

PROJECT NO. CA0066126.2954

BID DOCUMENTS AND SPECIFICATIONS

HARBOURVIEW RECREATION COMPLEX, 1867 SPRINGFIELD
ROAD, WINNIPEG, MB
SELECTED BUILDING AND SITE DEMOLITION

MARCH 30, 2026

ISSUED FOR TENDER



PREPARED FOR:
CITY OF WINNIPEG
105-155 PACIFIC AVENUE
WINNIPEG, MB R3E 3P1

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SIGNATURES

The undersigned has reviewed and takes responsibility for the civil specifications and demolition: NAME: Breanne Gemmill, P.Eng.	
SIGNATURE:	
The undersigned has reviewed and takes responsibility for mechanical specifications and demolition: NAME: Paul Alcantara, P.Eng	
SIGNATURE:	
The undersigned has reviewed and takes responsibility for electrical specifications and demolition: NAME: Edwin Sapnu, P.Eng.	
SIGNATURE:	

1. General

1.01 RELATED REQUIREMENTS

- .1 Unless otherwise noted, this Section is common to Sections of Division 21, Division 22, Division 23 and Division 25, and supplements each Section and read accordingly.
- .2 Division 00 and Division 01.
- .3 Where requirements of this Section contradict requirements of Divisions 00 or 01, conditions of Division 00 or 01 to take precedence, as confirmed with Owner and reviewed with Contract Administrator prior to Bid submission.

1.02 REFERENCE STANDARDS

- .1 National Research Council Canada (NRC):
 - .1 National Building Code of Canada (NBC).
 - .2 National Fire Code of Canada (NFC).
- .2 Manitoba Building Code (MBC).

1.03 DEFINITIONS

- .1 AHJ: Authority having jurisdiction.
- .2 As noted: Directs reader to refer to schedules, drawings (layouts, riser diagrams, schematics, details) and Specification for additional information.
- .3 Compliance certificates: Approval documentation of products or installation work issued by AHJ or product manufacturers, as specified.
- .4 Concealed: Hidden from normal sight in furred spaces, shafts, ceiling spaces, walls and partitions.
- .5 Delete or Remove (and tenses of delete or remove): Disconnect, make safe, and remove obsolete materials in planned deconstruction and disassembly of mechanical and plumbing items from existing construction including removal of pipes, ductwork and associated products, taking care not to damage adjacent assemblies designated to remain. Legally dispose of deleted items off site. Patch and repair/finish surfaces to match adjoining similar construction. Re-program systems to suit deletions. Revise documentation identifications to suit deletions. Retain items indicated as removed and salvaged. Retain items indicated as removed and reinstalled.
- .6 Demolish: Delete or remove, and detach items from existing construction and if not indicated as retained or salvaged, legally dispose of items off site. Retain items indicated as removed and salvaged, or removed and reinstalled.
- .7 Electrical Divisions: Typically, refers to Divisions 26, 27, 28 and other Divisions as specifically noted and which work as defined in Specifications or on drawings is responsibility of Electrical Contractor, unless otherwise noted.
- .8 Existing to Remain: Existing items of construction that are not removed and that are not otherwise indicated as being removed and salvaged, or removed and reinstalled.
- .9 Exposed: Work normally visible, including work in equipment rooms, service tunnels, and similar spaces.

- .10 Finished: When in description of area or part of area or product which receives finish such as paint, or in case of product may be factory finished.
- .11 Install (and tenses of install): Secure in position, connect, test, adjust, verify and certify complete, ready for its intended use.
- .12 Local: In context to authorities or codes or standards, means of place of Work, unless otherwise noted.
- .13 Mechanical Divisions: Typically, refers to Divisions 21, 22, 23, 25 and other Divisions as specifically noted and which work as defined in Specifications or on drawings is responsibility of Mechanical Contractor, unless otherwise noted.
- .14 Professional Engineer: Individuals registered or licensed in Place of Work, by respective provincial or territorial associations that regulate the practice of engineering in Canada.
- .15 Provision or provide (and tenses of provide): In context of products, means supply, install and test complete, ready for its intended use.
- .16 Remove and Reinstall: Detach items from existing construction, prepare them for reuse, check for proper working condition and reinstall them where indicated.
- .17 Remove and Salvage: Detach items from existing construction and deliver them ready for reuse, to onsite storage areas, as reviewed with Contract Administrator.
- .18 Supply: Procure, arrange for delivery to site, inspect, accept delivery and administer supply of products. Distribute to areas and provide manufacturer assistance for required onsite testing, initial start-up, programming, basic commissioning and verification work.
- .19 Wherever words "indicated", "shown", "noted", "listed", "scheduled" or similar words or phrases are used in Contract Documents they are understood, unless otherwise defined, to mean product referred to is "indicated", "shown", "listed", "noted" or "scheduled" in Contract Documents. When such references are used and do not identify exactly where in Contract Documents to refer to, examine issued Contract Documents and if unable to locate, submit request for information to Contract Administrator.
- .20 Wherever words "reviewed", "satisfactory", "as directed", "submit", or similar words or phrases are used in Contract Documents they are understood, unless otherwise defined, to mean that work or product referred to is "reviewed by", "to satisfaction of", or "submitted to" Contract Administrator.

1.04 CONTRACT DOCUMENTS

- .1 Specification is typically generally arranged in coordination with guidelines of Construction Specifications Institute/Canadian Specifications Canada (CSI/CSC) 50 Division MasterFormat.
- .2 Drawings and Specifications are portions of Contract Documents and identify labour, products and services necessary for performance of Work and form a basis for determining pricing. They are intended as complementary. Perform Work that is shown, specified, noted or reasonably implied on drawings but not mentioned in Specification, or vice-versa, as though fully covered by both.
- .3 Sections of Specifications generally designate a basic unit of work, and Sections are read as whole.
- .4 Except where specifically noted, Specification does not typically indicate specific number of items or quantities of material required. Specification is intended to provide product data and installation requirements. Refer to schedules, Drawings (layouts, riser diagrams, schematics, details) and Specification to provide correct quantities. Singular may be read as plural and vice versa.

- .5 Drawings are performance drawings, diagrammatic, and show approximate locations of equipment and materials. Take accurate measurement of building on site. Do not scale Drawings, and do not use Drawings for prefabrication work.
- .6 Drawings convey scope of work and do not show architectural and structural details. Provide fittings, offsets, transformations and similar items required as a result of obstructions and other architectural or structural details not shown on Drawings.
- .7 Locations of equipment and materials shown may be altered, when reviewed by Contract Administrator, to meet requirements of equipment or materials, other equipment or systems being installed, and of building, at no additional cost to Contract.
- .8 If there is conflict or discrepancy between, among or within any provisions of Contract Documents, provisions establishing higher quality, manner or method of performing the Work, using more stringent standards, prevails, with intent that provisions which produce higher quality with higher levels of safety, reliability, durability, performance and service prevails.
- .9 Upon finding discrepancies in, or omissions from Documents, or having doubt as to their meaning or intent, notify Contract Administrator.
- .10 Language within Specification is in many cases written in imperative mode for brevity. Clauses containing instructions or directions are directed to Contractor.
- .11 Drawings and Specifications are prepared solely for use by party with whom Contract Administrator has entered into a contract and there are no representations of any kind made by Contract Administrator to any other party.

1.05 METRIC AND IMPERIAL MEASUREMENTS

- .1 Generally, metric units of measurement (typically SI) are given in Sections of Specification. Measurement conversions may be generally "soft" and rounded off from imperial units. Industry common standard units also are specified. Confirm exact measurements based on application. Where measurements are related to installation and onsite applications, confirm issued document measurements with applicable governing code requirements, and as applicable, make accurate measurements onsite. Where significant discrepancies are found, notify Contract Administrator for direction.
- .2 Some units are specified in imperial units with use based on common trade terms.

1.06 EXAMINATION OF DOCUMENTS AND SITE

- .1 Carefully examine Documents and visit site to determine and review existing site conditions that will or may affect work and include for such conditions in Bid Price.
- .2 Report to Contract Administrator, prior to Bid Submittal, existing site conditions that will or may affect performance of Work in accordance with Documents. Failure to do so will not be grounds for additional costs.

1.07 AS-BUILT DRAWINGS

- .1 As work progresses at site, clearly mark in red in neat and legible manner on set of bound white prints of Contract drawings, changes and deviations from routing of services and locations of equipment shown on drawings, on daily basis, as required for Work. Use notes marked in red. Maintain white print red line as-built set at site for exclusive use of recording as-built conditions, keep set up-to-date, and available for periodic review. Mark changes as work progresses and as changes occur. Include following with as-built set:
 - .1 Dimensioned location of inaccessible concealed work.

- .2 For underground piping and ducts, record dimensions, invert elevations, offsets, fittings, cathodic protection and accessories, as applicable, and locate and identify dimensions from benchmarks.
- .3 Location of concealed services terminated for future extension and work concealed within building in inaccessible locations.
- .4 Changes to existing mechanical systems, plumbing systems, fire protection services, control systems and control wiring.
- .5 Other items noted on drawings.
- .6 Other items noted within Specifications.
- .2 Identify each drawing in lower right-hand corner in letters at least 12 mm high as follows:
"AS BUILT DRAWINGS: THIS DRAWING HAS BEEN REVISED TO SHOW
MECHANICAL/FIRE SUPPRESSION/PLUMBING SYSTEMS AS INSTALLED"
(Signature of Contractor) (Date).
- .3 Submit copies to Contract Administrator for review and comments, and make corrections as recommended by Contract Administrator.

1.08 CLOSEOUT SUBMITTALS

- .1 Prior to application for Substantial Performance of the Work, submit items and documentation noted, including following:
 - .1 As-built record drawings and associated data.
 - .2 Other data or items as noted.

