



BEAHR
LEARNING INSTITUTE



NATIONAL OCCUPATIONAL
STANDARDS FOR SOLID WASTE
COORDINATORS

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SOLID WASTE MANAGEMENT

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Job Definition: Solid Waste Coordinator

For the purposes of these standards, the following job description was used.

The Solid Waste Coordinator is responsible for the management of household and commercial waste in Aboriginal communities. Areas of responsibility may include (but are not limited to):

- collection
- disposal
- waste diversion processes, such as:
 - reduction
 - re-use
 - recycling
 - composting
- community education

This position typically reports to management and/or Band Council. The coordinator assists in the development and implementation of a waste management plan, and recommends standards, policies, and by-laws when applicable. The coordinator assists in the design and implementation of a community education and promotion program for waste reduction.

The individual in this position may also coordinate staff and contractors. He or she helps to ensure that waste facilities and operations reflect the interests of the community and comply with environmental protection requirements. The coordinator also ensures cost-effective operations, and promotes effective practices for waste management and reduction.

How Standards are Read

Each standard is grouped into four sections:

1. Major category: identifies a general area of related competencies (knowledge, skills, and/or attributes) required in the occupation.

In the following example, the major category is **D. Administrative Skills**.

2. Competency: specific area of knowledge, skill or attribute.

In the following example, the competency is **D.1 Apply knowledge of procurement procedures**.

3. Task or sub-skill: identifies an activity or specific knowledge, skill or attribute within the competency.

In the following example, there are four tasks or sub-skills:

D1.1 Describe procurement procedures

D1.2 Identify needs for contracted services

D1.3 Interpret tender documents and provide input to bid requirements

D1.4 Provide input to bid evaluation

Note: when the words “describe” and “explain” are used in these standards, they refer to having sufficient knowledge and understanding to be able to describe or explain the subject. In the example above, the job incumbent must have sufficient knowledge of procurement procedures to be able to describe them.

4. Details of the task or sub-skill: identifies how the sub-skill can be achieved, or provides details or examples to clarify the knowledge, skill or attribute.

In the following example, these details are provided for the first sub-skill **D1.1 Describe procurement procedures**:

- a) When tendering is required
- b) Bidding procedures when a tender is not required
- c) Tendering procedures
- d) Elements of a Request for Proposal (RFP)

EXAMPLE

D. ADMINISTRATIVE SKILLS

D.1 APPLY KNOWLEDGE OF PROCUREMENT PROCEDURES

- D.1.1 describe procurement procedures
 - a) when tendering is required
 - b) bidding procedures when a tender is not required
 - c) tendering procedures
 - d) elements of a Request for Proposal (RFP)
- D.1.2 identify needs for contracted services,
 - a) collection
 - b) processing
 - c) sorting
 - d) composting and other waste diversion activities
 - e) transport of recyclable materials
- D.1.3 interpret tender documents and provide input to bid requirements
 - a) describe services and criteria to be included in tender documents
 - b) identify level of effort and cost range for contracted services
 - c) describe factors that may be required as pre-qualifications for bidders and for developing a list of potential suppliers
 - d) describe criteria to be considered when evaluating bids
 - e) provide advice on technical elements of RFP
- D.1.4 provide input to bid evaluation
 - a) interpret and evaluate technical elements of proposals

**NATIONAL OCCUPATIONAL
STANDARDS
FOR
SOLID WASTE MANAGEMENT**

SOLID WASTE MANAGEMENT

A. RESPECT LOCAL AND COMMUNITY KNOWLEDGE AND WAYS OF LIFE

A.1 UNDERSTAND HOW APPROACHES TO ENSURING LOCAL AND COMMUNITY KNOWLEDGE INFORM WASTE MANAGEMENT DECISIONS

A.1.1 respect protocols for speaking and interacting with Elders, community members, and Band Council members

- a) describe local governance structures, including:
 - Band Council
 - Clans
- b) identify influential/knowledgeable community members, for example:
 - Elders
 - Chief and Council
 - influential community members
- c) recognize communication protocols and ways of speaking with Elders and other community members
 - respect their insights
 - respect their use of language, translate where needed, and do not use jargon
 - understand the meaning and importance of gestures
 - demonstrate patience
 - don't always expect a direct answer

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A.1.2 respect local and community codes of ethics, traditional law, and ways of sharing knowledge

- a) understand how our actions today have long term effects
- b) understand that we need guidance from our tradition
- c) identify and respect local cultural protocols and traditions, for example:
 - giving gifts
 - introductions

SOLID WASTE MANAGEMENT

A. RESPECT LOCAL AND COMMUNITY KNOWLEDGE AND WAYS OF LIFE

A.1 UNDERSTAND HOW APPROACHES TO ENSURING LOCAL AND COMMUNITY KNOWLEDGE INFORM WASTE MANAGEMENT DECISIONS

- d) respect ancestral teachings
- e) be aware of the many generations of history, as well as the future impacts of what we do now
- f) understand ways of sharing knowledge instead of getting information
- g) recognize the place of ceremonies; be willing to participate if invited
- h) understand variations in protocol in different communities

SOLID WASTE MANAGEMENT

A. RESPECT LOCAL AND COMMUNITY KNOWLEDGE AND WAYS OF LIFE

A.2 IDENTIFY LOCAL KNOWLEDGE THAT MUST BE CONSIDERED IN MAKING DECISIONS AND CARRYING OUT OPERATIONS

A.2.1 identify local knowledge about water ways and land features

- a) identify types of land features, e.g., valleys, mountains, wetlands
 - b) identify types of water bodies and sources, e.g., rivers, creeks, lakes, ground water
 - c) identify how land features and water sources may be affected by waste management facilities and processes, for example:
 - contamination from leachate runoff
 - diversion of water sources
-

