REQUEST FOR QUOTE (RFQ)

Chesapeake Conservancy is a non-profit organization that works with conservation partners and landowners to implement Best Management Practices (BMPs) on agricultural land. Chesapeake Conservancy and our Central PA Partnership were awarded a Regional Conservation Partnership Program (RCPP) grant through the USDA Natural Resources Conservation Service (NRCS). Funding for Technical Assistance for practice design and assistance with practice installation and verification is available through RCPP.

As part of the RCPP grant, Chesapeake Conservancy is soliciting quotes for the following services:

- Engineering Services to design a roofed animal mortality facility, heavy use area protection and associated practices for a Concentrated Animal Feeding Operation (CAFO) hog operation.
- Project and Construction Oversight
- Quality Assurance Inspections and Final Certification with PE Stamp

RFQ OVERVIEW AND DESCRIPTION OF WORK

RFQ Release Date: October 1, 2024

Landowner Name: James Showers

Project Location: 767 Gray Hill Road
New Columbia, PA 17856
Union County, White Deer Township

RFQ Issuing Office: Chesapeake Conservancy
Email: paprograms@chesapeakeconservancy.org
Phone: 570-372-4075

RCPP Partners: Natural Resources Conservation Service (NRCS) and Union County Conservation District

RFQ Due Date: **All quotes must be submitted by:**
October 31, 2024 at 10:00 am EDT
Quotes will not be accepted after this date and time.

RFQ Submission: **All quotes must be submitted electronically, or hand delivered in-person.**
DO NOT MAIL QUOTES – QUOTES WILL NOT BE ACCEPTED THROUGH U.S. MAIL.

Email: paprograms@chesapeakeconservancy.org
Include "Showers RFQ Response – Engineering Services" in the subject line.

In Person: Chesapeake Conservancy
Attention: Kathy Rohrer/Showers RFQ Response – Engineering Services
Susquehanna University, Freshwater Research Institute Building
1250 West Sassafras Street, Selinsgrove, PA 17870
A drop box is located inside the main entrance and is accessible at any time.

Questions: All questions regarding this RFQ should be submitted to:
Email: paprograms@chesapeakeconservancy.org
Contact/Phone: Kathy Rohrer, 570-372-4075

Project Description:

The successful bidder will be responsible for providing engineering and professional services to design and oversee construction of a roofed animal mortality facility for a Concentrated Animal Feeding Operation (CAFO) hog operation. The project involves construction of a new roofed facility with concrete composting bins as well as heavy use area protection, access road and other Best Management Practices (BMPs). The landowner will remove the existing composting facility but the concrete pad will remain. The new facility is to be placed against the existing concrete pad and will be a stand-alone structure that is not attached to an existing building. Hogs are processed off the premises. There are no streams on the property. The landowner has an existing Nutrient Management Plan.

The Inventory and Evaluation (I&E) completed by NRCS, presented the landowner with two options: 1) rotary drum composter or 2) composting bins. Attachment A – Showers NRCS Inventory and Evaluation (I&E), contains information for both options. *The landowner has chosen to install composting bins, therefore the information in the I&E pertaining to the rotary drum composter should be disregarded.* **Bidders should base their proposal on installing composting bins.**

The design shall include all components needed for constructing composting bins that will adequately address water quality. BMPs may include but are not limited to those identified in the landowner's I&E (Attachment A). Bidders should refer to the I&E for practices, estimated quantities and other important information about the project site. This information is provided for informational purposes only.

A wetland determination was completed by NRCS. The area planned for the animal mortality facility is designated as a non-wetland.

This contract will include the following services:

Project Design

- Site survey(s) and engineering of planned BMPs
- Provide a concept plan for approval by NRCS after pre-design meeting
- Coordinate and communicate with NRCS staff to incorporate NRCS comments into final design
- Provide final design and drawings to NRCS for review and approval
    - The Engineer shall prepare all necessary design plans, drawings and specifications to be used for the construction of the BMPs. All information provided shall be complete in detail and contain all necessary information. Drawings shall conform with standard professional practice, including site plans, profiles and sections, erosion and sediment control plan, quality assurance/inspection plan, operation and maintenance plan and all details necessary to illustrate the complete scope of the work.
    - The Engineer shall include design calculations, documentation and cost estimate.
    - The design and drawings shall be signed and sealed by a qualified, licensed professional, and shall meet Pennsylvania Technical Guide Standards and Specifications.
- Provide NRCS approved design and drawings to the Conservancy, RCPP Partner (Conservation District) and landowner
- Provide NRCS technical standards and specifications of planned BMPs
    - Planned BMPs and estimated quantities are found in Attachment A.
- Provide printed sets of 11"x17" or larger drawings and designs for the site showing. Quantity will be determined based on number of attendees.

Project Permits

The landowner will be responsible for applying for and obtaining all permits required for this project.

Project Meetings

Project meetings including but not limited to:

- Pre-design meeting on site
- Site showing for bids on site
- Bid opening or review of bids
- Pre-construction visit on site

Construction Oversight and Quality Assurance

The Engineer is expected to furnish customary engineering advice and assistance necessary to Chesapeake Conservancy, NRCS, landowner, contractors and other project partners to enable all parties to readily understand the project and design. The Engineer shall provide oversight of the project and shall coordinate with Chesapeake Conservancy, NRCS, landowner, contractors and other partners throughout the project. The Engineer is expected to work directly with NRCS and the landowner on such things as design reviews, edits and approvals, site visits and other aspects of the project. The Engineer shall visit the construction site to observe progress and quality of work, to determine if work is proceeding in accordance with the design, to keep Chesapeake Conservancy informed of progress, to guard against defects and deficiencies and to disapprove of work not in conformance with the design and NRCS specifications.

The Engineer will, at a minimum, conduct quality assurance inspections on site during construction for critical tasks including, but not limited to:

- Placing compacted fill or subgrade/stone preparation
- Checking materials (rebar, posts, etc.) before installation
- Check reinforcing steel before concrete pour (not same day as pour)
- Pouring any concrete
- Backfilling poured concrete walls or final grading
- Setting trusses and associated truss bracing (Trusses must be approved by the Engineer prior to ordering. Final truss design needs a P.E. seal.)
- Installing stormwater pipes and drop boxes
- Final inspection for conformity with design, concept and NRCS specifications

Contractor will complete a NRCS RCPP TA-I Practice Certification Sheet (included with Attachment B) for each practice (Contract Item Number-CIN) in the NRCS contract that is part of the engineering design. An example Practice Certification Sheet has been provided by NRCS. The Contractor shall send the completed Practice Certification Sheet(s) to the local NRCS District Conservationist (DC) for functional review and DC signature and copy the Conservancy. NRCS will complete its review and return the signed Practice Certification Sheet(s) to the Contractor. The signed Practice Certification Sheet(s) shall be submitted to the Conservancy with the Contractor's invoice.

When the project is complete, the Engineer will provide the following:

- "As Built" documentation consisting of final drawings of practices and quantities installed and certification statement signed by a professional engineer stating installed practices meet the PA Technical Guide Standards and Specifications.
    - One electronic copy to Chesapeake Conservancy and NRCS.

Bidding Process

The Union County Conservation District (lead RCPP partner) will be required to utilize a bidding process for the implementation phase of the project. The Conservation District will be responsible for compiling a bid package following their procurement policy. The Engineer and NRCS will review the final bid package for accuracy and completeness. The Engineer shall be available to answer contractors' questions pertaining to the design and supply the District with addenda, if required. The Engineer shall be prepared to provide printed sets of 11"x17" or larger of the designs and drawings for the site showing.

RFQ TERMS AND CONDITIONS

CONSTRUCTION TIMELINE:

Designs shall be completed as soon as possible. Contractors shall include with their response when they can begin working on the design and their projected completion date of the design. Preference shall be given to contractors who can complete the designs in a timeframe which could allow construction to be completed before June 2026 as funding from the RCPP partner for implementation/construction needs to be spent within this timeframe.

If the contracted services are not completed within the designated time period (as specified in the resulting contract from this RFQ), the contract can be extended if agreed to in writing by Chesapeake Conservancy and the contractor.

PA ONE CALL:

Contractor shall follow all laws and regulations relating to the Pennsylvania One-Call System including submitting all required design notifications to the Pennsylvania One-Call System.

COMMUNICATION:

Communication between the Contractor, NRCS, the District and the landowner is crucial to a successful project. Contractor shall work closely with NRCS, the District and the landowner during the design and implementation phases of the project to ensure the project is completely timely.

PAYMENT INFORMATION:

Chesapeake Conservancy will pay Contractor when the design is completed and approved by NRCS and as practices are certified and NRCS reporting requirements are met. Payment(s) will be issued on a Net 30 schedule upon submission of an approved invoice and a completed Application for Payment form.

NRCS REPORTING REQUIREMENTS:

NRCS requires Contractor to complete Attachment B with each invoice. Attachment B includes a RCPP TA-I Certification by Practice Sheet and a RCPP TA-I Reimbursement Summary Sheet.

