James River Water Development

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September 30,2023

Kris Dozark
Department of Environment and Natural Resources
Joe Foss Building
523 E Capitol
Pierre, SD 57501

Dear Mr. Dozark:

We are very pleased to submit the following proposal titled "South Central Watershed Project Segment 2 Amendment 2". This segment will continue the implementation of Best Management Practices (BMP's) which have been successful in the Lewis and Clark, Lower James River, and Vermillion River watersheds.

The South Central Project will continue implementation of BMP's outlined in the Total Maximum Daily Load (TMDL) report for the watersheds. The total cost of this segment is $25,760,340.00 brought on by continued high demand and popularity for the BMP's offered by the project. This second segment will be complete on September 30[1]\ 2025.

Please call if we can provide additional information.

Sincerely,

Mike Wiese
Chairman of the Board
James River Water Development District

PROJECT SUMMARY SHEET

AWARD FISCAL YEAR: 2022

PROJECT TITLE: **South Central Watershed Implementation Project Segment 2** Amendment

NAME: James River Water Development District ADDRESS: 251 4th St SW

CITY: Huron, SD ZIP CODE: 57350

PHONE: (605) 352-0600 FAX: EMAIL: rocky.knippling@gmail,com

PROJECT LOCATION: LATITUDE: 43.2083 LONGITUDE: -98.2500

WATERSHED NAME: Lewis and Clark Lake PROJECT TYPES (See List): Watershed

HYRDOLOGIC UNIT CODE (HUC): 10170101, 10150001, 10150006, 10140101, 10160010

HIGH PRIORITY WATERSHED? Yes POLLUTANT TYPE: Agriculture

UWA CATEGORY: N/A

TMDL DEVELOPMENT (Y/N) N TMDL IMPLEMENTATION: (Y/N) Y

TMDL PRIORITY (High, Medium, Low): High WATERBODY TYPES: Lakes, rivers, streams

ECOREGION: Northern Glaciated Plains, Northwestern Glaciated Plains

PROJECT CATEGORY: Implementation

PROJECT FUNCTIONAL CATEGORY: Local (Specific Target) Education/ Information Programs

GROUNDWATER PROJECT? N

ARPA Grant:	**$5,000,000**	**Other Nonfederal Match:**	**$3,461,500**
319 (Secured):	**$2,126,000**	**Other Federal Funds:**	**$6,617,340**
319 (Unsecured)	**$1,300,000**	**Local Match:**	**$7,255,500**
319 Funded Full Time Personnel:	**3.0**	**Total Project Cost:**	**$25,760,340**

GOALS: The goal of the South-Central Watershed Implementation Project is to restore or protect the beneficial uses in the Lower and Upper James River Watershed, Lewis and Clark Lake, and the watersheds of Geddes, Academy, Platte Lake, Lake Andes Lake, and Vermillion Watershed. This will be accomplished through the installation of Best Management Practices (BMPs) in the watersheds that target sources of sediment, nutrients, and fecal coliform bacteria. This project, Segment II, will address and target BMP installation in the entire South Dakota portion of the Lewis and Clark Lake Watershed (1.9 million acres), the James River Watershed and its tributaries (9.4 million acres), and Vermillion River Watershed (1.43 million acres). It will also provide technical and financial assistance to the watershed activities in the Lake Andes, Geddes, Academy and Platte Lake Watersheds. These additional four watersheds add up to 560,000 additional acres and are tributaries of the Missouri River and Lake Francis Case which lies upriver and borders the Lewis and Clark Lake Watershed. The total project area acreage is 13,360,800 acres.

PROJECT DESCRIPTION: This proposal is the second segment of a locally planned multi-year (10-15 year) effort to implement best management practices (BMPs) in the Lewis and Clark Lake watershed, Lake Andes, Geddes, Academy and Platte Lake watersheds, impaired stretches of the James River tributaries, and impaired reaches in the Vermillion watershed. This effort is aimed at restoring water quality to meet designated beneficial uses and address TMDLs established, and to be established, for water bodies in these watersheds.

STATEMENT OF NEED

2.1 Demonstrated Water Quality Need

The South-Central Watershed Implementation Project Segment II is a five-year project that is a combination of the Lewis and Clark Watershed, the Lower James River Watershed Implementation Project, the Vermillion Watershed Project and now is expanded to the Upper James River watershed. Through the installation of BMPs in the watersheds, this project will restore or protect the water quality of targeted watersheds.

Similar to the previous projects, this Project will continue providing assistance for BMP installation in the priority project areas and complete an information campaign to keep stakeholders informed of project activities and progress.

The South-Central Watershed Implementation Project includes the 303d listed water bodies – Cresbard Lake, Dante Lake, Jones Lake, Lake Andes, Lake Byron, Lake Faulkton, Lake Louise, Lake Mitchell, Lake Redfield, Mina Lake, Ravine Lake, Roosevelt Lake, and Twin Lakes, as well as several streams and rivers.

This project will use available data from the watershed assessments and stakeholder input to prioritize BMP installation. Animal Feeding Area Assessments has been used to prioritize Animal Feeding Areas for the project area.

2.2 Waterbody Information

The beneficial uses for waterbodies in this project's watershed are shown in Table 1 on the next page. Attainment of the beneficial uses in the watersheds allows continued use of the water bodies for drinking water, livestock water, swimming, boating, recreation, irrigation, commerce, wildlife, and residential living. This project will continue to build on the successes reached by the previous projects for successful restoration of the Lewis and Clark Lake Watershed, James River Watershed, and Vermillion River Watershed to its intended beneficial uses.

This project will also benefit Lewis and Clark Lake, which is threatened by sediment to the level that its life span is estimated by the Corps of Engineers to be 50 to 125 years. Lewis and Clark Lake is the source of drinking water for many Nebraska and South Dakota communities, and is part of the Missouri main stem dam system that provides flood control and hydroelectric power. Located near Yankton, the lake is a major residential area (20-25,000 population), has over 1,000,000 visitors to its recreation areas, and has an annual recreational economic impact in excess of $21 million.

Table 1: Beneficial Uses for Targeted Water Bodies.

