

Approved: 2017-07-21

## **Part 1            General**

### **1.1                SUMMARY**

- .1        This Section includes the following:
  - .1        Demolition and removal of selected portions of interior building components and finishes.
  - .2        Repair procedures for selective demolition operations.
- .2        This section does not include the following:
  - .1        Removal of hazardous materials or asbestos abatement.
  - .2        Demolition of exterior building components or structural elements.
  - .3        Mechanical or electrical equipment, except as required to make minor modifications to allow the work to be completed.
- .3        Drawings contain details that suggest directions for solving some of the major demolition and removal requirements for this project.

### **1.2                REFERENCE STANDARDS**

- .1        American National Standards Institute (ANSI)
  - .1        ANSI A10.8 2011, Safety Requirements for Scaffolding
- .2        American Society for Testing and Materials (ASTM):
  - .1        ASTM C475/C475M-15, Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board
- .3        CSA Group (CSA)
  - .1        CSA S350 M1980 (R2003), Code of Practice for Safety in Demolition of Structures
- .4        Department of Justice Canada (Jus)
  - .1        Canadian Environmental Assessment Act (CEAA), 2012
  - .2        Canadian Environmental Protection Act (CEPA), 2012
    - .1        SOR/2003-2, On-Road Vehicle and Engine Emission Regulations
    - .2        SOR/2006-268, Regulations Amending the On-Road Vehicle and Engine Emission Regulations
    - .3        Transportation of Dangerous Goods Act (TDGA), 1992, c. 34
    - .4        Motor Vehicle Safety Act (MVSA), 1995
    - .5        Hazardous Materials Information Review Act, 1985
- .5        National Fire Protection Association (NFPA)
  - .1        NFPA 241 13, Standard for Safeguarding Construction, Alteration, and Demolition Operations

### 1.3 DEFINITIONS

- .1 Demolish: Detach items from existing construction and legally dispose of them off site, unless indicated to be removed and salvaged or removed and reinstalled.
- .2 Remove and Salvage: Detach items from existing construction and deliver them to Departmental Representative.
- .3 Remove and Reinstall: Detach items from existing construction, prepare them for reuse, and reinstall them where indicated.
- .4 Existing to Remain: Existing items of construction that are not removed and that are not otherwise indicated as being removed, removed and salvaged, or removed and reinstalled.
- .5 Waste Management Coordinator (WMC): Contractor representative responsible for supervising waste management activities as well as coordinating related, required submittal and reporting requirements .
- .6 Draft Construction Waste Management Plan (Draft CWM Plan): Detailed inventory of materials in building indicating estimated quantities of reuse, recycling and landfill, prepared in accordance with Section 01 74 19 - Waste Management and Disposal and as follows:
  - .1 Involves quantifying by volume/weight amounts of materials and wastes generated during construction, demolition, deconstruction, or renovation project.
- .7 Construction Waste Management Plan (CWM Plan): Written plan addressing opportunities for reduction, reuse, or recycling of materials prepared in accordance with Section 01 74 19- Waste Management and Disposal.
- .8 Construction Waste Management Report (CWM Report): Written report identifying actual materials that formed CWM Plan for reduction, reuse, or recycling of materials prepared in accordance with Section 01 74 19- Waste Management and Disposal.
- .9 Hazardous Substances: Dangerous substances, dangerous goods, hazardous commodities and hazardous products may include asbestos, mercury and lead, PCB's, poisons, corrosive agents, flammable substances, radioactive substances, or other material that can endanger human health or wellbeing or environment if handled improperly as defined by the Federal Hazardous Products Act (RSC 1985) including latest amendments.

### 1.4 ADMINISTRATIVE REQUIREMENTS

- .1 Coordination: Coordinate with Departmental Representative for the material ownership as follows:
  - .1 Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, demolished materials shall become Contractor 's property and shall be removed from Project site.
  - .2 Coordinate selective demolition work so that work of this Section adheres to aesthetic criteria established by the Drawings and specified dimensions with all elements in planes as drawn, maintaining their relationships with all other building elements.
- .2 Pre Demolition Meeting: Convene pre-installation meeting 1 week prior to beginning work of this Section, with Departmental Representative in accordance with Section 01 31 19- Project Meetings to:

- .1 Confirm extent of salvaged and demolished materials
- .2 Review Contractor 's demolition plan
  - .1 Verify existing site conditions adjacent to demolition work
  - .2 Coordination with other construction sub trades
- .3 Hold project meetings as per Section 01 31 19 Project Meetings.
- .4 Ensure key personnel attend.