RCPP TA-I Certification by Practice Sheet

Contractor shall include on the Certification by Practice Sheet basic information about the conservation practice, who was involved, brief description of activities, completion date and the charge by Activity Type (Design or Installation). A separate Certification Practice Sheet is to be completed for each practice in the producer's RCPP contract that is associated with the engineering design.

RCPP TA-I Reimbursement Summary Sheet

For each invoice the Contractor submits to the Conservancy, Contractor shall complete the Reimbursement Summary Sheet by compiling the total reimbursement request for all completed Conservation Practice Sheets for the invoice period. The Reimbursement Summary Sheet shall include the invoice period start and end date, details from the Certification Practice Sheet as well as the total cost being invoiced by conservation practice. The staff position, hours worked and hourly rate associated with each conservation practice should be broken out at the bottom of the form.

EQUAL EMPLOYMENT OPPORTUNITY:

Chesapeake Conservancy is an equal opportunity employer. The successful bidder shall comply with all federal, state, and local equal employment opportunity requirements. Additional information can be found at https://www.ecfr.gov and searching 41 CFR 60-1.4(b).

SMALL BUSINESS AND SMALL DIVERSE BUSINESS:

Chesapeake Conservancy encourages the use of small and small diverse businesses when soliciting Requests for Quotes. Contractors are encouraged to register with the federal government at www.sam.gov and with the Pennsylvania Department of General Services at www.dgs.pa.gov (search Small Diverse Business Verification). Please note Pennsylvania Department of General Service registration is only valid for three years. Contractors are encouraged to verify that their registration is current.

Contractors and any subcontractors who register on Sam.gov and with the PA Dept of General Services and who qualify as a small and/or small diverse business should check the applicable boxes on the Contractor Response Form.

DEBARMENT AND TAX LIABILITY:

Contractors will be required to certify that they and any subcontractors are not listed on the Debarment and Suspension List maintained by the Pennsylvania Department of General Services (https://www.dgs.internet.state.pa.us/debarmentsearch/debarment/index) and the General Services Administration's List of Parties Excluded from Federal Procurement or Nonprocurement Programs (www.SAM.gov) in accordance with Executive Orders 12549 and 12689, "Debarment and Suspension" and have no outstanding tax liabilities. Contractors will also be required to certify that they and any subcontractors are not in default of a loan or funding agreement administered by any Commonwealth agency.

INSURANCE REQUIREMENTS:

Bidders shall include a copy of their current Certificate of Insurance (COI) that reflects their existing levels of liability insurance coverage. Chesapeake Conservancy will work with the successful bidder to ensure adequate levels of insurance are in place for the project prior to finalizing a contract.

Preferred levels of coverage include the following:

Type of Insurance Coverage	***Limit Required***
Workers Compensation and Employer's Liability -	Statutory
Bodily Injury, Each Accident:	State Minimum
Bodily Injury By Disease, Each Employee:	State Minimum
Bodily Injury/Disease, Policy Limit:	State Minimum
General Liability -	
Each Occurrence (Bodily Injury and Property Damage):	$1,000,000
General Aggregate:	$1,000,000
Excess or Umbrella Liability -	
Per Occurrence:	$1,000,000
General Aggregate:	$2,000,000
Automobile Liability -	
Combined Single Limit (Bodily Injury and Property Damage):	$1,000,000
Professional Liability – covering negligent acts, errors, and omissions in performance of professional services	
Each Claim Made	$5,000,000
Annual Aggregate	$5,000,000

It is preferred that all policies (except workers compensation) include a waiver of subrogation and list "**Chesapeake Conservancy"** as additional insured.

Once Chesapeake Conservancy and the successful bidder have reached an agreement pertaining to insurance coverage, the successful bidder shall provide Chesapeake Conservancy with a current COI certified by a licensed insurance broker. The approved COI needs to be provided to Chesapeake Conservancy prior to signing a contract.

Note: Bidders do not need to add the additional insured to their policy when responding to the RFQ. Only the successful bidder will be required to name the additional insured on their policy after the bid is awarded. The Certificate Holder should be as follows: Chesapeake Conservancy, 1212 West Street, Suite 42, Annapolis, MD 21401.

GRANTS:

The terms and conditions of the RCPP Supplemental Agreement for Technical Assistance and Financial Assistance for Easement Due Diligence Entered Into By USDA Natural Resources Conservation Service and Chesapeake Conservancy apply to the contracts that result from this RFP. Copies of the Agreement are available upon request.

PREVAILING WAGE AND ENHANCED MINIMUM WAGE REQUIREMENTS:

Prevailing wage and enhanced minimum wage rates do not apply to this RFQ.

SUBMISSION OF QUOTES AND SELECTION CRITERIA

SUBMISSION OF QUOTES:

Quotes are requested for the items described in the Project Description. Any estimated quantities included in this RFQ are for information only. The successful bidder will be responsible for determining the final quantities and practices as part of the design process.

At a minimum each quote response must include:

- Contractor Quote Form
  - Price – Must follow NRCS Crosswalk format outlined below*
  - Proposed start date
  - Proposed completion date
  - List of exclusions and assumptions (if applicable)
  - Signed by authorized representative
- Contractor General Information Form and corresponding documents**
  - Three references
  - Debarment and tax liability certification
  - Current Certificate of Insurance
  - Signed by authorized representative

Contractors bidding on more than one 2024 RCPP Engineering Services RFQ, will only need to submit one Contractor General Information Form and corresponding documents. Contractors should note on the Contractor Quote Form whether they are including the Contractor General Information Form with this response or if they submitted it with a separate 2024 RCPP Engineering Services response.

All quotes must be submitted electronically, or hand-delivered to Chesapeake Conservancy by the RFQ due date specified on Page 1 of the RFQ.

***NRCS Crosswalk**

A Generalized Crosswalk: Aligning SA TA-I Practices to NRCS 9 Step Planning Process	
TA-I Practice Code and Name	**Implementation TA Tasks – Must be directly related to a potentially viable RCPP funded FA application or contract, and not be otherwise precluded like are TA-E items (per APF), and partner administrative expenses (per Statute.)**
RTIP001 – TA-I, Negotiated Pre-Application	Pre-application assistance may assistance to producers in completion of application, establishing FSA records, and or field work to support eligibility or screening. **(Reminder: this activity does NOT include outreach to producers or general meetings to raise producer awareness of project, which are TA-E or contribution tasks.)**
RTIP002 – TA-I, Negotiated Planning	Steps 1-7 Note: TA-I Planning, Design tasks require adherence to NRCS planning procedures and or practice standards as described for each agreement in Attachment 5 (and or valuation methods attached to individual deliverables). Where partners will not complete entity of a plan or design (e.g. partner will provide a range heath assessment in support of a grazing plan to be prepared by NRCS planner), Attachment 5 must also identify specific requirements of items partner will complete to earn payment.
RTIP003 – TA-I, Negotiated Design	Steps 5, 6, 8 (Design)
RTIP004 – TA-I, Negotiated Installation	Step 8 (Installation)
RTIP005 – TA-I, Negotiated Checkout	Step 8 (Checkout) Note: TA-I Checkout, requires NRCS job approval authority as checkout determines eligibility of completed work for FA payment. Not generally delegated to partners.
RTIP006 – TA-I, Negotiated Post-Application	For post-application assistance Note: Post application assistance is not outcome assessment or monitoring (which are TA-E/Contribution tasks); RTIP006 should be used only where NRCS FA policy requires follow-up e.g. easement monitoring, 5% spot checks (with appropriate separate of duties)

CONTRACTOR SELECTION CRITERIA:

Contractor will be evaluated on the following criteria:

- Quote price
- Proposed start date
- Proposed completion date
- References - Demonstrates experience by providing examples of at least three (3) similar projects in Pennsylvania. More than 3 references are allowed.
- Debarment and tax liability status
- Exclusions and assumptions (if applicable)
- Provided Certificate of Insurance with current levels of coverage

Quotes will be awarded to the most qualified economic bidder, as determined by Chesapeake Conservancy. Chesapeake Conservancy reserves the right to reject any or all quotes and/or cancel the quote for any reason.

CONTRACTOR QUOTE FORM

Contractor Name: _____

Project Name: James Showers Engineering Services
Project Location: 767 Gray Hill Road, New Columbia, PA 17856, Union County

1. Price– Complete Contractor Quote Form Page 2 – ***Required***

   RCPP funding for Technical Assistance is provided through NRCS therefore we are using their categories for defining technical service categories. Include all Staff Position Titles that will be involved with the implementation of this project and Range Rate of staff for those positions, Estimated Number of Hours Per Activity and the Total Cost per Activity. The range of rates should account for the current staff rates and the expected pay increases for those positions over the next 3 years (term of the RCPP producer contract). Bidders may include overhead/admin expenses as a component of their claimed rate but that rate should be customary and reasonable and will be subject to review by NRCS and the Conservancy. Any cost associated with the 6 categories must be broken out. Activities 2-4 are the most typical for this type of project since we have producers with RCPP contracts in place already. Please include additional documentation if you are proposing costs associated with activity 5-6.

