SECTION 38

ADVANCED TREATMENT SYSTEMS (ATS)

An Advanced Treatment System (ATS) is a secondary pretreatment device that is used to improve the quality of septic tank effluent before final dispersal into the soil.

A. Applicability

Advanced Treatment System (ATS) devices approved in accordance with this *Section 38* shall only apply to single residential or non-residential lots utilizing individual on-site sewage disposal systems in accordance with these *Regulations* for the treatment and disposal of wastewater.

This *Section 38* does not apply to systems serving multiple structures or multiple lots, to nontraditional wastewater treatment and disposal systems (*i.e.*, decentralized systems) governed by the Williamson County Zoning Ordinance, nor to those systems subject to the Water Quality State Operating Permit (SOP) requirements of TDEC-WR.

B. General Classifications of Advanced Treatment Systems

Advanced Treatment Systems (ATS) approved for use in Williamson County can be classified as follows:

1. Residential Facilities/Uses

   Producing domestic strength wastewater only

   (a) Pre-manufactured models with National Sanitation Foundation (NSF) Standard 40 certification

   (b) Engineered, non-proprietary and/or constructed on site systems

      (1) Sand filters

      (2) Gravel filters

      (3) Other

2. Commercial/non-residential Facilities/Uses

   Producing domestic strength wastewater, high-strength wastewater, industrial strength wastewater, or other types of wastewater

   (a) Pre-manufactured models

   (b) Engineered , non-proprietary and/or constructed on site systems

      (1) Sand filters

      (2) Gravel filters

      (3) Other

C. For Residential Facilities/Uses

The following types of Advanced Treatment System devices may be approved for use on residential facilities/uses producing domestic strength wastewater:

1. Pre-manufactured Models with National Sanitation Foundation (NSF) Standard 40 Certification

   (a) General

(1) NSF Standard 40 Certification of ATS devices only applies to residential systems treating domestic strength wastewater flows between 400-gpd and 1,500-gpd. As such, only those ATS devices that have been tested and meet the requirements of NSF Standard 40 may be considered for approval in Williamson County for residential facilities producing domestic strength wastewater flows between 400-gpd and 1,500-gpd.

(2) NSF Standard 40 certified ATS models shall also be required for residential facilities in Williamson County producing domestic strength wastewater flows less than 400-gpd or greater than 1,500-gpd.

(i) For wastewater flows less than 400-gpd, the ATS unit must be the smallest (in terms of wastewater flow capacity) NSF Standard 40 certified model the manufacturer offers that is as close as possible to the projected daily wastewater flow from the structure.

(ii) For wastewater flows greater than 1,500-gpd, multiple NSF Standard 40 certified ATS units (from the same manufacturer) may be used in combination to achieve the required treatment capacity (in terms of the projected daily wastewater flow from the structure). Refer to *Subsection F, Part 1* of this *Section 38* regarding TDEC-WR variance approval requirements.

(iii) In addition to being specified by a licensed engineer as part of an overall subsurface sewage disposal system design plan package (in accordance with the below *Part 1(c)(1)* of this *Subsection C*), ATS units used for these flows must be approved by the manufacturer, in writing, as being an acceptable use, application and configuration of their NSF certified product.

(b) System Approval

(1) Any pre-manufactured ATS device under this classification (*i.e.*, with NSF Standard 40 Certification) proposed in Williamson County for residential use must have previous approval from the State of Tennessee, Department of Environment and Conservation, Division of Water Resources (TDEC-WR) and proof of such provided to the Department by the ATS manufacturer.

(2) Any manufacturer intending to market an ATS model in Williamson County shall submit evidence to the Department showing that the model has been tested and meets the provisions of the NSF Standard 40 (*NSF/ANSI Standard 40 – Residential Wastewater Treatment Systems*). All testing of ATS models must be performed by a certifier that has been accredited by the American National Standards Institute (ANSI). All ATS models marketed in Williamson County shall be listed by NSF as meeting the provisions of Standard 40 for Class I systems.

(3) All pertinent data regarding the ATS unit including: installation guidelines, owner's manuals, maintenance requirements, authorized dealers, warranty information and unit design and configuration shall be submitted to the Department for consideration. If the Department determines that the ATS model meets the requirements of this rule, the Department will inform the manufacturer in writing.

(4) The Department will maintain a list of approved ATS models that have submitted the required information and are compliant with the requirements in these regulations. The Department may remove any ATS model if the model fails to meet the requirements of this section or if the performance of an ATS is deemed to endanger public health.

(5) To maintain ATS model approval, all manufacturers shall maintain an adequate level of replacement parts and service.

(c) System Design, Installation and Certification

(1) The Department shall require that all pre-manufactured ATS devices proposed for use be specified by an engineer licensed in the State of Tennessee as part of an overall subsurface sewage disposal system design plan package submitted to the Department for review and approval. Said design plans shall be subject to all appropriate provisions outlined in *Section 19, Parts C, D, E, F, and G*, and shall comply with the manufacturer's specifications, guidelines, recommendations and requirements.

(2) Only an individual certified by the manufacturer and licensed by this Department, in accordance with *Section 24*, shall install or personally supervise the installation of each ATS.

(3) All ATS devices in this classification shall be installed in conformity with the approved design plans, the construction permit issued by the Department and in accordance with the manufacturer's specifications, guidelines, recommendations and requirements.

There shall be no deviations from said design plans and permit absent written approval from the Department and the engineer of record, if applicable.

(4) The Department may require ATS device installation to be conducted under the direct on site supervision and oversight of the manufacturer's representative.

