



CITY OF HOLTVILLE

**Request for Proposals for
Engineering Design & Miscellaneous Services**

**for the
Holtville Alamo River Trail Trestle Bridge Project
(2023-24)**

**Issued: March 09, 2023
*Proposals Due: April 03, 2023***

**Funding Provided by:
The California Natural Resources Agency
Recreational Trails and Greenways Grant Program
Proposition 68**

**Requested by:
Nick Wells, City Manager
City of Holtville
121 W Fifth Street
Holtville, California 92250**



**CITY OF HOLTVILLE
REQUEST FOR PROPOSALS for**

**Engineering Design & Miscellaneous Services
for the Holtville Alamo River Trestle Bridge Trail Project**

**Funded by the California Natural Resources Agency
Recreational Trails and Greenways Grant Program - Proposition 68**

NOTICE IS HEREBY GIVEN that the City of Holtville (hereinafter referred to as the "City"), acting by and through its City Council, is requesting PROPOSALS from qualified design engineering professionals to provide **Engineering Design & Miscellaneous Services** for the above-listed project.

SUBMISSION DEADLINE: Receipt up to, but no later than 4:00 p.m., **April 3, 2023**

To be considered for negotiation and award of a contract, five (5) paper copies and one (1) electronic copy (CD or USB Flash Drive) of proposals must be received by the date and time specified above in a sealed package by the Project Administrator at the address listed below.

Any agreement entered into pursuant to this notice shall adhere to provisions of Federal Davis-Bacon Law and State Labor Code of the State of California. Compliance with the higher of Federal or State prevailing rates of wages established by Davis Bacon and the State Director of Industrial Relations will be required. This includes compliance with prevailing wage rates and their payment in accordance with California Labor Code, Section 1720 and 1775. Affirmative action to ensure against discrimination in employment practices on the basis of race, color, national origin, ancestry, sex, or religion will also be required.

Questions can be directed to the City of Holtville Project Administrator listed below. Copies of the Request for Proposals can be obtained on the **Holtville.ca.gov** website or at the address listed below:

Mr. Nicholas D. Wells
City Manager/Project Administrator
121 West Fifth Street
Holtville, California 92250
Phone: (760) 356-4574

The Schedule of Events for the Design Engineering Consultant services procurement is as follows:

Issue Request for Proposals	March 9, 2023
Proposal Due	April 3, 2023
Bid Evaluation	April 5, 2023
City Approves Agreement	April 10, 2023

Proposals will be evaluated by a committee. It is the City's intention to select the Consultant whose fee, qualifications and understanding of the project are deemed most advantageous to the City in accordance with this Request for Proposals. The Selection Committee's recommendation will be forwarded to the Holtville City Council for final determination.

The City reserves the right to reject any or all Proposals, or to waive any irregularities or informalities in any proposals or in the proposal and selection process.

Agreements shall not be entered into with a consultant without an adequate financial management and accounting system(s) as required by 48 CFR Part 16.301-3, 49 CFR Part 18, and 48 CFR Part 31.

REQUEST FOR PROPOSAL SCOPE OF WORK

I. BACKGROUND

The City of Holtville obtained a grant through the State of California Natural Resources Agency – Recreational Trails and Greenways Grant Program – Proposition 68 hereafter described as the grant agency. The grant is to fund improvements to the City of Holtville – Alamo River Trestle Bridge Trail (Project). The Project includes rehabilitation of the Alamo River Trail Trestle Bridge, landscape improvements and extension of the Alamo River Trail from the east side of the bridge for a distance of 636 feet to an existing concrete section of the existing Alamo River Trail. The rehabilitated Alamo River Bridge will provide a safe non-motorized crossing for pedestrian, bicycle and equestrian users over the Alamo River and connect to the existing Alamo River Trail.

The Alamo River Bridge served as a Train Trestle from around 1904 through 1995. The City of Holtville purchased the bridge around 2007 with the intent to convert the bridge to pedestrian use and integrate the bridge with the Holtville Alamo River Trail. The City of Holtville authorized Simon Wong Engineering to complete a visual structural review and report concerning the bridge in 2006. A Site Visit Report dated October 13, 2006 was completed by Simon Wong Engineering and is included as Attachment “A” to this request for proposal.

