

## **PART 1 - GENERAL**

### **1.1 SECTION INCLUDES**

- .1 Methods and procedures for demolishing, salvaging, recycling, and removing sitework items designated to be removed in whole or in part, and for backfilling resulting trenches and excavations.

### **1.2 RELATED REQUIREMENTS**

- .1 Section 31 23 33.01 Excavating, Trenching and Backfilling.

### **1.3 REFERENCES**

- .1 Definitions:
  - .1 Demolition: rapid destruction of structure following removal of hazardous materials.
  - .2 Hazardous Materials: dangerous substances, dangerous goods, hazardous commodities and hazardous products, may include but not limited to: asbestos PCB's, CFC's, HCFC's poisons, corrosive agents, flammable substances, ammunition, explosives, radioactive substances, or other material that can endanger human health or well being or environment if handled improperly.
  - .3 Waste Audit (WA): detailed inventory of materials. Indicates quantities of reuse, recycling and landfill.
    - .1 Involves quantifying by volume/weight amounts of materials and wastes generated during construction, demolition, deconstruction, or renovation project.
    - .2 Indicates quantities of reuse, recycling and landfill.
  - .4 Waste Management Coordinator (WMC): contractor representative responsible for supervising waste management activities as well as coordinating related, required submittal and reporting requirements.
  - .5 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 Reference Standards:
  - .1 Canadian Council of Ministers of the Environment (CCME)
  - .2 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
    - .1 Material Safety Data Sheets (MSDS).
  - .3 Transport Canada (TC)
    - .1 Transportation of Dangerous Goods Act, 1992 (TDGA), c. 34.

#### **1.4 ADMINISTRATIVE REQUIREMENTS**

- .1 Site Meetings.
  - .1 Convene pre-demolition meeting one week prior to beginning work of this Section in accordance with Section 01 32 16.07 - Construction Progress Schedules - Bar (GANTT) Chart to:
    - .1 Verify project requirements.
    - .2 Review installation and substrate conditions.
    - .3 Co-ordination with other subtrades.
    - .4 Review manufacturer's installation instructions and warranty requirements.
  - .2 Arrange for site visit with Departmental Representative to examine existing site conditions adjacent to demolition work, prior to start of Work.
  - .3 Hold project meetings every week.
  - .4 Ensure key personnel attend.
  - .5 Reporting Requirements: WMC to complete.
  - .6 WMC must provide written report on status of waste diversion activity at each meeting.
  - .7 Departmental Representative will provide written notification of change of meeting schedule established upon contract award 24 hours prior to scheduled meeting.
- .2 Scheduling: meet project time lines without compromising specified minimum rates of material diversion.
  - .1 Notify Departmental Representative in writing when unforeseen delays occur.

#### **1.5 ACTION AND INFORMATIONAL SUBMITTALS**

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
  - .2 Shop Drawings:
    - .1 Submit drawings stamped and signed by professional engineer registered or licensed in Province of Nova Scotia, Canada.
    - .2 Submit for approval drawings, diagrams or details showing sequence of demolition work and supporting structures and underpinning, where required by authorities having jurisdiction.
  - .3 Hazardous Materials:
    - .1 Provide description of Hazardous Materials and Notification of Filing with proper authorities prior to beginning of Work as required.
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- .4 Waste Reduction Workplan:
  - .1 Prior to beginning of Work on site submit detailed Waste Reduction Workplan in accordance with Section 01 74 21 - Construction/Demolition Waste Management And Disposal and indicate:
    - .1 Descriptions of and anticipated quantities in percentages of materials to be salvaged reused, recycled and landfilled.
    - .2 Schedule of selective demolition.
    - .3 Number and location of dumpsters.
    - .4 Anticipated frequency of tippage.
    - .5 Name and address of haulers and waste facilities.
- .5 Certificates:
  - .1 Submit copies of certified weigh bills or bills of lading or receipts from authorized disposal sites and reuse and recycling facilities for material removed from site on weekly basis upon request of Departmental Representative.
  - .2 Written authorization from Departmental Representative is required to deviate from haulers and facilities listed in Waste Reduction Workplan.
- .6 Sustainable Design Submittals:
  - .1 Erosion and Sedimentation Control: submit copy of erosion and sedimentation control plan in accordance with authorities having jurisdiction.

