.11 Condensate drains.

.12 Cast iron conduit box with seal.

.13 Stainless steel hardware.

.14 Internal surfaces including stator bore, windings, end shields and conduit box to be coated with polyurethane insulator.

.16 Emergency Shutdown

.1 Provide an emergency shutdown cable located on each side of the belt press.

.2 Extend the cable the full length of the press, accessible from the floor or a platform.

.3 Activation of the pull cable is to stop the belt and de-energize all associate dewatering equipment.

.4 The cable switch is to be maintained in the stop position until manually reset.

2.3 Capacities and Performance

Number of Units		1
Tag No.		BFP-407
Effective Belt Width (Minimum)	m	1.0
Normal Operating Conditions		
Type of Sludge		100% DAF Thickened WAS
Operating Hours/Week	hr	21
Solids Feed Rate	kg/hour	178
Hydraulic Feed Rate	m^3/hour	7.1
Solids Feed Concentration (Design)	%	2.5
Solids Feed Concentration (Range)	%	0.8 – 5.0
Dewatered Cake Solids Concentration	%	15 (minimum)
Solids Capture	%	95 (minimum)
Polymer Dosage	kg/tonne dry solids	5 - 10
Polymer Concentration (liquid)	%	0.2 – 0.5
RAS Wasting		

BELT FILTER PRESS

Type of Sludge		RAS
Operating Hours/Week	hr	40
Solids Feed Rate	kg/hour	94.0
Hydraulic Feed Rate	m^3/hour	12.5
Solids Feed Concentration (Design)	%	0.75
Solids Feed Concentration (Range)	%	0.6 – 0.8
Dewatered Cake Solids Concentration	%	15 (minimum)
Solids Capture	%	95 (minimum)
Polymer Dosage	kg/tonne dry solids	5 - 10
Polymer Concentration (liquid)	%	0.2 – 0.5

Note: Under normal operating conditions the belt filter press will be used to dewater DAF thickened WAS @ 2.5 % solids. In the event that the DAF is out of service, RAS will be fed to the belt filter press.

2.4 Hydraulic Power Pack

.1 Plant hydraulic power unit is to consist of steel reservoir, electric motor, pump, filter, pressure gauge, level switch, pressure relief valve, and fittings.

.2 The pump is to be the pressure compensated type.

.3 The electric motor is to be maximum 600 V, 3 phase, 60 Hertz, TEFC, service factor 1.15, class B insulation, 40°C, continuous.

.4 The filter is to be of the "drop-in" type installed in order to filter the return line oil.

.5 The filter media rating is to be 10 micron absolute.

.6 Supply and return junction points are to be provided at the hydraulic power pack for field connection to the belt filter press.

.7 The power unit is to be completely assembled, tested and finish painted.

2.5 Hydraulic Control Module

.1 Plant hydraulic control module is to be on the belt press frame for belt tracking/tensioning adjustment.

.2 The control module is to consist of directional control valves, pressure reducing valves, pressure gauges and fittings.

.3 Hydraulic hose is to connect all hydraulic components including hydraulic cylinders and micro-torque tracking devices, to a junction point on the press frame.

.4 Provide separate pressure gauges for each hydraulic circuit.

2.6 Wash Water Booster Pump

.1 Acceptable manufacturers: Grundfos.

.2 One wash water booster pump mounted to the belt filter press frame and designed for connection to the belt washing and shower assembly.

.3 System water pressure: 400 kPa

.4 Pump capacity: 12 m^3/hour at 700 kPag (minimum)

.5 Motor: 600 V, 3 phase, 60 hz TEFC

.6 Wash water booster pump controlled from belt filter press control panel.

2.7 Air Compressor

.1 The air is supplied by an existing plant air system with an operating pressure of 1200 kPa.

2.8 Electrical Control Panel

.1 Belt filter press is to have a separate control panel designed to operate the belt filter press components, hydraulic power pack and other equipment of the sludge dewatering system.