1.09 REGULATORY REQUIREMENTS

- .1 Comply with requirements of:
 - .1 Department of Labour and Immigration.
 - .2 Workplace Hazardous Materials Information System (WHMIS).
 - .3 Manitoba Workplace Safety and Health Act and Regulation.
 - .4 AHJ governing codes, regulations and standards.
- .2 Where code, regulation, bylaw, standard, contract form, manual, printed instruction, and installation and application instruction is quoted it means, latest published edition adopted by and enforced by AHJ, unless edition date is specified. Comply with revisions, bulletins, supplementary standards or amendments issued by AHJ. Comply with federal and provincial codes and standards. Prior to start of Work, confirm edition dates being enforced for Project.
- .3 Where regulatory codes, standards and regulations are at variance with each other, or with Drawings or Specification, more stringent requirement applies. In doubt, review with Contract Administrator.
- .4 Perform Work in accordance with requirements of NBC and provincial building code, and codes and standards listed throughout Specification.

1.10 DESIGNATED SUBSTANCES

- .1 Hazardous substances removal by hazardous abatement specialist is not included as part of scope of this Project, unless otherwise noted.
- .2 Hazardous substances are as defined in Hazardous Products Act.

- .3 Immediately notify Contract Administrator when materials suspected of containing hazardous substances are encountered and perform following:
 - .1 Stop work in area of suspected hazardous substances.
 - .2 Take preventative measures to limit user and worker exposure, provide barriers and other safety devices and do not disturb materials.
 - .3 Proceed with work only after written instructions have been received from Contract Administrator.

1.11 PERMITS, CERTIFICATES, APPROVALS AND FEES

- .1 Contact and confirm with AHJ including utility providers, requirements for approvals from such authorities.
- .2 Obtain and pay for required permits and inspections and give required notices. Submit required applications, shop drawings and other information requested by AHJ.
- .3 Notify Contract Administrator of proposed changes to documents requested by AHJ, and obtain Contract Administrator recommendations prior to making changes.
- .4 Provide notification as requested by AHJ, for AHJ to perform onsite inspection of work. Allow sufficient lead time to correct deficiencies in manner not impeding schedule of completion of Work. Where defect, deficiency or non-compliance is found in work by inspection, provide for such inspection including related expenses, making good and return to site, until work is accepted by AHJ.
- .5 Coordinate work inspection reviews and approvals with AHJ ensuring construction schedule is not delayed. Promptly notify deficiencies to Contract Administrator and submit reports and certificates to Contract Administrator.
- .6 Obtain and submit to Contract Administrator, compliance certificates issued by AHJ that verifies Work as installed is in accordance with rules and regulations of AHJ and are acceptable by AHJ.
- .7 Include in each copy of operating and maintenance instruction manuals, copies of compliance certificates issued by AHJ.

2. Products (Not Used)

3. Execution (Not Used)

END OF SECTION

1. General

1.01 RELATED REQUIREMENTS

- .1 Unless otherwise noted, this Section is common to Sections of Division 21, Division 22, Division 23 and Division 25, and supplements each Section and read accordingly.
- .2 General instructions including administrative requirements and submittals: Section 23 00 10 - Mechanical Work General Instructions.
- .3 Common demolition requirements: Section 23 05 05 - Selective Demolition for Mechanical.

2. Products

2.01 NOT USED

3. Execution

3.01 TEMPORARY SERVICES

- .1 Coordinate with Prime Contractor, requirements for temporary services including but not limited to:
 - .1 Temporary electrical power.
 - .2 Lighting.
 - .3 Heating.
 - .4 Water.
 - .5 Exit pathways.
- .2 Confirm locations of exit pathways are as decided at discretion of Prime Contractor.
- .3 Provide services in accordance with requirements of building codes and AHJ.

3.02 PHASING AND SCHEDULING OF WORK

- .1 Include for scheduling, co-ordination, and construction phasing suiting project as specified in Division 01, or as noted. Prior to start of Work, review phasing requirements with Contract Administrator.

3.03 LAYOUT AND COORDINATION OF WORK

- .1 Cooperate and coordinate with other Divisions as required for completion of the Work and avoiding interference with work by other Sections.
- .2 Coordinate depth and routing of excavation required for work, and requirements for bedding and backfill, in accordance with requirements of Division 31 as applicable.
- .3 Coordinate with, instruct and supervise those Divisions doing related work.

3.04 INTERRUPTION TO AND SHUT-DOWN OF MECHANICAL SERVICES AND SYSTEMS

- .1 Coordinate shut-down and interruption to existing mechanical services or systems with Owner. Include for costs of premium time to perform work during nights, weekends or other times outside of normal working hours, which may be necessary to comply with stipulations specified herein. Services for operation of existing non-renovated areas of building are to be maintained.
- .2 Upon award of Contract, submit list of anticipated shut-down times and their maximum duration.
- .3 Prior to each shut-down or interruption, inform Owner and Contract Administrator in writing minimum 5 working days in advance of proposed shut-down or interruption and obtain written consent to proceed. Do not shut-down or interrupt any service or system without such written consent. Shutdowns of some essential services may require additional advance notification time.
- .4 Perform work associated with shut-downs and interruptions as continuous operations to minimize shut-down time and to reinstate systems as soon as possible, and, prior to any shut-down, ensure materials and labour required to complete work for which shut-down is required are available at site.
- .5 Prior to start of work, confirm methods of procedures with Owner and review with Contract Administrator.
- .6 Maintain fire protection of areas which may include fire watch during temporary shutdowns of existing systems, in accordance with requirements of codes and AHJ.

3.05 EXCAVATION AND BACKFILL WORK

- .1 Excavation and backfill work required for mechanical work is under work of Division 31.
- .2 Mark out location and routing of excavation required for work as well as required depth. Verify bedding is graded, providing proper drainage for piping as reviewed with Contract Administrator.
- .3 Where inverts and locations of existing site services are site surveyed and locations are indicated, such locations are approximate. Confirm that various utility providers have performed locates and marking out. Prior to commencement of work, verify inverts and locations are correct. Where discrepancies are found, immediately inform Contract Administrator, and await direction.
- .4 Allow Contract Administrator and AHJ to inspect work before covering and backfilling.

3.06 CLEANING

- .1 Progress Cleaning: Leave Work area clean at end of each day.

3.07 NOTICE FOR REQUIRED FIELD REVIEWS

- .1 Whenever there is requirement for Contract Administrator to perform field review prior to concealment of any work, to inspect/re-inspect work, give minimum 5 working days' notice in writing to Contract Administrator.
- .2 If Contract Administrator is unable to attend field review when requested, arrange alternative date and time.
- .3 Do not conceal work until Contract Administrator advises that it may be concealed.

- .4 When Contract Administrator is requested to perform field review and work is not ready to be reviewed, reimburse Contract Administrator for time and travel expenses.

3.08 FINAL INSPECTION

- .1 Perform final inspection with Contract Administrator. Review scheduling requirements with Contract Administrator and obtain Contract Administrator recommendations for acceptance.
- .2 Final Inspection:
 - .1 Submit to Contract Administrator written request for final inspection of systems. Include written certification that:
 - .1 Deficiencies noted during job inspections have been completed.
 - .2 Clean-up is complete.
 - .3 As-built and record drawings have been completed and submitted to and reviewed with Contract Administrator and recommended for acceptance.
 - .4 AHJ has accepted installations.

END OF SECTION

1. General

1.01 REFERENCE STANDARDS

- .1 National Research Council Canada (NRC):
 - .1 National Building Code of Canada (NBC).
 - .2 National Fire Code of Canada (NFC).
- .2 Manitoba Building Code (MBC).

1.02 REGULATORY REQUIREMENTS

- .1 Obtain permits and inspections and give required notices. Include copies of permits and inspection certificates with operation and maintenance manuals.
- .2 Perform work of this Section in accordance with following:
 - .1 NBC.
 - .2 NFC.
 - .3 MBC.
 - .4 Government of Canada, Labour Program: Workplace Safety.
 - .5 Department of Environment and Climate Change.
 - .6 Department of Labour and Immigration.
 - .7 AHJ.

2. Products

2.01 GENERAL

- .1 This section is common for demolition work of Divisions 21, 22 23 and 25.

3. Execution

3.01 EXAMINATION AND SITE CONDITIONS

- .1 Refer drawings and other specification sections for additional requirements.

3.02 SALVAGE AND DEBRIS MATERIALS

- .1 Review with Contract Administrator, existing items designated as salvage, designated as reused or designated to be turned over to party designated by Contract Administrator.
- .2 Coordinate performance of following with other trades:
 - .1 Removal from site and proper disposal of materials which are removed and are not designated for reuse in the Work.
 - .2 Removal of materials and items designated for salvage and storage in manner to prevent damage or devaluation of materials.

3.03 PREPARATION FOR DEMOLITION WORK

- .1 Coordinate performance of following with other trades:
 - .1 Scheduling: Account for continued occupancy requirements during selective demolition in accordance with Division 02.
 - .2 Verifying that affected building areas are unoccupied and discontinued in use and that required screens, partitions, hoardings are in place prior to start of demolition work.
 - .3 Prior to start of work, verifying that existing services in areas affected by demolition are disconnected, capped, made safe or removed as reviewed with Contract Administrator.
 - .4 Prior to start of work, notifying Contract Administrator and onsite personnel of demolition work that may cause safety risks.
 - .5 Coordinating electrical disconnections of electrically powered mechanical equipment and making safe electrical services with work of Division 26.
- .2 During course of building work, where asbestos-containing materials and/or other designated substances are encountered or suspected, cease work in area in question and immediately notify Contract Administrator. Comply with authority having jurisdiction regulations. Do not resume work in affected area without direction from Contract Administrator.