(5) The Department may require written documentation from the manufacturer certifying the successful installation of the ATS device in conformance with their specifications, guidelines, recommendations and requirements. Said documentation may include a commissioning report, if applicable, of the successful start-up of the ATS device.

(6) The engineer of record shall provide on-site construction supervision and/or inspection of the ATS device installation.

Said engineer shall also provide written documentation to the Department outlining his/her observations, findings and/or recommendations, along with a stamped/sealed as-built drawing certifying the successful installation of the ATS device in conformance with their approved design plans.

(d) Operation and Maintenance (O&M)

The manufacturer shall execute a four (4) year operation and maintenance (O&M) contract with the owner of each ATS sold and installed. The costs of such contract shall be included in the original price of the installed ATS. The contract shall require that the manufacturer provide the following services, unless the damage or failure is caused by abuse by the homeowner or a third party outside the control of the manufacturer or technician:

(1) All manufacturer's required or recommended mechanical and physical inspections and adjustments;

(2) The inspecting, repair and cleaning or replacement of any filters or mechanical components, as required or as may be necessary;

(3) Service calls at request of owner to inspect, adjust, repair, or replace components;

(4) Any necessary repairs to the effluent disposal system associated with the ATS;

(5) Measure the sludge and have it pumped out and properly dispose of it, when necessary; and

(6) Other typical O&M services as outlined in *Subsection E* of this *Section*.

2. Engineered, Non-proprietary and/or Constructed On Site Systems

ATS devices under this classification are not pre-manufactured modular type systems (*i.e.*, designed, fabricated and assembled in a factory or plant, and delivered to the site as a complete unit). Instead, they are non-proprietary systems designed by an engineer specifying and utilizing standard off-the-shelf components. Designed and installed on an individual, case-by-case basis specific to the application in question, they include, but are not limited to, sand filters, gravel filters, packed bed filters or other such pre-treatment devices.

(a) The Department shall require that all ATS devices in this classification proposed for use be designed by an engineer licensed in the State of Tennessee as part of an overall subsurface sewage disposal system design plan package submitted to the Department for review and approval. Said design plans shall be subject to all appropriate provisions outlined in *Section 19, Parts C, D, E, F, and G*.

(b) ATS devices in this classification may only be used if approved by the Department as meeting accepted engineering practices and principals.

(c) ATS devices in this classification shall be capable of treating the wastewater effluent to the standards outlined in Subsection E, Part 2(c)(6) and (7) of this *Section 38*.

(d) Only an individual licensed by this Department, in accordance with *Section 24*, shall install or personally supervise the installation of each ATS device in this classification.

(e) All ATS devices in this classification shall be installed in conformity with the approved design plans, the construction permit issued by the Department and in accordance with the engineer's specifications, guidelines, recommendations and requirements.

There shall be no deviations from said design plans and permit absent written approval from the Department and the engineer of record.

(f) The engineer of record shall provide on-site construction supervision and/or inspection of the ATS device installation.

Said engineer shall also provide written documentation to the Department outlining his/her observations, findings and/or recommendations, along with a stamped/sealed as-built drawing certifying the successful installation of the ATS device in conformance with their approved design plans.

(g) In addition to the O&M services as outlined in *Subsection E* of this *Section*, maintenance requirements for ATS devices in this classification shall be applied as deemed necessary by the Department.

D. For Commercial Non-Residential Facilities/Uses

The use of Advanced Treatment System devices for commercial non-residential applications may be considered by the Department on an individual, case-by-case basis.

1. General

(a) Wastewater Strength Characterization

Wastewater strength from commercial non-residential facilities/uses can vary significantly and be classified as:

(1) Domestic strength wastewater,

(2) High-strength wastewater,

(3) Industrial strength wastewater, or

(4) Other (non-domestic) types of wastewater

Refer to *Section 3* for definitions of each.

(b) ATS's for commercial non-residential applications must be capable of treating the specific constituents present in the wastewater (*i.e.*, constituents of concern) from the facility and/or use it is serving. This requires a comprehensive understanding of the nature of the wastewater to be treated which may require, in addition to credible literature review, wastewater effluent testing from the existing facility (if applicable) or from similar facilities to understand those characteristics.

The engineer's design report shall detail that research and/or sampling to substantiate the proposed ATS specified.

(c) ATS's for commercial non-residential applications shall be capable of treating the wastewater effluent to the standards outlined in Subsection E, Part 2(c)(6) and (7) of this *Section 38*.

(d) In addition to the requirements of these *Regulations*, an ATS is required for:

(1) Any commercial/non-residential structures/facilities producing high-strength wastewater, industrial strength wastewater, or other (non-domestic) types of wastewater;

(2) Any commercial/non-residential use that contains food preparation or food service as a component of its operations; or

(3) Any use that is classified by these *Regulations* as producing high-strength wastewater, industrial strength wastewater, or other (non-domestic) types of wastewater (Refer to list outlined in *Part 3(a)(2)* of this *Subsection D*).

2. ATS Types for Commercial/Non-Residential Applications

The following types of Advanced Treatment System devices are approved for use on commercial non-residential facilities/uses:

(a) Pre-manufactured ATS Models

(1) NSF Standard 40 certified ATS models shall be required for commercial non-residential facilities/uses producing domestic strength wastewater. Said ATS models shall comply with all applicable provisions outlined in *Section C, Subsection 1* of this *Section*.

(2) Pre-manufactured ATS device models without NSF Standard 40 Certification shall only be considered for approval in Williamson County for commercial non-residential facilities/uses producing high-strength wastewater, industrial strength wastewater, or other (non-domestic) types of wastewater.