2. Date on which design can be started - ***Required***: _____

3. Estimated completion date of the design - ***Required***: _____

4. List any exclusions and assumptions associated with your proposal - _____

   _____

   _____

   _____

5. Please check whether you are submitting the Contractor General Information Form and related supporting documents with this response or if you submitted them under a separate 2024 RCPP Engineering Services RFQ – ***Required:***

   ☐ I have included the Contractor General Information Form with this RFQ response.

   ☐ I submitted the Contractor General Information Form with a separate 2024 RCPP Engineering Services RFQ response.

This quote is submitted in response to the RFQ for the project described above. The quote is based on my knowledge of the plans and specifications identified within. This quote will remain valid for 90 days after submission. If awarded the RFQ, I agree to sign a contract with the Chesapeake Conservancy.

Company Name:_____ Company Tax ID (EIN):_____

Company Address:_____

Representative's Name:_____ Telephone:_____

Email Address:_____

Signature:_____ Title:_____ Date:_____

CONTRACTOR QUOTE FORM

Page 2 of 2

INSERT REQUIRED INFORMATION

(Staff Position Titles, Rate Range, Estimated Hours and Total Cost)

TA-I Activity Code	Activities	Tasks	Staff Position Title(s)	Rate Range $xx-$xx/hr	Estimated # of hours per activity	Total Cost (using avg rates)
RTIP-001	TA Implementation Payment Pre-Application Activity	RCPP related Farm Visits (Follow up visits with NRCS or the farmer to develop application, review documents prior to contract, updating CNMPs or I&Es during ranking, screening, and contracting)				
RTIP-002	Updates to CNMPs as Needed. Amount not to exceed $2,500/farm	Conservation and Nutrient Management Plan development according to NRCS planning procedures				
RTIP-003	TA Implementation Payment Design on FA Applications or Contracts	Design/Engineering (5. Form Alternatives, 6. Evaluate Alternatives, 8. Design to Std, permit design/app, land rights, surveys, final designs)				
RTIP-004	TA Implementation Payment Installation (TA) on FA Applications or Contracts	Installation (8. Installation, inspections for structural practices)				
					Total Cost	

CONTRACTOR GENERAL INFORMATION FORM

Chesapeake Conservancy released ten RFQs for RCPP Engineering Services. Each RFQ is for a different project within the Conservancy's central PA rapid stream delisting catchment areas.

Contractors may bid on one or more of the RFQs. Contractors bidding on multiple RFQs only need to complete and return the Contractor General Information Form and related supporting documents with one of their RFQ submissions.

Contractor Name: _____

Project Name: **2024 RCPP Engineering Services**

1. The following three references are provided with telephone numbers of projects completed of similar scope and size - ***Required***:

   Name:_____ Telephone:_____

   Name:_____ Telephone:_____

   Name:_____ Telephone:_____

2. Small Business or Small Diverse Business (See Terms and Conditions for details) - *Check all that Apply*
   I have registered with Sam.gov and my business (or any subcontractors listed above) qualifies as a ☐ Small Business and/or ☐ Small Diverse Business

   I have registered with the PA Dept of General Services and my business (or any subcontractors listed above) has been certified as a ☐ Small Business and/or ☐ Small Diverse Business.

3. Debarment and tax liability status (See Terms and Conditions for details) - ***Required***:
   ☐I certify that my business, and any subcontractors, are not debarred by the State of Pennsylvania or the federal government.
   ☐I certify that my business, and any subcontractors, have no tax liabilities and are not in default of a loan or funding agreement administered by the State of Pennsylvania.

6. Certificate of Insurance (See Terms and Conditions for details) - ***Required***:
   ☐I have included with my response a copy of my Certificate of Insurance with my current levels of coverage.

This quote is submitted in response to the RFQ for the project described above. The quote is based on my knowledge of the plans and specifications identified within. This quote will remain valid for 90 days after submission. If awarded the RFQ, I agree to sign a contract with the Chesapeake Conservancy.

Company Name:_____ Company Tax ID (EIN):_____

Company Address:_____

Representative's Name:_____ Telephone:_____

Email Address:_____

Signature:_____ Title:_____ Date:_____

ATTACHMENTS:

Attachment A – Showers NRCS Inventory and Evaluation (I&E)

Attachment B – NRCS Reporting Requirements (Certification by Practice Sheet and Reimbursement Summary Sheet)

Attachment A - Showers NRCS Inventory and Evaluation (I&E)

Jim Showers
Union County, PA

SUBJECT: Jim Showers **DATE: 1/27/23**
Union County, Pennsylvania

On January 23th, 2023, Dan met with Jim Showers to discuss his operation and needs. The farm is located within White Deer Township, Union County. Jim has a beef operation and a hog facility. The beef side of the operation was addressed about 5 years ago with a project funded through the Union County Conservation District. This I&E will only address the hog mortalities, which is the only remaining resource concern for this farm.

Jim has an existing composting facility made of four wooden bins. The composting facility is undersized and falling apart and does not include any room for storage of finished compost. Jim is interested in a rotating drum composter and would like to have that as an option as well as bins. Dan discussed a proposed location for the composting facility with Jim. The remainder of this report will discuss conservation practices (referenced from the PA Soil and Water Conservation Technical Guide) that could be used to address the area of concern, the mortalities, as discussed with Mr. Showers and as shown on the attached sketch.

Animal Mortality Composting (316), Roof (367), Roof Gutters (558), etc.

Jim will remove his dilapidated composting facility but would like to keep the concrete pad to access the proposed composter. I have put together two different options for Mr. Shower's to choose from, a rotating drum composter and a composting bins facility. There are two wells that supply the hog barn, and they are at the end of the barn where the composter will be placed. There is a manure storage setback requirement for manure storages but not for composting facilities. There is also a propane tank near the existing composter and any excavation will need to be cautious of where the buried line may be.

Design Guide 4 was used to determine the pounds/day of mortalities for sizing the rotary drum composter and for sizing the composting bins facility. Based on a 6% mortality rate, there is 183 lbs/day of loss or 1,281 lbs/week. Base upon the sizing chart from "Rotary Composter, LLC" their Rotoposter 516SL will handle 1,500 lbs/week of mortality and has a vessel capacity of 10.5 cy. A composting material bin and storage bin are still necessary for the drum option but the volumes of each will be much less because the amount of bedding for composting is much less than for bins.

The other option is composting bins. Due to the size of the hogs to be composted, 300 lbs. max. size, the primary composting time is 87 days. Three primary composting bins are required to handle the mortalities and one secondary bin. In addition to the primary and secondary bins, a sawdust bin and storage bin are included in the building. The compost storage bin can handle 4 months of compost but if some of the spent compost is reused in the primary composting process, the storage time will be increased.

For each option, roof gutters are planned as well as a concrete apron that will tie into the existing composter pad and an access road that will stabilize the transition from the driveway to the composter apron. I have a UGO planned for the bins options because the roof is larger than the rotary drum facility where the gutters will just outlet onto the ground. I have also included obstruction removal in the cost list for removal of the wood structure only.

The area around the composter is flat so any design work will need to account for drainage of runoff away from the building.

It is the responsibility of the landowner to have all appropriate plans completed for their project work, specifically Nutrient Management Plans, Conservation Plans and if applicable, Odor Management Plans. Mr. Showers is a CAFO and does have an ACT 38 NMP. This I&E is only a part of the puzzle for his CNMP. **A wetland determination must be completed for this site** as per Food Security Act rules.

This may not represent a complete list of the necessary components to a final design. Whatever practices used; they should be sure to adequately address all these water quality issues. Included is a copy of a cost estimate and a plan view sketch, including proposed practices. If there are any questions, concerns, or need for any further assistance please feel free to contact me.

Shane Eia
Civil Engineering Tech. Middleburg Field Office

Hog Facility Questions:

-Name and Address of operation (cell # as well)

James Showers
767 Gray Hill Road
New Columbia, PA
Cell: 570-238-0517

-VAO, CAO, or CAFO and is there a NMP (which type) CAFO, He has Act 38 plan

-Type of operation: Nursery, Feeders, Finishers, etc. Finishers. Maximum 2410 head

-Who do they grow for? Country View Family Farms

-Average weight of pigs approx.. 175 lbs

-Load out weight of pigs (in at 55lbs) out at 300 lbs

-Growing cycle length 18.5 weeks/ group

-How many groups per year (term used: groups, turns, etc?) 2.8 turns per year (downtime 2 days to 4 weeks)

-Mortality rate average 5-6% (lowest 2-3%, highest 9%)

-Is there a time in their cycle when there are more mortalities? When the first arrive, around 150-175 lbs, and during summer, full grown.

-Does the producer prefer composting bins or a rotating drum composter? If bins, what is the size of that bucket with which he will turn the compost or what is the minimum width of a bin that he'd prefer?

