



DIVISION OF INDUSTRY SERVICES
 PO BOX 7162
 MADISON WI 53707-7162
 Contact Through Relay
<http://dsps.wi.gov/programs/industry-services>
www.wisconsin.gov

Scott Walker, Governor
 Dave Ross, Secretary

July 23, 2015

CUST ID No. 1293249

ATTN: Plumbing Inspector

ALAN MAST
 HELLENBRAND INC
 404 MORAVIAN VALLEY RD
 WAUNAKEE WI 53597

MUNICIPAL CLERK
 VILLAGE OF NEW AUBURN
 PO BOX 100
 NEW AUBURN WI 54757-0100

CONDITIONAL APPROVAL
PLAN APPROVAL EXPIRES: 07/23/2017

Identification Numbers
Transaction ID No. 2580053
Site ID No. 808465
Please refer to both identification numbers, above, in all correspondence with the agency.

SITE:

Great Northern Sand LLC
 276 County Hwy Ss
 Village of New Auburn, 54757
 Barron County

FOR:

Facility: 752618 GREAT NORTHERN SAND LLC OFFICE
 276 COUNTY HWY SS
 NEW AUBURN 54757
 Plan Type: New; 1 Interior Fixture(s)

Object Type: Commercial Water Treatment Device Regulated Object ID No.: 1548164

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:

- The Stenner 40 gallon per day (GPD) fixed rate chemical injection pump (85MFA7A1S) has undergone sufficient testing to document the device's ability to properly inject a chemical into a potable water supply system as specified in this approval letter:

<http://dsps.wi.gov/sb/docs/sb-ppalopp/20120155.pdf>

- The sodium carbonate [(Na₂CO₃) aka "soda ash"] injected into this water supply system shall conform to ANSI/NSF Standard 60 and shall not exceed its listed maximum use concentrations. The maximum use concentration for Pro Products LLC "Neutra 7" is 100 mg/l:

<http://info.nsf.org/Certified/PwsChemicals/Listings.asp?CompanyName=Pro+Products&TradeName=neutra-7&ChemicalName=&ProductFunction=&PlantState=&PlantCountry=&PlantRegion=>

Cross connection control is optional.

- Only a locking bypass shall be installed on the chemical injection system.
- All water supply piping shall be labeled as required by Table SPS 382.40-1a.

- The finished installation shall undergo, and pass, a final inspection prior to the treated water being used for consumptive purposes. The Plumbing Consultant having jurisdiction in this area is Don Hough. Mr. Hough may be reached via the following:

Phone: 715-558-2690

E-mail: don.hough@wisconsin.gov

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 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 Lawrence Ruetz. Mr. Ruetz can be contacted via the following:

Phone: 715-822-2671

E-mail: lawrence.ruetz@wisconsin.gov

- The suggested monitoring interval for this installation is monthly until a stable passivating layer has formed on the wetted pipe surfaces which may be inferred from copper and lead concentrations dropping off to below detectable limits. The following test should be performed:

1. dissolved copper;
2. dissolved lead;
3. alkalinity; and
4. pH

Samples should be collected at a time of day when the chemical injection system is as close to peak demand as possible. Untreated and treated water samples should be collected together in sets with untreated water samples being collected upstream of all water treatment devices; treated water samples should be collected from the most remote outlet relative to the point of chemical injection. All sampling should be "first draw" as is normally required under the EPA's Lead and Copper Rule.

It's suggested that copper should be tested first. If copper is detected at elevated concentrations, then the balance of the test suggested should be run.

Note that any copper that's exposed prior to the point of chemical injection will remain vulnerable to corrosion.

- Any wall hydrants that is not served by the chemical treatment system shall have one, or more, of the following:
 - a. The handles of the hydrant shall be removed;
 - b. The hydrant shall be capped and sealed using solder; or
 - c. Signage shall be posted immediately above the hydrant indicating the water is unfit for human consumption.

