

October 3, 2024

*Ring W. Lardner, P.E.
W. Zachary Crouch, P.E.
Michael E. Wheedleton, AIA, LEED GA
Jason P. Loar, P.E.
Jamie L. Sechler, P.E.*

DNREC, Division of Water
Ground Water Discharge Section
89 Kings Highway
Dover, Delaware 19901

Attn: Mr. Derrick Caruthers
Environmental Engineer

RE: **The Estates at Bridgewater – DNREC Temporary Holding Tank Permit**
Temporary Holding Tank Permit
Sussex County, Delaware
DBF #0818C030

Dear Mr. Caruthers:

On behalf of our client, SB Old Mill Bridge, LLC, we are submitting the attached application for an on-site wastewater system utilizing a temporary holding tank. The temporary holding tank relies solely on the volume of storage provided by the manholes and gravity pipes to be installed for a portion of the Phase 1 collection system. The system provides adequate capacity, pumped once every two days, for 20 units.

The project is located on the southeast side of the intersection of Miller Neck Rd and Old Mill Bridge Rd. in Frankford. At full build out, the Estates at Bridgewater subdivision is to flow via gravity sewer to a proposed pump station located within the site. The sewer provider for the subdivision is Sussex County (Miller Creek District). The water provider is Artesian Water Company, Inc.

As part of our application we are enclosing the following items and information:

- DNREC application permit
- Site plan showing system with supporting volume calculations
- Artesian Approval Email
- Sussex County Engineering Approval Letter
- Wastewater Construction Permit
- A copy of the agreement for a licensed operator and hauler
- Specifications for the alarm system
- System storage calculations

The volume of 11,766 gallons has been calculated based on DNREC requirements which include 2.00' of freeboard from the lowest manhole rim. The alarm for the system is to be set at an elevation of 1.37' which alerts to an 80% full system.

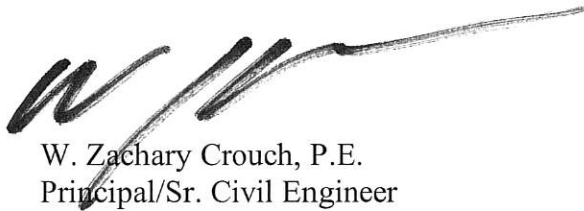
The design flows for the temporary holding tank are shown below:

SEWER DESIGN FLOWS		
20		EDUs
300	gpd	Avg. Daily Flow/EDU
6,000	gpd	Avg. Daily Flow (Qa)
2		Population per EDU
0.040	(Thousands)	Total Population
3.5		Ratio of Peak Flow to Daily Average Flow
4.17	gpm	Average Daily Sewer Flow (ADF/1440)
14.60	gpm	Peak Hourly Flow (Qmax)

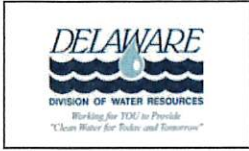
Based on the information we are providing above, we respectfully request an On-site Wastewater Permit for a Temporary Holding Tank for 20 homes.

Should you have any questions or need additional information, please feel free to contact me at 302-424-1441 or wzc@dbfinc.com.

Sincerely,
DAVIS, BOWEN & FRIEDEL, INC.



W. Zachary Crouch, P.E.
Principal/Sr. Civil Engineer



APPLICATION - PERMIT
ON-SITE WASTEWATER SYSTEM



(Please Type or Print Legibly)

OWNER'S NAME: SB OLD MILL BRIDGE, LLC PHONE: 302-227-3573

ADDRESS: 18949 COASTAL HIGHWAY, UNIT 301, REHOBOTH BEACH, DE 19971

PROJECT LOCATION: MILLERS NECK RD & OLD MILL BRIDGE RD, FRANKFORD, DE

TAX/MAP #: 134-21.00-6.00 (PART OF)

APPLICATION PREPARER: W. ZACHARY CROUCH DNREC LICENSE #:

PREPARER'S ADDRESS: 1 Park Ave, Milford, DE 19963

PHONE: (302) 424-1441

I hereby affirm that the information provided on this document is accurate and complete.

