

# Eagle's Nest Restaurant Secondary Treatment System

## Design Basis:

Eagle's Nest Restaurant is an existing facility that has experienced surfacing of water above its drainfield. The Health Department has required a secondary treatment system, and the facility owner has contracted with the engineer to design an AdvanTex® Treatment System. New grease and septic tanks were installed in September 2002.

The restaurant is open from 7 am to 11 pm, seven days per week, with peak flows occurring on Saturday. There are no plans to expand the facility or add new services. Catering is not part of this business.

Water meters were installed in February 2002 on the two discharge points from the facility and indicate the following flows.

Source	Average (gpd)	Peak (gpd)
Restrooms:	500	2,500
Kitchen:	2,500	5,000
Total	3,000	7,500

Composite sampling was performed on the septic tank effluent and the average (and peak) results are below, along with the permit requirements for the final effluent:

	Septic Tank Effluent (mg/L)	Required Discharge* (mg/L)
BOD:	175 (260)	10
TSS:	40 (60)	10
FOG:	18 (22)	-

\* Monthly grab sample testing is required.

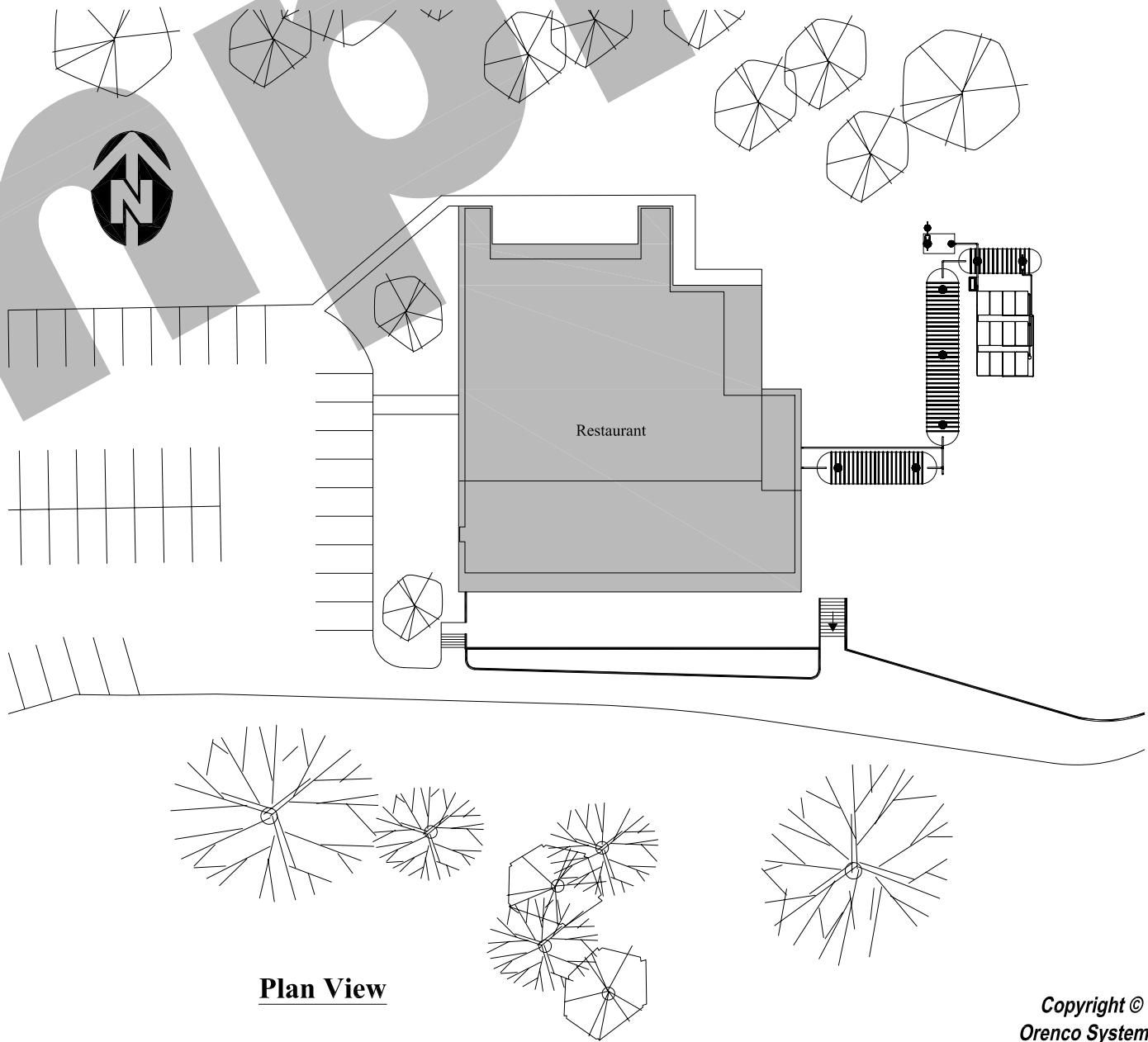
Any expected or measured changes in the facilities flow or waste strength characteristics are to be reviewed by the wastewater treatment system designer. All testing results are to be shared with the designer, owner and Orenco Systems, Inc.

## Project Notes:

- 1) The final dispersal system is not part of this contract.
- 2) Tanks are to be supplied by Xerxes Corporation. Contact: Bruce Coe - (XXX)XXX-XXXX.
- 3) The following sign is to be posted at all drains: "Do Not Dispose Of Any Toxics Or Chemicals Into The Septic System, Including The Following: Degreasers, Wax Strippers, Carpet Shampoo Waste Products, Other Toxics."
- 4) All employees will be trained on the correct use of the septic system.
- 5) A pre-construction meeting will be held prior to any site work. Attendees will include the following individuals: Owner, Engineer, Installer, O&M Provider, AdvanTex Dealer.
- 6) The Installer and O&M Provider will each attend one day of training with the Orenco AdvanTex Dealer.
- 7) The Engineer will be contacted before any changes are made during installation that vary from the system as drawn.
- 8) All electrical installation details are shown in a separate document. 220 VAC power on a dedicated 60 Amp circuit and a dedicated phone line will be provided by the owner.
- 9) Garbage grinders are not to be installed.
- 10) An Operation & Maintenance Manual is to be provided by Orenco Systems, Inc.

## Index

1. Overview
2. AdvanTex Treatment System
3. Tank Detail Sheet
4. Details



Plan View

Copyright © 2011  
Orenco Systems®, Inc.

### UNAUTHORIZED CHANGES & USES

Orenco has prepared these drawings for use by the design engineer. Orenco will not be responsible or liable for unauthorized changes to or uses of these drawings. All changes to these drawings must be made in writing and must be approved by the design engineer.

NDW-DA-ATX-1  
Rev. 3.1, © 5/11  
Page 1 of 4



**Orenco Systems® Incorporated**  
*Changing the Way the World Does Wastewater®*

Drawn By: BEN SMITH

Drawn For:

ORENCO  
ADVANTEX EXAMPLE

Project: Eagle's Nest Restaurant  
Secondary Treatment Example

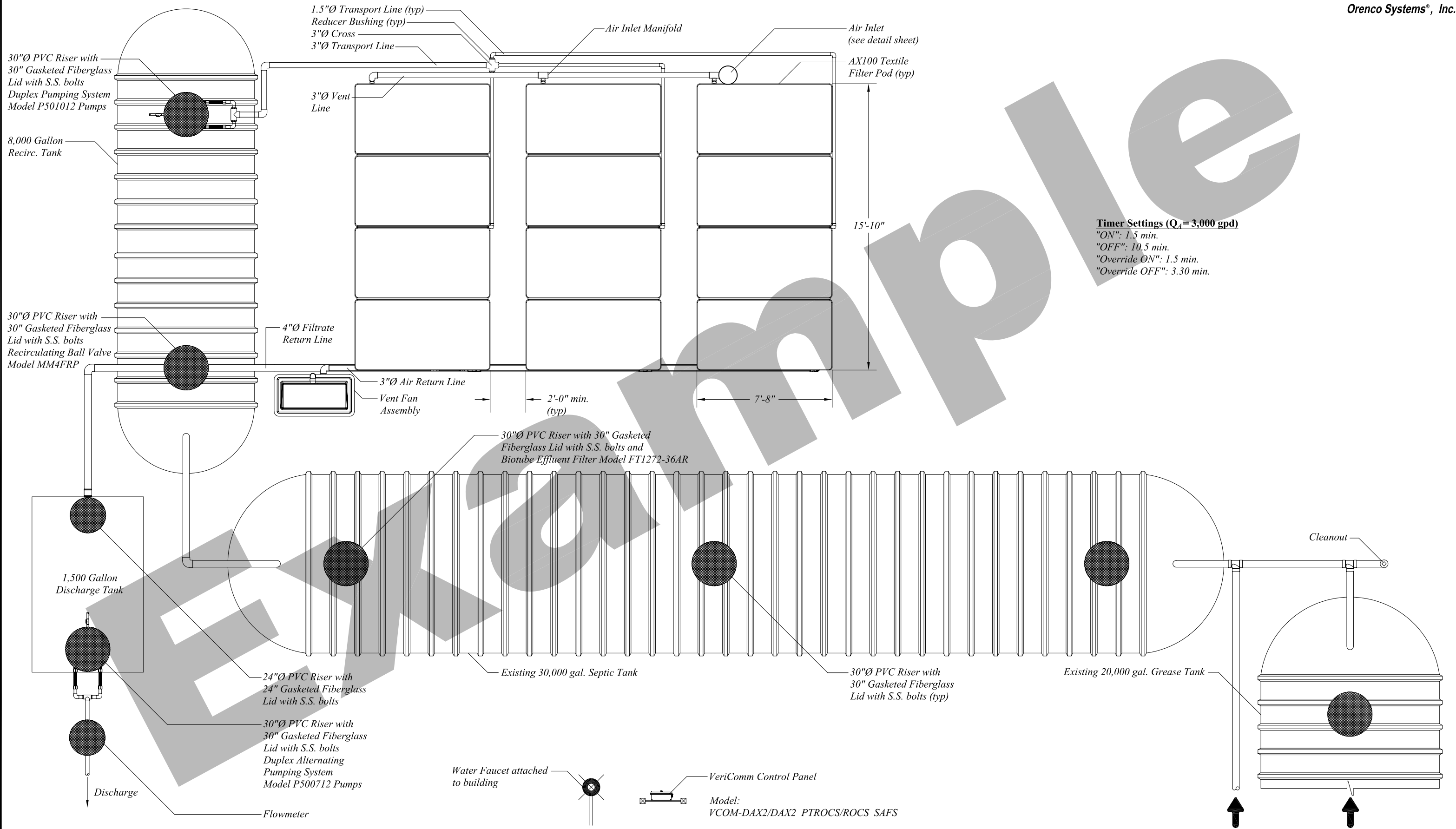
Title: Title Page

Scale: NTS

Sheet: 1 OF 4

Rev: 3.1

Date: 5/26/2011



**Timer Settings ( $Q_A = 3,000$  gpd)**  
"ON": 1.5 min.  
"OFF": 10.5 min.  
"Override ON": 1.5 min.  
"Override OFF": 3.30 min.

**UNAUTHORIZED CHANGES & USES**  
Orenco has prepared these drawings for use by the design engineer. Orenco will not be responsible or liable for unauthorized changes to or uses of these drawings. All changes to these drawings must be made in writing and must be approved by the design engineer.

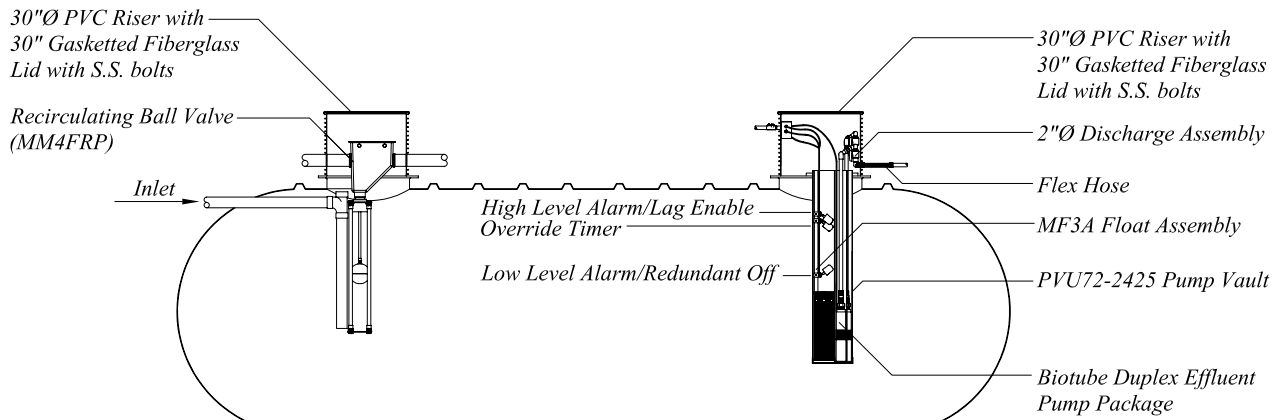
NDW-DA-ATX-1  
Rev. 3.1, © 5/11  
Page 2 of 4



Drawn By: BEN SMITH  
Drawn For:  
ORENCO  
ADVANTEX EXAMPLE

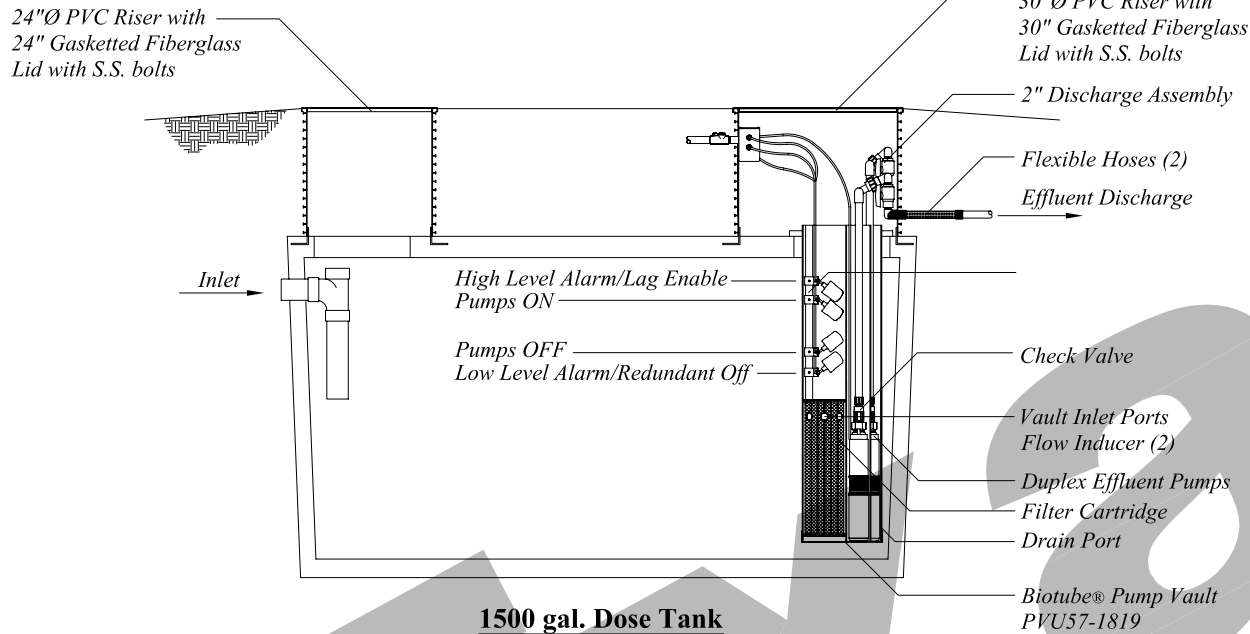
Project: Eagle's Nest Restaurant  
Secondary Treatment Example  
Title: AdvanTex Treatment System

Scale: 1" = 5'-0"  
Sheet: 2 OF 4  
Rev: 3.1  
Date: 5/26/2011



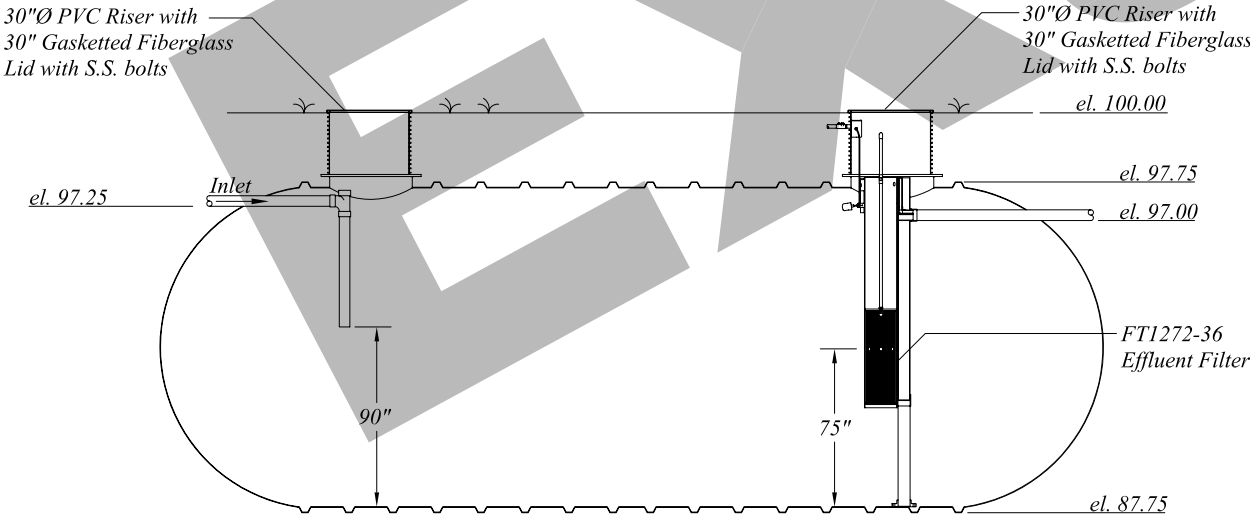
**8,000 gal Recirculation Tank**

Scale: NTS



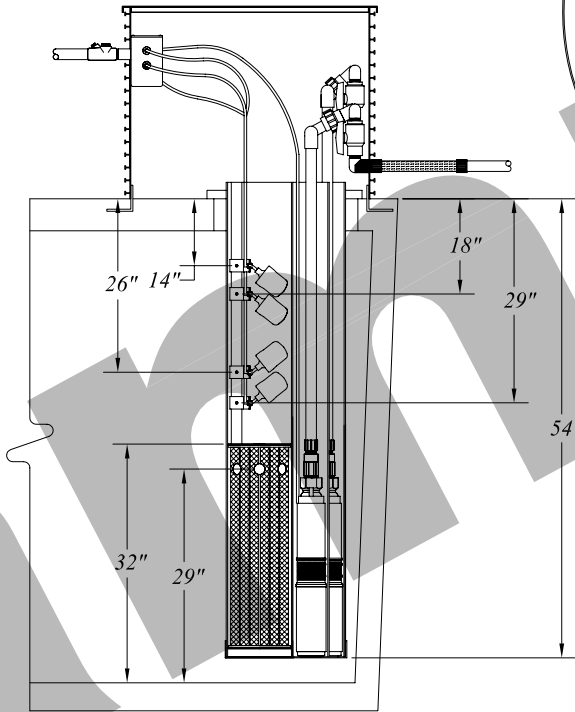
**1500 gal. Dose Tank**

Scale: 1" = 3'-0"



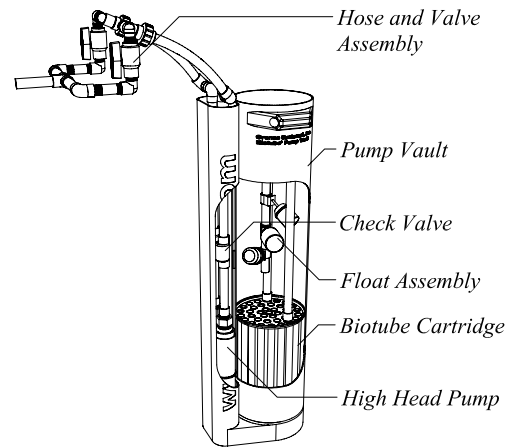
**30,000 gal Septic Tank**

Scale: NTS



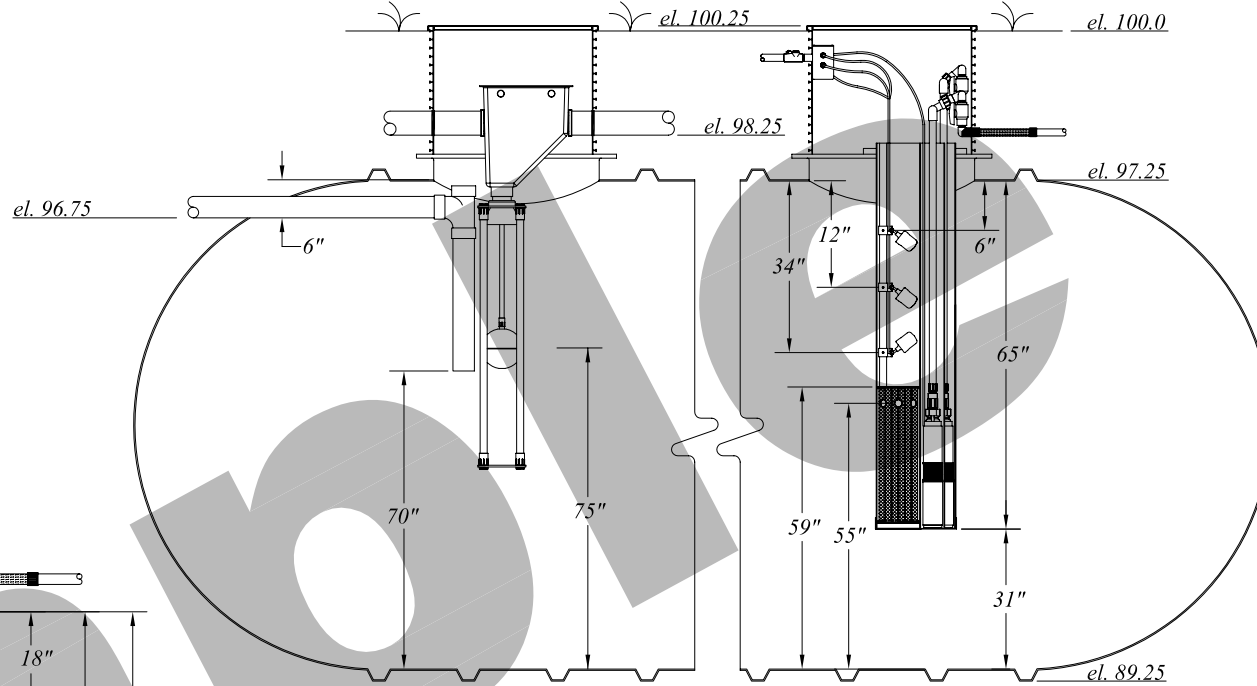
**Dose Tank Float Settings**

Scale: 1" = 2'-0"



**Duplex Pump Vault Detail**

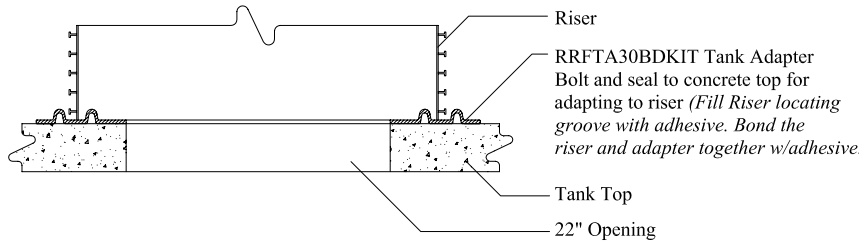
Scale: NTS



**Recirculation Tank Float and RSV Settings**

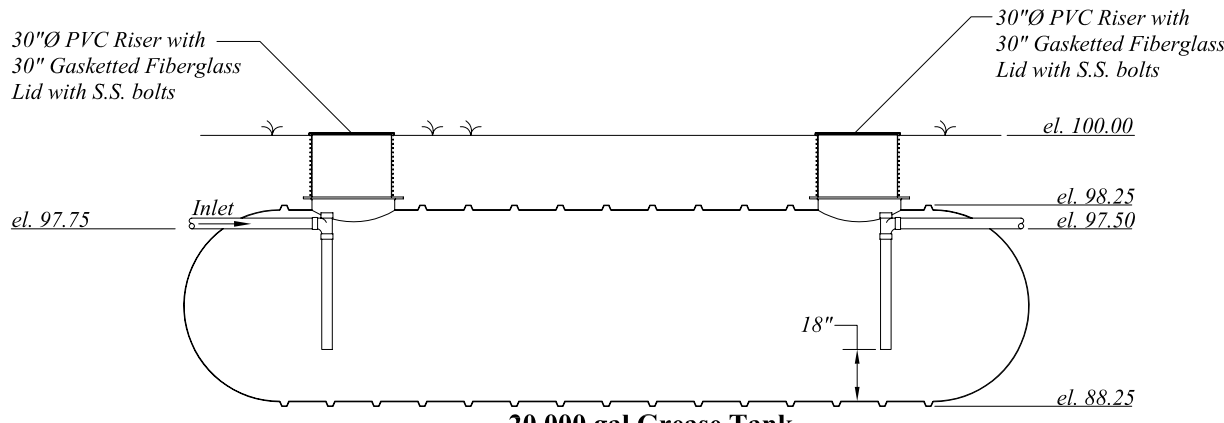
Scale: NTS

**Note:**  
See Access Riser Instructions (document # NIN-RLA-RR-1)  
for further detail.



**30" Riser Attachment Detail for Concrete Tank**

Scale: none



**20,000 gal Grease Tank**

Scale: NTS

Copyright © 2011  
Orenco Systems®, Inc.

**UNAUTHORIZED CHANGES & USES**

Orenco has prepared these drawings for use by the design engineer. Orenco will not be responsible or liable for unauthorized changes to or uses of these drawings. All changes to these drawings must be made in writing and must be approved by the design engineer.

NDW-DA-ATX-1

Rev. 3.1, © 5/11

Page 3 of 4



**Orenco Systems® Incorporated**  
Changing the Way the World Does Wastewater®

Drawn By: BEN SMITH

Drawn For:

ORENCO  
ADVANTEX EXAMPLE

Project: Eagle's Nest Restaurant  
Secondary Treatment Example

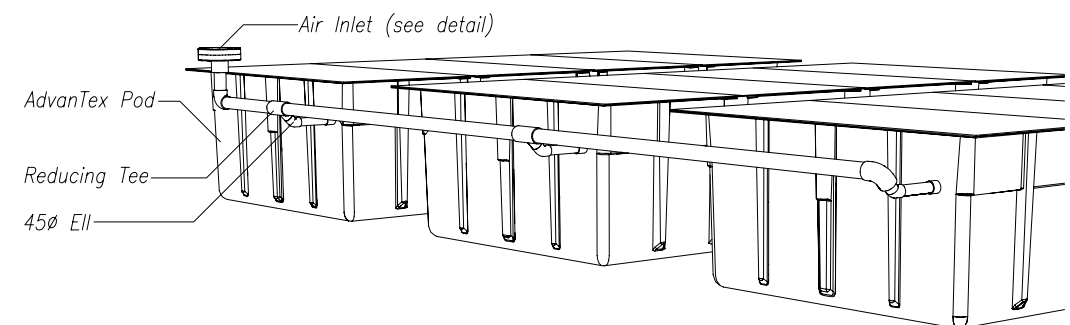
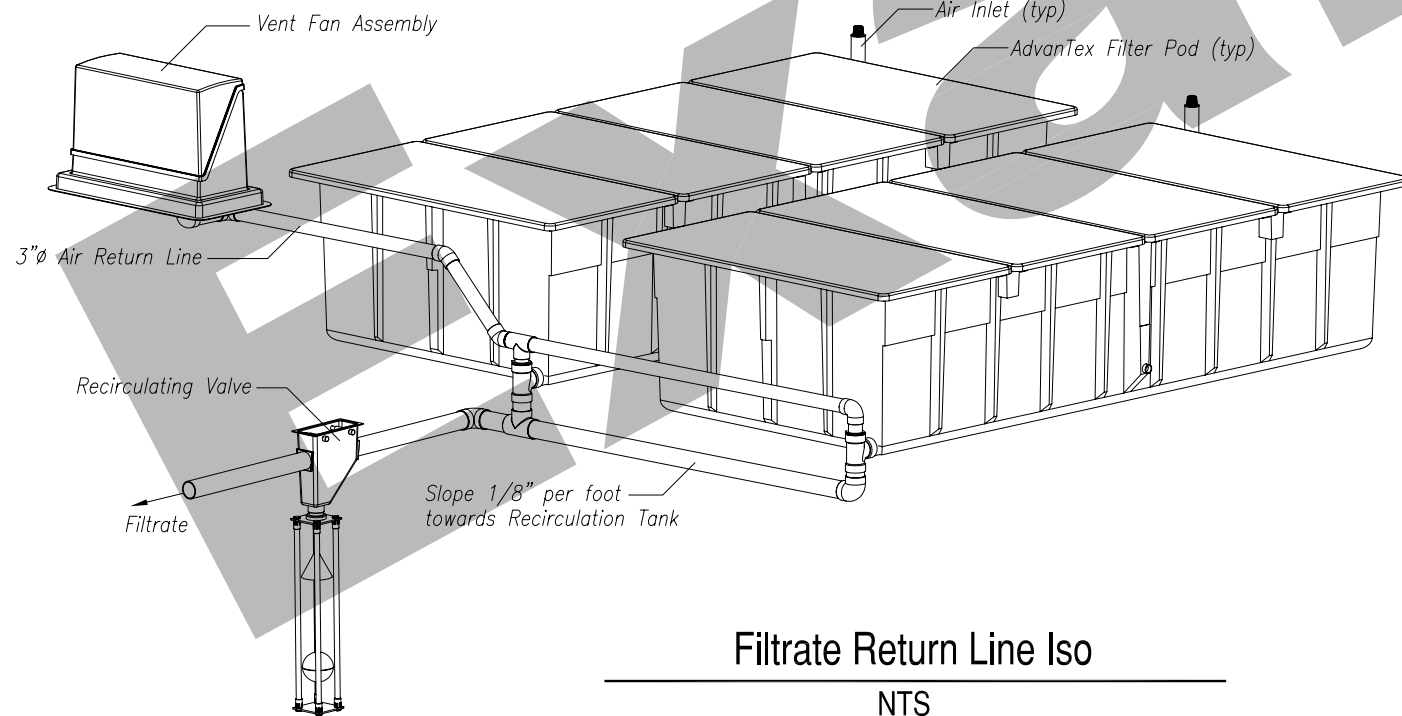
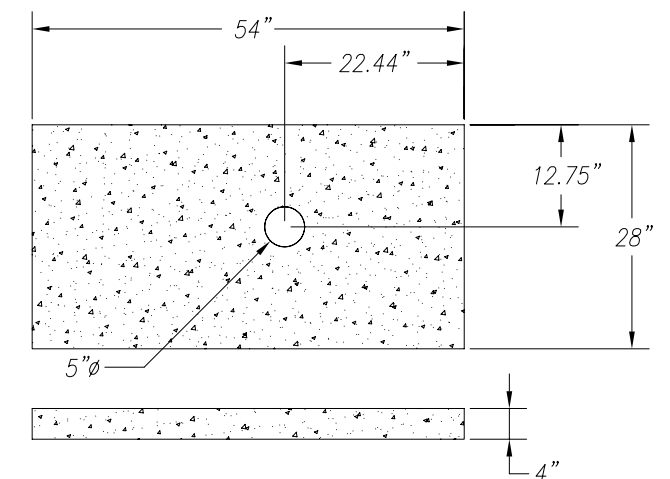
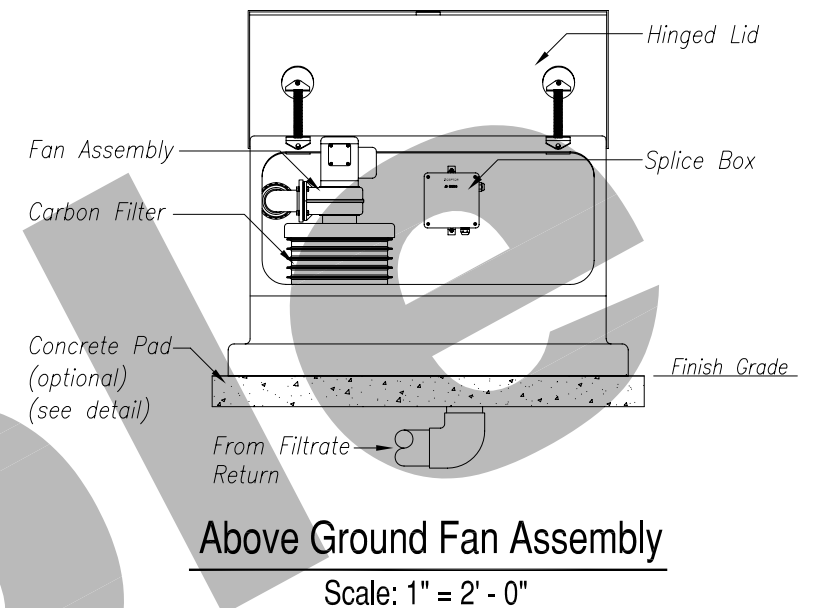
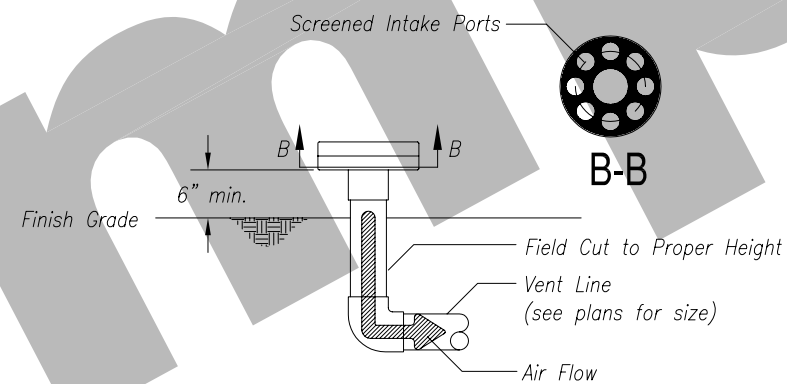
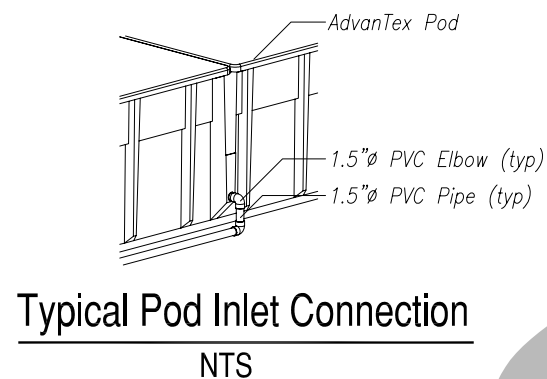
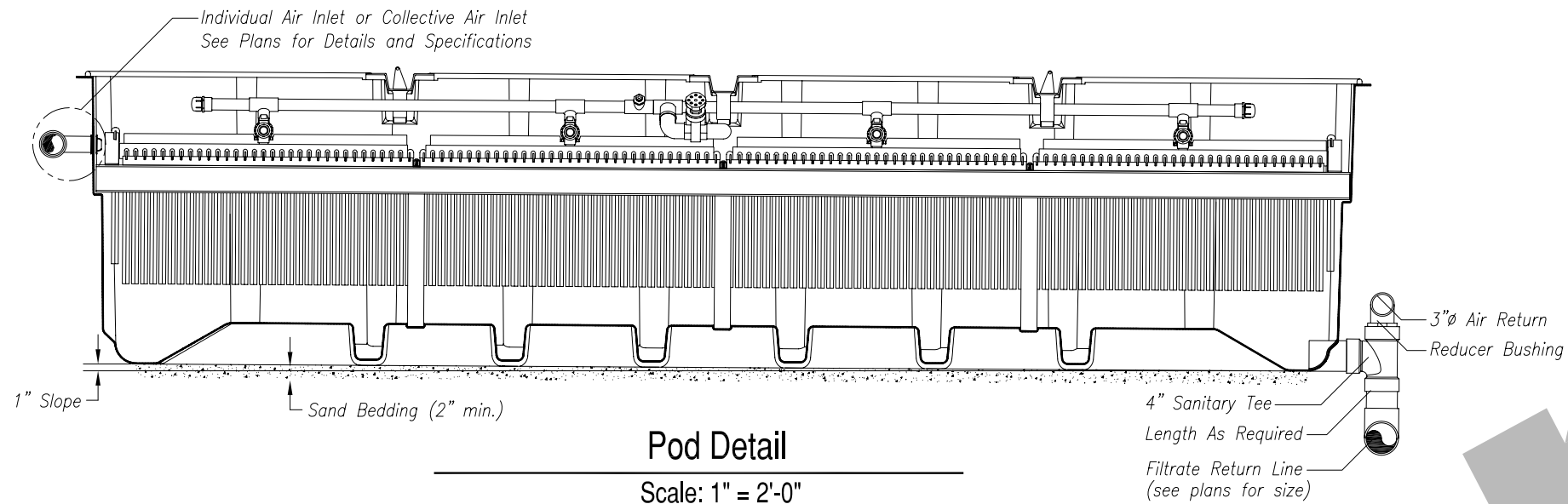
Title: Tank and Details Sheet

Scale: As SHOWN

Sheet: 3 OF 4

Rev: 3.1

Date: 5/26/2011



Copyright © 2011  
Orenco Systems®, Inc.

#### UNAUTHORIZED CHANGES & USES

Orenco has prepared these drawings for use by the design engineer. Orenco will not be responsible or liable for unauthorized changes to or uses of these drawings. All changes to these drawings must be made in writing and must be approved by the design engineer.

NDW-DA-ATX-1  
Rev. 3.1, © 5/11  
Page 4 of 4



Drawn By: BEN SMITH

Drawn For:  
ORENCO  
ADVANTEX EXAMPLE

Project: Eagle's Nest Restaurant  
Secondary Treatment Example

Title: Details Sheet

Scale: As SHOWN

Sheet: 4 OF 4

Rev: 3.1

Date: 5/26/2011



# Sample AdvanTex® Drawings

## ***Commercial and Multi-Family***

The successful installation and operation of a secondary wastewater treatment system depends upon clear and complete drawings and specifications. It is the responsibility of the system's designer to provide this documentation, and Orenco's Systems Engineering Department is prepared to assist the designer by providing standard drawings and technical support during the design.

Therefore, Orenco requires that all projects sold under our Commercial AdvanTex® Program include a complete set of plans for construction. This plan set should include, at a minimum, the following:

- Expected average daily and peak weekly flows, with basis for determination;
- Expected influent strengths, with basis for determination, and required effluent characteristics;
- AdvanTex system layout, with all dimensions and distances shown;
- Section views for all tanks that clearly indicate finished grade, inlet and outlet elevations, splitter valve, and float settings and functions (as applicable);
- Treatment system elevations, including finished grade, AdvanTex pods, and distributing valve;
- Sizing and dimensions for all tanks;
- Product model numbers and/or descriptions; and
- Pipe diameters and slopes.

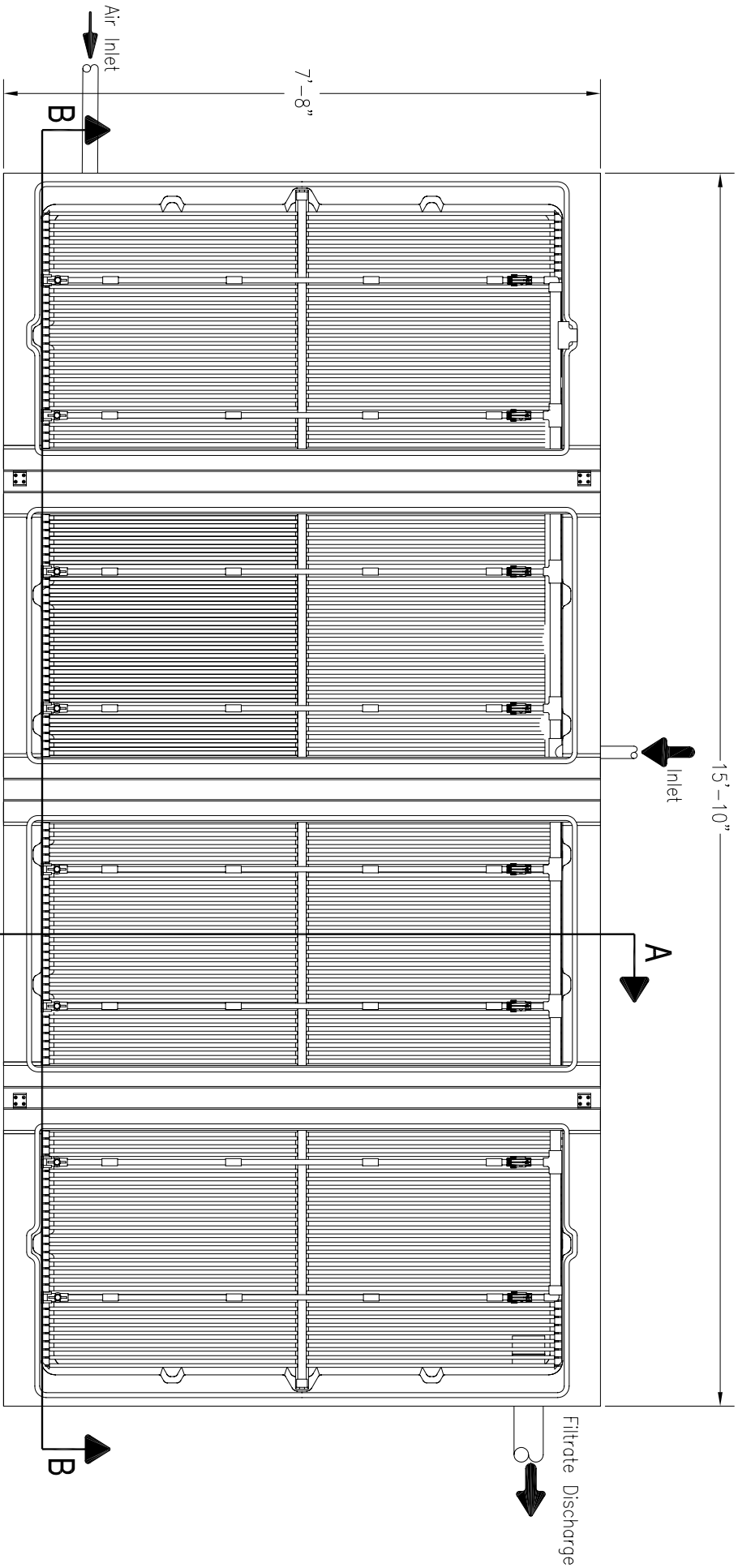
Any project notes, qualifying statements, and required facility signage should also be included in the plan set.

Plans for all Commercial AdvanTex projects are to be reviewed by Orenco's Systems Engineering Department prior to release of the product order. This ensures proper product application and confirms that the system design meets the requirements of Orenco's Commercial AdvanTex Program.

A sample set of plans, which includes all of the required design elements, is attached. A standard AdvanTex-AX100 Treatment System layout drawing, design detail drawing sheet, dimensioned AX100 drawing, and recirc-blend tank profile worksheet are also included.

It is strongly recommended that Orenco's Systems Engineers be consulted early in every AdvanTex project to ensure timely completion of the design. Standard layout and detail drawings, along with design tools and worksheets, are available upon request.

Any questions, comments, or requests for assistance should be directed to Orenco's Systems Engineering Department at 1-800-348-9843.

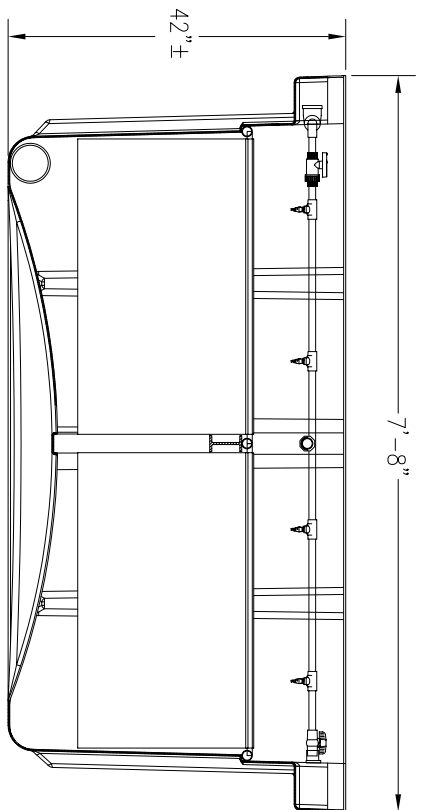


A

B

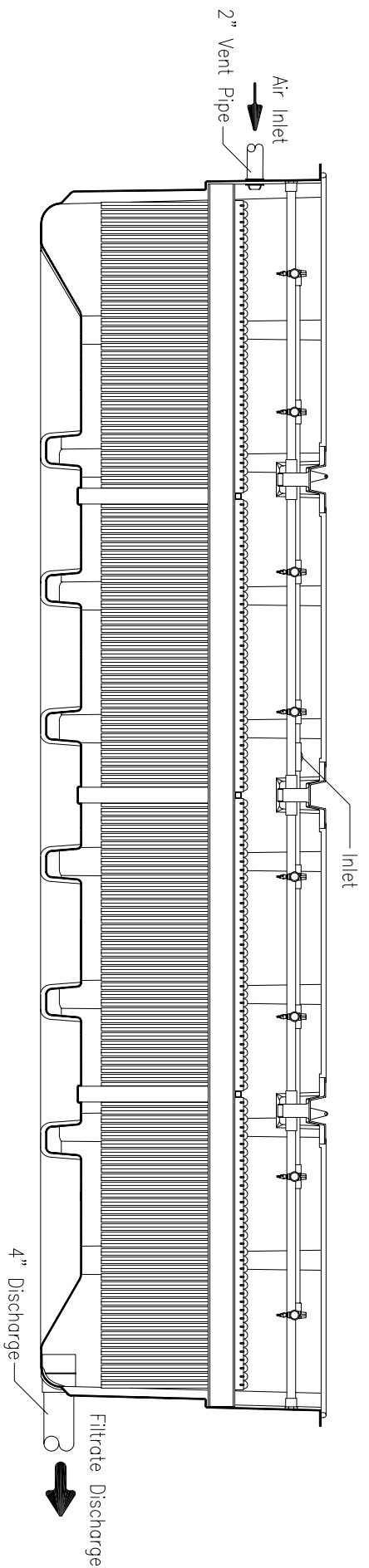
Top View

Scale: 1" = 2'-0"



Section A-A

Scale: 1" = 2'-0"



Section B-B

Scale: 1" = 2'-0"



Orenco Systems®  
Incorporated

Typical AdvanTex® Details

Drawing No.

Date: 5/21/03

Scale: As Shown

Drawn By: CHRIS JORDAN

Drawing: DETAIL SHEET B

Revision:

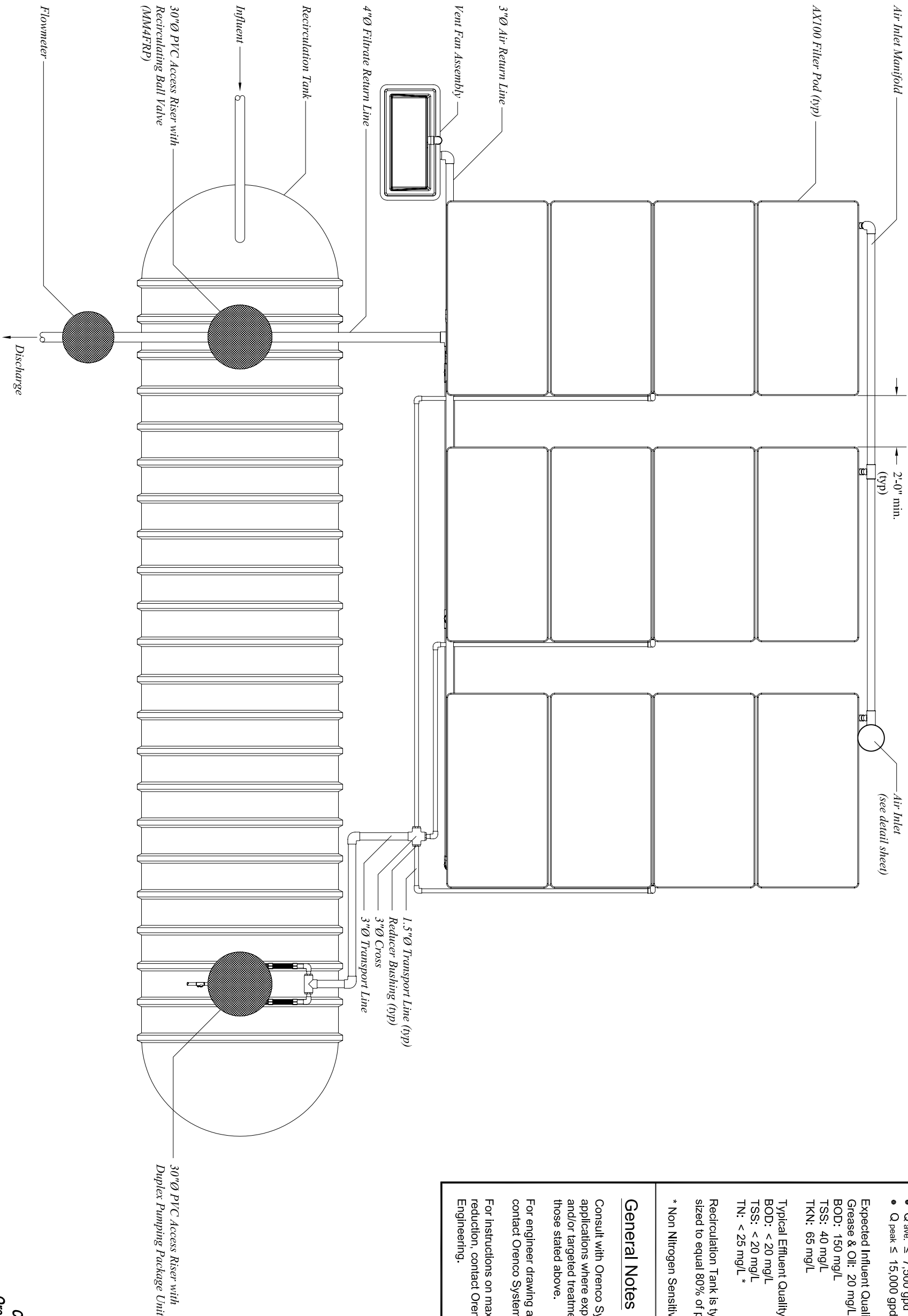
Designed By: ENGINEERING

Approved By:

Date Approved:

U.S. Patents  
4,439,323 and 5,492,635  
Other Patents Pending  
© 1998 Orenco Systems®, Inc.

AdvanTex® AX100 System  
Manifolded Vent System



Design Notes

Expected Flows

- Q<sub>ave.</sub> ≤ 7,500 gpd
- Q<sub>peak</sub> ≤ 15,000 gpd

Expected Influent Quality

Grease & Oil: 20 mg/L  
BOD: 150 mg/L  
TSS: 40 mg/L  
TKN: 65 mg/L

Typical Effluent Quality

BOD: < 20 mg/L  
TSS: < 20 mg/L  
TN: < 25 mg/L \*

Recirculation Tank is typically sized to equal 80% of peak flow.

\* Non Nitrogen Sensitive Applications

General Notes

Consult with Orenco Systems, Inc. for applications where expected influent quality and/or targeted treatment goals vary from those stated above.

For engineer drawing and information contact Orenco Systems, Inc.

For instructions on maximizing nitrogen reduction, contact Orenco Systems Engineering.

UNAUTHORIZED CHANGES & USES  
Orenco has prepared these drawings for use by the design engineer. Orenco will not be responsible or liable for unauthorized changes to or uses of these drawings. All changes to these drawings must be made in writing and must be approved by the design engineer.

PRODUCT CONFIGURATION DRAWINGS



**Orenco Systems® Incorporated**  
*Changing the Way the World Does Wastewater®*

Drawn By: BEN SMITH

Drawn For:

Project: AdvanTex® AX100 System  
Manifold Vent Inlet

Title:

3 Pod Configuration

Scale: 1" = 4'-0"

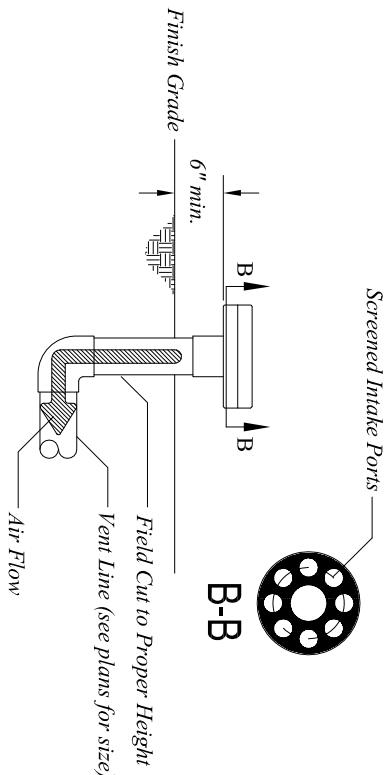
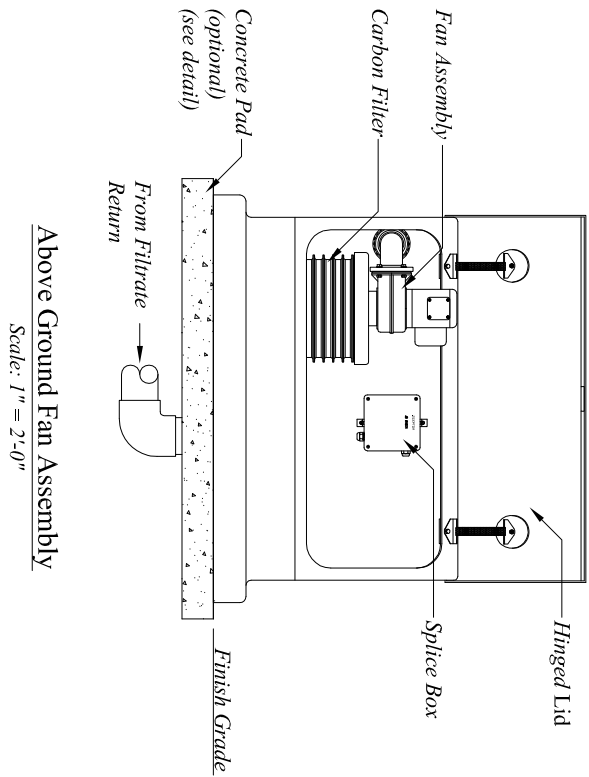
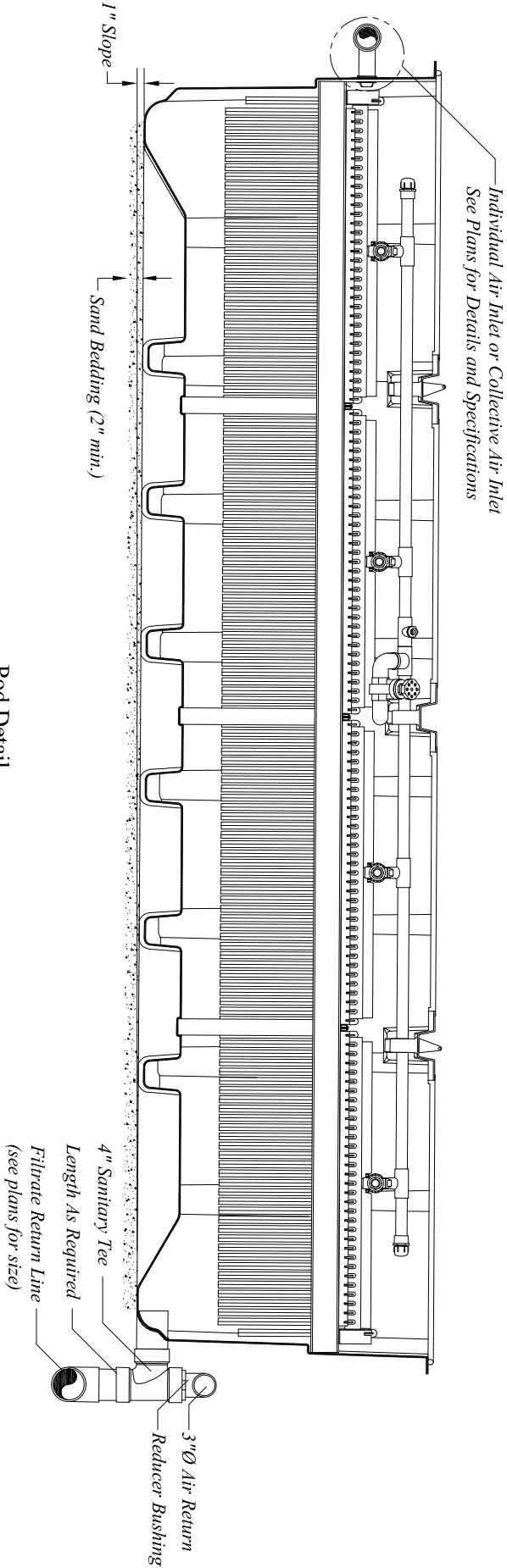
Sheet: 1 OF 1

Rev: A-02 Date: 8/29/2011

Copyright © 2011  
Orenco Systems®, Inc.

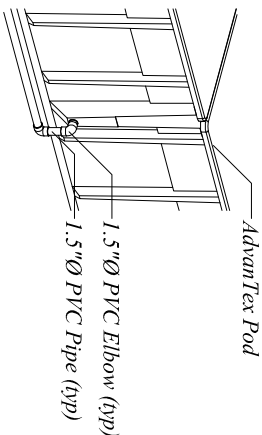
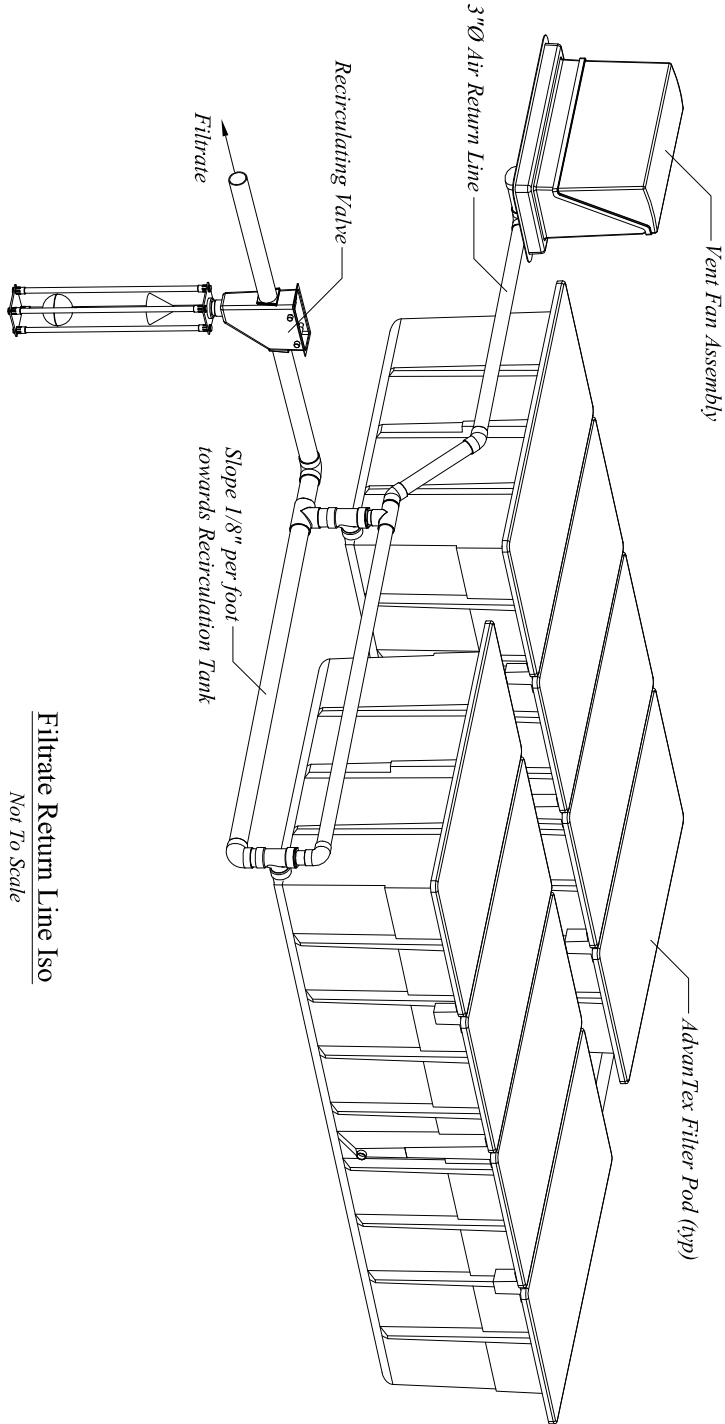
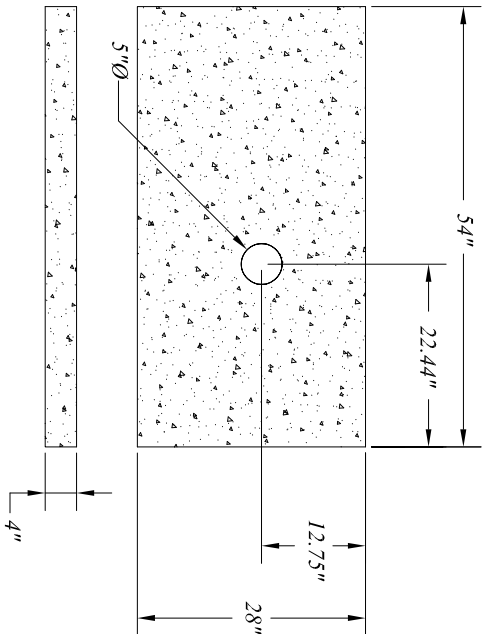
AdvantTex® AX100 System

Ventilation Details

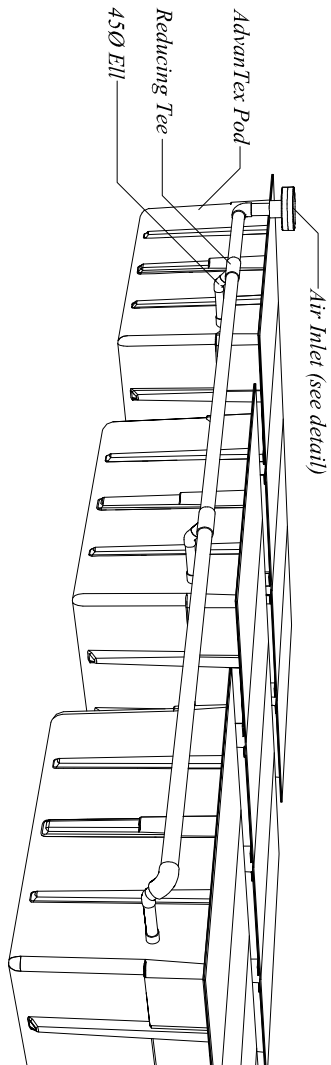


Collective Air Inlet Detail  
Scale: 1" = 2'-0"

Optional Fan Assy Pad Detail  
Scale: 1" = 2'-0"



Typical Pod Inlet Connection  
Not To Scale



Copyright © 2012  
Orengo Systems®, Inc.

UNAUTHORIZED CHANGES & USES

Orengo has prepared these drawings for use by the design engineer. Orengo will not be responsible or liable for unauthorized changes to or uses of these drawings. All changes to these drawings must be made in writing and must be approved by the design engineer.

PRODUCT CONFIGURATION DRAWINGS



**Orengo Systems® Incorporated**  
*Changing the Way the World Does Wastewater®*

Drawn By: **BEN SMITH**  
Drown For:

Project: **AdvantTex® AX100 System**  
**Typical Ventilation System**

Scale: **As SHOWN**  
Sheet: **1 OF 1**

Title: **Collective air inlet details**

Rev: **A-03** Date: **1/05/2012**



# RSV & Float Setting Worksheet For 8'Ø Xerxes Fiberglass Tank



Oreco Systems®  
Incorporated

814 AIRWAY AVENUE  
SUTHERLIN, OREGON  
97479-9012

TELEPHONE:  
(541) 459-4449  
FACSIMILE:  
(541) 459-2884

Project Name: \_\_\_\_\_

Tank Volume: \_\_\_\_\_

Pump(s) model: \_\_\_\_\_

Pump MLL: \_\_\_\_\_

Float Arrangement: \_\_\_\_\_

Float Functions: \_\_\_\_\_

Pump Vault model: \_\_\_\_\_

