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Engineer
Professional Engineer I
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Engineering

E55011 - E55014

DESCRIPTION OF OCCUPATIONAL WORK

This class series uses four levels and describes professional level work in an engineering discipline. Engineering work consists of the performance of duties requiring the use of civil and/or environmental engineering theories, principles, and practices of engineering and design; modern methods and techniques of construction, maintenance, and materials; legal responsibilities and ramifications associated with work performed; federal and agency design standards, specifications, and procedures; federal and state laws and regulations applicable to the function performed. The engineering work assigned can involve highly complex planning, designing, coordinating and/or other functional activities involving roadway, environmental, aeronautical, structural, facility, hydrology, hydraulics, water resources, industrial, agricultural, or other engineering fields. All classifications within this series will be used in one of two ways - as a subject matter expert/lead worker OR as a supervisor over other teammates assigned professional and/or para-professional engineering work. Positions that are classified to this series may have specific disciplines of engineering assigned.

Engineer

E55011

DISTINGUISHING CHARACTERISTICS: (A position is assigned to this class based on the scope and level of work performed as outlined below.)

Work is performed under limited supervision of a higher-level engineer and is reviewed for accuracy and conformance of the final product to engineering principles and employing agency policies and practices. Positions in this class will perform assignments that include civil engineering work in the areas of design, structure, project development, traffic, program management, construction, material testing, and project management. Some positions will perform environmental engineering work in areas of public water supply systems, swimming pools, wastewater disposal, solid waste disposal, agricultural waste disposal, hazardous waste disposal, air pollution or related environmental engineering problems. Positions assigned supervisory duties will supervise pre-professional engineering personnel and/or technical professionals who perform related duties.

EXAMPLES OF WORK: (A position may not be assigned all the duties listed, nor do the listed examples include all the duties that may be assigned.)

Performs engineering assignments related to project planning, design, hydrologic analysis and/or construction.

Applies engineering management principles during design and construction projects. Coordinates and supervises inspection and survey work on construction projects.

Performs and supervises the preparation of preliminary designs and surveys. Prepares preliminary estimates and specifications.

Supervises or performs work involved in the quality testing, selection and investigation of materials involved in construction projects.

Reviews facility plans, specifications, construction, operational plans, operator training, and/or operation of water supply systems, swimming pools, sewage treatment plants, feed lots, landfills, and/or other equipment/facilities to determine compliance with State and federal laws, regulations, and policies.

Negotiates with consulting engineers regarding costs, basic design, and features of environmental engineering projects.

Conducts on-site inspection of assigned equipment and/or facilities to determine compliance of the systems with approved plans and specifications and with State and federal requirements. Compiles statistics, charts and tables of findings, interprets findings, and prepares reports or correspondence to present findings to agency staff, consulting engineers, and owners/operators of facilities.

Confers with and provides technical assistance to local boards of health, municipal officials, industrial officials, consulting engineers, and the general public to alleviate environmental hazards and/or eliminate health hazards.

Collects samples and specimens in the field for laboratory analysis and interprets laboratory analysis.

Conducts or assists in training programs for water and waste water treatment plant operators.

Gives presentations to lay and professional groups to promote environment health.

Attends various pre-construction planning meetings and conferences. Attends meetings of associations and organizations concerned with environmental health issues as a representative of the agency.

Performs routine administrative work in the maintenance of records and reports.

KNOWLEDGE, SKILLS, AND ABILITIES REQUIRED: (These are needed to perform the work assigned.)

Knowledge of: principles and practices of engineering; modern methods and techniques of highway construction, maintenance and materials principles and practices of environmental engineering related to water supply systems, water pollution, air pollution, solid waste disposal and/or related environmental engineering services; federal and State laws and regulations.

Skill in: making engineering computations in designing difficult engineering projects and in making complete engineering plans.