## **1.6 QUALITY ASSURANCE**

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

## **1.7 DELIVERY, STORAGE AND HANDLING**

- .1 Store and manage hazardous materials in accordance with Section 01 35 43 - Environmental Procedures..
  - .2 Storage and Protection.
    - .1 Protect in accordance with Section 31 23 33.01 - Excavating, Trenching and Backfilling.
    - .2 Protect existing items designated to remain and items designated for salvage. In event of damage to such items, immediately replace or make repairs to approval of Departmental Representative and at no cost to Departmental Representative
    - .3 Remove and store materials to be salvaged, in manner to prevent damage.
    - .4 Store and protect in accordance with requirements for maximum preservation of material.
    - .5 Handle salvaged materials as new materials.
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- .3 Develop Construction Waste Management Plan Waste and Reduction Workplan. related to Work of this Section.
- .4 Packaging Waste Management: remove for reuse and return by manufacturer of pallets, crates, padding, and packaging materials as specified in Construction Waste Management Plan and Waste Reduction Workplan in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

## **1.8 SITE CONDITIONS**

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

## **PART 2 - PRODUCTS**

### **2.1 EQUIPMENT**

- .1 Leave machinery running only while in use, except where extreme temperatures prohibit shutting machinery down.
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## **PART 3 - EXECUTION**

### **3.1 PREPARATION**

- .1 Inspect site with Departmental Representative and verify extent and location of items designated for removal, disposal, alternative disposal, recycling, salvage and items to remain.
- .2 Locate and protect utilities. Preserve active utilities traversing site in operating condition.
- .3 Notify and obtain approval of utility companies before starting demolition.
- .4 Disconnect and Cap Designated Mechanical Services.
  - .1 Natural Gas Supply Lines: remove in accordance with gas company requirements contact utility company to arrange for removal as directed by Departmental Representative.
  - .2 Sewer and Water Lines: remove to limit indicated as directed by Departmental Representative and securely plug to form watertight seal.
  - .3 Other Underground Services: remove and dispose of as indicated as directed by Departmental Representative.
  - .4 Underground Storage Tanks: remove and dispose of in accordance with CCME PN1326 and directions of Departmental Representative.

### **3.2 REMOVAL OF HAZARDOUS WASTES**

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

### **3.3 REMOVAL OPERATIONS**

- .1 Remove items as indicated.
  - .2 Do not disturb items designated to remain in place.
  - .3 Removal of pavements, curbs and gutters:
    - .1 Square up adjacent surfaces to remain in place by saw cutting or other method approved by Departmental Representative.
    - .2 Protect adjacent joints and load transfer devices.
    - .3 Protect underlying and adjacent granular materials.
  - .4 Prevent contamination with base course aggregates, when removing asphalt pavement for subsequent incorporation into hot mix asphalt concrete paving,
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- .5 Excavate at least 300 mm below pipe invert, when removing pipes under existing or future pavement area.
- .6 Decommission water wells and monitoring wells in accordance with Municipal or Provincial regulations.
- .7 Remove designated trees during demolition.
  - .1 Obtain written approval of Departmental Representative prior to removal of trees not designated.
- .8 Sell trees designated for removal and identified by Departmental Representative to be healthy marketable.
  - .1 Grind, chip, or shred other vegetation for mulching and composting, or use as mill pulp or process fuel.
- .9 Stockpile topsoil for final grading and landscaping:
  - .1 Provide erosion control and seeding if not immediately used.
- .10 Salvage:
  - .1 Items to be salvaged are as indicated, and include but are not limited to:
    - .1 Boulders and wheel stops in parking lots.
    - .2 Motorized swing gate equipment.
  - .2 Dismantle items containing materials for salvage and stockpile salvaged materials at locations approved by Departmental Representative.
- .11 Disposal of Material:
  - .1 Dispose of materials not designated for salvage or reuse on site as instructed by Departmental Representative at authorized facilities approved in Waste Reduction Workplan.
  - .2 Trim disposal areas to approval of Departmental Representative.
- .12 Backfill:
  - .1 Backfill in areas as indicated and in accordance with Section 31 23 33.01 - Excavating, Trenching and Backfilling.

