

MINUTES OF THE BOARD OF PUBLIC WORKS
Tuesday, January 8, 2019

The Regular Meeting of the Board of Public Works was held on Tuesday, January 8, 2019 at 7:30 a.m. in the City Council Chambers located at 405 Jefferson Street, Washington, Missouri. The following were present/absent:

MEMBERS:

Chairman	John Vietmeier	Present
Member	Brad Mitchell	Present
Member	Mike Radetic	Present
Member	Steve Richardson	Absent
Ex-officio Member	Steve Strubberg	Absent
Ex-officio Member	Vacant	--

OTHERS:

Council Representative	Jeff Patke	Absent
Council Representative	Steve Sullentrup	Absent
Council Representative	Jeff Mohesky	Absent
Council Representative	Greg Skornia	Absent
Mayor	Sandy Lucy	Absent
City Administrator	Daren Lamb	Absent
Water/Wastewater Superintendent	Kevin Quaethem	Present
Water/Wastewater Secretary	Beverly Hoyt	Present
City Engineer	John Nilges	Present
Assistant City Engineer	Andrea Lueken	Absent
Fire Chief/Emergency Management Director	Bill Halmich	Absent

Originals and/or copies of agenda items of the meeting, including recorded votes are available on record in the office of the Public Works Department for one year. Video/DVD and audio tapes are kept only until the minutes have been approved for the meeting. DVD copies of this meeting are distributed to Board Members if requested.

A motion was made by Mr. Mitchell and seconded by Mr. Radetic to approve the minutes from the regular December 11, 2018 meeting. The motion passed without dissent.

Priority

None.

Wastewater

Nothing new, we are still pressing one and a half days of sludge, which is normal. We do have a stock pile till we can get across the river or to the landfill.

Working on the air scrubbers, still trying to find a place close to go and visit to check out before we spend \$90,000.00. Would like to talk with others that are using this system already.

We are looking at a system to handle sludge it's called Solar Sludge Drying. Basically it's like a big greenhouse that has mechanical parts that rolls the sludge and take it down to dry 95% water to dry weight. If we could do this, it would take our sludge to a Grade "A" sludge, which we could package and sell. This is something being done in Europe and is still new to the United States. Still gathering information on the process.

Water

Well house rebuild, we are still waiting on the insurance to respond back on the estimate submitted by the City. Everything is ready to go once we get a green light. Walls have already been built, trusses are in and ready. With this well building we plan on building this to blend more with the subdivision, no ugly red bricks.

We will be starting next week installing the sewer line up to the Melton Project. That was something back in 2001 when we installed everything for the Industrial Park. Now it's going again we need to move forward. The cost will be right around \$3,000.00 in materials. There is already a sleeve under the highway so all we need to do is go to the sleeve and set a manhole on the south side of the highway for Melton to come to and then set two more manholes on the north side heading down to the existing line that is already behind the fire training grounds.

There is an issue on 3rd and Boone, there's a swag in about 30 foot of line. There is a problem at the manhole, looks like the pipe is offset and created a backup. We plan on replacing about 30 foot of line from the manhole. We may also replace the manhole, it's about 8 foot deep.

We haven't received any calls in reference to odor issues or water complaints. The new mixing system in Crestview I feel has helped considerably and we still came in under budget on the project. This keeps the water and chlorine mixed to the top of the tower whereas the old way the chlorine would only go halfway up.

Enduro Tank, we are getting ready to go out with specification for repainting this year. It will be the same color as Crestview, then the following budget year we will do the same for Clay Street. We are still getting lots of compliments on the color of Crestview.

Other

N/A

Old Business

The Board has asked that we come up with some names of candidates for ex-officio. There is still one empty spot left, once we get a couple of names we can bring it to the Mayor.

We plan to internally start looking into the rate increase on water, will get some more information on this soon. Would like to have everyone in attendance for more discussions. The Hydraulic Study shows the need for another water tank in 2021.

There is \$500,000.00 allocated for Capital Improvements which is about half of what it will cost. In about four years out we should be pretty close to breaking even.

The rate increase will give us funds to start working on our aging infrastructure. In certain parts of town where they were put in around the 50's and 40's. The street project (potentially) on Jefferson St., from 8th Street bridge up to 5th St., we need to replace the water line, it's a 4" line and we just had another break on it this past week. This takes funds, the rate increase is not only for the water tower or new wells, but also for some of this aging infrastructure.

Over the past couple of years, when we pave streets, we inspect everything underground. We don't just pave over and then have a break occur. Everything is being done to stay informed of what is going on. We are working on the ITGIS side to get a better mechanism for work orders so we can organize them and be able to go back and say we have had three breaks over the past five years. We want to get to a point it's not paper copies and I'm not in the dark. We are usually going off everyone's memory. This is why Oak St. was sitting longer than it should have been. Water department got in there to repair as quick as possible. We try to wait till it has time to settle and then we get in there to pave. It just happened that water department was dealing with a water break and decided to replace the aging 4" line.

There is money in the funds, but it doesn't make sense to pave the street and not repair an aging water line that also needs replacing. We can pave but the next day there could be a break and have to tear it out to repair the break and then patch. The only way we can get any money is to borrow from a general fund account and then we would have to pay it back. We are trying to get away from that as much as possible.

Open Discussion

Next Scheduled Meeting Date

The next scheduled meeting date is February 13, 2019.

Adjourn

There being no further business the meeting adjourned on a motion by Mr. Mitchell and seconded by Mr. Radetic. All in favor aye, those oppose. We are adjourned.

Prepared by: _____
Beverly Hoyt
Water/Wastewater Secretary

Adopted and Approved by the Board of Public Works:

Date: _____ Signature: _____
Secretary



1590 Dutch Road | Dixon, IL 61021
 p 815.835.5566 | f 815.284.5600
 www.SewerEquipment.com

January 14, 2018

PO #

Product Class:
 WO#

Distributor: **Woody's Muncipal Supply Co**
 End User: **Washington, City of**
 Address: **4 Chamber Dr**
 City, State, Zip: **Washington, MO 63090**
 Phone: **636-390-1030**
 Contact: **Kevin Quaethem**
 Email: **kquaethem@ci.washington.mo.us**



900-ECO 12 Yard Truck Mounted Combination Sewer Cleaner

Vacuum System:

- 4400 CFM Blower
- 8" Vacuum Hose system
- 18" Hg vacuum rating
- Dual Cyclone Separator
- Dual Element 10 Micron Final Filter
- Remote Vacuum Relief
- Variable Volume Delivery
- Analog Vacuum Display
- (6) Tube / Tube Rack

Boom:

- Hydraulic Powered Boom
- 180° Working Radius
- 10' Boom Cylinder
- Boom Joystick Control

Debris Tank:

- 12 Cubic Yard Capacity
- Exten Steel Construction
- Debris Level Indicator
- Hydraulic Dump, 50° Dump Angle (LIFT)
- Dual Ported Rear Door w/ Knife Valve
- Dump Height 60"
- Hydraulic Open/Close/Lock Door

Water System:

- 1300 Gallon Capacity Water Tank
- Giant plunger style triplex
- 65 gpm @ 2000 psi w/ 30 min run dry
- Black Duraprolene™ Water Tank Construction w/ 10 Year Warranty
- Cold Weather Recirculation System
- 2.5" Hydrant Fill system
- Air Purge Valve
- Variable Volume Delivery
- Low Water Warning Light
- Analog Pressure Display
- Front and Mid Ship Hand Gun Ports

Electrical:

- NEMA 4 Control Panel
- Hour Meter (Blower & Water Pump)
- Military Spec. Sealed Switches

Truck:

- Mounting to Approved Chassis
- (1) Alum Toolbox 24"x42"x100" - Behind Cab
- (2) Alum Toolbox 18"x18"x30" - Passenger
- (2) Alum Toolbox 18"x18"x24" - Rear*
- *N/A ON SINGLE AXLE CHASSIS*
- (1) Alum Long Handle Storage
- LED D.O.T. Approved Lighting

Hose/Reel & Hose:

- Front Mounted Telescoping & Rotating
- 800' x1" Capacity
- 10' Leader Hose
- Single Side Controls

Accessories:

- (3) 8" x 6' Extension Tube
- (1) 8" X 4' Extension Tube
- (1) 8" x 6' Crowned Suction Nozzle
- (1) 6" x 10' Flat Discharge Hose
- (6) Quick Clamps
- BB Hose Guide
- Tri-Star (chisel point) nozzle
- DD (high flow) nozzle
- Finned Nozzle extension
- Nozzle Rack (Mounted midship toolbox)
- 25' Fill Hose
- Upstream Pulley Guide
- Washdown gun w/ 50' ext. hose
- (1) Torch Tip Cleaner - Size 8-45 (.069-.120")
- (1) Hydrant Wrench
- (1) Paper Owner's Manual

BASE UNIT AS OUTLINED ABOVE	\$235,966.07	1	\$235,966.07
	LIST PRICE OF SELECTED OPTIONS:		\$60,051.00
	LESS PERCENTAGE DISCOUNT (enter % →) 0%		\$ -
	NET PRICE OF UNIT:		\$296,017.07
FACTORY_SUPPLIED_CHASSIS	Select ----->		\$110,000.00
	ESTIMATED FREIGHT:		\$800.00
	ESTIMATED TOTAL:		\$406,817.07

FOR ALL NON STANDARD OPTIONS PLEASE CONTACT FACTORY FOR PRICING

STANDARD OPTIONS:

HOSE REEL ASSEMBLY:	LIST PRICE		TOTAL
AUTOMATIC LEVEL WIND WITH HYDRAULIC UP/DOWN ACTION	\$7,321.00	1	\$7,321.00
FOOTAGE METER (mounted on jet hose reel)	\$742.00	1	\$742.00
SEWER HOSE (1" I.D., 2500 P.S.I. OPERATING PRESSURE) PER FT	\$4.43	600	\$2,658.00
25' LEADER HOSE (in lieu of standard 10')	\$347.00		\$0.00

CLEANING ATTACHMENTS:

SIX (6) 28" D.O.T. SAFETY CONES AND HOLDER	\$370.00	1	\$370.00
CENTRAL LUBRICATION SYSTEM	\$2,770.00	1	\$2,770.00

WATER PUMPS:

TRIPLEX PLUNGER STYLE GIANT WATER PUMP RATED AT 80 GPM @ 2000 PSI (includes drain valves)	\$9,149.00	1	\$9,149.00
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WATER TANKS:

ADDITIONAL 200 GALLON DURAPROLENE™ WATER TANK W/ 10 YEAR WARRANTY - (between rails) Note #1: Subject to chassis load capacity specifications.	\$5,338.00	1	\$5,338.00
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WATER SYSTEM ATTACHMENTS:

FILL HOSE STORAGE RACK	\$209.00	1	\$209.00
STANDARD HYDROEXCAVATION CLEANING KIT 20 GPM @ 2000 PSI (8" x 6' digging tube, 8gpm rotary digging wand, 10gpm linear nozzle (shipped loose), (2) 5' Extension wands and automatic reel w/ 75' of 3/8" hose)	\$6,153.00	1	\$6,153.00
CENTRAL WASHDOWN SYSTEM (includes 50' of 1/2" hose on a spring retracting hose reel mounted mid-ship)	\$1,383.00	1	\$1,383.00
Additional Extension Wand w/ High Flow Quick Connect	\$330.00	1	\$330.00

TOOLBOX CONFIGURATIONS:

ADDITIONAL 18"x18"x30" ALUMINUM TOOLBOX - (2 maximum mounted passenger side rail) Note: Not available with single piston pump option.	\$938.00	1	\$938.00
DRIVERS SIDE TUBE STORAGE RACK	\$1,100.00	1	\$1,100.00
LONG HANDLED TOOL STORAGE (TWO (2) 4" TUBES) & CABINET	\$752.00	1	\$752.00

DEBRIS BOX & BOOM:

TELESCOPING BOOM SYSTEM (identical reach as standard)	\$4,683.00	1	\$4,683.00
DECANT SCREEN ON REAR DOOR PORT (swing out perforated shield)	\$1,380.00	1	\$1,380.00

ELECTRICAL & LIGHTING:

WIRELESS REMOTE CONTROL PENDANT (controls include hose reel payout/retrieve, water pump on/off, vacuum relief on/off, boom up/down, boom left/right, boom extend/retract and module kill switch)	\$4,326.00	1	\$4,326.00
ENHANCED VISIBILITY CAMERA SYSTEM (includes front and rear mounted camera heads with split screen monitor in cab)	\$1,504.00	1	\$1,504.00
LED ROTATING BEACON: LOCATED ON BOOM SUPPORT (factory standard)	\$536.00	2	\$1,072.00
LIMB GUARD (strobe or beacon)	\$276.00	2	\$552.00
LED ARROW STICK (factory standard)	\$1,053.00	1	\$1,053.00
LED BOOM MOUNTED WORK LIGHTS (2) (complete with limb guard)	\$917.00	1	\$917.00
LED REAR MOUNTED WORK LIGHTS (2) : LOCATED ABOVE REAR DOOR	\$917.00	1	\$917.00

CHASSIS:

AIR PURGE WINTERIZATION SYSTEM (supplied by chassis air system)	\$1,348.00	1	\$1,348.00
TOW HOOKS (2) Note: Location Required (FRONT / REAR / FRONT & REAR)	\$718.00	2	\$1,436.00

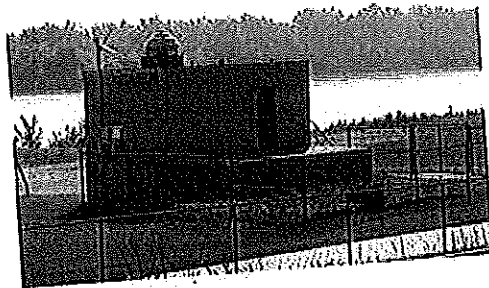
PAINT:

DEBRIS BOOM: STANDARD • STERLING WHITE (FDG91327)	STANDARD		
DEBRIS TANK: STANDARD • STERLING WHITE (FDG91327)	STANDARD		
HOSE REEL - UPRIGHT STANDARD • SEWER BLUE (PAN 287)	STANDARD		
FRAME: • STANDARD BLACK (FDG9000)	STANDARD		
SLIDE FRAME: • STANDARD BLACK (FDG9000)	STANDARD		

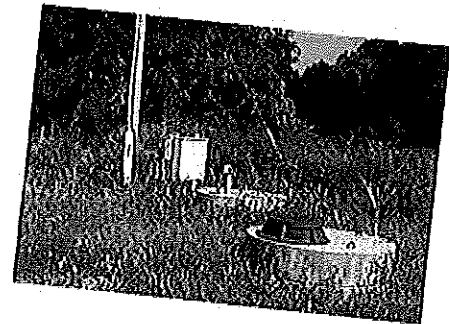
MANUALS & TRAINING:

TRAINING - CUSTOMER LOCATION (1 DAY)	\$1,650.00	1	\$1,650.00
SPECIAL ITEMS:			
	\$0.00		\$0.00
	\$0.00		\$0.00
	\$0.00		\$0.00
Total after Additions			\$437,513.07
SIGNATURE			DATE
Please return a signed copy to jmarley@woodysmunicipal.com			

Department	Description	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Sewage Treatment Fund - 410											
Sewage Treatment Collections - 360 Sewage Treatment Plant - 361											
Land - 640100											
Buildings - 640200											
Improvements Other Than Buildings - 641100											
Sub-Dept 000	Various sewer line and manhole improvements	\$ 50,000	\$ 60,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 60,000	\$ 50,000	\$ 60,000	\$ 60,000	\$ 50,000
Sub-Dept 000	Annual Sfp Lining	150,000	150,000	150,000	150,000	150,000	160,000	150,000	150,000	150,000	150,000
Sub-Dept 000	New Control Panel Fairfield Lift Station	-	-	-	-	-	-	-	-	-	-
Sub-Dept 000	Communication poles for LIT Stations	30,000	-	-	-	-	-	-	-	-	-
Sub-Dept 361	Pole barn & Concrete-Drying Bed	38,000	-	-	-	-	-	-	-	-	-
Sanitary Sewer System Improvements - 641120											
Sub-Dept 000	Upgrading Dubois Pumps and Control Panel	15,000	-	-	-	-	-	-	-	-	-
Sub-Dept 000	Upgrading West Ink Liftstation	150,000	-	-	-	-	-	-	-	-	-
Sub-Dept 000	Upgrading Fairfield Liftstation	-	160,000	-	-	-	-	-	-	-	-
Sub-Dept 000	Upgrading Fulton Street Liftstation	-	-	150,000	-	-	-	-	-	-	-
Sub-Dept 000	Upgrade West Fifth Street Liftstation	-	-	-	150,000	-	-	-	-	-	-
Vehicles - 642100											
Sub-Dept 000	Replace 2003 Sterling Vector truck	-	600,000	-	-	-	-	-	-	-	-
Sub-Dept 000	Replace 2000 Chevrolet Pickup #20	45,000	-	-	-	-	-	-	-	-	-
Sub-Dept 000	1-Ton Utility Truck w/side crane	-	-	-	-	-	-	-	-	-	100,000
Machinery & Equipment - 642200											
Sub-Dept 361	Dolt Press	21,250	-	-	-	-	-	-	-	-	-
Sub-Dept 361	Blower	65,000	-	-	-	-	-	-	-	-	-
Sub-Dept 361	Air Scrubber	140,000	-	-	-	-	-	-	-	-	-
Furniture & Fixtures - 642300											
Sub-Dept 361	Scada System upgrade installation (10 yrs old)	30,000	-	-	-	-	-	-	-	-	-
DEPARTMENT TOTAL		\$ 722,250	\$ 850,000	\$ 350,000	\$ 350,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 300,000
RECAP:											
Land - 640100		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Buildings - 640200											
Improvements Other Than Buildings - 641100		268,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000
Sanitary Sewer System Improvements - 641120		165,000	160,000	150,000	150,000	-	-	-	-	-	-
Vehicles - 642100		45,000	600,000	-	-	-	-	-	-	-	100,000
Machinery & Equipment - 642200		216,250	-	-	-	-	-	-	-	-	-
Furniture & Fixtures - 642300		30,000	-	-	-	-	-	-	-	-	-
FUND TOTAL		\$ 722,250	\$ 850,000	\$ 350,000	\$ 350,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 300,000



Walnut Street Liftstation 2011





January 29th, 2019
PROPOSAL NO. 012919JB-01

TO: City of Washington, MO
PROJECT: Walnut LS
ATTN: Kevin Quaethem

We are pleased to provide the following equipment quotation for the replacement Great and Gray Flygt pump. This pump will be installed to the existing piping with a few modifications required in order to fit. If you have any questions, please feel free to contact Joe Beffa.

