

APPENDIX G

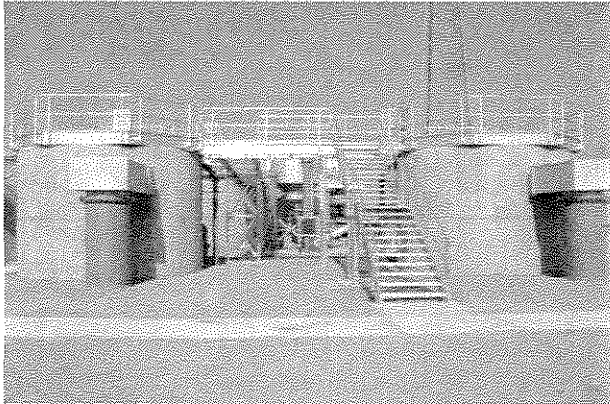
High Efficiency Grit Removal Equipment and Powered Screen



**Southend WPC
Winnipeg, Canada**

Storm King® Dynamic Separator

Wet Weather Treatment System



**Prepared for
Stantec**

**By
Hydro International**

Hydro Reference #: 2008-246
Friday, June 13, 2008



Hydro International • 94 Hutchins Drive • Portland, ME 04102
Tel: (207) 756-6200 • Fax: (207) 756-6212 • E-mail: hiltech@hil-tech.com
www.Hydro-International.biz

25 Years of
Vortex
Technology



STORM KING[®] and HELISCREEN[®] PROPOSAL

To: Stantec
Project: Southend WPCC
Location: Winnipeg, Canada
Hydro Ref. #: 2008-246
Date: Friday, June 13, 2008

Grit Removal Units

Introduction

The Storm King[®] is an advanced hydrodynamic vortex separator designed to remove grit, sediment and sand from wastewater, raw water and other liquids using vortex motion and boundary layer effects to aid gravitational settlement.

The Storm King[®] can be installed into the flow line of any system where a small head is available. The device requires no external power source, has no moving parts, is self-cleansing, has a compact modular construction and is virtually maintenance free.

Performance Objective

The grit removal system shall be designed to remove 85% of all grit particles with specific gravity of 2.65 greater than or equal to 150 microns (100 mesh) at a total peak design flow of 56.8 mgd.

Number of Storm King [®] units:	2	No.
Peak design flow (each unit):	28.4	mgd
Average design flow:	13.2	mgd
Storm King [®] diameter:	22	ft.
Storm King [®] inlet pipe diameter:	42	in.
Storm King [®] underflow pipe diameter:	6	in.
Storm King [®] overflow channel width:	84	in.
Head loss at the Peak design flow:	< 8	in.
Depth of flow at the Peak design flow:	< 16	in.
Head loss at the Average design flow:	< 2	in.
Depth of flow at the Average design flow:	< 10	in.

Scope of Supply

QUANTITY	DESCRIPTION	PRICE
2 No.	22 foot diameter in situ Storm King [®] Dynamic Separators manufactured in 304 stainless steel, concrete chamber by others. The support frame shall be manufactured in carbon steel. <i>The Storm King's internal components must be sectionalized for shipping purposes.</i>	
2 No.	Dry mount vortex type grit pumps with 3 No. isolating knife gate valves	
2 No.	Underflow control systems each comprised of: <ul style="list-style-type: none">• 1 No. 2 inch slow acting solenoid valve - NEMA 4X• 2 No. 2 inch manually activated ball valves• 1 No. 2 inch pressure regulating valve and gauge• 1 No. 2 inch fluidizing ring	
2 No.	NEMA 4X control panels (TC, fluidizing, grit pump, VFD, grit dewatering unit)	
2 No.	Dewatering units comprised of: <ul style="list-style-type: none">• 1 No. 2000C Ni-Hard cyclones• 1 No. 18 inch diameter full flared classifier	
TOTAL:		\$737,000

Options that are available at additional costs include: 316 stainless steel, grating, covers, etc. For pricing, contact Hydro International, 94 Hutchins Drive, Portland, Maine, 04102, telephone 207-756-6200.

Price includes design costs, fabrication, installation details and drawings, and delivery to the job site. Unloading, storage and installation by others. Price does not include any secondary site work, taxes or duties of any kind.