Jim would prefer rotatory composter but would need district funding most likely to make it feasible for him. Ideally, he would have each option in his I&E to help make that decision. Currently he has 4 10x10 bins, and has found that is not big enough for a few reasons. 1) Manure/compost spills out the front. 2) He is adding boards to attempt to gain capacity, but can't fully rotate/aerate the compost and is having issues with only partial decomposition/bones. 3) He has issues with head clearance in the front.

If he were to go bins, Jim thinks his bins should be 14-15' wide so he can lay two pigs end to end. He thinks 20' deep would be needed to be able to stack material without it spilling out the front. Head

clearance in the front should be around 16'. Also, he thinks 2' curbing around the sides is needed vs. running boards the entire way down to the concrete floor. He thinks locating the bins behind the existing bins would be good so he can utilize the existing floor as part of the concrete apron. There is a swale in that location that would need relocated/reshaped. Also nearby is an electrical box, propane tank, and two wells (marked on the map). I mentioned to him that proximity to wells may affect the location.

Mortality records from Jim:

Duration	Pounds of total mortality
70 days	7750 lbs
120 days	9100 lbs
90 days	8950 lbs
60 days	10200 lbs
150 days	12075 lbs
120 days	11270 lbs

USDA United States Department of Agriculture

Union County, Pennsylvania

Common Land Unit Tract Boundary

Non-Cropland

Cropland

Wetland Determination Identifiers

- Restricted Use
- Limited Restrictions
- Exempt from Conservation Compliance Provisions

All fields NI unless noted.

Operator Shares:

Owner Shares:

Tract Cropland Total: 91.72 acres

2022 Program Year

Map Created May 02, 2022

Farm **207**

Tract **418**

United States Department of Agriculture (USDA) Farm Service Agency (FSA) maps are for FSA Program administration only. This map does not represent a legal survey or reflect actual ownership; rather it depicts the information provided directly from the producer and/or National Agricultural Imagery Program (NAIP) imagery. The producer accepts the data 'as is' and assumes all risks associated with its use. USDA-FSA assumes no responsibility for actual or consequential damage incurred as a result of any user's reliance on this data outside FSA Programs. Wetland identifiers do not represent the size, shape, or specific determination of the area. Refer to your original determination (CPA-026 and attached maps) for exact boundaries and determinations or contact USDA Natural Resources Conservation Service (NRCS). Map created using 2019 NAIP imagery. USDA is an equal opportunity employer, lender and provider.

Computation Sheet

NRCS–ENG-523A Rev. 6-2002

U.S. Department of Agriculture
Natural Resources Conservation Service

State	Project			
PA	James Showers Hog Composting I & E			
By	**Date**	**Checked by**	**Date**	**Job No.**
S.Eja	1/23			
Subject				**Sheet** ____ of ____
Operation Details				

James Showers
767 Gray Hill Rd.
New Columbia, PA

cell
570-238-0517

Finisher Hog Operation - Country View Family Farms
- 1 Barn
- 2,410 head / turn
- Avg. of 175 lbs. from start to finish
- Pigs in at 55 lbs. out at 300 lbs.
- 18.5 weeks / turn
- 2.8 turns / year
- Mortality rate 5-6%

Jim wants to know what his options are between composting bins and a rotating drum composter.

- Mortalities per week from mortality loss sheet:
  183 lbs/day or 1,281 lbs/week

Rotary composter = Based off of "Rotaposter - Rotary Composter LLC" product sheet: Model #516SL, 10.5 cy capacity can handle 1,500 lbs/week of mortality

Bins = See Composting Bins Worksheet

Map Scale: 1:751 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 10 20 40 60

Feet: 0 35 70 140 210

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Union County, Pennsylvania
Survey Area Data: Version 16, Sep 6, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 5, 2020—Sep 21, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AoB	Allenwood and Washington soils, 3 to 8 percent slopes	1.0	47.2%
WeC	Weikert channery silt loam, 8 to 15 percent slopes	1.1	52.8%
Totals for Area of Interest		**2.1**	**100.0%**

Union County, Pennsylvania

AoB—Allenwood and Washington soils, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: l4tm
Elevation: 300 to 2,800 feet
Mean annual precipitation: 34 to 48 inches
Mean annual air temperature: 44 to 57 degrees F
Frost-free period: 130 to 190 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Allenwood and similar soils: 50 percent
Washington and similar soils: 30 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Allenwood

Setting

Landform: Valley sides
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Old till derived from sedimentary rock

Typical profile

H1 - 0 to 11 inches: gravelly silt loam
H2 - 11 to 56 inches: gravelly silty clay loam
H3 - 56 to 89 inches: very gravelly silt loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B

Ecological site: F147XY003PA - Mixed Limestone Upland
Hydric soil rating: No

Description of Washington

Setting

Landform: Valley sides
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Colluvium derived from limestone and/or old glacial drift

Typical profile

H1 - 0 to 8 inches: silt loam
H2 - 8 to 48 inches: gravelly clay loam
H3 - 48 to 62 inches: clay loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 10.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B
Ecological site: F147XY003PA - Mixed Limestone Upland
Hydric soil rating: No

Minor Components

Hartleton

Percent of map unit: 5 percent
Landform: — error in exists on —
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Hydric soil rating: No

Bedington

Percent of map unit: 5 percent
Hydric soil rating: No

Watson

Percent of map unit: 5 percent

Hydric soil rating: No

Meckesville

Percent of map unit: 5 percent
Landform: Mountain valleys
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Lower third of mountainflank
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Data Source Information

Soil Survey Area: Union County, Pennsylvania
Survey Area Data: Version 16, Sep 6, 2022

Union County, Pennsylvania

WeC—Weikert channery silt loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2v4w5
Elevation: 360 to 3,410 feet
Mean annual precipitation: 37 to 50 inches
Mean annual air temperature: 47 to 56 degrees F
Frost-free period: 148 to 192 days
Farmland classification: Not prime farmland

Map Unit Composition

Weikert and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Weikert

Setting

Landform: Ridges
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Gray and brown acid residuum weathered from shale and siltstone and/or fine grained sandstone

Typical profile

Ap - 0 to 7 inches: channery silt loam
Bw - 7 to 10 inches: extremely channery silt loam
C - 10 to 15 inches: extremely channery silt loam
R - 15 to 25 inches: bedrock

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.06 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 1.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D

Ecological site: F147XY008PA - Shallow Mixed Sedimentary Upland
Other vegetative classification: Droughty Shales (SD2)
Hydric soil rating: No

Minor Components

Berks
Percent of map unit: 9 percent
Landform: Ridges
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex, linear
Hydric soil rating: No

Bedington
Percent of map unit: 5 percent
Landform: Ridges
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Brinkerton
Percent of map unit: 1 percent
Landform: Hillslopes
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear, concave
Across-slope shape: Concave
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Union County, Pennsylvania
Survey Area Data: Version 16, Sep 6, 2022

Swine production and death loss calculations. PA-ENG-316b

Designer: S. Eia
Date: 1/23

Checker: _____
Date: _____

Typical Mortality Losses for Swine Production (%)

Stage of Growth	Average Wt. (Lbs.)	Design Wt (Lbs.)	Excellent	Good	Poor
Birth to Weaning	6	10	Under 10	10 - 12	Over 12
Nursery	24	35	Under 2	2 – 4	Over 4
Growing / Finishing	140	210	Under 2	2 – 4	Over 4
Breeding Herd	350	350	Under 2 / yrs.	2 – 5 / yrs.	Over 5 //yrs.

Source: Pork Industry Handbook - 100

PRODUCTION

NUMBER OF PIGS BORN PER YEAR (Pre-Weaning):

_____ (#sows) X _____ (litters/yr.) X _____ (pigs/litter) = _____ #pigs born/year

NUMBER OF NURSERY PIGS PER YEAR:

_____ (#pigs born/yr.) - (_____ (#pigs born/yr.) x _____ (% loss/100)) = _____ #nursery pigs/yr.

NUMBER OF FINISHING HOGS PER YEAR

6,748 (#nursery pigs/yr.) - (6,748 (#nursery pigs/yr.) x .06 (% loss/100)) = 6,344 #finishing hogs/yr.