## **1.5 ACTION AND INFORMATION SUBMITTALS**

- .1 Action Submittals: Provide the following submittals before starting any work of this Section:
  - .1 Schedule of Selective Demolition Activities: Coordinate with Section 01 32 16.16– Construction Progress Schedule - Critical Path Method (CPM), and indicate the following:
    - .1 Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity.
    - .2 Coordinate with Departmental Representative 's building manager ongoing site operations, and limit the number of interruptions during regular business hours.
    - .3 Interruption of utility services.
    - .4 Coordination for shutoff, capping, and continuation of utility services.
    - .5 Use of elevator and stairs.
    - .6 Locations of temporary partitions and means of egress, including for others affected by selective demolition operations .
    - .7 Coordination with Departmental Representative's continuing occupancy of portions of existing building
  - .2 Demolition Plan: Submit a plan of demolition area indicating extent of temporary facilities and supports, methods of removal and demolition prepared by a professional engineer in accordance with requirements of Authority Having Jurisdiction, and as follows:
    - .1 Proposed Noise Control, Dust Control Measures: Submit statement or drawing that indicates the measures proposed for use, proposed locations, and proposed time frame for their operation. Departmental Representative reserves the right to make modifications where proposed methods interfere with the Owner 's ongoing operation
    - .2 Inventory: Submit a list of items that have been removed and salvaged after selective demolition is complete.
    - .3 Pre demolition Photographs : Submit photographs indicating existing conditions of adjoining construction and site improvements prior to starting Work. Include finish surfaces that may be misconstrued as damage caused by selective demolition operations.
- .2 Informational Submittals: Provide the following submittals when requested by the Departmental Representative:

- .1 Qualification Data: Submit information for companies and personnel indicating their capabilities and experience to perform work of this Section including; but not limited to, lists of completed projects with project names and addresses, names and addresses of architects and owners, for work of similar complexity and extent.

## **1.6 QUALITY ASSURANCE**

- .1 Regulatory Requirements: Perform work as follows; use most restrictive requirements where differences occur between the municipal, provincial and federal jurisdictions:
  - .1 Provincial and Federal Requirements: Perform work in accordance with governing environmental notification requirements and regulations of the Authority Having Jurisdiction.
  - .2 Municipal Requirements: Perform hauling and disposal operations in accordance with regulations of Authority Having Jurisdiction.
- .2 Qualifications: Provide proof of qualifications when requested by Departmental Representative :
  - .1 Demolition Firm Qualifications: An experienced firm that has specialized in demolition work similar in material and extent to that indicated for this Project:
    - .1 Conform to the Saskatchewan Occupational Health and Safety Act and Regulation.
    - .2 Conform to Workers' Compensation Board Regulations.
    - .3 Conform to City of Saskatoon's bylaws and regulations governing this type of work.

## **1.7 SITE CONDITIONS**

- .1 Owner will occupy portions of building immediately adjacent to selective demolition area:
  - .1 Conduct selective demolition so that Owner 's operations will not be disrupted.
  - .2 Provide not less than 72 hours notice to Departmental Representative of activities that will affect Owner 's operations.
- .2 Maintain access to existing means of egress, walkways, corridors, exits, and other adjacent occupied or used facilities in accordance with Section 01 35 16:
  - .1 Do not close or obstruct means of egress, walkways, corridors, exits, or other occupied or used facilities without written acceptance from authorities having jurisdiction.
- .3 Departmental Representative and Owner assumes no responsibility for condition of areas to be selectively demolished:
  - .1 Conditions existing at time of Pre Bid Site Review will be maintained by Owner as far as practical.
  - .2 Owner will remove the following items prior to selective demolition:
    - .1 Inmates personal possessions.
    - .2 Mattress from bed

- .4 Discovery of Hazardous Substances: It is not expected that Hazardous Substances will be encountered in the Work; immediately notify Departmental Representative if materials suspected of containing hazardous substances are encountered and perform the following activities:
  - .1 Refer to Section 01 41 00– Regulatory Requirements for directives associated with specific material types.
  - .2 Hazardous materials will be as defined in the Hazardous Materials Act.
  - .3 If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Departmental Representative. Hazardous materials will be removed by Departmental Representative under a separate contract or as a change to the Work.

## **Part 2 Products**

### **2.1 TEMPORARY SUPPORT STRUCTURES**

- .1 Design temporary support structures required for demolition work and underpinning and other foundation supports necessary for the project using a qualified professional engineer registered or licensed in province of the Work.

### **2.2 DESCRIPTION**

- .1 This section of the Work includes, but is not necessarily limited to, the following:
  - .1 Demolition, removal completely from site, and disposal of all identified components, materials, equipment and debris
  - .2 Selective demolition to allow new walls, bulkheads, ceilings and other materials to meet existing construction as indicated
  - .3 All material from demolition shall be removed from site immediately with no salvage, selling, sorting or burning permitted on site
  - .4 Retain items indicated on drawings for re use in new construction

### **2.3 DEBRIS**

- .1 Make all arrangements for transport and disposal of all demolished materials from the site.

