



DEPARTMENT OF FINANCE AND PURCHASING

345 South Main Street
Harrisonburg, VA 22801

Table with 3 columns: ISSUE DATE (February 18, 2014), INVITATION TO BID NUMBER (2014036-PW-B), FOR (Bluestone Trail - Stone Spring Road to Butler Street), DEPARTMENT (Public Works), DATE/TIME OF CLOSING (March 6, 2014 at 2:00pm local time), CONTRACT ADMINISTRATOR (Thomas Hartman, PE)

\*\*MANDATORY PRE-BID MEETING ON FEBRUARY 25, 2014 AT 2:00PM\*\*

Bids - In accordance with the following and in compliance with all terms and conditions, unless otherwise noted, the undersigned offers and agrees, if the bid is accepted, to furnish items or services for which prices are quoted, delivered or furnished to designated points within the time specified. It is understood and agreed that this entire ITB and any addendums shall constitute a contract.

NAME AND ADDRESS OF FIRM:

Telephone/Fax No.:

Federal Employer Identification # :

State Corporation Commission #:

E-mail:

Prompt Payment Discount: \_\_\_% for payment within \_\_\_ days/net \_\_\_ days

By signing this bid, Vendor(s) certifies, acknowledges, understands, and agrees to be bound by the conditions set forth in this ITB.

CHECK ONE: [ ] INDIVIDUAL [ ] PARTNERSHIP [ ] CORPORATION [ ] LLC

Vendor's Legally Authorized Signature

Date

Print Name

Title

Sealed bids, subject to terms and conditions of this Invitation to Bid will be received by the City of Harrisonburg Public Works Department, 320 East Mosby Road, Harrisonburg, Virginia 22801 until the date/ time specified above for furnishing items or services delivered or furnished to specified destinations within the time specified or stipulated by the vendor(s).

The City does not discriminate against small and minority businesses or faith-based organizations.

\*This document must be completed & returned with bid submission.

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**PROJECT MANUAL**

**FOR**

**CITY OF HARRISONBURG, VIRGINIA**

**BLUESTONE TRAIL SHARED USE PATH  
STONE SPRING ROAD TO BUTLER STREET**

**PROJECT:**

**VDOT PROJECT #EN99-136-151**

**UPC #104258**

**DCR LAND & WATER CONSERVATION FUND # 51-00429**

**CITY OF HARRISONBURG, VIRGINIA**

**DEPARTMENT OF PUBLIC WORKS**

**February 18, 2014**

Prepared by

Department of Public Works  
City of Harrisonburg  
320 East Mosby Road  
Harrisonburg, Virginia 22801

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SECTION 0001  
INVITATION TO BIDDERS

1. PROJECT

Bluestone Trail Shared Use Path – Stone Spring Road to Butler Street for the City of Harrisonburg, VA

2. DESCRIPTION OF WORK

Construction of a 10' wide shared use path from Stone Spring Road to Butler Drive, which includes the construction of two (2) 14' wide pedestrian prefabricated bridges, 8' wide gravel walking trail, and all associated appurtenances as shown on the Final Plans dated February 3, 2014. Construction shall begin no later than April 1, 2014. Entire project must be completed by December 31, 2014.

3. DOCUMENTS

Bid documents are available for viewing on the internet at [www.harrisonburgva.gov/bids-proposals](http://www.harrisonburgva.gov/bids-proposals) and also on the eVA website at [www.eva.virginia.gov](http://www.eva.virginia.gov) . Bid documents are available for purchase at DTS Reprographics 4803 South Valley Pike, Harrisonburg VA, 22801, (540) 433-8373.

4. PRE-BID CONFERENCE

Tuesday, February 25, 2014 at 2:00 PM EST at the Department of Public Works, 320 East Mosby Road, Harrisonburg. Attendance is mandatory and bidder's representative must be present for entire conference. Questions will be received up until February 28, 2014 at 12:00 PM EST and posted on the City's website at [www.harrisonburgva.gov/bids-proposals](http://www.harrisonburgva.gov/bids-proposals) as well as on the eVA website at [www.eva.virginia.gov](http://www.eva.virginia.gov).

5. BID BOND

Bids shall be accompanied by a 5% bid security. Bid bond must be in the form of a cashier's check, certified check or a bid bond issued by a surety.

6. BIDS DUE

Thursday, March 6, 2014 at 2:00 PM EST at the City of Harrisonburg, Department of Public Works, 320 East Mosby Road, Harrisonburg, VA, 22801. Bids will be opened and read publicly.

7. OWNER

City of Harrisonburg, 345 South Main Street, Harrisonburg, VA, 22801

8. CONTRACT ADMINISTRATOR

Thomas Hartman, PE, 320 East Mosby Road, Harrisonburg, VA 22801. Telephone: 540-434-5928. Email: Tom.Hartman@harrisonburgva.gov

SECTION 0100  
INSTRUCTIONS TO BIDDERS

1. SECURING DOCUMENTS

Bid documents are available for viewing at the following Harrisonburg locations: Department of Public Works, 320 East Mosby Road, and DTS Reprographics, 4803 South Valley Pike, Harrisonburg VA, 22801, (540) 433-8373.

Bid documents are available for viewing on the internet at [www.harrisonburgva.gov/bids-proposals](http://www.harrisonburgva.gov/bids-proposals) and also on the eVA website at [www.eva.virginia.gov](http://www.eva.virginia.gov).

Bid documents are available for purchase at DTS Reprographics 4803 South Valley Pike, Harrisonburg VA, 22801, (540) 433-8373.

2. BIDDER ELIGIBILITY

A. Bids

Bids will only be accepted from Contractors who are experienced in and actively engaged in the type of construction of the item(s) called for in the bid. No proposal will be accepted from or contract awarded to any person, firm, or corporation that is in arrears or is in default to the City upon any debt or contract, or that is a defaulter, as surety or otherwise, upon any obligation to said City or had failed to perform faithfully any previous contract with the City. Where an installation or assembly is to be performed by a subcontractor, the bidder must name the subcontractor, and the City reserves the right to determine whether the named subcontractor is fit and capable to perform the required work. Bidders and subcontractors must be prequalified with VDOT to be considered responsive bidders on this project. A copy of the bidder's VDOT Certificate of Qualifications must be submitted with the bid documents.

B. Bidders are required under Chapter 11, Title 54, Code of Virginia, to show evidence of certificate of registration before bid may be received and considered.

C. Bidders must certify in the bid form that they are not currently barred from bidding on contracts by any agency of the Commonwealth of Virginia or any federal agency.

3. BID FORM AND SUBMISSION

In order to receive consideration, submit bids in accordance with the following:

A. Make bids upon the forms provided herewith, properly signed and with all items filled out. Do not change the wording of the bid form, and do not add words to the bid form. Unauthorized conditions, limitations, or provisions attached to the bid will be cause for rejection of the bid.

B. Address bids to the Owner, and deliver to the address specified in the invitation to bid on or before the day and hour set for opening the bids. Enclose each bid in a sealed envelope bearing the title of the Work, the project number(s), the name of the bidder,

Virginia contractor registration number and the date and hour of the bid opening, Submit only the original signed copy of the bid. It is the sole responsibility of the bidder to see that his bid is received on time. No faxed bid will be considered. No bids received after the time fixed for receiving them will be considered. Late or incomplete bids will be returned to the bidder.

- C. Indicate receipt of issued Addenda. All Bidders are cautioned to check at [www.harrisonburgva.gov/bids-proposals](http://www.harrisonburgva.gov/bids-proposals) or at [www.eva.virginia.gov](http://www.eva.virginia.gov) to assure that all Addenda have been received and that the cost consequences thereof have been included in the bid.
- D. Although the bid is based upon unit prices, many items are to be priced under lump sum designations. It is the bidder's responsibility to verify the exact scope of work for all items in order to establish a bid price.
- E. The following documents fully completed and signed where appropriate are required for a responsive bid:
  - i) Signed Cover Sheet
  - ii) Bid Form
  - iii) Bid Tab
  - iv) Bid Bond
  - v) Contractor Eligibility and Registration
  - vi) State Corporation Commission Registration
  - vii) VDOT Form C-48
  - viii) Copy of VDOT Certification of Qualifications
  - ix) Insurance Requirements for the City of Harrisonburg
  - x) Signed Addenda, if applicable

#### 4. BONDS

- A. Bid security in the amount stated in the Invitation to Bid must accompany each bid. The successful bidder's security will not be returned until he has signed the Contract and has furnished the required Certificates of Insurance.
- B. The Owner reserves the right to retain the security of all bidders until the successful bidder enters into the Contract or until 90 days after bid opening, whichever is sooner. Other bid security will be returned as soon as practicable. If any bidder refuses to enter into a Contract, the Owner may retain his bid security as liquidated damages but not as a penalty.
- C. Prior to signing the Contract, the Owner will require the successful bidder to secure and post a Labor and Materials Payment Bond and a Performance Bond, each in the amount of 100% of the Contract Sum, and each on the form provided therefore in the Project Manual. Such Bonds shall be issued by a Surety acceptable to the Owner.

#### 5. EXAMINATION OF DOCUMENTS AND SITE OF WORK

Before submitting a bid, each bidder shall examine the Drawings carefully, shall read the Project Manual and all other proposed Contract Documents, and shall visit the site of the Work. Each bidder shall fully inform himself prior to bidding as to existing conditions and limitations under which the Work is to be performed, and shall include in his bid a sum to cover the cost of items necessary to perform the Work as set forth in the proposed Contract Documents. No allowance will be made to a bidder because of lack of such examination and knowledge. The submission of a bid will be considered as conclusive evidence that the bidder has made such examination.

## 6. COMPLIANCE WITH FEDERAL AND STATE REQUIREMENTS

Contractor shall comply with Section 0900, Federal and State Requirements. Contract award is subject to verification by Owner that Contractor is not banned from bidding on Federal or State aid projects.

## 7. MODIFICATION AND WITHDRAWAL OF BIDS

- A. Bidder may modify or withdraw his bid, either personally or by written request, at any time prior to the scheduled time for opening of bids.
- B. Except as provided in 2.2-4330 of the Code of Virginia, no bidder may withdraw his bid for a period of thirty calendar days after the date set for opening thereof, and bids shall be subject to acceptance by Owner during this period. Refusal of acceptance will result in forfeiture of bid security.

## 8. INTERPRETATION OF CONTRACT DOCUMENTS PRIOR TO BIDDING

If any person contemplating submitting a bid for construction of the Work is in doubt as to the true meaning of any part of the proposed Contract Documents, or finds discrepancies on or omissions from any part of the proposed Contract Documents, he shall submit to the Contract Administrator a written request for as outlined in the invitation to bid. The person submitting the request shall be responsible for any other interpretations of the proposed Contract Documents. Questions will be answered in Addendum format and posted as outlined in the invitation to bid, at [www.harrisingurgva.gov/bids-proposals](http://www.harrisingurgva.gov/bids-proposals).

## 9. AWARD OF CONTRACT

The Contract, if awarded, will be awarded to the lowest responsive and responsible bidder, meeting all specifications, subject to the Owner's right to reject any or all bids and to waive informality and irregularity in the bids and in the bidding.

## 10. EXECUTION OF AGREEMENT

- A. The form of the Agreement which the successful bidder will be required to execute is included in the Project Manual.

- B. The bidder to whom the Contract is awarded shall, within ten calendar days after notice of award and receipt of Agreement forms from the Owner, sign and deliver required copies to the Owner.
- C. At or prior to delivery of the signed Agreement, the bidder to whom the Contract is awarded shall deliver to the Owner those Certificates of Insurance required by the Contract Documents and such Labor and Materials Payment Bonds and Performance Bond and City Business License, as are required by the Owner.
- D. Bonds and Certificates of Insurance shall be approved by the Owner before the successful bidder may proceed with the Work. Failure or refusal to provide Bonds or Certificates of Insurance in a form satisfactory to the Owner shall subject the successful bidder to loss of time from the allowable construction period equal to the time of delay in furnishing the required material.

#### 11. CONSTRUCTION TIME AND LIQUIDATED DAMAGES

- A. The Agreement includes a stipulation that all Work be completed by a specified date (see section 0501). Liquidated damages will be applied as specified in the current VDOT Road and Bridge Specifications. The contractor is not to begin work until the receipt of the Owner's Notice to Proceed which will be effective upon receipt.

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## 12. INSURANCE REQUIREMENTS

### Insurance Requirements for the City of Harrisonburg

Independent Contractors/Vendors must have the following insurance coverages before beginning work on City premises:

- 1.) The contractor/vendor will maintain a general liability policy with \$1,000,000 combined single limits. Coverage is to be on an occurrence basis with an insurer licensed to conduct business in the Commonwealth of Virginia. Excess Liability coverage in the amount of \$1,000,000. The insurer must have an A. M. Best rating of A- or better. **The insurer must list the City of Harrisonburg as an additional insured. The endorsement must be issued by the insurance company. A notation on the certificate of insurance is not sufficient.**
- 2.) The contractor/vendor will maintain workers' compensation coverage in compliance with the laws of the Commonwealth of Virginia. The coverage must have statutory limits and be with an insurer licensed to conduct business in the Commonwealth of Virginia. The insurer must have an A. M. Best rating of A- or better. As an alternative, it is acceptable for the contractor to be insured by a group self insurance association that is licensed by the Virginia Bureau of Insurance. The contractor will also carry employers liability insurance with a limit of at least \$100,000 bodily injury by accident/\$500,000 bodily injury by disease policy limit/\$100,000 bodily injury by disease each employee.
- 3.) The contractor/vendor will maintain automobile liability insurance with limits of at least \$1,000,000. The coverage is to be written with a symbol "1". The insurer must be licensed to conduct business in the Commonwealth of Virginia. The insurer must have an A. M. Best rating of A- or better.