Ability to: apply and interpret federal and State laws and regulations to specific engineering projects; communicate effectively with State, federal, and municipal government employees, elected government officials, consulting engineers, owners/operators, and the general public; make decisions and take action to deal with engineering problems and situations within established regulations.

MINIMUM QUALIFICATIONS: (Applicants will be screened for possession of these qualifications. Applicants who need accommodation in the selection process should request this in advance.)

Bachelor's degree in an Engineering discipline. Must obtain Engineer Intern Enrollment (Engineering in Training Certification) within one year of employment.

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Professional Engineer I

E55012

DISTINGUISHING CHARACTERISTICS: (A position is assigned to this class based on the scope and level of work performed as outlined below.)

Work is performed under general to limited supervision of a higher-level professional engineer or an administrative official. Positions in this class are assigned complex engineering functions and provide professional engineering advice, which may include specialized or advanced technical/professional engineering services. Positions assigned supervisory duties will supervise pre-professional engineering personnel, engineers-in-training, and/or technical professionals who perform related duties.

EXAMPLES OF WORK: (A position may not be assigned all the duties listed, nor do the listed examples include all the duties that may be assigned.)

Plans, organizes, and directs operations and schedules of assigned engineering, maintenance, or other functions, work units, or projects to ensure development and construction/renovation activities conform to laws, regulations, and agency policies and standards; coordinates assigned functions/projects with employing agency divisions, offices, or sections, federal or State agencies, local governments, and/or other interested parties.

Coordinates assigned operations with other field and/or central office upper level engineers or managers to assist them in the administration of agency divisions, offices, or sections and to resolve project planning, design, bidding, and construction issues; recommends avoidance, minimization, and mitigation strategies to ensure effective development and management of engineering functions or projects.

Interprets plans for contractors and resolves problems and organizes work activities to assist them; provides project construction information to contractors, landowners, public officials, and the public; manages and reviews work of consultants; negotiates and reviews agreements between the employing agency and local governments, utilities companies, railroads, other landowners, and/or consultants.

Reviews preliminary and final engineering plans, special provisions, and plan quantities to ensure constructability, completeness, accuracy, and conformance to standards and specifications; reviews consultant plans for federal aid or State supported projects; recommends solutions, changes, and ideas for construction to agency employees, consultants, and local government officials; and works with them to make changes.

Conducts plan-in-hand and construction in-progress inspections to ensure construction in accordance with standards, plans, and specifications; enforces agency policies and procedures.

Collects and analyzes information on planning, design, bidding, and construction strategies; conducts research of current industry standards and test procedures; reviews professional engineering practices and policies and publications and develops/modifies engineering policies, procedures, standards and specifications, or other directives, manuals, and publications.

Serves as an expert for and provides professional engineering advice about specialized or advanced technical/professional engineering services, and presents technical information, program plans, and proposals to higher-level management; prepares analyses, gives reports and provides technical expertise on engineering technologies, materials, and procedures to enhance agency processes and results.

Oversees special or long-term feasibility or professional engineering reviews or studies conducted in-house and examines such studies conducted by consulting firms, local governments, or other public agencies; prepares or evaluates documents, reports, and agreements related to these reviews or studies.

Reviews complex facility plans, plans and specifications, construction, operational plans, operator training, and/or operation of water supply systems, swimming pools, sewage treatment plants, feed lots, landfills, and/or other equipment/facilities to determine compliance with State and federal laws and regulations.

Negotiates with consulting engineers regarding costs, basic design, and features of major engineering projects such as water supply systems and sewage treatment plants.

Conducts on-site inspection of assigned equipment and/or facilities to determine compliance of the systems with approved plans and specifications and with State and federal requirements.

Develops computer programs to create, maintain and access data bases and to model environmental conditions.

Compiles statistics, charts and tables of findings, interprets findings, and prepares reports or correspondence to present findings to agency staff, consulting engineers, and owners/operators of facilities.

Confers with and provides technical assistance to local boards of health, municipal officials, industrial officials, consulting engineers, and the general public to help alleviate environmental hazards and/or eliminate health hazards.

