

Part 1 General

1.1 Summary

- .1 Section Includes.
 - .1 Methods and procedures for demolishing, salvaging, recycling and removing sitework items designated to be removed in whole or in part, and for backfilling resulting trenches and excavations.
- .2 Related Sections.
 - .1 Section 01 33 00 - Submittal Procedures.
 - .2 Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
 - .3 Section 02 61 33 - Hazardous Materials.
 - .4 Section 01 45 00 - Quality Control.
 - .5 Section 01 35 43 - Environmental Procedures.
 - .6 Section 01 35 30 - Health and Safety Requirements.

1.2 References

- .1 Canadian Council of Ministers of the Environment (CCME).
 - .1 PN1326, Environmental Code of Practice for Aboveground and Underground Storage Tank Systems Containing Petroleum and Allied Petroleum Products.
- .2 Department of Justice Canada (Jus).
 - .1 Canadian Environmental Assessment Act (CEAA), 1995, c. 37.
 - .2 Canadian Environmental Protection Act, 1999 (CEPA), c. 33.
- .3 Health Canada/Workplace Hazardous Materials Information System (WHMIS).
 - .1 Material Safety Data Sheets (MSDS).
- .4 Transport Canada (TC).
 - .1 Transportation of Dangerous Goods Act, 1992 (TDGA), c. 34.

1.3 Definitions

- .1 Demolition: rapid destruction of building following removal of hazardous materials.
- .2 Hazardous Materials: dangerous substances, dangerous goods, hazardous commodities and hazardous products, may include but not limited to: asbestos PCB's, CFC's, HCFC's poisons, corrosive agents, flammable substances, ammunition, explosives, radioactive substances, or other material that can endanger human health or well being or environment if handled improperly.

1.4 Submittals

- .1 Submittals in accordance with Section 01 33 00 - Submittal Procedures.

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- .2 Shop drawings.
 - .1 Submit for approval drawings, diagrams or details showing sequence of demolition work and supporting structures and underpinning, where required by authorities having jurisdiction.
 - .2 Submit drawings stamped and signed by qualified professional engineer registered or licensed in Province of Manitoba, Canada.
 - .3 Hazardous Materials: provide description of Hazardous Materials and Notification of Filing with proper authorities prior to beginning of Work as required.
 - .4 Prior to beginning of Work on site submit detailed list in writing in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal and indicate:
 - .1 Descriptions of and anticipated quantities in percentages of materials to be salvaged reused, recycled and landfilled.
 - .2 Schedule of selective demolition.
 - .3 Number and location of dumpsters.
 - .4 Anticipated frequency of tipping.
 - .5 Name and address of haulers, waste facilities and waste receiving organizations .
 - .5 Certificates: submit copies of certified weigh bills, bills of lading and receipts from authorized disposal sites and reuse and recycling facilities for material removed from site upon request of Departmental Representative Engineer Contract Administrator .

1.5 Quality Assurance

- .1 Regulatory Requirements: ensure Work is performed in compliance with CEPA, CEAA, TDGA, and applicable Provincial regulations.
- .2 Site Meetings.
 - .1 Arrange for site visit with Contract Administrator to examine existing site conditions adjacent to demolition work, prior to start of Work.
 - .2 Ensure key personnel, City of Winnipeg representative, subcontractor representatives and Contract Administrator attend.
 - .3 Reporting Requirements: WMC to complete.
 - .4 Contract Administrator will provide written or verbal notification of change to meeting schedule established upon contract award 24 hours prior to scheduled meeting.
- .3 Health and Safety.
 - .1 Do construction occupational health and safety in accordance with Section 01 35 30 - Health and Safety Requirements.

1.6 Delivery, Storage and Handling

- .1 Perform Work in accordance with Section 01 35 43 - Environmental Procedures.
- .2 Storage and Protection.

