PASEO/PSMA Installation of Onsite Wastewater Systems Checklist

Form 1.1 Installation checklist: System evaluation.

A. Contact information

Client name: _____ Reference #: _____
Permits #: _____
Site address/county: _____
Mailing address: _____
Home Phone: _____ Cell phone: _____ Email: _____

Designer/Planner: _____ License #: _____
Phone #: _____ Cell phone: _____ E-mail: _____

Site Evaluator: _____ License #: _____
Phone #: _____ Cell phone: _____ E-mail: _____

Installer: _____ License #: _____
Phone #: _____ Cell phone: _____ E-mail: _____

O&M Service Provider: _____ License #:_____
Phone #: _____ Cell phone: _____ E-mail:_____

Inspector(s): _____ License #: _____
Phone #: _____ Cell phone: _____ E-mail:_____

B. Job Contracting

I. Design review (information collected obtained from design)

Comments:

1. Plan provided ☐ Yes ☐ No
   ☐ Approved ☐ Draft ☐ Includes special considerations
   ☐ New construction ☐ Repair

2. Plan complete ☐ Yes ☐ No
   ☐ All components specified ☐ Component size specified
   ☐ Component location specified ☐ Accessibility for maintenance specified
   ☐ Components readily available

3. Soil and site evaluation report provided ☐ Yes ☐ No

4. Hydraulic loading specified ☐ Yes ☐ No
   Design flow: _____ Gal. per day
   Peak flow: _____

5. Organic loading specified ☐ Yes ☐ No
   ☐ Residential (assumed) ☐ Commercial (assumed)
   ☐ Specification: _____ (mg/L or lbs. BOD/TSS/FOG per day)

6. Tank buoyancy calculation provided ☐ Yes ☐ No

7. Treatment train components (Check all that apply):

Tanks:

☐ Septic/Trash/Processing (tank): _____ ☐ Pump: Timed dosed system: _____
☐ Pump: Demand dosed system: _____ ☐ Holding tank: _____
☐ Dosing tank(s): _____ ☐ Other: _____

Advanced treatment components:

☐ Disinfection unit: _____ ☐ Aerobic treatment unit: _____
☐ Constructed wetland: _____ ☐ Media filter: _____
☐ Other: _____

Final treatment and dispersal components:

☐ Trench/Bed – gravity:_____ ☐ Drip field: _____
☐ Evapotranspiration bed: _____
☐ Trench/Bed – Low pressure distribution: _____ ☐ Spray field: _____
☐ Mound system: _____
☐ Bottomless media filter:_____ ☐ Other: _____

PASEO/PSMA Installation of Onsite Wastewater Systems Checklist

II. Site review

1. Site planning materials match/describe site ☐ Yes ☐ No

2. Planning materials describe a constructible treatment train ☐ Yes ☐ No
   ☐ Treatment train components available
   ☐ Plumbing stub-out elevation ☐ Existing _____ ☐ From design _____

3. Owner interviewed during site/plan review ☐ Yes ☐ No

4. Site requires special construction considerations ☐ Yes ☐ No

Comments:

III. Bidding & contracting

1. Bid development ☐ Yes ☐ No
   ☐ Cost estimation ☐ Special equipment & installation considerations

2. Bid submitted (date): _____

3. Bid accepted (date): _____

4. Contract submitted (date): _____
   ☐ Standard items ☐ Exclusions ☐ Change orders ☐ Payment schedule

5. Contract accepted (date): _____

C. System planning & installation

1. Construction scheduling completed (date): _____

2. Preconstruction site visit (date): _____

3. Installation started (date): _____

4. Complete installation checklists
   ☐ Pretreatment components ☐ Yes ☐ No
   ☐ Dosing system and controls ☐NA ☐ Yes ☐ No
   ☐ Final treatment and dispersal component ☐ Yes ☐ No

5. Complete startup checklists
   ☐ Pretreatment components ☐ Yes ☐ No
   ☐ Dosing system and controls ☐NA ☐ Yes ☐ No
   ☐ Final treatment and dispersal component ☐ Yes ☐ No

6. Intermediate inspections ☐NA
   ☐ Type: _____ Name: _____ Date: _____ Time: _____
   ☐ Type: _____ Name: _____ Date: _____ Time: _____
   ☐ Type: _____ Name: _____ Date: _____ Time: _____

7. Final regulatory installation inspection Date: _____ Time: _____

8. Information provided to owner
   ☐ Final plans/As-built drawings ☐ Service policies/Warranties
   ☐ Operation and maintenance guidance ☐ Monitoring requirements/guidance
   ☐ Educational resources ☐ Authorization to operate wastewater treatment system
   ☐ Service provider contracts

9. Overall final system condition
   ☐ Installation complete ☐ Landscaping needed
   ☐ Installation incomplete ☐ Startup needed

This report indicates the condition of the above wastewater treatment system at the time of the installation inspection.

Final survey completed by: _____ Date: _____

PASEO/PSMA Installation of Onsite Wastewater Systems Checklist

Form 3.1. Installation checklist - Safety.

Client name:_____ Reference #: _____
Permit #: _____
Completed by: _____ Company: _____

1. Site-specific safety plan on file ☐ Yes ☐ No

2. First aid and emergency response
   a. ☐ First aid kit stocked and available on-site Location:_____
   b. ☐ Eye wash station available on-site Location:_____
   c. ☐ Bee sting kit available on-site Location:_____
   d. ☐ Fire extinguisher available on-site Location:_____
   e. ☐ Cell phone on site Number(s): _____
      ☐ Cell phone on site verified
   f. Emergency phone numbers:
      ☐ Local Hospital: _____
      ☐ Fire Department: _____
      ☐ Utilities: Power: _____ Water: _____
      Cable: _____ Phone: _____
      Gas: _____ Other: _____

3. Personal protection
   a. Equipment (indicate all PPEs in use):
      ☐ Steel-toe boots ☐ Protective clothing ☐ Hard hats
      ☐ Hearing protection ☐ Eye protection ☐ Face/mouth protection
      ☐ High visibility vests
      ☐ Gloves: Type: ☐ Abrasion resistant ☐ Liquid resistant
   b. Personal hygiene
      ☐ Toilets available
      ☐ Hand wash station with soap and water ☐ Waterless hand sanitizer