3.04 PROTECTION

- .1 Take steps to positively prevent uncontrolled falling of demolished materials.
- .2 Verify that no part of existing structure is over-loaded due to work carried out under Work.
- .3 Prevent debris from blocking surface drainage systems, elevators, mechanical and electrical systems that remain in operation. Provide temporary guards and hoardings during and until completion of work.
- .4 Coordinate performance of following with other trades:
 - .1 Provision and maintenance of barricades, guards, railings, lighting, warning signs, security personnel and other safety measures for protection for workers and public during execution of the Work. Where demolition is proceeding, close off access to area to unauthorized personnel.
 - .2 Provision of temporary bracing, shoring and supports as specified in Section 02 41 16 - Structure Demolition.
- .5 In areas with retained services, maintain fire protection of areas which may include fire watch during temporary shutdowns of existing systems, in accordance with requirements of codes and AHJ.

3.05 MECHANICAL DISCONNECTIONS AND REMOVALS

- .1 Disconnect and remove items of existing obsolete mechanical, fire suppression and plumbing work, or work designated for removal, and miscellaneous appurtenances. Disconnect equipment at point of supply, drain piping, remove obsolete valves and piping up to source, and make system safe. Remove obsolete piping and ducts in exposed locations. Where existing obsolete piping and ducts are noted as abandoned and cannot be removed, such as embedded in concrete, cut back and cap unless otherwise noted. Refer to drawings for additional requirements.
- .2 When respective work is deleted, such deletions are not to affect operation of existing interconnected mechanical or electrical components that remain.

- .3 Refer to applicable architectural and mechanical drawings which define extent of areas being demolished in existing building. Review drawings and site and include for demolition and/or renovation of services as required to accommodate alterations detailed.
- .4 Where existing services pass through or are in area to serve items retained, or pass through areas being deleted, maintain services, but re-route as required. Reroute existing services concealed behind existing finishes and which are exposed during renovation work, and conceal behind new or existing finishes. Review with Contract Administrator, services being kept in service and operational.
- .5 Protect existing devices being relocated or retained from damage. Prior to disconnection and de-energization, test retained devices, and verifying that each device is in proper working condition.
- .6 Close openings that result from removal of equipment, piping, ducts, and such products. Close openings with covers plates and surface patching materials reviewed with Contract Administrator, and properly terminate and seal to restore system to safe operating condition.
- .7 Where Work involves removal of existing process units which contain wastewater, grit, or sludge, remove entire contents and transport and dispose offsite.
- .8 Remove from site, existing materials that are disconnected and designated as obsolete or to be removed. Review such materials with Contract Administrator. Transport materials being retained, to storage area designated by Contract Administrator.
- .9 Arrange for disconnections of electrical power circuits feeding equipment being removed, with work of Division 26.
- .10 Include for workers that are licensed in their respective trades in place of Work, to perform respective work.
- .11 Prepare schedule of proposed shutdowns of existing services and submit to Contract Administrator. Perform shutdowns as scheduled and as reviewed with Contract Administrator.

END OF SECTION

1. General

1.01 RELATED REQUIREMENTS

- .1 Specifications and Drawings.
- .2 Unless otherwise noted, this Section is common to Sections of Division 26 and supplements each Section and read accordingly.
- .3 Common demolition requirements: Section 26 05 05.01 – Selective Demolition for Electrical.

1.02 REGULATORY REQUIREMENTS

- .1 Manitoba Building Code (MBC) adopting NBCC 2020.
- .2 Manitoba Fire Code (MFC) adopting NFC 2020.
- .3 Canadian Electrical Code (CSA C22.1).
- .4 City of Winnipeg – Demolition permit, electrical permit, contractor licensing, and inspections as applicable.
- .5 Manitoba Hydro – permanent service removal or temporary disconnection requirements; utility locates and safe excavation guidance.
- .6 Manitoba Workplace Safety & Health Act and Regulations – including Lockout/Tagout and control of hazardous energy.
- .7 Applicable Authority Having Jurisdiction (AHJ) directives and written approvals.

1.03 SUBMITTALS

- .1 Demolition Work Plan specific to electrical, indicating sequencing, areas of work, fenced limits, and coordination with the Prime Contractor.
- .2 Fire Protection / Fire Alarm Impairment Plan; obtain written AHJ acceptance prior to any impairments, shutdowns, or isolations.
- .3 Schedule of shutdowns (proposed dates/durations) – submit minimum 7 working days prior to each event.
- .4 Lockout/Tagout (LOTO) procedure for electrical isolation; include sample tags and sign-off sheet.
- .5 Utility confirmations from Manitoba Hydro (permanent service removal or temporary disconnect), and other utilities as applicable.
- .6 Temporary egress plan showing exit routes, exit signage, and emergency lighting provisions where areas remain occupied during demolition.
- .7 Waste management and recycling plan for electrical materials (cable, luminaires, battery units, devices).
- .8 Record documents: mark-ups of circuits removed and feeders abandoned; submit with closeout.

1.04 QUALITY ASSURANCE

- .1 Electrical Contractor: Licensed in City of Winnipeg; employ qualified electricians.
- .2 Permits and Inspections: Obtain and post required permits; coordinate mandatory inspections.
- 2. Products**
 - .1 Not used for demolition scope.
- 3. Execution**
 - 3.01 TEMPORARY SERVICES**
 - .1 Provide and maintain temporary electrical power and lighting to support demolition activities and safe egress. Provide GFCI protection for construction receptacles.
 - .2 Where any area remains occupied or traversed by workers, maintain exit signage and emergency lighting in accordance with MBC/NBCC requirements; provide temporary units as required.
 - .3 Provide power for pumps, heaters, or other temporary equipment as coordinated with Prime Contractor.
 - .4 Remove temporary services at completion; restore any affected surfaces in areas that remain.
 - 3.02 PHASING AND SCHEDULING OF WORK**
 - .1 Plan work to maintain services to areas that remain active (including the Electrical Shed).
 - .2 Do not interrupt services without Owner written consent. Submit shutdown requests minimum 7 working days in advance.
 - .3 Maintain continuous operations during shutdown windows; stage labour and materials to minimize outage duration.
 - 3.03 PROTECTION**
 - .1 Prevent uncontrolled falling of demolished materials; protect adjacent property, utilities, equipment to remain, and the public.
 - .2 Ensure no portion of remaining structure is overloaded by demolition activities.
 - .3 Keep debris clear of drainage and of any systems remaining active; provide guards/hoarding as required.
 - .4 Provide barricades, guards, railings, warning signs, lighting, and restricted access to protect workers and public.
 - 3.04 ELECTRICAL DEMOLITION**
 - .1 Implement Lockout/Tagout. Verify absence of voltage prior to disconnection of feeders and branch circuits.
 - .2 Trace all feeders from the Electrical Shed to buildings scheduled for demolition; disconnect at source and remove conductors and raceways.

- .3 Remove distribution equipment in buildings to be demolished, including panelboards, transformers, disconnects, bus, and feeders.
- .4 Identify and safely terminate any conductors that must remain in the Electrical Shed; provide permanent labels indicating 'ABANDONED – DE-ENERGIZED'.
- .5 Coordinate with Manitoba Hydro for permanent service removal or temporary disconnection of electric and gas services prior to demolition. Obtain written confirmations.
- .6 Perform locates and protect underground/overhead utilities; maintain separation and supports until removed.

3.05 DISPOSAL AND CLEAN-UP

- .1 Remove debris and demolished materials from site and dispose legally, separate recyclables and reusable materials to maximum extent practicable.
- .2 Do not allow demolished materials to accumulate; do not sell, burn, or bury materials on site.
- .3 At end of each workday, leave work and storage areas in clean condition with required hoardings and guards maintained.

3.06 FIELD REVIEW AND INSPECTIONS

- .1 Provide minimum 5 working days' notice for required field reviews prior to concealment or removal of temporary systems.
- .2 Do not conceal or remove temporary life-safety provisions until authorized by the Contract Administrator/AHJ.
- .3 Arrange for required City inspections and AHJ reviews.

3.07 FINAL ACCEPTANCE

- .1 All shutdowns completed and services restored or safely decommissioned as applicable.
- .2 Utility confirmations received (permanent removals or temporary disconnects closed out).
- .3 Temporary services removed; remaining systems left safe and labelled.
- .4 Record documents submitted (circuits removed, feeders abandoned).
- .5 Site cleaned; debris removed; any required patching/firestopping in remaining structures complete.
- .6 Owner/Contract Administrator final inspection completed and accepted; permit close-out documentation submitted.

END OF SECTION

1. General

1.01 REFERENCE STANDARDS

- .1 All references shall be to the latest edition.
- .2 National Research Council Canada (NRC):
 - .1 National Building Code of Canada (NBCC).
 - .2 National Fire Code of Canada (NFC).
- .3 CAN/ULC-S524, Standard for the Installation of Fire Alarm Systems.
- .4 CSA 22.1 – Canadian Electrical Code Part 1 (CEC), Safety Standard for Electrical Installations.
- .5 Winnipeg Electrical By-Law No. 72
- .6 Manitoba Electrical Code.
- .7 Manitoba Hydro Metering Standards.

1.02 REGULATORY REQUIREMENTS

- .1 Obtain required City of Winnipeg permits and inspections.
- .2 Provide required notices, coordinate utility shutdowns and meter removals with Manitoba Hydro prior to demolition.
- .3 Perform work in accordance with following (latest adopted editions and local amendments):
 - .1 Manitoba Building Code (adopting NBCC 2020).
 - .2 Canadian Electrical Code.
 - .3 City of Winnipeg.
 - .4 Manitoba workplace Safety and Health Act & Regulations.
 - .5 Manitoba Hydro.
 - .6 Authority Having Jurisdiction.

