

PUBLIC NOTICE

MARYLAND DEPARTMENT OF TRANSPORTATION

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. For projects that are federally funded, Price Proposal cost limitations on payroll burden and overhead shall not apply. However, the Maryland Department of Transportation 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 telephone number 410-545-0434.

Facsimile/e-mail copies of the Expression of Interest are not acceptable. No response received after 12:00 P.M. (NOON) on the date specified for a Project will be accepted, no matter how transmitted.

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:

Performance of supplementary Construction Management and Inspection (CMI) services for the Maryland State Highway Administration's (SHA) Office of Construction (OOC) for various highway construction, facilities, environmental, and system preservation projects located in District 3 (Montgomery and Prince George's counties), District 4 (Baltimore and Harford counties), and District 5 (Anne Arundel, Calvert, Charles and St. Mary's counties). However, CMI services may be used in other Districts, and statewide should the need arise. SHA anticipates awarding multiple contracts, each for a six (6) year duration and not to exceed Thirteen Million Dollars (\$13,000,000). SHA reserves the right to modify the number of contracts and the total dollar value of each as deemed appropriate.

The Project will be administered solely by SHA's OOC, through the respective District Offices 3, 4 and 5 to support the Architectural and Engineering needs of SHA and will be funded with both State and Federal Funds. The services of this contract are expected to be contained primarily within the geographical regions listed above, but assignments may be made anywhere in the State to support SHA's needs 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:

Services shall include professional construction management and inspection of highways, bridges/structures, facilities, environment, utilities, system preservation projects, and maintenance projects including, but not limited to: constructability reviews, detailed inspection of all construction work, inspecting environmental measures and maintenance of traffic, scheduling and conducting progress meetings and other meetings, conducting materials testing, monitoring the project schedule and cash flow, and reviewing and processing progress payments, etc. This is not an all-inclusive list as this contract may include all professional services and activities related to construction management and inspection.

To perform the required services, the Consultant shall provide various experienced staff such as, but not limited to, the following job classifications:

- Professional Engineer (PE) - See Attachment A
- PE - See Attachment B
- Transportation Engineer Technician (TET) I Level - See Attachment C;
- TET II Level - See Attachment D;
- TET III Level - See Attachment E;

- TET IV Level - See Attachment F;
- TET V Level - See Attachment G;
- Transportation Engineer (TE) I Level - See Attachment H;
- TE II Level - See Attachment I;
- TE III Level - See Attachment J;
- TE IV Level - See Attachment K;
- TE V Level - See Attachment L;
- Transportation Engineer Manager (TEM) I Level - See Attachment M;

*Please see E Maryland Marketplace or the SHA Web Page, Consultant Services Center for the job classification specifications. These will not be included at the end of the advertisement.

Additional information regarding the requirements of the staff may be found under the Key Staff requirements listed in “Section 4 - Required Information”.

3. Specific Type Firm Solicited:

Consulting firms shall be proficient in the required services and have experience in construction management and inspection of a full range of highway and/or bridge/structure related projects with a minimum of five (5) years experience inspecting the construction of highways and/or bridges/structures and with at least one (1) Interstate Highway or Freeway type project within the last five (5) years.

The firm(s) selected for a given Contract will be required to provide 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 and 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 4(h) below.

4. Required Information:

The Consultant shall submit one (1) original and five (5) copies of an Expression of Interest, which shall include the following:

- a. One (1) Letter of Interest - Limited to two (2) pages 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 the firm’s representative for

this procurement process. The Primary Liaison, DBE Liaison Officer, and the firm's procurement contact may be the same person and may be a Key Staff individual.

- b. One (1) additional unbound copy of the Letter of Interest.

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.

- c. One (1) US Government Form SF 254 for each firm, including each subcontractor, proposed.
- d. One (1) additional unbound SF 254 Form, for those firms, including subcontractors.
- e. One (1) US Government Form SF 255.

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

- i. Item #4, Personnel by Discipline: Document personnel by discipline presently employed at the work location proposed. If more than one (1) location is being proposed, the Consultant must clearly document all locations and show the total number of personnel by discipline. Subcontractor personnel are not to be included.
- ii. Item #6, Outside Key Consultants: Proposed DBE firms must be certified by MDOT to participate on this project. If the proposed DBE firm is not certified by MDOT, the Consultant shall indicate the current certification status of the DBE firm in lieu of the certification number.
- 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 three (3) pages total.

