

FORT CALHOUN TRAIL FEASIBILITY STUDY

Fort Atkinson SHP to West Market Square Park



Copyright © 2018
JEO Consulting Group, Inc.
and JEO Architecture, Inc. a
wholly-owned subsidiary



FORT CALHOUN TRAIL FEASIBILITY STUDY

FORT ATKINSON SHP TO WEST MARKET SQUARE PARK

INTRODUCTION

The City of Fort Calhoun recently retained JEO to evaluate extending the existing trail system to provide better connectivity between the residents and amenities on the west side of US Highway 75 with those on the east side of the Highway. Trails are a priority for the City and its citizens and the City wants to investigate the most feasible trail route between West Market Square Park (15th & Monroe Street) and Fort Atkinson State Historical Park (7th & Monroe Street). The benefits of a trail system are recognized by the need to connect its parks and amenities and to provide another means of recreation and transportation. As walkers, joggers and/or bicyclists, Fort Calhoun residents are placing an increasing value on the ability to utilize a trail system in their community whether for separation from vehicular activity, having a dedicated linear park facility, commuting or for scenery. Fort Calhoun has several recreational opportunities for all age segments of the community, however, those opportunities are not connected to much of the population.

Fort Calhoun is a rural community of 908 (2010 Census) and is currently estimated to be about 935, located in eastern Washington County, just west of the Missouri River. It is along U.S. Highway 75 about 17 miles north of Downtown Omaha and 9 miles south of Blair. Hwy 75 connects Fort Calhoun to the City of Blair, NE on the north, the City of Omaha, NE on the south. A paved county road connects Fort Calhoun with Nebraska Highway 133, US Highway 30 and the western portions of Washington County.

VALUE OF TRAILS

For Fort Calhoun, the primary function of trail use is to promote recreation and public health while providing a safe location for pedestrians and bicyclists to move in and around the City. This is a direct benefit to all citizens which contributes to the quality of life in Fort Calhoun. Trails offer an alternative mode of transportation, connection of residential neighborhoods to community amenities and contribute to a healthier environment. Trails assist in protecting resources and preserving open space by defining areas free of human habitation and development. Trails can also lead to economic development in a community by promoting tourism and related businesses.

PURPOSE OF THE FEASIBILITY STUDY

This feasibility study analyzes and recommends trail alignments that connect Fort Atkinson SHP and West Market Square Park and allow for an interconnected trail system with future regional extensions for the City of Fort Calhoun. The purpose of the feasibility study is to:

- Provide quantitative information on trail route options and phasing for segments;
- Guide the process of development, safe use, and operation of the Fort Calhoun Trails as a non-motorized recreational and commuter trail system; and
- Develop costs and identify funding.

FORT CALHOUN TRAIL FEASIBILITY STUDY FORT ATKINSON SHP TO WEST MARKET SQUARE PARK

This feasibility study also establishes itself as a tool to assist with city budgeting and in applying for funding to implement the proposed phases of construction of the trail.

The goal of the plan is to identify the best route for a trail connecting these two parks and the adjacent residential areas to the other city's amenities, including, but not limited to: Pioneer Park, Downtown Business District, Fort Calhoun Elementary School, Existing Fort Calhoun Trail (at 7th & Madison), and possible connection to the Ball Complex. Crossing of Highway 75 would be accomplished by use of the existing pedestrian signal between Monroe and Adams Streets.

TRAIL PLANNING

The first phase of the Fort Calhoun Trail system was constructed in the early 2000's utilizing a federal trail grant. Since that time, the City has discussed adding to the trail system. They have identified the Monroe Street Corridor as a location that would connect key amenities within the city and should be prioritized as the next trail segment. A preliminary route was discussed by the City and is the focus of this study. Once the route connecting West Market Square Park to Fort Atkinson State Historical Park was mapped, the trail was broken into segments to provide for phased implementation. The order of the trails below is also the priority in which the City is planning to construct them. Priority is based on highest expected use, amenities connected, the need for property acquisition or easement and availability of funding for the segment.

EXISTING TRAIL

FORT CALHOUN TRAIL, PHASE 1 (TAN DASHED)

The existing trail was constructed along the southern edge of Fort Calhoun and connects US Highway 75 (and downtown via sidewalks) with the ball fields and Fort Atkinson State Historical Park. This trail is 10 feet wide, 3,300 feet (0.63 mile) and is paved with concrete. The trail does include a pedestrian bridge crossing over a tributary to the Missouri River.



FORT CALHOUN TRAIL FEASIBILITY STUDY
FORT ATKINSON SHP TO WEST MARKET SQUARE PARK

FUTURE TRAIL(S)

FORT CALHOUN TRAIL, PHASE 2 (BLUE)

PURPOSE OF THE TRAIL

This trail will provide connection between West Market Square Park and the Fort Calhoun Elementary School. The route would pass through an existing mini park, undeveloped street right of way and city owned property that is being considered for future recreational use. The proposed trail route would utilize the existing pedestrian signal crossing of US Highway 75.