Preparer's Signature: [Signature] Date: 10.11.2024
By signing this permit application, the preparer further certifies they were physically present at the site.

-SEPTIC DESIGN CRITERIA-

(Please check all boxes that apply)

System Type: (CF = Cap & Fill / FD = Full Depth)

- Gravty (FD) Permanent Holding Tank
Gravty (CF) Elevated Sand Mound
Pressure Dose (FD) Wisconsin At-Grade
Pressure Dose (CF) Subsurface Micro Irrigation
Low Pressure Pipe (FD) Peat Bio- Filter
Low Pressure Pipe (CF) Other
Temporary Holding Tank

- Bed or Trench
Gravelless Chamber Stone/Gravel Tire Chips
Sand-lined Yes No

Existing System Malfunctioning Yes No N/A

- Pre-Treatment Units
Septic Tank
Other

Central Water Available Yes No
(If yes, please state Utility Name: ARTESIAN WATER COMPANY, INC.)

Type of Construction:

- Replacement
New Construction
Component Replacement
Repair to Existing System
Reason:

Authorization to Use Existing System
Permit #:
Present Condition:
Structure to be connected:

of Bedrooms:
Avg. Percolation Rate:
Gallons Per Day Flow:
Minimum Sq. Ft. Rcq'd:
Sq. Ft. Proposed:

THE ESTATES AT BRIDGEWATER SITE PLAN

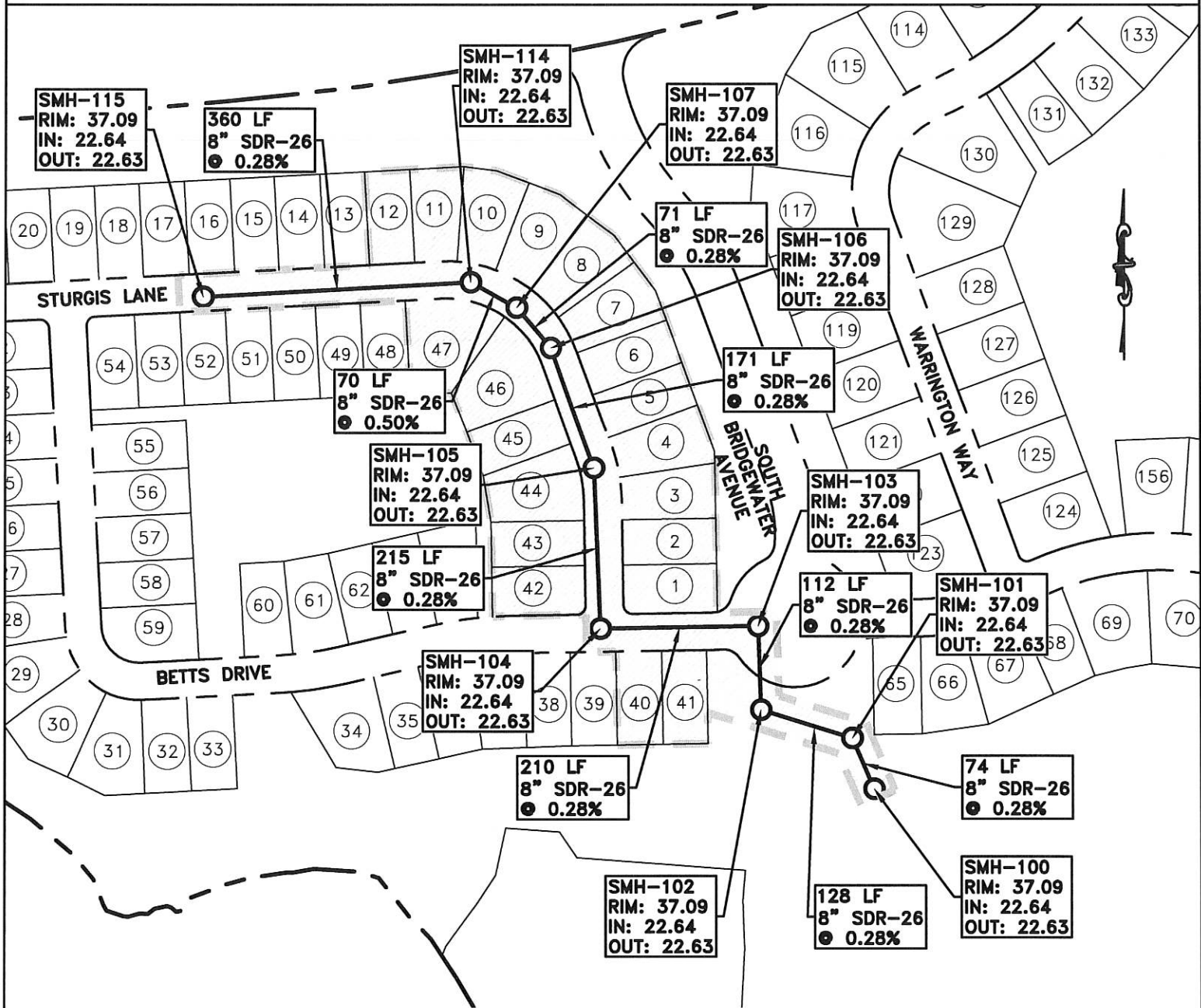
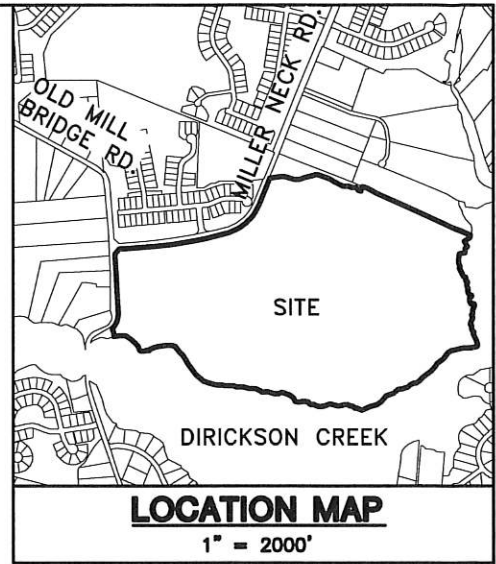
1" = 200'