4. General site hazards
   a. ☐ Cell phone/personal music device policy in effect
   b. Vegetation (Trees and plants)
      ☐ Dead limbs/trees (widow makers)
      ☐ Overhead limbs
      ☐ Hazards in trees: insects, animals, vines, poison ivy, etc.
      ☐ Poison oak
      ☐ Poison ivy
      ☐ Ground clear of vines and low vegetation
   c. Weather conditions
      ☐ Rainfall within 24 hours: _____ inches
      ☐ Other conditions of concern:_____
   d. Utilities
      i. Electrical ☐ Locate company called
         ☐ Locate performed Confirmation #: _____
         ☐ No overhead power lines
      ii. Telephone ☐ Locate company called ☐ Lines located
      iii. Cable ☐ Locate company called ☐ Lines located
      iv. Water ☐ Shut-off located ☐ Lines located
      v. Other:_____

Comments:

5. Transportation
   a. □ Daily inspection sheets completed for the following vehicles and trailers (list):
   _____
   _____

   b. □ Driver has valid CDL

6. Equipment/operators (on-site)
   a. □ Daily inspection sheets completed for the following equipment (list):
   _____
   _____
   _____

   b. □ Operator certified

   c. Safety equipment (indicate all that apply):
   □ Back-up horn □ Deadman switch □ Belt guards □ GFCI protection

7. Excavation
   a. Depth
   □ Depth less than 4'
   □ Depth greater than 4':
   □ Competent person present (name):_____
   □ Soil analysis performed

OSHA Type	Soil Type	Indicators	Comp. strength (tsf)
□ **Type A**	□ Rocky □ Clay □ Silty clay □ Sandy clay □ Clay loam	□ Not fissured □ Not disturbed □ No layers that are not Type A □ Not subject to vibration	≥1.5:1 tsf □ Tested Method:_____
□ **Type B**	□ Silt □ Silty loam □ Sandy loam □ Crushed rock	□ Previously disturbed – Not Type C □ Fissured Type A □ Subject to vibration Type A □ Type A unstable rock	>0.5 tsf *and* < 1.5 tsf □ Tested Method:_____
□ **Type C**	□ Gravel □ Sand □ Loamy sand	□ Fissures □ Porous soil □ Vibration □ Water freely seeping □ Submerged soil □ Submerged unstable rock	≤0.5 tsf □ Tested Method:_____

Comments:

   b. Protective system:
   □ NA (less than 4') □ NA (4-5 feet in stable soil) □ Sloping □ Benching
   □ Shoring □ Shielding

   c. Egress present:
   □ NA (less than 4') □ Ramps □ Ladder(s) 3' higher than (one rung above) surface

   d. Stability of adjacent structures (undercutting):
   □ N.A. □ Support system in place □ Excavation in stable rock

   □ Registered professional engineer verification of no risk (Seal)

   Engineer: _____ License No. _____
   Date of inspection: _____

e. Water accumulation
□ N.A. (No water) □ Water removal (Dewatering)
□ Use of protective systems □ Safety harness/lifeline

f. Clear line of site (protection in place):
□ Guardrails □ Fences □ Barricades □ Stop logs □ Cover
□ Other: _____

g. Excavated material:
□ N.A. □ Spoil pile two feet back from excavation □ Scaling

h. Re-inspection required (indicate reasons for re-inspection):
□ NA □ Rainstorm □ Excessive traffic
□ Other: _____

8. Confined space

a. Hazardous atmospheres:
□ N.A.: (Oxygen >19.5%, Depth < 4 feet, No flammable gas)
□ Confined space (O_2 testing) (If no testing, 1 ½:1 ratio sloping required)

b. Emergency rescue equipment
□ Breathing apparatus □ Safety harness and line □ Basket stretcher

9. Materials hazards
□ MSDS Sheets for all materials on-site and accessible

10. Ground surface spill response
□ NA □ Barricade/physical barrier □ Lime applied
□ Regulatory authority notified (indicate agency): _____

11. Additional safety hazards identified:
_____ □ Crew notified Date:_____
_____ □ Crew notified Date:_____
_____ □ Crew notified Date:_____
_____ □ Crew notified Date:_____
_____ □ Crew notified Date:_____
_____ □ Crew notified Date:_____
_____ □ Crew notified Date:_____
_____ □ Crew notified Date:_____
_____ □ Crew notified Date:_____

Comments:

OSHA: Occupational Safety and Health Administration
PPE: Personal protective equipment
CDL: Commercial driver's license
MSDS: Material safety data sheet
tsf: tons per square foot

PASEO/PSMA Installation of Onsite Wastewater Systems Checklist

Form 6.1 Installation checklist: Planning.

Client name: _____ Reference #: _____
Permit(s) #: _____
Completed by: _____ Time: _____ Date: _____

1. Initial design/plan review (office):
   a. Plan provided ☐ Yes ☐ No
      ☐ Approved ☐ Draft ☐ Includes special considerations
   b. Plan complete ☐ Yes ☐ No
      ☐ All components specified ☐ Component size specified
      ☐ Component location specified ☐ Maintainability of components
   c. Soil and site evaluation report attached ☐ Yes ☐ No
   d. Hydraulic loading specified ☐ Yes ☐ No
      Design flow: _____ gal per day
      Peak flow: _____
   e. Organic loading specified ☐ Yes ☐ No
      ☐ Residential (assumed) _____ ☐ Commercial (assumed)
      ☐ Specification: _____ (mg/L or lbs. BOD/TSS/FOG per day)
   f. Tank buoyancy calculation provided ☐ Yes ☐ No
   g. Treatment train components:
      Tanks:
      ☐ Septic/Trash/Processing (tank): _____ ☐ Pump: Timed dosed system: _____
      ☐ Pump: Demand dosed system: _____ ☐ Holding tank: _____
      ☐ Dosing tank(s): _____ ☐ Other: _____

