

Addendum #1

SECTION 05552

PREFABRICATED BRIDGE

PART 1. - GENERAL

1.0 SCOPE:

These specifications are for a fully engineered clear span bridge(s) of welded aluminum construction and shall be regarded as minimum standards for design and construction as manufactured by Gator Bridge Company or approved equal.

Scope shall include Prefabricated aluminum bridge and Weardeck or equal composite deck materials.

- A. Specifications: The contractor shall provide this Section of the specifications to the Gator Bridge Company when the order is placed to begin the development process for the bridge.
- B. Engineering: All engineering design and related detailing of the bridge(s) shall be provided by the supplier. The design shall conform to the Applicable Codes and Standards listed in Section 2 of this document and shall comply with the structural drawings/plans prepared by Gator Bridges.
- C. Anchor Bolt Locations: Bridge manufacturer will provide shop drawings showing the anchor bolt locations. These shall be used by the contractor for confirming the abutment layout. Once the bridge is on site, the contractor will set the bridge and mark the epoxy anchor bolt locations prior to installing to assure the exact location of the bolts. The contractor is free to use whatever method preferred to determine the exact bolt location as a means and method. The contractor shall communicate the intended method and inform or provide the manufacturer with adequate information to coordinate the location bolts. It is up to the contractor to decide what installation method is best for the project.

The site contractor is ultimately responsible for marking the anchor bolt locations for accuracy and to set the bridge in place. Contractor shall coordinate with the bridge manufacturer to secure the correct information to perform this task.

- D. Field Measurements: The General Contractor is responsible for taking on-site measurements after the bridge location is staked in the field to determine the exact dimensions needed for the bridge to effectively span from one abutment to the other. This must be accomplished before manufacturing of the bridge structure can begin. The manufacturer prefers that the bridge be built and erected in two (2) sections with a midspan mechanical splice.
- E. Site Visit: General Contractor is responsible for visiting the site to coordinate tasks, delivery, and measurements prior to releasing the bridge manufacturer to begin the shop drawings or manufacturing the bridge structure. Gator Bridge will rely on Contractors EOR to provide accurate measurements and information to orchestrate the manufacture of the bridge.
- F. Parts: To provide the bridge(s) and all its attachments, templates and parts shall be fully fabricated by a qualified supplier as outlined in this document. Manufacturer may specify the

anchor bolt design based on the data provided by the contractor. The anchor bolts and installation shall be provided by the contractor.

- G. Delivery: Bridge supplier shall be responsible for delivery of the bridge sections and other materials FOB to the construction site. Supplier shall coordinate in advance with contractor to determine best route and closest location for off-loading the bridge on the site and shall provide that information to the trucking delivery company.
- H. Offloading; Site Contractor is responsible for offloading the bridge when it arrives to the site.
- I. Qualified Supplier: Each bidder is required to identify their intended bridge supplier as part of the original bid submittal. A qualified supplier must have at least 5 years of experience in fabricating aluminum bridge type structures.
- J. Qualifications: The bridge manufacturer shall have in-house capability to provide design shop drawings, professional engineering stamp and fabrication thus providing an integrated approach to deliver design and fabrication services with a single point of responsibility. Brokering is NOT allowed. A Professional Engineer licensed in Georgia shall stamp and seal the shop drawings.

Pre-approved Manufacturers:

Gator Dock and Marine, LLC
2880 Mellonville Ave,
Sanford FL., 32773.
1 800 256-8857

Gator Bridge Contract:

The contractor may contact the following representative for Gator Bridges to begin the project of design and supply of the specified Bridge(s).

Tag Hepner
Regional Sales Manager
GatorDock and GatorBridge
Cell 803 915-9022
thepner@cmilc.com.
www.cmilc.com

Order Name: Ask for the quote on Briarwood Pedestrian Bridge.

Lead Time: Lead time on delivery is approximately 10 – 12 weeks.

Deck: Weardeck or equal will be the composite deck material that comes with the order.

- K. All bidders shall prepare their initial bids using Gator Bridge. Substitutes may be entertained with the apparent low bidder after the bids are evaluated.
- L. Suppliers other than GatorDock may be used provided they meet all the criteria of this specification and are approved, in writing, by the city and engineer. Contractor to provide exclusive documentation to ensure proposed substitution shall be in compliance with the following specifications and shall include the minimum criteria:
- Representative Design Calculations
 - Representative Drawings & Details
 - Anticipated Reaction Forces

Splicing and Erection Procedures
Warranty Information
Inspection and Maintenance Procedures
Welder Qualifications
Certified Weld Inspector Qualifications
Identified color and similar style.