HOLDING TANK CONSISTS OF A PORTION OF GRAVITY SEWER PIPES AND MANHOLES INSTALLED IN ESTATES AT BRIDGEWATER, PHASE 1 WITH 2.00' OF FREEBOARD TO LOWEST MANHOLE RIM.

11,765 GAL / 300 GAL PER EDU = 39.22 EDU
39.22 EDU / 2 DAYS = 20 UNITS

SYSTEM MUST BE PUMPED ONCE EVERY TWO DAYS OR AS REQUIRED

NOTE:
A RECORD OF PUMPING DATES AND THE AMOUNTS PUMPED SHALL BE MAINTAINED BY BOTH THE PROPERTY OWNER AND THE LIQUID WASTE HAULER, AND BE MADE AVAILABLE TO THE DEPARTMENT AS PART OF THE ANNUAL RENEWAL OF THE PERMIT



OWNERS/AUTHORIZED AGENT SIGNATURE: _____

DATE: 10-11-2024

A copy of this page must be submitted with both septic system system and well construction report(s)

From: [Katherine Garrison](#)
To: [Carrie Joles](#)
Cc: "[Karl Kreppein](#)"; "[Christie L. Murphy](#)"; wzc@dbfinc.com
Subject: RE: EXTERNAL: Old Mill Bridge Rd Wtr Main Ext & The Estates at Bridgewater - 3rd Submission
Date: Thursday, April 28, 2022 8:51:28 AM
Attachments: [image007.png](#)

Good morning, I have no additional comments for the plans that you submitted yesterday. The plans are approved. I will need copies of the fire marshal and office of drinking water approvals. I did receive a office of drinking water permit for the offsite already. When we get closer to construction I will apply for the DeIDOT utility permit for the offsite. I will also need cad files for all 3 projects for our GIS system, a dropbox link will be fine. Let me know if I need to sign a release.

Let me know if you have any questions. thanks.

