

**STATEMENT OF WORK
FOR
ARCHITECT AND ENGINEERING SERVICES

DEVELOPMENT OF A
WATERSHED PLAN AND ENVIRONMENTAL DOCUMENT FOR THE
CHIQUES CREEK WATERSHED PROJECT
LANCASTER COUNTY, PENNSYLVANIA**

A. INTRODUCTION

This task order involves the development of a Watershed Plan – Environmental Document (Plan-ED) and all necessary supporting data for the Chiques Creek Watershed Project. Planning must follow the policy set forth in the Title 390, National Watershed Program Manual (NWPM), which is incorporated by reference. A copy of the NWPM can be downloaded from the eDirectives website <http://directives.sc.egov.usda.gov>.

The Architect-Engineer (A-E) will assist the SLO in determining the appropriate environmental document needed for this federal action – Environmental Assessment or Environmental Impact Statement.

The A-E will finalize a detailed Plan-ED which concludes by describing the most technically, economically, socially and environmentally defensible alternative, as determined in consultation with the Lancaster County Conservation District. The Plan-Environmental Document must be prepared in accordance with the NWPM.

The A-E shall complete an analysis of all reasonable alternatives that may include structural and/or non-structural measures for the watershed. Structural alternatives shall be in compliance with USDA-NRCS and Pennsylvania Department of Environmental Protection (PADEP) standards, criteria, and guidance. Alternatives requiring analysis include, but are not limited to, the following:

- NEPA No Action (PR&G Future Without Federal Investment (FWOFI)),
- Sponsor’s Alternative, and
- National Economic Efficiency (NEE) alternative under Economic and Environmental Principles, Requirements and Guidelines for Water and Related Land Resources Implementation Studies (PR&G).

The Preferred Alternative will be identified from the alternatives studied in detail.

The work under this Statement of Work includes all services necessary to produce a Final plan-environmental document sufficient for the Responsible Federal Official (RFO) to publish either a Finding of No Significant Impact (FONSI) or a Record of Decision (ROD), as accepted by the Lancaster County Conservation District, in consultation with the Responsible Federal Official (NRCS) as described in this SOW. All engineering work will be performed under direct supervision of a registered Professional Engineer licensed in the Commonwealth of Pennsylvania, who will affix his/her Professional Engineering stamp (seal) on all engineering drawings, documents and certifications.

1. Description of the Watershed Project

The Chiques Creek watershed, encompassing 126 square miles within Lancaster County (Attachment 1 – *Chiques Creek Watershed Map*), is one of the most adversely impacted watersheds in Pennsylvania. The Chiques Creek is stressed from siltation, streamflow alterations, excess suspended sediment, and nutrient enrichment, primarily due to the dominant agricultural land use, the town and urban developments, and a lack of forest cover. The stream channel has also been disconnected from the historic floodplain due to the presence of historic mill dams throughout the watershed.

In addition, flooding has been an ongoing concern in the watershed, particularly in the town of Manheim. As an example, during 2011's Tropical Storm Lee, police and/or fire had to respond to 209 rescue calls due to flooding, 62 businesses reported flood damage, and 501 Manheim residents received over \$2.3 million in FEMA grants according to the Pennsylvania Emergency Management Agency.

While erosion from farmland and other sources is contributing to sedimentation within the watershed, the purpose of this Watershed Project is to only address legacy sediment within the existing riparian corridors. It is anticipated that the preferred alternative may include stream/floodplain restoration and/or stabilization. Stream restoration may include removal of legacy sediment from and reconnect Chiques Creek to the historic flood plain.

Measures to address legacy sediment within the Chiques Creek watershed can result in a permanent reduction in the migration of nutrient-laden sediment into the Chesapeake Bay and mitigate flooding within the watershed. Additional environmental benefits can be realized in riparian corridor improvements, floodplain management, restored green space, and flood damage reduction resulting in improved public health and safety.

2. Authorized Project Purposes

Flood Prevention – Flood prevention or flood damage reduction measures are installed to prevent or reduce damages caused by floodwater. Flood damage reduction is further defined as the control and disposal of surface water caused by abnormally high direct precipitation, stream overflow, or floods aggravated or caused by wind or tidal effects. Flood damage reduction and mitigation measures reduce or prevent floodwater damages by reducing runoff, erosion, and sediment; modifying the susceptibility of improvements in the floodplain to damage; removing damageable property from the floodplain; or reducing the frequency, depth, or velocity of flooding. Measures may also include actions that prevent encroachment into the floodplain. (National Watershed Planning Manual – 390-500.3.B.i).