- .1 Protect existing items designated to remain and items designated for salvage. In event of damage to such items, immediately replace or make repairs to approval of Contract Administrator and at no cost to Contract Administrator .
- .2 Remove and store materials to be salvaged, in manner to prevent damage.
- .3 Store and protect in accordance with requirements for maximum preservation of material.
- .4 Handle salvaged materials as new materials.
- .3 Waste Management and Disposal.
 - .1 Separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
 - .2 Divert excess materials from landfill to site approved by Contract Administrator.
 - .3 Separate for reuse and recycling and place in designated containers Steel, Metal and Plastic waste in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
 - .4 Place materials defined as hazardous or toxic in designated containers.
 - .5 Handle and dispose of hazardous materials in accordance with CEPA, TDGA, and Regional and Municipal regulations.
 - .6 Label location of salvaged material's storage areas and provide barriers and security devices.
 - .7 Ensure emptied containers are sealed and stored safely.
 - .8 Source separate for recycling materials that cannot be salvaged for reuse including wood, metal, concrete and asphalt, and gypsum.
 - .9 Remove materials that cannot be salvaged for reuse or recycling and dispose of in accordance with applicable codes at licensed facilities.

1.7 Site Conditions

- .1 Site Environmental Requirements.
 - .1 Perform work in accordance with Section 01 35 43 - Environmental Procedures.
 - .2 Ensure that selective demolition work does not adversely affect adjacent watercourses, groundwater and wildlife, or contribute to excess air and noise pollution.
 - .3 Do not dispose of waste of volatile materials including but not limited to, mineral spirits, oil, petroleum based lubricants, or toxic cleaning solutions into watercourses, storm or sanitary sewers.
 - .1 Ensure proper disposal procedures are maintained throughout the project.
 - .4 Do not pump water containing suspended materials into watercourses, storm or sanitary sewers or onto adjacent properties.
 - .5 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with local authorities and as directed by Contract Administrator.
 - .6 Protect trees, plants and foliage on site and adjacent properties where indicated.
- .2 Existing Conditions.

- .1 Remove contaminated or hazardous materials as defined by authorities having jurisdiction and as directed by Contract Administrator from site, prior to start of demolition Work, and dispose of in safe manner in accordance with TDGA and other applicable regulatory requirements and Section 02 61 33- Hazardous Materials .

1.8 Scheduling

- .1 Employ necessary means to meet project time lines without compromising specified minimum rates of material diversion.
 - .1 Notify Contract Administrator in writing when unforeseen delays occur.

Part 2 Products

2.1 Equipment

- .1 Leave machinery running only while in use, except where extreme temperatures prohibit shutting machinery down.

Part 3 Execution

3.1 Preparation

- .1 Inspect site with Contract Administrator and verify extent and location of items designated for removal, disposal, alternative disposal, recycling, salvage and items to remain.
- .2 Locate and protect utilities. Preserve active utilities traversing site in operating condition.
- .3 Notify and obtain approval of utility companies before starting demolition.
- .4 Disconnect and Cap Mechanical Services.
 - .1 Natural Gas Supply Lines: contact utility company to arrange or as directed by Contract Administrator.
 - .2 Sewer and Water Lines: contact utility company to arrange for removal as directed by Contract Administrator and securely plug to form watertight seal.
 - .3 Other Underground Services: remove and dispose of as directed by Contract Administrator.

3.2 Removal of Hazardous Wastes

- .1 Remove contaminated or dangerous materials defined by authorities having jurisdiction, relating to environmental protection, from site and dispose of in safe manner to minimize danger at site or during disposal.

3.3 Removal Operations

- .1 Remove items as indicated on drawings:
 - .1 Site:

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- .1 Remove playground items (swing sets, pathway, trees as indicated).
 - .2 Building:
 - .1 Remove wading pool pump shed (attached to north-east corner of building).
 - .2 Remove stair enclosure at north end of building.
 - .3 Demolish Multi-Purpose Room at North end of building, including walls and roof.
 - .4 Remove interior partitions throughout remainder of building as indicated on drawings.
 - .2 Do not disturb items designated to remain in place.
 - .3 Removal of Pavements, Curbs and Gutters:
 - .1 Square up adjacent surfaces to remain in place by saw cutting or other method approved by Contract Administrator.
 - .2 Protect adjacent joints and load transfer devices.
 - .3 Protect underlying and adjacent granular materials .
 - .4 Prevent contamination with base course aggregates, when removing asphalt pavement for subsequent incorporation into hot mix asphalt concrete paving,
 - .5 Excavate at least 300 mm below pipe invert, when removing pipes under existing or future pavement area.
 - .6 Decommission water wells and monitoring wells in accordance with Municipal and Provincial guidelines and regulations.
 - .7 Remove designated trees during demolition.
 - .1 Obtain written approval of Contract Administrator prior to removal of trees not designated.
 - .8 Donate trees designated for removal and identified by Contract Administrator to be healthy..
 - .9 Stockpile topsoil for final grading and landscaping.
 - .1 Provide erosion control and seeding if not immediately used.
 - .10 Salvage.
 - .1 Dismantle items containing materials for salvage and stockpile salvaged materials at locations as directed by Contract Administrator.
 - .11 Disposal of Material.
 - .1 Dispose of materials not designated for salvage or reuse on site as instructed by Contract Administrator and in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
 - .2 Trim disposal areas to approval of Contract Administrator.
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3.4 Stockpiling

- .1 Label stockpiles, indicating material type and quantity.
- .2 Designate appropriate security resources/measures to prevent vandalism, damage and theft.
- .3 Locate stockpiled materials convenient for use in new construction to eliminate double handling wherever possible.
- .4 Stockpile materials designated for alternate disposal in location which facilitates removal from site and examination by potential end markets, and which does not impede disassembly, processing, or hauling procedures.

3.5 Removal from Site

- .1 Remove stockpiled material as directed by Contract Administrator, when it interferes with operations of project.
- .2 Remove stockpiles of like materials by alternate disposal option once collection of materials is complete.
- .3 Transport material designated for alternate disposal using approved haulers, facilities and receiving organizations listed in accordance with applicable regulations.
- .4 Dispose of materials not designated for alternate disposal in accordance with applicable regulations.

3.6 Restoration

- .1 Restore areas and existing works outside areas of demolition to conditions that existed prior to beginning of Work.
- .2 Use soil treatments and procedures which are not harmful to health, are not injurious to plants, and do not endanger wildlife, adjacent water courses or ground water.

3.7 Cleaning

- .1 Remove debris, trim surfaces and leave work site clean, upon completion of Work
- .2 Use cleaning solutions and procedures which are not harmful to health, are not injurious to plants, and do not endanger wildlife, adjacent water courses or ground water.

END OF SECTION

Part 1 General

1.1 Section Includes

- .1 Methods for removal of existing asphalt pavement.

1.2 Related Sections

- .1 Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

1.3 Waste Management and Disposal

- .1 Separate waste materials for reuse in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
- .2 Divert unused asphalt materials from landfill to local facility approved by Contract Administrator.

Part 2 Products

2.1 Equipment

- .1 Use cold milling, planning or grinding equipment with automatic grade controls capable of operating from stringline, and capable of removing part of pavement surface to depths or grades indicated.

Part 3 Execution

3.1 Preparation

- .1 Prior to beginning removal operation, inspect and verify with Contract Administrator areas, depths and lines of asphalt pavement to be removed.

3.2 Protection

- .1 Protect existing pavement not designated for removal, light units and structures from damage. In event of damage, immediately replace or make repairs to approval of Contract Administrator at no additional cost.

3.3 Removal

- .1 Remove existing asphalt pavement to lines and grades as indicated by Contract Administrator.
- .2 Use equipment and methods of removal and hauling which do not damage or disturb underlying pavement.

- .3 Prevent contamination of removed asphalt pavement by topsoil, underlying gravel or other materials.
- .4 Provide for suppression of dust generated by removal process.

3.4 Stockpiling of Material

- .1 Dispose of removed asphalt pavement by stock-piling in locations designated by Contract Administrator.
- .2 Removed asphalt pavement which is to be recycled in hot mix asphalt concrete under this contract may be stockpiled at designated asphalt plant site.

3.5 Finish Tolerances

- .1 Finished surfaces in areas where asphalt pavement has been removed to be within +/-5 mm of grade specified but not uniformly high or low.

