

Mission:

To protect, promote & improve the health of all people in Florida through integrated state, county & community efforts.



Rick Scott
Governor

Celeste Philip, MD, MPH
Surgeon General and Secretary

Vision: To be the Healthiest State in the Nation

November 28, 2017

Certified Mail Number: 7005 1820 0003 1872 5982

Scott Samuelson.
Fuji Clean USA LLC
41 Greenwood Road, Suite 2
Brunswick, Maine 04011

Dear Mr. Samuelson:

This letter responds to your request of August 28, 2017 to revise the innovative system permit for Fuji Clean USA, LLC (Fuji Clean) treatment systems of the CE and CEN series with an additional Salcor 3G ultraviolet (UV) disinfection unit. Several models of these series (CE5, CE7, CE10, CE14, CEN5, CEN7, CEN10) are currently listed by NSF International as meeting the requirements of NSF/ANSI Standard 40. The Department has approved treatment receptacles for these models, and considers them aerobic treatment units according to Rule 64E-6.012, of the Florida Administrative Code (FAC). The objective of this revision is to add the evaluation of the Fuji Clean CE series for nitrogen reduction to the existing innovative permit issued on January 13, 2017. Your request has been reviewed and approved with conditions. A version of this permit (version 1.2) with tracked changes from the previous version (version 1.1) is enclosed.

A. Limitations:

- a. This innovative system permit will expire five years after it is issued unless Fuji Clean USA previously applies for reclassification or requests an extension in writing at least three months prior to expiration.
- b. The innovative system permit has three independent objectives:
 - i. to evaluate the performance of the Salcor 3G ultraviolet light disinfection unit when used in conjunction with Fuji Clean CE- or CEN-series as expressed by the number of fecal coliform colony forming units per 100 milliliters (CFU/100 mL)
 - ii. to evaluate the performance of Fuji Clean CEN series for nitrogen reduction and to evaluate if the series meets advanced secondary treatment standards.
 - iii. to evaluate the performance of the Fuji Clean CE series for nitrogen reduction, with or without recirculation of treated effluent to the pretreatment chamber.
- c. This innovative system permit allows the installation of up to ten innovative systems each of the CE- and CEN-series for nitrogen reduction, and up to twenty innovative systems including the disinfection unit, ten each of the CE- and CEN-series, upon approval of site-specific construction applications by the respective County Health Department and this office. Some systems may be counted in both groups. This innovative system permit also provides for the inclusion of up to ten CE-series treatment units that have been permitted as aerobic treatment units or performance-based treatment systems not requiring nitrogen reduction in the nitrogen reduction evaluation of the CE-series.

- d. Bennette Burks, P.E., will be responsible for quality assurance and quality control of the field evaluation.
- e. Systems installed under this innovative permit shall serve preferentially the whole sewage of single family residences. Installation of systems serving non-residential establishments generating domestic sewage waste with an estimated sewage flow of at least 200 gpd are permissible with the concurrence by Fuji Clean and Mr. Burks. Laundry and gray water systems, multi-family residences, and establishments generating commercial sewage waste (food operations, commercial laundry facilities, and animal holding facilities) may be installed under this innovative system permit with the concurrence of Fuji Clean and Mr. Burks, but will be evaluated separately, and the number of systems evaluated under this innovative system permit will be increased correspondingly. However, the total number of systems serving establishments other than single-family residences shall not exceed the number of systems serving single-family residences.
- f. Application for reclassification of the Salcor 3G UV treatment system component in conjunction with CE or CEN models according to 64E-6.0295, FAC, shall include monitoring observations and sampling results from four repeated samples at quarterly intervals from the ten CE and CEN systems each.
- g. Application for reclassification of the CEN model series according to 64E-6.0295, FAC, shall include monitoring observations and sampling results from four repeated samples at quarterly intervals from the ten CEN systems.
- h. Application for reclassification of the CE model series according to 64E-6.0295, FAC for nitrogen reduction shall include monitoring observations and sampling results from four repeated samples at quarterly intervals from the ten CE systems.
- i. A list of the systems installed with the subset proposed to be sampled shall be provided to this office quarterly with information described in attachment II. For CE-series treatment systems proposed to be evaluated for nitrogen reduction, you, Mr. Burks and this office will agree on the selection based on criteria such as completeness, representativeness, and accessibility.
- j. All systems, except the CE-series units permitted as aerobic treatment units or performance-based treatment systems not requiring nitrogen reduction, will be designed, constructed, and installed as innovative performance-based treatment systems in accordance with this permit, Chapter 64E-6, FAC, "Standards for Onsite Sewage Treatment and Disposal Systems", and Fuji Clean's Contractor Installation Manual for Fuji Clean, April 2015, with Florida Installation Notes, and Salcor, Inc.'s Installation, Operation and Maintenance Manual for the UV disinfection unit, Model 3G, November 2015.", as appropriate for each installation.
- k. This permit (version 1.2) can be amended as necessary to address the experiences and new information in the field during the innovative system-testing period.