Watershed Protection – Watershed protection consists of onsite treatment of watershed natural resources concerns for the primary purpose of reducing offsite floodwater, erosion, sediment, and agriculture-related pollutants. Watershed protection plans may include ecosystem restoration type activities. Any practice or combination of practices listed in Title 450, National Handbook of Conservation Practices (NHCP), may be considered for inclusion in the systems of practices included in a watershed protection project plan. Project measures for watershed protection include land treatment practices installed by land users to conserve and develop any of the following:

- Soil
- Water quality and quantity
- Woodland
- Fish and wildlife habitats
- Energy
- Recreation and scenic resources

(National Watershed Planning Manual – 390-500.3.B.ii).

3. Sponsor

The sponsoring local organizations (SLOs) are the Lancaster County Conservation District (LCCD), in partnership with the Lancaster County Commissioners.

4. Definitions

- a. The Lancaster County Conservation District (LCCD) is the administrator of the contract to develop the Watershed Plan and Environmental Document for the Chiques Creek Watershed. Throughout this document they will be referred to as the sponsor or Sponsoring Local Official (SLO).
- b. The Natural Resources Conservation Service (NRCS) is an agency within the United States Department of Agriculture's (USDA) Farm Production and Conservation (FPAC) mission area. USDA-NRCS administers the Watershed and Flood Prevention Operations Program, for which this Watershed Plan – Environmental Document is being prepared. USDA-NRCS will have an active role throughout this project to ensure compliance with the Program.
- c. In this statement of work the term Contractor, Architect-Engineer (A-E), Engineering Services A-E, Designer, and Design Engineer are synonymous. They refer to the Architecture-Engineering firm selected by the SLO, with input from USDA-NRCS, to perform the work defined in this statement of work.
- d. The A-E's "Project Manager" (PM) as used in these specifications refers to the individual designated as the point of contact for the A-E selected to perform the work defined in the SOW through work orders, agreements or other contracting methods. All decisions and communication will be coordinated through the respective PM.
- e. The SLO's Contracting Officer (CO) as used in this contract means the person with the authority to enter into, administer, and/or terminate contracts and make related determinations and findings.
- f. The SLO's "Contracting Officer's Representative" (COR) as used in these specifications means the person assigned to this project by the CO to assist in the technical monitoring or administration of this project. The COR provides technical review of the work submitted by the A-E and advises the CO as to the technical suitability of required deliverables.
 1. Coordination must be maintained between the A-E, the CO, and the COR to the extent necessary to ensure the CO's and COR's awareness of and concurrence with progress made on the general or specific elements of the Watershed Plan – Environmental Document.

- g. "Quality Assurance/ Quality Control (QA/QC) Plan" as used in these specifications refers to plan of activities performed by the A-E to ensure and document that the work performed have been properly developed and meet the minimum requirements of the contract. It is the A-E's responsibility to have a detailed and functional QA/QC Plan that is approved by the COR.
- h. "Plan-ED" as used in these specifications refers to the Watershed Project Plan and Environmental Document that will be produced as a result of this effort. The expected environmental document for this project is an Environmental Assessment.
- i. "Chiques Creek Watershed project" as used in these specifications refers the following Hydrologic Units and Hydrologic Unit Codes (HUCs):
 - 1. Upper Chiques Creek, 25.6 mi², HUC12: 020503060801
 - 2. Little Chiques Creek, 44.5 mi², HUC12: 020503060802
 - 3. Donegal Creek, 17.2 mi², HUC12: 020503060803
 - 4. Lower Chiques Creek, 34.8 mi², HUC12: 020503060804

B. PERSONNEL

1. The A-E shall designate in writing to the Contracting Officer (CO) a principal member of the A-E's Team who will serve as the contact person for the project and responsible for supervising the work. A-E's contact representative shall be fully cognizant of the contract requirements, performance of the work, and schedule requirements.
2. A-E will provide all project management and coordination necessary for completion of all activities outlined in this SOW. A-E will also monitor labor utilization, project schedule, and project budget on a regular basis. A-E's PM will be responsible for ensuring that the project budget is being strictly adhered to and that deliverables are submitted in accordance with the approved performance schedule. A-E's PM will be fully responsible for performance of A-E's personnel, including sub-consultants. A-E's PM will provide progress reports as described in Section I.
3. The A-E shall submit for the CO's approval the names and qualifications of all personnel who will be supervising and performing work on this contract. The work detailed by this SOW shall be performed by the personnel who have been approved by the CO to perform the work. Less experienced and/or less qualified personnel shall not be utilized for the performance of this contract unless approved in advance by the CO. Conversely, use of over-qualified staff to do lower level work is allowed, but at the accepted rate for such work. The required information shall be submitted within thirty (30) calendar days of the issuance of the Notice-To-Proceed (NTP).
4. The employees designated by the A-E shall serve in these capacities throughout the life of the project. If an assigned employee must be replaced by the A-E, the replacement candidate must have the same or greater qualifications as the original employee. The A-E shall submit documents supporting the replacement candidate's qualifications. The CO will have fourteen

