
Part 1 General

1.1 GENERAL

- .1 Assume that all demolition work is to be carried out in the presence of asbestos.
- .2 Assume that each painted element to be dismantled involves lead paint.

1.2 RELATED REQUIREMENTS

- .1 The list of work sections in this division is indicative and non-exhaustive. It does not exclude the works described in the other specification sections, shown in the drawings or necessary for the execution of the works in keeping with overall intent of the plans.
- .2 Section 01 14 00 - Work Restrictions.
- .3 Section 01 33 00 - Submittal Procedures.
- .4 Section 01 35 43 - Environmental Procedures.
- .5 Section 01 56 00 - Temporary Barriers and Enclosures.
- .6 Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
- .7 Section 02 41 17 - Selective Demolition.
- .8 Section 05 12 23 - Structural Steel for buildings.
- .9 Section 05 50 00 - Metal Fabrications.
- .10 Section 06 10 01 - Rough Carpentry.

1.3 REFERENCES

- .1 Definitions :
 - .1 Hazardous Materials: dangerous substances, dangerous goods, hazardous commodities and hazardous products, include but not limited to: poisons, corrosive agents, flammable substances, ammunition, explosives, radioactive substances, or materials that endanger human health or environment if handled improperly.
 - .2 Waste Management Co-ordinator (WMC): contractor representative responsible for supervising waste management activities as well as co-ordinating related, required submittal and reporting requirements.
 - .3 Waste Reduction Workplan (WRW): written report which addresses opportunities for reduction, reuse, or recycling of materials. WRW is based on information acquired from WA.
- .2 References
 - .1 CSA International
 - .1 CSA S350-M1980(R2003), Code of Practice for Safety in Demolition of Structures.

- .2 Department of Justice Canada (Jus)
 - .1 Canadian Environmental Assessment Act (CEAA), 1995
 - .2 Canadian Environmental Protection Act (CEPA), 1999
 - .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.
- .3 Underwriters' Laboratories of Canada (ULC)
 - .1 CAN/ULC-S660-08, Standard for Nonmetallic Underground Piping for Flammable and Combustible Liquids.
 - .2 ULC/ORD-C58.15-1996, Overfill Protection Devices for Flammable Liquid Storage Tanks.
 - .3 ULC/ORD-C58.19-1996, Spill Containment Devices for Underground Tanks.
- .4 U.S. Environmental Protection Agency (EPA)
 - .1 EPA CFR 86.098-10, Emission standards for 1998 and later model year Otto-cycle heavy-duty engines and vehicles.
 - .2 EPA CFR 86.098-11, Emission standards for 1998 and later model year diesel heavy-duty engines and vehicles.
 - .3 EPA 832/R-92-005, Storm Water Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices.

1.4 SCOPE OF WORK

- .1 Execute all demolition work as specified on the plans.
- .2 Prepare a file on site conditions prior to the beginning of the work.
- .3 Eliminate restrictions, interferences and obstructions regarding access to the building and site.
- .4 Provide and install waste chutes, screens, barricades and safety scaffolds on site to protect workers and the Owner's representatives.
- .5 Provide and install all of the necessary temporary protections to avoid damaging the equipment, buildings and/or existing services.
- .6 The structural demolition work covered in the present section must be carried out jointly and in coordination with the selective demolition work (section 02 41 17) and with all the masonry work covered under division 04.

1.5 ADMINISTRATIVE REQUIREMENTS

- .1 Pre-Installation Meetings :

- .1 Convene pre-installation meeting one week prior to beginning work of this Section and on-site installation, with Contractor's Representative and Departmental Representative to :
 - .1 Verify project requirements.
 - .2 Verify existing site conditions adjacent to demolition work.
 - .3 Co-ordination with other construction subtrades.
- .2 Ensure key personnel site supervisor, project manager and subcontractor representatives attend.
- .2 Scheduling :
 - .1 Employ necessary means to meet project time lines without compromising specified minimum rates of material diversion.
 - .1 In event of unforeseen delay notify Departmental Representative.

