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 heavy use area/waste storage facility and associated practices for a beef 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: Ron Holdren

Project Location: 1057 West Valley Road
Loganton, PA 17747
Clinton County, Greene Township

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

RCPP Partners: Natural Resources Conservation Service (NRCS)

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 "Holdren RFQ Response – Engineering Services" in the subject line.

In Person: Chesapeake Conservancy
Attention: Kathy Rohrer/Holdren 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 heavy use area/waste storage facility on a beef cow/calf/finish operation in Clinton County. The project involves construction of the roofed facility as well as a spring development, diversion, waterways, crossings, access roads, trails and walkways, underground outlets and other Best Management Practices (BMPs). The new facility will be a stand-alone structure that is not attached to an existing building.

The design shall include all components needed for constructing the practices identified in the Engineering Evaluation (I&E) 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.

Fishing Creek flows through the south end of the property. Fishing Creek has a designated use of High Quality-Cold Water Fishes (HQ-CWF).

A Nutrient Management Plan has been developed for this operation.

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 Specification.
- Provide NRCS approved design and drawings to the Conservancy 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

It is the responsibility of the bidder to determine what permits and plans (including stormwater management) are required for this project prior to submitting a bid. The successful bidder will be responsible for writing, submitting, overseeing and implementing any applicable permits and plans. Proposals should reflect these services and the cost associated with the permitting services should be broken out separately on the Contractor Quote Form. Bidders shall include with their proposal, a list of all required permits and plans. *The bidder is not responsible for any permit fees.*

The following are types of permits that are commonly needed on projects of this scope. Bidders should confirm which permits and plans are required, including any not listed here.

- General Permits per Pennsylvania Department of Environmental Protection (DEP) Chapter 105
- Erosion and Sediment Control per DEP Chapter 102
- Stormwater Management Plan and Permits per county and local municipality ordinances
    - Preliminary discussions with the township indicate that this project would qualify for the "no-harm" exemption in the Greene Township Stormwater Management Ordinance and therefore a stormwater management plan would not be required. Bidders should confirm/verify prior to submitting a proposal.
- National Pollutant Discharge Elimination System (NPDES) Permit per U.S. Environmental Protection Agency
    - The scope of this project will likely require disturbing an area of more than 1 acre. However, the areas pertaining to NPDES permitting requirements as defined by PA DEP will be less than 1 acre. Unless the scope of work changes, the project would not require an NPDES permit. Bidders should confirm this with the appropriate agencies.
- Zoning and Building Permits per local municipality and/or county

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

Chesapeake Conservancy (lead RCPP partner) will be required to utilize a competitive bidding process for the implementation phase of the project. The Conservancy 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 Conservancy 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 by June 2026.

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, Conservancy and the landowner is crucial to a successful project. Contractor shall work closely with NRCS, Conservancy 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"** and **"National Fish and Wildlife Foundation"** 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: Ron Holdren Engineering Services
Project Location: 900 West Valley Road, Loganton, PA 17747, Clinton 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. **DO NOT include any costs associated with permitting on page 2. Please break out permitting costs below.**

   Total price to complete the services related to *permitting only* as outlined in the Project Description – ***Required***:

   Permitting Services $_____

2. Date on which design can be started - ***Required***: _____
3. Estimated completion date of the design - ***Required***: _____
4. Identify any permits required for this project - ***Required:*** _____

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

   _____

   _____

   _____
6. Please check whether you are submitting the Contractor General Information Form and 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.

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

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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.

7. 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 – Engineering Evaluation Heavy Use Area Protection for Ron Holdren

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

Attachment A

CNMP Engineering Evaluation
Heavy Use Area Protection

PREPARED FOR:

Ron Holdren

900 West Valley Rd
Loganton, PA 17747
570-660-1009
Greene Twp, Clinton County, PA

PREPARED BY:

Nathan Dewing, NM Specialist
October 12, 2023

APPROVED BY:

Rob Sweppenheiser, P.E.

PE
2/13/24

TeamAg Incorporated

120 Lake Street Ephrata, PA 17522

Telephone: (717) 721-6795 Fax: (717) 721-9275 Email: teamag@teamaginc.com

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APPENDIX:

STRUCTURE SIZING, SOILS, DRAWINGS

Glossary of Terms:

HUAP – Heavy Use Area Protection – Referring to NRCS practice standard number 561 - Stabilization or protection of an intensively used area. When livestock are involved, this also involves properly treating runoff from the HUAP.

WSF – Waste Storage Facility – Referring to NRCS conservation practice standard 313 - An agricultural waste storage impoundment or containment made by constructing an embankment, excavating a pit or dugout, or by fabricating a structure.

NMP – Nutrient Management Plan – Referring to NRCS conservation practice standard 590 - Managing rate, source, placement, and timing of plant nutrients and soil amendments while reducing environmental impacts.

ACA – Animal Concentration Area (sometimes called animal heavy use area) –PA DEP definition - barnyards, feedlots, loafing areas, exercise lots or other similar animal confinement areas that will not maintain the dense vegetation of a pasture. Runoff from ACAs must be evaluated because of potential nutrient and sediment load.

1 Introduction

Mr. Holdren contracted TeamAg, Inc. through the Chesapeake Conservancy to prepare a Comprehensive Nutrient Management Plan (CNMP). This engineering inventory and evaluation is a component of the CNMP. Guidance documents from USDA NRCS Pennsylvania were followed in the preparation of this document. This element addresses the components and activities associated with manure storage and handling practices and storm water and runoff associated with this operation.

On September 25, 2023 Nate Dewing, TeamAg Inc. NM Specialist, Mauricio Rosales, Alliance for the Chesapeake Bay, Sandy Costello, Alliance for the Chesapeake Bay, and Kathy Rohrer, Chesapeake Conservancy visited the farm and met with Ron Holdren, the farm operator to perform the field work for this report. The farm is owned by a trust. The day was warm, overcast and dry. Soil conditions were wet but not saturated.

Ron operates an existing beef cow/calf/finish operation near Loganton, PA. Fishing Creek (tributary to Bald Eagle Creek and West Branch Susquehanna River) flows along the south side of the farm. Fishing Creek has a designated use of High Quality - Cold Water Fishes (HQ-CWF).

Livestock on the farm include 30 beef cows, 25 beef calves, and 25 beef finishing animals. Ron has no plans to expand the herd beyond these numbers. Finishing animals are confined inside the existing barn where they are fed hay and corn silage, and grain corn. Pack manure inside the barn from the finishers is collected montlhy and field applied on the farm. Cows and calves use pasture during the growing season and are confined to an outdoor barnyard on the south side of the barn (with a limited lean-to roof shelter) and in a sacrifice area west of the barn where they are fed hay outside. Some manure is collected from the winter feeding area as best as possible for field application in the spring.