(i) ATS device models in this classification shall be specifically rated for commercial applications by the manufacturer.

(ii) The ATS manufacturer shall certify, in writing, that the device model specified for use is capable of treating the wastewater characterization produced from the facility it is intended to serve.

(iii) The ATS device(s) shall be appropriated sized to treat the projected daily wastewater flows produced from the facility it is intended to serve.

(iv) ATS units may be used in combination to achieve the required treatment capacity, both in terms of the projected daily wastewater flow from the structure and in terms of achieving the required effluent treatment standards.

(v) ATS device models in this classification shall also comply with all applicable design, installation and certification provisions outlined in *Section C, Subsection 1, Part (c)* of this *Section*.

(vi) ATS device models in this classification shall also comply with all applicable O&M provisions outlined in *Section C, Subsection 1, Part (d)* of this *Section*.

(b) Engineered, Non-proprietary and/or Constructed On Site Systems

In addition to the general requirements outlined in *Part 1* of this *Subsection D*, all advanced treatment systems in this classification serving commercial non-residential facilities/uses shall also comply with all provisions outlined in *Section C, Subsection 2* of this *Section* (for similar type systems serving residential facilities/uses).

3. Uses Requiring ATS

The following uses require advanced treatment system devices:

(a) New Uses Requiring ATS

(1) Any proposed new use producing high-strength wastewater, industrial strength wastewater, or other (non-domestic) types of wastewater shall be required to utilize an advanced pre-treatment device, in addition to the other requirements of these *Regulations*.

(2) The following uses (as defined by the Williamson County Zoning Ordinance) shall be considered to generate high strength wastewater, industrial strength wastewater, or other (non-domestic) types of wastewater, as a matter of policy, and shall utilize an advanced pre-treatment device, in addition to the other requirements of these *Regulations*:

(i) Farm wineries Use Type

(ii) Retirement Communities Use Type

(iii) Group Living Use Category, with the exception of Institutional Single-Family Homes (1-8 Residents) Use Type

(iv) Day Care Use Category

(v) Health Care Facilities Use Category

(vi) Institutions Use Category, where the use includes any food service as part of the use

(vii) Airports, Landing Strips, and Heliports, Private and Public, where the use includes any food service as part of the use

(viii) Adult Entertainment Use Category, where the use includes any food service as part of the use

(ix) Animal Care Use Category

(x) Conference or Training Center Use Category, where the use includes any food service as part of the use

(xi) Eating and Drinking Establishments Use Category

(xii) Recreation/Entertainment Facilities Use Category, where the use includes any food service as part of the use

(xiii) Funeral Homes Use Type

(xiv) Convenience Stores with or without gasoline sales Use Types

(xv) Entertainment Establishments Use Type, where the use includes any food service as part of the use

(xvi) Grocery Store Use Type

(xvii) Personal Service Establishments Use Type, where the use produces high strength wastewater, industrial strength wastewater, or other (non-domestic) types of wastewater

(xviii) Truck Stops Use Type

(xix) Visitor Accommodations Use Category

(xx) Craft Distilleries Use Type

(xxi) Waste Related Services Use Category

(xxii) Day Care Centers Accessory to an Institutional Use

(xxiii) Home Occupations containing one of the above uses

(xxiv) Residential Businesses containing one of the above uses

(xxv) Mixed Use/Multi-Tenant Developments Use Type containing any of the above uses component

(b) Existing Uses Requiring ATS

(1) Where a use is operating on a previously approved or legally nonconforming system, said use may continue unless the use changes to one of those listed above in Sub-part (a)(2) or the loading to the

system changes that requires advanced pre-treatment as outlined in this *Section*. Also refer to *Section 2, Subsection J, Part 7*.

(2) Where a use is operating on a previously approved or legally nonconforming system and the applicant seeks to change the use to one of the uses listed above (or to any other use not specifically outlined in that list that produces high-strength wastewater, industrial strength wastewater, or other non-domestic types of wastewater) that requires advance pre-treatment, then the applicant may request from the Board of Health the ability to operate the change of use and allow the applicant the opportunity to gather effluent testing results in order to determine the extent of pre-treatment necessary. After collecting said data for six (6) months, then the Department shall review the application to determine if the use will require advanced pre-treatment, and if so, to what extent and report those findings to the Board of Health. The Board of Health will make the final determination whether the ATS is required or not.

E. Operation and Maintenance (O&M) Requirements

Once an ATS is installed pursuant to this *Section*, the owner of the property shall perpetually operate and maintain it properly in a safe and environmentally sound manner. This requirement shall run with the land and be binding upon all future owners of the property.

1. Qualified Service Provider

(a) A qualified service provider, approved by this Department, in accordance with *Section 40* of these *Regulations* shall perform all routine operation and maintenance on ATS devices.

(b) A qualified service provider must also be an approved maintenance provider with the State of Tennessee, Department of Environment and Conservation, Division of Water Resources (TDEC-WR) and provide proof of such to the Department.

(c) If applicable, said service provider must also be certified by the ATS manufacturer for O&M purposes on the specific ATS model installed. The ATS manufacturer shall provide written notification to the Department of said service provider's qualifications.

2. O&M Manuals and Monitoring Plan

Advanced treatment systems shall be operated, monitored and maintained in accordance with the following:

(a) The ATS device manufacturer's specific model operation and maintenance manual, if applicable.

