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**Part 1      General**

**1.1          DESCRIPTION**

- .1      This section describes 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 SECTIONS**

- .1      Section 01 33 00 - Submittal Procedures.
- .2      Section 01 74 21 - Construction/Demolition Waste Management And Disposal.
- .3      Section 01 45 00 - Quality Control.
- .4      Section 01 35 43 - Environmental Procedures.
- .5      Section 01 35 29 - Health and Safety Requirements.
- .6      Section 31 23 33.01 - Excavating, Trenching and Backfilling.

**1.3          REFERENCES**

- .1      Department of Justice Canada:
  - .1      Canadian Environmental Assessment Act (CEAA), 1995, c. 37.
  - .2      Canadian Environmental Protection Act, 1999 (CEPA), c. 33.
- .2      Health Canada/Workplace Hazardous Materials Information System (WHMIS):
  - .1      Material Safety Data Sheets (MSDS).

**1.4          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 are not limited to: creosote, 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 wellbeing or environment if handled improperly.
- .3      Waste Management Plan: a written plan developed by the Contractor in accordance with Section 01 74 21 in advance of the start of work activities detailing the specific waste management procedures that will be followed to manage waste throughout the project.

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**1.5 MEASUREMENT FOR PAYMENT**

- .1 Measurement for payment will be according to Section 01 29 00.

**1.6 SUBMITTALS**

- .1 Submit Submittal submissions: in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Shop drawings.
  - .1 Submit for approval drawings, diagrams or details showing sequence of demolition work and supporting structures and underpinning, where required by authorities having jurisdiction.
  - .2 Submit drawings stamped and signed by qualified professional engineer registered or licensed in Province of Nova Scotia, Canada, where required by authorities having jurisdiction.
- .3 Hazardous Materials: provide description of Hazardous Materials and Notification of Filing with proper authorities prior to beginning of Work as required.
- .4 Waste Management Plan: prior to beginning of Work on site submit detailed Waste Management Plan in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
- .5 Certificates: submit copies of certified weigh bills, bills of lading, receipts from authorized disposal sites and reuse and recycling facilities for material removed from site upon request of Departmental Representative.
  - .1 Written authorization from Departmental Representative is required to deviate from receiving organizations listed in Waste Management Plan.

**1.7 QUALITY ASSURANCE**

- .1 Regulatory Requirements: ensure Work is performed in compliance with CEPA, CEAA, TDGA, and applicable Provincial/Territorial regulations.
- .2 Site Meetings.
  - .1 Convene pre-demolition construction meeting one week prior to beginning work of this Section in accordance with Section 01 14 10 - Scheduling and Management of Work in order to:
    - .1 Verify project requirements.
    - .2 Review demolition and substrate conditions.
    - .3 Co-ordination with other building subtrades.
  - .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 month.
  - .4 Ensure key personnel attend.
  - .5 Reporting Requirements: Contractor to complete.

- .6 Contractor must provide written report on status of waste diversion activity at each meeting.
- .7 Departmental Representative will provide written notification of change to meeting schedule established upon contract award 24 hours prior to scheduled meeting.
- .3 Health and Safety.
  - .1 Do construction occupational health and safety in accordance with Section 01 35 29 - Health and Safety Requirements.

## 1.8 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
- .2 Excavated materials Type A and Type B will be sampled by the Departmental Representative prior to disposal off site or re-use onsite. Contractor to provide access and opportunities for sampling as requested by the Departmental Representative. Excess excavated material will be disposed of off-site.
- .3 Do not dispose of preservative treated wood through incineration.
- .4 Do not dispose of preservative treated wood with materials destined for recycling or reuse.
- .5 Dispose of treated wood, end pieces, wood scraps and sawdust at sanitary landfill approved by a Departmental Representative.
- .6 Dispose of unused wood preservative material at official hazardous material collections site approved by a Departmental Representative.
- .7 Do not dispose of unused preservative material into sewer system, into streams, lakes, onto ground or in other locations where they will pose health or environmental hazard.

## 1.9 MEASUREMENT PROCEDURES

- .1 Demolition and Removals will not be measured for payment and will constitute a lump sum. However, Contractor to keep measurements of demolitions and removals and submit to Departmental Representative upon request in keeping with the requirements of the Waste Management Plan and Section 01 74 21 as follows:
  - .1 Measure removal of asphaltic concrete pavement in square metres and record average thickness.
  - .2 Measure removal of base and sub-base pavement materials in cubic metres in place.
  - .3 Measure removal of concrete in cubic metres.
  - .4 Measure removal of timber crib and ballast in cubic metres in place.
  - .5 Measure removal of fill around and under existing timber crib in cubic metres in place.

