

Fiberglass Pedestrian Bridge

Bid Specifications
Project# 16012 WTB

City of Sullivan, Missouri

Legal Notice Invitation to Bid

Sealed bids for a fiberglass pedestrian bridge will be received by the City of Sullivan, Missouri at the City Hall located at 210 W Washington, Sullivan, MO 63080, until 10:00 o'clock a.m. Thursday, June 14, 2018. The bids will be publicly opened and read aloud. All bids will be clearly marked "**Fiberglass Pedestrian Bridge**".

Bid specifications may be obtained at the Sullivan City Hall, 210 W Washington, Sullivan, MO 63080 Monday through Friday between the hours of 8:00 a.m. and 5:00 p.m.

Conditional bids will not be accepted.

Each bidder shall execute and submit a non-collusion affidavit (copy attached to specifications) with the submission of their bid.

Each Bidder shall provide proof that they are enrolled and participate in E-verify. This requirement is required by State or Federal Statute effective January 1, 2009.

All bids shall remain open for thirty (30) days.

The City of Sullivan reserves the right to accept or reject any and all bids and to waive any irregularities in the bidding process.

Instructions to Bidders

PROPOSAL

Proposals shall be made on the form(s) herein provided. Such proposals shall be endorsed **Fiberglass Pedestrian Bridge** and addressed to the City of Sullivan, 210 W Washington, Sullivan, MO 63080. Proposals shall include bid proposal, experience statement, non-collusion affidavit, and proof of enrollment and participation in E-Verify.

NON-COLLUSION AFFIDAVIT

Every bidder shall complete, sign, and notarize the non-collusion affidavit hereinafter included in these specifications. Said non-collusion affidavit shall be included with the bid proposal.

E-VERIFY COMPLIANCE REQUIRED

Each Bidder shall provide proof that their company is enrolled in E-Verify, as required by law. Information on E-Verify may be obtained at 1-888-464-4218. There is no charge for this program.

COMPETENCY OF BIDDERS

Each bidder shall furnish satisfactory evidence that he or she has the necessary resources to fulfill the conditions of the contract documents, in the form of an experience statement, list of fiberglass pedestrian bridges sold with reference contact information, or other such document(s) providing proof of ability to adequately perform the functions of the contract. Each bidder shall furnish three references related to similar pedestrian bridges sold.

RIGHT TO REJECT BIDS

The City of Sullivan reserves the right to reject any and all bids and to waive any irregularities in the bidding process, at the sole discretion of the City.

AWARD OF CONTRACT

The contract or part thereof will be awarded to the bidder whose proposal is deemed to be the lowest and best by the City of Sullivan. Failure of the City of Sullivan to execute a signed contract shall render the bids received under this proposal null and void.

BID PROPOSAL

To the City of Sullivan, Missouri, for a Fiberglass Pedestrian Bridge for the following locations of which the City may or may not accept Alternate #1.

In accordance with the instructions and specifications contained within the Bid Specifications, the following proposal is respectfully submitted:

	FIBERGLASS PEDESTRIAN BRIDGE SITE	BID AMOUNT
	Base Bid	
1	Wilson Crossing - Main Trail - Delivered Complete	\$ _____
	Total Base Bid	\$ _____
	Alternate Bid	
A1	George Street Crossing - Delivered Complete	\$ _____
	Total Alternate Bid	\$ _____
	Total Bid w/ Alternates	\$ _____

By submission of this bid, Bidder certifies that this bid has been arrived at independently without consultation, communication, or agreement as to any matter relating to this bid with any other bidder or any competition, is willing and able to execute this contract on the commencement date of the contract, and is duly authorized to enter this bid on the behalf of any corporation or entity for which this bid has been entered.

Bid Proposal Respectfully Submitted By:

Firm Name

Street Address

Signature

City, State, and Zip Code

Title

Date

Telephone Number

Fax Number

E-mail Address

Federal Identification Number

NON-COLLUSION AFFIDAVIT

STATE OF _____)

ss.

COUNTY OF _____)

_____, being first and duly sworn, deposes and says

that he/she is _____ of _____,
(sole owner, partner, president, etc)

the party making the foregoing proposal or bid; that such bid is genuine and not collusive of sham; that said bidder has not colluded, conspired, connived, or agreed, directly or indirectly, with any bidder or person, to put in a sham bid, or that such other person shall refrain from bidding, and has not in any manner, directly or indirectly, sought by agreement or collusion, or communication or conference, with any person, to fix the bid price of any affiant or any other bidder, or to fix any overhead, profit, or cost element of said bid price, or of any other bidder, or to secure any advantage against the **City of Sullivan, Missouri** or any person or persons interested in the proposed contract; and that all statements contained in the proposed contract; and that all statements contained in said proposal or bid are true; and further, that such bidder has not, directly or indirectly, submitted this bid, or the contents thereof, or divulged information or data relative thereto any association or to any member or agent thereof.

