

TECHNICAL AIDE

KIND AND LEVEL OF WORK

This is routine and elementary work in support of a technical program in the engineering and related fields.

Employees of this class act as rodmen and chainmen with survey crews, provide assistance in placing, maintaining and taking readings from various installations, assist with the performance of routine materials testing, do simple sketching, data simplification and other related manual or elementary technical support work.

TYPICAL DUTIES

Rods and chains during preliminary and construction surveys including slashing ice and snow removal and staking.

Assists in vehicle and equipment maintenance.

May assist with survey note reduction; calculations of quantities, and preparation of preliminary sketches and drafts of profiles, cross-sections or similar projects.

Provides assistance to technicians engaged in materials testing.

Assists in monitoring installations at wells, rivers, lakes and for snow and soil sampling.

EDUCATION AND EXPERIENCE

Completion of the twelfth school grade, or an equivalent combination of education and experience.

NOTE: Experience in this class is a common mode of entry into the instrument man class embodied in the Technologist "Survey" sub-group. Some incumbents, therefore, will be expected to gain familiarity with the operation of the transit and level, and to assist with the less complex calculations.

TECHNOLOGIST II

CLASS DEFINITION

This is technical work of moderate complexity. Some employees of this class perform advanced work in the fields of cartography, aerial photo interpretation, materials testing and other types of work for which training is received at the Technologist I level and which encompasses scope for increasing complexity and variety in the work assignments or which requires the acquisition of considerable expertise, dexterity and skill. Work is performed with minimal oversight, except when new or unusual situations are encountered. Other employees of this class perform beginning level assignments in work disciplines which require the application of principles of physics, mathematics and related physical sciences to the solution of technical problems. Initially, assignments of this nature are performed under the close supervision of a senior technologist or a professional employee. Work is performed within the confines of departmental policy and incumbents are guided by precedent and standard practice. Graduation from an Institute of Technology in a field related to the work assignment, or vocational or high school graduation supplemented by courses related to the position assignment and two years of directly applicable experience.

sup. rec

skilled
guidance

sup. rec

guidance

CLASS CHARACTERISTICSAerial Photo Interpretation

Employees of this category perform moderately complex technical work in gridding and interpreting aerial photographs. They either interpret and grid aerial photographs for the preparation of detailed forest cover maps and access road plans, or interpret aerial photographs for the purpose of identifying geomorphic and topographic features of the earth's surface. Work assignments involve estimating and classifying timber volumes for land disposition, assessing topographic features for land use, producing erosion hazard maps, preparing route locations and performing other assigned duties related to aerial photo interpretation.

Cartography

The work of this sub-group differs from that of the corresponding kind in the previous class by the greater variety and complexity of assignments performed. Employees are fully competent in all phases of map construction, aerial photo interpretation, stereoplotting, and cartographic and topographic drafting. The work encompasses such functions as drafting, scribing, engraving map overlays, colour separation, aerial photo interpretation, photo lay downs, compiling data, and operating various photogrammetric and drafting equipment. Incumbent may exercise limited supervision over

junior employees or check the work of others to ensure conformance to required standards.

Construction Inspection

Employees of this category receive instruction in the techniques of construction inspection by assisting field engineers and technologists. Initial assignments are closely supervised, but as expertise is gained incumbents receive a greater degree of responsibility for ensuring compliance with plans and specifications. Employees compute quantities of payments, carry out survey and quality control tests and perform related tasks to expedite completion of projects.

Drafting

Employees of this category perform technical work of moderate complexity preparing working plans and drawings from sketches, general assemblies and layouts. Incumbents prepare pictorial diagrams such as isometric drawings and perspective, sectional and exploded views of working plans. They clarify detail for the construction of buildings, bridges, highways, dams and other related structures. Incumbents compile plans, specify materials, tolerances, limits, finishes and select standard component parts from catalogues for structure; calculate earth and material quantities, footings and steel reinforcement requirements.

Land Plan Examination

Employees of this category perform technical work of moderate complexity in the preparation of legal descriptions or the examination of survey plans for registration purposes. Incumbents prepare clear, concise and accurate legal descriptions of a variety of dispositions such as notifications, sales, orders-in-council, grazing leases, road allowances, homestead sales, easements and related documents. Incumbents check files, perform searches of titles to ensure that legal descriptions are correct, draft plans, compute boundary lines and parcels of land, and supervise the compilation of mineral files. Other employees of this category examine survey plans such as wellsites, sub-divisions, right-of-ways, pipelines, powerlines, and check distances and areas for accuracy by computing bearings, closures, tie-ins and proof of monuments. Incumbents draft sketches, interpret legal descriptions and ensure compliance with the Alberta Surveys Act and departmental regulations.