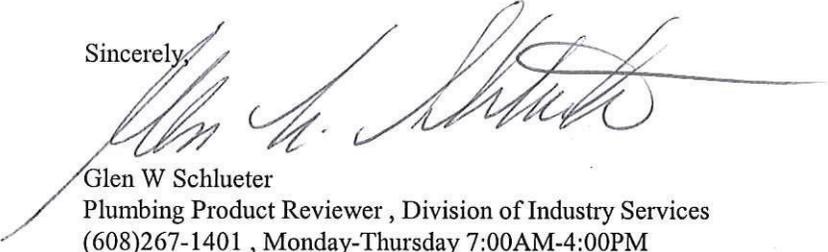
In addition, all hose connections shall be protected with vacuum breakers that conform to American Society of Sanitary Engineering (ASSE) standards 1011 or 1052.

A full size copy of the approved plans, specifications and this letter shall be on-site during construction and open to inspection by authorized representatives of the Department, which may include local inspectors. If plan index sheets were submitted in lieu of additional full plan sets, a copy of this approval letter and index sheet shall be attached to plans that correspond with the copy on file with the Department. If these plans were submitted in an electronic form, the designer is responsible to download, print, and bind the full size set of plans along with our approval letter. A department electronic stamp and signature shall be on the plans which are used at the job site for construction. All permits required by the state or the local municipality shall be obtained prior to commencement of construction/installation/operation.

In granting this approval the Division of Industry Services reserves the right to require changes or additions should conditions arise making them necessary for code compliance. As per state stats 101.12(2), nothing in this review shall relieve the designer of the responsibility for designing a safe building, structure, or component.

Inquiries concerning this correspondence may be made to me at the telephone number listed below, or at the address on this letterhead.

Sincerely,



Glen W Schlueter
Plumbing Product Reviewer , Division of Industry Services
(608)267-1401 , Monday-Thursday 7:00AM-4:00PM
Friday 8:00AM-12:00PM
glen.schlueter@wisconsin.gov

Fee Required \$	160.00
Fee Received \$	160.00
Balance Due \$	0.00

WiSMART code: 7657

cc: Hellenbrand Inc
Donald D Hough, Plumbing Consultant II, (715) 634-4804
Kenneth Gibson , Gibsons Watercare
Great Northern Sand LLC

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.