### **3.4 STOCKPILING**

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

### **3.5 REMOVAL FROM SITE**

- .1 Remove stockpiled material as directed by Departmental Representative, when it interferes with operations of project.
- .2 Remove stockpiles of like materials by alternate disposal option once collection of materials is complete.
- .3 Transport material designated for alternate disposal using approved haulers and facilities listed in Waste Reduction Workplan and in accordance with applicable regulations.
  - .1 Written authorization from Departmental Representative is required to deviate from haulers facilities receiving organizations listed in Waste Reduction Workplan.
- .4 Dispose of materials not designated for alternate disposal in accordance with applicable regulations.
  - .1 Disposal Facilities: approved and listed in Waste Reduction Workplan.
  - .2 Written authorization from Departmental Representative is required to deviate from disposal facilities listed in Waste Reduction Workplan.

### **3.6 RESTORATION**

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

### **3.7 CLEANING**

- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
    - .1 Leave Work area clean at end of each day.
    - .2 Remove debris, trim surfaces and leave work site clean, upon completion of Work
    - .3 Use cleaning solutions and procedures which are not harmful to health, are not injurious to plants, and do not endanger wildlife, adjacent water courses or ground water.
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- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.
- .3 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.

### **3.8 PROTECTION**

- .1 Repair damage to adjacent materials or property caused by selective site demolition.

END

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## **PART 1 - GENERAL**

### **1.1 SECTION INCLUDES**

- .1 Methods for removal of existing asphalt pavement.

### **1.2 RELATED REQUIREMENTS**

- .1 Section 02 41 13 Selective Site Demolition

### **1.3 REFERENCES**

- .2 U.S. Environmental Protection Agency (EPA) / Office of Water
  - .1 EPA 832/R-92-005, Storm Water Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices.

### **1.4 ACTION AND INFORMATIONAL SUBMITTALS**

- .1 Sustainable Design Submittals:
  - .1 Erosion and Sedimentation Control: submit copy of erosion and sedimentation control plan in accordance with authorities having jurisdiction.
  - .2 Construction Waste Management:
    - .1 Submit project Waste Management Plan Waste Reduction Workplan highlighting recycling and salvage requirements.
    - .2 Submit calculations on end-of-project recycling rates, salvage rates, and landfill rates demonstrating that 50 % of construction wastes were recycled or salvaged.

## **PART 2 - PRODUCTS**

### **2.1 EQUIPMENT**

- .1 Use cold milling, planning or grinding equipment with automatic grade controls capable of operating from stringline, and capable of removing part of pavement surface to depths or grades indicated.
  - .2 Where full depth removal is required, all edges shall be saw cut.
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## **PART 3 - EXECUTION**

### **3.1 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, sediment and erosion control drawings, whichever is more stringent.
  - .2 Inspect, repair, and maintain erosion and sedimentation control measures during construction until permanent vegetation has been established.
  - .3 Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.
- .2 Prior to beginning removal operation, inspect and verify with Departmental Representative areas, depths and lines of asphalt pavement to be removed.
- .3 Protection: protect existing pavement not designated for removal, light units and structures from damage. In event of damage, immediately replace or make repairs to approval of Departmental Representative at no additional cost.

### **3.2 REMOVAL**

- .1 Remove existing asphalt pavement to lines and grades as indicated established by Departmental Representative in field.
- .2 Use equipment and methods of removal and hauling which do not damage or disturb underlying pavement.
- .3 Prevent contamination of removed asphalt pavement by topsoil, underlying gravel or other materials.
- .4 Suppress dust generated by removal process.

### **3.3 FINISH TOLERANCES**

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

### **3.4 CLEANING**

- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
    - .1 Leave Work area clean at end of each day.
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- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.
- .3 Sweep remaining asphalt pavement surfaces clean of debris resulting from removal operations using rotary power brooms and hand brooming as required.
- .4 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management
  - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.
  - .2 Removed asphalt pavement which is to be recycled in hot mix asphalt concrete under this contract may be stockpiled at designated asphalt plant site.