#### OFFEROR STATEMENT

We understand the Insurance Requirements of these specifications and will comply in full if awarded this contract.

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FIRM

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SIGNATURE

**RETURN THIS PAGE**

### 13. CITY BUSINESS LICENSE

- A. City of Harrisonburg Business License is required for successful award of this project. At or prior to delivery of the signed Agreement, the bidder to whom the Contract is awarded shall deliver to the Owner a copy of their City Business License. Subcontractors are also required to obtain a City Business License. It is the responsibility of the General contractor to notify the subs of this requirement. For information on City Business Licenses contact the Harrisonburg Commissioner of Revenue office at 540-432-7781.

### 14. STATE CORPORATION COMMISSION IDENTIFICATION NUMBER

Pursuant to Code of VA 2.2-4311.2 subsection B, a bidder or offeror organized or authorized to transact business in the Commonwealth pursuant to Title 13.1 or Title 50 is required to include in its bid or proposal the identification number issued to it by the State Corporation Commission (SCC). Any bidder or offeror that is not required to be authorized to transact business in the Commonwealth as a foreign business entity under Title 13.1 or Title 50 or as otherwise required by law is required to include in its bid or proposal a statement describing why the bidder or offeror is not required to be so authorized. Link to the SCC site is <http://www.scc.virginia.gov>.

### 15. STANDARD SPECIFICATIONS AND STANDARDS

Work in this project shall conform to the latest editions of the Virginia Department of Transportation (VDOT) Road and Bridge specifications, the VDOT road and bridge standards, the Virginia Erosion and Sediment Control handbook, the Virginia Erosion and Sediment Control regulations and the City of Harrisonburg design and construction standards manual. In the event of conflict between any of these standards, specifications or plans, the most stringent shall govern.

### 16. CONSIDERATION OF PROJECT COMPLEXITIES

- A. In preparing this bid, Contractor shall understand and account in his costs for the complexities involved in administrating the construction required by this Contract. Contractor shall be aware that the project area receives heavy vehicular and pedestrian traffic. Contractor shall accommodate such traffic through and around the work area in a safe and well-marked manner.
- B. Submission of a bid shall be an affirmation that the Contractor understands these complexities and difficulties associated with this project, that he has included in his bid a sufficient dollar amount to compensate for the additional time and effort these complexities and difficulties will require on his part, and that he understands that the Owner will not accept any claim for time extension or additional costs associated with them.

END INSTRUCTIONS TO BIDDERS

**0300 BID FORM**



Mr. James Baker  
Director  
Department of Public Works  
320 East Mosby Road  
Harrisonburg, Virginia 22801

Dear Sir:

The undersigned, having visited and examined the site and having carefully studied the drawings and project manual for the City of Harrisonburg, Bluestone Trail Shared Use Path – Stone Spring Road to Butler Street, hereby proposes to furnish all plant, labor, equipment, materials, and services and to perform all operations necessary to execute and complete the work required for the project in strict accordance with the drawings dated February 3, 2104 and the project manual dated February 18, 2014, together with addenda numbered \_\_\_\_\_, issued during bidding period and hereby acknowledged subject to the terms and conditions of the Agreement for the following sums of money:

**BASE BID PROPOSAL**

All labor, material, services and equipment necessary for the completion of the work shown on the Drawings and in the Project Manual and in the Addenda (if issued).

\_\_\_\_\_ (\$\_\_\_\_\_)

This bid submitted by (name of firm): \_\_\_\_\_

It is understood and agreed that the Owner, in protecting his best interests, reserves the right to:

Reject any and all bids, or waive any defects in favor of the City

Or

Accept any bid at the bid price, whereupon the contractor shall furnish equipment and materials as specified.

Contractors shall indicate a unit price for each item listed in the Pay Items Summary which follows. The listed pay items are to contain all necessary costs required for completion of the work. It is understood that all quantities listed below are estimated quantities and the Owner reserves the right to raise, lower or eliminate any quantity or item. Unit prices shall be used in determining partial and full payment.

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**Bluestone Trail Shared Use Path**

**CONSTRUCTION COST ESTIMATE UPC# 104258**

LINE #	ITEM #	DESCRIPTION	UNIT	EST. QUANTITY	UNIT PRICE (\$)	AMOUNT (\$)
1	100	MOBILIZATION	LS	1		
2	101	CONSTRUCTION SURVEYING	LS	1		
3	110	CLEARING AND GRUBBING	LS	1		
4	0480	14/4 CONDUCTOR CABLE (Ped signals)	LF	20		
5	0520	CONDUCTOR CABLE 8/1 (Light poles)	LF	850		
6	500	BEDDING MATL. FINE AGGR. (Fine Beach Sand .01" to .04" Diameter)	TON	15		
7	01246	STORM SEWER PIPE 24"	LF	25		
8	01186	STORM SEWER PIPE 18"	LF	50		
9	1150	6" PIPE (4 RUNS X 12') PHEASANT RUN CONN	LF	48		
10	56053	2" PVC PIPE (Volleyball court Drain)	LF	90		
11	6240	24" ENDSECTION ES-1	EA	2		
12	6810	18" END SECTION ES-1	EA	1		
13	9056	MH-1 MANHOLE	LF	7		
14	9057	MH-1 FRAME AND COVER	EA	1		
15	9215	PAVED DITCH PG-5	SY	6		
16	10121	AGGR. BASE MAT'L TY. I NO. 21A	TON	1400		
17	10250	AGGR. BASE MATL. NO. 57	TON	400		
18	10251	NS AGGR. MATERIAL (Limestone Dust)	TON	90		
19	10496	PAVEDRAIN FLEXABLE PAVING SURFACE (Or Equivalent)	SF	4956		

**Bluestone Trail Shared Use Path**

**CONSTRUCTION COST ESTIMATE UPC# 104258**

LINE #	ITEM #	DESCRIPTION	UNIT	EST. QUANTITY	UNIT PRICE (\$)	AMOUNT (\$)
20	10635	2" ASPHALT CONCRETE TY SM-9.5AL	TON	460		
21	10608	2" ASPHALT CONCRETE TY SM-12.5D	TON	2		
22	12600	ST'D COMB. CURB & GUTTER CG-6 (2' gutter)	LF	160		
23	13108	CG-12 DETECTABLE WARNING SURFACE	SY	6		
24	13220	HYDR. CEMENT CONC. SIDEWALK 4"	SY	95		
25	13222	HYDR. CEMENT CONC. SIDEWALK 7" (B Ball Court)	SY	117		
26	13232	GEOTEXTILE FABRIC (Mirafi FW 402 or Equilivant)	SY	925		
27	27430	SILTATION CONTROL EXCAVATION	CY	200		
28	27215	FERTILIZER	TON	1		
29	24282	FLAGGING SERVICE	HRS	40		
30	10065	AGGR MAT #1 (Construction Entrances)	TON	84		
31	16224	AGGR MAT #78 (Construction Entrances)	TON	84		
32	27102	SEED (90/10 Tall Fescue and Kentucky Bluegrass)	LBS	400		
33	27102	TOPSOIL Class A 2" (Existing Trail Eradication & Distrubed Areas)	AC	1.5		
34	27250	LIME	TON	1		
35	51910	SAW CUTTING (FULL DEPTH)	LF	170		
36	90000	EARTHWORK	LS	1		
37	22643	FENCE CHAIN LINK (6')	LF	1300		
38	22685	FENCE SPLIT RAIL (3 RAIL)	LF	700		

**Bluestone Trail Shared Use Path**

**CONSTRUCTION COST ESTIMATE UPC# 104258**

LINE #	ITEM #	DESCRIPTION	UNIT	EST. QUANTITY	UNIT PRICE (\$)	AMOUNT (\$)
39	22685	GATE	EA	1		
40	27415	CHECK DAM (ROCK) TY. II	EA	16		
41	27506	TEMP. FILTER BARRIER	LF	4200		
42	24160	CONSTRUCTION SIGNS	SF	70		
43	24278	GROUP 2 CHANNELIZING DEVICES	DAY	200		
44	24150	TYPE III BARRICADE 4'	EA	4		
45	24150	TYPE III BARRICADE 8'	EA	1		
46	23560	TEMP. SAFETY FENCE	LF	1500		
47	24430	TEMP PEDESTRIAN RAMP	EA	1		
48	24430	TEMP. SAFETY FENCE POSTS	EA	150		
49	38950	MITIGATION PLANTING (Establishment period)	LS	1		
50	38900	NS TREE (Tree replacement in conservation easement)	EA	116		
51	41101	NS RELOCATE (Basketball and Volleyball Nets)	LS	1		
52	50108	SIGN PANEL	SF	22		
53	50490	CONCRETE FOUNDATION STP-1	EA	4		
54	51240	CONCRETE FOUNDATION PF-2 (for ped poles )	EA	2		
55	51248	NS CONCRETE FOUNDATION (for light poles )	EA	6		
56	51962	RELOCATE PED PUSHBUTTON	EA	2		
57	52427	ELECTRICAL SERVICE (120/240 V)	EA	1		

**Bluestone Trail Shared Use Path**

**CONSTRUCTION COST ESTIMATE UPC# 104258**

LINE #	ITEM #	DESCRIPTION	UNIT	EST. QUANTITY	UNIT PRICE (\$)	AMOUNT (\$)
58	56014	ELECT. SER. GRD. ELECTRODE (10')	EA	6		
59	56042	2" CONDUIT	LF	750		
60	55168	LIGHTING POLE (CMT or Equivalent)	EA	6		
61	55500	LUMINARIE (GE T10R or Equivalent)	EA	6		
62	60125	NS BRIDGE (14' X 50') (Includes Install)	LS	1		
63	60125	NS BRIDGE (14' X 35') (Includes Install)	LS	1		
64	26119	DRY RIPRAP CLASS I 18"	TON	346		
65	9150	EROS. CONTR. STONE CL.1,EC-1	TON	4		
66	60120	STRUCTURE EXCAVATION	CY	775		
67	60403	CONCRETE CLASS A3	CY	110		
68	61700	REINFORCING STEEL	LBS	7130		
69	64005	SELECT MATERIAL TYPE 1 MIN. CBR-30	TON	768		
70	64032	GEOCOMPOSITE WALL DRAIN	SY	81		
71	001128	EXTRA EXCAVATION	CY	40		
72	16156	AGGREGATE NO. 68	SY	134		
73	64036	PIPE UNDERDRAIN 6" (Contingency Use)	LF	100		
		<b>TOTAL</b>				

## 0301 BID SECURITY

We are properly equipped to execute work of the character and extent indicated by the bidding documents and so covered by this bid and will enter into agreement for the execution and completion of the work in accordance with the drawings and project manual and this bid; and we further agree that if awarded the contract, we will commence the work on the date stated in the "Notice to Proceed" document and prosecute the work and all obligations by the specified completion dates.

Enclosed herewith is the following security, offered as evidence that the undersigned will enter into agreement for the execution and completion of the work in accordance with the drawings and project manual.

Certified check or Cashier's check for the sum of

\$ \_\_\_\_\_

\_\_\_\_\_  
Name of Bank

Bidder's Bond in the amount of

\$ \_\_\_\_\_

\_\_\_\_\_  
Bond issued by

The undersigned further agrees that in case of failure on his part to execute the said agreement within the ten consecutive calendar days after written notice being given on the award of the contract, the monies payable by the security accompanying this bid shall be paid to the City of Harrisonburg, Virginia as liquidated damages for such failure, otherwise, the security accompanying this bid shall be returned to the undersigned.

This bid is subject to acceptance within a period of 30 days from this date.

Respectfully submitted,

\_\_\_\_\_  
Company Name

By \_\_\_\_\_  
Signature of Authorized

Printed Name \_\_\_\_\_

Date \_\_\_\_\_

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## 0302 CONTRACTOR ELIGIBILITY AND REGISTRATION

This is to certify that I (we) are not currently barred from bidding on contracts by any agency of The Commonwealth of Virginia, nor am I (we) a part of any firm/corporation that is currently barred from bidding on contracts by any agency of The Commonwealth of Virginia.

Check one:

\_\_\_\_\_ I am currently registered as a contractor in the Commonwealth of Virginia.

\_\_\_\_\_ My registration number is \_\_\_\_\_

\_\_\_\_\_ I am currently not required to register as a contractor in the Commonwealth of Virginia per Chapter 11, Title 54 of the Code of Virginia.

\_\_\_\_\_  
Contractor

[SEAL]

\_\_\_\_\_  
Address

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_  
Attest

By: \_\_\_\_\_  
Signature

\_\_\_\_\_  
Title

\_\_\_\_\_  
Date

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## 0303 State Corporation Commission Form

**Virginia State Corporation Commission (“SCC”) registration information:**

**The undersigned Offeror:**

is a corporation or other business entity with the following SCC identification number:  
\_\_\_\_\_ **-OR-**

is not a corporation, limited liability company, limited partnership, registered limited liability partnership, or business trust **-OR-**

is an out-of-state business entity that does not regularly and continuously maintain as part of its ordinary and customary business any employees, agents, offices, facilities, or inventories in Virginia (not counting any employees or agents in Virginia who merely solicit orders that require acceptance outside Virginia before they become contracts, and not counting any incidental presence of the Offeror in Virginia that is needed in order to assemble, maintain, and repair goods in accordance with the contracts by which such goods were sold and shipped into Virginia from bidder’s out-of-state location) **-OR-**

is an out-of-state business entity that is including with this bid an opinion of legal counsel which accurately and completely discloses the undersigned Offeror’s current contacts with Virginia and describes why those contacts do not constitute the transaction of business in Virginia within the meaning of § 13.1-757 or other similar provisions in Titles 13.1 or 50 of the Code of Virginia.