Affiant

Sworn to and subscribed before me this ____ day of _____, 20__.

Notary Public in and for

_____, County, _____

My commission expires _____.

**TECHNICAL SPECIFICATIONS
PREFABRICATED BRIDGE SPECIFICATIONS
ALLOWABLE STRESS DESIGN (ASD)**

PART 1 GENERAL

1.1 SCOPE

These specifications are for a fully engineered clear span bridge of Fiber Reinforced Polymer (FRP) composite construction and shall be regarded as the minimum standards for design and construction. The FRP structure shall be manufactured by Creative Pultrusions, Inc. (CPI), 214 Industrial Lane, Alum Bank, PA, phone 814-839-4186 (Toll-free 888-274-7855), or approved equal.

1.2 QUALIFIED SUPPLIERS

The FRP bridge manufacturer shall be an ISO9001:2015 accredited company for the design and manufacture of FRP structural components and systems. The company shall have been in the business of design and fabrication of bridges for a minimum of ten years. Company shall provide a list of five successful bridge projects, of similar construction, each of which has been in service at least three years. List the location, bridge size, owner and contact reference for each bridge.

PART 2 GENERAL FEATURES OF DESIGN

2.1 SPAN

Bridge span will be 50' (straight line dimension) and shall be measured from each end of the bridge structure for both the base bid and alternate.

2.2 WIDTH

Bridge width shall be 6' and shall be measured from the inside face of structural elements at deck level for both the base bid and alternate.

2.3 BRIDGE SYSTEM TYPE

Bridge must be designed as a FRP Composite Truss Span.

2.4 MEMBER COMPONENTS

All members shall be fabricated from pultruded FRP composite profiles and structural shapes as required.

2.5 CAMBER

Bridges to be precambered to eliminate initial dead load deflection.

PART 3 ENGINEERING

Structural design of the bridge structure(s) shall be performed by or under the direct supervision of a Licensed Professional Engineer and done in accordance with recognized engineering practices and principles.

3.1 UNIFORM LIVE LOAD

All bridge spans to be designed for 85 psf.

3.2 VEHICLE LOAD (AS REQUIRED)

A specified vehicle configuration determined by the Operating Agency may be used for the design vehicle. If an Agency design vehicle is not specified, the loads conforming to the AASHTO Standard H-5 Truck is used. A 4'x4' wheel base is assumed. Wheel loads are distributed as 4 equal concentrated point loads unless otherwise specified. The maintenance vehicle live load shall not be placed in combination with the pedestrian live load. A vehicle impact allowance is not required.

3.3 WIND LOAD

All bridges shall be designed for a minimum wind load of 25 psf. The wind is calculated on the entire vertical surface of the bridge as if fully enclosed.

3.4 SEISMIC LOAD

Seismic loads shall be determined according to the criteria specified in the standard building codes (IBC, ASCE, or UBC) unless otherwise requested. Response Spectrum Analysis shall be performed in those designs that require complex seismic investigation. All necessary response spectra information will be provided by the client for evaluation.

3.5 DESIGN APPROACH

An Allowable Stress Design (ASD) approach is used for the design of all structural members. Factors of safety used by CPI in the design of FRP bridges are as follows unless otherwise specified: (Based on the Ultimate Strength of the FRP material)

Tension	2.5
Compression	2.5
Shear	2.5
Bending	2.5
End Bearing	2.5
Connections	3.0

Above information is based on E.T. Techtonics 5-year test program funded by the National Science Foundation.

3.6 SERVICEABILITY CRITERIA

Service loads are used for the design of all structural members when addressing deflection and vibration issues. Criteria used by CPI in the design of FRP bridges are as follows:

Deflection:

$$\text{Live Load (LL) deflection} = L / 240$$

$$\text{Vertical Frequency (fn):} = 5.0 \text{ Hz}$$

The fundamental frequency of the pedestrian bridge (in the vertical direction) without live load should be greater than 5.0 hertz (Hz) to avoid any issues with the first and second harmonics.

$$\text{Horizontal Frequency (fn):} = 3.0 \text{ Hz}$$

The fundamental frequency of the pedestrian bridge, in the horizontal direction without live load, should be greater than 3.0 hertz (Hz) to avoid any issues due to side to side motion involving the first and second harmonics.