TOTAL POUNDS DEATH LOSS PER YEAR (use "**average weight**" to calculate death loss)

_____ (# sows) x _____ (Avg. Wt.) x _____ (% loss/100) = _____ (Lbs. loss/year)

_____ (# pigs born/ yr.) x _____ (Avg. Wt.) x _____ (% loss/100) = _____ (Lbs. loss/year)

_____ (# nursery pigs/ yr.) x _____ (Avg. Wt.) x _____ (% loss/100) = _____ (Lbs. loss/year)

6,344 (# finish hogs/ yr.) x 175 (Avg. Wt.) x .06 (% loss/100) = 66,612 (Lbs. loss/year)

TOTAL LBS DEATH LOSS/YEAR = 66612

AVERAGE DEATH LOSS PER DAY = 66,612 (TOTAL LBS DEATH LOSS/YEAR) / 365 = 183 (LBS DEATH LOSS/DAY)

183 lbs/day x 7 days = 1,281 lbs/week

Composting worksheet for bins. PA-ENG-316e
Sheet 1 of 2

Designer: S, Eva
Date: 1/23

Checker: _____
Date: _____

1. Calculate Primary & Secondary Times:

Primary cycle $T1 = 5 \times \sqrt{\text{300}} =$ 87 *days* time
(Design Weight (W_1,) largest animal anticipated; (10 day min))

Secondary stage time (T_2) = 1/3 x 87 (Primary stage time) = 29 (10 day min) days

2. Calculate Primary, Secondary & Storage Volumes (or use Tables 1 through 3):

Primary Volume = 0.2 x 183 (lb loss / day (ADL)) x 87 (Primary Stage Time (T_1)) = 3,184 cu ft

Secondary Volume = 0.2 x 183 (lb loss / day(ADL)) x 29 (Secondary Stage Time (T_2)) = 1,061 cu ft

Storage Volume = 0.2 x 183 (lb loss / day (ADL)) x 30 days (T_3) = 1,098 cu ft

Alternate: (use with large animals): W_1 = weight of largest animal[1]

Primary Volume = 0.2 x W_1 (lb) x Integer (ADL * T_1/ W_1) = _____ cu ft

Secondary Volume = 0.2 x W_1 (lb) x Integer (ADL * T_2/ W_1) = _____ cu ft

Storage Volume = 0.2 x W_1 (lb) x Integer (ADL * T_3/ W_1) = _____ cu ft

[1] Bins should not be used to compost large animals, and should be considered cautiously with animals over 250 pounds Landowner currently composts using bins

3. Calculate number of bins with a minimum of <u>two</u> primary, one secondary, and one storage bin required. *In doing calculations always round up to whole number, i.e. 2.1 bins = 3 bins (or) increase the bin size and refigure.*

Bin Volumes versus width and length. Depth of compost = 5 ft.

Width / Length	4	6	8	10	12	14	16
	Bin Vol. (ft^3)						
4	80	120	160				
6	120	180	240	300	360		
8	160	240	320	400	480	560	640
10		300	400	500	600	700	800
12		360	480	600	720	840	960
14		420	560	700	840	980	1120
16		480	640	800	960	1120	1280

PA-ENG-316e
Sheet 2 of 2

Number of Primary Bins - Choose bin dimensions within the capability of the loading equipment. Also account for the size of the animals to maintain 6" to 12" clearance between the carcasses and the bin walls (Minimum vol.). The bin width should be at least 2 ft greater than the loader bucket width. The minimum bin width should be at least 2 feet larger than the length of the largest animal. The equation for calculating the number of primary bins includes one additional bin to allow placing additional carcasses during the primary curing stage. *A minimum of two primary bins is required.*

Trial Bin Volume = 16 (Width (ft)) x 20 (length (ft)) x 6 ft = 1,632 cu ft

Number of Primary Bins = 3,184 (Primary Volume (step 2)) / 1,632 (Trial Bin Volume) + 1 Bin = 3 Bins

Number of Secondary Bins - Select secondary bin volume. *Each secondary bin must be ≥ to the volume of the primary bin since volume reduction during the compost stage is neglected.* Minimum of 1 secondary bin per 3 primary bins (The 3:1 ratio requires immediate utilization or separate storage of compost following the secondary stage.)

Number of Secondary Bins = Secondary volume (step 2) / selected secondary bin volume

Number of Secondary Bins = 1,061 (Secondary Volume. (step 2)) / 1,632 (Secondary Bin Volume) = 1 Bins

Number of Storage Bins - Select storage bin size. *Volume of each storage bin must be ≥ to secondary bin volume.*

Number of Bins for Compost Storage = Storage volume (step 2) / selected storage bin volume

Number of Storage Bins = 1,098 (Storage Volume (step 2)) / 4,320 (Storage Bin Volume) = 3.9 months ~~Bins~~

16'x48'x6'

4. Calculate annual sawdust requirements. (This assumes no reintroduction of compost that has completed the secondary cycle to the primary bin, however it is recommended that up to 50% of fresh sawdust requirements be met with this compost.)

Cubic Yards Sawdust = 66,612 (lb. loss / yr.) x 0.0069 = 460 cu. yd. / yr. /12 mo. = 38 cy/mo.

38 · 27 = 1,026 cf.

Additional bin(s) for fresh sawdust storage = 1 Bin = 16'x16'x6' = 1,248 cf. ✓

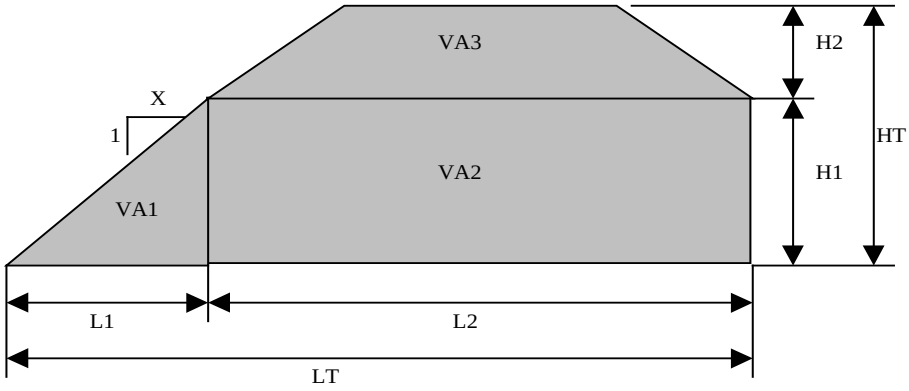
Summarize Bin Sizes and numbers:

	Primary	Secondary	Compost Storage	Sawdust Storage
Number of Bins				
Size (w x l)				

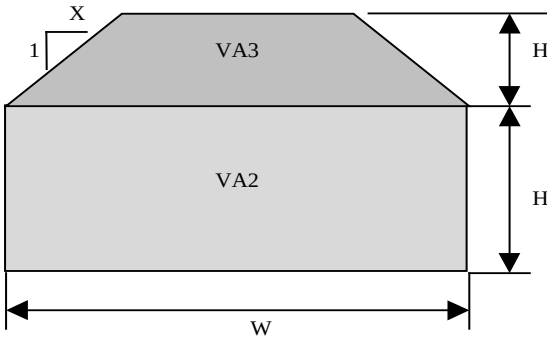
STACKING STRUCTURE CALCULATION SHEET
STRUCTURE WITH ONE END OPEN

Version:	1.2
Date:	9/1/2010
Author:	A. Hibbs

COUNTY	Union	DATE	24-Jan-23		
OWNER	James Showers	ADDRESS			
PREPARER	Shane Eia	TITLE	CET	DATE	24-Jan-23
CHECKED		TITLE		DATE	



SIDE VIEW



FRONT VIEW

Storage Volume Required		cu. ft.
Storage Duration		days

STRUCTURE DIMENSIONS

X - Angle of repose for manure	1	:1 ratio, (1:1 suggested)
HT - Total Manure Height	6	ft.
H1 - Structure Wall Height -4 Ft. max.	6	ft.
H2 - Stackable Height above wall	0	ft.
LT - Total Structure Length	20	ft. (Recommend making length divisible by 8')
L1 - Length for VA1	6	ft.
L2 - Length for VA2	14	ft.
W - Structure Width	16	ft.

CALCULATED VOLUMES

VA1 =	288.0	cu. ft.	(V=.5*L1*W*H1)
VA2 =	1,344.0	cu. ft.	(V=L2*W*H1)
VA3 =	0.0	cu. ft.	(V=(L2*W*H2)-(X*L2*H2^2)-(X*W*H2^2)+(1.33*X^2*H2^3))
TOTAL VOLUME =	1,632.0	cu. ft.	0 cu. Ft. = Required volume

CONCLUSION

Structure Length:	20	ft.
Structure Width:	16	ft.
Height of Manure Pile:	6	ft.
Storage Volume:	1,632	cu. ft.

Well

Driveway and parking lot

Hog Barn

Existing Composter

Notes:
-Composting facility to be placed against concrete floor of existing composter that will be torn down.
-Place a reinforced gravel access road to connect composting facility to the driveway
-The well setbacks for manure storage's does not apply to the storage of mortality compost

Field edge

Well

20 0 20 40 60

Scale in Feet

Date 1/23
Designed S.Eia
Drawn .
Checked .
Approved .