- M. Style: Bridge(s) shall be a '*Cascade*' style aluminum truss bridge as manufactured by Gator Bridge Inc, and as defined in the structural drawings and this specification, or similar in look and function. Style must be approved in accordance with Section 1 of this specification.
- N. Shop Drawings: The Contractor shall be responsible for securing shop drawings from the Bridge Manufacturer that meet the requirements of this specification and Section 01340 Shop Drawings of the Project Manual. Drawings and calculations shall be stamped and sealed by a Professional Engineer registered in Georgia.
- O. Shop Drawings shall be approved by the project design professional prior to submitting shop drawings for a building permit.
- P. Building Permit: The city has issues **LDP22-00019** for the overall project. The Landscape Architect has submitted the Typical Drawings provided by Gator Bridge to the city building authorities and obtained a building permit application number for the bridge and abutments. The General Contractor is responsible for submitting the final approved and stamped shop drawings to the city and county building departments to resubmit for Building Permit **BLC23-00014**. An explanation of the building permit process is in the Appendix of this Project Manual.
- Q. The General Contractor shall be responsible for submitting the finished shop drawings to the local permitting authorities to secure the final building permit for the bridge(s).
- R. Bridge shall be bid on the Construction Items Bid Schedule as part of the overall total bid.
- S. Geotechnical Investigations: A copy of the Geotechnical borings investigation for the bridge abutments is included in the Appendix of the Project Manual. The contractor may secure additional geotechnical investigations on his own if he determines that more are needed for the bridge design and construction.
- T. Helical Piers: Concrete abutments have been designed using helical piers for the foundation. The contractor is responsible for selecting the final helical pier type and length to achieve the designated KIPS shown on the drawings. If the helical piers are longer or shorter than the quantity bid, the contractor and owner will establish a change order to that fact.
- Helical piers are not part of the bridge manufacturer's quote and must be provided by the General Contractor as part of the abutment costs.
- U. No Rise: A 'No Rise' study was not needed for this location.

- V. Delivery: Bridge Manufacture is responsible for delivery of the bridge FOB to the site. The bridge will come in two (2) sections. The General Contractor is responsible for offloading the bridge and ensuring that the delivery vehicle can access the two (2) drop-off points. Delivery to site shall be coordinated with the City Parks staff and Recreation Center Director to ensure access to the unloading sites is possible and can be accomplished without damage to the park facilities, vegetation, or paved circulation paths.
- W. Bridge fabricator is required to place an ID plate on each end of the bridge showing weight, span, maximum load, and serial number.
- X. The bridge shall be designed for AAST Pedestrian 90 psf. live loading and allowing for an occasional 2500-pound small vehicle load like a golf cart or small maintenance carts or ATVs.
- Y. Deck: **Weardeck or equal** composite material shall be used to construct the walking deck surface on the bridge. **Weardeck or equal** materials are part of the Gator Bridge quote and will be delivered with the aluminum bridge.
- Z. Alternate Deck: Wood Deck Surface shall be Southern Yellow Pine as described in the Materials section of this specification. Wood shall be Ground Contract treated lumber in accordance with Section 06100. The Wooden Deck material is not part of the Gator Bridge quote and will not be provided as part of their delivery. Final installation shall be treated with water sealant on site after installation.
- AA. Inspections: Contractor is responsible to coordinate and secure proper inspections by the required agencies local and state, to have the bridge construction approved for occupancy.
- BB. Relevant Sections:
Section 05661 Helical Piles (Piers)
Section 03300 Cast in Place Concrete
Section 03200 Concrete Reinforcement
Section 06105 Miscellaneous Carpentry

2.0 DIMENSIONS

- A. Width: Inside clear width between rails on the 10' wide bridge structure shall be less than 10 feet 0 inches.
- B. Span: Center to center of bearing ends of **the full** bridge are designed to be 100 feet 0 inches.
Measured from outside of end post to outside of end post. **EOR shall determine exact final span length after taking measurements in the field.**
- C. Camber: Bridges shall be cambered to offset dead load and appear flat.
- D. Bridge(s) shall be fabricated and delivered as continuous and pre-assembled structures unless mid-span splices are required.
- E. Bridge(s) shall incorporate an Enclosed Floor System to hide horizontal bracing, floor beams and stringers from view.