Katherine E. Garrison
Supervisor of Survey/Senior Planning Designer/CCR
(302)453-2508



From: Carrie Joles <cyj@dbfinc.com>
Sent: Wednesday, April 27, 2022 4:21 PM
To: Katherine Garrison <kgarrison@artesianwater.com>
Cc: 'Karl Kreppein' <kjk@dbfinc.com>; 'Christie L. Murphy' <clm@dbfinc.com>; wzc@dbfinc.com
Subject: RE: EXTERNAL: Old Mill Bridge Rd Wtr Main Ext & The Estates at Bridgewater - 3rd Submission

You're welcome!

Carrie Y. Joles

Administrative Assistant

Davis, Bowen & Friedel, Inc.

Office: 302-424-1441 | Fax: 302-424-0430

From: Katherine Garrison <kgarrison@artesianwater.com>
Sent: Wednesday, April 27, 2022 4:01 PM
To: Carrie Joles <cyj@dbfinc.com>
Cc: Karl Kreppein <kjk@dbfinc.com>; 'Christie L. Murphy' <clm@dbfinc.com>; wzc@dbfinc.com
Subject: RE: EXTERNAL: Old Mill Bridge Rd Wtr Main Ext & The Estates at Bridgewater - 3rd Submission

Thanks Carrie.

Katherine E. Garrison
Supervisor of Survey/Senior Planning Designer/CCR
(302)453-2508



From: Carrie Joles <cyj@dbfinc.com>
Sent: Wednesday, April 27, 2022 3:59 PM
To: Katherine Garrison <kgarrison@artesianwater.com>
Cc: Karl Kreppin <kjk@dbfinc.com>; 'Christie L. Murphy' <clm@dbfinc.com>; wzc@dbfinc.com
Subject: EXTERNAL: Old Mill Bridge Rd Wtr Main Ext & The Estates at Bridgewater - 3rd Submission

This email originated from outside the organization.
Use caution when opening attachments or following links.

Good Afternoon Kathy,

Below is the dropbox link for the above-mentioned project. please let me know if you have any questions or need additional information.

<https://www.dropbox.com/sh/jew1qodb7egr64l/AADTYSDrSkLLMSA2G4bRaeV6a?dl=0>

Thank you,

Carrie Y. Joles

Administrative Assistant

Davis, Bowen & Friedel, Inc.

Email: cyj@dbfinc.com

Office: 302-424-1441 | Fax: 302-424-0430

1 Park Ave., Milford, DE 19963

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www.avg.com



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ENGINEERING DEPARTMENT

JOHN J. ASHMAN
SR. MANAGER OF UTILITY PLANNING
& DESIGN REVIEW

(302) 855-7370 T
(302) 854-5391 F
jashman@sussexcountype.gov



Sussex County

DELAWARE
sussexcountype.gov

HANS M. MEDLARZ, P.E.
COUNTY ENGINEER

July 13, 2022

Mr. Zachary Crouch, P.E.
Davis, Bowen, & Friedel, Inc.
1 Park Avenue
Milford, DE 19963

REF: **THE ESTATES AT BRIDGEWATER (FKA BENT CREEK ESTATES)
MILLER CREEK SANITARY SEWER DISTRICT
SUBDIVISION NO. 2019-2
SUSSEX COUNTY TAX MAP NUMBER
134 - 21.00 - PARCEL 6.00 - CLASS-1
AGREEMENT NO. 1121**

Dear Mr. Crouch:

The above referenced project was approved on July 12, 2022, and one (1) set of approved plans are enclosed. This approval is valid for three (3) years, unless prior to expiration of that three (3) year period, a time extension is requested and approved by the Department. Plans granted an extension beyond the three (3) period will be required to meet updated standards and specifications.

Also, it is your responsibility to secure approvals and/or permits that may be required by other regulatory agencies.

Please contact Mrs. Susan Isaacs of the Department's Division of Utility Engineering to initiate pre-construction procedures for sanitary sewer and private roads.

Should you have any questions, please do not hesitate to contact me.