**Conditionally
APPROVED**



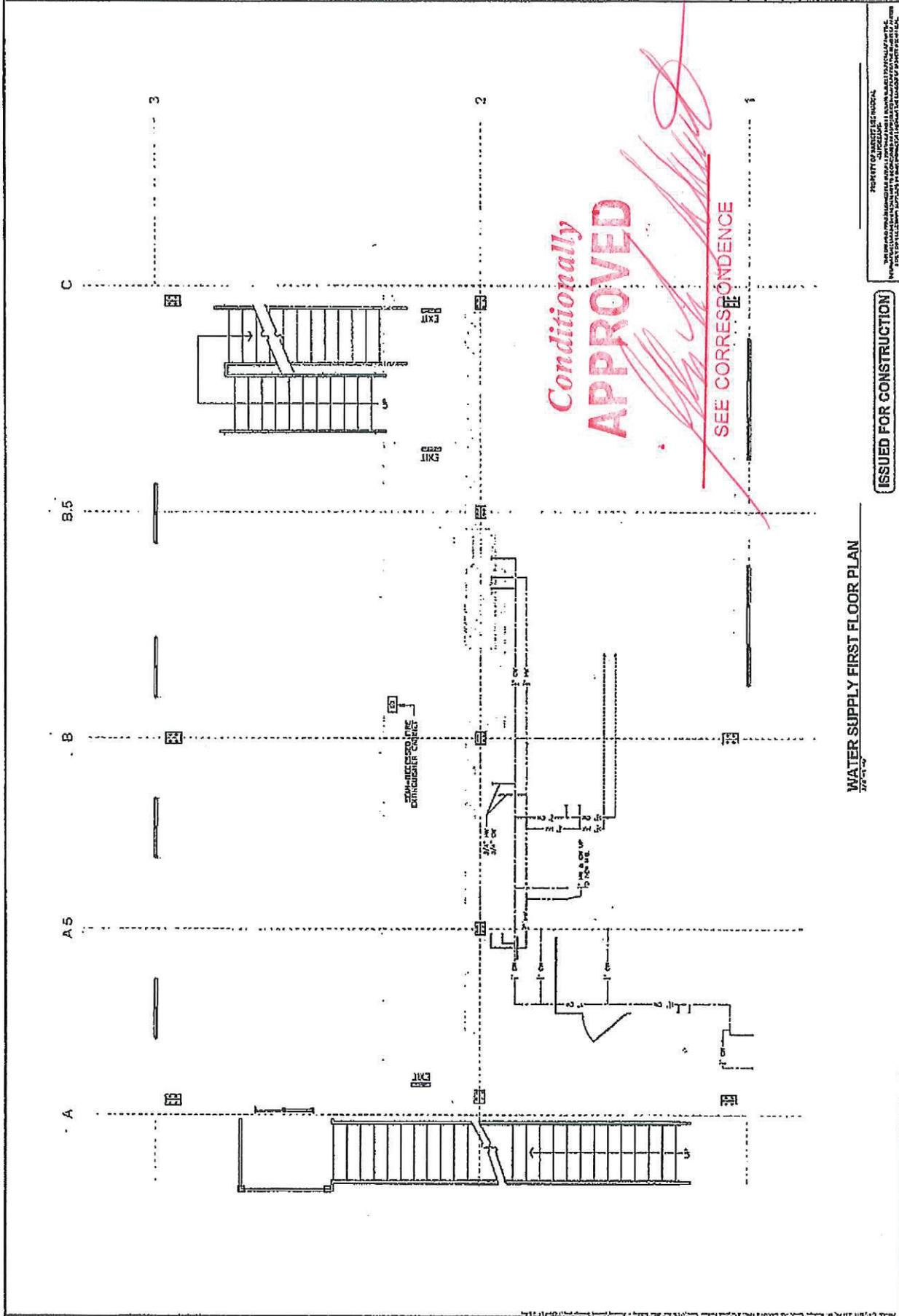
SEE CORRESPONDENCE


 WISCONSIN
 PROFESSIONAL ENGINEER
 No. 11830
 JOHN J. WILSON
 CIVIL ENGINEER
 54000
 3/26/74

NEW OFFICE BUILDING
 WATER SUPPLY FIRST FLOOR PLAN
 GREAT NORTHERN SAND
 WISCONSIN

DATE	NO.	DESCRIPTION
10-11-73	1	ISSUED FOR CONSTRUCTION

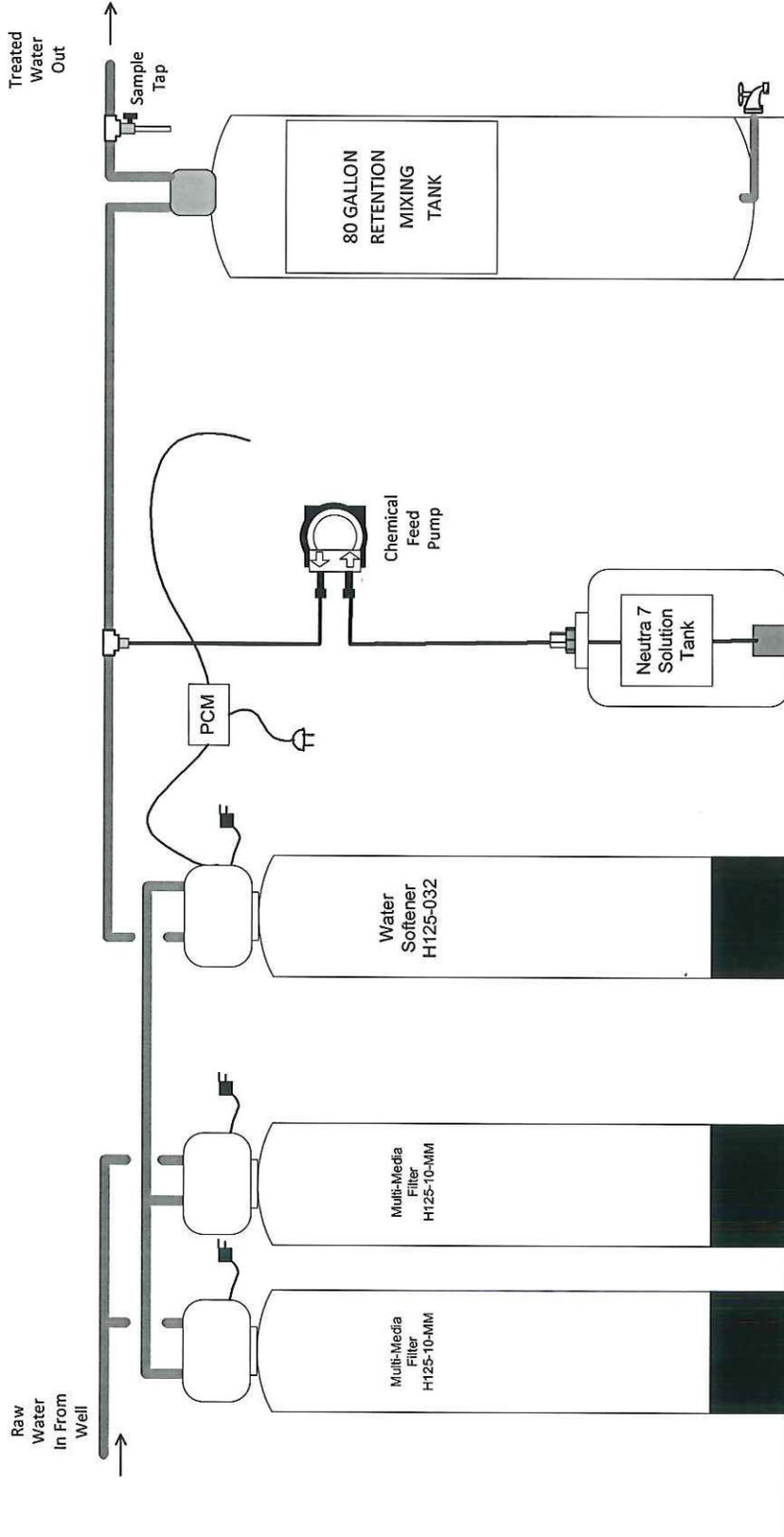
PROJECT NO. 41830
 COUNTY OF WISCONSIN
 DATE 3/26/74
 SHEET NO. 1-0
 TOTAL SHEETS 1-0