1.6 DOCUMENTS/SAMPLES TO SUBMIT FOR APPROVAL/INFORMATION

- .1 Submit the documents and samples required as specified in section 01 33 00 Submittal Procedures and in section 01 74 21 Construction/Demolition Waste Management and Disposal.
- .2 The Contractor will see that all of the requirements related to document, sample and report submittals are met.
- .3 Shop drawings
 - .1 Submit, for review and approval, shop drawings, diagrams or details indicating the sequence of the demolition, shoring and underpinning work, as well as the elements used to complete the task.
- .4 Submitted demolition shop drawings must display the seal and signature of a competent engineer certified to work in Canada, in the province of Quebec, as specified in section 01 33 00 Submittal Procedure.
- .5 Upon request from the engineer, submit a certificate confirming that the drawings have been approved by relevant authorities.

1.7 QUALITY ASSURANCE

- .1 Regulatory Requirements: Ensure Work is performed in compliance with CEPA, CEAA, TDGA, and applicable Provincial/Territorial and Municipal regulations.

1.8 SITE CONDITIONS

- .1 Environmental protection :
 - .1 Ensure Work is done in accordance with Section 01 35 43 - Environmental Procedures.
 - .2 Ensure Work does not adversely affect adjacent watercourses, groundwater and wildlife, or contribute to excess air and noise pollution.
 - .3 Fires and burning of waste or materials is not permitted on site.
 - .4 Do not bury rubbish waste materials.

- .5 Do not dispose of waste or volatile materials including but not limited to: mineral spirits, oil, petroleum based lubricants, or toxic cleaning solutions into watercourses, storm or sanitary sewers.
 - .1 Ensure proper disposal procedures are maintained throughout project.
- .6 Do not pump water containing suspended materials into watercourses, storm or sanitary sewers, or onto adjacent properties.
- .7 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with authorities having jurisdiction as directed by Departmental Representative.
- .8 Protect trees, plants and foliage on site and adjacent properties where indicated.
- .9 Prevent extraneous materials from contaminating air beyond application area, by providing temporary enclosures during demolition work.
- .10 Cover or wet down dry materials and waste to prevent blowing dust and debris. Control dust on all temporary roads.

1.9 EXISTING CONDITIONS

- .1 If material resembling spray or trowel applied asbestos or other designated substance listed as hazardous be encountered in course of demolition, stop work, take preventative measures, and notify Departmental Representative immediately. Proceed only after receipt of written instructions have been received from Departmental Representative.
- .2 Structures to be demolished are based on their condition on date that tender is accepted, at time of examination prior to tendering.
 - .1 Remove, protect and store salvaged items as directed by Departmental Representative. Salvage items as identified by Departmental Representative. Deliver to Departmental Representative as directed.

1.10 SHOP DRAWINGS

- .1 Provide all the shop drawings required to carry out the demolition work and provide temporary support and shoring. All shop drawings must be signed and sealed by an Engineer with the required skills in that kind of work.
- .2 Upon request of a Representative of the Ministry, provide the calculation notes justifying the proposed systems.
- .3 The proposed systems detailed in shop drawings must take into consideration all existing physical constraints, must not overload the existing structures above their capacity and must in no way modify the existing structures.
- .4 Shop drawings must be detailed, where applicable, so as to respect the base principles outlined on the plans following the design inputs required and the existing conditions.

Part 2 Products

2.1 EQUIPMENT

- .1 Equipment and heavy machinery :

- .1 On-road vehicles to : CEPA-SOR/2003-2, On-Road Vehicle and Engine Emission Regulations and CEPA-SOR/2006-268, Regulations Amending the On-Road Vehicle and Engine Emission Regulations.
- .2 Leave machinery running only while in use, except where extreme temperatures prohibit shutting machinery down.