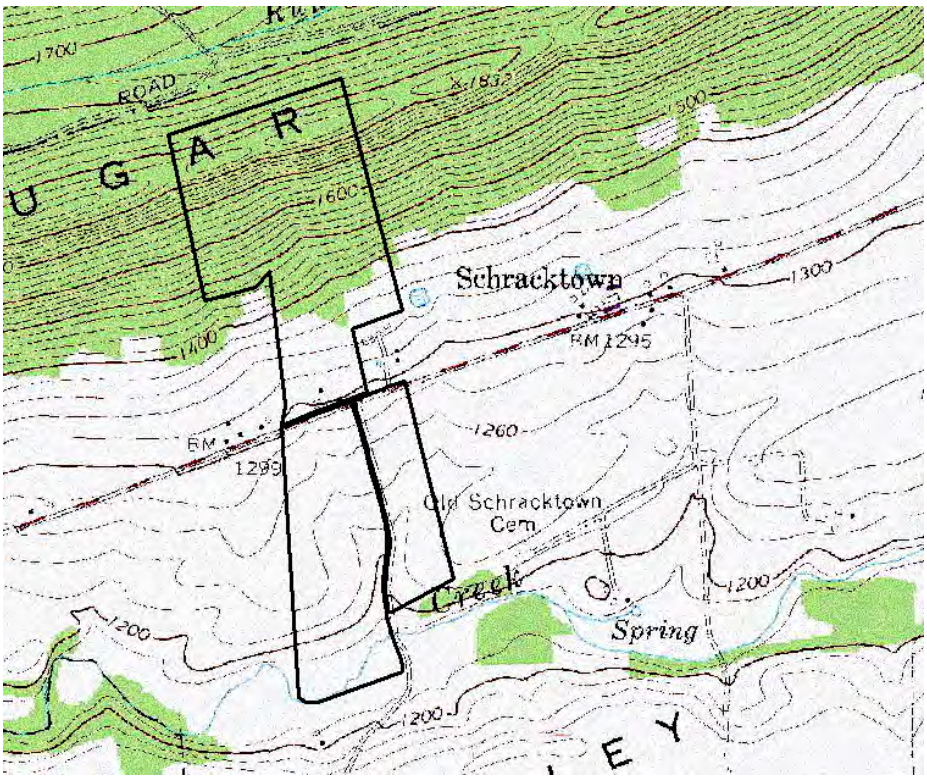
Owned land totals 139.1 acres including 56.5 acres of cropland, 19.1 acres of pasture, 3.9 acres of farmstead, 54.6 acres of forest, 3.6 acres of existing and planned forested riparian buffer, and the remainder is other associated ag land. No additional crop land is rented. Crop land is used to grow primarily corn and hay. A typical rotation is 2 years of corn (grain or silage) followed by 5 years of hay. All planting is planned using no-till methods. The total animal units on the farm are approximately 79.5 AEU’s and the operation is not considered a concentrated animal operation (CAO).

2 Site Data

FARM LOCATION MAP

AERIAL PHOTO OF THE MAIN FARMSTEAD (HQ1)

USGS TOPOGRAPHIC MAP OF THE FARM



3 CNMP Engineering Inventory

3.1 Resource Concerns

Water quality from manure runoff and soil erosion are the main resource concerns. Significant manure accumulation from the beef herd on the outdoor ACA is difficult to collect. Runoff can carry nutrients and sediment to surface water. Some collected manure from the finishers is field-applied in the winter when risk of nutrient runoff is higher. Surface water runs though the ACA west of the barn. Surface water from the mountain to the north contributes significant surface water volume to the pasture and farmstead.

3.2 Photos

1 – Outdoor ACA south of the barn – looking NW. Cow/calf group use this area during winter along with sacrifice area in pasture.

2 – ACA south of barn – looking West.

3 – ACA south of barn looking SW. ACA is close to road.

4 – Looking west from farmstead. Winter sacrifice area is left of the silage bags, next to the road.

4 – Winter sacrifice area is the fenced area adjacent to the road.

6 – Existing drainageway along west property line. This empties into a sinkhole.

3.3 Summary of Recommendations

ALTERNATIVE ANALYSIS

Soil on the farmstead are Buchanan (BuC and BuB – Hydrologic group D). Soil is not suitable for a vegetated treatment area, and given the need to cover a manure stacking area, a roof covering over HUAP and manure stacking area is being considered the least cost, effective alternative.

Building a roof over the existing ACA south of the barn was discussed, but ruled out due to complexity of the proposed roof adjacent to the existing barn and the limited size and layout of the area.

Consideration was given to continued use of the existing barn for a portion of the beef herd. The new facility is being planned for the entire herd so that manure storage is feasible for the entire herd to eliminate winter spreading.

Spring development is planned as an alternative water source for grazing, since livestock will be fenced from waterways. Consideration was given to supplying the HUAP with this spring development. The plan is to extend the spring development water pipe to the existing plumbing system which allows alternating between spring flow and well supply. The buried pipe from the existing well house to the HUAP will still be required.

SUMMARY OF PLANNED IMPROVEMENTS

A new roofed, concrete HUAP and WSF for the entire beef herd is planned in the sacrifice area west of the existing barn. Reinforced gravel access road and cattle walkways are planned around the new structure to prevent erosion. Several diversions and waterways are planned to manage stormwater from the mountain, to prevent erosion, and improve pasture management. Three crossings are planned where livestock must cross waterways and diversions. A spring development, water pipe, and water troughs are planned in the pasture to supply water for grazing. A forested riparian buffer is planned along the crop field north of the stream.

3.4 Best Management Practices (BMP's):

WASTE STORAGE FACILITY (MANURE STACKING - PA-313)

A roofed manure stacking area will be constructed adjacent to the proposed HUAP to store manure and eliminate winter spreading. The storage will be sized for 30 cows, 25 calves, and 25 finishing animals for 4.8 months. Bed pack is planned to be managed for a total of 6 month's manure storage. Planned configuration is 5' walls on three sides with a concrete floor. Planned dimensions are 64' long x 50' wide = 3,200 sf. Capacity when stacking manure 6 ft high will be 18,217 cf. An additional 5 weeks of manure amounts to 4,405 cf in a 0.8 ft deep bed pack.

CRITICAL AREA PLANTING (PA-342) AND MULCHING (PA-484)

After construction is complete, any disturbed ground will need to be seeded and mulched to prevent erosion. Approximately 0.5 acre of critical area seeding and mulching is estimated.

DIVERSION (PA-362), LINED WATERWAY AND OUTLET (PA-468), STREAM CROSSING (PA-578)

Diversions and waterways are planned in the pasture north of the barn to divert stormwater from the pasture, farmstead, and manure and traffic areas. Two diversions are planned as shown on the plan view. The upper diversion is planned to outlet into the neighboring pond to the east. Ron would like to work with the neighbor to outlet this diversion into the pond. The lower diversion will outlet into the sinkhole where all water currently goes. Both diversions are planned with erosion control fabric for the

entire width and length. Diversion planned = 625' + 225' = 850'. Erosion control fabric planned = 850' x 15' = 12,750 sf.