- ONE (1) Flygt Great and Gray CT 3231.705 with a 430 impeller. This pump has a 185 HP, 460 volt, 3 phase motor. Also included are three PT-100 sensors to monitor temperature, the inner bearing, and outer bearing. The MAS711 unit will monitor the PT-100's and extend the life of the pump through protection. This pump also comes with two power cables and one sensor cable all seventy (70) feet long. The pumps suction diameter is 12 inches (300mm) and the discharge diameter is 8 inches (200mm).
- THREE (3) PT-100 Sensors that can be used as inputs for a variety range of protection options. We have selected monitoring the inner bearing, outer bearing, and the stator windings.
- ONE (1) MAS711 Prepared for the MAS7 to control PT-100 Monitoring Equipment.
- ONE (1) Pratt 10" Check Valve
- TWO (2) Pratt 10" Gate Valves
- ONE (1) Lot of miscellaneous pipework, fittings, and one 8x10 eccentric reducer required to assimilate into the existing system.
- ONE (1) Lot of labor and mileage to install the above equipment. Vandevanter field service technicians will remove the existing unit install the new CT3231 making the necessary modifications as needed. Afterwards, a certified start up will be performed to confirm proper operation of the new Flygt pump.

TOTAL ESTIMATED PRICE FOR ALL LISTED ABOVE..... \$227,955.00
Note: This proposal does not include Crane upgrades, electrical service upgrades, and hatch upgrades. The city shall be responsible for bypass.

DECATUR

ST. LOUIS

1610 E. McBRIDE AVENUE
SUITE C
DECATUR, IL 62526
217-428-5686 MAIN
217-428-5694 FAX

1617 MANUFACTURERS DR.
ST. LOUIS, MO 63026

800-779-8880 TOLL FREE
636-343-8880 MAIN
636-343-1720 FAX
636-343-9066 NIGHTS



VANDEVANTER ENGINEERING

A COGENT COMPANY

cogentcompanies.com

F.O.B. - Factory Freight is not included. Installation is included.

***Anything not specifically listed to be assumed by other.**

TERMS: NET 30 days with approved credit. An interest charge of 1-1/2% will be added to balances over 30 days. Retainage of any invoiced amount is unacceptable unless specifically agreed to by Vandevanter Engineering at the time of order, and shall in no case exceed a period of 120 days.

Any sales/use tax will be in addition to the above price, and will be added to the billing unless the purchaser provides an exemption certificate acceptable to the taxing authorities. **Prices quoted shall remain firm for a period of thirty (30) days, after which they are subject to change without notice.**

If, after reviewing the above proposal, you have any further questions or comments regarding this proposal, please feel free to contact us at (636) 343-8880. If the proposal meets with your approval, please sign, date, and mail or fax a copy back to our office, and we will order your equipment.

Thank you for the opportunity to work with you on this project. If we can be of any further assistance, please let us know.

Sincerely,

VANDEVANTER ENGINEERING CO.

Joe Beffa

ACCEPTED THIS DATE _____ BY _____

COMPANY _____ TITLE _____

PURCHASE ORDER NO. _____

DECATUR

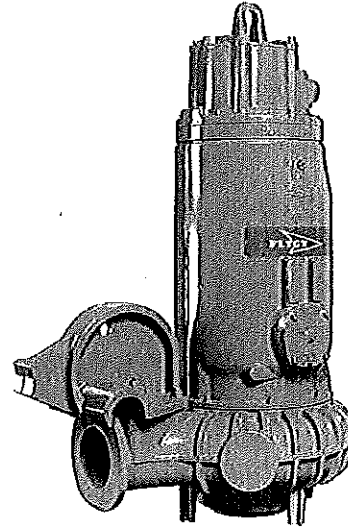
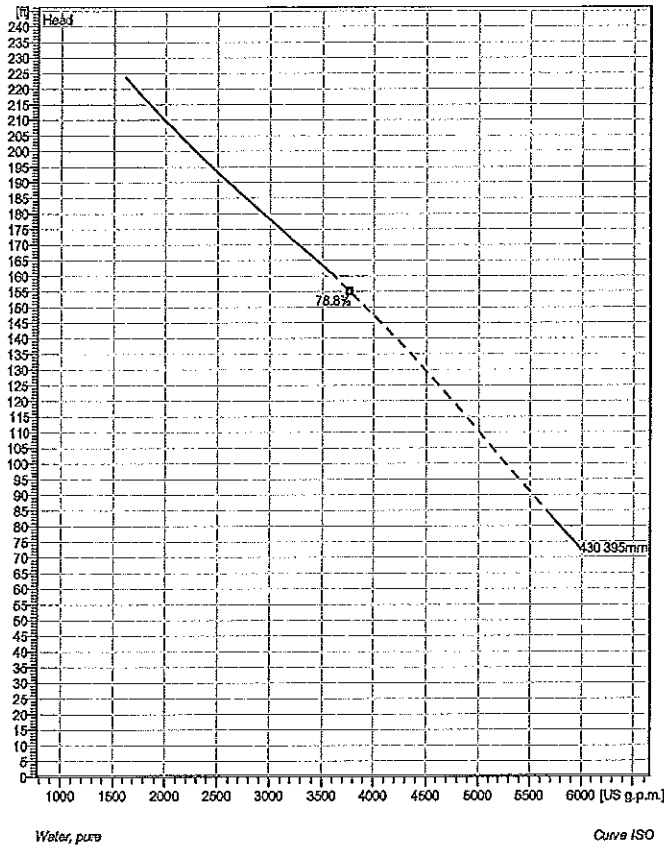
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CT 3231/705 3~ 430 Technical specification

Note: Picture might not correspond to the current configuration.

General

Shrouded single or multi-channel impeller pumps with large throughlets and single volute pump casing for liquids containing solids and fibres. Cast iron design with double sealing technology.

Impeller

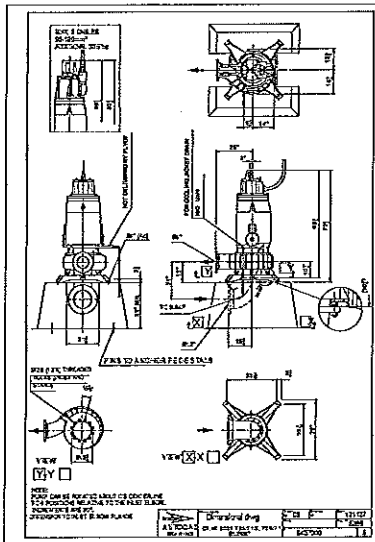
Impeller material	Grey cast Iron
Discharge Flange Diameter	7 7/8 inch
Suction Flange Diameter	9 13/16 inch
Impeller diameter	395 mm
Number of blades	2
Throughlet diameter	3 7/16 inch

Motor

Motor #	C0705.000 43-30-4AA-D 185hp Standard
Stator variant	1
Frequency	60 Hz
Rated voltage	460 V
Number of poles	4
Phases	3~
Rated power	185 hp
Rated current	220 A
Starting current	1520 A
Rated speed	1780 rpm
Power factor	
1/1 Load	0.85
3/4 Load	0.81
1/2 Load	0.71
Motor efficiency	
1/1 Load	92.5 %
3/4 Load	93.0 %
1/2 Load	92.0 %

Configuration

Installation: T - Vertical Permanent, Dry



Project

Project ID

Created by

Created on

Last update

6/21/2018

CT 3231/705 3~ 430



Performance curve

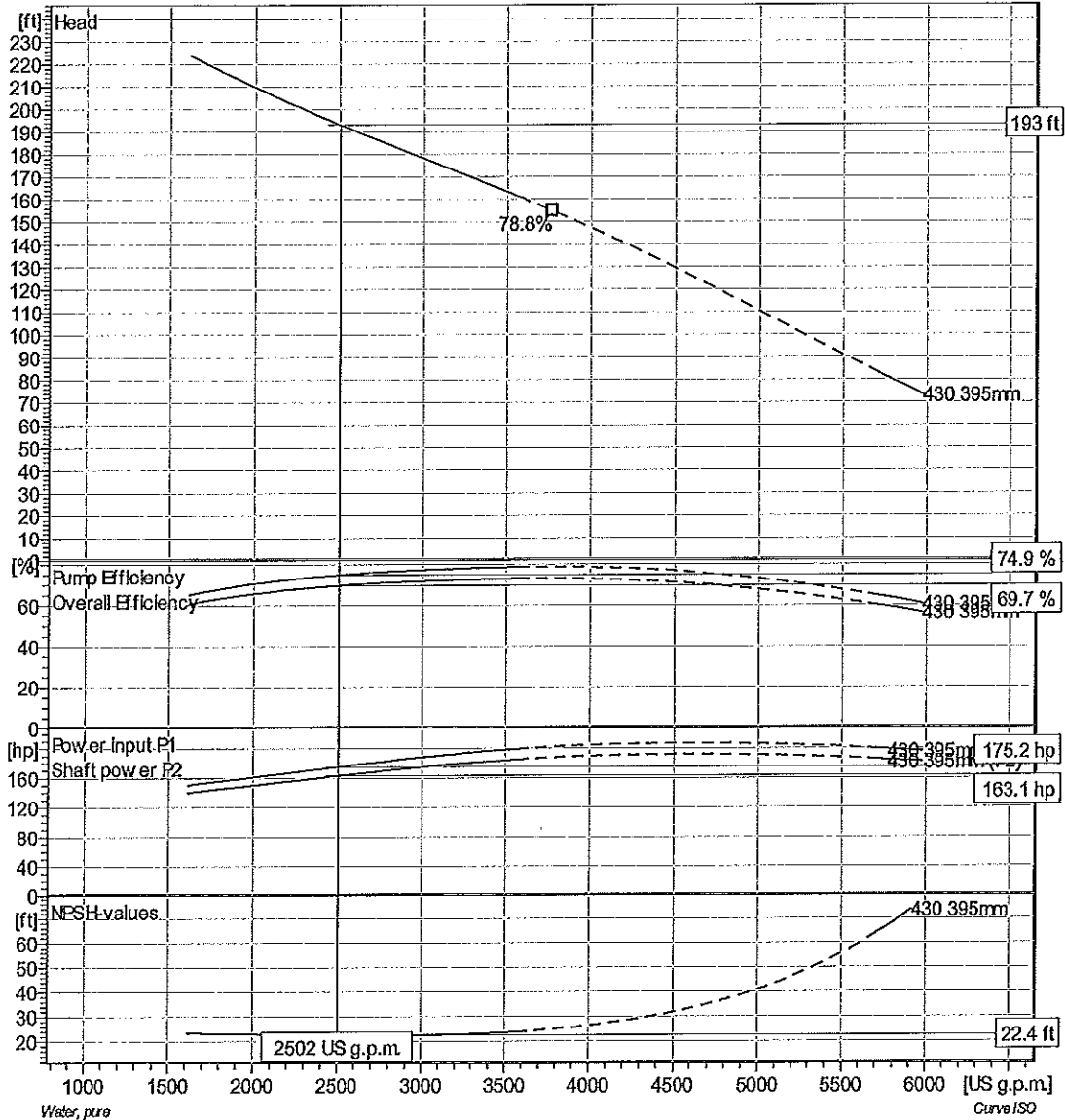
Pump

Discharge Flange Diameter 7 7/8 Inch
 Suction Flange Diameter 250 mm
 Impeller diameter 15 1/16"
 Number of blades 2
 Throatlet diameter 3 7/16 Inch

Motor

Motor# C0705.000 43-30-4AA-D 185hp
 Stator variant 1
 Frequency 60 Hz
 Rated voltage 480 V
 Number of poles 4
 Phases 3~
 Rated power 185 hp
 Rated current 220 A
 Starting current 1520 A
 Rated speed 1780 rpm

Power factor
 1/1 Load 0.85
 3/4 Load 0.81
 1/2 Load 0.71
 Motor efficiency
 1/1 Load 92.5 %
 3/4 Load 93.0 %
 1/2 Load 92.0 %



Duty point	Guarantee
Flow: 2400 US g.p.m.	Head: 180 ft
	No

Project

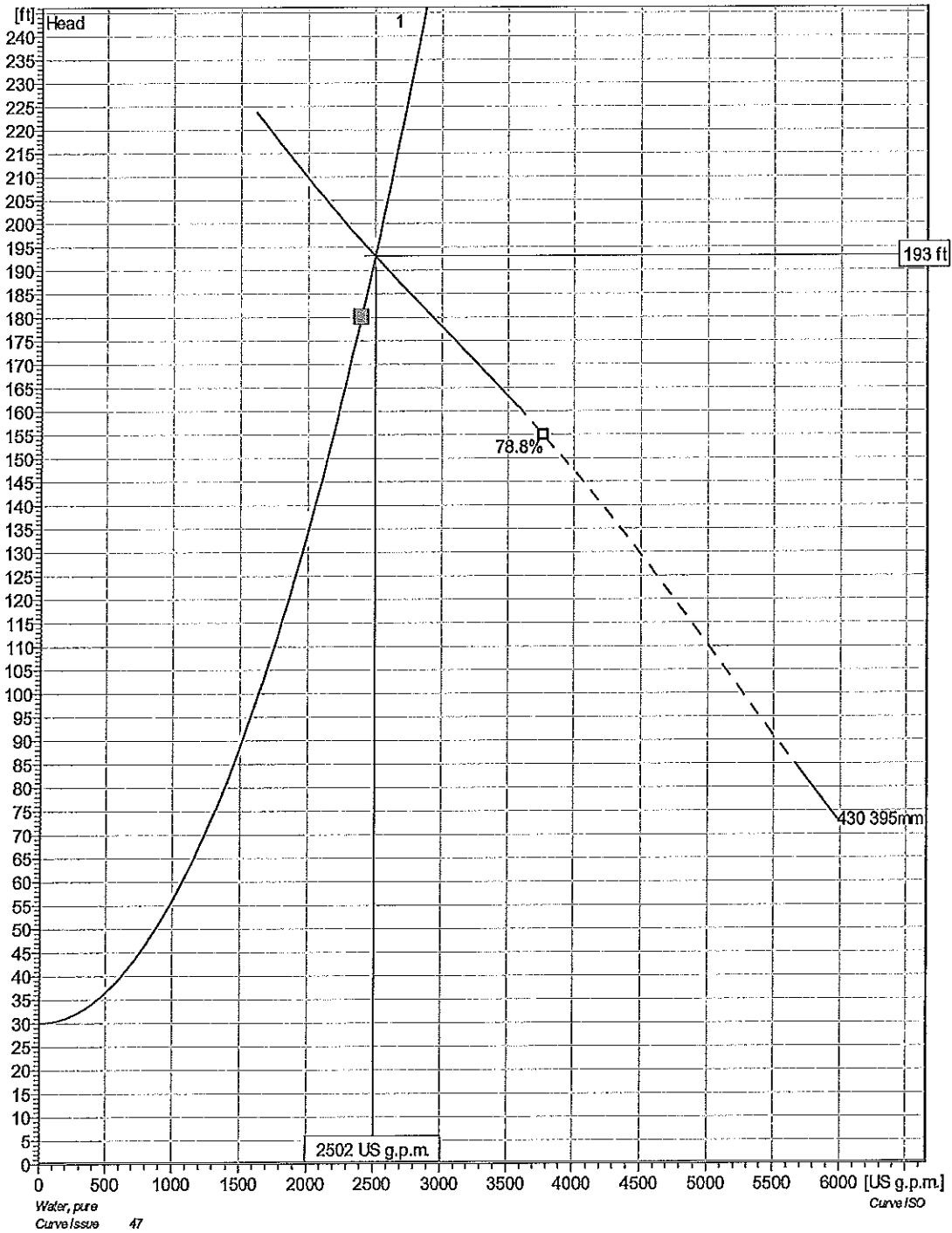
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Created on
6/21/2018