.2 The control panel is to be a NEMA 4X stainless steel enclosure, free-standing, incorporating all the recommended controls, lockable main disconnect, control transformer, control switches and indicating lights required.

.3 Provide an Allen Bradley PLC -Series 505. Refer to Division 17 for PLC specification.

.4 The PLC shall communicate using Ethernet protocol.

.5 **STARTERS MANUFACTURER????**

.6 Control switches and running lights are to be provided for:

.1 Belt Press Hydraulic Pack or air compressor

.2 Wash Water Booster Pump

.3 Sludge Feed Pump

.4 Polymer Pumps

.5 Polymer Solution Mixers

.6 Sludge Discharge Belt Conveyor (VFD)

.7 Supply Man-Off-Auto selectors and running lights for all motors and equipment. The polymer solution mixers are to be provided with On-Off switches on the control panel.

.8 Each motor is to be able to run independently in the manual mode or the dewatering cycle can be started or stopped with auto start and stop push buttons.

.9 Operating the auto start button energize the hydraulic pack, wash water booster pump and/or solenoid valve, belt drive, and starts an adjustable zero to 10 minute pre-wet timer. When the timer runs out, the sludge feed pump and polymer feed pump are to be started.

.10 The belt press, sludge and chemical feed pumps are to be interlocked with the belt conveyor so that the belt must be running before the other equipment can be started.

.11 In Auto mode, the polymer feed pumps will be controlled with a 4-20 mA signal from the SCADA system. **DUNCAN??**

.12 An indicating light is to display that the dewatering equipment is in the pre-wet cycle.

.13 Operating the auto stop button is to stop the sludge and chemical feed pumps and energize the post wash timer, adjustable zero to 30 minutes.

.14 When the timer times out, the wash water booster plump, hydraulic pack, belt drive and cake conveyor is to be stopped and the wash water solenoid valve closes.

.15 An indicating light is to display that the dewatering equipment is in the post wash cycle.

.16 The control panel is to contain a variable frequency drive (VFD) for the control of belt speed.

.17 **VFD MANUFACTURER??**

.18 The drive is to be microprocessor controlled, constant torque adjustable frequency drive designed for reliable control throughout the entire speed range for the motor.

.19 The drive to produce a three-phase PWM (pulse with modulation) adjustable frequency output to vary the motor speed.

.20 The drive output voltage is to be a function of output frequency and shall be adjustable to meet motor parameters so that optimum motor performance can be obtained.

.21 The VFD to be suitable for the following environment:

.1 Ambient temp – zero to 50 degrees C

.2 Storage temp - -40 to 70 degrees C

.3 Relative humidity – zero to 95% (non-condensing)

.4 Vibration – 1.0 G operational

.22 The VFD to include the following features:

.1 Two independent programmable outputs.

.2 Separate programmable acceleration and deceleration times.

.3 Motor overload protection:
.1 UL listed as a motor overload protective device, to meet IEC standards for motor overload protection.

.4 Reverse direction disable for normal operation.

.5 Programmable JOG speed:
.1 Drive must be able to JOG forward and reverse directions.

.6 Drive control interface with two-line, sixteen character backlit LCD display, that can be panel mounted and maintain a NEMA type 4X indoor integrity, programmable to display process units, (i.e. feet/sec., RPM, etc.) and immediate fault display regardless of what mode it is in.

.23 The following alarm conditions are to be indicated with amber alarm lights and to cause the alarm horn to sound.

.1 Excessive belt skew (immediately stops the belt press and all dewatering equipment).

.2 Loss of wash water pressure (timer delay for start-up).

.3 Loss of hydraulic pressure.

.4 Emergency Stop Pull Cable.

.24 The alarm horn is to be silenced by operating the alarm silence push button, however, the indicating lights to remain energized until the condition is corrected.

.25 Provide a "Form C" contact for remote system monitoring when any of the above alarm conditions occur.