The Key Staff required individual experience outlined below shall be recent experience performed within the past eight (8) years. The Consultant must document in writing in Item #7 that the Key Staff individuals meet the following requirements:

- 1. **Key Staff 1:** One (1) Transportation Engineering Manager (TEM) equivalent to the SHA TEM I classification (Attachment M), with the exception that the seven (7) years of experience must be in highway and/or bridge/structures construction management and inspection, who will serve as the Project Manager;

2. **Key Staff 2:** One (1) Transportation Engineer (TE) equivalent to the SHA TE IV classification (Attachment K) with the exception that the four (4) years of experience must be in highway and/or bridge/structures construction management and inspection;
3. **Key Staff 3:** One (1) Transportation Engineering Technician (TET) equivalent to the SHA TET V classification (Attachment G) with the exception that the eight (8) years of experience must be in highway and/or bridge/structures inspection;
4. **Key Staff 4:** One (1) Transportation Engineering Technician (TET), equivalent to the SHA TET IV classification (Attachment F) with the exception that the five (5) years of experience must be in highway and/or bridge/structures inspection experience;
5. **Key Staff 5:** One (1) PE registered in the State of Maryland, equivalent to the PE Classification (Attachment A). This individual may be used on an on-call basis for an estimated time not to exceed five (5) hours per week.
6. **Key Staff 6:** One (1) Professional Engineer (PE) registered in the State of Maryland, equivalent to the PE classification (Attachment B), with the exception that the five (5) years of experience must be in structural engineering. This individual may be used on an on-call basis for an estimated time not to exceed five (5) hours per week, and;

Key Staff 1, 2, and 5 shall be employed by the Prime/Joint Venture (JV). Key Staff 3, 4, and 6 may be employed by either the Prime/JV or a Subconsultant.

It is the Prime's responsibility to clearly and accurately represent all information for the Key Staff individuals (education, years of highway and/or bridge/structures inspection/engineering experience, etc. 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: Limited to six (6) similar projects, one (1) similar project per page for a total of six (6) 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 eight (8) years.

- 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.
 - f. In addition to the Key Staff's brief resumes required in Item #7 of the SF Form 255, One (1) page resume for each of the six (6) Key Staff proposed and outlined above in 4 e iii.
 - g. A copy of the firm's current certificate(s) of insurance.
 - h. 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.
 - i. The Consultant shall comply with the "Required Information" and "Special Requirements" set forth hereinafter when completing the aforesaid documentation.
5. Special Requirements - DBE Provisions:

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 ISTEAD 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 for each DBE:

- 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 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 **Twenty-Five percent (25%)** 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. Project Representative: No additional information available.
7. 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.
8. 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.
9. 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. Similar Project Experience
 - b. Key Staff

- c. Past Performance (Shall be based on past two (2) years performance rating for work performed for SHA. Firms with no ratings shall be given an average rating of all 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
 - h. Consultant has measures of protection for the State against errors and omissions
10. Additional Information: SHA may carry forward Key Staff ratings developed during the Reduced Candidate List (RCL) stage to be used in the final selection stage. If carried forward, any substitutions submitted after the RCL stage of Key Staff members must be approved by SHA. Substitutions will be evaluated using the same rating criteria used at the Expression of Interest stage and may result in a revised score. All scores will remain confidential by SHA.
11. Respond by: October 22, 2014 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

REGISTERED PROFESSIONAL ENGINEER

MINIMUM QUALIFICATIONS:

EDUCATION:

Possession of a Bachelor's degree in civil engineering or structural engineering from an accredited college or university approved by the Engineer's Council for Professional Development and/or approved by the Maryland State Board of Registration for Professional Engineers.

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

EXPERIENCE:

Five (5) years as a Project Engineer, Resident Engineer or equivalent, involved in highway engineering on bridge and roadway construction projects.

CONDITIONS OF EMPLOYMENT:

Employee must be in good health and physically able to perform the duties required of the positions.

ATTACHMENT B
STRUCTURAL ENGINEER

MINIMUM QUALIFICATIONS:

EDUCATION:

Possession of a Bachelor's degree in civil engineering or structural engineering from an accredited college or university approved by the Engineer's Council for Professional Development and/or approved by the Maryland State Board of Registration for Professional Engineers. Must be a registered Professional Engineer.

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

EXPERIENCE:

Five (5) years in structural design of highway structures and one (1) year in structural inspection on a highway construction project(s) with extensive structural involvement.

NOTE:

Persons having fifteen (15) years of full-time employment in Highway Engineering associated activities with five (5) years as a Project Engineer or equivalent on a project requiring extensive structural inspection, are considered to have met the educational and experience requirements.

CONDITIONS OF EMPLOYMENT:

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

ATTACHMENT C

TRANSPORTATION ENGINEERING TECHNICIAN I

Code 8446

Grade Band 07-08

I. CLASSIFICATION DEFINITION:

This is the entry level of work performing a variety of technical engineering support tasks. Specific duties depend on job assignments and may include, in a learning capacity, inspecting construction and maintenance projects; performing tests on soils and materials; evaluating methods for maintenance operations; 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; and collecting and recording traffic and planning data. Employees in this class do not supervise.

Work is performed under the continuing supervision of an engineer or higher level technical employee. Working 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 lbs.; 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 and other equipment. Employees in this classification may also be required to work various shifts and on weekends depending on assignments. Employees in some positions in this classification will 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 I classification are entry-level positions distinguished from the Transportation Engineering Technician II by closer supervision and less complex tasks.