Part 3 Execution

3.1 INSPECTIONS

- .1 Inspect the building with the Departmental Representative and verify the location and extent of the elements that must be removed, eliminated, emphasized, recycled, recovered and remain in place.
- .2 Identify and protect public utilities pipes and ensure that those remaining on site remain in good condition.
- .3 Notify the public utilities and obtain the necessary approval from them before beginning demolition work.
- .4 Disconnect, block or divert, as needed, the existing public utilities pipes located on site and that are hindering the execution of the work, as required by competent authorities. Identify the location of those pipes and those which had been left behind on site and mark them on the drawings (vertical and horizontal planes) after completion of the work. Support, brace and immobilize the identified pipes and conduits.
 - .1 Immediately inform the Departmental Representative, as well as the public utilities company involved, of any damage to a service conduit that must be saved.
 - .2 Immediately inform the Departmental Representative of the discovery of any unidentified public utilities service conduit and wait for written instructions regarding the action to be taken.
- .5 Unless otherwise indicated, remove demolished material from the site, while complying with the requirements of competent authorities in this matter, including the requirements applicable to environment protection.
- .6 Carefully remove all products and materials that must be re-installed in the context of this project or given to the Owner. Store them in a well-protected area. Leave them ready for installation by other trades or take them over to the location that has been specified by the Owner.

3.2 PREPARATION

- .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, according to: requirements of authorities having jurisdiction.
 - .2 Inspect, repair, and maintain erosion and sedimentation control measures during demolition.

- .3 Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal after completion of demolition work.
- .2 Protection of in-place conditions :
 - .1 Work in accordance with Section 01 35 43 - Environmental Procedures and Erosion and Sedimentation Control Plan and Stormwater Pollution Prevention Plan.
 - .2 Prevent movement, settlement or damage of adjacent structures, services, walks, paving, trees, landscaping, adjacent grades properties parts of existing building to remain.
 - .1 Provide bracing, shoring and underpinning as required.
 - .2 Repair damage caused by demolition as directed by Departmental Representative.
 - .3 Support affected structures and, if safety of structure being demolished appears to be endangered, take preventative measures, stop Work and immediately notify Departmental Representative.
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 - .5 Prevent debris from blocking surface drainage system, elevators, mechanical and electrical systems which must remain in operation.
 - .6 Assume responsibility for the damages incurred during work due to weather, negligence, lack of coordination or precautions, both inside and outside the building.
 - .7 Protect the surfaces to be saved from any possible damage and make all of the necessary repairs or replacements to the satisfaction of the Departmental Representative without additional costs.
 - .8 Coordinate demolition and removal of debris with the Departmental Representative in such as was as to avoid blocking elevators and electrical and mechanical systems that must remain operational.
 - .9 Execute demolition work using tools and equipment that allows demolition without risk of fire, collapse or other adverse effect on the property.
- .3 Surface Preparation :
 - .1 Disconnect and re-route electrical and telephone service lines entering buildings to be demolished.
 - .1 Post warning signs on electrical lines and equipment which must remain energized to serve other properties during period of demolition.
 - .2 Disconnect and cap designated mechanical services.
 - .3 Do not disrupt active or energized utilities traversing premises designated to remain undisturbed.

3.3 DEMOLITION

- .1 Do demolition work in accordance with Section 01 56 00 - Temporary Barriers and Enclosures - and with the requirements of the CSA-S350 standard.

