

PART 1 - GENERAL

- 1.1 RELATED REQUIREMENTS .1 Section 31 23 33.01 - Excavating, Trenching and Backfilling.
- 1.2 REFERENCES .1 ASTM International  
.1 ASTM D 698-07e1, Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft<sup>3</sup> (600 kN-m/m<sup>3</sup>)).  
.2 Canada Green Building Council (CaGBC)  
.1 LEED Canada-NC-2009, LEED (Leadership in Energy and Environmental Design): Green Building Rating System for New Construction and Major Renovations 2009.  
.3 CSA International  
.1 CSA A23.1/A23.2-09, Concrete Materials and Methods of Concrete Construction/Test Methods and Standard Practices for Concrete.  
.2 CSA A23.4-09, Precast Concrete-Materials and Construction.  
.3 CSA B66-10, Design, Material and Manufacturing Requirements for Prefabricated Septic Tanks and Sewage Holding Tanks.  
.4 Newfoundland and Labrador Department of Municipal Affairs.  
.1 Municipal Water, Sewer and Roads Construction Specifications, latest revision.
- 1.3 ACTION AND INFORMATIONAL SUBMITTALS .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.  
.2 Product Data:  
.1 Submit manufacturer's instructions, printed product literature and data sheets for utility septic tanks and include product characteristics, performance criteria, physical size, finish and limitations.
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1.3 ACTION AND  
INFORMATIONAL  
SUBMITTALS  
(Cont'd)

- .3 Shop Drawings:
  - .1 Submit drawings stamped and signed by professional engineer registered or licensed in the Province of Newfoundland and Labrador, Canada.
  - .2 Shop Drawings: to CSA A23.4.
    - .1 Indicate on drawings:
      - .1 Design calculations for items designed by manufacturer.
      - .2 Tables and bending diagrams of reinforcing steel.
      - .3 Camber.
      - .4 Formwork.
      - .5 Finishing schedules.
      - .6 Methods of handling and erection.
      - .7 Storage facilities.
      - .8 Openings, sleeves, inserts and related reinforcement.
- .4 Sustainable Design Submittals:
  - .1 LEED Canada submittals: in accordance with Section 01 35 21 - LEED Requirements.
  - .2 Construction Waste Management:
    - .1 Submit project Waste Management Plan highlighting recycling and salvage requirements.
    - .2 Submit calculations on end-of-project recycling rates, salvage rates, and landfill rates demonstrating that 75% of construction wastes were recycled or salvaged.
    - .3 Recycled Content:
      - .1 Submit listing of recycled content products used, including details of required percentages of recycled content materials and products, showing their costs and percentages of post-consumer and post-industrial content, and total cost of materials for project.
    - .4 Regional Materials: submit evidence that project incorporates required percentage 20% of regional materials and products, showing their cost, distance from project to furthest site of extraction or manufacture, and total cost of materials for project.
    - .5 Erosion and Sedimentation Control: submit copy of erosion and sedimentation

1.3 ACTION AND  
INFORMATIONAL  
SUBMITTALS  
(Cont'd)

- .4 Sustainable Design Submittals:(Cont'd)
- .2 Construction Waste Management:(Cont'd)
- .5 (Cont'd)  
control plan in accordance with  
authorities having jurisdiction and  
Section 01 35 21 - LEED Requirements.

1.4 QUALITY  
ASSURANCE

- .1 Manufacturers and erectors of precast  
concrete elements are to be certified by CSA  
as meeting requirements of CSA A23.4.

1.5 DELIVERY,  
STORAGE AND  
HANDLING

- .1 Deliver, store and handle materials in  
accordance with Section 01 61 00 - Common  
Product Requirements and with manufacturer's  
written instructions.
- .2 Delivery and Acceptance Requirements: deliver  
materials to site in original factory  
packaging, labelled with manufacturer's name  
and address.
- .3 Storage and Handling Requirements:
  - .1 Store materials and in accordance with  
manufacturer's recommendations in clean, dry,  
well-ventilated area.
  - .2 Store and protect utility septic tanks  
from nicks, scratches, and blemishes.
  - .3 Replace defective or damaged materials  
with new.
- .4 Develop Construction Waste Management Plan  
related to Work of this Section and in  
accordance with Section 01 35 21 - LEED  
Requirements.
- .5 Packaging Waste Management: remove for reuse  
or return of pallets, crates, padding,  
banding, and packaging materials as specified  
in Construction Waste Management Plan in  
accordance with Section 01 74 21 -  
Construction/Demolition Waste Management and  
Disposal and Section 01 35 21 - LEED  
Requirements.

PART 2 - PRODUCTS

- 2.1 MATERIALS .1 Supply and install prefabricated septic tank in accordance with CSA B66, and to carry handling stresses and indicated service loads.
- .2 Tank to have minimum total working capacity of 5,000 L.
- 2.2 ACCESS .1 Include access holes to surface to facilitate cleaning and inspection.
- 2.3 TANK BEDDING AND SURROUND MATERIAL .1 Type 1 bedding in accordance with Section 02223 of the Newfoundland and Labrador Municipal Water, Sewer and Roads Master Construction Specifications.
- .1 Crushed or screened stone, gravel or sand.
- 2.4 BACKFILL MATERIAL .1 As indicated.
- .2 Type 3, in accordance with Section 31 23 33.01 - Excavating, Trenching and Backfilling.

PART 3 - EXECUTION

- 3.1 EXAMINATION .1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for utility septic tank installation in accordance with manufacturer's written instructions.
- .1 Visually inspect substrate in presence of Departmental Representative.
- .2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
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- 3.1 EXAMINATION      .1    (Cont'd)  
    (Cont'd)
- .3    Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Departmental Representative.
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- 3.2 INSTALLATION    .1    Place bedding and surround material in unfrozen condition.
- .2    Do excavation in accordance with Section 31 23 33.01 - Excavating, Trenching and Backfilling.
- .3    Place tank bedding material in accordance with details as indicated.  
            .1    Compact to 95% maximum dry density to ASTM D 698.
- .4    Make inlet and outlet joints of septic tank watertight, using modular wall seals.
- .5    Conduct leakage test on septic tank in presence of Departmental Representative, before backfilling.  
            .1    Fill tank to level of effluent pipe, and allow to stand for 24 hours.  
            .2    Allowable leakage is zero.  
            .3    If leakage occurs, remove seal materials and reseal as directed by Departmental Representative.
- .6    Do backfilling in accordance with Section 31 23 33.01 - Excavating, Trenching and Backfilling.  
            .1    Compact to 90% maximum dry density to ASTM D 698.
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- 3.3 CLEANING        .1    Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.  
            .1    Leave Work area clean at end of each day.
- .2    Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.
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- 3.3 CLEANING  
(Cont'd)
- .3 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal and Section 01 35 21 - LEED Requirements.
- .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.