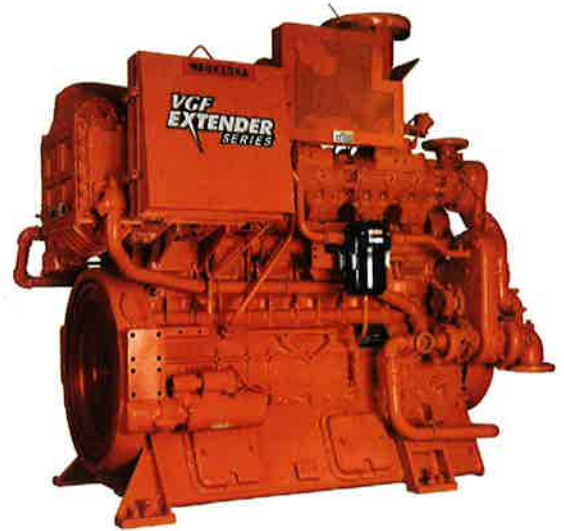


Waukesha* gas engines VGF* F18G

160 - 240 BHP (119 - 179 kWb)



The VGF series of high-speed engines are built with the durability expected from a medium-speed engine. This series of engines is designed for a wide range of stationary, spark-ignited, gaseous fuel applications and has a high power-to-weight ratio operating up to 1800 RPM.

The VGF Series simplifies maintenance procedures. The engine design allows easy access to the oil pump, main bearings and rod bearings—without the need to lower the oil pan. Commonality of parts between VGF models reduces the amount of inventory needed for servicing a fleet. Standard design features, such as independent heads, simplify maintenance work.

technical data

Cylinders	Inline 6	
Piston displacement	1096 cu. in. (18 L)	
Compression ratio	11:1	
Bore & stroke	5.98" x 6.5" (152 x 165 mm)	
Jacket water system capacity	16 gal. (60 L)	
Lube oil capacity	44 gal. (166 L)	
Fuel Pressure Range	5 - 15 psi (0.34 - 1.03 bar)	
Starting system	150 psi max. air/gas 24V DC electric	
Cooling Water Flow at	1500 rpm	1800 rpm
Jacket Water gpm (l/m)	103 (390)	130 (492)
Aux. Water gpm (l/m)	25 (95)	40 (152)

Dimensions l x w x h inch (mm)

80.5 (2043) x 50 (1264) x 68 (1727)

Weights lb (kg)

5300 (2400)



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performance data

		1800 RPM	1500 RPM
	Power bhp (kWb)	240 (179)	200 (149)
	BSFC (LHV) Btu/bhp-hr (kJ/kWh)	7570 (10704)	7475 (10573)
	Fuel Consumption Btu/hr x 1000 (kW)	1816 (532)	1495 (438)
Emissions	NOx g/bhp-hr (mg/Nm ³ @ 5% O ₂)	16.00 (5926)	16.00 (5926)
	CO g/bhp-hr (mg/Nm ³ @ 5% O ₂)	10.00 (3704)	10.00 (3704)
	NMHC g/bhp-hr (mg/Nm ³ @ 5% O ₂)	0.30 (111)	0.30 (111)
	THC g/bhp-hr (mg/Nm ³ @ 5% O ₂)	2.00 (741)	2.00 (741)
Heat Balance	Heat to Jacket Water Btu/hr x 1000 (kW)	651 (191)	545 (160)
	Heat to Lube Oil Btu/hr x 1000 (kW)	52 (15)	33 (10)
	Heat to Radiation Btu/hr x 1000 (kW)	60 (18)	56 (16)
	Total Exhaust Heat Btu/hr x 1000 (kW)	478 (140)	380 (111)
Intake/ Exhaust System	Induction Air Flow scfm (Nm ³ /hr)	347 (534)	286 (439)
	Exhaust Flow lb/hr (kg/hr)	1549 (702)	1274 (578)
	Exhaust Temperature °F (°C)	1064 (573)	1029 (554)

All data according to full load and subject to technical development and modification.

Consult your local GE Energy's representative for system application assistance. The manufacturer reserves the right to change or modify without notice, the design or equipment specifications as herein set forth without incurring any obligation either with respect to equipment previously sold or in the process of construction except where otherwise specifically guaranteed by the manufacturer.



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7070 0612 GEA-19028

Waukesha* gas engines Express Limited Warranty

1) STANDARD EXPRESS LIMITED WARRANTY ("ELW").

Dresser, Inc., a wholly owned subsidiary of General Electric Company doing business through its Waukesha gas engines business ("Waukesha"), warrants that it will repair or replace, AT ITS SOLE ELECTION AND EXPENSE, any component of a Waukesha manufactured engine, Enginator*, Cooperative Fuel Research Product ("Equipment") or Genuine Waukesha Service Part installed in or on Equipment ("Genuine Waukesha Part(s)") (Equipment and Parts collectively referred to as "Product(s)") that fails, or is damaged, as the direct result of a defect in material or workmanship. This warranty is made to the original owner of the Product and transfers to subsequent owner(s) ("Owner") until the expiration of the applicable warranty period.

2) CONDITIONS OF THE ELW.

A. WAUKESHA'S RESPONSIBILITIES. Waukesha shall be responsible for the reasonable cost to repair or replace, at Waukesha's election and expense, defective Product(s) during the applicable warranty period, including:

1. Labor if provided by Waukesha or an independent authorized Waukesha Distributor ("Distributor") or independent authorized service provider ("Service Provider");
2. Travel expenses incurred by Distributor or Service Provider as necessary to complete the warranty repair or replacement;
3. Required freight, customs and duties; and
4. The cost to replace lubricating oil, coolant, filter elements, or other normal Product maintenance items that are contaminated and/or damaged as a direct result of a warranted defect.

B. OWNER'S RESPONSIBILITIES. Owner shall be responsible for:

1. The proper operation, repair and maintenance of the Product(s) documented by keeping accurate and complete records of operation, repair and maintenance during the warranty period and providing Waukesha, Distributor and/or Service Provider access to those records.
2. If Products do not meet this warranty, Owner shall promptly notify Waukesha, Distributor or Service Provider in writing within thirty (30) days of becoming aware of a possible warranty claim.
3. Making the Product(s) available during normal business hours to Waukesha, Distributor or Service Provider for any warranty repair or replacement.
4. All costs for premium or overtime labor incurred due to owner's request that warranty repairs or replacements be made on a premium or overtime schedule.
5. All labor costs in excess of what is allowed in the current Waukesha Labor Guide.
6. All transporting, towing or other costs incurred in the removal or reinstallation of Equipment as may be required to affect any warranted repair or replacement.
7. Its administrative costs and expenses associated with a warranty claim.
8. Providing Waukesha, Distributor and/or Service Provider access to and download of the Product's electronically stored engine controls data.

Form No. 4503 rev 8-10-2012. Effective for orders acknowledged by Waukesha on or after September 1, 2012.

This ELW consists of 5 pages which all together make up the entire express limited warranty.

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3) EXCLUSIONS.

All obligations of Waukesha under this ELW shall be waived and rendered void, and Waukesha shall not thereafter, be responsible for:

A. Any damage or failure to a Product:

1. Resulting from owner, operator or third party abuse or neglect, including but not limited to, any operation, installation, application, maintenance, or assembly practice not in accordance with the applicable laws, regulations or the guidelines and specifications established by Waukesha; or
2. Resulting from an unauthorized modification or repair of a Product(s); or
3. Resulting from overload, over speed, overheat or accident; or
4. That is not reported to a Distributor or Service Provider within thirty (30) days of becoming aware of a possible warranty claim; or
5. For which Waukesha did not receive proper documentation concerning the start-up of the Equipment or purchase and installation of the Genuine Waukesha Part(s) from the owner, Distributor or Service Provider; or
6. Caused by or related to a part that is not a Genuine Waukesha Part; or
7. Installed in any application or product other than Equipment; or
8. Where the repair or replacement is performed by anyone other than Waukesha, Distributor or Service Provider; or
9. Where the allegedly defective Product(s) is/are not made available to Waukesha, Distributor or Service Provider; or
10. Where the necessary documents, such as drawings and specifications relating to the specific application of the Product(s), are not provided to Waukesha, Distributor or Service Provider in a timely manner ; or
11. Resulting from misapplication or improper repair of a Product; or
12. Resulting from the improper or extended storage of a Product.

B. Any cost for freight, customs, brokers fees, and/or import duties if appropriate documentation is not provided; or

C. Normal wear, maintenance or consumable parts that may need to be routinely replaced, rebuilt or otherwise maintained during the applicable warranty period such as belts, spark plugs, lubricating oil filters, air filters, etc.; or

D. Loss of revenue and/or loss of or damage to real and/or personal property.

4) WARRANTY PERIODS

A. EQUIPMENT IN CONTINUOUS DUTY APPLICATIONS operate at the highest load and speed which can be applied, subject to Waukesha's approved ratings in effect at time of sale ("Continuous Duty Engines").

Warranty coverage shall commence on the initial new Continuous Duty Engine's start-up date and shall expire upon the earlier of the following:

- (a) 12 months after the initial Continuous Duty Engine's start-up date; or
- (b) 24 months after the original shipment date of the Continuous Duty Engine from Waukesha's facility.

B. EQUIPMENT OPERATED IN EXCESS OF CONTINUOUS DUTY RATING is Equipment operated in accordance with Waukesha's published intermittent, standby or peak shaving power ratings ("Excess Engine(s)").

Warranty coverage for Excess Engines shall commence on the initial new Excess Engine start-up date and shall expire upon the earlier of the following:

- (a) 60 months after the initial Excess Engine start-up date; or
- (b) 3500 hours of operation of the Excess Engine; or
- (c) 72 months after the original shipment date of the Excess Engine from Waukesha's facility.

C. EQUIPMENT APPROVED FOR DEFERRED START-UP is Equipment that meets all of the following requirements:

- 1. Distributor must inspect and re-preserve the Equipment in accordance with the long term storage and preservation requirements set forth in the most current version of Service Bulletin 16-1855 prior to 12 months from the date of shipment and then at least annually thereafter. Waukesha is not responsible for any costs associated with storing, inspecting and/or preserving the Equipment.
- 2. Supporting documentation of this work (C.1) must be sent to Waukesha.
- 3. Waukesha shall review the documentation and, in its sole discretion, approve or reject the deferred start-up request. A deferred start-up must be approved by Waukesha in writing in order for the deferred start-up warranty period under this subsection to apply. ("Stored Engines").

Warranty coverage for Stored Engines shall commence upon the date of the written approval for deferred start-up and shall expire upon the earlier of the following:

- (a) 12 months from the date of an approved deferred start-up; or
- (b) 12 months after the initial start-up date; or
- (c) 48 months from the original shipment date of the Stored Engines from Waukesha's facility.

D. GENUINE WAUKESHA PARTS AND WAUKESHA FACTORY REMANUFACTURED SERVICE PARTS, include assemblies and short blocks used for repair, maintenance or overhaul of Products ("Service Part(s)") Warranty coverage for Service Part(s) shall commence upon the date the Service Part is installed in the Product and shall expire upon the earlier of the following:

- (a) 12 months after the date the Service Part is installed in the Product; or
- (b) 24 months after the purchase date of the Service Part from an authorized Waukesha Distributor.

D. GENUINE WAUKESHA PARTS USED IN A CERTIFIED ENGINE OVERHAUL OR CERTIFIED CYLINDER HEAD OVERHAUL are those parts identified in the then current policy manual ("Certified Part(s)").

Warranty coverage for Certified Parts shall commence upon the initial start-up date of the overhauled Product and shall expire upon the earlier of the following:

- (a) 18 months after the certified overhauled Product start-up date; or
- (b) 24 months after the purchase date of Genuine Waukesha Part(s) used in the certified overhaul.

E. SPECIFIC FORGED AND CAST COMPONENTS include the cylinder block casting, cylinder head casting, connecting rod forging, and crankshaft forging in Equipment or when sold separately as a Genuine Waukesha Part(s) ("Cast Components").

Notwithstanding the foregoing, warranty coverage for these Cast Components only shall expire upon the earlier of the following:

- (a) 60 months after the initial Equipment start-up date or date the Genuine Waukesha Part(s) is installed in the Equipment; or
- (b) 25,000 hours of operation of the covered Equipment or Genuine Waukesha Part(s); or
- (c) 72 months after the original shipment date of the covered Equipment from Waukesha's facility or purchase date of Genuine Waukesha Part(s) from an authorized Waukesha Distributor.

1. No damage from other sources, such as damage from the loss of a crankshaft bearing, shall be considered a forging defect.

2. Owner shall be responsible for all labor, travel, mileage and other related costs and expenses associated with a forged or cast warrantable failure occurring more than 12 months from the commencement of the warranty period.

F) A Service Part(s) used in the repair or replacement under this ELW assumes the remaining warranty coverage of the replaced part(s) if any.

5) GRATUITOUS ADVICE

If Waukesha furnishes Owner, Distributor or Service Provider with advice or assistance concerning any Product, system or work which is not required pursuant to a contract, the furnishing of such advice or assistance will not subject Waukesha to any liability, whether in contract, warranty, indemnity, tort (including negligence), strict liability or otherwise.

6) EXPIRATION

The warranties and obligations of Waukesha shall expire and be of no further effect upon the respective dates of expiration of the applicable warranty periods.

7) MODIFICATIONS OF THE ELW

This ELW is and shall remain the complete and exclusive agreement between the parties with respect to warranties, superseding all prior agreements, written or oral, and all other communications between the parties relating to warranties, except as modified in writing and signed by the parties. No person or entity other than Waukesha is authorized to give any other warranty or to assume any other obligation on behalf of Waukesha, either orally or in writing.

8) WARRANTY ADMINISTRATION

A. Distributors administer the warranty policies and procedures established by Waukesha and submit warranty claims on the customer's behalf to Waukesha for warranty consideration. Waukesha determines, AT ITS SOLE DISCRETION, if and to what extent the ELW applies to the claim.

B. Proper documentation, including but not limited to, certified overhaul invoices and/or invoices for the Genuine Waukesha Part(s) and/or start-up report, must accompany any warranty claim. Contact the nearest Distributor or Service Provider for assistance with warranty matters or questions. To locate the nearest Distributor or Service Provider, visit our website at www.dresser.com/waukesha or contact Waukesha at (262) 547-3311.

9) OWNER'S REMEDIES UNDER THIS ELW

This ELW provides the exclusive remedies for all claims based on defect in material or workmanship in Product(s), regardless of when the failure or defect is discovered, and whether a claim, however described, is based on contract, warranty, indemnity,

tort/extra-contractual liability (including negligence), strict liability or otherwise. The warranties provided in this ELW are exclusive and are in lieu of all other warranties, conditions and guarantees whether written, oral, implied or statutory. NO IMPLIED OR STATUTORY WARRANTY, OR WARRANTY OR CONDITION OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE APPLIES.

10) GOVERNING LAW AND DISPUTE RESOLUTION

A. This ELW shall be governed by and construed in accordance with the laws of (i) the State of New York if Owner's place of business is in the U.S. or (ii) England and Wales if the Owner's place of business is outside the U.S., in either case without giving effect to any choice of law rules that would cause the application of laws of any other jurisdiction (the "Governing Law"). The United Nations Convention on Contracts for the International Sale of Goods shall apply to Products sold to Owners outside of the USA.

B. All disputes arising in connection with this ELW, including any question regarding its existence or validity shall be resolved in accordance with this Article 10. If a dispute is not resolved by negotiations, either party may, by giving written notice, refer the dispute to a meeting of appropriate higher management, to be held within twenty (20) business days after the giving of notice. If the dispute is not resolved within thirty (30) business days after the giving of notice, or such later date as may be mutually agreed, either party may commence arbitration or court proceedings, depending upon the location of the Owner, in accordance with the following:

(a) if the Owner's pertinent place of business is in the U.S., legal action shall be commenced in federal court with jurisdiction applicable to, or state court located in New York County, New York; or (b) if the Owner's pertinent place of business is outside the U.S., the dispute shall be submitted to and finally resolved by arbitration under the Rules of Arbitration of the International Chamber of Commerce ("ICC"). The number of arbitrators shall be one, selected in accordance with the ICC rules, unless the amount in dispute exceeds the equivalent of U.S. \$5,000,000, in which event it shall be three. When three arbitrators are involved, each party shall appoint one arbitrator, and those two shall appoint the third within thirty (30) days, who shall be the Chairman. The seat, or legal place, of arbitration, shall be London, England. The arbitration shall be conducted in English. In reaching their decision, the arbitrators shall give full force and effect to the intent of the parties as expressed in the ELW, and if a solution is not found in the ELW, shall apply the Governing Law of the ELW. The decision of the arbitrator(s) shall be final and binding upon both parties, and neither party shall seek recourse to a law court or other authority to appeal for revisions of the decision.

Waukesha* gas engines Express Limited Warranty

1) STANDARD EXPRESS LIMITED WARRANTY ("ELW").

Dresser, Inc., a wholly owned subsidiary of General Electric Company doing business through its Waukesha gas engines business ("Waukesha"), warrants that it will repair or replace, AT ITS SOLE ELECTION AND EXPENSE, any component of a Waukesha manufactured engine, Enginator*, Cooperative Fuel Research Product ("Equipment") or Genuine Waukesha Service Part installed in or on Equipment ("Genuine Waukesha Part(s)") (Equipment and Parts collectively referred to as "Product(s)") that fails, or is damaged, as the direct result of a defect in material or workmanship. This warranty is made to the original owner of the Product and transfers to subsequent owner(s) ("Owner") until the expiration of the applicable warranty period.

2) CONDITIONS OF THE ELW.

A. WAUKESHA'S RESPONSIBILITIES. Waukesha shall be responsible for the reasonable cost to repair or replace, at Waukesha's election and expense, defective Product(s) during the applicable warranty period, including:

1. Labor if provided by Waukesha or an independent authorized Waukesha Distributor ("Distributor") or independent authorized service provider ("Service Provider");
2. Travel expenses incurred by Distributor or Service Provider as necessary to complete the warranty repair or replacement;
3. Required freight, customs and duties; and
4. The cost to replace lubricating oil, coolant, filter elements, or other normal Product maintenance items that are contaminated and/or damaged as a direct result of a warranted defect.

B. OWNER'S RESPONSIBILITIES. Owner shall be responsible for:

1. The proper operation, repair and maintenance of the Product(s) documented by keeping accurate and complete records of operation, repair and maintenance during the warranty period and providing Waukesha, Distributor and/or Service Provider access to those records.
2. If Products do not meet this warranty, Owner shall promptly notify Waukesha, Distributor or Service Provider in writing within thirty (30) days of becoming aware of a possible warranty claim.
3. Making the Product(s) available during normal business hours to Waukesha, Distributor or Service Provider for any warranty repair or replacement.
4. All costs for premium or overtime labor incurred due to owner's request that warranty repairs or replacements be made on a premium or overtime schedule.
5. All labor costs in excess of what is allowed in the current Waukesha Labor Guide.
6. All transporting, towing or other costs incurred in the removal or reinstallation of Equipment as may be required to affect any warranted repair or replacement.
7. Its administrative costs and expenses associated with a warranty claim.
8. Providing Waukesha, Distributor and/or Service Provider access to and download of the Product's electronically stored engine controls data.

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3) EXCLUSIONS.