- F. Bridge Slope: Bridge is set on a slope of **approximately** 3% from end to end between the two (2) abutments. **Slope shall not exceed 5% without the approval of the design consultant and bridge manufacturer.**
- G. The top of the top chord shall not be less than 54" above the finished deck at bridge center in accordance with the structural plans.
- H. The top of the chord shall be canted **angle cladding** to prevent pedestrians from walking on the surface.
- I. All vertical truss members shall be perpendicular to the ground (horizon) after the bridge is erected and dead loads applied.
- J. Incline and Skew: Bridges shall be designed for abutments and / or pier bearing surfaces constructed at constant elevations.
- K. Deck: Bridge deck shall be constructed at right angles when the horizontal plane is made of wood as specified in this Section.
- L. Bearing Pads: Bridge(s) shall include bearing pads which shall allow the bridge to expand and contract as needed without binding.

3.0 DESIGN

- A. Governing Codes and Standards
The bridge shall be designed in accordance with the AASHTO, LRFD Guide Specification for Design of Pedestrian Bridges, latest edition, where applicable and unless otherwise stated in this document.
- B. Reference Codes and Standards:
 - LRFD AASHTO, Guide Specification for Design of Pedestrian Bridges, latest edition.
 - The Aluminum Association, Specifications & Guidelines for Aluminum Structures, last edition.
 - AASHTO LRFD Bridge Design Specifications, latest edition.
 - AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic, latest edition.
 - AASHTO Standard Specifications for Highway Bridges, last edition
 - ASCE 7-10, last edition.
 - Aluminum Structures, A Guide to Their Specification and Design, last edition.
 - American Welding Society, Structural Welding Code, D1.2, latest edition.
 - National Design Specification for Wood Construction, ANSI NDS, last edition.
 - American Wood Preservers Association Standards, last edition.
- C. **Vehicle** Loading Bridges: All bridges in this category shall be designed with AAST pedestrian loading allowing for an occasional 2500-pound small vehicle load with rubber tires. **Load plates shall be provided at each end of the bridge.**
- D. Open truss bridges shall be designed by a professional engineer experienced in pony truss bridge design and top chord stability criteria utilizing elastic lateral restraints.
In addition to normal dead loads, the bridge shall be designed for the following:

- E. Uniform Live Load: Pedestrian bridges shall be designed for an evenly distributed live load of 90 pounds per square foot of deck area as required by AASHTO standards.
- F. Wind Load (WS): All bridges shall be designed for a minimum wind load of 30 pounds per square foot (approximately 100 mph). The wind is calculated on the entire vertical surface of the bridge as if fully enclosed.

1. Horizontal Wind Load (Wsp & WSf)

The Bridge shall be designed per AASHTO LRFD for a horizontal peak (Strength III) and normal (Fatigue I) wind speeds based on the criteria below, at right angles to the longitudinal axis of the structure. Wind loads shall be proportionally distributed across all exposed primary member surfaces including chords, vertical posts, and truss diagonals on the windward side in combination(s).

ASCE 7-05 Wind Speed (3-sec peak gust) - 90 mph
Wind Importance Factor - 1.15
Gust Effect Factor - 1.14
Bridge Height Above Ground - 15 ft
Height and Exposure Factor - 0.849
Wind Drag Coefficient - 2

Resultant Peak Wind Pressure (WSp) - 46.16 psf

Fatigue Importance Factor - 1

Resultant Normal Wind Pressure (WSf) - 10.4 psf

Fatigue resistance shall be calculated for Infinite cycles.
Truck induced fatigue loading is not required.

2. Overturning Wind Load (WSo)

The effect of forces tending to overturn the structure 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 influence area in combination(s).

3. Guards & Railing Live Loads (PLr)

Guard & railing loads shall be analyzed as Live loads in combination(s).

4. Top Rail Load

The top rail and top chord if <54" from the top of deck shall be designed for a simultaneous vertical AND horizontal load of 50 pounds per linear foot AND a 200-pound point load, positioned to produce the maximum load effect.

5. Post Rail Load

The vertical posts shall be designed for a horizontal load of 50 pounds per linear foot AND a 200-pound point load positioned at the top rail height.

6. Infill

The picket, intermediate railing, toe railing, or infill system shall be designed for a 200-pound point load, applied transversely over an area of 1 square foot and positioned to produce the maximum load effect.