On August 3, 2009 a fire occurred in the vicinity of the Alamo River Bridge. Significant damage was sustained to the Bridge. A visual structural review and report dated March 22, 2010 concerning the damage sustained to the bridge was prepared by Simon Wong Engineering. The 2010 report included recommended bridge repairs and associated costs. The 2010 report is included as Attachment “B” to this request for proposal.

II. PROJECT DESCRIPTION

This Project requires that a structural analysis of the Alamo River Bridge be completed, and design plans and specifications be prepared for the rehabilitation of the bridge. The bridge rehabilitation shall require the replacement of damaged structural bent timbers, structural cross beams, and other structural components. The Bridge rehabilitation improvements shall include the installation of a new bridge deck and railing for traversing the bridge with non-motorized users including pedestrians, bicycles and equestrian traffic.

It is preferred that the fire damaged replacement structural bent timbers, structural cross beams and other structural members be constructed of timber and match the non-damaged wooden bridge superstructure as closely as possible. The use of similar matching wooden structural members will restore the aesthetic appearance of this landmark turn of the 20th century bridge. The new bridge deck and railing may be constructed with a concrete or wooden deck with steel or wooden railing that complement the underlying timber superstructure.

The Project also includes landscaping improvements along the trail leading up to the Alamo River Bridge. The landscaping improvements include the installation of trees,

bushes, shrubs, grasses, benches, kiosks, signs, and mulch. The trestle bridge and landscaping improvements are listed as follows:

1. Repair of approximately 1,000 S.F. of bridge including:
 - 1.1 Demolition of the damaged components of the trestle.
 - 1.2 Shoring on Trestle Bent #7 per Simon Wong 2010 report.
2. Install approximately:
 - 2.1 - 3,500 S.F. of bridge decking suitable for non-motorized trail users including pedestrian, bicycles and equestrian users.
 - 2.2 - 350 L.F. of bridge railing, ADA compliant.
 - 2.3 - 350 L.F. of bridge railing suitable for bicycles and equestrian users.
 - 2.4 - 350 S.F. of bridge landing suitable for transition between trail and bridge.
 - 2.5 – Fifty (50) solar bollard lights for walkway.
3. Install approximately:
 - 3.1 - 45,000 SF of mulch
4. Plant approximately:
 - 4.1 – Fifteen (15) trees from 15 gallon containers or less
 - 4.2 – Thirty five (35) each of bushes, shrubs, and grasses.
5. Install leading up to the bridge, approximately:
 - 5.1 – Six (6) benches
 - 5.2 – Two (2) kiosks
 - 5.3 – Four (4) “No Motor Vehicles” signs
 - 5.4 – One (1) funding acknowledgement sign
6. Install an 8-foot wide, 12 inch deep, class 2 base trail continuation section from the east edge of the Alamo River Bridge to the existing 8-foot wide pcc Alamo Trail as illustrated by the City of Holtville Schematic Landscaping Improvement Plan (Attachment C). Place 2” x 6” treated boards on each side of the new class 2 base trail to maintain the trail integrity. The length of the trail is approximately 636 feet.

III. SCOPE OF WORK

The project scope of work for this project shall include design, bidding support services and construction management services as follows:

1. DESIGN SERVICES

1.1 Review the train trestle reports completed by Simon Wong Engineering in 2006 and 2010.

1.2 Review the City of Holtville schematic plan (Attachment C) illustrating the location of landscaping improvements including trees, bushes, shrubs, grasses, benches, kiosks, signs and mulch. The Attachment C schematic plan also illustrates the extension of the Alamo River Trail on the east and west sides of the Bridge.

1.3 Complete a field review of the train trestle and landscaping areas at the project site.

1.4 Two weeks after the field review is completed the design consultant shall schedule a "Kickoff" meeting with the City of Holtville. The "Kickoff" meeting agenda shall include a discussion regarding the following items:

1.4.1 Suggested replacement components for the bridge superstructure including the bent timbers, structural cross beams and other structural members.

1.4.2 Suggested bridge deck and rail improvements. Review of the bridge deck and rail improvement materials. Provide a cross-section of the bridge deck and rail improvement for discussion at the kickoff meeting.

