



DIVISION OF INDUSTRY SERVICES
 PO BOX 7162
 MADISON WI 53707-7162
 Contact Through Relay
 www.dsp.s.wi.gov/sb/
 www.wisconsin.gov

Scott Walker, Governor
 Dave Ross, Secretary

May 15, 2014

CUST ID No. 1270378

ATTN: Plumbing Inspector

AJ JAMESON
 CULLIGAN TOTAL WATER
 5002 WORLD DAIRY DR
 MADISON WI 53718

MUNICIPAL CLERK
 TOWN OF CHRISTIANA
 773 KOSHKONONG RD
 CAMBRIDGE WI 53523-9444

**CONDITIONAL APPROVAL
 PLAN APPROVAL EXPIRES: 05/15/2016**

Identification Numbers
Transaction ID No. 2363500
Site ID No. 754194
Please refer to both identification numbers, above, in all correspondence with the agency.

SITE:

Bible Baptist Church of Utica
 2095 Cty Rd W
 Town of Christiana, 53589
 Dane County

FOR:

Facility: 703370 BIBLE BAPTIST CHURCH OF UTICA
 2095 CTY RD W
 STOUGHTON 53589
 Plan Type: Addition-Alteration

Object Type: Commercial Water Treatment Device Regulated Object ID No.: 1469017

The submittal described above has been reviewed for conformance with applicable Wisconsin Administrative Codes and Wisconsin Statutes. The submittal has been **CONDITIONALLY APPROVED**. The owner, as defined in chapter 101.01(10), Wisconsin Statutes, is responsible for compliance with all code requirements.

No person may engage in or work at plumbing in the state unless licensed to do so by the Department per s.145.06, stats.

The following conditions shall be met during construction or installation and prior to occupancy or use:

- These devices have undergone sufficient testing to document the device's ability to reduce only those contaminants and/or substances as specified in this approval letter when the product is installed and maintained in strict accordance with the manufacturer's published instructions.
- Where the Department of Natural Resources (DNR) has jurisdiction, a written approval may be required prior to installation of this product in a water supply system to reduce the concentration of a contaminant that exceeds the primary drinking water standards contained in ch. NR 809, Wis. Admin. Code, the enforcement standards contained in ch. NR 140, Wis. Admin. Code, or for a water supply system that is subject to a written advisory opinion by the DNR. For more information contact the DNR Section of Private Water Systems, P.O. Box 7921, Madison, WI 53707, telephone (608) 267-9787.
- The finished installation must undergo a final inspection prior to the treated water being used for consumptive purposes. The Plumbing Consultant having jurisdiction in this area is Ryan Boebel. Mr. Boebel can be reached via the following:

Phone: 608-412-3998
 E-mail: ryan.boebel@wi.gov

(continued from previous page)

If the treated water is used for consumptive purposes prior to passing the final inspection, then this approval may be rendered null and void and the devices ordered removed. The Plumbing Consultant shall provide a written indication of the results of the final inspection to the system owner.

When the final inspection has been passed, the Plumbing Consultant will notify the Wisconsin Department of Natural Resources (WDNR) Field Staff having authority over the well. The WDNR will then monitor the quality of the treated water to its satisfaction. Monitoring advice, which the WDNR is free to accept or reject, is provided elsewhere in this letter. The WDNR Field Staff having authority over this well is James Kralick. Mr. Kralick can be contacted via the following:

Phone: 608-275-3202

E-mail: james.kralick@wisconsin.gov

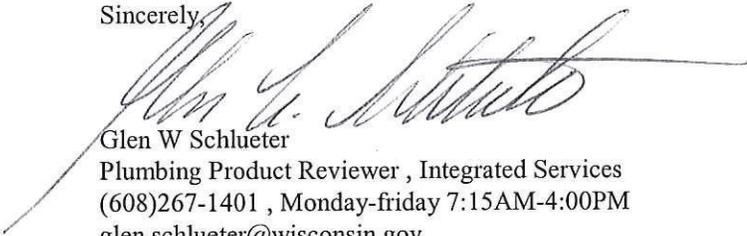
- The suggested monitoring interval for this installation is quarterly. The following tests should be performed:
 1. Total dissolved arsenic;
 2. Free chlorine residual
 3. Total iron

The water quality samples should be collected at a time of day when the devices are as near peak demand as possible. Untreated and treated water samples should be collected together in sets, the untreated samples taken upstream of all water treatment devices and the treated samples for arsenic and free chlorine downstream of all water treatment devices. The treated water samples for total iron should be taken downstream the water softeners, but prior to the arsenic reduction devices.