Validity: 30 Days.

Delivery: Submittals, 6 to 8 weeks from receipt of purchase order. Storm King[®] Dynamic Separators, Heliscreen[®], grit pumps, controls and dewatering devices 20 weeks from receipt of approved submittals.

Warranty

Hydro International offers a full warranty for the grit removal system against defects in materials and workmanship for a period of 12 months following installation.

Installation & Execution

Storm King Dynamic Separators and auxiliary equipment are delivered to site fully fabricated, subject to size, packaging and transportation constraints.

Commissioning

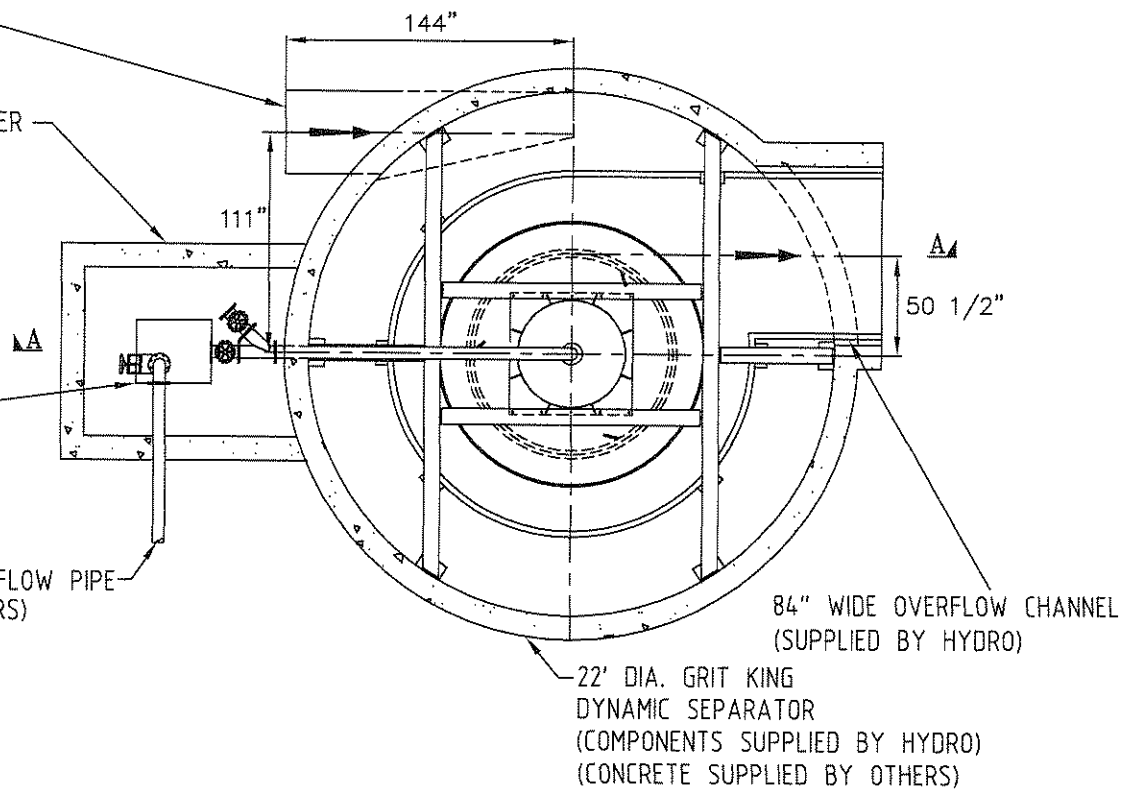
A factory trained representative is available to attend the jobsite and assist with installation inspection, startup, functional testing, and operator instructions.

42" DIA. INLET PIPE
(SUPPLIED BY HYDRO)

SIZE OF GRIT PUMP CHAMBER
TO BE SIZED PER LOCAL
BUILDING CODES

GRIT PUMP
(SUPPLIED BY HYDRO)

6" DIA. GRIT UNDERFLOW PIPE
(SUPPLIED BY OTHERS)



WATER LEVELS

TOP OF WL AT 28.4 MGD - 21.64'
UPSTREAM WL AT 28.4 MGD - 22.31'
TOP OF WL AT 13.2 MGD - 21.14'
UPSTREAM WL AT 13.2 MGD - 21.31'

NOTE

- THE INLET PIPE AND OVERFLOW CHANNEL
MAY BE ROTATED 360° ABOUT THE UNIT'S
CENTRAL AXIS, BUT INLET AND OUTLET
ORIENTATION MUST REMAIN THE SAME.