Materials Testing

The work of this sub-group differs from that of the corresponding kind within the Technologist I class on the basis of the independence with which analyses are conducted and on the complexity, variety and exactness of the tests performed. These

employees perform the more complex analytical procedures, calibrate and maintain equipment, and provide guidance and assistance to junior technicians. Employees make calculations, prepare reports and assist in demonstrating new equipment and testing techniques.

Soil Logging

Employees of this category perform technical drilling and logging operations to determine the geological characteristics and permeability of soils. They accurately log drill holes to determine the texture, structure, type of soil information, parent material, and other geological characteristics. Incumbents gather disturbed and undisturbed samples during the drilling and logging process for use in laboratory analysis, and classify soils with respect to type, plasticity, gradation, moisture content and degree of disturbances.

Surveying

This sub-group is distinguished from the Technologist I class level on the basis of the complexity, variety, and independence with which surveying functions are performed. Some employees produce land levelling and surface drainage designs, perform topographic surveys, and assist senior officials with land classifications, water rights inspections and related projects. Other employees of this category receive training in conducting legal control, photogrammetric, or engineering design surveys which require the application of mathematical principles. They serve as crew chiefs, inspect work standards, record field notes and compute co-ordinates, bearings closures, curves and related computations. Although initial assignments are closely supervised incumbents work with increasing independence and operate transits, theodolites, geodimeters, levels and related surveying equipments.

Cartographic/Photogrammetric Reproduction

The work of this sub group differs from that of the corresponding kind in the previous class by the greater complexity and variety of assignments performed. In addition to the tasks described in the Technologist I incumbents are fully competent in all specialized reproduction techniques such as aerial photo processing and rectification, and color proofing. These additional processes involve the use of overhead process cameras, computerized exposure units, and line weight variamats. Assignments are carried out independently and are reviewed upon completion for accuracy, quality and adherence to standards. Incumbents may exercise lead hand functions over junior employees.

TECHNOLOGIST III

CLASS DEFINITION

This is complex technical or supervisory work. Some employees of this class perform complex technical work in support of professional programmes primarily in the fields of engineering and architecture. The nature of the work requires the application of principles of mathematics, physics and related sciences in addition to the exercise of mature judgement in carrying out assignments. The duties offer considerable scope for originality and individual initiative. Other positions involve responsible supervisory duties as heads of small work units engaged in moderately complex technical work. Frequent contact and liaison with other branches, departments or the general public are characteristic of supervisory positions although the nature of the contact is such that it does not involve negotiations or the responsibility for securing agreement among work units regarding procedures or priorities. Work assignments are reviewed upon completion for conformance with initial instructions and government policies. Graduation from an institute of technology supplemented by at least two years of related experience; or vocational or high school graduation supplemented by courses related to the position assignment and five years of directly applicable experience.

skills/exp
guidelines

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CLASS CHARACTERISTICSAerial Photo Interpretation

Employees in this work discipline perform supervisory and complex technical work interpreting forest and geomorphic formations. They either assist professional foresters in the preparation of forest stand tables, field tables, forest stereograms and site index curves, or exercise supervision over subordinate staff interpreting and gridding forest cover maps, geomorphic and topographic detail. Incumbents conduct field investigations to check the accuracy of aerial photo interpretation, train new staff, and ensure adequacy of work standards.

Cartography

Employees of this category perform complex technical work and supervise a small number of subordinates engaged in the preparation and construction of planimetric and topographic maps. Incumbents assign work, determine priorities, establish deadlines and assess the capabilities of staff subordinates. They spot check and review completed projects, enforce work standards and give detailed instructions on the uses of equipment. They also perform the more difficult tasks which require a high degree of proficiency in the construction of maps, aerial photo interpretation, stereoplotting,

and topographic and planimetric drafting. Direction is available from senior officials who review finalized projects and approve modified changes.

Construction Inspection

The work of this sub-group differs from the Technologist II class by the greater degree of complexity, the variety of work assignments, and the degree of responsibility for ensuring high standards of work performed. Employees in this category supervise government construction projects of moderate size and complexity under the direction of a resident or district engineer. They conduct preliminary and location surveys, quality control tests and progress inspections; compute quantities of payment; compile monthly contract estimates; and write weekly progress reports. Other employees of this category inspect the fabrication of precast and prestressed bridge units for conformance to drawings and specifications. They compile and record tests and inspection results, and refer major or unusual problems to senior officials.