B. System components:

- a. A Fuji Clean treatment system, either from the CE or the CEN series. For estimated sewage flows of 1500 gallons per day or less, this treatment system will be certified as complying with standard NSF-40. The tanks housing the treatment systems shall be approved treatment receptacles in Florida.
- b. When ultraviolet disinfection is selected for disinfection, a Salcor 3G assembly, as described by Salcor, Inc.'s owner and installation manual, November 2015. The Salcor 3G unit can be installed in the effluent line between treatment tank and disposal location or in the inlet to a dosing tank after the treatment tank.
- c. A sampling port between the last treatment step and the drainfield.
- d. The installations will include the monitoring and alarm devices that are required for the ANSI/NSF-40 certified Fuji Clean treatment units, and the alarm board for the Salcor 3G unit.
- e. Installations monitored for treatment performance under this permit shall include a method for monitoring flow through the system in accordance with rule 64E-6.026(2)(a), FAC.

C. Construction Permitting:

- a. Engineers licensed in the State of Florida shall design, sign and seal site-specific system construction permit applications in accordance with rule 64E-6.026(2), FAC. If the application is for a site where no previous system existed, it will be considered a new construction permit application. For sites with a pre-existing system, new, modification or repair permit applications can be considered. The application shall be submitted to the county health department responsible for each site. If Mr. Burks is not the engineer of record, the application shall document that he, as the QA/QC-officer, approves of the site selection and design specifications. The application shall include a blank form DH3145 and a completed form DH3144 (see attachment I). The County Health Department shall review the application for compliance with regulations and shall forward DH3145 to this office for approval of the innovative system construction permit together with any questions that may arise for clarification.
- b. Specified performance level per rule 64E-6.026(2)(a), FAC, may be baseline treatment, and can include secondary treatment levels for carbonaceous biochemical oxygen demand after five days (CBOD5), total suspended solids (TSS) for the CE- and CEN-series, and advanced secondary treatment levels for CBOD5, TSS, total nitrogen (TN), and total phosphorus (TP) for the CEN-series. For secondary or advanced secondary treatment levels for fecal coliform, an additional treatment component, such as the Salcor 3G, shall be included. Data submitted for the application showed the following results for the components of the innovative system:

Component	Fuji Clean CE series		
Test	NSF-40 Waco December 30, 2013-July 25, 2014		
	Influent average	Effluent average (max 7-day, max 30-day)	
CBOD5 (mg/L)	150 (BOD5)	11 (7-day: 26; 30-day: 15)	
TSS (mg/L)	260	13 (7-day: 38; 30-day: 24)	
TN (mg/L) (eight additional, weekly tests)	47.6	15.7 (TKN 7.9; NOx 5.9)	
Component	Fuji Clean CEN series		
Test	NSF-40/245 Waco June 8, 2014-December 5, 2014		
	Influent average	Effluent average (max 7-day, max 30-day)	Percent Reduction (%)
CBOD5 (mg/L)	190 (BOD5)	5 (7-day:12; 30-day: 9)	n/d
TSS (mg/L)	300	6 (7-day: 14; 30-day: 10)	n/d
TN (mg/L)	40	10 (TKN 4.7; NOx 5.7)	74
Optional Component	Salcor 3G following Fuji Clean CEN series (27-39 gpm)		
Test	NSF-40/245 Waco June 8, 2014-December 5, 2014		
	Influent geometric mean (min to max 30-day)	Effluent geometric mean overall (min to max 30-day)	
Fecal coliform (CFU/100 mL)	(2.0E+6 to 1.2E+9)	70 (6 to 183)	

- c. A construction inspection by the Department shall occur after installation of the system and before covering.

- d. The as-built documents provided by the engineer of record to the Department shall include the model numbers for the Fuji Clean and Salcor 3G components and the location of sampling access points.
- e. Systems shall have received final system approval by the appropriate CHD, have an operating permit, and be in actual use before monitoring for this evaluation is allowed to occur.