**\*\*NOTE\*\*** >> Check the following box if you have not completed any of the foregoing options but currently have pending before the SCC an application for authority to transact business in the Commonwealth of Virginia and wish to be considered for a waiver to allow you to submit the SCC identification number after the due date for proposals (the Commonwealth reserves the right to determine in its sole discretion whether to allow such waiver):

**Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Name:** \_\_\_\_\_  
Print

**Title:** \_\_\_\_\_

**Name of Firm:** \_\_\_\_\_

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**0304 NON-COLLUSION AFFIDAVIT**

Under oath, I hereby affirm under penalty of perjury:

- (1) That I am the bidder or a partner of the bidder, or an officer or employee of the bidding corporation with authority to sign on its behalf;
- (2) That the attached bid or bids have been arrived at by the bidder and have been arrived at and submitted without collusion or any design to limit bidding or competition;
- (3) That the contents of the bid or bids have not been communicated to any person not an employee or agent of the bidder on any bid furnished with the bid or bids, and will not be communicated to any such person prior to the official opening of the bid or bids; and
- (4) That I have fully informed myself regarding the accuracy of the statements made in this affidavit.

Signed \_\_\_\_\_

Title \_\_\_\_\_

Firm Name \_\_\_\_\_

CITY OF HARRISONBURG  
COMMONWEALTH OF VIRGINIA, to wit:

I, \_\_\_\_\_, a Notary Public, do certify that  
\_\_\_\_\_ whose name is signed to the foregoing has  
this date acknowledged the same before me in my City foresaid.

Given under my hand this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

My Commission expires \_\_\_\_\_.

\_\_\_\_\_  
Notary Public

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## **GENERAL TERMS AND CONDITIONS FOR THE CITY OF HARRISONBURG, VA**

**PURCHASING AND CONTRACTING MANUAL:** This solicitation is subject to the provisions of The Purchasing and Contracting Policy Manual for the City of Harrisonburg (City) and any revisions thereto, which are hereby incorporated into this contract in their entirety. A copy of the manual is available for review at [www.Harrisonburgva.gov/bids](http://www.Harrisonburgva.gov/bids).

**APPLICABLE LAWS AND COURTS:** This solicitation and any resulting contract shall be governed in all respects by the laws of the Commonwealth of Virginia and any litigation with respect thereto shall be brought in the courts of the Commonwealth. The contractor shall comply with all applicable federal, state and local laws, rules and regulations.

**ANTI-DISCRIMINATION:** By submitting their (bids/proposals), (bidders/offerors) certify to the City that they will conform to the provisions of the Federal Civil Rights Act of 1964, as amended, as well as the Virginia Fair Employment Contracting Act of 1975, as amended, where applicable, the Virginians With Disabilities Act, the Americans With Disabilities Act and 2.2-4311 of the *Virginia Public Procurement Act*.

In every contract over \$10,000 the provisions below apply:

1. During the performance of this contract, the contractor agrees as follows:
  - a. The contractor will not discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin, age, disability, or any other basis prohibited by state law relating to discrimination in employment, except where there is a bona fide occupational qualification reasonably necessary to the normal operation of the contractor. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.
  - b. The contractor, in all solicitations or advertisements for employees placed by or on behalf of the contractor, will state that such contractor is an equal opportunity employer.
  - c. Notices, advertisements and solicitations placed in accordance with federal law, rule or regulation shall be deemed sufficient for the purpose of meeting these requirements.

The contractor will include the provisions of 1. above in every subcontract or purchase order over \$10,000, so that the provisions will be binding upon each subcontractor or vendor.

2. The City does not discriminate against small and minority businesses or faith based organizations.

**ETHICS IN PUBLIC CONTRACTING:** By submitting their (bids/proposals), (bidders/offerors) certify that their (bids/proposals) are made without collusion or fraud and that they have not offered or received any kickbacks or inducements from any other (bidder/offeror), supplier, manufacturer or subcontractor in connection with their (bid/proposal), and that they have not conferred on any public employee having official responsibility for this procurement transaction any payment, loan, subscription, advance, deposit of money, services or anything of more than nominal value, present or promised, unless consideration of substantially equal or greater value was exchanged.

**IMMIGRATION REFORM AND CONTROL ACT OF 1986:** By submitting their (bids/proposals), (bidders/offerors) certify that they do not and will not during the performance of this contract employ illegal alien workers or otherwise violate the provisions of the federal Immigration Reform and Control Act of 1986.

**DEBARMENT STATUS:** By submitting their (bids/proposals), (bidders/offerors) certify that they are not currently debarred by the Commonwealth of Virginia from submitting bids or proposals on contracts for the type of goods and/or services covered by this solicitation, nor are they an agent of any person or entity that is currently so debarred.

**ANTITRUST:** By entering into a contract, the contractor conveys, sells, assigns, and transfers to the City all rights, title and interest in and to all causes of action it may now have or hereafter acquire under the antitrust laws of the United States and the Commonwealth of Virginia, relating to the particular goods or services purchased or acquired by the City under said contract.

**MANDATORY USE OF CITY FORM AND TERMS AND CONDITIONS FOR IFBs AND RFPs**

1. **(For Invitation For Bids(ITB):)** Failure to submit a bid on the form provided, (if provided) shall be a cause for rejection of the bid. Modification of or additions to any portion of the Invitation for Bids may be cause for rejection of the bid; however, the City reserves the right to decide, on a case by case basis, in its sole discretion, whether to reject such a bid as nonresponsive. As a precondition to its acceptance, the City may, in its sole discretion, request that the bidder withdraw or modify nonresponsive portions of a bid which do not affect quality, quantity, price, or delivery. No modification of or addition to the provisions of the contract shall be effective unless reduced to writing and signed by the parties.
2. **(For Request For Proposals(RFP):)** Failure to submit a proposal on the form provided, (if provided) shall be a cause for rejection of the bid. Modification of or additions to the General Terms and Conditions of the solicitation may be cause for rejection of the proposal; however, the City reserves the right to decide, on a case by case basis, in its sole discretion, whether to reject such a proposal.

**REVISIONS TO THE OFFICIAL ITB/RFP:** No offeror shall modify, revise, edit or make any unauthorized change(s) to the original Official Invitation to Bid (ITB) or Official Request for Proposal (RFP). The Official solicitation document and the Addenda(s) are the documents posted on the City of Harrisonburg's web site and/or authorized by the City

of Harrisonburg's Purchasing Agent. Any such violation as stated above may result in rejection of the ITB/RFP response. In addition, violations may result in the debarment of the offeror by the City of Harrisonburg.

**CLARIFICATION OF TERMS:** If any prospective (bidder/offeror) has questions about the specifications or other solicitation documents, the prospective (bidder/offeror) should contact the person whose name appears on the face of the solicitation no later than five working days before the due date. Any revisions to the solicitation will be made only by addendum issued by the buyer.

**PAYMENT:**

1. To Prime Contractor:

- a. Invoices for items ordered, delivered and accepted shall be submitted by the contractor directly to the payment address shown on the purchase order/contract. All invoices shall show the purchase order number; social security number (for individual contractors) or the federal employer identification number (for proprietorships, partnerships, and corporations).
- b. Any payment terms requiring payment in less than 30 days will be regarded as requiring payment 30 days after invoice or delivery, whichever occurs last. This shall not affect offers of discounts for payment in less than 30 days, however.
- c. All goods or services provided under this contract or purchase order, that are to be paid for with public funds, shall be billed by the contractor at the contract price.
- d. The following shall be deemed to be the date of payment: the date of postmark in all cases where payment is made by mail, or the date of offset when offset proceedings have been instituted as authorized under the Virginia Debt Collection Act.
- e. Individual contractors shall provide their social security numbers, and proprietors, partnerships, and corporations shall provide the City with a federal employer identification number, prior to receiving any payment from the City.
- f. **Unreasonable Charges.** Under certain emergency procurements and for most time and material purchases, final job costs cannot be accurately determined at the time orders are placed. In such cases, contractors should be put on notice that final payment in full is contingent on a determination of reasonableness with respect to all invoiced charges. Charges which appear to be unreasonable will be researched and challenged, and that portion of the invoice held in abeyance until a settlement can be reached. Upon determining that invoiced as to those charges which it considers unreasonable and the basis for the

determination. A contractor may not institute legal action unless a settlement cannot be reached within thirty (30) days of notification. The provisions of this section do not relieve the City of its prompt payment obligations with respect to those charges which are not in dispute (*Code of Virginia, 2.2.4363*).

2. To Subcontractors:

- a. A contractor awarded a contract under this solicitation is hereby obligated:
  - (1) To pay the subcontractor(s) within seven (7) days of the contractor's receipt of payment from the City for the proportionate share of the payment received for work performed by the subcontractor(s) under the contract; or
  - (2) To notify the City and the subcontractor(s), in writing, of the contractor's intention to withhold payment and the reason.
- b. The contractor is obligated to pay the subcontractor(s) interest at the rate of one percent per month (unless otherwise provided under the terms of the contract) on all amounts owed by the contractor that remain unpaid seven (7) days following receipt of payment from the City, except for amounts withheld as stated in (2) above. The date of mailing of any payment by U. S. Mail is deemed to be payment to the addressee. These provisions apply to each sub-tier contractor performing under the primary contract. A contractor's obligation to pay an interest charge to a subcontractor may not be construed to be an obligation of the City.

**PRECEDENCE OF TERMS:** General Terms and Conditions shall apply in all instances. In the event there is a conflict between any of the other General Terms and Conditions and any Special Terms and Conditions in this solicitation, the Special Terms and Conditions shall apply.

**QUALIFICATIONS OF (BIDDERS/OFFERORS):** The City may make such reasonable investigations as deemed proper and necessary to determine the ability of the (bidder/offeror) to perform the services/furnish the goods and the (bidder/offeror) shall furnish to the City all such information and data for this purpose as may be requested. The City reserves the right to inspect (bidder's/offeror's) physical facilities prior to award to satisfy questions regarding the (bidder's/offeror's) capabilities. The City further reserves the right to reject any (bid/ proposal) if the evidence submitted by, or investigations of, such (bidder/offeror) fails to satisfy the City that such (bidder/offeror) is properly qualified to carry out the obligations of the contract and to provide the services and/or furnish the goods contemplated therein.

**TESTING AND INSPECTION:** The City reserves the right to conduct any test/inspection it may deem advisable to assure goods and services conform to the specifications.

**ASSIGNMENT OF CONTRACT:** A contract shall not be assignable by the contractor in whole or in part without the written consent of the City.

**CHANGES TO THE CONTRACT:** Changes can be made to the contract in any of the following ways:

1. The parties may agree in writing to modify the scope of the contract. An increase or decrease in the price of the contract resulting from such modification shall be agreed to by the parties as a part of their written agreement to modify the scope of the contract.
2. The Purchasing Agent or City delegated agent may order changes within the general scope of the contract at any time by written notice to the contractor. Changes within the scope of the contract include, but are not limited to, things such as services to be performed, the method of packing or shipment, and the place of delivery or installation. The contractor shall comply with the notice upon receipt. The contractor shall be compensated for any additional costs incurred as the result of such order and shall give the City a credit for any savings.

**DEFAULT:** In case of failure to deliver goods or services in accordance with the contract terms and conditions, the City, after due oral or written notice, may procure them from other sources and hold the contractor responsible for any resulting additional purchase and administrative costs. This remedy shall be in addition to any other remedies, which the City may have.

**CANCELLATION OF THE CONTRACT:** The City may terminate any agreement resulting from this solicitation at any time, for any reason or for no reason, upon thirty days advance written notice to the Contractor. In the event of such termination the Contractor shall be compensated for services and work performed prior to termination.

**TAXES:** Sales to the City of Harrisonburg are normally exempt from State sales tax. State sales and use tax certificates of exemption, Form ST-12, will be issued upon request.

**(NOT NORMALLY REQUIRED FOR SERVICE CONTRACTS)**

**USE OF BRAND NAMES:** Unless otherwise provided in this solicitation, the name of a certain brand, make or manufacturer does not restrict (bidders/offerors) to the specific brand, make or manufacturer named, but conveys the general style, type, character, and quality of the article desired. Any article which the public body, in its sole discretion, determines to be the equal of that specified, considering quality, workmanship, economy of operation, and suitability for the purpose intended, shall be accepted. The (bidder/offeror) is responsible to clearly and specifically identify the product being offered and to provide sufficient descriptive literature, catalog cuts and technical detail to enable the City to determine if the product offered meets the requirements of the solicitation. This is required even if offering the exact brand, make or manufacturer specified. Normally in competitive sealed bidding only the information furnished with the bid will be considered in the evaluation. Failure to furnish adequate data for evaluation purposes may result in declaring a bid nonresponsive. Unless the (bidder/offeror) clearly indicates in its (bid/proposal) that the product offered is an "equal" product, such (bid/proposal) will be considered to offer the brand name product referenced in the solicitation.**(NOT NORMALLY REQUIRED FOR SERVICE CONTRACTS)**

**TRANSPORTATION AND PACKAGING:** By submitting their (bids/proposals), all (bidders/offerors) certify and warrant that the price offered for FOB destination includes only the actual freight rate costs at the lowest and best rate and is based upon the actual weight of the goods to be shipped. Except as otherwise specified herein, standard commercial packaging, packing and shipping containers shall be used. All shipping containers shall be legibly marked or labeled on the outside with purchase order number, commodity description, and quantity.**(NOT NORMALLY REQUIRED FOR SERVICE CONTRACTS)**

**INSURANCE:** By signing and submitting a bid or proposal under this solicitation, the bidder or offeror certifies that if awarded the contract, it will have insurance coverages per the solicitation document at the time the contract is awarded. For construction contracts, if any subcontractors are involved, the subcontractor will have workers' compensation insurance in accordance with 2.2-4332 and 65.2-800 et seq. of the *Code of Virginia*. The bidder or offeror further certifies that the contractor and any subcontractors will maintain these insurance coverages during the entire term of the contract and that all insurance coverages will be provided by insurance companies authorized to sell insurance in Virginia by the Virginia State Corporation Commission. **(NOT NORMALLY REQUIRED FOR GOODS CONTRACTS. INSURANCE IS REQUIRED WHEN WORK IS TO BE PERFORMED ON CITY OWNED OR LEASED FACILITIES OR PROPERTY.)**

**AVAILABILITY OF FUNDS:** Agreements are made subject to the appropriation of funds by the Harrisonburg City Council and are null and void in the event of non-appropriation by the City Council. Non-appropriation of funds shall not be deemed a cancellation and shall terminate this agreement without recourse and with no liability on the part of the City.

