



Oregon

Kate Brown, Governor

Department of Environmental Quality
Western Region Eugene Office
165 East 7th Avenue, Suite 100
Eugene, OR 97401
(541) 686-7838
FAX (541) 686-7551
TTY 711

November 30, 2015

Garrett Jensen
Norweco, Inc.
PO Box 410
Norwalk, OH 44857

RE: Hydro-Kinetic[®] 600 FEU with UV disinfection

You applied to Oregon Department of Environmental Quality to list the above-referenced product as an approved Alternative Treatment Technology. DEQ has reviewed your application plans, specifications, and other required exhibits for the Hydro-Kinetic[®] 600 FEU with ultraviolet light disinfection. The system's design flow rating is 500 gallons per day and your application was submitted to list as a treatment standard 2 system.

You provided third party NSF/ANSI testing data from a certification organization whose accreditation is specific to onsite wastewater treatment products certifying the product complies with all applicable DEQ rules and regulations. DEQ has reviewed these materials for compatibility with the standards and criteria found in Oregon Administrative Rule 340-071-0345. I am pleased to advise you that DEQ has found the following ATT system manufactured by Norweco, Inc. to meet the approval criteria for **Treatment Standard 2** when used as part of an onsite wastewater treatment system in Oregon:

- Hydro-Kinetic[®] 600 FEU with UV disinfection (500 GPD)

Norweco, Inc. is authorized to manufacture, market, and distribute these ATTs for use in single family dwellings and commercial facilities in Oregon so long as the following conditions are met:

1. The ATT must be manufactured in compliance with DEQ's rules and the plans and design specifications approved by DEQ. Alteration of the ATT system design that might affect system performance must be approved by an ANSI accredited, third-party testing and certification organization and DEQ.
2. The approved version(s) of the plans are labeled Hydro-Kinetic[®] 600 FEU and are dated November 24, 2015.
3. The ATT system must be preceded by a properly sized septic tank, dosing septic tank or followed by a properly sized dosing tank or pump vault approved for use in Oregon.
4. In the event of a failure of electrical or mechanical components critical to the treatment process, the control panel must lockout effluent pump operation to prevent untreated or

partially treated effluent from discharging to the absorption area. An audible and visual alarm must activate in the event of electrical, mechanical equipment or hydraulic malfunction of the system.

5. You must train and certify maintenance providers on system maintenance for these ATTs. Individuals installing your system, and regulators in the county of installation, must be trained prior to installation of your products in Oregon, in accordance with the approved plan included in your application.
6. As the Manufacturer of these products, it is your responsibility to assure that each assembled ATT delivered to the construction site is watertight. Assurance must be achieved by periodic testing of the ATT products for watertightness at the manufacturing facility.
7. Service contracts and inspection / service visits must meet or exceed the requirements of OAR 340-071-0345(14).
8. Unless otherwise authorized by the Department, Norweco, Inc. must submit an annual manufacturer report. The report must include, but is not limited to:
 - a. A current list of each ATT sold in the State of Oregon for the reporting period, including the model number, serial number, and the property address where the ATT is located;
 - b. A current list of all maintenance providers certified by Norweco, Inc. and;
 - c. The material plan review fee in OAR 340-071-0140(5).
9. All other applicable rules and requirements within OAR 340-071 and 073 must be followed.

Pursuant to OAR 340-071-0345(2)(e), DEQ has the authority to remove ATTs from the approved list if DEQ determines that the requirements for approval are no longer satisfied, or if any of the following conditions have occurred:

- Ten percent or more of system under 10 years of age fail;
- The ATT does not produce effluent quality equal to or better than Treatment Standard 2 requirements, respectively, under normal operating conditions;
- The manufacturer fails to submit the annual report and annual compliance determination fee by the date specified by DEQ; or
- The manufacturer goes out of business.

Each ATT is only approved for use at locations where the top loading will not exceed the engineering design parameters. ATTs proposed for use at other locations require an engineering analysis of the potential top loading, and may require the preparation of site-specific plans and specifications.