3.7 SNOW LOAD

Sustained snow load conditions shall be evaluated for time dependent effects (creep and relaxation) and expected recovery behavior.

PART 4 MATERIALS

4.1 FRP COMPOSITES

FRP bridges shall be fabricated from high-strength E-glass and isophthalic polyester resin unless otherwise specified. Weathering and ultraviolet light protection shall be provided by addition of a veil to the laminate construction. Minimum characteristic design strengths, per ASTM D7290 are as follows:

Tension	59,150 psi	ASTM D638
Compression	43,363 psi	ASTM D6641
Shear (In-plane)	9,773 psi	ASTM D5379
Shear (Interlaminar)	3,969 psi	ASTM D2344
Young's Modulus	3,870,000 psi	ASTM D6641 & D638 (Taken as the mean of the lessor of the two)

The minimum thickness of FRP Composite shapes shall be as follows unless otherwise specified: Square tube members (closed type shape) shall be 0.25 in. Wide-flange beams, channel sections, and angles (open type shapes) shall be a minimum thickness of 0.25 in. Standard plate shall be a minimum thickness of 0.25 in.

4.2 DECKING

Wood decking is No. 2 Southern Yellow Pine treated according to the American Wood Preservers Bureau. Standard 3 in. x 12 in. (nominal) planks can be provided for equestrian and light vehicle type loading conditions as required. High strength fiberglass decking can also be provided as required.

4.3 HARDWARE

Bolted connections shall be A307 hot-dipped galvanized steel unless otherwise specified. Mounting devices shall be galvanized or stainless steel.

PART 5 SUBMITTALS

5.1 SUBMITTAL DRAWINGS

Schematic drawings and diagrams shall be submitted to the client for their review after receipt of order. As required, all drawings shall be signed and sealed by a licensed Professional Engineer.

5.2 SUBMITTAL CALCULATIONS

As required, structural calculations shall be submitted to the client. All calculations will be signed and sealed by a licensed Professional Engineer.

6.0 FABRICATION

6.1 TOLERANCES

All cutting and drilling fabrication to be done by experienced fiberglass workers using carbide or diamond- tipped tooling to a tolerance of 1/16". No material deviations beyond industry standards are accepted. All cut edges to be cleaned and sealed.

6.2 PROFILE TOLERANCES

Pultruded profiles shall be manufactured to the dimensional requirements as set forth in ASTM D3917 and the visual requirements as set forth in ASTM D4385.

7.0 RAILINGS

7.1 RAILINGS

Railings should be a minimum of 42" above the floor deck for pedestrian and bicycle use and should be a minimum of 54" above the floor deck for equestrian use.

7.2 SAFETY RAILS

Continuous horizontal safety rails of 3" channel shall be located on the inside of the trusses. Maximum opening between the safety rails shall be available as required, but should not be greater than 4". If preferred, vertical pickets can be provided upon request.

7.3 TOEPLATES (OPTIONAL)

Continuous horizontal toe plates of 3" channel shall be located on the inside of the trusses near deck level.

8.0 FINISHING

Bridge color shall be determined by the client with green, grey, and as standard options. No painting is required as the color is added during the manufacturing process. Green is recommended for park and trail bridge applications. Custom colors can be provided upon request.

9.0 DELIVERY AND ERECTION

Delivery is made by truck to a location nearest the site accessible by roads. CPI will notify the client in advance of the expected time of arrival at the site. Bridges are usually shipped to the site in component parts or partially assembled depending on site requirements. The spans can then be completely assembled using standard hand tools. Upon request, bridges can also be shipped totally assembled to the site. Unloading, splicing (if required) and placement of the bridge will be the responsibility of the client.

9.1 ERECTION DIRECTION

For bridges shipped in component parts or partially assembled, CPI shall provide assembly drawings and a recommended assembly procedure for building the bridge. Temporary supports or rigging equipment, if needed, is the responsibility of the client. For bridges shipped assembled, CPI shall advise the client of the actual lifting weights, attachment points and all necessary information to install the bridge.