1.4.3 Review encroachment permit requirements.

1.4.4 Prepare a more detailed schematic plan (more detailed than Attachment C of this request for proposal) based on the field review. Illustrate the proposed locations of trees, bushes, shrubs, grasses, benches, kiosks, signs and mulch. The more detailed schematic plan shall include all the landscaping items previously listed in the project description section of this proposal. The Alamo River Trail extension on the east and west side of the Bridge shall also be illustrated on the Attachment C schematic plan.

The consultant shall present recommendations for the type of trees, bushes, shrubs, and grasses. The consultant shall provide a palette demonstrating how native, low-water, drought-resistant vegetation will be used in the Project. The consultant shall present tree, bush, shrub and grass options. If the selected plants for this project

include non-natives, the consultant shall provide justification for review and approval of the non-natives by the State of California.

A plant palette for all plants within the footprint of the project shall be submitted with the 90 percent design documents and reflect appropriate species for the site, with consideration given to carbon sequestration, inclusion of native species where feasible, pollinator habitat, and low water, drought tolerant plantings. Trees may not exceed 15 gallons in initial planting size.

This project shall comply with the Model Water Efficient Landscape Ordinance (MWELO), all State of California Governor Executive Orders, and local water ordinances.

1.4.5 The available project construction budget shall be reviewed at the “Kickoff” meeting. A discussion shall occur regarding suggestions to maintain the project within the available construction budget.

1.4.6 The consultant shall prepare a detailed design schedule conforming to the overall design schedule included in Section V of this Request for Proposal. The detailed design schedule shall be reviewed at the Kickoff Meeting.

1.4.7 Review the structural parameters concerning the bridge design including live loads, seismic parameters, lateral loads, wind loads and lateral resistance and other structural parameters. Review any destructive testing required for the bridge structural analysis. Review which codes will be used to complete the structural analysis.

1.5 Complete any bridge related field work on the bridge after the Kickoff Meeting.

1.6 Complete a structural analysis of the bridge. A seismic evaluation consistent with current codes is to be conducted. Destructive testing of existing structural support members shall be conducted as required. The lateral stability of the bridge shall be determined. Existing structural members which require strengthening or replacement shall be identified and included in the contents of the structural analysis. The new structural analysis shall evaluate and determine the need for new structural members. The structural analysis shall describe the current condition of the bridge and include observations noted during the bridge field review, list the structural parameters and assumptions, include structural calculations and include specific recommendations for rehabilitating and strengthening the bridge. The recommendations for rehabilitating and strengthening the bridge shall be illustrated on the improvement plans.

1.7 Complete Improvement Plans for the project. Site plan horizontal control shall be based on NAD 83. Site plan vertical control shall be based on NAVD 88. Project benchmarks shall be located at the project site near the east and west bridge abutments in a location that will not be disturbed during the project construction phase. The location of the benchmarks shall be called out and illustrated on the plans. As a minimum, the improvement plans shall include the following:

1.7.1 Title Sheet in conformance with City of Holtville Standard Details and Specifications.

1.7.2 Existing/Demolition and new bridge site plans, section drawings and detail drawings in conformance with City of Holtville Standard Details and Specifications.

1.7.3 Existing/Demolition and new landscaping plans, detail drawings, water calculations and irrigation system improvement plans in conformance with City of Holtville Standard Details and Specifications and State of California codes and regulations.

1.7.4 Improvement plans illustrating the Alamo River Trail Extension on both sides of the bridge. Include an Alamo River Trail Section. Include transition grading plans for the connection of the Trail to the east and west ends of the bridge.

