

**IQALUIT WASTEWATER TREATMENT
PLANT – CONVERSION & EXPANSION**

ISSUED FOR 95 % REVIEW

VOLUME 1 OF 2: DIVISION 1 TO DIVISION 14

Prepared for:

**CITY OF IQALUIT
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Prepared by:

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October 2004

Project No.75360

SPECIFICATIONS
DIVISION OF DESIGN RESPONSIBILITIES

EARTH TECH CANADA INC.

LIVINGSTONE ARCHITECT
Relating to the architectural design

DIVISION 1 – GENERAL REQUIREMENTS

01010	Summary of Work
01016	Work Sequence and Tie-ins
01040	Coordination
01050	Field Engineering
01060	Regulatory Requirements
01090	References
01200	Project Meetings
01300	Submittals
01310	Schedules, Progress Reports
01400	Quality Control
01500	Construction Facilities
01600	Material and Equipment
01601	Material and Equipment Salvage
01650	Equipment Installation
01670	Systems Demonstrations

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**DIVISION 1 – GENERAL REQUIREMENTS
(CONTINUED)**

01700	Contract Closeout
01720	Project Record Documents
01730	Operation and Maintenance Manuals
01735	Commissioning
01770	Take-Over Procedures

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DIVISION OF DESIGN RESPONSIBILITIES**

EARTH TECH CANADA INC.

DIVISION 2 – SITE WORK

- 02015 Soils Report
- 02221 Demolition of Structures – Short Form
- 02224 Site Work
- 02315 Excavating, Trenching and Backfilling
- 02316 Rock Removal
- 02362 Steel Pipe Piles
- 02466 Rock Sockets for Piles
- 02517 Sanitary Mains

SPECIFICATIONS
DIVISION OF DESIGN RESPONSIBILITIES

EARTH TECH CANADA INC.

DIVISION 3 – CONCRETE

- 03100 Concrete Formwork
- 03200 Concrete Reinforcement
- 03250 Concrete Accessories
- 03300 Cast-in-Place Concrete

SPECIFICATIONS
DIVISION OF DESIGN RESPONSIBILITIES

EARTH TECH CANADA INC.

DIVISION 5 – METALS

- 05120 Structural Steel
- 05140 Structural Aluminum
- 05210 Steel Joists
- 05310 Steel Deck
- 05311 Metal Deck
- 05411 Wind-Load Bearing Steel Stud Systems
- 05500 Metal Fabrications
- 05501 Anchor Bolts
- 05510 Metal Stairs and Ladders
- 05515 Handrails

SPECIFICATIONS
DIVISION OF DESIGN RESPONSIBILITIES

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DIVISION 6 – WOODS AND PLASTICS

06100 Rough Carpentry

06666 Plastic Laminates

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DIVISION OF DESIGN RESPONSIBILITIES

LIVINGSTONE ARCHITECT
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**DIVISION 7 – THERMAL AND MOISTURE
PROTECTION**

07465	Preformed Metal Cladding/Siding
07520	Wall and Roof Assemblies
07610	Sheet Metal Roofing
07620	Sheet Metal Flashing and Trim
07840	Fire Proofing
07900	Joint Sealers

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DIVISION 8 – DOORS AND WINDOWS

08111 Steel Doors and Frames
08362 Sectional Metal Overhead Doors
08710 Door Hardware

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DIVISION 9 – FINISHES

09110 Non Load Bearing Wall Framing
09250 Gypsum Board
09652 Resilient Flooring
09905 Painting and Coating Systems
09911 Interior Painting
09912 Exterior Painting

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DIVISION OF DESIGN RESPONSIBILITIES

EARTH TECH CANADA INC.

DIVISION 11 – EQUIPMENT

- 11005 General Process Provisions
- 11020 Process Equipment Installation
- 11025 Modification, Relocation and Reuse of Existing Equipment
- 11181 Channel Flow Control
- 11182 Gate Schedule
- 11205 Process Motors Less Than 150 kW
- 11207 Submersible Motors
- 11300 Process Pumps – General Requirements
- 11314 Horizontal, Axial Propeller Mixers
- 11321 Horizontal, Screw Impeller Pumps
- 11346 Submersible Raw Sewage Pumps
- 11352 Progressive Cavity Pumps
- 11360 Horizontal, End Suction Centrifugal Pumps

SPECIFICATIONS
DIVISION OF DESIGN RESPONSIBILITIES

EARTH TECH CANADA INC.

DIVISION 11 – EQUIPMENT (CONTINUED)

- 11510 Primary Influent Filtration
- 11526 Centre-drive, Spiral Scraper Sludge
Collector Secondary Clarifiers
- 11531 Fine Bubble Aeration System
- 11629 Effluent Water Strainer
- 11680 Sodium Hypochlorite Dosing System
- 11700 Hydrated Lime Feed System
- 11714 Rectangular Dissolved Air Flotation
Thickeners
- 11750 Belt Filter Press
- 11910 Identification
- 11950 Miscellaneous Specialty Items

SPECIFICATIONS
DIVISION OF DESIGN RESPONSIBILITIES

EARTH TECH CANADA INC.

DIVISION 13 – SPECIALTY EQUIPMENT

- 13220 Dump Trailers
- 13230 Pallet Jack
- 13685 Laboratory Equipment and Supplies

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DIVISION OF DESIGN RESPONSIBILITIES**

EARTH TECH CANADA INC.