- I. Seismic Extreme Event Loads (EQ) *No seismic analysis is required:*
All bridges shall be designed for seismic loads of the intensity required by local codes.
- J. Flood Extreme Event Loads (WA) - Based on the wind capacity already accounted for in strength III and section 4.3.1., no additional flood analysis is required
- K. Additional Snow Loads (IC) - Based on the ASCE 7 snow maps and capacity already accounted for in strength I and section 4.3.1., no additional snow analysis is required.
- L. Deflection
Refer to note 5.0 Engineering section D.2

4.0 RAILINGS & ACCESSORIES

- A. The bridge shall include the following in accordance with section 5 of this specification and the structural plans.

The bridge railing and accessories shall include the following in accordance with Section 5 of this specification and the structural plans. All railing components shall be fabricated with the bridge and pre-assembled prior to arriving on site.

- B. Guard Rail and Infill - Bridge shall incorporate a Combination Rail system consisting of vertical pickets, a graspable top rail, and curb bottom rail, which shall minimize climbing hazards and serve the function of guard, hand, and toe rail. The Combination Rail system shall meet all the dimensional requirements of FDOT Aluminum Pedestrian/Bicycle Picket Railing – Index No. 860 or pre-approved equal.
- C. The top of top rail shall not be less than 42" above the finished deck.
- D. Solid toe or curb rail shall prevent the passage of a 2" diameter sphere up to a minimum height of 4" from finished deck.
- E. Clear opening between pickets, infill, or rail shall reject the passage of a 4" diameter sphere up to the height specified in 3.8.1.1 of these documents.
- F. Clear opening between bottom rail and finished deck shall reject the passage of a 2" diameter sphere.
- G. Any graspable elements shall be round with a 1 ¼" to 2" OD or equivalent gripping surface.
- H. Horizontal elements shall be finished or returned smoothly to floor or posts.
- I. Any graspable elements must maintain a 1.5" clear distance between wall and rail must be maintained.
- J. All geometry is to be smooth with no sharp corners.
- K. All railings shall have a smooth inside surface with no protrusions or depressions. All ends of angles and tubes shall be closed and ground smooth. In accordance with AASHTO standards, railings for bicycle use shall be a minimum height of 54" above the floor deck.
- L. Safety Rails: Continuous rails shall be located on the inside of the trusses. The rails will

be 42” high horizontal rails with picket a maximum opening of 4 inches with angled top cords.

M. **Grab** Rails:

1. Grab rail - No ADA grab rail is required.

N. Architectural Elements:

Color & Texture - All exposed metal surfaces shall have a Brown Powder Coat finish. Contractor to submit color samples to the Owner for approval.

Cladding - No additional cladding is required.

Accent Lighting - No Accent Lighting is Required

O. Maximum Weight

Manufacturer and Transportation company shall check with the respective states being crossed to determine the maximum allowable weight for transportation.

5.0 ENGINEERING

A. Dead Loads (DC & DW)

The bridge shall be designed considering its own dead load including structure (DC), originally designed decking (DW), and originally designed utilities only (DW). No additional loads shall be considered. Dead loads shall be designed in combination(s).

B. Pedestrian Live Load (PLu)

Main supporting members, including trusses, primary beams, arches, deck and supporting floor system shall be designed for a uniformly distributed load of 90 pounds per square foot in combination(s).

C. Vehicle Live Loads (LL)

Refer to 3.0 DESIGN Section c.

D. Design Limitations

1. Resistance & Allowable Stresses

All resistance stresses for aluminum shall be determined in accordance with the most current version of the AASHTO LRFD Bridge Design Specifications - Section 7, supplemented by the Aluminum Association, Specifications and Guidelines for Aluminum Structures, and by Aluminum Structures, A Guide to Their Specification and Design where applicable. Resistance stresses shall be appropriately reduced due to welding and/or fatigue where applicable.

All allowable or resistance stresses for pressure treated pine shall be determined in accordance with NDS, Design values for wood construction.

All allowable or resistance stresses for other materials shall be in accordance with the most relevant standard, manufacturers specifications, or sound engineering judgement.

2. Deflection

The vertical deflection of the main truss due to unfactored DC, DW, LL, and PL loads in the Service I load combination shall not exceed $L/360$, where L is the length of the unsupported span.

The horizontal deflection of the floor system due to unfactored, horizontal, WS and WA loads shall not exceed $L/360$, where L is the length of the unsupported span.

3. Buckling & Frame Stability

For half-through trusses, the bridge shall be analyzed per 4.3.1. and Strength I as a lateral U-frame as defined in AASHTO LRFD Guide Specification for Design of Pedestrian Bridges, Section 7 - Stability to carry additional lateral forces induced by secondary or buckling bending forces. For more complex or other structure types, buckling analysis must be conducted using Finite Element Analysis with a maximum allowable buckling load factor of 4 for any combination of applied loads, to ensure adequate overall stability and stiffness.