Develops, conducts, and administers training programs for water and sewage treatment plant operators or water supply system operators.

Coordinates a major function within the area of Environmental Engineering such as facility plans, construction, plan of operations, value engineering, industrial waste, data base management.

Gives presentations to lay and professional groups to promote environmental health.

Attends meetings of associations and organizations on environmental/health issues as a representative of the agency.

KNOWLEDGE, SKILLS, AND ABILITIES REQUIRED: (These are needed to perform the work assigned.)

Knowledge of: civil engineering theories, principles, and practices of civil engineering and design; modern methods and techniques of highway construction, maintenance, and materials; legal responsibilities and ramifications associated with the work performed; federal and agency design standards, specifications, and procedures; federal and state laws and regulations applicable to the function performed; practices and terminology of computer operations and Computer Aided Design and Drafting (CADD); Geographic Information Systems (GIS); mathematics, surveying and material testing; engineering properties of materials and surfacing types; rehabilitation and maintenance techniques; pavement management; and practical engineering concepts.

Ability to: interpret, understand and implement state and federal laws and regulations, and agency standards, policies, and procedures; read interpret and evaluate engineering plans and specifications; review and approve/stamp engineering plans; understand all levels of project design; organize, analyze, and evaluate available information and draw reasonable conclusions; develop procedures and determine the logical flow of work through the work unit; plan, organize, assign and direct the work of section/unit staff; provide direction and expertise to other engineering professionals and engineering technicians; evaluate the professional and/or technical skills of assigned team members and assign work accordingly; communicate information clearly and concisely; prepare, interpret, use, and explain civil engineering plans, maps, specifications and standards and reports, communicate with the public, contractors, consultants, agency staff at all levels, and local government officials; interact with assigned workers, other agency employees, local government representatives, contractors, consultants, and the public.

[MINIMUM QUALIFICATIONS:](#) (Applicants will be screened for possession of these qualifications. Applicants who need accommodation in the selection process should request this in advance.)

Bachelor's degree in an engineering discipline. Must possess a Professional Engineer (P.E.) license at the time of application and be licensed by the Nebraska Board of Engineers and Architects at time of employment or be able to obtain such license within 90 days of employment.

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Professional Engineer II

E55013

[DISTINGUISHING CHARACTERISTICS:](#) (A position is assigned to this class based on the scope and level of work performed as outlined below.)

Under limited supervision of a higher-level professional engineer or an administrative official, positions perform complex licensed professional level engineer work for one or more office and/or field-based projects with diverse engineering components and requirements. Positions at this level serve as technical experts in a specialty area having significant impact, and assignments that entail responsibility for functions of significant scope and complexity. Serve as principle engineer performing specialized or diverse professional level engineering work and/or coordinating the employing agency's professional level engineering functions. Will have independent, complex functional and coordination responsibilities requiring advanced or comprehensive engineering knowledge. Positions assigned supervisory duties will supervise a team or work unit of primarily lower level professional Engineers, technical professionals, and/or paraprofessional engineering employees.

[EXAMPLES OF WORK:](#) (A position may not be assigned all the duties listed, nor do the listed examples include all the duties that may be assigned.)

Plans, organizes, and directs operations and schedules of assigned engineering and maintenance functions, work units, or assigned projects to ensure project development and construction/renovation conform to laws, regulations, and agency policies and standards; coordinates assigned functions/projects with employing agency divisions, offices, or sections, federal or State agencies, local governments, and/or other interested parties.

Coordinates assigned operations with other field and/or central office upper level engineers or managers to assist them in the administration of agency divisions, offices, or sections and to resolve project planning, design, bidding, and construction issues; recommends avoidance, minimization, and mitigation strategies to ensure effective development and management of engineering functions or projects.