      Advanced treatment components:
      ☐ Disinfection unit: _____ ☐ Aerobic treatment unit: _____
      ☐ Constructed wetland: _____ ☐ Media filter: _____
      ☐ Other: _____

      Final treatment and dispersal components:
      ☐ Trench/Bed – gravity: _____ ☐ Drip field: _____
      ☐ Evapotranspiration bed: _____
      ☐ Trench/Bed – Low pressure distribution: _____ ☐ Spray field: _____
      ☐ Mound system: _____
      ☐ Bottomless media filter: _____ ☐ Other: _____
   h. Electrical service
      ☐ Single-phase 120V ☐ Single-phase 240V
      ☐ 3-phase 240/120V ☐ 3-phase 208/120V
   i. Is design constructible? ☐ Yes ☐ No
      ☐ Treatment train components available

2. Site review (at site with plan)
   a. Planning document matches site ☐ Yes ☐ No
   b Topography evaluation
      i. Does topography limit construction? ☐ Yes ☐ No
      ii. Intended area for treatment system is:
      ☐ Water shedding ☐ Water gathering
   c. Drainage: ☐ Surface/gravity ☐ Subsurface/gravity ☐ Subsurface/pump

Comments:

Comments:

d. Monitoring well present ☐ NA ☐ Yes ☐ No

e. Drinking water source identified ☐ NA ☐ Yes ☐ No

f. Existing improvement constraints ☐ NA ☐ Yes ☐ No
if yes, please describe:_____

g. Vegetation / Obstruction management ☐ Yes ☐ No
if yes, please describe:_____

h. Tree/landscaping removal requirements ☐ Yes ☐ No
if yes, please describe:_____

i. Soil condition limitations ☐ Yes ☐ No
if yes, please describe:_____

j. Soil treatment area(s) clearly marked & protected ☐

k. Plumbing stub-out elevation ☐ Existing_____ ☐ From design _____

l. Site layout allows for:
- ☐ Construction access
- ☐ Maintenance access
- ☐ Topography does not hamper construction
- ☐ Horizontal separations match design
- ☐ Vertical separations match design
- ☐ Components/parts located in traffic zones

If no, please describe:_____

m. Electical service verified ☐ Yes ☐ No

3. Owner interview during site/plan review
   a. Homeowner preliminary meeting conducted (date):

   b. Proposed surface improvements identified?
   ☐ Driveways ☐ Buildings ☐ Garden
   ☐ Irrigation system ☐ Landscaping plan ☐ Swimming pools
   ☐ Stormwater plan ☐ Rainwater harvesting ☐ Livestock
   ☐ Other:_____

   c. Limit of disturbance described ☐

   d. Spoil and construction debris management discussed ☐

   e. Identification of neighbors for communication ☐ Yes ☐ No

   f. Return visit for final site grading ☐ Yes ☐ No

   g. O&M and monitoring requirements ☐ Yes ☐ No

   h. Abandonment of existing components ☐ NA ☐ Yes ☐ No
   if yes, please describe: _____

   i. Replacement of existing improvements ☐ NA ☐ Yes ☐ No
   if yes, please describe: _____

4. Components of a bid
   a. Material take-off ☐ Yes ☐ No

   b. Material source identification & costs ☐ Yes ☐ No

   c. Site restoration requirements ☐ Yes ☐ No

   d. Special equipment required ☐ Yes ☐ No

   e. Subcontractors ☐ Yes ☐ No

   f. Regulatory issues ☐ Yes ☐ No

Comments:

Comments:

g. Other site specific items ☐ Yes ☐ No

h. Bonding/Insurance requirements ☐ Yes ☐ No

i. Payment plan specified ☐ Yes ☐ No

5. Construction planning:
   a. Permits received:
      ☐ Type: _____ Permit #:_____
      ☐ Type: _____ Permit #:_____
      ☐ Type: _____ Permit #:_____

   b. Scheduled date for installation:

   c. Utilities line locate ordered ☐

   d. Inspection(s) scheduled ☐

   e. Scheduling of other professionals

☐ Site clearing	☐ Electrician	☐ Excavation
☐ Irrigation	☐ Fencing	☐ Pumping
☐ Spoil removal	☐ Soil/gravel delivery	☐ Landscaper
☐ Surveyor	☐ Crane/lifting contractor	☐ Pot-holing contractor
☐ Arborist	☐ Other: _____	

   f. Cooperation/scheduling with other trades ☐ Yes ☐ No

   g. Component preassembly required ☐ Yes ☐ No

   h. Have components been ordered ☐ Yes ☐ No

   i. Site specific safety plan developed ☐ Yes ☐ No

   j. Bonding/insurance secured ☐ Yes ☐ No

   k. Payment plan implemented ☐ Yes ☐ No

6. Construction staging:
   a. Utilities line located ☐
      Confirmation number(s): _____ Date: _____

   b. Materials storage area clearly defined ☐

   c. Spoils collection area defined ☐

   d. Water available at construction site ☐ Yes ☐ No

   e. Electricity present for testing components ☐ Yes ☐ No

   f. Weather forecast for installation day ☐

   g. Are all components and tools available ☐ Yes ☐ No

7. Job scheduling:
   a. Construction notification to local regulatory entity ☐ ☐ NA

   b. Utility marking still valid ☐

   c Needed equipment available for site ☐

   d. Construction materials available for site ☐

   e. Equipment secured for transport to site ☐

   f. Personnel available for construction ☐

   g. Weather conditions appropriate for construction ☐

8. Job staging
   a. Bench mark identified ☐
   b. Property lines identified ☐
   c. Utility location verified ☐
   d. Topography/drainage pattern verified ☐
   e. Plumbing stub-out elevation verified at _____
   f. System components staked out and verified ☐
   g. Horizontal set-backs verified ☐

☐ Private wells	_____ ft	☐ Water lines	_____ ft	☐ Sharp slopes	_____ ft
☐ Public wells	_____ ft	☐ Easements	_____ ft	☐ Surface water	_____ ft
☐ Property lines	_____ ft	☐ Structures	_____ ft	☐ Swimming pools	_____ ft
☐ Wetlands	_____ ft				

☐ Other: _____

9. Final inspection plan: _____
_____
_____

PASEO/PSMA Installation of Onsite Wastewater Systems Checklist

Form 8.1 Installation checklist: Piping.

