

Agenda Item 6.

MEMORANDUM

TO: SSWP Ad Hoc Consultant Selection Subcommittee

FROM: Lori Ann Laster, Stormwater Management Engineer

SUBJECT: Review and Recommendation on Professional Services Contract with FYRA Engineering

DATE: February 1, 2017

In October 2016 the Board of Directors approved an Interlocal Agreement for the creation of the Southern Sarpy Watershed Partnership (SSWP). See attached map of area.

This group was created between Bellevue, Gretna, Papillion, Springfield, Sarpy County, and the District to form initial policies for development Southern Sarpy County and to determine what the planning needs are for this watershed. Unlike the Papillion Creek Watershed, the Southern Sarpy Watershed has very little data with regards to hydrology, hydraulics, and water quality. The need to develop a comprehensive watershed management plan is the top priority of the new SSWP.

As the administering agent for the SSWP, the District requested proposals from and interviewed interested firms and selected FYRA Engineering to begin negotiating a contract to prepare the watershed management plan.

Staff and the SSWP members worked with FYRA to develop the attached scope of work, fee, and schedule for Phase I of the plan. The tasks included in the scope of work are:

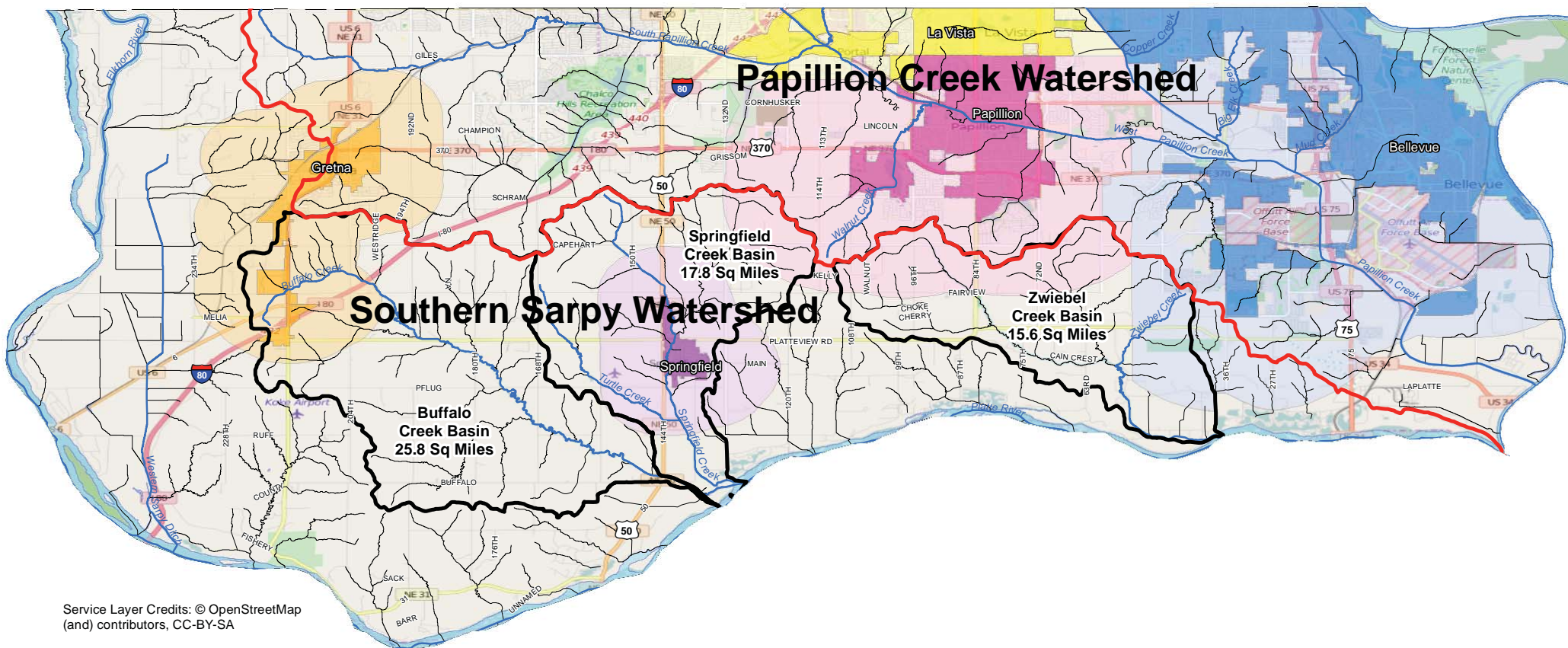
- Project Management
- Hydrology
- Hydraulics
- Stream Stability
- Water Quality
- Environmental Resources
- Agency Engagement