DEQ's decision to list this ATT as approved does not constitute an endorsement of the product. Moreover, DEQ is not responsible for any situation which may result from improper use or misapplication of your product.

If you have any questions regarding this letter, please contact Randy Trox, trox.randall@deq.state.or.us, or by phone at (541) 687-7338.

Sincerely,

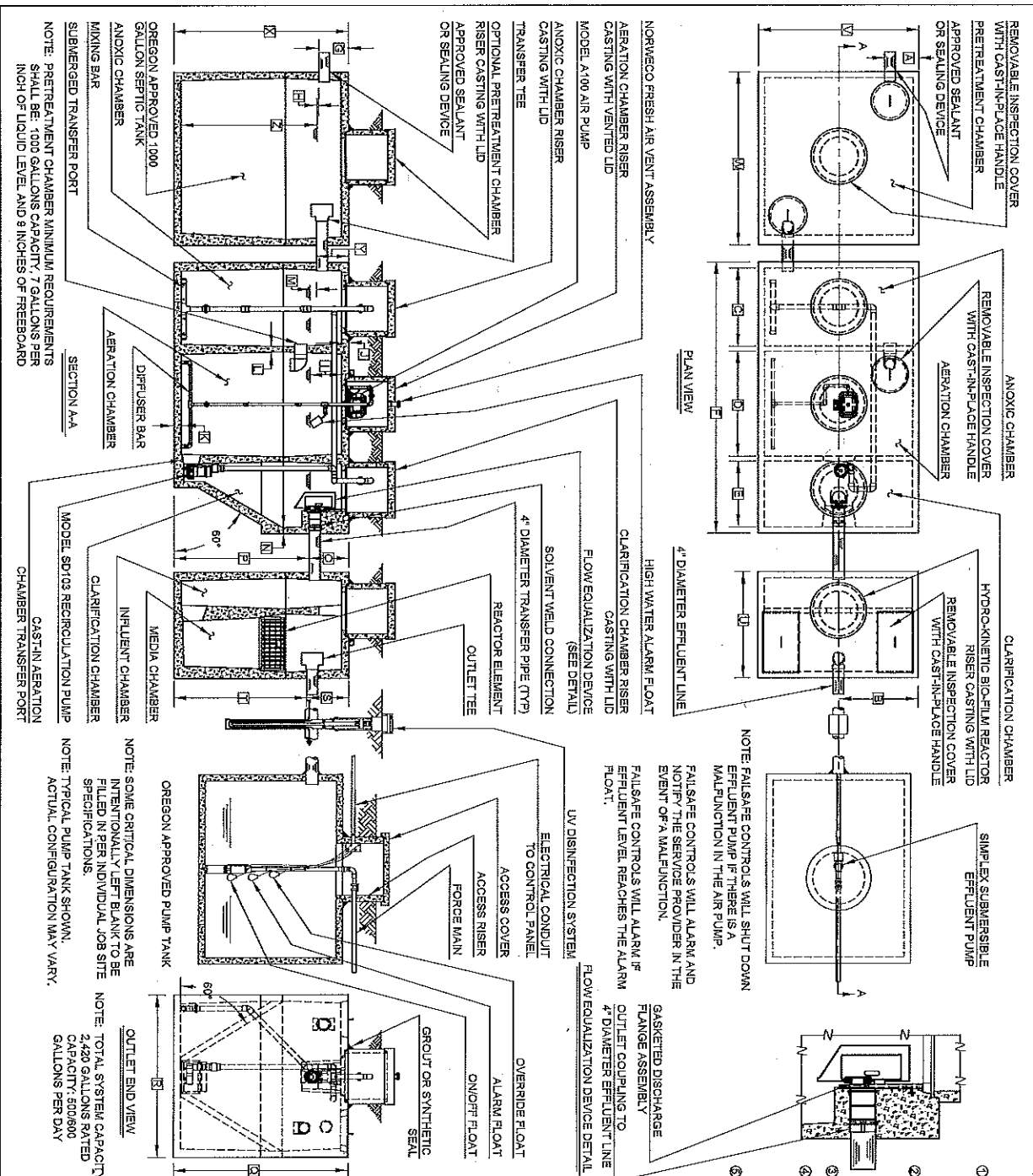


David Belyea, Manager
Regional Environmental Solutions

Enclosures – approved plans

EC: All Contract County Offices
All DEQ Direct Service Offices

APPROVED
By Randy Trox at 4:19 pm, Nov 24, 2015



- GENERAL NOTES:**
- FALL THROUGH THE HYDRO-KINETIC® PLANT FROM INLET INVERT TO OUTLET INVERT IS FIVE INCHES. INLET INVERT IS TWELVE INCHES BELOW TANK TOP.
 - ON DEEPER INSTALLATIONS, PRECAST RISERS MUST BE USED TO EXTEND CASTINGS TO GRADE. INSPECTION COVERS MUST BE DEVELOPED TO WITHIN TWELVE INCHES OF GRADE.
 - TANK REINFORCED PER ACI STD. 318.
