Society for Non-Destructive Testing Level I Certification.
5. Employees in this classification may be required to achieve certification in field testing procedures in concrete, soil aggregate and Hot Mix Asphalt within a given time period.

III. EXAMPLES OF WORK: (Examples are illustrative only)

Performs CADD and hand drafting of highway plans, right of way plats and mosaics, highway design and topographic features requiring reduction of field notes and the application of survey information, using computerized and manual processes;
Develops and updates various road plans, right of way plats and maps;
Checks deed, estate and tax records to establish property lines;
Performs field inspections to monitor road conditions, bridges, road construction and traffic projects, and material used in road construction and repair;
Performs in-service bridge inspections in accordance with FHWA criteria;
Prepares project specifications on transportation projects;
Reviews construction, maintenance or traffic projects for compliance with project specifications;
Participates in traffic control utility relocation activities;
Collects samples, conducts tests and evaluates test results on soils, asphalt, cements/concrete, aggregates, bituminous products, metal products and industrial coatings;

Performs inspection and testing at materials supplier facilities;
Performs calculations to establish design, contract quantities and cost estimates;
Assists in developing construction notes and placing notes on contract documents;
Compiles field notes, completes preliminary drawings, and plot plans, profiles, and elevations;
Uploads and edits field survey data files;
Performs preliminary processing to check and correct field survey data;
Performs surface model and contouring to create digital terrain models (DTM's);
Creates electronic topographic mapping using CADD software;
Assists in performing field reviews to assure accuracy of topographic mapping;
Researches, develops and maintains computerized and manual records, logs, and maps relating to assigned duties;
Operates electronic and mechanical equipment relating to drafting, surveying, materials testing and sampling and inspection;
Conducts ongoing studies of maintenance activities;
Drafts maintenance contract specifications;
Assists in an annual review of highways and roadsides at the shop, district, and statewide levels to determine the quality of highway maintenance;
Assists in the development of software programs for monitoring budget expenditures;
Participates in field reviews for various studies and analyses, and creates condition diagrams via CADD computer programs;
Prepares written correspondence for various data requestors (local police, government agencies, the media, the general public, other SHA departments, etc.);
Conducts moderately complex traffic studies;
Performs other related duties.

IV. REQUIRED KNOWLEDGE, SKILLS AND ABILITIES:

Knowledge of basic engineering principles, practices, and methods;
Knowledge of CADD drafting using Microstation or other engineering software;
Knowledge of design criteria, construction standards and inspection methods and techniques;
Knowledge of algebra, geometry and the principles of basic mathematics used in engineering design, drawing and drafting;
Knowledge of Temporary Traffic Control Standards, National Electrical and Safety Codes, and Manual on Uniform Traffic Control Devices;
Knowledge of Federal Highway Regulations and Criteria for Coding In-Service Bridge conditions;
Knowledge of AASHTO and ASTM test specifications and methods;
Knowledge of the American Welding Society specifications for structures and bridges;
Knowledge of human factors relating to traffic control design and driver performance;
Skill in the operation of electronic and mechanical equipment used in performing technical engineering support tasks;
Ability to learn new computer skills and data processing procedures;
Ability to interpret, analyze, or prepare maps, deeds, plats, and plans;
Ability to perform basic mathematical computations used in engineering design, drawing and drafting;
Ability to maintain records and adapt records systems for computerization;

TRANSPORTATION ENGINEERING TECHNICIAN III

Page 4

Ability to read and create blueprints and engineering drawings and plans, using CADD or manual processes;
Ability to update computer design files, maps and other records;
Ability to establish and maintain effective working relationships with other employees and the general public;
Ability to communicate effectively;
Ability to physically perform essential duties.

V. SPECIAL REQUIREMENTS:

Employees in this classification may be considered "Essential Employees" and may be required to sign and agree to all policies and procedures relating to "Essential Employee" status.

Date Revised: December 16, 2003