Client name: _____ Reference #: _____
Permit(s) #: _____
Completed by: _____ Time: _____ Date: _____

1. Plumbing piping (stub-out)
   a. Type _____
   b. Diameter _____ in.
   c. Elevation _____
   d. Cleanouts ☐ Yes ☐ No
   e. Connection method to piping _____
   f. Flow ☐ Gravity ☐ Pressure ☐ Combination

2. Pipe to first tank (building sewer)
   a. Type _____
   b. Diameter _____ in.
   c. Total length _____ ft.
   d. Cleanouts ☐ Yes ☐ No
      i. Method: ☐ Single direction ☐ Two directional
      ii. Number: _____
   e. Elevation
      i. Flow ☐ Gravity ☐ Pressure ☐ Combination
      ii. Beginning: _____
      iii. Entering tank: _____
      iv. Slope ☐ 1" in 8' ☐ 1" in 4' ☐ Other _____
      v. Slope break in pipe ☐ NA
         A. Elevation drop _____ in.
         B. Method of grade adjustment _____
         C. Number of grade adjustments _____
         D. Cleanout at top of grade adjustment ☐
   f. Insulated ☐ NA ☐ Yes, method: _____
   g. Pipe cutting
      i. Method: ☐ PVC pipe cutter ☐ Hand saw ☐ Chop saw
      ii. Cuts do not compromise diameter ☐
      iii. Cut ends:
         A. Cut square ☐
         B. Free of ridges ☐
         C. Deburred ☐
         D. Beveled ☐
   h. Embedment method
      i. Foundation ☐ NA
         A. Material: _____
         B. Depth: _____
         C. Compaction method: _____
      ii. Bedding
         A. Material: _____
         B. Depth: _____
         C. Compaction method: _____
      iii. Haunching
         A. Material: _____

Comments:

B. Depth: _____
C. Compaction method: _____

iv. Initial backfill
A. Material: _____
B. Depth: _____
C. Compaction method: _____

v. Final backfill
A. Material: _____
B. Depth: _____
C. Compaction method: _____

i. Connections
i. Method: □ Solvent weld □ Threaded □ Mechanical joints □ Gasket Other: _____

ii. If solvent weld:
A. Weather conditions _____
B. Primer used
Brand/type: _____
C. Glue
Brand/type: _____
Set/cure time: _____
D. Appropriate glue used for pipe specifications and weather conditions □

iii. If threaded connection:
A. Thread connection tape used □
B. Method used to tighten _____

j. Pressure tested □ NA □ Yes

3. Pipe between tanks
a. Type _____
b. Diameter _____ in.
c. Total length _____ ft.
d. Cleanouts □ Yes □ No
i. Method □ Single direction □ Two directional
ii. Number: _____
e. Elevation
i. Flow □ Gravity □ Pressure □ Combination
ii. Exiting tank: _____
iii. Entering tank: _____
iv. Slope □ 1" in 8' □ 1" in 4' □ Other: _____
vi. Slope break in pipe □ NA
A. Elevation drop _____ in.
B. Method of grade adjustment _____
C. Number of grade adjustments _____
D. Cleanout at top of grade adjustment □
f. Insulated □ NA □ Yes, method: _____
g. Pipe cutting
i. Method: □ PVC pipe cutter □ Hand saw □ Chop saw
ii. Cuts do not compromise diameter □
iii. Cut ends:
A. Cut square □
B. Free of ridges □
C. Deburred □
D. Beveled □

Comments:

h. Embedment method
   i. Foundation ☐ NA
      A. Material: _____
      B. Depth: _____
      C. Compaction method: _____
   ii. Bedding
      A. Material: _____
      B. Depth: _____
      C. Compaction method: _____
   iii. Haunching
      A. Material: _____
      B. Depth: _____
      C. Compaction method: _____
   iv. Initial backfill
      A. Material: _____
      B. Depth: _____
      C. Compaction method: _____
   v. Final backfill
      A. Material: _____
      B. Depth: _____
      C. Compaction method: _____

i. Connections
   i. Method: ☐ Solvent weld ☐ Threaded ☐ Mechanical joints ☐ Gasket ☐ Other: _____
   ii. If solvent weld:
      A. Weather conditions _____
      B. Primer used ☐
         Brand/type: _____
      C. Glue
         Brand/type: _____
         Set/cure time: _____
      D. Appropriate glue used for pipe specifications and weather conditions ☐
   iii. If threaded connection:
      A. Thread connection tape used ☐
      B. Method used to tighten _____

4. Pipe to final treatment and dispersal
   a. Type _____
   b. Diameter _____ in.
   c. Total length _____ ft
   d. Cleanouts ☐ Yes ☐ No
      i. Method: ☐ Single direction ☐ Two directional
      ii. Number: _____
   e. Elevation
      i. Flow ☐ Gravity ☐ Pressure ☐ Combination
      ii. Exiting tank: _____
      iii. Entering tank: _____
      iv. Slope ☐ 1" in 8' ☐ 1" in 4' ☐ Other: _____
      v. Slope break in pipe ☐ NA
         A. Elevation drop _____ in.
         B. Method of grade adjustment _____
         C. Number of grade adjustments _____
         D. Cleanout at top of grade adjustment ☐