1.8 Complete the project specifications. The specifications shall be based on either the Engineers Joint Contract Documents Committee (EJCDC) 2018 Guidelines or the Construction Specifications Institute (CSI) 2018 Guidelines. Project specifications shall consist of the following:

1.8.1 Invitation for Proposal (EJCDC)

1.8.2 Instruction to Bidders (EJCDC)

1.8.3 Wage Requirements

1.8.4 Bid Form (EJCDC)

1.8.5 Non-Collusion Affidavit (If required by grant agency)

1.8.6 Bid Bond (EJCDC)

1.8.7 Compliance Statement and Certification of Non-Segregated Facilities (if required by grant agency).

1.8.8 Contractor's Certification regarding Worker's Compensation Insurance (if required by grant agency).

1.8.9 Tabulation of Subcontractors (EJCDC)

1.8.10 Bidder Qualification Statement (EJCDC)

1.8.11 Tabulation of Major Suppliers (EJCDC)

1.8.12 Notice of Award (EJCDC)

1.8.13 Agreement (EJCDC)

1.8.14 Notice to Proceed (EJCDC)

1.8.15 Performance Bond (EJCDC)

1.8.16 Payment Bond (EJCDC)

1.8.17 Certificate of Owners Attorney (EJCDC)

- 1.8.18 Certificate of Substantial Completion (EJCDC)
- 1.8.19 Standard General Conditions (EJCDC)
- 1.8.20 Supplementary Conditions (EJCDC)
- 1.8.21 Special Conditions
- 1.8.22 Technical Specifications (CSI)

Other grant required items shall be included within the specifications as determined by the grant agency.

1.9 Complete Engineers Opinion of Probable Quantity.

1.10 Complete Engineers Opinion of Probable Cost.

1.11 Submit the 90 percent structural calculations, improvement plans, specifications and Engineers Opinion of Probable Cost to the City of Holtville and State of California Natural Resources Agency for review and comment.

1.12 Consultant shall revise the 90 percent structural calculations, improvement plans, specifications and Engineers Opinion of Probable Cost per City of Holtville and State of California Natural Resources Agency comments.

1.13 Submit the 100 percent structural calculations, improvement plans, specifications and Engineers Opinion of Probable Cost to the City of Holtville and State of California Natural Resources Agency for review and comment. Iterative reviews and revisions of the design documents shall occur until the documents are approved by the State of California Natural Resources Agency and the City of Holtville.

2. BIDDING SUPPORT SERVICES

2.1 The City of Holtville will take the lead in completing the bidding process including placing the legal advertisement in a newspaper of wide circulation, informing plan rooms of the project, maintaining and updating the plan holder list throughout the bidding process, actively contacting contractors to participate in the project, maintaining contact with the grant/funding agency during the bidding process, preparing the pre-bid conference agenda, preparing and circulating the pre-bid conference attendance list, chairing the pre-bid conference, preparing the pre-bid conference memorandum, coordinating RFI's and Addendums with the Engineering Design Consultant, distributing RFI's and Addendums to plan holders, conducting the bid opening, opening the proposals, checking that bid sum amounts are mathematically correct, reviewing the proposals after the bid opening, completing a bid tabulation form listing all bidders and the bid amounts after the bid opening, preparing the recommendation letter for the Award of Contract, reviewing the bids with the grant/funding agency,

preparing a report to the City Council including the bid review and recommended award of contract, and similar items.

2.2 Engineering Design Consultant to attend the pre-bid conference. Engineering Design Consultant to assist in preparing the pre-bid conference agenda. Engineering Design Consultant to review the draft pre-bid conference memorandum prior to issuance to plan holders.

2.3 Engineering Design Consultant to assist the City of Holtville in answering questions or clarifying issues posed by contractors, subcontractors, suppliers, effected utility agencies and others during the bidding process. RFI responses shall be prepared by the Engineering Design Consultant.

2.4 Engineering Design Consultant to prepare project addenda during the bidding phase.

2.5 Engineering Design Consultant to maintain contact with the City of Holtville Staff during the project bidding phase.

2.6 Engineering Design Consultant to assist in reviewing contractors' proposals. Engineering Design Consultant to offer comments regarding bidder's qualifications, bid amount and other bid related items.

3. CONSTRUCTION SUPPORT SERVICES

3.1 The City of Holtville will take the lead in completing construction management and daily inspection services for this project. The City of Holtville will complete the following construction management services:

3.1.1 Prepare the pre-construction conference agenda.

3.1.2 Prepare the pre-construction conference attendance list.

3.1.3 Contact and invite all pertinent parties to the pre-construction Conference.

3.1.4 Chair the pre-construction conference.

3.1.5 Prepare and distribute the pre-construction conference memorandum.

3.1.6 Provide Labor Compliance Services during the construction period.

3.1.7 Monitor the surveying tasks at the project site performed by the surveyor engaged by the Contractor.

3.1.8 Accept submittal documents forwarded by the contractor. Monitor the timely submission of submittal documents by the contractor. Maintain a submittal log for the project. Forward submittals received by the Contractor to the Engineering Design Consultant. Distribute submittals reviewed by the Engineering Design Consultant to the Contractor.