A.2.2 identify local knowledge about vegetation and wildlife

- a) identify knowledge about local vegetation, fish and wildlife
 - major species and habitats
 - cultural significance
 - endangered and at-risk species
 - b) describe how local vegetation, fish and wildlife may be affected by waste management facilities and processes
 - effects on habitat
 - effects of toxic substances
-

A.2.3 identify local knowledge about history, heritage and archaeology

- a) describe historical land and water use, including location of:
 - travel and migration routes
 - land and water-use sites, e.g., sacred sites, burial grounds, archaeological sites, meeting sites, camp sites, lookouts
 - b) describe how local heritage sites may be affected by waste management facilities and processes
 - siting of landfills and other facilities
 - collection routes
-

SOLID WASTE MANAGEMENT

A. RESPECT LOCAL AND COMMUNITY KNOWLEDGE AND WAYS OF LIFE

A.2 IDENTIFY LOCAL KNOWLEDGE THAT MUST BE CONSIDERED IN MAKING DECISIONS AND CARRYING OUT OPERATIONS

A.2.4 identify local knowledge about culture, including cultural uses of the land

- a) identify knowledge about local culture and community
 - identify clan structures and roles
 - identify community events
 - identify cultural and common place names
- b) identify knowledge about local activities, for example:
 - resource harvesting and gathering activities, e.g., berry picking, fishing, hunting, trapping, medicinal uses
 - gathering materials for arts and crafts
- c) identify planned future land and water use, as reflected in community plans, government plans, and industry plans
- d) describe how waste management facilities and processes may affect cultural uses of the land, e.g. siting of facilities, leachate run-off, odours

SOLID WASTE MANAGEMENT

A. RESPECT LOCAL AND COMMUNITY KNOWLEDGE AND WAYS OF LIFE

A.3 IDENTIFY HOW LOCAL AND COMMUNITY KNOWLEDGE AND WAYS OF LIFE INTERACT WITH KNOWLEDGE FROM EXTERNAL SOURCES

A.3.1 identify how local and community knowledge combines with external knowledge for the purposes of making waste management decisions

- a) identify the importance of local knowledge and ways of life in making decisions about waste facilities and processes
- b) identify how results of research studies and environmental assessments provide information pertinent to waste management decisions, for example, effects on:
 - the community's use of land and water
 - resource harvesting, gathering, and other seasonal activities
 - locations of transportation and utility corridors
 - future land use planning, designation, unsettled land claims

A.3.2 liaise between sources of local and community knowledge, and sources of external knowledge (e.g., scientists, regulatory agencies, government)

- a) describe locally relevant ways to bring people together, engage the community, and gain acceptance, such as:
 - organizing community meetings
 - interviews with individuals
 - establishing advisory committees
 - making presentations in schools
 - engaging Elders to speak in the schools and at community meetings and events
 - attending meetings of existing committees or events
 - involving other band staff members, e.g. economic development officers
- b) describe ways of giving knowledge back to the community, for example:
 - transcribing interviews
 - videotaping interviews
 - developing community capacity through training, job creation
- c) identify ways to conduct research to acquire local knowledge, for example:
 - review maps

SOLID WASTE MANAGEMENT

A. RESPECT LOCAL AND COMMUNITY KNOWLEDGE AND WAYS OF LIFE

A.3 IDENTIFY HOW LOCAL AND COMMUNITY KNOWLEDGE AND WAYS OF LIFE INTERACT WITH KNOWLEDGE FROM EXTERNAL SOURCES

- one-on-one interviews
- d) obtain information from government departments, agencies, special interest groups, and research institutions
- e) use local library and internet resources
 - identify ways to help external individuals (e.g., consultants, and government representatives) interact with members of the community
 - explain protocols
 - explain culture and values
 - identify local vocabulary for technical words
 - respect the local political environment and decision-making processes

SOLID WASTE MANAGEMENT

B. PLANNING AND DEVELOPMENT SKILLS **B.1 COORDINATE AND PROVIDE INPUT ON PLANS, PROGRAMS, POLICIES AND DECISIONS**

B.1.1 describe the planning and policy-setting process in the local context

- a) describe planning steps and inputs to the planning process
 - long-term and short-term goals, objectives and targets
 - who needs to be involved for decision-making or input
 - expertise and information needed
 - environmental
 - technical
 - information on waste volume, composition, generators
 - legal requirements and standards
 - resources
- b) describe the local political, administrative, and decision-making structure
 - describe the roles and authority of Band Council and management
 - describe band committees and structures that must provide input or make decisions
 - describe where waste management fits into the organizational structure
 - identify local and cultural influences on decisions
 - describe the importance of engaging local communities, residents, and businesses, both informally and formally
 - identify external influences on decisions, e.g. which jurisdictional authority applies
 - describe protocols for interacting with external organizations and authorities
 - describe relevant provisions of legislation and legal agreements, and how they impact decision-making
 - The Indian Act
 - treaties and/or land claim agreements

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B.1.2 ensure that community concerns and values are reflected in decisions

- a) identify ways to engage the community and get input, for example:
 - open houses
 - community meetings

SOLID WASTE MANAGEMENT

B. PLANNING AND DEVELOPMENT SKILLS

B.1 COORDINATE AND PROVIDE INPUT ON PLANS, PROGRAMS, POLICIES AND DECISIONS

- advisory committees
- one-on-one interviews
- b) capture, document and synthesize community input so it can be incorporated into the planning process

B.1.3 coordinate, and provide input to the development and implementation of the waste management plan