Four waterway reaches are planned as shown on the plan view. One is planned as grassed waterway, and three are planned as Turf Reinforced Mat Lined (TRM) waterways. Grassed waterway is the middle waterway reach 1 = 380' x 14' x 0.9' = **5,320 sf**. The grassed waterway is planned using erosion control fabric for the entire length and width. The TRM waterways are planned using TRM for 2/3 width (14') for the entire length. TRM lined waterways include: upper diversion outlet waterway = 200' x 18' x 0.82' deep = 3,600 sf, middle waterway reach 2 = 550' x 23' x 0.9' deep = 12,650 sf, and hedgerow waterway = 320' x 23' x 0.9' deep = 7,360 sf. This hedgerow waterway is planned to receive water from new waterway and diversion improvements being planned by the neighbor to the west. Total TRM waterway planned = 3,600 + 12,650 + 7,360 = **23,710 sf**. Total TRM lining planned = 1,070' x 14' = **14,980** sf.

Precast concrete slats are planned for livestock to cross the two diversions and the middle waterway. Six concrete slats are planned for each. These are being planned under the stream crossing item. Concrete slat dimensions will likely be 4' or 5' wide x 12' long. The total planned area for concrete slats = 24' length x 12' wide = 288 sf per crossing x 3 = 864 sf.

ROOFS AND COVERS (PA-367)

A new timber roof structure is planned over the proposed HUAP and WSF. Overall planned roof dimensions = 60' x 210' = 12,600 sf. This includes approximately 8' of cantilever over the feed table along the SE side. The strict HUAP and WSF area requiring roof measures 50' x 208' = 10,400 sf.

FENCE (PA-382)

HUAP Perimeter Fence – Fence is planned around the HUAP structure to confine livestock. Planned HUAP perim fence is 222'. There are many options for type of fence to be used and this decision will be made during design.

4-Strand High Tensile Fence – 4-strand high tensile fence is planned along the diversions and waterways to exclude livestock to maintain these drainage improvements. Planned fence length = 4,000 ft.

RIPARIAN FORESTED BUFFER (PA-391)

The riparian buffer along the south side of the crop field along the stream will be widened to achieve a minimum 35' buffer. Some areas of the buffer already have established trees. The total buffer area planned is 0.84 acres. The area requiring planting will be approximately 0.26 acres.

LIVESTOCK PIPELINE (PA-516) AND WATERING FACILITY (PA-614)

HUAP – New pressure water line buried below frost will be needed to provide water to livestock while confined to the HUAP. Planned water line is 1.25" and planned length is 600'. Final pipe size will be determined during design. Two freeze-proof water troughs are planned to supply water to livestock while confined to the HUAP. There are many options for the type of trough to be used and this decision will be made during design.

Pasture – New gravity water pipe buried below frost is planned to convey water from the planned spring development to the planned pasture water troughs. Planned water pipe is 1.25" and planned length is 500'. The water pipe is planned to be extended (900' additional) to the well house where it can be connected into the existing plumbing system. The well pipe mentioned above is planned as the backup to ensure water supply. Two concrete water troughs are planned in the pastures to supply water for grazing. The livestock currently use the waterways. Since these will be fenced, alternative water is needed. These troughs are planned as 6' diameter concrete troughs with float control. Other trough

options are possible. Each trough is planned with a reinforced stone apron as described under the HUAP item.

ROOF RUNOFF STRUCTURE (PA-558)

New roof gutters are planned for the new roof. New roof gutter planned = 420 ft. Gutter is planned as 6" seamless. Final gutter specifications will be determined during design.

ACCESS ROAD (PA-560)

Reinforced gravel access road will be installed at the HUAP and WSF to prevent erosion from equipment traffic. This is planned as geotextile under 8" of compacted base rock and 4" of compacted surface stone. Access road width is generally planned at 15' wide. Planned length is 545 ft. Total area to build is 8,605 sf.

HEAVY USE AREA PROTECTION (PA-561)

Livestock – Roofed, concrete HUAP is planned for the beef herd to provide a stable confinement location. This will eliminate the winter feeding ACA west of the barn. The planned layout is a concrete floor with concrete walls/curbs on three sides. The SW end is planned to be open into the adjacent proposed manure stacking area. The HUAP is sized for 30 cows, 25 heifers, and 25 full-size finishers. The size is based on both adequate loafing area and feed rail space. See sizing calculations for details. The SE side is planned as a partially buried 4 ft wall providing a finished curb height approximately 12" for cattle to feed over the curb. Curbs and walls will serve as roof support. Planned dimensions are 50' wide x 144' long = 7,200 sf.

Pasture – Reinforced gravel aprons are planned around each of two water troughs in the pasture to prevent erosion. These are planned with the same detail as the access road with geotextile under 8" of compacted base rock and 4" of compacted surface stone. Planned dimensions of each is 20' x 20' = 400 sf each x 2 = 800 sf.

Note – The cost estimate includes electrical wire from the barn to the HUAP which would be required for waterer heat at the HUAP. The estimate is based on setting up a 100 amp service at the HUAP (larger than required but likely the best starting place). The is assuming that there is adequate capacity in the existing panel at the barn. Electrical system design will be the responsibility of the landowner and installer. Cost of this item is usually the responsibility of the farm operator as many grant sources will not cover this cost.

TRAILS AND WALKWAYS (PA-575)

Reinforced gravel cattle walkway is planned from the HUAP to the existing barn and to pasture to prevent erosion from livestock traffic. Walkways are planned with the same construction detail as the access road with geotextile under 8" of compacted base rock and 4" of compacted surface stone. Care must be taken in selection of surface material to be compatible with cattle hoof health. Planned dimensions are 120' x 12' = 1,500 sf.

SUBSURFACE DRAIN (PA-606) AND UNDERGROUND OUTLETS (PA-620)

Subsurface drain - is planned as a footer drain for the proposed HUAP structure. Drain elevation is planned at the base of footer. Planned outlet location is at the state road culvert. Planned pipe is 4" perforated. Planned length is 220'.

Footer drain outlet - Planned outlet pipe for the footer drain is 4" PVC, length = 200'.

Roof gutter outlets - Underground outlet for roof gutters is planned to divert clean roof water from manure sources and traffic areas. Planned outlet location is at the state road culvert. Planned pipe is 8" PVC. Planned length = 480'. This includes outlet pipe along both sides to catch multiple downspouts.

4 Other Comments and Considerations

Animal Group & Manure Production Information

Refer to attachments at the end of this report for manure volume calculations and documentation of the relevant AEUs. The calculated volumes used to size the manure storage should remain reliable. These will differ slightly from volumes calculated in the nutrient management plan. Designing engineer should review manure production volumes with the operator at time of design.