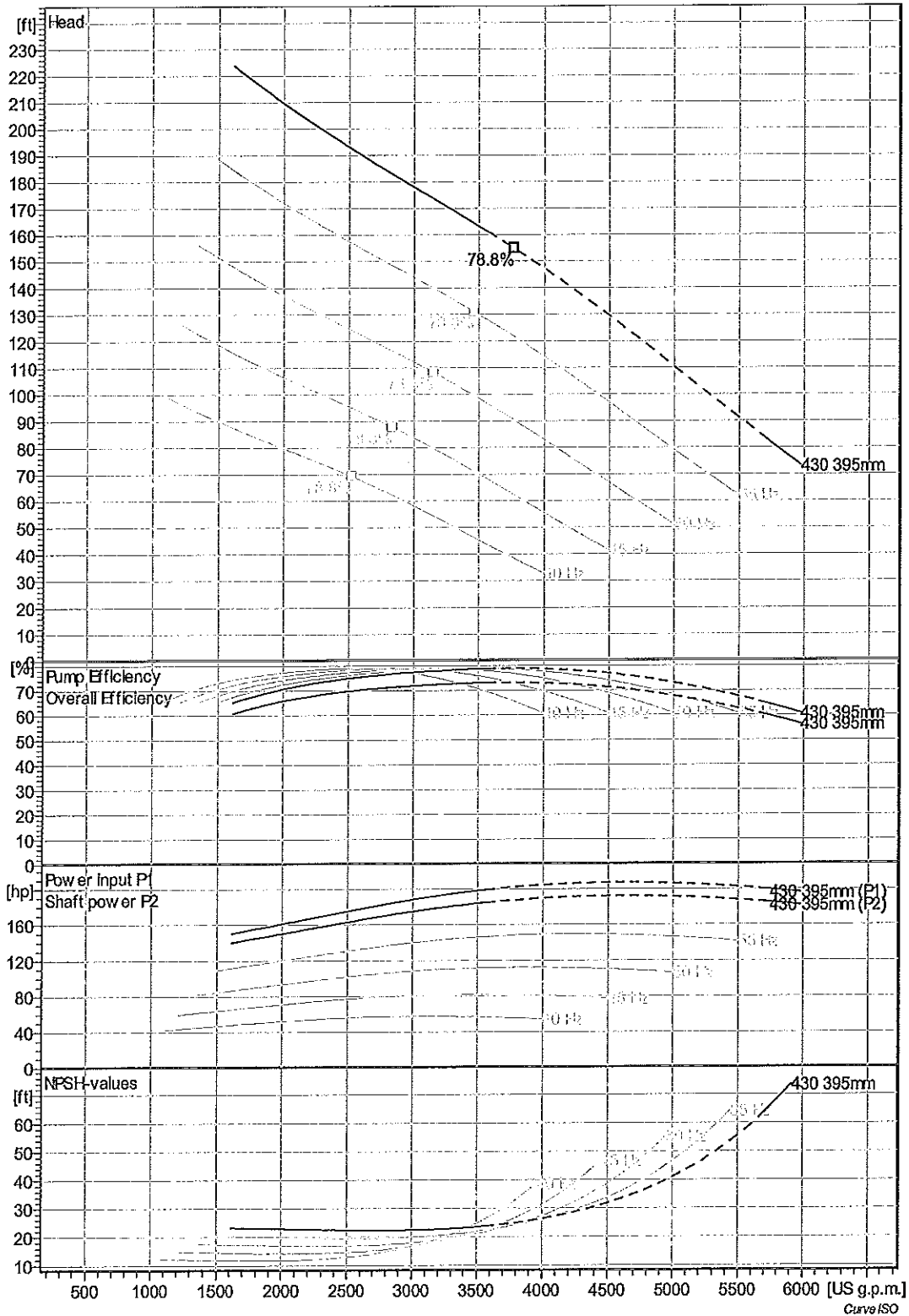
Last update

CT 3231/705 3~ 430 Duty Analysis

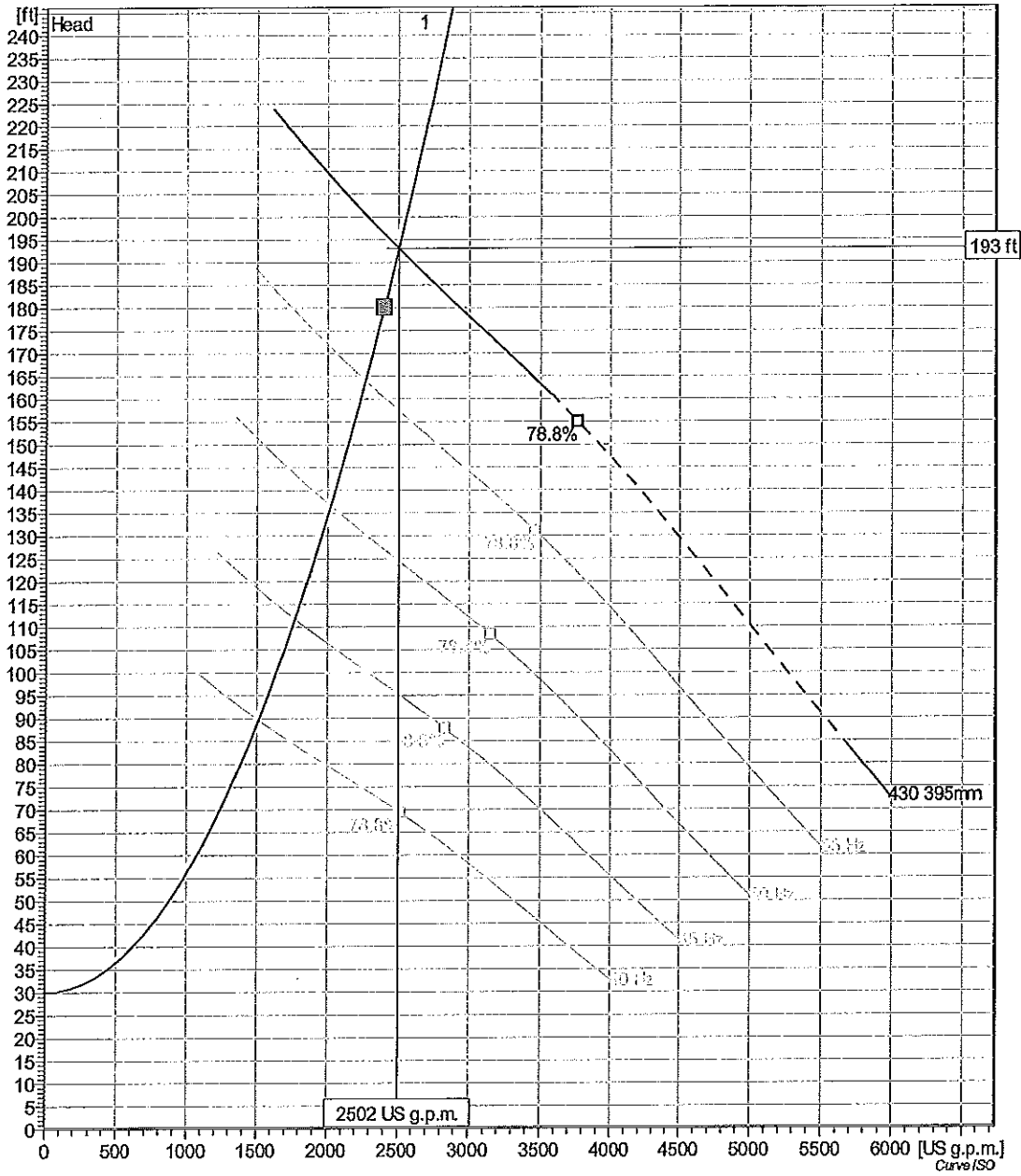


Pumps running /System	Individual pump			Total			Pump eff.	Specific energy	NPSHre
	Flow	Head	Shaft power	Flow	Head	Shaft power			
1	2500 US g.p.m.	193 ft	163 hp	2500 US g.p.m.	193 ft	163 hp	74.9%	870 kWh/US MG	224 ft

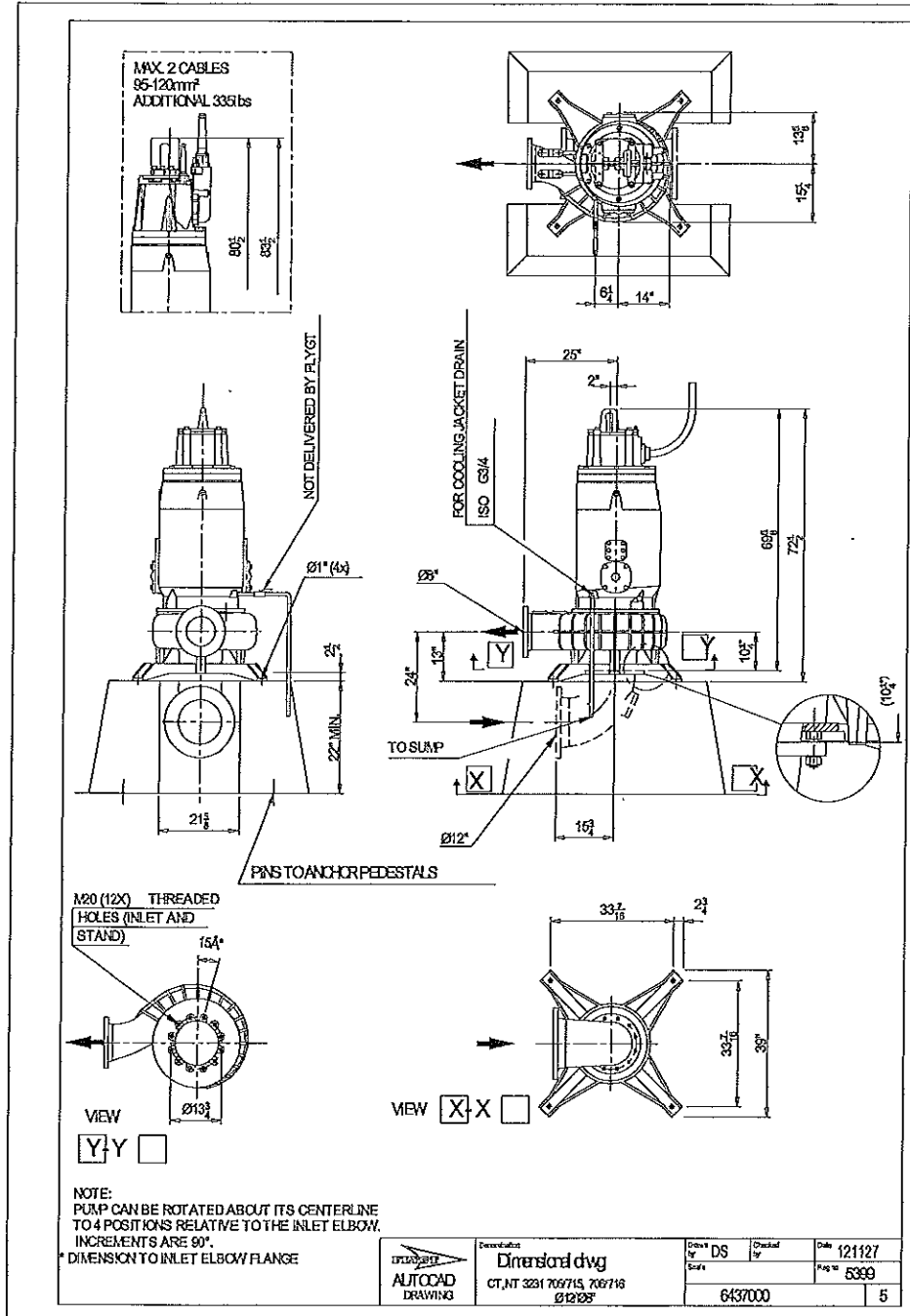
Project	Project ID	Created by	Created on 6/21/2018	Last update
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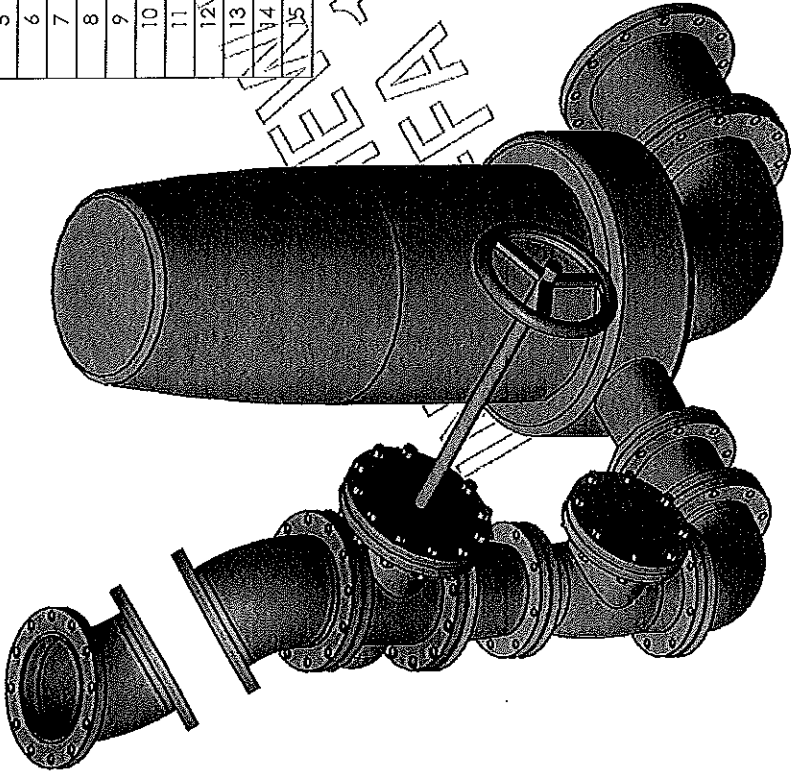
CT 3231/705 3~ 430 VFD Analysis



Pumps running /System	Frequency	Flow	Head	Shaft power	Flow	Head	Shaft power	Hyd. eff.	Specific energy	NPSHre
1	60 Hz	2500 US g.p.m.	193 ft	163 hp	2500 US g.p.m.	193 ft	163 hp	74.9 %	870 kWh/US MG	22.4 ft
1	55 Hz	2270 US g.p.m.	164 ft	126 hp	2270 US g.p.m.	164 ft	126 hp	74.7 %	742 kWh/US MG	19.6 ft
1	50 Hz	2020 US g.p.m.	137 ft	94 hp	2020 US g.p.m.	137 ft	94 hp	74.4 %	626 kWh/US MG	16.9 ft
1	45 Hz	1770 US g.p.m.	112 ft	67.8 hp	1770 US g.p.m.	112 ft	67.8 hp	73.9 %	523 kWh/US MG	14.3 ft
1	40 Hz	1510 US g.p.m.	89.7 ft	46.9 hp	1510 US g.p.m.	89.7 ft	46.9 hp	73.2 %	435 kWh/US MG	11.9 ft



4 3 2 1



ITEM NO.	DESCRIPTION	Material	Stock Size	New/Qty.
1	FLYGT PUMP 3231			1
2	12.00 SPOOL, FLG x PE	DUCTILE IRON PIPE	24.00 LONG	1
3	8.00 SPOOL, FLG x PE	DUCTILE IRON PIPE	12.00 LONG	1
4	8.00, 90D, ELBOW, FLG x FLG	DUCTILE IRON PIPE		1
5	8.00 x 10.00, CONCENTRIC REDUCER, FLG x FLG	DUCTILE IRON PIPE		1
6	8.00, SWING CHECK VALVE		19.50 LAY LENGTH	1
7	12.00 MEGAFLANGE W/ RESTRAINTS	DUCTILE IRON		1
8	8.00 MEGAFLANGE W/ RESTRAINTS	DUCTILE IRON		1
9	NUT/GASKET/BOLT KIT, 8.00	SS		4
10	NUT/GASKET/BOLT KIT, 12.00	SS		5
11	NUT/GASKET/BOLT KIT, 12.00	SS		2
12	THREADED ROD, .75-10	SS	16.00 LONG	4
13	THREADED ROD, .875-9	SS	21.00 LONG	4
14	HEX NUT, .75-10	SS		16
15	HEX NUT, .875-9	SS		16

B

NOTES:
 1. GREEN - NEW PIPING
 2. BLACK - EXISTING PIPING

UNLESS OTHERWISE SPECIFIED:		NAME	DATE
DIMENSIONS ARE IN INCHES	DRAWN	DOB	2/15/2018
FRACTIONS ARE 1/32	CHECKED		
ANGULAR TOLERANCE ±.002 BEND ±.5	ENG. APPR.		
TWO PLACE DECIMAL ±.02	ENG. APPR.		
THREE PLACE DECIMAL ±.005	Q.A.		
MATERIAL	CUSTOMER	WALUNUT LIFT STATION	
SHOP NO.		SIZE	TDWG. NO.
POJ. NO.		B	B-180220
DO NOT SCALE DRAWING		SCALE	1:12 WEIGHT
			SHEET 1 OF 2