**SELECTION PROCESS/AWARD:** Upon the award or the announcement of the decision to award a contract as a result of this solicitation, the department will publicly post such notice for a minimum of ten (10) days, or will notify all responsive bidders/offerors.

**BID/PROPOSAL ACCEPTANCE PERIOD:** Any bid/proposal resulting from this solicitation shall be valid for (30) days. At the end of the (30) days the bid/proposal may be withdrawn at the written request of the Bidder/Offeror. If the bid or proposal is not withdrawn at that time it remains in effect until an award is made or the solicitation is canceled.

**EXCUSABLE DELAY:** The City shall not be in default of any failure in performance of this agreement in accordance with its terms if such failure arises out of causes beyond its reasonable control and without the fault of or negligence of the City. Such causes may include, but are not restricted to acts of God or the public enemy, fires, flood, epidemics, quarantine restrictions, strikes, freight embargoes, and usually severe weather, but in every case the failure to perform must be beyond the reasonable control and without the fault or negligence of the City.

**DRUG-FREE WORKPLACE:** During the performance of this contract, the contractor agrees to (i) provide a drug-free workplace for the contractor's employees; (ii) post in conspicuous places, available to employees and applicants for employment, a statement

notifying employees that the unlawful manufacture, sale, distribution, dispensation, possession, or use of a controlled substance or marijuana is prohibited in the contractor's workplace and specifying the actions that will be taken against employees for violations of such prohibition; (iii) state in all solicitations or advertisements for employees placed by or on behalf of the contractor that the contractor maintains a drug-free workplace; and (iv) include the provisions of the foregoing clauses in every subcontract or purchase order of over \$10,000, so that the provisions will be binding upon each subcontractor or vendor.

**SAFETY and OSHA STANDARDS:** All parties performing services for the City shall comply with all Occupational Safety and Health Administration (OSHA), State Occupational Health Standards, and any other applicable rules and regulations. All parties shall be held responsible for the training, supervision, and safety of their employees. Any unsafe acts or hazardous conditions that may cause injury or damage to any persons or property within and around the work site areas under this contract shall be remedied per the regulatory agency's guidelines.

**PERMITS AND FEES:** All proposals submitted shall have included in price the cost of any business or professional licenses, permits or fees required by the City of Harrisonburg or the Commonwealth of Virginia. The offeror must have all necessary licenses to perform the services in Virginia and, if practicing as a corporation, be authorized to do business in the Commonwealth of VA.

**COOPERATIVE PROCUREMENT:** This procurement is being conducted on behalf of other public bodies, in accordance with 2.2-4304 (A) of the Code of VA. The successful bidder has the option to provide these same items (services), except architectural and engineering services, at the same prices, awarded as a result of this solicitation to any public body within the Commonwealth of Virginia. If any other Public body decides to use the final contract, the contractor(s) must deal directly with that public body concerning the placement of orders, issuance of the purchase orders, contractual disputes, invoicing and payment. Failure to extend a contract to any public body will have no effect on consideration of your bid.

**LIABILITY AND LITIGATION:** The City shall not indemnify or hold harmless any Contractor or other third party. The City does not waive any right or release any party from liability, whether on its own behalf or on behalf of any boards, employees or agents. The City does not waive the right to trial by jury for any cause of action arising from the Contract and shall not submit any Contract claim to binding arbitration or mediation. The City shall not be liable to Contractor for any special, punitive or exemplary damages arising from the performance of the contract, including, but not limited to, incidental damages, and lost profit and lost wages, even if such special damages are reasonably foreseeable. Any provision(s) in the Contract contrary to these statements is/are hereby deleted and rendered void.

**STATE CORPORATION COMMISSION IDENTIFICATION NUMBER:** Pursuant to Code of VA 2.2-4311.2 subsection B, a bidder or offeror organized or authorized to transact business in the Commonwealth pursuant to Title 13.1 or Title 50 is required to include in its bid or proposal the identification number issued to it by the State Corporation Commission (SCC). Any bidder or offeror that is not required to be authorized to

transact business in the Commonwealth as a foreign business entity under Title 13.1 or Title 50 or as otherwise required by law is required to include in its bid or proposal a statement describing why the bidder or offeror is not required to be so authorized. Link to the SCC site is <http://www.scc.virginia.gov>.

**CITY OF HARRISONBURG, VA**

NOTICE OF AWARD

Date \_\_\_\_\_

Name \_\_\_\_\_

Address \_\_\_\_\_

Your Bid/Offer Dated \_\_\_\_\_

In Response To Bid/RFP # \_\_\_\_\_

To Furnish \_\_\_\_\_

During the Period \_\_\_\_\_

hereby is accepted at prices and terms stated, subject to all conditions and requirements of the solicitation, purchase specifications, warranties, performance bond and other stipulations, if any.

\_\_\_\_\_

Kurt Hodgen, City Manager

OR

Anne Lewis, Assistant City Manager

For City of Harrisonburg, VA

## **0501 AGREEMENT**

This AGREEMENT is dated as of the \_\_\_ day of \_\_\_\_\_ in the year 20\_\_ between the City of Harrisonburg, Virginia (hereinafter called OWNER) and \_\_\_\_\_ (hereinafter called CONTRACTOR). OWNER and CONTRACTOR, in consideration of the mutual covenants hereinafter set forth, agree as follows:

### **ARTICLE 1. WORK**

CONTRACTOR shall complete all Work as specified or indicated in the Contract Documents for the project titled City of Harrisonburg, Virginia, Bluestone Trail Shared Use Path. The Work is generally described as follows:

Construction of a 10' wide shared use path from Stone Spring Road to Butler Drive, which includes the construction of two (2) 14' wide pedestrian prefabricated bridges, 8' wide gravel walking trail, and all associated appurtenances as shown on the Final Plans dated February 3, 2014.

### **ARTICLE 2. CONTRACT ADMINSTRATOR**

This Project has been designed for the City of Harrisonburg, by McCormick Taylor and administered by the Department of Public Works. The Director of Public Works of Harrisonburg, Virginia, or their designee, is hereinafter called CONTRACT ADMINSTRATOR, will assume all duties and responsibilities and will have the rights and authority assigned to CONTRACT ADMINSTRATOR in the Contract Documents in connection with completion of the Work in accordance with the Contract Documents.

### **ARTICLE 3. CONSTRUCTION TIME AND LIQUIDATED DAMAGES**

3.1 Contract Time shall be a Fixed Completion Date contract, with all work completed on or by December 31, 2014.

3.2 Liquidated Damages shall be in accordance with Section 108 of the VDOT Road and Bridge Specifications.

### **ARTICLE 4. CONTRACT PRICE**

4.1 OWNER shall pay CONTRACTOR for performance of the Work in accordance with the Contract Documents such amounts as required by the Contract Documents.

### **ARTICLE 5. PAYMENT PROCEDURES**

CONTRACTOR shall submit Applications for Payment in accordance with Virginia Department of Transportation's Road & Bridge Specifications. Applications for Payment will be processed by CONTRACT ADMINSTRATOR as provided in the Virginia Department of Transportation's Road & Bridge Specifications.

5.1 Progress Payments. OWNER shall make progress payments on account of the Contract Price on the basis of CONTRACTOR'S Applications for Payment as recommended by CONTRACT ADMINISTRATOR, on or about the 15th day of each month during construction as provided below. All Progress Payments will be on the basis of the progress of the Work measured by the schedule of values established in Virginia Department of Transportation's Road & Bridge Specifications.

5.1.1 Prior to completion Progress Payments will be made in an amount equal to:

95% of the Work completed, and

95% of the materials and equipment not incorporated in the Work but delivered and suitably stored less in each case the aggregate of payment previously made.

5.1.2 Upon substantial completion, OWNER shall pay amount sufficient to increase total payments to CONTRACTOR to 98% of the Contract Price, less such amount as CONTRACT ADMINISTRATOR shall determine in accordance with Virginia Department of Transportation's Road & Bridge Specifications.

5.2. Final Payment. Upon final completion and acceptance of the Work in accordance with the Virginia Department of Transportation's Road & Bridge Specifications, OWNER shall pay the remainder of the Contract Price as recommended by CONTRACT ADMINISTRATOR as provided in said Virginia Department of Transportation's Road & Bridge Specifications.

## **ARTICLE 6. INTEREST**

All monies not paid when due hereunder shall bear interest at maximum rated allowed by law at the place of the Project.

## **ARTICLE 7. CONTRACTOR'S REPRESENTATIONS**

In order to induce OWNER to enter into this Agreement, CONTRACTOR makes the following representations:

7.1 CONTRACTOR has familiarized himself with the nature and extent of the Contract Documents, Work, locality, and with all local conditions, state and local laws, ordinances, rules and regulations that in any manner may affect cost, progress or performance of the Work.

7.2 CONTRACTOR has studied carefully all reports of investigations and tests of subsurface and latent physical conditions at the site or otherwise affecting cost, progress or performance of the Work which were relied upon by CONTRACT ADMINISTRATOR in the preparation of the Drawings and Specifications and which have been identified in the Supplementary Conditions.

7.3 CONTRACTOR has made or caused to be made examinations, investigations and tests and studies of such reports and related data in addition to those referred to in Paragraph 7.2. as he

deems necessary for the performance of the Work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents; and no additional examination, investigations, tests, reports or similar data are or will be required by CONTRACTOR for such purposes.

7.4 CONTRACTOR has correlated the results of all such observations, examinations, investigations, tests, reports and data with the terms and conditions of the Contract Documents.

7.5 CONTRACTOR has given CONTRACT ADMINISTRATOR written notice of all conflicts, errors or discrepancies that he has discovered in the Contract Documents and the written resolution thereof by CONTRACT ADMINISTRATOR is acceptable to CONTRACTOR.

## **ARTICLE 8. CONTRACT DOCUMENTS**

The Contract Documents which comprise the entire agreement between OWNER and CONTRACTOR are attached by reference to this Agreement, made a part hereof and consist of the following:

- 8.1 This Agreement (pages 1 to 5, inclusive)
- 8.2 Performance and Payment bonds
- 8.3 Certificate of Insurance
- 8.4 Notice of Award
- 8.5 Notice to Proceed
- 8.6 Contractor's Affidavit of Release of Liens
- 8.7 Contractor's Affidavit of Payment of Debts and Claims.
- 8.9 Project Manual entitled "Bluestone Trail Shared Use Path – Stone Spring Road to Butler Drive"
- 8.10 Drawings, entitled "Bluestone Trail Shared Use Path"
- 8.11 Addenda
- 8.12 Contractor's Bid
- 8.13 Documentation submitted by Contractor prior to Notice of Award.
- 8.14 Any modifications or change orders, duly delivered after execution of Agreement.

All contract documents must be listed in this article. Contract documents may be altered, amended or repealed only as allowed by the Virginia Department of Transportation's Road & Bridge Specifications.

#### **ARTICLE 9. MISCELLANEOUS**

9.1 No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound; and specifically but without limitation, monies that may become due and monies that are now due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

9.2 OWNER and CONTRACTOR each binds himself, his partners, successors, assigns and legal representatives to the party hereto, his partners, successors, assigns and legal representatives in respect to all covenants, agreements and obligations contained in the Contract Documents.

**ARTICLE 10. OTHER PROVISIONS**

IN WITNESS WHEREOF, the parties hereto have signed this Agreement in triplicate. One counterpart each has been delivered to OWNER, CONTRACTOR and CONTRACT ADMINISTRATOR. All portions of the Contract Documents have been signed or identified by OWNER and CONTRACTOR or by CONTRACT ADMINISTRATOR on their behalf.

This Agreement is effective: \_\_\_\_\_  
Date

OWNER: City of Harrisonburg

CONTRACTOR: \_\_\_\_\_

Signature \_\_\_\_\_

Signature \_\_\_\_\_

Name & Title: Kurt Hodgen, City Manager

Name & Title: \_\_\_\_\_

Attest \_\_\_\_\_

Attest \_\_\_\_\_

Address for giving notices:

Address for giving notices:

\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

License No. \_\_\_\_\_

END OF AGREEMENT

**0502 NOTICE TO PROCEED**

**DATE:** \_\_\_\_\_

**TO:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Re: City of Harrisonburg**

**PROJECT TITLE:** \_\_\_\_\_

**PROJECT NO:** \_\_\_\_\_

In accordance with the Contract between the City of Harrisonburg and Contractor you are notified that the Time for Completion under the above Agreement will commence to run on \_\_\_\_\_, 20 \_\_\_\_\_. By that date, you are to start performing your obligations under the Contract Documents. In accordance with the Contract between Owner and Contractor, the Work shall be substantially completed within \_\_\_\_\_ calendar days from and after the said date, which is \_\_\_\_\_, 20\_\_\_\_\_.