Safety Issues

Prioritize necessary safety precautions for construction and operation of all planned practices.

Operation and Maintenance Plans

An Operation and Maintenance Plan needs to be developed for the installed best management practices (BMPs). Refer to the final engineered design of the best management practices for specific operation and maintenance details.

Emergency Action Planning

Emergency response strategies for manure spills are necessary. Contact information for emergencies should be included in the Emergency Response section of the Nutrient Management Plan and in Operation and Maintenance Plans for Best Management Practices (BMPs).

Manure and Wastewater Not Stored

The roof structures will eliminate the stormwater contact with manure. At this site, all manure will be handled through the storages or applied directly to fields according to the nutrient management plan.

Silage Leachate

Silage leachate from the silage bags was evaluated. Leachate volume is low. There is no concentrated flow of leachate from the site.

Effects On Neighbor's Properties

The effects on neighboring properties are estimated to be low. There may be off-site odors when the stored manure is being handled and spread. Care should be taken while spreading manure since a large quantity of manure could be spread at one time. Manure spreading setbacks must be followed as outlined in the nutrient management plan.

Permitting

The scope of this project will likely require disturbing more than 1 acre. However, the areas pertaining to NPDES permitting requirements as defined by PA DEP will be less than 1 acre. Unless the scope of work changes, the landowner would not need an NPDES permit. Building and zoning permits shall be acquired as needed. Township and county ordinances will need to be checked to verify if a storm water plan will be required for the proposed impervious surfaces. Stormwater planning will likely NOT be necessary since all stormwater remains on the property all the way to the stream.

Animal Mortality Facilities

Dead animals are buried, rendered, or taken to the landfill.

Pesticide and Fuel Storage

Fuel is stored in above-ground tanks. Spray chemicals are used seasonally on the farm and stored inside.

Staging of Best Management Practices

The diversions and waterways could be installed separate from the HUAP and WSF structure, but the drainage work should be completed first to adequately protect the structure and construction site.

Verification of Best Management Practices

These planned quantities should be reliable for the development of any grant-related contracts. Quantities should be verified in the field with a more detailed survey at time of design.

5 Engineer's Estimate

Note: This is an estimate of actual construction costs and is unrelated to potential grant funds.

CODE	ITEM	UNIT	QUANTITY	UNIT COST ($)	COST($)
	E&S MEASURES	**$2,500.00**			
	E&S (seed and mulch incl below)	job	1	$2,500.00	$2,500.00
313	**WASTE STORAGE FACILITY - 50' x 64'**	**$60,855.00**			
	Concrete flat work	cy	52	$400.00	$20,800.00
	Concrete walls and curbs	cy	73	$475.00	$34,675.00
	Subgrade stone under floor and footer	tons	68	$35.00	$2,380.00
	Excavation	job	1	$3,000.00	$3,000.00
342	**CRITICAL AREA PLANTING**	**$2,000.00**			
	Seed Disturbed Areas	ac	2	$1,000.00	$2,000.00
362	**DIVERSION**	**$6,800.00**			
	Diversion	ft	850	$5.00	$4,250.00
	Erosion control blanket - 850' x 15'	sf	12750	$0.20	$2,550.00
367	**ROOFS AND COVERS**	**$226,800.00**			
	60' x 210' over new HUAP/WSF	sq.ft	12,600	$18.00	$226,800.00
382	**FENCE**	**$18,350.00**			
	Hight Tensile electric - 4 strand	ft	4,000	$3.20	$12,800.00
	Beef HUAP Perimeter	ft	222	$25.00	$5,550.00
391	**RIPARIAN FORESTED BUFFER**	**$1,040.00**			
	Planting trees/shrubs	ac	0.26	$4,000.00	$1,040.00
468	**LINED WATERWAY AND OUTLET**	**$38,546.00**			
	Waterway Construction - 4 reaches	sq ft	29030	$0.40	$11,612.00
	Erosion control blanket - 1 reach	sf	5320	$0.20	$1,064.00
	Turf Reinforced Mat - 3 reaches	sq ft	14980	$1.50	$22,470.00
	Waterway outlets - R4 rock	tons	85	$40.00	$3,400.00
484	**MULCHING**	**$1,000.00**			
	Post-Construction	job	1	$1,000.00	$1,000.00
516	**LIVEVSTOCK PIPELINE**	**$10,000.00**			
	1.25" water pipe buried - well to HUAP	ft	600	$5.00	$3,000.00
	1.25" water pipe buried - from spring	ft	1400	$5.00	$7,000.00
558	**ROOF RUNOFF CONTROLS**	**$5,880.00**			
	Roof Gutters	L.F.	420	$14.00	$5,880.00

560	**ACCESS ROAD - 8,605 sf**	**$25,280.00**			
	Stone Base Material (#4s)	tons	372	$35.00	$13,020.00
	Stone Topper (2A)	tons	186	$35.00	$6,510.00
	Geotextile	rolls	2	$1,000.00	$2,000.00
	Excavation	days	2.5	$1,500.00	$3,750.00
561	**HEAVY USE AREA PROTECTION**	**$133,835.00**			
	Concrete flat work	cy	141	$400.00	$56,400.00
	Concrete walls and curbs	cy	143	$475.00	$67,925.00
	Subgrade stone under floor and footer	tons	186	$35.00	$6,510.00
	Excavation	Job	1	$3,000.00	$3,000.00
xxx	**ELECTRIC SERVICE TO HUAP**	**$3,200.00**			
	200 amp wire	ft	300	$4.00	$1,200.00
	Conduit for wire - 3" reg sch 40 pvc	ft	300	$2.50	$750.00
	Trench excavation for buried wire	ft	100	$2.50	$250.00
	Elec panel	job	1	$1,000.00	$1,000.00
561	**HUAP - at pasture waterers**	**$3,675.00**			
	Stone Base Material (#4s)	tons	35	$35.00	$1,225.00
	Stone Topper (2A)	tons	20	$35.00	$700.00
	Geotextile	rolls	0.25	$1,000.00	$250.00
	Excavation	days	1.0	$1,500.00	$1,500.00
574	**SPRING DEVELOPMENT**	**$5,700.00**			
	Spring Collection Box - 500 gallons	tank	1	$2,000.00	$2,000.00
	Stone backfill for collection box	tons	20	$35.00	$700.00
	Excavation work	days	2.0	$1,500.00	$3,000.00
575	**WALKWAYS (Stone) - 1,500 sf**	**$5,395.00**			
	Stone Base Material (#4s)	tons	65	$35.00	$2,275.00
	Stone Topper (2A)	tons	32	$35.00	$1,120.00
	Geotextile	rolls	0.5	$1,000.00	$500.00
	Excavation	days	1.0	$1,500.00	$1,500.00
578	**STREAM CROSSING - waterway and div**	**$10,150.00**			
	Pre-cast concrete slats 4x12	slats	18	$400.00	$7,200.00
	AASHTO #57 Stone under slats	tons	20	$35.00	$700.00
	Placing Slats	days	1.5	$1,500.00	$2,250.00
606	**SUBSURFACE DRAIN (4")**	**$1,540.00**			
	Footer drain for beef HUAP	ft	220	$7.00	$1,540.00
614	**WATERING FACILITY**	**$7,000.00**			
	Troughs - beef HUAP	ea	2	$1,500.00	$3,000.00
	Troughs - Pasture	ea	2	$2,000.00	$4,000.00
620	**UNDERGROUND OUTLETS**	**$9,200.00**			
	4" PVC Outlet - for footer drain	ft	200	$10.00	$2,000.00
	8" PVC Outlets - for roof gutters	ft	480	$15.00	$7,200.00
	SUBTOTAL				**$578,746.00**
	Contingency	%	5		$28,937.00
	CONSTRUCTION TOTAL				**$607,683.00**