II. MINIMUM QUALIFICATIONS:

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

Experience: None

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. 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.
3. 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)

Learns to draft plans, plats and topographic maps for engineering improvements and installations using CADD and manual processes;
Learns to compute quantities for contract items for use in preparing project cost estimates;
Operates surveying equipment and assists in recording measurements and other data;
Assists in locating centerlines and property lines;
Assists in setting grade stakes and other markers and reference points;
Assists in inspection of construction and maintenance projects;
Assists in the inspection of existing roadways, structures and facilities;
Assists in performing in-service bridge inspections in accordance with FHWA criteria;
Conducts basic tests after a period of training and/or state sponsored materials testing certification or assists in conducting tests on soils, asphalt, cements/concrete, aggregates, bituminous products, metal products and industrial coatings;
Assists in conducting traffic studies; observes real-time traffic conditions and records data;
Examines details and accuracy of accident reports for various studies and compiles various accident data reports;
Assists in developing mapping and chart support graphics for the Consolidated Transportation Program (CTP), the Statewide Planning Research Program (SPR) and other programs;
Maintains records pertaining to highway and other public works installations; updates maps, plats and other records using computerized and manual processes;
Researches records to determine property ownership and obtain information;
Assists in the annual review of highways and roadsides at the shop, district, and statewide levels to determine the quality of highway maintenance;
Assists with drafting maintenance contract specifications;
Assists in analyzing and evaluating maintenance activities;
Assists in developing manuals and other publications to be used as guides for maintenance field operations;
Performs other related duties.

IV. REQUIRED KNOWLEDGE, SKILLS AND ABILITIES:

Knowledge of the principles of basic mathematics;
Ability to learn drafting techniques;
Ability to learn how to operate survey equipment;
Ability to learn basic functions on computer and keyboard;
Ability to learn how to operate microfilm machine;
Ability to establish and maintain effective working relationships with other employees and the general public;
Ability to understand and carry out instructions;
Ability to communicate effectively;

Ability to physically perform essential duties;
Ability to perform basic mathematical computations.

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

ATTACHMENT D

TRANSPORTATION ENGINEERING TECHNICIAN II

Code 8447

Grade Band 09-10

I. CLASSIFICATION DEFINITION:

This is the experienced level of work performing a variety of technical engineering support tasks. Employees perform transportation engineering survey, inspection, design, materials testing, data collection, minor traffic studies and administrative duties. Specific duties depend on job assignments and may include inspecting construction and maintenance projects; performing tests on soils and materials; evaluating methods for maintenance operations; 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; and collecting and recording traffic and planning data. Employees in this class do not supervise, but may provide instructions to less experienced employees.

Work is performed under the supervision of an engineer, or higher level technical employee. Working 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 lbs.; 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 and other equipment. Employees in this classification may also 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 II classification are experienced level positions distinguished from the Transportation Engineering Technician I by the requirement to apply a greater range of technical knowledge to a broader range of tasks.

II. MINIMUM QUALIFICATIONS:

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

Experience: One year 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 the 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 the experience requirement.

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)

Operates electronic and mechanical equipment related to drafting, surveying, materials testing, and sampling and inspection; records measurements and other data;
Operates surveying equipment to locate centerlines and property lines; sets grade stakes and other markers;
Performs field inspections of construction and maintenance projects and of existing roadways, structures and facilities;
Conducts intermediate tests on soils, asphalt, cements/concrete, aggregates, bituminous products, metal products and industrial coatings;
Maintains records pertaining to highway and public works installations;
Updates maps, plats and other records using computerized and manual processes;
Drafts plans, plats and topographic maps for various engineering improvements and installations using CADD and manual processes;
Computes quantities for contract items for use in preparing project cost estimates;
Compiles traffic data for incorporation into traffic projects;

Performs in-service bridge inspections in accordance with FHWA criteria;
Functions as front rod technician on a survey party;
Researches land records to determine property ownership and to obtain other information;
Conducts ongoing studies of maintenance activities;
Drafts maintenance contract specifications;
Assists in an annual review of highway and roadsides at the shop, district, and statewide levels to determine the quality of highway maintenance;
Creates accident collision diagrams via various CADD computer software programs;
Produces accident rates and comparative statewide average rates for study sections;
Manually compiles data for High Accident Intersections (HAI) studies, and prepares corresponding accident summaries and collision diagrams;
Responds to District Office's data requests;
Reviews study area via videolog;
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 the inspections conducted on construction projects;
Knowledge of algebra, geometry, and the principles of basic mathematics used in engineering drawing and drafting;
Knowledge of the properties of various structural metals, primarily iron, steel and aluminum, and the inspection of products produced from those metals;
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 perform basic mathematical computations used in engineering drawing and drafting;
Ability to maintain records and adapt record systems for computerization;
Ability to establish and maintain effective working relationships with other employees and the general public;
Ability to communicate effectively;
Ability to interpret, analyze or prepare maps, deeds, plats, and plans;
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

ATTACHMENT E

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;

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

ATTACHMENT F

TRANSPORTATION ENGINEERING TECHNICIAN IV

Code 8449

Grade Band 13-14

I. CLASSIFICATION DEFINITION:

This is the senior technical or supervisory level of work performing a variety of engineering support tasks. Specific duties depend on job assignments and may include serving as Project Engineer for medium sized construction and maintenance projects; coordinating complex maintenance activities; performing advanced design work involving complex calculations and computations and geometric design elements; performing advanced tests on soils and materials; supervising a crew engaged in basic technical engineering activities; serving as instrument person on a survey crew; developing complex maintenance contract specifications; designing and coordinating major traffic control devices and management projects; and serving as a field crew chief for planning projects or maintaining advanced data systems in support of planning programs. Employees in some positions in this classification do not supervise, but may serve as lead workers. The employee is expected to give guidance and assistance to less experienced employees and may supervise a project, crew or unit.