1.03 SUBMITTALS

- .1 Pre-demolition electrical isolation plan identifying all feeders, branch circuits, and devices to be disconnected or removed.
- .2 Utility coordination letter and outage/shutdown requests.
- .3 Provide a Fire Alarm Shutdown Plan and obtain written AHJ acceptance prior to implementing any systems impairments, shutdowns, or isolations.
- .4 Record of abandoned infrastructure left in place (with locations) and cap/seal details.
- .5 Photographic pre-condition survey of areas to remain affected by demolition activities.

1.04 QUALITY ASSURANCE

- .1 Electrical demolition work to be performed by licensed electricians.
- .2 Verify existing conditions and circuit routing prior to commencing work; do not rely solely on drawings.
- .3 Provide lock-out/tag-out procedures and maintain logs for all isolation.

- .4 Protect all active systems and circuits serving areas to remain; provide temporary power/lighting as required for demolition.

1.05 PROJECT SPECIFIC NOTES

- .1 Electrical Shed and all equipment within are to remain operational and protected for the duration of demolition.
- .2 Disconnect and remove existing underground feeder cables between the Electrical Shed and all buildings scheduled for demolition (including Main Restaurant/Banquet Hall, Pro Shop, Washroom Buildings, Observation Tower, and Covered Walkway).
- .3 Relocate existing utility electrical metering from the Banquet Hall/Main Building to the Electrical Shed. Coordinate with utility provider for cutover and verification.
- .4 Existing electrical utility equipment designated on drawings to remain shall be protected from damage; provide temporary barriers as required.
- .5 Remove all underground electrical raceways located within demolition limits. Where removal beneath existing asphalt or grassed areas is impractical or would damage areas to remain, terminate removal at the nearest accessible point and provide watertight capping and sealing of abandoned sections.
- .6 Maintain service continuity to the Electrical Shed at all times unless an outage is pre-approved by Owner and utility; provide temporary feeds as required.

2. Products

2.01 MATERIALS

- .1 Provide new materials required for safe termination, capping, and weatherproofing of abandoned systems (e.g., insulated bushings, watertight caps, listed splice kits, blank covers).
- .2 Provide junction boxes, labels, and warning tags where circuits are rerouted or extended to maintain service to the Electrical Shed.
- .3 Firestopping materials to be ULC-listed for the applicable assembly rating.

3. Execution

3.01 EXAMINATION AND SITE CONDITIONS

- .1 Field-verify locations, loads, and interconnections of all electrical systems before disconnection.
- .2 If hazardous materials are encountered, stop work and notify Owner/Contract Administrator; proceed only when cleared by AHJ.
- .3 Confirm that areas are unoccupied and isolated prior to demolition activities.

3.02 ELECTRICAL DEMOLITION

- .1 Provide Lockout/Tagout procedure and verify absence of voltage prior to disconnecting feeders and branch circuits.
- .2 Trace all feeders from the Electrical Shed to buildings scheduled for demolition; disconnect at source and remove conductors and raceways where accessible.

- .3 Remove distribution equipment in demolition buildings, including panelboards, transformers, disconnects, bus, and feeders.
- .4 Remove branch circuits, receptacles, dedicated equipment connections, and associated raceways in buildings to be demolished.
- .5 Remove all interior and exterior lighting fixtures, controls, and wiring in demolition buildings; ensure circuits serving the Electrical Shed remain intact.
- .6 Remove all exit and emergency lighting devices and circuits in demolition buildings
- .7 Fire alarm: remove devices, wiring, and control equipment in demolition buildings; terminate and/or reconfigure at the main FACP/annunciator to maintain system integrity for areas to remain; coordinate impairment and verification with AHJ and Owner.
- .8 Security systems (access control, intrusion): remove devices and cabling in demolition buildings; trace to head-end and provide clean terminations; maintain systems serving the Electrical Shed.
- .9 Underground site services: Locate, de-energize, and remove all abandoned underground conduits and cables located within the demolition limits. Where conduits or cables extend beyond the demolition boundaries or run beneath asphalt, concrete, or landscaped areas that are to remain, remove the services up to the edge of such surfaces and permanently cut, cap, and watertight-seal the remaining portions. Record the final location of all abandoned sections.
- .10 Remove from site, existing materials that are disconnected and designated as obsolete or to be removed. Review such materials with Contract Administrator. Transport materials being retained, to storage area designated by Contract Administrator.
- .11 Coordinate performance of following with other trades:
 - .1 Removal from site and proper dispose of materials which are removed and are not designated for re-use in the Work.
 - .2 Removal of materials and items designated for salvage and storage in manner to prevent damage or devaluation of materials.

3.03 PROTECTION

- .1 Take steps to positively prevent uncontrolled falling of demolished materials.
- .2 Ensure remaining structure is not overloaded during demolition activities.
- .3 Keep debris clear of drainage, equipment, and any systems that remain active; provide temporary guards or hoarding as needed.
- .4 Provide and maintain barricades, guards, railings, warning signs, lighting, and restricted access to protect workers and the public during demolition.

3.04 CUTTING, PATCHING AND FIRESTOPPING

- .1 Cutting, patching, and firestopping remain required where building elements are to remain. Provide firestopping at all openings left in rated assemblies. Where assemblies are being fully demolished, firestopping is not required.

3.05 DISPOSAL AND CLEAN-UP

- .1 Package materials, rubbish, and debris resulting from demolition and remove from site and legally dispose.

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- .2 Separate recyclable and reusable materials to maximum extent possible from general waste stream and place in recycling containers and bins. When full and Work is complete, remove recycling containers and bins from site and dispose of materials at appropriate authority having jurisdiction designated facilities.
 - .3 Do not allow demolished materials to accumulate on site. As work progresses, remove and legally dispose of materials away from site.
 - .4 Selling, burning or burying of materials on site is not permitted.
 - .5 Prior to end of each work day, leave work and storage areas in clean condition with required hoardings and guards in place.

END OF SECTION

Part 1 General

1.1 MEASUREMENT PROCEDURES

- .1 Excavated, backfilling, compaction, grading will be measured and paid on a lump sum basis as shown in the Bid Documents.
- .2 Shoring, bracing, cofferdams, and de-watering of excavation as may be required, will not be measured separately for payment.

1.2 REFERENCE STANDARDS

- .1 City of Winnipeg Construction Specification – CW2030 Excavation & Backfill.
- .2 ASTM International (ASTM)
 - .1 ASTM C117-17, Standard Test Method for Material Finer than 0.075 mm (No.200) Sieve in Mineral Aggregates by Washing.
 - .2 ASTM C136-19, Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
 - .3 ASTM D422-63 (2007), Standard Test Method for Particle-Size Analysis of Soils.
 - .4 ASTM D698-12e2, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³) (600 kN-m/m³).
 - .5 ASTM D1557-12e1, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³) (2,700 kN-m/m³).
 - .6 ASTM D4318-17e1, Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.
- .3 CSA Group (CSA)
 - .1 CAN/CSA-A3000-2018, Cementitious Materials Compendium (Consists of A3001, A3002, A3003, A3004 and A3005).
 - .1 CSA-A3001-2018, Cementitious Materials for Use in Concrete.
 - .2 CSA-A23.1/A23.2-19, Concrete Materials and Methods of Concrete Construction/Methods of Test and Standard Practices for Concrete.

1.3 DEFINITIONS

- .1 Unclassified excavation: excavation of deposits of whatever character encountered in Work.
- .2 Unsuitable materials:
 - .1 Weak, chemically unstable, and compressible materials.
 - .2 Frost susceptible materials.
- .3 Waste material: excavated material unsuitable for use in Work or surplus to requirements.

1.4 QUALITY ASSURANCE

- .1 Qualification Statement: submit proof of insurance coverage for professional liability.
- .2 Contractor to submit proof of insurance coverage.

- .3 Submit design and supporting data at least 2 weeks prior to beginning Work.
- .4 Design and supporting data submitted to bear stamp and signature of qualified professional engineer registered or licensed in Manitoba, Canada.
- .5 Keep design and supporting data on site.
- .6 Engage services of qualified professional Engineer who is registered or licensed in Manitoba, Canada in which Work is to be carried out to design and inspect cofferdams, shoring, bracing and underpinning required for Work.
- .7 Do not use soil material until written report of soil test results are reviewed by Consultant.
- .8 Health and Safety Requirements:
 - .1 Do construction occupational health and safety in accordance with regulatory and City requirements.

1.5 EXISTING CONDITIONS

- .1 Examine soil report available.
- .2 Buried services:
 - .1 Before commencing work verify location of buried services on and adjacent to site.
 - .2 Arrange with appropriate authority for relocation of buried services that interfere with execution of work: pay costs of relocating services.
 - .3 Remove obsolete buried services within 2 m of foundations: cap cut-offs.
 - .4 Size, depth and location of existing utilities and structures as indicated are for guidance only. Completeness and accuracy are not guaranteed.
 - .5 Prior to beginning excavation Work, notify utility companies and establish location and state of use of buried utilities and structures. Utility companies to clearly mark such locations to prevent disturbance during Work.
 - .6 Confirm locations of buried utilities by careful soil hydrovac methods.
 - .7 Maintain and protect from damage, water, sewer, gas, electric, telephone and other utilities and structures encountered.
 - .8 Where utility lines or structures exist in area of excavation, obtain direction of Consultant before removing.
 - .9 Record location of maintained, re-routed and abandoned underground lines.
 - .10 Confirm locations of recent excavations adjacent to area of excavation.
- .3 Existing buildings and surface features:
 - .1 Conduct, with Consultant, condition survey of existing buildings, trees and other plants, lawns, fencing, service poles, wires, rail tracks, pavement, survey benchmarks and monuments which may be affected by Work.
 - .2 Protect existing buildings and surface features from damage while Work is in progress. In event of damage, immediately make repair as directed by Consultant.