3.6 Sweeping

- .1 Sweep remaining asphalt pavement surfaces clean of debris resulting from removal operations using rotary power brooms and hand brooming as required.

END OF SECTION

Part 1 General

1.1 Section Includes

- .1 Structure Demolition, methods and procedures for demolition of structures, parts of structures, basements and foundation walls.

1.2 Related Sections

- .1 Section 01 33 00 - Submittal Procedures.
- .2 Section 01 35 30 – Health and Safety Requirements.
- .3 Section 01 41 00 – Regulatory Requirements.
- .4 Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
- .5 Section 02 41 13 – Selective Site Demolition.
- .6 Section 02 82 00 – Asbestos Abatement – Minimum Precautions.

1.3 References

- .1 National Building Code of Canada (NBC), Part 8 – Safety Measures at Construction and Demolitions Sites (1995).
- .2 Local authority having jurisdiction.
- .3 Canadian Standards Association (CSA International)
 - .1 CSA S350-M1980(R1998), Code of Practice for Safety in Demolition of Structures.

1.4 Submittals

- .1 Submit shop drawings in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Before proceeding with demolition of load bearing walls or of other walls and where required by authority having jurisdiction submit for review by Contract Administrator Shoring and underpinning drawings prepared by qualified professional Engineer registered or licensed in the Province of Manitoba in Canada showing proposed method.
- .3 Prior to beginning of Work thoroughly review and prepare sure to comply with Section 01 74 21 - Construction/Demolition Waste Management and Disposal. Submit report to Contract Administrator indicating:
 - .1 Descriptions of and anticipated quantities in percentages of materials to be salvaged reused, recycled and landfilled.
 - .2 Schedule of selective demolition.
 - .3 Number and location of dumpsters.

- .4 Anticipated frequency of tippage.
- .5 Name and address of haulers and waste receiving organizations.

1.5 Waste Management and Disposal

- .1 Separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

1.6 Site Conditions

- .1 Review designated substance report and take precautions to protect environment.
- .2 Should material resembling spray or trowel-applied asbestos or other designated substance listed as hazardous be encountered, stop work, take preventative measures, and notify Contract Administrator immediately.
 - .1 Do not proceed until written instructions have been received from Contract Administrator.
- .3 Notify Contract Administrator before disrupting building access or services.

Part 2 Execution

2.1 Protection

- .1 Do Work in accordance with Section 01 35 30 - Health and Safety Requirements.
- .2 Prevent movement, settlement, or damage to adjacent structures, utilities, to remain in place. Provide bracing and shoring required.
- .3 Keep noise, dust, and inconvenience to occupants to minimum.
- .4 Protect building systems, services and equipment.
- .5 Provide temporary dust screens, covers, railings, supports and other protection as required.

2.2 Demolition Salvage and Disposal

- .1 Remove parts of existing building to permit new construction, as directed by Contract Administrator. Sort materials into appropriate piles for reuse and recycling where applicable.
- .2 Refer to demolition drawings and specifications for items to be salvaged for reuse.
- .3 Remove items to be reused, store as directed by City of Winnipeg: Graeme Remple, and re-install under appropriate section of specification.
- .4 Trim edges of partially demolished building elements to tolerances as defined by Contract Administrator to suit future use.

- .5 Dispose of removed materials, to appropriate recycling facilities or reuse facilities except where specified otherwise, in accordance with authority having jurisdiction or as otherwise directed by Contract Administrator.

2.3 Partial Demolition of Structures

- .1 When excavating for the new addition, do not disturb existing weeping lines. If damage should occur, be sure to repair and verify functionality prior to back filling. Ensure new connections are in functioning order as expected for positive perimeter of building drainage. Run separate carrier lines from existing weeping lines to sump pump. Do not divert existing drainage into the new drainage system. Report any concerns to the Contract Administrator.
- .2 Remove all walls shown as dotted lines.
- .3 Remove all floor finishes in areas to be renovated.
- .4 Remove the interior stairs as shown.
- .5 Alter the existing roof trusses as to accommodate increased loading as per structural drawings and specifications.
- .6 Make good of any imperfections of wall/ceiling surfaces to be exposed after demolition of affected areas.
- .7 Remove existing roof gables and metal roof cladding.
- .8 Remove existing walls on the main floor level and open up roof for new expanded lobby.
- .9 Cut doorway into the existing basement concrete wall for new exit stair as shown. Follow instructions on structural drawings.
- .10 Remove existing washroom and kitchen and plumbing to these areas for new functions as shown.
- .11 Do not disturb areas as designated as "existing". Protect existing finishes and surfaces as required. Any damage to existing facility will be the responsibility of the contractor.