.26 Provide an emergency stop mushroom head push button on the local control panel (maintained in the stop position) to stop the belt press and all associated dewatering equipment. **LATCHING?? DUNCAN**

.27 Voltage-free run initiate contacts shall be provided from the belt press control panel to interface with the **MCC. ????**

.28 Control Panel certification to meet the Canadian Electrical Code requirements for installation in Nunavut.

2.9 Dry Polymer System

.1 Provide a fully functional batch dry polymer system that is controlled from the Belt Filter Press Control Panel, consisting of the following:

.1 Two (2) 1500 L open top vertical tanks (Material of construction: 304L stainless steel, or HDPE).

.2 Provide ultrasonic level transmitters on the tanks complete with mounting bracket.

.3 Provide 150W x 150H concrete housekeeping curb around tanks.

.4 Provide new gear driven mixers for both tank and mount to wall with shaft at 10-degrees to vertical. The RPM of the mixer shall be 350 and torque of motor rated for 1.0 percent dry polymer solution. Provide TEFC, 115 V, single phase motor with SF of 1.15. Acceptable manufacturers: 1) Peacock, Hayward Gordon.

.5 Provide two (2) polymer eductor wetting cones sized to make-up 3 kg of dry polymer in five (5) minutes. Acceptable manufacturers: 1) Peacock.

.6 Connect plant effluent water service water to eductor wetting cones and install isolation valves on the service lines to each eductor.

.7 Provide new mechanical polymer metering pumps suitable for intended service. Mount pumps on wall mounted base 600mm above the floor. Provide TEFC, 1-phase, 115V, AC 60 Hz pump motors. Make stroke length manually adjustable and provide controls that allows speed modulation from remote location through 4-20mA signal. The speed of the pump will be controlled from the SCADA system. Acceptable manufacturers: Milton Roy, ProMinent, and Wallace and Tiernan.

.8 Provide interconnecting pipework and appurtenances as shown on the Piping and Instrumentation Drawings.

.9 Mixers and polymer pumps to be controlled from Belt Filter Press Control Panel.

2.10 Hood

.1 Provide purpose made hood to be installed above odour control system.

.2 Design hood to provide surface velocity

2.11 Protective Coatings

.1 Prime and finish in accordance with Section 09905.

2.12 Spare Parts

.1 In addition to what is required in Section 11005, provide spare parts as follows:

.1 One (1) set of Dewatering/gravity belt

.2 One (1) set of doctor blades

.3 One (1) set of feed and spray box seals

.4 Three (3) sets of consumable electrical equipment (bulbs, fuses, relay fuses, etc.)

.5 One gallon touch-up paint

3. EXECUTION

3.1 Manufacturer's Representative

.1 Arrange for a technically qualified Manufacturer's Representative to attend the installation work, certify correct installation, train operating and maintenance staff and undertake the testing of the system for sufficient periods, to ensure the equipment is installed, operated, and maintained in accordance with the manufacturer's recommended procedures.

3.2 Installation

.1 Install and initiate operations of each belt-filter press and all components in accordance with manufacturer's written instructions.

.2 Belts to be installed in the field by belt press manufacturer at time of field service checkout

.3 Instruct installer in the methods and precautions to be followed in the installation of the equipment. Certify the installers understanding by completing Form 101, illustrated in Section 01650.

.4 Cooperate with the installer to fulfill the requirements for a successful installation as documented by Form 102, illustrated in Section 01650.

3.3 Testing

.1 Ensure the equipment, including all component parts, operates as intended.

.2 Cooperate with the installer to fulfill the requirements for successful testing of the equipment as documented by Form 103, illustrated in Section 01650.

3.4 Commissioning

.1 The equipment supplier shall provide the service of a qualified representative to inspect the mechanism installation, assist in start-up, commissioning and instruct in the proper operation and maintenance of the mechanism.

.2 The equipment supplier shall allow for a minimum of 40 hours on-site for commissioning and training.

END OF SECTION

IDENTIFICATION

1. GENERAL

1.1 Work Included

.1 Identification of equipment, motors, vessels, valves, ferrous, non-ferrous, and insulated piping.