Water Body	Basin	Beneficial Uses
Beaver Lake	Lower James River Basin	6,7,8,9
Dawson Creek	Lower James River Basin	6,8,9,10
Firesteel Creek	Lower James River Basin	1,5,8,9,10
James River	Lower James River Basin	5,8,9,10
Lake Hanson	Lower James River Basin	6,7,8,9
Lake Mitchell	Lower James River Basin	1,4,7,8,10
Menno Lake -	Lower James River Basin	5,7,8,9
Mud Creek (Yankton County)	Lower James River Basin	6,8,9,10
Pierre Creek	Lower James River Basin	5,8,9,10
Twin Lakes (Sanborn)	Lower James River Basin	5,7,8,9
Wilmarth Lake	Lower James River Basin	4,7,8,9
Wolf Creek	Lower James River Basin	6,8,9,10
Academy Lake (Breached)	Lower Missouri River Basin	1,4,7,8,9,10,11
Andes Creek	Lower Missouri River Basin	5,7,8,9
Burke Lake	Lower Missouri River Basin	4,7,8,9
Choteau Creek	Lower Missouri River Basin	5,8,9,10
Corsica Lake	Lower Missouri River Basin	6,7,8,9
Dante Lake	Lower Missouri River Basin	9,10
Emmanuel Creek	Lower Missouri River Basin	5,8,9,10
Fairfax Lake	Lower Missouri River Basin	4,7,8,9
Geddes Lake	Lower Missouri River Basin	5,7,8,9
Lake Andes	Lower Missouri River Basin	5,7,8,9
Lewis and Clark Lake	Lower Missouri River Basin	5,8,9,10
Platte Creek	Lower Missouri River Basin	1,5,8,9,10
Platte Lake (Breached)	Lower Missouri River Basin	4,7,8,9
Ponca Creek	Lower Missouri River Basin	4,7,8,9
Roosevelt Dam	Lower Missouri River Basin	9,10
Sand Creek	Lower Missouri River Basin	5,8,9,10
Slaughter Creek	Lower Missouri River Basin	9,10
Antelope Creek	Niobrara River Basin	6,9,10
Keya Paha River	Niobrara River Basin	6,7,8,9
Rahn Lake	Niobrara River Basin	5,9
Long Creek	Vermillion River Basin	5,8,9,10
Vermillion River	Vermillion River Basin	5,8,9,10
East Fork Vermillion River	Vermillion River Basin	5,8,9,10
West Fork Vermillion River	Vermillion River Basin	5,8,9,10

Table 1: Beneficial Uses for Targeted Water Bodies. (Continued)

Cain Creek	Upper James River	6,8
Beaver Creek	Upper James River	5,8
Elm River	Upper James River	1,5,8
Maple River	Upper James River	1,5,8
Enemy Creek	Upper James River	6,8
North Fork Enemy Creek	Upper James River	6,8
Foster Creek	Upper James River	6,8
North Fork Foster Creek	Upper James River	6,8
Jim Creek	Upper James River	6,8
Johnson Creek	Upper James River	6,8
Lonetree Creek	Upper James River	6,8
Dry Creek	Upper James River	6,8
North Branch Dry Creek	Upper James River	6,8
Morris Creek, also known as Dry Run	Upper James River	6,8
Moccasin Creek	Upper James River	6,8
Foot Creek	Upper James River	6,8
Mud Creek (Brown and Spink)	Upper James River	6,8
Mud Creek (Yankton County)	Upper James River	6,8
Pearl Creek	Upper James River	6,8
Pierre Creek	Upper James River	5,8
Plum Creek	Upper James River	6,8
Redstone Creek	Upper James River	6,8
Rock Creek	Upper James River	6,8
Sand Creek	Upper James River	5,8
Snake Creek	Upper James River	5,8
Snake Creek	Upper James River	6,8
South Fork Snake Creek	Upper James River	6,8
Shue Creek	Upper James River	6,8
Turtle Creek	Upper James River	6,8
Timber Creek	Upper James River	6,8
Twelve Mile Creek	Upper James River	6,8
South Fork Twelve Mile Creek	Upper James River	6,8
Willow Creek	Upper James River	1,6,8
Elm River	Upper James River	1,5,8
Maple River	Upper James River	1,5,8
Bierman Dam	Upper James River	4,7,8,9
Lake Byron	Upper James River	5,7,8,9,10
Cresbard Lake	Upper James River	5,7,8,9
Cottonwood Lake	Upper James River	6,7,8,9
Faulkton Lake	Upper James River	5,7,8,9

Jones Lake (Breached)	Upper James River	5,7,8,9
Lake Louise	Upper James River	5,7,8,9
Mina Lake	Upper James River	4,7,8,9
Ravine Lake	Upper James River	5,7,8,9
Lake Redfield	Upper James River	6,7,8,9
Rosette Lake	Upper James River	6,7,8,9
Twin Lakes (Spink)	Upper James River	5,7,8,9
Wilmarth Lake	Upper James River	4,7,8,9

Numerical Key to Beneficial Uses listed in Table 1:

(1) Domestic water supply waters;
(4) Warm water permanent fish life propagation waters;
(5) Warm water semi-permanent fish life propagation waters;
(6) Warm water marginal fish life propagation waters;
(7) Immersion recreation waters;
(8) Limited contact recreation waters;
(9) Fish and wildlife propagation, recreation, and stock watering waters;
(10) Irrigation waters; and
(11) Commerce and industry waters