Determines engineering function, work unit or project staffing requirements based on expertise required and specific work requirements; assigns work to, trains, supervises, and monitors assigned employees, contractors, or consultants to ensure timelines and fiscal constraints are met and projects are constructed according to plans, specifications, and special provisions.

Interprets plans for contractors and resolves problems and organizes work activities to assist them; provides project construction information to contractors, landowners, public officials, and the public; manages and reviews work of consultants; negotiates and reviews agreements between the employing agency and local governments, utilities companies, railroads, other landowners, and/or consultants.

Manages and reviews preliminary and final construction plans, special provisions, and plan quantities to ensure constructability, completeness, accuracy, and conformance to standards and specifications; reviews consultant plans for federal aid or State supported projects; recommends solutions, changes, and ideas for construction to agency employees, consultants, and local government officials; works with them to make changes.

Conducts plan-in-hand and construction in-progress inspections to ensure construction in accordance with standards, plans, and specifications; enforces agency policies and procedures.

Collects and analyzes information on planning, design, bidding, and construction strategies; conducts research of current industry standards and test procedures; reviews professional engineering practices and policies and publications and develops/modifies engineering policies, procedures, standards and specifications, or other directives, manuals, and publications.

Serves as an expert for and provides professional engineering advice about specialized, complex technical/professional engineering services, and presents technical information, program plans, and proposals to higher-level management; prepares analyses and reports about and provides technical expertise on engineering technologies, materials, and procedures to enhance agency processes and results.

Oversees special or long-term feasibility or professional engineering reviews or studies conducted in-house and examines such studies conducted by consulting firms, local governments, or other public agencies; prepares or evaluates documents, reports, and agreements related to these reviews or studies.

Plans, organizes assigns and evaluates the work of subordinate registered professional engineers, other engineers and technicians engaged in all phases of development and operation of waste water treatment systems or public water supply systems.

Reviews complex facility plans, plans and specifications, construction, operational plans, operator training, and/or operation of water supply systems, swimming pools, sewage treatment plants, and/or other equipment/facilities to determine compliance with state and federal laws and regulations.

Negotiates with design engineers and owners on plans and specifications to approve projects as proposed or provide approval subject to required revisions.

Interprets federal and State laws and regulations to field staff, system owners/operators, local officials, and private citizens to ensure compliance with applicable laws and regulations.

Ensures assigned programs are conducted to ensure compliance with applicable state and federal laws and regulations.

Develops rules and regulations for the installation and operation of solid, liquid or gaseous treatment, disposal facilities, and public water systems.

Initiates and maintains contacts with consulting engineers and representatives from private industry; advises and consults with other state agencies, political subdivisions, other states, and the federal government in matters related to technical field supervision.

Directs certification and training program for water and waste water plant operations.

Determines the compliance status of water and sewage systems and issues notices of violations when appropriate to ensure public safety.

Conducts on-site inspection of completed projects to determine compliance of water and sewage systems and the effectiveness of their operation and maintenance.

Gives presentations to lay and professional groups to promote environment/health issues.

Attends meetings of associations and organizations on environmental/health issues to participate as a representative of the agency.

KNOWLEDGE, SKILLS, AND ABILITIES REQUIRED: (These are needed to perform the work assigned.)

Knowledge of: civil engineering theories, principles, and practices of civil engineering and design; modern methods and techniques of highway construction, maintenance, and materials; legal responsibilities and ramifications associated with the work performed; federal and agency design standards, specifications, and procedures; federal and State laws and regulations applicable to the function performed; practices and terminology of computer operation and Computer Aided Design and Drafting (CADD); Geographic Information Systems (GIS); mathematics, surveying and material testing; engineering properties of materials and surfacing types; rehabilitation and maintenance techniques; pavement management; practical engineering concepts.