4. Vibration

The 1st mode fundamental frequency of the unloaded pedestrian bridge shall be no less than 3 Hz to avoid the first harmonic.

E. Analysis

Full structural analyses for the primary bridge structure shall be completed using a 3-D finite element analysis. All members' end conditions are to be considered fixed. Other analysis methods may be used for secondary members. All analysis and results necessary to determine the structural adequacy per section 4.2 of the bridge shall be reported. The following analyses are required:

F. Load Applications

Resistance & Allowable Stresses

Analysis shall be completed to determine that all bridge members, critical connections, and bridge configurations are sufficiently sized to adequately resist the following loads from these combinations per AASHTO LRFD and in accordance with section 4 of this specification:

Strength I – DC, DW, PLu
Strength I – DC, DW, LL
Strength I – DC, DW, PLr
Strength III – DC, DW, WSp, Wso
Service I – DC, DW, PL, WSp, Wso
Fatigue I – WSn

G. Deflection

Analysis shall be completed to determine that bridge stiffness is sufficient to limit deflections to the maximum allowable per section 4.2.2.

Service I (Vert. Def.) – DC, DW, PLu
Service I (Vert. Def.) – DC, DW, LL
Unfactored (Horiz. Def.) – WSp

Frequency

Frequency analysis shall be completed to determine that the bridge frame is sufficient to avoid resonance due to frequencies likely encountered under normal use for the following load combinations. Unfactored – DC, DW

6.0 MATERIALS

A. Structural Members

All aluminum primary structural members are to be 6061-T6 alloy for its high strength and corrosion resistance. Secondary aluminum members are to be 6000 series aluminum for corrosion resistance.

B. Bearing Pads

All bearing pads shall be 1" thick UHMW adequately dimensioned to provide support to the structure over the full travel resulting from expansion and contraction and supplied by bridge manufacturer.

C. Deck

The bridge decking shall be **WearDeck or equal** composite deck. **It shall also be on the top cord of the aluminum angle clad.**

Client may choose to substitute for wood deck. In that event the following spec shall rule.

Alternate Deck; Pine decking shall be Southern Yellow Pine No. 1 Structural (1200# extreme fiber bending) Stress Grade. Wood decking shall have a minimum CCA (Copper Chromium Arsenate) content equal to .40 pounds per cubic foot for Ground Contact. Equivalent pressure treating methods are acceptable.

All wood shall comply with American Softwood Lumber Standard PS 20-70. Each piece of lumber shall be identified by the grade and treatment mark of recognized organization or independent agency certified by the American Lumber Standards Committee, Washington, DC to grade the species.

All lumber specified for treatment shall be treated to the requirements of American Wood Preservers Bureau AWPB for Ground Contact. See Section 06100 for final specifications.

D. Fasteners

Any and all fasteners required for assembly shall be stainless steel type 304 and supplied by bridge manufacturer. Insulating washers shall be provided where stainless steel and aluminum contact is anticipated to minimize the potential for galvanic action.

Railing: No Additional Rub Railing is Required
Cladding: No additional cladding is required
Accent Lighting: No Accent Lighting is Required

7.0 FABRICATION & ASSEMBLY

A. Welding

All aluminum members shall be welded using 5356 aluminum filler wire in accordance with AWS D1.2 standards.

B. Expansion Slots

Slots shall be cut into bridge bearing areas to allow for proper expansion and contraction of the bridge.

C. Delivered Sections

See Section 4.0 paragraph O.

Bridge may be shipped in pieces if required to ensure that no individual unit **exceeds the maximum weight allowed by any DOT along the delivery route:**

Maximum Weight shall be determined by the State DOT for each state being crossed. Weight shall be identified by the manufacturer before fabrication to avoid issues with each state department of transportation being affected.

D Mid-Span Splices

When required to accommodate contractor requirements or those of this specification, mid span splices shall be incorporated and be adequately designed to meet all criteria specified in section 4 of this document. Mid-span splices shall be designed and fabricated in accordance with the Aluminum Association, Specifications and Guidelines for Aluminum Structures, supplemented by Aluminum Structures, A Guide to Their Specification and Design

8.0 FINISHES

- A. The bridge shall be powder coated by the bridge manufacturer. The manufacturer shall have an AISC certified shop with Sophisticated Paint Endorsement.
- B. Color: Bridges shall be powder-coated **Brown**. Manufacturer to provide color samples through the General Contractor for client approval before painting the bridge.