- a) explain the elements of a waste management system, and how they should be integrated in the waste management plan
- b) understand planning documents and technical reports
- c) describe components of waste management plans
 - performance standards and policies
 - legal requirements
 - consider adopting provincial/territorial regulations as standards, even if the land is under federal jurisdiction
 - best practices
 - processes
 - collection
 - diversion
 - disposal
 - facilities
 - resources
 - resource requirements
 - resource sources and opportunities, e.g. government funding
 - revenue generation and economic development
 - shared services
 - community education and communication
- d) coordinate and provide input to the implementation plan, for example, make recommendations on:
 - site selection and/or acquisition
 - engaging contractors and consultants
 - collection and sorting schemes

SOLID WASTE MANAGEMENT

B. PLANNING AND DEVELOPMENT SKILLS

B.1 COORDINATE AND PROVIDE INPUT ON PLANS, PROGRAMS, POLICIES AND DECISIONS

- equipment and technology to achieve plan objectives
- e) develop work plans that build toward long-term goals and objectives, based on available resources

B.1.4 monitor internal and external developments to determine needs for changes to programs and plans

- a) monitor conditions and parameters to determine needed changes in infrastructure, education/communication, and services
 - waste volume and composition
 - contamination indicators, e.g. leachate runoff, toxicity
 - characteristics of recyclable materials
 - landfill capacity
 - population changes
 - economic changes, e.g. new businesses in the community
 - waste diversion participation rates
- b) monitor external developments to consider implications for the plan and performance standards, for example:
 - changes in government, policies and legislation
 - research on environmental and health impacts
 - new technology developments
 - best practices in other jurisdictions
 - markets for recycled materials

B.1.5 capture opportunities for continuous improvement

- a) describe the Planning Cycle, for instance:
 - plan
 - do (implement the plan)
 - check (monitor plan implementation and assess how well it is working)
 - act (make changes to the plan as needed and begin the cycle again)
- b) describe and implement Quality Assurance and Quality Control measures

SOLID WASTE MANAGEMENT

B. PLANNING AND DEVELOPMENT SKILLS

B.1 COORDINATE AND PROVIDE INPUT ON PLANS, PROGRAMS, POLICIES AND DECISIONS

- c) use information from monitoring internal and external developments to make recommendations for changes and improvements to the waste management plan

SOLID WASTE MANAGEMENT

B. PLANNING AND DEVELOPMENT SKILLS

B.2 FACILITATE AND COORDINATE PROJECTS

B.2.1 liaise with consultants, contractors and community members

- a) identify needs for consultants and contractors to develop a waste management plan and to implement the plan
- b) solicit community views on project implementation
- c) represent the community's interests in dealing with consultants and contractors

.....
B.2.2 use coordination skills to ensure projects meet objectives and proceed on time, within budget, and according to specifications

- a) set project objectives, goals and priorities based on the waste management plan and implementation plans
- b) develop work plans and schedules
- c) anticipate and adjust for problems and roadblocks
- d) measure performance against goals and objectives
- e) evaluate results

SOLID WASTE MANAGEMENT

C. TECHNICAL COMPETENCIES

C.1 DESCRIBE WASTE MANAGEMENT EQUIPMENT AND TECHNOLOGY

C.1.1 describe the process of waste disposal, primarily landfill technology

- a) describe the process and chemistry of waste decomposition, for example:
 - effects of oxygen and aeration
 - decomposition by-products
 - b) describe site characteristics including physical and geological aspects, e.g., leachate runoff in relation to soil conditions, proximity to waterways, groundwater
 - c) describe waste composition including organic and inorganic components
-

C.1.2 describe key principles and elements of disposal technology and construction, including:

- a) physical elements such as landfill liners, drains, covers
 - b) necessary heavy equipment, e.g. excavators, compactors
 - c) the use of technology and construction features to mitigate adverse effects of waste decomposition products
 - d) advanced technologies to recover useful properties of the waste stream, for example:
 - bioreactors
 - energy from waste technologies
-

C.1.3 describe collection technology and equipment

- a) describe options for collecting and separating waste, and how they relate to the choice of equipment
 - transfer stations
 - depots
 - source separation
 - mixed collection (single stream)
- b) describe different types of collection equipment (e.g. trucks, packers) and their advantages/disadvantages in relation to the waste management plan's goals and objectives. For example:
 - implications for health and safety of operators, e.g. the potential for injuries from lifting or falling
 - implications for separation of waste components

SOLID WASTE MANAGEMENT

C. TECHNICAL COMPETENCIES

C.1 DESCRIBE WASTE MANAGEMENT EQUIPMENT AND TECHNOLOGY

- capacity for handling waste volumes

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C.1.4 describe waste processing and diversion technology and equipment

- a) Material Recovery Facilities (MRF)
- b) downstream processing and diversion e.g. tires, etc.
- c) sorting facilities
- d) composting facilities
- e) describe advantages and disadvantages of various diversion and processing technologies

.....
C.1.5 describe and apply maintenance procedures for waste management equipment

- a) describe best practices for maintaining equipment in working order
- b) describe importance of maintaining equipment
- c) interpret and apply manufacturer's specifications for operation and maintenance of equipment
- d) consider maintenance costs when selecting equipment, budgeting, and coordinating operations

SOLID WASTE MANAGEMENT

C. TECHNICAL COMPETENCIES

C.2 DESCRIBE AND APPLY COST-EFFECTIVE WASTE MANAGEMENT SYSTEMS, PROCEDURES AND PROCESSES

C.2.1 describe and apply best practices in landfill operation, and application of other disposal technologies

- a) describe and apply measures to minimize generation and the effects of waste decomposition products, for example:
 - leachate control
 - odour control
 - methane generation
 - b) describe and apply measures to prevent contamination by hazardous waste
 - c) describe and apply measures to maximize space, e.g., contours, diversion, control impact of ice and snow, density
-

