



December 04, 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: 12/04/2017**

**SITE:**

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

**FOR:**

Facility: 756573 GREAT NORTHERN SAND LLC NEW OFFICE AND MAINTENANCE  
276 COUNTY HWY SS  
NEW AUBURN 54757  
Plan Type: New; 1 Interior Fixture(s)

Object Type: Commercial Water Treatment Device Regulated Object ID No.: 1578026

Identification Numbers
<b>Transaction ID No. 2639409</b>
<b>Site ID No. 808465</b>
Please refer to both identification numbers, above, in all correspondence with the agency.

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 30.0 gallon per day (GPD) fixed rate chemical injection pump (E20PHH71S) 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 [(Na<sub>2</sub>CO<sub>3</sub>) aka "soda ash"]/polyphosphate solution injected into this water supply system shall conform to ANSI/NSF Standard 60 and shall not exceed its listed maximum use concentration. The maximum use concentration for Pro Products LLC "Neutra 7" is 100 mg/l:

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

Cross connection control is optional.

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

- The drain, waste and vent system shall be properly sized to handle the additional wastewater loading generated by the water treatment devices being installed.
- Then 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: [donald.hough@wisconsin.gov](mailto:donald.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 reached via the following:

Phone: 715-822-2671

E-mail: [lawrence.ruetz@wisconsin.gov](mailto: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 samples 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 data a time when the chemical injection system is at, or near, peak demand. 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 typically required under the United States Environmental Protection Agency's (USEPA'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 testing suggested should be run.

Note that any copper that's exposed prior to the point of chemical injection will remain vulnerable to corrosion and may thereby complicate compliance testing.

- Any wall hydrants that are not served by the chemical injection system shall 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 hose connections shall be protected with vacuum breakers that conform to American Society of Sanitary Engineering (ASSE) standards 1011 or 1052.

- The ongoing maintenance of this system shall be performed by Gibson's WaterCare Service, 620 N. Hillcrest Parkway, Altoona WI 54720, 715-834-7716.
- A complete set of owner's manuals, installation and operating instructions for all water treatment devices installed shall be provided to the system owner and remain onsite.

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-3:45PM  
Friday 7:00AM – 12:00PM  
glen.schlueter@wisconsin.gov