Sincerely,

SUSSEX COUNTY ENGINEERING DEPARTMENT

Jordan T. Dickerson
Engineering Technician IV

cc: Mr. Keith Bryan, w/2 enclosures
Public Works Field File, w/enclosure





**Clean
Delaware
Inc.**

P.O. Box 123 · Milton · DE 19968
1.888.637.1517 · 302.684.4221 · Fax: 302.684.1850

www.cleandelaware.com

PUMP AND HAUL SEWAGE MAINTENANCE CONTRACT

PROPERTY OWNER: SB Old Mill Bridge LLC

20184 Phillips St.

Rehoboth Beach, DE 19971

TELEPHONE: **302-227-3573**

TAX MAP NUMBER: 1-34 21.00 6.00

PROPERTY LOCATION: The Estates of Bridgewater

36553 Old Mill Bridge Rd

Sussex County

Frankford, DE

HOLDING TANK SIZE: 9,000 gallons

DISPOSAL SITE: Clean Delaware, LLC

Route 30

Milton, DE 19968

CONTRACT EXPIRES: March 31, 2025

TERMS OF CONTRACT:

1. Pumping frequency will be such that the waste level is maintained to prevent overflowing.
2. Pumping will be scheduled to maintain low levels. A high-level alarm will also be installed.
3. Duration of the contract is one year or that part of, until expiration date.
4. A fleet of vacuum trucks ranging from 4000 to 7000 gallons is available for emergency response.

Gerry Desmond

Clean Delaware, LLC

October 8, 2024

Date

Property Owner/Agent

10/8/2024

Date

**Environmental Pumping + Complete Septic Service
Grease Trap Pumping + Portable Toilet Rentals**

Residential + Commercial + Industrial

- Profile
- Sales
- Owners
- Land
- Agriculture
- Residential
- Outbuildings
- Values
- Permits
- Sketch
- Map
- Documents

PARID: 134-21.00-6.00
SB OLD MILL BRIDGE LLC

36553 OLD MILL BRIDGE RD

1 of 1

[Return to Search Results](#)


Property Information

Property Location: 36553 OLD MILL BRIDGE RD
Unit:
City: FRANKFORD
State: DE
Zip: 19945

Class: COM-Commercial
Use Code (LUC): CO-COMMERCIAL
Town: 00-None
Tax District: 134 - BALTIMORE
School District: 1 - INDIAN RIVER
Fire District: 90-Roxana
Deeded Acres: 97.4700
Frontage: 0
Depth: .000
Irr Lot:
Plot Book Page: 420-85/PB

100% Land Value: \$175,300
100% Improvement Value: \$0
100% Total Value: \$175,300

Actions

-  [Printable Summary](#)
-  [Printable Version](#)

Legal

Legal Description: THE ESTATES AT BRIDGEWATER
OPEN SPACE/SWM/WETLANDS

Owners

Owner	Co-owner	Address	City	State	Zip
SB OLD MILL BRIDGE LLC		20184 PHILLIPS ST	REHOBOTH BEACH	DE	19971

Sussex County
 Administrative Office Building
 PO Box 589, 2 The Circle
 Georgetown, DE 19947

Contact Us
 Phone: (302) 855-7824
 Fax: (302) 855-7828
 Email: assessment@sussexcountyde.gov
 Hours: Monday-Friday 8:30am-4:30pm

Location [Google Map](#)

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**Clean
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Inc.

P.O. Box 123 · Milton · DE 19968
1.888.637.1517 · 302.684.4221 · Fax: 302.684.1850

www.cleandelaware.com

PUMP AND HAUL SEWAGE MAINTENANCE CONTRACT

PROPERTY OWNER: **KLLB AIV LLC**
690 Camelback Rd. Ste 1090
Scottsdale, AZ 85251

MAILING ADDRESS: **2499 s. DuPont Blvd., Suite G**
Smyrna, DE 19977

TELEPHONE: **302-383-1211**

TAX MAP NUMBER: **234-15.00-40.00**

PROPERTY LOCATION: **Liberty West Subdivision**
36846 West Old Gate Rd (Area A thru E)
Millsboro, DE 19966

HOLDING TANK SIZE: **19,645 gallons**

DISPOSAL SITE: **Clean Delaware, LLC**
Route 30
Milton, DE 19968

CONTRACT EXPIRES: **March 31, 2024**

TERMS OF CONTRACT:

1. Pumping frequency will be such that the waste level is maintained to prevent overflowing.
2. Pumping will be scheduled to maintain low levels. A high-level alarm will also be installed.
3. Duration of the contract is one year or that part of, until expiration date.
4. A fleet of vacuum trucks ranging from 2500 to 7000 gallons is available for emergency response.