HEAVY USE AREA LOT SIZING

COUNTY: Clinton County
OWNER: Ron Holdren
PREPARER: Nate Dewing

DATE: 10/12/2023
ADDRESS: 900 West Valley Rd, Loganton, PA 17747
TITLE:

Animal Group	# of Animals	Animal Weight, Avg. (lbs.)	Animal Units	Rest Area Sq. Ft./ Animal	Feeder Space (in/animal)	Rest Space Width based on Minimum Feed Bunk Length	Minimum Feed Bunk Length (Ft)	Selected Feed Bunk Length (Ft.)	Selected Rest Area Width (Ft.)	Minimum Rest Area Space (sq. ft.)	Selected Rest Area (sq. ft.)
Beef Cows	30	1400	42	85	24	42.5	60	64	38	2550	2432
Beef Calves	25	300	7.5	35	12	35	25	26	38	875	988
Finishers	25	1200	30	80	24	40	50	54	38	2000	2052
			0			0	0		38	0	0
			0			0	0		38	0	0
			0			0	0		38	0	0
			0			0	0		38	0	0
			0			0	0		38	0	0
			0			0	0		38	0	0
Sum =	80		79.5				135	144		5425	5472

Total Area Based on 100 sq. ft. per animal unit (Sq. Ft.) = 7950

Notes: Feed bunk length for finishers is planned at 24" each for when they are at their max size of 1,200 lb

Feed Alley Width = 12 Ft. Plus Selected Rest Area Width = 38
(Use zero if separate feed alley not used)

Total Structure Width (ft.) =	50
Total Structure Length (ft.) =	144
Total Structure Area (Sq Ft.) =	7200

Manure Production for MSF sizing

COUNTY: Clinton County
OWNER: Ron Holdren
PREPARER: Nate Dewing

DATE: 10/12/2023
ADDRESS: 900 West Valley Rd, Loganton, PA 17747
TITLE:

Animal Group	# of Animals	Avg Wt (lb)	Animal Units
Beef Cows	30	1400	42
Beef Calves	25	300	7.5
Finishers	25	1200	30
			0
			0
			0
			0
			0
			0
Sum =	80		79.5

180 days	Planned Storage Duration (days)
1.2 cf	Daily manure production per AU (ft^3/AU/day)
17,172 cf	Manure Produced during storage period
5,450 cf	Bedding volume in storage during storage period

22,622 cf **Total Volume to be Stored**

Bedding Added to Manure

Material	Volume before use	Volume in storage (%)	Volume Stored
Hay	10,900 cf	50%	5,450 cf
			0 cf
			0 cf
		Sum =	5,450 cf

Notes:
- Manure production is 1 cf/AU for dairy and 1.2 cf for beef = 1.1 cf avg for this group.
- Planned storage duration is 6 months - 4.5 months in stacking area plus reasonable bed pack depth for remaining 6 weeks - see calc.
- Bedding is planned based on what it will take to make the manure stackable and to maintain a bed-pack. Bedding calculations for storage duration (180 days). 50% of manure is from scrape lane and planned to be bedded at 30% solids = 2,400 cf of bedding. 50% of manure will be in bed pack and is planned to be bedded at 50% solids = 8,500 cf of bedding. Total bedding for 180 days = 10,900 cf.

IS THE PRODUCT STACKABLE?

STACKABLE = GREATER THA 25.00% SOLDS CONTENT

NOT STACKABLE = LESS THAN 25.00% SOLIDS CONTENT

MOISTURE CONTENT OF MANURE %		SOLIDS CONTENT %
Dairy =	88	12
Veal =	96	4
Beef =	86	14

MOISTURE CONTENT OF BEDDING %		SOLIDS CONTENT %
Corn Tops (Shredded) =	16	84
Ground Limestone =		
Hay (Chopped) =	14	86
Hay (Loose) =	14	86
Hay (Bailed) =	14	86
Sand =		
Sawdust =	39	61
Newspaper =	8	92
Straw (Chopped) =	10	90
Straw (Loose) =	10	90
Straw (Bailed) =	10	90

MANURE VOLUME (Cu.Ft.) 17172

* BEDDING VOLUME (Cu.Ft.) 10900

ANIMAL TYPE Beef

BEDDING TYPE Hay

MANURE SOLIDS CONTENT (%) 14

BEDDING SOLIDS CONTENT (%) 86

* NO REDUCTION FACTOR SHALL BE APPLIED TO BEDDING VOLUME,
THIS IS THE TOTAL VOLUME OF BEDDING BEING USED .

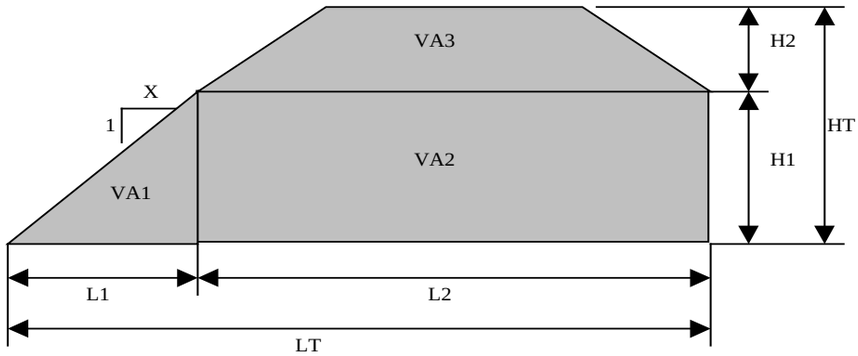
SOLIDS CONTENT = $\frac{\text{(Volume of Manure Solids) + (Volume of Bedding Solids)}}{\text{Total Volume of Manure + Bedding}}$