Before you may start any Work at the site, the City of Harrisonburg requires that you deliver to the City the Certificates of Insurance which the Contractor is required to purchase and maintain in accordance with the Contract Documents.

By \_\_\_\_\_  
Owner Authorized Signature

\_\_\_\_\_  
Name & Title (Print)

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# 0800 CONTRACTOR'S APPLICATION FOR PAYMENT

TO (OWNER): \_\_\_\_\_ PROJECT: \_\_\_\_\_ APPLICATION NO: \_\_\_\_\_

PERIOD TO: \_\_\_\_\_ FROM (CONTRACTOR): \_\_\_\_\_ CONTRACT DATE: \_\_\_\_\_

**CHANGE ORDER SUMMARY**

	<u>ADDITIONS</u>	<u>DEDUCTIONS</u>
Total Change Orders Approved Previously	_____	_____
Change Orders Approved This Month	_____	_____
Number _____ Date Approved _____	_____	_____
Number _____ Date Approved _____	_____	_____
Number _____ Date Approved _____	_____	_____
<b>TOTALS</b>	_____	_____
Net change by Change Orders	_____	

1. ORIGINAL CONTRACT SUM..... \$ \_\_\_\_\_
2. Net change by Change Orders.....\$ \_\_\_\_\_
3. CONTRACT SUM TO DATE (line 1 + line 2).....\$ \_\_\_\_\_
4. TOTAL COMPLETED AND STORED TO DATE (column G).....\$ \_\_\_\_\_
5. RETAINAGE:
  - a. \_\_\_\_% of Completed Work (column D + column E) \$ \_\_\_\_\_
  - b. \_\_\_\_% of Stored Materials (column F) \$ \_\_\_\_\_
  - c. TOTAL RETAINAGE (line 5a + line 5b) \$ \_\_\_\_\_
6. TOTAL EARNED LESS RETAINAGE (line 4 less line 5c) .....\$ \_\_\_\_\_
7. LESS PREVIOUS APPLICATIONS FOR PAYMENT (line 6 from prior application).....\$ \_\_\_\_\_
8. CURRENT PAYMENT DUE.....\$ \_\_\_\_\_
9. BALANCE TO FINISH, PLUS RETAINAGE (line 3 less line 6).....\$ \_\_\_\_\_



The undersigned contractor hereby swears and under penalty of perjury that (1) all previous progress payments received from the owner on account of work performed under the contract referred to above have been applied by the undersigned to discharge in full all obligations of the undersigned incurred in connection with work covered by prior applications for payment under said contract, being Applications for Payment 1 through \_\_\_\_\_ inclusive; and (2) all materials and equipment incorporated in said project or otherwise listed in or covered by this application for payment are free and clear of all liens, claims, security and encumbrances.

Signature \_\_\_\_\_ Date \_\_\_\_\_

Printed name \_\_\_\_\_

Title \_\_\_\_\_

County of \_\_\_\_\_ State of \_\_\_\_\_

Before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_ personally appeared \_\_\_\_\_ known to me, who being duly sworn, did depose and say that he is the \_\_\_\_\_ of the contractor above mentioned, that he executed the above application for payment on behalf of said contractor and that all of the statements contained herein are true, correct and complete.

Notary Public \_\_\_\_\_ Registration Number \_\_\_\_\_

My commission expires \_\_\_\_\_

**END OF SECTION**

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**SECTION 00900**

**FEDERAL AND STATE REQUIREMENTS**

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## NONDISCRIMINATION PROVISIONS

- (a) “The contractor will not discriminate against any employee or applicant for employment because of race, religion, color, sex or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, creed, color, sex, or national origin. Such action shall include, but not be limited to, the following: employment; upgrading; demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of this nondiscrimination clause.
  
- (b) “The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, religion, color, sex, or national origin.
  
- (c) “The contractor will send to each labor union or representative or workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer, advising the labor union or workers’ representative of the contract’s commitments under Section 202 of Executive Order No. 11246 as amended (3 CFR 169 (1974), and shall post copies of notices in conspicuous places available to employees and applicants for employment.
  
- (d) “The contractor will comply with all provisions of Executive Order No. 11246, as amended, and the rules, regulations, and relevant orders of the Secretary of Labor.  
  
“The contractor will furnish all information and reports required by Executive Order No. 11246, as amended, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
  
- (e) “In the event of the contractor’s noncompliance with the nondiscrimination clauses of this contract or with any of such rules, regulations, or orders, that contract may be canceled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 11246, as amended, and such other sanctions may be imposed and remedies invoked as provided in Executive Order No. 11246, as amended, or by rule, regulations, or order of the Secretary of Labor, or as otherwise provided by law.

- (f) “The contractor will include the provisions of Paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order No. 11246, as amended, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the contracting agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: Provided, however, that in the event the contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

#### “ANTI-KICK BACK” ACT PROVISION

The Contractor agrees to comply with the Copeland “Anti-Kick Back” Act (18 U.S.C. 874) as supplemented in Department of Labor regulations (29 CFR, Part 3). This Act provides that each contractor shall be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he is otherwise entitled. The State shall report all suspected or reported violations to the Service.

#### DOCUMENTATION

The Owner, National Park Service, Virginia Division of Planning and Recreation Resources, the Comptroller General of the United States, or any of their duly authorized representatives, shall have access to any books, documents, papers, and records of the contractor for the purpose of making audit, examination, excerpts, and transcriptions.

#### POLLUTION STANDARDS

Should this contract or any subcontracts granted hereunder be for amounts in excess of \$100,000, the recipient for the contract and subcontracts shall agree to comply with all applicable standards, orders, or regulations issued pursuant to the Clean Air Act of 1970 as amended and the Water Pollution Control Act of 1972 as amended. Violations shall be reported to the Service and the Regional Office of the Environmental Protection Agency.

#### FEDERAL FUNDING

The Contractor is hereby notified that Federal Government funds are being used to assist in construction of this project and relevant Federal requirements apply.

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# Right of Entry Agreement

This Right of Entry Agreement (Agreement), dated \_\_\_\_\_, is made by and between Pheasant Run Harrisonburg HOA (Pheasant Run), and the City of Harrisonburg, Virginia, a Virginia municipal corporation (City), who agree together as follows:

1. This agreement allows the City's Construction Contractor (Contractor) to utilize Pheasant Run Circle for access to construct the portion of Bluestone Trail from approximately station 20+00 to 30+50 (as indicated on the Bluestone Trail Shared Use Path, Approved for Construction Plans). The portions of use for Pheasant Run Circle are shown on the attached sketch and are from the cul-de-sac at Rocco Avenue to the proposed construction entrance at approximately station 27+25 of the Bluestone Trail. The construction entrance will require that the existing curb and gutter in this area be temporarily removed. Following the removal of this construction entrance the curb and gutter will be replaced in kind at the same grade and location as the previous curb and gutter. Also, all disturbed grassed areas located on the Pheasant Run property will be regraded to the original condition, and seeded and mulched using the same seed specifications as the entire Bluestone Trail. These areas will be monitored and maintained by the Contractor until an adequate stand of grass is established.
2. This access will be only for the movement of construction equipment, personnel, and materials, and no equipment or materials shall be stored on any portion of the access area. The area will be monitored daily and any excess mud / debris located in the access area will be cleaned by the Contractor.
3. As part of this agreement the City agrees that this construction access will only be used during the daylight hours and the access period shall begin on May 12, 2014 and end on August 19, 2014.
4. Following selection of a Contractor by the City, but prior to the Contractor beginning use of this access the City, Contractor, and Pheasant Run representatives will meet on site and perform an inspection of the access area. This pre-use inspection will be used to set the baseline condition of the pavement and surrounding areas prior to its use by the City and Contractor. Documentation including meeting notes and photos will be distributed to all parties following the meeting.
5. During the use of the access, if construction related issues should develop, Pheasant Run shall contact the City to discuss the issue as soon as possible. The City will evaluate the concern and if it is determined that it was a result of the construction activity, the City will work with the Contractor to remedy the situation in a timely manner. Any issues that require the immediate repair of Pheasant Run facilities will be done so as described below.
6. Following the completion of the use of the access area all parties named herein will meet on-site to evaluate the area used by the Contractor for access. The pre-use meeting documentation will be reviewed and if any areas are determined to be in need of repair the City will work with the Contractor to promptly make all repairs to the damaged areas.

7. Damaged areas consisting of the following, but not limited to pavement heaving, pushing, or cracking, broken curb and gutter or concrete apron at entrances. These areas shall be repaired as noted below:
  - a. Any pavement areas that are damaged shall be repaired as stated below:
    - i. The damaged area will be sawcut to the limits of damage and the damaged area will be removed to the base stone. The pavement typical section that is removed will be replaced in kind to the limits of the sawcut.
  - b. Any damaged curb and gutter or concrete aprons will be replaced in kind.
  - c. All work will be in accordance with standard construction practices.
  
8. Work zone signs shall be placed along Rocco Drive to notify residents of trucks and project construction traffic entering the roadway at this access point. If during the use of this access area it is determined that additional signage is needed in the Pheasant Run community, the City will work with the Contractor to place these signs.

For Pheasant Run

For City of Harrisonbrg

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Title

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Title

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Witness



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**1001 - PAVE DRAIN SPECIFICATIONS**  
**PERMEABLE ARTICULATING CONCRETE BLOCK/MAT (P-ACB/M)**  
**SPECIFICATION FOR PARKING LOTS, DRIVEWAYS, ALLEYS**  
**AND ROADWAYS**

**PART 1: GENERAL**

---

**A. Scope of Work**

The contractor shall furnish all labor, materials, equipment, and incidentals required and perform all operations in connection with the installation of the Permeable Articulating Concrete Block/Mats (P-ACB/M) in accordance with the fines, grades, design and dimensions shown on the Contract Drawings and as specified herein.

**B. Submittal**

The contractor shall submit to the engineer all manufacturer's performance research results and calculations in support of the permeable articulating concrete block/mat (P-ACBM) system and geosynthetic proposed for use.

The contractor shall furnish manufacturer's certificates of compliance for the permeable articulating concrete blocks/mats, revetment cable, and any revetment cable fittings and connectors to the engineer prior to the start of mat fabrication.

The contractor shall furnish to the engineer all manufacturer's specifications, literature, shop drawings for the fabrication of the mats, and recommendations, if applicable, that are specifically related to this project, 14 days prior to assembly of the permeable articulating concrete block/mats.

**PART 2: PRODUCTS**

---

**A. GENERAL**

Permeable articulating concrete block/mats shall be premanufactured of individual concrete blocks with specific stormwater runoff capacities, bound into mats by the use of revetment cables. The mats shall arrive at the jobsite assembled according to lengths and widths as specified on the shop drawings.

Individual blocks in the articulating concrete mats shall be staggered, beveled, and interlocked for enhanced stability. The mats shall be constructed of closed cell blocks with an arched storage chamber for additional stormwater storage as shown on the contract drawings. Parallel strands of cable shall extend through two (2) ducts in each block in a manner which provides for longitudinal binding of the blocks within the mats. Each row of blocks shall be laterally offset by one-half block width from the adjacent row so that any given block is cabled to four other blocks (two in the row above and two in the row below). Six adjacent blocks shall also surround each block.

Each block shall incorporate interlocking surfaces that prevent lateral displacement of the blocks within the mats when they are lifted by the longitudinal revetment cables. The interlocking surfaces must not protrude beyond the perimeter of the blocks to such an extent that they reduce the flexibility or articulating capability of the articulating concrete mats or become damaged or broken when the mats are lifted during shipment or placement. Once the mats are in place, the interlocking surfaces shall prevent the lateral displacement of the blocks even if the cables should become damaged or removed. The mats must be able to flex a minimum of 10 degrees between any given row and column of blocks in the uplift direction.

The cables shall be inserted into the mats in such a manner to form lifting loops at one end of the mat with the corresponding cable ends spliced together to form a lifting loop at the other end of the mat with sleeves approved by the engineer.

**Infiltration Performance:** The P-ACB/M will only be accepted when accompanied by documented third party surface infiltration performance characteristics based on ASTM C1701/C1701M-09. The surface infiltration rate shall be no less than 4,000 inches per hour on an outdoor working surface, with typical base material utilized for the test.

**Structural Performance:** The design of the P-ACB/M shall be capable of supporting AASHTO HS-20 and H-20 truck loading. The blocks should be analyzed as unreinforced concrete arches supporting a uniform truck tire load with impact per AASHTO standards. *As with all vehicular traffic paving systems, the subgrade soil, geosynthetic and base preparation for the P-ACB/M must be properly designed and prepared. This is critical to the performance of the system.*

## **B. Cellular Concrete Blocks**

### **1. Materials**

1.1 Cementitious Materials – Materials shall conform to the following applicable ASTM specifications:

1.1.1 Portland Cements - Specification C 150, for Portland Cement.

1.1.2 Blended Cements - Specification C 595, for Blended Hydraulic Cements.

1.1.3 Hydrated Lime Types - Specification C 207, for Hydrated Lime Types.

1.1.4 Pozzolans - Specifications C 618, for Fly Ash and Raw or Calcinated Natural Pozzolans for use in Portland Cement Concrete.

1.2 Aggregates shall conform to the following ASTM specifications, except that grading requirements shall not necessarily apply:

1.2.1 Normal Weight - Specification C 33, for Concrete Aggregates.

## 2. Physical Requirements

- 2.1 At the time of delivery to the work site, the units shall conform to the physical requirements of ASTM D 6684-04 as prescribed below.