*TRAIL ROUTE
DESCRIPTION*

Phase 2 of the Fort Calhoun Trail will begin at the northeast corner of West Market Square Park (15th Street and Monroe Street). The trail would proceed north along the west side of 15th Street to

Adams Street where it would turn and proceed to the east along the south side of Adams Street. Once the trail arrives at the highway, the existing pedestrian signal would be used to cross US Highway 75. On the east side of the highway, the trail would route through an existing mini park and continue east along Adams Street to 13th street. Once across 13th Street, the trail would wind to the east and south through the undeveloped street right of way and city owned property at the intersection of 12th and Monroe Street. This would be the end of this trail segment and at this location the trail would be connected to the Fort Calhoun Elementary Schools existing sidewalks.

An alternate route for the trail is available using Monroe Street and US Highway 75 right of way between West Market Square Park and the pedestrian signal. This route could reduce the availability of on street parking along Monroe Street but would be about 100 feet shorter than the original route. The original route is the preferred route due to parking impacts incurred with this option.

TRAIL DETAILS

Specifics of the proposed recreational trail improvements are identified below:

- Proposed concrete paving length: 1,810 to 1,910 feet (0.36 miles)
- Proposed width: 8-feet
- Trail surface: Concrete, 5 inches thick
- Parking: Trail head parking is allowed at West Market Square Park (on street parking) or near the Fort Calhoun Elementary School

FORT CALHOUN TRAIL FEASIBILITY STUDY FORT ATKINSON SHP TO WEST MARKET SQUARE PARK

- Property Rights: Temporary easements may be needed along the route and a permit for work on US Highway 75 will be needed from the Nebraska Department of Transportation
- Estimated Cost for base alignment \$255,800 and alternate alignment \$227,900

FORT CALHOUN TRAIL, PHASE 3 (ORANGE)

PURPOSE OF THE TRAIL

This trail will connect Fort Calhoun Elementary School and Fort Atkinson State Historical Park. The trail route would include an improved crosswalk that would connect to Pioneer Park which includes its own trail loop, playground equipment, open play space and a picnic shelter. A creek also runs through the park.



TRAIL ROUTE DESCRIPTION

Phase 3 of the trail will follow the Monroe Street Right of way between 12th Street and 7th Street. One alignment would keep the trail along the north side of the street the whole length. The alternate alignment would have the trail cross over near the center of the block (just west of the creek crossing) between 9th and 8th Street. The alternate alignment would be preferred in this case as it will have less potential impacts to existing utilities and can use a short portion of the existing trail in Pioneer Park. It also reduces the need for retaining walls between 7th and 8th Streets.

TRAIL DETAILS

Specifics of the proposed recreational trail improvements are identified below:

- Proposed concrete paving length: 1,800 to 1,900 feet (0.36 miles)
- Proposed width: 8-feet
- Trail surface: Concrete, 5 inches thick
- Parking: Parking allowed near the Fort Calhoun Elementary School (on Street) or within the lot at Pioneer Park
- Property Rights: Additional street right of way is likely with the original option due to an anticipated retaining wall. Temporary easements may be needed along the route and coordination should occur with Nebraska Game and Parks on the connection to the park at 7th Street
- Estimated Cost for base alignment \$432,000 and alternate alignment \$294,400

**FORT CALHOUN TRAIL FEASIBILITY STUDY
FORT ATKINSON SHP TO WEST MARKET SQUARE PARK**

FORT CALHOUN TRAIL, PHASE 4 (YELLOW)



PURPOSE OF THE TRAIL

This trail will provide a key connection to the first phase of the Fort Calhoun Trail system from the West Market Square Park and Fort Calhoun Elementary School using other trail segments proposed in this study. By connecting trail phase 1 with phases 2 and 3, the ballfields would be connected to the elementary school, other city parks and the adjacent neighborhoods.

TRAIL ROUTE DESCRIPTION

The 4th phase of the Fort Calhoun Trail would begin at the intersection of 7th and Madison Streets (end of phase 3) and would parallel 7th Street on the east side until Madison Street where it would cross 7th Street and tie into the existing trail system. An alternative alignment, should it be acceptable to the Nebraska Game and Parks would be to weave the trail within the existing trees on the western edge of the park. When this phase is ready for implementation, the City could approach NGPC if interested in this potential location. It could lengthen the trail by 50 feet over the street side alignment but would not require the construction of a curb and gutter.

TRAIL DETAILS

Specifics of the proposed recreational trail improvements are identified below:

- Proposed concrete paving length: 875 feet (0.17 miles)
- Proposed width: 8-feet
- Trail surface: Concrete, 5 inches thick
- Parking: Parking would be available within Fort Atkinson SHP with proper park permit
- Property Rights: Easements are not anticipated but the trail should be coordinated with Nebraska Game and Parks
- Estimated Cost \$121,700

FORT CALHOUN TRAIL FEASIBILITY STUDY
FORT ATKINSON SHP TO WEST MARKET SQUARE PARK

OTHER TRAILS

FUTURE TRAILS IDENTIFIED IN THIS STUDY

During the preparation of this study, additional trail routes were identified for future study. Those would include trails connecting:

- The pedestrian signal (phase 2 trail) with the Fort Calhoun High School
- Connect phase 2/3 to ballfields with trail along 12th Street
 - If 12th Street connection is not feasible, closing a trail loop by constructing a trail between the west end of trail phase 1 with phase 2 of the trail at the pedestrian signal
- Connection to the Missouri River Trail/Boyer Chute National Wildlife Refuge and therefore, the city of Omaha Trail system
- Connection to the city of Blair Trail system



TRAIL FUNDING

The programs identified below are possible funding sources for the trail phases identified above. Please note these programs do change and that other opportunities may become available.