(b) The licensed engineer of record must prepare a system specific operation and maintenance manual that covers the entire system and all system components, including, but not limited to, the ATS device, the tanks and the soil dispersal system. Said O&M manual shall be submitted to the Department in conjunction with the design plan package submittal.

Any changes or revisions to the O&M manual shall be made by the licensed engineer of record and approved by the Department.

(c) The monitoring plan specified by the Department to ensure continued acceptable performance of the ATS. Said monitoring plan shall be developed on an individual case-by-case basis for the specific system it serves. It outlines the exact testing methodologies, sampling techniques, sampling location(s), sampling frequency, constituents to be tested for, acceptable and unacceptable limits of each constituent, and the qualifications of the laboratory and laboratory personnel, etc., as further outlined below:

(1) All sampling and analysis must be performed by a laboratory qualified for wastewater testing and by laboratory personnel trained and qualified for wastewater testing; proof of such shall be provided to the Department.

Said laboratory shall be independent of the property owner and any of owner's contractors, subcontractors, agents, employees or assigns, including but not limited to, those persons or entities associated with the design and installation of the ATS.

(2) All testing methodologies shall conform to 40 C.F.R. § 136.

(3) During each and every sampling period, grab samples shall be obtained of the effluent entering the ATS (*e.g.*, from outlet end of the septic or trash tank, or from the dose tank to the ATS, if applicable) and of the effluent exiting the ATS (*e.g.*, ports or chambers integral to the ATS device, an external sampling port or sampling chamber in the discharge piping exiting the ATS, or from the outlet side of the dispersal system pump tank, if applicable).

(4) The sampling frequency shall be as follows:

(i) Semiannually for the first two years of use and then;

(ii) Annually thereafter for the life of the system or until determined by the Department;

(iv) After three (3) full years of use, the sampling locations may be reduced to only that of the effluent exiting the ATS (*e.g.*, ports or chambers integral to the ATS device, an external sampling port or sampling chamber in the discharge piping exiting the ATS, or from the outlet side of the dispersal system pump tank, if applicable);

(v) In the event that testing reveals potential malfunctions or irregularities in the system, the Department reserves the right to require more frequent sampling and analysis

(5) The results of all testing shall be reported to the Department on a regular basis as it is conducted.

(6) Effluent Treatment Standards:

ATS systems shall, at a minimum treat the wastewater effluent to secondary effluent treatment standards as defined by either their NSF Standard 40 Class I certification for residential systems or in accordance with the US EPA established secondary treatment standards for publicly owned treatment works (POTW's).

(i) For systems serving residential or commercial/non-residential structures/facilities, producing domestic strength wastewater, the following required constituents shall be tested for:

a. 5-day biochemical oxygen demand (BOD_5)

b. 5-day carbonaceous biochemical oxygen demand ($CBOD_5$) – may be used in lieu of BOD_5 with prior approval from the Department

c. total suspended solids (TSS)

d. pH

(ii) For systems serving commercial/non-residential structures/facilities, producing high-strength wastewater, industrial strength wastewater, or other (non-domestic) types of wastewater, in addition to the required constituents listed above in *Subitem (i)*, the Department shall specify all other effluent treatment standards on an individual, case-by-case, site-specific basis determined by the specific constituents present in the wastewater (*i.e.*, constituents of concern) from said facility. In addition to credible literature review, wastewater effluent testing from the existing facility (if applicable) or from similar facilities may be required to aid in that determination.

Other constituents of concern may include such things as: inorganics (minerals, metals, dissolved salts, sand and silt, etc.), alkalinity, fixed or volatile solids, pathogenic organisms, persistent organic compounds and others such as chemicals, medicines, medicine metabolites, endocrine disrupters, antibiotics and chemotherapy drugs.

(iii) The Department shall have the authority to require additional constituent testing for any ATS on an individual case-by-case basis depending upon the specific use inside the structure or facility (producing certain constituents of concern), or depending upon the soil and site conditions of the property. These may include, but not be limited to the following:

a. fecal coliform bacteria

b. total nitrogen (TN)

c. total phosphorus (TP)

d. fats, oils and grease (FOG)

e. other

NOTE 1: Testing for fecal coliform bacteria, total nitrogen (TN) and total phosphorus (TP) shall be required on any ATS where the associated soil dispersal system (*i.e.*, platted or designated ssds area) encroaches within 10-feet of the minimum setback restrictions listed in *Table S13-1* of *Section 13* for any type of water body, water source, any physical feature (*e.g.*, ditch, drain, embankment, escarpment, gully, ravine, soil pipe, sinkhole, etc.) greater than 18-inches deep or any physical feature with an associated cut/excavation greater than 18-inches deep.

NOTE 2: Testing for fecal coliform bacteria, total nitrogen (TN) and total phosphorus (TP) shall be required on any ATS where there is a water table present in the soils (as denoted on the approved soil map) of the associated effluent dispersal system (*i.e.*, platted or designated ssds area). More specifically, this testing requirement applies if a water table (*i.e.*, free water, seasonal high water table or perched water table) is indicated between 24 inches and 36 inches of the soil surface. Implementation of a drainage improvement practice would not alleviate this requirement.

NOTE 3: Testing for fats, oils and grease (FOG) shall be required on any ATS serving a residential structure containing a domestic kitchen, a dwelling with an accessory commercial food preparation use (*e.g.*, bed and breakfast use, etc.), a food service establishment or a facility with a food service or food preparation component.

