	CLIENT: Community and Government Services, Government of Nunavut	BASIS FOR ESTIMATE:		
CLASS 'A' COST	PROJECT: Arviat Water Supply Filtration System, 07-8254	PREPARED BY: N. Corina Peach	ISSUE DATE: April 8, 2008	Target Year: 2008-09
ESTIMATE	PLANT: Water Treatment Plant	CHECKED BY: Gary Strong	REVISION DATE: April 24, 2008	Estimation Year: 2008
	REFERENCE: Various	STATUS: Final	PAGE : 1 of 3	Annual Inflation Rate: 2%

DIRECT COSTS

DESCRIPTION	MANUFACT	TURER & SUPPLIER INFOR	MATION	QUA	ANTITY		PURCHASE (OB) COST		INSTALLA	TION COST	GENERAL CONTRACTOR	SUB-CONTRACTOR MARK-UP		TOTAL INSTALLED
OF EQUIPMENT	MANUFACTURER	SUPPLIER	LOCATION	NO.	UNITS	UNIT PRICE	NET PRICE	0.0% PST	FOB FACTORY	FACTOR	соѕт	MARK-UP 10%	FACTOR	COST	COST
						Α	В	С	D = B + C	E	F = D x E	G = D x 10%	Н	I = D x H	J = D + F + G +
Process Equipment															
Filtration System															
Intake Pump	Grunfos	Grundfos Canada	Edmonton, AB	2	-	\$5,351.00	\$10,702.00	\$0.00	\$10,702.00	40%	\$4,280.80	\$1,070.20	15%	\$1,605.30	\$17,658.30
Inline Stainless Pre-Filter	Hayward® FlowControl	Fabco Plastics	Edmonton, AB	1	-	\$1,630.29	\$1,630.29	\$0.00	\$1,630.29	40%	\$652.12	\$163.03	15%	\$244.54	\$2,689.98
Filter Housings															
HUR 3x170FL	Harmsco®/Danamark	BI Pure Water	Surry, BC	1	-	\$10,708.00	\$10,708.00	\$0.00	\$10,708.00	40%	\$4,283.20	\$1,070.80	15%	\$1,606.20	\$17,668.20
HUR 5x170FL	Harmsco®/Danamark	BI Pure Water	Surry, BC	3	-	\$23,882.00	\$71,646.00	\$0.00	\$71,646.00	40%	\$28,658.40	\$7,164.60	15%	\$10,746.90	\$118,215.90
Filter Cartridges	•				•				•						
HC-170-20	Harmsco®/Danamark	BI Pure Water	Surry, BC	3	-	\$195.00	\$585.00	\$0.00	\$585.00	40%	\$234.00	\$58.50	15%	\$87.75	\$965.25
HC-170-5	Harmsco®/Danamark	BI Pure Water	Surry, BC	5	-	\$195.00	\$975.00	\$0.00	\$975.00	40%	\$390.00	\$97.50	15%	\$146.25	\$1,608.75
PP-HC-170-1	Harmsco®/Danamark	BI Pure Water	Surry, BC	5	-	\$438.00	\$2,190.00	\$0.00	\$2,190.00	40%	\$876.00	\$219.00	15%	\$328.50	\$3,613.50
HC-170-AC-5	Harmsco®/Danamark	BI Pure Water	Surry, BC	5		\$401.00	\$2,005.00	\$0.00	\$2,005.00	40%	\$802.00	\$200.50	15%	\$300.75	\$3,308.25
Sub-Total of Filtration System															\$165,728.13
Chlorination System															
Chemical Metering Pump															i
Pump	Grundfos®-Alldos	ClearTech	Saskatoon, SK	2	-	\$1,654.62	\$3,309.24	\$0.00	\$3,309.24	40%	\$1,323.70	\$330.92	15%	\$496.39	\$5,460.25
Installation Kit	Grundfos®-Alldos	ClearTech	Saskatoon, SK	2	-	\$166.42	\$332.84	\$0.00	\$332.84	40%	\$133.14	\$33.28	15%	\$49.93	\$549.19
Chlorine Mixing and Solution	Polyrama	ClearTech	Edmonton, AB	2	-	\$151.39	\$302.78	\$0.00	\$302.78	40%	\$121.11	\$30.28	15%	\$45.42	\$499.59
Chlorine Agitator	Dynamix Agitators Inc.	Dynamix Agitators Inc.	Richmond, BC	1	-	\$887.00	\$887.00	\$0.00	\$887.00	40%	\$354.80	\$88.70	15%	\$133.05	\$1,463.55
Sub-Total of Chlorination Syst	em em														\$7,972.57
Domestic Water System															
Domestic Water Pump	Shurflo	Philmar Enterprizes	Whitehorse, YK	1	-	\$255.00	\$255.00	\$0.00	\$255.00	40%	\$102.00	\$25.50	15%	\$38.25	\$420.75
Domestic Water Storage	Polyrama	ClearTech	Edmonton, AB	1	-	\$151.39	\$151.39	\$0.00	\$151.39	40%	\$60.56	\$15.14	15%	\$22.71	\$249.79
Sub-Total of Domestic Water S	System														\$670.54
Wastewater System															
Wastewater Sump Pump	Grundfos®-Alldos	Grundfos Canada	Edmonton, AB	1	-	\$900.00	\$900.00	\$0.00	\$900.00	40%	\$360.00	\$90.00	15%	\$135.00	\$1,485.00
Wastewater Storage	Polyrama	ClearTech	Edmonton, AB	1		\$151.39	\$151.39	\$0.00	\$151.39	40%	\$60.56	\$15.14	15%	\$22.71	\$249.79
Sub-Total of Wastewater Syste	em									<u>-</u>	·				\$1,734.79