Ability to: interpret, understand and implement State and federal laws and regulations, and agency standards, policies, and procedures; read interpret and evaluate engineering plans and specifications; review and approve/stamp engineering plans; understand all levels of project design; organize, analyze, and evaluate available information and draw reasonable conclusions; develop procedures and determine the logical flow of work through the work unit; plan, organize, assign and direct the work of section/unit staff; provide direction and expertise to other engineering professionals and engineering technicians; evaluate the professional and/or technical skills of assigned team members and assign work accordingly; communicate information clearly and concisely; prepare, interpret, use, and explain civil engineering plans, maps, specifications and standards and reports, communicate with the public, contractors, consultants, agency staff at all levels, and local government officials; interact with assigned worker, other agency employees, local government representatives, contractors, consultants, and the public.

MINIMUM QUALIFICATIONS: (Applicants will be screened for possession of these qualifications. Applicants who need accommodation in the selection process should request this in advance.)

Bachelor's degree in an engineering discipline and one year of experience performing professional level engineering assignments. Must possess a Professional Engineer (P.E.) license at the time of application and be licensed by the Nebraska Board of Engineers and Architects at time of employment or be able to obtain such license within 90 days of employment.

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Professional Engineer III

E55014

DISTINGUISHING CHARACTERISTICS: (A position is assigned to this class based on the scope and level of work performed as outlined below.)

Positions work under administrative direction of a higher-level professional engineer or an administrative official. Assignments involve independent responsibility and incumbents are responsible for a complex engineering function in a specialized area of engineering having significant statewide impact. Assigned work typically requires significant administrative and program management responsibilities and knowledge. Provides licensed professional engineering advice and guidance to senior managers of the employing agency and/or other entities, to ensure engineering program and project activities adhere to relevant laws, professional standards, program regulations, employing agency policies and specific plans, specifications, and material requirements. Positions assigned supervisory duties will manage one or more work units and supervise primarily professional-level licensed engineers, other professional-level employees, and/or paraprofessionals engaged in either specialized or diverse activities that are statewide or regional in scope.

EXAMPLES OF WORK: (A position may not be assigned all the duties listed, nor do the listed examples include all the duties that may be assigned.)

Plans, organizes, and evaluates the operations of an assigned section/program; directs and coordinates these operations with other sections/programs within the employing agency.

May hire, promote, and set work schedules of and supervises the work of central engineering or construction project engineers, first line supervisors, technicians, and other employees; trains staff and monitors and evaluates work performed, addresses complaints, provides direction and guidance; and disciplines assigned employees when necessary.

Updates and advises the immediate supervisor regarding construction program activities, projects' status and changes, and equipment and staffing needs.

Sets or monitors schedules for various phases of program operations or construction projects; assists the immediate supervisor in planning, implementing, and coordinating the day-to-day programs or activities carried out by assigned staff; manages funds, staffing, equipment, material and related resources of the assigned section/program.

Participates in the development, administration and monitoring of the budget and expenditures for assigned section/program operations; reviews plans in the design phase, and plans and contracts prior to letting for accuracy and constructability, and confers with various agency employees on changes and enhancements.

Participates in the study and projection of present and future transportation program needs and formulates and recommends alternative policies and means of meeting those needs using appropriate/available resources; provides input for the employing agency's annual and multi-year statewide or regional construction or improvement program plans.

Develops alternative plans, policies, programs and recommendations based on costs, benefits, and overall feasibility; evaluates program progress to assure that plan/program objectives are realized; assesses the overall performance, achievements, and effectiveness of the assigned section/program and makes or recommends operational/program changes.

Advises contractors on acceptable methods and material used on highway construction projects; monitors progress of projects and compliance with plans, specifications, and special provisions; approves progress estimate payments

to contractors; evaluates and recommends acceptance or non-acceptance of completed projects to the immediate supervisor.

Drafts letters of response for the immediate supervisor, the agency head or senior management, and other governmental officials as necessary.

Serves as a Subject Matter Expert for and provides professional engineering advice about specialized, highly complex technical/professional engineering services, and presents technical information, program plans, and proposals to higher-level management; prepares analyses and reports about and provides technical expertise on engineering technologies, materials, and procedures to enhance agency processes and results.