All obligations of Waukesha under this ELW shall be waived and rendered void, and Waukesha shall not thereafter, be responsible for:

A. Any damage or failure to a Product:

1. Resulting from owner, operator or third party abuse or neglect, including but not limited to, any operation, installation, application, maintenance, or assembly practice not in accordance with the applicable laws, regulations or the guidelines and specifications established by Waukesha; or
2. Resulting from an unauthorized modification or repair of a Product(s); or
3. Resulting from overload, over speed, overheat or accident; or
4. That is not reported to a Distributor or Service Provider within thirty (30) days of becoming aware of a possible warranty claim; or
5. For which Waukesha did not receive proper documentation concerning the start-up of the Equipment or purchase and installation of the Genuine Waukesha Part(s) from the owner, Distributor or Service Provider; or
6. Caused by or related to a part that is not a Genuine Waukesha Part; or
7. Installed in any application or product other than Equipment; or
8. Where the repair or replacement is performed by anyone other than Waukesha, Distributor or Service Provider; or
9. Where the allegedly defective Product(s) is/are not made available to Waukesha, Distributor or Service Provider; or
10. Where the necessary documents, such as drawings and specifications relating to the specific application of the Product(s), are not provided to Waukesha, Distributor or Service Provider in a timely manner ; or
11. Resulting from misapplication or improper repair of a Product; or
12. Resulting from the improper or extended storage of a Product.

B. Any cost for freight, customs, brokers fees, and/or import duties if appropriate documentation is not provided; or

C. Normal wear, maintenance or consumable parts that may need to be routinely replaced, rebuilt or otherwise maintained during the applicable warranty period such as belts, spark plugs, lubricating oil filters, air filters, etc.; or

D. Loss of revenue and/or loss of or damage to real and/or personal property.

4) WARRANTY PERIODS

A. EQUIPMENT IN CONTINUOUS DUTY APPLICATIONS operate at the highest load and speed which can be applied, subject to Waukesha's approved ratings in effect at time of sale ("Continuous Duty Engines").

Warranty coverage shall commence on the initial new Continuous Duty Engine's start-up date and shall expire upon the earlier of the following:

- (a) 12 months after the initial Continuous Duty Engine's start-up date; or
- (b) 24 months after the original shipment date of the Continuous Duty Engine from Waukesha's facility.

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B. EQUIPMENT OPERATED IN EXCESS OF CONTINUOUS DUTY RATING is Equipment operated in accordance with Waukesha's published intermittent, standby or peak shaving power ratings ("Excess Engine(s)").

Warranty coverage for Excess Engines shall commence on the initial new Excess Engine start-up date and shall expire upon the earlier of the following:

- (a) 60 months after the initial Excess Engine start-up date; or
- (b) 3500 hours of operation of the Excess Engine; or
- (c) 72 months after the original shipment date of the Excess Engine from Waukesha's facility.

C. EQUIPMENT APPROVED FOR DEFERRED START-UP is Equipment that meets all of the following requirements:

1. Distributor must inspect and re-preserve the Equipment in accordance with the long term storage and preservation requirements set forth in the most current version of Service Bulletin 16-1855 prior to 12 months from the date of shipment and then at least annually thereafter. Waukesha is not responsible for any costs associated with storing, inspecting and/or preserving the Equipment.
2. Supporting documentation of this work (C.1) must be sent to Waukesha.
3. Waukesha shall review the documentation and, in its sole discretion, approve or reject the deferred start-up request. A deferred start-up must be approved by Waukesha in writing in order for the deferred start-up warranty period under this subsection to apply. ("Stored Engines").

Warranty coverage for Stored Engines shall commence upon the date of the written approval for deferred start-up and shall expire upon the earlier of the following:

- (a) 12 months from the date of an approved deferred start-up; or
- (b) 12 months after the initial start-up date; or
- (c) 48 months from the original shipment date of the Stored Engines from Waukesha's facility.

D. GENUINE WAUKESHA PARTS AND WAUKESHA FACTORY REMANUFACTURED SERVICE PARTS, include assemblies and short blocks used for repair, maintenance or overhaul of Products ("Service Part(s)") Warranty coverage for Service Part(s) shall commence upon the date the Service Part is installed in the Product and shall expire upon the earlier of the following:

- (a) 12 months after the date the Service Part is installed in the Product; or
- (b) 24 months after the purchase date of the Service Part from an authorized Waukesha Distributor.

D. GENUINE WAUKESHA PARTS USED IN A CERTIFIED ENGINE OVERHAUL OR CERTIFIED CYLINDER HEAD OVERHAUL are those parts identified in the then current policy manual ("Certified Part(s)").

Warranty coverage for Certified Parts shall commence upon the initial start-up date of the overhauled Product and shall expire upon the earlier of the following:

- (a) 18 months after the certified overhauled Product start-up date; or
- (b) 24 months after the purchase date of Genuine Waukesha Part(s) used in the certified overhaul.

E. SPECIFIC FORGED AND CAST COMPONENTS include the cylinder block casting, cylinder head casting, connecting rod forging, and crankshaft forging in Equipment or when sold separately as a Genuine Waukesha Part(s) ("Cast Components").

Notwithstanding the foregoing, warranty coverage for these Cast Components only shall expire upon the earlier of the following:

(a) 60 months after the initial Equipment start-up date or date the Genuine Waukesha Part(s) is installed in the Equipment;
or

(b) 25,000 hours of operation of the covered Equipment or Genuine Waukesha Part(s); or

(c) 72 months after the original shipment date of the covered Equipment from Waukesha's facility or purchase date of Genuine Waukesha Part(s) from an authorized Waukesha Distributor.

1. No damage from other sources, such as damage from the loss of a crankshaft bearing, shall be considered a forging defect.

2. Owner shall be responsible for all labor, travel, mileage and other related costs and expenses associated with a forged or cast warrantable failure occurring more than 12 months from the commencement of the warranty period.

F) A Service Part(s) used in the repair or replacement under this ELW assumes the remaining warranty coverage of the replaced part(s) if any.

5) GRATUITOUS ADVICE

If Waukesha furnishes Owner, Distributor or Service Provider with advice or assistance concerning any Product, system or work which is not required pursuant to a contract, the furnishing of such advice or assistance will not subject Waukesha to any liability, whether in contract, warranty, indemnity, tort (including negligence), strict liability or otherwise.

6) EXPIRATION

The warranties and obligations of Waukesha shall expire and be of no further effect upon the respective dates of expiration of the applicable warranty periods.

7) MODIFICATIONS OF THE ELW

This ELW is and shall remain the complete and exclusive agreement between the parties with respect to warranties, superseding all prior agreements, written or oral, and all other communications between the parties relating to warranties, except as modified in writing and signed by the parties. No person or entity other than Waukesha is authorized to give any other warranty or to assume any other obligation on behalf of Waukesha, either orally or in writing.

8) WARRANTY ADMINISTRATION

A. Distributors administer the warranty policies and procedures established by Waukesha and submit warranty claims on the customer's behalf to Waukesha for warranty consideration. Waukesha determines, AT ITS SOLE DISCRETION, if and to what extent the ELW applies to the claim.

B. Proper documentation, including but not limited to, certified overhaul invoices and/or invoices for the Genuine Waukesha Part(s) and/or start-up report, must accompany any warranty claim. Contact the nearest Distributor or Service Provider for assistance with warranty matters or questions. To locate the nearest Distributor or Service Provider, visit our website at www.dresser.com/waukesha or contact Waukesha at (262) 547-3311.

9) OWNER'S REMEDIES UNDER THIS ELW

This ELW provides the exclusive remedies for all claims based on defect in material or workmanship in Product(s), regardless of when the failure or defect is discovered, and whether a claim, however described, is based on contract, warranty, indemnity,

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tort/extra-contractual liability (including negligence), strict liability or otherwise. The warranties provided in this ELW are exclusive and are in lieu of all other warranties, conditions and guarantees whether written, oral, implied or statutory. NO IMPLIED OR STATUTORY WARRANTY, OR WARRANTY OR CONDITION OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE APPLIES.

10) GOVERNING LAW AND DISPUTE RESOLUTION

A. This ELW shall be governed by and construed in accordance with the laws of (i) the State of New York if Owner's place of business is in the U.S. or (ii) England and Wales if the Owner's place of business is outside the U.S., in either case without giving effect to any choice of law rules that would cause the application of laws of any other jurisdiction (the "Governing Law"). The United Nations Convention on Contracts for the International Sale of Goods shall apply to Products sold to Owners outside of the USA.

B. All disputes arising in connection with this ELW, including any question regarding its existence or validity shall be resolved in accordance with this Article 10. If a dispute is not resolved by negotiations, either party may, by giving written notice, refer the dispute to a meeting of appropriate higher management, to be held within twenty (20) business days after the giving of notice. If the dispute is not resolved within thirty (30) business days after the giving of notice, or such later date as may be mutually agreed, either party may commence arbitration or court proceedings, depending upon the location of the Owner, in accordance with the following:

(a) if the Owner's pertinent place of business is in the U.S., legal action shall be commenced in federal court with jurisdiction applicable to, or state court located in New York County, New York; or (b) if the Owner's pertinent place of business is outside the U.S., the dispute shall be submitted to and finally resolved by arbitration under the Rules of Arbitration of the International Chamber of Commerce ("ICC"). The number of arbitrators shall be one, selected in accordance with the ICC rules, unless the amount in dispute exceeds the equivalent of U.S. \$5,000,000, in which event it shall be three. When three arbitrators are involved, each party shall appoint one arbitrator, and those two shall appoint the third within thirty (30) days, who shall be the Chairman. The seat, or legal place, of arbitration, shall be London, England. The arbitration shall be conducted in English. In reaching their decision, the arbitrators shall give full force and effect to the intent of the parties as expressed in the ELW, and if a solution is not found in the ELW, shall apply the Governing Law of the ELW. The decision of the arbitrator(s) shall be final and binding upon both parties, and neither party shall seek recourse to a law court or other authority to appeal for revisions of the decision.



ENGINE POWER UNIT

URS
Attention: Mike Housey

**GE Waukesha F18GU Gas Power Unit for
Water Pump Drive
Maurepas Drainage Pump Station
St. John the Baptist Parish,
Louisiana**

WPI-12-6591

October 15, 2012

WAUKESHA-PEARCE INDUSTRIES, INC.
12320 S. Main Street
Houston, Texas 77035
Phone: 337-380-8533
Contact: Herb Antoine

Scope of Work

WPI is pleased to offer the following proposal based on a Waukesha Model F18GU Power Unit Site Rated 233 Horsepower at the flywheel Continuous Duty, 1800 RPM, 100 Deg. F Ambient Temperature and 1500 Feet Elevation.

Scope of Supply is per Bulletin 9002/0700 modified as shown below.

Power Take-Off:

Twin Disc Model SP-218-OP SAE 18" two plate, over center type, manual clutch.
Customer supplied rear support required.

Start System:

One (1) Electric Starter Motor – 24V DC Delco.
Start Batteries – 24V DC system. Two (2) Group 8D, (12V) high performance batteries, rated 1150 CCA and 400 minutes reserve capacity each, dry charged. One–battery interconnection cables and two (5 ft. long) battery–to–starter cables. (Includes electrolyte furnished in a separate container.)
Battery Box – Steel reinforced fiberglass construction with a protective cover.
Alternator – Denso, 24VDC, 50 amp, brushless, belt driven.

Fuel System:

Gas Regulator – Fisher CS800 for natural gas. Gas inlet pressure: 7-10 psig, mounted.
Schedule 80 NPT piping to skid edge.
24VDC fuel shut-off solenoid valve.
Flexible Fuel Line – One. Stainless steel. 2 inch (51 mm) dia. NPT, 12 inches (457 mm) long.
Air/Fuel ratio controller, Emit Brand or equal.

A fuel gas analysis review is required.

Lube Oil System:

Prelube Pump 24VDC.
Kenco Oil Level Regulator with low oil level switch.
Kenco Oil Make-up Tank – 30 gallon.
Oil drain line piped to skid edge valve.

Exhaust System:

Exhaust Catalytic Converter/Silencer. Emerachem or equal 3-Way NSCR Critical Grade. Two(2) element bays with one(1) element for 1.0 gm/hp-hr NOx, 2.0 gm/hp-hr CO, and 0.70 gm/hp-hr VOC.
Ship loose.
Exhaust flex connector.

Air/Fuel Ratio Controller consisting of Continental Controls or equal ECV5 gas control valve, ECVI local display, CM catalyst monitor, oxygen sensor, in/out catalyst thermocouples, delta pressure transducer, and interface cables. Mounted.

Cooling System:

Radiator, V-Belt driven from the front of the engine, mounted.

Duct adapter.

Jacket Water Heater 240VAC/1PH/60HZ.

Water drain line piped to skid edge valve.

Skid Base:

2-Runner fabricated steel skid.

Controls:

Area classification is assumed to be Non-Classified Non-Hazardous.

Murphy or equal Control Panel auto/manual with first out annunciator. 24x24x9 painted steel weatherproof enclosure with a removable rear door and a hinged front door with a viewing glass window. Panel is mounted on a 22" freestanding base. Ship loose for mounting off-skid next to Waukesha engine.

Low engine oil pressure shutdown

Low engine oil level shutdown

Low engine jacket water level alarm

Low auxiliary water level alarm

High engine vibration shutdown

High oil temperature shutdown

High intake manifold temp shutdown

Emergency stop

Exhaust thermocouples

Magnetic pick-up.

Rigid conduit and wiring for Non-Hazardous Area

Coatings:

WPI standard industrial enamel paint system.

Miscellaneous:

Torsional Study.

WPI Houston Standard No-Load Run Test.

Three (3) Operation/Maintenance/Parts Manual – English Language.

Pricing

Base Pricing:

GE Waukesha F18GU Gas Engine Power Unit 233 HP at flywheel 1800 RPM Gas Engine Power Unit as described in this proposal and attachments:

Your Cost Is	\$229,360.
Quantity	3
Total	\$688,080.

Shipment: Estimated as 24-26 weeks after receipt of order.

Drawings are issued for approval approximately four(4) weeks after receipt of order.

All deliveries are subject to WPI verification at time of written order.

Quoted Prices: F.O.B. Waukesha-Pearce Houston shop.

Validity: 30 days from quotation date.

Start-up Services are NOT included but are available at extra cost.

We look forward to working with you on this project and if we can be of further assistance to you either technically or commercially, please do not hesitate to call.

Sincerely,

Herb Antoine
Waukesha-Pearce Industries
Sales Representative

Comments to Specifications

WPI makes the following clarifications to the specifications and other technical or commercial documents.

This offer is limited to the scope of supply shown in this proposal.

No customer specifications were submitted or complied with for this proposal.

Gearbox is not included. Driveshaft is not included.

Waukesha-Pearce Industries, Inc.
Standard Terms and Conditions of Sale

1. Acceptance

This quotation is subject to acceptance within thirty (30) days.

2. Terms

Net thirty (30) days from date of invoice. Subject to credit department approval. On any WPI manufactured product quoted at \$150,000.00 or more, we reserve the right to request progress payments from Purchaser with the following milestone achievements:

20% Upon submittal of drawings

20% Upon Completion of Skid fabrication

50% Upon Receipt of Major Components (Engine, Generator & Switchgear)

10% (Or full balance) 30 days from date of invoice

3. Cancellation or Termination

The buyer only upon payment of reasonable cancellation charges that shall be related to expenses already incurred and/or commitments made by WPI can cancel any order placed with WPI. Cancellation charges on completed equipment will be 100% of the selling price.

No termination by buyer for default shall be effective unless and until WPI shall have failed to correct such alleged fault within sixty (60) days after receipt by WPI of written notice specifying such default.

WPI further reserves the right to fabricate ahead of the shipping schedule whenever it is deemed necessary, and upon notification of the buyer. Such advance fabrication shall not void buyer's responsibility for cancellation charges.

4. Alterations

No alterations in specifications, either for total quantity, delivery, mechanical, electrical or other details may be made without written consent of seller and readjustment of price.

5. Taxes

In addition to the prices stated herein, the Purchaser shall reimburse WPI for any excise, sales or use tax incident to this transaction for which we may be liable or which we are compelled to collect.

6. Shipping Dates

Any shipment date given herein is approximate and is estimated from the date of receipt of order with complete specifications and approvals, if required. WPI shall not be liable for any loss or damage for delay or non-delivery due to the acts of civil or military authority, acts of the Purchaser or by reason of force majeure, which shall be deemed to mean all other causes whatsoever not reasonably within the control of WPI, including, but not limited to acts of God, war, riots or insurrection, blockades, embargoes, sabotage, epidemics, fires, strikes, lockouts or other industrial disturbances, delays of carriers, and inability to secure materials, labor or manufacturing facilities. Any delay resulting from any such cause shall extend shipping dates correspondingly. WPI shall in no event be liable for any special, indirect or consequential damages arising from delay irrespective of the reason under therefore, and receipt by the Purchaser shall constitute acceptance of delivery and waiver of any claims due to delay.

7. Lost Production

Purchaser agrees to and shall indemnify and hold harmless WPI, its officers, agents and employees, from and against any and all claims, losses, damages, causes of action, suits and liabilities of every kind, including all expenses of litigation, court costs and attorney's fees, for forfeiture of an oil, gas or mineral lease, damage to a producing reservoir or lease operations of lost production, arising out of or in connection with the failure of the operation of the Equipment for any reason whatsoever. Such indemnity shall apply where the claims, losses, damages, causes of action, suits or liabilities arise in whole or in part from the negligence of WPI or the defectiveness of the Equipment.

Furthermore, if such claims, losses, damages, causes of action, suits or liabilities arise in whole or in part from the defectiveness of the equipment, such indemnity shall apply whether such defect and failure of the equipment result in whole or in part from the design, manufacturer, marketing or distributor of the equipment or from the failure of WPI to warn any person of any such defect.

8. Consequential Damages and Other Charges

Company shall not be responsible or liable for any special indirect or consequential damages or for any operational interruptions or delays, production loss, or other damages or claims of whatever kind caused by or arising out of the manufacturer, sale, delivery, installation, used, breakage or performance of equipment sold hereunder or any part thereof, except only to the extent and in the manner set out in the preceding paragraph having to do with warranty.

Company shall not be responsible for crane, barge, or special transportation charges associated with warranty repairs.

9. Performance Guarantee

Performance is subject to manufacturer's guarantees for horsepower and capacities and is subject to de-rating for actual site conditions.

10. Comments and Exceptions

When purchaser specifications are attached to or referenced in an invitation to bid, Waukesha-Pearce makes a thorough and sincere effort to clearly state what is included, what is not included, and what our interpretation is of your requirements. Please review this proposal carefully. This proposal constitutes our total offer and only those items; procedures, scope and content clearly stated in this proposal are included.

11. Structural, Current Pulsation, Vibration, Torsional, Transport Studies

When requested by the purchaser, Waukesha-Pearce will arrange for a third party analysis of the packaged unit system or components. Changes or modifications to the original design which result from these analyses are considered outside the scope of the original proposal and will be charged at Waukesha-Pearce published rates for engineering, material, labor and necessary supervision.

12. Warranty

WPI warrants that the equipment of its own manufacture shall be free from defects in design, material, workmanship, and title under normal use, service, and operating conditions, for the period of one (1) year from date of start up or eighteen (18) months from date of shipment. WPI's exclusive remedy for breach of this warranty shall be repair or replacement of any defective parts packaged by WPI, F.O.B. Houston, Texas. Accessories or equipment furnished by WPI, but manufactured by others, shall carry that manufacturer's standard warranty which will be passed on to the Purchaser. WPI shall not be liable for any repairs, replacements, or adjustments to the Equipment or any costs of labor performed by the Purchaser or others without WPI's prior written approval. WPI will serve the customer by acting as their representative in regard to warranty claims for items not manufactured by WPI. However, warranty in all cases is limited to the manufacturers' standard. Any part(s) found to be defective will be replaced no charge subject to each manufacturers respective warranty policy which WPI will administer. Any part(s) replaced that are not subsequently found to be defective by the manufacturer will be charged to the customer. Warranty labor for replacement or repair is on site only. Customer is responsible for travel time, transportation and expenses to and from the closest WPI location to the location of the subjected equipment. Should WPI travel to location and find that the cause is not a warranty item, all expenses incurred by WPI, to include labor, will be billed to the customer.