Gerry Desmond
Clean Delaware, LLC

March 20, 2023

Date

Property Owner/Agent

03/21/23

Date

Environmental Pumping + Complete Septic Service
Grease Trap Pumping + Portable Toilet Rentals
Residential + Commercial + Industrial

TANK ALERT® 4X Alarm System

Easy-to-install liquid level alarm system which has a NEMA 4X enclosure for indoor or outdoor use.

This alarm system monitors liquid levels in lift pump chambers, sump pump basins, holding tanks, sewage, agricultural, and other water applications.

The Tank Alert® 4X alarm system can serve as a high or low level alarm depending on the float switch model used.

The stainless steel alarm horn sounds and red beacon illuminates when a potentially threatening liquid level condition occurs. The horn can be silenced, but the alarm beacon remains on until the condition is remedied. Once the condition is cleared the alarm will automatically reset.



FEATURES

- NEMA 4X enclosure rated for indoor or outdoor use.
- Automatic alarm reset and alarm test/normal/silence switch.
- Alarm horn sounds at 88 decibels at 10feet (3 meters)
- Alarm system (when installed on separate circuit) operates even if the pump circuit fails.
- Complete package includes standard SJE SignalMaster® control switch with 15 feet (4.57 meters) of cable (other lengths available) and mounting clamp.
- Dual safety certification for the United States and Canada
- Five-year limited warranty.



Member of
Hydraulic

OPTIONS

When ordered with the alarm, this system is available with:

- alternate float switch models for high or low level warning.
- auxiliary dry contacts (normally open and normally closed) for easy attachment of remote devices.

SPECIFICATIONS

- VOLTAGE:**
120 VAC, 50/60 Hz
- ALARM ENCLOSURE:** 6.4 x 5.3 x 5 inch (16.2 x 13.5 x 13.34 cm), NEMA 4X, indoor-outdoor, weatherproof, UV stabilized thermoplastic
- ALARM HORN:** 88 decibels at 10 feet (3 meters)
- ALARM BEACON:** UL Listed, Type 4X beacon assembly
- AUXILIARY ALARM CONTACTS (OPTIONAL):** 120 VAC, 5 amps max., 50/60 Hz
- FLOAT SWITCH:** SJE SignalMaster® control switch with mounting clamp
Cable: 15 feet (4.57 meters), flexible 18 gauge, 2 conductor (UL) SJOW, water-resistant (CPE)
Float: 2.74 inch diameter x 4.83 inch long (7 cm x 12.3 cm), high impact, corrosion resistant polypropylene housing for use in sewage and non-potable water up to 140°F (60°C)

SEE BACKSIDE FOR ORDERING INFORMATION.

SJE
Rhombus

PO Box 1708, Detroit Lakes, MN 56502
1-888-DIAL-SJE • 1-218-847-1317
1-218-847-4617 Fax

email: customer.service@sjerhombus.com

www.sjerhombus.com 105

TANK ALERT® 4X Alarm System

Easy-to-install liquid level alarm system which has a NEMA 4X enclosure for indoor or outdoor use.

ORDERING INFORMATION

120 VAC		List Price	Shipping Weight
Part#	Description		
1008024	4X-01HSGM (120 VAC w/15' SJE SignalMaster® High Level)	\$317.85	3.40 lbs.
1008026	4X-01LSGM (120 VAC w/15' SJE SignalMaster® Low Level)	\$317.85	3.40 lbs.
1008023	4X-01H (120 VAC w/15' SJE Sensor Float® High Level)	\$320.61	3.65 lbs.
1008025	4X-01L (120 VAC w/15' SJE Sensor Float® Low Level)	\$320.61	3.65 lbs.
1008027	4X-01X (120 VAC no float)	\$283.29	2.10 lbs.