Part 2 Products

2.1 MATERIALS

- .1 All materials to be in accordance with City of Winnipeg Standard Construction Specification – CW2030 Excavation & Backfill.
- .2 Unshrinkable fill:
 - .1 All materials to be in accordance with City of Winnipeg Standard Design and Construction Specification.

Part 3 Execution

3.1 TEMPORARY EROSION AND SEDIMENTATION CONTROL

- .1 Provide temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.
- .2 Contractor to supply plan to consultant to review prior to commencing
- .3 Inspect, repair, and maintain erosion and sedimentation control measures during construction until permanent vegetation has been established.
- .4 Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

3.2 SITE PREPARATION

- .1 Remove obstructions, ice and snow, from surfaces to be excavated within limits indicated.
- .2 Cut pavement or sidewalk neatly along limits of proposed excavation in order that surface may break evenly and cleanly.

3.3 PREPARATION/PROTECTION

- .1 Protect existing features in accordance with applicable local regulations.
- .2 Keep excavations clean, free of standing water, and loose soil.
- .3 Where soil is subject to significant volume change due to change in moisture content, cover and protect to Consultant approval.
- .4 Protect natural and man-made features required to remain undisturbed. Unless otherwise indicated or located in an area to be occupied by new construction, protect existing trees from damage.
- .5 Protect buried services that are required to remain undisturbed.

3.4 STRIPPING OF TOPSOIL

- .1 Begin topsoil stripping of areas as directed by Consultant after area has been cleared of weeds, brush, grasses and removed from site.
- .2 Strip topsoil to depths as directed by Consultant.
 - .1 Do not mix topsoil with subsoil.
- .3 Stockpile in locations as directed by Consultant.

- .1 Stockpile height not to exceed 2 m and should be protected from erosion.
- .4 Dispose of unused topsoil to location as directed by Consultant.

3.5 STOCKPILING

- .1 Stockpile fill materials in areas designated by the Consultant.
- .2 Maintain sides and slopes of excavations in safe condition by appropriate methods and in accordance with Health and Safety Act for the Province of Manitoba.
 - .1 Where conditions are unstable, contractor to advise methods for consultant review and acceptance.
- .3 Obtain permit from Authority having jurisdiction for temporary diversion of water course.
- .4 Construct temporary Works to depths, heights and locations as indicated and approved by Consultant.
- .5 During backfill operation:
 - .1 Unless otherwise indicated or directed by Consultant, remove sheeting and shoring from excavations.
 - .2 Do not remove bracing until backfilling has reached respective levels of such bracing.
 - .3 Pull sheeting in increments that will ensure compacted backfill is maintained at elevation at least 500 mm above toe of sheeting.
- .6 When sheeting is required to remain in place, cut off tops at elevations as indicated.
- .7 Upon completion of substructure construction:
 - .1 Remove cofferdams, shoring and bracing.
 - .2 Remove excess materials from site and restore watercourses as directed by Consultant.

3.6 DEWATERING AND HEAVE PREVENTION

- .1 Keep excavations free of water while Work is in progress.
- .2 Provide for Consultant's review the details of proposed dewatering or heave prevention methods, including dikes, well points, and sheet pile cut-offs.
- .3 Avoid excavation below groundwater table if quick condition or heave is likely to occur.
 - .1 Prevent piping or bottom heave of excavations by groundwater lowering, sheet pile cut-offs, or other means.
- .4 Protect open excavations against flooding and damage due to surface run-off.
- .5 Dispose of water in a manner not detrimental to public and private property, or portion of Work completed or under construction.
 - .1 Provide and maintain temporary drainage ditches and other diversions outside of excavation limits.
- .6 Provide flocculation tanks, settling basins, or other treatment facilities to remove suspended solids or other materials before discharging to storm sewers, watercourses or drainage areas.

3.7 EXCAVATION

- .1 Advise Consultant at least 7 days in advance of excavation operations for initial cross sections to be taken.
- .2 Excavate to lines, grades, elevations and dimensions as directed by Consultant.
- .3 Excavation must not interfere with bearing capacity of adjacent foundations.
- .4 Do not disturb soil within branch spread of trees or shrubs that are to remain.
 - .1 If excavating through roots, excavate by hand and cut roots with sharp axe or saw.
- .5 Keep excavated and stockpiled materials safe distance away from edge of trench as directed by Consultant.
- .6 Restrict vehicle operations directly adjacent to open trenches.
- .7 Dispose of surplus and unsuitable excavated material as directed by Consultant.
- .8 Do not obstruct flow of surface drainage or natural watercourses.
- .9 Earth bottoms of excavations to be undisturbed soil, level, free from loose, soft or organic matter.
- .10 Notify Consultant when bottom of excavation is reached.
- .11 Obtain Consultant approval of completed excavation.
- .12 Remove unsuitable material from trench bottom including those that extend below required elevations to extent and depth as directed by Consultant.
- .13 Correct unauthorized over-excavation as follows:
 - .1 Fill under other areas with Type 2 fill compacted to not less than 95 % of corrected Standard Proctor maximum dry density in accordance with the City of Winnipeg Design and Construction Specifications.
- .14 Hand trim, make firm and remove loose material and debris from excavations.
 - .1 Where material at bottom of excavation is disturbed, compact foundation soil to density at least equal to undisturbed soil.

3.8 FILL TYPES AND COMPACTION

- .1 Use types of fill as indicated or specified below. Compaction densities are percentages of maximum densities obtained from ASTM D698 in accordance with City of Winnipeg Standard Design and Construction Specifications.
 - .1 All fill types and compaction in accordance with City of Winnipeg Standard Design and Construction Specifications.

3.9 BACKFILLING

- .1 Vibratory compaction equipment required to meet required compaction results.
- .2 Do not proceed with backfilling operations until completion of following:
 - .1 Consultant has inspected and approved installations.
 - .2 Consultant has inspected and approved of construction below finish grade.
 - .3 Inspection, testing, approval, and recording location of underground utilities.
 - .4 Removal of concrete formwork.

- .5 Removal of shoring and bracing; backfilling of voids with satisfactory soil material.
- .3 Areas to be backfilled to be free from debris, snow, ice, water and frozen ground.
- .4 Do not use backfill material which is frozen or contains ice, snow or debris.
- .5 Place backfill material in uniform layers not exceeding 300 mm compacted thickness up to grades indicated. Compact each layer before placing succeeding layer.
- .6 Backfilling around installations:
 - .1 Place bedding and surround material as specified elsewhere.

3.10 RESTORATION

- .1 Upon completion of Work, remove waste materials and debris trim slopes, and correct defects as directed by Consultant.
- .2 Replace topsoil as indicated in drawings.
- .3 Reinstall pavements and sidewalks disturbed by excavation to thickness, structure and elevation which existed before excavation.
- .4 Clean and reinstall areas affected by Work as directed by Consultant.
- .5 Protect newly graded areas from traffic and erosion and maintain free of trash or debris.

END OF SECTION

PART 1 GENERAL

1.1 General and Related Work

- .1 Read this Section in conjunction with all drawings and all other Sections so as to comply with the requirements of Division 1 and the General Conditions of the Contract.
- .2 Related work specified elsewhere:
 - Section 02 82 00.01 Asbestos Abatement – Type 1 (Low Risk) Procedures
- .3 Site Conditions identifies all known hazardous building materials within the Project Area. The information provided is for general reference only. Each Contractor must confirm existing conditions on site prior to tender close.
 - .1 The specification fulfils the requirements of Part 36 and 37 of Manitoba Workplace Safety and Health Regulation 217/2006.
- .4 The Outline of Work identifies the location, condition and quantities of hazardous building materials to be removed as part of this project.
 - .1 It is the intent that work prescribed this Section will result in the removal of all hazardous materials as outlined and the decontamination of all surfaces or materials which may have been or become contaminated by hazardous materials either during or prior to work of this Contract.

1.2 Site Conditions

- .1 Refer to City of Winnipeg Drawings for the locations of asbestos-containing floor tiles and locations of doors that have asbestos-containing vermiculite in the cores.
- .2 Asbestos
 - .1 The following materials have been confirmed to contain asbestos:
 - .1 Caulking on windows throughout both buildings is known to contain asbestos.
 - .2 Three exterior doors and one interior door are known to contain asbestos-containing vermiculite within the door cores.
 - .3 Vinyl floor tiles, containing asbestos, is present in the following locations:
 - .1 Storage Room under the cooler.
 - .2 Office HC-05 under cabinets.
 - .3 Music / Storage Room under the tower.
- .3 General Building Conditions
 - .1 Heat and smoke detectors to remain live throughout work.
 - .2 Sprinklers to remain live throughout work.