BRI VANDEVANTER ENGINEERING
 CONSULTING COMPANIES
 WASHINGTON, MO

A

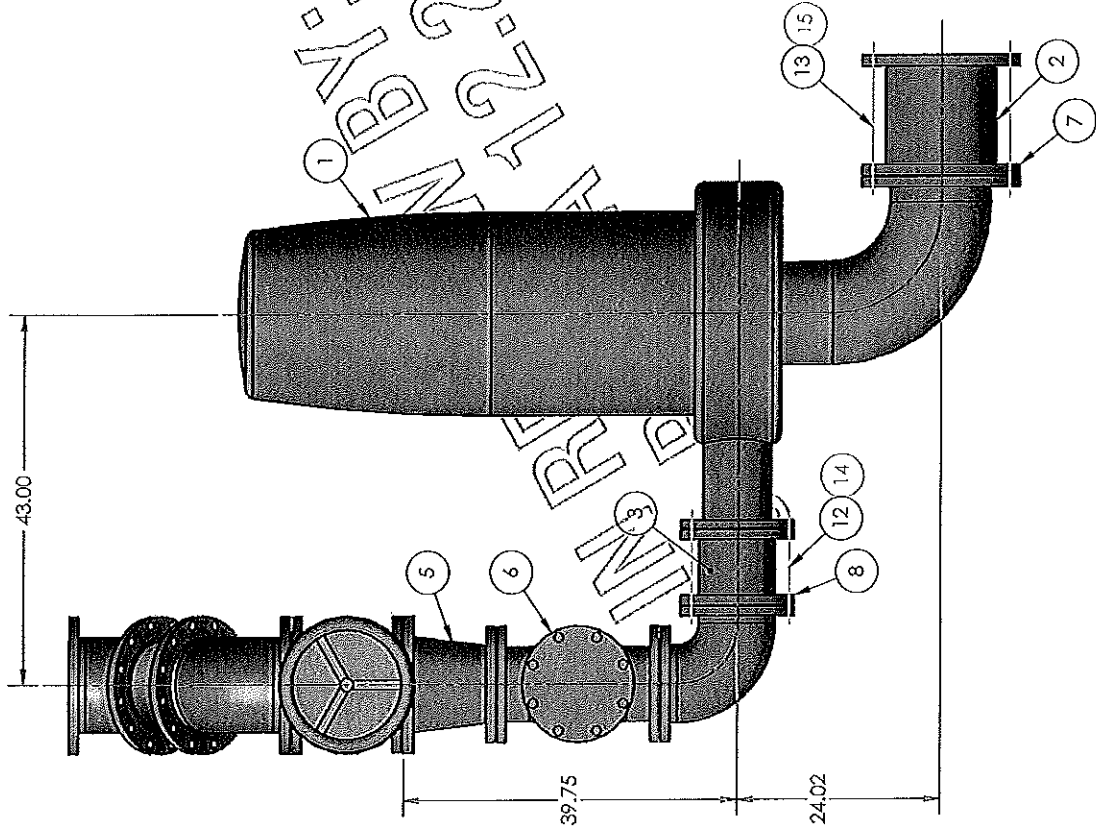
B

A

4 3 2 1

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B

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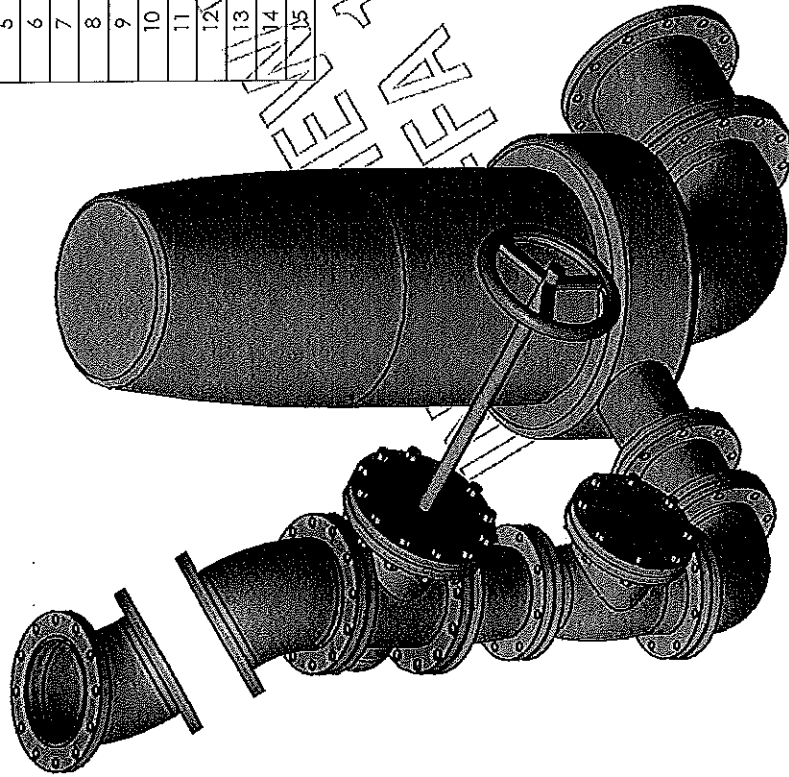
UNLESS OTHERWISE SPECIFIED:		NAME	DATE
DIMENSIONS	ALL IN INCHES	BYB	2/12/2018
TOLERANCES	FRACTIONALS 1/32		
	ANGULAR MATCHES BEND 2:1		
	TWO PLACE DECIMAL .02		
	THREE PLACE DECIMAL .005		
	DWG APPR.		
	Q.A.		
	CUSTOMER		
SHOP NO.			
P.O. NO.			
DO NOT SCALE DRAWING			

PROPRIETARY AND CONFIDENTIAL
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BRI VANDEVANTER ENGINEERING
 CONSULTING COMPANIES
 WASHINGTON, MO
 WALUNT LIFT STATION
 SIZE DWG. NO. **B-180220**
 SCALE: 1:14 WEIGHT: SHEET 2 OF 2

1 2 3 4

4 3 2 1



ITEM NO.	DESCRIPTION	Material	StockSize	New/QTY.
1	FLYGT PUMP 3231			1
2	12.00 SPOOL, FLG x PE	DUCTILE IRON PIPE	24.00 LONG	1
3	8.00 SPOOL, FLG x PE	DUCTILE IRON PIPE	12.00 LONG	1
4	8.00, 90D, ELBOW, FLG x FLG	DUCTILE IRON PIPE		1
5	8.00 x 10.00, CONCENTRIC REDUCER, FLG x FLG	DUCTILE IRON PIPE		1
6	8.00, SWING CHECK VALVE		19.50 LAY LENGTH	1
7	12.00 MEGAFLANGE W/ RESTRAINTS	DUCTILE IRON		1
8	8.00 MEGAFLANGE W/ RESTRAINTS	DUCTILE IRON		1
9	NUT/GASKET/BOLT KIT, 8.00, 1/2	SS		4
10	NUT/GASKET/BOLT KIT, 10.00, 3/4	SS		5
11	NUT/GASKET/BOLT KIT, 12.00, 1	SS		2
12	12.00, 1/2, THREADED ROD, .875-10	SS	16.00 LONG	4
13	12.00, 3/4, THREADED ROD, .875-9	SS	21.00 LONG	4
14	1/2, HEX NUT, .875-10	SS		16
15	1/2, HEX NUT, .875-9	SS		16

B

NOTES:
 1. GREEN - NEW PIPING
 2. BLACK - EXISTING PIPING

A

UNLESS OTHERWISE SPECIFIED:		NAME	DATE
FINISHES ARE IN INCHES	DESIGN	SWR	21DEC18
TOLERANCES	CHECKED		
FRACTIONALS 1/32	APPROVED		
ANGULAR MACHINE BEND 3/4	ENG APPR.		
NO HOLE ORIGINAL 1/2	ENG APPR.		
THREE PLACE DECIMAL .000	Q.A.		
	CUSTOMER		
PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE PROPERTY OF COGENT COMPANIES. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF COGENT COMPANIES IS PROHIBITED.			
MATERIAL		TITLE	
SHOP NO.		WASHINGTON, MO	
P.O. NO.		WALUNT LIFT STATION	
JOB NO.		SIZE	DWG. NO.
DO NOT SCALE DRAWING		B	B-180220
		SCALE	1:12 (WEIGHT)
			SHEET 1 OF 2

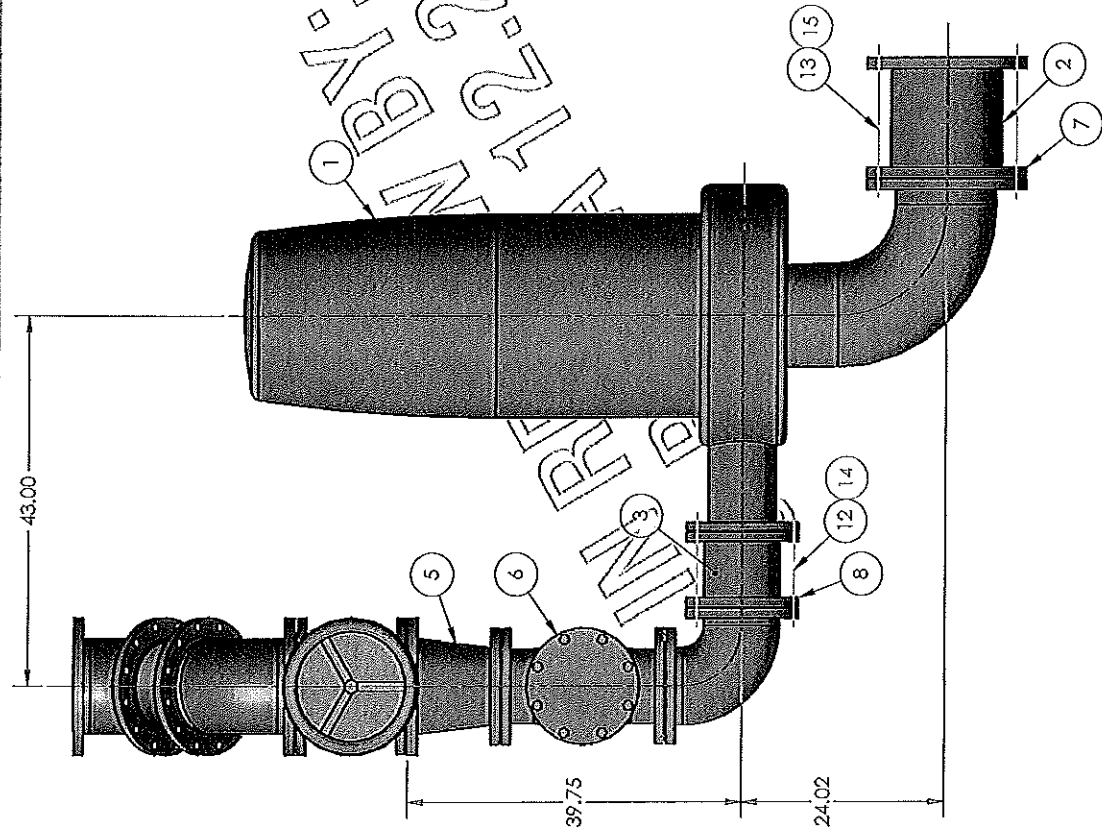
BRI VANDEVANTER ENGINEERING
 COGENT COMPANIES

4 3 2 1

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4 3 2 1



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NEW YORK 1-212-271-2018
 BRYAN
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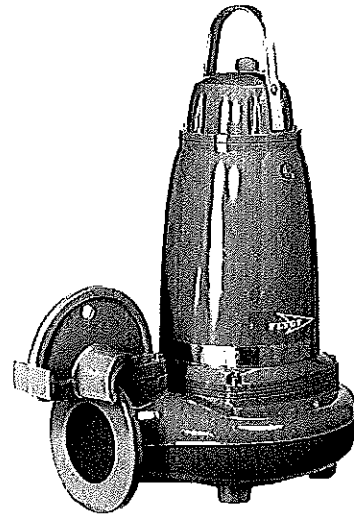
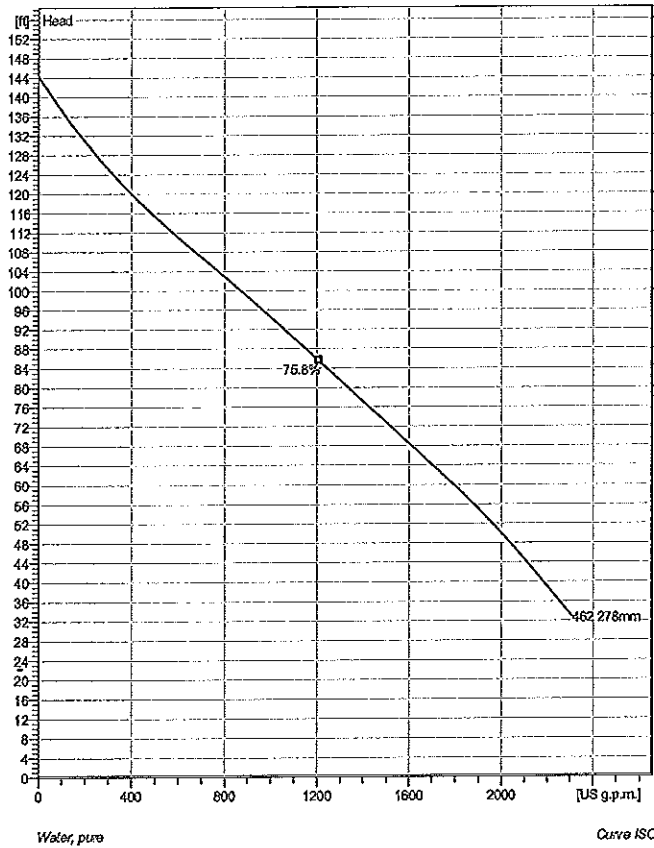
UNLESS OTHERWISE SPECIFIED:		NAME	DATE
DIMENSIONS ARE IN INCHES		BWB	2/18/21
FRACTIONS 1/32	CHECKED		
ANGULARS W/CHS 002 BEND 2.5	DRAWN		
TWO PLACE DECIMAL 2.02	MFG. APPR.		
THREE PLACE DECIMAL 2.005	ENG. APPR.		
	O.A.		
	CUSTOMER		
SHOP NO.			
P.O. NO.			
DO NOT SCALE DRAWING			

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BRI VANDEVANTER ENGINEERING CROSSBENT COMPANIES	
TITLE	WASHINGTON, MO
SIZE	WALUNT LIFT STATION
REV	
B	B-180220
SCALE	1:14 WEIGHT
	SHEET 2 OF 2

4 3 2 1

NP 3202 HT 3~ 462 Technical specification



Note: Picture might not correspond to the current configuration.

General

Patented self cleaning semi-open channel impeller, ideal for pumping in waste water applications. Possible to be upgraded with Guide-pin® for even better clogging resistance. Modular based design with high adaptation grade.