WATER SUPPLY FIRST FLOOR PLAN
 107-11-73

ISSUED FOR CONSTRUCTION

PROPERTY OF AMERICAN INSTITUTE OF ARCHITECTS
 1735 N. MICHIGAN AVE., CHICAGO, ILL. 60610
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 OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION
 STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE EXPRESS WRITTEN PERMISSION
 OF AMERICAN INSTITUTE OF ARCHITECTS.



Northern White Sands pH Correction - Installation		 <i>It's what you don't see that counts.</i>	Waunakee, WI (608)849-3050
DRAWING #	DATE: 7/3-2015		JOB: SCHAEFER-VERTEX
DWG. BY: A. MAST			

Conditionally
APPROVED



SEE CORRESPONDENCE

INFORMATION REQUIRED TO SIZE WATER SERVICE AND WATER DISTRIBUTION:

1-	Demand of building in water supply fixture units (WSFU);	(WSFU) <u>21</u>
1.a.	Demand of building in WSFU converted to Gallons Per Minute: (Table SPS 382.40-3)	(GPM) <u>14.6</u>
2-	Elevation difference from main or external pressure tank to building control valve; (feet)	<u>5</u>
3-	Size of water meter (when required) 5/8" <u>3/4"</u> 1" <u>other</u> <u>na</u>	
4-	Developed length from main or external pressure tank to building control valve; (feet)	<u>64</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>Black Plastic</u> Pressure loss per 100 ft. = <u>0.6</u> X <u>2.08</u> (decimal equivalent of service length, i.e. 65 ft = 0.65)	Subtract value of "7" <u>1.3</u>
		Subtotal <u>58.7</u>
8-	Determine pressure loss or gain due to elevation, (multiply the value of # 2 above by .434)	Subtract value of "8" <u>2.2</u>
9-	Available pressure after the bldg. control valve.	Subtotal <u>56.5</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>56.5</u>
C.	Pressure loss of water meter (when meter is required)	Subtract value of "C" <u> </u>
		Subtotal <u>56.5</u>
D.	Pressure at controlling fixture*. (Controlling fixture is: <u>mop sink</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>15</u>
		Subtotal <u>41.5</u>
E.	Difference in elevation between building control valve and the <u>controlling fixture in feet;</u> <u>10</u> X .434 psi/ft.	Subtract value of "E" <u>4.4</u>
		Subtotal <u>37.1</u>

Water Calc Worksheet

Great Northern Sand-New Addition

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; Filter & Softener at 14.6 GPM).