C.2.2 describe and implement cost-effective collection processes

- a) describe advantages and disadvantages of different collection options including, source collection, transfer stations, self-collection/disposal by residents/businesses
 - b) describe considerations for scheduling and routing collection services
-

C.2.3 describe and apply best practices for waste diversion

- a) describe advantages/disadvantages of waste diversion options
 - product stewardship
 - waste prevention
 - reduction
 - re-use
 - recycling
 - composting
- b) describe and apply measures to maximize waste diversion
 - educate and advocate about reduced packaging
 - composting facilities and/or distribution of composters
 - marketing of recyclable materials
 - community sharing and re-use opportunities, for example:

SOLID WASTE MANAGEMENT

C. TECHNICAL COMPETENCIES

C.2 DESCRIBE AND APPLY COST-EFFECTIVE WASTE MANAGEMENT SYSTEMS, PROCEDURES AND PROCESSES

- days to put out re-usable household items at curbside
 - depots for re-usable items at disposal facilities
 - recovery of re-usable material from construction and demolition sites
-

C.2.4 understand and apply Operational and Maintenance Procedures Manuals

- a) describe procedures that should be addressed in the manual
- b) ensure that the Operational and Maintenance Procedures Manual conforms to the plan and performance standards, for example:
 - engage consultants to write procedures
 - seek guidance from external organizations, e.g. Solid Waste Association of North America (SWANA)
- c) ensure that staff are appropriately trained in using procedures
- d) monitor and evaluate the application of procedures

SOLID WASTE MANAGEMENT

C. TECHNICAL COMPETENCIES

C.3 USE KNOWLEDGE OF WASTE COMPOSITION AND DIVERSION

C.3.1 understand components of waste and options for diversion

- a) describe how to conduct a waste audit
- b) explain diversion options for different components of the waste stream
 - composting
 - re-usable, recyclable materials
- c) describe the relationship between waste volume/composition and infrastructure/service needs, for example:
 - need to open a new landfill cell
 - need to construct a hazardous waste holding facility
 - markets for recycled materials

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C.3.2 stay up to date regarding demand for recyclable materials and other diversion options

- a) research markets and prices for recycled materials
- b) research new technologies for recycling and re-use

.....

C.3.3 describe how different waste stream components can impact the environment and landfill operation

- a) describe how waste decomposition is affected by components of the waste stream and landfill design, for example:
 - inert material such as glass that does not decompose
 - decomposition of organic material
- b) describe decomposition by-products that are toxic or hazardous, for example:
 - methane
 - hydrogen sulphide

.....

C.3.4 describe waste stream components that may be hazardous and measures for preventing adverse impacts on the environment and health

- a) describe hazardous contaminants that may be present, for example:
 - mercury in fluorescent bulbs

SOLID WASTE MANAGEMENT

C. TECHNICAL COMPETENCIES

C.3 USE KNOWLEDGE OF WASTE COMPOSITION AND DIVERSION

- cadmium in batteries
 - solvents in paints and oils
 - radioactive components of smoke detectors
- b) describe measures for preventing hazardous waste from contaminating the general waste stream, for example:
- separate collection or depots
 - community education
 - partnering with other bands or local municipalities for separate hazardous waste disposal facilities

SOLID WASTE MANAGEMENT

C. TECHNICAL COMPETENCIES

C.4 APPLY KNOWLEDGE OF ENVIRONMENTAL AND HEALTH IMPACTS OF WASTE

C.4.1 apply knowledge of the potential impacts of waste processes and technology, waste stream components, and waste decomposition on the environment, including effects on:

- a) land
 - b) vegetation
 - c) air
 - d) groundwater and bodies of water
 - e) wildlife
-

C.4.2 apply knowledge of the potential adverse effects of waste processes and technology, waste stream components, and waste decomposition, on human health and the community, including:

- a) health effects due to direct contact with waste
- b) contaminated air, soil or water
- c) irritation effects, including noise and odour
- d) interference with personal or community activities

SOLID WASTE MANAGEMENT

C. TECHNICAL COMPETENCIES

C.5 APPLY KNOWLEDGE OF COMPLIANCE REQUIREMENTS

- C.5.1 understand and apply knowledge of relevant regulations, policies, standards and best practices
- a) describe Canadian jurisdictional authorities and how to determine which applies in a given situation
 - federal jurisdiction applies to Aboriginal lands
 - provincial/territorial jurisdiction may apply to other lands and facilities
 - band and local by-laws may apply to different Aboriginal lands and facilities
 - b) describe applicable federal environmental protection legislation, e.g. Canadian Environmental Assessment Act, Canadian Environmental Protection Act
 - c) describe applicable treaty and Aboriginal rights and associated legislation, e.g. Indian Act, land claims
 - d) describe applicable provincial/territorial and local by-laws and legislation
 - e) describe provincial/territorial legislation, policies or standards that may not be legally required, but would be desirable to adopt as standards or guidelines, for example:
 - Environmental Assessment and Protection Acts
 - waste reduction or diversion standards
 - standards for landfill operation
 - hazardous waste requirements
 - f) apply knowledge of best practices, policies and standards from other jurisdictions
 - research developments in other jurisdictions
 - recommend whether best practices, policies and standards from other jurisdictions should be adopted
 - g) seek out and stay abreast of information on new policies, standards, regulations, and best practices
-
- C.5.2 describe, interpret, and apply environmental site assessment, approvals and permitting requirements
- a) describe applicable environmental site assessment processes for siting a landfill or other waste management facility
 - b) obtain required approvals and permits
 - c) interpret and apply provisions of approvals and permits
-