END OF SECTION

Part 1 General

1.1 Related Sections

- .1 Section 01 35 30 – Health and Safety Requirements.
- .2 Section 01 41 00 – Regulatory Requirements.
- .3 Section 01 77 00 - Closeout Procedures.

1.2 References

- .1 Export and Import of Hazardous Waste Regulations SOR/2002-300.
- .2 National Fire Code of Canada 2005.
- .3 Transportation of Dangerous Goods Act (TDG Act) 1999, (c. 34).
- .4 Transportation of Dangerous Goods Regulations (T-19.01-SOR/2003-400).

1.3 Definitions

- .1 Dangerous Goods: product, substance, or organism that is specifically listed or meets hazard criteria established in Transportation of Dangerous Goods Regulations.
- .2 Hazardous Material: product, substance, or organism that is used for its original purpose; and that is either dangerous goods or a material that may cause adverse impact to environment or adversely affect health of persons, animals, or plant life when released into the environment.
- .3 Hazardous Waste: any hazardous material that is no longer used for its original purpose and that is intended for recycling, treatment or disposal.
- .4 Workplace Hazardous Materials Information System (WHMIS): a Canada-wide system designed to give employers and workers information about hazardous materials used in workplace. Under WHMIS, information on hazardous materials is provided on container labels, material safety data sheets (MSDS), and worker education programs. WHMIS is put into effect by combination of federal and provincial laws.

1.4 Submittals

- .1 Submit product data in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit to Contract Administrator current Material Safety Data Sheet (MSDS) for each hazardous material required prior to bringing hazardous material on site.
- .3 Submit hazardous materials management plan to Contract Administrator that identifies hazardous materials, their use, their location, personal protective equipment requirements, and disposal arrangements.

1.5 Storage and Handling

- .1 Co-ordinate storage of hazardous materials with Contract Administrator and abide by internal requirements for labelling and storage of materials and wastes.
- .2 Store and handle hazardous materials and wastes in accordance with applicable federal and provincial laws, regulations, codes, and guidelines.
- .3 Store and handle flammable and combustible materials in accordance with current National Fire Code of Canada requirements.
- .4 Keep no more than 45 litres of flammable and combustible liquids such as gasoline, kerosene and naphtha for ready use.
 - .1 Store flammable and combustible liquids in approved safety cans bearing the Underwriters' Laboratory of Canada or Factory Mutual seal of approval.
 - .2 Storage of quantities of flammable and combustible liquids exceeding 45 litres for work purposes requires the written approval of the Contract Administrator.
- .5 Transfer of flammable and combustible liquids is prohibited within buildings.
- .6 Do not transfer of flammable and combustible liquids in vicinity of open flames or heat-producing devices.
- .7 Do not use flammable liquids having flash point below 38 degrees C, such as naphtha or gasoline as solvents or cleaning agents.
- .8 Store flammable and combustible waste liquids for disposal in approved containers located in safe, ventilated area. Keep quantities to minimum.
- .9 Observe smoking regulations, smoking is prohibited in areas where hazardous materials are stored, used, or handled.
- .10 Storage requirements for quantities of hazardous materials and wastes in excess of 5 kg for solids, and 5 litres for liquids:
 - .1 Store hazardous materials and wastes in closed and sealed containers.
 - .2 Label containers of hazardous materials and wastes in accordance with WHMIS.
 - .3 Store hazardous materials and wastes in containers compatible with that material or waste.
 - .4 Segregate incompatible materials and wastes.
 - .5 Ensure that different hazardous materials or hazardous wastes are not mixed.
 - .6 Store hazardous materials and wastes in secure storage area with controlled access.
 - .7 Maintain clear egress from storage area.
 - .8 Store hazardous materials and wastes in location that will prevent them from spilling into environment.
 - .9 Have appropriate emergency spill response equipment available near storage area, including personal protective equipment.