Impeller

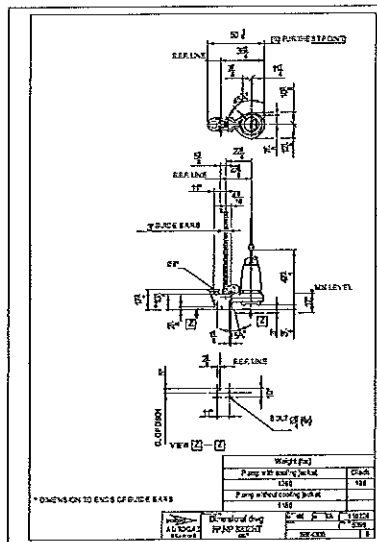
Impeller material	Grey cast Iron
Discharge Flange Diameter	5 7/8 inch
Suction Flange Diameter	7 7/8 inch
Impeller diameter	278 mm
Number of blades	2

Motor

Motor #	N3202.180 30-24-4AA-W 60hp
Stator variant	Standard
Frequency	60 Hz
Rated voltage	230 V
Number of poles	4
Phases	3~
Rated power	60 hp
Rated current	137 A
Starting current	945 A
Rated speed	1775 rpm
Power factor	
1/1 Load	0.89
3/4 Load	0.86
1/2 Load	0.78
Motor efficiency	
1/1 Load	91.5 %
3/4 Load	92.5 %
1/2 Load	92.0 %

Configuration

Installation: P - Semi permanent, Wet



Project

Project ID

Created by

Created on

Last update

6/21/2018

NP 3202 HT 3~ 462



Performance curve

Pump

Discharge Flange Diameter 5 7/8 inch
 Suction Flange Diameter 200 mm
 Impeller diameter 10^{15/16"}
 Number of blades 2

Motor

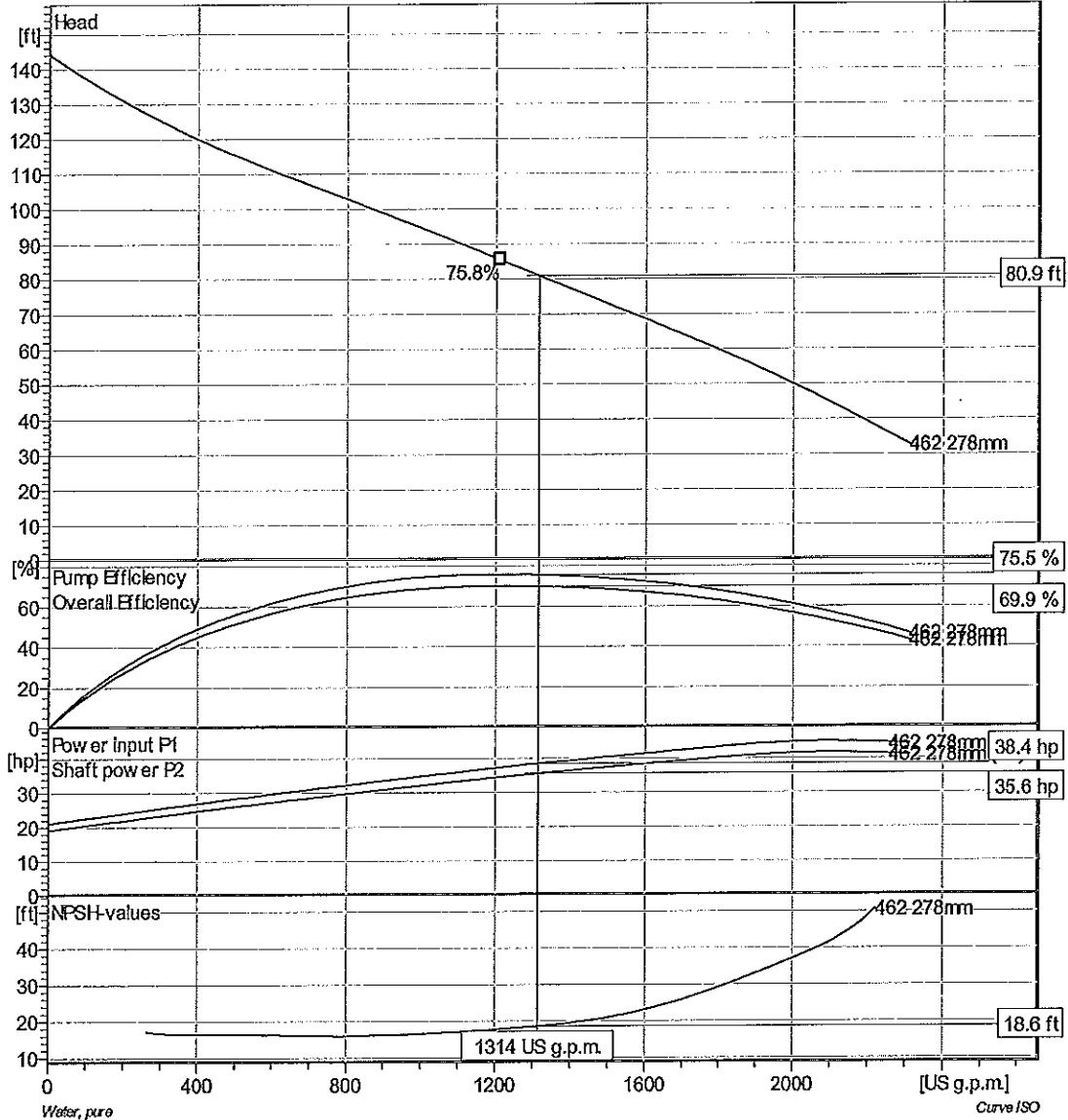
Motor # N3202.180 30-24-4AA-W 60hp
 Stator variant 4
 Frequency 60 Hz
 Rated voltage 230 V
 Number of poles 4
 Phases 3~
 Rated power 60 hp
 Rated current 137 A
 Starting current 945 A
 Rated speed 1775 rpm

Power factor

1/1 Load 0.89
 3/4 Load 0.86
 1/2 Load 0.78

Motor efficiency

1/1 Load 91.5 %
 3/4 Load 92.5 %
 1/2 Load 92.0 %



Duty point	Guarantee
Flow Head	
1300 US g.p.m. 80 ft	No

Project

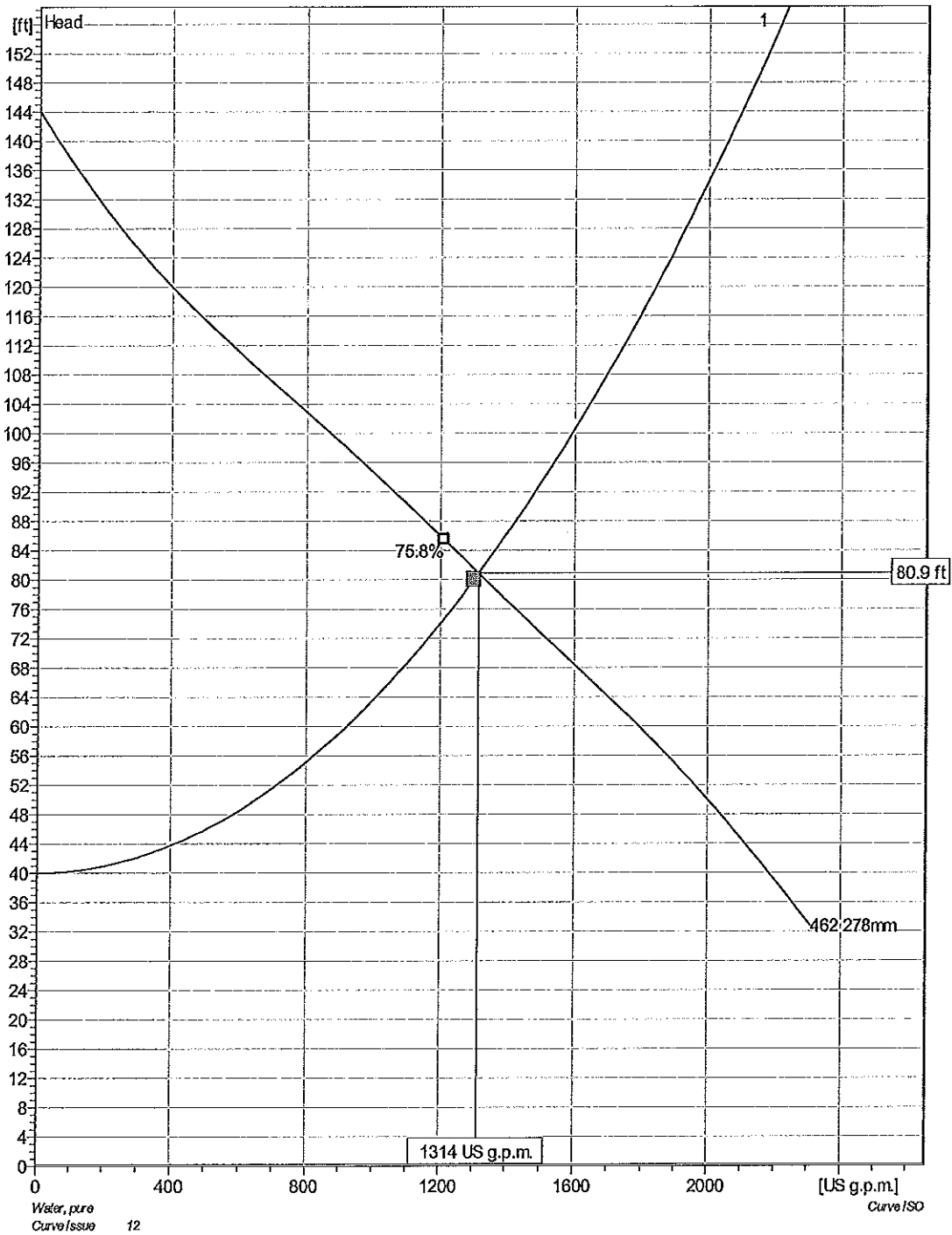
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Created by

Created on
6/21/2018

Last update

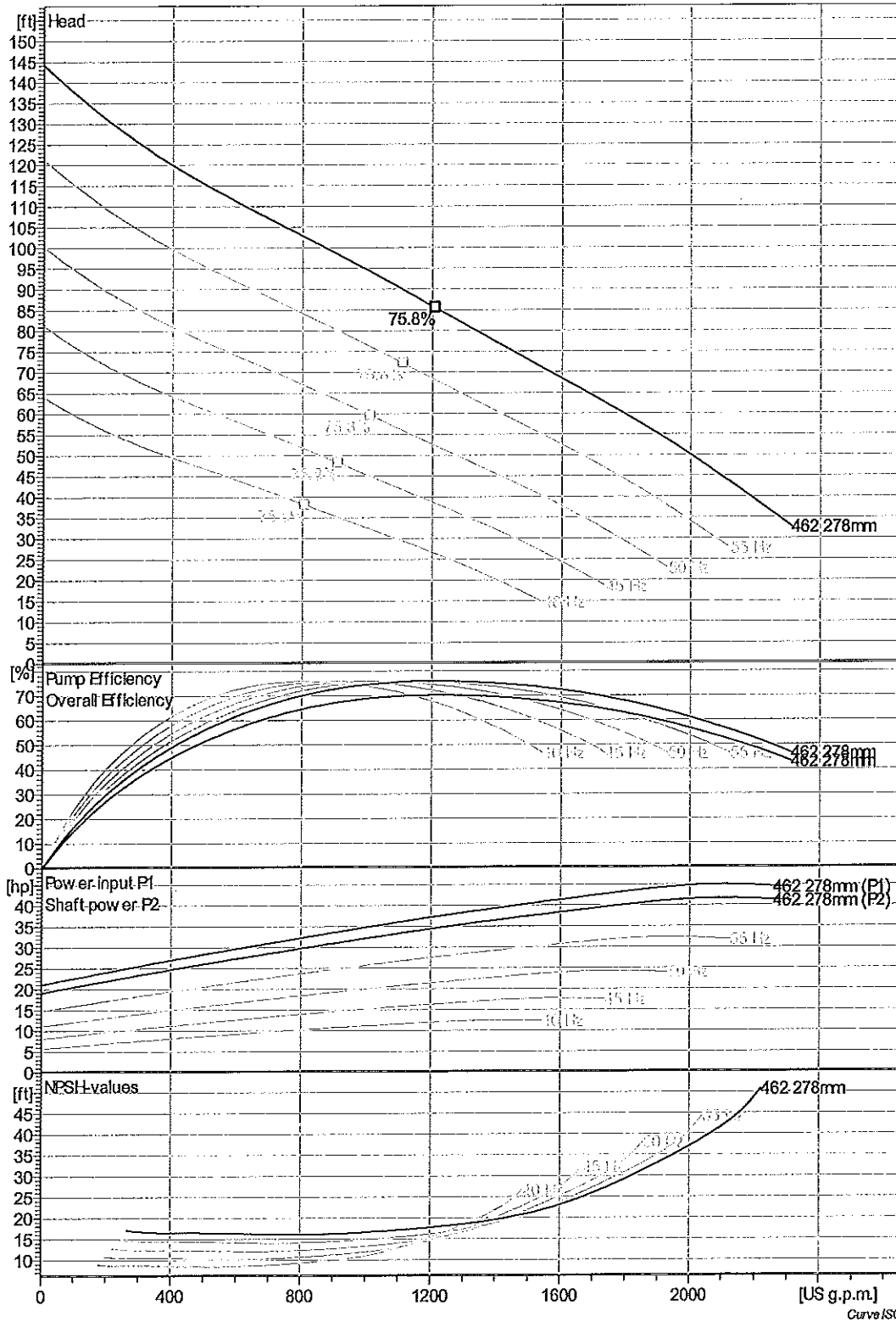
NP 3202 HT 3~ 462 Duty Analysis



Pumps running /System	Individual pump			Total			Pump eff.	Specific energy	NPSH _{re}
	Flow	Head	Shaft power	Flow	Head	Shaft power			
1	1310 US g.p.m.	80.9 ft	35.6 hp	1310 US g.p.m.	80.9 ft	35.6 hp	75.5 %	384 kWh/USMG	18.6 ft

Project	Project ID	Created by	Created on	Last update
			6/21/2018	

NP 3202 HT 3~ 462 VFD Curve



Project

Project ID

Created by

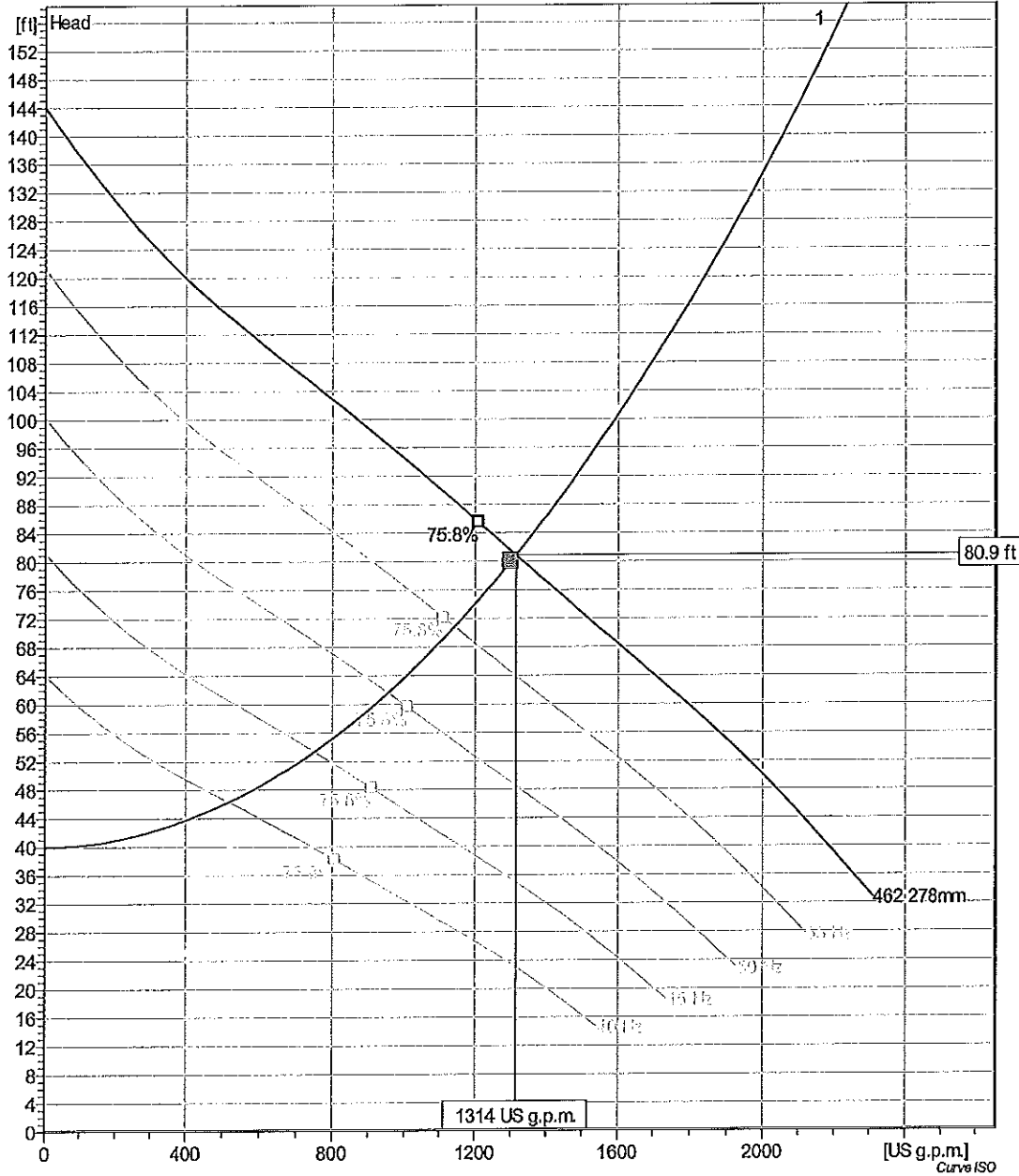
Created on

6/21/2018

Last update

Curve ISO

NP 3202 HT 3~ 462 VFD Analysis



Pumps running /System	Frequency	Flow	Head	Shaft power	Flow	Head	Shaft power	Hyd eff.	Specific energy	NPSHre
1	60 Hz	1310 US g.p.m.	80.9 ft	35.6 hp	1310 US g.p.m.	80.9 ft	35.6 hp	75.6 %	364 kW/US MG	18.6 ft
1	55 Hz	1140 US g.p.m.	70.9 ft	27 hp	1140 US g.p.m.	70.9 ft	27 hp	75.8 %	320 kW/US MG	15.7 ft
1	50 Hz	955 US g.p.m.	61.6 ft	19.7 hp	955 US g.p.m.	61.6 ft	19.7 hp	75.7 %	282 kW/US MG	13 ft
1	45 Hz	752 US g.p.m.	53.4 ft	13.6 hp	752 US g.p.m.	53.4 ft	13.6 hp	74.6 %	255 kW/US MG	10.5 ft
1	40 Hz	517 US g.p.m.	46.3 ft	8.75 hp	517 US g.p.m.	46.3 ft	8.75 hp	69.2 %	252 kW/US MG	8.41 ft