= 41.96%

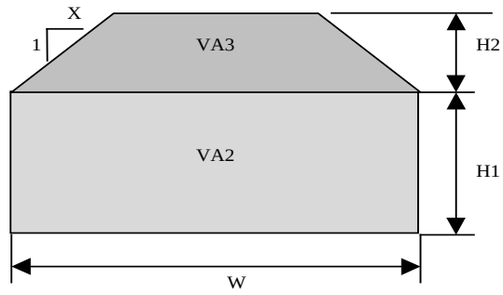
= STACKABLE

STACKING STRUCTURE CALCULATION SHEET
STRUCTURE WITH ONE END OPEN

COUNTY	Clinton County	DATE	10/12/23		
OWNER	Ron Holdren	ADDRESS	900 West Valley Rd, Loganton, PA 17747		
PREPARER	Nate Dewing	TITLE		DATE	
CHECKED		TITLE		DATE	



SIDE VIEW



FRONT VIEW

Storage Volume Required	22,622	cu. ft.
Storage Duration	180	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.	5	ft.
H2 - Stackable Height above wall	1	ft.
LT - Total Structure Length	64	ft. (Recommend making length divisible by 8')
L1 - Length for VA1	5	ft.
L2 - Length for VA2	59	ft.
W - Structure Width	50	ft.

CALCULATED VOLUMES

VA1 =	625.0	cu. ft.	(V=.5*L1*W*H1)
VA2 =	14,750.0	cu. ft.	(V=L2*W*H1)
VA3 =	2,842.3	cu. ft.	(V=(L2*W*H2)-(X*L2*H2^2)-(X*W*H2^2)+(1.33*X^2*H2^3))
TOTAL VOLUME =	18,217.3	cu. ft.	22622 cu. Ft. = Required volume

CONCLUSION

Structure Length:	64	ft.
Structure Width:	50	ft.
Height of Manure Pile:	6	ft.
Storage Volume:	18,217	cu. ft.
Req'd Storage Volume:	22,622	cu. ft.
Remaining volume to be stored:	4,405	cu. ft.
Bedpack Area:	5,472	s.f.
Depth of bedpack:	0.80	ft.

Note: 64' length provides 4.8 month's capacity. Remaining 5 weeks will be in bed pack approx. 1 ft deep. Structure planned at 144' for HUAP + 64' for WSF. Overall = 208' long x 50' wide.

HUAP Bed Pack Area:

Width =	38 ft
Length =	144 ft

Hydrologic Soil Group—Clinton County, Pennsylvania
(Ron Holdren I&E)

Map Scale: 1:3,030 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 40 80 160 240

Feet: 0 100 200 400 600

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

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BhD	Buchanan gravelly loam, 8 to 25 percent slopes	C/D	0.9	3.7%
BuB	Buchanan-Andover gravelly loams, 3 to 8 percent slopes	D	4.2	16.6%
BuC	Buchanan-Andover gravelly loams, 8 to 15 percent slopes	D	20.1	79.7%
Totals for Area of Interest			**25.2**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

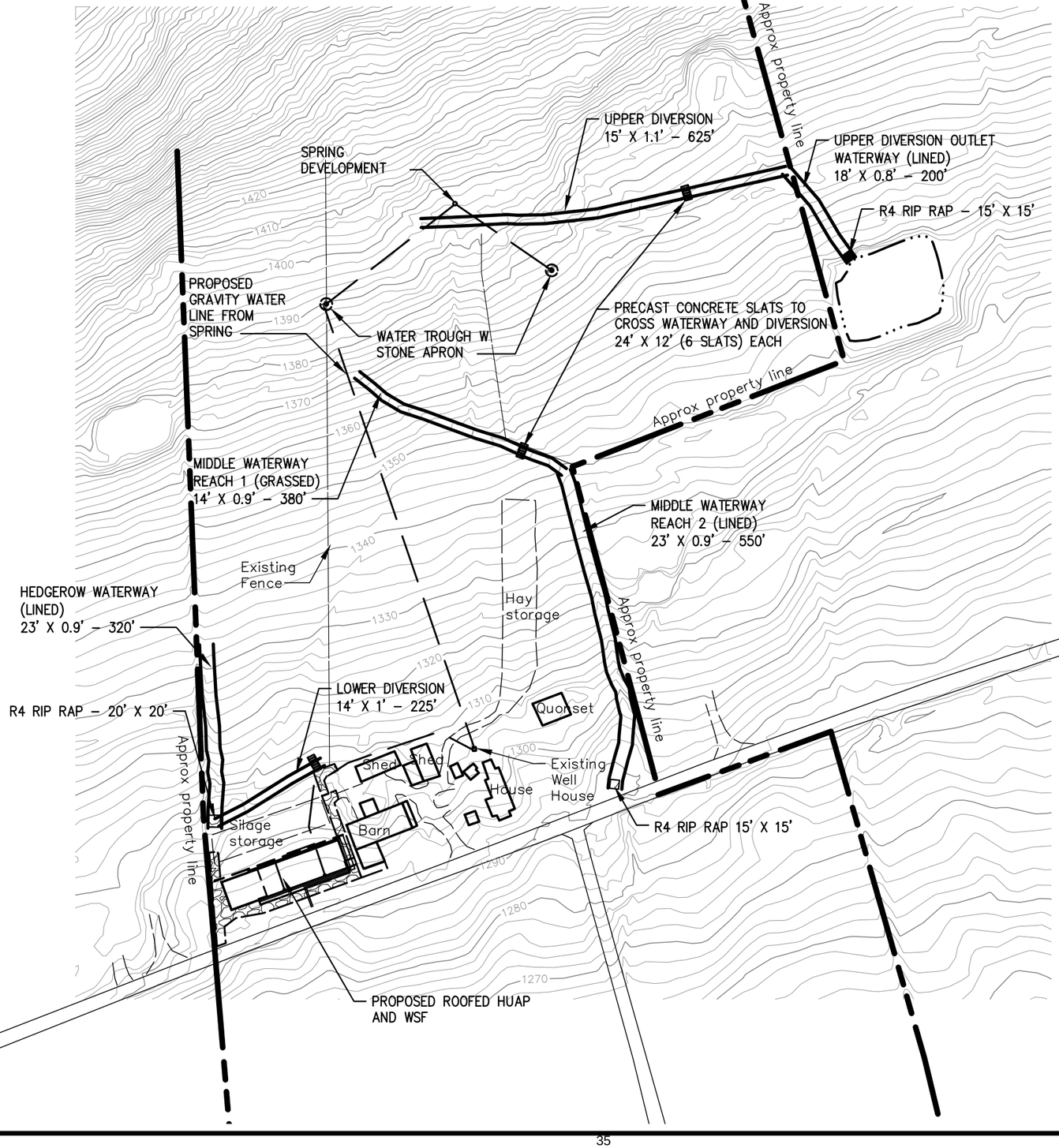
Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.