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

WiSMART code: 7657

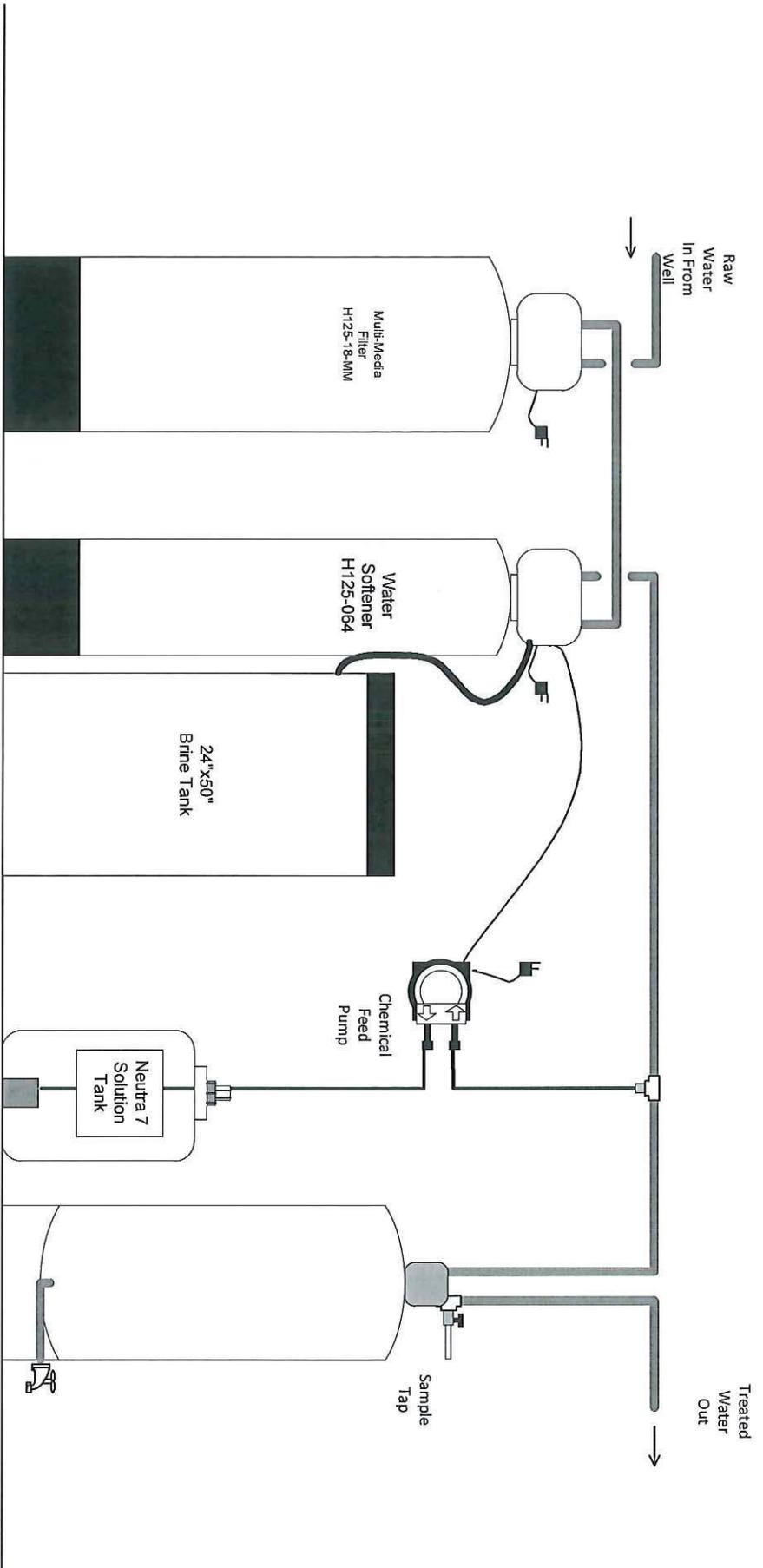
cc: Hellenbrand Inc  
Donald D Hough, Plumbing Consultant II, (715) 634-4804  