Project

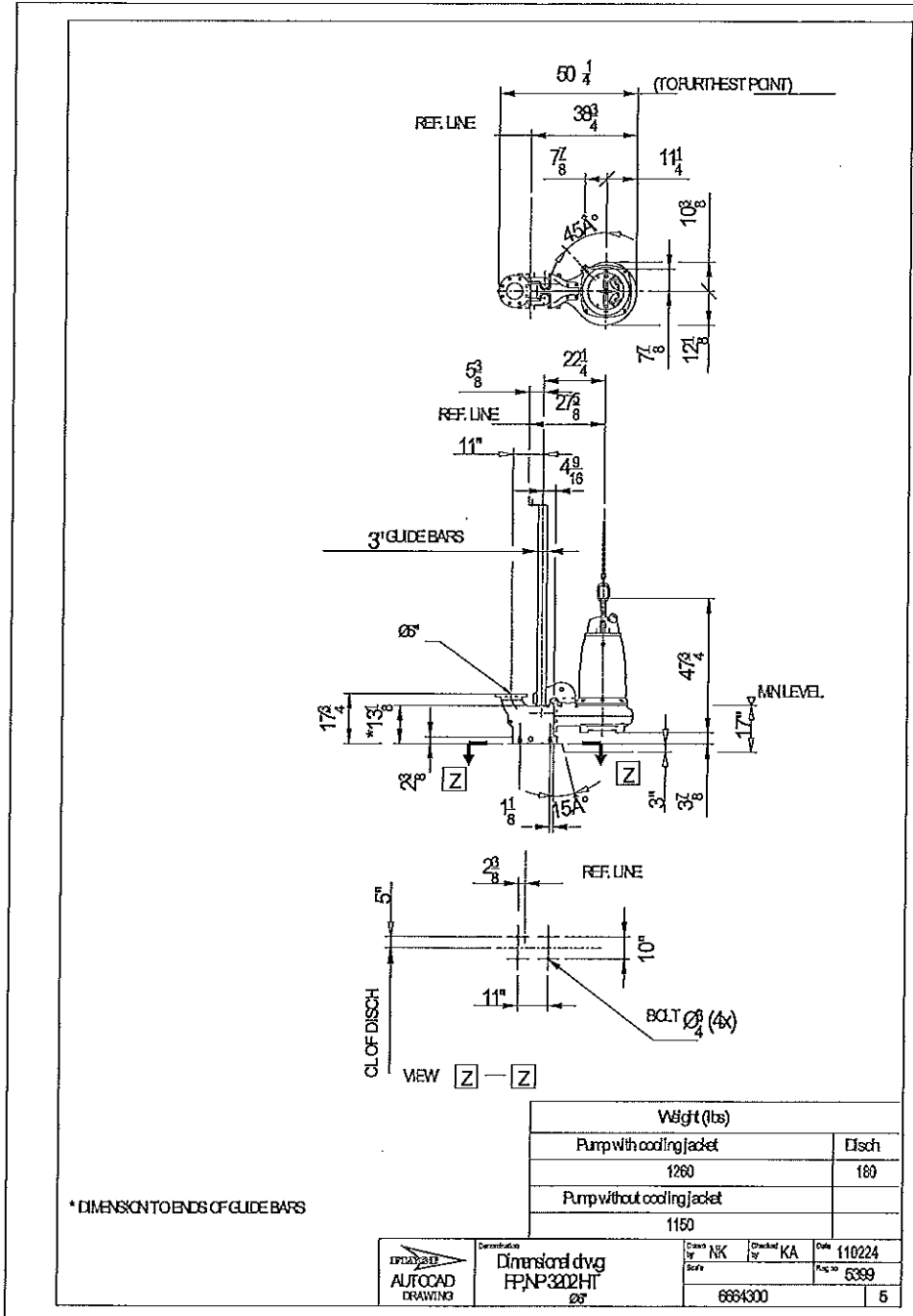
Project ID

Created by

Created on

6/21/2018

Last update



Project

Project ID

Created by

Created on
6/21/2018

Last update



City of Washington, MO

Budget Report Account Summary

For Fiscal: 2018-2019 Period Ending: 01/31/2019

	Original Total Budget	Current Total Budget	Period Activity	Fiscal Activity	Variance Favorable (Unfavorable)	Percent Remaining
Fund: 400 - WATER FUND						
Revenue						
400-35-000-450600	Penalties/Interest Charges	22,000.00	22,000.00	1,742.45	7,546.76	-14,453.24 65.70 %
400-35-000-450900	Revenues-All Other	15,000.00	15,000.00	1,000.00	4,930.99	-10,069.01 67.13 %
400-35-000-453100	Water Sales	1,390,000.00	1,390,000.00	103,019.62	468,599.92	-921,400.08 66.29 %
400-35-000-453200	Water Meter Sales	10,000.00	10,000.00	1,115.87	6,260.36	-3,739.64 37.40 %
400-35-000-453500	Connection Charges	25,000.00	25,000.00	1,800.00	10,150.00	-14,850.00 59.40 %
400-35-000-453550	Tap Charges	500.00	500.00	0.00	2,525.00	2,025.00 505.00 %
400-35-000-453600	Labor & Equipment Charges	1,000.00	1,000.00	328.95	328.95	-671.05 67.11 %
400-35-000-453700	Miscellaneous Materials Sold	3,000.00	3,000.00	0.00	914.18	-2,085.82 69.53 %
400-35-000-461200	Rent/Lease-Municipal Property/Bui	32,425.00	32,425.00	2,575.00	14,282.39	-18,142.61 55.95 %
400-35-000-480000	Investment Income	8,000.00	8,000.00	0.00	3,133.90	-4,866.10 60.83 %
	Revenue Total:	1,506,925.00	1,506,925.00	111,581.89	518,672.45	-988,252.55 65.58 %
Expense						
400-35-000-510100	Salaries/Wages-Regular	404,700.00	404,700.00	24,199.66	111,414.05	293,285.95 72.47 %
400-35-000-510150	Elected Board Officials Compensati	200.00	200.00	0.00	100.00	100.00 50.00 %
400-35-000-510200	Wages-Parttime/Permanent	5,310.00	5,310.00	0.00	0.00	5,310.00 100.00 %
400-35-000-510300	Salaries/Wages-Overtime	8,760.00	8,760.00	389.86	3,034.77	5,725.23 65.36 %
400-35-000-511100	FICA Taxes	32,050.00	32,050.00	1,799.80	8,445.98	23,604.02 73.65 %
400-35-000-511300	Health Insurance	86,520.00	86,520.00	5,136.58	22,352.22	64,167.78 74.17 %
400-35-000-511400	Dental Insurance	5,030.00	5,030.00	374.85	1,507.56	3,522.44 70.03 %
400-35-000-511600	Life Insurance	620.00	620.00	43.92	177.34	442.66 71.40 %
400-35-000-511700	LAGERS Retirement Plan	26,460.00	26,460.00	1,573.77	6,902.77	19,557.23 73.91 %
400-35-000-512605	Employee Incentive Program	600.00	600.00	0.00	240.00	360.00 60.00 %
400-35-000-512700	HRA Deductible	13,650.00	13,650.00	0.00	6,078.23	7,571.77 55.47 %
400-35-000-520250	Administration, Finance & IT Depar	151,340.00	151,340.00	0.00	25,223.32	126,116.68 83.33 %
400-35-000-520300	Technical Services	45,950.00	45,950.00	2,970.66	13,558.62	32,391.38 70.49 %
400-35-000-520400	Other Contracted Services	38,000.00	38,000.00	538.92	31,349.22	6,650.78 17.50 %
400-35-000-521530	Lawn & Grounds Care Services	19,425.00	19,425.00	0.00	0.00	19,425.00 100.00 %
400-35-000-521540	Uniform Cleaning Service	2,000.00	2,000.00	122.32	465.37	1,534.63 76.73 %
400-35-000-521560	Building Repair & Maintenance	1,000.00	1,000.00	0.00	0.00	1,000.00 100.00 %
400-35-000-521620	Equipment Repair & Maintenance	12,200.00	12,200.00	1,515.96	7,025.07	5,174.93 42.42 %
400-35-000-521630	Vehicle Repair & Maintenance	15,000.00	15,000.00	21.40	21.40	14,978.60 99.86 %
400-35-000-521635	Water System Repair & Maintenanc	10,000.00	10,000.00	0.00	0.00	10,000.00 100.00 %
400-35-000-521636	Well Pump Repair & Maintenance	22,250.00	22,250.00	0.00	0.00	22,250.00 100.00 %
400-35-000-521640	Equipment Rental	1,000.00	1,000.00	50.67	227.32	772.68 77.27 %
400-35-000-522100	Advertising	200.00	200.00	0.00	652.75	-452.75 -226.38 %
400-35-000-522200	Property, Liability & Casualty Insura	36,380.00	36,380.00	0.00	0.00	36,380.00 100.00 %
400-35-000-522210	Self-Insurance Deductible	500.00	500.00	0.00	0.00	500.00 100.00 %
400-35-000-522300	Printing/Duplicating	1,600.00	1,600.00	0.00	0.00	1,600.00 100.00 %
400-35-000-522400	Telephone	8,300.00	8,300.00	235.50	1,069.68	7,230.32 87.11 %
400-35-000-522410	Telephone-Alarm Control	4,000.00	4,000.00	0.00	0.00	4,000.00 100.00 %
400-35-000-522500	Training/Seminars	1,500.00	1,500.00	860.00	860.00	640.00 42.67 %
400-35-000-522600	Travel	1,200.00	1,200.00	0.00	439.95	760.05 63.34 %
400-35-000-522700	Professional Dues & Memberships	2,150.00	2,150.00	1,100.00	2,813.00	-663.00 -30.84 %
400-35-000-522900	Postage	13,000.00	13,000.00	814.00	3,253.84	9,746.16 74.97 %
400-35-000-522950	Credit Card Fees	7,000.00	7,000.00	688.10	2,968.55	4,031.45 57.59 %
400-35-000-530410	Parts-Vehicle	2,000.00	2,000.00	202.22	467.57	1,532.43 76.62 %
400-35-000-530415	Parts-Equipment	4,000.00	4,000.00	79.99	746.31	3,253.69 81.34 %
400-35-000-530420	Offices Supplies	1,000.00	1,000.00	18.79	132.20	867.80 86.78 %
400-35-000-530500	Asphalt/Rock/Cement	20,000.00	20,000.00	2,177.34	7,928.31	12,071.69 60.36 %
400-35-000-530600	Straw/Seeding/Plants	500.00	500.00	35.00	166.65	333.35 66.67 %

Budget Report

For Fiscal: 2018-2019 Period Ending: 01/31/2019

		Original Total Budget	Current Total Budget	Period Activity	Fiscal Activity	Variance Favorable (Unfavorable)	Percent Remaining
<u>400-35-000-530650</u>	Grounds Maintenance	0.00	0.00	0.00	4,117.50	-4,117.50	0.00 %
<u>400-35-000-530700</u>	Uniforms & Clothing	600.00	600.00	0.00	100.00	500.00	83.33 %
<u>400-35-000-530800</u>	General Supplies	7,000.00	7,000.00	332.88	1,339.73	5,660.27	80.86 %
<u>400-35-000-531110</u>	Electricity	165,000.00	165,000.00	11,433.93	37,127.99	127,872.01	77.50 %
<u>400-35-000-531120</u>	Heating Fuel	1,500.00	1,500.00	0.00	635.82	864.18	57.61 %
<u>400-35-000-531300</u>	Gasoline & Oil	12,500.00	12,500.00	0.00	2,396.57	10,103.43	80.83 %
<u>400-35-000-532100</u>	Meters & Hydrants	46,300.00	46,300.00	0.00	13,547.58	32,752.42	70.74 %
<u>400-35-000-532200</u>	Pipe & Fittings	33,000.00	33,000.00	165.39	7,926.89	25,073.11	75.98 %
<u>400-35-000-533100</u>	Chemicals	15,000.00	15,000.00	2,257.80	4,346.92	10,653.08	71.02 %
<u>400-35-000-533300</u>	Janitorial Supplies	0.00	0.00	0.00	73.36	-73.36	0.00 %
<u>400-35-000-534100</u>	Depreciation Expense	395,000.00	395,000.00	0.00	0.00	395,000.00	100.00 %
<u>400-35-000-534200</u>	SmallTools/Equipment/Furnishings	12,195.00	12,195.00	947.82	2,488.30	9,706.70	79.60 %
<u>400-35-000-540200</u>	Buildings	0.00	0.00	83.22	1,931.25	-1,931.25	0.00 %
<u>400-35-000-541100</u>	Improvements Other Than Building	273,000.00	273,000.00	0.00	28,005.00	244,995.00	89.74 %
<u>400-35-000-541110</u>	Water System Improvements	25,000.00	25,000.00	0.00	0.00	25,000.00	100.00 %
<u>400-35-000-542100</u>	Vehicles	45,000.00	45,000.00	0.00	25,740.88	19,259.12	42.80 %
<u>400-35-000-542200</u>	Machinery & Equipment	87,500.00	87,500.00	0.00	10,406.98	77,093.02	88.11 %
<u>400-35-000-559200</u>	Bond/Note Principal	233,300.00	233,300.00	0.00	0.00	233,300.00	100.00 %
<u>400-35-090-559110</u>	Interest Expense	120,400.00	120,400.00	0.00	0.00	120,400.00	100.00 %
	Expense Total:	2,477,690.00	2,477,690.00	60,170.35	399,806.82	2,077,883.18	83.86 %
	Fund: 400 - WATER FUND Surplus (Deficit):	-970,765.00	-970,765.00	51,411.54	118,865.63	1,089,630.63	112.24 %
Fund: 410 - SEWAGE TREATMENT FUND							
Revenue							
<u>410-36-000-418500</u>	Sanitary Sewer District	20,000.00	20,000.00	2,121.65	10,118.70	-9,881.30	49.41 %
<u>410-36-000-450600</u>	Penalties/Interest Charges	45,000.00	45,000.00	3,298.29	12,186.19	-32,813.81	72.92 %
<u>410-36-000-450900</u>	Revenues-All Other	5,000.00	5,000.00	1,481.47	3,051.65	-1,948.35	38.97 %
<u>410-36-000-453600</u>	Labor & Equipment Charges	100.00	100.00	0.00	0.00	-100.00	100.00 %
<u>410-36-000-453700</u>	Miscellaneous Materials Sold	200.00	200.00	0.00	0.00	-200.00	100.00 %
<u>410-36-000-454100</u>	Sewer Service Charges	2,500,000.00	2,500,000.00	205,294.64	848,761.07	-1,651,238.93	66.05 %
<u>410-36-000-454125</u>	Surcharge Fees	25,000.00	25,000.00	3,111.47	7,019.57	-17,980.43	71.92 %
<u>410-36-000-454150</u>	Leachate Disposal Charge	35,000.00	35,000.00	6,120.00	9,690.00	-25,310.00	72.31 %
<u>410-36-000-454200</u>	Sewer Connection Charges	35,000.00	35,000.00	3,261.00	15,231.00	-19,769.00	56.48 %
<u>410-36-000-480000</u>	Investment Income	5,000.00	5,000.00	0.00	1,630.08	-3,369.92	67.40 %
<u>410-36-000-480200</u>	Investment Income.-Bond Acct.	390,000.00	390,000.00	0.00	836.34	-389,163.66	99.79 %
	Revenue Total:	3,060,300.00	3,060,300.00	224,688.52	908,524.60	-2,151,775.40	70.31 %
Expense							
<u>410-36-000-510100</u>	Salaries/Wages-Regular	163,310.00	163,310.00	9,703.14	45,383.36	117,926.64	72.21 %
<u>410-36-000-510200</u>	Wages-PartTime/Permanent	5,310.00	5,310.00	0.00	0.00	5,310.00	100.00 %
<u>410-36-000-510300</u>	Salaries/Wages-Overtime	3,980.00	3,980.00	118.74	1,215.34	2,764.66	69.46 %
<u>410-36-000-511100</u>	FICA Taxes	13,300.00	13,300.00	686.40	3,321.24	9,978.76	75.03 %
<u>410-36-000-511300</u>	Health Insurance	39,720.00	39,720.00	2,676.38	11,468.61	28,251.39	71.13 %
<u>410-36-000-511400</u>	Dental Insurance	2,310.00	2,310.00	171.72	691.12	1,618.88	70.08 %
<u>410-36-000-511600</u>	Life Insurance	310.00	310.00	17.13	69.35	240.65	77.63 %
<u>410-36-000-511700</u>	LAGERS Retirement Plan	10,970.00	10,970.00	628.63	2,952.62	8,017.38	73.08 %
<u>410-36-000-512605</u>	Employee Incentive Program	200.00	200.00	0.00	90.00	110.00	55.00 %
<u>410-36-000-512700</u>	HRA Deductible	4,200.00	4,200.00	0.00	0.00	4,200.00	100.00 %
<u>410-36-000-520250</u>	Administration, Finance & IT Depar	78,120.00	78,120.00	0.00	13,020.00	65,100.00	83.33 %
<u>410-36-000-520300</u>	Technical Services	1,500.00	1,500.00	50.05	725.70	774.30	51.62 %
<u>410-36-000-520400</u>	Other Contracted Services	10,800.00	10,800.00	1,376.41	2,625.15	8,174.85	75.69 %
<u>410-36-000-521300</u>	Tipping Fee - City of Washington	300.00	300.00	0.00	0.00	300.00	100.00 %
<u>410-36-000-521530</u>	Lawn & Grounds Care Services	1,200.00	1,200.00	0.00	0.00	1,200.00	100.00 %
<u>410-36-000-521540</u>	Uniform Cleaning Service	600.00	600.00	35.20	137.42	462.58	77.10 %
<u>410-36-000-521560</u>	Building Repair & Maintenance	500.00	500.00	0.00	0.00	500.00	100.00 %
<u>410-36-000-521620</u>	Equipment Repair & Maintenance	23,285.00	23,285.00	133.18	4,827.87	18,457.13	79.27 %
<u>410-36-000-521630</u>	Vehicle Repair & Maintenance	5,450.00	5,450.00	350.00	1,163.75	4,286.25	78.65 %
<u>410-36-000-521640</u>	Equipment Rental	1,500.00	1,500.00	50.67	267.32	1,232.68	82.18 %
<u>410-36-000-522100</u>	Advertising	500.00	500.00	0.00	0.00	500.00	100.00 %