Rotary Drum Composter Plan View
Jim Showers

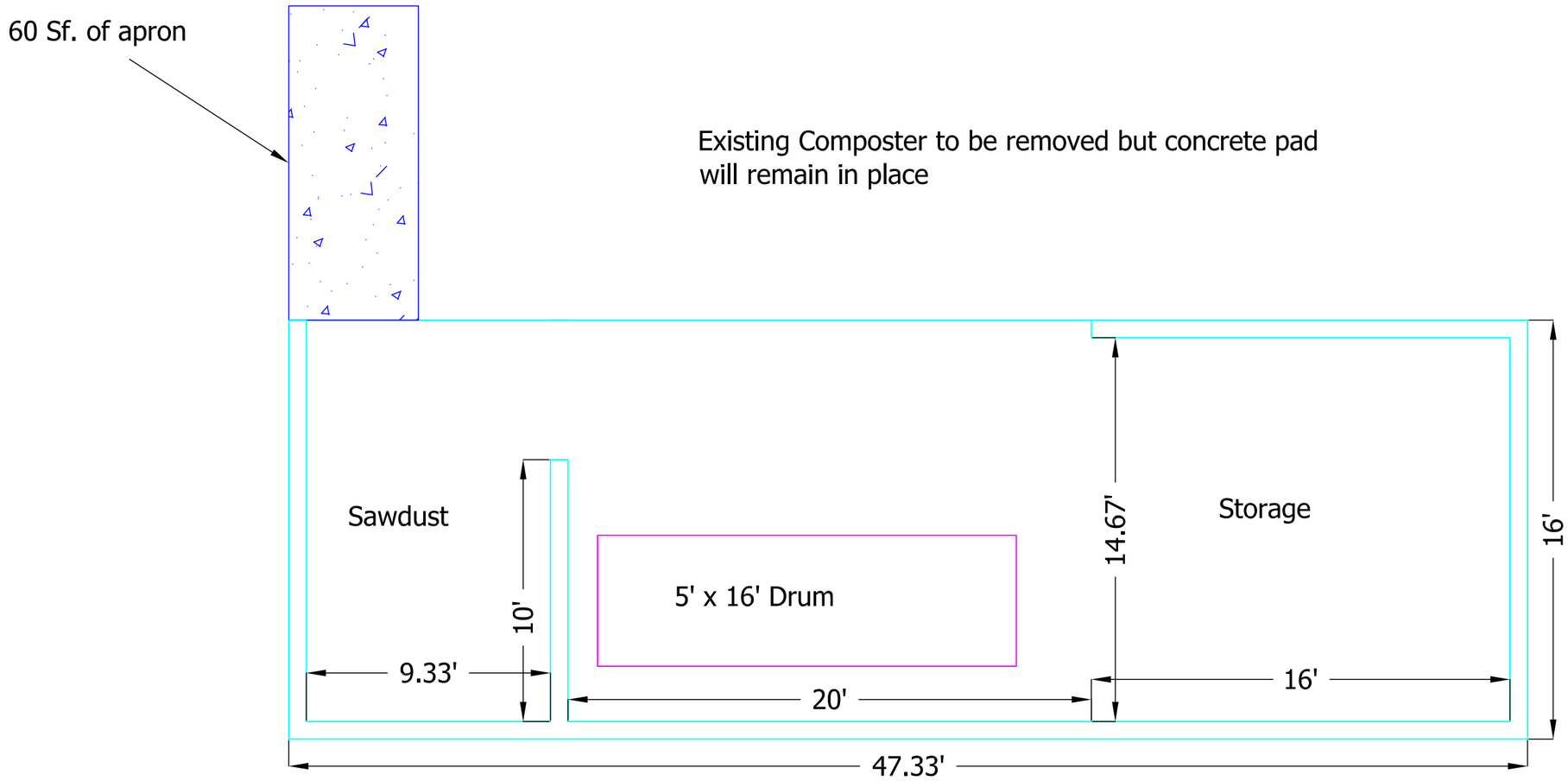
Union County, PA

United States Department of Agriculture
Natural Resources Conservation Service

File No. poultry I&E.dwg

Drawing No. ----

1/26/23 3:10 PM
Sheet of .



Notes:
-Rotary drum composter sized using Rotoposter 516SL
-A sawdust bin and storage bin are included with the building
-A regular truss is proposed for this building, not rafter

Date 1/23
Designed S.Eia
Drawn .
Checked .
Approved .

Rotary Drum Composter Detail
Jim Showers

Union County, PA

United States Department of Agriculture
Natural Resources Conservation Service

File No. poultry l&E.dwg

Drawing No. ____

1/26/23 3:10 PM
Sheet of .

ROTOPOSTER®

by Rotary Composters, LLC

Composting Made Easy!

The Rotoposter® was developed to handle large volumes of mortality, to be biosecure, simple and safe to operate, and easy to maintain.

"The Rotary Composter 740 unit we utilize simplifies the composting process and allows the crew to focus on production and animal care. Having the unit on-site greatly improves the biosecurity of the farm."

- Alan L.
Sow farm manager, North Carolina

A Superior Solution to Managing High-volume Farm Mortality

The Rotoposter® concept was formed when two of the founders needed to find an environmentally acceptable option for swine mortality from their agribusiness. After researching commercially available in-vessel composters, and not finding anything on the market to meet their needs, the decision was made to develop a design of their own. Partnering with a professional engineer, the Rotoposter® was developed to handle large volumes of mortality, to be biosecure, simple and safe to operate, and easy to maintain.

Rotary Composters, LLC was formed and the first unit was sold to an independent agribusiness owned by two of the founders where they are composting on average 10,000 lbs of mortality a week.

Benefits of Rotary Composting in the Rotoposter®

Traditional methods of mortality disposal include composting on open piles or bins, incineration and rendering. Traditional composting methods are often unsightly, invites scavenger problems, contributes to run-off and leachate and, from a practical operational standpoint, keeping up with the task of regular compost rotation is a hassle and often neglected. Ongoing cost is a major factor with incineration and hiring rendering services.The Rotoposter® solves each of these problems with a robustly engineered system that requires very little maintenance and provides year round composting capabilities.

Additional benefits include:

- Cost Effective
  - Eliminates rendering fees
  - Eliminates expensive incineration costs
  - Utilize or sell finished compost
- Improved Biosecurity
  - Eliminates rodents & scavengers from digging into compost piles
  - Reduce flies
- Ease of Use
  - Safe to operate
  - Few moving parts/Minimal maintenance
  - Easy loading chute

(Continued on back page)

ROTOPOSTER®

by Rotary Composters, LLC

Composting Made Easy!

Client Testimonial:

"I've been using my 524 Rotoposter for nearly 3 years. It is a low maintenance machine and an eco-friendly way of disposing of mortality from our broiler houses."

- Marlin Beiler
Gap, Pennsylvania

Photo Features Rotary Composters Partner Kurtis Good with Rotoposter Model 1040

The Rotoposter, manufactured by Rotary Composters, LLC, is specifically designed for use in managing the mortality of poultry, swine and other farm animals.

These large, heavy duty rotary composters can handle 1,500 to 18,000 lbs of weekly mortality and provide year-round bio-secure composting.

For additional info, see us on the web at:
RotaryComposters.com

Rotoposter Features:

- EZ Loading Hopper
- Minimal Maintenance
- Robust Engineering
- Environmentally Superior

- Excellent Biosecurity
- High Temp Composting
- Eliminate Scavengers
- Create Quality Soil Amendment

OPTIONS:

- 3 Phase Electric Motors
- Side Load (SL) on 5 Series only
- Large Particle Screen on discharge end

OPERATING GUIDELINES:

- Operating Capacity of Vessel 65% of Total Capacity
- Moisture Level 45% - 65%
- Oxygen Level 5% - 16%
- Carbon to Nitrogen Ratio 25 - 40/1
- Composting Temperature 120°- 160° F

Proudly Made in America

Match a Rotoposter® Model to Your Composting Needs

Depending on your mortality type and volume needs, there is a Rotoposter® model that will meet your requirements. From the Model 516 to the 112 cubic yard Model 1040, we have models that can handle weekly mortality capacity from 1,000 lbs to 15,000 lbs (poultry farms).

See the chart below to determine your mortality composting volume needs and the model that is right for you.

Model #	Total Capacity of Vessel (Cubic yards)	Estimated* Weekly Mortality Capacity LBS.			Standard Hydraulic Power Units (Single Phase)
		Sow Farms	Poultry Farms	(Ground up mortalities)	
516SL	10.5	1,500	2,250	3,000	
524SL	16	2,000	3,000	4,000	
532SL	22	2,500	3,750	5,000	2HP Electric Motor
540SL	28	3,000	4,500	6,000	
724	32	3,500	5,250	7,000	
732	43	5,000	7,500	10,000	
740	55	6,500	9,750	13,000	5 HP Electric Motor
748	66	8,000	12,000	16,000	
1024	65	8,000	12,000	16,000	
1032	89	10,000	15,000	20,000	10 HP Electric Motor
1040	112	12,000	18,000	24,000	

**Estimated capacity based on experience with swine and poultry farms. Highest throughput achieved when grinding mortality into smaller particles. Body size will effect throughput capacity.*

Composting Guidelines

A by-product of the Rotoposter® is the creation of a valuable soil amendment. The following information on the composting parameters of the Rotoposter should be viewed only as a guideline.

Every installation will vary due to differing materials utilized in the composting process.