Work is performed under the general supervision of an engineer, surveyor, or higher level technical employee. 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 classification 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 in the Transportation Engineering Technician IV classification are distinguished from the Transportation Engineering Technician III classification by the performance of senior technical or supervisory work requiring greater technical knowledge and skills.

II. MINIMUM QUALIFICATIONS:

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

Experience: Five 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, up to a maximum of three years.
2. Applicants who possess an Associates Degree in either 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 five year experience requirement.

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 or other in-house certifications 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 II 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)

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

Reviews and comments on design submittals from consulting engineers to ensure compliance with standards; meets with consultants to resolve problems;

Provides information to and works with architects, engineers, contractors, developers, and the like to ensure adherence to proper standards and codes;

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

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

Compiles, documents, and reviews construction reports including cost and other data; reviews special provisions, design agreements, and continuity of plans as necessary; assists in determining if contract plans adhere to current standards and practices;

Drafts plans, plats and drawings for various engineering improvements and installations using CADD and manual processes;

Prepares construction drawings based on engineer's notes, survey notes, field and record research, and engineering calculations;

Updates maps, plats, and other engineering records based on "as built," survey notes and other information;

Computes project quantities, curve data, elevations and profiles;

Performs traverse adjustments and coordinate geometry computations to produce final adjustment traverse coordinates;

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

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

Performs as instrument person on survey assignments and acts as Party Chief in his/her absence;

Maintains records pertaining to public works installations and projects; prepares reports related to the work;

Oversees the advertisement of major maintenance contracts;

Oversees roadway evaluations/studies;

Compiles, documents, and reviews maintenance reports/studies including costs and other data, determining if maintenance contracts adhere to current maintenance practices and standards;

Assists in the clearance of utilities and other underground obstructions prior to subsurface explorations;

Assists in locating subsurface features through the use of preliminary engineering design documents and/or the use of electronic geographical positioning equipment;

Performs hydrographic surveys of shipping channels and berths;

Establishes horizontal and vertical controls for hydrographic surveys;

Determines tide adjustments and edits hydrographic surveys;

Compiles comprehensive analytical reports for various Project Planning/miscellaneous studies;

Attends project planning meetings and Public Hearings/Workshops;

Performs before and after accident studies;

Provides comprehensive reports pertaining to accident corridor studies;

Prepares charts and graphs for projects using various computer programs;

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 surveying, including use of instruments and equipment;

Knowledge of design and right of way plat criteria, construction standards and inspection methods and techniques;

Knowledge of InRoads, Geopak or other related engineering software in the use of design activities;

Knowledge of geodetic control processing software and CADD software;

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 statistical principles;

Knowledge of algebra, geometry, and the principles of basic mathematics used in engineering design, drawing and drafting;

Knowledge of the inspection techniques for welding and fabrication of structural products including non-destructive testing methods and the American Welding Society Welding Code;

Knowledge of AASHTO and ASTM test specifications and methods;

Knowledge of human factors as they relate to transportation issues;

Knowledge of effective supervisory methods and practices;

Skill in reading and interpreting complex engineering drawings and computations;

Skill in the operation of electronic and mechanical equipment used in performing technical engineering support tasks;

Skill in reading and creating blueprints and engineering drawings, right of way plats and plans, using CADD or manual processes;

Skill in interpreting, analyzing or preparing maps, deeds, plats, and plans;

Ability to instruct and train lower-level technicians in coordinate geometry calculations and CADD processing;

Ability to maintain a variety of technical records and adapt records systems for computerization;

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

ATTACHMENT G

TRANSPORTATION ENGINEERING TECHNICIAN V

Code 8450

Grade 0015

I. CLASSIFICATION DEFINITION:

This is the advanced technical or senior project management level of work performing a variety of complex engineering support tasks. Some positions in this classification are responsible for supervising staff. Specific duties depend on job assignments and may include serving as Project Engineer for large sized construction and maintenance projects; overseeing complex maintenance activities; serving as Assistant Project Engineer on major bridge and highway design projects; overseeing the development and performance of advanced soils and materials testing programs; serving as party chief on a survey crew, or exploration crew; overseeing the development and advertisement of maintenance contracts, overseeing budget allocations statewide; or designing and coordinating major design and planning and traffic management projects. The employee is expected to give guidance and assistance to less experienced employees and may supervise a project team, crew or unit. Supervision is not a requirement when highly specialized expertise can be documented.