- .10 Maintain inventory of hazardous materials and wastes, including product name, quantity, and date when storage began.
- .11 Ensure personnel have been trained in accordance with Workplace Hazardous Materials Information System (WHMIS) requirements. Report spills or accidents immediately to Contract Administrator. Submit a written spill report to Contract Administrator within 24 hours of incident.

1.6 Transportation

- .1 Transport hazardous materials and wastes in accordance with federal Transportation of Dangerous Goods Act, Transportation of Dangerous Goods Regulations, and applicable provincial regulations.
- .2 If exporting hazardous waste to another country, ensure compliance with federal Export and Import of Hazardous Waste Regulations.
- .3 If hazardous waste is generated on site:
 - .1 Co-ordinate transportation and disposal with Contract Administrator.
 - .2 Ensure compliance with applicable federal, provincial and municipal laws and regulations for generators of hazardous waste.
 - .3 Use licensed carrier authorized by provincial authorities to accept subject material.
 - .4 Prior to shipping material obtain written notice from intended hazardous waste treatment or disposal facility that it will accept material and that it is licensed to accept this material.
 - .5 Label containers with legible, visible safety marks as prescribed by federal and provincial regulations.
 - .6 Ensure that trained personnel handle, offer for transport, or transport dangerous goods.
 - .7 Provide photocopy of shipping documents and waste manifests to Contract Administrator.
 - .8 Track receipt of completed manifest from consignee after shipping dangerous goods. Provide a photocopy of completed manifest to Contract Administrator.
 - .9 Report discharge, emission, or escape of hazardous materials immediately to Contract Administrator and appropriate provincial authority. Take reasonable measures to control release.

Part 2 Products

2.1 Materials

- .1 Only bring on site quantity of hazardous materials required to perform work.
- .2 Maintain MSDSs in proximity to where materials are being used. Communicate this location to personnel who may have contact with hazardous materials.

Part 3 Execution

3.1 Disposal

- .1 Dispose of hazardous waste materials in accordance with applicable federal and provincial acts, regulations, and guidelines.
- .2 Recycle hazardous wastes for which there is approved, cost effective recycling process available.
- .3 Send hazardous wastes to authorized hazardous waste disposal or treatment facilities.
- .4 Burning, diluting, or mixing hazardous wastes for purpose of disposal is prohibited.
- .5 Disposal of hazardous materials in waterways, storm or sanitary sewers, or in municipal solid waste landfills is prohibited.
- .6 Dispose of hazardous wastes in timely fashion in accordance with applicable provincial regulations.
- .7 Minimize generation of hazardous waste to maximum extent practicable. Take necessary precautions to avoid mixing clean and contaminated wastes.
- .8 Identify and evaluate recycling and reclamation options as alternatives to land disposal, such as:
 - .1 Hazardous wastes recycled in manner constituting disposal.
 - .2 Hazardous waste burned for energy recovery.
 - .3 Lead-acid battery recycling.
 - .4 Hazardous wastes with economically recoverable precious metals.

END OF SECTION

Part 1 General

1.1 Summary

- .1 Removal of Hazardous Materials to be performed by licensed contractor.
- .2 Comply with requirements of this Section when performing following work:
 - .1 Removing of vinyl tiles, plaster products, non-friable friction products, gaskets seals and packings containing asbestos.
 - .2 Cut, shape, grind, drill, scrape or abrade materials mentioned above using hand powered tools, or using power tools equipped with a HEPA filter.
 - .3 Removing drywall.

1.2 Section Includes

- .1 Requirements and procedures for asbestos abatement on non-friable asbestos-containing materials.