### **2.4 EQUIPMENT**

- .1 Provide all equipment required for safe and proper demolition of the building interiors indicated.

### **2.5 REPAIR MATERIALS**

- .1 Use repair materials identical to existing materials:
  - .1 If identical materials are unavailable or cannot be used for exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible.
  - .2 Use a material whose installed performance equals or surpasses that of existing material.

- .3 Comply with material and installation requirements specified in individual Specification Sections.
- .2 Floor Patching and Levelling Compounds: Cement based, trowelable, self levelling compounds compatible with specified floor finishes; gypsum based products are not acceptable for work of this Section.
- .3 Concrete Unit Masonry: Lightweight concrete masonry units, and mortar, cut and trimmed to fit existing opening to be filled. Provide standard hollow core units, square end units and bond beam units as indicated on drawings.
- .4 Prefinished Sheet Steel: Prefinished sheet steel, colour to match existing radiation cabinets, bent and profiled to match existing radiation cabinets.
- .5 Gypsum Board Patching Compounds: Joint compound to ASTM C475/C475M, bedding and finishing types thinned to provide skim coat consistency to patch and prepare existing gypsum board walls ready for new finishes in accordance with Section 09 21 16 – Gypsum Board Systems.
- .6 Hoarding and Dust Screens: Refer to Section 01 50 00 for stud framing and gypsum board sheathing materials.

## **2.6 EXISTING MATERIALS**

- .1 Items to be retained for re use in new construction include, but are not limited to the following:
  - .1 Bolted down furniture/equipment affixed to floor and/or wall – refer to drawings
  - .2 Lights and smoke detector – refer to electrical.
  - .3 Other miscellaneous items identified on drawings
  - .4 Confirm with Departmental Representative any materials that appear to be in re usable condition prior to disposal.

## **Part 3 Execution**

### **3.1 EXAMINATION**

- .1 Verify that utilities have been disconnected and capped.
- .2 Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
- .3 Inventory and record the condition of items to be removed and reinstalled and items to be removed and salvaged.
- .4 Notify the Representative Consultant where existing mechanical, electrical, or structural elements conflict with intended function or design:
  - .1 Investigate and measure the nature and extent of conflict and submit a written report to Representative Consultant.
  - .2 Representative Consultant will issue additional instructions or revise drawings as required to correct conflict.
- .5 Perform surveys as the work progresses to detect hazards resulting from selective demolition activities.

### **3.2 UTILITY SERVICES**

- .1 Coordinate existing services indicated to remain and protect them against damage during selective demolition operations in accordance with Section 01 35 16.
- .2 Locate, identify, disconnect, and seal or cap off indicated utilities serving areas to be selectively demolished.
  - .1 Arrange to shut off affected utilities with utility companies.
  - .2 If utility services are required to be removed, relocated, or abandoned, before proceeding with selective demolition provide temporary utilities that bypass area of selective demolition and that maintain continuity of service to other parts of building.
  - .3 Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit after bypassing.
  - .4 Cut off pipe or conduit to a minimum of 25 mm below slab, and remove concrete mound. [Patch concrete using cementitious grout] .
- .3 Coordinate with Mechanical and Electrical Divisions for shutting off, disconnecting, removing, and sealing or capping utilities.
- .4 Do not start selective demolition work until utility disconnecting and sealing have been completed and verified in writing.

### **3.3 PREPARATION**

- .1 Identify and mark all equipment and materials identified to be retained by Owner or to be re used in subsequent construction. Separate and store items to be retained in an area away from area of demolition and protect from accidental disposal.
- .2 Post warning signs on electrical lines and equipment that must remain energized to serve other areas during period of demolition.
- .3 Confirm that all electrical and telephone service lines entering buildings are not disconnected.
- .4 Do not disrupt active or energized utilities crossing the demolition site.
- .5 Provide and maintain barricades, warning signs, protection for workmen and the public during the full extent of the Work. Read drawings carefully to ascertain extent of protection required.
- .6 Mark all materials required to be re used, store in a safe place until ready for re installation.
- .7 Adjust all junction boxes, receptacles and switch boxes flush with new wall construction where additional layers to existing construction are indicated.
- .8 Remove permanent marker lines used or found on exposed surfaces and at surfaces indicated for subsequent finish materials. Mechanically remove permanent marker lines and associated substrates where permanent marker lines occur and patch surface. Sealing or priming over permanent marker lines is not acceptable.

### **3.4 CONCRETE SLAB REINFORCING**

- .1 Locate location of reinforcing steel in concrete slabs prior to cutting or coring using non destructive, non ionizing radio frequency locators.
- .2 Core concrete slabs to avoid reinforcing steel, electrical conduit or water pipes; adjust core location and coordinate with Engineer where slab features interfere with core drilling.
- .3 Notify the Engineer immediately for further instructions where coring or cutting will damage existing slab features.

