

Hydrogeologist 4

CLASS DESCRIPTION

General Responsibilities:

This is advanced-level professional hydrogeological work performed in the office and/or field for the Engineering Division. In addition to the duties performed by a Hydrogeologist 3, this position include preparing advanced hydrogeological reports for DNR submittal, advanced project management, and exhibiting a high degree of independence and professional expertise. Incumbents must possess a Professional Geologist or Professional Hydrologist license. Assignments are received from a Principal Civil Engineer or supervisor and typically involve formal submissions to the Wisconsin DNR or other agencies for review. The work is characterized by the exercise of technical and professional knowledge, the broader application of professional expertise and proficiency, and requires a high degree of independence, judgement and discretion.

This series is structured to provide advancement from Hydrogeologist 1 to Hydrogeologist 2, as a function of the employee's career development, but generally at most within two years of starting employment as a Hydrogeologist 1. Progression to a Hydrogeologist 3 and 4 is not automatic, but rather is dependent upon the incumbent taking on additional duties and responsibilities as well as the needs of the department.

Examples of Duties and Responsibilities:

Hydrogeologist 1

Supervise the collection of landfill groundwater, leachate, and gas data; conduct data quality control, database management, and data evaluation/analysis; prepare DNR-required reports for landfill groundwater, leachate, and gas submittals; manage communication with the DNR for all landfill-related requests.

Perform site investigations to evaluate geologic, hydrogeologic, contaminant, and other environmental impacts on: City public works projects (e.g. landfills, stormwater ponds, building demolitions, and road reconstructions); on City-owned property; and for City operations.

Apply hydrogeological and chemical principles to project present and future impacts of water, groundwater, and soil contaminants; determine appropriate investigation and clean up techniques for contaminant sites and incidents.

Supervise well drilling crews and consultants (under contract with the City). Prepare boring logs and related reports, with final approval by a Principal Engineer. Maintain adequate sampling bottles and equipment for unexpected contaminant events.

Perform data quality control, data management, and data analysis for technical site summary reports and submit to WDNR as required.

Solicit bids and hire consultants under City contract to conduct Phase 1 environmental site assessments (ESAs), Phase 2 ESAs, and site investigations for City real estate transactions and for City-managed environmental clean-ups. Perform project management on City environmental clean-ups, including managing the logistics of State reimbursement programs.

Review annual Transportation Improvement Map to identify potential contaminant concerns for upcoming public works projects. Prepare public works specifications for addressing soil and/or groundwater contamination on public works projects.

Review plats, CMSs, and conditional use permits for potential contaminant concerns impacting City right-of-way or public dedications.

Make recommendations concerning City policies and procedures relating to public works projects, property acquisitions, underground storage tank management, public waste oil collection sites, surface and groundwater quality, and City operations. Recommend new/revised policies and procedures as necessary.

Manage the City's nonmetallic mine program, including annual DNR reporting, site inspections, and communication with the public.

Perform related work as required.

Hydrogeologist 2

Perform all work of a Hydrogeologist 1 with greater professional expertise and responsibility for the completion of major project components.

Provide technical assistance in the establishment and maintenance of landfill groundwater, leachate, and gas sampling and monitoring procedures, tolerances, and other related activities.

Oversee annual landfill monitoring budget and manage City contracts with laboratories and field sampling staff.

Prepare Phase 1 and 2 environmental site assessments in-house for City construction and real estate transactions. Serve as field geologist for Phase 2 subsurface investigations.

Perform related work as required.

Hydrogeologist 3

Perform all work of a Hydrogeologist 2 with increased professional expertise, independent responsibility for the completion of major project components and emphasis on project leadership and management.

Conduct periodic analysis of landfill gas, leachate, and groundwater monitoring data and networks. Prepare landfill monitoring plan modification requests for WDNR review.

Participate as a technical advisor in cleanup negotiations.

Attend public hearings and informational meetings to answer questions from the public, contractors, developers, alders, etc.

Apply for and manage logistics of USEPA and WDNR grants to fund environmental due diligence activities and site investigations on City-owned property.

Perform related work as required.

Hydrogeologist 4

Perform all work of a Hydrogeologist 3 with increased professional expertise, independent responsibility for the completion of major project components, and emphasis on project leadership and management.

Prepare advanced hydrogeological plans and reports of City-owned landfills that require a Professional Geologist stamp.

Serve as an expert witness in courts of law.

Perform related work as required.

QUALIFICATIONS

Knowledge, Skills and Abilities:

Thorough knowledge of geological, hydrogeologic, and environmental aspects of water, groundwater, and soil contamination. Thorough knowledge of hydrogeologic, chemical and engineering principles controlling the fate, transport and cleanup of contaminants in the environment from land application/waste disposal, spills, and/or unauthorized waste disposal. Thorough knowledge of environmental monitoring and sampling techniques. Thorough knowledge of State and Federal groundwater and soil quality standards. Thorough knowledge of State and Federal reporting and cleanup procedures/processes. Thorough knowledge of computer modeling and use of a Geographic Information System (GIS). Thorough knowledge of landfill management practices including gas migration control systems, leachate extraction systems, and related operational and maintenance considerations. Thorough knowledge of and ability to use computer software applicable to the duties of the position. Ability to prepare technical reports for submission to State and Federal agencies. Ability to coordinate technical data collection and investigation activities. Ability to communicate effectively, both orally and in writing. Ability to establish and maintain effective working relationships with staff, other agencies, contractors, Department of Natural Resources staff, and the public. Ability to speak before large groups and answer technical questions. Ability to collect, perform quality control, manage, and analyze environmental data. Ability to oversee and manage budgets and contracts. Ability to testify at court proceedings. Ability to maintain adequate attendance.

Training and Experience:

Generally, positions in this classification will require:

Two years of professional hydrogeological experience equivalent to that gained at the Hydrogeologist 3 level with the City of Madison. Such experience would normally be gained after acquiring a bachelor's degree with a major in geology, hydrogeology, environmental engineering, geosciences, environmental science, or a closely related scientific field which meets the standards established by Wisconsin Administrative Code Section 712.03(1). Other

combinations of training and/or experience which can be demonstrated to meet State standards and result in the knowledge, skills and abilities necessary to perform the duties of the position will also be considered.

Specific training and experience requirements will be established at the time of recruitment.

Necessary Special Qualifications:

Ability to meet the transportation requirements of this position. Ability to attend meetings and provide presentations outside the normal work schedule, including evenings and weekends.

Registration as a Professional Geologist or Professional Hydrologist in the State of Wisconsin upon appointment.

Physical Requirements:

This position requires some work outdoors in all types of weather. The incumbent will be expected to be physically capable to visit sites and perform field work outdoors. Ability on occasion to lift coolers filled with ice.

Department/Division	Comp. Group	Range
Public Works/Engineering	18	12

Approved: _____
Brad Wirtz
Human Resources Director

Date