DIVISION 15 – MECHANICAL

- 15010 General Mechanical Provisions
- 15025 Balancing
- 15030 Testing
- 15050 Process Piping
- 15051 Process Pipe Joints and Equipment Connections
- 15052 Process Pipe Guides and Anchors
- 15053 Process Expansion Joints
- 15055 Detailed Process Piping Specification Sheets
- 15056 Process Pipeline Appurtenances
- 15058 Process Pipe Hangers and Supports
- 15059 Process Piping and Equipment Insulation
- 15060 Vibration Isolation
- 15070 Meters and Gauges
- 15080 Supports, Anchors and Seals

**SPECIFICATIONS
DIVISION OF DESIGN RESPONSIBILITIES**

EARTH TECH CANADA INC.

DIVISION 15 – MECHANICAL (CONTINUED)

- 15090 Pre-operational Cleaning and Chemical Treatment
- 15100 Process Valves
- 15105 Detailed Process Valve Specification Sheets
- 15106 Pipe and Pipe Fittings
- 15110 Valves and Strainers
- 15116 Glycol Specialties
- 15120 Expansion Compensation
- 15130 Tanks
- 15170 Diesel Fuel System
- 15200 Piping Insulation
- 15210 Duct Insulation
- 15300 Pumps
- 15410 Plumbing General
- 15420 Plumbing Fixtures and Trim
- 15510 Fire Extinguishers
- 15600 Cast Iron Boilers
- 15650 Terminal Heat Transfer Units
- 15750 Coils

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DIVISION OF DESIGN RESPONSIBILITIES

EARTH TECH CANADA INC.

DIVISION 15 – MECHANICAL (CONTINUED)

- 15800 Heat Recovery Ventilators
- 15820 Fans
- 15830 Ductwork
- 15835 Duct Accessories
- 15855 Air Outlets
- 15860 Breeching and Chimneys
- 15865 Air Filters
- 15900 Controls General Provisions
- 15940 Control Sequences
- 15999 List of Schedules

SPECIFICATIONS
DIVISION OF DESIGN RESPONSIBILITIES

EARTH TECH CANADA INC.

DIVISION 16 – ELECTRICAL

- 16010 Electrical General Requirements
- 16108 Pole Lines and Hardware
- 16111 Conduits, Conduit Fastenings and Conduit Fittings
- 16114 Cabletroughs
- 16116 Wireways and Auxiliary Gutters
- 16123 Communication Conductors
- 16131 Splitters, Junction Boxes, Pull Boxes and Cabinets
- 16132 Outlet Boxes, Conduit Boxes and Fittings
- 16141 Wiring Devices
- 16151 Wire and Box Connectors – 0-1000 V
- 16160 Grounding
- 16191 Fastenings and Supports
- 16402 Underground Service
- 16405 Coordination and Short Circuit Study
- 16421 Service Entrance Board

SPECIFICATIONS
DIVISION OF DESIGN RESPONSIBILITIES

EARTH TECH CANADA INC.

DIVISION 16 – ELECTRICAL (CONTINUED)

- 16440 Disconnect Switches Fused and Non-fused
up to 600 V - Primary
- 16461 Dry Type Transformers up to 600 V -
Primary
- 16471 Panelboards – Breaker Type
- 16477 Moulded Case Circuit Breakers
- 16480 Power Surge Protectors
- 16485 Contactors
- 16500 General Provisions for Interior Lighting
- 16510 Fluorescent Fixtures, Lamps, Sockets and
Ballasts
- 16519 Exit Lights
- 16525 Floodlighting – Exterior
- 16536 Unit Equipment for Emergency Lighting
- 16591 Lighting Control Equipment – Low Voltage
- 16622 Power Generation - Diesel

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DIVISION OF DESIGN RESPONSIBILITIES

EARTH TECH CANADA INC.

DIVISION 16 – ELECTRICAL (CONTINUED)

- 16623 Diesel Generator Accessories
- 16627 Automatic Load Transfer Equipment
- 16722 Fire Alarm System
- 16725 Security Door Supervision
- 16741 Telecommunications Raceway System
- 16742 Incoming Telephone Service
- 16755 Data and Voice Systems
- 16811 Motor Starters and Variable Frequency
Drives to 600 V
- 16820 Motor Control Centre
- 16920 Motor Power Factor Correction
- 16930 Thermistors
- 16950 Connections to Mechanical Equipment
- 16960 Starting of Electrical Equipment and System
- 16980 Testing, Adjusting and Balancing of
Electrical Equipment and Systems
- 16990 Electrical Equipment and Systems
Demonstration and Instruction

SPECIFICATIONS
DIVISION OF DESIGN RESPONSIBILITIES

EARTH TECH CANADA INC.

DIVISION 17 – INSTRUMENTATION AND CONTROLS

- 17010 Instrumentation and Controls General Requirements
- 17015 Scope of Work
- 17110 Enclosure
- 17124 Instrumentation Cable
- 17130 Power Supplies
- 17140 Instrument Air Supply and Transmission
- 17211 Process Taps and Primary Elements
- 17212 Transmitters and Indicators
- 17213 Control Valves and Powered Actuators
- 17215 Analytical Instrumentation
- 17275 Miscellaneous Panel Devices
- 17300 Gas Detection Systems
- 17400 Control Philosophy
- 17500 PLC Equipment
- 17600 PLC I/O Index
- 17650 Cable Schedule
- 17680 PLC Component Layout

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EARTH TECH CANADA INC.

**DIVISION 17 – INSTRUMENTATION AND
CONTROLS**

17700	Instrument Index
17701	Instrument Specification Sheet
17702	Instrument Loop Drawings
17703	PLC Schematic Diagrams
17704	Instrument Standard Details
17705	Control Valve Index