Phase I is expected to be completed in two years with a total fee not-to-exceed \$400,640. The plan will be completed in three separate phases and is estimated to take a total of five years to complete, generally as depicted on the attached project schedule presented by FYRA in their proposal.

Management recommends that the Subcommittee recommend to the Board of Directors that the General Manager be authorized to execute a contract with FYRA Engineering to provide professional services for Phase I of the Southern Sarpy Watershed Management Plan for a maximum, not to exceed, fee of \$400,640, subject to changes deemed necessary by the General Manager and approval as to form by District Legal Counsel.

LEGEND

- Named Streams
- Unnamed Streams
- Drainage
- Papillion Creek Watershed



SOUTH SARPY COUNTY

FIGURE 1

SARPY COUNTY

Attachment 1 to Exhibit A

1 PROJECT MANAGEMENT

1.1 Partnership Kickoff Meeting

Preparation for and attendance of kickoff meeting with SSWP to discuss and refine the overall direction of the project, details of the contracted scope and project schedule.

1.2 Partnership Coordination Meetings

Preparation for and attendance at 8 bi-monthly project meetings (outside of Partnership Framework Workshops identified in Task 1.3) to review project status, work completed, work to come and gather stakeholder input from Partnership. Agenda will be reviewed a week ahead of coordination meetings with NRD staff. Task also includes two presentation meetings to each of the six Partnership members (twelve total) over the Phase I schedule (dates to be determined by each partnership member) to update the governing Board/Council on progress or results.

1.3 Partnership Development of Plan Framework/TOC

Preparation for and attendance of four workshop meetings with the Partnership to review progress of the overall Plan including what the Plan is and specifics related to the overall Plan Table of Contents, alternatives to be studied, etc. A final deliverable report for Phase I work completed and planned Phase II/III scopes of work shall be included in report.

1.4 Partnership Identification of Scope of Implementation Instrument

Continuous identification of need and refinement of deliverable for the overall instrument to be developed to serve the Partnership within the individual responsibilities of the partners and additional stakeholders to ensure that the ultimate Plan is carried out. The implementation instrument may be as simple as a written plan and accompanying shape files to be included in the County (or other) GIS database, but may be more intricate and could include a custom website similar to PERMIX in order to address what each partner member requires for planning.

1.5 Monthly Invoicing & Project/Schedule Updates

Preparation of monthly project invoices, incorporation of sub-consultant invoices and a summary of work completed during the invoicing period. Invoices will be sent to the P-MRNRD prior to the first of the month. Updates will include budget and schedule tracking.

2 HYDROLOGY

Existing conditions hydrologic analysis will include Buffalo Creek Basin, Springfield Creek Basin, Zwiebel Creek Basin, and all direct Platte River tributaries between Springfield Creek Basin and Zwiebel Creek Basin. Full build-out conditions hydrologic analysis will include Buffalo Creek Basin, Springfield Basin, and Zwiebel Creek Basin.

2.1 Desktop Collection and Review of Available Hydrologic and Hydraulic Data

Maximizing the use of available information, gather and review all hydrologic and hydraulic data from any Partnership member, FEMA or others for effective flood maps.

2.2 Preparation, Review and Modifications of Hydrologic Sub-Basins

Subdivide basin into hydrologic sub-basins for the purpose of developing a model capable of assessing existing (baseline) conditions, and future conditions by incorporating alternatives developed as part of Plan development. In Buffalo Creek, Springfield, and Zwiebel Creek basins, the division of watersheds will allow for 1mi² sub watersheds for use in future FEMA mapping efforts. The remaining areas will be subdivided to between 2-4 mi² based on infrastructure and hydrologic characteristics.