FAST ACT - TRANSPORTATION ALTERNATIVES PROGRAM – FEDERAL

The FAST Act (current highway transportation bill) created a set aside of Surface Transportation Block Grant program funding for the Transportation Alternatives program. These set-aside funds include all projects and activities encompassing a variety of smaller-scale transportation projects such as:

- Construction, planning, and design of trail facilities for pedestrians, bicyclists, and other non-motorized forms of transportation.
- Construction, planning, and design of infrastructure-related projects and systems that will provide safe routes for non-drivers, including children, older adults, and individuals with disabilities to access daily needs.
- Conversion and use of abandoned railroad corridors for trails for pedestrians, bicyclists, or other non-motorized transportation users.
- Safe Routes to School (infrastructure projects only).

Funding for the Recreational Trails Program (see next section) is taken off the top, then remaining TA funding is divided up into two equal pots: 50% will be distributed by the state DOT through a competitive grant process and 50% will be distributed according to the share of population with the state. MPOs with populations greater than 200,000 will administer their own grant process. Since Fort Calhoun is part of MAPA, the city can access TA funds during the MAPA application acceptance. Web page is: <http://mapacog.org/projects/tap-c/>

NDOR has developed an application and selection process; applications were last received in 2016. It is anticipated the next round of applications will be accepted in 2019 or later. The schedule of the applications is yet to be determined and can vary with each round of applications. At this time environmental mitigation is not an eligible category. NDOR's goal with Federal funded projects is to prioritize larger projects over smaller projects. Minimum grant is expected to be \$500,000 for a total project cost of \$625,000. This will require a local match of \$125,000.

More information: <http://roads.nebraska.gov/business-center/lpa/projects/programs/tap/>

Schedule: Varies with each application cycle.

RECREATIONAL TRAILS PROGRAM

The Nebraska Game and Parks Commission administers the Recreational Trails Program (RTP) on behalf of the Federal Highway Administration. This fund uses refunds of fuel taxes paid by off-road recreational vehicles. 30% of the funding is dedicated to motorized trails, 30% of the funding is dedicated to non-motorized trails and the remaining 40% of the funding is dedicated to diversified use trails. Each grant is an 80/20 match, with a cap on the federal portion of \$250,000, where the political subdivision must come up with 20% of the costs for the project. Examples of eligible projects include

FORT CALHOUN TRAIL FEASIBILITY STUDY FORT ATKINSON SHP TO WEST MARKET SQUARE PARK

construction of recreational trails, acquisition of land for trails, bridges for trails, support facilities such as trailheads, parking, and restrooms.

More information: <http://outdoornebraska.gov/rtp/>

Schedule: First Friday of September annual deadline.

LAND AND WATER CONSERVATION FUND

The Land and Water Conservation Fund (LWCF) Act of 1965 seeks to provide outdoor recreation opportunities for all Americans. Funding is made available through royalty revenues from offshore leasing contracts with mineral extracting companies. Nebraska appropriates 60% of the fund for local subdivision recreation projects and retains 40% of the fund for statewide projects within the State Park System. As required by Congress, proposed recreation projects must be in accordance with the State Comprehensive Outdoor Recreation Plan (SCORP). The reimbursable program provides grants for up to 50% of project costs. Local governments/ political subdivisions must assure the Nebraska Game and Parks Commission that they have the financial resources to complete and maintain projects in desired operations and settings. Examples of eligible projects include playgrounds, ball fields, soccer fields, picnicking facilities, camping facilities, golf courses, tennis courts, shelters, acquisition and development, and related support facilities.

More information: <http://outdoornebraska.gov/lwcf/>

Schedule: October deadline. (date varies)

PAPIO MISSOURI RIVER NRD

The Papio Missouri River Natural Resources District has cost-sharing programs to assist local government with developing trails. The NRD accepts applications for trail projects annually in March and will generally share in the local cost match required for the federal trail grants. They may also cost share in any locally funded trails.

For more information, contact the Papio Missouri River NRD – Eric Williams, Natural Resource Planner ewilliams@papionrd.org