D. Operation, Maintenance and Monitoring:

- a. An operating permit in accordance with 64E-6.027(6) will be required for the performance-based, innovative treatment system installed under this permit.
- b. Fuji Clean shall identify to this office at least one maintenance entity trained and approved in the maintenance of Fuji Clean CE, and CEN series and Salcor 3G, and permitted in Florida before the operating permit of the first system is approved, or within 60 days after this permit, whichever occurs first. The maintenance entity will perform maintenance and monitoring per Fuji Clean and Salcor's Operation and Maintenance Manuals and perform any additional monitoring as required due to site-specific permit conditions.
- c. Sampling will be done in accordance with Mr. Burks' protocol for sampling and QA/QC procedures dated March 10, 2016 and the following:
 - i. Mr. Burks will train samplers and/or identify to Fuji Clean and this office the samplers trained by others that will perform the sampling. Samplers could include Mr. Burks.
 - ii. The samplers will perform quarterly observations and sampling of the systems according to the procedures Mr. Burks outlined. Complementing this, the Florida Department of Environmental Protection's standard operating procedures, FDEP SOPs FS 1000 "General Sampling" and FS 2400 "Wastewater Sampling" will provide guidance (<http://publicfiles.dep.state.fl.us/dear/sas/sopdoc/2008sops/>). The samplers will document methods used to clean equipment and obtain samples.
 - iii. The sampler will obtain samples at least from the influent (first chamber of the Fuji Clean) and effluent. Depending on the treatment system and component, the samples shall be analyzed for the following parameters: (i) Salcor 3G: CBOD₅, TSS, and fecal coliform; (ii) CEN-series: CBOD₅, TSS, TN (separated by total Kjeldahl nitrogen and nitrite/nitrate); (iii) CE-series: COD₅, TSS, TN (separated by total Kjeldahl nitrogen and nitrite/nitrate). Ten percent quality control samples shall be included (duplicates, field blanks). Sampling shall occur before maintenance activities on the system.
 - iv. One or several NELAC-certified laboratories shall provide sampling containers to the samplers, receive samples within holding times and temperature requirements and analyze the required samples for CBOD₅, TSS, total nitrogen (separated by total Kjeldahl nitrogen and nitrite/nitrate), and fecal coliform. The laboratory will provide evidence of certification to this office. Dilutions for fecal coliform analysis shall be such that results at the annual average and grab sample limits (200 and 800 CFU/100 mL, respectively) can be quantified. Chain of custody protocols will document sampling containers. All sampling results shall be forwarded to the respective county health office, you, Mr. Burks, and this office. Sampling shall begin between 30 and 100 days after start of system operation.
 - v. Field observations will include alarm and water level conditions, water use, odors, and other indications of failure. A standardized field form to record observations and performed maintenance will be developed by Mr. Burks and you, and reviewed for approval by this office. The samplers will forward this form to the respective county health office, Fuji Clean, you and this office within one week after each site visit.
 - vi. During the first year, staff from this office anticipates accompanying the sampler at least once to observe procedures and system function.
- d. Treatment performance assessments will consider sample results overall and average performance per system.

- i. Duplicates should be within 20% of the original sample; equipment or field blanks should be below detection limits in at least 90% of cases. Duplicates will not be included in average performance calculations.
 - ii. Sample results below the detection limit will be calculated as the detection limit value. Fecal coliform sample results too numerous to count shall be not more than 10% of samples and shall be considered as 100 times the upper counting limit.
 - iii. Assessments will exclude samples that are agreed upon by Fuji Clean, and the Department to be not representative of the system. The reason for this shall be documented, addressed and another sample obtained.
 - iv. Ninety percent of grab samples shall meet a grab sample performance standard. The arithmetic average of arithmetic average system performance shall meet an average performance standard with a 95% confidence. For fecal coliform, the arithmetic average of geometric system averages shall meet the average performance standard with a 95% confidence. An outline is provided in attachment III.
 - v. If a median test between fecal coliform sample results obtained after CE-series and CEN-series unit and the Salcor 3G shows significant differences (95%), the data analysis shall be repeated separately for the two treatment unit series.
- e. The health departments in the respective counties will inspect the systems annually for compliance with the operating permit and may use the standardized observation form (D.c.v) to record their observations.
- f. If a system fails by not meeting site-specific applicable performance standards, or for other reasons, the system must, at Fuji Clean expense, either be reengineered, which may require a new or modified innovative system construction permit, or replaced with a system approved by the Department.
- E. Reclassification or expiration of the innovative system permit:
- a. To apply for reclassification, the monitoring information indicated under D and the required information for reclassification according to 64E-6.0295, FAC, shall be gathered and submitted.
 - b. It is anticipated that not all site and construction conditions will be equally represented in the sample of systems.
 - c. After reclassification of the innovative system, the installed innovative systems may remain in place as performance-based treatment system if they function without failure.
 - d. Upon expiration of the innovative system permit, should Fuji Clean fail to request reclassification or should the Fuji Clean CEN series in conjunction with Salcor 3G fail to be reclassified, all remaining systems permitted as innovative systems shall be removed and replaced with approved onsite sewage systems at Fuji Clean expense.

This approval gives you certain rights (see attachment IV). For further assistance or if you have any additional questions regarding this letter, please contact Eberhard Roeder at (850) 901-6512.

Sincerely,



Ed Barranco, MPH, CEHP, CPM
Environmental Administrator
Onsite Sewage Programs

EB/er

Enclosures

cc: Bennette D. Burks, P.E.

Attachment I
Innovative Construction Permitting Forms of the Department
(<http://www.floridahealth.gov/healthy-environments/onsite-sewage/forms-publications/index.html>)

DH 3144 (http://www.floridahealth.gov/healthy-environments/onsite-sewage/forms-publications/_documents/dh3144.pdf)

(date)

County Health Department

**Attention: Environmental Health Director or
OSTDS Program Coordinator**

I _____, owner of the residence or business property located at (give physical location or street address) _____ understand that the proposed Onsite Sewage Treatment and Disposal System to serve my property is permitted as an innovative system by the Department of Health.

I agree to allow agents of the Florida Department of Health, the manufacturer and the local County Health Department to enter my property at reasonable hours for the purpose of monitoring this system.

I agree that I will not hold DOH or the _____ CHD responsible if this innovative system malfunctions.

I agree that I will notify _____ CHD of any problems or malfunctions with this innovative system.