(7) After six (6) months of operation, the effluent exiting the ATS must meet or be below the following applicable maximum limits:

Table S38-1. Effluent Treatment Standards

Effluent Constituent	Maximum Limit
BOD_5	≤ 30 mg/L
$cBOD_5$	≤ 25 mg/L
TSS	≤ 30 mg/L
TN (if applicable)	≤ 20 mg/L
TP (if applicable)	≤ 10 mg/L
FOG (if applicable)	≤ 25 mg/L
fecal coliform bacteria (if applicable)	≤10,000 col/100 mL
pH	6.0 – 9.0

NOTE 1: For an ATS serving commercial/non-residential structures/facilities, producing high-strength wastewater and dispersing the treated effluent into the soil via either a standard conventional system or a LPP system, the Department may consider adjusting the maximum treated effluent constituent levels to those equivalent to standard septic tank effluent levels (*i.e.*, BOD_5 ≤ 170 mg/L, TSS ≤ 60 mg/L, and FOG ≤ 25 mg/L). Said determination shall be made on an individual, case-by-case basis.

NOTE 2: The fecal coliform bacteria testing standard listed above in *Table S38-1* is without (or prior to) any type of disinfection. When disinfection is required by the Department, the maximum allowable limit for fecal coliform bacteria shall be ≤200 col/100 mL (post disinfection).

(8) After three (3) years of operation, the property owner may propose that the testing protocol be adjusted. After a thorough review and evaluation of all the collected data, the Department may determine if adjustments are necessary regarding the constituents tested, how often samples are collected and where the samples are collected.

3. O&M Frequency

Routine operation and maintenance site visits shall be performed at three-month intervals for the life of the system. However, the frequency of system visits may be adjusted by the Department depending upon the ATS's complexity, system performance and manufacturer's recommendations.

IMPORTANT NOTE: In order to maintain NSF certification on Standard 40 model ATS devices, the routine maintenance inspection site visit frequency for said ATS devices shall not, under any circumstances, be reduced to less than every six (6) months for the life of the system.

4. O&M Services and Tasks

   The routine operation and maintenance items to be completed at each site visit by the qualified service provider shall be in accordance with those referenced in the above-noted manuals and plans (referenced in *Part 2* of this *Subsection*).

   Any major repair, modification or alteration to the system shall require the appropriate permits to be obtained from the Department in accordance with *Sections 7 and 34* these *Regulations* and shall only be conducted by an installer licensed in accordance with *Section 24* of these *Regulations*.

5. Submission of O&M Reports

   A maintenance report shall be submitted to the Department on an annual basis detailing all inspections, the findings and any work performed.

   (a) For residential systems, the O&M report shall be due to the Department on the anniversary date of the system's *Certificate of Completion.*

   (b) For commercial/non-residential systems, the O&M report shall be submitted to the Department in conjunction with the annual ATS Operation Permit application or renewal process (Refer to *Subsection H* of this *Section*).

   (c) Failure of a property owner to submit the annual O&M report as required shall result in the issuance of a Notice of Violation letter by the Department and/or revocation of the standing operation permit until compliance with this requirement is re-established.

F. General ATS Requirements

1. The use of ATS devices for residential facilities/uses producing domestic strength wastewater flows greater than 1,500-gpd shall require TDEC-WR variance approval from their *Rule 0400-48-01-.10, paragraph (2), subparagraph (c), part 1*. Said variance approval shall be obtained prior to consideration for approval in Williamson County and documentation of such provided to the Department by the property owner.

2. A deed restriction (*i.e.*, legal agreement) must be recorded (in the Williamson County Register of Deeds Office) with the deed of the property providing notification to all future owners that the property is served by an ATS and subject to the operation and maintenance requirements of these regulations.

   (a) Said document shall be prepared by the Williamson County Attorney and provided to the property owner by the Department.

   (b) The property owner must execute the document in the presence of a Notary.

   (c) Proof of that recording must be provided to the Department before any permit is issued for an ATS.

3. The property owner, any successor of the property owner and any subsequent property owner, for the lifetime of the system, shall have in effect a contract for operation and maintenance of the ATS with a qualified service provider approved by this Department in accordance with *Section 40* of these *Regulations*.

   (a) A copy of the executed contract shall be provided to the Department before any permit is issued for an ATS.

   (b) These contracts will be reviewed by the Department on an annual basis.

      (1) Submittal of subsequent contracts, associated with residential systems, shall be due to the Department on the anniversary date of the system's *Certificate of Completion.*

(2) Submittal of subsequent contracts, associated with commercial/non-residential systems, shall be submitted to the Department in conjunction with the annual ATS Operation Permit renewal process (Refer to *Subsection H* of this *Section*).

(c) In the event that the contract is cancelled or not renewed for any reason, the property owner shall notify the Department within thirty (30) days of such cancellation and provide proof of a contract with a new approved service provider within that same timeframe.

(d) Failure of a property owner to maintain such a contract will be considered a Class C misdemeanor and subject to civil penalties for each violation or day that the violation continues.

4. Any ATS permitted for installation shall be properly equipped to participate in NSF's web-based onsite monitoring program, or other such internet-based monitoring program deemed by the Department to be substantially similar, to assure independent verification that the system is maintained and serviced in perpetuity.

   (a) Documented proof (*e.g.*, a copy of an executed contract, etc.) of participation in an approved monitoring program shall be provided to the Department before any permit is issued for an ATS.

   (b) The ATS manufacturer, as applicable, shall provide the necessary equipment and include the cost for participation for the first four years in the price of the ATS after which time the qualified service provider contracted to operate and maintain the system will be responsible for participation.

   (c) Participation in the NSF monitoring program, or other such similarly approved program, is required for the life of the system or until cessation of the program by NSF (or by any other similarly approved program's manufacturer).

   (d) In the event that the NSF monitoring program ceases, or other similarly approved monitoring program ceases, the property owner and/or responsible service provider shall notify the Department within thirty (30) days of such cessation and provide proof of participation in a new approved monitoring program within that same timeframe.

5. All ATS shall incorporate appropriate sensors and telemetric alarms that are capable of immediately notifying the service provider and the Department of critical malfunctions as determined by the Department.

6. All ATS shall incorporate or be preceded by a septic or trash tank.

   (a) ATS devices that have a trash tank size specified in their NSF listing shall have trash tanks sized accordingly.

   (b) ATS devices that do not have trash tank requirements in their NSF listing, or non-NSF certified ATS devices, shall be preceded by an approved septic tank sized in accordance with *Section 14* of these *Regulations*.

7. All ATS shall provide a means to properly collect treated effluent samples exiting the ATS device. Examples of effluent sampling locations include, but are not limited to, ports or chambers integral to the ATS device, an external sampling port or sampling chamber in the discharge piping exiting the ATS, or from the outlet side of the dispersal system pump tank, if applicable.

8. An ATS specified and used as part of a packaged Subsurface Drip Disposal (SDD) system must maintain approval from the TDEC-WR.

9. Once an ATS is installed to serve a commercial non-residential facility/use, pursuant to this *Section*, the owner of the property shall obtain a valid Operation Permit issued by the Department in accordance with *Subsection H* of this *Section*. Said ATS Operation Permit shall be renewed annually. This requirement shall apply to any successor of the property owner and any subsequent property owner, for the lifetime of the system.

   Failure of a property owner to obtain a valid ATS Operation Permit, or renew a standing operation permit, as required pursuant to *Subsection H* (of this *Section 38*) shall result in the issuance of a Notice of Violation letter by the Department and/or revocation of the standing operation permit until compliance with this requirement is re-established.

10. Additional effluent disinfection (following the ATS device) may be required by the Department when pathogenic organisms are of concern in the wastewater stream or where there is a high water table present in the soils of the associated effluent dispersal system (refer to *NOTE 2* in *Subsection E,2(c)(6)(iii)* of this *Section 38*) or where the associated soil dispersal system (*i.e.*, platted or designated ssds area) encroaches within 10-feet of the minimum setback restrictions listed in *Table S13-1* of *Section 13* for any type of water body, water source, any physical feature greater than 18-inches deep (*e.g.*, ditch, drain, embankment, escarpment, gully, ravine, soil pipe, sinkhole, etc.) or any physical feature with an associated cut/excavation greater than 18-inches deep (refer to *NOTE 1* in *Subsection E,2(c)(6)(iii)* of this *Section 38*).

    The use, method and treatment levels of disinfection shall be determined by the Department on an individual, case-by-case basis, in consultation with the system's design engineer.

11. All electrical components associated with ATS devices shall comply with and be installed in accordance with the requirements of the current edition of the *National Electric Code (NEC)*. All associated buried wiring shall be installed in appropriately sized conduit and shall have explosion proof seals (with approved seal compound) installed at both ends of the conduit. All associated electrical enclosures (boxes) shall have a minimum NEMA (National Electric Manufacturers Association) Type 4X rating.

    A State issued electrical permit shall be required for the installation and inspection of all electrical components associated with ATS devices.

    Refer to the applicable provisions outlined in *Section 16, Subsection F* regarding *Electrically Assisted Systems (EAS)*.

G. Existing ATS Devices – Exemption

Prior to the effective date of the adoption of this Section 38

1. Exemption

    All ATS devices approved, permitted, in existence, in operation and otherwise legally compliant with the terms of its approval prior to the effective date of adoption of this *Section 38*, shall be exempt from the requirements of this *Section 38* unless the ATS has failed and needs to be replaced, or the ATS requires a major modification or upgrade due to adverse system loading changes or proposed adverse system loading changes.

2. Termination

    In the event of an existing ATS (as classified under this *Subsection G*) failure requiring replacement or a major ATS (as classified under this *Subsection G*) modification or upgrade required due to adverse system loading changes or proposed adverse system loading changes, the ATS device's exemption from the requirements of this *Section 38* will terminate and the ATS device shall then be required to comply with the requirements set forth in this *Section 38.*

3. Compliance

    In the event an existing ATS device's exemption status from the requirements of this *Section 38* is terminated, the property owner, or their legal designee, shall submit the appropriate permit application(s) and provide all required ATS supporting documentation, in conjunction with any other permitting or approval requirements of the Department, as if it is a new ATS serving a new facility/use. Subsequent to obtaining all appropriate permits, the system shall be brought into compliance with these *Regulations* and approved by the Department.

No additional permits or approvals for the property may be issued by the Department until the ATS is brought into compliance with the provisions of this *Section 38*.

H. ATS Operation Permit for Commercial Non-Residential Facilities/Uses

Once an ATS device is installed to serve a commercial non-residential facility/use, pursuant to this *Section*, the owner of the property shall obtain an annual ATS Operation Permit from the Department. This requirement shall run with the land and be binding upon all future owners of the property, for the life of the system.

Additionally, this operations permit requirement shall apply to situations where an existing residential facility served by an ATS changes use, or proposes to change use, to a commercial non-residential facility.

1. Application Requirements

All property owners, or their legal designee, utilizing an ATS device (serving a commercial non-residential facility/use) shall fill out an application with the Department, along with an affidavit, and provide all pertinent supporting documentation to substantiate compliance with the ATS requirements set forth in this *Section 38*. Said supporting documentation shall include, but not be limited to, such items as: a letter of intent (LOI), documented proof of ATS device approval by TDEC-WR (if applicable), documented proof of NSF Standard 40 certification from the ATS device manufacturer (if applicable), other certification documents from the ATS device manufacturer regarding non-standard flow applications or commercial applications (if applicable), approved system design plans from the engineer, copy of the recorded legal agreement, O&M manual(s) and monitoring plan (including laboratory qualifications), copy of executed contract with a qualified service provider, qualified service provider's supporting documentation, documented proof of participation in an approved internet-based monitoring program, installation approval letter (and/or commissioning report) from the ATS device manufacturer (if applicable), as-built installation approval documentation from the engineer of record, as-built documentation from the installer and O&M reports with effluent testing results, etc.

2. New ATS Devices

After the effective date of the adoption of this Section 38, the property owner of all newly installed ATS devices serving commercial non-residential facilities/uses shall provide the applicable above referenced ATS supporting documentation during the Construction Permit application process for the installation of a new subsurface sewage disposal system. Refer to the provisions outlined in *Section 7* and *Appendix 19*.

Upon final inspection approval of the new system installation, an ATS Operation Permit will be issued to the property owner in conjunction with the system's Certificate of Completion. Said ATS Operation Permit is valid for a period of one year from the date of issuance and must be renewed annually. The renewal application must be received by the Department 30 days prior to the expiration of the ATS Operation Permit. Refer to the provisions outlined in *Section 7* and *Appendix 19,* and to the permit renewal provisions outlined below in *Part 3, Subpart (a), (1) of this Subsection H*.

3. Existing ATS Devices

(a) After the effective date of the adoption of this Section 38

(1) Permit renewal

All property owners, or their legal designee, utilizing an existing ATS device (serving a commercial non-residential facility/use) which was permitted for use after the effective date of adoption of this *Section 38*, shall submit an ATS Operation Permit renewal application, along with a new affidavit, on an annual basis in accordance with *Section 7* and *Appendix 19*. The renewal application must be received by the Department 30 days prior the expiration of the existing ATS Operation Permit. Included with said permit renewal application, the property owner/applicant shall submit the required O&M report with effluent testing results and shall disclose any changes in use of the facility which may impact the loading to the system, changes with the qualified service provider contracted to operate and maintain the system, and/or changes with the internet-based monitoring program from those previously submitted and approved during the facility's initial permitting process or during the facility's previous permit renewal process. If applicable, submittal of pertinent supporting documentation related to any said changes shall also be required.

The Department will evaluate this information to ensure continued compliance with the ATS requirements outlined herein and any additional standards required in the previous permit approval, to ensure the ATS is still functioning properly, to ensure the ATS is in compliance with its effluent treatment standards and to ensure there are no new adverse impacts or loading changes to the existing system.

(i) Approval

Based on information outlined above, if compliance is confirmed, the ATS is still functioning properly and there are no new negative impacts or loading changes to the system, the Department shall approve this portion of the permit renewal application.

(ii) Denial

If it is determined that the ATS *[as classified under this Subpart (a)]* is not in compliance with the regulatory requirements or the previous permit approval restrictions, is not functioning properly, is not compliant with its effluent treatment standards, or if it is discovered that there are loading changes or new adverse impacts to the system, these shall be grounds for denial of the permit renewal application. This could further result in the issuance of a Notice of Violation letter and/or revocation of the standing permit until such time as the property owner makes changes to mitigate the concern(s) or to gain compliance via either facility alterations or system modifications.

(2) ATS Replacement, Modification or Upgrade

At any point in time, if an existing ATS (serving a commercial non-residential facility/use), which was permitted after the effective date of adoption of this *Section 38*, has to be replaced due to failure, requires a major modification/upgrade due to adverse system loading changes or proposed adverse system loading changes, the property owner shall submit a new Operation Permit application for said ATS replacement/modification/upgrade, along with a new affidavit and all applicable supporting documentation referenced above, in accordance with *Section 7* and *Appendix 19*. Included with said application, the property owner shall disclose any changes, or proposed changes, within the facility from those previously submitted and approved during the initial ATS permitting process or during the previous ATS permit renewal process that adversely impacts the loading to the system. Submittal of pertinent supporting documentation related to any said changes shall also be required.

The new ATS Operation Permit application shall comply with all of the requirements of *Part 1and 2 of this Subsection H*, as if it is a new ATS serving a new commercial non-residential facility/use. Following approval, the ATS Operation Permit shall be subject to the annual renewal requirements as outlined in *Part 3, Subpart (a), (1) of this Subsection H*.

(3) Change of Use

At any point in time, if there is a change of use, or a proposed change of use, to a commercial non-residential facility served by an existing ATS, which was permitted after the effective date of adoption of this *Section 38*, the property owner shall submit a new Operation Permit application for said facility change of use (or proposed change of use), along with a new affidavit and all applicable supporting documentation referenced above, in accordance with *Section 7* and *Appendix 19*. Included with said application, the property owner shall disclose any changes, or proposed changes, within the facility or with the use from those previously submitted and approved during the initial ATS permitting process or during the previous ATS permit renewal process that may adversely impact the loading to the system. Submittal of pertinent supporting documentation related to any said changes shall also be required.

The Department will evaluate this information to ensure continued compliance with the ATS requirements outlined herein and any additional standards required in the previous permit approval, to ensure the ATS is still functioning properly, to ensure the ATS is in compliance with its effluent treatment standards and to ensure there are no new adverse impacts or loading changes to the existing system.

(i) Approval

Based on information outlined above, if compliance is confirmed, the ATS is still functioning properly and there are no new negative impacts or loading changes to the system, the Department shall approve this portion of the new ATS Operation Permit application for said change of use.

Upon issuance for said change of use, the new ATS Operation Permit shall be valid for a period of one year from the date of issuance and must be renewed annually. The renewal application must be received by the Department 30 days prior the expiration of the ATS Operation Permit. Refer to the provisions outlined in *Section 7* and *Appendix 19* and to the permit renewal provisions outlined above in *Part 3, Subpart (a), (1) of this Subsection H*.

(ii) Denial

If it is determined that the ATS *[as classified under this Subpart (a)]* is not in compliance with the regulatory requirements or the previous permit approval restrictions, is not functioning properly, is not compliant with its effluent treatment standards, or if it is discovered that there are loading changes or new adverse impacts to the system, these shall be grounds for denial of the new permit application. This could further result in the issuance of a Notice of Violation letter and/or revocation of the standing permit until such time as the property owner makes changes to mitigate the concern(s) or to gain compliance via either facility alterations or system modifications.

Upon denial of a new ATS Operation Permit application for a change of use, the property owner/applicant may submit another new ATS Operation Permit application for said change of use, along with a new affidavit and all applicable supporting documentation referenced above, in accordance with *Section 7* and *Appendix 19*. Included with this new permit application, if applicable, the property owner/applicant shall outline any and all facility alterations and/or system modifications necessary to mitigate previously noted concern(s) in order to gain compliance. The application may then proceed down the appropriate path for approval.

(4) Change of Ownership

An effective ATS Operation Permit for an existing ATS device *[as classified under this Subpart (a)]* is not transferable to a new property owner.

At any point in time, if there is a change of ownership to a commercial non-residential facility served by an existing ATS, which was permitted after the effective date of adoption of this *Section 38*, the new property owner shall submit a new ATS Operation Permit application for said facility change of ownership, along with a new affidavit, a copy of a newly executed contract with a qualified service provider, the qualified service provider's supporting documentation, documented proof of continued participation in an approved internet-based monitoring program and all other applicable supporting documentation referenced above, in accordance with *Section 7* and *Appendix 19*. Additionally, the new property owner shall disclose any changes, or proposed changes, within the facility or with the use from those previously submitted and approved during the initial ATS permitting process or during the previous ATS permit renewal process that may adversely impact the loading to the system. Submittal of pertinent supporting documentation related to any said changes shall also be required.

The new ATS Operation Permit application must be received by the Department within 60 days of the new owner taking possession of the property.

The Department will evaluate this information to ensure continued compliance with the ATS requirements outlined herein and any additional standards required in the previous permit approval, to ensure the ATS is still functioning properly, to ensure the ATS is in compliance with its effluent treatment standards and to ensure there are no new adverse impacts or loading changes to the existing system.

(i) Approval

Based on information outlined above, if compliance is confirmed, the ATS is still functioning properly and there are no new negative impacts or loading changes to the system, the Department shall approve this portion of the new ATS Operation Permit application for said change of ownership.

Upon issuance for said change of ownership, the new ATS Operation Permit shall be valid for a period of one year from the date of issuance and must be renewed annually. The renewal application must be received by the Department 30 days prior the expiration of the ATS Operation Permit. Refer to the provisions outlined in *Section 7* and *Appendix 19* and to the permit renewal provisions outlined above in *Part 3, Subpart (a), (1) of this Subsection H*.

(ii) Denial

If it is determined that the ATS *[as classified under this Subpart (a)]* is not in compliance with the regulatory requirements or the previous permit approval restrictions, is not functioning properly,

is not compliant with its effluent treatment standards, or if it is discovered that there are loading changes or new adverse impacts to the system, these shall be grounds for denial of the new permit application. This could further result in the issuance of a Notice of Violation letter and/or revocation of the standing permit until such time as the new property owner makes changes to mitigate the concern(s) or to gain compliance via either facility alterations or system modifications.

Upon denial of a new ATS Operation Permit application for a change of ownership, the new property owner/applicant may submit another new ATS Operation Permit application for said change of ownership, along with a new affidavit and all applicable supporting documentation referenced above, in accordance with *Section 7* and *Appendix 19*. Included with this new permit application, if applicable, the property owner/applicant shall outline any and all facility alterations and/or system modifications necessary to mitigate previously noted concern(s) in order to gain compliance. The application may then proceed down the appropriate path for approval.

(b) Prior to the effective date of the adoption of this Section 38

(1) Refer to the general exemption, termination and compliance provisions outlined in *Subsection G* of this *Section 38* (which includes the ATS Operation Permit requirements for commercial non-residential facilities/uses).

(2) Existing residential ATS devices – Change of use to commercial/non-residential

If at any time there is a change of use, or proposed change of use, of a residential structure to a commercial/non-residential facility where said residential structure is utilizing an existing ATS device and the change of use, or proposed change of use, occurs after the effective date of adoption of this *Section 38*, the ATS device's exemption from the operation permit requirements of this *Subsection H* will terminate and said facility shall be required to comply with the operation permit requirements set forth in this *Subsection H*.

The property owner, or their legal designee, shall submit a new ATS Operation Permit application for said facility in accordance with all of the requirements of *Part 1 and Part 3, Subpart (a), (3) of this Subsection H*, as if it is a new ATS serving a new commercial non-residential facility/use. Following approval, the ATS Operation Permit shall be subject to the annual renewal requirements as outlined in *Part 3, Subpart (a), (1) of this Subsection H*.