LOCAL OPTION SALES TAX

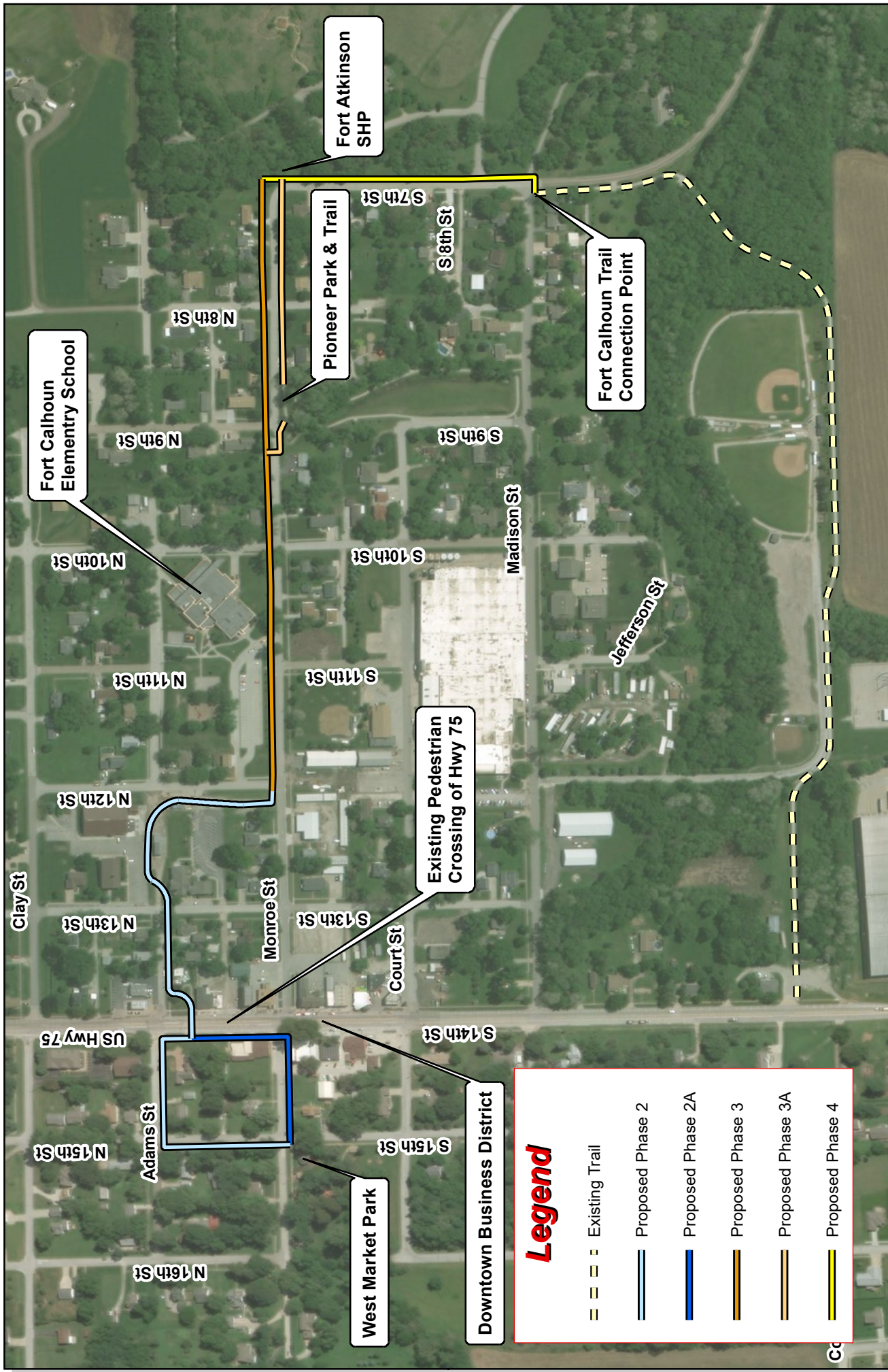
The City of Fort Calhoun has already passed a local option sales tax and it could be used to help fund trail projects.

PRIVATE/CHARITABLE FOUNDATION

Private/charitable foundations are legal entities set up by an individual, a family or a group of individuals, for a purpose such as philanthropy. The Nielsen Foundation Grant, Iowa West Foundation, Kiewit Foundation, and the Daugherty Foundation are examples of such foundations.

APPENDIX A

TRAIL MAP



Legend

- Existing Trail
- Proposed Phase 2
- Proposed Phase 2A
- Proposed Phase 3
- Proposed Phase 3A
- Proposed Phase 4



1 inch = 400 feet
 0 100 200 400 Feet

Fort Calhoun Trail, Fort Calhoun, Nebraska

Project Route
 Project No. 131216.20

APPENDIX B

OPINIONS OF COST

ENGINEER'S BUDGETARY OPINION OF PROBABLE COST**Fort Calhoun Trail Feasibility Study****Fort Calhoun Trail, Phase 2 (West Market Square Park to Sch****JEO Project No. 131216.20***Date Prepared:**June 18, 2018***ESTIMATE OF QUANTITIES**