- .6 Measure removal of fences, curbs, and guard rails in metres.
- .7 Payment for salvage, stockpiling, disposal, alternate disposal, recycling, excavating, backfilling and restoration shall be included in above removal items and reflected in the lump sum price for demolition and removals.
- .8 Measure removal of waste materials designated for alternate disposal from the site in tonnes.
- .9 Measure other removals and demolition items not listed above in accordance with Section 01 29 00.

#### 1.10 DELIVERY, STORAGE AND HANDLING

- .1 Perform Work 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.
- .3 Waste Management and Disposal.
  - .1 Separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management And Disposal.
  - .2 Divert excess materials from landfill to site approved by Departmental Representative.
  - .3 Separate for reuse and recycling and place in designated containers, Steel, Metal, and Plastic waste in accordance with Waste Management Plan.
  - .4 Place materials defined as hazardous or toxic in designated containers.
  - .5 Handle and dispose of hazardous materials in accordance with CEPA, Regional and Municipal regulations.
  - .6 Label location of salvaged material's storage areas and provide barriers and security devices.
  - .7 Ensure emptied containers are sealed and stored safely.
  - .8 Source separate for recycling materials that cannot be salvaged for reuse including wood, metal, concrete and asphalt.
  - .9 Remove materials that cannot be salvaged for reuse or recycling and dispose of in accordance with applicable codes at licensed facilities.

**1.11 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 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 directed by Departmental Representative from site, and dispose of at designated disposal facilities in safe manner in accordance with TDGA and other applicable regulatory requirements.
  - .2 List of hazardous materials that may be present:
    - .1 Creosote timbers.

**1.12 SCHEDULING**

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

**Part 2 Products****2.1 EQUIPMENT**

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

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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 Electrical and Mechanical Services.
  - .1 Potable water line on the wharf - remove and store line on wharf, and cap remaining line.
  - .2 Electrical supply - remove and store.

**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 underlying and adjacent granular materials.
- .4 Prevent contamination with base course aggregates, when removing asphalt pavement for subsequent incorporation into hot mix asphalt concrete paving,
- .5 Excavate at least 300 mm below pipe invert, when removing pipes under existing or future pavement area.
- .6 Decommission water wells and monitoring wells in accordance with Municipal and Provincial regulations.
- .7 Remove designated trees during demolition.
  - .1 Obtain written approval of Departmental Representative prior to removal of trees not designated.  
Cut designated trees off 150mm above ground level and leave roots and stump in place as directed by Departmental Representative.

- .8 Dispose of trees designated for removal and identified by Departmental Representative.
  - .1 Grind, chip, or shred other vegetation for mulching and composting.
- .9 Stockpile topsoil for final grading and landscaping.
  - .1 Provide erosion control and seeding if not immediately used.
- .10 Salvage.
  - .1 Dismantle items containing materials for salvage and stockpile salvaged materials at locations as directed by 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 Management Plan.
  - .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.
  - .1 Do not stockpile in areas indicated as no stockpile areas on drawings.
    - .1 Above the existing sluice way.
    - .2 On the slopes to the north above the existing wharf.
- .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 and material has been sampled if sampling is required. Excavation materials Type C and Type D may be removed from site immediately following collection, whereas Excavation materials Type A and Type B are to be stockpiled until backfilling of

the new structure is complete prior to removal of excess stockpile material from site for disposal.

- .3 Transport material designated for alternate disposal using approved receiving organizations listed in Waste Management Plan and in accordance with applicable regulations.
  - .1 Written authorization from Departmental Representative is required to deviate from receiving organizations listed in Waste Management Plan.
- .4 Dispose of materials not designated for alternate disposal in accordance with applicable regulations.
  - .1 Disposal Facilities: approved and listed in Waste Management Plan.
  - .2 Written authorization from Departmental Representative is required to deviate from disposal facilities listed in Waste Management Plan.

### **3.6 RESTORATION**

- .1 Restore areas and existing works outside areas of demolition to conditions that existed prior to beginning of Work 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 Remove debris, trim surfaces and leave work site clean, upon completion of Work
- .2 Use cleaning solutions and procedures which are not harmful to health, are not injurious to plants, and do not endanger wildlife, adjacent water courses or ground water.