I also understand that if the innovative system fails within the five year testing period, the manufacturer will be responsible for providing a certified installer who will provide contractor equipment, material and labor necessary to modify the system or repair the system with an DOH approved system at no additional cost to me. For the purposes of this evaluation, failure of a system shall be defined as any system that meets one or more of the following criteria: 1) systems that have been increased in size after installation for reasons other than erroneous application information; 2) systems that experience effluent surfacing and sewage backing up into the house plumbing; and 3) systems described by homeowner as having a sluggish performance during wet weather or observed to have soggy, waterlogged soils above the drainfield attributed to sewage effluent. The failure definition shall include persistent electrical or mechanical device malfunctions. It is also my understanding that I will be responsible for landscape restoration.

Sincerely,

Property Owner



**INNOVATIVE ONSITE SEWAGE TREATMENT AND DISPOSAL
SYSTEM REVIEW INFORMATION FORM**

TO BE COMPLETED BY COUNTY HEALTH DEPARTMENT

CONSTRUCTION PERMIT APPLICATION NUMBER: _____

Property Owner: _____
(Last, First, M.I. or Business Name)

Property Address: _____
(Physical Location or Street Location)

Mailing Address: _____
(Street Address or P.O. Box)

Owner's Agent: _____

Mailing Address: _____
(Last, First, M.I. or Business Name)

(Street Address or P.O. Box)

(City) (State) (Zip)

**PROVIDE THE FOLLOWING INFORMATION FROM SITE EVALUATION AND
PROPOSED CONSTRUCTION PERMIT AND ATTACH A COPY OF THE SITE PLAN:**

Septic tank(s): _____ gal. Public water supply:..... Y / N

Estimated sewage flow: _____ gpd. Dosing tank(s): _____ gal.

Aerobic treatment Unit(s): _____ Lot size: _____ sq.ft.

DESCRIPTION OF INNOVATIVE SYSTEM AND COMPONENTS:

FOR STATE HEALTH OFFICE REVIEW ONLY

Date received: _____ Review form complete:..... Y / N

Additional information requested: Y / N Date: _____

Brief explanation of information requested: _____

Application: Approve Disapprove Reason: _____

Reviewed by: _____

Site Number _____ of _____ approved sites. Date: _____

Attachment IV

NOTICE OF RIGHTS

A party whose substantial interest is affected by this action may petition for an administrative hearing pursuant to sections 120.569 and 120.57, Florida Statutes. Chapter 28-106, Florida Administrative Code, governs such proceedings. A petition for hearing must be in writing and must be received by the Agency Clerk for the Department within twenty-one (21) days from receipt of this notice. The petition may be mailed to the Agency Clerk, Department of Health, 4052 Bald Cypress Way, BIN #A-02, Tallahassee, FL 32399-1703; hand delivered to the Agency Clerk, Department of Health, 2585 Merchants Row Blvd., Prather Building, Suite 110, Tallahassee, FL; or sent by facsimile to (850) 413-8743.

Mediation is not available as an alternative remedy.

The failure of any person to file a petition for hearing within 21 days from receipt of this notice will constitute a waiver of that person's right to an administrative hearing, and this notice shall become a "Final Order."

Should this notice become a "Final Order," a party who is adversely affected by it is entitled to judicial review pursuant to section 120.68, Florida Statutes. Review proceedings are governed by the Florida Rules of Appellate Procedure. Such Proceedings may be commenced by filing one copy of a Notice of Appeal with the Agency Clerk of the Department of Health and a second copy, accompanied by the filing fees required by law, with the Court of Appeal in the appropriate District Court. The notice must be filed within 30 days of the filing of the Final Order.

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Vision: To be the Healthiest State in the Nation

Rick Scott
Governor

Celeste Philip, MD, MPH
Interim State Surgeon General

~~January 12~~ November 28, 2017

Certified Mail Number:

~~Mr. Bennette D. Burks, P.E.~~
~~3 Engineering, Scott Samuelson.~~
Fuji Clean USA LLC
~~1518 Willow Lawn Drive~~ 41 Greenwood Road, Suite ~~3002~~
~~Henrico, Virginia 23230~~
~~Brunswick, Maine 04011~~

Dear Mr. ~~Burks~~ Samuelson:

This letter responds to your ~~revised request~~ request of ~~February 14~~ November 16, 2016, ~~August 28, 2017~~, to revise ~~the for an~~ the innovative system permit for Fuji Clean USA, LLC (Fuji Clean) treatment systems of the CE and CEN series with an additional Salcor 3G ultraviolet (UV) disinfection unit. ~~You provided additional information since then.~~ Several models of these series (CE5, CE7, CE10, CE14, CEN5, CEN7, CEN10) are currently listed by NSF International as meeting the requirements of NSF/ANSI Standard 40. The Department has approved treatment receptacles for these models, and considers them aerobic treatment units according to Rule 64E-6.012, of the Florida Administrative Code (FAC). The objective of ~~the~~ this revision is to ~~clarify that CEN~~ add the evaluation of the Fuji Clean CE series models evaluated for nitrogen reduction ~~do not necessarily need to include the ultraviolet light disinfection unit.~~ the existing innovative permit issued on January 13, 2017. Your request has been reviewed and approved with conditions. ~~Changes~~ A version of this permit (version 1.2) with tracked changes from the previous version ~~(1.0) are marked in strike/underline format~~ version 1.1) is enclosed.