Budget Report

For Fiscal: 2018-2019 Period Ending: 01/31/2019

		Original Total Budget	Current Total Budget	Period Activity	Fiscal Activity	Variance Favorable (Unfavorable)	Percent Remaining
<u>410-36-000-522200</u>	Property, Liability & Casualty Insura	16,170.00	16,170.00	0.00	0.00	16,170.00	100.00 %
<u>410-36-000-522210</u>	Self-Insurance Deductible	300.00	300.00	0.00	0.00	300.00	100.00 %
<u>410-36-000-522300</u>	Printing/Duplicating	800.00	800.00	0.00	0.00	800.00	100.00 %
<u>410-36-000-522400</u>	Telephone	3,300.00	3,300.00	154.86	848.85	2,451.15	74.28 %
<u>410-36-000-522410</u>	Telephone-Alarm Control	3,000.00	3,000.00	0.00	1,603.39	1,396.61	46.55 %
<u>410-36-000-522500</u>	Training/Seminars	1,000.00	1,000.00	0.00	0.00	1,000.00	100.00 %
<u>410-36-000-522600</u>	Travel	700.00	700.00	0.00	13.00	687.00	98.14 %
<u>410-36-000-522700</u>	Professional Dues & Memberships	1,500.00	1,500.00	0.00	0.00	1,500.00	100.00 %
<u>410-36-000-522900</u>	Postage	6,000.00	6,000.00	407.00	1,626.92	4,373.08	72.88 %
<u>410-36-000-522950</u>	Credit Card Fees	7,000.00	7,000.00	688.08	2,968.49	4,031.51	57.59 %
<u>410-36-000-530200</u>	Lab Supplies	50.00	50.00	0.00	0.00	50.00	100.00 %
<u>410-36-000-530410</u>	Parts-Vehicle	700.00	700.00	535.92	601.78	98.22	14.03 %
<u>410-36-000-530415</u>	Parts-Equipment	12,000.00	12,000.00	12.88	1,690.07	10,309.93	85.92 %
<u>410-36-000-530420</u>	Offices Supplies	500.00	500.00	0.00	37.90	462.10	92.42 %
<u>410-36-000-530500</u>	Asphalt/Rock/Cement	25,000.00	25,000.00	0.00	672.86	24,327.14	97.31 %
<u>410-36-000-530600</u>	Straw/Seeding/Plants	250.00	250.00	0.00	0.00	250.00	100.00 %
<u>410-36-000-530700</u>	Uniforms & Clothing	300.00	300.00	0.00	0.00	300.00	100.00 %
<u>410-36-000-530800</u>	General Supplies	2,300.00	2,300.00	166.22	251.43	2,048.57	89.07 %
<u>410-36-000-530900</u>	Employee Appreciation Cost	200.00	200.00	0.00	0.00	200.00	100.00 %
<u>410-36-000-531110</u>	Electricity	45,000.00	45,000.00	3,122.92	9,166.40	35,833.60	79.63 %
<u>410-36-000-531120</u>	Heating Fuel	2,000.00	2,000.00	0.00	635.82	1,364.18	68.21 %
<u>410-36-000-531300</u>	Gasoline & Oil	6,500.00	6,500.00	0.00	1,083.91	5,416.09	83.32 %
<u>410-36-000-532200</u>	Pipe & Fittings	2,200.00	2,200.00	3,415.20	3,435.39	-1,235.39	-56.15 %
<u>410-36-000-532270</u>	Manhole Replacement Program	10,000.00	10,000.00	4,990.45	4,990.45	5,009.55	50.10 %
<u>410-36-000-533100</u>	Chemicals	2,200.00	2,200.00	0.00	10.49	2,189.51	99.52 %
<u>410-36-000-533300</u>	Janitorial Supplies	0.00	0.00	0.00	73.36	-73.36	0.00 %
<u>410-36-000-534100</u>	Depreciation Expense	250,000.00	250,000.00	0.00	0.00	250,000.00	100.00 %
<u>410-36-000-534200</u>	SmallTools/Equipment/Furnishings	11,275.00	11,275.00	574.77	857.60	10,417.40	92.39 %
<u>410-36-000-541100</u>	Improvements Other Than Building	230,000.00	230,000.00	18,750.00	19,002.00	210,998.00	91.74 %
<u>410-36-000-541120</u>	Sanitary Sewer System Improve	165,000.00	165,000.00	0.00	0.00	165,000.00	100.00 %
<u>410-36-000-542100</u>	Vehicles	45,000.00	45,000.00	0.00	364.13	44,635.87	99.19 %
<u>410-36-090-559110</u>	Interest Expense	539,500.00	539,500.00	0.00	0.00	539,500.00	100.00 %
<u>410-36-090-559120</u>	Agent Fees	68,000.00	68,000.00	0.00	0.00	68,000.00	100.00 %
<u>410-36-090-559130</u>	Amortization of Bond Discount/Pre	-21,340.00	-21,340.00	0.00	0.00	-21,340.00	100.00 %
<u>410-36-090-559200</u>	Bond/Note Principal	975,000.00	975,000.00	0.00	0.00	975,000.00	100.00 %
<u>410-36-361-510100</u>	Salaries/Wages-Regular	202,300.00	202,300.00	16,488.71	77,289.47	125,010.53	61.79 %
<u>410-36-361-510300</u>	Salaries/Wages-Overtime	3,750.00	3,750.00	502.97	1,001.27	2,748.73	73.30 %
<u>410-36-361-511100</u>	FICA Taxes	15,670.00	15,670.00	1,212.14	5,643.92	10,026.08	63.98 %
<u>410-36-361-511300</u>	Health Insurance	46,800.00	46,800.00	3,575.72	15,448.87	31,351.13	66.99 %
<u>410-36-361-511400</u>	Dental Insurance	2,720.00	2,720.00	235.63	946.47	1,773.53	65.20 %
<u>410-36-361-511600</u>	Life Insurance	370.00	370.00	32.40	130.38	239.62	64.76 %
<u>410-36-361-511700</u>	LAGERS Retirement Plan	12,920.00	12,920.00	1,087.42	4,982.93	7,937.07	61.43 %
<u>410-36-361-512605</u>	Employee Incentive Program	400.00	400.00	0.00	90.00	310.00	77.50 %
<u>410-36-361-512700</u>	HRA Deductible	5,250.00	5,250.00	0.00	841.78	4,408.22	83.97 %
<u>410-36-361-520250</u>	Administration, Finance & IT Depar	78,120.00	78,120.00	0.00	13,020.00	65,100.00	83.33 %
<u>410-36-361-520300</u>	Technical Services	10,000.00	10,000.00	1,346.20	5,279.05	4,720.95	47.21 %
<u>410-36-361-520400</u>	Other Contracted Services	22,565.00	22,565.00	306.20	3,748.70	18,816.30	83.39 %
<u>410-36-361-521300</u>	Tipping Fee - City of Washington	1,200.00	1,200.00	0.00	0.00	1,200.00	100.00 %
<u>410-36-361-521540</u>	Uniform Cleaning Service	1,500.00	1,500.00	58.08	301.36	1,198.64	79.91 %
<u>410-36-361-521560</u>	Building Repair & Maintenance	1,500.00	1,500.00	0.00	0.00	1,500.00	100.00 %
<u>410-36-361-521620</u>	Equipment Repair & Maintenance	37,700.00	37,700.00	2,684.49	8,202.41	29,497.59	78.24 %
<u>410-36-361-521630</u>	Vehicle Repair & Maintenance	6,000.00	6,000.00	275.36	3,474.12	2,525.88	42.10 %
<u>410-36-361-521640</u>	Equipment Rental	500.00	500.00	32.19	128.76	371.24	74.25 %
<u>410-36-361-522200</u>	Property, Liability & Casualty Insura	24,250.00	24,250.00	0.00	0.00	24,250.00	100.00 %
<u>410-36-361-522210</u>	Self-Insurance Deductible	500.00	500.00	0.00	0.00	500.00	100.00 %
<u>410-36-361-522300</u>	Printing/Duplicating	1,050.00	1,050.00	0.00	0.00	1,050.00	100.00 %
<u>410-36-361-522400</u>	Telephone	8,000.00	8,000.00	50.00	1,745.05	6,254.95	78.19 %
<u>410-36-361-522410</u>	Telephone-Alarm Control	500.00	500.00	0.00	0.00	500.00	100.00 %

Budget Report

For Fiscal: 2018-2019 Period Ending: 01/31/2019

		Original Total Budget	Current Total Budget	Period Activity	Fiscal Activity	Variance Favorable (Unfavorable)	Percent Remaining
<u>410-36-361-522500</u>	Training/Seminars	800.00	800.00	0.00	0.00	800.00	100.00 %
<u>410-36-361-522600</u>	Travel	500.00	500.00	0.00	0.00	500.00	100.00 %
<u>410-36-361-522700</u>	Professional Dues & Memberships	500.00	500.00	0.00	0.00	500.00	100.00 %
<u>410-36-361-522900</u>	Postage	5,000.00	5,000.00	407.00	1,776.87	3,223.13	64.46 %
<u>410-36-361-530200</u>	Lab Supplies	8,600.00	8,600.00	0.00	28.80	8,571.20	99.67 %
<u>410-36-361-530410</u>	Parts-Vehicle	800.00	800.00	243.05	309.45	490.55	61.32 %
<u>410-36-361-530415</u>	Parts-Equipment	37,000.00	37,000.00	5,094.39	11,463.42	25,536.58	69.02 %
<u>410-36-361-530420</u>	Offices Supplies	300.00	300.00	0.00	38.50	261.50	87.17 %
<u>410-36-361-530500</u>	Asphalt/Rock/Cement	1,500.00	1,500.00	0.00	19.56	1,480.44	98.70 %
<u>410-36-361-530600</u>	Straw/Seeding/Plants	300.00	300.00	0.00	298.20	1.80	0.60 %
<u>410-36-361-530700</u>	Uniforms & Clothing	400.00	400.00	100.00	100.00	300.00	75.00 %
<u>410-36-361-530800</u>	General Supplies	4,000.00	4,000.00	65.88	287.18	3,712.82	92.82 %
<u>410-36-361-531110</u>	Electricity	175,000.00	175,000.00	13,392.87	37,388.71	137,611.29	78.64 %
<u>410-36-361-531120</u>	Heating Fuel	14,000.00	14,000.00	0.00	5,288.14	8,711.86	62.23 %
<u>410-36-361-531300</u>	Gasoline & Oil	3,000.00	3,000.00	0.00	0.00	3,000.00	100.00 %
<u>410-36-361-532200</u>	Pipe & Fittings	2,500.00	2,500.00	0.00	14.31	2,485.69	99.43 %
<u>410-36-361-533100</u>	Chemicals	16,700.00	16,700.00	1,548.00	4,518.00	12,182.00	72.95 %
<u>410-36-361-534100</u>	Depreciation Expense	900,000.00	900,000.00	0.00	0.00	900,000.00	100.00 %
<u>410-36-361-534200</u>	Small Tools/Equipment/Furnishings	11,425.00	11,425.00	194.66	5,262.45	6,162.55	53.94 %
<u>410-36-361-541100</u>	Improvements other than Buildings	36,000.00	36,000.00	0.00	0.00	36,000.00	100.00 %
<u>410-36-361-542200</u>	Machinery & Equipment	216,250.00	216,250.00	0.00	0.00	216,250.00	100.00 %
<u>410-36-361-542300</u>	Furniture & Fixtures	30,000.00	30,000.00	0.00	0.00	30,000.00	100.00 %
	Expense Total:	4,726,910.00	4,726,910.00	97,749.31	346,961.22	4,379,948.78	92.66 %
	Fund: 410 - SEWAGE TREATMENT FUND Surplus (Deficit):	-1,666,610.00	-1,666,610.00	126,939.21	561,563.38	2,228,173.38	133.69 %
	Report Surplus (Deficit):	-2,637,375.00	-2,637,375.00	178,350.75	680,429.01	3,317,804.01	125.80 %

Group Summary

Account Type	Original Total Budget	Current Total Budget	Period Activity	Fiscal Activity	Variance	
					Favorable (Unfavorable)	Percent Remaining
Fund: 400 - WATER FUND						
Revenue	1,506,925.00	1,506,925.00	111,581.89	518,672.45	-988,252.55	65.58 %
Expense	2,477,690.00	2,477,690.00	60,170.35	399,806.82	2,077,883.18	83.86 %
Fund: 400 - WATER FUND Surplus (Deficit):	-970,765.00	-970,765.00	51,411.54	118,865.63	1,089,630.63	112.24 %
Fund: 410 - SEWAGE TREATMENT FUND						
Revenue	3,060,300.00	3,060,300.00	224,688.52	908,524.60	-2,151,775.40	70.31 %
Expense	4,726,910.00	4,726,910.00	97,749.31	346,961.22	4,379,948.78	92.66 %
Fund: 410 - SEWAGE TREATMENT FUND Surplus (Deficit):	-1,666,610.00	-1,666,610.00	126,939.21	561,563.38	2,228,173.38	133.69 %
Report Surplus (Deficit):	-2,637,375.00	-2,637,375.00	178,350.75	680,429.01	3,317,804.01	125.80 %

Fund Summary

Fund	Original Total Budget	Current Total Budget	Period Activity	Fiscal Activity	Variance Favorable (Unfavorable)
400 - WATER FUND	-970,765.00	-970,765.00	51,411.54	118,865.63	1,089,630.63
410 - SEWAGE TREATMENT FUND	-1,666,610.00	-1,666,610.00	126,939.21	561,563.38	2,228,173.38
Report Surplus (Deficit):	-2,637,375.00	-2,637,375.00	178,350.75	680,429.01	3,317,804.01

Memorandum

TO: Darren Lamb, City Administrator
Board of Public Works
FROM: Kevin Quaethem, Water and Wastewater Superintendent
DATE: February 5, 2019
RE: Work Performed by the Water and Wastewater Departments

STATUS OF MAJOR CONTRACTS –JANUARY 2019

PROJECT	VENDOR	CONTRACT AMOUNT	PREVIOUSLY APPROVED	CURRENTLY APPROVED	BALANCE
N/A					

DECEMBER 2018

Water Pumped January 2019. 53,202,000 1.72 mgd
Wastewater Effluent Flow January 2019..... 91,900,000 2.96 mgd
Missouri One Call Locate messages received for locates.....109
Meters Issued as new.4
Meters Issued as replacements.....0
Meters Issued as new for irrigation systems0
Meters Re-reads266
Service Requests/Work Orders Completed January 2019.....25
Sewer Routines0
Delinquent Accounts actually shut off in January 2019.....0

WATER DEPARTMENT FIELD WORK PERFORMED – JANUARY 2019

- | | |
|--|---|
| 1. Shop Maintenance | 12. Repair Force Main W. 5 th Lift Station |
| 2. Meter/Swapping/Repair | 13. Plow Snow – Clean Sidewalks |
| 3. Repair/Replace/Number Hydrants | 14. Removed Christmas Lights |
| 4. Check Wells/Lift Stations/Heaters | 15. Hauled Asphalt Various Locations |
| 5. Missouri One Call Locates | 16. Cleaned Shop and Trucks |
| 6. Hydrant Flushing/Painting | 17. Moved Barrels of Chlorine to Wells |
| 7. Drain Repair @ Public Works Bldg. | 18. Meter Re-reads |
| 8. Taps (4) for KJU 5 th Street | |
| 9. Water Break @ 712 Jefferson | |
| 10. Water Break @ W. 8 th & Hill | |
| 11. Water Break @ W. 2 nd & Cedar | |

WASTEWATER DEPARTMENT FIELD WORK PERFORMED – JANUARY 2019

1. Sewer Routines
2. Daily lab work and routines.
3. Cleaned belt press.
4. Clean Process Filters
5. Run belt press.
6. Pump Out & Wash Landfill Lift Station
7. Televised 615 East 8th Street
8. Televised sewer @ 3rd & Hooker
9. Sewer Backup E. 3rd Street
10. Emergency Call out – Madison Lift Sta.
11. Emergency Call out – West End Lift Sta.
12. Hauled Various Loads of Sludge

ROUTINE FIELD WORK

1. Performed rereads as necessary.
2. Performed read-outs on meters (persons moving in and out)
3. Installed reading device receptacles on houses where new/replacement meters were installed.
4. Issued meters and materials to contractors, owners, etc.
5. Took necessary water samples of the distribution system.
6. Flushed hydrants – scheduled routine flushing.
7. Wastewater lab work.
8. Root-sawed and/or cleaned sewer lines where necessary.
9. Hauled sludge.
10. Televised sewer lines.
11. Performed river gauge measurement.
12. Performed sewer and water service main inspections.
13. Located water and sewer lines.
14. Monitored construction of water and sewer mains in new developments.
15. Responded to service call requests.
16. Invoiced for meters, materials and other charges as necessary.
17. Performed maintenance and repairs on buildings, vehicles, and equipment.