1.2 Submittals

.1 Submit list of plates for review prior to engraving.

.2 Submit colour board for approval, a minimum of three weeks prior to painting.

2. PRODUCTS

2.1 Equipment Nameplates

.1 Provide metal equipment nameplates on each piece of manufacturer's equipment, mechanically fastened, with raised or recessed letters.

.2 Provide Underwriters' Laboratories and/or CSA registration plates, as required by respective agency.

.3 Provide manufacturer's nameplates indicating size, equipment model, manufacturer's name, serial number, voltage, cycle, phase and power of motors.

2.2 Equipment - Project Identification

.1 Supply and install black laminated identification plates with 12 mm high white letters on all equipment installed under this contract. Include the unit name and tag number.

2.3 Valving

.1 Provide all valves with a 32 mm diameter brass tag with 12mm black engraved numbers complete with non-ferrous chains or 'S' hooks.

.2 Consecutively number valves in distinct systems in accordance with piping and instrumentation drawings.

.3 Furnish a directory consisting of a typewritten valve list showing the tag number, valve location, and its use. The directory may be made up in sections to suit the respective plant area or system.

2.4 Piping

.1 Paint all piping installed under this Contract, with identifying pipe markers designating the pipe service and the direction of flow, except for stainless steel pipe and aluminum recovered pipe which shall be banded and identified. Refer to Section 09905.

.2 Either paint or self adhesive decals are acceptable pipe markers.

.3 Direction arrows are to be 150 mm long by 70 mm wide for piping with an outer diameter 75 mm or larger, including insulation. Use 100 mm long by 20 mm wide for smaller diameters. Abbreviations for names of the pipe service are provided in the drawings.

2.5 Colour Coding

.1 Apply the colour coded system identification on the following items:

.1 All uninsulated piping and valves.

.2 All canvas and cotton insulated coverings.

.3 All pumps - coat pumps with the colour identifying the material being pumped.

.4 Paint all motors blue.

.2 Identification consists of the following:

.1 Full coating of non-stainless steel pipes and valves to the colour designated for the commodities being conveyed.

.2 Coat non-submerged process equipment to match the colour code of the material being processed.

.3 Paint valve handles, chain wheels, and similar appurtenances black.

.3 Identification colours shall be as directed by the Engineer and shall match existing, whenever possible. For factory finished equipment, the identification colours shall be identified by the Engineer during the shop drawing submission stage.

.4 Piping, ductwork, conduit and support identification colours and description shall match the existing schedule. Original colours indicated are from the Mobil Chemical line of products.

IDENTIFICATION/ DESCRIPTION LEGEND	COLOUR	ABBREVIATIONS USED ON DRAWINGS
Compressed Air	White 28-W-9 & 1 Black Band	CA
Sodium Hypochlorite	Yellow Brown	CL

IDENTIFICATION

IDENTIFICATION/ DESCRIPTION LEGEND	COLOUR	ABBREVIATIONS USED ON DRAWINGS
Drain	Black 28-J-5	DR
Effluent Water	White 28-W-9 & 2 Green Bands	EW
Filtered Effluent Water	White 28-W-9 & 1 Green Band	FEW
Filtrate	Dark Blue	FIL
Hydrated Lime	Orange	HL
Foul Air	N/A; no foul air lines	FOA
Glycol Return	Refer to Division 15	
Glycol Supply	Refer to Division 15	
Grit	N/A; no grit lines	GRT
Hot Potable Water	Refer to Division 15	
Hot Water	Refer to Division 15	
Hot Water Return	Refer to Division 15	
Hot Water Supply	Refer to Division 15	
Instrument Air	White & 1 Black Band	INA
Liquid Alum	N/A; no alum lines	LAL
Lube Oil	Blue 28-B-5 & 1 Yellow Band	LUO
Methanol	N/A; no methanol lines	MET
Mixed Liquor	Charcoal	MLQ
Natural Gas	Tan 28-D-4	NAG
Nitrified Mixed Liquor	Charcoal	NMLQ
Overflow	Black 28-J-5	OF
Polymer	Jade Green	POLY
Potable Water (Drinking Water)	Blue 28-J-5	POW
Pressured Supernatant	N/A; no pressurized supernatant lines	PSU
Primary Effluent	Brown 28-D-604	PE
Primary Sludge	Light Blue	PSL
Process Air	White 28-W-9	PA
Return Activated Sludge	Grey 28-F-34	RAS
Rain Water Leader	Brown	RWL
Raw Sewage	Charcoal	RS
Recycle	Black with 3 white bands	RCL
Sanitary Sewer	Black	SWS
Screened Raw Sewage	Brown 28-D-604	SRS
Screenings	Brown 28-D-7 or 20-D-7???	SCR