CYCLONE
(SUPPLIED BY HYDRO)

GRIT CONTAINER
(SUPPLIED BY OTHERS)

GRIT CLASSIFIER
(SUPPLIED BY HYDRO)

CYCLONE
(SUPPLIED BY HYDRO)

GRIT CLASSIFIER
(SUPPLIED BY HYDRO)

GRIT CONTAINER
(SUPPLIED BY OTHERS)

EL. 10.40'

EL. 0.00'

ELEVATION B-B

SUPPORT FRAME
(SUPPLIED BY HYDRO)

42" DIA. TANGENTIAL INLET PIPE
(SUPPLIED BY HYDRO)

CENTER SHAFT AND CONE
(SUPPLIED BY HYDRO)

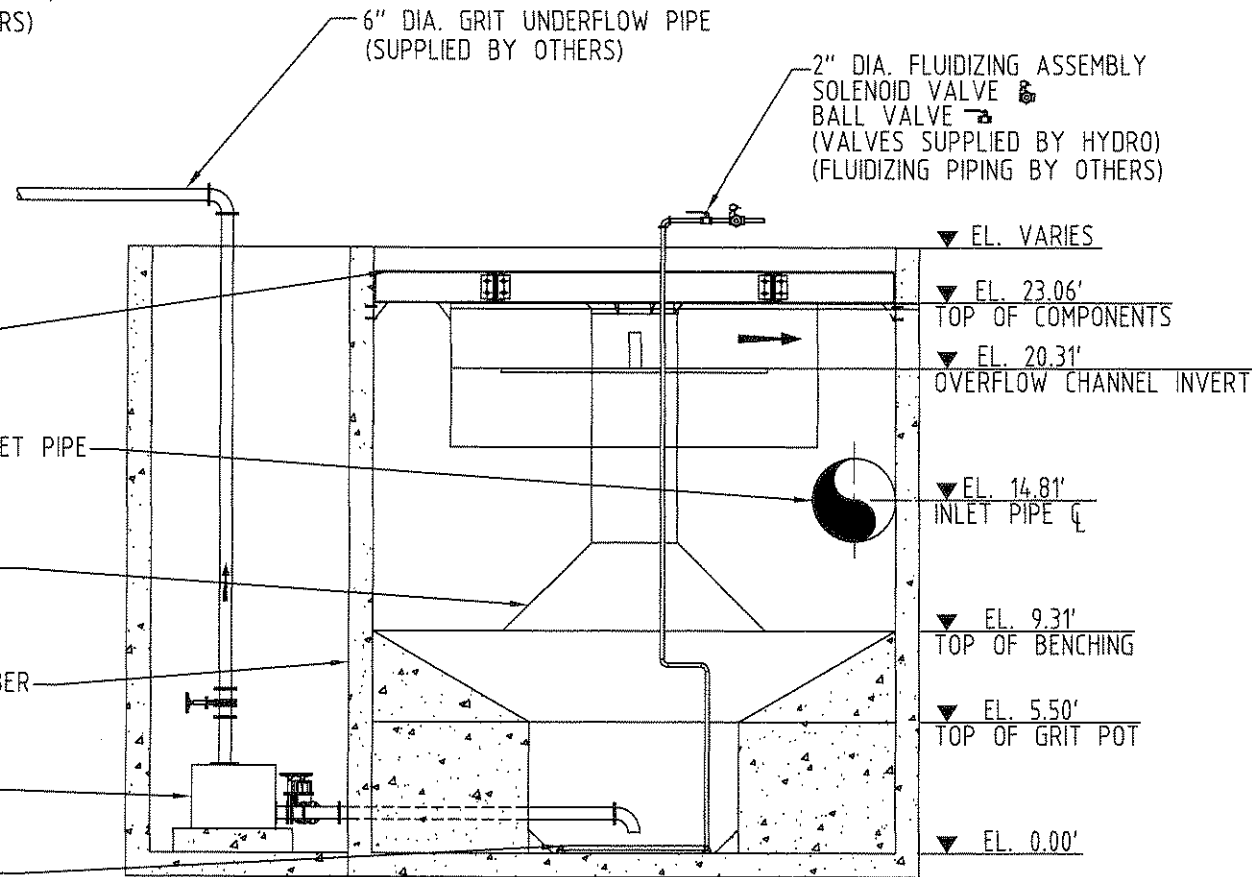
22' DIA. CONCRETE CHAMBER
(SUPPLIED BY OTHERS)