- Ideal moisture level is @ 45 - 65%
- Composting temperature = 120 -160° F (the closer to 160° F the better/faster)
- Avian Influenza is killed within 8 minutes after reaching 131° F (Virginia DEQ)
- Research has shown that most pathogens are killed after maintaining a minimum temperature of 131° F for a period of three consecutive days, however, temperatures over 160° F will start to kill off some of the microbial activity that is desirable for soil enhancement
- Oxygen level = 5 -16%
- Carbon to Nitrogen ratio should be between 25/1 and 40/1

- *Note; the carbon needs to be "available" carbon, small chunks of wood do not qualify as available in a composting recipe, but are desirable to help with aeration of the pile.*

- Bulking material / Carbon source options;

- Wood chips
- Sawdust/shavings
- Grass clippings
- Leaves
- Paper products (cardboard)
- Hay/straw
- Corn fodder
- Horse manure
- Poultry/Broiler manure

- Pen pack with high level of bedding material

- *Some heat loss will occur when the drum is rotated, however, rotation is necessary to introduce oxygen in order to speed up the composting process. Differing recipes will require differing rotation intervals.*

EQIP Practice Check List

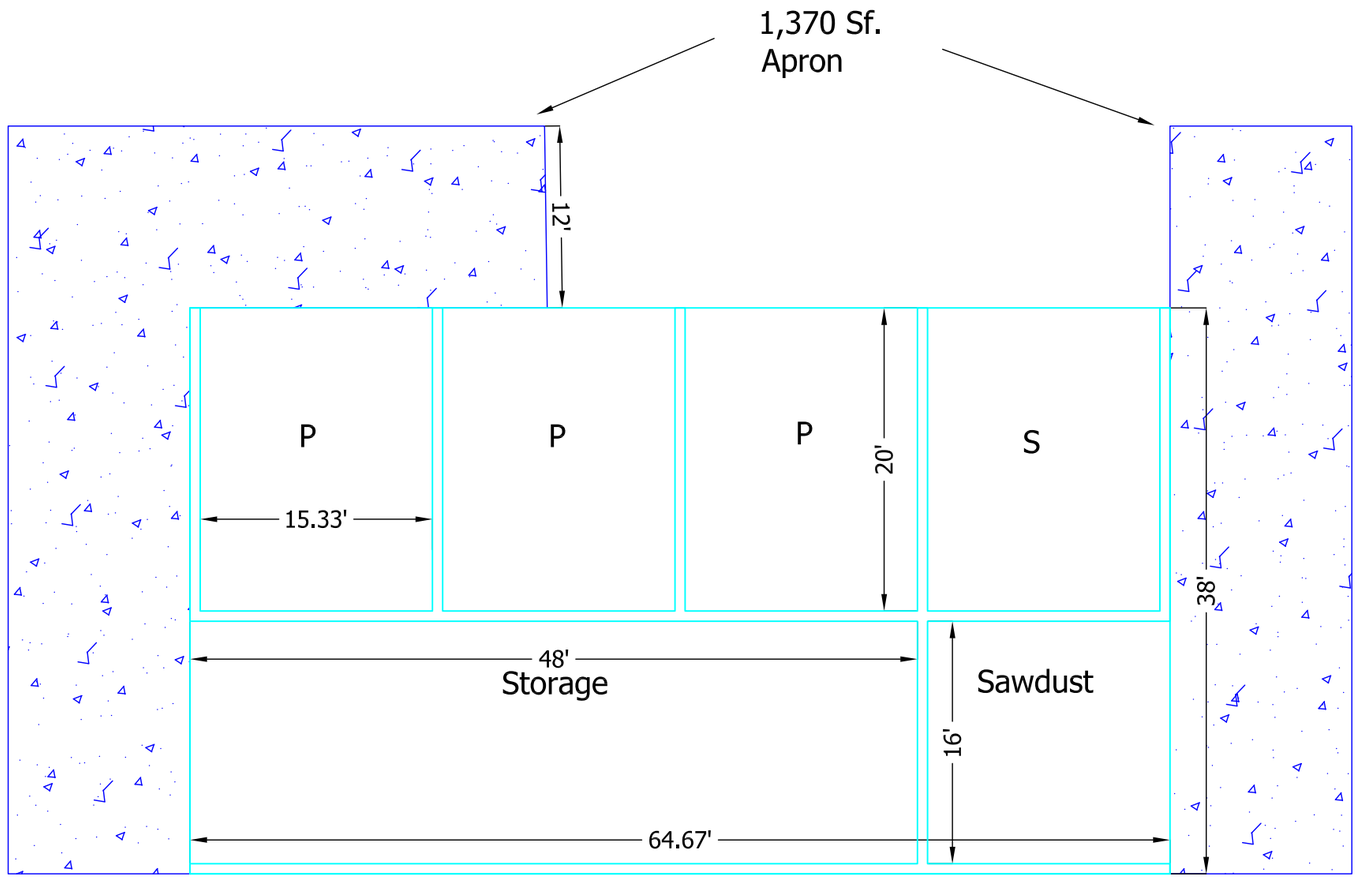
v. 11152019

Press Ctrl r to reset

Name: Jim Showers County: Union

Completed By: S.Eia Date: 1/27/2023

Code	Practice	Componet Name	Quantity	Units	Payment per Unit	Incentive Payment		ENGINEERS ESTIMATE Quantity	Units	Unit Cost	Estimated Total Cost
316	Animal Mortality Facility						**Total**				$82,156.00
316		Invessel Rotary Drum	183	Lb/Day							
316		Static pile, Concrete Bins 10'x16 + 16'x16'	416	SF							
316		Invessel Rotary Drum						1	Unit	$75,000.00	$75,000.00
316		Drain Fill, Gravel						15	tons	$20.00	$300.00
316		Excavation						20	CY	$10.00	$200.00
316		Static pile, Concrete Bins						416	SF	$16.00	$6,656.00
342	Critical Area Planting						**Total**				$40.00
342		Native or Introduced Vegetation - Normal Tillage (Organic and Non-Organic)	0.1	AC							
342		Native or Introduced Vegetation - Normal Tillage (Organic and Non-Organic)						0.1	AC	$400.00	$40.00
367	Roofs and Covers						**Total**				$12,118.40
367		Timber Frame Roof	757.4	SF							
367		Timber Frame Roof						757.4	SF	$16.00	$12,118.40
500	Obstruction Removal						**Total**				$0.00
500		Removal and Disposal of Wood Structures	564	SF							
558	Roof Runoff Structure						**Total**				$320.00
558		Roof Gutter	32	LF							
558		Roof Gutter						32	Ft	$10.00	$320.00
560	Access Road						**Total**				$1,170.00
560		Constructed road with Heavy Stone Base and Geotextile	48	LF							
560		Drain Fill, Gravel						26	TON	$20.00	$520.00
560		Driving Surface Aggregate						13	TON	$20.00	$260.00
560		Excavation, Earth						25	CY	$10.00	$250.00
560		Geotextile						80	SY	$1.75	$140.00
561	Heavy Use Area Protection						**Total**				$3,120.00
561		Concrete Slab, reinforced with gravel foundation	60	SF							
561		Concrete, Flat - Drum composter						6	CY	$300.00	$1,800.00
561		Concrete, Walls - Drum composter						2	CY	$320.00	$640.00
561		Drain Fill, Gravel - Drum composter						5	Ton	$20.00	$100.00
561		Excavation, Earth						6	CY	$10.00	$60.00
561		Concrete, Flat - Apron						1.5	CY	$300.00	$450.00
561		Drain Fill, Gravel - Apron						3	TON	$20.00	$60.00
561		Excavation, Earth - Apron						1	CY	$10.00	$10.00
Totals					**Estimated Payment**					**Estimated Installation Cost**	**$98,924.40**



Notes:
-Composting bins sized based on 6% mortality rate
-The storage bin will hold approx. 4 months of finished compost, assuming that none of the finished compost is reused in the primary composting process
-A regular truss is proposed for this building, not rafter

Composting Bins Detail
Jim Showers

Union County, PA

Designed S.Eia
Drawn .
Checked .
Approved .
Date 1/23

United States Department of Agriculture
Natural Resources Conservation Service

File No. poultry I&E.dwg

Drawing No. ----

1/26/23 3:10 PM
Sheet of .

Well

Driveway and parking lot

Hog Barn

N

Notes:
-Composting facility to be placed against concrete floor of existing composter that will be torn down.
-Place a reinforced gravel access road to connect composting facility to the driveway
-The well setbacks for manure storage's does not apply to the storage of mortality compost

Existing Composter

Field edge

Well

20 0 20 40 60

Scale in Feet

40

Date 1/23
Designed S.Eia
Drawn .
Checked .
Approved .

Composting Bins Plan View
Jim Showers

Union County, PA

United States Department of Agriculture
Natural Resources Conservation Service

File No. poultry I&E.dwg

Drawing No. ----

1/26/23 3:10 PM
Sheet of .