Drafting

Employees of this category perform complex technical work in the preparation of working plans and drawings. They receive general supervision and have a greater degree of responsibility than incumbents of the former class for completion of assignments which require original and independent action. They prepare layouts, drawings and diagrams of dams, bridges, buildings and highways and other architectural and engineering installations. Incumbents specify materials, limits, tolerances, finishes and production or construction methods. They select from manuals or plans, complimentary component parts to develop finished architectural or engineering plans. Work assignments include the use of tables and manuals to compute material quantities, costs, land capabilities, spiral and parabolic curves, strength and stress limits.

Land Plans Examination

Employees of this category perform complex technical work in the preparation, examination and checking of survey plans and legal descriptions. Incumbents draft accurate and concise legal descriptions of a complex nature as well as perform difficult mathematical checks involving bearings, tie-ins, closures and re-establishment of corners. Work of this nature is distinguished from the previous class by the greater complexity of assignments and the independence of action. Although employees may refer unusual problems to senior officials, it is their responsibility to ensure the accuracy of the description and surveyed plan. Other employees of this group act as lead workers by assisting with the training of new staff, reviewing the mathematical accuracy of the work performed, maintaining standards and performing the complex survey plan

examinations, while others co-ordinate and supervise colouring, plotting, and hand lettering of mineral dispositions, board orders and other forms of lease applications and notifications.

Materials Testing

Employees of this category assist in the overall supervision of a large diversified laboratory, or independently co-ordinate and supervise a medium-sized laboratory operation. Incumbents perform and supervise the execution of tests on cements, soils, water and related materials used in highway, bridge and canal construction. They review mathematical calculations, verify procedures for adherence to quality control standards, calibrate equipment, prepare reports and train new staff in analytical techniques and equipment.

Soil Logging

Employees of this category perform supervisory and complex technical work in the drilling, logging and sampling of soil test holes. Some employees supervise subordinate technicians drilling and logging test holes to 75 feet in depth. They schedule workloads, inspect drilling and logging operations, check volume and accuracy of work, and prepare summaries of reports for senior professional staff. Others perform on-site sampling and test hole drilling in excess of 200 feet in depth involving detailed logging of core, determination of proper sample techniques, intervals and procedures to be used. Incumbents supervise private drillers, maintain records, prepare reports, calibrate and operate Electrologgers and related drilling equipment.

Surveying

Employees of this category perform complex technical work or supervise and co-ordinate field crews engaged in the layout of drainage, irrigation, flood control or land levelling projects. They inspect topographic and construction surveys for quality control; certify contractors and ensure the preparation of profiles, cross sections and survey notes. Other employees of this class perform technical work in support of professional programmes by independently establishing precise ground controls for photogrammetric purposes, creating new survey lines or conducting location surveys for highway routes. They supervise technical subordinates, apply mathematics to the solution of surveying problems and operate varied survey equipment.

Cartographic/Photogrammetric Reproduction

Employees of this category perform complex technical work and supervise a small number of subordinates engaged in cartographic or photogrammetric reproduction. Incumbents assign work with regard to priorities, complexity and production deadlines and evaluate the

performance of staff subordinates. They co-ordinate the work flow within unit and ensure quality control by plotting density curves, monitoring chemical composition, and review work for conformity to standards. Incumbents provide routine maintenance and repairs to equipment. Special projects or unusual requests which do not fall within established policy guidelines are referred to supervisors.

TECHNOLOGIST IV

CLASS DEFINITION

This is advanced technical and supervisory work. Employees of this class perform highly complex technical work. Assignments embody a variety of duties, requiring the integration of several disciplines within a work function or involve indepth analysis and highly complex computations. Projects to which these employees are assigned are usually of large multi-phase character, or, if of a smaller degree, will include a variety of projects each having different characteristics. Scope for independence and for judgement is allowed in planning and completing assignments within stated objectives and policies. Many of these employees must co-ordinate their projects with supervisory technical and professional staff and participate in determining work methods and priorities. Supervision is exercised over a small number of technologists engaged in complex technical work or a relatively larger group engaged in technical work of lesser complexity. Supervision may also be exercised over contractors and their staffs employed on government projects. Guidance is available periodically, or, as required when unusual problems are encountered. Final work is subject to review for overall adequacy and for conformance to guidelines and policy. Graduation from a recognized institute of technology supplemented by a minimum of five years of experience or vocational or high school graduation supplemented by courses related to the position assignment, and considerable directly applicable experience.

CLASS CHARACTERISTICSCartography

Employees of this category perform advanced technical and supervisory work. They co-ordinate and supervise various units engaged in the interpretation and transfer of ground and aerial survey information onto planimetric and topographic maps. Incumbents plan production methods, assess work loads, assign work to unit supervisors, discuss problems encountered, and ensure that adequate standards of work are maintained. Employees perform advanced mathematical calculations, study new technical methods, procedures and equipment, conduct preliminary training programs, and maintain correspondence with interested parties.