BASIC POWER UNIT SPECIFICATIONS

AIR CLEANER – Two stage, dry panel type with rain shield and service indicator. Engine mounted.

BARRING DEVICE – Manual.

BASE – Engine and radiator cooling components are mounted on a heavy, structural steel base suitable for lifting.

BREATHER – Crankcase, open type.

CARBURETOR – Single natural gas.

CONNECTING RODS – Drop forged alloy steel, angle split, serrated joint, oil jet piston pin lubrication.

CONTROLS – Local shutdown switch, engine mounted.

COOLING SYSTEM – Thermostatically controlled. Mounted radiator with core guard, duct adapter and belt driven suction fan sized for 110° F (43° C) ambient air and 50% ethylene glycol coolant solution.

CRANKCASE – Alloy cast iron, fully ribbed, integral with cylinder frame.

CRANKSHAFT – Drop forged alloy steel with induction hardened journals, dynamically balanced and fully counterweighted. Viscous vibration dampener.

CYLINDER HEADS – Six interchangeable, valve-in-head type, with two hard faced intake and two hard faced exhaust valves per cylinder. Replaceable intake and exhaust valve seals. Mechanical valve lifters with pivoted roller followers.

CYLINDERS – Removable wet type liners of centrifugally cast alloy iron.

EXHAUST SYSTEMS – Water cooled, exhaust manifold. ANSI 6" 125# outlet flange.

FLYWHEEL – With 150 tooth ring gear (for Delco electric and I-R air/gas starters). Flywheel machined to accept SAE 620D, 18" (457 mm) diameter clutch, or SAE 927B-180 flywheel converter, or SAE J162A single bearing generator.

FLYWHEEL HOUSING – SAE #0, with provision for two magnetic pickups and vertical mounting pads.

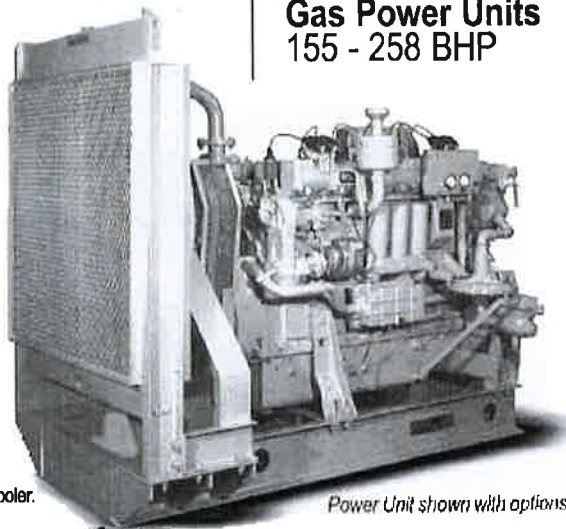
GOVERNOR – Woodward SG hydraulic type.

IGNITION – Waukesha Custom Engine Control™ electronic ignition system with coils, cables, hall effect pickup and spark plugs. Non-shielded. 24V DC power required.

LUBRICATION SYSTEM – Gear type pump, full flow spin-on filters and industrial type oil pan (22 gallon capacity, including filters). Engine mounted plate type oil cooler.

PAINT – Oilfield orange.

PISTONS – Aluminum alloy, three ring, with combustion bowl. Oil jet cooled with full floating piston pin. 11:1 compression ratio.



Power Unit shown with options

POWER RATINGS: F18GU POWER UNITS

Model	C.R.	Bore & Stroke in. (mm)	Displ. cu. in. (litres)	Brake Horsepower							
				1200 rpm		1400 rpm		1500 rpm		1600 rpm	
				I	C	I	C	I	C	I	C
F18GU	11:1	5.98 x 6.5 (152 x 165)	1096 (18 L)	177	155	200	180	216	196	235	210
										258	233

Net available power ratings - Includes derate for radiator fan. See Ratings Adjustment chart (S8154 latest revision) for adjustment for altitude and temperature.

*See Ratings Adjustment chart (S8154 latest revision) for adjustment for altitude and temperature.

Rating Standard: All models - Ratings are based on ISO 3046/1-1986 with mechanical efficiency of 90% and Tcr (clause 10.1) as specified above limited to ±10° F (5° C). Ratings are also valid for SAE J1349, BS5514, DIN6271 and AP17B-11C standard atmospheric conditions.

I = Intermittent Service Rating: The highest load and speed that can be applied in variable speed mechanical system application only. Operation at this rating is limited to a maximum of 3500 hours per year.

C = ISO Standard Power/Continuous Power Rating: The highest load and speed which can be applied 24 hours per day, seven days per week, 365 days per year except for normal maintenance. It is permissible to operate the engine at up to 10% overload, or a maximum load indicated by the intermittent rating, whichever is lower, for two hours in every 24 hour period.



WAUKESHA ENGINE DIVISION
DRESSER EQUIPMENT GROUP, INC.
1000 West St. Paul Avenue
Waukesha, WI 53188-4999
Phone: (262) 547-3311 Fax: (262) 549-2795
<http://www.waukeshaengine.com>
Bulletin 9002 0700

WAUKESHA ENGINE DIVISION
A DIVISION OF DRESSER INDUSTRIAL PRODUCTS, B.V.
Farmsumarweg 43, Postbus 330
9900 AH Appingedam, The Netherlands
Phone: (31) 596-652269 Fax: (31) 596-624217

Consult your local Waukesha Distributor for system application assistance. The manufacturer reserves the right to change or modify without notice, the design or equipment specifications as herein set forth without incurring any obligation either with respect to equipment previously sold or in the process of construction except where otherwise specifically guaranteed by the manufacturer.

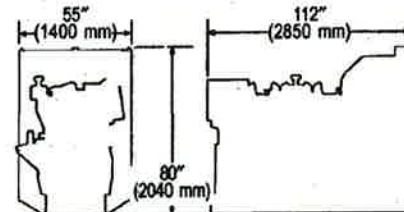
Waukesha, Custom Engine Control and VGF are trademarks/registered trademarks of Waukesha Engine Division, Dresser Equipment Group, Inc.

Waukesha®
VGF

F18GU

VGF™ Series
Gas Power Units
155 - 258 BHP

Model F18G Naturally Aspirated,
Six Cylinder, Four-Cycle Gas Engine



SPECIFICATIONS

Cylinders Inline 6	Lube Oil Capacity 22 gal. (83 L)
Piston Displacement 1096 cu. in. (18 L)	Fuel Pressure Range 5 - 10 psig (34 - 68 kPa)
Bore & Stroke 5.98" x 6.5" (152 x 165 mm)	Dry Weight 7,300 lb. (3310 kg)
Compression Ratio 11:1	
Jacket Water System Capacity 26 gal. (98 L)	



Onsite Wastewater Treatment Systems: Alternative Technologies

Christopher C. Obropta, Ph.D., Extension Specialist in Water Resources & David Berry, Student in Bioresource Engineering

Introduction

A typical Onsite Wastewater Treatment System (OWTS) consists of a septic tank and a soil absorption field that allows treated effluent to infiltrate into the soil. When functioning, these systems are effective at removing pollutants before they enter into the environment.

However, it has been determined that due to geological and hydrological conditions, 2/3 of the U.S. is unsuitable for septic systems (USEPA, 2002). Costly system failures and the release of pollutants may result if a septic system is improperly sited. Fortunately, many alternative technologies have been developed for situations where conventional systems are not appropriate.

Treatment Units

1. Aerobic Treatment Unit

In an Aerobic Treatment Unit (ATU) (Figure 1), wastewater enters a compartment where solids settle and are partially digested by microorganisms. A motor pumps air into the chamber and mixes the liquid, facilitating diffusion of air and supporting aerobic bacteria that further degrade the wastewater. The treated effluent exits the ATU for additional treatment and dispersion through a soil absorption field.

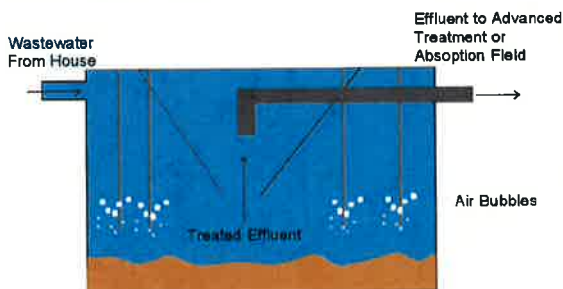


Figure 1. ATU Schematic (Schematic courtesy of David Berry)

Advantages: ATUs can reduce the total suspended solids and biochemical oxygen demand. A reduction in suspended solids improves the efficiency and life of the soil absorption field.

Disadvantages: ATUs require electricity and have moving parts, requiring frequent inspection and high equipment replacement costs.

Purchase Cost: The cost of an ATU is between \$3,500 and \$10,000.

Operation and Maintenance Cost: Operation and maintenance costs average between \$500 and \$700 per year. This includes the cost of electricity to run the air pump and regular inspection costs.

2. Fixed-Activated Sludge Treatment

Fixed-Activated Sludge Treatment (FAST) systems are similar to aerobic treatment units that fit inside pre-existing septic tanks (Figure 2). The wastewater cycles between the oxygenated FAST system and the septic tank. This recycling action causes microorganisms to convert ammonia and nitrates into nitrogen gas, an inert and abundant atmospheric gas. Because the FAST unit features recycling of effluent, it is more effective than a single-pass ATU at removing ammonia and nitrates.

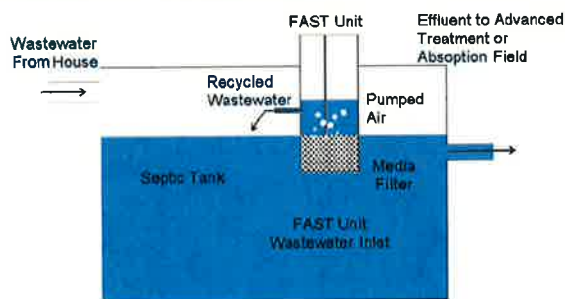


Figure 2. FAST System Schematic (Schematic courtesy of David Berry)



Advantages: The FAST system is particularly efficient at ammonia and nitrate removal.

Disadvantages: The FAST unit uses electricity and requires occasional maintenance of the motor.

Purchase Cost: A FAST unit costs about \$5,000. A properly sized septic tank costs about \$2,000.

Operation and Maintenance Cost: Typical costs are approximately \$300 per year. This amount includes electricity and regular inspection costs.

3. Recirculating Sand Filter

The Recirculating Sand Filter (RSF) utilizes an additional treatment stage beyond the conventional septic system (Figure 3). Effluent from the septic tank is pressurized and sprayed on a volume of sand. Microorganisms break down organic matter and convert ammonia into nitrate as the effluent filters through the sand. When the effluent reaches the under drain, a portion of the water enters the soil absorption field and the rest re-circulates through the septic tank, where the nitrates are converted into nitrogen gas, an inert gas that can be vented to the atmosphere.

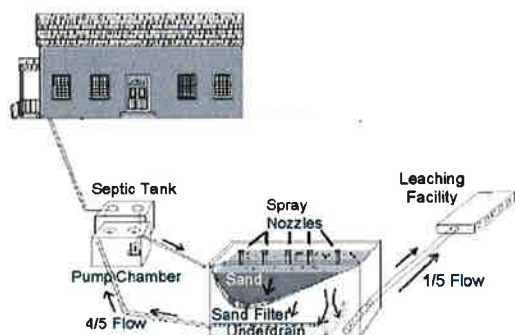


Figure 3. RSF Schematic (Massachusetts DEP, 1997)

Advantages: Recirculating sand filters are extremely efficient at reducing biochemical oxygen demand, total suspended solids, and ammonia and nitrate levels in a relatively small area.

Disadvantages: Frequent inspection and maintenance is required to ensure proper functioning.

Purchase Cost: The costs of an RSF are variable, depending upon the cost of the sand media. An estimate is between \$10,000 and \$15,000.

Operation and Maintenance Cost: \$200 to \$300 per year, including electricity. The system must be inspected and occasionally the top layer of sand must be removed for optimal performance.

4. Trickling Filter

In trickling filters (Figure 4), also known as fixed-film reactors, microorganisms typically grow on a specially designed synthetic material, such as a plastic polymer, instead of being carried with the liquid, as in a typical septic system.

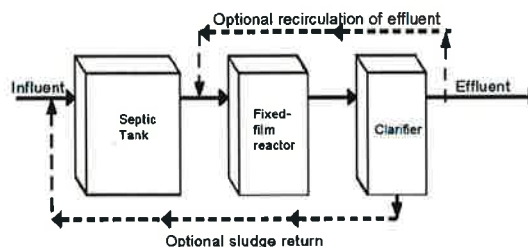


Figure 4. Trickling Filter Schematic (Massachusetts DEP, 1997)

Advantages: Trickling filters can handle surges of flow to the system without losing the microbial community responsible for effluent treatment. They are extremely effective at reducing biochemical oxygen demand.

Disadvantages: Trickling filters must be used as an advanced treatment in conjunction with the septic tank.

Purchase Cost: Equipment is about \$9,000 including installation.

Operation and Maintenance Cost: Approximately \$200 to \$300 per year. The unit must be inspected regularly by a professional.

5. Sequencing Batch Reactor

The sequencing batch reactor (SBR) is particularly successful at the removal of nitrate, phosphorus, and ammonia. The design principle consists of a series of processes that occur in sequence in a single underground unit (Figure 5). During the treatment cycle no additional influent is allowed to enter the unit.

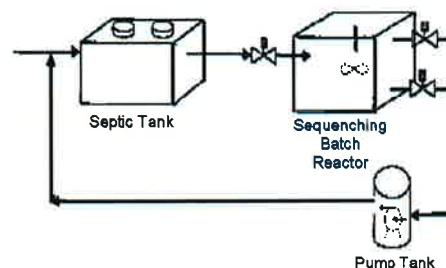


Figure 5. SBR Schematic (City of Austin, 2001)

Advantages: Efficient removal of nitrate, phosphorus, and ammonia.

Disadvantages: This technology requires professional operation and maintenance, so a contract with a licensed company is highly recommended.

Purchase Cost: The cost of equipment and installation is about \$8,500 to \$12,000

Operation and Maintenance Cost: Yearly maintenance costs are on average \$250 to \$400. This includes electricity, inspections, and pumping.

Soil Absorption Systems

1. Mound System

Mound systems (Figure 6) are so prevalent they are not considered an “alternative” technology. They are appropriate for areas with a high water table or shallow bedrock. A septic tank or alternative system first treats the wastewater. The liquid then flows into a storage compartment, where it is pumped up to a leach field within a soil mound a few feet above grade. The mound provides an adequate volume of unsaturated soil to treat the wastewater that exits the perforated pipe network in the leach field. The cost of a mound system is highly variable, depending in large part on the cost of the transport of the appropriate soil mixture to the construction site.

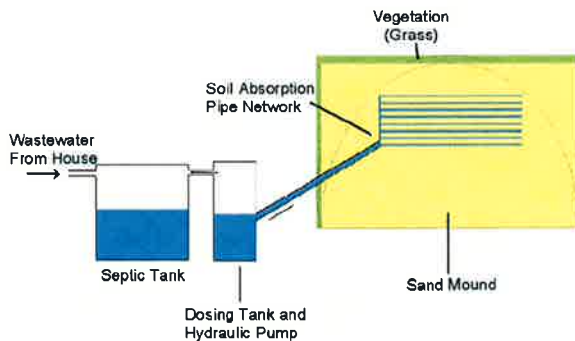


Figure 6. Mound System Schematic (Schematic courtesy of David Berry)

Advantages: The mound system performs well in areas with high water tables or shallow bedrock.

Disadvantages: Installation is expensive and the mound can be visually and physically obtrusive.

Purchase Cost: A mound system costs approximately \$25,000 to install.

Operation and Maintenance Cost: About \$100 per year. This cost includes electricity and regular inspections.

2. Subsurface Drip System

Drip systems (Figure 7) feature small diameter plastic piping with effluent emitters. The piping network runs through a system of shallow trenches. Effluent is pumped intermittently to the pipes for slow infiltration into the soil.

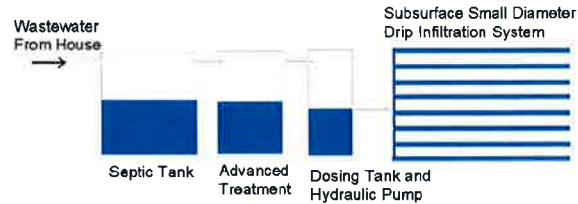


Figure 7. Drip System Schematic (Schematic courtesy of David Berry)

Advantages: Drip irrigation is ideal in hilly, rocky conditions where there is little space for soil absorption. It also avoids mound necessity.

Disadvantages: It is important that the effluent has been filtered of solids that could potentially clog the piping. The effluent should be treated to an advanced level so that it is safe for shallow land application.

Purchase Cost: Approximately \$15,000 including the pumps, valves, and control units.

Operation and Maintenance Cost: The annual fee for an operation and maintenance contract is approximately \$500. This covers inspections and regular maintenance. Electricity usage will add a small additional cost.

3. Peat Field

A peat leach field, which is usually in a contained unit, is very similar in design to a conventional leach field. The main difference is that effluent drips through a layer of peat before entering the soil. This has been shown to improve the quality of effluent by reducing total solids and nitrate levels. Because peat is a natural substance, the composition of it is extremely variable. Peat that is to be used for onsite treatment must have certain characteristics to make it an efficient filter, such as proper moisture content and preparation.

Advantages: Peat is relatively simple to install and maintain, and delivers a high quality effluent.

Disadvantages: It is important that the system be built correctly and with the right materials because if improperly installed peat systems may clog.

Purchase Cost: Installation of the peat field is approximately \$10,000.

Operation and Maintenance Cost: About \$100 per year for electricity and for pump maintenance.

Conclusion

Many of these technologies are considered to be experimental in New Jersey at this time. Therefore, a New Jersey Department of Environmental Protection (NJDEP) Treatment Works approval is required. Contact NJDEP at 609-292-0407 for more information

For More Information

Rutgers Cooperative Research & Extension
www.rcre.rutgers.edu

U.S. Environmental Protection Agency
<http://cfpub.epa.gov/own/septic/home.cfm> and
www.epa.gov/etv/verifications/vcenter9-3.html

NSF International
www.nsf.org/business/wastewater_treatment/index.asp?program=WastewaterTreatmentUnits

A Compendium of Information on Alternative Onsite Septic System Technology in Massachusetts
www.state.nj.us/dep/dwq/pdf/compend.pdf

References

City of Austin Onsite Wastewater Treatment and Disposal Fact Sheets. 2001. Austin, Texas.
www.ci.austin.tx.us/wri/fact.htm.

Massachusetts Department of Environmental Protection (DEP). 1997. *A Compendium of Information on Alternative Onsite Septic System Technology in Massachusetts*. www.state.nj.us/dep/dwq/pdf/compend.pdf.

U.S. Environmental Protection Agency (USEPA). 2002. Manual: *Onsite Wastewater Treatment Systems Manual*. EPA/625/R-00/008. Office of Research and Development. Cincinnati, OH.

A Partial List of New Jersey Suppliers and Installers

(The inclusion of these companies does not indicate an endorsement by Rutgers University; it is merely provided as a reference tool.)