A. Limitations:

- a. This innovative system permit will expire five years after it is issued unless Fuji Clean USA previously applies for reclassification or requests an extension in writing at least three months prior to expiration.
- b. The innovative system permit has ~~two~~ three independent objectives:
 - i. to evaluate the performance of the Salcor 3G ultraviolet light disinfection unit when used in conjunction with Fuji Clean CE- or CEN-series as expressed by the number of fecal coliform colony forming units per 100 milliliters (CFU/100 mL)
 - ii. to evaluate the performance of Fuji Clean CEN series for nitrogen reduction and to evaluate if the series meets advanced secondary treatment standards.
 - iii. to evaluate the performance of the Fuji Clean CE series for nitrogen reduction, with or without recirculation of treated effluent to the pretreatment chamber.
- c. This innovative system permit allows the installation of up to ~~ten~~ ten innovative systems each of the CE- and CEN-series for nitrogen reduction, and up to twenty innovative systems including the disinfection unit, ten each of the CE- and CEN-series, upon approval of site-specific construction applications by the respective County Health Department and this office. ~~Some CEN-series systems may be counted in both groups.~~ Some systems may be counted in both groups. This innovative system permit also provides for the inclusion of up to ten CE-series

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Florida Department of Health
Division of Disease Control & Health Protection
4052 Bald Cypress Way, Bin A-08 • Tallahassee, FL 32399
PHONE: 850/245-4250 • FAX: 850/487-0864
FloridaHealth.gov



~~treatment units that have been permitted as aerobic treatment units or performance-based treatment systems not requiring nitrogen reduction in the nitrogen reduction evaluation of the CE-series.~~

~~d. Bennette Burks, P.E., will be responsible for quality assurance and quality control of the field evaluation.~~

~~d-e.~~ Systems installed under this innovative permit shall serve preferentially the whole sewage of single family residences. Installation of systems serving non-residential establishments generating domestic sewage waste with an estimated sewage flow of at least 200 gpd are permissible with the concurrence by ~~you and~~ Fuji Clean ~~and Mr. Burks~~. Laundry and gray water systems, multi-family residences, and establishments generating commercial sewage waste (food operations, commercial laundry facilities, and animal holding facilities) may be installed under this innovative system permit with the concurrence of ~~you and~~ Fuji Clean ~~and Mr. Burks~~, but will be evaluated separately, and the number of systems evaluated under this innovative system permit will be increased correspondingly. However, the total number of systems serving establishments other than single-family residences shall not exceed the number of systems serving single-family residences.

~~e-f.~~ Application for reclassification of the Salcor 3G UV treatment system component in conjunction with CE or CEN models according to 64E-6.0295, FAC, shall include monitoring observations and sampling results from four repeated samples at quarterly intervals from the ten CE and CEN systems each.

~~f-g.~~ Application for reclassification of the CEN model series according to 64E-6.0295, FAC, shall include monitoring observations and sampling results from four repeated samples at quarterly intervals from the ten CEN systems.

~~h. All systems~~ Application for reclassification of the CE model series according to 64E-6.0295, FAC for nitrogen reduction shall include monitoring observations and sampling results from four repeated samples at quarterly intervals from the ten CE systems.

~~i.~~ A list of the systems installed with the subset proposed to be sampled shall be provided to this office quarterly with information described in attachment II. For CE-series treatment systems proposed to be evaluated for nitrogen reduction, ~~you, Mr. Burks and this office will agree on the selection based on criteria such as completeness, representativeness, and accessibility.~~

~~g-j.~~ All systems, ~~except the CE-series units permitted as aerobic treatment units or performance-based treatment systems not requiring nitrogen reduction,~~ will be designed, constructed, and installed as innovative performance-based treatment systems in accordance with this permit, Chapter 64E-6, FAC, "Standards for Onsite Sewage Treatment and Disposal Systems", and Fuji Clean's Contractor Installation Manual for Fuji Clean, April 2015, with Florida Installation Notes, and Salcor, Inc.'s Installation, Operation and Maintenance Manual for the UV disinfection unit, Model 3G, November 2015," as appropriate for each installation.

~~h-k.~~ This permit (version 1.0~~12~~) can be amended as necessary to address the experiences and new information in the field during the innovative system-testing period.

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B. System components:

a. A Fuji Clean treatment system, ~~either from the CE or the CEN series.~~ For estimated sewage flows of 1500 gallons per day or less, this treatment system will be certified as complying with standard NSF-40. ~~For nitrogen evaluation, the treatment system will be one of the CEN series. For ultraviolet disinfection evaluation the treatment system will be one of either the CE or the CEN series.~~ The tanks housing the treatment systems shall be approved treatment receptacles in Florida.

b. ~~When~~ ~~For~~ ultraviolet disinfection is selected for disinfection, a Salcor 3G assembly, as described by Salcor, Inc.'s owner and installation manual, November 2015. The Salcor 3G unit can be installed in the effluent line between treatment tank and disposal location or in the inlet to a dosing tank after the treatment tank.