SOLID WASTE MANAGEMENT

C. TECHNICAL COMPETENCIES

C.5 APPLY KNOWLEDGE OF COMPLIANCE REQUIREMENTS

- C.5.3 describe methods for testing and sampling, and ensure they are carried out to monitor impacts of waste management processes
- a) describe parameters and indicators used to measure compliance with performance standards, for example:
 - leachate composition
 - levels of contaminants in waste, soil, air and water
 - b) describe sampling and testing protocols and ensure that they are carried out according to standards
 - describe methods and equipment used for taking air, water and soil samples
 - describe information that must be recorded when samples are taken
 - describe required qualifications for laboratories conducting sample analysis
 - describe sampling quality assurance and control measures
 - describe chain of custody procedures
-

- C.5.4 take action to ensure compliance with performance standards
- a) interpret results of monitoring and testing to determine compliance with performance standards
 - b) conduct audits of waste management facilities and operations to assess whether they meet standards
 - c) report results of audits, monitoring and testing, along with interpretation as to whether they meet performance standards
 - d) where non-compliance with standards is identified, recommend or take action to bring performance into compliance, for example through:
 - education and communications
 - changes in equipment and technology
 - improvements in operating procedures
 - staffing changes or increases to enforce bans of materials from landfills
 - incentives, rewards or penalties

SOLID WASTE MANAGEMENT

C. TECHNICAL COMPETENCIES

C.6 BUILD HEALTH AND SAFETY INTO ALL ASPECTS OF WASTE MANAGEMENT

- C.6.1 describe and comply with legal requirements for health and safety, including:
- a) health and safety requirements of the Canada Labour Code or applicable provincial/territorial Occupational Health and Safety Act
 - b) requirements of applicable workers' compensation legislation
 - c) transportation of Dangerous Goods requirements
-

- C.6.2 develop and apply a health and safety system, program and plan to ensure all facilities follow health and safety regulations and best practices, including:
- a) health and safety audits,
 - b) health and safety requirements in agreements with contractors
 - c) standard operating procedures
-

- C.6.3 demonstrate, promote and motivate healthy and safe practices, for example:
- a) establish and uphold health and safety accountabilities for management and workers
 - b) lead by example in demonstrating healthy and safe practices
-

- C.6.4 ensure that everyone is aware of health and safety rights and responsibilities, including:
- a) managers' and supervisors' duties to inform workers about hazards and safe work practices
 - b) major rights of workers
 - the right to know about workplace hazards
 - the right to participate in making the workplace safe
 - the right to refuse unsafe work
-

SOLID WASTE MANAGEMENT

C. TECHNICAL COMPETENCIES

C.6 BUILD HEALTH AND SAFETY INTO ALL ASPECTS OF WASTE MANAGEMENT

- C.6.5 ensure that all employees receive effective, practical, and relevant health and safety training, including where applicable:
- a) Workplace Hazardous Materials Information Systems (WHMIS),
 - b) Transportation of Dangerous Goods (TDG),
 - c) safety orientation for new workers before they start work
 - d) first aid training as required by applicable regulations
 - e) task-specific safety training, such as machinery safety, confined space, fall protection, safe driving

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- C.6.6 describe hazards associated with waste management operations, and take measures to control risks to workers and the public
- a) identify hazards associated with waste management activities
 - physical agents, e.g. noise, vibration, heat stress
 - biological agents, e.g. infections from bacteria and viruses
 - chemical agents, e.g. those encountered in hazardous waste or waste decomposition products such as hydrogen sulphide
 - hazards that may cause musculoskeletal injuries, e.g. from poor ergonomic conditions during material handling
 - safety hazards, e.g. falls, confined space entry, machinery, driving vehicles on work sites and on public roads
 - fire and explosion hazards, e.g. from methane in landfill
 - b) describe and apply measures to control exposure to workplace hazards, including:
 - engineering controls, e.g. substitution, enclosure, machine guarding, ventilation
 - administrative practices such as restricting the duration of a worker's exposure
 - personal protective equipment, e.g. safety boots, gloves, hard hats, hearing protection, respirators
 - vehicle safety and maintenance practices

-
- C.6.7 describe, develop, and apply emergency planning and response measures
- a) describe emergency situations that should be anticipated when developing emergency response measures, e.g. fires, explosions, chemical spills

SOLID WASTE MANAGEMENT

C. TECHNICAL COMPETENCIES

C.6 BUILD HEALTH AND SAFETY INTO ALL ASPECTS OF WASTE MANAGEMENT

- b) describe elements of an emergency response plan, including:
 - alarm systems
 - emergency contacts
 - rescue equipment and procedures
 - escape routes
 - back-up systems
- c) hold regular emergency drills

SOLID WASTE MANAGEMENT

D. ADMINISTRATIVE SKILLS

D.1 APPLY KNOWLEDGE OF PROCUREMENT PROCEDURES

D.1.1 describe procurement procedures

- a) when tendering is required
 - b) bidding procedures when a tender is not required
 - c) tendering procedures
 - d) elements of a Request for Proposal (RFP)
-

D.1.2 identify needs for contracted services such as:

- a) collection
 - b) processing
 - c) sorting
 - d) composting and other waste diversion activities
 - e) transport of recyclable materials
-

D.1.3 interpret tender documents and provide input to bid requirements

- a) describe services and criteria to be included in tender documents
 - b) identify level of effort and cost range for contracted services
 - c) describe factors that may be required as pre-qualifications for bidders and for developing a list of potential suppliers
 - d) describe criteria to be considered when evaluating bids
 - e) provide advice on technical elements of an RFP
-