Item #	Description	Unit	Quantity	Unit Price	Total
CONSTRUCTION COSTS					
1.	Mobilization	LS	1	\$13,832.73	\$13,833
2.	Clearing and Grubbing	Acre	1.10	\$2,500.00	\$2,750
3.	Remove Tree	EA	3	\$600.00	\$1,800
4.	Remove Concrete Sidewalk	SF	2,912	\$1.50	\$4,368
5.	Remove Driveway	SY	133	\$7.00	\$933
6.	Site Grading	CY	500	\$10.00	\$5,000
7.	Silt Fence, High Porosity	LF	500	\$3.50	\$1,750
8.	Erosion Control Mat	SY	500	\$4.00	\$2,000
9.	Curb Inlet Sediment Filter	EA	2	\$175.00	\$350
10.	Seeding, Fertilizer and Mulch	ACRE	1	\$3,000.00	\$2,100
11.	24" RCP, Class III	LF	60	\$55.00	\$3,300
12.	24" RCP Flared End Section	EA	4	\$750.00	\$3,000
13.	5" Concrete Trail	SF	14,680	\$5.25	\$77,070
14.	8" Concrete Trail	SF	600	\$6.25	\$3,750
15.	Concrete Curb and Gutter (24"-36" wide)	LF	990	\$30.00	\$29,700
16.	8" Concrete Driveway	SY	83	\$60.00	\$5,000
17.	Detectable Warning Panels	SF	144	\$40.00	\$5,760
18.	Subgrade Preparation	SY	1,781	\$2.50	\$4,453
19.	Modular Block Retaining Wall (includes wall, granular backfill & compacted leveling pad)	SF	135	\$35.00	\$4,725
20.	Handrail	LF	45	\$80.00	\$3,600
21.	Traffic Signs	EA	5	\$200.00	\$1,000
22.	White Preformed Pavement Marking, Type 4, Crosswalk Bars, Grooved	EA	1	\$2,000.00	\$2,000
23.	Temporary Traffic Control Measures	LS	1	\$5,000.00	\$5,000
Total Opinion of Construction Cost					\$183,200
PRIVATE/PUBLIC UTILITY RELOCATION COSTS					
1.	Light/Power Pole Relocation	EA	2	\$1,500.00	\$3,000
2.	Utility Pedestal Relocation	EA	1	\$500.00	\$500
Total Opinion of Private/Public Utility Relocation Costs					\$3,500
7.			0		\$0

ENGINEER'S BUDGETARY OPINION OF PROBABLE COST**Fort Calhoun Trail Feasibility Study****Fort Calhoun Trail, Phase 2 (West Market Square Park to Sch****JEO Project No. 131216.20***Date Prepared:**June 18, 2018***ENGINEERING COSTS**

1.	Preliminary Engineering	LS	11%		\$20,537
2.	NEPA Documents & Wetland Delineation	LS	3%		\$5,601
3.	Migratory Bird Survey	EA	1	\$2,500.00	\$2,500
4.	Construction Engineering	LS	10%		\$18,670
5.	Engineering & Construction Advertisements	LS	1	\$500.00	\$500
6.	ROW/Easement Acquisition Costs	Sq Foot	4,775	\$2.50	\$11,938
7.	Contingency	LS	5%		\$9,335

Total Opinion of Engineering Cost	\$69,100
--	-----------------

Construction Cost Total	\$186,700
-------------------------	-----------

Engineering Costs Total	\$69,100
-------------------------	----------

Total Opinion of PROJECT Cost	\$255,800
--------------------------------------	------------------

FUNDING SOURCES

1.	Force Account	0%	
2.	Private Donations	0%	
3.	Papio Missouri River NRD	10%	\$25,580
4.	City of Fort Calhoun	10%	\$25,580
5.	Federal Funding (RTP Program)	80%	\$204,640

JEO Consulting Group Inc.'s (JEO) Opinions of Probable Cost provided for herein are to be made on the basis of JEO's experience and qualifications and represent JEO's best judgment. However, since JEO has no control over the cost of labor, materials, equipment, or services furnished by others, or over the Contractor's methods of determining prices, or over competitive bidding or market conditions, JEO cannot and does not guarantee that proposals, bids, or actual construction cost will not vary from Opinions of Probable Cost prepared by JEO.

ENGINEER'S BUDGETARY OPINION OF PROBABLE COST**Fort Calhoun Trail Feasibility Study****Fort Calhoun Trail, Phase 2a (West Market Square Park to Sc****JEO Project No. 131216.20***Date Prepared:**June 18, 2018***ESTIMATE OF QUANTITIES**

Item #	Description	Unit	Quantity	Unit Price	Total
CONSTRUCTION COSTS					
1.	Mobilization	LS	1	\$12,265.16	\$12,265
2.	Clearing and Grubbing	Acre	1.00	\$2,500.00	\$2,500
3.	Remove Tree	EA	3	\$600.00	\$1,800
4.	Remove Concrete Sidewalk	SF	3,760	\$1.50	\$5,640
5.	Remove Pavement	SY	173	\$9.00	\$1,560
6.	Remove Driveway	SY	71	\$7.00	\$498
7.	Site Grading	CY	500	\$10.00	\$5,000
8.	Silt Fence, High Porosity	LF	500	\$3.50	\$1,750
9.	Erosion Control Mat	SY	500	\$4.00	\$2,000
10.	Curb Inlet Sediment Filter	EA	2	\$175.00	\$350
11.	Seeding, Fertilizer and Mulch	ACRE	1	\$3,000.00	\$2,100
12.	24" RCP, Class III	LF	30	\$55.00	\$1,650
13.	24" RCP Flared End Section	EA	2	\$750.00	\$1,500
14.	5" Concrete Trail	SF	14,160	\$5.25	\$74,340
15.	8" Concrete Trail	SF	320	\$6.25	\$2,000
16.	8" Concrete Pavement	SY	87	\$52.50	\$4,550
17.	Concrete Curb and Gutter (24"-36" wide)	LF	660	\$30.00	\$19,800
18.	8" Concrete Driveway	SY	44	\$60.00	\$2,667
19.	Detectable Warning Panels	SF	144	\$40.00	\$5,760
20.	Subgrade Preparation	SY	1,740	\$2.50	\$4,350
21.	Traffic Signs	EA	5	\$200.00	\$1,000
22.	White Preformed Pavement Marking, Type 4, Crosswalk Bars, Grooved	EA	2	\$2,000.00	\$4,000
23.	Temporary Traffic Control Measures	LS	1	\$5,000.00	\$5,000
Total Opinion of Construction Cost					\$162,100
PRIVATE/PUBLIC UTILITY RELOCATION COSTS					
1.	Light/Power Pole Relocation	EA	2	\$1,500.00	\$3,000
2.	Utility Pedestal Relocation	EA	1	\$500.00	\$500
Total Opinion of Private/Public Utility Relocation Costs					\$3,500
7.			0		\$0