A-L Septic Services
Vineland, NJ
Phone: (856) 691-3433

L.J. Rusciani Assoc., Inc.
Berlin, NJ
Phone: (609) 767-2323

Aquapoint, Inc.
New Bedford, MA
Phone: (508) 998-7577 x17

Manchester Septic Tank Co.
Freehold, NJ
Phone: (732) 761-9540

Arthur Stanley Septic
Burlington, NJ
Phone: (609) 386-9814

Montville Septic Service
Boonton, NJ
Phone: (973) 334-4800

Ashco-A-Corporation
Morgantown, WV
Phone: (304) 291-0808

Septic Restoration Systems
Sparta, NJ
Phone: (973) 729-8549

Bio-Microbics, Inc.
Shawnee, KS
Phone: (800) 753-3278

Septic System Services
Wharton, NJ
Phone: (973) 361-0181

Central Jersey Septic Inc.
Old Bridge, NJ
Phone: (732) 525-0040

South Jersey Bio-Septic Supply Co.
Elmer, NJ
Phone: (856) 358-4771

Cromaglass Corporation
Williamsport, PA
Phone: (570) 326-3396

Sweetrose Septic Corp.
Andover, NJ
Phone: (973) 347-3878

Ewing Septic Systems
Cape May, NJ
Phone: (609) 884-3312

Tri-County Septic Service
Newton, NJ
Phone: (973) 579-2751

F.R. Mahony & Assoc., Inc.
Rockland, MA
Phone: (781) 982-9300

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**RUTGERS COOPERATIVE RESEARCH & EXTENSION
N.J. AGRICULTURAL EXPERIMENT STATION
RUTGERS, THE STATE UNIVERSITY OF NEW JERSEY
NEW BRUNSWICK**

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How to Estimate Plumbing Costs for New Construction

by Tim Anderson, Demand Media



Estimating for plumbing is a complex task.

Building a new home is a complicated endeavor that is compounded by the various elements that each individual task requires, such as the costs for plumbing a home. This is completely separate from, say, the framing of a home or installing tile on floors, and is thus normally bid out separately. If you want to estimate plumbing costs for new construction, it helps to know the complexities you can run into.

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SoftwareAdvice.com/Construction

Rough Square Footage Costs

There is much more to a plumbing estimation than just the footage, but it's always best to get a rough idea up front of how much you may be dealing with and then go from there with specifics related to your individual project. National averages for plumbing work are around \$4 per square foot for rough-in plumbing as of 2012, but some areas, such as San Francisco for example, can run

more than \$5 per square foot depending on the professional you are dealing with. If you have the relevant licenses and skills to run the plumbing yourself, you can save about half the money of these costs.

Beyond Square Footage

The reality is that every project is much more than just the square or linear footage. For example, a two-story home will require significantly more work than a one-story home, and installers usually include extra money in an estimate to cover the additional work. Add-on buildings or areas can include surcharges related to cleaning, protecting the existing home (such as carpeting and tiling) from dirt and debris during the installation, and beyond. Realize that the per foot estimate is nothing more than a rough idea and your specific project will have distinct characteristics that can affect that number.

Excavation

Most brand new additions will require excavation to run drain pipes out of the home as well as run water lines from the city main into the home. This is not a simple shovel-and-dig type of excavation. It requires the use of heavy equipment and the associated skills for using that equipment, which means hiring an excavation crew. The rates can range between \$80 and \$125 per hour depending on the contractor, or the charge may be by the yard, which can range between \$80 and \$200 per yard. No two projects ever cost the same, so your rates could vary depending on the size of your project, amount of dirt to be removed, layout of the home and beyond.

Importance of Measuring

Know the size of your pipes beforehand. Consider little things, such as running 3-inch pipe for showers to accommodate for future renovations when most people only run spec pipe, which is 2 inches for showers. In addition, pipe fittings range greatly in price, depending on the size and type of pipe you are working with. For example, PVC pipe is some of the cheapest you can use and is most commonly seen in residential applications, but larger diameters cost more money, so 2-inch pipes and fittings will cost less than 4-inch pipes and fittings.

Seeking Professional Help

If you don't know down to the exact letter the ins and outs of plumbing from years of working in the industry, the actual measuring of footage is something best left to a professional, given the complexity of the task. While you can do it yourself, the old adage about "trial and error" will certainly come into play. For the best results, at least hire a consultant to help you with the complexities of measuring and estimating so that you can get it right the first time rather than finding out midway through the project that something critical was left out, such as adding vent pipes or figuring the wrong diameter for a drain pipe to a washing machine or dishwasher.

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Construction Estimate

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www.PlanSwift.com

Small Bathroom Renovation

You don't have to break your budget For a quality frameless shower door www.bathauthority.com

Pipe Marking Wall Chart

Free wall chart - pipe color coding standards set by ANSI and ASME www.DuraLabel.com



ENGINE POWER UNIT

URS
Attention: Mike Housey

**GE Waukesha F18GU Gas Power Unit for
Water Pump Drive
Maurepas Drainage Pump Station
St. John the Baptist Parish,
Louisiana**

WPI-12-6591

October 15, 2012

WAUKESHA-PEARCE INDUSTRIES, INC.
12320 S. Main Street
Houston, Texas 77035
Phone: 337-380-8533
Contact: Herb Antoine

Scope of Work

WPI is pleased to offer the following proposal based on a Waukesha Model F18GU Power Unit Site Rated 233 Horsepower at the flywheel Continuous Duty, 1800 RPM, 100 Deg. F Ambient Temperature and 1500 Feet Elevation.

Scope of Supply is per Bulletin 9002/0700 modified as shown below.

Power Take-Off:

Twin Disc Model SP-218-OP SAE 18" two plate, over center type, manual clutch.

Customer supplied rear support required.

Start System:

One (1) Electric Starter Motor – 24V DC Delco.

Start Batteries – 24V DC system. Two (2) Group 8D, (12V) high performance batteries, rated 1150 CCA and 400 minutes reserve capacity each, dry charged. One–battery interconnection cables and two (5 ft. long) battery–to–starter cables. (Includes electrolyte furnished in a separate container.)

Battery Box – Steel reinforced fiberglass construction with a protective cover.

Alternator – Denso, 24VDC, 50 amp, brushless, belt driven.

Fuel System:

Gas Regulator – Fisher CS800 for natural gas. Gas inlet pressure: 7-10 psig, mounted.

Schedule 80 NPT piping to skid edge.

24VDC fuel shut-off solenoid valve.

Flexible Fuel Line – One. Stainless steel. 2 inch (51 mm) dia. NPT, 12 inches (457 mm) long.

Air/Fuel ratio controller, Emit Brand or equal.

A fuel gas analysis review is required.

Lube Oil System:

Prelube Pump 24VDC.

Kenco Oil Level Regulator with low oil level switch.

Kenco Oil Make-up Tank – 30 gallon.

Oil drain line piped to skid edge valve.

Exhaust System:

Exhaust Catalytic Converter/Silencer. Emerachem or equal 3-Way NSCR Critical Grade. Two(2) element bays with one(1) element for 1.0 gm/hp-hr NOx, 2.0 gm/hp-hr CO, and 0.70 gm/hp-hr VOC. Ship loose.

Exhaust flex connector.

Air/Fuel Ratio Controller consisting of Continental Controls or equal ECV5 gas control valve, ECVI local display, CM catalyst monitor, oxygen sensor, in/out catalyst thermocouples, delta pressure transducer, and interface cables. Mounted.

Cooling System:

Radiator, V-Belt driven from the front of the engine, mounted.

Duct adapter.

Jacket Water Heater 240VAC/1PH/60HZ.

Water drain line piped to skid edge valve.

Skid Base:

2-Runner fabricated steel skid.

Controls:

Area classification is assumed to be Non-Classified Non-Hazardous.

Murphy or equal Control Panel auto/manual with first out annunciator. 24x24x9 painted steel weatherproof enclosure with a removable rear door and a hinged front door with a viewing glass window. Panel is mounted on a 22" freestanding base. Ship loose for mounting off-skid next to Waukesha engine.

Low engine oil pressure shutdown

Low engine oil level shutdown

Low engine jacket water level alarm

Low auxiliary water level alarm

High engine vibration shutdown

High oil temperature shutdown

High intake manifold temp shutdown

Emergency stop

Exhaust thermocouples

Magnetic pick-up.

Rigid conduit and wiring for Non-Hazardous Area

Coatings:

WPI standard industrial enamel paint system.

Miscellaneous:

Torsional Study.

WPI Houston Standard No-Load Run Test.

Three (3) Operation/Maintenance/Parts Manual – English Language.

Pricing

Base Pricing:

GE Waukesha F18GU Gas Engine Power Unit 233 HP at flywheel 1800 RPM Gas Engine Power Unit as described in this proposal and attachments:

Your Cost Is	\$229,360.
Quantity	3
Total	\$688,080.

Shipment: Estimated as 24-26 weeks after receipt of order.

Drawings are issued for approval approximately four(4) weeks after receipt of order.

All deliveries are subject to WPI verification at time of written order.

Quoted Prices: F.O.B. Waukesha-Pearce Houston shop.

Validity: 30 days from quotation date.

Start-up Services are NOT included but are available at extra cost.

We look forward to working with you on this project and if we can be of further assistance to you either technically or commercially, please do not hesitate to call.

Sincerely,

Herb Antoine
Waukesha-Pearce Industries
Sales Representative

Comments to Specifications

WPI makes the following clarifications to the specifications and other technical or commercial documents.

This offer is limited to the scope of supply shown in this proposal.

No customer specifications were submitted or complied with for this proposal.

Gearbox is not included. Driveshaft is not included.

Waukesha-Pearce Industries, Inc.
Standard Terms and Conditions of Sale

1. Acceptance

This quotation is subject to acceptance within thirty (30) days.

2. Terms

Net thirty (30) days from date of invoice. Subject to credit department approval. On any WPI manufactured product quoted at \$150,000.00 or more, we reserve the right to request progress payments from Purchaser with the following milestone achievements:

20% Upon submittal of drawings

20% Upon Completion of Skid fabrication

50% Upon Receipt of Major Components (Engine, Generator & Switchgear)

10% (Or full balance) 30 days from date of invoice

3. Cancellation or Termination

The buyer only upon payment of reasonable cancellation charges that shall be related to expenses already incurred and/or commitments made by WPI can cancel any order placed with WPI. Cancellation charges on completed equipment will be 100% of the selling price.

No termination by buyer for default shall be effective unless and until WPI shall have failed to correct such alleged fault within sixty (60) days after receipt by WPI of written notice specifying such default.

WPI further reserves the right to fabricate ahead of the shipping schedule whenever it is deemed necessary, and upon notification of the buyer. Such advance fabrication shall not void buyer's responsibility for cancellation charges.

4. Alterations

No alterations in specifications, either for total quantity, delivery, mechanical, electrical or other details may be made without written consent of seller and readjustment of price.

5. Taxes

In addition to the prices stated herein, the Purchaser shall reimburse WPI for any excise, sales or use tax incident to this transaction for which we may be liable or which we are compelled to collect.

6. Shipping Dates

Any shipment date given herein is approximate and is estimated from the date of receipt of order with complete specifications and approvals, if required. WPI shall not be liable for any loss or damage for delay or non-delivery due to the acts of civil or military authority, acts of the Purchaser or by reason of force majeure, which shall be deemed to mean all other causes whatsoever not reasonably within the control of WPI, including, but not limited to acts of God, war, riots or insurrection, blockades, embargoes, sabotage, epidemics, fires, strikes, lockouts or other industrial disturbances, delays of carriers, and inability to secure materials, labor or manufacturing facilities. Any delay resulting from any such cause shall extend shipping dates correspondingly. WPI shall in no event be liable for any special, indirect or consequential damages arising from delay irrespective of the reason under therefore, and receipt by the Purchaser shall constitute acceptance of delivery and waiver of any claims due to delay.

7. Lost Production

Purchaser agrees to and shall indemnify and hold harmless WPI, its officers, agents and employees, from and against any and all claims, losses, damages, causes of action, suits and liabilities of every kind, including all expenses of litigation, court costs and attorney's fees, for forfeiture of an oil, gas or mineral lease, damage to a producing reservoir or lease operations of lost production, arising out of or in connection with the failure of the operation of the Equipment for any reason whatsoever. Such indemnity shall apply where the claims, losses, damages, causes of action, suits or liabilities arise in whole or in part from the negligence of WPI or the defectiveness of the Equipment.

Furthermore, if such claims, losses, damages, causes of action, suits or liabilities arise in whole or in part from the defectiveness of the equipment, such indemnity shall apply whether such defect and failure of the equipment result in whole or in part from the design, manufacturer, marketing or distributor of the equipment or from the failure of WPI to warn any person of any such defect.

8. Consequential Damages and Other Charges

Company shall not be responsible or liable for any special indirect or consequential damages or for any operational interruptions or delays, production loss, or other damages or claims of whatever kind caused by or arising out of the manufacturer, sale, delivery, installation, used, breakage or performance of equipment sold hereunder or any part thereof, except only to the extent and in the manner set out in the preceding paragraph having to do with warranty.

Company shall not be responsible for crane, barge, or special transportation charges associated with warranty repairs.

9. Performance Guarantee

Performance is subject to manufacturer's guarantees for horsepower and capacities and is subject to de-rating for actual site conditions.

10. Comments and Exceptions

When purchaser specifications are attached to or referenced in an invitation to bid, Waukesha-Pearce makes a thorough and sincere effort to clearly state what is included, what is not included, and what our interpretation is of your requirements. Please review this proposal carefully. This proposal constitutes our total offer and only those items; procedures, scope and content clearly stated in this proposal are included.

11. Structural, Current Pulsation, Vibration, Torsional, Transport Studies

When requested by the purchaser, Waukesha-Pearce will arrange for a third party analysis of the packaged unit system or components. Changes or modifications to the original design which result from these analyses are considered outside the scope of the original proposal and will be charged at Waukesha-Pearce published rates for engineering, material, labor and necessary supervision.

12. Warranty

WPI warrants that the equipment of its own manufacture shall be free from defects in design, material, workmanship, and title under normal use, service, and operating conditions, for the period of one (1) year from date of start up or eighteen (18) months from date of shipment. WPI's exclusive remedy for breach of this warranty shall be repair or replacement of any defective parts packaged by WPI, F.O.B. Houston, Texas. Accessories or equipment furnished by WPI, but manufactured by others, shall carry that manufacturer's standard warranty which will be passed on to the Purchaser. WPI shall not be liable for any repairs, replacements, or adjustments to the Equipment or any costs of labor performed by the Purchaser or others without WPI's prior written approval. WPI will serve the customer by acting as their representative in regard to warranty claims for items not manufactured by WPI. However, warranty in all cases is limited to the manufacturers' standard. Any part(s) found to be defective will be replaced no charge subject to each manufacturers respective warranty policy which WPI will administer. Any part(s) replaced that are not subsequently found to be defective by the manufacturer will be charged to the customer. Warranty labor for replacement or repair is on site only. Customer is responsible for travel time, transportation and expenses to and from the closest WPI location to the location of the subjected equipment. Should WPI travel to location and find that the cause is not a warranty item, all expenses incurred by WPI, to include labor, will be billed to the customer.

BASIC POWER UNIT SPECIFICATIONS

AIR CLEANER – Two stage, dry panel type with rain shield and service indicator. Engine mounted.

BARRING DEVICE – Manual.

BASE – Engine and radiator cooling components are mounted on a heavy, structural steel base suitable for lifting.

BREATHER – Crankcase, open type.

CARBURETOR – Single natural gas.

CONNECTING RODS – Drop forged alloy steel, angle split, serrated joint, oil jet piston pin lubrication.

CONTROLS – Local shutdown switch, engine mounted.

COOLING SYSTEM – Thermostatically controlled. Mounted radiator with core guard, duct adapter and belt driven suction fan sized for 110° F (43° C) ambient air and 50% ethylene glycol coolant solution.

CRANKCASE – Alloy cast iron, fully ribbed, integral with cylinder frame.

CRANKSHAFT – Drop forged alloy steel with induction hardened journals, dynamically balanced and fully counterweighted. Viscous vibration dampener.

CYLINDER HEADS – Six interchangeable, valve-in-head type, with two hard faced intake and two hard faced exhaust valves per cylinder. Replaceable intake and exhaust valve seats. Mechanical valve lifters with pivoted roller followers.

CYLINDERS – Removable wet type liners of centrifugally cast alloy iron.

EXHAUST SYSTEMS – Water cooled, exhaust manifold. ANSI 6" 125# outlet flange.

FLYWHEEL – With 150 tooth ring gear (for Delco electric and I-R air/gas starters). Flywheel machined to accept SAE 620D, 18" (457 mm) diameter clutch, or SAE 927B-180 flywheel converter, or SAE J162A single bearing generator.

FLYWHEEL HOUSING – SAE #0, with provision for two magnetic pickups and vertical mounting pads.

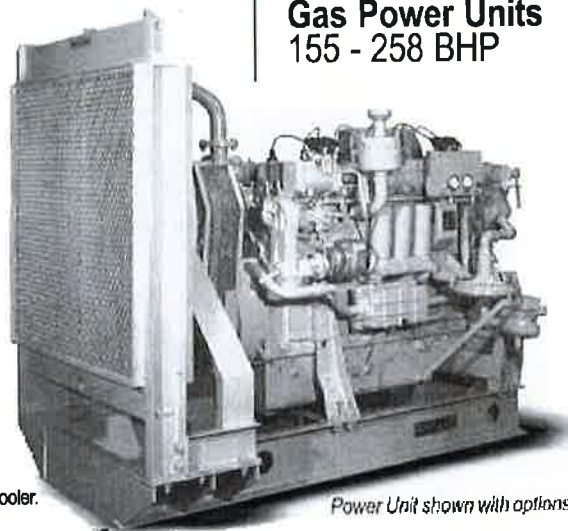
GOVERNOR – Woodward SG hydraulic type.

IGNITION – Waukesha Custom Engine Control™ electronic ignition system with coils, cables, hall effect pickup and spark plugs. Non-shielded. 24V DC power required.

LUBRICATION SYSTEM – Gear type pump, full flow spin-on filters and industrial type oil pan (22 gallon capacity, including filters). Engine mounted plate type oil cooler.

PAINT – Oilfield orange.

PISTONS – Aluminum alloy, three ring, with combustion bowl. Oil jet cooled with full floating piston pin. 11:1 compression ratio.



Power Unit shown with options

POWER RATINGS: F18GU POWER UNITS

Model	C.R.	Bore & Stroke in. (mm)	Displ. cu. in. (litres)	Brake Horsepower					
				1200 rpm		1400 rpm		1500 rpm	
				I	C	I	C	I	C
F18GU	11:1	5.98 x 6.5 (152 x 165)	1096 (18 L)	177	155	200	180	216	196
								235	210
									258
									233

Net available power ratings - includes derate for radiator fan. See Ratings Adjustment chart (S8154 latest revision) for adjustment for altitude and temperature.

*See Ratings Adjustment chart (S8154 latest revision) for adjustment for altitude and temperature.

Rating Standard: All models - Ratings are based on ISO 3046/1-1986 with mechanical efficiency of 90% and Tera (clause 10.1) as specified above limited to $\pm 10^\circ$ F (5° C). Ratings are also valid for SAE J1349, BS5514, DIN6271 and AP17B-11C standard atmospheric conditions.

I = Intermittent Service Rating: The highest load and speed that can be applied in variable speed mechanical system application only. Operation at this rating is limited to a maximum of 3500 hours per year.

C = ISO Standard Power/Continuous Power Rating: The highest load and speed which can be applied 24 hours per day, seven days per week, 365 days per year except for normal maintenance. It is permissible to operate the engine at up to 10% overload, or a maximum load indicated by the intermittent rating, whichever is lower, for two hours in every 24 hour period.



WAUKESHA ENGINE DIVISION
DRESSER EQUIPMENT GROUP, INC.
1000 West St. Paul Avenue
Waukesha, WI 53188-4999
Phone: (262) 547-3311 Fax: (262) 549-2795
<http://www.waukeshaengine.com>
Bulletin 9002 0700

WAUKESHA ENGINE DIVISION
A DIVISION OF DRESSER INDUSTRIAL PRODUCTS, B.V.
Farmsterweg 43, Postbus 330
9900 AH Appingedam, The Netherlands
Phone: (31) 596-652269 Fax: (31) 596-624217

Consult your local Waukesha Distributor for system application assistance. The manufacturer reserves the right to change or modify without notice, the design or equipment specifications as herein set forth without incurring any obligation either with respect to equipment previously sold or in the process of construction except where otherwise specifically guaranteed by the manufacturer.