Work is performed under the general direction of an engineer, or other professional employee. 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 classification may be required to work various shifts and on weekends depending on assignments. 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.

Specific position allocation to this level is determined by application of the Position Appraisal Method of Job Evaluation.

II. MINIMUM QUALIFICATIONS:

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

Experience: Eight 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, up to a maximum of three years.
2. Applicants who possess an Associates Degree in either 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 eight year experience requirement.

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 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)

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, drafting and design, field inspection, and materials testing;

Researches a variety of electronic and mechanical equipment in carrying out surveying, drafting and design and materials sampling and testing;

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

Conducts or participates in project milestone review 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;

Directs the preparation of plans, plats and drawings for various engineering improvements and installations, prepares construction drawings based on engineer's notes, survey notes, field and records research, and engineering calculations, updates maps, 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;

Creates complex horizontal and vertical alignments using Computer Aided Design and Drafting (CADD) and coordinate geometry software;

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

Oversees the development of CADD plans, plats and other project documents;

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

Performs complex design and survey calculations to translate raw data into information for the design and 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 subsurface exploration;

Oversees and is responsible for locating subsurface features through the use of preliminary engineering design documents and/or the use of electronic geographical positioning equipment;

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

Performs hydrographic surveys of shipping channels and berths;

Establishes horizontal and vertical controls for hydrographic surveys;

Determines tide adjustments and edits hydrographic surveys;

Provides data, analysis, recommendations and corrective measures for Environmental Impact Studies;

Reviews work of other employees;

Performs multi-fatal accident analysis;

Performs other related duties.

IV. REQUIRED KNOWLEDGE, SKILLS AND ABILITIES:

Knowledge of basic engineering principles, practices, and methods;
Knowledge of CADD using Microstation, manual drafting and surveying;
Knowledge of design criteria, construction standards and inspection methods and techniques;
Knowledge of statistical principles;
Knowledge of algebra, geometry and the principles of basic mathematics used in engineering design, drawing and drafting;
Knowledge of AASHTO and other policies and procedures used in the design and construction of transportation projects;
Knowledge of Temporary Traffic Control Standards, National Electrical and Safety Codes, and Manual on Uniform Traffic Control Devices;
Knowledge of the principles and standards of highway, bridge and interchange design including geometrics, hydraulics, capacity, economics and traffic assignments;
Knowledge of materials and construction methods as they apply to the design of transportation projects;
Knowledge of Federal Highway Regulations and Criteria for Coding In-Service Bridge conditions;
Knowledge of Federal Aid regulations;
Knowledge of AASHTO and ASTM test specifications and methods;
Knowledge of effective supervisory methods and practices;
Skill in interpreting, analyzing, or preparing maps, deeds, plats, and plans;
Skill in operating computers using Microstation and other related engineering software;
Skill in the maintenance and operation of electronic and mechanical equipment used in performing complex technical engineering support tasks;
Skill in reading and creating blueprints and engineering drawings, right of way plats, and plans, using CADD or manual processes;
Skill in reading and interpreting complex engineering drawings and computations;
Ability to streamline and optimize complex design, surveying and mapping processes;
Ability to place complex traffic control devices and systems in operation;
Ability to maintain a variety of technical records and adapt records systems for computerization;
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 prepare correspondence for transportation projects informing the public, elected officials and others about project specific data;
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

ATTACHMENT H

TRANSPORTATION ENGINEER I

Code 8439 Salary Grade 0014

I. CLASSIFICATION DEFINITION:

This is entry level professional civil engineering work applying engineering theories, principles, and standards to a variety of engineering projects and processes. In a learning capacity, assists with engineering projects; operates CADD; trains on software applications in the division assigned; assists in preparation of supporting documentation for engineering projects; reviews plans and specifications; conducts material testing evaluation and quality assurance and conducts construction inspection under the direction of a higher level engineer. Positions in this class do not supervise, but may provide direction and guidance to technicians.

This is a training level for inexperienced civil engineers with career progression occurring into specialized areas such as bridge, port, hydraulics, traffic, materials, highway, rail and airport engineering.

Employees receive close to moderate supervision from a higher level engineer or engineering supervisor. Work is performed in an office setting and in the field; work may require physical inspection of job sites.

Positions assigned to the Transportation Engineer I classification are entry level positions distinguished from the Transportation Engineer II by closer supervision and by the requirement to develop engineering knowledge and skills.

II. MINIMUM QUALIFICATIONS:

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

Experience: None required.

Note:

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:

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)

Performs preliminary engineering work for projects and studies;
Conducts engineering feasibility studies; assists in the preparation of required supporting documentation for engineering projects;
Reviews and comments on design submittals from consulting engineers to ensure compliance with standards and regulations; meets with consultants to resolve problems;
Reviews assigned areas of plans to ensure compliance with contracts, regulations and engineering standards;
Assists in preparing engineering designs, plans and specifications using a variety of software and manual methods and cost estimates for the construction of roads, bridges, communications systems, traffic management systems, construction and maintenance heavy equipment, storm drains, rail, buildings and other transportation facilities;
May participate in public hearings, right of way acquisitions, finalizing plans and drafting specifications;
Prepares and maintains public works installation and project records and reports;
Performs other related duties.