Kenneth Gibson , Gibsons Watercare  
Great Northern Sand LLC

**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



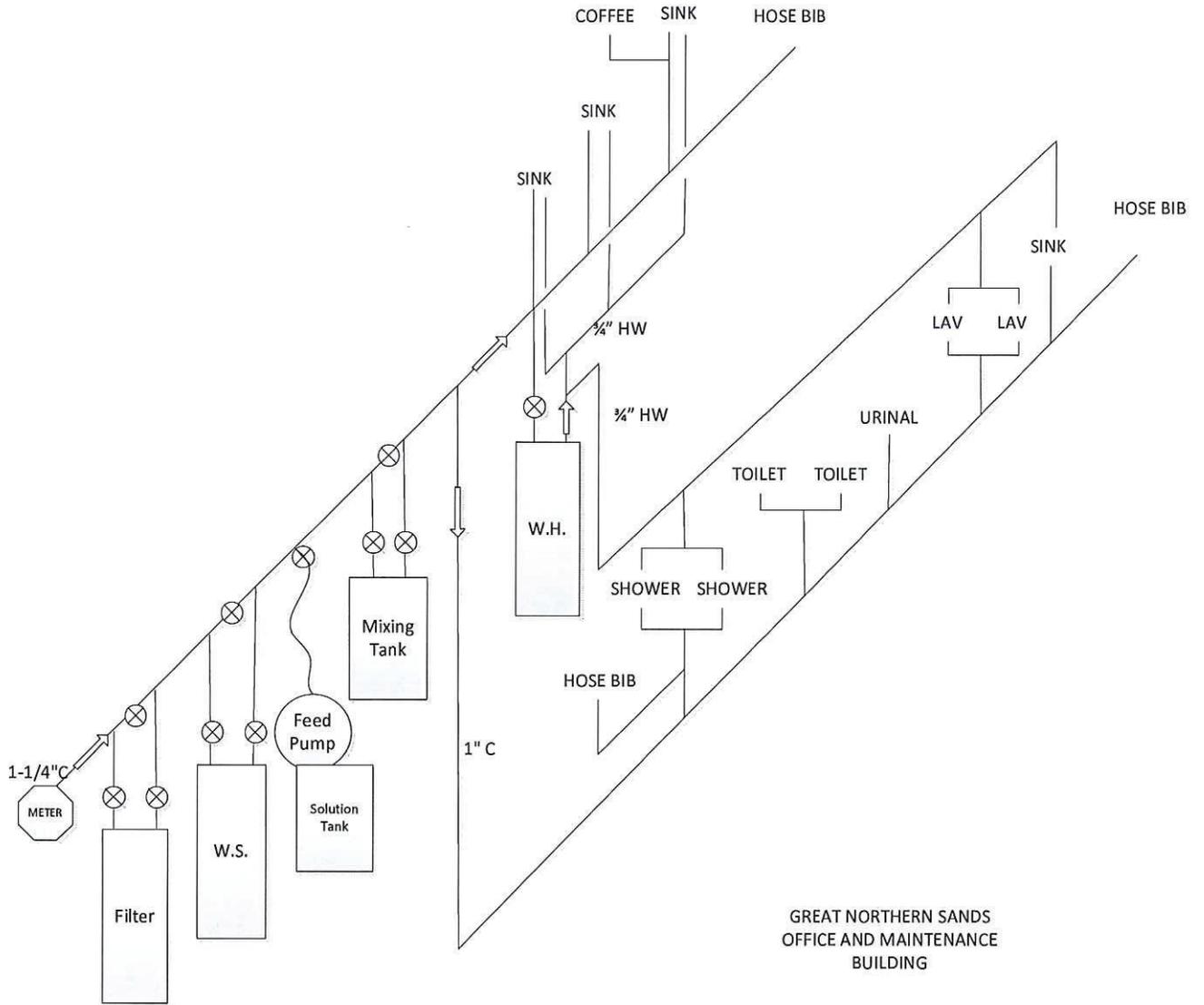
**Northern White Sands  
pH Correction - Installation**