GRIT PUMP
(SUPPLIED BY HYDRO)

2" DIA. STAINLESS STEEL
FLUIDIZING RING
(SUPPLIED BY HYDRO)

6" DIA. GRIT UNDERFLOW PIPE
(SUPPLIED BY OTHERS)

2" DIA. FLUIDIZING ASSEMBLY
SOLENOID VALVE
BALL VALVE
(VALVES SUPPLIED BY HYDRO)
(FLUIDIZING PIPING BY OTHERS)



ELEVATION A-A

Notes

1. THIS DRAWING IS A LEDGER SIZE ORIGINAL.

MWB/06/11/08 FIRST ISSUE

Rev	By	Date	Description
		06/11/08	Scale 1/8"=1'
	MWB		Checked Eng. -
			Approved by SR

Title
22' DIA. GRIT KING
DYNAMIC SEPARATOR

SOUTHEND WPCC
WINNIPEG, CANADA

GENERAL ARRANGEMENT



94 Hutchins Drive
Portland, Maine 04102
Tel: (207) 756-6200
Fax: (207) 756-6212
Email: hiltech@hil-tech.com

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Hydro International

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CAD Ref:	GA7
Project No.	2008-246
Drawing No.	GA7 Rev.

Notes

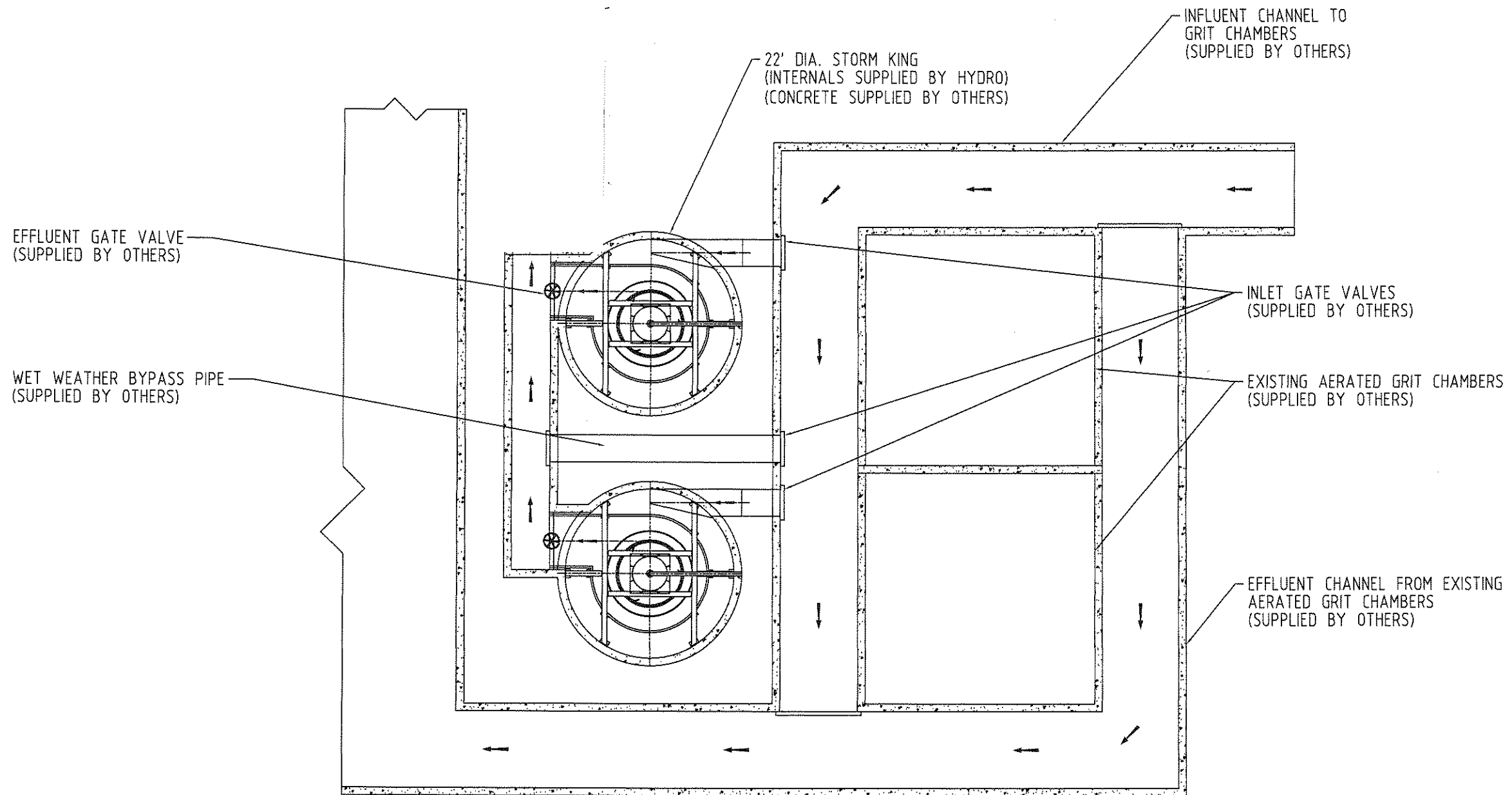
1. THIS DRAWING IS A LEDGER SIZE ORIGINAL.