IV. REQUIRED KNOWLEDGE, SKILLS AND ABILITIES:

Knowledge of professional 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 relative to engineering projects;
Knowledge of construction standards and regulations;
Knowledge of maps, deeds, plats and plans;
Ability to prepare basic plans, specifications, cost estimates and engineering reports;
Ability to maintain a variety of technical records and adapt records systems for computerization;
Ability to make basic engineering computations and drawings;
Ability to communicate effectively and prepare technical reports;
Ability to establish and maintain effective working relationships with other employees, engineers, architects and the general public;
Ability to provide guidance and direction to technicians;
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

ATTACHMENT I

TRANSPORTATION ENGINEER II

Code 0116 Salary Grade 0016

I. CLASSIFICATION DEFINITION:

This is experienced level professional civil engineering work applying engineering theories, principles and standards to a variety of engineering projects and processes in highway, traffic, construction, structural, rail, port, airport, maintenance, materials, or other transportation areas. Positions in this class do not supervise, but may provide direction and guidance to technicians in all engineering functions necessary to prepare engineering plans, designs, specifications and cost estimates.

Employees receive moderate supervision from a higher level engineer or engineering supervisor. Work is performed in an office setting and in the field; work may involve physical inspection of job sites.

Positions assigned to the Transportation Engineer II classification are experienced positions distinguished from the Transportation Engineer I by greater independent decision making and by the requirement to apply a greater range of engineering knowledge and skills.

II. MINIMUM QUALIFICATIONS:

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

Experience: One year of experience in professional engineering.

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 the required 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:

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)

Prepares engineering designs, plans, specifications and cost estimates for the construction/rehabilitation of roads, bridges, communications systems, traffic management systems, construction and maintenance equipment, storm drains, rail, buildings and other transportation facilities;

Participates in public hearings, finalizing plans, drafting specifications, etc.;

Reviews and comments on design submittals from consulting engineers to ensure compliance with standards and regulations;

Meets with consultants to resolve problems;

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

Prepares and maintains a variety of engineering documents including plans, specifications, contracts, maps and standards;

Reviews and comments on maintenance contract submittals to ensure compliance with standards and regulations;

Meets with contractors to resolve problems;

May serve as project manager on routine engineering projects; conducts field work, surveys, research, preliminary and final design; determines construction quantities; writes proposals; prepares contract documents, right of way and easement descriptions; provides engineering detail for environmental impact statements and develops cost estimates;

Coordinates projects among outside agencies, property owners and other divisions within the agency;

Prepares reports and memos describing the project and conducts inspections of work, as needed;

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

Maintains and prepares public works installation and project records and reports;

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

Conducts research, evaluates and makes recommendations regarding proposed and existing laws, standards and policies; writes contracts for engineering services;

Prepares requests for proposals; participates in selecting engineering consultants and contractors;

Serves as project liaison with the project construction engineer during the construction phase; makes changes and additions to the construction plans as needed;

Conducts studies and research to analyze and project present and future needs as they relate to engineering designs and solutions to current and anticipated problems; provides data and other information to interested groups;
Attends a variety of meetings; may provide testimony at formal hearings or in court;
Performs other related duties.

IV. REQUIRED KNOWLEDGE, SKILLS AND ABILITIES:

Knowledge of professional civil 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 relative to engineering projects;
Knowledge of construction standards and regulations;
Knowledge of maps, deeds, plats and plans;
Ability to prepare accurate plans, specifications, cost estimates and engineering reports;
Ability to maintain a variety of technical records and adapt records systems for computerization;
Ability to make accurate engineering computations and drawings;
Ability to communicate effectively and prepare technical reports;
Ability to establish and maintain effective working relationships with other employees, engineers, architects and the general public;
Ability to provide direction and guidance to technicians;
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

ATTACHMENT J

TRANSPORTATION ENGINEER III

Code 0117

Salary Grade 0017

I. CLASSIFICATION DEFINITION:

This is journey level professional civil engineering work 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. Employees in these positions may serve as project managers and provide guidance and direction to a project team and consultants, or supervise assigned engineering technicians or may have journey level expertise in either a broad range of engineering areas or a specialized area.

Employees receive general supervision from a higher level engineer or engineering supervisor. Work is performed in an office setting and in the field; work may require physical inspection of job sites.

Positions assigned to the Transportation Engineer III classification are journey level positions distinguished from the Transportation Engineer II by the responsibility for project management or supervisory duties or the independent handling of more complex engineering projects requiring greater independent decision making and a broad range of engineering knowledge and skills.

II. MINIMUM QUALIFICATIONS:

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

Experience: Two years experience in professional engineering.