1.3 Related Sections

- .1 Section 01 33 00 - Submittal Procedures.
- .2 Section 01 35 30 - Health and Safety Requirements.
- .3 Section 01 41 00 – Regulatory Requirements.
- .4 Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

1.4 References

- .1 Department of Justice Canada (Jus).
 - .1 Canadian Environmental Protection Act, 1999 (CEPA).
- .2 Transport Canada (TC).
 - .1 Transportation of Dangerous Goods Act, 1992 (TDGA).

1.5 Definitions

- .1 HEPA vacuum: High Efficiency Particulate Air filtered vacuum equipment with filter system capable of collecting and retaining fibres greater than 0.3 microns in any direction at 99.97% efficiency.
- .2 Amended Water: water with non-ionic surfactant wetting agent added to reduce water tension to allow thorough wetting of fibres.
- .3 Asbestos-Containing Materials (ACMs): materials identified under Existing Conditions including fallen materials and settled dust.
- .4 Asbestos Work Area: area where work takes place which will, or may, disturb ACMs.

- .5 Authorized Visitors: Contract Administrators or designated representatives, and representatives of regulatory agencies.
- .6 Non-Friable Material: material that when dry cannot be crumbled, pulverized or powdered by hand pressure.
- .7 Occupied Area: any area of the building or work site that is outside Asbestos Work Area.
- .8 Polyethylene: polyethylene sheeting or rip-proof polyethylene sheeting with tape along edges, around penetrating objects, over cuts and tears, and elsewhere as required to provide protection and isolation.
- .9 Sprayer: garden reservoir type sprayer or airless spray equipment capable of producing mist or fine spray. Must have appropriate capacity for work.

1.6 Submittals

- .1 Submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit proof satisfactory to Contract Administrator that suitable arrangements have been made to dispose of asbestos-containing waste in accordance with requirements of authority having jurisdiction.
- .3 Submit Provincial and/or local requirements for Notice of Project Form.
- .4 Submit to Contract Administrator necessary permits for transportation and disposal of asbestos-containing waste and proof that asbestos-containing waste has been received and properly disposed.

1.7 Quality Assurance

- .1 Regulatory Requirements: comply with Federal, Provincial/Territorial, and local requirements pertaining to asbestos, provided that in case of conflict among these requirements or with these specifications, more stringent requirement applies. Comply with regulations in effect at time Work is performed.
- .2 Health and Safety:
 - .1 Do construction occupational health and safety in accordance with Section 01 35 30 - Health and Safety Requirements.
 - .2 Safety Requirements: worker protection.
 - .1 Protective equipment and clothing to be worn by workers while in Asbestos Work Area include:
 - .1 Non-powered reusable or replaceable filter-type respirator equipped with HEPA filter cartridges, personally issued to worker and marked as to efficiency and purpose, suitable for protection against asbestos and acceptable to Provincial Authority having jurisdiction.
 - .2 Disposable-type protective clothing that does not readily retain or permit penetration of asbestos fibres, consisting of full-body

covering including head covering with snug-fitting cuffs at wrists, ankles, and neck.

- .2 Eating, drinking, chewing, and smoking are not permitted in Asbestos Work Area.
- .3 Before leaving Asbestos Work Area, dispose of protective clothing as contaminated waste as specified.
- .4 Ensure workers wash hands and face when leaving Asbestos Work Area. Facilities for washing are located as indicated on drawings.
- .5 Ensure that no person required to enter an Asbestos Work Area has facial hair that affects seal between respirator and face.

1.8 Waste Management and Disposal

- .1 Separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
- .2 Remove from site and dispose of packaging materials at appropriate recycling facilities.
- .3 Collect and separate for disposal paper, plastic, polystyrene and corrugated cardboard packaging material in appropriate on-site bins for recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal
- .4 Separate for reuse and recycling and place in designated containers Steel, Metal and Plastic waste in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
- .5 Place materials defined as hazardous or toxic in designated containers.
- .6 Handle and dispose of hazardous materials in accordance with the CEPA, TDGA, Regional and Municipal regulations.
- .7 Fold up metal banding, flatten and place in designated area for recycling.
- .8 Disposal of asbestos waste generated by removal activities must comply with Federal, Provincial, Territorial and Municipal regulations. Dispose of asbestos waste in sealed double thickness 6 ml bags or leak proof drums. Label containers with appropriate warning labels.
- .9 Provide manifests describing and listing waste created. Transport containers by approved means to licensed landfill for burial.