Comments:

f. Insulated ☐ NA ☐ Yes, method: _____

g. Pipe cutting
   i. Method: ☐ PVC pipe cutter ☐ Hand saw ☐ Chop saw
   ii. Cuts do not compromise diameter ☐
   iii. Cut ends:
      A. Cut square ☐
      B. Free of ridges ☐
      C. Deburred ☐
      D. Beveled ☐

h. Embedment method
   i. Foundation ☐ NA
      A. Material: _____
      B. Depth: _____
      C. Compaction method: _____
   ii. Bedding
      A. Material: _____
      B. Depth: _____
      C. Compaction method: _____
   iii. Haunching
      A. Material: _____
      B. Depth: _____
      C. Compaction method: _____
   iv. Initial backfill
      A. Material: _____
      B. Depth: _____
      C. Compaction method: _____
   v. Final backfill
      A. Material: _____
      B. Depth: _____
      C. Compaction method: _____

i. Connections
   i. Method: ☐ Solvent weld ☐ Threaded ☐ Mechanical joints ☐ Gasket Other: _____
   ii. If solvent weld:
      A. Weather conditions _____
      B. Primer used ☐
         Brand/type: _____
      C. Glue
         Brand/type: _____
         Set/cure time: _____
      D. Appropriate glue used for pipe specifications and weather conditions ☐
   iii. If threaded connection:
      A. Thread connection tape used ☐
      B. Method used to tighten _____

j. If pressure, thrust blocks used ☐ NA ☐ Yes ☐ No

k. Sleeved in larger diameter pipe ☐ NA ☐ Yes, Type: _____

l. Pressure tested ☐ NA ☐ Yes

5. Recirculation or return pipe ☐ NA ☐
   a. Type _____
   b. Diameter _____ in.
   c. Total length _____ ft
   d. Cleanouts ☐ Yes ☐ No

Comments:

i. Method ☐ Single direction ☐ Two directional

ii. Number: _____

e. Elevation

i. Flow ☐ Gravity ☐ Pressure ☐ Combination

ii. Exiting tank: _____

iii. Entering tank: _____

iv. Slope ☐ 1" in 8' ☐ 1" in 4' ☐ Other: _____

f. Insulated ☐ NA ☐ Yes, method: _____

g. Pipe cutting

i. Method: ☐ PVC pipe cutter ☐ Hand saw ☐ Chop saw

ii. Cuts do not compromise diameter ☐

iii. Cut ends:

A. Cut square ☐

B. Free of ridges ☐

C. Deburred ☐

D. Beveled ☐

h. Embedment method

i. Foundation ☐ NA

A. Material: _____

B. Depth: _____

C. Compaction method: _____

ii. Bedding

A. Material: _____

B. Depth: _____

C. Compaction method: _____

iii. Haunching

A. Material: _____

B. Depth: _____

C. Compaction method: _____

iv. Initial backfill

A. Material: _____

B. Depth: _____

C. Compaction method: _____

v. Final backfill

A. Material: _____

B. Depth: _____

C. Compaction method: _____

i. Connections

i. Method: ☐ Solvent weld ☐ Threaded ☐ Mechanical joints ☐ Gasket Other: _____

ii. If solvent weld:

A. Weather conditions _____

B. Primer used ☐

Brand/type: _____

C. Glue

Brand/type: _____

Set/cure time: _____

D. Appropriate glue used for pipe specifications and weather conditions ☐

iii. If threaded connection:

A. Thread connection tape used ☐

B. Method used to tighten _____

Comments:

PASEO/PSMA Installation of Onsite Wastewater Systems Checklist

Form 8.2. Installation checklist: Tanks **Form _____ of _____**
Note: A separate checklist should be included for each tank installed.

Client name: _____ Reference #: _____
Permit(s) #: _____
Completed by: _____ Time: _____ Date: _____

1. Tank description
   a. Type of tank:
      □ Septic tank □ Trash tank □ Grease trap □ Processing tank
      □ Holding tank □ Pump tank □ Siphon tank
      □ Surge/Flow equalization tank □ Recirculation tank
   b. Manufacturer: _____
      Model #: _____
   c. Material:
      □ Concrete □ Fiberglass □ Plastic/Poly
      □ Other: _____
   d. Manufacturer's load-bearing rating: _____ (psf or maximum burial depth)
   e. Tank dimensions and capacities:
      Exterior dimensions: _____ Interior dimensions: _____
      Exterior height of inlet invert: _____
      Exterior height of outlet invert: _____
      Effective depth: _____in. Total tank capacity: _____ gal
      Gallons per inch (gpi): _____gal/in.
      Compartmented: □ NA □ Yes □ No
      Capacities of compartments: 1)_____ gal 2) _____ gal
      If compartmented dosing tank, wall rated: □ NA □ Yes □ No
      Multiple tanks: □ NA □ Yes □ No
      Capacities of multiple tanks: 1)_____ gal 2) _____ gal
   f. Tank seam
      Location: □ NA □ Mid □ Top
      Sections joined:
      □ Pre-delivery by supplier □ Onsite by supplier □ Onsite by installer
      Tank sealant(s) used:
      □ Butyl mastic □ Butyl tapes wrap □ Two-part epoxy
      □ Two-part epoxy and stainless fasteners □ Other:_____
   g. □ Tank structural integrity verified prior to setting
2. Excavation/ Setting tank
   a. Stake location of tank(s) □
   b. Verify required inlet/outlet elevations □
   c. Water present in excavation □ Yes □ No
      □ If yes, dewatering performed during construction
   d. Bottom of excavation Elevation: _____ft
      □ Level □ Free of rock or debris
   e. Bedding material □ NA
      □ Description:_____ Depth: _____in.
      □ Free of clods, large rocks, frozen matter and debris
      □ If washed rock bedding, migration of fines has been managed
      □ Compacted □ NA □ Yes □ No
   f. Tank oriented correctly □
   g. Structural integrity of tank verified □
   h. Tank installed level □ Yes □ No

Comments:
(Indicate if photographs were taken)

3. Insulation ☐ NA
   - ☐ Tank Type:_____
   - ☐ Access riser Type:_____
   - ☐ Lid Type:_____

4. Floatation (buoyancy) prevention
   a. Buoyancy calculation provided on design ☐ Yes ☐ No
   b. Anti-floatation implemented: ☐ NA ☐ Yes ☐ No
      - ☐ Tank collar
      - ☐ Dead man
      - ☐ Other: _____

5. Backfill
   a. Backfill material:_____
      - ☐ If washed rock backfill, migration of fines has been managed
   b. Compacted ☐ NA ☐ Yes ☐ No
   c. Free of clods, large rocks, frozen matter and debris ☐ Yes ☐ No