H = High Level L = Low Level X = No Float

MASTER CARTON holds 5 boxed units.

OPTIONS

CONTROL SWITCH OPTIONS

The Tank Alert® 4X alarm system comes standard with a 15 foot SJE SignalMaster® control switch with mounting clamp. Other float switches are available. See control switch section of the catalog.

To determine the price of alarm with an alternate float, add the price of the part number with "no float" to the price of the float switch.

UL Listed for Water & Sewage



SPECIFICATIONS

VOLTAGE FOR 120 VAC MODEL: 120 VAC, 50/60 Hz

ALARM ENCLOSURE: 6.4 x 5.3 x 5 inches (16.2 x 13.5 x 13.34 cm), NEMA 4X, indoor-outdoor, weatherproof, UV stabilized thermoplastic

ALARM HORN: 88 decibels at 10 feet (3 meters)

ALARM BEACON: UL Listed, Type 4X beacon assembly

AUXILIARY ALARM CONTACTS (OPTIONAL): 120 VAC, 5 amps max., 50/60 HZ

FLOAT SWITCH: SJE SignalMaster® control switch with mounting clamp

CABLE: 15 feet (4.57 meters), flexible 18 gauge, 2 conductor (UL) SJOW, water-resistant (CPE)

FLOAT: 2.74 inch diameter x 4.83 inch long (7 cm x 12.3 cm), high impact, corrosion resistant polypropylene housing for use in sewage and non-potable water up to 140°F (60°C)

MAXIMUM WATER DEPTH: 30 feet (9 meters), 13 psi

ELECTRICAL: 5 amps, 125 VAC/250 VAC, 50/60 Hz

OTHER INFORMATION

Option	Description	Price
AUX	Auxiliary Alarm Contacts	\$18.00

SJE
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www.sjrhombus.com

customer.service@sjrhombus.com

Call or fax your order!

1-888-DIAL-SJE (1-888-342-5753) ■ Fax 218-847-4617

The Estates at Bridgewater Temporary Holding Tank Calculations

Pipe storage			
pipe #	length (ft)	diam (ft)	storage (gal)
101	74	0.6667	193.14
102	128	0.6667	334.07
103	112	0.6667	292.31
104	210	0.6667	548.09
105	215	0.6667	561.14
106	171	0.6667	446.30
107	71	0.6667	184.00
114	70	0.6667	182.70
115	360	0.6667	939.58
		0.6667	0.00
		0.6667	0.00
		0.6667	0.00
		0.6667	0.00
		0.6667	0.00
		0.6667	0.00
		0.6667	0.00
		0.6667	0.00

Total pipe storage (gal) 3681.33

Manhole storage						
manhole #	diameter (ft)	rim	sump	storage height	storage (gal)	
SMH-100	4	6.05	-7.81	11.47	1077.59	
SMH-101	4	5.66	-7.44	11.1	1042.83	
SMH-102	4	7.85	-6.98	10.64	999.62	
SMH-103	4	9.11	-6.57	10.23	961.10	
SMH-104	4	9.65	-5.88	9.54	896.27	
SMH-105	4	10.33	-5.18	8.84	830.51	
SMH-106	4	11.69	-4.60	8.26	776.02	
SMH-107	4	12.12	-4.30	7.96	747.83	
SMH-114	4	12.67	-0.95	4.61	433.10	
SMH-115	4	11.46	0.26	3.4	319.43	
				3.66	0.00	
				3.66	0.00	
				3.66	0.00	
				3.66	0.00	
				3.66	0.00	
				3.66	0.00	
				3.66	0.00	

Total manhole storage (gal) 8084.29

total manhole & pipe (gal) 11765.63

total storage (edu) 39.22

allowable # of units at the above pump out frequency 20

lowest manhole rim 5.66
freeboard (ft) 2
gallons/edu 300
days between pump outs 2

80% full alarm elevation 1.37