3.1.9 Provide full time construction inspection at the project site. Complete daily activity reports of construction work completed at the project site. Include a detailed description of the work performed at the project site along with pictures representative of the work performed.

3.1.10 Maintain project construction files including level notes, correspondence, material delivery slips, daily activity reports, memorandums, contractor's payment request forms, change orders, submittal documents, request of information forms and similar items.

3.1.11 Monitor safety provisions and actions instituted at the project site.

3.1.12 Accept request for information (RFI) documents forwarded by the Contractor. Maintain an RFI log for the project. Forward RFI's received by the Contractor to the Engineering Design Consultant. Distribute RFI's reviewed by the Engineering Design Consultant to the Contractor.

3.1.13 Contact the Engineering Design Consultant to schedule structural or landscaping inspections at the project site. Contact the Engineering Design Consultant to attend the final project inspection review. Contact the Engineering Design Consultant to review structural, landscaping or other design/construction related issues including interpretation of the contract documents during the project construction period.

3.1.14 Review materials delivered at the project site are in conformance with the approved submittal documents. Include a detailed listing with pictures of materials delivered to the site in the daily inspection reports.

3.1.15 Conduct bi-weekly project meetings. Weekly project meetings may be conducted during periods of high construction activity. An agenda for the project meetings will be prepared and distributed to the contractor, subcontractors, material suppliers, Engineering Design Consultant and all other pertinent parties. A meeting memorandum will be prepared and distributed to all parties after the meeting.

3.1.16 Review the Contractor's monthly payment requests. Consult with the Engineering Design Consultant regarding the Contractor's monthly payment request as required.

3.1.17 Complete grant/funding agency documentation and requirements throughout the project construction period.

3.1.18 Review change order requests submitted by the Contractor. Consult with the Engineering Design Consultant regarding the change order requests. Consult with grant/funding agency regarding change order requests. Process approved change orders.

3.1.19 Complete final project review with the Contractor, Engineering Design Consultant, Grant/Loan Agency and all other pertinent parties. Complete a "punch list" of items for completion after the final project review.

3.1.20 File the project Notice of Completion after the project is substantially complete.

3.1.21 Monitor the preparation of As-Built Drawings at the project site. Forward the As-Built Drawings completed by the Contractor to the Engineering Design Consultant for the preparation of the As-Built Drawings in AutoCAD format at the conclusion of the construction project.

3.2 The Engineering Design Consultant shall provide the following Construction Support Services.

3.2.1 Attend the pre-construction conference. Assist in preparing the pre-construction conference agenda and reviewing the draft pre-construction conference memorandum prior to distribution.

3.2.2 Review project daily construction reports. Provide comments regarding any items of concern.

3.2.3 Correspond and dialogue with the City of Holtville during the construction period to review structural, landscaping or other design/construction related issues including interpretation of the contract documents.

3.2.4 Review request of information (RFI) documents forwarded by the City of Holtville from the Contractor. Reply to the RFI questions and return the completed RFI to the City of Holtville for filing and forwarding to the Contractor.

3.2.5 Review submittal documents. Forward submittal document reviews to the City of Holtville for distribution to the Contractor.

3.2.6 Correspond and dialogue with the City of Holtville regarding the Contractor's monthly payment requests. Review payment request item compensation amounts and whether the compensation amounts are appropriate.

3.2.6 Review contractor submitted change order requests with the City of Holtville. Review and comment regarding the change order request. Provide comments with regard to the change order request compensation amounts.

3.2.6 Schedule periodic project site inspections with the City of Holtville. Assume that five (5) project site inspections will be required by the Engineering Design Consultant during the project construction period. Forward review correspondence and observations to the City of Holtville after each project inspection.