6. Piping
   a. Piping in appropriate sequence (inlet/outlet) ☐ Yes ☐ No
   b. Pipe specifications (material and nominal diameter)
      - Inlet:
      - Outlet/Supply line: ☐ NA (Holding tank)
      - Return line: ☐ NA
      - Electrical conduit: ☐ NA
   c. Joints in excavated area ☐ Yes ☐ No
   d. Pipes appropriately sleeved in excavated area ☐ NA ☐ Yes ☐ No
      Type of sleeve:
   e. Piping sealed (including electrical conduit) ☐ Yes ☐ No
      Type of sealant:
      - Inlet: _____
      - Outlet/Supply line: _____
      - Return line: ☐ NA
      - Electrical conduit: ☐ NA
   f. Recirculation device ☐ NA ☐ Yes ☐ No
      Type of device: _____

7. Baffles/compartments/vaults
   a. Inlet baffle
      i. Type
      ☐ NA ☐ Sanitary tee ☐ Plate ☐ Wall
      ii. Installation by
      ☐ Manufacturer ☐ Contractor
   b. Outlet baffle
      i. Type
      ☐ NA ☐ Pipe tee or sanitary tee ☐ Plate ☐ Effluent screen
      Model: _____
      Manufacturer: _____
      ii. Installation by
      ☐ Manufacturer ☐ Contractor
   c. Compartment baffles:
      i. Type
      ☐ NA ☐ Tee baffle ☐ Slot ☐ Center hole
      ii. Installation by:
      ☐ Manufacturer ☐ Contractor
      iii. ☐ Verify air passage

Comments: (Indicate if photographs were taken)

d. Solids management ☐ NA
Type:
☐ Shield ☐ Vault with basket ☐ Vault with screen
Manufacturer: _____
Model #: _____

8. Tank access and venting
   a. Access location and size (diameter and depth):
      ☐ Inlet: _____
      ☐ Outlet: _____
      ☐ Center: _____

   b. Access risers and associated lids ☐ Yes ☐ No
      Riser manufacturer: _____
      Model #: _____
      Lid manufacturer: _____
      Model #: _____
      Traffic rated (AASHTO H-20/HS-20) ☐ Yes ☐ No
      Interior access: ☐ Second lid ☐ Grate ☐ Netting ☐ NA

   c. Installation
      ☐ Cast in place
      ☐ Installed by tank manufacturer
      ☐ Installed on the site by the contractor

   d. Sealant used in tank/riser connections ☐ NA ☐ Yes ☐ No
      Type of sealant: _____

   e. Venting
      ☐ Through plumbing stack
      ☐ Tank vent (describe): _____
      ☐ Proprietary filter:
      Filter manufacturer: _____
      Model #: _____

9. Tank watertightness testing:
   ☐ Not required
   ☐ Manufacturer-tested
   ☐ Field tested
   Method: ☐ Water ☐ Vacuum
   Results: ☐ Pass ☐ Fail

10. Septic tank/grease trap/holding tank alarm(s) ☐ NA
    a. High-water alarm(s) present ☐ Yes ☐ No
       ☐ Mechanical non-powered alarm
       ☐ Electrical powered alarm
       Manufacturer: _____
       Model #: _____

    b. Remote telemetry ☐ Yes ☐ No
       Manufacturer: _____
       Model #: _____

11. Final cover
    a. Material: _____

    b. Sloped to allow for settling and shedding water ☐ Yes ☐ No

12. Site stabilization
    ☐ Erosion control measures in place ☐ Topsoil dressed
    ☐ Seeded ☐ Mulched

Comments: (Indicate if photographs were taken)

PASEO/PSMA Installation of Onsite Wastewater Systems Checklist

Form 8.3 Startup checklist: Tanks **Form _____ of _____**

Note: A separate checklist should be included for each tank installed.

Client name: _____ Reference #: _____
Permit(s) #: _____
Completed by: _____ Time: _____ Date: _____

1. Tank description
   a. Type of tank:
      □ Septic tank □ Trash tank □ Holding tank □ Processing tank
      □ Pump tank □ Siphon tank □ Surge/flow equalization tank
      □ Grease trap □ Recirculation tank
   b. Manufacturer: _____
      Model #: _____
   c. Material _____
      □ Concrete □ Fiberglass □ Plastic/Poly
      □ Other: _____
   d. Manufacturer's load-bearing rating: _____ (psf or maximum burial depth)
   e. Tank inside dimensions: _____
   f. Compartmented: □ NA □ Yes □ No
      Capacities of compartments: 1)_____ gal 2) _____gal
      If compartmented dosing tank, wall rated □ NA □ Yes □ No
   g. Multiple tanks □ NA □ Yes □ No
      Capacities for multiple tanks: 1)_____ gal 2) _____gal
   h. Total capacity: _____ gal
   i. Tank effective depth: _____ in.
   j. Gallons per inch (gpi): _____ gal/in.
   k. Sealant visible in tank seams: □ NA □ Yes □ No
   l. Tank level □ Yes □ No
   m. Watertightness testing certification □ NA □ Yes □ No

2. Tank access
   a. Access location: □ Inlet □ Outlet □ Center
   b. Tank access located at grade □ Yes □ No
      If 'No', depth below grade: _____ in.
   c. Risers on tank □ Yes □ No
      Riser manufacturer: _____
      Model: _____
      Lid manufacturer: _____
      Model: _____
      Interior access: □ Second lid □ Grate □ Netting □ NA
      Traffic rated (AASHTO H-20/HS-20) □ Yes □ No
      Diameter: _____
      Depth: _____
   d. Lids secure □ Yes □ No
   e. Lids in operable condition □ Yes □ No

3. Venting:
   a. Tank vents to:
      □ House plumbing stack □ Vent on tank
      □ Access riser □ Lid
   b. Air passage is clear □ Yes □ No

Comments:

4. Baffles/compartments/vaults
   a. Inlet baffle in place/accessible: ☐ NA ☐ Yes ☐ No
      Depth from bottom of baffle to tank bottom: _____ in.
      ☐ If plate, clearance between pipe and baffle: _____ in.
   b. Outlet baffle in place/accessible ☐ NA ☐ Yes ☐ No
      Depth from bottom of baffle to tank bottom: _____ in.
      ☐ If plate, clearance between pipe and baffle: _____ in.
      ☐ If effluent screen:
      Manufacturer: _____
      Model: _____
   c. Compartment baffle/slot in place ☐ NA ☐ Yes ☐ No
      If baffle, is it accessible? ☐ Yes ☐ No
   d. Pump vault ☐ NA
      ☐ Vault with basket
      ☐ Vault with screen
      Manufacturer: _____
      Model: _____

5. Insulation ☐ NA
   ☐ Access riser ☐ Lid

6. Piping
   a. Piping in appropriate sequence/slope (inlet/outlet) ☐ Yes ☐ No
   b. Pipe type entering tank: _____
   c. Pipe type exiting tank: _____ ☐ NA (Holding tank)
   d. Pipe penetrations sealed (including electrical conduit) ☐ Yes ☐ No

7. Tank operating conditions
   a. Liquid level in tank:_____in.
   b. Relative to: ☐ Inlet invert ☐ Outlet invert ☐ Alarm activation level
      Level is: ☐ At ☐ Above ☐ Below

8. Septic tank/grease trap/holding tank alarm(s)
   a. Alarm(s) present ☐ NA ☐ Yes ☐ No
      ☐ Audible alarm operational
      ☐ Visible alarm operational
      Alarm activation depth: (measured from invert of tank inlet): _____in.
      Manufacturer: _____
      Model: _____
   b. Remote telemetry operational ☐ NA ☐ Yes ☐ No
      Manufacturer: _____
      Model: _____

Note: if land line used, it must be/remain active for remote alarm to be operational.

9. Final cover
   a. Depth to top of tank: _____ in.
      ☐ Does not exceed maximum specification
   b. Material: _____
   c. Sloped to allow for settling and shedding water ☐ Yes ☐ No

10. Site stabilization
    ☐ Erosion control measures in place
    ☐ Topsoil dressed
    ☐ Seeded
    ☐ Mulched

Comments:

PASEO/PSMA Installation of Onsite Wastewater Systems Checklist

Form 9.1 Installation checklist: Demand/timed dosed pumps and siphons

Client name: _____ Reference #: _____
Permit(s) #: _____
Completed by: _____ Time: _____ Date: _____

System type: □ Pump □ Siphon

Comments:

1. Control type:
   □ Piggyback □ Control panel □ Siphon counter
   a. Panel □ NA □ Yes □ No
      Manufacturer: _____
      Model: _____
      □ NEMA 4X Panel rating
      Elapsed time meter □ NA □ Yes □ No
      Cycle counter □ NA □ Yes □ No
   b. Timer
      Manufacturer: _____
      Model: _____
   c. Telemetry □ NA □ Yes □ No
      Manufacturer: _____
      Model: _____
2. Pump □ NA □ Yes □ No
   a. Pump manufacturer: _____
      Model: _____
   b. Type of pump: □ Multi-stage □ Single-stage
      □ Sewage □ Effluent □ Grinder
   c. Pump specifications:
      i. Design flow rate: _____ gpm
      ii. Design pressure (TDH): _____ ft
      iii. Horsepower: _____ hp
   d. Pump installed under access □ Yes □ No
   e. Pump intake elevated: Height _____ inches □ Yes □ No
   f. Pump removal
      □ Pull chain or rope installed □ Pump rails installed
      □ Other: _____
   g. Pump vault flow rating: _____ gpm
3. Siphon □ NA □ Yes □ No
   a. Siphon manufacturer: _____
      Model: _____
   b. Siphon capacity: _____ gpm
   c. Siphon installed under access □ Yes □ No
   d. Siphon removable □ Yes □ No
   e. Siphon cycle counter installed □ NA □ Yes □ No
4. Pump discharge assembly
   a. Quick disconnect □ Installed
      Type of disconnect: _____
      Accessible from surface
   b. Isolation valve □ Installed □ NA
      Type of valve: _____
   c. Anti-siphon/air release device □ Installed □ NA
      □ Air release hole between check valve and pump discharge
      □ Reversed check valve at high point in assembly
      □ Spit tube
   d. Drainback allowed □ Yes □ No

e. Inline filter ☐ Installed ☐ NA
Manufacturer: _____
Model: _____

f. Pressure gauge / port ☐ Installed ☐ NA

g. Sampling port ☐ Installed ☐ NA

5. Supply lines and discharge pipes

a. Air/vacuum release ☐ Installed ☐ NA

b. Thrust blocks ☐ Installed ☐ NA

c. Siphon discharge diameter greater than or equal to trap diameter ☐ Yes ☐ No
Grade on siphon discharge pipe ☐ Level ☐ Sloping

6. Water level sensors ☐ NA

a. Type of water level sensor: ☐ Floats ☐ Pressure transducer ☐ Ohm probe ☐ Other: _____

b. Sensor attachment
☐ Tethered to float tree
☐ Tethered to bracket on riser ☐ Other: _____

c. Sensor settings:

Sensor number*	Function	Set at**		Secured
		Inches	Datum	
1				☐ Yes ☐ No
2				☐ Yes ☐ No
3				☐ Yes ☐ No
4				☐ Yes ☐ No
5				☐ Yes ☐ No

**Designate starting from bottom of tank.*
***Measurements are taken from a fixed point (Datum) near the surface or bottom of float tree.*

d. ☐ Pump will be submerged at OFF elevation

7. Wiring ☐ NA

a. Electrical service
☐ Single-phase 120V ☐ Single-phase 240V ☐ 3-phase 240/120V
☐ 3-phase 208/120V

b. Wire gauge: _____ ☐ Adequate for distance

c. ☐ Wire contained within conduit and junction boxes
Conduit sealed ☐ Within panel ☐ Within dosing tank riser
Sealant used: _____

d. ☐ Float wires color-coded:

Sensor number*	Function	Color
1		
2		
3		
4		
5		

e. Connections completed by
☐ Electrician ☐ Installer
☐ Homeowner ☐ Other: _____

Comments:

PASEO/PSMA Installation of Onsite Wastewater Systems Checklist

Form 9.2. Startup checklist: Timed and demand dosed pumps and siphons.