9.2 SITE ISSUES AND FOUNDATION DESIGN

The client shall procure all necessary information about the site and soil conditions. Soil tests shall be procured by the client. The engineering design and construction of the bridge abutments, piers and/or footing shall be by the client. CPI will provide the necessary information pertaining to the bridge support reactions. The client shall install the anchor bolts in accordance with CPI's anchor bolt spacing dimensions.

10.0 WARRANTY

Manufacturer shall warrant the structural integrity of all FRP materials, design and workmanship for 15 years. This warranty shall not cover defects in the bridge caused by foundation failures, abuse, misuse, overloading, accident, faulty construction or alteration, or other cause not the result of defective materials or workmanship. This warranty shall be limited to the repair or replacement of structural defects, and shall not include liability for consequential or incidental damages

Due-Diligence

Interested bidders are encouraged to contact City Engineer Robert Schaffer at 573-468-8965.

Contract Terms

The winning bidder shall enter into a contract with Sullivan, MO subject to the bid specifications contained herein. Failure of the City to enter into contract with the winning bidder according to the specifications contained herein shall be sufficient grounds for the winning bidder to withdraw terms offered to the City under these bid specifications.

The contractor's bid shall be listed as indicated in the Bid Proposal, to be the maximum amount that the contractor may charge the City of Sullivan for all of the services to be provided pursuant to the contract. The contractor's lump sum bid shall be inclusive of every charge relating to the contractor's provision for services including, but not limited to:

1. The contractor's charges for transportation;
2. All fuel and maintenance expenses;
3. Any and all federal, state, or local governmental fees, taxes, or assessments;
4. Contractor's equipment and machinery.

The contractor shall be solely responsible for the payment of all charges relating to the services furnished to the City. Other than the Contractor's lump sum contract fee to be paid as provided herein, the contractor shall not invoice or collect any separate or additional charge from the City.

The City shall award the contract to the lowest and best responsive bidder within thirty (30) days of bid opening. Notwithstanding the provisions contained in the bid specifications, the City reserves the right to reject any and all bids and to negotiate contract terms with the bidder determined to be the lowest and best responsive and responsible bidder.

Contractor shall be an independent contractor and shall furnish his/her own tools, equipment, fuel, and employees. All equipment and tools shall be in proper repair, insured, and properly registered. All employees operating equipment shall meet all necessary licensing and/or registration requirements within the State of Missouri.

Contractor shall be an independent contractor and is solely responsible for reporting income earned under this contract to any appropriate government agency(s).

Contractor shall warrant that all persons assigned by it to the performance of this contract shall be employees of the contractor (or specified subcontractor) and shall be fully qualified to perform the work required. The contractor shall include a similar provision in any contract with any subcontractor selected to perform work under this contract.

Contractor shall carry in full force and effect, insurance necessary to comply with the requirements of the workmen's compensation requirements of the State of Missouri.

Contractor shall require his/her insurance carriers to provide Certificates of Insurance to the City of Sullivan, Missouri showing names of companies, amount of insurance coverage, expiration date or dates, and policy number or numbers.

Contractor shall require his/her insurance carrier to have the City of Sullivan endorsed as an additional insured party on said liability insurance coverage.

General Indemnification. The contractor shall indemnify the City of Sullivan, Missouri, any of its members, employees, agents, officers, and consultants (each an indemnity) against, and hold each indemnity harmless from any and all claims, demands, causes of action, judgments, liens, penalties, costs, and expense whatsoever, including attorney's fees and expenses, of any kind or nature whatsoever, including, but not limited to, claims for bodily injury, illness or death, property damage including loss of use which may at anytime be imposed upon, incurred by or asserted against any indemnity as a result of any performance or lack of performance by the contractor or any of its agents or employees of any of its or their obligations hereunder, or as a result of any negligence of the contractor or any of its agents or employees. This indemnification of the City of Sullivan is not limited by the amount of any insurance coverage available to the contractor. Such indemnification shall not include claims or demands arising out of the negligence or misconduct of the City.

Contractor shall be enrolled and participate in E-Verify, as required by law.

Contractor shall insure all employees employed in the provision of services related to this project are compliant with the OSHA required 10-hour Construction Safety Course for public projects.

This project is a public project and requires contractor to abide by the prevailing wage standards within Franklin County for the completion of the project. Contractor shall supply payroll verification documents to the city, with the submission of the payment request (invoice). Said documents shall be kept on file at the city, as required by law.

The illegal use, possession, dispensation, distribution, manufacture, or sale of a controlled substance or illegal drug by contractor, an employee of the contractor, or approved subcontractor at any service site is prohibited, as is the use or possession of alcohol. Any violation of this prohibition provides sufficient cause for immediate termination of this contract.