2.3 Establishment and Documentation of Hydrologic Parameters to be Used

Preparation of hydrologic parameters including rainfall amounts, temporal and spatial distributions and areal reduction factors, and runoff parameters for existing and future conditions models.

2.4 Conduct Existing Conditions Hydrology Study

Prepare calibrated/validated existing conditions hydrologic model, given parameter decisions described in 2.3 above. Model to be prepared in HEC-HMS. Study to include consistent documentation at various nodes in the watershed for comparison throughout development of the Plan.

2.5 Formulating Alternatives for Peak Flow Control

Given outputs of baseline hydrologic model, assess potential net effects of varying hydrologic controls in current Partnership policies, such as no-net increase in runoff, etc. This will serve as the basis for formulating alternatives related to flood management and flood risk reduction. As work on Phase 1 services continues, communicate with the Partnership any watershed needs related to baseline hydrologic findings that may need to be addressed during Phase I (versus after the development of the complete Plan.)

2.6 Summarize all Hydrologic Information in Plan Chapter

Document all technical work and Partnership decisions made during the development of Phase I hydrologic services into the written Plan. Through Phase I services, compile all hydrologic technical data into GIS database and maintain log of all shape files generated during development of the Plan along with description of the source and intended use of the file.

3 HYDRAULICS

Hydraulics analysis will include Buffalo Creek Basin, Springfield Basin, and Zwiebel Creek Basin. This includes Turtle Creek and the primary left-bank tributary to Zwiebel Creek.

3.1 Establishment and Documentation of Hydraulic Parameters to be Used

Preparation of hydraulic parameters to be used in development of existing and future conditions HEC-RAS hydraulic model, including roughness coefficients, routing parameters, section spacing, etc.

3.2 Conduct Baseline Hydraulics

Prepare baseline (existing conditions) hydraulic model, given parameter decisions described in 3.1 above, in HEC-RAS. Study to include flood profiles and aerial extents of flooding to be updated throughout development of the Plan. This will be completed for the main channels using any available existing hydraulic models, LiDAR to provide quality assurance and fill in data gaps, as-built drawings on existing hydraulic structures, and limited collected field or desktop data.

3.3 Formulating Alternatives for Flood Management and Flood Risk Reduction

Given outputs of baseline hydraulic model, assess potential net effects of varying hydrologic controls in current Partnership policies, such as no-net increase in runoff, etc. This will serve as the basis for formulating alternatives related to flood management and flood risk reduction. As work on Phase 1 services continues, communicate with the Partnership any watershed needs related to baseline hydraulic findings that may need to be addressed during Phase I (versus after the development of the complete Plan.)

3.4 Summarize all Hydraulic Information in Plan Chapter

Document all technical work and Partnership decisions made during the development of Phase I hydraulic services into the written Plan. Through Phase I services, compile all hydraulics technical data into GIS database and maintain log of all shape files generated during development of the Plan along with description of the source and intended use of the file.

4 STREAM STABILITY

Stream Stability analysis will include Buffalo Creek Basin, Springfield Basin, and Zwiebel Creek Basin.

4.1 Conduct Baseline Stream Stability Assessment

Using available information supplemented with field work, develop baseline (existing) stream profiles and identify and document any significant grade changes and areas of significant sloughing for major channels and tributaries in areas likely to see early development to assess potential effects of watershed development on stream grade degradation. This will not include stream assessments using NeSCAP procedures.

4.2 Formulating Alternatives for Stream Setback Controls for Channel Stability

Based on findings in 2.11 above, review Partnership policies related to stream setback distances. This process will help to formulate alternatives related to stream stability and riparian corridor protection. As work on Phase 1 services continues, communicate with the Partnership any watershed needs related baseline stream stability findings that may need to be addressed during Phase I (versus after the development of the complete Plan.)

4.3 Summarize all Stream Stability Information in Plan Chapter

Document all technical work and Partnership decisions made during the development of Phase I stream stability services into the written Plan. Through Phase I services, compile all stream stability technical data into GIS database and maintain log of all shape files generated during development of the Plan along with description of the source and intended use of the file.