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C. Construction Permitting:

- a. Engineers licensed in the State of Florida shall design, sign and seal site-specific system construction permit applications in accordance with rule 64E-6.026(2), FAC. If the application is for a site where no previous system existed, it will be considered a new construction permit application. For sites with a pre-existing system, new, modification or repair permit applications can be considered. The application shall be submitted to the county health department responsible for each site. If ~~you are~~Mr. Burks is not the engineer of record, the application shall document that ~~you he~~, as ~~the~~ QA/QC-officer ~~approve~~, approves of the site selection and design specifications. The application shall include ~~an empty~~a blank form DH3145 and a completed form DH3144 (see attachment I). The County Health Department shall review the application for compliance with regulations and shall forward DH3145 to this office for approval of the innovative system construction permit together with any questions that may arise for clarification.
- b. Specified performance level per rule 64E-6.026(2)(a), FAC, may be baseline treatment, and can include secondary treatment levels for ~~eBOD5~~, carbonaceous biochemical oxygen demand after five days (CBOD5), total suspended solids (TSS and fecal coliform) for the CE- and CEN-series, and advanced secondary treatment levels for ~~eBOD5~~CBOD5, TSS, total nitrogen (TN,-), and total phosphorus (TP,- and fecal coliform) for the CEN-series. For secondary or advanced secondary treatment levels for fecal coliform, an additional treatment component, such as the Salcor 3G, shall be included. Data submitted for the application showed the following results for the components of the innovative system:

Component	Fuji Clean CE series		
Test	NSF-40 Waco December 30, 2013-July 25, 2014		
	Influent average	Effluent average (max 7-day, max 30-day)	
eBOD5 <u>CBOD5</u> (mg/L)	150 (BOD5)	11 (7-day: 26; 30-day: 15)	
TSS (mg/L)	260	13 (7-day: 38; 30-day: 24)	
<u>TN (mg/L) (eight additional, weekly tests)</u>	<u>47.6</u>	<u>15.7 (TKN 7.9; NOx 5.9)</u>	
Component	Fuji Clean CEN series		
Test	NSF-40/245 Waco June 8, 2014-December 5, 2014		
	Influent average	Effluent average (max 7-day, max 30-day)	Percent Reduction (%)
eBOD5 <u>CBOD5</u> (mg/L)	190 (BOD5)	5 (7-day:12; 30-day: 9)	n/d
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Optional Component	Salcor 3G following Fuji Clean CEN series (27-39 gpm)		
Test	NSF-40/245 Waco June 8, 2014-December 5, 2014		
	Influent geometric mean (min to max 30-day)	Effluent geometric mean overall (min to max 30-day)	
Fecal coliform (CFU/100 mL)	(2.0E+6 to 1.2E+9)	70 (6 to 183)	

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- c. A construction inspection by the Department shall occur after installation of the system and before covering.
 - d. The as-built documents provided by the engineer of record to the Department shall include the model numbers for the Fuji Clean and Salcor 3G components and the location of sampling access points.
 - e. Systems shall have received final system approval by the appropriate CHD, have an operating permit, and be in actual use before monitoring for this evaluation is allowed to occur.
- D. Operation, Maintenance and Monitoring:
- a. An operating permit in accordance with 64E-6.027(6) will be required for the performance-based, innovative treatment system installed under this permit.
 - b. Fuji Clean shall identify to this office at least one maintenance entity trained and approved in the maintenance of Fuji Clean CE, and CEN series and Salcor 3G, and permitted in Florida before the operating permit of the first system is approved, or within 60 days after this permit, whichever occurs first. The maintenance entity will perform maintenance and monitoring per Fuji Clean and Salcor's Operation and Maintenance Manuals and perform any additional monitoring as required due to site-specific permit conditions.
 - c. Sampling will be done in accordance with ~~you~~Mr. Burks' protocol for sampling and QA/QC procedures dated March 10, 2016 and the following:
 - i. ~~You~~Mr. Burks will train samplers and/or identify to Fuji Clean and this office the samplers trained by others that will perform the sampling. Samplers could include ~~you~~Mr. Burks.
 - ii. The samplers will perform quarterly observations and sampling of the systems according to the procedures ~~you outline~~Mr. Burks outlined. Complementing this, the Florida Department

of Environmental Protection's standard operating procedures, ~~in particular~~ FDEP SOPs FS 1000 "General Sampling" and FS 2400 "Wastewater Sampling" will provide guidance (<http://publicfiles.dep.state.fl.us/dear/sas/sopdoc/2008sops/>). The samplers will document methods used to clean equipment and obtain samples.