DRAWING #	
DATE: 11/10/15	
JOB: White Sands – Office Annex	Waunakee, WI (608)949-3050
DWG. BY: A. MAST	

*Conditionally*  
**APPROVED**

*[Handwritten Signature]*

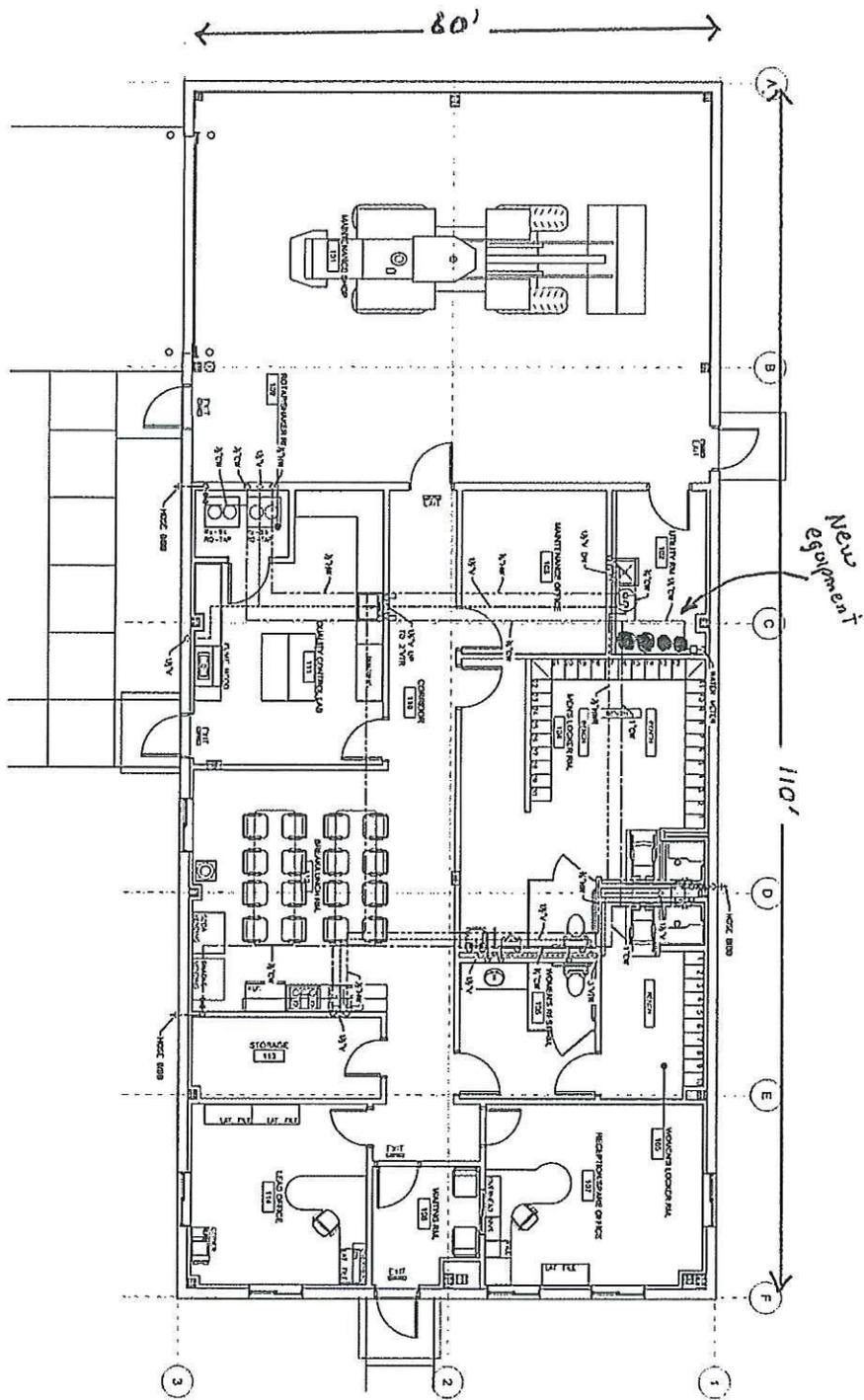
SEE CORRESPONDENCE



Conditionally  
**APPROVED**

*[Handwritten Signature]*

SEE CORRESPONDENCE



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AS BUILT

**AS BUILT DOCUMENT**

THIS DOCUMENT IS A LEGAL INSTRUMENT. IT IS THE PROPERTY OF THE ARCHITECT AND SHALL REMAIN HIS OR HER PROPERTY. IT IS TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED HEREIN. IT IS NOT TO BE REPRODUCED, COPIED, REPRODUCED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF THE ARCHITECT.

PROJECT: GREAT NORTHERN SANDS  
SHEET: 42309-P2.2  
DATE: 1/12/15  
SCALE: NTS  
DRAWN BY: S. SINDO  
CHECKED BY: A. BUDMAN  
DATE: 1/12/15  
JOB NO: 42309  
OWNER: GREAT NORTHERN SANDS  
ARCHITECT: HASSLETT  
1115 GRAND AVENUE  
MILWAUKEE, WI 53133  
414-333-2500

NEW MINE SITE OFFICE - PLUMBING  
ABOVE FLOOR PLAN  
**GREAT NORTHERN SANDS**  
NEW AUBURN WISCONSIN

REV. NO.	DATE	BY	DESCRIPTION
1	1/12/15	A. BUDMAN	AS BUILT
2	07/25/15	DLB	AS BUILT

HASSLETT  
ARCHITECTS  
P.C.

1115 GRAND AVENUE  
MILWAUKEE, WI 53133  
414-333-2500

*H. Hasslett*

INFORMATION REQUIRED TO SIZE WATER SERVICE AND WATER DISTRIBUTION:		
1-	Demand of building in water supply fixture units (WSFU);	(WSFU) <u>35</u>
1.a.	Demand of building in WSFU converted to Gallons Per Minute: (Table SPS 382.40-3)	(GPM) <u>23</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>	<u>        </u>
4-	Developed length from main or external pressure tank to building control valve; (feet)	<u>        </u>
5-	Low pressure at main in street or external pressure tank.	(psi) <u>        </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>        </u> inch diameter water service. Water service piping material is <u>        </u> Pressure loss per 100 ft. = <u>        </u> X <u>        </u> (decimal equivalent of service length, i.e. 65 ft = 0.65)	<b>Subtract value of "7"</b> <u>        </u> Subtotal <u>        </u>
8-	Determine pressure loss or gain due to elevation, (multiply the value of # 2 above by .434)	<b>Subtract value of "8"</b> <u>        </u>
9-	Available pressure after the bldg. control valve.	Subtotal <u>60</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>60</u>
C.	Pressure loss of water meter (when meter is required)	<b>Subtract value of "C"</b> <u>0.0</u> Subtotal <u>60</u>
D.	Pressure at controlling fixture*. (Controlling fixture is: <u>HOSE BIB</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.)	<b>Subtract value of "D"</b> <u>10</u> Subtotal <u>50</u>
E.	Difference in elevation between building control valve and the <u>controlling fixture in feet</u> ; <u>3</u> X .434 psi/ft.	<b>Subtract value of "E"</b> <u>1.3</u> Subtotal <u>48.7</u>

**Water Calc Worksheet**

Northern White Sands New Office & Maintenance

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 and water softener ).