ENGINEER'S BUDGETARY OPINION OF PROBABLE COST**Fort Calhoun Trail Feasibility Study****Fort Calhoun Trail, Phase 2a (West Market Square Park to Sc****JEO Project No. 131216.20***Date Prepared:**June 18, 2018***ENGINEERING COSTS**

1.	Preliminary Engineering	LS	11%		\$18,216
2.	NEPA Documents & Wetland Delineation	LS	3%		\$4,968
3.	Migratory Bird Survey	EA	1	\$2,500.00	\$2,500
4.	Construction Engineering	LS	10%		\$16,560
5.	Engineering & Construction Advertisements	LS	1	\$500.00	\$500
6.	ROW/Easement Acquisition Costs	Sq Foot	4,525	\$2.50	\$11,313
7.	Contingency	LS	5%		\$8,280

Total Opinion of Engineering Cost	\$62,300
--	-----------------

Construction Cost Total	\$165,600
-------------------------	-----------

Engineering Costs Total	\$62,300
-------------------------	----------

Total Opinion of PROJECT Cost	\$227,900
--------------------------------------	------------------

FUNDING SOURCES

1.	Force Account	0%	
2.	Private Donations	0%	
3.	Papio Missouri River NRD	10%	\$22,790
4.	City of Fort Calhoun	10%	\$22,790
5.	Federal Funding (RTP Program)	80%	\$182,320

JEO Consulting Group Inc.'s (JEO) Opinions of Probable Cost provided for herein are to be made on the basis of JEO's experience and qualifications and represent JEO's best judgment. However, since JEO has no control over the cost of labor, materials, equipment, or services furnished by others, or over the Contractor's methods of determining prices, or over competitive bidding or market conditions, JEO cannot and does not guarantee that proposals, bids, or actual construction cost will not vary from Opinions of Probable Cost prepared by JEO.

ENGINEER'S BUDGETARY OPINION OF PROBABLE COST

Fort Calhoun Trail Feasibility Study

Fort Calhoun Trail, Phase 3 (School to Fort Atkinson)

JEO Project No. 131216.20

Date Prepared:

June 18, 2018

**ESTIMATE OF QUANTITIES**

Item #	Description	Unit	Quantity	Unit Price	Total
CONSTRUCTION COSTS					
1.	Mobilization	LS	1	\$18,376.96	\$18,377
2.	Clearing and Grubbing	Acre	1.10	\$2,500.00	\$2,750
3.	Remove Tree	EA	1	\$600.00	\$600
4.	Remove Concrete Sidewalk	SF	6,400	\$1.50	\$9,600
5.	Remove Driveway	SY	121	\$7.00	\$848
6.	Remove and Reinstall Fence	LF	350	\$15.00	\$5,250
7.	Site Grading	CY	500	\$10.00	\$5,000
8.	Silt Fence, High Porosity	LF	500	\$3.50	\$1,750
9.	Erosion Control Mat	SY	500	\$4.00	\$2,000
10.	Curb Inlet Sediment Filter	EA	5	\$175.00	\$875
11.	Seeding, Fertilizer and Mulch	ACRE	1	\$3,000.00	\$2,100
12.	24" RCP, Class III	LF	20	\$55.00	\$1,100
13.	Curb Inlet (y=10')	EA	2	\$2,500.00	\$5,000
14.	5" Concrete Trail	SF	14,880	\$5.25	\$78,120
15.	8" Concrete Trail	SF	320	\$6.25	\$2,000
16.	Concrete Curb and Gutter (24"-36" wide)	LF	660	\$30.00	\$19,800
17.	8" Concrete Driveway	SY	94	\$60.00	\$5,667
18.	Detectable Warning Panels	SF	256	\$40.00	\$10,240
19.	Subgrade Preparation	SY	1,930	\$2.50	\$4,825
20.	Modular Block Retaining Wall (includes wall, granular backfill & compacted leveling pad)	SF	963	\$35.00	\$33,688
21.	Handrail	LF	275	\$80.00	\$22,000
22.	Traffic Signs	EA	5	\$200.00	\$1,000
23.	White Preformed Pavement Marking, Type 4, Crosswalk Bars, Grooved	EA	2	\$2,000.00	\$4,000
24.	Temporary Traffic Control Measures	LS	1	\$5,000.00	\$5,000