<b>TABLE 1. PHYSICAL CHARACTERISTICS</b>
--

**Compressive Strength** (average of 3 units)

- Min. psi = 4,000, mpa = 27.6

**Water Absorption** (average of 3 units)

- Max. lb/ft<sup>3</sup> = 10, kg/m<sup>3</sup> = 160

## 3. Visual Inspection

- 3.1 All units shall be sound and free of defects that would interfere with the proper placing of the unit or impair the strength or permanence of the construction. Surface cracks incidental to the usual methods of manufacture, or surface chipping resulting from customary methods of handling in shipment and delivery, shall not be deemed grounds for rejection.
- 3.2 Cracks exceeding 0.25 inches in width and/or 1.0 inch in depth shall be deemed grounds for rejection.
- 3.4 Blocks rejected prior to delivery from the point of manufacture shall be replaced at the manufacturer's expense. Blocks rejected at the job site shall be replaced at the expense of the contractor.

## 4. Sampling and Testing

- 4.1 The purchaser or his authorized representative shall be accorded proper access to the manufacturer to inspect and sample the permeable concrete blocks at the place of manufacture from lots ready for delivery.

## 5. Expense of Tests

Additional testing, other than that provided by the manufacturer, shall be borne by the purchaser.

## 6. Manufacturer

The permeable articulating concrete block mat shall be PaveDrain<sup>®</sup> or pre-approved equal, as represented by:

**NATIONALLY**  
PaveDrain, LLC  
PMB 292 – 7245 S. 76<sup>th</sup> St.  
Franklin, WI 53132-9041  
PH. (414) 423-6531  
[info@pavedrain.com](mailto:info@pavedrain.com)  
[www.pavedrain.com](http://www.pavedrain.com)

The **PaveDrain<sup>R</sup>** permeable articulating concrete mats shall have the following nominal characteristics as identified on the plans.

**TABLE 2. STANDARD SIZES AND WEIGHTS OF *PaveDrain<sup>R</sup>* PERMEABLE ARTICULATING CONCRETE BLOCK/MATS**

CLASS	TYPE	BLOCK WEIGHT	BLOCK SIZE (in.)			STORAGE CHAMBER
		Lbs./Sq.Ft.	Length	Width	Height	Volume (in.)
S6-45	Closed	42-48	11.9	12.00	5.65	1.0

**C. Revetment Cable and Fittings**

**Polyester Revetment Cable** and fittings. Revetment cable shall be constructed of high tenacity, low elongating, continuous filament polyester fibers. Cable shall consist of a core construction comprised of parallel fibers contained within an outer jacket or cover. The weight of the parallel core shall be between 65% to 70% of the total weight of the cable. The revetment cable shall have the following physical characteristics listed below.

Nominal Cable Diam. - Circum.	Approx. Ave. Strength Lbs.	Weight/100 ft.	
		Min. lbs.	Max Lbs.
1/4" - 20mm	3,700	2.47	2.74
5/16" - 27mm	7,000	3.99	4.42
3/8" - 30mm	10,000	4.75	5.26
1/2" - 40mm	15,000	8.93	9.90

*NOTE: Polyester cable shall be determined by the supplier, based on the size of the mats to be placed.*

Elongation requirements specified below are based upon stabilized new, dry, cable. Stabilization refers to a process in which the cable is cycled fifty (50) times between a load corresponding to 200D<sup>2</sup> and a load equal to 10%, 20%, or 30% of the cables approximate average breaking strength. Relevant elongation values are as shown in the table below. The tolerance on the values is  $\pm 5\%$ .

	% Breaking Strength		
	<u>10%</u>	<u>20%</u>	<u>30%</u>
Permanent Elongation (while working)	0.7	1.8	2.6
Elastic Elongation	0.6	1.4	2.2
Total Stretch	1.3	3.2	4.8

The revetment cable shall exhibit good to excellent resistance to most concentrated acids, alkalis, and solvents. Cable shall be impervious to rot, mildew and degradation. The materials used in the construction of the cable shall not be affected by continuous immersion in stormwater runoff.

Selection of cable and fittings shall be made in a manner that insures a safe design factor for mats being lifted from both ends, thereby forming a catenary. Consideration shall be taken for the bending of the cables around hooks or pins during lifting. Revetment cable splicing fittings shall be selected so that the resultant splice shall provide a minimum of 60% of the minimum rated cable strength. Fittings such as sleeves and stops shall be aluminum and washers shall be galvanized steel unless otherwise shown on the Contract Drawings.

**D. Size of Permeable Articulating Concrete Block/Mats**

If the permeable articulating concrete blocks/mats cables and fittings are fabricated at the manufacturer or another approved location into mats with a width of up to eight (8) feet and a length of up to thirty-six (36) feet or approved by the Engineer.

**PART 3: FOUNDATION PREPARATION AND MAT INSTALLATION**

**A. Foundation and Preparation**

**General.** Areas on which permeable articulating concrete block/mats are to be placed shall be constructed to the lines and grades shown on the Contract Drawings and to the tolerances specified in the Contract Documents, and approved by the Engineer.

**Grading.** The aggregate bedding layer shall be graded to a smooth plane surface to ensure intimate contact is achieved between the legs of the permeable articulating concrete block/mats and the aggregate bedding layer. A small plate compactor is recommended.

**Inspection.** Immediately prior to placing the permeable articulating concrete block/mats the prepared area shall be inspected by the Engineer, the owner's representative, and or by the manufacturer's representative. No blocks/mats shall be placed thereon until that area has been approved by one of these parties.

**C. Placement of Permeable Articulating Concrete Blocks/Mats**

**General.** Permeable articulating concrete block/mats, shall be constructed within the specified lines and grades shown on the contract drawings.

**Placement.** The permeable articulating concrete block/mats shall be placed on the aggregate bedding layer so as to produce a smooth plane surface. No individual block within the plane of placed articulating concrete mats shall protrude more than one-quarter inch of an inch or as otherwise specified by the Engineer.

If installed in mats the permeable articulating concrete block/mats shall be attached to a spreader bar or other conventional device to aid in the lifting and placing of the mats in their proper position by the use of a crane or other approved equipment. The equipment used should be adequate capacity to place the mats without bumping, dragging, or otherwise damaging the aggregate bedding layer. The mats shall be “zippered” together forming a seamless mat to mat connection.

**Consultation.** The manufacturer or representative of the permeable articulating concrete blocks/mats shall provide design and construction advice during the design and installation phases of the project.

**FINISHING.** The joints between the P-ACB/M do not require backfilling with smaller aggregates or sand in order to function properly. The joints are meant to be left open.

## 1002 - SPECIAL SPECIFICATIONS FOR PREFABRICATED BRIDGE

### 1.0 GENERAL

#### 1.1 Scope

These specifications are for a fully engineered clear span bridge of steel construction and shall be regarded as minimum standards for design and construction. These specifications are based on products designed and manufactured by CONTECH Bridge Solutions a Continental Bridge brand, 8301 State Highway 29 North, Alexandria, MN 56308.

Phone: 1-800-328-2047 or (320) 852-7500 Fax: 320-852-7067

E-mail: continental@contechbridge.com

#### 1.2 Qualified Suppliers

Each bidder is required to identify their intended bridge supplier as part of the bid submittal. Qualified suppliers must have at least 5 years experience fabricating these type structures.

Pre-approved Manufacturers:

CONTECH Bridge Solutions Inc.  
8301 State Highway 29 North  
Alexandria, Minnesota 56308  
1-800-328-2047

Suppliers other than those listed above may be used provided the engineer or owner's agent evaluates the proposed supplier and approves the supplier. The engineer or owner's agent will provide the contractor with a supplier approval determination by March 4, 2014 at 5:00 PM EST.

The contractor must provide the following documentation, for any proposed supplier who is not pre-approved, by no later than February 27, 2014 at 5:00 PM EST.

- \* Product Literature
- \* All documentation to insure the proposed substitution will be in compliance with these specifications. This shall include:
  - Representative design calculations
  - Representative drawings
  - Splicing and erection procedures
  - Warranty information
  - Inspection and Maintenance procedures
  - AISC Shop Certification
  - Welder Qualifications
- \* Proposed suppliers must have at least five (5) years experience designing and fabricating these type structures and a minimum of five (5) successful bridge projects, of similar construction, each of which has been in service at least three (3) years. List the location, bridge size, owner, and a contact for reference for each project.

The engineer will evaluate and verify the accuracy of the submittal prior to bid. If the engineer determines that the qualifying criteria have not been met, the contractor's proposed supplier shall be rejected. The engineer's ruling shall be final.

## **SPECIAL SPECIFICATIONS FOR PREFABRICATED BRIDGE**

### **2.0 GENERAL FEATURES OF DESIGN**

#### **2.1 Span**

Bridge span shall be 50'-0" and 35'-0" (straight line dimension) and shall be as measured from each end of the bridge structure.

#### **2.2 Width**

Bridge width shall be 14'-0" and shall be as measured from the inside face of structural elements at deck level.

#### **2.3 Bridge System Type**

Bridge(s) shall be designed as a Continental Connector Truss (H1-SQ) (or equal), that has one (1) diagonal per panel and plumb end vertical members. Interior vertical members may be either plumb or perpendicular to the chord faces.

2.3.1 Bridge(s) shall be designed utilizing an H-Section configuration where the floor beams are placed up inside the trusses and attached to the truss verticals.

2.3.2 The bridge manufacturer shall determine the distance from the top of the deck to the top and bottom truss members based upon structural and/or shipping requirements.

2.3.3 The top of the top chord shall not be less than 54 inches above the deck (measured from the high point of the riding surface) on bike path structures.

#### **2.4 Member Components**

All members of the vertical trusses (top and bottom chords, verticals, and diagonals) shall be fabricated from square and/or rectangular structural steel tubing. Other structural members and bracing shall be fabricated from structural steel shapes or square and rectangular structural steel tubing.

Unless the floor and fastenings are specifically designed to provide adequate lateral support to the top flange of open shape stringers (w-shapes or channels), a minimum of one stiffener shall be provided in each stringer at every floor beam location.

#### **2.5 Attachments**

##### **2.5.1 Safety Rails**

Horizontal safety rails shall be placed on the structure up to a minimum height of x'-xx" above the deck surface. Safety rails shall be placed so as to prevent a 4" sphere from passing through the truss. Safety rails shall be placed on the inside or outside of the structure at the bridge fabricator's option. Safety rails placed on the inside of the truss shall have their ends sealed and ground smooth so as to produce no sharp edges.

The safety rail system shall be designed for an infill loading of 200 pounds, applied horizontally at right angles, to a one square foot area at any point in the system.

## SPECIAL SPECIFICATIONS FOR PREFABRICATED BRIDGE

### 2.5.3 Toe Plate

The bridge shall be supplied with a steel toe plate mounted to the inside face of both trusses. The toe plate shall be a minimum of 4 inches high. Toe plating will be welded to the truss members at a height adequate to provide a 2" gap between the bottom of the plate and the top of the deck or the top of the bottom chord, whichever is higher. The span of unstiffened flat toe plating (from center to center of supports) shall not exceed 5'-8".

### 2.5.5 Rubrails

The bridge will be supplied with a 1"x 5-1/2" (actual size) naturally durable hardwood Ipe (Tabebuia Spp Lapacho Group) rubrail. Rubrail shall be partially air dried to a moisture content of 15% to 20%, shall be supplied S4S (surfaced four sides), E4E (eased four edges), with the edges eased to a radius of 1/8". Measured at 30% moisture content, the width and thickness shall not vary from specified dimensions by more than  $\pm 0.04$  inches. Ends of each piece shall be sealed with "Anchorseal" Mobil CER-M or an equal aqueous wax log sealer.

Rubrails shall be attached flush to the inside face of the bridge truss verticals and fastened with two carriage bolts at each support location. The span of the rubrail from centerline to centerline of support shall not exceed 6'-6".

The top of the rubrail shall be x'-xx" above the top of the deck (measured at the outside edge of the deck).

### 2.6 Camber

The bridge shall have a vertical camber dimension at midspan equal to 100% of the full dead load deflection plus 1% of the full length of the bridge.

### 2.7 Elevation Difference

The bridge abutments shall be constructed at the same elevation on both ends of the bridge.

## 3.0. 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. The engineer shall be licensed to practice in *the State of Virginia*.

### 3.1 Design Loads

In considering design and fabrication issues, this structure shall be assumed to be statically loaded. No dynamic analysis shall be required nor shall fabrication issues typically considered for dynamically loaded structures be considered for this bridge.

#### 3.1.1 Dead Load

The bridge structure design shall consider its own dead load (superstructure and original decking), as well as the additional loads listed below:

## SPECIAL SPECIFICATIONS FOR PREFABRICATED BRIDGE

### 3.1.2 Uniform Live Load

#### 3.1.2.1 Pedestrian Live Load

Main Members: Main supporting members, including girders, trusses and arches shall be designed for a pedestrian live load of 90 pounds per square foot of bridge walkway area.

### 3.1.3 Concentrated Loads

The bridge superstructure, floor system and decking shall be designed for each of the following point load conditions:

- 3.1.3.3 A 10,000 pound (H-5) four wheeled vehicle with the appropriate wheelbase, tire track and tire print area as shown in the following diagram: (See Table I for the values corresponding to the selected vehicle..

### 3.1.4 Wind Load

#### 3.1.4.1 Horizontal Forces

The bridge(s) shall be designed for a wind load of 35 pounds per square foot on the full vertical projected area of the bridge as if enclosed. The wind load shall be applied horizontally at right angles to the longitudinal axis of the structure.

The wind loading shall be considered both in the design of the lateral load bracing system and in the design of the truss vertical members, floor beams and their connections.