3.2.7 Attend the final project review. Observe the completed work during the project review and provide and comments concerning any items which have not been satisfactorily completed. Review the draft final project review "punch list" of corrective/final completion items after the final project review and forward any comments to the City of Holtville prior to the finalization and distribution of the "punch list" to the Contractor.

3.2.8 Prepare as-built drawings in AutoCAD format after receiving redlined as-built plans from the City of Holtville at the conclusion of the project. Forward an electronic set and two (2) hard copy sets of as-built drawings to the City of Holtville.

IV. CONSTRUCTION BUDGET

The funding available to construct this project is \$1,475,800 from the State of California Natural Resources Agency.

V. PROJECT SCHEDULE

The Schedule for this project is listed as follows:

1. Design – 173 Calendar Days

1.1 Complete field review with fourteen (14) days after the signature of contract.

1.2 Design Kickoff Meeting is to be conducted within fourteen (14) days after the field review.

1.3 Engineering Design Consultant to submit the 90 percent design documents including the structural calculations, improvement plans, specifications and Engineers Opinion of Probable Cost to the City of Holtville and California Natural Resources Agency for review and comment within eighty (80) days after the Kickoff Meeting.

1.4 City of Holtville and California Natural Resources Agency to return review comments to the Design Engineering Consultant within ten (10) days after receiving the 90 percent design documents.

1.5 Engineering Design Consultant to submit the 100 percent design documents including the structural calculations, improvement plans, specifications and Engineers Opinion of Probable Cost to the City of Holtville and California Natural Resources Agency for review and comment within thirty five (35) days after receiving the review comments from the City of Holtville and California Natural Resources Agency.

1.6 City of Holtville and California Natural Resources Agency to return review comments to the Design Engineering Consultant within ten (10) days after receiving the 100 percent design documents.

1.7 Complete iterative review and design document modifications until the design documents are complete. It is estimated it will require ten (10) days to complete the final iterative review of the design documents.

2. Bidding – 66 Calendar Days

2.1 Advertise the project for bidding, conduct pre-bid conference, respond to contractor questions with RFI's, prepare and distribute Addenda and conduct bid opening. It is estimated it will require thirty six (36) days to complete these bid phase activities.

2.2 Conduct a comprehensive review of the submitted bids. Determine the lowest, responsive, responsible bidder. Forward the bid review analysis and the award of contract recommendation to the State of California Natural Resources Agency. Obtain approval from the State of California Natural Resources Agency to award the contract. It is estimated it will require twenty (20) days for the State of California Natural Resources Agency to review and approve the award of contract.

2.3 Award of Contract by the Holtville City Council after approval of the award of contract by the California Natural Resources Agency. It is estimated this item will require 10 days.

3. Construction – 175 Calendar Days

3.1 Forward the Award of Contract to the Contractor. After the successful processing of Bonds, Insurance Documents and Contract Documents issue the Notice to Proceed to the Contractor. It is estimated that this item will require 10 days.

3.2 It is estimated that it will require 165 Calendar Days to construct the project improvements after Notice to proceed is issued to the Contractor.

VI. ATTACHMENTS

Attachments to this proposal are as follows:

1. Attachment “A” – 2006 Alamo River Bridge Train Trestle visual structural review and report prepared by Simon Wong Engineering.
2. Attachment “B” – 2010 Alamo River Bridge Train Trestle visual and structural review and report prepared by Simon Wong Engineering
3. Attachment “C” – City of Holtville – Alamo River Bridge Repair and Landscaping Improvements

Attachment "A"

Alamo River Bridge Train Trestle

2006 Visual Structural Review & Report

Prepared by

Simon Wong Engineering

Train Trestle over Alamo River

City of Holtville

October 13, 2006 Site Visit Report



Submitted by:



Simon Wong Engineering



November 2, 2006

Mr. Jack Holt P.E.
The Holt Group
1561 South Fourth Street
El Centro, CA 92243

Phone #: 760-337-3883
Fax #: 760-337-5997

Re: Train Trestle crossing the Alamo River north of Highway 115 at Holtville
SWE job # 384-03

Dear Mr. Holt:

Pursuant to your request, I have performed a site visit on October 13, 2006 to the above Trestle. A visual observation without any destructive testing was performed. No measurement nor any structural calculation of the trestle was performed. Mr. Jack Holt and Shea Anti from the Holt Group were also present.