Construction Inspection

Employees of this category perform advanced technical work in supervising complex field construction or maintenance projects under contract or by government forces. They co-ordinate and supervise survey crews and materials inspectors engaged in monitoring the activities of construction crews. Work of this sub-group is

distinguished from that of the corresponding kind in the former class by the greater size and complexity of projects for which the employee is responsible. Employees supervise complex projects of a multi-phase character or co-ordinate and supervise several projects of lesser complexity. They are responsible for material testing, quality control and work standards, and maintain a close check of work-in-progress by determining pay item quantities and compiling and submitting progress and final estimate reports for payment. Guidance and general supervision are received from a district or resident engineer particularly when difficult technical problems arise.

Drafting

Employees of this category perform supervisory and advanced technical drafting work in the preparation and compilation of working drawings and design layouts. They co-ordinate the flow of work by assigning smaller projects or segments of total projects to junior draftsmen, check their work in progress, and review the finished product to ensure that adequate work standards and procedures are maintained. They perform the more difficult drafting and design layouts, determine and write specifications, review and alter existing plans, and calculate complex computations for materials, concrete, reinforcement, stresses, load limits and curvatures. Incumbents work within departmental objectives and policies and refer only major or unusual problems to senior officials or engineers.

Land Plans Examination

Employees of this category perform advanced technical and supervisory work. Incumbents co-ordinate units engaged in the preparation of legal descriptions and the examination and drafting of survey plans. They define work procedures, identify priorities, distribute assignments, and ensure accuracy of work performed. Incumbents conduct technical correspondence, maintain telephone and personal contact with surveyors, engineers, lawyers and the general public. Although instruction as to policy or unusual matters is received from senior officials the incumbents have considerable responsibility for the application of regulations, checking of complex survey plans, and the preparation of legal descriptions.

Materials Testing

Employees of this category supervise and co-ordinate the activities of a large diversified laboratory engaged in materials testing. Incumbents establish work priorities, evaluate new test procedures and exercise supervision over a large number of laboratory subordinates. Employees review of the more complex test results and check computations for adherence to quality control standards and testing procedures. They demonstrate new equipment, maintain inventories and records, and organize in-service training programs.

Cartographic/Photogrammetric Reproduction

Employees of this category perform advanced technical work and supervision over reprographic units including photogrammetric and cartographic reproduction. They plan production methods, assess work loads, assign work to unit supervisors and coordinate projects with other divisions, set and review standards and review new technical methods. Employees are also responsible for the administrative functions such as: ordering materials and supplies, compiling budgets for units, monitoring maintenance agreements.

KIND AND LEVEL OF WORK

This is therapy work performed in an institutional or clinical setting.

Employees of this class assist in the preparation, implementation and supervision of therapy programs of an occupational, or a physio, or a recreational nature for clientele with physical handicaps or mental disabilities. The Therapy Assistant uses his/her originality and initiative within the structured health maintenance and daily life programs under the guidance of a senior therapist. However, in remedial programs, the Therapy Assistant is expected to apply standard techniques and procedures. This class differs from the preceding one in that although employees of this class work within a program framework, considerable independent judgement is exercised in structuring content to suit private interests and capabilities. Supervision is received from senior therapists or nursing personnel who outline work assignments, co-ordinate various aspects of therapy, and evaluate the work to ensure that proper emphasis is given to the client's development.

TYPICAL DUTIES

Leads, instructs and encourages clientele in a program of individual or group activities of an occupational, or physio or recreational nature.

Directs activities in structured health maintenance and daily life programs in occupational, or physio or recreational therapy activities in an institutional or clinical setting.

Encourages participation and co-operation of clientele in various therapy activities.

Accepts responsibility for assigned clientele; sees to their well-being and safety; ensures the program is suited to their needs and capabilities.

Assists in the administration and scoring of routine standardized tests and evaluation procedures under the supervision of a senior therapist.

Consults with a senior therapist or nursing personnel in the selection of remedial program activities to meet the client's treatment needs and interests.

Completes clinical reports on client's progress and makes recommendations to a senior therapist or nursing personnel on participation in various activities required to improve the client's condition.

Co-ordinates and accompanies clientele to various therapy activities.

Assists in cleaning and maintaining therapy facilities, including equipment, supplies and activity areas.

Supervises conduct of clientele; acts as counsellor on minor problems.

Performs related work as required.

EXPERIENCE AND EDUCATION

Some experience in therapeutic work in an institutional or clinical setting; completion of the twelfth school grade supplemented by courses in a field related to the position assignment; or an equivalent combination of experience and education.