Client name:_____ Reference #: _____
Permit(s) #:_____
Completed by:_____ Time:_____ Date:_____

System type: □ Pump □ Siphon

Comments:

1. Controls □ NA
   a. Type: □ Piggyback □ Control panel
      Manufacturer: _____
      Model: _____
   b. Installation check
      □ Enclosure watertight
      □ Enclosure rated NEMA 4X
      □ Alarm test switch working properly □ NA
      □ Control switch (HAND-OFF-AUTO) operable □ NA
      □ Control switch (HAND-OFF-AUTO) set at:
         □ Auto
         □ Hand/Manual Why:_____
         □ Off Why:_____
      □ Timer operable □ NA
         Timer setting: On Mode setting _____min.
         Off Mode setting _____min. or hr.
      □ Elapsed time meter (ETM) operable □ NA
         Meter reading: _____
      □ Cycle counter operable □ NA
         Counter reading: _____
      □ Telemetry operable □ NA

2. Pump
   a. Pump manufacturer: _____
      Model: _____
   b. Type of pump: □ Multi-stage □ Single-stage
      □ Sewage □ Effluent □ Grinder
   c. Pump specifications:
      i. Design flow rate: _____ gpm
      ii. Design pressure (tdh):_____ft
      iii. Horsepower: _____hp
   d. Pump operable □ Yes □ No
   e. Pump intake elevated: Height_____ in. □ Yes □ No
   f. Pump installed under access □ Yes □ No
   g. Pump removal
      □ Pull chain or rope installed □ Pump rails installed
      □ Other: _____
   h. Pump vault flow rating: _____ gpm □ NA
   i. Electrical considerations (PERFORMED BY QUALIFIED INDIVIDUALS ONLY)
      □ Power supply available
      □ Amps measured: _____ amps
      □ Voltage measured: _____ volts
      □ Electrical service
      □ Single-phase 120V □ Single-phase 240V

☐ 3-phase 240/120V ☐ 3-phase 208/120V
☐ Power supply appropriate for unit
☐ Distance from control panel to disconnect:_____ ft

Comments:

3. Siphon ☐ NA
   a. Siphon operable ☐ Yes ☐ No
   b. Siphon installed under access ☐ Yes ☐ No
   c. Siphon removable ☐ Yes ☐ No
   d. Siphon cycle counter operable ☐ NA ☐ Yes ☐ No

4. Pump discharge assembly components installed
   ☐ Assembly reachable from surface
   ☐ Quick disconnect operable
   ☐ Isolation valve operable ☐ NA
   ☐ Anti-siphon/air release device operable ☐ NA
   ☐ Backflow prevention (check valve) operable ☐ NA
   ☐ Air release located below check valve operable ☐ NA
   ☐ Drainback device operable ☐ NA
   ☐ Inline filter operable ☐ NA
   ☐ Pressure gauge /port operable ☐ NA
   ☐ Sampling port operable ☐ NA

5. Water level sensors
   a. Type of water level sensor: ☐ Floats ☐ Pressure transducers ☐ Ohm probe ☐ Other:_____
   b. Sensor attachment
      ☐ Tethered to float tree
      ☐ Weighted tether from riser
      ☐ Attached to riser
   c. Float tree removable ☐ NA ☐ Yes ☐ No
   d. Pump floats/sensors settings

Sensor number*	Function	Operational	Set at**		Secured
			Inches	Datum	
1		☐ Yes ☐ No			☐ Yes ☐ No
2		☐ Yes ☐ No			☐ Yes ☐ No
3		☐ Yes ☐ No			☐ Yes ☐ No
4		☐ Yes ☐ No			☐ Yes ☐ No
5		☐ Yes ☐ No			☐ Yes ☐ No

*Designate starting from bottom of tank.
**Measurements are taken from a fixed point (“Datum”) near the surface or bottom of float in inches.

Comments:

   e. Alarm float/sensor operates audible alarm ☐ NA ☐ Yes ☐ No
   f. Alarm float/sensor operates visible alarm ☐ NA ☐ Yes ☐ No
   g. Pump submerged at OFF elevation ☐ NA ☐ Yes ☐ No

6. Performance verification
   a. Design parameters (from permit or plans):
      Dosing regime:
      ☐ Demand dosing
      ☐ Timed dosing
      Design volume (DeV):_____

Design Timer settings: ☐ NA
On setting _____ min.
Off setting _____ min. or hr.
Design PDR: _____ gal/min.
Design operating pressure: _____ feet or psi

b. Dose volume (DV) verification
   i. Calculate design drawdown (inches)

   _____ [DeV (gal.)] ÷ _____ gal/in. = _____Design drawdown (in.)

   ii. Verify DV during a dosing event
   Method to activate pump: ☐ Water added/pump in AUTO ☐ Lifted float

   Pump run time during dosing event: _____ min.

   Measured drawdown during dosing event:

   _____ Pump off (in.) – _____ Pump on (in.) = _____ Measured drawdown (in.)

   Calculate measured DV

   _____ Measured drawdown (in.) x _____ gal/in. = _____ Measured DV (gal.)

   Subtract drainback volume if appropriate:

   _____ Measured DV (gal.) - _____ Drainback volume (gal.) = _____ Net DV (gal.)

c. Timer setting verification ☐ NA
   i. Timer operation verified ☐
   ii. Method of verification: _____

d. Pump delivery rate (PDR) verification
   i. Measured DV (from Item 6a ii): _____ gal.
   ii. Verified pump run time _____ min.
   iii. Measured PDR: _____ gal. pumped ÷ _____ min. = _____ gal/min.

e. System pressure verification
   i. Measured operating pressure: _____feet or psi
   ii. Measurement location: _____

ETM: elapsed time meter
DeV: design dose volume
DV: dose volume
gpi: gallons per inch
gpm: gallons per minute
HAND-OFF-AUTO: Hand-Off-Auto Switch
PDR: pump delivery rate
psi: pounds per square inch