Contractor shall provide the City Engineer a written invoice documenting the total monies due.

Contractor shall submit sealed bids for the **Fiberglass Pedestrian Bridge** at the Sullivan City Hall located at 210 W Washington, Sullivan, MO 63080 until 10:00 a.m. on Thursday, June 14, 2018.

BIDDING REQUIREMENTS

1. GENERAL.

The successful Bidder will be required to furnish equipment, materials, labor, insurance, etc., required to complete the project and to fully comply with the requirements of the specifications and other Contract Documents.

2. PREPARATION OF BID.

Each bid must be submitted on the prescribed form. All blank spaces for bid prices must be filled in, in ink or typewritten.

3. INTERPRETATION OF CONTRACT DOCUMENTS.

- A. Bidders shall familiarize themselves with the contemplated Work to insure the fulfillment of the intent of the Contract Documents.
- B. Any Bidder who is in doubt as to the true meaning of any part of the Contract Documents shall promptly request from the City Engineer an interpretation thereof.
- C. Interpretations will be made only by Addendum, duly issued, and a copy of each addendum will be mailed or delivered to each party who has received a set of these Contract Documents. Information obtained from an officer, agent, or employee of the City of Sullivan or any other person shall not affect the risks or obligations assumed by the Contractor or relieve the Contractor from fulfilling any and all of the Conditions of the Contract.
- D. No interpretation addendum will be issued within the last three (3) days before the bid date unless the bid date is changed accordingly to allow time for bidders consideration.
- E. The Bidder shall be solely responsible for any explanation or interpretation of the Contract Documents other than by duly issued addenda.

4. FAMILIARITY WITH SITE AND CONDITIONS.

- A. The Bidder, before submitting his proposal, shall by careful examination, satisfy himself as to the following:
 - 1. Nature and location of Work.
 - 2. Character, quality, and quantity of materials to be encountered.
 - 3. Character of equipment and facilities needed prior to and during execution of the proposed Work.
 - 4. General local conditions.

5. Requirements for maintaining existing facilities in continuous service, if necessary and required.
 6. Existence of any other conditions which might affect the cost or time of completion of the Work.
- B. Each Bidder is responsible for inspecting the site and for reading and being thoroughly familiar with the Contract Documents. The failure or omission of any Bidder to do any of the foregoing shall in no way relieve any Bidder from any obligation in respect to its Bid. Filing the proposal shall confirm that the examination of site and conditions have been made by the Bidder and the existing conditions are accepted by him.

5. WITHDRAWAL OF BIDS.

- A. Proposals may be withdrawn on written or telegraphic request received from Bidders prior to the time fixed for opening, provided the proposal has been properly marked and can be positively identified.
- B. Any Bid received after the time and date specified shall not be considered. No Bidder may withdraw a Bid within ninety (90) days after the actual opening. Should there be reasons why the contract cannot be awarded within the specified period, the time may be extended by mutual agreement between the City of Sullivan and the Bidder.

6. CONTRACT.

The Contract when executed shall be deemed to include the entire agreement between the parties thereto, and the Bidder shall not claim any modification thereof resulting from any representation or promise made at any time by any officer, agent, or employee of the City of Sullivan or by any other person.

7. INSURANCE.

The Contractor will be required to carry insurance as required and in the amount herein contained, during the lifetime of this Contract. Certification of Insurance coverage shall be filed with the City of Sullivan prior to the Notice to Proceed on the Project.

8. SAFETY STANDARDS AND ACCIDENT PREVENTION.

With respect to all work performed under this Contract, the Contractor shall:

- A. Comply with the safety standards provisions of applicable laws, building and construction codes and the "Manual of Accident Prevention in Construction" published by the Associated General Contractors of America, the requirements of the Occupational Safety and Health Act of 1970 (Public Law 91-596), and the requirements of Title 29 of the Code of Federal Regulations Section 1518 as published in the "Federal Register", Volume 36, No. 75, April 17, 1971.
- B. Exercise every precaution at all times for the prevention of accidents and protection of persons (including employees) and property.

- C. Maintain at his/her office or other well known place at the job site, all articles necessary for giving first aid to the injured, and shall make standing arrangements for the immediate removal to a hospital or a doctor's care of persons (including employees), who may be injured on the job site. In no case shall employees be permitted to work at the job site before the employer has made a standing arrangement for removal of injured persons to a hospital or a doctor's care.