EQIP Practice Check List

v. 11152019

Press Ctrl r to reset

Name: Jim Showers County: Union

Completed By: S.Eia Date: 1/27/2023

Code	Practice	Componet Name	Quantity	Units	Payment per Unit	Incentive Payment		ENGINEERS ESTIMATE Quantity	Units	Unit Cost	Estimated Total Cost
316	Animal Mortality Facility						**Total**				$38,636.48
316		Static pile, Concrete Bins	2414.78	SF							
316		Static pile, Concrete Bins						2414.78	SF	$16.00	$38,636.48
342	Critical Area Planting						**Total**				$40.00
342		Native or Introduced Vegetation - Normal Tillage (Organic and Non-Organic)	0.1	AC							
342		Native or Introduced Vegetation - Normal Tillage (Organic and Non-Organic)						0.1	AC	$400.00	$40.00
367	Roofs and Covers						**Total**				$38,636.48
367		Timber Frame Roof	2414.78	SF							
367		Timber Frame Roof						2414.78	SF	$16.00	$38,636.48
500	Obstruction Removal						**Total**				$0.00
500		Removal and Disposal of Wood Structures	564	SF							
558	Roof Runoff Structure						**Total**				$740.00
558		Roof Gutter	74	LF							
558		Roof Gutter						74	Ft	$10.00	$740.00
560	Access Road						**Total**				$1,800.00
560		Constructed road with Heavy Stone Base and Geotextile	90	LF							
560		Constructed road with Heavy Stone Base and Geotextile						90	LF	$20.00	$1,800.00
561	Heavy Use Area Protection						**Total**				$9,250.00
561		Concrete Slab, reinforced with gravel foundation	1466	SF							
561		Concrete, Flat - Apron						28	CY	$300.00	$8,400.00
561		Drain Fill, Gravel - Apron						25	TON	$20.00	$500.00
561		Excavation, Earth - Apron						35	CY	$10.00	$350.00
620	Underground Outlet						**Total**				$191.00
620		UO 6 inch or less	35	LF							
620		Pipe, PVC - 4" Sch. 40 (In open trench)						35	LF	$3.75	$131.25
620		Stone						1	TON	$16.00	$16.00
620		Trench, 2'-4'						35	LF	$1.25	$43.75
Totals					**Estimated Payment**					**Estimated Installation Cost**	**$89,293.96**

Attachment B

RCPP TA-I Practice Certification Sheet

RCPP Project Name: Delisting Ag-Impaired Streams in Central PA
RCPP Project Number: 2761
RCPP Contract Participant and Contract Number:

Technical Assistance - Implementation (TA-I) Verification of Certification for Payment

Date:

					Activity Type ($)					Travel Expenses			
CIN	**Practice Code and Name**	**Certified by:**	**Description**	**Completed**	**Pre-Application**	**Planning**	**Design**	**Installation**	**Checkout**	**Mileage**	**IRS Rate**	**Total Travel Expenses**	**Reimbursement Request**

**Attach all invoices and travel logs (if applicable) associated with this practice, showing appliable hourly staff rates and detailed travel records (if applicable), and Design Cover Sheet showing certification*
Complete a separate sheet for each practice

I hereby certify that to the best of my knowledge this practice has been completed fully and to NRCS standards.

_____ _____

Functional Review w/JAA (if certified by consultant) Printed Name and Title:

_____ _____

NRCS DC - (signature, date) Printed Name:

EXAMPLE - RCPP TA-I Practice Certification Sheet

RCPP Project Name: XXXXXXXXXXXXXXX
RCPP Project Number: 1111
RCPP Contract Participant and Contract Number: Joe Smith, 111222333444

Technical Assistance - Implementation (TA-I) Verification of Certification for Payment

Date: 1/1/2024

					Activity Type ($)					Travel Expenses			
CIN	**Practice Code and Name**	**Certified by:**	**Description**	**Completed**	**Pre-Application**	**Planning**	**Design**	**Installation**	**Checkout**	**Mileage**	**IRS Rate**	**Total Travel Expenses**	**Reimbursement Request**
1	340 - Cover Crop	Joe Planner - Partner xyz	Cover crops planted on planned land units per conservation plan. Establishment verified.	12/1/23	$0.00	$0.00	$0.00	$0.00	$79.00	23	$0.63	$14.49	$93.49

*Attach all invoices and travel logs (if applicable) associated with this practice, showing appliable hourly staff rates and detailed travel records (if applicable), and Design Cover Sheet showing certification

I hereby certify that to the best of my knowledge this practice has been completed fully and to NRCS standards.

Functional Review w/JAA (if certified by consultant)

Printed Name and Title:

NRCS DC - (signature, date)

Printed Name:

Technical Assistance - Implementation (TA-I) Verification of Certification for Payment

Date: 1/1/2024

					Activity Type ($)					Travel Expenses			
CIN	**Practice Code and Name**	**Certified by:**	**Description**	**Completed**	**Pre-Application**	**Planning**	**Design**	**Installation**	**Checkout**	**Mileage**	**IRS Rate**	**Total Travel Expenses**	**Reimbursement Request**
2	313 - Waste Storage Facility	Ag, Inc	XXXX gallon waste storage completed. Supporting practices complete. Inspection and redline docs completed.	11/15/23			$4,000.00	$5,200.00	$2,200.00	0	$0.63	$0.00	$11,400.00

*Attach all invoices and travel logs (if applicable) associated with this practice, showing appliable hourly staff rates and detailed travel records (if applicable), and Design Cover Sheet showing certification

I hereby certify that to the best of my knowledge this practice has been completed fully and to NRCS standards.

Functional Review w/JAA (if certified by consultant)

Printed Name and Title:

NRCS DC - (signature, date)

Printed Name:

Technical Assistance - Implementation (TA-I) Verification of Certification for Payment

Date: 1/1/2024

					Activity Type ($)					Travel Expenses			
CIN	**Practice Code and Name**	**Certified by:**	**Description**	**Completed**	**Pre-Application**	**Planning**	**Design**	**Installation**	**Checkout**	**Mileage**	**IRS Rate**	**Total Travel Expenses**	**Reimbursement Request**
4	102 - CNMP	Ag, Inc	I&E, NMP, Conservation Plan components complete, CNMP done.	10/6/23		$3,252.50				0	$0.63	$0.00	$3,252.50

*Attach all invoices and travel logs (if applicable) associated with this practice, showing appliable hourly staff rates and detailed travel records (if applicable), and Design Cover Sheet showing certification

I hereby certify that to the best of my knowledge this practice has been completed fully and to NRCS standards.

Functional Review w/JAA (if certified by consultant)

Printed Name and Title:

NRCS DC - (signature, date)

Printed Name:

RCPP TA-I Reimbursement Summary Sheet

RCPP Project Name: Delisting Ag-Impaired Streams in Central PA
RCPP Project Number: 2761
RCPP Contract Participant and Contract Number:

Technical Assistance - Implementation (TA-I) Reimbursement Request Summary Sheet

Period Start: **Period End:**

					Activity Type ($)					Mileage ($)	
CIN	**Practice Code and Name**	**Certified by:**	**Description**	**Certification Date**	**Pre-Application**	**Planning**	**Design**	**Installation**	**Checkout**	**Total Travel Expenses**	**Reimbursement Request**
TOTAL					**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**

3rd Party or Partner Staff Information for Reimbursement				
Position	Organization	CIN	# of Hours	$/hr rate

*Staff rates must match rates in current TA-I Supplemental Agreement

EXAMPLE - RCPP TA-I Reimbursement Summary

RCPP Project Name: XXXXXXXXXXXXXXX
RCPP Project Number: 1111
RCPP Contract Participant and Contract Number: Joe Smith, 111222333444

Technical Assistance - Implementation (TA-I) Reimbursement Request Summary Sheet

Period Start: 1/1/2023 **Period End: 12/31/2023**

					Activity Type ($)					Mileage ($)	
CIN	**Practice Code and Name**	**Certified by:**	**Description**	**Certification Date**	**Pre-Application**	**Planning**	**Design**	**Installation**	**Checkout**	**Total Travel Expenses**	**Reimbursement Request**
1	340 - Cover Crop	Partner xyz	RCPP related Farm Visits (certification of practice)	12/1/23					$79.00	$14.49	$93.49
2	313 - Waste Storage Facility	Ag, Inc	RCPP related Farm Visits (Follow up visits for design and installation of contracted practices)	11/15/23			$4,000.00	$5,200.00	$2,200.00		$11,400.00
4	102 - CNMP	Ag, Inc	IE, NMP, Conservation Plan, CNMP attachments	10/6/23		$3,252.50					$3,252.50
TOTAL					**$0.00**	**$3,252.50**	**$4,000.00**	**$5,200.00**	**$2,279.00**	**$14.49**	**$14,745.99**

3rd Party or Partner Staff Information for Reimbursement				
Position	Organization	CIN	# of Hours	$/hr rate
Engineer	Team Ag	2	76	150
Conservation Planner	Team Ag	4	26.25	102
Drafter	Team Ag	4	5.75	100

*Staff rates must match rates in current TA-I Supplemental Agreement