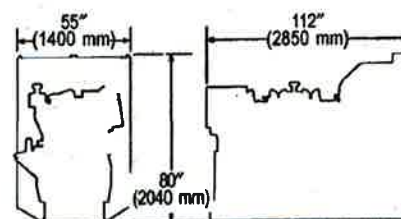
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Waukesha
VGF

F18GU

VGF™ Series
Gas Power Units
155 - 258 BHP

Model F18G Naturally Aspirated,
Six Cylinder, Four-Cycle Gas Engine



SPECIFICATIONS

Cylinders Inline 6	Lube Oil Capacity 22 gal. (83 L)
Piston Displacement 1096 cu. in. (18 L)	Fuel Pressure Range 5 - 10 psig (34 - 68 kPa)
Bore & Stroke 5.98" x 6.5" (152 x 165 mm)	Dry Weight 7,300 lb. (3310 kg)
Compression Ratio 11:1	
Jacket Water System Capacity 26 gal. (98 L)	





ASSOCIATED
PUMP & SUPPLY CO., LLC

October 14, 2013

URS Corporation
Attn: Ryan Waldron, MSCE, PE
PH: 1-504-218-0906
E-Mail: ryan.waldron@urs.com

RE: Quotation for (3) Vertical Axial Flow Line Shaft Pumps for Maurapas Pump Station

We are pleased to offer our MWI Pumps for the above referenced project. The following equipment is included in our quotation:

Qty: (3) **MWI Model #NC342X48** – Vertical Line Shaft Pumps Rated 125 CFS @ 6.3' TDH. Each Pump Includes a 225 HP Natural Gas Engine, Right Angle Gear Drive, SS Propeller and Shaft, Base Plate, Sole Plate, Spare Parts and Formed Suction Intake (FSI).

Total Price: \$1,448,375.00 (Plus Applicable Taxes)

Price is valid for 60 days.

Our Price Also Includes:

- A.) All Shop Drawings and Submittals.
- B.) Full Size Test of One Pump.
- C.) Start-Up and Supervision of Installation.
- D.) Spare Parts.

Specifically Not Included:

- A.) Discharge Pipe.
- B.) Electrical Wiring.
- C.) Pump Controls.
- D.) Installation of Any Type.

Sales – Rental – Service
9074 Park Avenue Houma, LA 70363
PH: 985-851-7077 Fax: 985-876-9854
office@associatedpump.com



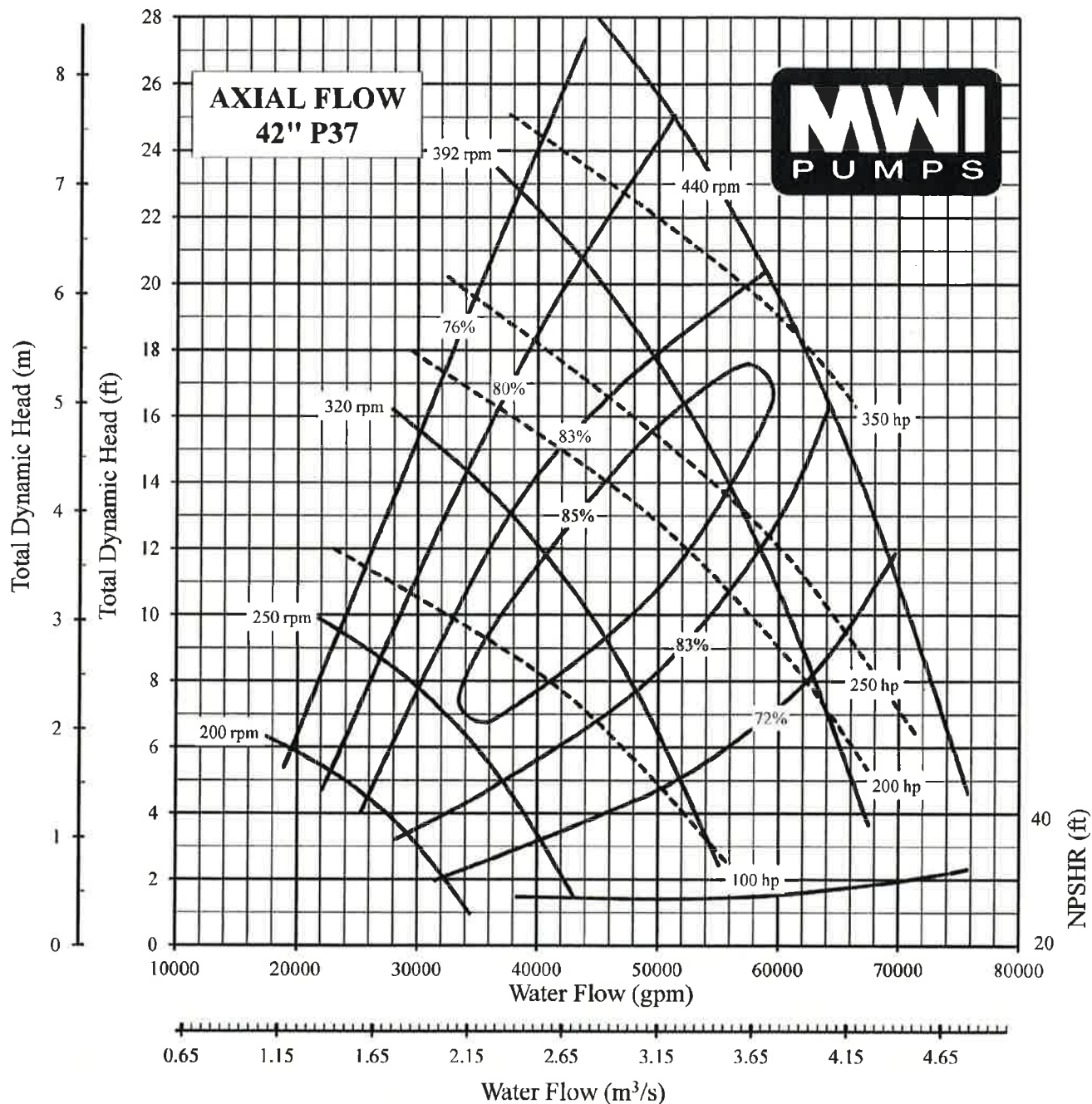
ASSOCIATED
PUMP & SUPPLY CO., LLC

Quoted price is FOB factory. Freight prepaid to jobsite, with Contractor to unload. Terms are 105 down with approved submittal drawings and balance net 30 days after delivery with approval from our credit department. If progress payments are allowed then terms of payment may be reviewed. Delivery will be approximately 32-36 weeks after shop drawing approval. Drawings will be submitted for approval 3-4 weeks after receipt of purchase order.

Once again, we appreciate the opportunity to quote you on the above equipment and we look forward to your favorable consideration. Please feel free to call, should you have any questions.

Best Regards,
Paul Klingman

Sales – Rental – Service
9074 Park Avenue Houma, LA 70363
PH: 985-851-7077 Fax: 985-876-9854
office@associatedpump.com



PUMP BOWL PERFORMANCE CURVE	
TYPE: AXIAL FLOW	
MODEL NO: NC342P37	
INTAKE DIA: 63"	
CURVE NO.: VS342P37A	
PROPELLER DIA: 42"	
SPEED: As Noted	
DISCHARGE COLUMN DIA: 42"	
Ns: 11300 CODE: 0.50	
SINGLE STAGE PERFORMANCE: FOR TWO STAGES MULTIPLY HEAD AND HORSEPOWER BY 2.0 AND EFFICIENCY BY 1.0 PERFORMANCE IS BASED ON PUMPING CLEAR, NON-AERATED WATER, WITH A SPECIFIC GRAVITY OF 1.0, TEMPERATURE 85 °F OR LESS AND AT SEA LEVEL. PUMP PERFORMANCE MAY BE AFFECTED BY HIGHER TEMPERATURES, SPECIFIC GRAVITY, ALTITUDES AND SUMP CONDITIONS	

IT IS HEREBY CERTIFIED THAT THIS CURVE REPRESENTS THE TRUE PERFORMANCE CHARACTERISTICS OF THE MWI PUMP MODEL SHOWN AND WAS OBTAINED BY SCALE MODEL TEST AND CALCULATIONS IN ACCORDANCE WITH STANDARDS OF THE HYDRAULIC INSTITUTE.

MWI CORPORATION
CERTIFIED BY

MWI CORPORATION
Deerfield Beach, Florida



Login Register
Wednesday, October 16, 2013

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15 Ton Capacity (7.5/2.5 fpm)

[E-mail this product to a friend](#)

Lift Speed (fpm)	Lift (ft)	Voltage/Phase (Choose One)	Weight (lbs)
7.5/2.5	10	208-230-460/3Ph	873
7.5/2.5	15	208-230-460/3Ph	930
7.5/2.5	20	208-230-460/3Ph	987

Shipping and the Chain Container are included in price!
Ships ONLY within the 48 contiguous United States.



Lift 10 ft

SKU:NER150SD-10

Weight:873.00

List Price: \$21,844.00

Your Cost: \$15,754.00

Quantity: 1 Voltage

[Add to Cart](#)

Lift 15 ft

SKU:NER150SD-15

Weight:930.00

List Price: \$22,767.00

Your Cost: \$16,420.00

Quantity: 1 Voltage

[Add to Cart](#)

Lift 20 ft

SKU:NER150SD-20

Weight:987.00

List Price: \$23,691.00

Your Cost: \$17,086.00

Quantity: 1 Voltage

[Add to Cart](#)

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Gujja, Ranjit

From: Chillara, Naveen
Sent: Tuesday, November 19, 2013 8:51 AM
To: Gujja, Ranjit
Subject: FW: Maurepas Pile Load Tests

Follow Up Flag: Follow up
Flag Status: Flagged

Number of Pile tests is below - 5

From: Read, Leah
Sent: Tuesday, November 19, 2013 8:45 AM
To: Chillara, Naveen
Subject: Maurepas Pile Load Tests

Naveen,

All designs use a FOS of 2.0 except for the KCS crossing. For KCS, standard details were used and no specific pile capacity calculations were performed, so the FOS was set to 3.0 conservatively.

Every region except the Headworks uses only one pile type, so you only need one load test per crossing.

In summary, pile load tests needed:

2 for Headworks (HP14x89 & HP16x101)

1 for Pump Station (14" PPC)

1 for Airline Hwy (18" PPC)

1 for CN crossing (18" PPC)

Thanks,

Leah Read, P.E.
Structural Engineer
3500 N. Causeway Blvd.
Suite 900
Metairie, LA 70002
Office: 504-837-6326
Direct: 504-218-0911
Fax: 504-831-8860

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Guja, Ranjit

From: Glenn Mesman <glenn@hmiminc.com>
Sent: Friday, October 18, 2013 5:59 PM
To: Guja, Ranjit
Subject: RE: Tideflex Check Valve and Gate Valves
Attachments: H-200Drawing.pdf

Ranjit,

I wanted to call you but I had to leave the office. What quantities are we talking about...more equals lower prices. If you just need budget numbers see below.

42" Elliptical...@ \$ 24,746.00/each + freight

36" TF-1 standard slip-on...@ \$ 9,984.00/each + freight

Do you need pricing on a knifegate valve? Or standard gate valve? See attached cutsheet of knifegate.

Call if you have any questions. Sorry for the delay.

Regards,

Glenn Mesman
HMIM, Inc.
1785 Hwy 59
Mandeville, LA 70448
985-626-1072 Office
985-320-3849 Cell
985-626-9169 Fax

Proudly Representing the Manufacturers Listed Below

****links below bring you directly to the manufacturers website

Products for the Louisiana and Mississippi Sales Territory

DeZurik (plug, butterfly, knifegate valves) www.dezurik.com
APCO Valve & Primer (cushioned check valves, air valves, surge relief valves) www.apcovalves.com
Rotork Controls (non-intrusive motor operators) www.rotork.com
Red Valve Company, Inc. (pinch valves, exp jnts, pressure sensors) www.redvalve.com
Tideflex Technologies (duckbill check valves, effluent diffusers) www.tideflex.com
Flow Control Technologies (sluiceways, slidegates, stop-logs) www.flowcontroltech.com
Hilton Valve Company (bonneted and bonnetless knifegates) www.hiltonvalve.com
K-TORK Vane Actuators (high performance 1/4 turn pneumatic actuators) www.ktork.com
Filter Magic (Filter Control Systems/Consoles for retrofit or new construction) www.filtermagic.com

From: Guja, Ranjit [<mailto:ranjit.guja@urs.com>]
Sent: Friday, October 18, 2013 3:16 PM
To: Glenn Mesman
Subject: RE: Tideflex Check Valve and Gate Valves

Glenn,

Please let me know if I can get those quotes today.

From: Glenn Mesman [<mailto:glenn@hmiminc.com>]
Sent: Thursday, October 17, 2013 5:25 PM
To: Gujja, Ranjit
Subject: RE: Tideflex Check Valve and Gate Valves

Hello Ranjit,

I was out of the office today and will be able to provide the budgetary numbers you requested below at that time. Is this project back on schedule to advertise soon?

Glenn

From: Gujja, Ranjit [<mailto:ranjit.gujja@urs.com>]
Sent: Thursday, October 17, 2013 11:32 AM
To: Glenn Mesman
Subject: Tideflex Check Valve and Gate Valves

- 1) Elastomeric Check Valves, 42" Dia. w/44"x55" Elliptical Cuff
- 2) Elastomeric Check Valves, 36" Diameter
- 3) 24" Gate Valves

Glenn,

Please provide me a quote for the above items. This is for Maurepas project.

Ranjit Gujja
URS
504-837-6326

From: Glenn Mesman [<mailto:glenn@hmiminc.com>]
Sent: Tuesday, November 23, 2010 12:10 PM
To: Ranjit_Gujja@URSCorp.com
Subject: Tideflex Check Valve Specification

Ranjit,

See specs for Tideflex attached. Let me know if you need anything else.

Regards,

Glenn Mesman

HMIM, Inc.

1785 Hwy 59

Mandeville, LA 70448

985-626-1072 Office

985-320-3849 Cell

985-626-9169 Fax

Proudly Representing the Manufacturers Listed Below

****links below bring you directly to the manufacturers website

DeZurik (plug, butterfly, knifegate valves) www.dezurik.com

APCO Valve & Primer (cushioned check valves, air valves, surge relief valves) www.apcovalves.com

Rotork Controls (non-intrusive motor operators) www.rotork.com

Red Valve Company, Inc. (pinch valves, exp jnts, pressure sensors) www.redvalve.com

Tideflex Technologies (duckbill check valves, effluent diffusers) www.tideflex.com

Flow Control Technologies (sluiceways, slidegates, stop-logs) www.flowcontroltech.com

Hilton Valve Company (bonneted and bonnetless knifegates) www.hiltonvalve.com

J&S Gate Valve (resilient seated gate valves) www.jandsvalve.com - TT-TF-1.doc

Attachments:

[TT-TF-1.doc](#)

(34 KB)

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Gujja, Ranjit

From: Waldron, Ryan
Sent: Tuesday, October 22, 2013 10:21 AM
To: Gujja, Ranjit
Subject: FW: Sluice Gate Quote

Importance: High

Very Respectfully,

Ryan Lee Waldron, MSCE, PE
Water Resources Engineer
URS Corporation
3500 N. Causeway Blvd., Suite 900
Metairie LA 70002 (USA)

Direct Line: 504.218.0906
Main Office: 504.837.6326
Cell: 504.272.2712
e-mail: ryan.waldron@urs.com

From: Fred Escher [<mailto:eschquip@cox.net>]
Sent: Tuesday, October 22, 2013 9:06 AM
To: Waldron, Ryan
Subject: RE: Sluice Gate Quote
Importance: High

Good morning Ryan. The pricing is as follows:

JASH Gates----\$795,175.00

Hydraulic System---\$1,460,000.00

If you need the scope of work let me know and I will get it together.

Fred Escher
Escher Equipment Co.
504-837-2155

From: Waldron, Ryan [<mailto:ryan.waldron@urs.com>]
Sent: Monday, October 21, 2013 9:11 AM
To: Fred Escher
Subject: RE: Sluice Gate Quote

Any luck yet?

Very Respectfully,

Ryan Lee Waldron, MSCE, PE
Water Resources Engineer
URS Corporation
3500 N. Causeway Blvd., Suite 900
Metairie LA 70002 (USA)

Direct Line: 504.218.0906
Main Office: 504.837.6326
Cell: 504.272.2712
e-mail: ryan.waldron@urs.com

From: Fred Escher [<mailto:eschquip@cox.net>]
Sent: Wednesday, October 16, 2013 2:33 PM
To: Waldron, Ryan
Subject: Re: Sluice Gate Quote

As soon as I get it I will forward to you.

Sent from my iPhone

On Oct 16, 2013, at 2:06 PM, "Waldron, Ryan" <ryan.waldron@urs.com> wrote:

Fred,

Thanks for calling me yesterday. I haven't received that quote yet, so I was just checking in. Thanks

Very Respectfully,

Ryan Lee Waldron, MSCE, PE
Water Resources Engineer
URS Corporation
3500 N. Causeway Blvd., Suite 900
Metairie LA 70002 (USA)

Direct Line: 504.218.0906
Main Office: 504.837.6326
Cell: 504.272.2712
e-mail: ryan.waldron@urs.com

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Gujja, Ranjit

From: Chillara, Naveen
Sent: Tuesday, November 19, 2013 10:51 AM
To: Gujja, Ranjit
Subject: FW: Maurepas

From: Forsythe, Graham
Sent: Tuesday, November 19, 2013 10:50 AM
To: Chillara, Naveen
Subject: Maurepas

Naveen,

For soil mixing, a mob of \$200K and \$50 cy would apply

For dewatering, just the usual allowances for the contractor for sump pumping. You would not put in a separate cost item

Regards,

R. Graham Forsythe, P.E.
Senior Geotechnical Engineer
URS Corporation
917 Western America Circle, Suite 400
Mobile, AL 36609-4111

251-344-4744 (Office)
251-652-1155 (Direct)
251-472-7985 (Cell)
251-342-0407 (Fax)



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Gujja, Ranjit

From: Waldron, Ryan
Sent: Friday, October 11, 2013 3:09 PM
To: Gujja, Ranjit
Subject: FW: 60 x 62 x 25

Very Respectfully,

Ryan Lee Waldron, MSCE, PE
Water Resources Engineer
URS Corporation
3500 N. Causeway Blvd., Suite 900
Metairie LA 70002 (USA)

Direct Line: 504.218.0906
Main Office: 504.837.6326
Cell: 504.272.2712
e-mail: ryan.waldron@urs.com

From: Guidry, Ronnie (NBSTX) [<mailto:Ronnie.Guidry@Nbstx.com>]
Sent: Friday, October 11, 2013 3:09 PM
To: Waldron, Ryan
Subject: 60 x 62 x 25

Ryan,

Budget price \$39,000.00. Used 120 MPH wind.

Thanks

Ronnie Guidry
Senior District Sales Manager
Nucor Building Systems - Texas
Cell (337) 280-4270
Email: Ronnie.Guidry@nbstx.com



"It is not what you look at that matters . . . it is what you see."

thoreau

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Gujja, Ranjit

From: Glenn Mesman <glenn@hmiminc.com>
Sent: Tuesday, October 22, 2013 8:34 AM
To: Gujja, Ranjit
Subject: RE: Tideflex Check Valve and Gate Valves
Attachments: PECtechBroch.pdf

Budget \$21K for a standard gate valve. Have you considered using a quarter-turn plug valve? Same budget number plus the guys would probably prefer less turns to open/close. See attached. I am traveling this week and will get to emails at the end of the day.