NORTH

PRELIMINARY
NOT FOR CONSTRUCTION

TeamAg INC
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EPHRATA, PA 17522 Fax: 717-721-9275
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RON HOLDREN
900 WEST VALLEY RD
LOGANTON, PA 17747
570-660-1009

GREENE TOWNSHIP
CLINTON COUNTY

Project Manager:
NATE DEWING

Design By:

Drawn By: NAD

HEAVY USE AREA PROTECTION

PLAN VIEW

SCALE
1" = 200'
0' 200'

Proj.:

Date:

Rev.:

Sheet 1 of

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CLINTON COUNTY

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HEAVY USE AREA PROTECTION

PLAN VIEW

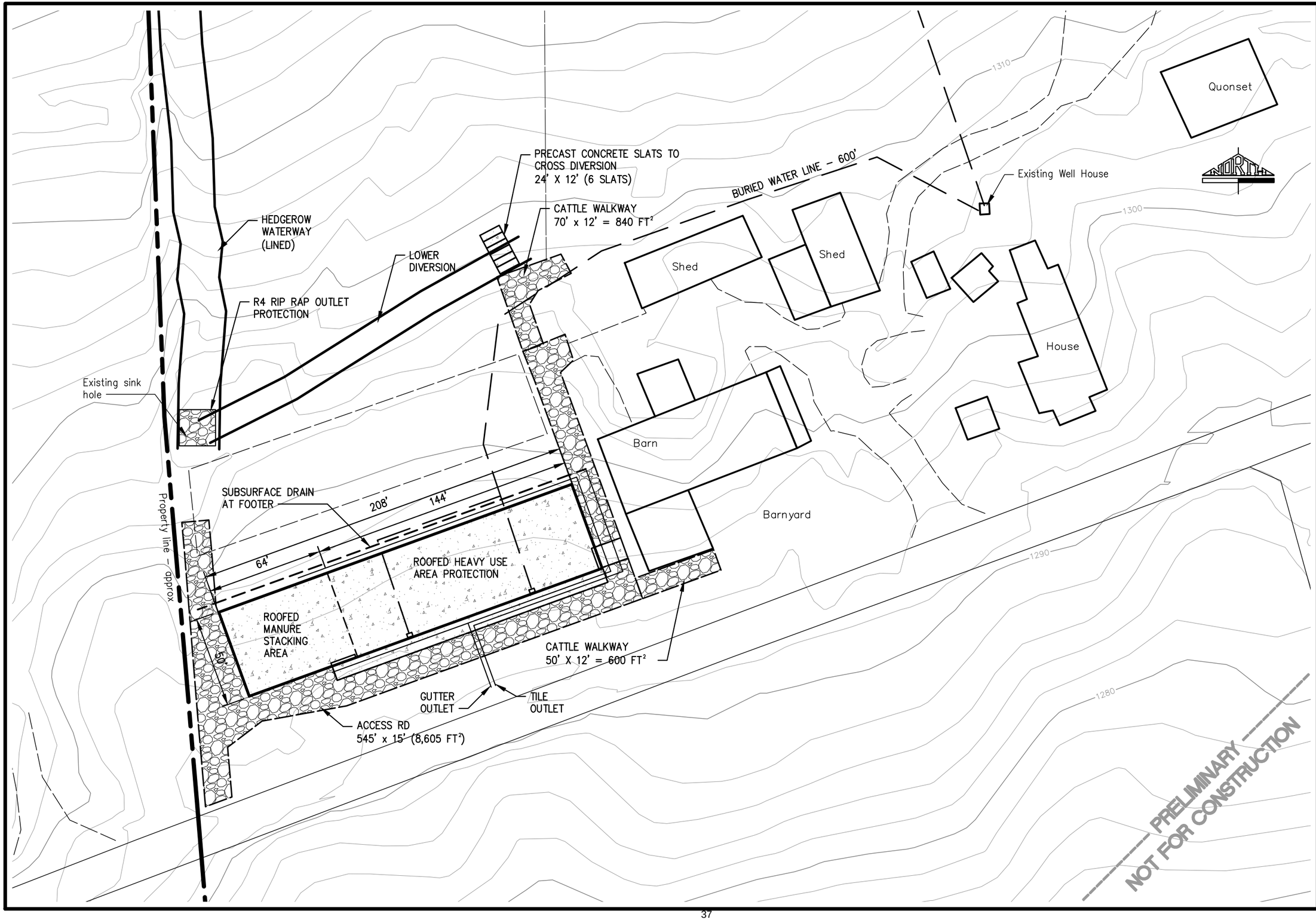
SCALE 1" = 200'
0' 200'

Proj.:

Date:

Rev.:

Sheet 2 of



TeamAg INC
120 LAKE STREET Phone: 717-721-6795
EPHRATA, PA 17522 Fax: 717-721-9275
TeamAg@TeamAgInc.com

RON HOLDREN
900 WEST VALLEY RD
LOGANTON, PA 17747
570-660-1009

GREENE TOWNSHIP
CLINTON COUNTY

Project Manager: NATE DEWING
Design By:
Drawn By: NAD

HEAVY USE AREA PROTECTION
PLAN VIEW

SCALE 1" = 50'
0' 50'

Proj.:
Date:
Rev.:
Sheet 3 of

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Design By:

Drawn By: NAD

HEAVY USE AREA PROTECTION

PLAN VIEW

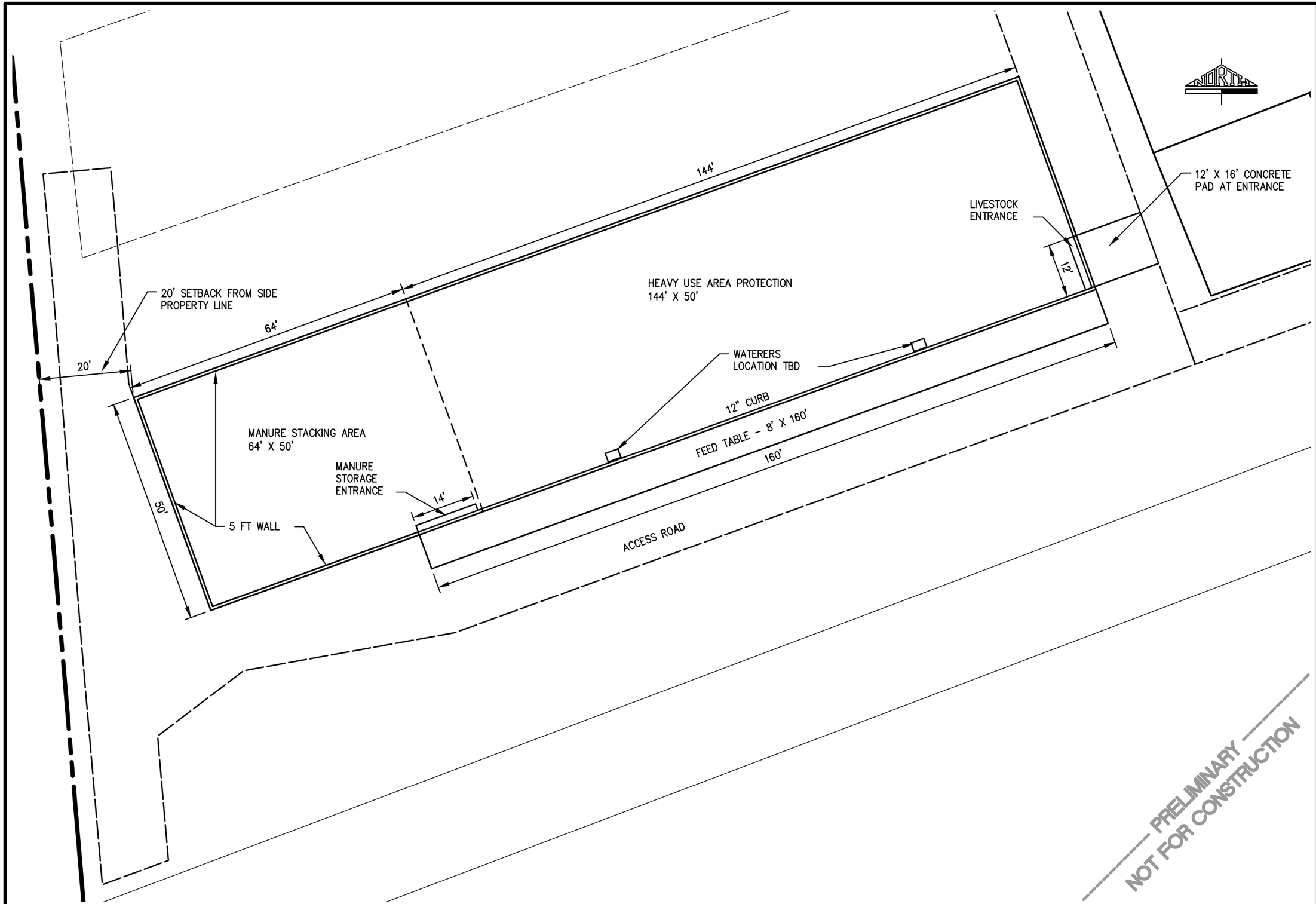
SCALE 1" = 50'
0' 50'

Proj.:

Date:

Rev.:

Sheet 4 of



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Project Manager:
NATE DEWING

Design By:

Drawn By: NAD

HEAVY USE AREA PROTECTION

HUAP LAYOUT

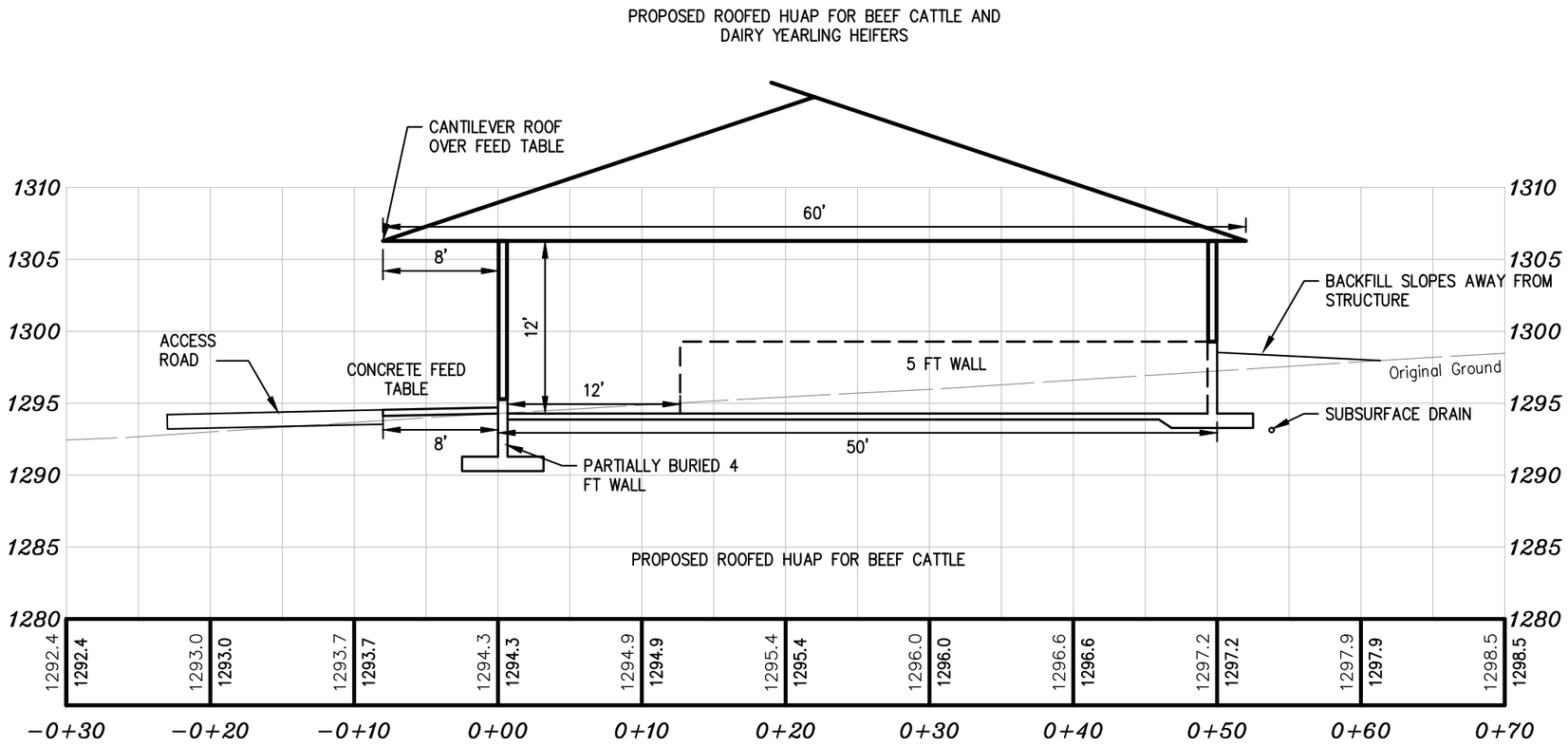
SCALE
0' 20'
1" = 20' (on 11x17)

Proj.:

Date:

Rev.:

Sheet 5 of



CROSS SECTION AA
HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 10'

PRELIMINARY
NOT FOR CONSTRUCTION

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GREENE TOWNSHIP
CLINTON COUNTY

Project Manager:
NATE DEWING

Design By:

Drawn By:

HEAVY USE AREA PROTECTION
CROSS SECTION AA

SCALE
1" = 10'
0' 10'

Proj.:

Date:

Rev.:

Sheet **6** of

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