MWB/06/02/08 FIRST ISSUE			
Rev	By	Date	Description
Date		Scale	
06/02/08		1/16"=1'	
Drawn by		Checked Eng.	
MWB		-	
Checked Prod.		Approved by	
-		SR	

Title
 22' DIA. STORM KINGS
 28" X 140" HELISCREENS
 SOUTH END WPCC
 WINNIPEG, CANADA
 WET WEATHER SYSTEM
 PROPOSED LAYOUT



94 Hutchins Drive
 Portland, Maine 04102
 Tel: (207) 756-6200
 Fax: (207) 756-6212
 Email: hiltech@hil-tech.com



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CAD Ref:	GA8
Project No.	2008-246
Drawing No.	GA8 Rev.

Project Name: **SE Winnipeg STP**State/Country: **MB, CANADA**Rep. Company: **BD Watertech**

Offer:

08-11-05WIN

Date Offer:

Nov 5th, 2008

V3.0

Offer # 08-11-05WIN Winnipeg

Thank you for your request for a screenings handling package proposal. Headworks® is pleased to offer you the Headworks® Bar™ Screen, for this project.

The Headworks® Mahr® Bar Screen design offers the following features:

- Stainless Steel Construction - for corrosion resistance
- Low Profile - requires less than 8' of head space
- Low Headloss
- High Hydraulic Capacity - about 2 MGD per ft² of screen area
- Automatic Reverse - to remove obstructions
- Pivots out of Channel - for easy maintenance!

Included are our Design Specifications, Offer, Scope of Supply and General Terms and Conditions, which are all a part of the offer.

If you have any questions or comments, please do not hesitate to contact our local Sales Representative, or this office.

Yours Sincerely,

Gerald Seidl
Headworks Inc.

Project Summary:			
Project Summary	Item	Units	US \$
Headworks® Mahr® Bar Screen	1	2	388,510
TOTAL PROJECT COSTS			388,510

Prices valid for 60 days and are in US\$

FREIGHT INCLUDED to job site. Terms - DDU. All Applicable Canadian Taxes extra.

Project Name: **SE Winnipeg STP**State/Country: **MB, CANADA**Rep. Company: **BD Watertech**

Offer:

08-11-05WIN

Date Offer:

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V3.0

Item:	1
Type of Product	Mahr® Bar Screen

Project Name:	Winnipeg
Offer Number	08-11-05WIN
Item Number:	1
Screen Name	Mahr
No. of Screens	2
Screen Data	Meter
SOL Screen Overall Length	4.90
OF Operating Floor to Channel Invert	1.80
CD Channel Depth	1.80
CW Channel Width	1.55
SW Screen Total Width	1.50
SFW Screen Field Width (Net)	1.25
WD Water Depth	1.50
DL Discharge Level	2.00
SFL Screen Field Length	1.70
BS Bar spacing	6.00 mm
Wall Recess	NO
Floor Recess	NO
Screen grouted when in recess	NO
# of Sections/Pieces	1
Material	SS 304
Chain Roller Type	Stainless
Top Enclosed	NO
Installation Angle (Degree)	75 deg
Weight (per screen)	1860 kg
Pull Out Type	Yes
Pivot Type	Yes
Q max. Specified	1.24 m3/s
Q max. (v-Ch. = 0.9m/sec)	1.88 m3/s
Q max. (v-Ch. = 0.6m/sec)	1.25 m3/s
Headloss at 0.9m/sec channel velocity	7.22 cm
Headloss at 0.6m/sec channel velocity	3.15 cm

Screen Scope of Supply	Supplied
Headworks® Mahr® Bar Screen	YES
Spare Parts	NO
Control Panel (Main NEMA 4 & Local NEMA 7)	YES
Ultrasonic Level Sensor	YES
Interconnecting Wiring	NO
Training (O&M)	YES



Project Name: **SE Winnipeg STP**

State/Country: **MB, CANADA**

Rep. Company: **BD Watertech**

Offer: 08-11-05WIN

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V3.0



4 of 6
Project Name: **SE Winnipeg STP**
State/Country: **MB, CANADA**
Rep. Company: **BD Watertech**
Offer: 08-11-05WIN
Date Offer: Nov 5th, 2008
V3.0

GENERAL TERMS AND CONDITIONS

Applicable Terms

These terms govern the purchase and sale of the equipment and related services. If any (collectively, "Equipment") referred to in Seller's quotation, proposal or acknowledgement, as the case may be (Seller's "Documentation"). Whether these terms are included in an offer or an acceptance by Seller, such offer or acceptance is conditioned on Buyer's assent to these terms. Seller rejects all additional or different terms in any of Buyer's forms documents.

Pricing

The price of the Equipment is based upon the following conditions:

15% Upon Approval of Submittals. 75% due net 30 days from date of equipment shipment. 10% Retainage due net 30 days from date of Start-Up, but no later than 180 days from shipment

These terms are independent of and not contingent upon the time and manner in which the purchaser receives payment from the site owner or any other person. Acceptance of order subject to credit approval. All monies not paid when due shall bear interest from the due date to the date paid either (i) at the fluctuating rate of 3% above the Prime Rate as defined below or (ii) the highest rate allowed by law, whichever is lesser. "Prime Rate" is the prime rate in effect on the first business day of the month in which a change occurs, as published in the Wall Street Journal on the next business day.

Validity of Quotation:

60 days from date of offer.

Ownership of Material

All devices, designs (including drawings, plans and specifications), estimates, prices, notes, electronic data and other documents or information prepared or disclosed by Seller, and all related intellectual property rights, shall remain Seller's properties. Seller grants Buyer a non-exclusive, non transferable license to use any such material solely for Buyer's use of the equipment. Buyer shall not disclose any such material to third parties without Seller's prior written consent.

Changes

Seller shall not implement any changes in the scope of work described in Seller's documentation unless Buyer and Seller agree in writing to the details of the changes and any resulting price, schedule, or contractual modifications. This includes any changes necessitated by a change in applicable law occurring after the effective date of any contract including these terms.

Project Name: **SE Winnipeg STP**State/Country: **MB, CANADA**Rep. Company: **BD Watertech**

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Date Offer: Nov 5th, 2008

V3.0

Stainless Steel Price Increases:

All Orders accepted, are subject to the following terms:

Headworks™ reserves the right to adjust the price of the equipment based on increases in the price of stainless steel. This increase would be based on stainless steel price increases (including surcharges) as published monthly in the U.S. with the base price being that price (including surcharges, if any) published on the date of this offer. Such price increase only affects the cost of the stainless steel material portion of the affected equipment.