5 WATER QUALITY

Water Quality analysis will include Buffalo Creek Basin, Springfield Basin, and Zwiebel Creek Basin.

5.1 Desktop Collection of Water Quality Standards

Collect, organize and analyze all readily-available water quality information from project area.

5.2 Formulating Alternatives to meet Water Quality Standards

Prepare discussion on Water Quality standards as they relate to development in the watershed and efforts/controls necessary to maintain WQ standards. This will include NPDES, SWPPP, MS4 and Platte River TMDL standards and Water Quality Management Plan. This effort will help to formulate alternatives to meet Water Quality standards to be studied in Phase II. As work on Phase 1 services continues, communicate with the Partnership any watershed needs related to baseline water quality findings that may need to be addressed during Phase I (versus after the development of the complete Plan.)

6 ENVIRONMENTAL RESOURCES

Environmental Resources analysis will include Buffalo Creek Basin, Springfield Basin, and Zwiebel Creek Basin.

6.1 Desktop Collection of Environmental Data

Collect, organize and analyze readily available information for environmentally sensitive resources, such as federal and state threatened and endangered species habitat info, soils, cultural and historical resources, etc.

6.2 Desktop Collection of Data on Environmentally Sensitive Areas

Collect, organize and analyze readily available information for environmentally sensitive areas, such as wetlands, stream corridors, other sensitive land uses, etc. This does not include analysis to the detail of a wetland investigation or stream assessment using NeSCAP procedures, but rather a desktop/windshield identification of areas that are likely to be deemed sensitive upon further analyses.

6.3 Development of Assessment Protocol for Environmentally Sensitive Areas

Develop assessment protocol to be used to assess and analyze existing conditions of environmentally sensitive areas as well as protocol to be used within the Plan to assess and mitigate potential impacts to environmentally sensitive areas from development and Plan projects.

6.4 Collect Field Data and Conduct Analyses on Environmentally Sensitive Areas

Confirm desktop collection efforts and supplement with windshield observations of other environmentally sensitive resources and areas in the watershed and analyze existing conditions using the assessment protocol developed in 3.4 above.

6.5 Desktop Collection of Environmental Regulations

Compile list of all known environmental regulations that may impact any part of the Partnership Implementation of the Watershed Plan, or for outside parties to carry out policies identified in the Plan.

6.6 Desktop Collection of Land Data

Collect, organize and analyze all available land use, infrastructure, water rights, and additional data files that can be used in the Watershed Implementation Instrument for the goals of the Partnership.

6.7 Compile Data into GIS Database

Through Phase I services, compile all environmental data into GIS database and maintain log of all shape files generated during development of the Plan along with description of the source and intended use of the file.

7 AGENCY ENGAGEMENT

7.1 Kickoff Meeting with USACE

Prepare for, attend and document kickoff meeting with USACE Regulatory office and Planning Department, pending availability, to discuss the intention of the Plan and to discuss potential avenues of shortcutting normal Regulatory processes, including the identification, formulation and documentation of alternatives studies and standardized permitting process for anticipated improvement projects to be identified in the Plan.

7.2 Kickoff Meeting with NDNR, NGPC and USFWS

Prepare for, attend and document kickoff meeting with NDNR, NGPC and USFWS to discuss the intention of the Plan and to discuss potential avenues of shortcutting normal correspondence processes during permitting, including habitat species of concern in the area, any floodplain development and depleted flow issues on the Platte River.

7.3 Consultation/Coordination with other Coordinating Agencies

As the need arises, coordinate with other agencies that could potentially be affected by the Plan (such as NeSHPO), developers, etc.