2.3 Project Map

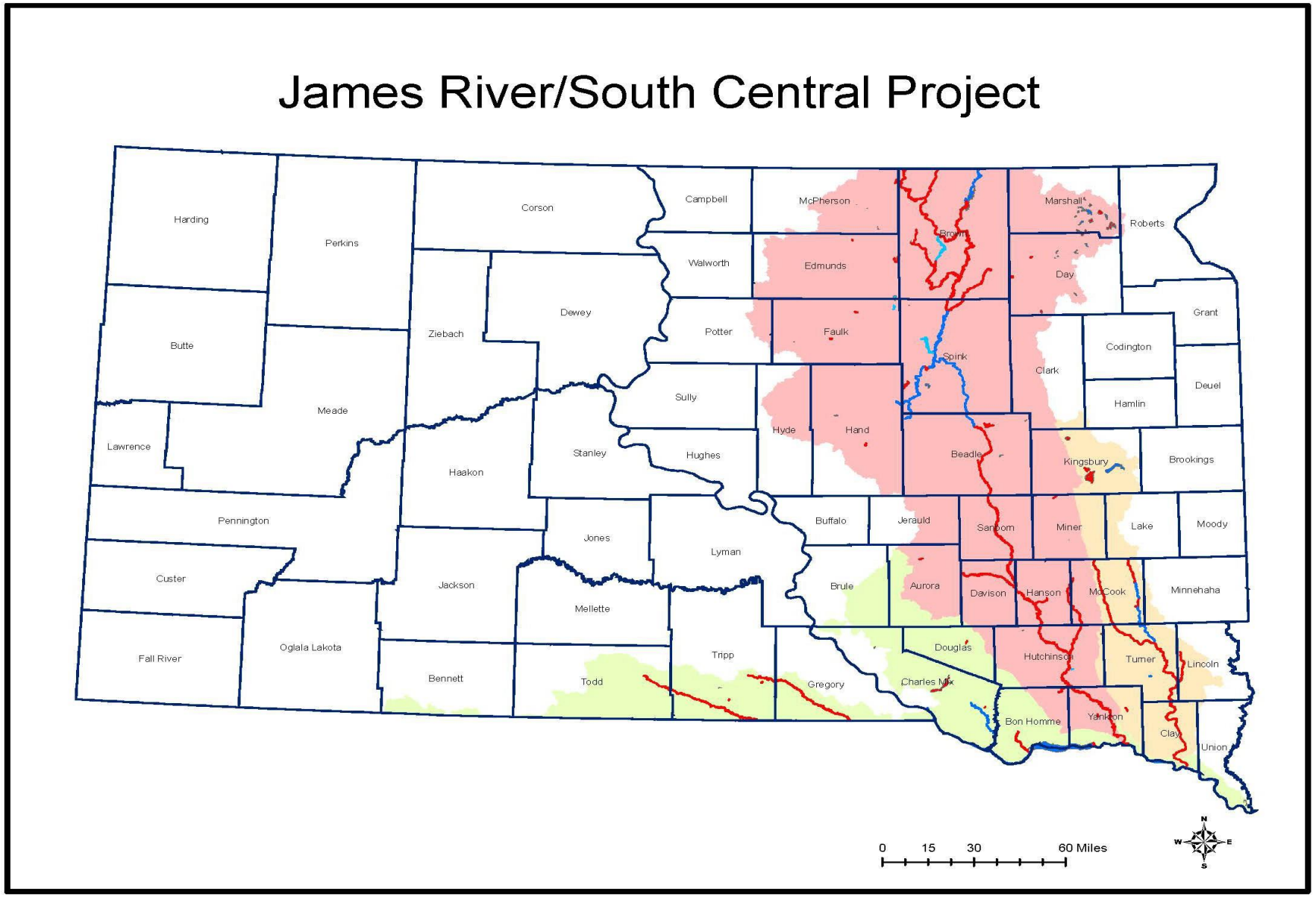

Figure 1: South Central Watersheds.

2.4 General Watershed Characteristics

The South-Central Watershed Project area includes three Ecoregions:

1. Northern Glaciated Plains: Most of the James River watershed, easternmost portion of the Lewis and Clark watershed, and the Vermillion River watershed.
2. Northwestern Great Plains: Western portion of the watershed associated with the Keya Paha River watershed in South Dakota.
3. Northwestern Glaciated Plains: East River portion of the Lewis and Clark watershed, and most of Gregory County and parts of Tripp County bordering the west side of the Missouri River to include most of the Ponca Creek watershed.

The watershed east of the Missouri river is primarily row crop agriculture. There is some pasture and hay land in areas not suitable for row crop farming. There are also a large number of animal feeding areas in the watershed. Detailed information was gathered during the assessment project. There is a large mix of uplands, swales, and wetland depressions.

Land use transitions from livestock grazing (80% grassland land use) and small grains west of the Missouri River.

The average annual precipitation in the watershed is 18 inches in the west to 24 inches in the east, of which 77 percent usually falls during April through September. Tornadoes and severe thunderstorms strike occasionally. These storms are local and of short duration, and occasionally produce heavy rainfall events. The average seasonal snowfall is 36 inches per year.

The Lower Missouri River Basin portion of the watershed has a drainage area of approximately 1,700,000 acres, the Niobrara River Basin has approximately 280,000 ac, the James River Basin is approximately 9,400,000 ac (seen in Figure 1), and the Vermillion River Basin is 1,430,000 ac.

2.5 Water Quality Impairments

Several Watershed Assessments were initiated at the request of local organizations and citizens concerned about water quality problems in the project area. Assessments for the watersheds in this project area were completed between 2005 and 2012. Impairments to lakes and streams are generally caused by agricultural nonpoint sources of pollution. Individual water bodies impairments can be found by following the link listed below to the 2020 Integrated Report:

https://danr.sd.gov/Conservation/WatershedProtection/ReportsPublications.aspx

Summary of Study Findings for the South-Central Watershed.

Sediment-

1. Sheet and Rill Erosion

   Modeling indicates that in the western portion of the project, cropland erosion is not a critical component to the sediment load, primarily because of its absence in the watershed. Some eastern areas of the project may benefit from mitigation activities aimed at cropping practices - such as reduced tillage and buffer systems. To a greater extent, managed grazing practices, which will improve ecological range condition and reduced runoff, will benefit the waterbodies.

2. Riparian Areas

   A number of concerns regarding riparian area conditions were identified. The data indicates that degraded riparian areas and channel erosion are a significant source of sediment entering waterbodies. The complexity of some of the degraded areas will require additional site specific analysis prior to any BMP design. Degraded channels appear to be the result of several different causes, and in some cases a combination of causes in various locations throughout the watershed. Causes of riparian and channel degradation are listed below:

   - Season long grazing, overstocking, and unmanaged grazing of stream banks may be one of the larger contributors to degraded channels.
   - Culvert sizing and placement has created some localized erosion problems downstream from their placement.
   - Degraded ecological range condition on some of the uplands has created increased runoff that has contributed to channel degradation.
   - To a lesser extent, cropping of some critical areas has resulted in degraded channel

a significant distance upstream of the listed segment. Due to this distance, best management practices applied to these areas are unlikely to result in measurable improvements in the listed segment.

Fecal Bacteria/ *E. coli*

The data indicated that animal feeding operations contribute fecal contamination to the tributaries of the impaired reaches of this watershed. In many cases, the concentrations of fecal coliform bacteria and *E. coli* were too high for human recreation. TMDLs for fecal coliform bacteria have been developed for Keya Paha, Ponca, Choteau, Emmanuel, Dawson, Pierre, Wolf, and James River. High fecal coliform counts were also detected in the Snatch Creek drainage; however, no standards for bacteria exist for this water body. Data from the feedlot survey completed during the watershed assessments are available and have been used to prioritize feedlots in the project area. TMDL's for sub watersheds within the South-Central project area are numerous and can be found by following the link listed here:

https://danr.sd.gov/Conservation/WatershedProtection/TMDL/Assessment.aspx

3.0 Project Description

3.1 Project Goal

The goal of the South-Central Watershed Implementation Project is to restore or protect the beneficial uses in the Lower and Upper James River Watershed, Lewis and Clark Lake, and the watersheds of Geddes, Academy, Platte Lake, Lake Andes Lake, and Vermillion Watershed. This will be accomplished through the installation of Best Management Practices (BMPs) in the watersheds that target sources of sediment, nutrients, and fecal coliform bacteria. This project, Segment II, will address and target BMP installation in the entire South Dakota portion of the Lewis and Clark Lake Watershed (1.9 million acres), the James River Watershed and its tributaries (9.4 million acres), and Vermillion River Watershed (1.43 million acres). It will also provide technical and financial assistance to the watershed activities in the Lake Andes, Geddes, Academy and Platte Lake Watersheds. These additional four watersheds add up to 560,000 additional acres and are tributaries of the Missouri River and Lake Francis Case which lies upriver and borders the Lewis and Clark Lake Watershed. The total project area acreage is 13,360,800 acres.

This project segment (Segment II) will:

- Continue BMP implementation in the Lewis and Clark Watershed, Geddes, Academy, Platte Lake, Lake Andes Vermillion Watershed, and impaired reaches of the James River Watershed, targeted towards installation of high priority BMPs identified in the Watershed Assessment.
- Conduct a public education and outreach campaign to educate and inform landowners, stakeholders, and area residents on water quality issues and BMPs associated with this project.

The practices that will be installed are based on information from the South-Central Watershed area Assessments.

Project Objectives, Tasks, Products, Milestones, and Responsible Agencies:

Objective 1: Reduce nutrient, sediment and fecal coliform loadings in the project area through the installation of Best Management Practices.

Task 1: Plan and implement cropland and grassland Best Management Practices (BMPs).
Provide assistance to landowners with installation of BMPs on cultivated cropland and grassland BMPs in the watershed that reduce fecal coliform bacteria, nutrient, and sediment loadings from cultivated cropland and grasslands. BMPs will primarily be installed with landowner investments along with USDA programs (EQIP/CRP/WHIP), as well as Wildlife agency programs (Partners for Wildlife, etc., US F&W and SD GF&P). Project funds for technical assistance on grassland and/or cropland BMP implementation will be targeted towards critical cells in riparian areas identified in the watershed assessment.

Product 1: 20,000 acres of cropland benefited from BMP installation by landowners.

BMPs installed by landowner will include filter strips, riparian buffers, tree plantings, conservation cropping systems, and grassed waterways on 20,000 acres of cultivated cropland to reduce nutrient and sediment loading. BMPs using 319 funds will only be located in the riparian area.

Product 1 Cost: $1,012,340 **319 (Secured): $20,000**

Milestones:

Sediment and nutrient loads will be reduced on 20,000 acres of cropland through the installation of cropland BMPs by September 30, 2025

Product 2: Grassland Management Systems Installed on 90,000 acres of grasslands.

Grassland management systems will be designed and installed on 90,000 acres of grassland to reduce fecal coliform, nutrient, and sediment loading. Technical assistance for system planning will be requested from the SD Grassland Coalition and project Natural Resources Conservation Service (NRCS) field offices. BMPs will be implemented using funds from state and federal programs (EQIP, continuous CRP, and Wildlife Programs). BMPs planned to be installed include: planned grazing systems, fencing, livestock exclusion, grass seeding, pipelines, tanks, ponds, rural water hook-ups, and riparian buffers. Use of 319 funds to implement grazing management systems will be for riparian grasslands along major tributaries that have been identified as critical areas.

Product 2 Cost: $ 10,900,000

ARPA: $2,700,000
319 (Secured): $ 1,220,000
319 (Unsecured): $1,200,000

Milestones:

Install planned grazing system practices on 90,000 acres by June 30, 2026.

Product 3: Riparian Area Management (RAM) and Seasonal Riparian Area Management (SRAM) will be installed on 800 acres of riparian land.

RAM or SRAM will be implemented targeting critical riparian areas that have been significant sources of bacteria (fecal and E. coli) contamination and sediment loadings due to the degradation of riparian areas. Emphasis will be on pastures that abut or transect Firesteel, Dawson, Pierre or Wolf Creek. Enrollment of land immediately adjacent to these Creeks and within the 100-year flood plain is eligible for the SRAM program. Livestock producers enrolling pasture into the program will be paid to defer grazing from April through September but be allowed to dormant graze from October through April. If requested, alternative water will be provided during the dormant grazing period to minimize impacts on the riparian area. Haying will be allowed from April through September for the acres enrolled to utilize the forage and maintain the vigor of the vegetative stand. Fencing, pipelines and tanks will be eligible for cost share not to exceed 75 percent project incentives with 25 percent producer match.

Product 3 Cost: $1,000,000 **ARPA Funds: $500,000**

Milestones:

Implement riparian livestock exclusion on 800 acres of riparian land by 2026.

Task 1 Total Cost: $9,387,340

ARPA Funds: $3,200,000
319 (Secured): $1,040,000

Task 1 Responsible Agencies:

Technical Assistance Coordination:

Project Coordinator/Project Staff
James River Water Development District
Project Area Conservation Districts

Information Transfer:

Project Coordinator/Project Staff
James River Water Development District
Natural Resources Conservation Service
Project Area Conservation Districts

Implementation:

Project Coordinator/Project Staff
US Fish and Wildlife Service
Farmers and Landowners
Natural Resources Conservation Service
James River Water Development District
SD Game, Fish and Parks

Financial Assistance:

USDA – NRCS and FSA
319 Water Quality Projects
US Fish and Wildlife Service
SD Game, Fish, and Parks

Task 2: Reduce fecal coliform loadings originating from animal feeding operations.

Assist livestock producers with construction of twenty (20) animal waste management systems, to include 20 nutrient management plans to reduce loading of fecal coliform bacteria, nutrients, and total suspended solids.

Product 4: 20 Animal Waste Management Systems (AWMS)

Twenty (20) animal waste management systems, to include nutrient management plans, will be installed by livestock producers. Private consultants and NRCS will design the animal waste management systems and develop the Agricultural Nutrient Management Plan. Funding for AWMS will be from this project's 319 funds, State Consolidated Funds, Landowners, NRCS EQIP program, and RCPP program. Twenty of the AWMS are anticipated to be full containment systems in feedlot situations, in addition three systems are anticipated to be relocation of cow/calf winter feeding areas from critical stream/river riparian areas. The relocation of cow/calf feeding areas used seasonally will involve a contract with the landowner that includes a required grazing plan on days of use and season of use for the riparian pasture. Practices utilized for the feeding area relocation will include required fencing, water development, and fabricated and/or tree windbreaks.

Product 4:

Twenty Ag Waste Management Systems:

Twenty Engineering Design Services	$400,000
Twenty Constructions	$11,650,000
Twenty Nutrient Management Plans	$80,000

Milestones:

1. Twenty animal waste management system designs.
2. Twenty animal waste management systems constructed.
3. Twenty nutrient management plans completed and implemented.

Product 4 Cost: $12,130,000

ARPA Funds: $1,800,000
319 (Secured): $342,000

Task 2 Responsible Agencies:

Technical Assistance Coordination:

Project Coordinator/Project Staff
James River Water Development District
Project Area Conservation Districts

Information Transfer:

Project Coordinator/Project Staff
James River Water Development District
Natural Resources Conservation Service
Project Area Conservation Districts

Implementation:

Project Coordinator/Project Staff
Project Area Conservation Districts
USDA – Natural Resources Conservation Service (NRCS)
Private Consultants

Financial Assistance:

Water Quality 319 Projects
USDA – NRCS EQIP program
Consolidated Water Facilities Construction Fund

Objective 2: Provide project and BMP information to a minimum of 100 watershed landowners, 20 watershed organizations, and 2,500 area citizens to inform them of this project's need and progress, and the results and recommendations from the Phase I Watershed Assessment.

Task 3: Implement an Information and Education campaign to inform the public and stakeholders on project need and progress, results, and recommendations of the Watershed Assessment Final Report.

Product 5: Information and Education Campaign of informational meetings (2), tours (2), newsletters (3), steering committee meetings (3), and press releases (4) completed.

The project coordinator will provide assistance to James River Water Development District to complete an information and education campaign that includes on-farm tours, news releases, presentations to area stakeholder organizations, and an annual meeting of the project steering committee. The cost of information activities, including supplies and postage, will be provided to this 319 project and James River Water Development District and their partners.

Milestones:

2 informational meetings
3 Steering Committee Meetings
4 presentations to project partners
2 watershed BMP tours
4 news releases

Product 5 Cost: $ 5,000

319 (Secured): $3,000

Task 3 Responsible Agencies:

Technical Assistance Coordination:

Project Coordinator
James River Water Development District
Project Area Conservation Districts

Information Transfer:

Project Coordinator
James River Water Development District
Natural Resources Conservation Service
Project Area Conservation Districts

Implementation:

Project Coordinator
Natural Resources Conservation Service
SD Association of Conservation Districts

Financial Assistance:

USDA – NRCS and FSA
319 Water Quality Projects

Objective 3: Completion of water quality monitoring, monitor project progress and complete project administration and management to document project progress towards objectives and meet grant administration policy and guidelines.

Task 4: Monitoring water quality through water sampling related to BMP installation to assess changes in water quality from BMPs and from the initial watershed assessment sampling. Project staff will collect water samples to evaluate before and after water quality changes at the outlets of Creeks (Emmanuel, Choteau, etc.) for testing at the State Lab. Testing will be completed related to Total Suspended Solids and *E-coli*. Sampling will be completed utilizing technical assistance from the SD DANR and following procedures established in the "Standard Operating Procedures for Field Samplers, Volumes I & II, Tributary and In-Lake Sampling Techniques", State of South Dakota, 2005.

Product 6: Water Quality Monitoring to monitor project impacts:
120 water samples @ $65/test

Milestone:

120 water samples taken, tested, and water quality changes evaluated.

Product 6 Cost: $55,000 **319 (Secured): $40,000**

Task 5: Monitor progress and complete progress reports and complete grant administration to meet project requirements and guidelines.

Product 7: Annual (5), final (1) reports completed according to grant guidelines and requirements.

Product 7 Cost: $0 **319 (Secured): $0**
The cost of these products is included in personnel costs.

Milestones:

1. 5 Annual Reports
2. 1 Final Project Report

Responsible Agencies:

Technical Assistance Coordination:

Project Coordinator/Project Staff
James River Water Development District

Project Area Conservation Districts

Information Transfer:

Project Coordinator/Project Staff
James River Water Development District
Natural Resources Conservation Service
Landowners

Implementation:

Project Coordinator/Project Staff
James River Water Development District
Project Area Conservation Districts
Landowners
SD Department of Agriculture and Natural Resources

Financial Assistance:

Water Quality 319 Projects
James River Water Development District
Project Area Conservation Districts

3.3 Milestone Table (See Page 19)

3.4 Project Management and Tracking

The James River Water Development District is the project sponsor. James River Water Development District has experience in leadership for project implementation, administration, and management, and has a long-term working relationship with organizations and communities in the watershed area.

Operation and Maintenance (O&M) responsibilities for BMPs funded by 319 will be detailed in contracts entered in between the James River Water Development District and landowners installing BMPs. The contracts for BMP installation will specify BMP O&M needs, procedures for BMP failure or abandonment, and the life span BMPs will be maintained. The James River Water Development District will be responsible for completing operation and maintenance contracts, on-site evaluation of BMPs installed to ensure operation and maintenance is being completed, and follow-up as needed to ensure BMP operation for its designated life span.

3.5 Required Permits

All required permits will be obtained for the installation of BMPs during this proposed project. It is anticipated that 401 and 404 permits and storm water construction permits will be required. If any historical findings are made, the state historic preservation office will be contacted. It is anticipated that:

- 401 and 404 permits will be required for shoreline and riparian BMP installation.
- Storm water construction permits will be required for animal waste management systems.
- Historical Preservation compliance will be adhered to any BMPs involving ground disturbing activities.
- Compliance to meet requirements of the Threatened and Endangered Species Act.

4.0 COORDINATION PLAN

4.1 Cooperating Organizations

The lead sponsor is the James River Water Development District, Huron, South Dakota. The James River Water Development District will be responsible for completion of the project's goals, objectives, tasks, and completion of cash and in-kind match documentation. The James

River Water Development District, using project funds, will hire a project coordinator, project resource specialist, and support staff to lead project activities. Additional project support will be provided by the James River Water Development District and its technical assistance staff. James River Water Development District will partner with local, state, and federal organizations and agencies to implement this project utilizing their available technical and financial assistance as follows:

- Aurora, Beadle, Bon Homme, Brown, Brule, Charles Mix, Clark, Davison, Day, Douglas, Edmunds, Faulk, Gregory, Hand, Hyde, Hutchinson, Jerald, Kingsbury, Marshall, McPherson, Miner, McCook, Sanborn, Spink, Todd, Hamill and Clearfield/Keya Paha Conservation Districts will provide project management assistance through Board of Supervisor membership on the local watershed steering committee and provide technical assistance and coordination of technical assistance for BMP installation. The Conservation Districts will work with James River Water Development District to apply for additional funds for the installation of AWMS from the Land and Water Conservation Fund.

- USDA-Natural Resources Conservation Service: Technical assistance from the Aurora, Beadle, Bon Homme, Brown, Brule, Charles Mix, Clark, Day, Davison, Douglas, Edmunds, Faulk, Gregory, Hand, Hyde, Hutchinson, Jerald, Kingsbury, Marshall, McPherson, Miner, McCook, Sanborn, Spink, Tripp, and Todd County NRCS County field office staff and NRCS state specialists for planning BMPs such as grazing systems, ag waste systems, riparian buffers, etc., and financial assistance for BMP installation from existing programs (EQIP, WRP, FWRP, RCPP).

- US Fish and Wildlife Service (US F&W): Through the North American Waterfowl Conservation Act (NAWCA) funded project, the US F&W Service will contribute cost-share assistance for grass seedings, ponds, and fencing, and provide technical assistance when available. Landowner match for NAWCA BMPs installed is not eligible as match to this project.

- SD Game, Fish and Parks: The SD GF&P, through existing programs to implement grassland and/or wetland BMPs (grazing systems, fencing, multiple purpose ponds, and seedings).

- Grassland Management Project – technical assistance to landowners on grazing systems methods and benefits, and on-farm assistance to develop a grazing plan.

- South Dakota Department of Agriculture and Natural Resources: Technical assistance for water quality issues and project implementation, administration, and management. Financial assistance will be requested from the Consolidated Water Facilities Construction Program to assist with cost-share of construction of animal waste management systems. Conservation Commission Land and Water Conservation Grant Program for tree planting and other conservation practices as needed.

- USDA - Farm Service Agency: Cost-share assistance and program support for CRP, continuous CRP, WHIP, etc.

4.2 Local Support

The South Central Watershed is an important economic and social asset to the communities in the project area, as well as rural residents and landowners. Randall RC&D Association, Inc. provided leadership for the Lewis and Clark Lake Watershed Assessment, which was initiated during 2003, due to significant local support. More than 15 organizations provided a cash contribution to the watershed assessment, and over 25 organizations were active in initiating and providing technical assistance to the assessment.
During the two-year assessment, Randall RC&D staff made over 20 presentations on the project need and progress to organizations in both South Dakota and Nebraska.

4.3 Duplicate Effort

This project will be implemented through coordination and partnership with other organization programs to create complementary activities. Key activities by programs that are similar for this project are as follows:

- BMP implementation: The installation of BMPs on cropland and grassland in this proposal will request funding by USDA programs (CRP, Continuous CRP, WHIP, EQIP) wildlife habitat programs (Partners for Fish and Wildlife, Threatened Habitats Program, landowners, and SD Soil and Water Conservation Grants and Consolidated Water Construction Facility Grants). The implementation of animal waste management systems is proposed to be cost-shared by 319 funds to provide timely planning, design, and implementation under current high demands on existing providers.
- Technical assistance for BMP implementation will be provided through a coordinated effort to include delivery by the project coordinator, NRCS field office staff, Conservation District staff, and existing 319 funded projects, USDA's technical service provider program, and other state and federal service providers as available (GF&P, US F&WS). Technical assistance resources will be invited to participate in the local project steering committee for coordination of services.

5.0 EVALUATION AND MONITORING

5.1Monitoring Strategy

The James River Water Development District will monitor:

- Water Quality changes due to BMP installation and water quality changes since the 2003 watershed assessment on selected sites.

Project progress based on project milestones, and report progress in their semi-annual project reports.

The effectiveness of BMPs installed relative to the improvement in water quality will be evaluated using the tools and models available such as:

1. Water sampling to monitor water quality changes.
2. AnnAGNPs model for changes in loadings due to BMP installation.
3. StepL for estimating annual load reductions from BMP installation.
4. Buffer and riparian vegetation establishment reductions for phosphorus and sediment modeled as grass seedings using Annualized AGNPS, as well as estimates from research studies conducted in the region by universities

5. Assessment of feedlots to compare before and after BMP installation loadings using the AnnAGNPs module and water sampling on selected sites.

All BMPs installed in the watershed utilizing partner contributions (non-319 funds) will also be evaluated for improvements in water quality using the tools noted above.

Progress reporting to meet milestones will include a financial accounting of funds, and the source of funds for each milestone. Local support, partner in-kind, and cash contributions will be documented for BMP installation, project management activities, and informational activities

5.2 Sampling and Analysis Plan

Water sampling, testing, and test result evaluations for water quality changes will be completed with Technical Assistance from DANR to develop a sampling and analysis plan, train project staff, and assist in data storage and evaluation. Sampling will be completed according to the "Standard Operating Procedures for Field Samplers, Volumes I & II, Tributary and In-Lake Sampling Techniques", State of South Dakota, DENR, 2005.

5.3 Quality Assurance Project Plan

https://danr.sd.gov/Conservation/WatershedProtection/ReportsPublications/DANR_QAPP_2022.pdf

5.4 Data Collection, Management, and Analysis

The James River Water Development District will be responsible for collecting, storing, and managing data collected during the implementation of this project. Water Quality data collected will be provided to SD DANR for entry into the Water Quality Exchange (WQX) database.

5.5 Models

The Spreadsheet Tool for Estimating Pollutant Loads (StepL) model will be used to calculate estimated pollutant reductions from each BMP installed in the project. These numbers will be submitted to DANR to input into EPA's Grants Reporting and Tracking System (GRTS).

5.6 Operation and Maintenance

The installation of the BMPs for this project (animal nutrient management systems, fencing, water development, etc.) will involve a contract between the James River Water Development District and the landowner, for operation and maintenance section of the contract will specify the life span of the BMP to be installed. The operation and maintenance section of the contract will specify the life span of the BMP, who is responsible for maintenance and operation, and normal operation and maintenance needs for each BMP.

The James River Water Development District will be responsible for ensuring that the Operation and Maintenance contracts are implemented. The JRWDD and local partners, such as the project area conservation districts, will lead efforts to implement needed operation and maintenance on BMPs after this project's grant period.

The installation of the BMPs for this project (animal nutrient management systems, fencing, water development, etc.) will involve a contract between the James River Water Development District and the landowner, for operation and maintenance of the BMP to be installed. The operation and maintenance section of the contract will specify the life span of the BMP, who is responsible for maintenance and

operation, and normal operation and maintenance needs for each BMP.

The James River Water Development District will be responsible to ensure that the Operation and Maintenance contracts are implemented.

6.0 BUDGET (See Also Project Budget Page 21)

BUDGET TABLE FOR SOUTH CENTRAL IMPLEMENTATION PROJECT 8/2021 – 9/2026

PART 1: FUNDING SOURCES

Funding Source	Total
EPA SECTION 319 FUNDS & CWSRF-WQ FUNDS	
ARPA Funds	$5,000,000
319(Secured)	$2,126,000
319(Unsecured-funds)	$1,300,000
CWSRF-NPS	$1,575,000
Subtotal:	**$10,001,000**
OTHER FEDERAL FUNDS	
1.) NRCS/FSA (FA/TA)	$3,741,340
2.) Other Federal (RCPP)	$2,876,000
Subtotal:	**$6,617,340**
STATE/LOCAL MATCH (FA&TA)	
1.) JRWDD (TA/FA)	$1,044,000
2.) Landowners (FA)	$7,255,500
3.) State: (Consolidated)	$ 500,000
4.) DANR (Commission Grant)	$342,500
Subtotal:	**$9,142,000**
TOTAL BUDGET:	**$25,760,340**

Key:

FA	Financial Assistance
TA	Technical Assistance
CD	Conservation District
CWFCF	Consolidated Water Facilities Construction Fund
GF&P	SD Game, Fish and Parks Department
DANR	SD Department of Agriculture and Natural Resources
NRCS	USDA Natural Resources Conservation Service
US F&W	US Fish and Wildlife Service
FSA	USDA Farm Service Agency
TSP	Technical Service Providers (USDA/NRCS

3.3: MILESTONE TABLE

South Central Watershed Implementation Project

October 1, 2021 Through September 30, 2026

Goal/Objective/Task	Groups	Quantity	2021	2022		2023		2024		2025		2026	
			July-Dec	Jan-June	July-Dec.	Jan-June	July-Dec.	Jan-June	July-Dec.	Jan-June	July-Dec.	Jan-June	July-Dec.
Objective 1. BMP Installation													
Task 1: Crop & Grassland BMP's													
Products 1, 2 & 3: BMP's													
Cropland BMP's	1,2,3	20,000ac.	1000	1000	2000	1000	2000	1500	3000	1500	3000	1500	2500
Grassland BMP's	1,2,3,5,6	90,000	5000	7000	7000	8000	9000	12000	8500	8500	7500	9000	8500
Riparian Area Mgt. (RAM)	1,2,3,6	400 ac.	25	50	50	25	50	25	50	25	50		50
Task 2: Livestock Nutrient Management													
Products 4: Ag Waste Systems													
Engineering Services	1,3,7	20	1	2	1	1	3	1	3	2	4	2	
System Installation	1,3,4,7	20	1		4		3		3	2	4	1	2
Nutrient Management Plans	1,3	20	1		2	1	3	1	3	1	3	1	4
Objective 2: Outreach													
Task 3: Information Campaign													
Product 5:													
Tours	1,2,3,4	2		1					1				
Informational Meetings	1,2,3,4	2	1						1				
Presentations	1,2,3,4	4	1		1		1		1				
Steering Committee Meetings	1,2,3,4	3			1			1				1	
News Releases	1,2,3,4	4	1	1				1		1			
Objective 3: Monitoring/Reports													
Task 4: Water Quality Monitoring													
Product 6: Water Samples/Testing		120	24		24		24	16		16		16	
Task 5: Reporting													
Product 7: Reports													
Semi-annual Reports (if needed)	1,4	0											
Annual Reports	1,4	6	1		1		1		1		1		1
Final Report	1,4	1											1

Groups:

1. James River Water Development (JRWDD Partners)
2. Area Conservation Districts
3. USDA - Natural Resources \ Service/Farm Service Agency
4. SD Department of Agriculture and Natural Resources
5. SD Game, Fish, and Parks
6. US Fish And Wildlife Service
7. Private Consultants

South Central Watershed Implementation Project Budget-Segment 2

South Central Watershed Implementation Project Budget-Segment 2																
ITEM	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Total**	**ARPA Fund**	**2021-22 319 EPA**	**2024-2025 319 EPA**	**CWSRF-NPS Mitchell**	**Consolidated**	**USDA** EQIP/CRP	**Local**	**Conservation Commission**	**JRWDD**	**RCPP**
Project Personnel and Administration																
Project Coordinators (3 FTE)	$142,500	$142,500	$255,000	$300,000	$300,000	$1,140,000		$525,000	$90,000						$125,000	400000
RCPP Technical Assistance	$55,000	$55,000	$55,000	$55,000	$55,000	$275,000										275,000
USDA Technical Assistance	$0	$0	$0	$0	$0	$0										0
Travel	$25,000	$25,000	$30,000	$30,000	$30,000	$140,000		$140,000								
Computer Support	$2,000	$2,000	$2,000	$2,000	$2,000	$10,000		$10,000								
Office Supplies/Postage/Telephone	$2,700	$2,700	$2,700	$2,700	$2,700	$13,500		$13,500								
Office Space	$3,000	$3,000	$3,000	$8,000	$8,000	$25,000		$9,000	$10,000			$6,000.00				
Project Management (Sponsor)	$10,000	$10,000	$10,000	$10,000	$10,000	$50,000									$50,000	
Clerical Assistance (CD's $30/hr)		$500.00	$500.00	$500.00	$500.00	$2,000		$1,000								1000
Equipment	$2,000	$500				$2,500		$2,500								
Technical Assistance (CD's $30/hr)																
Subtotal: Personnel Support	**$242,200.00**	**$241,200.00**	**$358,200.00**	**$408,200.00**	**$408,200.00**	**$1,658,000.00**	**$0.00**	**$701,000.00**	**$100,000.00**	**$0.00**	**$0.00**	**$6,000.00**	**$0.00**	**$0.00**	**$175,000.00**	**$676,000.00**
Objective 1: BMP's Installation																
Task 1: Cropland/Grassland BMP installation																
Product 1: Cropland BMPs																
Grass Waterway, Mulching, Field Borders, Seeding	$100,000	$100,000	$100,000	$100,000	$100,000	$500,000		$20,000		$85,000		$300,000	$75,000			$20,000
Conservation Crop Rotation@18.59/acre		$18,590	$18,590	$18,590	$18,590	$74,360						$74,360				
Cover Crop @ $40/acre	$80,000	$80,000	$80,000	$80,000	$80,000	$400,000						$200,000	$100,000			$100,000
Pollinator Habitat @ $1500/acre	$7,500	$7,500	$7,500	$7,500	$7,500	$37,500						$37,500				
Salinity and Sodic Soil Man. @ $6.00/acre		$120	$120	$120	$120	$480						$480				
Product 2 : Grassland BMP's:																
Prescribed grazing, seeding, fence, water development	$650,000	$650,000	$1,650,000	$2,262,500	$2,262,500	$7,475,000	$2,700,000	$900,000	$1,100,000	$489,000		$500,000	$1,461,000	$250,000		$75,000
Brush Management @ $359.54/acre	$100,000	$100,000	$100,000	$100,000	$100,000	$500,000						$350,000	$125,000	$25,000		
Livestock/Silt Retention dam Construction	$200,000	$200,000	$200,000	$200,000	$200,000	$1,000,000				$125,000			$175,000		$700,000	
Windbreak Establishment and Renovation	$125,000	$125,000	$125,000	$175,000	$175,000	$725,000		$80,000	$100,000	$75,000		$125,000	$123,500	$67,500	$154,000	
Cover Crop	$40,000	$40,000	$40,000	$40,000	$40,000	$200,000		$40,000		$60,000		$50,000	$50,000			
Product 3: Riparian Area Mgt. (RAM)	$100,000	$225,000	$225,000	$225,000	$225,000	$1,000,000	$500,000			$500,000						
Task 2: Livestock Nutrient Management																
Product 4: Ag Waste Systems																
Engineering Design Services @ $21,000 each	$80,000	$80,000	$80,000	$80,000	$80,000	$400,000		$32,000		$16,000	$65,000	$80,000	$132,000			$75,000
System Construction @ $500,000 each	$2,050,000	$2,050,000	$2,650,000	$2,450,000	$2,450,000	$11,650,000	$1,800,000	$300,000		$225,000	$435,000	$1,990,000	$5,000,000			$1,900,000
Winter Feeding Area @ $50,000 each	$0	$0	$0	$0	$0	$0					$0	$0				
(water, fencing, tanks, windbreaks)																
Nutrient Management Plans @ $4000 each	$16,000	$16,000	$16,000	$16,000	$16,000	$80,000		$10,000				$28,000	$12,000			$30,000
Subtotal: BMP Installation	**$3,548,500**	**$3,692,210**	**$5,292,210**	**$5,754,710**	**$5,754,710**	**$24,042,340**	**$5,000,000**	**$1,382,000**	**$1,200,000**	**$1,575,000**	**$500,000**	**$3,735,340**	**$7,253,500**	**$342,500**	**$854,000**	**$2,200,000**
Objective 2: Outreach:																
Task 3: Information Campaign																
Product 5: (Informational meetings, tours, press releases)	$1,000	$1,000	$1,000	$1,000	$1,000	$5,000		$3,000					$2,000			
Subtotal: Outreach	**$1,000**	**$1,000**	**$1,000**	**$1,000**	**$1,000**	**$5,000**	**$0**	**$3,000**		**$0**	**$0**	$0	$2,000	$0	$0	$0
Objective 3: Monitoring and Project Management																
Task 4: Water Quality Sampling/Evaluations																
Product 6: samples/testing/evaluation @ $65/ea.	$5,000	$20,000	$20,000	$5,000	$5,000	$55,000		$40,000							$15,000	
Task 5: Reports And PIP Development:																
Product 7: Reports: semi-annual, annual, & final)																
(Costs covered in personnel costs)																
Subtotal: Monitoring and Reports	**$5,000**	**$20,000**	**$20,000**	**$5,000**	**$5,000**	**$55,000**	**$0**	**$40,000**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$15,000**	**$0**
Total Project Cost:	**$3,796,700**	**$3,954,410**	**$5,671,410**	**$6,168,910**	**$6,168,910**	**$25,760,340.00**	**$5,000,000.00**	**$2,126,000.00**	**$1,300,000.00**	**$1,575,000.00**	**$500,000**	**$3,741,340**	**$7,255,500**	**$342,500**	**$1,044,000**	**$2,876,000**
Match:																
Ineligible Match - Federal and/or Project Allocated																
319 Matching Project Total																
Match: Project Totals For Match																
Match Percentages:						**100%**										