D.1.4 provide input to bid evaluation

- a) interpret and evaluate technical elements of proposals

SOLID WASTE MANAGEMENT

D. ADMINISTRATIVE SKILLS

D.2 COORDINATE CONTACTS

D.2.1 provide input on provisions of contract

- a) describe elements of service contracts
- b) describe procedures for accountable management of contracts
- c) ensure appropriate insurance/liability/legal provisions, for example:
 - workers' compensation clearance certificates
 - liability insurance
 - certificates (trade, technical, professional designation)
- d) provide advice on technical elements of contracts
- e) provide for third-party evaluation of contractor

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D.2.2 ensure that contractors comply with contract requirements

- a) describe elements of effective contract management
 - quality of service
 - financial accountability
 - adhering to schedules and timelines
- b) describe protocols for termination of contract

SOLID WASTE MANAGEMENT

D. ADMINISTRATIVE SKILLS

D.3 COORDINATE HUMAN RESOURCES

D.3.1 describe skills needed for waste management functions

- a) identify responsibilities and tasks to be performed
 - b) identify skills and competencies needed to perform tasks
 - c) define job titles and develop job descriptions
 - d) identify staff certifications needed to fulfill legal requirements, and conduct waste management operations
 - describe regulatory requirements for staff certification, for example:
 - equipment and drivers' licenses
 - hazardous materials training
 - describe non-regulated options for staff certification and training
-

D.3.2 describe options to ensure waste management functions are performed

- a) describe different types of service or staffing arrangements: contracting, permanent full-time employment, part-time, temporary, casual or contract employment
 - b) describe advantages and disadvantages of different options for service or staffing in relation to community values and objectives, for example:
 - development of community capacity
 - financial efficiency
-

D.3.3 identify training needs and ensure they are met

- a) compare required skills and competencies to those that are currently possessed by staff or contractors, for example, through:
 - needs assessment surveys
 - interviews with consultants, contractors, staff
 - b) identify and select options for training to fill gaps in skills and competencies
-

D.3.4 coordinate staff engaged in waste operations

- a) clearly assign responsibility for tasks and decisions
- b) set clear objectives and measures
- c) motivate staff and inspire enthusiasm for protecting the environment through effective waste reduction, diversion, and management
- d) describe employers' legal obligations towards employees including, employment standards, human rights, and labour relations requirements

SOLID WASTE MANAGEMENT

D. ADMINISTRATIVE SKILLS

D.3 COORDINATE HUMAN RESOURCES

- e) lead by example
- f) develop community capacity by transferring knowledge and encouraging staff training, development, and advancement
- g) develop succession plans

SOLID WASTE MANAGEMENT

D. ADMINISTRATIVE SKILLS

D.4 HANDLE AND BE ACCOUNTABLE FOR FINANCES

D.4.1 account for revenue and expenditures, for example:

- a) review invoices and recommend payment
 - b) receive and account for payments
-

D.4.2 within level of authority, ensure that operations stay within budget

- a) ensure value for money in purchasing goods and services
 - b) develop work plans based on available resources and the need to maximize cost-effectiveness in waste operations
 - c) take action if expenditures and revenue are projected to deviate from budget
-

D.4.3 perform bookkeeping functions

- a) define basic bookkeeping and accounting terminology and concepts, for example:
 - accounts payable
 - accounts receivable
 - b) follow expense tracking procedures established by Finance Authority
 - c) understand budgets and financial statements
-

D.4.4 provide input on budget-setting

- a) project future resource needs based on historical expenditures and anticipated needs and developments, for example:
 - new equipment or service needs
 - rising human resource costs
 - b) research costs of new or changing resource requirements
-

SOLID WASTE MANAGEMENT

D. ADMINISTRATIVE SKILLS

D.4 HANDLE AND BE ACCOUNTABLE FOR FINANCES

- D.4.5 identify and capture opportunities for cost savings or new revenue sources
- a) make recommendations regarding negotiation and advocacy for increased waste management funding
 - b) stay up-to-date on government funding programs and apply for funds where eligible
 - c) identify and recommend opportunities for revenue generation, for example:
 - providing fee-generating services to businesses, local municipalities, neighbouring bands
 - identifying new markets or better prices for recyclable materials
 - identify opportunities for cost savings and economies of scale through shared services with neighbouring bands or municipalities

SOLID WASTE MANAGEMENT

D. ADMINISTRATIVE SKILLS

D.5 USE COMPUTER SKILLS

D.5.1 use computers and software for common administrative functions

- a) slide presentations
 - b) word processing
 - c) spreadsheets
-

D.5.2 use operational software

- a) financial management
 - b) record keeping
 - c) scheduling
 - d) waste tracking
-

D.5.3 use the internet for communications, promotion, and research

- a) web site
- b) email
- c) research functions

SOLID WASTE MANAGEMENT

D. ADMINISTRATIVE SKILLS

D.6 PREPARE AND MANAGE RECORDS AND DOCUMENTS

D.6.1 ensure forms and documents are completed as required to track operations, human resources, and financial processes

- a) describe requirements for completing operational documents, e.g. waste manifests
 - b) describe requirements for completing human resource documents, e.g. attendance records
 - c) describe requirements for completing financial documents, e.g. records of expenditures
-

D.6.2 describe and apply document retention and management procedures

- a) describe legal requirements for document retention
 - b) describe requirements for ensuring confidentiality, e.g. for human resources documents
 - c) establish and maintain a well-organized filing system
-

D.6.3 prepare reports, letters and other documents necessary for operations

- a) write letters and reports clearly and logically to ensure that the intended message is understood by the reader