1.3 Outline of Work

- .1 Coordinate the following items with the Owner's Project Manager and the Construction Manager, including but not limited to: electrical isolations, GFI connection, HVAC and exhaust ventilation system isolation, bin placement, schedule, disconnects, etc.
- .2 Using procedures prescribed in the Sections identified in Related Work, remove and dispose of the following:
 - .1 Asbestos-containing vinyl floor tiles at the following locations.
 - .1 Storage Room under the cooler.
 - .2 Office HC-05 under cabinets.
 - .3 Music / Storage Room under the tower.
 - .2 Asbestos-containing caulking from windows throughout the buildings.
 - .3 Doors that have asbestos-containing vermiculite within the cores.
- .3 Refer to Specification Sections identified in the Related Work for specified personnel protective measures for the safe handling, removal or clean-up of hazardous materials in each phase or work area.
- .4 Visit the site prior to tender close to confirm the location and extent of any hazardous building materials or materials contaminated by hazardous materials.
- .5 Protect surfaces, building fabrics and items remaining within the Abatement Work Area.
- .6 Without disturbing hazardous materials, perform removals where required, prior to abatement work.
 - .1 Maximize waste diversion by use of resale of building materials, or recycling.
- .7 Isolate the Abatement Work Area from adjoining Occupied and Non-Occupied Areas whether present at an interior or exterior location.
- .8 Maintain emergency and fire exits from Abatement Work Area, or establish alternative exits satisfactory to Provincial Fire Marshall and local authorities having jurisdiction. Maintain extra routes from occupied areas. Place emergency exit signs at locations to clearly mark exit route. Seal emergency exit doors so as not to impede use of door during emergency evacuation.
- .9 Perform selective demolition of mechanical and electrical equipment, building components, materials and items scheduled for demolition at locations required to facilitate asbestos removal. Refer to all Contract Documents for responsibility of demolition work and disposal.
- .10 Remove and dispose of as appropriate waste, building components, materials and items contaminated by hazardous materials that cannot be effectively cleaned.
- .11 Final clean work area to remove visible signs of asbestos and other hazardous materials, other debris or settled dust.

- .12 Apply lock-down agent to exposed surfaces throughout the work area and to surfaces from which any hazardous materials have been removed.
 - .1 Do not apply lock-down to materials which would be damaged by its application.
- .13 Unless otherwise specified, the handling, removal, clean-up or repair of hazardous materials or surfaces contaminated with hazardous materials is to be performed following wet removal techniques.

1.4 Schedule

- .1 Provide necessary manpower, supervision, equipment and materials to maintain and complete the project on schedule.
- .2 Work Hours:
 - .1 Coordinate all work, scheduling and phasing with the Owner.
 - .2 NOTE: Duration for which HVAC systems may remain shutdown to accommodate quiet hours work will vary in accordance with outside weather conditions and internal demand. Duration of quiet hours work will have to be scheduled accordingly and in consultation with the Abatement Consultant.
- .3 Provide 48 hours written notice to the Abatement Consultant of any request to work outside normal working hours. Obtain written approval before proceeding.

1.5 Definitions

- .1 Abatement Consultant: Owner's Representative providing site review and air monitoring.
- .2 Abatement Contractor: Contractor or sub-contractor performing work of this section.
- .3 Abatement Work Area: Area where work takes place which will, or may, disturb hazardous materials.
- .4 Amended Water: Water with wetting agent added for the purpose of reducing surface tension to allow thorough wetting of materials.
- .5 Asbestos: Any of the fibrous silicates defined in Regulation 217/2006 including: actinolite, amosite, anthophyllite, chrysotile, crocidolite and tremolite.
- .6 Asbestos-Containing Material (ACM): Material identified under Site Conditions including any debris, overspray, fallen material and settled dust.
- .7 Authorized Visitors: Building Owner, Abatement Consultant, or designated representative, and persons representing regulatory agencies.
- .8 Competent Worker: A worker who is qualified because of knowledge, training and experience to perform the work, is familiar with applicable regulations and guidelines, and has knowledge of the potential or actual danger to health and safety in the work.

- .9 Contaminated Waste: Material identified under Site Conditions, including fallen material, settled dust, other debris and materials or equipment deemed to be contaminated by the Abatement Consultant.
- .10 DOP Test: A testing method used to determine the integrity of the vacuum using a Dispersed Oil Particulate (DOP) or Poly Alpha Olefin (PAO) HEPA filter leak test. This test is to be conducted on site where units are to be installed. Refer to the Environmental Abatement Council of Ontario (EACO) DOP/PAO Testing Guideline 2013 or ANSI/ASME N510-2007.
- .11 Friable Material: Material that when dry can be crumbled, pulverized or powdered by hand pressure and includes such material that is crumbled, pulverized or powdered.
- .12 HEPA Filter: High Efficiency Particulate Aerosol filter that is at least 99.97 percent efficient in collecting a 0.3 micrometre aerosol.
- .13 Milestone Site Review: Site Review of the Abatement Work Area at a defined point in the abatement operation.
- .14 Non-Friable Material: Material that when dry cannot be crumbled, pulverized or powdered by hand pressure.
- .15 Occupied Area: Any area of the building or adjoining space outside the Abatement Work Area.
- .16 Personnel: All Contractor's employees, sub-contractors employees, supervisors.
- .17 PCM: Phase Contrast Microscopy.
- .18 Remove: Remove means remove and dispose of (as applicable type of waste) unless followed by other instruction (e.g. remove and turn over to Owner).

1.6 Regulations and Guidelines

- .1 Comply with Federal, Provincial, and local requirements, provided that in any case of conflict among those requirements or with these Specifications, the more stringent requirements shall apply. Work shall be performed under regulations in effect at the time work is performed.
- .2 Where regulations are not present, follow accepted industry standards and applicable Guideline documents.
- .3 Regulations and Guidelines include but are not limited to the following:
 - .1 Workplace Safety and Health Act W210.
 - .2 Workplace Safety and Health Regulation M.R. 217/2006
 - .3 Safe Work Manitoba Guide for Asbestos Management
 - .4 The Dangerous Goods Handling and Transportation Act C.C.S.M c. D12.

- .5 Hazardous Waste Regulation, M.R. 195/2015.
- .6 Dangerous Goods Handling and Transportation Regulation, M.R. 55/2003.
- .7 Transportation of Dangerous Goods Regulation (SOR 219/2019-101).

1.7 Quality Assurance

- .1 Removal and handling of hazardous materials is to be performed by persons trained in the methods, procedures and industry practices for Abatement.
- .2 Ensure work proceeds to schedule, meeting all requirements of this Specification.
- .3 Complete work so that at no time airborne dust, visible debris, or water runoff contaminate areas outside the Abatement Work Area.
- .4 Any contamination of surrounding area (indicated by visual site review or air monitoring) shall necessitate the clean-up of affected area, and in the same manner applicable to an Abatement Work Area at no cost to the Owner.
- .5 All work of this Section involving electrical, mechanical, carpentry, glazing, etc., shall be performed by licensed persons experienced and qualified for the work required.

1.8 Supervision

- .1 Provide on site for each work shift, a Shift Superintendent(s), who has authority regarding all aspects related to manpower, equipment and production.
- .2 Supervisory personnel must hold a recognized certificate proving attendance at an asbestos removal training course (3 day minimum duration) and have performed supervisory functions on at least five (5) other asbestos abatement projects of similar size and complexity.
- .3 At all times during work, the Shift Superintendent(s) must be on site. Failure to comply with this requirement will result in a stoppage of all work, at no cost to the Owner.
- .4 Replace supervisory personnel, with approved replacements, within three (3) working days of a written request from the Owner. Owner reserves the right to request replacement of supervisory personnel without explanation.
- .5 Do not replace supervisory personnel without written approval from the Owner.

1.9 Notification

- .1 Not later than 5 days before commencing asbestos abatement work on this project, notify the local office of the Manitoba Workplace Safety and Health Division.
- .2 Notify Sanitary Landfill site as per local requirements.
- .3 Inform all trades on site of the presence and location of hazardous materials identified in the Contract documents.

- .4 Notify the Owner or Owner's Representative, if suspected asbestos-containing materials not identified in the contract documents are discovered during the course of the work. Stop work in these areas immediately.

1.10 Submittals

- .1 Submit prior to starting work:
 - .1 Provincial Workers' Compensation Board Clearance Certificate.
 - .2 Insurance certificates.
 - .3 Copy of Company Health and Safety Policy and applicable programs.
 - .4 Provincial Regulator Notice of Project form.
 - .5 Copy of Certificate of Approval for disposal of hazardous materials waste and location of landfill.
 - .6 Pre-removal damage survey of the Abatement Work Area(s), waste transport routes, and bin storage areas.
- .2 Submit the following information regarding personnel prior to starting work:
 - .1 Resumes of the supervisory personnel.
 - .2 Proof in the form of a certificate that supervisory personnel have attended a training course on asbestos (3 day minimum duration).
 - .3 Written statement that personnel have had instruction on hazards of exposure to hazardous materials identified within this scope, the use of respirator, protective clothing, worker and waste decontamination procedures, and all aspects of work procedures and protective measures.
 - .4 Proof of training for the following site specific hazards or conditions identified:
 - .1 Working at Heights
 - .5 Written statement that personnel have had instruction on hazards of exposure to hazardous materials identified within this scope, the use of respirator, protective clothing, worker and waste decontamination procedures, and all aspects of work procedures and protective measures.
 - .6 WHMIS training certificates for all personnel.
 - .7 Certificate proving that each worker on site has been fit tested for the respirator appropriate for the work being performed.
 - .8 Proof, satisfactory to the Consultant, that all persons involved in the transport and disposal hazardous materials have been trained in accordance with the requirements of Federal and Provincial Transportation of Dangerous Goods Acts and Regulations.