1.9 Existing Conditions

- .1 Notify Contract Administrator of friable material discovered during Work. Do not disturb such material pending instructions from Contract Administrator.

1.10 City of Winnipeg Instructions

- .1 Before beginning Work, provide Contract Administrator satisfactory proof that every worker has had instruction and training in hazards of asbestos exposure, in personal

hygiene and work practices, and in use, cleaning, and disposal of respirators and protective clothing.

- .2 Instruction and training related to respirators includes, following minimum requirements:
 - .1 Fitting of equipment.
 - .2 Inspection and maintenance of equipment.
 - .3 Disinfecting of equipment.
 - .4 Limitations of equipment.
- .3 Instruction and training must be provided by a competent, qualified person.

Part 2 Products

2.1 Materials

- .1 Drop Sheets:
 - .1 Polyethylene: 0.15 mm thick.
 - .2 FR polyethylene: 0.15 mm thick woven fibre reinforced fabric bonded both sides with polyethylene.
- .2 Wetting Agent: 50% polyoxyethylene ester and 50% polyoxyethylene ether mixed with water in a concentration to provide thorough wetting of asbestos-containing material.
- .3 Waste Containers: contain waste in two separate containers.
 - .1 Inner container: 0.15 mm thick sealable polyethylene waste bag.
 - .2 Outer container: sealable metal or fibre type where there are sharp objects included in waste material; otherwise outer container may be sealable metal or fibre type or second 0.15 mm thick sealable polyethylene bag.
 - .3 Labelling requirements: affix preprinted cautionary asbestos warning in both official languages that is visible when ready for removal to disposal site.

Part 3 Execution

3.1 Procedures

- .1 Do construction occupational health and safety in accordance with Section 01 35 30 - Health and Safety Requirements.
- .2 Before beginning Work, isolate Asbestos Work Area using, minimum, preprinted cautionary asbestos warning signs in both official languages that are visible at access routes to Asbestos Work Area.
 - .1 Remove visible dust from surfaces in the work area where dust is likely to be disturbed during course of work.
 - .2 Use HEPA vacuum, or damp cloths where damp cleaning does not create a hazard and is otherwise appropriate.
 - .3 Do not use compressed air to clean up or remove dust from any surface.

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- .3 Prevent spread of dust from Asbestos Work Area using measures appropriate to work to be done.
 - .1 Use FR polyethylene drop sheets over flooring such as carpeting that absorbs dust and over flooring in Asbestos Work Area where dust and contamination cannot otherwise be safely contained.
 - .4 Wet materials containing asbestos to be cut, ground, abraded, scraped, drilled, or otherwise disturbed unless wetting creates hazard or causes damage.
 - .1 Use garden reservoir type low - velocity fine - mist sprayer.
 - .2 Perform Work to reduce dust creation to lowest levels practicable.
 - .3 Work will be subject to visual inspection and air monitoring.
 - .4 Contamination of surrounding areas indicated by visual inspection or air monitoring will require complete enclosure and clean-up of affected areas.
 - .5 Clean-Up:
 - .1 Frequently during Work and immediately after completion of Work, clean up dust and asbestos-containing waste using HEPA vacuum or by damp mopping.
 - .2 Place dust and asbestos-containing waste in sealed dust-tight waste bags. Treat drop sheets and disposable protective clothing as asbestos waste; wet and fold these items to contain dust, then place in plastic bags.
 - .3 Clean exterior of each waste-filled bag using damp cloths or HEPA vacuum and place in second clean waste bag immediately prior to removal from Asbestos Work Area.
 - .4 Seal waste bags and remove from site. Dispose of in accordance with requirements of Provincial and Federal Authority having jurisdiction. Supervise dumping and ensure that dump operator is fully aware of hazardous nature of material to be dumped and that guidelines and regulations for asbestos disposal are followed.
 - .5 Perform final thorough clean-up of Work areas and adjacent areas affected by Work using HEPA vacuum.

END OF SECTION