**END OF SECTION**



**Part 1 General**

**1.1 DESCRIPTION**

- .1 This section describes methods and procedures for demolition of structures and parts of structures.

**1.2 RELATED SECTIONS**

- .1 Section 01 33 00 - Submittal Procedures.
- .2 Section 01 74 21 - Construction/Demolition Waste Management And Disposal.
- .3 Section 01 35 43 - Environmental Procedures.
- .4 Section 01 35 29.06 - Health and Safety Requirements.

**1.3 REFERENCES**

- .1 Canadian Standards Association (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), 1992, c. 37.
  - .2 Canadian Environmental Protection Act (CEPA), 1999, c. 33.
    - .1 SOR/2003-2, On-Road Vehicle and Engine Emission Regulations.
  - .3 Transportation of Dangerous Goods Act (TDGA), 1992, c. 34.

**1.4 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: creosote, 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 Management Plan: a written plan developed by the Contractor in advance of the start of work activities detailing the specific waste management procedures that will be followed to manage waste throughout the project.

**1.5 MEASUREMENT FOR PAYMENT**

- .1 Measurement for payment will be according to Section 01 29 00.

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**1.6 SUBMITTALS**

- .1 Submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Prior to beginning of Work on site submit detailed Waste Management Plan in accordance with Section 01 74 21 - Construction/Demolition Waste Management And Disposal.
- .3 Submit copies of certified weigh bills, bills of lading, receipts from authorized disposal sites and reuse and recycling facilities for material removed from site upon request of Departmental Representative.
  - .1 Written authorization from Departmental Representative is required to deviate from hauler, facilities and receiving organizations listed in Waste Management Plan.
- .4 Where required by authorities having jurisdiction, submit for approval drawings, diagrams or details showing sequence of demolition work and supporting structures and underpinning.
- .5 Submit drawings stamped and signed by qualified professional engineer registered or licensed in Province of Nova Scotia, Canada.

**1.7 QUALITY ASSURANCE**

- .1 Regulatory Requirements: Ensure Work is performed in compliance with CEPA, CEAA, TDGA, and applicable Provincial and Municipal regulations.
- .2 Meetings:
  - .1 Prior to start of Work arrange for site visit with Departmental Representative to examine existing site conditions adjacent to demolition work.
  - .2 Hold project meetings every month.
  - .3 Ensure key personnel attend.
  - .4 Contractor must provide written report on status of waste diversion activity at each meeting.
  - .5 Departmental Representative will provide written notification of change to meeting schedule established upon contract award 24 hours prior to scheduled meeting.

**1.8 WASTE MANAGEMENT AND DISPOSAL**

- .1 Separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management And Disposal.
- .2 Divert excess materials from landfill to site approved by Departmental Representative.

**1.9 ENVIRONMENTAL PROTECTION**

- .1 Ensure Work is done in accordance with Section 01 35 43 - Environmental Procedures.

- .2 Ensure that demolition 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 and 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.

#### **1.10 EXISTING CONDITIONS**

- .1 Should material resembling spray or trowel applied asbestos or other designated or hazardous substance be encountered in course of demolition, stop work, take preventative measures, and notify Departmental Representative immediately. Do not proceed until written instructions have been received.
- .2 List items to be salvaged for reuse:
  - .1 Electrical equipment.
  - .2 Hall's Harbour Web Camera.
  - .3 Electrical Utility Pole.
  - .4 Ballast from existing crib.
  - .5 Excavated material below existing crib removed for installation of rock mattress.
- .3 Structures to be demolished to be based on their condition at time of tendering.
  - .1 Remove, protect and store salvaged items as directed by Departmental Representative. Salvage items as identified by Departmental Representative and store onsite or close to site.

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**1.11 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 in writing.

**Part 2 Products****2.1 EQUIPMENT**

- .1 Equipment and heavy machinery to:
  - .1 On-road vehicles to meet applicable emission requirements as prescribed in CEPA-SOR/2003-2, On-Road Vehicle and Engine Emission Regulations.
  - .2 Off-road vehicles to meet applicable emission requirements as prescribed in EPA CFR 86.098-10 and EPA CFR 86.098-11.
- .2 Leave machinery running only while in use, except where extreme temperatures prohibit shutting machinery down.