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CLASS 'A' COST	PROJECT: Arviat Water Supply Filtration System, 07-8254	PREPARED BY: N. Corina Peach	ISSUE DATE: April 8, 2008	Target Year: 2008-09
ESTIMATE	PLANT: Water Treatment Plant	CHECKED BY: Gary Strong	REVISION DATE: April 24, 2008	Estimation Year: 2008
	REFERENCE: Various	STATUS: Final	PAGE: 2 of 3	Annual Inflation Rate: 2%

DIRECT COSTS

DESCRIPTION	MANUFACT	JRER & SUPPLIER INFORMA	TION	QUA	ANTITY PURCHASE (FOB) COST INSTALLATION COST				GENERAL CONTRACTOR	WARK-UP		TOTAL INSTALLED			
OF EQUIPMENT	MANUFACTURER	SUPPLIER	LOCATION	NO.	UNITS	UNIT PRICE	NET PRICE	0.0% PST	FOB FACTORY	FACTOR	соѕт	MARK-UP 10%	FACTOR	COST	COST
						Α	В	С	D = B + C	Е	F = D x E	G = D x 10%	Н	I = D x H	J = D + F + G +
Process Piping, Valves & Fitting	gs		_			•				, ,					T
Butterfly, 75 mm	Bray Valve and Controls	Summit Valve and Controls Inc.	Edmonton, AB	2	-	\$115.00	\$230.00	\$0.00	\$230.00		\$92.00	\$23.00	15%	\$34.50	\$379.5
Butterfly, 100 mm	Bray Valve and Controls	Summit Valve and Controls Inc.	Edmonton, AB	10	-	\$130.00	\$1,300.00	\$0.00	\$1,300.00	40%	\$520.00	\$130.00	15%	\$195.00	\$2,145.0
Ball, 20 mm	Bray Valve and Controls	Summit Valve and Controls Inc.	Edmonton, AB	5	-	\$28.00	\$140.00	\$0.00	\$140.00		\$56.00	\$14.00	15%	\$21.00	\$231.0
Gate, 25 mm	Bray Valve and Controls	Summit Valve and Controls Inc.	Edmonton, AB	5	-	\$81.00	\$405.00	\$0.00	\$405.00	40%	\$162.00	\$40.50	15%	\$60.75	\$668.2
Gate, 40 mm	Bray Valve and Controls	Summit Valve and Controls Inc.	Edmonton, AB	4	-	\$181.00	\$724.00	\$0.00	\$724.00		\$289.60	\$72.40	15%	\$108.60	\$1,194.6
Swing Check, 20 mm	Bray Valve and Controls	Summit Valve and Controls Inc.	Edmonton, AB	1	-	\$68.00	\$68.00	\$0.00	\$68.00	40%	\$27.20	\$6.80	15%	\$10.20	\$112.2
Motorized Control, 100 mm	Bray Valve and Controls	Summit Valve and Controls Inc.	Edmonton, AB	1	-	\$629.00	\$629.00	\$0.00	\$629.00	40%	\$251.60	\$62.90	15%	\$94.35	\$1,037.8
Solonoid, 20 mm	Asco® Valve, Inc	Summit Valve and Controls Inc.	Edmonton, AB	1	-	\$212.00	\$212.00	\$0.00	\$212.00	40%	\$84.80	\$21.20	15%	\$31.80	\$349.8
Globe Valve, 20 mm	Chemline Plastics Limited	Chemline Plastics Limited	Calgary, AB	1	-	\$210.00	\$210.00	\$0.00	\$210.00	40%	\$84.00	\$21.00	15%	\$31.50	\$346.5
Air/Vacuum Release Valve, 25 mr	Apco®	Summit Valve and Controls Inc.	Edmonton, AB	2	-	\$279.00	\$558.00	\$0.00	\$558.00	40%	\$223.20	\$55.80	15%	\$83.70	\$920.7
Reducer, 100/75	IPEX USA LLC.	IPEX USA LLC.	Charlotte, NC	2	-	\$99.35	\$198.70	\$0.00	\$198.70	40%	\$79.48	\$19.87	15%	\$29.81	\$327.8
90° Elbow, 75 mm	IPEX USA LLC.	IPEX USA LLC.	Charlotte, NC	1	-	\$26.06	\$26.06	\$0.00	\$26.06	40%	\$10.42	\$2.61	15%	\$3.91	\$43.0
90° Elbow, 100 mm	IPEX USA LLC.	IPEX USA LLC.	Charlotte, NC	14	-	\$39.59	\$554.26	\$0.00	\$554.26	40%	\$221.70	\$55.43	15%	\$83.14	\$914.5