 - REMOVABLE COVERS ON RISERS WEIGH IN EXCESS OF SEVENTY-FIVE POUNDS EACH TO PREVENT UNAUTHORIZED ACCESS.
 - CONTACT THE LOCAL LICENSED HYDRO-KINETIC® DISTRIBUTOR FOR ELECTRICAL REQUIREMENTS.

PROJECT ENGINEERS APPROVAL:
I (AND) HEREBY CERTIFY THAT THIS DRAWING HAS BEEN CHECKED AND IS APPROVED FOR USE IN CONFORMITY WITH THE CONTRACT DOCUMENTS.

DATE: _____

NAME: _____

CONTRACTOR'S CERTIFICATION:
I (WE) HEREBY CERTIFY THAT THIS DRAWING HAS BEEN CHECKED AND IS APPROVED FOR USE IN CONFORMITY WITH THE CONTRACT DOCUMENTS.

DATE: _____

NAME: _____

CRITICAL DIMENSIONS	NAME
1'-0"	0'-2 1/2"
2'-9"	1'-4"
2'-8"	4'-8"
3'-7"	8'-0"
2'-3"	8'-8"
9'-8"	1'-5"
1'-0"	4'-7"
1'-1"	3'-7 1/2"
0'-3"	1'-1"
0'-2"	1'-1"

NOTE: TOTAL SYSTEM CAPACITY: 2,420 GALLONS DATED CAPACITY 7,500/800 GALLONS PER DAY

NOTE: SOME CRITICAL DIMENSIONS ARE INTENTIONALLY LEFT BLANK TO BE FILLED IN PER INDIVIDUAL JOB SITE SPECIFICATIONS.

NOTE: TYPICAL PUMP TANK SHOWN. ACTUAL CONFIGURATION MAY VARY.