Force Majeure

"Force Majeure" shall mean any act or event which is outside the reasonable control of a party including, without prejudice to the foregoing generality, Acts of God, epidemics, tidal waves, explosions, lightning, earthquakes, hurricanes, wars (whether declared or not), riots, strikes and industrial actions (other than among the employees of party seeking to rely on such event, or its subcontractor), civil and military disturbances and unrest, acts of the public enemy, action or inaction of the government or governmental authorities or of representatives thereof. If Headworks is prevented from or delayed in performing its obligations as a result of Force Majeure, such prevention or delay shall not be considered a breach of the Agreement, but shall for the duration of such event relieve Headworks of its respective obligations thereunder. Should the Force Majeure suspension period last for more than one (1) month, Headworks may terminate this quote or agreement.

Freight Terms

freight to site included. All appl taxes extra.

Shipment Schedule

16 - 20 weeks ex works after receipt of approved submittal drawings.

Start-Up and Operator Training

2 trips of up to 3 consecutive days included.

Submittals

Technical submittal drawings for review, authority examination and approval shall be furnished to the buyer within 3 - 4 weeks of order acceptance.

Taxes

Federal, state and local taxes, if any, are not included in the above prices. All applicable taxes are for the purchaser's account.

Patent Protection

Various Headworks equipment contain proprietary information covered by a number of patents and patents pending in the USA and in many international countries. For a full list of the approved patents, please contact Headworks® Inc. legal department in Houston, Texas.

Project Name: **SE Winnipeg STP**State/Country: **MB, CANADA**Rep. Company: **BD Watertech**

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Warranty:

The seller warrants all equipment of its own manufacture to be free of defects caused by faulty material or workmanship for a period of eighteen (18) months from date of shipment or twelve (12) months from date of start-up, whichever first occurs. The seller warrants the original factory installed ceramic lower bearings to be free of defects caused by faulty material or workmanship for a period of three (3) years from date of shipment. In the event that defects develop during the warranty period, under normal and proper use, Headworks is to be notified promptly and with their consent the products are to be returned to Headworks F.O.B. Headworks factory.

In the case of components purchased by Headworks and incorporated into the equipment, such as Electrical Controls, Instrumentation, Electrical Motors, Gear Reducers and related items, Headworks warranty is limited to the individual manufacturer's warranty for that component, usually one year. This warranty does not apply to equipment or parts thereof which have been altered or repaired other than by a representative of Headworks®, or damaged by improper installation, application, erosion or corrosion of any sort, or subjected to misuse, abuse, neglect or accident.

THIS WARRANTY, INCLUDING THE STATED REMEDIES, IS EXPRESSLY MADE BY HEADWORKS® AND ACCEPTED BY PURCHASER IN LIEU OF ALL OTHER WARRANTIES, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WHETHER WRITTEN, ORAL, EXPRESS, IMPLIED, OR STATUTORY. HEADWORKS® NEITHER ASSUMES NOR AUTHORIZES ANY OTHER PERSON TO ASSUME FOR IT ANY OTHER LIABILITIES WITH RESPECT TO ITS EQUIPMENT. HEADWORKS® SHALL NOT BE LIABLE FOR NORMAL WEAR AND TEAR, NOR FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGE DUE TO INOPERABILITY OF ITS EQUIPMENT FOR ANY REASON NOR ANY CLAIM THAT ITS EQUIPMENT WAS NEGLIGENTLY DESIGNED OR MANUFACTURED.

Termination

Buyer may at any time terminate this order or any part hereof for its sole convenience. In the event of such termination, Seller shall immediately stop all work hereunder, and shall immediately cause any of its suppliers or subcontractors to cease such work. Seller shall be paid a reasonable termination charge consisting of a percentage of the order price reflecting the percentage of the work performed prior to the notice of termination, including without limitations any and all engineering work completed in submittal preparation, plus actual direct costs resulting from termination. Seller shall not be paid for any work done after receipt of the notice of termination, nor for any costs incurred by the Seller's suppliers or subcontractors which Seller could reasonably have avoided. Buyer will make no payments for finished work, work in process, or raw material fabricated or procured by the Seller in excess of any order or release.

Limitation of Liability

In no event shall Seller be liable for anticipated profits or for incidental or consequential damages. Seller's liability on any claim of any kind for any loss or damage arising out of or in connection with or resulting from this contract or from the performance or breach thereof shall in no case exceed the price allocable to the goods or services which gives rise to the claim. Seller shall not be liable for penalties of any description. Any action resulting from any breach on the part of Seller as to the goods or services delivered hereunder must be commenced within one (1) year after the cause of action has accrued.