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- .2 Upon request of the Departmental Representative, provide the demolition methods and procedures in writing and for comment. Do not begin demolition or dismantling structural elements before having received the comments of the Departmental Representative.
 - .3 Blasting operations not permitted during demolition.
 - .4 Remove contaminated or dangerous materials as defined by authorities having jurisdiction, relating to environmental protection, from site and dispose of in safe manner to minimize danger at site or during disposal.
 - .5 Prior to start of Work remove contaminated or hazardous materials listed as directed by Departmental Representative from site and dispose of at designated disposal facilities in safe manner and in accordance with TDGA and other applicable requirements and Section 02 81 01 - Hazardous Materials. Refer Existing Conditions in PART 1.
 - .6 Demolish structures or parts of structure.
 - .7 To permit construction of addition and as indicated.
 - .8 Crush concrete generated due to demolition of foundations to size suitable for recycling as directed.
 - .1 Where possible identify markets which will accept crushed material as aggregate.
 - .9 Remove existing equipment, services, and obstacles where required for refinishing or making good of existing surfaces, and replace as work progresses.
 - .10 At end of each day's work, leave Work in safe and stable condition.
 - .1 Protect interiors of parts not to be demolished from exterior elements at all times.
 - .11 Demolish to minimize dusting. Keep materials wetted as directed by Departmental Representative.
 - .12 Demolish the concrete masonry walls in small pieces. Remove and carefully bring frame elements or other heavy or large objects down to the ground.
 - .13 Contain fibrous materials to minimize release of airborne fibres while being transported within facility.
 - .14 Remove and dispose of demolished materials except where noted otherwise and in accordance with authorities having jurisdiction. Selling or burning demolition materials on site is prohibited.
 - .15 Execute the demolition work within the time periods specified in section 01 14 00 Work Restriction.
 - .1 At the end of each work day, turn off all light sources with the exception of those used for safety purposes.
 - .16 Removal of hard siding, curbs and gutters.
 - .1 Cut adjacent surfaces unaffected by the work at right angles, using a saw or any other means approved by the Departmental Representative.
 - .2 Protect the load transfer devices, as well as adjacent joints.
 - .3 Protect the underlying material or material adjacent to the work area.

- .17 Recut the framing headers of the partially demolished elements of the building in accordance with the tolerances specified in these contractual documents and by the Departmental Representative in order to facilitate the installation of the new elements.
- .18 Demolition work includes that which is required on the drawings and any other work required to complete the work or modifications. The demolition of a construction element involves the obligation to repair finishes or other adjacent construction elements.
- .19 Coordinate the execution of the work in such a way as to restrict to a minimum the disturbance and degradation of finishes or adjacent structures.
- .20 Include in this work any demolition work required for the execution of this project but not specifically included in the drawings: slab drilling to embed hardware or for the passage of mechanical or electrical infrastructures, etc.
- .21 The Contractor must include the demolition of any existing element or infrastructure rendered obsolete, specifically those left in service spaces, ceiling spaces, etc.

3.4 CLEANING

- .1 Develop Construction Waste Management related to Work of this Section.
- .2 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
 - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.
- .3 Divert excess materials from landfill to site approved by Departmental Representative.
- .4 Designate appropriate security resources / measures to prevent vandalism, damage and theft.
- .5 Locate stockpiled materials convenient for use in new construction. Eliminate double handling wherever possible.
- .6 If they are hindering the progression of the work, materials must be removed as specified in section 01 74 21 Construction/Demolition Waste Management and Disposal and as directed by the Departmental Representative.
- .7 Remove stockpiles of like materials by alternate disposal option once collection of materials is complete.
- .8 Dispose of materials not designated for alternate disposal in accordance with applicable regulations.
 - .1 Disposal facilities must be those approved of and listed in Waste Reduction Workplan.
 - .2 Written authorization from Departmental Representative is required to deviate from disposal facilities listed in Waste Reduction Workplan.
- .9 Refer to the specifications and demolition drawings to identify which materials are to be recovered for re utilization/re-use.

3.5 TEMPORARY SUPPORT STRUCTURE

- .1 Temporary support structures cover, without being limited to, the following interventions :
 - .1 Structures required to make openings in existing foundation walls.
 - .2 Structures required to support temporarily floors or wall sections.
 - .3 Structures required to replace or repair any kind of structural element.
 - .4 Structures required temporarily during the erection of the frame.
- .2 The information shown on plan regarding temporary supports is only intended to show general principles. The general contractor is the one responsible for designing, making and installing the temporary structures. Detailed shop drawings will have to be provided to permit implementation of all temporary supports.
- .3 Dimensions, site conditions, obstructions or any other condition hindering the implementation of temporary supports will have to be submitted, in writing, to the Representative of the Ministry.
- .4 Before transferring any load on a temporary support, the Engineer responsible for the shop drawings will have to inspect the structure, approve its implementation and, depending on the needs of the Representative of the Ministry, provide a written statement confirming the good execution and allowing loading the support.

END OF SECTION