IDENTIFICATION

IDENTIFICATION/ DESCRIPTION LEGEND	COLOUR	ABBREVIATIONS USED ON DRAWINGS
Scum	Black 28-J-5	SCM
Sample Line	Same colour as line being sampled	SAL
Secondary Effluent	White 28-W-9 & 2 Green Bands	SE
Seal or Gland Oil	Black 28-J-5	SEO
Sludge	Black	SLG
Subnatant	Dark Blue	SUB
Supernatant	Dark Blue with 1 white band	SUP
Thickened Bottom Sludge	Dark Blue	TBS
Thickened Sludge	Dark Blue	TSL
Thickened Waste Activated Sludge	Dark Blue	TWAS
Utility Air	White 28-W-9 & 1 Black Band	UTA
Utility Water (Seal Water)	Green 28-G-11	UTW
Vacuum	Black 28-J-5	VAC
Vent	Black 28-J-5	VNT
Waste Activated Sludge	Grey 28-F-34	WAS
Process Equipment	Blue 28-B-15	
Electrical Ducts/Conduits	Purple	
Supports	Black 28-J-5	

3. EXECUTION

3.1 Nameplates

.1 Locate nameplates so that they are easily read. Do not insulate or paint over plates.

3.2 Fasteners

.1 Attach plates to the equipment with sheet metal screws or nuts and bolts (adhesive is not acceptable).

.2 Fasten plates in conspicuous locations. On hot or cold surfaces where plates cannot be mounted, provide standoffs.

3.3 Piping

.1 On completion of protective coatings or finish painting, neatly stencil on yellow, green or white backgrounds, as appropriate, directional flow arrows and the pipe service or attach pipe marking labels.

.2 Provide pipe identification in readily visible locations. Identify pipes at each of the following locations:

.1 At each valve

.2 On both sides of wall penetrations

.3 At floor and roof penetrations

.4 On each leg of branches

.5 Every 10 m along continuous runs.

END OF SECTION

MISCELLANEOUS SPECIALTY ITEMS

1. GENERAL

1.1 Work Included

.1 Supply, installation and testing of process specialty items.

1.2 Submissions

.1 Shop Drawings: Submit in accordance with Section 01300 and Section 11005.

2. PRODUCTS

2.1 General

.1 Provide new, unused equipment for installation.

.2 All materials shall be free from defects or flaws and meet manufacturer's standard.

.3 All materials and equipment shall meet or exceed the intended function and design standard as described below.

2.2 Product Descriptions

.1 Kamlocks

.1 Provide aluminum male kamlock connections as shown on the drawings.

.2 Acceptable Manufacturers: Green Line or approved equal

END OF SECTION

DIVISION 12
FURNISHINGS
(NOT APPLICABLE)

DIVISION 13
SPECIALTY EQUIPMENT

TABLE OF CONTENTS
DIVISION 13 – SPECIALTY EQUIPMENT

DUMP TRAILERS

1. GENERAL

1.1 Work Included

.1 This section specifies the supply of the dump trailers used for transporting screenings from the Auger Screens and the Primary Filter as well as the dewatered sludge from the Belt Filter Press.