SOLID WASTE MANAGEMENT

E. EDUCATION AND COMMUNICATIONS SKILLS

E.1 DEVELOP A COMMUNICATIONS STRATEGY AND PLAN

E.1.1 define your audience and objectives

- a) explain why it is important to understand your audience
 - b) describe characteristics of your audience and implications for how you communicate with them, for example:
 - role in the community
 - language
 - culture
 - c) describe different types of communication objectives that affect how you choose to communicate, including:
 - promotion of beneficial environmental practices
 - communication of procedural requirements
 - persuasion or advocacy
-

E.1.2 develop messaging to meet communication objectives

- a) describe different message styles to achieve different communication objectives, for example:
 - for procedural communications
 - for promotional communications
 - b) explain the importance of checking to be sure that your message is received and understood by the audience
-

E.1.3 identify communication barriers and solutions to overcome them

- a) describe factors that may affect whether your message/mode of communication will be effective with your audience
 - language issues
 - cultural issues
 - b) describe ways of overcoming communication barriers, e.g. use visual communication where language is a barrier
-

E.1.4 identify communication vehicles and channels

- a) describe different communication vehicles and channels, and their advantages/disadvantages for different uses, for example:
 - meetings and presentations in schools or to community groups

SOLID WASTE MANAGEMENT

E. EDUCATION AND COMMUNICATIONS SKILLS

E.1 DEVELOP A COMMUNICATIONS STRATEGY AND PLAN

- community events, such as a bottle drive, Household Hazardous Waste collection day
- web
- print communications
- broadcast media
- letters
- email

SOLID WASTE MANAGEMENT

E. EDUCATION AND COMMUNICATIONS SKILLS

E.2 COMMUNICATE OPERATIONS AND PROCEDURES CLEARLY

E.2.1 clearly communicate directions, procedures, and schedules to staff and contractors

- a) ensure that instructions are clear and understood by your audience
- b) set clear performance expectations and timelines
- c) use a combination of communication methods: written, verbal, visual
- d) recognize and resolve conflicts when appropriate

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E.2.2 communicate to the public about waste disposal and diversion procedures

- a) use language or visual presentations that are understood by the audience
- b) use a variety of channels, e.g. posters, events, meetings, local newspapers or broadcast media
- c) use appropriate protocol

SOLID WASTE MANAGEMENT

E. EDUCATION AND COMMUNICATIONS SKILLS

E.3 DESCRIBE AND APPLY APPROACHES TO ENCOURAGE, PROMOTE, MOTIVATE, AND EDUCATE THE COMMUNITY ABOUT WASTE REDUCTION, DIVERSION AND MANAGEMENT

E.3.1 describe ways to promote and motivate waste reduction and diversion practices

a) describe basic principles and factors that determine the success of efforts to influence social behaviour

- awareness
 - motivation
 - barriers to change
 - attitudes and values
 - cost-benefit concepts
-

E.3.2 describe and apply ways to educate the community about waste reduction, diversion and management, for example:

- a) advertising campaigns
- b) news releases
- c) events, e.g. community exchange days, bottle drive, Household Hazardous Waste Days, composting demonstrations
- d) educational programs, e.g. through schools, community institutions
- e) incentives, prizes
- f) one-on-one discussions
- g) engaging youth
- h) engage Elders and other influential community members to influence others

SOLID WASTE MANAGEMENT

E. EDUCATION AND COMMUNICATIONS SKILLS

E.4 DEMONSTRATE EFFECTIVE LISTENING, VERBAL, VISUAL AND WRITTEN COMMUNICATION SKILLS

E.4.1 demonstrate effective public presentation skills

- a) use visual aids effectively
 - b) plan and practice presentations in advance
 - c) know and respect your audience
 - d) use effective speaking skills
 - speak in appropriate language
 - avoid jargon
 - speak clearly
 - speak at a proper pace
 - demonstrate enthusiasm
 - use vocabulary appropriate to your audience
 - check to see that the message is received and understood
-

E.4.2 give verbal and written reports to council, public works officials, supervisor, committees

- a) present material in a logical, well-ordered manner
 - b) highlight essential information, and provide supplementary information in background material
-

E.4.3 practice positive customer relations

- a) demonstrate tact and patience in explaining procedures and decisions, even if they are unpopular
 - b) speak clearly in words the audience can understand
 - c) respect your audience, even if you disagree with them
 - d) respond to inquiries and requests promptly
 - e) be courteous and helpful
 - f) speak in appropriate language
 - g) check to see that the message is received and understood
-

E.4.4 produce effective written and visual materials

- a) use graphics effectively

SOLID WASTE MANAGEMENT

E. EDUCATION AND COMMUNICATIONS SKILLS

E.4 DEMONSTRATE EFFECTIVE LISTENING, AND VERBAL, VISUAL AND WRITTEN COMMUNICATIONS SKILLS

- b) tailor language and content to the audience
 - c) present materials logically and clearly
 - d) use correct spelling and grammar
-

E.4.5 demonstrate skills in consensus-building and community engagement

- a) provide opportunities for all community members to contribute and voice their opinions
 - b) facilitate community engagement meetings and chair effectively
 - state purpose of meeting clearly
 - plan and stick to agenda and schedule
 - encourage participation by all members
 - summarize areas of consensus and disagreement
-

E.4.6 demonstrate effective listening

- a) display interest in your audience and their opinions
- b) paraphrase or ask questions to demonstrate that you are understanding the other person

SOLID WASTE MANAGEMENT

E. EDUCATION AND COMMUNICATIONS SKILLS

E.5 DEMONSTRATE ADVOCACY AND LIAISON SKILLS

E.5.1 liaise and coordinate with other communities, external agencies, organizations, contractors and suppliers

- a) understand the interests of the other party and the importance of trust
 - b) demonstrate diplomacy while being assertive
 - c) network, e.g.
 - volunteer for committees
 - attend conferences
 - take training
-

E.5.2 represent and advocate for community interests, e.g. with consultants, government representatives

- a) clearly explain the community's perspective and interests when speaking with external parties
 - b) demonstrate commitment to community interests
-

E.5.3 advocate for principles of effective waste management

- a) be assertive and take a principled position
- b) demonstrate commitment and leadership in reducing, diverting, and managing waste effectively

SOLID WASTE MANAGEMENT

F. PERSONAL ATTRIBUTES AND FOUNDATION SKILLS

F.1 DEMONSTRATE POSITIVE PERSONAL ATTRIBUTES AND VALUES

F.1.1 practice ethical behaviour

- a) enforce policies fairly and consistently
- b) establish trust and respect
- c) adhere to standards and policies regarding conflict-of-interest, privacy and confidentiality

.....