(14) calendar days after submission of all documentation to evaluate and approve or disapprove the replacement candidate.

5. The A-E shall submit for the CO's approval the names and qualifications of all subcontractors who will be performing work on this contract. If an assigned subcontractor must be replaced by the A-E, the replacement candidate must have the same or greater qualifications as the original subcontractor. The A-E shall submit documents supporting the replacement subcontractor's qualifications. The CO will have fourteen (14) calendar days after submission of all documentation to evaluate and approve or disapprove the replacement subcontractor.
6. All work must be conducted by experienced interdisciplinary staff under the direct supervision of a Professional Engineer currently licensed in the Commonwealth of Pennsylvania.

C. PROJET SCOPE

The work consists of the performance of any part or all inventories, surveys, preliminary designs and planning necessary to complete an USDA-NRCS acceptable combined Watershed Plan and environmental document, Plan-ED.

All work shall conform to all USDA-NRCS regulations and policy documents, standards, technical guidelines and references. USDA-NRCS Policy documents include the General Manual (GM), the National Watershed Program Manual (NWPM) and Principles, Requirements and Guidelines for Water and Land Related Resources Implementation Studies (PR&G). USDA-NRCS Technical Materials include all the sections in, but not limited to, the National Watershed Program Handbook, National Engineering Handbooks (NEH), National Planning Procedures Handbook (NPPH), Water Resources Handbook for Economics (WRHE), National Environmental Compliance Handbook (NECH), National Cultural Resources Procedures Handbook (NCRPH), National Handbook of Conservation Practices (NHCP), Technical Releases (TR), and Technical Notes (TN).

The Plan-ED shall follow the policy outlined in DR 9500-013, *Conducting Analyses Under the Principles, Requirements, and Guidelines for Water and Land Related Resources Implementation Studies and Federal Water Resource Investments*, and other requirements set forth in the Council on Environmental Quality (CEQ) *Principles Requirements and Guidelines for Federal Investments in Water Resources* (PR&G), and *Interagency Guidelines* (IAG); and other PR&G guidance as developed through agency training or policy updates. The Plan-ED will meet all requirements set forth by the NEPA, Endangered Species Act and the National Historic Preservation Act.

The Plan-ED will be presented in a document following the format as described in NWPM Part 501.31, Plan Format Outline and address each item in Sections 501.32 through 501.45.

USDA-NRCS Policy documents include, but are not limited, to the following:

- Title 180 Part 500 National Operations and Maintenance Manual (NOMM)
- Title 190, Part 410, General Manual (GM)
- Title 210 Part 500 National Engineering Manual (NEM)
- Title 390 Part 500 National Watershed Program Manual (NWPM)
- Title 400 General Manual (GM), Part 400 - Public Participation Policy.

- Economic and Environmental Principles, Requirements and Guidelines for Water and Related Land Resources Implementation Studies (PR&G).
- Department Manual 9500-013 for PR&G.

USDA-NRCS Technical Materials include but are not limited, to the following:

- Title 390 Part 600 National Watershed Program Handbook (NWPH)
- Title 210 National Engineering Handbooks (NEH)
- Title 180 Part 600 National Planning Procedures Handbook (NPPH)
- Title 200 National Resource Economics Handbook Part 611 Water Resources
- Title 190 Part 610 National Environmental Compliance Handbook (NECH)
- Title 190 Part 601 National Cultural Resources Procedures Handbook (NCRPH)
- Title 450 National Handbook of Conservation Practices (NHCP)
- NRCS Engineering Technical Releases (TR)
- Title 210 Technical Notes (TN)

USDA-NRCS policy and technical materials can be accessed from the USDA-NRCS eDirectives website <http://directives.sc.egov.usda.gov/>.

Engineering surveys, engineering Hydrologic and Hydraulic (H&H) analyses using HEC-RAS (latest version) and geologic evaluations must be performed in accordance with manuals, handbooks, and miscellaneous instructions issued by the USDA-NRCS and all other Federal, State and local regulations. All activities shall comply with the Watershed Protection and Flood Prevention Act of 1954 (Public Law 83-566) as amended by the Small Watershed Rehabilitation Amendments of 2000 (Section 313 of Public Law 106-472).

If during project planning additional analyses, evaluations, environmental compliance activities, and documentation are needed that are beyond the requirement detailed in this SOW, the SLO, in consultation with the A-E, NRCS, and other affected parties, will determine the need and extent of the work. If funding is available, the SLO will acquire the services to complete the additional work by negotiating with the current A-E or utilizing another A-E, Sponsor resources. At a minimum the expected environmental document for this project is an Environmental Assessment.

All personnel, equipment, labor, materials, transportation, and facilities required to perform the services described herein shall be supplied by the A-E.

D. TASKS AND DELIVERABLES

1. General

- a. The A-E must report to the CO any omissions, discrepancies, or inadequacies in the data furnished by the CO as a basis for planning. The need for supplemental data or additional investigations will be conveyed to the CO in writing with suggestions for corrective actions. If corrective actions approved by the CO cause changes to the work which impact on contract performance time and/or contract costs, the CO must be notified prior to any changes. The CO must authorize any changes to performance time and/or contract costs by written modification to the contract.

- b. The A-E must maintain a record of all reports, reviews, computations, analysis, drawings, and other pertinent data. These records must be neatly recorded and organized into a planning folder. All sources of reference data must be listed in the Plan-ED. Upon completion and acceptance of the Plan-ED all information compiled during the project work, including field data, field notes, survey information, photographs, etc., must be submitted to the CO in both electronic and hard copy formats.
- c. The A-E must minimize the duplication of work already performed in previous watershed studies and include, when appropriate, such information by reference. The A-E shall identify and make the CO aware of any work that is a duplication of original effort; distinct from work that will be done for this Plan-ED. This notification shall occur during specified conferences for work items listed in Section F.3.
- d. A-E access and permits to conduct surveys, inventories, and site investigations will be obtained by the Sponsor. All work under this contract must be performed in conformance with applicable federal, state, and local laws and regulations.
- e. All work, surveys, studies, computations, designs, drawings and documents in paper or electronic format that are collected, assembled, and developed under this contract must become the sole property of the SLO and USDA-NRCS. No other use of the property must be allowed without the express written approval of the SLO and USDA-NRCS. Where written approval is provided, appropriate acknowledgement of the SLO and USDA-NRCS will be made as provided in the approval.

2. Description of Work

For contract administration and payments, the work shall be divided into the following eight phases, as described below. Required items and subsidiary items, details, and deliverables for each Principal Phase are described in Attachment 2 - *Technical Specifications – Planning Services for Watershed Project Plan-Environmental Document*.

Due dates and a project schedule are provided in Attachment 3 – *Schedule of Work and Timeline*. The Plan- Environmental Document shall follow the policy outlined in DR 9500-013, *Conducting Analyses Under the Principles, Requirements, and Guidelines for Water and Land Related Resources Implementation Studies and Federal Water Resource Investments*, and other requirements set forth in the Council on Environmental Quality (CEQ) *Principles Requirements and Guidelines for Federal Investments in Water Resources* (PR&G), and *Interagency Guidelines* (IAG); and other PR&G guidance as developed through agency training or policy updates.

Phase 1 – Identify Problems, Opportunities and Concerns

Work in this phase will involve the development of the Plan of Work and gathering existing site data for environmental, economic and social impacts and opportunities.

The Plan of Work will be used to identify the individuals assigned to and the estimated amount of time required for each work component of the planning effort. The initial plan of work, developed after the A-E is selected, may be updated during the planning process to reflect the needs, problems, and opportunities discovered during planning.

Item 1-1 Plan of Work

Item 1-2 Gather background data and develop a list of interested parties

Item 1-3 Public Participation Plan

Phase 2 – Determine Objectives

Item 2-1 Document sponsor objectives, write purpose and need statement, and write scope of plan.

Phase 3 – Inventory Resources

Data gathering and preliminary watershed resource analysis sufficient to support formulation of feasible alternatives. At a minimum address all resource concerns listed on the NRCS-CPA-52 (Environmental Evaluation form).

Item 3-1 Perform Field Reconnaissance

Item 3-2 Resource Inventories and Watershed Assessment

Item 3-3 Economic and Social Assessment

Item 3-4 Archaeological and Historic Assessment

Item 3-5 Soils and Engineering Assessment

Phase 4 – Analyze Resource Data

This phase will involve evaluating collected resource information through statistics, maps and other analytical techniques and tools. An analysis of all initial alternatives including the future without project condition.

Item 4-1 Resource Inventories and Watershed Assessment

Phase 5 – Formulate Alternatives

This section involves the formulation of reasonable alternatives based on the analysis of collected resource information. The completeness, effectiveness, efficiency and acceptability of each feasible alternative will be documented considering permits, project cost, required mitigation, and be in compliance with Federal, State, and local laws and regulations.

Item 5-1 Analysis of Initial Alternatives

Phase 6 – Evaluate Alternatives

Impacts shall be described for each alternative. Direct, indirect, and cumulative effects shall be identified, and the narrative information shall be presented in a summary form; using supplemental tables, drawings, maps, and other graphics.

Item 6-1 Summary and Comparison of Alternatives along with needed permits and mitigation requirements.

Phase 7 – Make Decisions

Information will be provided to the sponsor regarding the National Economic Development (NED), Environmental Quality (EQ), Other Social Effects (OSE), and Regional Economic Development (RED) accounts.

Item 7-1 Compare and Review Alternatives with Sponsor

Item 7-2 Prepare Draft Environmental Document

Phase 8 – Review and Draft Environmental Document

The draft environmental document will be reviewed by the public, USDA-NRCS and partner technical personnel and USDA-NRCS administrative officials.

Item 8-1 Response to USDA-NRCS – National Water Management Center and SLO review

Item 8-2 Response to Participating and Cooperating Agencies and other interested parties' comments

Item 8-3 Response to USDA-NRCS – National Head Quarters Administrative review

Item 8-4 Complete Plan-ED

E. QUALITY OF WORK

A-E will follow his/her Quality Assurance/Quality Control Plan (QA/QC) for the Project. A copy of the A-E's QA/QC Plan will be submitted to the SLO at the Project Kick-Off Meeting. The A-E's QA/QC officer will be charged with responsibility of the Plan's implementation and documentation of current QA/QC activities. An update on all QA/QC activities will be reported in the progress reports. All work performed by the A-E's personnel, including sub-consultants, will be in accordance with the A-E's QA/QC Plan and approved by the COR.

All submittals, including memoranda, reports and studies, will undergo quality management reviews in accordance with the A-E's documented QA/QC processes for the Project. The purpose of the QC review is to verify that the resulting work products meets acceptable practice standards and that the documents have been properly coordinated to the satisfaction of the SLO. The QC reviewer will inform the Project team of any exception or proposed improvement that may be noted. QC reviews will be provided for all submittals. The QC reviews will be conducted prior to submittal to allow time for incorporation of any recommended revisions.

Deliverables and submittals will meet the following criteria:

1. All work will be performed in a professional manner in accordance with USDA-NRCS policy, technical criteria, procedures, and current Federal, State, and local laws and regulations.
2. Text material of reports and design memorandums and computation sheets will be prepared on standard letter size sheets (8-inches by 11-inches). Fonts will be 11-pt or 12-pt Arial or Calibri and paragraph format will be single space. Reports will be prepared in Microsoft Office, Version 2016 for personal computers, or newer. Drawings, graphs, photos, etc., for reports and memoranda that are required to be bound will have a binding edge 11 inches in length.
3. All maps that are geo-referenced will use Pennsylvania State Plane NAD83 datum US feet horizontal coordinates and NAVD88 US feet vertical datum. Any maps created in ArcGIS, when submitted to the SLO in electronic files, will include all shape files and all associated accessory files such as .dbf, .prj, .shp, and .shx files.
4. All field notes, computations, drawings, maps, sketches, and other data will be complete, recorded neatly, checked by persons as equally qualified as those performing the original

computations, and organized in a manner that will allow reproduction of copies and incorporation in reports with a minimum of editing and revision.

5. Design drawings, diagrams, graphs, sketches or other pictorial representations will be physically incorporated into the planning and design file whenever the size and scale are appropriate. Design drawings that must be drawn on larger-sized sheets and cannot be folded to computation sheet size will be cited at the appropriate place in the computations by a notation that fully identifies the drawing and its file location.
6. The input files and output files of computer programs used in planning will be provided in hard copy and electronic format. The files will be fully documented and presented to the COR.

F. AVAILABLE INFORMATION

- Watershed Restoration Action Strategy (WRAS), State Water Plan Subbasin 07G, Chickies Creek and East Conewago Creek Watersheds, Susquehanna River Basin, Lancaster, Dauphin, and Lebanon Counties PA (February, 2019)
- Chiques Creek Watershed Assessment (Growing Greener – LandStudies, 2002)
- Little Chiques Creek Rivers Conservation Plan (DCNR – LandStudies, 2005)
- Chiques Creek Alternative Restoration Plan/TMDL (SRBC & DEP, 2019)
 - Final BMP Inventory (SRBC, 12/15/16)
- Donegal Creek TMDL (DEP, 2000)
- Northern Lancaster County Groundwater Study (Growing Greener – SRBC & LandStudies, 2005)
- Chiques Creek Flood Resiliency Study (SRBC & USACE, 2018)
- Watershed Action Plan (LandStudies – CCWA 2014/2015)
- Chiques Creek Reenvisioned Project (Penn State, 2019)
 - Chiques Final Project List (Penn State, Sep 14 2017)
 - GIS Chiques All Projects (Penn State)
 - Funded and Potential Projects (Penn State)
- Pollution Reduction Plan BMP draft (Penn State)
- Chiques Projects (USACE)
 - Candidate Restoration Projects (USACE)
 - PA Subwatershed Action Plan (USACE, 2018)
- Chesapeake Bay. Comprehensive Water Resources and Restoration Plan (NFWF and USACE, 2018)
- Chiques Creek and Doe Run Stream Corridor Improvements Masterplan (LandStudies, 2014)
- Chiques Creek Watershed Report Card (LandStudies – LCCWC, 2019)
- White Oak Project Site Restoration Masterplan (LandStudies – 2016)
- Contact information for the Sponsor and USDA-NRCS local field office.
- USDA-NRCS manuals and handbooks (available at <http://directives.sc.egov.usda.gov/>)

G. MEETINGS AND CONFERENCES

Meetings and conferences are as described below. The A-E is responsible for making arrangements and announcements for such meetings and conferences, in consultation with the CO. The A-E will

track in a log all conferences; at a minimum the date of the meeting, type of meeting, subject of the meeting and the date minutes were distributed will be tracked.

Meetings will be in-person at the Lancaster County Conservation District (Farm & Home Center, 1383 Arcadia Rd., Lancaster) or within the Chiques Creek Watershed, or other locations agreed to by the CO and A-E. Conferences may be in-person, teleconferences, or web meetings, based on the content needed to be shared/discussed.

The USDA-NRCS shall be invited to participate in all meetings and conferences.

The A-E shall prepare meeting minutes of all conferences and meetings summarizing discussions, decisions reached, and action items determined and provide a copy of the minutes to the CO and Sponsor. The A-E will distribute a copy of the minutes to the participants within seven (7) calendar days of the meeting. The minutes and corresponding comments can be submitted electronically.

Work that, in the opinion of the CO in consultation with the COR, that does not require meetings or conferences may be reviewed and concurred by the SLO in writing (email).

1. Conferences

- a. Pre-Work Conference: The A-E shall meet with the CO and USDA-NRCS prior to issuance of a task order to discuss the specified A-E activities. The CO and the A-E shall develop a mutual understanding regarding the scope of work and personnel. The A-E will document the understanding reached by correspondence to the CO.
- b. Project Update Conferences – These conferences will be held monthly for the A-E to keep the COR, CO, and USDA-NRCS informed on the progress of completing project Phases and subsidiary items. Draft agendas, presentations, and materials shall be submitted to the CO at least seven (7) calendar days prior to conferences. These meetings will generally be teleconferences and net meetings, but may be held in person at the LCCD Office, or other approved location at the discretion of the SLO. A-E to distribute minutes after meeting is completed. It is intended that most of the meetings/conferences shown in Attachment 2 - *Technical Specifications – Planning Services for Supplemental Watershed Project Plan-Environmental Document* would occur during these Project Update Conferences.
- c. Public Scoping – These conferences will be held prior to the public scoping process. The purpose of the meeting is to review project status, agree on details of the scoping process, materials and types of information to be shared and acquired.
- d. Plan-Environmental Document Review – These conferences will be held upon SLO reviews of the Initial, Preliminary, Draft, and Final Plan-Environmental Document.
- e. “As-needed” – These conferences will be held whenever requested by the CO, COR, or A-E to discuss issues relating to the project, work previously performed will be reviewed, and decisions made with a view toward expediting the completion of the contract. These meetings may be held in the LCCD Office, or other location approved by SLO . These meetings may be in-person, net meetings, or teleconferences. The A-E is responsible for making arrangements and announcements for such meetings.
- f. Specified conferences with SLO must be scheduled by SLO or A-E at least ten (10) days prior to the conference date. Specified conferences are identified for individual items in

Appendix 2 – Technical Specifications – Planning Services for Watershed Project Plan-Environmental Document.

- i. Specified conferences may include more than one item of work when the sequence of work will allow.
- g. In addition to specified conferences, other conferences must be held whenever requested by the A-E, CO, or COR during which questions relating to the project will be discussed, work previously performed will be reviewed, and decisions made with a view toward expediting the completion of the contract.
 - i. The CO and the A-E will mutually agree upon schedules for other "as-needed" conferences.

2. Meetings

- a. There will be two (2) internal meetings between the A-E and SLO and USDA-NRCS during the course of the work detailed in this SOW. Meetings will be initiated by the A-E in accordance with the specified time frames listed below.

Meeting dates will be coordinated with SLO and USDA-NRCS. The A-E shall notify the CO of the date, time and location of the meeting at least fourteen (14) calendar days in advance of each meeting. The A-E shall provide a draft agenda, any draft presentations, and/or other materials to the SLO for review seven (7) calendar days in advance of each meeting.

- i. Project Kick-Off Meeting –The meeting will be used to get acquainted, discuss the details of the contract, review examples and guidance, develop a mutual understanding regarding the scope of work, become familiar with the personnel to be involved, discuss day-to-day working arrangements and discuss any items of concern. This meeting can be an in-person meeting or teleconference at the discretion of the SLO.
- ii. Alternatives Meeting – The meeting shall be held prior to completion of Phase 4. The A-E will present an update on the project status and a comparison of the effects on the alternatives considered. This meeting can be an in-person meeting or teleconference at the discretion of the SLO.

(a) This is Conference 9

- b. The A-E will attend four (4) mandatory external meetings during the course of the work detailed in this Statement of Work. The meetings will be initiated by the SLO. Issues identified in the first two meetings will be considered in the development of the Alternatives in Phase 4. All of the meetings will be held at Lancaster County Conservation District Office unless otherwise stated. The A-E will consider the identified concerns throughout the entire process.
 - i. Public/agency scoping – This meeting will be held early during Phase I. The A-E will present on the Public Participation Plan, the proposed project objectives, outline of the planning process and the role of technical entities, other participating agencies and non-governmental organizations (NGOs), and invite comments.

(a) This is Conference 4

- ii. Initial public meeting – This meeting will typically be held during the evening of the same day as the public/agency scoping meeting. The A-E will discuss the Public Participation Plan, the proposed project objectives, outline of the planning process and the role of public participants, and invite comments.
 - (a) This is Conference 5
- iii. Permitting/Mitigation Meeting – The A-E, SLO, and USDA-NRCS will lead a site walk with permitting agencies, including PA Department of Environmental Protection, U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, PA Fish and Boat Commission, PA Game Commission, PA Department of Conservation and Natural Resources, PA State Historic Preservation Office, and Lancaster County Conservation District, as appropriate. The evaluated and preferred alternatives will be presented for discussion of potential permitting and mitigation issues.

It is intended that this meeting be held the same day as the Evaluated Alternatives Public Participation Meeting.

 - (a) This is Conference 11
- iv. Final Public Meeting – The A-E will present the evaluated alternatives for agency and public discussion. The recommended alternative will also be presented. This meeting will be held at a location and time(s) convenient for the A-E, SLO, and USDA-NRCS.
 - (a) This is Conference 12

H. PROGRESS REPORTS

A-E will submit a progress report to the SLO by email by close of business on the Friday prior to the Progress Update Call. The progress report shall include, but not be limited to, the following:

1. activities accomplished during the previous month,
2. any problems, issues, or concerns encountered in the development of the Watershed Plan-Environmental Document, and
3. planned actions for the next month.

I. REVIEWS AND APPROVALS

1. The A-E shall schedule reviews with the CO on the Initial, Preliminary, Draft, and Final Plan-Environmental Document.
2. The Plan-Environmental Documents will be reviewed and verified for accuracy and conformance to USDA-NRCS policy by A-E's personnel prior to submittal to the CO.
4. The SLO will review the deliverables, determine if they are technically acceptable and return comments to A-E within fourteen (14) calendar days of the submittal. During the SLO review, A-E will respond to questions and provide clarification to the SLO comments. If requested, A-E and A-E's key technical staff be available at designated times during the review period to respond to questions from the SLO, either in person, by phone, and/or email.

3. Work, that in the opinion of the CO does not require conference discussions, may be reviewed and approved by correspondence (email). Where conferences are required, the A-E shall follow guidelines outlined in Section G - MEETINGS AND CONFERENCES.

J. MEASUREMENT AND PAYMENT

1. The A-E will submit a firm fixed price for each of the items of work identified in Phase 1 through Phase 8. The A-E will also provide the following information to support their firm fixed price:
 - a. Detailed listing of personnel position (i.e. Engineer VI, etc.) and hours worked for each phase.
 - b. Detailed listing of direct costs, in addition to labor costs, associated with each phase.
2. The A-E will submit invoices for payment for an item of work after all the work for that item is completed. All required certifications associated with a particular item will be submitted along with the applicable invoice. Excluding travel, a detailed breakdown of personnel time and direct costs will not be required for each invoice.
3. Payment will be made in accordance with applicable contract clauses for payment and once the SLO has been reimbursed for the payment invoices from USDA-NRCS. This process could take up two (2) months depending on federal budget and reviews.
4. Progress payments can be made for all items based on monthly invoices submitted by the A-E detailing the cost of performing the work. Once the SLO is reimbursed payment from USDA-NRCS, the A-E and all costs associated with their invoices will be paid. This process could take up to two (2) months depending on federal budget and reviews.

K. PERFORMANCE TIME

1. The performance time for the project is 545 calendar days from the issuance of the NTP. This performance time includes planning services and meetings. Individual milestones will vary based upon the date the Task Order is signed and can be calculated from Attachment 3 - *Schedule of Work and Timelines*.
2. The A-E shall complete and submit to the CO the deliverable items for each Phase and subsidiary items according to the times shown in Attachment 3 - *Schedule of Work and Timelines*. Fourteen (14) calendar days review times are for the initial review. Further time for review of resubmittals may be necessary.
3. It is acceptable and preferred for the A-E to submit individual deliverable items early to reduce review times and revisions of subsequent work.
4. A-E's request to change the project schedule must be submitted in writing (e-mail, fax, mail) to the CO with a justification for the change. The CO will notify the A-E within fourteen (14) calendar days of the decision whether the requested change to the project is approved.
5. It may be possible to work on several subsidiary items concurrently. Generally, all critical items in each Phase should be completed and concurred with by the SLO before starting the next

Phase. The A-E will coordinate with the COR to ensure the project progresses on schedule while avoiding starting subsidiary items that may depend on data or decisions from a prior Phase.

6. Start and finish dates shall adhere to the overall timeframe outlined in this SOW and Attachment 3 - *Schedule of Work and Timelines*.

L. FORMAT FOR SUBMITTED ELECTRONIC DATA

The A-E will provide digital files in a commonly acceptable format such as AutoCad Civil 3D, Microsoft (MS) Word or MS Excel. The A-E will provide all source, final and supporting versions of project electronic files. Final versions of electronic files shall have the word FINAL in their names along with the date of their creation (Example: geotechnicalreport_FINAL_20190715). The submission of files in other formats, not listed, must be approved by the CO.

The organization of the electronic files will utilize the structure outlined in NWPM Part 501 – Subpart C and Subpart D. File folders shall use the same names and be similarly ordered.

The method of electronic file transfer between the A-E and the SLO must be approved by the CO.

M. OWNERSHIP OF DATA

All documents, including water system data; resource inventory data; survey data; engineering, hydraulic, hydrologic, and economic model inputs, outputs, and model files; geology investigation reports; drawings; maps; estimates; and all other data used in the preparation of the Plan-ED are the property of the SLO and USDA-NRCS.

N. TERMINATION CLAUSE

The contract may be terminated for failure to successfully complete items in the Task Order or adhere to project schedules.

O. LIST OF ATTACHMENTS

Attachment 1 – Chiques Creek Watershed Map

Attachment 2 – Technical Specifications - Planning Services for Watershed Project Plan-Environmental Document

Attachment 3 – Schedule of Work and Timelines

Attachment 4 – Public Participation Plan

Attachment 5 – Conference & Meeting Schedule