- .3 Submit the following information regarding HEPA filtered devices prior to construction of enclosure or asbestos abatement:
 - .1 Performance data on HEPA filtered vacuums including DOP tests no more than 3 months old.
 - .2 DOP tests to be performed by an independent testing company.
 - .1 DOP testing company is required to submit a detailed technical report of testing protocol, including Introduction, Methodology, Results, Conclusions, and Recommendations, including results of the Air-Aerosol Mixing Uniformity test as per ASME N510-1989 (1995).
 - .2 DOP testing company must also provide calibration certificates from an independent calibration firm or from the manufacturer of the testing equipment for both the aerosol photometer and the pressure gauge on the aerosol generator dated within 1 calendar year from the on-site testing date.
 - .3 DOP testing company must also provide the National Sanitation Foundation (NSF) certification name and number of the on-site technician performing the testing.
 - .3 Proof of calibration of DOP testing equipment.
- .4 Submit the following prior to isolating the work area:
 - .1 Safety Data Sheets for chemicals or material used in the course of the Abatement Project.
- .5 Submit the following upon completion of the work.
 - .1 Manifests, waybills, bills of lading etc. as applicable for each type of waste.

1.11 Site Review

- .1 From commencement of work until completion of clean-up operations, the Abatement Consultant is empowered by the Owner to inspect for compliance with the requirements of governing authorities, adherence to specified procedures and materials, and to inspect for final cleanliness and completion.
- .2 The Abatement Consultant is empowered by the Owner to order a shutdown of work when leakage of asbestos from the controlled work area has occurred or is likely to occur.
- .3 Any deviation from the requirements of the Specifications or governing authorities that is not approved in writing may result in a stoppage of work, at no cost to the Owner.
- .4 Additional labour or materials expended by the Contractor to rectify unsatisfactory conditions and to provide performance to the level specified shall be at no additional cost to the Owner.

- .5 Site reviews and air monitoring performed as a result of Contractor's failure to perform satisfactorily regarding quality, safety, or schedule, shall be back-charged to the Contractor.
- .6 Facilitate site reviews and provide access as necessary. Make good work disturbed by site reviews and testing at no cost to the Owner.
- .7 Refer to the Sections identified in Related Work for specified milestone site reviews which are to take place at defined points throughout the abatement operation specific to each phase or work area.
- .8 Provide 24 hours written notice to the Abatement Consultant of any request for scheduling of milestone site reviews or transportation of waste through Occupied Areas.
- .9 The following Milestone Site Reviews may take place, at the Owner's cost.
 - .1 Milestone Site Review - Visual Clearance
 - .1 Review of Abatement Work Area after completion of all abatement, but prior to application of lock-down agents or dismantling of enclosure.
 - .2 Milestone Site Review – Clearance Sampling
 - .1 Air monitoring performed following removal of asbestos and application of slow drying sealer to ensure fibre levels inside the enclosure(s) are within the acceptable limits.
- .10 Refer to the Sections identified in Related Work for specified milestone site reviews which are to take place at defined points throughout the abatement operation specific to each phase or work area.
- .11 Do not proceed with next phase of work until written approval of each milestone is received from the Abatement Consultant.

1.12 Air Monitoring - Asbestos

- .1 Air monitoring will be performed using Phase Contrast Microscopy (PCM) following the National Institute for Occupational Safety and Health Method 7400.
- .2 Co-operate in the collection of air samples. Contractor will be responsible for the cost of testing equipment repairs or resampling resulting from the actions of the Contractor's forces.
- .3 Results of PCM samples of 0.05 fibres per cubic centimeter of air (fibre/cc) or greater, within an Abatement Work Area, will indicate asbestos contamination of these areas. Respond as follows:
 - .1 Suspend work within the Work Area until written authorization to resume work has been received from the Abatement Consultant.
 - .2 Isolate and clean area in the same manner applicable to the Abatement Work Area.

- .3 Maintain work area isolation, and repeat clean-up operations until visual site review and air monitoring results are at a level equal to that specified.
- .4 Additional labour or materials expended by the Contractor to rectify unsatisfactory conditions and to provide performance to the level specified shall be at no additional cost to the Owner.
- .5 Cost of additional site review and sampling performed as a result of elevated fibre levels in areas outside the Abatement Work Area or from within the work area following completion of work, will be back-charged to the Contractor.

1.13 Worker Protection

- .1 Instruct workers before allowing entry to the Abatement Work Area. Instruction shall include training in use of respirators, dress, entry and exiting from an Abatement Work Area, and all other aspects of work procedures and protective measures.
- .2 Workers shall not eat, drink, chew gum or tobacco, or smoke in the Abatement Work Area.
- .3 Workers shall be fully protected at all times when possibility of disturbance of hazardous materials exists.
- .4 Provide soap, towels and facilities for washing of hands and face, which shall be used by all personnel when leaving the Abatement Work Area.
- .5 Respiratory Protection
 - .1 Refer to each particular Section of the Specification for specified type of respiratory equipment specific to each phase or work area.
 - .2 Respirators shall be:
 - .1 Certified by the National Institute of Occupational Safety and Health (NIOSH) or other testing agency acceptable to the Provincial regulator.
 - .2 Fitted so that there is an effective seal between the respirator and the worker's face. Ensure that no person required to enter an Abatement Work Area has facial hair which affects the seal between respirator and face.
 - .3 Assigned to a worker for their exclusive use.
 - .4 Maintained in accordance with manufacturer's specifications.
 - .5 Cleaned, disinfected and inspected by a competent person after use on each shift, or more often if required.
 - .6 Repaired or have damaged or deteriorated parts replaced.
 - .7 Stored in a clean and sanitary location.
 - .8 Provided with new filters as necessary, according to manufacturer's instructions.
 - .9 Worn by personnel who have been fit checked by qualitative or quantitative fit-testing.
 - .10 Instruction on proper use of respirators must be provided by a competent person as defined by the Occupational Health and Safety Act.

- .3 Provide protective clothing, to all personnel which:
 - .1 Is made of a material that does not readily retain nor permit penetration of asbestos fibres.
 - .2 Consists of head covering and full body covering that fits snugly at the ankles, wrists and neck.
 - .3 Once coveralls are worn, treat and dispose of as contaminated waste.
 - .4 Is replaced or repaired if torn or ripped.
- .4 Use hard hats, safety footwear and other protective equipment and apparel required by applicable construction safety regulations.

1.14 Visitor Protection

- .1 Provide clean protective clothing and equipment to Authorized Visitors.
- .2 Instruct Authorized Visitors in the use of protective clothing and Abatement Work Area entry and exit procedures.
- .3 Authorized visitors are required to be fit tested on respirators, prior to entering Abatement Work Area.

1.15 Signage

- .1 Asbestos Abatement Signs: Post signs at access points to the Abatement Work Area, stating at minimum, the following:
 - .1 There is an asbestos dust hazard.
 - .2 Access to the work area is restricted to persons wearing protective clothing and equipment.
- .2 Bins and Asbestos Waste Containers: Post signs on both sides of every asbestos waste container. Signs must display thereon in large, easily legible letters that contrast in colour with the background the word “CAUTION” in letters not less than ten centimetres in height and the words:
 - .1 CONTAINS ASBESTOS FIBRES
 - .2 Avoid Creating Dust and Spillage
 - .3 Asbestos May be Harmful To Your Health
 - .4 Wear Approved Protective Equipment.
- .3 Place placards in accordance with Transportation of Dangerous Goods Act.

1.16 Waste and Material Handling

- .1 Waste bins must be placed on grade or in receiving.

- .2 All bins for hazardous materials must be covered and locked when waste transfer is not being performed.
- .3 Ensure redundant non-ACM, rubble, debris, etc. removed during contaminated work are treated, packaged, transported and disposed of as appropriate waste.
- .4 Clean, wash and apply Post Removal Sealant to metal waste prior to removal from Abatement Work Area. Recycle metals.
- .5 Clean, wash and apply Post Removal Sealant to non-porous materials prior to disposal as clean waste. Obtain prior written approval from the Abatement Consultant for each individual type of material.
- .6 Clean and wash equipment prior to removal from Abatement Work Area if removed prior to completion.
- .7 Place all equipment, tools and unused materials that cannot be cleaned in Abatement Waste Containers.
- .8 As work progresses, and at regular intervals, transport the sealed and labelled waste containers from the Abatement Work Area to waste bin.
- .9 Place items in bins according to waste classification. Place asbestos waste, metals, non-asbestos waste, etc. in separate bins.
- .10 Removal of waste containers and decontaminated tools and materials from the Abatement Work Area shall be performed as follows:
 - .1 Remove any visible contamination from the surface of non-porous or cleanable waste being removed from the Abatement Work Area. If the item can be cleaned, remove it from the site as clean waste.
 - .2 Place waste or item in Waste Container and seal closed.
 - .3 Wet wipe outside of Waste Container.
 - .4 At the perimeter of the Abatement Work Area, place in second Waste Container. Seal closed.
 - .5 Remove waste containers and transport to appropriate bin.
- .11 Transport waste and materials via the predetermined routes and exits. Arrange waste transfer route with Owner. Use a closed, covered cart to transport through Occupied Areas.
- .12 Use Low Risk Procedures while transporting asbestos waste through facility.
- .13 Provide workers transporting waste with means to access full personal protective equipment and all tools required to properly clean up spilled material in the case of a rupture of a Waste Container.

- .14 Pick-up and drop off of garbage bin shall be at pre-approved times and must not interfere with the Owners operations.
- .15 Transport hazardous waste to landfill in accordance with provincial requirements.
- .16 Cooperate with inspectors from the provincial regulator and immediately carry out instructions for remedial work at dump to maintain environment, at no additional cost to the Owner.

1.17 Re-establishment of Objects and Systems

- .1 Re-establish objects and items relocated by the Contractor's workforce to facilitate work.
- .2 Re-establish electrical, communication, HVAC and other services previously disconnected or otherwise isolated to accommodate work by this Section.
- .3 Make good at completion of work, all damage not identified in pre-removal survey.