**Part 3 Execution****3.1 PROTECTION**

- .1 Prevent movement, settlement or damage of adjacent structures, services, walkways, stairways, paving, trees, landscaping, adjacent grades and parts of existing structures designated to remain.
  - .1 Provide bracing, shoring and underpinning as required.
  - .2 Repair damage caused by demolition as directed by Departmental Representative.
- .2 Support affected structures and, if safety of structure being demolished or adjacent structures or services appears to be endangered, take preventative measures, stop Work and immediately and notify the Departmental Representative.
- .3 Prevent debris from blocking surface drainage system, elevators, mechanical and electrical systems which must remain in operation.

**3.2 PREPARATION**

- .1 Do Work in accordance with Section 01 35 29 - Health and Safety Requirements.
- .2 Disconnect and re-route electrical, communications, and telephone service lines supported by the structures to be demolished.
  - .1 Post warning signs on electrical lines and equipment which must remain energized to serve other properties during period of demolition.

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- .3 Disconnect and cap designated mechanical services.
  - .1 Natural gas supply lines: remove in accordance with gas company requirements.
  - .2 Sewer and water lines: remove to property line in accordance with authority having jurisdiction and as directed by Departmental Representative.
  - .3 Other underground services: if encountered, remove and dispose of as directed by Departmental Representative.
- .4 Do not disrupt active or energized utilities traversing premises.
- .5 Remove rodent and vermin if encountered as required by Departmental Representative.

**3.3 SAFETY CODE**

- .1 Do demolition work and protect demolition areas in accordance with Section 01 50 00 - Temporary Facilities.
- .2 Blasting operations not permitted during demolition.
- .3 Do blasting operations in accordance with CSA S350.

**3.4 REMOVAL OF HAZARDOUS WASTES**

- .1 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.
- .2 Prior to start of demolition work remove contaminated or hazardous materials as defined by authorities having jurisdiction and as directed by Departmental Representative from site and dispose of at designated disposal facilities in safe manner.

**3.5 DEMOLITION**

- .1 Demolish parts of structure as indicated on plans to permit construction of new crib section as indicated.
- .2 Crush concrete generated due to demolition of foundations to size suitable for recycling.
- .3 Remove existing equipment, services, and obstacles where required for refinishing or making good of existing surfaces, and replace as work progresses.
- .4 At end of each day's work, leave Work in safe and stable condition.
- .5 Demolish to minimize dusting. Keep materials wetted as directed by Departmental Representative.
- .6 Only dispose of material specified by selected alternative disposal option as directed by Departmental Representative for own use.

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- .7 Do not dispose materials in landfill or waste stream destined for landfill except as described in the Waste Management Plan and approved by the Departmental Representative.
- .8 Remove and dispose of demolished materials except where noted otherwise and in accordance with authorities having jurisdiction.
- .9 Remove following materials and equipment, store, protect, and reinstall on new wharf, using qualified tradesmen:
  - .1 Electrical equipment.
  - .2 Hall's Harbour Web Camera.
  - .3 Electrical Utility Pole.
- .10 Use natural lighting to do Work where possible.
  - .1 Shut off lighting except those required for security purposes at end of each day.

**3.6 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. Eliminate double handling wherever possible.
- .4 Stockpile materials designated for alternate disposal in location which facilitates removal from site and examination by potential end markets, and which does not impede disassembly, processing, or hauling procedures.
- .5 Separate from general waste stream each of following materials. Stockpile materials in neat and orderly fashion in location and as directed by Departmental Representative for alternate disposal. Stockpile materials in accordance with applicable fire and safety regulations.
  - .1 Power source poles deemed unfit for reuse by Departmental Representative.
  - .2 Wiring and conduit.
  - .3 Outlets/switches.
  - .4 Miscellaneous metals.
- .6 Supply separate, clearly marked disposal bins for categories of waste material. Do not remove bins from site until inspected and approved by Departmental Representative. Notify Departmental Representative prior to removal of bins from site.

**3.7 REMOVAL FROM SITE**

- .1 Remove stockpiled material as directed by Departmental Representative, when it interferes with operations of project construction.

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- .2 Remove stockpiles of like materials by alternate disposal option once collection of materials is complete.
  - .3 Transport material designated for alternate disposal using approved haulers, facilities, and receiving organizations listed in Waste Management Plan and in accordance with applicable regulations.
    - .1 Written authorization from Departmental Representative is required to deviate from haulers, facilities, receiving organizations listed in Waste Management Plan.
  - .4 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 Management Plan.
  - .5 Written authorization from Departmental Representative is required to deviate from disposal facilities listed in Waste Management Plan.

**END OF SECTION**