- iii. The sampler will obtain samples ~~for eBOD₅, TSS, total nitrogen (separated by total Kjeldahl nitrogen and nitrite/nitrate; for CEN-series only), and fecal coliform~~ at least from the influent (first chamber of the Fuji Clean) and effluent. Depending on the treatment system and component, the samples shall be analyzed for the following parameters: (i) Salcor 3G: CBOD₅, TSS, and fecal coliform; (ii) CEN-series: CBOD₅, TSS, TN (separated by total Kjeldahl nitrogen and nitrite/nitrate); (iii) CE-series: COD₅, TSS, TN (separated by total Kjeldahl nitrogen and nitrite/nitrate). Ten percent quality control samples shall be included (duplicates, field blanks). Sampling shall occur before maintenance activities on the system.
 - iv. One or several NELAC-certified laboratories shall provide sampling containers to the samplers, receive samples within holding times and temperature requirements and analyze the required samples for ~~eBOD₅~~CBOD₅, TSS, total nitrogen (separated by total Kjeldahl nitrogen and nitrite/nitrate; ~~for CEN-series only~~), and fecal coliform. The laboratory will provide evidence of certification to this office. Dilutions for fecal coliform analysis shall be such that results at the annual average and grab sample limits (200 and 800 CFU/100 mL, respectively) can be quantified. Chain of custody protocols will document sampling containers. All sampling results shall be forwarded to the respective county health office, you, ~~Fuji Clean~~Mr. Burks, and this office. Sampling shall begin between 30 and 100 days after start of system operation.
 - v. Field observations will include alarm and water level conditions, water use, odors, and other indications of failure. A standardized field form to record observations and performed maintenance will be developed by ~~you and Fuji Clean~~Mr. Burks and you, and reviewed for approval by this office. The samplers will forward this form to the respective county health office, Fuji Clean, you and this office within one week after each site visit.
 - vi. During the first year, staff from this office anticipates accompanying the sampler at least once to observe procedures and system function.
- d. Treatment performance assessments will consider sample results overall and average performance per system.
- i. Duplicates should be within 20% of the original sample; equipment or field blanks should be below detection limits in at least 90% of cases. Duplicates will not be included in average performance calculations.
 - ii. Sample results below the detection limit will be calculated as the detection limit value. Fecal coliform sample results too numerous to count shall be not more than 10% of samples and shall be considered as 100 times the upper counting limit.
 - iii. Assessments will exclude samples that are agreed upon by Fuji Clean, and the Department to be not representative of the system. The reason for this shall be documented, addressed and another sample obtained.
 - iv. Ninety percent of grab samples shall meet a grab sample performance standard. The arithmetic average of arithmetic average system performance shall meet an average performance standard with a 95% confidence. For fecal coliform, the arithmetic average of geometric system averages shall meet the average performance standard with a 95% confidence. An outline is provided in attachment ~~###~~ ###.
 - v. If a median test between fecal coliform sample results obtained after CE-series and CEN-series unit and the Salcor 3G shows significant differences (95%), the data analysis shall be repeated separately for the two treatment unit series.

Mr. ~~Burke~~Samuelson

Page Six

~~January 12~~November 28, 2017

- e. The health departments in the respective counties will inspect the systems annually for compliance with the operating permit and ~~should~~may use ~~a~~the standardized observation form (D.c.v) to record their observations.
 - f. If a system fails by not meeting site-specific applicable performance standards, or for other reasons, the system must, at Fuji Clean expense, either be reengineered, which may require a new or modified innovative system construction permit, or replaced with a system approved by the Department.
- E. Reclassification or expiration of the innovative system permit:
- a. To apply for reclassification, the monitoring information indicated under D and the required information for reclassification according to 64E-6.0295, FAC, shall be gathered and submitted.
 - b. It is anticipated that not all site and construction conditions will be equally represented in the sample of systems.
 - c. After reclassification of the innovative system, the installed innovative systems may remain in place as performance-based treatment system if they function without failure.
 - d. Upon expiration of the innovative system permit, should Fuji Clean fail to request reclassification or should the Fuji Clean ~~CE or~~CEN series in conjunction with Salcor 3G fail to be reclassified, all remaining systems permitted as innovative systems shall be removed and replaced with approved onsite sewage systems at Fuji Clean expense.

This approval gives you certain rights (see attachment ~~III~~).

IV. For further assistance or if you have any additional questions regarding this letter, please contact Eberhard Roeder at (850) ~~245-4250, extension 2698~~901-6512.

Sincerely,

Ed Barranco, MPH, CEHP, CPM
Environmental Administrator
Onsite Sewage Programs

EB/er
Enclosures

~~cc: Scott Samuelson, Fuji Clean USA, LLC~~

cc: Bennette D. Burks, P.E.

Attachment I
Innovative Construction Permitting Forms of the Department
(<http://www.floridahealth.gov/healthy-environments/onsite-sewage/forms-publications/index.html>)

DH 3144 (<http://www.floridahealth.gov/healthy-environments/onsite-sewage/forms-publications/documents/dh3144.pdf>)

(date)

County Health Department

**Attention: Environmental Health Director or
OSTDS Program Coordinator**

I, _____, owner of the residence or business property located at (give physical location or street address) _____ understand that the proposed Onsite Sewage Treatment and Disposal System to serve my property is permitted as an Innovative system by the Department of Health.

I agree to allow agents of the Florida Department of Health, the manufacturer and the local County Health Department to enter my property at reasonable hours for the purpose of monitoring this system.

I agree that I will not hold DOH or the _____ CHD responsible if this innovative system malfunctions.

I agree that I will notify _____ CHD of any problems or malfunctions with this innovative system.

I also understand that if the innovative system fails within the five year testing period, the manufacturer will be responsible for providing a certified installer who will provide contractor equipment, material and labor necessary to modify the system or repair the system with an DOH approved system at no additional cost to me. For the purposes of this evaluation, failure of a system shall be defined as any system that meets one or more of the following criteria: 1) systems that have been increased in size after installation for reasons other than erroneous application information; 2) systems that experience effluent surfacing and sewage backing up into the house plumbing; and 3) systems described by homeowner as having a sluggish performance during wet weather or observed to have soggy, waterlogged soils above the drainfield attributed to sewage effluent. The failure definition shall include persistent electrical or mechanical device malfunctions. It is also my understanding that I will be responsible for landscape restoration.