PART 2 PRODUCTS AND FACILITIES

2.1 Materials and Equipment

- .1 Refer to the Sections identified in Related Work for specified materials, equipment or facilities specific to each phase or work area.
- .2 Materials and equipment must be in good condition and free of debris and fibrous materials. Disposable items must be of new materials only.
- .3 Airless Sprayer: AC powered pressure washer that allows wetting agent to mix with water, uses no air or compressed air, and has a nozzle to regulate power and pressure.
- .4 Amended Water: Water with wetting agent added for purpose of reducing surface tension to allow thorough wetting of materials.
- .5 Asbestos Waste Container: A container acceptable to disposal site, and the provincial regulator comprised of the following:
 - .1 Dust tight.
 - .2 Suitable for the type of waste.
 - .3 Impervious to asbestos.
 - .4 Identified as asbestos waste.
- .6 HEPA Vacuum: Vacuum with necessary fittings, tools and attachments. Discharged air must pass through a HEPA filter.
- .7 Polyethylene Sheeting: 6 mil (0.15 mm) minimum thickness unless otherwise specified, in sheet size to minimize joints.: 6 mil (0.15 mm) minimum thickness unless otherwise specified, in sheet size to minimize joints.

- .8 Post Removal Sealant (or Lockdown): Sealant that when applied to surfaces serves the function of trapping residual asbestos fibres or other dust. Product must have flame spread and smoke development ratings both less than 50. Product shall leave no stain when dry. Post Removal Sealant shall be compatible with replacement insulation or fireproofing where required and capable of withstanding service temperature of substrate. Apply to manufacturer's instructions.
- .9 Protective Clothing: Disposable coveralls complete with head covering and full body covering that fits snugly at the ankles, wrists and neck.
- .10 Rip-Proof Polyethylene Sheeting: 8 mil (0.20 mm) fabric made up from 5 mil (0.13 mm) weave and two (2) layers of 1.5 mil (0.05 mm) poly laminate or approved equal. In sheet size to minimize on-site seams and overlaps.
- .11 Sprayer: Garden type portable manual sprayer or water hose with spray attachment if suitable.
- .12 Tape: Duct tape or tape suitable for sealing polyethylene to surfaces under both dry and wet conditions in the presence of Amended Water.
- .13 Wetting Agent: Non-sudsing surfactant added to water to reduce surface tension and increase wetting ability.

PART 3 EXECUTION

- .1 Refer to the Sections identified in Related Work for specified procedures for work area preparation, maintenance, site dismantlement, application of lock-down agent and all other procedures for the safe handling, removal and clean-up of hazardous materials specific to each phase or work area.

END OF SECTION

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PART 1 GENERAL

1.1 General and Related Work

- .1 Read this Section in conjunction with all drawings and all other Sections so as to comply with the requirements of Division 1 and the General Conditions of the Contract.
- .2 Requirements specified elsewhere:
 - .1 Section 02 81 00 Hazardous Materials – General Provisions

1.2 Outline of Work

- .1 Refer to Section 02 81 00 Hazardous Materials – General Provisions for the Outline of Work.
- .2 Isolate the Abatement Work Area from adjoining spaces through the installation of temporary barriers and partitions as specified herein.
- .3 The intent of this Section is to provide safe work practices and procedures to govern the handling, removal, clean-up and disposal of asbestos-containing materials following Type 1 (Low Risk) procedures, and Pinchin and Owner specific requirements.

1.3 Instruction and Training

- .1 Provide instruction and training to all workers including the following:
 - .1 Hazards of asbestos.
 - .2 Use, care and disposal of protective equipment (including but not limited to respirators and filters) and clothing that would be used and worn during abatement work, including:
 - .1 Limitations of equipment.
 - .2 Inspection and maintenance of equipment.
 - .3 Proper fitting of equipment.
 - .4 Disinfecting and cleaning of equipment.
 - .3 Personal hygiene to be observed when performing the work.
 - .4 Measures and procedures prescribed in the regulation and decontamination of the worker.
- .2 Instruction and training must be provided by a competent person.

1.4 Personal Protection

- .1 Protect all personnel at all times when possibility of disturbance of ACM exists.
 - .1 Provide non-powered half-face respirators with P100 high efficiency (HEPA) cartridge filters when requested by personnel.
 - .2 When requested by personnel, provide protective clothing.

1.5 Site Reviews

- .1 Refer to Part 1.12 Site Reviews in Section 02 81 00 – General Provisions.
- .2 The following Milestone Site Reviews are to be scheduled:
 - .1 Milestone Site Review - Visual Clearance
 - .2 Milestone Site Review – Clearance Sampling

PART 2 PRODUCTS AND FACILITIES

- .1 Refer to Section 02 81 00.

PART 3 EXECUTION

3.1 Site Preparation

- .1 Moving of equipment, tools, supplies, and stored materials that can be performed without disturbing ACM will be performed by others.
- .2 Remove visible dust and friable material from all surfaces in the work area including those to be worked on, using HEPA Vacuums or wet wiping.
- .3 Install polyethylene drop sheets below areas of work.
- .4 Install polyethylene sheeting on openings in walls and floors (as required) and seal.
- .5 Install signage in clearly visible locations and in sufficient numbers to adequately warn of an asbestos dust hazard.
- .6 Shut down HVAC systems serving the Abatement Work Area.
 - .1 Install polyethylene sheeting over openings in ducts and diffusers and seal.
 - .2 HVAC to remaining areas of building must not be disrupted during work of this section.
 - .3 System shall remain inoperative until completion of work, unless ducts can be effectively capped.
 - .4 Perform work at scheduled times after shutting down HVAC systems affecting the Abatement Work Area.
- .7 Provide power from ground fault interrupt circuits.
- .8 Provide amended water for wetting ACM, and adequate method of wetting (garden sprayers, airless sprayers, etc).
- .9 Without disturbing asbestos-containing materials, remove and dispose of non-hazardous materials as clean waste prior to asbestos removal work, where possible.
- .10 Do not commence contaminated work until authorized by the Abatement Consultant.

3.2 Maintenance of Abatement Work Area

- .1 Inspect polyethylene sheeting and ensure it is effectively sealed and taped. Repair damage and remedy defects immediately.
- .2 Maintain Abatement Work Area in tidy condition.
- .3 Remove any standing water on polyethylene/floor at the end of every shift.

3.3 Asbestos Removal - General

- .1 Do not use powered tools or non-hand held tools.
- .2 Do not use compressed air to clean or remove dust or debris.
- .3 Do not break, cut, drill, abrade, grind, sand or vibrate ACM if it cannot be wetted. Type 2 (Moderate Risk) procedures would be required if the material cannot be wetted due to hazard or damage.
- .4 Wet ACM prior to work and keep ACM wet throughout the removal process.
- .5 Frequently and at regular intervals during the work, clean up dust and waste using HEPA vacuums and/or wet sweeping or mopping.
- .6 Frequently and at regular intervals, place all waste in asbestos waste containers.

- .7 Immediately upon completion of work, clean area with HEPA vacuum and/or wet sweeping or mopping.

3.4 Asbestos Removal - Vinyl Asbestos Tile

- .1 Wedge a heavy duty scraper in seam of two adjoining tiles and gradually force edge of one tile up and away from floor. Do not break off pieces of tile, but continue to force balance of tile up.
- .2 Place tile, without breaking into smaller pieces, into Asbestos Waste Container.
- .3 Force scraper through tightly adhered areas by striking scraper handle with a hammer.
- .4 Heat tile thoroughly with a hot air gun until heat penetrates through tile and softens adhesive in areas where scraper will not remove tile.
- .5 Scrape up adhesive remaining on floor with a hand scraper until only a thin smooth film remains.
- .6 Use a hot air gun where deposits are heavy or difficult to scrape.
- .7 Deposit scrapings into asbestos waste disposal bag.
- .8 HEPA vacuum floor on completion of work in area.

3.5 Asbestos Removal – Doors with Vermiculite in the Cores

- .1 Remove doors in-tact.
- .2 Wrap doors with two layers of rip proof polyethylene for disposal.
- .3 HEPA vacuum floor and Abatement Work Area.
- .4 Once doors are removed, opening must be boarded up and secured.

3.6 Asbestos Removal – Window Caulking

- .1 Remove building components as necessary to access all caulking.
- .2 Use hand held non-powered tools to remove caulking.
- .3 Scrape to remove any remaining material adhered to substrate.
- .4 Place removed ACM directly into an asbestos waste container.
- .5 As an option windows can be removed with caulking and wrapped with two layers of rip proof polyethylene for disposal.
- .6 If windows are removed the openings must be boarded up and secured.
- .7 Wet clean or HEPA vacuum the entire Abatement Work Area, including surfaces not covered with polyethylene sheeting.

3.7 Abatement Work Area Dismantling

- .1 Schedule and obtain written approval of Milestone Site Review – Clearance Sampling before proceeding.
- .2 Wash or HEPA vacuum equipment and tools used in contaminated Abatement Work Area to remove all asbestos contamination, or place in Asbestos Waste Containers prior to being removed from Abatement Work Area.
- .3 Place tools and equipment used in contaminated work site but not cleaned in polyethylene bags prior to removal from Abatement Work Area.
- .4 Clean polyethylene sheeting and drop sheets with HEPA vacuum or wet cleaning

methods at completion of work.

- .5 Wet drop sheets and polyethylene sheeting.
- .6 Carefully roll drop sheets. As polyethylene is rolled away, immediately remove visible debris beneath with a HEPA vacuum.
- .7 Remove remaining polyethylene sheeting and tape.
- .8 Place polyethylene sheeting, drop sheets, tape, disposal clothing and other contaminated waste in asbestos waste containers, wet wipe and place in second asbestos waste container.

3.8 Waste and Material Handling

- .1 Refer to Section 02 81 00.

END OF SECTION

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