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 required 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 of the Maryland Transportation Authority may be required to possess an Engineer-In-Training License from the Department of Labor, Licensing and Regulation.
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)

Prepares engineering designs, plans, specifications and cost estimates for the construction/rehabilitation of roads, bridges, communications systems, traffic management systems, storm drains, rail, buildings and other transportation facilities;

Participates in public hearings, finalizes plans, drafts specifications, etc.;

Administers consultant contracts including approving monthly invoices and progress payments;

Reviews and comments on design submittals from consulting engineers to ensure compliance with standards and regulations; meets with consultants to resolve problems;

Assists and conducts the review and evaluations of Consultant Technical Proposals and Extra Work Requests;

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

Prepares and maintains a variety of engineering documents including plans, specifications, contracts, maps, standards, etc.;

Serves as project manager for the installation of communications systems;

Reviews and comments on maintenance contract submittals to ensure compliance with standards and regulations; communicates with contractors to resolve problems;

Serves as project manager on routine engineering projects; conducts field work, surveys, research, preliminary and final design; determines construction quantities; writes proposals; prepares contract documents, right of way and easement descriptions; provides engineering detail for environmental impact statements; develops cost estimates; coordinates project among outside agencies, property owners and other divisions within the agency;

Prepares reports and memos describing the project; conducts inspections of work as needed;

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

Maintains and prepares public works installation and project records and reports;

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

Conducts research; evaluates and makes recommendations regarding proposed and existing laws, standards and policies; writes contracts for engineering services; prepares requests for proposals; participates in selecting engineering consultants and contractors;

Serves as project liaison with the project construction engineer during the construction phase; makes changes and additions to the construction plans as needed;

Analyzes capacity, planning and highway system performance data and prepares traffic projections;

Conducts studies and research to analyze and project present and future needs as they relate to engineering designs and solutions to current and anticipated problems;
Provides data and other information to interested groups;
Attends a variety of meetings;
May provide testimony at formal hearings or in court;
May plan, organize, coordinate, schedule, assign and evaluate the work of engineering technicians;
Provides training and work performance counseling as needed;
Performs other related duties.

IV. REQUIRED KNOWLEDGE, SKILLS AND ABILITIES:

Knowledge of professional civil 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 relative to engineering projects;
Knowledge of construction standards and regulations;
Knowledge of effective supervisory methods and practices;
Skill in reading maps, deeds, plats and plans;
Skill in preparing accurate plans, specifications, cost estimates and engineering reports;
Skill in making accurate engineering computations and drawings;
Ability to maintain a variety of technical records and adapt records systems for computerization;
Ability to plan, organize, coordinate, assign and evaluate the work of engineering technicians and other support staff;
Ability to communicate effectively and prepare technical reports;
Ability to establish and maintain effective working relationships with other employees, engineers and architects 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, 2001
Date Revised: July 1, 2008

ATTACHMENT K

TRANSPORTATION ENGINEER IV

Code 0516

Salary Grade 0018

I. CLASSIFICATION DEFINITION:

This is senior or advanced level professional civil engineering work 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. Employees in these positions may serve as project manager and provide guidance and direction to a project team and consultants, or supervise assigned engineering technicians or may apply advanced knowledge in a specialized technical area such as hydraulics or environmental design, or in a broad range of engineering areas. Positions assigned to this classification may serve as team leaders over lower level professional engineers, technicians, and/or consultants that perform engineering functions necessary to prepare construction plans, specifications and cost estimates.

Employees receive general supervision from a higher level engineer or manager. Work is generally performed in an office setting and in the field; work may require physical inspection of job sites.

Specific position allocation to this level 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: Four years experience in professional engineering.

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 required 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 of the Maryland Transportation Authority may be required to possess an Engineer-In-Training License from the Department of Labor, Licensing and Regulation.
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)

Performs the most complex and varied engineering project coordination functions;
Plans, organizes, coordinates, schedules, assigns and evaluates the work of subordinate engineers and technicians; provides training and work performance counseling as needed;
Prepares engineering studies, designs, plans, specifications and cost estimates for the construction, rehabilitation or maintenance of roads, bridges, storm drains, rail, buildings and other transportation facilities; participates in public hearings, finalizes plans, drafts specifications, etc.;
Administers consultant contracts including approval of monthly invoices and progress payments;
Reviews and comments on design submittals from consulting engineers to ensure compliance with standards and regulations; meets with consultants to resolve problems;
Assists in and conducts the review and evaluation of Consultant Technical Proposals and Extra Work Requests;
Reviews plans and specifications for transportation facilities submitted for new construction, rehabilitation or improvements to ensure compliance with contracts, regulations and engineering standards;
Prepares and maintains a variety of engineering documents including plans, specifications, contracts, maps and standards;
Prepares designs, plans, specifications and cost estimates for communications and traffic management systems, or construction and maintenance equipment;
Serves as project manager on large and/or complex engineering projects; conducts field work, surveys, research, preliminary and final design; determines construction quantities; writes proposals; prepares contract documents, right of way and easement descriptions; provides engineering detail for environmental impact statements and develops cost estimates;
Coordinates projects among outside agencies, property owners and other divisions within the agency; prepares reports and memos describing the project; conducts inspections of work as needed;
Answers inquiries from other agencies, interested parties and the public regarding engineering projects;
Maintains and prepares public works installation and project records and reports;
Provides information to and works with architects, engineers, contractors and developers to ensure adherence to proper standards and codes;
Conducts research, evaluates and makes recommendations regarding proposed and existing laws, standards and policies; writes contracts for engineering services; prepares requests for proposals;
Participates in selecting engineering consultants and contractors;

Serves as project liaison with the project construction engineer during the construction phase; makes changes and additions to the construction plans as needed;
Conducts studies and research to analyze and project present and future needs as they relate to engineering designs and solutions to current and anticipated problems;
Provides data and other information to interested groups;
Attends a variety of meetings;
May provide testimony at formal hearings or in court;
Performs other related duties.