.2 Provide two (2) dump trailers designed for road transport.

.3 Equipment List:

.1 Dump Trailers – Tag Name: TRL-109 and TRL-408

1.2 Submittals

.1 Submit shop drawings in accordance with Section 01300 and Section 11005. Include drawings showing weights, dimensions, and truck connection details.

.2 Submit manufacturer's catalogue data.

1.3 Coordination

.1 Coordinate with other Divisions to ensure there are no conflicts in work.

1.4 Shipment, Protection and Storage

.1 Ship pre-fabricated.

.2 Provide storage instructions indicating specific requirements to ensure there is no uneven wear, distortion or weathering of components.

2. PRODUCTS

2.1 Description

.1 The dump trailer. TRL-109, is used to transport the screenings from the auger screens as well as the screenings from the primary filter to the landfill. Ensure suitability with wastewater screenings.

.2 The dump trailer. TRL-408, is used to transport the dewatered sludge from the belt filter press to the landfill. Ensure suitability with dewatered sludge.

2.2 Acceptable Manufacturers

.1 Pronovost –Model #: Puma-10000

.2 Or approved equal.

2.3 Capacities and Performance

.1 The dump trailers shall have a 8000 lbs carrying capacity (10,000 lbs GVW).

.2 The dump trailers shall be suitable for road transport.

.3 The dump trailers shall have electric brakes, light system and spring suspension.

.4 The dump trailer shall come with hydraulic lift package.

3. EXECUTION

3.1 Testing

.1 Ensure the equipment, including all component parts, operates as intended.

END OF SECTION

PALLET JACK

1. GENERAL

1.1 Work Included

.1 This section specifies the supply of the pallet jack used for transporting hydrated lime bulk bags to the receiving hopper.

.2 Provide one (1) motorized pallet jack designed chemical bulk bag transport.

1.2 Submittals

.1 Submit shop drawings in accordance with Section 01300 and Section 11005. Include drawings showing weights, dimensions, and data sheets.

.2 Submit manufacturer's catalogue data.

1.3 Coordination

.1 Coordinate with other Divisions to ensure there are no conflicts in work.

1.4 Shipment, Protection and Storage

.1 Ship pre-fabricated.

.2 Provide storage instructions indicating specific requirements to ensure there is no uneven wear, distortion or weathering of components.

2. PRODUCTS

2.1 Description

.1 The pallet jack, is used to transport the hydrated lime bulk bags from the top of the bioreactor to the Crane assembly above the Receiving Hopper. Ensure suitability with application.

2.2 Acceptable Manufacturers

.1 Lift-Rite Transporter-Model #: LRT3000-10

.2 Or approved equal.

2.3 Capacities and Performance

.1 The pallet jack shall have a 3000 lbs carrying capacity.

.2 The pallet jack shall be motorized/self propelled.

.3 The pallet jack shall be equipped with a manual E-Z Hydraulic Pump

.4 The pallet jack shall have a fork width equal to 685.8 mm (27 ") and a fork length equal to 1219.2 mm (48").

.5 The pallet jack shall be supplied with a 24 V battery, battery fuel gauge, spare battery and integral charger.

.6 The pallet jack shall be equipped with electronic speed controller and throttle, infinite forward and reverse speed control, safety reverse button, emergency electrical disconnect, horn, key switch with power saver, slide entry fork rollers, adjustable solid push bars, load stabilizers and lower/lift controls.

3. EXECUTION

3.1 Testing

.1 Ensure the equipment, including all component parts, operates as intended.

END OF SECTION

LABORATORY EQUIPMENT AND SUPPLIES

1. GENERAL

1.1 Work Included

.1 Supply of laboratory equipment.

.2 Supply of other miscellaneous items.

2. MATERIALS

.1 Laboratory equipment and other items as listed in the following tables.