Tee, 100 mm	IPEX USA LLC.	IPEX USA LLC.	Charlotte, NC	10	-	\$55.48	\$554.80	\$0.00	\$554.80	40%	\$221.92	\$55.48	15%	\$83.22	\$915.4
PVC, Schedule 80, 75 mm	Charlotte Pipe and Foundry	Charlotte Pipe and Foundry	Charlotte, NC	1	100 ft	\$450.00	\$450.00	\$0.00	\$450.00	40%	\$180.00	\$45.00	15%	\$67.50	\$742.5
PVC, Schedule 80, 100 mm	Charlotte Pipe and Foundry	Charlotte Pipe and Foundry	Charlotte, NC	2	100 ft	\$654.00	\$654.00	\$0.00	\$654.00	40%	\$261.60	\$65.40	15%	\$98.10	\$1,079.1
Sub-Total of Process Piping, Va	alves & Fittings														\$11,407.8
Instrumentation															
Flow Sensor	Signet	Fabco Plastics	Edmonton, AB	2	-	\$529.45	\$1,058.90	\$0.00	\$1,058.90	40%	\$423.56	\$105.89	15%	\$158.84	\$1,747.1
Flow Transmitter	Signet	Fabco Plastics	Edmonton, AB	2	-	\$745.90	\$1,491.80	\$0.00	\$1,491.80	40%	\$596.72	\$149.18	15%	\$223.77	\$2,461.4
Level Sensor/Transmittor	ITT	ITT Water & Wastewater	Edmonton, AB	2	-	\$1,560.00	\$3,120.00	\$0.00	\$3,120.00	40%	\$1,248.00	\$312.00	15%	\$468.00	\$5,148.0
Pressure Indicator	Ashcroft®	Besco	Edmonton, AB	6	-	\$197.35	\$1,184.10	\$0.00	\$1,184.10	40%	\$473.64	\$118.41	15%	\$177.62	\$1,953.7
Sub-Total of Instrumentation															\$11,310.4
Mechanical & Electrical System	s														•
Electric Heater				2	-	\$365.00	\$730.00	\$0.00	\$730.00	40%	\$292.00	\$73.00	15%	\$109.50	\$1,204.5
Exhaust Fan				1	-	\$2,423.00	\$2,423.00	\$0.00	\$2,423.00	40%	\$969.20	\$242.30	15%	\$363.45	\$3,997.9
Exhaust Damper					-		\$0.00	\$0.00	\$0.00	40%	\$0.00	\$0.00	15%	\$0.00	\$0.0
Motor Soft Starter (for Intake Pum	p)			2	-	\$900.00	\$1,800.00	\$0.00	\$1,800.00	40%	\$720.00	\$180.00	15%	\$270.00	\$2,970.0
Interior Luminaires				8	-	\$52.00	\$416.00	\$0.00	\$416.00	40%	\$166.40	\$41.60	15%	\$62.40	\$686.4
Exterior Luminaires				1	-	\$193.00	\$193.00	\$0.00	\$193.00	40%	\$77.20	\$19.30	15%	\$28.95	\$318.4
Emergency Light				1	-	\$505.00	\$505.00	\$0.00	\$505.00	40%	\$202.00	\$50.50	15%	\$75.75	\$833.2
Exit Light				1	-	\$107.00	\$107.00	\$0.00	\$107.00	40%	\$42.80	\$10.70	15%	\$16.05	\$176.5
Photocell				1	-	\$19.24	\$19.24	\$0.00	\$19.24	40%	\$7.70	\$1.92	15%	\$2.89	\$31.7
Chlorine Exhaust Fan Hood				1	-		\$0.00	\$0.00	\$0.00	40%	\$0.00	\$0.00	15%	\$0.00	\$0.0
Exhaust Fan Duct							\$0.00	\$0.00	\$0.00	40%	\$0.00	\$0.00	15%	\$0.00	
Discharge Hood				1	-		\$0.00	\$0.00	\$0.00	40%	\$0.00	\$0.00	15%	\$0.00	\$0.0
Panel E				1	-	\$3,000.00	\$3,000.00	\$0.00	\$3,000.00	40%	\$1,200.00	\$300.00	15%	\$450.00	\$4,950.0
Transformer, 15 KVA				1	-	\$1,100.00	\$1,100.00	\$0.00	\$1,100.00	40%	\$440.00	\$110.00	15%	\$165.00	
Breaker, Modifying Panels				5	-	\$30.00	\$150.00	\$0.00	\$150.00		\$60.00	\$15.00	15%	\$22.50	1
Switches and Outlets			1		-	722.00	\$0.00	\$0.00	\$0.00	+	\$0.00	\$0.00	15%	\$0.00	
Wiring and Conduits			1		-		\$0.00	\$0.00		+	\$0.00	\$0.00	15%	\$0.00	1
Sub-Total of Mechanical & Elec	trical Systems	ı	<u> </u>	<u> </u>	1	<u> </u>	72.30	71.30	730		Ţ1.00	72.50			\$17,231.3