Total Opinion of Construction Cost	\$241,600
---	------------------

PRIVATE/PUBLIC UTILITY RELOCATION COSTS

1.	Utility Pedestal Relocation	EA	3	\$500.00	\$1,500
2.	Fire Hydrant Relocation	EA	2	\$2,500.00	\$5,000

9.	\$5,000
-----------	----------------

ENGINEER'S BUDGETARY OPINION OF PROBABLE COST**Fort Calhoun Trail Feasibility Study****Fort Calhoun Trail, Phase 3 (School to Fort Atkinson)****JEO Project No. 131216.20***Date Prepared:**June 18, 2018***ENGINEERING COSTS**

1.	Preliminary Engineering	LS	11%		\$27,126
2.	NEPA Documents & Wetland Delineation	LS	3%		\$7,398
3.	Migratory Bird Survey	EA	1	\$2,500.00	\$2,500
4.	Construction Engineering	LS	10%		\$24,660
5.	Engineering & Construction Advertisements	LS	1	\$500.00	\$500
6.	ROW/Easement Acquisition Costs	Sq Foot	4,750	\$4.00	\$19,000
7.	Contingency	LS	5%		\$12,330

Total Opinion of Engineering Cost	\$93,500
--	-----------------

Construction Cost Total	\$246,600
-------------------------	-----------

Engineering Costs Total	\$93,500
-------------------------	----------

Total Opinion of PROJECT Cost	\$340,100
--------------------------------------	------------------

FUNDING SOURCES

1.	Force Account	0%	
2.	Private Donations	0%	
3.	Papio Missouri River NRD	13%	\$45,050
4.	City of Fort Calhoun	13%	\$45,050
5.	Federal Funding (RTP Program)	74%	\$250,000

JEO Consulting Group Inc.'s (JEO) Opinions of Probable Cost provided for herein are to be made on the basis of JEO's experience and qualifications and represent JEO's best judgment. However, since JEO has no control over the cost of labor, materials, equipment, or services furnished by others, or over the Contractor's methods of determining prices, or over competitive bidding or market conditions, JEO cannot and does not guarantee that proposals, bids, or actual construction cost will not vary from Opinions of Probable Cost prepared by JEO.

ENGINEER'S BUDGETARY OPINION OF PROBABLE COST

Fort Calhoun Trail Feasibility Study

Fort Calhoun Trail, Phase 3a (School to Fort Atkinson)

JEO Project No. 131216.20

Date Prepared:

June 18, 2018

**ESTIMATE OF QUANTITIES**

Item #	Description	Unit	Quantity	Unit Price	Total
CONSTRUCTION COSTS					
1.	Mobilization	LS	1	\$15,698.20	\$15,698
2.	Clearing and Grubbing	Acre	1.00	\$2,500.00	\$2,500
3.	Remove Tree	EA	1	\$600.00	\$600
4.	Remove Concrete Sidewalk	SF	6,400	\$1.50	\$9,600
5.	Remove Driveway	SY	121	\$7.00	\$848
6.	Remove and Reinstall Fence	LF	350	\$15.00	\$5,250
7.	Site Grading	CY	500	\$10.00	\$5,000
8.	Silt Fence, High Porosity	LF	500	\$3.50	\$1,750
9.	Erosion Control Mat	SY	500	\$4.00	\$2,000
10.	Curb Inlet Sediment Filter	EA	5	\$175.00	\$875
11.	Seeding, Fertilizer and Mulch	ACRE	1	\$3,000.00	\$2,100
12.	24" RCP, Class III	LF	40	\$55.00	\$2,200
13.	Curb Inlet (y=10')	EA	3	\$2,500.00	\$7,500
14.	5" Concrete Trail	SF	14,080	\$5.25	\$73,920
15.	8" Concrete Trail	SF	320	\$6.25	\$2,000
16.	Concrete Curb and Gutter (24"-36" wide)	LF	1,025	\$30.00	\$30,750
17.	8" Concrete Driveway	SY	94	\$60.00	\$5,667
18.	Detectable Warning Panels	SF	320	\$40.00	\$12,800
19.	Subgrade Preparation	SY	1,922	\$2.50	\$4,806
20.	Modular Block Retaining Wall (includes wall, granular backfill & compacted leveling pad)	SF	188	\$35.00	\$6,563
21.	Handrail	LF	75	\$80.00	\$6,000
22.	Traffic Signs	EA	5	\$200.00	\$1,000
23.	White Preformed Pavement Marking, Type 4, Crosswalk Bars, Grooved	EA	2	\$2,000.00	\$4,000
24.	Temporary Traffic Control Measures	LS	1	\$5,000.00	\$5,000

Total Opinion of Construction Cost	\$208,400
---	------------------

PRIVATE/PUBLIC UTILITY RELOCATION COSTS

1.	Utility Pedestal Relocation	EA	2	\$500.00	\$1,000
2.	Fire Hydrant Relocation	EA	1	\$2,500.00	\$2,500

9.	\$2,500
-----------	----------------

ENGINEER'S BUDGETARY OPINION OF PROBABLE COST**Fort Calhoun Trail Feasibility Study****Fort Calhoun Trail, Phase 3a (School to Fort Atkinson)****JEO Project No. 131216.20***Date Prepared:**June 18, 2018***ENGINEERING COSTS**