9.0 DELIVERY AND ERECTION

- C. Bridges shall be delivered by truck FOB to a location nearest to the site accessible by roads. Hauling permits and freight charges to the site are the responsibility of the manufacturer.
- D. Site Contractor (customer) is responsible for off-loading the bridge at the site and arranging for its storage or installation upon arrival. Bridge comes **in two (2)** sections.
- E. The manufacturer will notify the customer in advance of the expected arrival time. Information regarding delays after the trucks depart the plant such as inclement weather, delays in permits, re-routing by public agencies or other circumstances will be passed on to the customer (site contractor) as soon as possible, but the expense of such unavoidable delays will not be accepted by the manufacturer.
- F. The manufacturer will advise the customer of the actual lifting weights, attachment points and all necessary information to off-load and install the bridge. Unloading, splicing, bolting, and proper lifting equipment is the responsibility of the site contractor.
- G. The site contractor (customer) shall procure all necessary information about the site and soil conditions for offloading and erection prior to delivery. Soil tests shall be procured by the owner. The engineering design of the bridge abutments, piers and/or footing shall be by the

owner.

- H. The Contractor shall install the anchor bolts in accordance with the manufacturer's anchor bolt spacing dimensions. All grounding and lightning protection shall be the responsibility of the Contractor.

10.0 SUBMITTALS

- A. Typical Drawings: A set of Typical Drawings and specifications are provided by the Client to be used by the contractor to establish the bid. Gator Bridge prepared the Typical Drawings and approved the Technical Specifications Section 05552, to be used in the bidding process.

Contractor shall contact Gator Bridge to obtain a fixed quote on the shop drawings, manufacture and delivery of the bridge and deck as identified in the Typical Drawings. Final Fabrication Drawings will be prepared in the Shop Drawings process to represent the bridge intended in the Typical Drawings design.

- B. Fabrication drawings
Fabrication drawings and calculations shall be prepared and submitted for review after receipt of the order. Submittal drawings shall be unique drawings to this project, prepared to illustrate the specific portion of the bridge(s) being fabricated. All relative design information such as member size, material specification, dimensions, and required critical welds shall be clearly shown on the drawings. Drawings shall have cross-referenced details and sheet numbers.

Final shop drawings shall include the design of the foundation, final helical pier size and length to reach the specified KIPS. The geotechnical engineer shall have access to the geotechnical borings included in the Appendix of the Project Manual.

All drawings shall be stamped and signed by a Professional Engineer registered in the State of Georgia. A stamped electronic soft copy shall be provided to be reviewed and approved exclusively by:

The following minimum criteria must be included for approval:

- All Relevant Bridge Dimensions
- Bridge Cross sections
- Sufficient Detailing
- Member Cross sections
- Anchor bolt sizes and type
- Anchor plat design
- General Notes indicating material specifications.
- Weld Details
- Composite deck details
- Detail of Bolted Splices (if applicable)
- Top cord camber details
- Signature and Seal of PE licensed in accordance with this specification.

D. Calculations & Results

Structural analysis results and calculations shall be prepared and submitted for review after receipt of the order. All analysis and results necessary to determine the structural adequacy of the bridge shall be shown. A stamped electronic soft copy shall be provided to be reviewed and approved exclusively by:

The following minimum criteria must be included for approval:

- Bridge Reactions for all unfactored loads
- Expansion and Contraction Requirements and/or induced loads
- Critical weld analysis results
- Bolted Splice Calculations (if applicable)
- Detailed Description of Applied Loads and Conditions for all load combinations
- Member maximum allowable for all load and design conditions
- FEA boundary conditions
- FEA Data Input
- FEA results and supplementary calculations for all Resistance & Deflection Analyses
- FEA results for frame stability analysis (if required)
- FEA results for frequency analysis

11.0 INSPECTIONS

The contractor shall arrange for all required state and local agency inspections to provide approval of the finished construction.

12.0 WARRANTY

The manufacturer shall provide their standard warranty against defects in material and workmanship.

If the contractor opts to use a different bridge manufacturer, the manufacturer warranty has to be equal to the standard warranty offered by Gator Bridge.

The cost of the standard warranty shall be separated as a single line-item quote on the bid so that it may be dropped if the client so decides.

The contractor shall provide an additional warranty for a period of ten (10) years as an add alternate to the bid.

END OF SECTION 05552