It is important that the monitoring of these systems be continued on an ongoing basis because the arsenic treatment media has a finite capacity and is not regenerated onsite. This means that eventually the arsenic treatment media must be replaced with new media of the same specific type for the treatment to remain effective. The goal is to replace the arsenic treatment media prior to arsenic breakthrough. For this reason, it makes sense to increase the frequency of sampling as the arsenic treatment devices approach the end of their estimated service life.

- This arsenic reduction device shall be programmed with a minimum of a 25% reserve capacity.
- Flow controls shall be installed to preclude each arsenic reduction device from exceeding its maximum rated service flow rate.
- No bypass piping shall be installed on these arsenic reduction devices.
- Any wall hydrant that is not served by these arsenic treatment devices must have one, or more, of the following:
 1. The handles of the hydrant shall be removed;
 2. The hydrant shall be capped and sealed using solder; or
 3. Signage shall be posted immediately above the hydrant indicating the water is unfit for human consumption
- All water distribution piping shall be marked as required by Table 82.40-1a.
- The drain, waste and vent system downstream of this treatment train shall be properly sized to accept the additional wastewater loading generated by these devices.
- The ongoing maintenance of this system will be performed by Culligan Total Water, 608-226-5268.

Sincerely,



Glen W Schlueter

Plumbing Product Reviewer , Integrated Services
(608)267-1401 , Monday-friday 7:15AM-4:00PM
glen.schlueter@wisconsin.gov

Fee Required \$ 160.00

This Amount Will Be Invoiced.
When You Receive That Invoice,
Please Include a Copy With Your
Payment Submittal.
WiSMART code: 7657

cc: Douglas Mikelson , Total Water Treatment Systems Inc
Ryan M Boebel, Plumbing Consultant, (608) 412-3998 , 8:00 am - 4:00 pm
Bible Baptist Church of Utica

Note: Effective January 1, 2012, all codes under the jurisdiction of the Division of Industry Services (formerly Safety & Buildings) will be modified. Code references with prefixes starting with "Comm" have been replaced with "SPS" to recognize the relocation of the Division of Industry Services from the former Department of Commerce to the Department of Safety & Professional Services. Additionally, all IS (formerly S&B) codes have been renumbered and addressed in a "300" series. For future reference, the Wisconsin Commercial Building Code will be addressed by SPS Chapters 360-366.

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DIVISION OF SAFETY AND BUILDINGS



SEE CORRESPONDENCE

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APR - 9 2014

SAFETY & BUILDINGS

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1. Application for Plan Review
2. Water Treatment System Outline
3. Property plot map, well location and Well information
4. Fixture count tables and water calculation worksheet
5. Water Distribution isometric Sketch, Diagram of Room Layout, and Equipment Hydraulic Flow Chart.
6. Certificates of Analysis, Culligan and Wisc. State Lab.
7. Water Softener
8. Chemical feeder/solution tank/Submittal checklist-form 3300-227
9. WellMate Contact/Retention Tank
10. Greensand filter for Arsenic reduction
11. Totalizing Meter
12. Arsenic and Free Chlorine Test Kits
13. Maintenance Program
14. Startup Procedures and initial testing
15. Operators/repair manuals, Log Sheets and record keeping