norweco

1-24-2015

DATE: 02-02-2015

PROJECT: WASTEWATER TREATMENT PLANT

REVISION: 1

BY: NTS

DATE: 11-24-2015

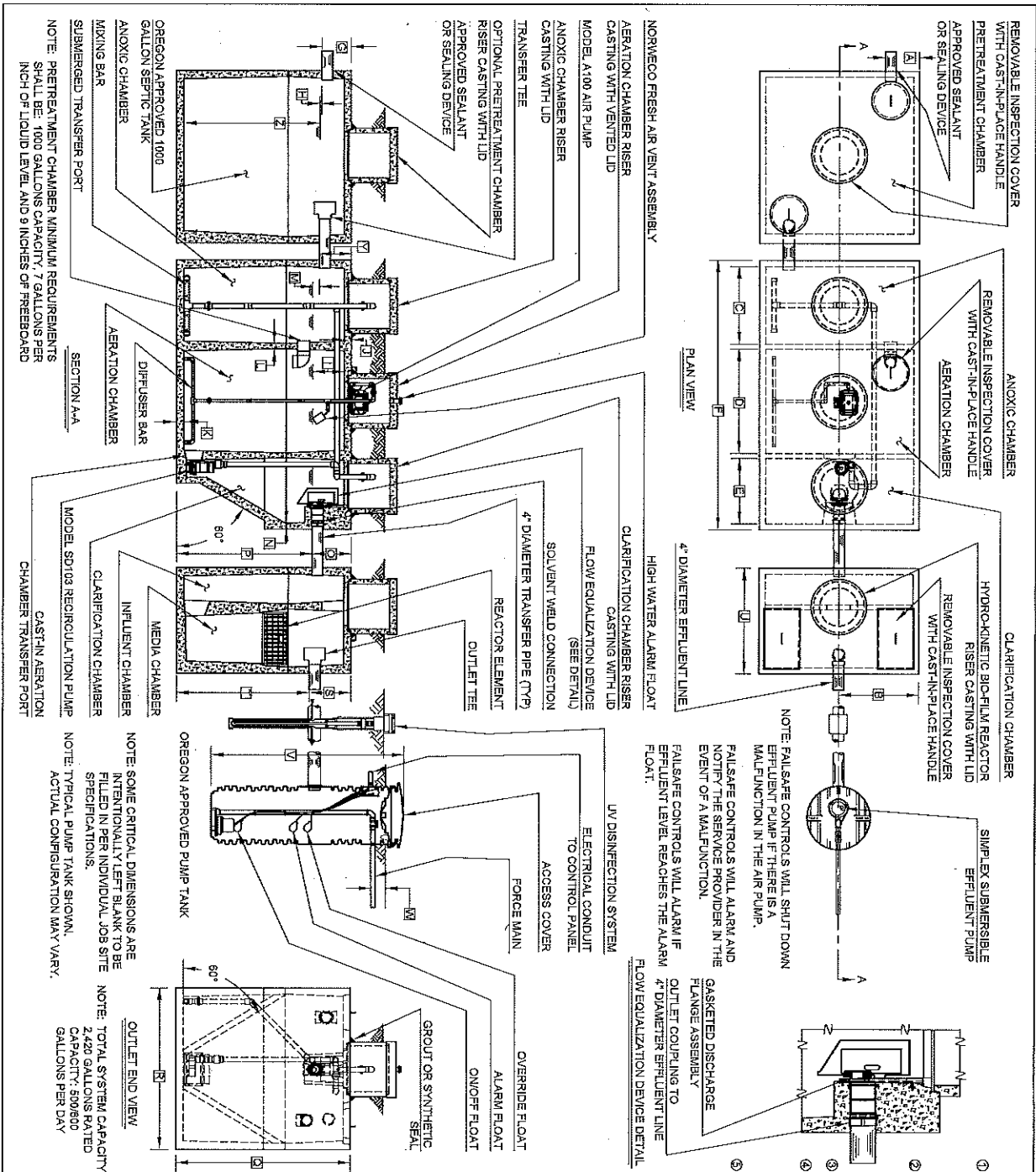
PROJECT: WASTEWATER TREATMENT PLANT

REVISION: 1

BY: NTS

DATE: 11-24-2015

APPROVED
By Randy Trox at 4:20 pm, Nov 24, 2015



REMOVABLE INSPECTION COVER WITH CAST-IN-PLACE HANDLE
PRETREATMENT CHAMBER OR SEALING DEVICE

REMOVABLE INSPECTION COVER WITH CAST-IN-PLACE HANDLE
AERATION CHAMBER

REMOVABLE INSPECTION COVER WITH CAST-IN-PLACE HANDLE
HYDRO-KINETIC BIO-FILM REACTOR RISER CASTING WITH LID

CLARIFICATION CHAMBER
HIGH WATER ALARM FLOAT
4" DIAMETER EFFLUENT LINE

UV DISINFECTION SYSTEM
ELECTRICAL CONDUIT TO CONTROL PANEL ACCESS COVER

OREGON APPROVED PUMP TANK

CAST-IN AERATION CHAMBER TRANSFER PORT

NOTE: PRETREATMENT CHAMBER MINIMUM REQUIREMENTS SHALL BE: 1000 GALLONS CAPACITY, 7 GALLONS PER INCH OF LIQUID LEVEL, AND 9 INCHES OF FREEBOARD