#### 3.1.4.2 Overturning Forces

The effect of forces tending to overturn structures shall be calculated assuming that the wind direction is at right angles to the longitudinal axis of the structure. In addition, an upward force shall be applied at the windward quarter point of the transverse superstructure width. This force shall be 20 pounds per square foot of deck.

### 3.1.7 Top Chord/Railing Loads

The top chord, truss verticals, and floor beams shall be designed for lateral wind loads (per section 3.1.4.1) and for any loads required to provide top chord stability as outlined in Section 3.3.6; however, in no case shall the load be less than 50 pounds per lineal foot or a 200 pound point load, whichever produces greater stresses, applied in any direction at any point along the top chord or at the top of the safety system (42" or 54" above deck level), if higher than the top chord.

### 3.1.9 Load Combinations

The loads listed herein shall be considered to act in the following combinations, whichever produce the most unfavorable effects on the bridge superstructure or structural member concerned. [DL=Dead Load; LL = Live Load; WL = Wind Load; VEH = Vehicle Load]

DL + LL  
DL + VEH  
DL+WL  
DL+LL+.3WL  
DL+VEH+.3WL

## SPECIAL SPECIFICATIONS FOR PREFABRICATED BRIDGE

NOTE: For service load design, the percentage of the basic unit stress used for each combination shall be in accordance with table 3.22.1A of the AASHTO "Standard Specifications for Highway Bridges".

It shall be the responsibility of the foundation engineer to determine any additional loads (i.e. earth pressure, stream force on abutments, wind loads other than those applied perpendicular to the long axis of the bridge, etc.) and load combinations required for design of the abutments.

### 3.2 Design Limitations

#### 3.2.1 Deflection

##### 3.2.1.1 Vertical Deflection

The vertical deflection of the main trusses due to service pedestrian live load shall not exceed 1/500 of the span.

The vertical deflection of cantilever spans of the structure due to service pedestrian live load shall not exceed 1/300 of the cantilever arm length.

The deflection of the floor system members (floor beams and stringers) due to service pedestrian live load shall not exceed 1/360 of their respective spans.

The service pedestrian live load shall be 85 PSF, reduced in accordance with Section 3.1.2.1, but should in no case be less than 65 PSF for deflection checks.

Deflection limits due to occasional vehicular traffic shall not be considered.

##### 3.2.1.2 Horizontal Deflection

The horizontal deflection of the structure due to lateral wind loads shall not exceed 1/500 of the span under an 85 MPH (25 PSF) wind load.

#### 3.2.2 Minimum Thickness of Metal

The minimum thickness of all structural steel members shall be 1/4" nominal and be in accordance with the AISC Manual of Steel Construction's "Standard Mill Practice Guidelines". For ASTM A500 and ASTM A847 tubing, the section properties used for design shall be per the Steel Tube Institute of North America's Hollow Structural Sections "Dimensions and Section Properties".

### 3.3 Governing Design Codes / References

Structural members shall be designed in accordance with recognized engineering practices and principles as follows:

#### 3.3.1 Structural Steel Allowable Stresses

American Association of State Highway and Transportation Officials (AASHTO)  
The 2009 LRFD AASHTO Guide Specifications for Pedestrian Bridges shall be used for all design aspect of the Pedestrian Bridges.

## SPECIAL SPECIFICATIONS FOR PREFABRICATED BRIDGE

### 3.3.2 Welded Tubular Connections

American National Standards Institute / American Welding Society (ANSI/AWS) and the Canadian Institute of Steel Construction (CISC).

All welded tubular connections shall be checked, when within applicable limits, for the limiting failure modes outlined in the ANSI/AWS D1.1 Structural Welding Code or in accordance with the "Design Guide for Hollow Structural Section Connections" as published by the Canadian Institute of Steel Construction (CISC).

When outside the "validity range" defined in these design guidelines, the following limit states or failure modes must be checked:

- \* Chord face plastification
- \* Punching shear (through main member face)
- \* Material failure
  - Tension failure of the web member
  - Local buckling of a compression web member
- \* Weld failure
  - Allowable stress based on "effective lengths"
  - "Ultimate" capacity
- \* Local buckling of a main member face
- \* Main member failure:
  - Web or sidewall yielding
  - Web or sidewall crippling
  - Web or sidewall buckling
  - Overall shear failure

All tubular joints shall be plain unstiffened joints (made without the use of reinforcing plates) except as follows:

- \* Floor beams hung beneath the lower chord of the structure may be constructed with or without stiffener (or gusset) plates, as required by design.
- \* Floor beams which frame directly into the truss verticals (H-Section bridges) may be designed with or without end stiffening plates as required by design.
- \* Where chords, end floor beams and in high profiles the top end struts weld to the end verticals, the end verticals (or connections) may require stiffening to transfer the forces from these members into the end vertical.
- \* Truss vertical to chord connections.

NOTE: The effects of fabrication tolerances shall be accounted for in the design of the structure. Special attention shall be given to the actual fit-up gap at welded truss joints.

### 3.3.4 Wood

American Institute of Timber Construction (AITC), the U.S. Forest Products Laboratory, and the American Forest & Paper Association (AF&PA).

Sawn lumber shall be designed in accordance with the ANSI/AF&PA NDS, "National Design

## SPECIAL SPECIFICATIONS FOR PREFABRICATED BRIDGE

Standard for Wood Construction”, as published by the American Forest & Paper Association or the “Timber Construction Manual” as published by the American Institute of Timber Construction (AITC). Design properties for naturally durable hardwoods shall be in accordance with “Tropical Timbers of the World”, as published by the U.S. Forest Products Laboratory.

### 3.3.5 Concrete

American Concrete Institute (ACI)

Reinforced concrete shall be designed in accordance with the “Building Code Requirements for Structural Concrete” (ACI 318).

### 3.3.6 Top Chord Stability

Structural Stability Research Council (SSRC), formerly Column Research Council.

The top chord shall be considered as a column with elastic lateral supports at the panel points. The critical buckling force of the column, so determined, shall exceed the maximum force from dead load and live load (uniform or vehicular) in any panel of the top chord by not less than 50 percent for parallel chord truss bridges or 100 percent for bowstring bridges. The design approach to prevent top chord buckling shall be as outlined by E.C. Holt's research work in conjunction with the Column Research Council on the stability of the top chord of a half-through truss. See Appendix A for the calculation of the spring constant C and the determination of an appropriate K factor for out-of-plane buckling.

In addition, for the dead load plus vehicle load combination, the spring constant “C” furnished by the transverse “U-Frames” shall not be less than “C” required as defined by:

$$C \text{ required} = \frac{1.46 P_c}{L}$$

where  $P_c$  is the maximum top chord compression due to dead load plus the vehicle load times the appropriate safety factor (1.5 for parallel chord truss bridges or 2.0 for bowstring bridges) and L is the length in inches of one truss panel or bay.

For uniformly loaded bridges, the vertical truss members, the floor beams and their connections (transverse frames) shall be proportioned to resist a lateral force of not less than 1/100k times the top chord compressive load, but not less than .004 times that top chord load, applied at the top chord panel points of each truss. The top chord load is determined by using the larger top chord axial force in the members on either side of the "U-frame" being analyzed. For end frames, the same concept applies except the transverse force is 1% of the axial load in the end post member.

For bridges with vehicle loads, the lateral force applied at the top chord elevation for design of the transverse frames shall not be less than 1% of the top chord compression due to dead load plus any vehicle loading.

The bending forces in the transverse frames, as determined above, act in conjunction with all forces produced by the actual bridge loads as determined by an appropriate analysis which assumes that the floor beams are “fixed” to the trusses at each end.

NOTE: The effects of three dimensional loading (including “U-frame” requirements) shall be considered in the design of the structure. The “U-frame” forces shall be added to the forces derived from a three dimensional analysis of the bridge.

## SPECIAL SPECIFICATIONS FOR PREFABRICATED BRIDGE

### 4.0 MATERIALS

#### 4.1 Steel

##### 4.1.1 Unpainted Weathering Steel

Bridges which are not to be painted shall be fabricated from high strength, low alloy, atmospheric corrosion resistant ASTM A847 cold-formed welded square and rectangular tubing and/or ASTM A588, or ASTM A242, ASTM A606 plate and structural steel shapes ( $F_y = 50,000$  psi). The minimum corrosion index of atmospheric corrosion resistant steel, as determined in accordance with ASTM G101, shall be 6.0.

#### 4.3 Decking

##### 4.3.1 Treated Fir Decking

4.3.1.1 Wood decking shall be Select Structural Fir planks (Minimum  $F_b = 1,450$  psi). Decking to be treated to AWPA standards. Preservative utilized shall be Alkaline Copper Quaternary (ACQ). Decking shall be treated to a total absorption of 0.40 pounds per cubic foot of wood or to refusal.

##### 4.3.1.2 Wood Decking Attachment

- \* At time of installation, planks are to be placed tight together with no gaps.
- \* Every plank must be attached with at least one fastener at each end.
- \* All fasteners to be zinc plated. Self-tapping screws or hex-head bolts, with a steel plank holddown, are to be used at the ends of planks. Self-tapping screws or carriage bolts are to be used as interior connection fasteners when required. Power actuated fasteners will not be allowed.
- \* Planks are to be drilled prior to installation of bolts and/or screws.
- \* In addition to at least one fastener at each end of every plank (typical for all installations), planks for bridges with widths of 72" to 143" shall be attached with a minimum of two fasteners at a location approximately near the center of the bridge width. Bridges wider than 143" are to have two fasteners located at a minimum of two interior stringer locations, approximately at the third points of the bridge width.

NOTE: Attachments at the ends of the planks may be modified as required when obstructions, such as interior safety system elements, prevent installation of the specified holddown system.

## SPECIAL SPECIFICATIONS FOR PREFABRICATED BRIDGE

### 5.0 WELDING

#### 5.1 Welding

Welding and weld procedure qualification tests shall conform to the provisions of ANSI/AWS D1.1 "Structural Welding Code", 1996 Edition. Filler metal shall be in accordance with the applicable AWS Filler Metal Specification (i.e. AWS A 5.28 for the GMAW Process). For exposed, bare, unpainted applications of corrosion resistant steels (i.e. ASTM A588 and A847), the filler metal shall be in accordance with AWS D1.1, Section 3.7.3.

#### 5.2 Welders

Welders shall be properly accredited operators, each of whom shall submit certification of satisfactorily passing AWS standard qualification tests for all positions with unlimited thickness of base metal, have a minimum of 6 months experience in welding tubular structures and have demonstrated the ability to make uniform sound welds of the type required.

### 6.0 SUBMITTALS

#### 6.1 Submittal Drawings

Schematic drawings and diagrams shall be submitted to the customer for their review after receipt of order. Submittal drawings shall be unique drawings, prepared to illustrate the specific portion of the work to be done. All relative design information such as member sizes, bridge reactions, and general notes shall be clearly specified on the drawings. Drawings shall have cross referenced details and sheet numbers. All drawings shall be signed and sealed by a Professional Engineer who is licensed in accordance with Section 3.0.

#### 6.2 Structural Calculations

Structural calculations for the bridge superstructure shall be submitted by the bridge manufacturer and reviewed by the approving engineer. All calculations shall be signed and sealed by a Professional Engineer who is licensed in accordance with Section 3.0. The calculations shall include all design information necessary to determine the structural adequacy of the bridge. The calculations shall include the following:

- \* All AASHTO allowable stress checks for axial, bending and shear forces in the critical member of each truss member type (i.e. top chord, bottom chord, floor beam, vertical, etc.).
- \* Checks for the critical connection failure modes for each truss member type (i.e. vertical, diagonal, floor beam, etc.). Special attention shall be given to all welded tube on tube connections (see section 3.3.2 for design check requirements).
- \* All bolted splice connections.
- \* Main truss deflection checks.
- \* U-Frame stiffness checks (used to determine K factors for out-of-plane buckling of the top chord) for all half through or "pony" truss bridges.
- \* Deck design.

NOTE: The analysis and design of triangulated truss bridges shall account for moments induced in members due to joint fixity where applicable. Moments due to both truss deflection and joint eccentricity must be considered.

## SPECIAL SPECIFICATIONS FOR PREFABRICATED BRIDGE

6.3 Welder certifications in compliance with AWS standard qualification tests.

6.4 Welding procedures in compliance with Section 5.1.

### 7.0 FABRICATION

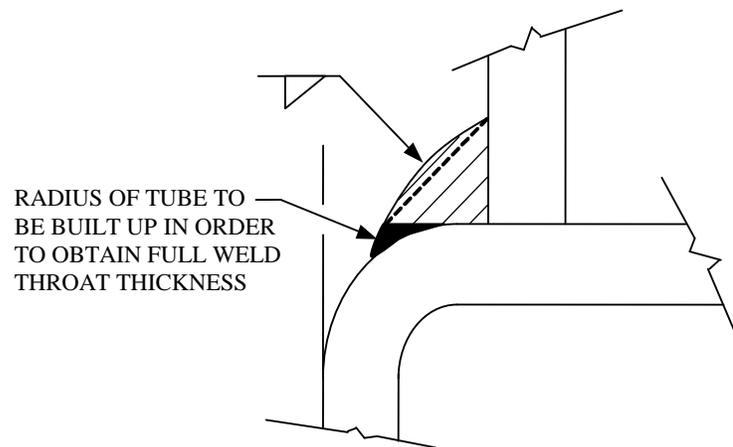
#### 7.1 General Requirements

##### 7.1.1 Drain Holes

When the collection of water inside a structural tube is a possibility, either during construction or during service, the tube shall be provided with a drain hole at its lowest point to let water out.