It is our understanding that the City of Holtville is in the process of acquiring this trestle with the intention to convert it to pedestrian use with some occasional light maintenance pick-up truck access use. Our site visit is to observe the trestle structure and render an opinion for such use.

The Train Trestle over the Alamo River at Holtville, constructed around circa 1904 with a length of about 350 feet, is an open deck bridge consisting of a number of short spans, supported by a system of splayed vertical structural elements. A particular feature of this trestle is the apparent composite of both a timber bent system at both ends and a steel space truss system in the middle (see photo 1). The steel truss, unlikely to be part of the original structure, occupies the mid one-third of the length of the trestle and is bolted with rivet type connections. Available information dated the last major construction occurred around 1956 suggesting that the steel truss might have been installed as a retrofit or replacement at or before that time. The steel rails have been removed by A & K Railroad Materials for salvage use (see photo 2). As such, the remaining 8 feet long transverse timber beams, spaced at about 2 to 3 feet on center and served as sleepers or ties, form the current main top surface of the deck. These transverse beams are about 7-1/2 inch wide by 9-1/2 inch deep over the longitudinal wood girders and increase to 9-1/2 by 16 inches over the top chords of the steel truss. Scattered remnants of the rubber bearing pads with spike holes over the transverse beams were observed (see photos 3 and 4). On each end of the transverse beams, a 3 feet wide metal grating sidewalk supported by double cantilevered wood rafters provides access and adds to the total width of the trestle top deck (see photo 5). A set of 3'-6" tall vertical metal angles at about 3 feet on center are bolted to the tips of the double cantilevers to form a handrail system with horizontal cables (see photos 6 and 7). The rails on the elevated approach ramp at each end of the trestle also have been removed leaving the exposed timber sleepers partially embedded in the ballast.

The trestle was reported to be dormant for rail freight since 1995 and no maintenance record or drawings was available for review. The timber and steel construction materials encountered seem to have been in place for sometime, but appear to be in fair condition. No decaying timber or highly corroded steel were observed. No apparent deck surface discontinuity or major settlement was observed.

For the vertical gravity loading, the bridge should have the vertical load carrying capacity for the use of pedestrian traffic load. No calculations were performed. However, with knowledge that the trestle had been in use for freight rail traffic, its vertical carrying capacity should be much higher than the intended pedestrian use proposed by the City. Available information indicates a train cab loading of over 200,000 lbs had been in use regularly prior to 1995. Since no major deterioration was noticed and the materials of construction in the trestle appear to be generally in fair condition, it is my opinion that I do not foresee a support load deficiency for this bridge. Given its condition, the bridge shall function well for pedestrians and light pick-up traffic. A routine maintenance program needs to be implemented to keep up the continued integrity of the structure.

For seismic or lateral loading conditions, the bridge's lateral resisting capacity is unknown. No analysis was performed. Since the last recorded major construction was dated back to 1956, the bridge is likely to be deficient with respect to current seismic code. Although there is a labyrinth of structural support members, the overall lateral stability capacity is uncertain as the depth of foundation is unknown and the strength of the materials and connections are untested. I also noticed that the apparent ties between the timber and steel sections appear to be nominal. Some additional steel columns were observed at the abutment area which appears to be installed much later than 1956 (see photo 8). A thorough seismic evaluation with some destructive testing will need to be performed before the lateral capacity of the trestle can be addressed.

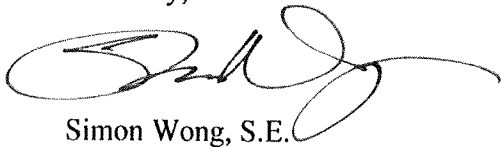
Should the City acquire the trestle, additional items that need to be addressed are suggested as below:

- A usable deck surface: The current deck surface is unusable and a new topping of concrete or other flat and level wearable surface will need to be installed.
- Width of bridge walkway: A usable final width needs to be determined as the grating access on both sides are supported by cantilevered rafters only. Should the current grating access areas are to be incorporated as part of the final bridge width, additional structural requirements will be needed. Also, some additional new tie-downs will be needed to secure the transverse beams to the longitudinal girders as existing connections are not completely verified.
- Handrail: A code compliant pedestrian handrail will need to be designed, possibly incorporating architectural elements conducive to the heritage of the City of Holtville. Taller fences may need to be installed for security or protection reasons.
- ADA and handicapped access requirement: The slopes of the existing ramps, the access, and the final layout of the bridge deck will need to be reviewed.