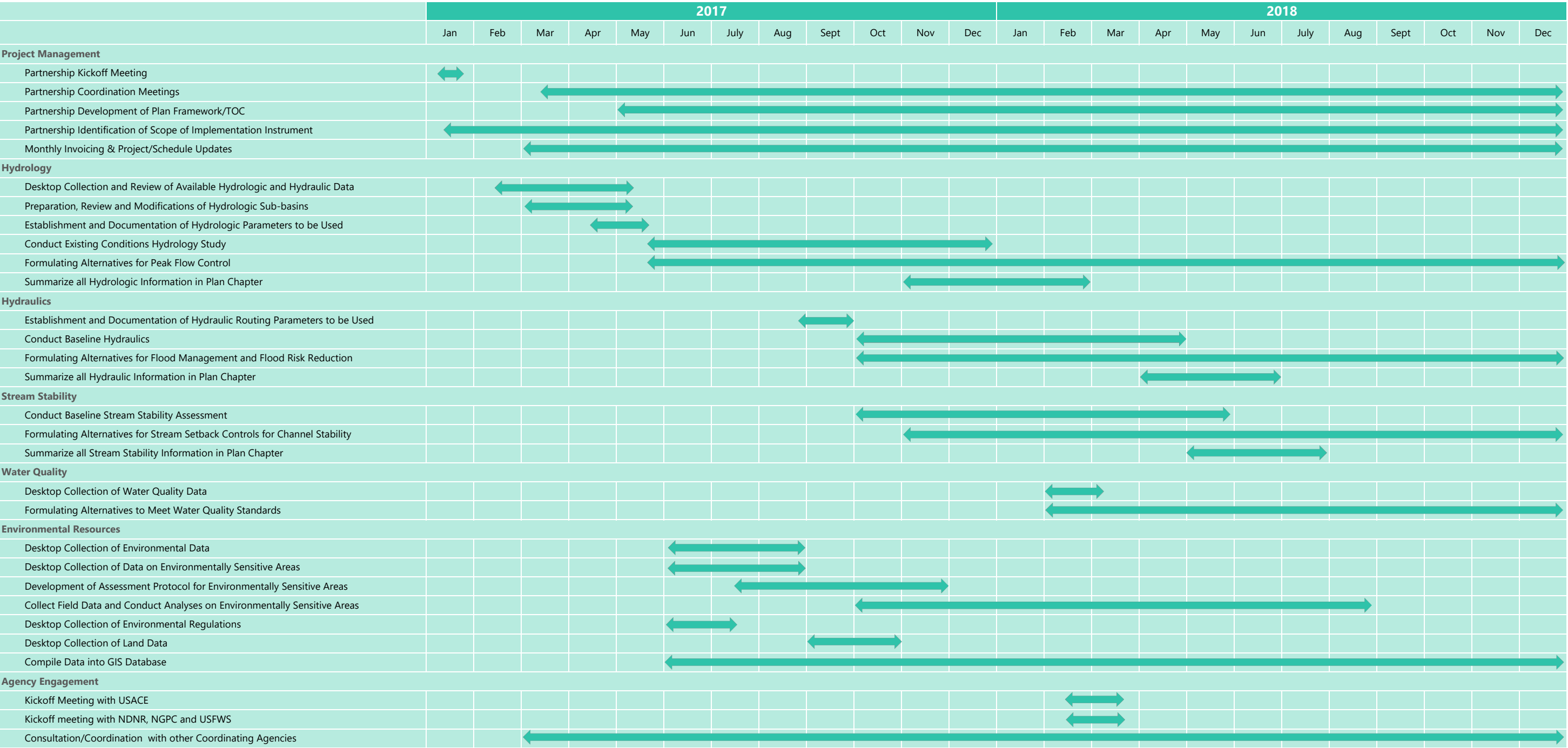


Southern Sarpy Watershed Management Plan - Phase I
Southern Sarpy Watershed Partnership
Sarpy County, NE
FYRA Project No. 001-16-03