Missouri Department of Natural Resources
 Division of Environmental Quality
Microbiological Analysis Report

P.O. Box 176
 Jefferson City, MO 65102
 314--751-5331

Public Water System Name Washington Water Dept.				Laboratory Name Franklin County Lab			
Street Address 405 Jefferson Street				7419 Hwy 47 Ste. A Union, MO			
City Washington		Zip Code 63090		Certification Number 00700			
County Franklin		I.D. Number MO6010838					
Date M/D/Y	Collection Point	Sample Type	Location Code	Sample Results		Chlorine Residual	
				Coliform	E-coli	Total	Free
1/8/19	#4 Chamber Dr	R	R-3	A	A	0.57	0.62
1/8/19	200 E 14th	R	R-8	A	A	1.16	1.26
1/8/19	1220 Lakeshore Dr	R	R-1	A	A	0.70	0.69
1/8/19	1901 W Main St	R	R-17	A	A	0.40	0.45
1/8/19	6354 Bluff Rd	R	R-18	A	A	0.26	0.30
1/16/19	4 Chamber	R	R-3	A	A	0.60	0.66
1/16/19	200 E 14th	R	R-8	A	A	0.76	0.68
1/16/19	405 Jefferson St	R	R-4	A	A	0.37	0.39
1/16/19	1220 Lakeshore Dr	R	R-1	A	A	0.43	0.41
1/16/19	515 Washington Ave	R	R-2	A	A	2.20	2.20
1/22/19	200 E 14th	R	R-8	A	A	0.44	0.41
1/22/19	1220 Lakeshore Dr	R	R-1	A	A	0.45	0.47
1/22/19	#4 Chamber	R	R-3	A	A	0.62	0.69
1/22/19	515 Washington Ave	R	R-2	A	A	1.52	1.49
1/22/19	405 Jefferson St	R	R-4	A	A	0.68	0.65
				Signed: Kristen Wideman		Date: 1/23/2019	
Total Routine Samples: 15				Title: Lab Assistant			
Monitoring Violation <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No							



January 3, 2018

St. Louis Regional Office
7545 South Lindbergh Blvd., Suite 210
St. Louis, MO 63125-4843

Re: Disinfectant Monitoring Log for Month of January 2019

Enclosed you will find the Disinfectant Monitoring Log containing all our daily chlorine readings as of January 2019.

Please let us know if you need any additional data.

Sincerely,

A handwritten signature in black ink, appearing to read "Kevin Quaethem".

Kevin Quaethem
Water/WW Superintendent

KQ/bh

Disinfectant Monitoring

PWS:	The City of Washington - Well # 3							
PWSID:	MO6010838							
County:	Franklin							
Month:	January-19					Chlorine Residual		
Date	Time	Free Cl (mg/l) @ Well	Sampler	Collection Point	Sample Type	Total	Free	Sampler
1	8:50	2.46	KM					
2	8:49	2.91	RS					
3	1:14	2.78	RS					
4	9:15	2.83	BR					
5	6:53	2.51	DV					
6	3:44	2.5	DV					
7	8:53	2.29	BR					
8	8:25	2.81	BR	#4 Chamber Dr.	R	0.57	0.62	CA
9	9:02	2.31	BR					
10	9:14	2.6	RS/BR					
11	9:29	2.85	ST					
12	8:05	2.67	BK					
13	8:15	2.83	BK					
14	10:07	2.61	BR					
15	9:28	1.74	RS					
16	9:00	1.78	RS	#4 Chamber Dr.	R	0.6	0.66	CA
17	9:16	1.74	RS					
18	8:41	1.71	RS					
19	9:54	1.68	RS					
20	9:40	1.64	RS					
21	10:25	1.78	RS					
22	9:45	1.77	RS	200 E. 14th St.	R	0.44	0.41	CA
23	9:13	1.69	RS					
24	9:14	1.62	RS					
25	10:18	1.63	ST					
26	8:20	1.68	KM					
27	8:10	1.64	KM					
28	9:21	1.62	RS					
29	9:00	2.34	CA					
30	9:36	1.83	RS					
31	9:55	1.72	RS					

Notes:

Disinfectant Monitoring

PWS:	The City of Washington - Well # 4							
PWSID:	MO6010838							
County:	Franklin							
Month:	January-19					Chlorine Residual		
Date	Time	Free Cl (mg/l) @ Well	Sampler	Sample Point	Sample Type	Total	Free	Sampler
1	8:20	2.81	KM					
2	8:08	1.71	RS					
3	12:41	1.74	RS					
4	8:45	1.76	BR					
5	7:25	Well Not Running	DV					
6	4:06	Well Not Running	DV					
7	8:26	Well Not Running	BR					
8	8:01	Well Not Running	BR	200 E. 14th St.	R	1.16	1.26	CA
9	8:22	Well Not Running	BR					
10	9:35	Well Not Running	RS/BR					
11	8:20	Well Not Running	ST					
12	8:45	Well Not Running	BK					
13	7:55	Well Not Running	BK					
14	9:25	Well Not Running	BR					
15	8:42	Well Not Running	RS					
16	8:27	Well Not Running	RS	200 E. 14th St.	R	0.76	0.68	CA
17	8:29	2.2	RS					
18	7:57	2.22	RS					
19	9:33	2.23	RS					
20	9:01	2.23	RS					
21	10:07	2.23	RS					
22	9:21	2.23	RS	1220 Lakeshore Dr.	R	0.45	0.47	CA
23	8:44	2.23	RS					
24	8:43	1.39	RS					
25	9:35	0.5	ST					
26	7:45	1.24	KM					
27	7:10	1.92	KM					
28	8:15	1.3	RS					
29	9:30	Well Not Running	CA					
30	8:53	2.03	RS					
31	9:20	1.92	RS					

Notes:

Disinfectant Monitoring

PWS:	The City of Washington - Well # 5							
PWSID:	MO6010838							
County:	Franklin							
Month:	January-19					Chlorine Residual		
Date	Time	Free Cl (mg/l) @ Well	Sampler	Sample Point	Sample Type	Total	Free	Sampler
1	8:20	Well Not Running	KM					
2	9:49	Well Not Running	RS					
3	2:28	Well Not Running	RS					
4	8:55	Well Not Running	BR					
5	7:00	0.5	DV					
6	3:04	Well Not Running	DV					
7	8:45	Well Not Running	BR					
8	8:15	Well Not Running	BR	1220 Lakeshore Dr.	R	0.7	0.69	CA
9	8:51	Well Not Running	BR					
10	7:58	Well Not Running	RS/BR					
11	10:57	Well Not Running	ST					
12	8:00	Well Not Running	BK					
13	8:20	Well Not Running	BK					
14	9:55	Well Not Running	BR					
15	10:26	Well Not Running	RS					
16	10:14	Well Not Running	RS	405 Jefferson St.	R	0.37	0.39	CA
17	10:09	Well Not Running	RS					
18	10:57	2.78	RS					
19	10:40	1.91	RS					
20	10:12	Well Not Running	RS					
21	11:12	Well Not Running	RS					
22	7:55	Well Not Running	RS	#4 Chamber Dr.	R	0.62	0.69	CA
23	10:10	Well Not Running	RS					
24	10:05	2.51	RS					
25	11:49	Well Not Running	ST					
26	8:05	Well Not Running	KM					
27	8:20	Well Not Running	KM					
28	10:06	2.91	RS					
29	9:05	Well Not Running	CA					
30	11:35	Well Not Running	RS					
31	11:11	1.41	RS					

Notes:

Disinfectant Monitoring

PWS:		The City of Washington - Well # 6						
PWSID:		MO6010838						
County:		Franklin						
Month:		January-19				Chlorine Residual		
Date	Time	Free Cl (mg/l) @ Well	Sampler	Sample Point	Sample Type	Total	Free	Sampler
1	7:55	Well Not Running	KM					
2	8:01	Well Not Running	RS					
3	12:36	Well Not Running	RS					
4	8:35	Well Not Running	BR					
5	7:31	Well Not Running	DV					
6	4:09	Well Not Running	DV					
7	8:19	Well Not Running	BR					
8	7:54	Well Not Running	BR	1901 W Main St.	R	0.4	0.45	CA
9	8:17	Well Not Running	BR					
10	9:41	Well Not Running	RS/BR					
11	8:14	Well Not Running	ST					
12	7:42	Well Not Running	BK					
13	7:52	Well Not Running	BK					
14	9:10	Well Not Running	BR					
15	8:37	Well Not Running	RS					
16	8:10	0.87	RS	1220 Lakeshore	R	0.43	0.41	CA
17	8:08	0.8	RS					
18	7:46	0.9	RS					
19	9:26	Well Not Running	RS					
20	8:56	Well Not Running	RS					
21	10:03	Well Not Running	RS					
22	9:09	0.85	RS	515 Washington	R	1.52	1.49	CA
23	8:38	Well Not Running	RS					
24	8:28	1.11	RS					
25	9:27	Well Not Running	ST					
26	7:25	Well Not Running	KM					
27	6:30	Well Not Running	KM					
28	8:00	Well Not Running	RS					
29	9:25	Well Not Running	CA					
30	8:40	Well Not Running	RS					
31	9:11	Well Not Running	RS					

Notes:

Disinfectant Monitoring

PWS:	The City of Washington - Well # 7							
PWSID:	MO6010838							
County:	Franklin							
Month:	January-19					Chlorine Residual		
Date	Time	Free Cl (mg/l) @ Well	Sampler	Sample Point	Sample Type	Total	Free	Sampler
1	9:05	0.54	KM					
2	9:13	0.65	RS					
3	1:38	Well Not Running	RS					
4	9:30	Well Not Running	BR					
5	6:32	0.72	DV					
6	3:27	Well Not Running	DV					
7	9:04	0.48	BR					
8	8:37	Well Not Running	BR	6354 Bluff Rd	R	0.26	0.3	CA
9	9:42	Well Not Running	BR					
10	8:53	2.05	RS/BR					
11	9:55	Well Not Running	ST					
12	8:33	Well Not Running	BK					
13	8:45	Well Not Running	BK					
14	11:20	Well Not Running	BR					
15	9:55	0.7	RS					
16	9:54	Well Not Running	RS	515 Washington	R	2.2	2.2	CA
17	9:40	2.16	RS					
18	10:14	1.78	RS					
19	10:21	0.83	RS					
20	9:57	2.95	RS					
21	10:44	Well Not Running	RS					
22	10:21	1.13	RS	405 Jefferson St.	R	0.68	0.65	CA
23	9:47	1.8	RS					
24	9:33	1.3	RS					
25	11:18	2.55	ST					
26	8:50	Well Not Running	KM					
27	8:00	Well Not Running	KM					
28	9:45	0.96	RS					
29	8:37	Well Not Running	CA					
30	11:02	Well Not Running	RS					
31	10:19	0.64	RS					

Notes:

Disinfectant Monitoring

PWS:	The City of Washington - Well # 8							
PWSID:	MO6010838							
County:	Franklin							
Month:	January-19					Chlorine Residual		
Date	Time	Free Cl (mg/l) @ Well	Sampler	Collection Point	Sample Type	Total	Free	Sampler
1	9:40	2.49	KM					
2	7:35	1.02	RS					
3	12:14	2.91	RS					
4	8:05	2.93	BR					
5	8:23	0.97	DV					
6	4:55	Well Not Running	DV					
7	7:55	Well Not Running	BR					
8	7:33	0.93	BR					
9	7:40	Well Not Running	BR					
10	10:08	0.98	RS/BR					
11	7:24	0.89	ST					
12	7:35	Well Not Running	BK					
13	7:45	Well Not Running	BK					
14	8:13	Well Not Running	BR					
15	8:05	0.97	RS					
16	7:35	0.94	RS					
17	7:34	2.48	RS					
18	7:21	0.73	RS					
19	9:15	1.08	RS					
20	8:40	0.94	RS					
21	9:41	1.63	RS					
22	8:3	1.56	RS					
23	8:01	1.2	RS					
24	8:0	0.96	RS					
25	8:38	Well Not Running	ST					
26	9:20	1.05	KM					
27	8:30	0.86	KM					
28	7:35	0.87	RS					
29	9:48	0.8	CA					
30	8:11	Well Not Running	RS					
31	8:22	0.62	RS					

Notes:

Disinfectant Monitoring

PWS:	The City of Washington - Well # 9 (Well Out of Service)							
PWSID:	MO6010838							
County:	Franklin							
Month:	January-19					Chlorine Residual		
Date	Time	Free Cl (mg/l) @ Well	Sampler	Collection Point	Sample Type	Total	Free	Sampler
1		Out of Service						
2		Out of Service						
3		Out of Service						
4		Out of Service						
5		Out of Service						
6		Out of Service						
7		Out of Service						
8		Out of Service						
9		Out of Service						
10		Out of Service						
11		Out of Service						
12		Out of Service						
13		Out of Service						
14		Out of Service						
15		Out of Service						
16		Out of Service						
17		Out of Service						
18		Out of Service						
19		Out of Service						
20		Out of Service						
21		Out of Service						
22		Out of Service						
23		Out of Service						
24		Out of Service						
25		Out of Service						
26		Out of Service						
27		Out of Service						
28		Out of Service						
29		Out of Service						
30		Out of Service						
31		Out of Service						

Notes:

Disinfectant Monitoring

PWS:		The City of Washington - Well # 10						
PWSID:		MO6010838						
County:		Franklin						
Month:		January-19				Chlorine Residual		
Date	Time	Free Cl (mg/l) @ Well	Sampler	Collection Point	Sample Type	Total	Free	Sampler
1	7:45	0.91	KM					
2	7:47	0.95	RS					
3	12:24	0.96	RS					
4	8:17	0.86	BR					
5	8:16	0.84	DV					
6	5:10	Well Not Running	DV					
7	8:07	Well Not Running	BR					
8	7:43	0.92	BR					
9	7:58	1.05	BR					
10	9:54	0.91	RS/BR					
11	7:43	0.91	ST					
12	7:25	0.88	BK					
13	7:35	0.89	BK					
14	8:35	1.18	BR					
15	8:19	1.54	RS					
16	7:56	1.03	RS					
17	7:48	1.03	RS					
18	7:34	1.02	RS					
19	8:58	1.44	RS					
20	8:42	1.03	RS					
21	9:29	0.84	RS					
22	8:56	0.75	RS					
23	8:16	0.78	RS					
24	8:15	0.96	RS					
25	9:07	0.73	ST					
26	7:15	0.7	KM					
27	6:15	0.7	KM					
28	7:48	0.81	RS					
29	10:00	1.88	CA					
30	8:32	0.5	RS					
31	8:46	0.97	RS					

Notes:

Disinfectant Monitoring

PWS:	The City of Washington - Well # 11							
PWSID:	MO6010838							
County:	Franklin							
Month:	January-19					Chlorine Residual		
Date	Time	Free Cl (mg/l) @ Well	Sampler	Sample Point	Sample Type	Total	Free	Sampler
1	9:15	2.48	KM					
2	9:36	2.32	RS					
3	2:00	2.21	RS					
4	9:40	0.75	BR					
5	8:25	Well Not Running	DV					
6	3:15	0.5	DV					
7	9:16	Well Not Running	BR					
8	8:49	Well Not Running	BR					
9	10:22	Well Not Running	BR					
10	8:17	0.72	RS/BR					
11	10:46	2.49	ST					
12	8:45	Well Not Running	BK					
13	8:52	Well Not Running	BK					
14	11:45	2.84	BR					
15	10:17	2.74	RS					
16	10:06	2.63	RS					
17	10:00	2.69	RS					
18	10:37	2.74	RS					
19	6:43	Well Not Running	RS					
20	10:14	Well Not Running	RS					
21	11:05	2.47	RS					
22	10:38	1.83	RS					
23	11:20	0.58	RS					
24	9:57	0.91	RS					
25	11:36	0.5	ST					
26	9:00	1.06	KM					
27	8:15	1.78	KM					
28	9:56	0.52	RS					
29	8:00	Well Not Running	CA					
30	11:25	Well Not Running	RS					
31	10:50	0.54	RS					

Notes: