a. If an 85% reduction or better in $CBOD_5$ and TSS can be achieved, the effluent may be discharged to a drainfield satisfying Section 4.22.5 "Recirculating Gravel Filter - Gravity Disposal Trenches" application rate criteria and vertical setback requirements.
    1) Otherwise, the effluent must be discharged to a standard drainfield, sized as directed in IDAPA 58.01.03.008 (section 8.1), and meet the required effective soil depth for standard drainfields as directed in IDAPA 58.01.03.008.02.
    2) Additional drainfield-sizing reduction granted for use of gravelless trench products is not allowed.
b. The 85% reduction will be accepted as being met if the effluent exhibits a quantitative value obtained from laboratory analysis not to exceed 40 milligrams per liter (mg/L) (40 parts per million [ppm]) $CBOD_5$ and 45 mg/L (45 ppm) TSS.
c. TN reduction may be required for ETPS units located in an area of concern as determined through a NP evaluation. Permit-specific TN reduction levels will be determined through the NP evaluation. Results for TN are determined through the addition of TKN and nitrate-nitrite nitrogen ($TN = TKN + [NO_3+NO_2-N]$). TN reduction will be accepted as being met if the effluent exhibits a quantitative value obtained from laboratory analysis not to exceed the TN level stipulated on the subsurface sewage disposal permit.

4.10.3 Operation, Maintenance, and Monitoring

Procedures relating to operation, maintenance, and monitoring are required by IDAPA 58.01.03 (section 8.1) or may be required as a condition of issuing a permit, per IDAPA 58.01.03.005.14 (section 8.1) to ensure protection of public health and the environment.

1. Operation and maintenance
    a. Annual maintenance shall be performed on the ETPS unit as described in the ETPS manufacturer's O&M manual for the ETPS model as submitted under section 4.2.
    b. Additional maintenance not specified in the O&M manual may be required to ensure the ETPS functions properly.
    c. Records of each maintenance visit shall be kept and should include the following information for the primary maintenance visit:
        1) Date and time.
        2) Observations for objectionable odors.
        3) Observation for surfacing of effluent from the treatment unit or drainfield.
        4) Notation as to whether the system was pumped since the last maintenance visit including the portions of the system pumped, pumping date, and volume.
        5) Sludge depth and scum layer thickness in the primary septic tank and treatment unit.
        6) If responding to an alarm event, provide the cause of the alarm and any maintenance necessary to address the alarm situation.
        7) Field testing results for any system effluent quality indicators included in the approved sampling plan as submitted under section 4.2.4 or as recommended in item 2.b below.

8) Record of any cleaning and lubrication.
9) Notation of any adjustments to control settings or equipment.
10) Test results for pumpers, switches, alarms, and blowers.
11) Notation of any equipment or component failures.
12) Equipment or component replacement including the reason for replacement.
13) Recommendations for future service or maintenance and the reason for the recommendations.
14) Any maintenance occurring after the primary annual maintenance visit should only record and address the reason for the visit and the associated activities that occur.

2. Monitoring
   a. Annual effluent monitoring will be required for all ETPS units that discharge to a reduced size drainfield, to a drainfield with a reduced separation distance to limiting layers, and/or to a drainfield located in an environmentally sensitive area (area of concern).

      Annual monitoring included in the annual report must occur within the reporting period (Figure 4-8).

   b. Effluent monitoring may be done for a group of ETPS units from a common dosing chamber resulting in the sample from the common dosing chamber being applied to all of the associated ETPS units if
      1) Annual operation and maintenance is performed as described in item 1 above for each individual ETPS unit, and operation and maintenance records are submitted for each individual unit as described in section 4.10.4.
      2) All of the ETPS units connected to the common dosing chamber are from the same manufacturer. If there are multiple manufacturers' ETPS units connected to the common dosing chamber, each ETPS unit must be monitored individually. Additionally, if there are multiple common dosing chambers discharging to a single drainfield, each common dosing chamber must be monitored, and if there are any individual ETPS units discharging to the same system independently of the common dosing chamber, those individual units must also be monitored.
      3) If the effluent sample from the common dosing chamber does not meet any one of the required effluent constituent levels for the system, then each individual ETPS unit connected to the common dosing chamber must be sampled independently for the failing constituent to determine what individual units do not meet the effluent monitoring requirements.
         a) Individual units that do not meet the effluent constituent levels upon individual sampling must follow the operation, maintenance, and retesting requirements described in item 2.h below.
         b) Individual units that do meet the effluent constituent levels upon individual sampling do not need to continue with the operation, maintenance, and retesting requirements.
   c. DEQ recommends prior to collecting effluent samples from the treatment unit for laboratory analysis that effluent quality indicators be field tested as described in the

approved sampling plan for the O&M entity. Recommendations included in this section are recommendations only and should be verified with the treatment technology manufacturer as acceptable with their field sampling plan and as suitable effluent quality indicators. Field testing is recommended to include, but may not be limited to, the following:

1) Visual examination for wastewater color, odor, and effluent solids
2) Constituents shown in Table 4-5:

Table 4-5. Recommended field testing constituents for effluent quality indication.

Constituent	Acceptable Range
pH	6 to 9
Dissolved oxygen	≥2 mg/L
Turbidity	≤40 NTU

Notes: milligram per liter (mg/L); nephelometric turbidity unit (NTU)

d. Monitoring samples provided to a laboratory will analytically quantify that the units are operating in compliance if samples do not exceed 40 mg/L (40 ppm) for $CBOD_5$ and 45 mg/L (45 ppm) for TSS.

   Results for $CBOD_5$ and TSS that exceed these levels indicate the ETPS unit is not achieving the required reduction levels.

e. For those systems installed in areas of concern, including nitrogen sensitive areas, or are used to fulfill NP evaluation results and requirements, the following additional constituents may be monitored as stipulated on the permit:
   1) Total Kjeldahl nitrogen (TKN)
   2) Nitrate-nitrite nitrogen (NO3+NO2-N)
   3) Results for total nitrogen (TN = TKN + [NO3+NO2-N]) that exceed the levels stipulated on the installation permit, in the subdivision approval for sanitary restrictions release, or the approved NP evaluation, indicate that the device is failing to achieve the required reductions

f. Samples will be collected, stored, transported, and analyzed according to the latest version of *Standard Methods for the Examination of Water and Wastewater* (Rice et al. 2012) and other acceptable procedures.
   1) Each sample will have a chain-of-custody form, identifying, at a minimum, the sample's source (street address or installation permit number), date and time of collection, and the person who extracted the sample.
   2) Chain-of-custody form should also specify the laboratory analyses to be performed on the sample.
   3) Sample storage and transport will take place in appropriate containers under appropriate temperature control.

g. Sample analysis will be performed by a laboratory capable of analyzing wastewater according to the acceptable standards identified in Table 4-6, and the monitoring results will be submitted as part of the annual report to the local health district.

1) ETPS effluent analysis shall be performed using the standards in Table 4-6 from the *Standard Methods for the Examination of Water and Wastewater* (Rice et al. 2012) or the equivalent standards from EPA. NSF uses the same standards in their Standard 40 and 245 evaluations.
2) Annual reports submitted with laboratory analysis results differing from these standard methods will be rejected.

Table 4-6. Standard methods required for the analysis of ETPS effluent in annual testing.

Analysis	Standard Method Number	EPA Method Equivalent to Standard Method
Total suspended solids (TSS)	SM 2540 D	—
Carbonaceous biological oxygen demand ($CBOD_5$)[a]	SM 5210 B	—
Total Kjeldahl nitrogen (TKN)	SM 4500-N_{org} B	351.2
Nitrate-nitrite nitrogen (NO_3 + NO_2-N)	SM 4500-NO_3^- F	353.2

a. Person requesting the analysis from the laboratory must specify the $CBOD_5$ on the chain-of-custody form.

h. Samples failing to achieve the required effluent constituent levels shall require the following:
   1) Additional operation and maintenance within 15 days of the failed sample results as determined by the date provided on the laboratory form.

      If additional operation and maintenance or component replacement is necessary as determined from this service, the reason, maintenance necessary, and dates must be provided as part of the service record.
   2) Additional sampling to demonstrate the operation and maintenance performed successfully restored the treatment system to proper operation.
   3) Sample extraction and analysis needs to occur within 30 days after servicing the system (as determined in item 1 above).

      The 30-day time frame for sample extraction will begin based on the last documented operation and maintenance visit required under item 1 above.
   4) A maximum of three sampling events, within 90 days (as determined from the last documented operation and maintenance visit from item 1 above), will be allowed to return the system to proper operation. Failure to correct the system within this time frame will result in the system being classified as a *failing system* (Figure 4-9).
   5) If an annual report, as described in section 4.10.4, for a system identifies that an effluent sample fails to meet the limits provided in item 2.c and d above, and the required resampling of the system did not occur, the regulatory authority will issue the Failure to Resample letter provided in the DEQ program directive, "Extended Treatment Package System Education and Enforcement Letters."

      If resampling as described in this section does not occur by the date provided in the Failure to Resample letter, the actions will be considered a refusal of service

as described in section 4.10.6, and the enforcement procedures provided in section 4.10.6 shall be followed by the regulatory authority.