Tasks		FYRA Engineering					Vireo					Expenses	Total
		Prj Mngr	Prj Engr	Prj Engr	Prj Engr	El	Sr. Planner	Proj Arch	Proj Sci	Proj Engr	Proj Sci		
		Sotak	Gregalunas	Kaufman	Mechtenberg	(Varies)	Ciaccio	Bentley	Henrichs	Brown	Wagner		
		\$190	\$135	\$125	\$125	\$95	\$150	\$115	\$80	\$115	\$90		
No.	Project Management												
1.1	Partnership Kickoff Meeting	6	4	4			2	2					
1.2	Partnership Coordination Meetings	108		24			16	16					
1.3	Partnership Development of Plan Framework/TOC	60		100			2	1					
1.4	Partnership Identification of Scope of Implementation Instrument	12		12			2	1					
1.5	Monthly Invoicing & Project/Schedule Updates	48	24					12					
Project Management Task Total		\$44,460	\$3,780	\$17,500	\$0	\$0	\$3,300	\$3,680	\$0	\$0	\$0	\$1,350	\$74,070
No.	Hydrology												
2.1	Desktop Collection and Review of Available Hydrologic and Hydraulic Data	2	30			60							
2.2	Preparation, Review and Modifications of Hydrologic Sub-basins	2	16			32							
2.3	Establishment and Documentation of Hydrologic Parameters to be Used	2	8			12							
2.4	Conduct Existing Conditions Hydrology Study	16	160			320							
2.5	Formulating Alternatives for Peak Flow Control	36	46			100				8			
2.6	Summarize all Hydrologic Information in Plan Chapter	6	6		26	12							
Hydrology Task Total		\$12,160	\$35,910	\$0	\$3,250	\$50,920	\$0	\$0	\$0	\$920	\$0	\$0	\$103,160
No.	Hydraulics												
3.1	Establishment and Documentation of Hydraulic Routing Parameters to be Used	2	8			24							
3.2	Conduct Baseline Hydraulics	12	100			150							
3.3	Formulating Alternatives for Flood Management and Flood Risk Reduction	18	23			50				8			
3.4	Summarize all Hydraulic Information in Plan Chapter	5	4		27	8							
Hydraulics Task Total		\$7,030	\$18,225	\$0	\$3,375	\$22,040	\$0	\$0	\$0	\$920	\$0	\$0	\$51,590
No.	Stream Stability												
4.1	Conduct Baseline Stream Stability Assessment	12	160			250							
4.2	Formulating Alternatives for Stream Setback Controls for Channel Stability	18	23			50							
4.3	Summarize all Stream Stability Information in Plan Chapter	4	4		27	8							
Stream Stability Task Total		\$6,460	\$25,245	\$0	\$3,375	\$29,260	\$0	\$0	\$0	\$0	\$0	\$0	\$64,340
No.	Water Quality												
5.1	Desktop Collection of Water Quality Data	4			12								
5.2	Formulating Alternatives to Meet Water Quality Standards	24			40								
Water Quality Task Total		\$5,320	\$0	\$0	\$6,500	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$11,820
No.	Environmental Resources												
6.1	Desktop Collection of Environmental Data	2		24			1	4		4	8		
6.2	Desktop Collection of Data on Environmentally Sensitive Areas	2		40			1	4		16	16		
6.3	Development of Assessment Protocol for Environmentally Sensitive Areas	12		40				4	4	16	4		
6.4	Collect Field Data and Conduct Analyses on Environmentally Sensitive Areas	4		100	40		1	60	30	60	8		
6.5	Desktop Collection of Environmental Regulations	4		12				4	16	2			
6.6	Desktop Collection of Land Data	2		16	8		1	8	8	4	8		
6.7	Compile Data into GIS Database	4		16	16			1		1	24		
Environmental Resources Task Total		\$5,700	\$0	\$31,000	\$8,000	\$0	\$600	\$9,775	\$4,640	\$11,845	\$6,120	\$5,000	\$82,680
No.	Agency Engagement												
7.1	Kickoff Meeting with USACE	8		16									
7.2	Kickoff meeting with NDNR, NGPC and USFWS	8		16				2		8			
7.3	Consultation/Coordination with other Coordinating Agencies	8		16				2		8			
Agency Engagement Task Total		\$4,560	\$0	\$6,000	\$0	\$0	\$0	\$460	\$0	\$1,840	\$0	\$120	\$12,980
Subtotal Hours		451	616	436	196	1076	26	121	58	135	68		
Subtotal Costs		\$85,690	\$83,160	\$54,500	\$24,500	\$102,220	\$3,900	\$13,915	\$4,640	\$15,525	\$6,120	\$6,470	\$400,640

Project Schedule

MILESTONE CHART



PROJECT SCHEDULE