IV. REQUIRED KNOWLEDGE, SKILLS AND ABILITIES:

Knowledge of professional civil 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 relative to engineering projects;
Knowledge of construction standards and regulations;
Knowledge of effective supervisory methods and practices;
Skill in reading maps, deeds, plats and plans;
Skill in preparing accurate plans, specifications, cost estimates and engineering reports;
Skill in making accurate engineering computations and drawings;
Ability to maintain a variety of technical records and adapt records systems for computerization;
Ability to plan, organize, coordinate, assign and evaluate the work of lower level engineers, engineering technicians and other support staff;
Ability to communicate effectively and to prepare technical reports;
Ability to establish and maintain effective working relationships with other employees, engineers and architects 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, 2001
Date Revised: July 1, 2008

ATTACHMENT L

TRANSPORTATION ENGINEER V

Code 2706

Salary Grade 0019

I. CLASSIFICATION DEFINITION:

This is team leader and expert level civil engineering work performing complex engineering projects and processes in highway, traffic, construction, structural, rail, port, airport, maintenance, materials or other transportation areas. Some employees serve as team leader on large and complex engineering projects leading and directing multi-disciplinary project teams with professionals and consultants, others may be assigned administrative and managerial responsibility for an organizational unit overseeing technical work functions. Other positions independently perform expert level duties 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 general supervision from a higher level engineering manager. Work is performed in an office setting and in the field; work may require physical inspection of job sites.

Specific position allocation to this level 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: Five years experience in professional engineering.

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 required 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 of the Maryland Transportation Authority may be required to possess an Engineer-In-Training License from the Department of Labor, Licensing and Regulation.

3. 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, organizes, coordinates, schedules, assigns and evaluates the work of subordinate engineers and technicians; provides training and work performance counseling as needed;

Serves as project manager on large and complex engineering projects; conducts field work, survey, research, preliminary and final design; determines construction quantities; writes proposals; prepares contract documents, right of way and easement descriptions; provides engineering detail for environmental impact statements and develops cost estimates;

Prepares engineering designs, plans, specifications and cost estimates for the construction/ rehabilitation of roads, bridges, storm drains, rail, buildings and other transportation facilities; participates in public hearings, finalizes plans, drafts specifications, etc.;

Administers consultant contracts including approval of monthly invoices and progress payments;

Reviews and comments on design submittals from consulting engineers to ensure compliance with standards and regulations; meets with consultants to resolve problems;

Supervises and conducts the review and evaluation of Consultant Technical Proposals and Extra Work Requests;

Reviews plans and specifications for roads, bridges, storm drainage, buildings and other facilities submitted for new construction, rehabilitation or improvements to ensure compliance with contracts, regulations and engineering standards;

Prepares and maintains a variety of engineering documents including plans, specifications, contracts, maps and standards;

Prepares designs, plans, specifications and cost estimates for communications maintenance and repair and traffic management systems;

Prepares specifications and cost estimates for construction and maintenance equipment;

Coordinates Emergency Operations Center Team activation and operation;

Coordinates projects among outside agencies, property owners and other divisions within the agency; prepares reports and memos describing projects; conducts inspections of work as needed;

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

Maintains and prepares public works installation and project records and reports;

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

Conducts research, evaluates and makes recommendations regarding proposed and existing laws, standards and policies; writes contracts for engineering services; prepares requests for proposals; participates in selecting engineering consultants and contractors;

Serves as project liaison with the project construction engineer during the construction phase; makes changes and additions to the construction plans as needed;

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

Provides data and other information to interested groups;

Attends a variety of meetings;

May provide testimony at formal hearings or in court.

IV. REQUIRED KNOWLEDGE, SKILLS AND ABILITIES:

Knowledge of professional civil 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 relative to engineering projects;
Knowledge of construction standards and regulations
Knowledge of effective supervisory methods and practices;
Skill in reading maps, deeds, plats and plans;
Skill in preparing accurate plans, specifications, cost estimates and engineering reports;
Skill in making accurate engineering computations and drawings;
Ability to maintain a variety of technical records and adapt records systems for computerization;
Ability to plan, organize, coordinate, assign and evaluate the work of engineering technicians and other support staff;
Ability to communicate effectively and to prepare technical reports;
Ability to establish and maintain effective working relationships with other employees, engineers, architects 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.

Adopted: July 1, 1997
Revised: July 1, 2001
Revised: July 1, 2008

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
Date Revised: June 9, 2014