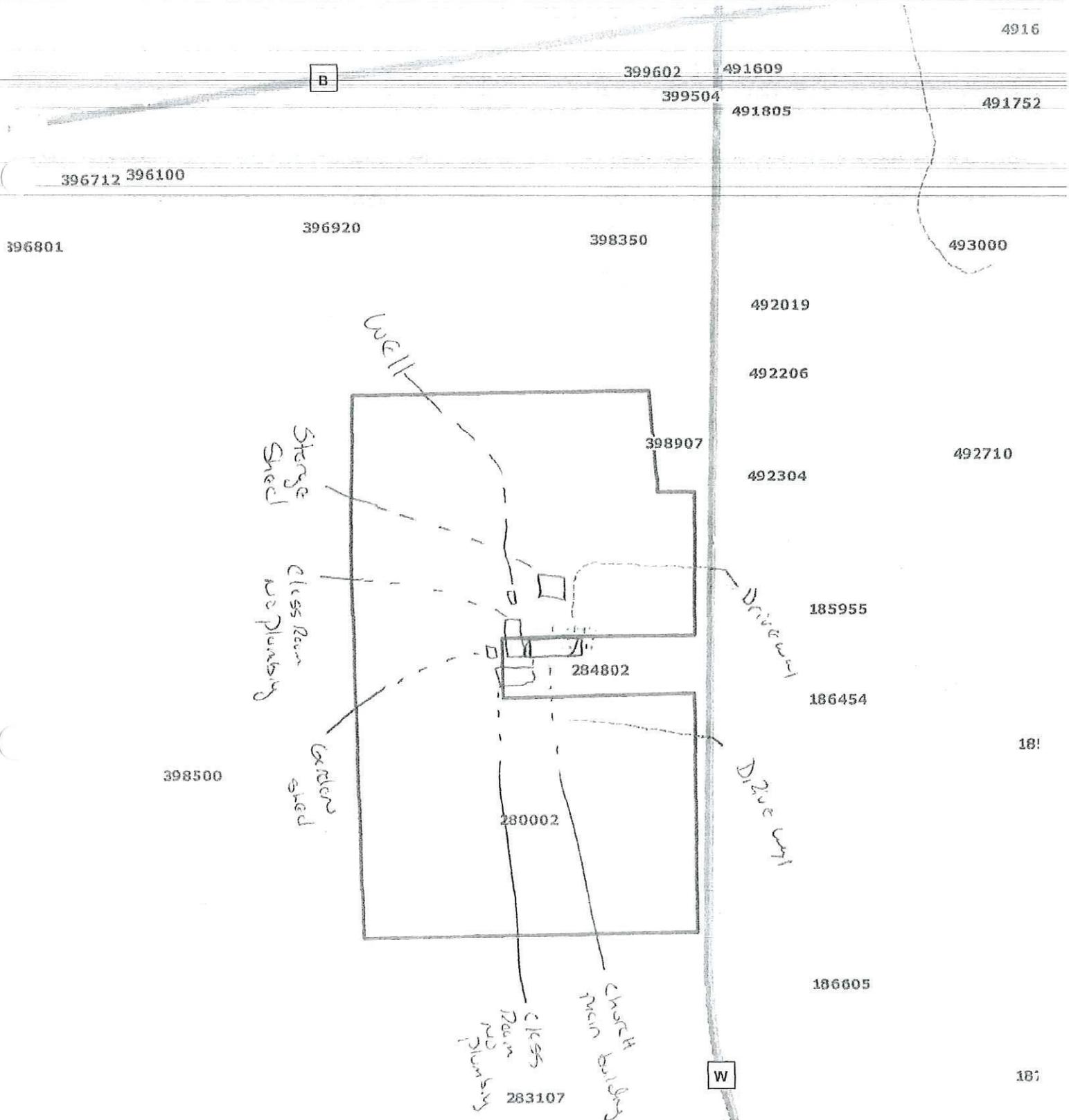
Chris Johnson
Chris Johnson

Lic# 230403
Master plumber

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Storage Shed

Class Room and Plumbing

Garden Shed

Well

Class Room and Plumbing

Church Main Building

Driveway

Driveway

Chris Johnson
 Chris Johnson
 Lic # 230403

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[Handwritten Signature]

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Description

Fixture

Total

• 4 Lavatories	1	4
• 2 Urinal Wash-downs	2	4
• 5 Water Closet, Tank	3	15
• 2 Kitchen Food Prep Sink	3	6
• 1 Outside Hose Bib	3	3

Total Fixture count 32 for
BIBLE BAPTIST CHURCH OF UTICA

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Chris Johnson

Chris Johnson

Lic # 230403

ELECTRICAL AREA

SOFTENER TANK

GREEN SAND TANK

BRINE TANK

FLOOR DRAIN

PLUMBING FROM
* TO FLOOR +
WELL FEED

PRESSURE TANK

WATER HEATER

CHLORINE
Holding
TANK
FEEDER

CONTACT TANK

"UTILITY ROOM"