1.	Preliminary Engineering	LS	11%		\$23,199
2.	NEPA Documents & Wetland Delineation	LS	3%		\$6,327
3.	Migratory Bird Survey	EA	1	\$2,500.00	\$2,500
4.	Construction Engineering	LS	10%		\$21,090
5.	Engineering & Construction Advertisements	LS	1	\$500.00	\$500
6.	ROW/Easement Acquisition Costs	Sq Foot	4,500	\$4.00	\$18,000
7.	Contingency	LS	5%		\$10,545

Total Opinion of Engineering Cost	\$82,200
--	-----------------

Construction Cost Total	\$210,900
-------------------------	-----------

Engineering Costs Total	\$82,200
-------------------------	----------

Total Opinion of PROJECT Cost	\$293,100
--------------------------------------	------------------

FUNDING SOURCES

1.	Force Account	0%	
2.	Private Donations	0%	
3.	Papio Missouri River NRD	10%	\$29,310
4.	City of Fort Calhoun	10%	\$29,310
5.	Federal Funding (RTP Program)	80%	\$234,480

JEO Consulting Group Inc.'s (JEO) Opinions of Probable Cost provided for herein are to be made on the basis of JEO's experience and qualifications and represent JEO's best judgment. However, since JEO has no control over the cost of labor, materials, equipment, or services furnished by others, or over the Contractor's methods of determining prices, or over competitive bidding or market conditions, JEO cannot and does not guarantee that proposals, bids, or actual construction cost will not vary from Opinions of Probable Cost prepared by JEO.

ENGINEER'S BUDGETARY OPINION OF PROBABLE COST

Fort Calhoun Trail Feasibility Study

Fort Calhoun Trail, Phase 4 (Fort Atkinson to Trail)

JEO Project No. 131216.20

Date Prepared:

June 18, 2018

**ESTIMATE OF QUANTITIES**

Item #	Description	Unit	Quantity	Unit Price	Total
CONSTRUCTION COSTS					
1.	Mobilization	LS	1	\$6,817.51	\$6,818
2.	Clearing and Grubbing	Acre	0.50	\$2,500.00	\$1,250
3.	Remove Tree	EA	5	\$600.00	\$3,000
4.	Remove Concrete Sidewalk	SF	80	\$1.50	\$120
5.	Remove Driveway	SY	89	\$7.00	\$622
6.	Site Grading	CY	200	\$10.00	\$2,000
7.	Silt Fence, High Porosity	LF	800	\$3.50	\$2,800
8.	Seeding, Fertilizer and Mulch	ACRE	0	\$3,000.00	\$900
9.	5" Concrete Trail	SF	6,600	\$5.25	\$34,650
10.	8" Concrete Trail	SF	400	\$6.25	\$2,500
11.	Concrete Curb and Gutter (24"-36" wide)	LF	800	\$30.00	\$24,000
12.	8" Concrete Driveway	SY	56	\$60.00	\$3,333
13.	Detectable Warning Panels	SF	64	\$40.00	\$2,560
14.	Subgrade Preparation	SY	833	\$2.50	\$2,083
15.	Traffic Signs	EA	2	\$200.00	\$400
16.	White Preformed Pavement Marking, Type 4, Crosswalk Bars, Grooved	EA	1	\$2,000.00	\$2,000
17.	Temporary Traffic Control Measures	LS	1	\$2,500.00	\$2,500
Total Opinion of Construction Cost					\$91,500
PRIVATE/PUBLIC UTILITY RELOCATION COSTS					
1.	Utility Pedestal Relocation	EA	1	\$500.00	\$500
Total Opinion of Private/Public Utility Relocation Costs					\$500

ENGINEER'S BUDGETARY OPINION OF PROBABLE COST**Fort Calhoun Trail Feasibility Study****Fort Calhoun Trail, Phase 4 (Fort Atkinson to Trail)****JEO Project No. 131216.20***Date Prepared:**June 18, 2018***ENGINEERING COSTS**

1.	Preliminary Engineering	LS	11%		\$10,120
2.	NEPA Documents & Wetland Delineation	LS	3%		\$2,760
3.	Migratory Bird Survey	EA	1	\$2,500.00	\$2,500
4.	Construction Engineering	LS	10%		\$9,200
5.	Engineering & Construction Advertisements	LS	1	\$500.00	\$500
9.	ROW/Easement Acquisition Costs	Sq Foot	1	\$2.50	\$14,460
7.	Contingency	LS	5%		\$4,600

Total Opinion of Engineering Cost	\$44,100
--	-----------------

Construction Cost Total	\$92,000
-------------------------	----------

Engineering Costs Total	\$44,100
-------------------------	----------

Total Opinion of PROJECT Cost	\$136,100
--------------------------------------	------------------

FUNDING SOURCES

1.	Force Account	0%	
2.	Private Donations	0%	
3.	Papio Missouri River NRD	10%	\$13,610
4.	City of Fort Calhoun	10%	\$13,610
5.	Federal Funding (RTP Program)	80%	\$108,880

JEO Consulting Group Inc.'s (JEO) Opinions of Probable Cost provided for herein are to be made on the basis of JEO's experience and qualifications and represent JEO's best judgment. However, since JEO has no control over the cost of labor, materials, equipment, or services furnished by others, or over the Contractor's methods of determining prices, or over competitive bidding or market conditions, JEO cannot and does not guarantee that proposals, bids, or actual construction cost will not vary from Opinions of Probable Cost prepared by JEO.