NOTE: FALL SAFE CONTROLS WILL SHUT DOWN EFFLUENT PUMP IF THERE IS A MALFUNCTION IN THE AIR PUMP.
FALLSAFE CONTROLS WILL ALARM AND NOTIFY THE SERVICE PROVIDER IN THE EVENT OF A MALFUNCTION.
FALLSAFE CONTROLS WILL ALARM IF EFFLUENT LEVEL REACHES THE ALARM FLOAT.

NOTE: SOME CRITICAL DIMENSIONS ARE INTENTIONALLY LEFT BLANK TO BE FILLED IN PER INDIVIDUAL JOB SITE SPECIFICATIONS.
NOTE: TYPICAL PUMP TANK SHOWN, ACTUAL CONFIGURATION MAY VARY.

NOTE: TOTAL SYSTEM CAPACITY: 2420 GALLONS RATED CAPACITY: 500/600 GALLONS PER DAY

GENERAL NOTES:

- FALL THROUGH THE HYDRO-KINETIC PLANT FROM INLET INVERT TO OUTLET INVERT IS FIVE INCHES. INLET INVERT IS TWELVE INCHES BELOW TANK TOP.
- ON DEEPER INSTALLATIONS, PRECAST RISERS MUST BE USED TO EXTEND CASTINGS TO GRADE. INSPECTION COVERS MUST BE DEVELOPED TO WITHIN TWELVE INCHES OF GRADE.
- TANK REINFORCED PER ACI STD. 318.
- REMOVABLE COVERS ON RISERS WEIGH IN EXCESS OF SEVENTY-FIVE POUNDS EACH TO PREVENT UNAUTHORIZED ACCESS.
- CONTACT THE LOCAL, LICENSED HYDRO-KINETIC DISTRIBUTOR FOR ELECTRICAL REQUIREMENTS.

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DATE: _____

NAME: _____

NO.	DESCRIPTION	UNIT	QTY	PRICE	TOTAL
1	1'-0"	N	0'-2 1/2"		
2	2'-0"	P	1'-4"		
3	2'-8"	P	4'-8"		
4	3'-7"	P	5'-0"		
5	4'-3"	P	5'-5"		
6	5'-0"	P	5'-7 1/2"		
7	5'-8"	P	5'-7 1/2"		
8	6'-3"	P	5'-7 1/2"		
9	6'-11"	P	5'-7 1/2"		
10	7'-0"	P	5'-7 1/2"		
11	7'-0"	P	5'-7 1/2"		
12	7'-0"	P	5'-7 1/2"		
13	7'-0"	P	5'-7 1/2"		
14	7'-0"	P	5'-7 1/2"		
15	7'-0"	P	5'-7 1/2"		
16	7'-0"	P	5'-7 1/2"		
17	7'-0"	P	5'-7 1/2"		
18	7'-0"	P	5'-7 1/2"		
19	7'-0"	P	5'-7 1/2"		
20	7'-0"	P	5'-7 1/2"		

CRITICAL DIMENSIONS

NAME: _____

DATE: _____

PROJECT: _____

DATE: _____

SCALE: _____

NO. OF SHEETS: _____

SHEET NO.: _____

DATE: _____

BY: _____

CHECKED: _____

APPROVED: _____

DATE: _____

PROJECT: _____

DATE: _____

SCALE: _____

NO. OF SHEETS: _____

SHEET NO.: _____

DATE: _____

BY: _____

CHECKED: _____

APPROVED: _____

DATE: _____