	CLIENT: Community and Government Services, Government of Nunavut	BASIS FOR ESTIMATE:		
CLASS 'A' COST	PROJECT: Arviat Water Supply Filtration System, 07-8254	PREPARED BY: N. Corina Peach	ISSUE DATE: April 8, 2008	Target Year: 2008-09
ESTIMATE	PLANT: Water Treatment Plant	CHECKED BY: Gary Strong	REVISION DATE: April 24, 2008	Estimation Year: 2008
	REFERENCE: Various	STATUS: Final	PAGE: 3 of 3	Annual Inflation Rate: 2%

DIRECT COSTS

DESCRIPTION	MANUFACTI	URER & SUPPLIER INFORMAT	TION	QUA	NTITY		PURCHASE (FOB) COST	-	INSTALL	ATION COST	GENERAL CONTRACTOR		ITRACTOR RK-UP	TOTAL INSTALLED
OF EQUIPMENT	MANUFACTURER	SUPPLIER	LOCATION	NO.	UNITS	UNIT PRICE	NET PRICE	0.0% PST	FOB FACTORY	FACTOR	COST	MARK-UP 10%	FACTOR	COST	COST
						Α	В	С	D = B + C	E	F = D x E	G = D x 10%	Н	I = D x H	J = D + F + G + I
Laboratory Equipment & Spare	Parts														
Laboratory Equipment															\$5,231.69
Spare Parts															\$77,838.37
Sub-Total of Lab Equipment & S	Spare Parts														\$83,070.06
Total of Equipment Costs							\$115,002.54	\$0.00	\$115,002.54	40%	\$46,001.02	\$11,500.25	\$6.90	\$17,250.38	\$299,125.66
CONSTRUCTION															
Building Envelope															\$340,208.20
Site & Earthworks															\$0.00
Structural & Architectural															\$0.00
Total of Construction Costs															\$340,208.20
TOTAL OF DIRECT COSTS															\$639,333.86

INDIRECT COSTS

ITEM	FACTOR	COST
Mobilization & Demolization	3%	\$19,180.02
Insurance & Bonds	5%	\$31,966.69
Startup and Commissioning		\$69,820.00
Contingency	20%	\$127,866.77
TOTAL OF INDIRECT COSTS	\$248,833.48	

GRAND TOTAL	\$888,167.34

NOTES:

- 1) Cost quoted for PVC Scheule 80 pipe are list price per 100 ft despite the length required for actual pipe installed.

 Total length of 75 mm PVC Sch 80 is approx. 6-10 ft and 100 mm PVC Sch 80 is approx. 132 ft.
- 2) Spare Parts costs incorporate a 10% markup.
- 3) Sump Pump unit price is estimated.