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DOOR

BIBLE BAPTIST

UTILITY ROOM LAYOUT

FURNACE AREA

Chris Johnson
Chris Johnson
Lic# 230403

INFORMATION REQUIRED TO SIZE WATER SERVICE AND WATER DISTRIBUTION:		
1-	Demand of building in water supply fixture units (WSFU);	(WSFU) <u>32</u>
1.a.	Demand of building in WSFU converted to Gallons Per Minute: (Table SPS 382.40-3)	(GPM) <u>22</u>
2-	Elevation difference from main or external pressure tank to building control valve; (feet)	<u> </u>
3-	Size of water meter (when required) 5/8" <u> </u> 3/4" <u> </u> 1" <u> </u> other <u> </u>	n/a
4-	Developed length from main or external pressure tank to building control valve; (feet)	<u>10</u>
5-	Low pressure at main in street or external pressure tank.	(psi) <u>60</u>

CALCULATE WATER SERVICE PRESSURE LOSS

(unnecessary for internal pressure tanks)

6-	Low pressure at main in street or external pressure tank. (value of # 5 above)	<u>60</u>
7-	Determine pressure loss due to friction in <u>1 1/2</u> inch diameter water service. Water service piping material is <u>copper</u> Pressure loss per 100 ft. = <u>q2</u> X <u>0.98</u> (decimal equivalent of service length, i.e. 65 ft = 0.65)	Subtract value of "7" <u>1.9</u>
		Subtotal <u>58.1</u>
8-	Determine pressure loss or gain due to elevation, (multiply the value of # 2 above by .434)	Subtract value of "8" <u>2.6</u>
9-	Available pressure after the bldg. control valve.	Subtotal <u>55.5</u>

CALCULATE THE PRESSURE AVAILABLE FOR UNIFORM LOSS (VALUE OF "A")

B.	Available pressure after the bldg. control valve. (from "9" above)	Value of "B" <u>55.5</u>
C.	Pressure loss of water meter (when meter is required)	Subtract value of "C" <u>3.1</u>
		Subtotal <u>52.4</u>
D.	Pressure at controlling fixture*. (Controlling fixture is: <u>Water Softener,</u>). (*Controlling fixture is the fixture with the most demanding pressure to operate properly which includes the following when determining fixture performance; loss due to instantaneous water heaters, water treatment devices, and backflow preventers which serve the controlling fixture.)	Subtract value of "D" <u>10</u>
		Subtotal <u>42.4</u>
E.	Difference in elevation between building control valve and the <u>controlling fixture in feet;</u> <u> </u> X .434 psi/ft.	Subtract value of "E" <u>0</u>
		Subtotal <u>42.4</u>

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Water Calc Worksheet

Bible Baptist Church of Utica

Name of Project

F. Pressure loss due to water treatment devices and backflow preventers which serve the controlling fixture. (Water softeners, filters, etc.)

(Pressure loss due to; Aresnic Filter).

F1. WSFU Downstream of Water Treatment Device; 32

F2. Convert wsfu to GPM using Table 382.40-3: 22

or

F3. Convert wsfu to GPM using Table 382.40-3e*
(For individual dwellings only)

F4. Refer to manuf. graph to obtain pressure loss: 6psi @ 55 @
(If no water treatment device enter "0")

Subtract value of F4 6

Subtotal 36.4

G. Pressure loss through tankless water heaters, combination boiler / hot water heaters, heat exchangers which serve the controlling fixture;

Hot water WSFU's; convert to; GPM = (Table 382.40-3)
Refer to manufacturer's pressure loss graph to determine loss at the required GPM;

 pressure loss. **Subtract value of "G"** 0

Subtotal 36.4

H. Developed length from building control valve to controlling fixture in feet 6 X 1.5

Divide by value "H" 9

Subtotal 4.38

Multiply by: 100

A. Pressure available for uniform loss **"A" =** 43.8

Water distribution piping is: copper

*Note: The "A" value obtained by using Table 382.40-3e can only be used for an individual dwelling when sizing the water treatment device (water softeners, etc) and no hose bibbs, hydrants, or high flow fixtures are being served by the water treatment device.

Note: High flow fixtures are defined as fixtures that exceed a flow rate of 4 gpm @ 80 psi, and water velocity not exceeding 8 ft. per second.

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Description	Fixture	Total
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Total Fixture count 32 for
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