Glenn

From: Gujja, Ranjit [mailto:ranjit.gujja@urs.com]
Sent: Sunday, October 20, 2013 11:24 AM
To: Glenn Mesman
Subject: RE: Tideflex Check Valve and Gate Valves

Glenn,

Thanks for the quotes. I need quote for standard gate valve.

From: Glenn Mesman [mailto:glenn@hmiminc.com]
Sent: Friday, October 18, 2013 5:59 PM
To: Gujja, Ranjit
Subject: RE: Tideflex Check Valve and Gate Valves

Ranjit,

I wanted to call you but I had to leave the office. What quantities are we talking about...more equals lower prices. If you just need budget numbers see below.

42" Elliptical...@ \$ 24,746.00/each + freight

36" TF-1 standard slip-on...@ \$ 9,984.00/each + freight

Do you need pricing on a knifegate valve? Or standard gate valve? See attached cutsheet of knifegate.

Call if you have any questions. Sorry for the delay.

Regards,

Glenn Mesman
HMIM, Inc.
1785 Hwy 59
Mandeville, LA 70448
985-626-1072 Office
985-320-3849 Cell
985-626-9169 Fax

Proudly Representing the Manufacturers Listed Below

****links below bring you directly to the manufacturers website

Products for the Louisiana and Mississippi Sales Territory

DeZurik (plug, butterfly, knifegate valves) www.dezurik.com

APCO Valve & Primer (cushioned check valves, air valves, surge relief valves) www.apcovalves.com

Rotork Controls (non-intrusive motor operators) www.rotork.com

Red Valve Company, Inc. (pinch valves, exp jnts, pressure sensors) www.redvalve.com

Tideflex Technologies (duckbill check valves, effluent diffusers) www.tideflex.com

Flow Control Technologies (sluiceways, slidegates, stop-logs) www.flowcontroltech.com

Hilton Valve Company (bonneted and bonnetless knifegates) www.hiltonvalve.com

K-TORK Vane Actuators (high performance 1/4 turn pneumatic actuators) www.ktork.com

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- 3) 24" Gate Valves

Glenn,

Please provide me a quote for the above items. This is for Maurepas project.

Ranjit Gujja
URS
504-837-6326

From: Glenn Mesman [<mailto:glenn@hmiminc.com>]
Sent: Tuesday, November 23, 2010 12:10 PM
To: Ranjit_Gujja@URSCorp.com
Subject: Tideflex Check Valve Specification

Ranjit,

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Regards,

Glenn Mesman

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1785 Hwy 59

Mandeville, LA 70448

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Red Valve Company, Inc. (pinch valves, exp jnts, pressure sensors) www.redvalve.com

Tideflex Technologies (duckbill check valves, effluent diffusers) www.tideflex.com

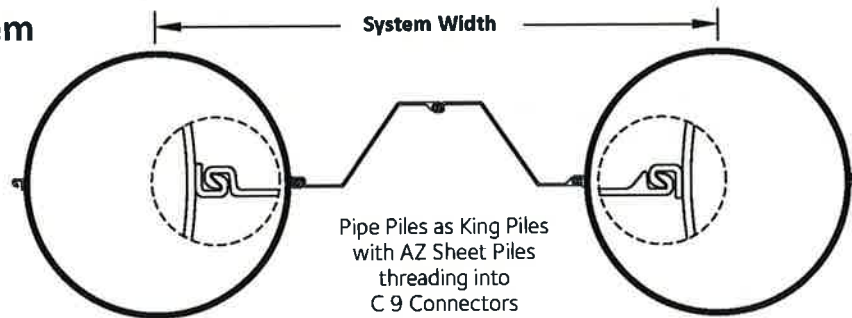
Flow Control Technologies (sluiceways, slidegates, stop-logs) www.flowcontroltech.com

Hilton Valve Company (bonneted and bonnetless knifegates) www.hiltonvalve.com

Pipe-Z

Pipe-Z Combined Wall Systems

Pipe AZ System



Pipe AZ System Combination Sample*	Sheet Pile Section	PROPERTIES OF PIPE PILE			PROPERTIES OF COMBINED WALL							COATING
		Outside Diameter In mm	Wall Thickness in mm	Pipe Weight lb/ft kg/m	System Width in mm	System Inertia in ⁴ /ft cm ⁴ /m	Section Modulus in ³ /ft cm ³ /m	WEIGHT (Sheet Pile Length/Pipe Length)			Cross Sectional Area in ² /ft cm ² /m	Both Sides of Wall ft ² /m m ² /m
								100% lb/ft ² kg/m ²	80% lb/ft ² kg/m ²	60% lb/ft ² kg/m ²		
PAZ24/AZ14-770	AZ14-770	24 609.6	0.250 6.4	63.47 94.5	87.13 2213.10	363 49530	23.5 1263.4	25.2 122.9	21.9 106.9	18.6 90.8	6.89 145.9	18.5 5.6
PAZ24/AZ19-700	AZ19-700	24 609.6	0.375 9.5	94.71 140.9	81.62 2073.10	608 82959	38.7 2080.6	31.6 154.1	28.0 136.9	24.5 119.7	8.74 185.0	18.5 5.6
PAZ24/AZ26-700	AZ26-700	24 609.6	0.500 12.7	125.61 186.9	81.62 2073.10	868 118464	54.0 2903.2	40.6 198.4	36.2 176.8	31.8 155.1	11.40 241.3	18.9 5.8
PAZ24/AZ 38-700N	AZ 38-700N	24 609.6	0.625 15.9	156.17 232.4	81.62 2073.15	1212 165536	73.5 3951.6	49.8 243.0	44.4 216.8	39.0 190.7	14.09 298.2	19.8 6.0
PAZ30/AZ14-770	AZ14-770	30 762.0	0.312 7.9	99.02 147.4	93.13 2365.50	597 81457	33.3 1790.3	28.1 137.4	25.1 122.4	22.0 107.3	7.79 165.0	20.1 6.1
PAZ30/AZ19-700	AZ19-700	30 762.0	0.375 9.5	118.76 176.7	87.62 2225.50	836 114217	45.6 2451.6	32.7 159.7	29.4 143.6	26.1 127.6	9.11 192.8	20.1 6.1
PAZ30/AZ26-700	AZ26-700	30 762.0	0.500 12.7	157.68 234.7	87.62 2225.50	1169 159596	62.7 3370.9	42.2 206.3	38.1 186.1	34.0 165.9	11.91 252.1	20.5 6.3
PAZ30/AZ 38-700N	AZ 38-700N	30 762.0	0.625 15.9	196.26 292.1	87.62 2225.55	1581 215898	89.3 4801.0	51.9 253.2	46.9 228.8	41.9 204.4	14.74 311.9	21.4 6.5
PAZ36/AZ14-770	AZ14-770	36 914.4	0.375 9.5	142.81 212.5	99.13 2517.90	989 135070	48.5 2607.5	31.7 154.9	28.8 140.8	26.0 126.7	8.88 188.0	21.6 6.6
PAZ36/AZ19-700	AZ19-700	36 914.4	0.438 11.1	166.32 247.5	93.62 2377.90	1299 177403	62.5 3360.2	36.7 179.2	33.6 164.2	30.5 149.2	10.32 218.4	21.6 6.6
PAZ36/AZ26-700	AZ26-700	36 914.4	0.500 12.7	189.75 282.4	93.62 2377.90	1588 216868	74.5 4005.4	43.7 213.1	39.8 194.2	35.9 175.4	12.35 261.5	22.1 6.7
PAZ36/AZ 38-700N	AZ 38-700N	36 914.4	0.750 19.1	282.62 420.6	93.62 2377.95	2379 324804	111.9 6016.1	59.6 291.0	54.9 268.2	50.3 245.3	17.05 360.8	22.9 7.0
PAZ42/AZ14-770	AZ14-770	42 1066.8	0.438 11.1	194.38 289.3	105.13 2670.30	1589 217005	69.1 3715.0	35.8 174.8	33.1 161.5	30.4 148.2	10.10 213.9	23.2 7.1
PAZ42/AZ19-700	AZ19-700	42 1066.8	0.500 12.7	221.82 330.1	99.62 2530.30	1993 272215	85.4 4593.0	41.2 201.0	38.3 186.9	35.4 172.8	11.66 246.8	23.2 7.1
PAZ42/AZ26-700	AZ26-700	42 1066.8	0.625 15.9	276.44 411.4	99.62 2530.30	2555 348961	108.1 5811.8	51.5 251.3	47.8 233.5	44.2 215.8	14.68 310.7	23.7 7.2
PAZ42/AZ 38-700N	AZ 38-700N	42 1066.8	0.750 19.1	330.72 492.2	99.62 2530.35	3188 435375	133.1 7155.9	61.8 301.8	57.4 280.3	53.0 258.9	17.72 375.1	24.5 7.5

* Additional combinations are available upon request.

Renschen, Steven

From: Roule, David [David.Roule@hwy-tech.com]
Sent: Tuesday, November 24, 2009 2:01 PM
To: Renschen, Steven
Subject: FW: [Image File] david,BATOBROUGE, #987

Attachments: BATOBROUGE20091124134115.pdf



BATOBROUGE2009
1124134115.pdf (...)

Here is the price list you requested.

Thanks
David Roule
Highway Technologies (225) 929-9070

-----Original Message-----

From: batonrouge@hwy-tech.com [mailto:batonrouge@hwy-tech.com]
Sent: Tuesday, November 24, 2009 1:41 PM
To: Roule, David
Subject: [Image File] david,BATOBROUGE, #987

FROM: Highway Technologies
Image data has been attached to
the E-Mail.

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Rental Rates

Item	Daily		Weekly		Monthly
Type I barricade (w/o light)	\$2.50		\$7.50		\$22.50
Type III barricade (flash/SS)	\$10.00		\$30.00		\$90.00
Signs	\$3.35		\$10.00		\$30.00 -
Sign Stands	\$2.50		\$7.50		\$22.50 -
Grabber Cones	\$2.00		\$6.00		\$18.00 -
Plastic Drums (barrels)	\$2.50		\$7.50		\$22.50
Cones (non refl) 18" or 24"	\$1.00		\$3.00		\$9.00
Reflective cones 24" or 30"	\$1.00		\$3.00		\$9.00
YZK barricade light (flash)	\$1.65		\$5.00		\$15.00
Type B light	\$5.00		\$15.00		\$45.00
U-channel Posts	\$0.80		\$2.70		\$8.10
Barrier Clamp	\$70.00		\$210.00		\$630.00
Arrow Board	\$25.00		\$175.00		\$750.00
Message Board	\$250.00		\$750.00		\$2,250.00
Attenuator Truck (no driver)	\$400.00		\$1,200.00		\$3,600.00
Driver (attn. driver) Per HR	\$75.00				

\$4000 deposit on arrow boards for non-contractors

TELEPHONE BID

TYPE WORK

DATE

11-7-09.

CONTRACT

TITLE

JOB

LPU 109.02a

PHONE

504.949-7571

FIRM

PONTCHARTRAIN MARSHALL

BID INCLUSIONS	DELIVERED	ERECTED	TOTAL BID
NO. 57 STONE 1.35 TN/CY			27.00/TN
+ TAX			
+ HAUL			
~ 5% SWELL FACTOR			
SAND - RIVER \$5.00/TON			
1.40 TN/CY			
STEVE			

DOES QUOTATION INCLUDE THE FOLLOWING:

If No is checked, determine the following:

State & Local Sales Taxes	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Material Value							
Delivery to the Job Site	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Weight							
Complete Erection	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Quantity							
Complete Section as per Specifications	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Describe Below							

EXCLUSION AND QUALIFICATIONS

ADDENDA:

DELIVERY:

RECEIVED BY:

AKO

Pendleton, David

From: Carpenter, Brian
Sent: Thursday, November 12, 2009 2:10 PM
To: Pendleton, David; Olsen, Michael
Subject: FW: New Orleans Levee Geotextile

Here is the other fabric quote I received this week. The separator is much cheaper here but I would stick with pricing the expensive supplier. This project is looking less attractive all the time, I doubt it will go cheap.

Brian Carpenter
Project Controls Manager
JACOBS

6688 N. Central Expressway, Suite 400, MB-13
Dallas, TX 75206
214-696-3499 Fax
214-424-8530 Direct
972-465-0890 Cell

From: Mark Chaput [mailto:m.chaput@tencate.com]
Sent: Monday, November 09, 2009 2:25 PM
To: Carpenter, Brian
Subject: Re: New Orleans Levee Geotextile

706-693-1810

Brian,

Below is the information you requested. The lead time estimates are somewhat conservative and depending on some of the factors that we discussed the lead times may be able to be shortened. We inventory a healthy supply of the separator geotextile, so the delivery schedule can easily be modified for that product.

Separator Geotextile

Our cost is \$0.82 / sy for 12.5' x master rolls.

We have selected 12.5' wide product simply because we have more looms to run at this width. Can do up to 17' feet wide if this is an issue.

Add \$0.25sy for fabrication

Reinforcement Geotextile

Type 1: Our cost is \$6.25 / sy for 15' wide x master rolls

Type 2: Our cost is \$3.75 / sy for 15' wide x master rolls

Add \$0.35sy for fabrication

Lead time

Based on receiving order on Jan. 27th, this is an estimated lead time without fabrication (fabricated panels would require 1 to 2 weeks of sewing):

Separator Geotextile (1,800,000 sy)

- Start delivery week of Feb. 24th
- deliver 100,000 sy per week for first four weeks
- deliver 150,000 sy per week for the following 10 weeks

11/19/2009

Pendleton, David

From: Carpenter, Brian
Sent: Sunday, November 08, 2009 9:01 PM
To: Pendleton, David
Subject: FW: Geotextile Fabric, Levee 109.02a

FYI, Some Fabric Pricing

-----Original Message-----

From: Mike Morgan [mailto:memorgan@hueskerinc.com]
Sent: Fri 11/6/2009 1:59 PM
To: Carpenter, Brian
Cc: Slothspeich@Hueskerinc. Com; Mike Clements
Subject: Re: Geotextile Fabric, Levee 109.02a

Brian,

I'm going to present some options for the LPV 109.02a project.

Material that meets the 2 foot overlap allowance but does not meet the ultimate cross machine strength as written in project specification:

Type 1 reinforcement:

-Comtrac 300.50 (27,508 yd² in stock - charlotte, NC with 2 day delivery to New Orleans) @ \$3.96/yd² FOB New Orleans to the project contractor.

-Stabilenka 300.45 (16,744 yd² in stock - Gescher, Germany with 4 week delivery to New Orleans) @ \$3.96/yd² FOB New Orleans to the project contractor.

-Stabilenka 400.50 (59,801 yd² in stock - Gescher, Germany with 4 week initial delivery to New Orleans) @ \$5.18/yd² FOB New Orleans to the project contractor.

-Remaining quantity would have to be manufactured as Comtrac 300.50 with 8-10 week initial delivery to New Orleans @ \$3.96/yd² FOB New Orleans to the project contractor.

Type 2 reinforcement

-Stabilenka 150.45 (143,523 yd² in stock - Gescher, Germany with 4 week initial delivery to New Orleans) @ \$2.64/yd² FOB New Orleans to the project contractor.

-Remaining quantity would have to be manufactured as Comtrac 150.45 with 8-10 week initial delivery to New Orleans) @ 2.64/yd² FOB New Orleans to the project contractor.

Material that meets the specification as written and could be used seamed or overlapped:

Type 1 reinforcement

-Comtrac 300.70 with 8-10 week initial delivery to New Orleans @ \$4.15/yd² FOB New Orleans to the contractor.

Type 2 reinforcement

-Comtrac 150.70 with 8-10 week initial delivery to New Orleans @ \$2.83/yd² FOB New Orleans to the contractor.

I am discussing options for separator fabric to meet the project specifications with local (Baton Rouge) distributor and will get back with more information ASAP. I hope this helps. I will be out of the office the week of 11/9/09. You can contact Steve Lothspeich at the office or Mike Clements (770-499-9170) with questions or comments during that time.

Thanks Brian,

Mike Morgan
Product Manager
Huesker, Inc.

11/19/2009



December 2, 2009

Michael Olsen, CPE
Jacobs North American Infrastructure
St. Louis, MS

Projects: Design Work Packages - LPV111.01 12A and 12B, LPV111.01 11B, LPV111.01 CTU #6,
LPV111.03 Tie-In, LPV109.02a, LPV109.02b

Mr. Olsen:

In reference to the project reference above, it is a pleasure to provide pricing for processed clay.

Our pricing is based upon supplying and delivering clay material measured by LVM (loose volume truck measurement) delivered to the jobsite. JLB will be providing clay from Pearlinton Dirt, LLC as an approved "Contractor Furnished Clay Source" through the United States Army Corps of Engineers New Orleans District Borrow Team. JLB anticipates delivering approximately 3,150,000 CY LVM upon a formal written Notice to Proceed. Clay will be delivered within Optimum Moisture Content. Delivery of clay can begin within 10 days of a formal written Notice to Proceed. Our pricing excludes:

- Any and all testing other than the pit operations
- Maintaining haul roads at the project site
- Dust Control at the project site
- Traffic Control at the project site
- Signage at the project site
- Wash down of trucks upon leaving the project site
- SWPPP at the project site
- Surveying or construction layout/staking at the project site
- Tax and Bonds
- Installation of clay at project site

Use 25% - 35%
SWELL FACTOR
ON BCY

Price: \$16.00 per Cubic Yard (LVM) Loose Volume Truck Measurement

This pricing is only good for this project and only valid for 30 days and is based upon a national average diesel fuel price of \$2.60 per gallon. If diesel fuel goes above this price, an adjustment must be made to the price due to the large volume of transportation to be done.

Again, thank you for the opportunity to quote this project. Feel free to contact me for any questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'Johnathon Damiens', is written over the word 'Sincerely,'.

Johnathon Damiens
Vice President

P.O. BOX 779 * 5098 A AVENUE, SUITE A* LONG BEACH, MS 39560
PHONE (228) 863-0303 Fax (228) 863-4469

TELEPHONE BID

TYPE WORK

Levee Constr.

DATE

9/30/09

Dennis

CONTRACT

Tell Hill

in New Orleans

TITLE

JOB

New Orleans LPV 109

PHONE

281 668-1870

FIRM

Hayward Baker

BID INCLUSIONS	DELIVERED	ERECTED	TOTAL BID
<i>Wet Soil Mixing</i>			<i>60¢/cy</i>
<i>Dry Soil Mixing</i>			<i>80¢/cy</i>
<i>* Doing onsite work</i>			
<i>* Budget Pricing</i>			

DOES QUOTATION INCLUDE THE FOLLOWING:

If No is checked, determine the following:

State & Local Sales Taxes	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Material Value															
Delivery to the Job Site	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Weight															
Complete Erection	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Quantity															
Complete Section as per Specifications	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Describe Below															

EXCLUSION AND QUALIFICATIONS

ADDENDA:

DELIVERY:

RECEIVED BY:

SFKL

Renschen, Steven

From: Ronnie R Hebert [gumbo@gatorhook.com]
Sent: Monday, October 05, 2009 1:52 PM
To: Renschen, Steven
Cc: Lakhbir Chauhan P. E. (Lakhbir_Chauhan@URSCorp.com); Brady Sessums; Daniel Hebert; Melissa Clouatre; Ronnie R Hebert
Subject: FW: BAYOU SAVAGE RE-BUILD PROJECTS updated BUDGET PRICING PER LATEST REQUIREMENTS
Importance: High

Steve,

Please read below for pricing. We are working on the other pump. Thanks.

SINCERELY,

Ronnie Hebert

**RONNIE HEBERT, P.E.
PRESIDENT
ENVIRONMENTAL TECHNICAL SALES, INC.
7731 OFFICE PARK BLVD.
BATON ROUGE, LA. 70809**


**TEL: (225) 295-1200
FAX: (225) 295-1800
CELL: (225) 936-6161
E-MAIL: gumbo@gatorhook.com**

From: Steve McIntyre [mailto:smcIntyre@pattersonpumps.com]
Sent: Monday, October 05, 2009 1:35 PM
To: Ronnie R Hebert
Cc: Melissa Clouatre
Subject: RE: BAYOU SAVAGE RE-BUILD PROJECTS updated BUDGET PRICING PER LATEST REQUIREMENTS
Importance: High

Ronnie;

I have finished the Budget work on the 33x42SAFV's and due to the lateness of the hour I wanted to get it into your hands for forwarding on to the Engineers involved.

DESCRIPTION:

 **QTY - 2,** Patterson model 33x42SAFV Vertical Mixed Flow pumps rated for approximately 34,000gpm against 13.6ft with a secondary (Prime Point), of approximately 22,500gpm against 31.5ft. The pumps are quoted in accordance with original pump materials of construction and will be supplied with Formed Suction Intakes (type

10/5/2009

10), Right Angle gear drive, Torsional resilient couplings and shafting (engine to gear), diesel engine with radiator cooling, 2-Gallon automatic oiler with heater, gearbox to pump shafting/coupling arrangement, necessary shaft guards, mounting sole plates and below grade discharge elbow. The pump is designed to fit into the same elevations as the original units for FSI elevation location to Discharge pipe elevation. Unloading, installation, rigging, etc by others. Patterson will provide up to 2-days on site per unit for installation check and start-up assistance. Budget price does include freight to first point of delivery in the New Orleans area.

BUDGET PRICE \$285,000.00 each.

NOTE: Budget price does not include any sump or pump model testing. If required please advise for additional cost quote..

I hope to have the smaller pumps done by the end of the day but cannot be certain. I will provide it as soon as I can get it into your hands.

Best Regards,
Steve

From: Renschen, Steven [mailto:Steven.Renschen@jacobs.com]
Sent: Monday, October 05, 2009 8:45 AM
To: Steve McIntyre
Cc: Ronnie R Hebert; Melissa Clouatre; Lakhbir_Chauhan@URSCorp.com
Subject: RE: BAYOU SAVAGE RE-BUILD PROJECTS

Steve

You will have to verify specific w/ Lakhbir — but understand from him nothing has changed from what you had given him before.

However at PS #2 -- there is only 1 required (vs 2ea as shown below)

Can I expect something today? -- I am submitting this later today and now have plugged the pricing you gave to Lakhbir a couple months ago.

Regards,

Steve Renschen
Jacobs
501 North Broadway
St. Louis, MO 63102
O: 314 335-4782
C: 314 616-2864
F: 314 335-5112

From: Steve McIntyre [mailto:smcintyre@pattersonpumps.com]
Sent: Monday, October 05, 2009 8:33 AM
To: Lakhbir_Chauhan@URSCorp.com; Renschen, Steven
Cc: Ronnie Hebert; mclouatre@etec-sales.com
Subject: RE: BAYOU SAVAGE RE-BUILD PROJECTS

Lakhbir & Steven;

I apologize for not getting this to you any sooner. As I advised you both, I was up to my eyeballs in a major bid and it took until late Friday to finish up. I am now pulling this together for your.

As a follow up from our conversations, I want to confirm what I am working on for you on this project. Per our conversation we are to quote complete new pumps with FSI, Gearbox, Engine, and engine controls, shafting and

10/5/2009

guards, all accessory items in accordance with the scope of supply from the original orders s/n's AF-C05600-001, 002 - 33X42AFV Pumps (original design point of 34,000GPM @ 10Ft); and AF-C02825-001, 002 - 30X36AFV Pumps (original design point of 22,000GPM @ 9.5Ft).

We are to supply pumps with the following design criteria:

PUMP STATION 1;

QTY-2, 34,000GPM @ 13.6Ft Design point with a Priming Point of approximately 22,500GPM against 31.5Ft (please confirm)

PUMP STATION 2;

QTY-2, 22,000GPM @ 12.5Ft Design point with a Priming Point of approximately 16,000GPM against 27.7Ft (please confirm)

The new pumps are to fit into the existing elevations of the original units, be self-priming, and mounting is to be as close to same dimensionally as possible.

PUMP STATION 1;

Patterson 33x42SAFV pumps ref preliminary pump outline drawing AD-7820-MOD attached

PUMP STATION W;

Patterson 26x36SAFV pumps ref preliminary pump outline drawing AD-7581-MOD, and D-7586 mod attached

I am re-checking equipment budget prices from engine and gearbox vendors and will provide budget prices as soon as I can get them worked up for you.

Best Regards,

Steve McIntyre
Custom Pump Regional Sales Manager
Patterson Pump Company
smcintyre@pattersonpumps.com
706-297-2877 direct dial
706-886-2101 main line
706-886-0023 fax

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10/5/2009

TELEPHONE BID

TYPE WORK

SOIL TREATMENT

DATE

12-16-09

CONTRACT

JOB

LPV

TITLE

TODD LAWSON

PHONE

985-537-6737

FIRM

RACELAND AG SERVICE

BID INCLUSIONS

SULFUR

DELIVERED

ERECTED

TOTAL BID

LINE & ~~BURRER~~ SOIL TREATMENT

USES TRUCKS OR TRACTORS TO SPREAD

VERY LITTLE SULFUR USED IN N.O. AREA

\$560

\$14/50 lb only ~~\$1200/TON~~ SULFUR

4 ~~\$1200/TON~~ /TON LINE

\$192

TOTAL

INSTALLED

COST.

\$200 SPREADER WAGON

EQUIP ONLY

DOES QUOTATION INCLUDE THE FOLLOWING:

If No is checked, determine the following:

State & Local Sales Taxes

☒ Yes ☐ No

Material Value

Delivery to the Job Site

☒ Yes ☐ No

Weight

Complete Erection

☒ Yes ☐ No

Quantity

Complete Section
as per Specifications

☐ Yes ☐ No

Describe Below

EXCLUSION AND QUALIFICATIONS

ADDENDA:

DELIVERY:

RECEIVED BY:

TELEPHONE BID

TYPE WORK

P. Sta Discharge Pipe

DATE

9/30

CONTRACT

Monthly

TITLE

JOB

LPV 109.02a

PHONE

(214) 676-9485

FIRM

Hanson Pipe

BID INCLUSIONS

DELIVERED

ERECTED

TOTAL BID

Spiral welded STL

36"

140' / 1 ft

42"

165' / 1 ft

DOES QUOTATION INCLUDE THE FOLLOWING:

If No is checked, determine the following:

State & Local Sales Taxes

☐ Yes

☐ No

Material Value

Delivery to the Job Site

☐ Yes

☐ No

Weight

Complete Erection

☐ Yes

☐ No

Quantity

Complete Section
as per Specifications

☐ Yes

☐ No

Describe Below

EXCLUSION AND QUALIFICATIONS

ADDENDA:

DELIVERY:

RECEIVED BY:

Olsen, Michael**From:** Brian McHale [bmchale@jdfields.com]**Sent:** Tuesday, April 28, 2009 4:19 PM**To:** Olsen, Michael**Subject:** RE: LPV 101 Phase 2 - Piles

-985-234-4567

Michael,

BUDGET PRICING ONLY

J.D. Fields & Co. is pleased to offer the following buget quotation per our quoted terms and ocnditions:

- 1) 94,500LF New HP14"x73# Steel Pile, A572 Grade 50, Bare
(Supplied in Truckable lengths up to 70' long)
Price: \$40.00LF

- 2) 705ea HP14" Pile Splicers
Price: \$137.50ea

- 3) 575LF New HP12"x53# Steel Pile, A572 Grade 50, Bare
(Supplied in truckable lengths up to 70' long)
Price: \$29.25LF

- 4) 27ea HP12" Pile Splicers
Price: \$114.80ea

- 5) 20,248SF New PZ22 Steel Shhet Pile, A572 Grade 50, Bare
(Supplied in truckable lengths up to 70' long)
Price: \$21.50SF

- 6) 30,647SF New PZ27 Steel Sheet Pile, A572 Grade 50, Bare
(Supplied in truckable lengths up to 70' long)
Price: \$24.00SF

PZ 40 20⁸⁰/1F

FOB New Orleans, LA

Stock material is subject to prior sale with price in effect at time of order. We reserve the right to refuse a partial order and to adjust or withdraw our quotation at anytime prior to the acceptance of an order. All material is offered price in effect at time of shipment.

Our quotation is subject to prior commitment or subject to available rolling.

Terms are net 30 days from invoice date upon credit approval.

No taxes have been included in our quotation.

The standard manufacturers warranty will apply. No other warranty is expressed or implied. Manufacturers mill test reports will be furnished on all items.

Thanks, brian

4/28/2009

Olsen, Michael

From: Brian McHale [bmchale@jdfields.com]
Sent: Wednesday, April 29, 2009 9:40 AM
To: Olsen, Michael
Subject: FW: LPV 101 Phase 2 - Piles

Michael,

Please add the following to the prices below for 16mil Coal tar Epoxy C-200.

- 1) HP14x73 Top 15'
Add \$17.95LF
- 2) PZ22 Top 25' both sides of pile
Add \$12.00SF
- 3) PZ27 Top 25' both sides of pile
Add \$12.00SF

The same terms and conditions will apply as quoted below.

Thank, Brian

Brian D. McHale

J.D. Fields & Co.

bmchale@jdfields.com

985-234-4567

Fax 985-234-4572

Cell 504-453-8117

From: Brian McHale
Sent: Tuesday, April 28, 2009 4:19 PM
To: 'Olsen, Michael'
Subject: RE: LPV 101 Phase 2 - Piles

Michael,

BUDGET PRICING ONLY

J.D. Fields & Co. is pleased to offer the following buget quotation per our quoted terms and ocnditions:

- 1) 94,500LF New HP14"x73# Steel Pile, A572 Grade 50, Bare

5/14/2009

DATE 9/13/09

A Facsimile from the desk of >>>

JANET HOOD
ACCOUNT CLIENT SALES MANAGER
BAKER READY MIX CONCRETE

Company name: Jacobs Eng.

Attn: Michael

Phone#: _____ Fax#: _____

Re: Mix design for Pontchartrain Project No. of pages: _____

Comments: _____

The cost for the 100630 is
\$ 115 per Cy.

Shakes!

Mix design + breaks

Regards,

Jan

JANET HOOD
BAKER READY MIX
2800 FRENCHMEN ST.
NEW ORLEANS, LA 70122
PHONE: 504-947-8081
FAX: 504-947-8085
CELL: 504-331-7496
jhood@bakerreadymix.com

TELEPHONE BID

TYPE WORK TESTING

DATE JUN 2009
CONTRACT

JOB LPV

TITLE JDM WESLING
PHONE 210-653-9615

FIRM FUGRO TESTING SERVICES

BID INCLUSIONS	DELIVERED	ERECTED	TOTAL BID
TESTING DURING CONSTR.			
- SOIL			
- GRADULAR			\$12,500/MO
- CONC			
TECH, FULL TIME			

DOES QUOTATION INCLUDE THE FOLLOWING:

If No is checked, determine the following:

State & Local Sales Taxes	<input type="checkbox"/> Yes <input type="checkbox"/> No	Material Value									
Delivery to the Job Site	<input type="checkbox"/> Yes <input type="checkbox"/> No	Weight									
Complete Erection	<input type="checkbox"/> Yes <input type="checkbox"/> No	Quantity									
Complete Section as per Specifications	<input type="checkbox"/> Yes <input type="checkbox"/> No	Describe Below									

EXCLUSION AND QUALIFICATIONS

ADDENDA:

DELIVERY:

RECEIVED BY: MDO



January 26, 2010

Jacobs

Attn: Steve Renschen

PH: 1-314-335-4762

FAX: 1-314-335-5112

RE: Monthly Rental Rates for the Temporary Pumping System – LPV 111 Project.

We are pleased to offer for your consideration the following equipment:

Based on a Maximum Flow of 22,000 GPM @ Maximum Head of 12.5'/per Pump Set

Qty: (1) **MWI Model #HAC330** – 30" Hydraulic Submersible Pump-Set Skid-Mounted w/ Integral Lifting Bracket, Diesel Driven w/ 345 HP Water-Cooled Engine. (Primary)

(1) **MWI Model #HAC330** – 30" Hydraulic Submersible Pump-Set Skid-Mounted w/ Integral Lifting Bracket, Diesel Driven w/ 345 HP Water-Cooled Engine. (Stand-By)

(2) 50' Sets of Quick Connect Hydraulic Hoses.

(2) Flanged 45 Degree Angled Elbows.

350' Fusible HDPE Pipe

(2) 4" Vents.

Standard Monthly Rental Rate: \$28,290.00 (Plus Applicable Taxes)

Please allow 1 week for Delivery following receipt of an approved Purchase Order. Freight is included in the above pricing. Quote is Valid for 30 Days. Terms are Net 30 Days.

Once again, we appreciate the opportunity to quote you on the above equipment and we look forward to your favorable consideration. Please feel free to call, should you have any questions.

Best Regards,
Louis "Booga" Klingman

Sales•Rental•Service
9074 Park Ave.
Houma, LA 7036
PH: 985-851-7077 - FAX: 985-876-9854

TELEPHONE BID

DATE 1/19/10
 TYPE WORK Flex-Float CONTRACT Trent
 TITLE _____
 JOB LPV 111 - Temp. P. Sta PHONE (800) 877-1706
 FIRM Flexifloat - Robishaw Engr'g - Trent

BID INCLUSIONS	DELIVERED	ERECTED	TOTAL BID
H-50 Dual Float 22"/day ea 7 1/2' x 15' 7 1/2' x 30' 44"/day			Recommends H-50's using 2 stability for
Spud walk / Spuds 25"/ea/day probably need 2 / set-up			
2 @ Houston delivery 2 - 7 1/2' x 30'	1 - 7 1/2' x 15'		Plotted
Assume 2 trips	@ 1500"/ea		

DOES QUOTATION INCLUDE THE FOLLOWING:

If No is checked,
determine the following:

State & Local Sales Taxes	<input type="checkbox"/> Yes <input type="checkbox"/> No	Material Value							
Delivery to the Job Site	<input type="checkbox"/> Yes <input type="checkbox"/> No	Weight							
Complete Erection	<input type="checkbox"/> Yes <input type="checkbox"/> No	Quantity							
Complete Section as per Specifications	<input type="checkbox"/> Yes <input type="checkbox"/> No	Describe Below							

EXCLUSION AND QUALIFICATIONS

Rental Cost H-50 4 x 22 = 88
 spuds 4 x 25 = 100
 188
 x 120 days (9 months)
 22,560
 ADDENDA: Delivery + 3,000
 DELIVERY: 25,560 / 120 = 213"/4

RECEIVED BY: SR

Renschen, Steven

From: Fromherz, Fritz [FromherzF@contechbridge.com]
Sent: Wednesday, February 10, 2010 10:57 AM
To: Renschen, Steven
Cc: Bolduc, John
Subject: Quotation-CONSPAN-CTU#6 Project
Attachments: Corrected-CTU #6 Quote - Archer Western - 12-15-09 #2.pdf

Steve:

The most recent quotation we have issued for the CTU#6 CON/SPAN crossing is attached. This quotation was provided to Archer Western on 12-15-09. If you have any questions please let me know. Thank you, FRITZ

Fritz Fromherz
Project Consultant
Contech Construction Products
LA and MS
504-430-5422

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2/10/2010

Quote # QUO-21116-PQ012H				DRAFT DOCUMENT	
Date	12/15/2009	Account Name	Archer Western Contractors	Reply-To	
Quote #	QUO-21116-PQ012H	Contact Name	Archer Western Contractors	Contech Rep.	Jason Chamberlin
Project Name	CTU#6 Pump Station Pipe Crossing	Phone	(817) 640-3898	Address	Irving, TX, 75063
Project #	407777	Fax		Phone	817-403-3667
		Email		Fax	
				Email	ChamberlinJ@contech-cpi.com

CONTECH'S offer to sell the products described in this quotation is expressly conditioned upon Buyer's assent to the CONTECH Conditions of Sale ("CONTECH COS") included herewith and/or viewable at www.contech-cpi.com/cos. A valid tax exemption certificate must be issued to CONTECH or sales tax will be added.

Item #	Description	Pieces	Quantity	Extended Unit Price	Unit	Unit Total
	2 - 12' Span x 6.75' Rise Precast CON/SPAN Bridge Units (7' long) 2 - 2' tall Precast headwalls 4 Precast Wingwalls (2 - 50' long, 2 - 54' long) ranging in height from 9.17' to 4.17' tall Heaviest Pick Weight : 15 tons	1.00	1.00	\$105,300.00	EA	\$105,300.00
						Total
						\$105,300.00
						(Tax not included) Net Total
						\$105,300.00

Standard Notes

1. All orders must be shipped within 30 days of manufacture or a storage charge applies equal to a maximum of 5% per month of the selling price of the stored material.
2. One or more of the products quoted herein is nonstandard and not returnable. A down payment equal to 1/3 of the item's total is required and must be received prior to commencement of any performance by CONTECH.
3. Prices are f.o.b. origin with freight allowed to the jobsite with unloading by others at a truck accessible location.
4. The estimate lead time for submittal drawings is 3-4 weeks. Approval time is outside of CONTECH's control. The estimated manufacturing lead time for this material is 10-12 weeks from the receipt of approved submittal documents.
5. This quotation expires 30 days from the date shown. Prices are firm for shipment within 90 days of the date of quotation and are subject to a maximum escalation of 8% for each 30 days thereafter.

Scope Of Work

Con/Span

CON/SPAN pricing includes precast concrete units, associated parapet headwalls and wingwalls with mounting hardware (if applicable and specified), joint sealant material, masonite shims, filter fabric and perforated drainage. CONTECH will provide installation drawings, shop drawings, structural calculations upon request, and on-site consultation during installation.

Pricing does not include any site preparation, foundation work, or installation of any kind. As part of the construction process, the contractor is to perform the items listed below in accordance with the installation drawings:

1. Construct cast-in-place foundations
2. Unload and set structure utilizing crane
3. Grout the unit legs and wingwalls into the keyway
4. Apply all joint sealing material
5. Excavate for and backfill the structure

Quote # QUO-21118-PQ012H

DRAFT DOCUMENT

PAYMENT TERMS ARE 1/2%-10, NET 30 DAYS FROM DATE OF INVOICE UNLESS MATERIAL IS OTHERWISE NOTED AS NON-STANDARD ABOVE. IF NON-STANDARD, PAYMENT TERMS ARE 1/3 AT ORDER ACCEPTANCE AND PRIOR TO START OF PRODUCTION, 2/3 NET 30 DAYS FROM DATE OF INVOICE. THIS OFFER IS SUBJECT TO CREDIT APPROVAL. PRICES QUOTED APPLY ONLY TO THE REFERENCED PROJECT AND ARE IN EFFECT FOR 30 DAYS FROM THE DATE OF QUOTATION. SELLER RESERVES THE RIGHT TO ADJUST PRICES AFTER 30 DAYS FROM THE DATE OF QUOTATION BUT THE CONTECH COS REMAIN APPLICABLE. PRICES ARE BASED ON ESTIMATED QUANTITIES SHOWN. IF A DIFFERENT QUANTITY IS PURCHASED, CONTECH RESERVES THE RIGHT TO ADJUST THE PRICES. THIS QUOTATION CONTAINS THE ENTIRE AGREEMENT WITH RESPECT TO PURCHASE AND SALE OF PRODUCTS DESCRIBED ABOVE AND SUPERSEDES ALL PREVIOUS COMMUNICATIONS. BUYER'S SIGNATURE BELOW, DIRECTION TO MANUFACTURE, OR ACCEPTANCE OF DELIVERY OF GOODS DESCRIBED ABOVE, SHALL BE DEEMED AN ACCEPTANCE OF THE CONTECH COS. SELLER EXPRESSLY REJECTS ANY OTHER TERMS AND CONDITIONS. PRICES ARE F.O.B. ORIGIN WITH FREIGHT ALLOWED TO THE JOBSITE WITH UNLOADING BY OTHERS AT A TRUCK ACCESSIBLE LOCATION. THIS QUOTATION IS ISSUED BY CONTECH CONSTRUCTION PRODUCTS INC. FOR ITSELF AND/OR ON BEHALF OF ONE OR MORE OF ITS SUBSIDIARIES, INCLUDING, BUT NOT LIMITED TO, CONTECH STORMWATER SOLUTIONS INC., CONTECH BRIDGE SOLUTIONS INC., KEYSTONE RETAINING WALL SYSTEMS, INC., AND THOMPSON CULVERT COMPANY.

Acceptance		CONTECH CONSTRUCTION PRODUCTS INC.	
WE HEREBY ORDER THE DESCRIBED MATERIAL SUBJECT TO ALL TERMS AND CONDITIONS OF THIS QUOTATION AND IN THE CONTECH COS INCLUDED HERewith AND VIEWABLE AT www.contech-cpl.com/cos		By	XXXXXX
Company	XXXXXX	(O)	XXXXXX
By	XXXXXX	(F)	XXXXXX
Title	XXXXXX	(Cell)	XXXXXX
Date	XXXXXX	Title	XXXXXX

DRAFT

Renschen, Steven

From: Melissa Clouatre [MClouatre@etec-sales.com]
Sent: Tuesday, February 09, 2010 8:44 AM
To: Renschen, Steven
Cc: Ronnie Hebert; Daniel Hebert; Brady Sessums; Melissa Clouatre
Subject: FW: LPV 111 - Pricing Request BAYOU SAVAGE
Importance: High
Attachments: budget proposal BAYOU SAVAGE 12-15-09_v1.pdf

Steven,

It appears this is the price we gave and should be correct.

Attached is the proposal above.

Let us know if you need any further information.

Thanks,

Melissa Clouatre for Ronnie Hebert
ETEC
225-295-1200
225-295-1800 fax

From: Ronnie Hebert
Sent: Tuesday, December 15, 2009 5:10 PM
To: mrieder@walshgroup.com
Cc: Brady Sessums; Daniel Hebert; Melissa Clouatre; Ronnie Hebert; Steve McIntyre; Albert Huber
Subject: FW: LPV 111 - Pricing Request BAYOU SAVAGE
Importance: High

MIKE,

THE BUDGETARY QUOTE AS YOU REQUESTED IS ATTACHED ABOVE WITH TERMS AND CONDITIONS . PLEASE READ CAREFULLY. THE BUDGET PRICE FOR THE PATTERSON PUMP PER THEIR SCOPE AND PROPOSAL IS \$ 473,228.00 EACH THIS DOES NOT INCLUDE ANY TAXES IF APPLICABLE. IF YOU HAVE ANY QUESTIONS , PLEASE DO NOT HESITATE TO CONTACT ME. THANKS.

SINCERELY,

Ronnie Hebert
RONNIE HEBERT, P.E.
PRESIDENT

2/9/2010



Date: December 01, 2009

Proposal No: CSM0912-03

Bid Date: PRELIMINARY BUDGET QUOTE

To: Mike Rieder
Archer Western Contactors

Project: LPV 111
BAYOU SAVAGE NATIONAL WILDLIFE REFUGE
PUMP STATION CTU #6

Gentlemen:

Patterson Pump Company is pleased to provide the following Budget proposal, in accordance with the request for proposals. Patterson is offering ~~1-2~~ Vertical Mixed Flow oil lubricated Pump, mounting sole plate, Engine with Radiator and Silencer, Right Angle Gear (speed reducers), Oil lubricator, Formed Suction Intake; interconnecting shafting and couplings, Discharge is a 36" below grade plain end. The pump is designed to fit into the existing location to replace Patterson Pump currently in service. Pricing includes all required submittal data, Operation and Maintenance Manuals, Dynamic, lateral, and torsional analysis, spare parts, special tools, and field services in accordance with our understanding of the specification requirements. In addition freight is included to first point of delivery New Orleans area.

Other related services and equipment such as Installation of Equipment, alignment of equipment, tools and equipment required for installation and alignment, interconnecting wiring, plant controls, or other electrical or plumbing requirements are the responsibility of others, not Patterson. Such items are not a part of our proposal and are to be provided by Contractor or others. Please review our proposal and advise if we may offer any clarifications.

MECHANICAL

PUMP 22,000 GPM @ 14.5 ft rated condition

- Pump: 1 Patterson model 26X36SAFV, Vertical Mixed Flow Oil lubricated pump rated for 22,000 GPM @ approximately 14.5 Ft. @ 580 RPM.
- Pumps are to be enclosed line shaft design with drip feed oil lubricated bearings
- Pump is provided with 36" below grade discharge - plain end
- Approximate total pump length from mounting platform to bottom of Formed Suction Intake 162 in.
- Driver: Caterpillar Diesel Engine, radiator cooled, skid mounted, local engine controls only.
- Speed Reducer: Deran Model Industrial Gear Drive
- Pump is provided with connecting couplings (pump to gear and gear to engine), mounting sole plate, and Dresser Coupling.
- Pump Performance Testing to be performed at Patterson Pump Company
- Dynamic, Lateral and Torsional Analysis are included.
- Field service in accordance with specification requirements for installation inspection, start-up, and owner/operator training.
- 1-lot special tools with toolbox
- Spare Parts in accordance with specification requirement
- **TOTAL BUDGET PRICE: \$ WILL ADVISE**



FACTORY TESTING

- **Pump Performance Testing:** The pump is subject to Factory testing. Approval and acceptance of performance to be based on pump testing in accordance with specifications.
- **NPSHr:** Values established utilizing prior testing in accordance with specifications.

FIELD SERVICE

- **Start-Up Supervision:** Pump, 1-trips of up to 3-days on-site total duration. Provided by Patterson field services is included to meet the specification requirements for installation supervision-assistance and testing, start-up and training. Additional trips and days are available at published rates.

DOCUMENTATION

- **Warranty:** One Year Warranty from date of start-up is included, not to exceed 18 months from date of shipment for pumps, engines, gearboxes, and motors. Warranty is subject to typical requirements such as proper storage, equipment rotation, protection, lubrication, etc.
- **Submittals:** Electronic and hard copies of submittal data and shop drawings for approval provided approximately 8 to 12 weeks after receipt of acceptable purchase order or signed contract.
- **O & M Manuals:** Electronic and hard copies of O & M manuals to be provided prior to pump shipment.

COMMERCIAL

- **Terms & Conditions:** Patterson Pump Company's standard terms and conditions apply.
- **Delivery:** Shipment of the proposed equipment will take place approximately 26 to 32 weeks after receipt of approved submittals and notice to proceed with production.
- **Freight:** Prices are quoted FOB factory with full freight allowed to the job site. Freight is included to first point of delivery in New Orleans, LA.
- **Items Not Included:** Prices does not include sales tax, off-loading equipment, storage, crane cost or mobilization, rigging required, storage facilities, installation, field painting, field wiring, concrete, concrete design or pump / motor controls other than those specifically noted in the above scope.
- Patterson is a large business. Patterson will act as a supplier on this project and shall not be required to provide a subcontracting plan or related reporting.

CLARIFICATIONS AND EXCEPTIONS

1. PPC was not provided the prime contractor's purchase order for review prior to bid. Therefore, PPC reserves the right to accept, reject, or require modification to, any purchase order issued for the work quoted herein. By submission of this proposal, PPC



does not state unconditional acceptance of the terms and conditions imposed upon the prime contractor under the prime contract documents. Terms and conditions of any purchase order issued by the prime contractor are to be mutually acceptable to both PPC and the prime contractor.

2. **LIQUIDATED DAMAGES;** Patterson takes exception to all provisions related to liquidated damages. Patterson will not be held liable for liquidated damages. IN NO EVENT WILL CONSEQUENTIAL AND/OR LIQUIDATED DAMAGES BE ACCEPTED BY PATTERSON PUMP COMPANY.
3. Please note, Budget proposal is in accordance with Patterson's understanding of 80% specifications and is subject to change once final specifications are reviewed.
4. Please note; Patterson does collect sales taxes for many States. If favored with an order it is imperative that the tax status be clearly identified and if tax exempt a copy of the exemption certificate is to be provided to Patterson at time of order placement.
5. Patterson guarantees pump vibration levels will be less than the maximum allowed by the requirements of the Hydraulic Institute when equipment is properly installed, maintained, and operated.
6. Vendor comments/clarifications to specifications:
TO BE ADDED.
7. Patterson's offer is limited to the items quoted and clarifications noted in this scope of supply. Patterson's scope is based solely on information provided in the specification sections sent to us for review. Patterson will not accept responsibility or liability for any items not clearly shown in this quotation.
8. Patterson is not responsible for the installation or accurate alignment of the proposed equipment. Patterson will verify the installation and alignment prior to Contractor placing grout. The installing contractor shall be responsible for installation and alignment.
9. ***Please note that the increasing costs of copper, steel and various other materials including motors, couplings, etc are pushing the costs of our raw materials up. Due to these rapidly escalating material costs, the pricing herein is firm for thirty days. Upon expiration of the quote, we will be happy to review the pricing and make the appropriate adjustments..***

Thank you for entertaining our quotation. Should you require additional information, please do not hesitate to call.

PATTERSON PUMP COMPANY

Steve McIntyre
Custom Pump Regional Sales Manager
706-297-2877 Direct dial w/voice mail



TERMS AND CONDITIONS

All orders for Patterson products shall be made out to Patterson Pump Company and shall be subject to acceptance by Patterson Pump Company (hereinafter referred to as "The Company") at Toccoa, Georgia.

1. **General:** Except as otherwise agreed to in writing by authorized personnel at the Company's plant, the following terms and conditions shall apply to and form a part of this quotation and any order resulting therefrom and any additional and/or different terms of Buyer's purchase order or other form of acceptance are rejected in advance and shall not become a part of any order resulting from this quotation.
2. **Assignment:** The rights of the Buyer hereunder shall neither be assignable or transferable without written consent of the Company.
3. **Quotations:** Written quotations by the Company become void unless accepted by the Buyer in writing within forty-five (45) days of the date of the quotation.
4. **Price:** Prices for items of equipment covered by this quotation are subject to escalation in accordance with the applicable Bureau of Labor Statistics Indices (BLS) based on the period from the date of quotation to date of shipment.
5. **Terms of Payment:** Unless otherwise specified in this quotation, the terms of payment shall be net 30 days from shipment. If Buyer delays shipment, payments based on date of shipment shall become due as of the date when ready for shipment. If Buyer delays completion of manufacture, the Company may elect to require payment according to percentage of completion. Equipment held for Buyer shall be at Buyer's risk and storage charges may be applied at the discretion of the Company. Accounts past due shall bear interest at the highest rate lawful to contract for but if no limit is set by law, such interest shall be 1 ½% per month. Buyer shall pay all cost and expenses, including reasonable attorney's fees, incurred in collecting same, and no claim, except claims within the Company's warranty of material or workmanship, as stated below, will be recognized unless Buyer notifies the Company in writing within thirty (30) days after date of shipment.
6. **Insolvency of Buyer:** If any proceeding is initiated by or against Buyer under any bankruptcy or insolvency law, or in the judgment of the Company the financial condition of Buyer, at the time the equipment is ready for shipment, does not justify the terms of payment specified, the Company reserves the right require full payment in cash prior to making shipment. If such payment is not received within fifteen (15) days after notification of readiness for shipment, the Company may cancel the order of any unshipped item and require payment of reasonable cancellation charges.
7. **Taxes:** All prices exclude present and future sales, use, occupation, license, excise and other taxes in respect of manufacture, sales or delivery, all of which shall be paid by Buyer unless included in the purchase price at the proper rate or a proper exemption certificate is furnished.
8. **Alteration, Cancellation, Rescheduling and Returned Equipment:** Any order resulting from this quotation cannot be cancelled, altered or rescheduled except with the written consent of the Company and upon terms which will indemnify the Company against all loss occasioned thereby. All additional costs incurred by the Company due to changes in design, specifications, modifications, or revision of any order or product resulting from this quotation must be paid by the Buyer. Goods may be returned only when specifically authorized by the Company. The Buyer will be charged for placing returned goods in a saleable condition, plus any sales expenses then incurred. In addition, the Buyer will pay a reasonable restocking charge as well as all outgoing and incoming transportation costs.
9. **Special Jigs, Fixtures and Patterns:** Any jigs, fixtures, patterns and like items which may be included in an order will remain the Company's property without credit to Buyer. The Company will assume the maintenance and replacement expense of such items, but shall have the right to discard and scrap them without credit to Buyer after they have been inactive for one year.

September 28, 2009

Page 5



10. Delays: The Company shall in no event be liable for delays caused by fires, acts of God, strikes, labor difficulties, acts of governmental or military authorities, delays in transportation or procuring materials, or causes of any kind beyond the Company's control. No provision for liquidated damages for any cause shall apply under this order. Buyer shall accept delivery within thirty (30) days after receipt of notification of readiness for shipment.
11. Inspection: Inspection of goods in the Company's plant by Buyer or Buyer's representative will be permitted insofar as this does not unduly interfere with the Company's production workflow, provided that complete details of the inspection Buyer desires are submitted to the Company in writing in advance.
12. Shipping: Unless Buyer specifies otherwise in writing: (a) goods will be boxed or crated as the Company may deem proper for protection against normal handling, and extra charges will be made for preservation, waterproofing, export boxing, and similar added protection of goods; (b) routing and manner of shipment will be the Company's discretion, and may be insured at Buyer's expense, value to be stated at order price. On all shipments, F.O.B. Company producing factory, delivery of goods to the initial carrier will constitute delivery to Buyer and all goods will be shipped at Buyer's risk. Claims for shortages will be deemed to have been waived if not made in writing within ten (10) days after the receipt of the material in respect of which any such shortage is claimed. The Company is not responsible for loss or damage in transit after having received "In Good Order" receipt from the carrier. A claim for loss or damage in transit must be entered with the carrier and prosecuted by Buyer. Acceptance of material from a common carrier constitutes a waiver of any claims against Company for delay or damage or loss.
13. Delivery: Except as otherwise specified in this quotation, delivery will be F.O.B. point of shipment. In the absence of exact shipping instructions, the Company will use its discretion regarding the best means of shipment. No liability will be accepted by the Company for so doing. All transportation charges are at Buyer's expense. Time of delivery is an estimate only and is based upon receipt of all information and necessary approvals. The shipping schedule shall not be construed to limit the Company in making commitments for materials or in fabricating articles under this order in accordance with the Company's normal and reasonable production schedules.
14. Security Interest: Company retains title to and a security interest in all products sold to Buyer hereunder until the purchase price and other charges, if any, are paid in full. Upon request of Company, Buyer will execute any document or furnish any notices necessary to perfect the security interest of Company in the products sold hereunder.
15. Operating Conditions and Acceptance: Recommendations and quotations are made upon the basis of operating conditions specified by the Buyer. If actual conditions are different from those specified and performance of the equipment is adversely affected thereby, Buyer will be responsible for the cost of all changes in the equipment required to accommodate such conditions. The Company reserves the right to cancel any order and Buyer shall reimburse the Company for all cost and expenses incurred in, and reasonable profit for performance hereunder. In such event, the Company reserves the right to refuse any order based upon a quotation containing an error. The provisions in any specification or chart are descriptive only and are not warranties or representations, the Company will certify to a rated capacity in any particular product upon request. Capacity, head and efficiency certifications are based on shop tests and when handling clear, fresh water at a temperature of not over 85°F. Certifications are at this specified rating only and do not cover sustained performance over any period of time nor under conditions varying from these.
16. Records, Audits and Proprietary Data: Unless otherwise specifically agreed in writing and signed by an authorized officer, neither Buyer nor any representative of Buyer, nor any other person, shall have the right to examine or audit the Company's cost accounts, books or records of any kind or on any matter, or be entitled to, or have control over, any engineering or production prints, drawings or technical data which the Company, in its sole discretion, may consider in whole or in part proprietary to the Company.



17. Patent Infringement: The Company will hold Buyer harmless against any liability for infringement of any apparatus claim of any United States patent, issued at the date of the Contract, and arising out of the sale or use in the form supplied by Company of equipment designed and/or manufactured by Company. The Company will assume no liability with respect to equipment specified by either the Company or Buyer, but not designed and/or manufactured by the Company. Buyer will hold the Company harmless against any liability for infringement or any apparatus claim of any United States patent, issued at the date of the contract, and involving equipment furnished by the Company in accordance with drawings and/or specifications furnished by the Buyer. The party assuming liability, as stated above, shall be notified immediately of any assertion of infringement, and shall have the absolute control of the defense thereto, including the right to settle, defend against Legal action, or make changes in the equipment to avoid infringement.
18. Liability Limitations: Under no circumstances shall the Company have any liability for liquidated, collateral, consequential, or special damages or for loss of profits, or for actual losses or for loss of production or progress of construction, whether resulting from delays in delivery or performance, breach of warranty, negligent manufacture or otherwise. The aggregate total liability of the Company in connection with the performance of this order, whether for breach of contract or warranty, negligence, or otherwise, shall in no event exceed the contract price. Buyer agrees to indemnify and hold harmless the Company from all claims by third parties in excess of these limitations. Since the compliance with the various Federal, State, and Local laws and regulations concerning occupational health and safety and pollution are affected by the use, installation, and operation of the equipment and other matters over which the Company has no control, the Company assumes no responsibility for compliance with those laws and regulations, whether by way of indemnity, warranty, or otherwise.
19. Warranty: The attached warranty is exclusive and in lieu of all other warranties expressed or implied including but not limited to any warranty of merchantability or of fitness for a particular purpose.
20. Other Rights and Remedies: In addition to the rights and remedies conferred upon the Company by any contract resulting from this quotation, the Company shall have all rights and remedies conferred at law and in equity and shall not be required to proceed with the performance of any order resulting from this quotation if Buyer is in default in the performance of such order or of any other contract or order with the Company.
21. Law Governing Contract: All orders accepted by the Company shall be governed and controlled as to the validity, enforcement, interpretation, construction, effect and in all other respects, by the statutes, laws, and decisions of the State of Georgia, which is the state in which the Company's principal place of business is located. All orders accepted by the Company shall be considered as submitted to the Company at its principal place of business in Stephens County, Georgia, and shall be deemed to have been entered into in Stephens County, Georgia, unless the Company agrees otherwise in writing. The Buyer agrees that all actions or proceedings arising directly, indirectly, or otherwise in connection with, out of, related to, or from an order accepted by the Company shall be litigated at Patterson Pump Company's discretion and election, only in The Courts' of Stephens County, Georgia. The Buyer, hereby consents and submits to the jurisdiction of these Courts and waives any right to seek a transfer or change of venue in any litigation brought against the Company by the Buyer or in any litigation brought by the Company against the Buyer.



Agreement			
I hereby accept the attached proposal and authorize Patterson Pump Company to prepare submittals for approval. I understand that fabrication of the proposed equipment will not begin until Patterson Pump Company has received a copy of the approved submittal for this equipment and notice to proceed with fabrication.			
This proposal accepted by _____ this _____ day of _____ in the year _____.			
Patterson Proposal No.:		Purchase Order No.:	
Please send _____ invoices for this work to:			
Name:			
Company Name:			
Mailing Address:			
City, State & Zip:			
Phone & Fax:			
Please send _____ copies of submittal data to:			
Name:			
Company Name:			
Mailing Address:			
City, State & Zip:			
Phone & Fax:			
Please send _____ copies of the Operations & Maintenance Manuals to:			
Name:			
Company Name:			
Mailing Address:			
City, State & Zip:			
Phone & Fax:			
Please ship equipment to:			
Physical Address:			
City, State & Zip:			
Phone & Fax:			