##### 7.1.2 Welds

Special attention shall be given to developing sufficient weld throats on tubular members. Fillet weld details shall be in accordance with AWS D1.1, Section 3.9 (See AWS Figure 3.2). Unless determined otherwise by testing, the loss factor “Z” for heel welds shall be in accordance with AWS Table 2.8. Fillet welds which run onto the radius of a tube shall be built up to obtain the full throat thickness (See Figure 7.1). The maximum root openings of fillet welds shall not exceed 3/16” in conformance with AWS D1.1, Section 5.22. Weld size or effective throat dimensions shall be increased in accordance with this same section when applicable (i.e. fit-up gaps > 1/16”).



**FIGURE 7.1  
BUILD UP RADIUS WELD**

The fabricator shall have verified that the throat thickness of partial joint penetration groove welds (primarily matched edge welds or the flare-bevel-groove welds on underhung floor beams) shall be obtainable with their fit-up and weld procedures. Matched edge welds shall be “flushed” out when required to obtain the full throat or branch member wall thickness.

## **SPECIAL SPECIFICATIONS FOR PREFABRICATED BRIDGE**

For full penetration butt welds of tubular members, the backing material shall be fabricated prior to installation in the tube so as to be continuous around the full tube perimeter, including corners. Backing may be of four types:

- \* A "box" welded up from four (4) plates.
- \* Two "channel" sections, bent to fit the inside radius of the tube, welded together with full penetration welds.
- \* A smaller tube section which slides inside the spliced tube.
- \* A solid plate cut to fit the inside radius of the tube.

Corners of the "box" backing, made from four plates, shall be welded and ground to match the inside corner radii of the chords. The solid plate option shall require a weep hole either in the chord wall above the "high side" of the plate or in the plate itself. In all types of backing, the minimum fit-up tolerances for backing must be maintained at the corners of the tubes as well as across the "flats".

### **7.2 Quality Certification**

Bridge(s) shall be fabricated by a fabricator who is currently certified by the American Institute of Steel Construction to have the personnel, organization, experience, capability, and commitment to produce fabricated structural steel for the category "Major Steel Bridges" as set forth in the AISC Certification Program with Fracture Critical Endorsement. Quality control shall be in accordance with procedures outlined for AISC certification. For painted structures, the fabricator must hold a "Sophisticated Paint Endorsement" as set forth in the AISC certification program. Furthermore, the bridge(s) shall be fabricated in a facility owned and/or leased by the corporate owner of the manufacturer, and fully dedicated to bridge manufacturing.

## **8.0 FINISHING**

### **8.1 Blast Cleaning**

#### **8.1.1 Bare applications of enhanced corrosion resistant steels.**

All Blast Cleaning shall be done in a dedicated OSHA approved indoor facility owned and operated by the bridge fabricator. Blast operations shall use Best Management Practices and exercise environmentally friendly blast media recovery systems.

To aid in providing a uniformly "weathered" appearance, all exposed surfaces of steel shall be blast cleaned in accordance with Steel Structures Painting Council Surface Preparation Specifications No. 7 Brush-Off Blast Cleaning, SSPC-SP7 latest edition.

Exposed surfaces of steel shall be defined as those surfaces seen from the deck and from outside of the structure. Stringers, floor beams, lower brace diagonals and the inside face of the truss below deck and bottom face of the bottom chord shall not be blasted.

## **9.0 DELIVERY AND ERECTION**

Delivery is made to a location nearest the site which is easily accessible to normal over-the-road tractor/trailer equipment. All trucks delivering bridge materials will need to be unloaded at the time of arrival.

## **SPECIAL SPECIFICATIONS FOR PREFABRICATED BRIDGE**

The manufacturer will provide detailed, written instruction in the proper lifting procedures and splicing procedures (if required). The method and sequence of erection shall be the responsibility of others.

The bridge manufacturer shall provide written inspection and maintenance procedures to be followed by the bridge owner.

### **10.0 BEARINGS**

#### **10.1 Bearing Devices**

Bridge bearings shall consist of a steel setting or slide plate placed on the abutment or grout pad. The bridge bearing plate which is welded to the bridge structure shall bear on this setting plate. One end of the bridge will be fixed by fully tightening the nuts on the anchor bolts at that end. The opposite end will have finger tight only nuts to allow movement under thermal expansion or contraction.

The bridge bearings shall sit in a recessed pocket on the concrete abutment. Minimum 28-day strength for the abutment concrete shall be 3,000 PSI. The bearing seat shall be a minimum of 16" wide. The step height (from bottom of bearing to top-of-deck) shall be determined by the bridge manufacturer.

Bridges in excess of 100 feet in length or bridges with dead load reactions of 15,000 pounds or more (at each bearing location) shall have teflon on teflon or stainless steel on teflon slide bearings placed between the bridge bearing plate and the setting plate. The top slide plate shall be large enough to cover the lower teflon slide surface at both temperature extremes.

### **11.0 FOUNDATIONS**

Unless specified otherwise, the bridge manufacturer shall determine the number, diameter, minimum grade and finish of all anchor bolts. The anchor bolts shall be designed to resist all horizontal and uplift forces to be transferred by the superstructure to the supporting foundations. Engineering design of the bridge supporting foundations (abutment, pier, bracket and/or footings), including design of anchor bolt embedments, shall be the responsibility of the foundation engineer. The contractor shall provide all materials for (including anchor bolts) and construction of the bridge supporting foundations. The contractor shall install the anchor bolts in accordance with the manufacturer's anchor bolt spacing dimensions.

Information as to bridge support reactions and anchor bolt locations will be furnished by the bridge manufacturer after receipt of order and after the bridge design is complete.

### **12.0 PAYMENT**

A partial payment or "deposit" for the prefabricated bridge shall be made upon order and storage as required by the terms of the manufacturer.

### **13.0 WARRANTY**

The bridge manufacturer shall warrant that it can convey good title to the goods, that they are free of liens and encumbrances and that their steel structure(s) are free of design, material and workmanship defects for a period of ten years from the date of delivery. Durable hardwood decking and hardwood attachments shall carry a ten-year warranty against rot, termite damage or fungal decay. Other types of wood and decking material such as Southern Yellow Pine, Douglas Fir and composites carry no warranty. There are no warranties, expressed or implied with respect to structures sold hereunder which are used, supplied for use or made available for use in any nuclear application of which bridge manufacturer has not been notified in writing at the time of order of the structure(s).

## **SPECIAL SPECIFICATIONS FOR PREFABRICATED BRIDGE**

This warranty shall not cover defects in the bridge caused by abuse, misuse, overloading, accident, improper installation, maintenance, alteration or any other cause not expressly warranted. This warranty does not cover damage resulting from or relating to the use of any kind of de-icing material. This warranty shall be void unless owner's records are supplied which show compliance with the minimum guidelines specified in the "Recommendations for the Inspection and Maintenance of Steadfast Vehicular Steel Bridges and Continental Pedestrian Steel Bridges," attached hereto and incorporated herein by this reference.

Repair, replacement or adjustment, at the sole discretion of the bridge manufacturer, shall be the exclusive remedy for defects under this warranty. Under no circumstances shall the bridge manufacturer be liable for any consequential or incidental damages.

Any claim under this warranty shall be made promptly and directly to CONTECH Bridge Solutions Inc who shall have the option, at its sole discretion, to repair, replace or adjust any covered defect without charge to the original purchaser.

**SELLER MAKES NO OTHER WARRANTY WHATSOEVER, EXPRESS OR IMPLIED. ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND ALL IMPLIED WARRANTIES OF FITNESS FOR ANY PARTICULAR PURPOSE ARE DISCLAIMED BY SELLER AND EXCLUDED FROM THIS CONTRACT.**

REV: 10/07

## SPECIAL SPECIFICATIONS FOR PREFABRICATED BRIDGE

### 14.0 APPROVAL CHECKLIST

The following checklist will be used in the evaluation of all submittals to assure compliance with the Special Specifications for Prefabricated Bridge. This checklist is considered the minimum acceptable requirements for compliance with these specifications. Any deviations from this checklist shall be considered grounds for rejection of the submittal. Any costs associated with delays caused by the rejection of the submittal, due to non-compliance with this checklist, shall be fully borne by the contractor and bridge supplier.

#### SUBMITTAL DRAWINGS

*Data Required to be Shown:*

- Bridge Elevation
  - Bridge Cross Section
  - All Member Sizes
  - All Vertical Truss Members are Square or Rectangular Tubing
  - Bridge Reactions
  - General Notes Indicating
    - AISC Stress Conformance
    - Material Specifications to be Followed
    - Design Live Load
    - Design Vehicle Load (If Applicable)
    - Design Wind Load
    - Other Specified Design Loads
    - Welding Process
    - Blast Cleaning
    - Paint System to be Used (If Applicable)
  - Paint Color Chart (If Applicable)
  - Detailed Bolted Splices (If Applicable)
  - Bolted Splice Location (If applicable)
  - Signature and Seal of Professional Engineer, licensed in Accordance with Section 3.0
- Weld Failure Checks (Ultimate)
  - Local Buckling of the Main Member Face Checks
  - Main Member Yielding Failure Checks
  - Main Member Crippling Failure Checks
  - Main Member Buckling Failure Checks
  - Main Member Shear Failure Checks
  - All Bolted Splice Checks (if applicable)
  - Main Truss Deflection Checks
  - Decking Material Checks
  - "U-Frame" Stiffness Checks (if applicable)
  - Interior and End Portal Design Checks (if applicable)
  - Determination of Top Chord K Factor Based on "U-Frame" Stiffness (if applicable)
  - Consideration of Individual Member Moments Due to Truss Deflection, Joint Fixity and Joint Eccentricity

#### DESIGN CALCULATIONS

*Data Required to be Shown:*

- Data Input for 3-D Analysis of Bridge
  - Joint Coordinates & Member Incidences
  - Joint and Member Loads
  - Member Properties
  - Load Combinations
- AASHTO Member Stress Checks for Each Member Type
- Critical Connection Failure Mode Checks For Each Member Type
  - Chord Face Plastification Checks
  - Punching Shear Checks
  - Material Failure Checks (Truss Webs)
  - Weld Failure Checks (Effective Length)

#### FABRICATION SUBMITTALS

*Data Required to be Shown:*

- \*\* Written Installation Instructions
- \*\* Written Splicing Instructions
- \*\* Written Maintenance & Inspection Instructions
- \*\* Welder Certifications
- \*\* Welding Procedures
- Material Certifications (if applicable)
  - Structural Steel (if applicable)
  - Decking (if applicable)
  - Structural Bolts (if applicable)
- \*\* Quality Control Section of AISC Certification Manual (if applicable)
- \*\* Painter Certifications (if applicable)
- Weld Testing Reports (if applicable)

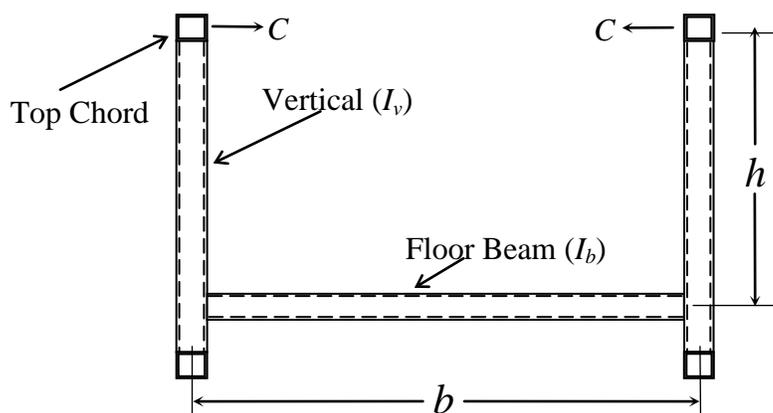
\*\* NOTE: These items are required to be submitted along with Submittal Drawings and Design Calculations. Those Fabrication Submittal Items not marked are to be submitted prior to shipment of the bridge.

**SPECIAL SPECIFICATIONS FOR PREFABRICATED BRIDGE**

Appendix A

1/K FOR VARIOUS VALUES OF CL/P<sub>c</sub> and n

1/K	n						
	4	6	8	10	12	14	16
1.000	3.686	3.616	3.660	3.714	3.754	3.785	3.809
0.980		3.284	2.944	2.806	2.787	2.771	2.774
0.960		3.000	2.665	2.542	2.456	2.454	2.479
0.950			2.595				
0.940		2.754		2.303	2.252	2.254	2.282
0.920		2.643		2.146	2.094	2.101	2.121
0.900	3.352	2.593	2.263	2.045	1.951	1.968	1.981
0.850		2.460	2.013	1.794	1.709	1.681	1.694
0.800	2.961	2.313	1.889	1.629	1.480	1.456	1.465
0.750		2.147	1.750	1.501	1.344	1.273	1.262
0.700	2.448	1.955	1.595	1.359	1.200	1.111	1.088
0.650		1.739	1.442	1.236	1.087	0.988	0.940
0.600	2.035	1.639	1.338	1.133	0.985	0.878	0.808
0.550		1.517	1.211	1.007	0.860	0.768	0.708
0.500	1.750	1.362	1.047	0.847	0.750	0.668	0.600
0.450		1.158	0.829	0.714	0.624	0.537	0.500
0.400	1.232	0.886	0.627	0.555	0.454	0.428	0.383



**“ U - Frame ”**

Where:  $C = \frac{E}{h^2 [h/3I_v + b/2I_b]}$

*L = Length in inches of one truss panel*

*P<sub>c</sub> = Buckling Load (= Top Chord Compression x F.S.)*

*n = Number of Panels*

Reference: Galambos, T.V. (1988) “Guide to Stability Design Criteria for Metal Structures”, 4<sup>th</sup> Ed., PP 515-529. Copyright © 1988. Reprinted by permission of John Wiley and Sons, Inc.