F.1.2 acknowledge what you don't know and ask for guidance when you need it

- a) demonstrate self-confidence
- b) have a positive attitude
 - be optimistic
 - be enthusiastic about waste management
 - take setbacks in stride
- c) seek help from others, e.g. seek a mentor

SOLID WASTE MANAGEMENT

F. PERSONAL ATTRIBUTES AND FOUNDATION SKILLS

F.2 DEMONSTRATE CREATIVE THINKING

F.2.1 be forward-thinking by anticipating new developments and needs

F.2.2 be open to new ideas and continuous learning

- a) seek information and ideas to solve problems and enable continuous improvement
 - research information from a variety of sources, e.g. internet, libraries
 - research best practices through contact with other jurisdictions and associations
 - b) keep up to date in the waste management profession
 - participate in professional organizations
 - attend meetings and conferences
 - read professional publications
 - stay in contact with colleagues to learn about new developments
 - c) attend training programs to enhance your knowledge and skills
 - d) learn from experience, especially failures and mistakes
 - e) acknowledge your weaknesses and find ways to improve
-

F.2.3 analyze problems and propose solutions

- a) break a problem down into its parts
 - b) seek new and creative solutions
 - recognize there can be more than one solution to a problem
 - make connections among previously unconnected ideas
 - facilitate effective brainstorming
 - appreciate others' good ideas
 - c) analyze pros and cons of different options
 - d) demonstrate wise judgement
-

F.2.4 demonstrate resourcefulness

- a) find ways to do more with less
 - b) find and capture opportunities to acquire more resources
-

SOLID WASTE MANAGEMENT

F. PERSONAL ATTRIBUTES AND FOUNDATION SKILLS

F.2 DEMONSTRATE CREATIVE THINKING

F.2.5 be flexible and adaptable

- a) be able to function in ambiguous situations or where information is not complete
- b) be able to change plans if circumstances change
- c) develop contingency plans

SOLID WASTE MANAGEMENT

F. PERSONAL ATTRIBUTES AND FOUNDATION SKILLS

F.3 WORK WITH PEOPLE EFFECTIVELY

F.3.1 demonstrate teamwork

- a) respect organizational protocols, e.g. do not by-pass organizational chain
 - b) be open to other people's suggestions and respect differences
 - c) be non-judgemental
 - d) acknowledge efforts and accomplishments of others
 - e) give constructive feedback
 - f) accept constructive feedback graciously
 - g) use humour constructively
 - h) be co-operative
 - i) find common ground
-

F.3.2 demonstrate leadership

- a) be a champion for waste reduction and effective waste management
 - b) motivate staff and community members
 - c) be a role model by demonstrating high standards
 - d) support staff and colleagues
 - e) mentor staff, colleagues and others, and provide guidance
 - f) encourage others to express their ideas and opinions
 - g) be accessible, for example:
 - have coffee or a meal with staff, colleagues
 - share information
 - h) build staff and community capacity
 - encourage staff development, e.g. by taking training programs
 - transfer knowledge
 - encourage job shadowing
 - i) demonstrate commitment to the community, e.g. by volunteering
 - j) do not avoid conflict, but defuse it where possible
 - k) be self-motivated
-

F.3.3 demonstrate tact and sensitivity

- a) demonstrate empathy for people's personal situations

SOLID WASTE MANAGEMENT

F. PERSONAL ATTRIBUTES AND FOUNDATION SKILLS

F.3 WORK WITH PEOPLE EFFECTIVELY

- b) be patient
 - c) be culturally sensitive
-

F.3.4 practice networking

- a) socialize at meetings and conferences
- b) talk to people outside your own work area

SOLID WASTE MANAGEMENT

F. PERSONAL ATTRIBUTES AND FOUNDATION SKILLS

F.4 DEMONSTRATE ORGANIZATIONAL AND WORKPLACE SKILLS

F.4.1 be well-organized

- a) plan and organize procedures and operations
 - break work processes down into component parts
 - assign responsibilities
 - set expectations and schedules
 - b) set priorities
 - c) be able to multi-task
 - d) manage time efficiently
 - e) maintain and organize files, documents and tools so they can be readily retrieved and used
 - f) pay attention to detail and accuracy
-

F.4.2 demonstrate comprehension skills

- a) understand content of documents, for example:
 - plans
 - regulations and standards
 - manuals, technical reports
 - monitoring results
-

F.4.3 demonstrate mechanical knowledge

- a) describe how equipment and machines work
 - b) describe principles of proper equipment maintenance
 - c) ensure equipment is functioning properly and is maintained when needed
-

F.4.4 take responsibility and be accountable

- a) understand what is expected of you and ask for clarification when needed
- b) acknowledge your mistakes
- c) provide others with the information they need
- d) follow through on commitments and schedules, or let others know if this is not possible due to unforeseen circumstances
- e) take initiative and be able to work independently