F1. WSFU Downstream of Water Treatment Device; 21

F2. Convert wsfu to GPM using **Table 382.40-3**; 14.6

or

F3. Convert wsfu to GPM using **Table 382.40-3e***

(For individual dwellings only)

F4. Refer to manuf. graph to obtain pressure loss: 12.7

(If no water treatment device enter "0")

Subtract value of F4 12.7

Subtotal 24.4

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 24.4

H. Developed length from building control valve to controlling fixture in feet 20 X 1.5

Divide by value "H" 30

Subtotal 0.813

Multiply by: 100

A. Pressure available for uniform loss **"A" =** 81.3

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.

TYPE OF FIXTURE	QTY	HOT	COLD	QTY TOTAL	FIX UNITS	FIX UNITS	FOM-SJU	FT-WU
auto ciths wshr, indiv.	2.00		2.00	3.00	0	1		1
auto ciths wshr, lg cap				3.00	0	2		2
bathub, w or w/o show hd	2.00		2.00	3.00	0	3		3
coffeemaker			0.50	0.50	0	4	10	4
dishwasher, commercial			1.00	1.00	0	5	15	4.5
drink dispenser			0.50	0.50	0	6	18	5
drinking fountain			0.25	0.25	0	7	21	6
glass filler			0.50	0.50	0	8	24	6.5
hose: 1/2" diameter			3.00	3.00	0	9	26	7
3/4" diameter			4.00	4.00	3	10	27	8
icemaker			0.50	0.50	0	20	35	14
lavatory	0.50		0.50	1.00	0	30	40	20
shower, per head	2.00		2.00	3.00	0	40	46	24
sinks: bar & fountain	1.50		1.50	2.00	0	50	51	28
barber & shampoo	1.50		1.50	2.00	0	60	54	32
bed pan washer	2.00		2.00	2.00	0	70	58	35
cup			0.50	0.50	0	80	62	38
flushing rim			7.00	7.00	0	90	65	41
hand wash	0.50		0.50	1.00	0	100	68	42
kit. & food prep., per faucet	2.00		2.00	3.00	0	120	73	48
kitchen kettle fill faucet			2.00	2.00	0	140	78	53
laboratory	1.00		1.00	1.50	0	160	83	57
medical exam & treatment	1.00		1.00	1.00	0	180	87	61
service	2.00		2.00	3.00	0	200	92	65
surgeon wash-up	1.50		1.50	2.00	0	300	110	85
urinal: siphon jet			4.00	4.00	0	400	126	105
washdown			2.00	2.00	0	500	142	125
wall hydrant, hot & cold mix 1/2" d	2.00		2.00	3.00	2	600	157	143
3/4" d	3.00		3.00	4.00	0	700	170	161
wash fountain: semicircular	1.50		1.50	2.00	0	800	183	178
circular	2.00		2.00	3.00	0	900	197	195
water closet: flushometer			7.00	7.00	0	1000	208	208
gravity type flush tk			3.00	3.00	0	1250	240	240
					6	1500	267	267
						1750	294	294
						2000	321	321
						2250	348	348
						2500	375	375
						2750	402	402
Total WSFU's					21			

Peak GPM Demand 14.6

SFU	GPM
Next Larger SFU/GPM	30
NextSmaller SFU/GPM	20

FIX UNITS	FOM-SJU	FT-WU
1		1
2		2
3		3
4	10	4
5	15	4.5
6	18	5
7	21	6
8	24	6.5
9	26	7
10	27	8
20	35	14
30	40	20
40	46	24
50	51	28
60	54	32
70	58	35
80	62	38
90	65	41
100	68	42
120	73	48
140	78	53
160	83	57
180	87	61
200	92	65
250	101	75
300	110	85
400	126	105
500	142	125
600	157	143
700	170	161
800	183	178
900	197	195
1000	208	208
1250	240	240
1500	267	267
1750	294	294
2000	321	321
2250	348	348
2500	375	375
2750	402	402
3000	432	432
4000	525	525
5000	593	593

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SEE CORRESPONDENCE