TABLE 2-1:GENERAL LABORATORY ITEMS

Quantity	Size	Description	Fisher Cat #
pk/500	large	Weighing Boats, plastic	02-202C
12	50 mL	Beaker, Griffin Low Form Polypropylene	02-591-10A
6	100 mL	Beaker, Griffin Low Form Polypropylene	02-591-10B
6	250 mL	Beaker, Griffin Low Form Polypropylene	02-591-10D
6	600 mL	Beaker, Griffin Low Form Polypropylene	02-591-10F
6	1000 mL	Beaker, Griffin Low Form Polypropylene	02-591-10G
2	500 mL	Wash Bottle	03-409-10E
1		Brush, Beaker	03-541
1		Brush, Cylinder, large	03-621B
1		Brush, Bottle	03-565
1	1.5 lb	Detergent, Laboratory	04-320-4
6		Kimwipes	06-666A
2	50 mL	Cylinder, Graduated, polypropylene	08-572C
2	100 mL	Cylinder, Graduated, polypropylene	08-572D
2	250 mL	Cylinder, Graduated, polypropylene	08-572E
2	500 mL	Cylinder, Graduated, polypropylene	08-572F
2	1000 mL	Cylinder, Graduated, polypropylene	08-572G
6		Magnetic Stirbars	14-511-63
1		Stirbar Retriever	14-511-86
1		Magnetic Stirrer/heater	11-497-6A
2		Scoopulas	14-357
2		Thermometer, -20 - 150^{O}C	15-041-4D

LABORATORY EQUIPMENT AND SUPPLIES

TABLE 2-1:GENERAL LABORATORY ITEMS

Quantity	Size	Description	Fisher Cat #
pkg/100	Large	Gloves, Vinyl	19-019-911
1		Safety Goggles	17-253
1		Count-down Timer	06-662-46
1		Lab Chair -High form swivel	91-2508P
10	200 L	Drums of liquid sodium hypochlorite (12.5% Cl2)	N/A
1		Coretaker as supplied by Labcor-Model # RK-05465-60	N/A

TABLE 2-2:SOLIDS TESTING LABORATORY EQUIPMENT

Test	Quantity	Description	Supplier	Manufacturer	Catalogue #
SS	1	Filter Paper 934-AH	FisherSci	FisherBrand	09-804-55C
	1	Vacuum Tubing	FisherSci	Fisher	14-178-5F
	2	Forceps	FisherSci	Fisher	10-295
	6	Porcelain Dishes	FisherSci	Coors	08-693A
	1	Aspirator	FisherSci	Nalgene	6140-0010
	1	Vacuum Flask	FisherSci	Nalgene	4101-1000
	1	Buchner Funnel	FisherSci	Coors	10-56B
	1	Desiccator	FisherSci	FisherBrand	08-642-23A
	1	Indicating Drierite	FisherSci	Drierite	07-578-3A
SVI	2	Graduated Cylinder 1000 mL	FisherSci	Pyrex	08-552H
VSS		All of TSS equipment, above			
	1	Muffle Furnace	FisherSci	Isotemp	10-550-14
	1	Tongs	FisherSci	FisherBrand	15-207
	1	Kevlar Gloves	FisherSci		28-707-49
TS/VS		All of TSS equipment, above			
	6	Porcelain Dishes	FisherSci	Coors	08-690A

TABLE 2- 3:DISSOLVED OXYGEN TESTING LABORATORY EQUIPMENT

Quantity	Description	Supplier	Manufacturer	Catalogue #
1	Portable DO Meter w/3 m cable	ClearTech	Hach	5181503
1	Portable pH Meter	Labcor	Oakton	A-35615-70
	pH Buffer 4	Labcor	Oakton	A-000654-00
	pH Buffer 7	Labcor	Oakton	A-000654-04
	pH Buffer 10	Labcor	Oakton	A-000654-08

3. EXECUTION

3.1 Storage and delivery

.1 Store the equipment in a dry, clean, heated environment until delivered to the Owner.

END OF SECTION

DIVISION 14
CONVEYING SYSTEMS
(NOT APPLICABLE)