Sincerely,

Property Owner



**INNOVATIVE ONSITE SEWAGE TREATMENT AND DISPOSAL
SYSTEM REVIEW INFORMATION FORM**

TO BE COMPLETED BY COUNTY HEALTH DEPARTMENT

CONSTRUCTION PERMIT APPLICATION NUMBER: _____

Property Owner: _____
(Last, First, M.I. or Business Name)

Property Address: _____
(Physical Location or Street Location)

Mailing Address: _____
(Street Address or P.O. Box)

Owner's Agent: _____

Mailing Address: _____
(Last, First, M.I. or Business Name)

(Street Address or P.O. Box)

(City) (State) (Zip)

**PROVIDE THE FOLLOWING INFORMATION FROM SITE EVALUATION AND
PROPOSED CONSTRUCTION PERMIT AND ATTACH A COPY OF THE SITE PLAN:**

Septic tank(s): _____ gal Public water supply:..... Y / N

Estimated sewage flow: _____ gpd Dosing tank(s): _____ gal

Aerobic treatment Unit(s): _____ Lot size: _____ sq.ft.

DESCRIPTION OF INNOVATIVE SYSTEM AND COMPONENTS:

FOR STATE HEALTH OFFICE REVIEW ONLY

Date received: _____ Review form complete:..... Y / N

Additional information requested: Y / N Date: _____

Brief explanation of information requested: _____

Application: Approve Disapprove Reason: _____

Reviewed by: _____

Site Number _____ of _____ approved sites. Date: _____

Attachment III

Evaluation scheme for treatment system evaluation
(example for fecal coliform effluent concentrations)

Fuji Clean data analysis tool for innovative system evaluation in Florida May 2016												
System #	Model Series #	Event #	Date	Time	Representative of Effluent (yn)	cBOD5 (mg/L)	TSS (mg/L)	TKN (mg/L)	NO3 (mg/L)	TN (mg/L)	fecal coliform (CFU/100 mL)	fecal coliform before resample (CFU/100 mL)
1	CEN	1									1	10
2	CEN	2									1	1
3	CEN	3									1	1
4	CEN	4									1	10
5	CEN	5									1000	10
6	CEN	6									1	1
7	CEN	7									1000	10
8	CEN	8									1000	10
9	CEN	9									1000	10
10	CEN	10									1000	10
11	CE	11									1000	10
12	CE	12									1000	10
13	CE	13									1000	10
14	CE	14									1000	10
15	CE	15									1000	10
16	CE	16									1000	10
17	CE	17									1000	10
18	CE	18									1000	10
19	CE	19									1000	10
20	CE	20									1000	10
21	CE	21									1000	10
22	CE	22									1000	10
23	CE	23									1000	10
24	CE	24									1000	10
Number						0	0	0	0	0	80	0
All samples are						#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	264,138	#DIV/0!
80-percentile						#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	1000	#DIV/0!
Values for advanced secondary treatment 6AE-6.025(1)FAC						20	20	40	40	40	800	800
Percentile meeting single sample standard						#N/A	#N/A	#N/A	#N/A	#N/A	0.798	0.798
Check if average is significantly better than standard for annual average												
All systems ST						#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	6.394	60.877
t-value						#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	119.323	-4.712
Right-tail critical						#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	1.729	1.729
Pass/fail						#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	pass	fail
Significance level						#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	1.000	0.000
conf. interval						#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	2.481	23.538
upper limit for c						#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	32.980	287.676
average cBOD5						#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	277.750	277.750
average TSS						#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	31.623	31.623
geometric fecal coliform						#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	31.623	31.623
average fecal coliform						#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	5.500	5.500
average TKN						#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	277.750	277.750
average NO3						#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	277.750	277.750
average TN						#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	277.750	277.750

Attachment IV

~~Attachment III~~

NOTICE OF RIGHTS

A party whose substantial interest is affected by this action may petition for an administrative hearing pursuant to sections 120.569 and 120.57, Florida Statutes. Chapter 28-106, Florida Administrative Code, governs such proceedings. A petition for hearing must be in writing and must be received by the Agency Clerk for the Department within twenty-one (21) days from receipt of this notice. The petition may be mailed to the Agency Clerk, Department of Health, 4052 Bald Cypress Way, BIN #A-02, Tallahassee, FL 32399-1703; hand delivered to the Agency Clerk, Department of Health, 2585 Merchants Row Blvd., Prather Building, Suite 110, Tallahassee, FL; or sent by facsimile to (850) 413-8743.

Mediation is not available as an alternative remedy.

The failure of any person to file a petition for hearing within 21 days from receipt of this notice will constitute a waiver of that person's right to an administrative hearing, and this notice shall become a "Final Order."

Should this notice become a "Final Order," a party who is adversely affected by it is entitled to judicial review pursuant to section 120.68, Florida Statutes. Review proceedings are governed by the Florida Rules of Appellate Procedure. Such Proceedings may be commenced by filing one copy of a Notice of Appeal with the Agency Clerk of the Department of Health and a second copy, accompanied by the filing fees required by law, with the Court of Appeal in the appropriate District Court. The notice must be filed within 30 days of the filing of the Final Order.