F1. WSFU Downstream of Water Treatment Device; 35

F2. Convert wsfu to GPM using **Table 382.40-3**: 23

**or**

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

F4. Refer to manuf. graph to obtain pressure loss: 27  
( If no water treatment device enter "0")

**Subtract value of F4** 27

Subtotal 21.7

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"**                     

Subtotal 21.7

H. Developed length from building control valve to controlling fixture in feet 85 X 1.5

**Divide by value "H"** 127.5

Subtotal 0.17

**Multiply by:** 100

A. Pressure available for uniform loss **"A" =** 17

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.

*Conditionally*  
**APPROVED**

*[Signature]*  
SEE CORRESPONDENCE

HELLENBRAND, INC.  
 FIXTURE ANALYSIS  
 JOB & CUSTOMER:

White Sands new office and maintenance

GALLONS PER MINUTE

TYPE OF FIXTURE	QTY	HOT	QTY	COLD	QTY	TOTAL	FIX UNITS	FIX	FIX UNITS	FOM-SJU	FT-WU
auto clths wshr, indiv.		2.00		2.00		3.00	0		1		1
auto clths wshr, lg cap						3.00	0		2		2
bathtub, w or w/o show hd		2.00		2.00		3.00	0		3		3
coffeemaker			1	0.50		0.50	0.5		4	10	4
dishwasher, commercial				0.50		1.00	0	0.5	5	15	4.5
drink dispenser				0.50		0.50	0		6	18	5
drinking fountain/ ice cream scoop rinse				0.25		0.25	0		7	21	6
glass filler				0.50		0.50	0		8	24	6.5
hose: 1/2" diameter			3	3.00		3.00	0		9	26	7
3/4" diameter				4.00		4.00	0		10	27	8
icemaker				0.50		0.50	0		20	35	14
lavatory		0.50		0.50	2	1.00	0		30	40	20
shower, per head		2.00		2.00	2	3.00	6	2	40	46	24
sinks: bar & fountain		1.50		1.50		2.00	0	6	50	51	28
barber & shampoo		1.50		1.50		2.00	0		60	54	32
bed pan washer				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	1	3.00	3		120	73	48
kitchen kettle fill faucet				2.00		2.00	0	4	140	78	53
							0		160	83	57
							0		180	87	61
laboratory		1.00		1.00	3	1.50	4.5		200	92	65
medical exam & treatment		1.00		1.00		1.00	0		250	101	75
service		2.00		2.00		3.00	0	3	300	110	85
surgeon wash-up		1.50		1.50		2.00	0		400	126	105
urinal: siphon jet			1	4.00		4.00	4		500	142	125
washdown				2.00		2.00	0	2	600	157	143
wall hydrant, hot & cold mix 1/2" d		2.00		2.00		3.00	0		700	170	161
3/4" d		3.00		3.00		4.00	0		800	183	178
wash fountain: semicircular		1.50		1.50		2.00	0		900	197	195
circular		2.00		2.00		3.00	0		1000	208	208
water closet: flushometer		0.00		7.00		7.00	0		1250	240	240
gravity type flush tk			2	3.00		3.00	6	6	1500	267	267
<b>Total WSFU's</b>							<b>35</b>		<b>1750</b>	<b>294</b>	<b>294</b>
									<b>2000</b>	<b>321</b>	<b>321</b>
									<b>2250</b>	<b>348</b>	<b>348</b>
									<b>2500</b>	<b>375</b>	<b>375</b>
									<b>2750</b>	<b>402</b>	<b>402</b>
									<b>3000</b>	<b>432</b>	<b>432</b>
									<b>4000</b>	<b>525</b>	<b>525</b>
									<b>5000</b>	<b>593</b>	<b>593</b>

Peak GPM Demand 23.0

	SFU	GPM
Next Larger SFU/GPM	30	20
Next Smaller SFU/GPM	20	14

FIXTURE