### **3.5 SELECTIVE DEMOLITION**

- .1 Demolish and dismantle work in a neat and orderly manner and in strict accordance with all regulations.
- .2 At end of each day's work, leave Work in safe condition so that no part is in danger of toppling or falling.
- .3 Demolish in a manner to minimize dusting and to prevent migration of dust.
- .4 Selling or burning of materials on the site is not permitted.
- .5 Remove concrete bases by cutting and chipping, take precautions against slab cracking and degradation. Grind edges smooth, fill and make level with self levelling grout.
- .6 Fill all openings in concrete block walls with concrete masonry units, coursing to match existing, prepare ready to receive new finishes to match existing.
  - .1 Provide bond beams in new openings cut into existing concrete masonry unit walls.
  - .2 Provide finished end masonry units to patch and repair for new jamb sections in existing concrete masonry unit walls.
- .7 Fill all openings in gypsum board walls with gypsum board and steel framing to match existing, skim coat to make wall smooth and even.
- .8 Demolish existing resilient flooring and adhesive remnants as follows:
  - .1 Vacuum existing flooring thoroughly, prior to removal, using vacuum equipped with power head/sweeper.
  - .2 Apply fine mist water spray to carpet as required to minimize dust generation during removal. Avoid spraying near electrical outlets.
  - .3 Demolish existing carpet and resilient floor finishes, remove and dispose of off site.
  - .4 Remove adhesive to the greatest extent possible using scraping tools and as follows:
    - .1 Do not use solvent based cleaners to remove adhesive remnants.
    - .2 Grind floor using machine designed for purpose to remove adhesive remnants.
    - .3 Vacuum floor ready for application of skim coating.
    - .4 Repair all slab depressions and damage with cementitious patching compound.

- .5 Skim coat floor with minimum 1 mm thick cementitious floor underlayment compatible with new flooring materials.
- .5 Floor substrate shall be smooth, free from ridges and depressions, and adhesive remnants that could telegraph through resilient flooring materials and carpets.
- .6 Recycle materials in accordance with Section 01 74 19 – Waste Management and Disposal.
- .9 Demolish completely all ceiling gypsum board and supporting steel studs as indicated on drawings.
- .10 Remove all wall coverings scheduled for demolition. Patch and repair wall surfaces with skim coat of gypsum board joint compound leaving wall surfaces smooth and even ready for new wall finishes.
- .11 Patch and repair all walls, floor and ceilings damaged during demolition with material matching adjacent walls, prepare ready for new finishes.
- .12 Patch and repair all radiation cabinets, mechanical equipment and electrical fixtures damaged or exposed during demolition to match adjacent finished surfaces.

### **3.6 PATCHING AND REPAIRING**

- .1 Floors and Walls:
  - .1 Where walls or partitions that are demolished extend from one finished area into another, patch and repair floor and wall surfaces in the new space.
  - .2 Provide a level and smooth surface having uniform finish colour, texture, and appearance.
  - .3 Remove existing floor and wall coverings and replace with new materials, if necessary, to achieve uniform colour and appearance.
  - .4 Patch with durable seams that are as invisible as possible.
  - .5 Provide materials and comply with installation requirements specified in other Sections of these Specifications.
  - .6 Where patching occurs in a painted surface, apply primer and intermediate paint coats over patch and apply final paint coat over entire unbroken surface containing patch. Provide additional coats until patch blends with adjacent surfaces.
  - .7 Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.
- .2 Ceilings: patch, repair, or re hang existing ceilings as necessary to provide an even plane surface of uniform appearance.

### **3.7 PROTECTION**

- .1 Prevent debris from blocking drainage inlets and systems and ground draining, and protect material and electrical systems and services that must remain in operation.
- .2 Arrange demolition and shoring work so that interference with the use of adjoining areas by the Owner and users is minimized.
- .3 Maintain safe access to and egress from occupied areas adjoining.
- .4 Provide and maintain fire prevention equipment and alarms accessible during demolition.

### **3.8 CLEANING**

- .1 Develop Construction Waste Management Plan related to Work of this Section and in accordance with Section 01 74 19– Waste Management and Disposal.
- .2 Waste Management: Separate waste materials for reuse and recycling in accordance with Section 01 74 19- Waste Management and Disposal , and as follows:
  - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.
- .3 Divert excess materials from landfill to site approved Representative Consultant.
- .4 Promptly as the Work progresses, and on completion, clean up and remove from the site all rubbish and surplus material. Remove rubbish resulting from demolition work daily.
- .5 Maintain access to exits clean and free of obstruction during removal of debris.
- .6 Keep surrounding and adjoining roads, lanes, sidewalks, municipal rights of way clean and free of dirt, soil or debris that may be a hazard to vehicles or persons.

**END OF SECTION**