Represents on behalf of the immediate supervisor or senior management at meetings of the employing agency, and with local state and federal agencies/jurisdictions, contractors/consultants, colleges and universities, and the public; attends meetings to represent the agency such as plan-in-hand meetings, project review meetings, public meetings and hearings to explain projects and answer questions and address concerns

May manage the work of a staff of environmental engineers through subordinate engineering supervisors.

Negotiates with design engineers and owners on environmental engineering projects.

Interprets federal and State laws and regulations to field staff, system owners/operators, local officials, and private citizens to ensure compliance with applicable laws and regulations.

Negotiates with federal and State agencies to influence the development of regulations which govern environmental engineering practices in waste water treatment or public water supply systems.

Conducts on-site inspection of projects to determine compliance of projects with approved plans and specifications, to evaluate the physical condition of systems and to evaluate the effectiveness of their operation and maintenance in delivering adequate quantity and quality of water or adequate water treatment.

Ensures assigned programs are conducted to ensure compliance with applicable state and federal laws and regulations.

Presents talks to lay and professional groups to promote environmental/health issues.

Attends meetings of associations and organizations on environmental/health issues to participate as a representative of the agency.

KNOWLEDGE, SKILLS, AND ABILITIES REQUIRED: (These are needed to perform the work assigned.)

Knowledge of: the engineering principles, practices, and techniques associated with the assigned work; general management principles, techniques, and methods such as personnel and organizational management, budgeting, and employee supervision; state and federal laws and regulations associated with the assigned work; current literature, trends, developments, and practices associated with the assigned work; employing agency budgetary and fiscal policies, procedures, and practices.

Ability to: communicate ideas, concepts, regulations, practices and procedures to present, persuade, negotiate, or defend decisions and actions; make clear and convincing group presentations; listen to others and facilitate exchange of information; develop and revise policies and standards to carry out work objectives properly, safely, and cost effectively; establish program objectives and performance goals to utilize available resources, meet division and agency goals, and comply with state and federal requirements; lead others and foster cooperation as a team; anticipate and act before being required by events; improve personal and assigned employees' performance; counsel and offer employees career enrichment and satisfaction; coordinate and integrate the activities of diverse work units and employees/contractors; interact with members of the public, elected and appointed officials, public interest group representatives, contractors, consultants, and agency employees at all levels within the organization; project a professional image and provide leadership; perform responsibilities with high ethical and professional standards.

MINIMUM QUALIFICATIONS: (Applicants will be screened for possession of these qualifications. Applicants who need accommodation in the selection process should request this in advance.)

Bachelor's degree in an engineering discipline and two years of experience performing professional level engineering assignments. Must possess a Professional Engineer (P.E.) license at the time of application and be licensed by the Nebraska Board of Engineers and Architects at time of employment or be able to obtain such license within 90 days of employment.

SPECIAL NOTES APPLICABLE TO ALL LEVELS:

Supplemental pre-employment educational and work history may be required for specific positions assigned to this class series.

Bachelor's degrees outside of the United States must be ABET accredited at the time of application. Will also consider applicants with a Master's degree or PhD in Engineering from an ABET accredited institution in the United States.

Specific positions may require an academic degree and/or professional license in a discipline of engineering. Recognized engineering fields include but are not limited to environmental, agricultural, chemical, civil, electrical, hydrologic, hydraulic, industrial, mechanical, and structural.

State agencies are responsible to evaluate each of their positions to determine their individual overtime eligibility status as required by the Fair Labor Standards Act (FLSA).

Established: 07/2021

Note: Classification-specification is subject to change. Please refer to the Nebraska State Personnel Job Specification website at <https://das.nebraska.gov/personnel/classcomp/jobspecs/jobspecs.html> to ensure this represents the most current copy of the description.

The following is a summary of changes made to this class specification.

Section	Change Description	Effective Date