- Electrical power, lighting and water service: Utilities considerations are needed to provide better service to the structure.
- Water pipes to be carried by the trestle: Should water pipes in the future be carried by the trestle, alignment and attachments will need to be designed by a licensed engineer. The trestle at this point does not appear to be deficient in capacity to carry some utility pipes.
- Initial survey and maintenance plan: Depending on the City's budget, it is recommended to have some form of baseline survey done for the trestle regarding length, elevation, ramp slope, bent locations relating to the river bank contours, etc. for the City's record. A maintenance plan should be implemented for the upkeep of the trestle.
- Current access: It is also recommended to block off access, vehicles in particular, onto the trestle should the trestle become property of City and before required improvements are made.

If you have any questions, please don't hesitate to contact us.

Sincerely,

A handwritten signature in black ink, appearing to read 'Simon Wong', with a large, stylized flourish extending to the right.

Simon Wong, S.E.
President
Simon Wong Engineering



Photo 1

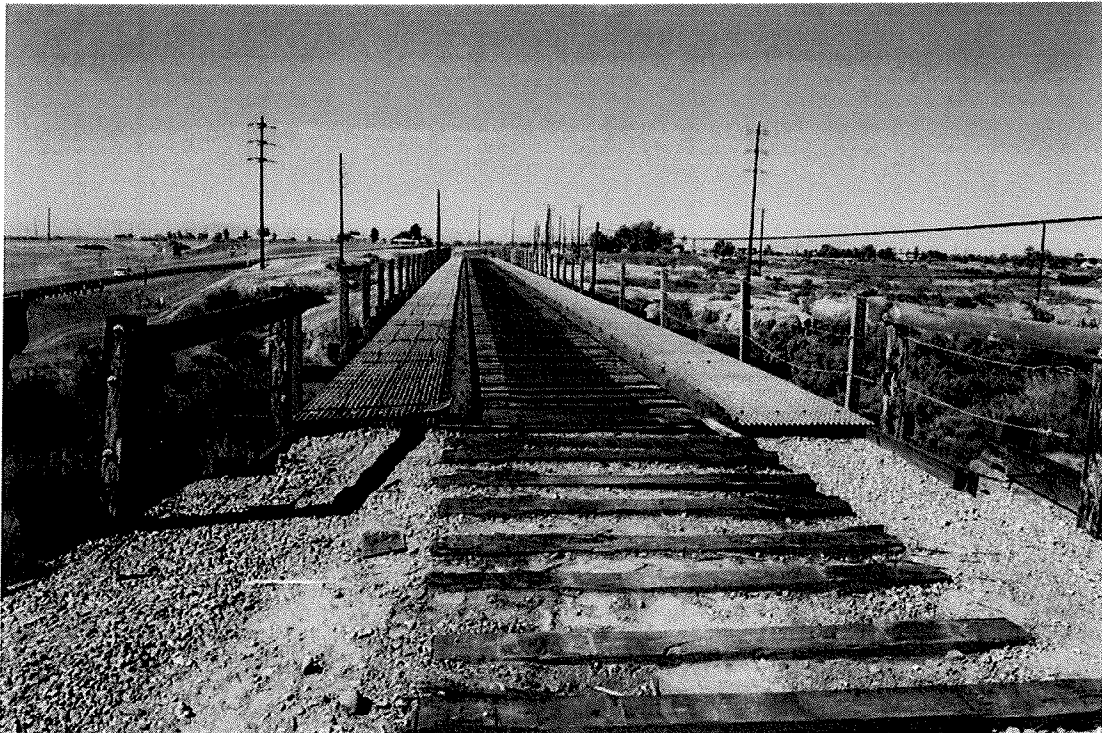


Photo 2

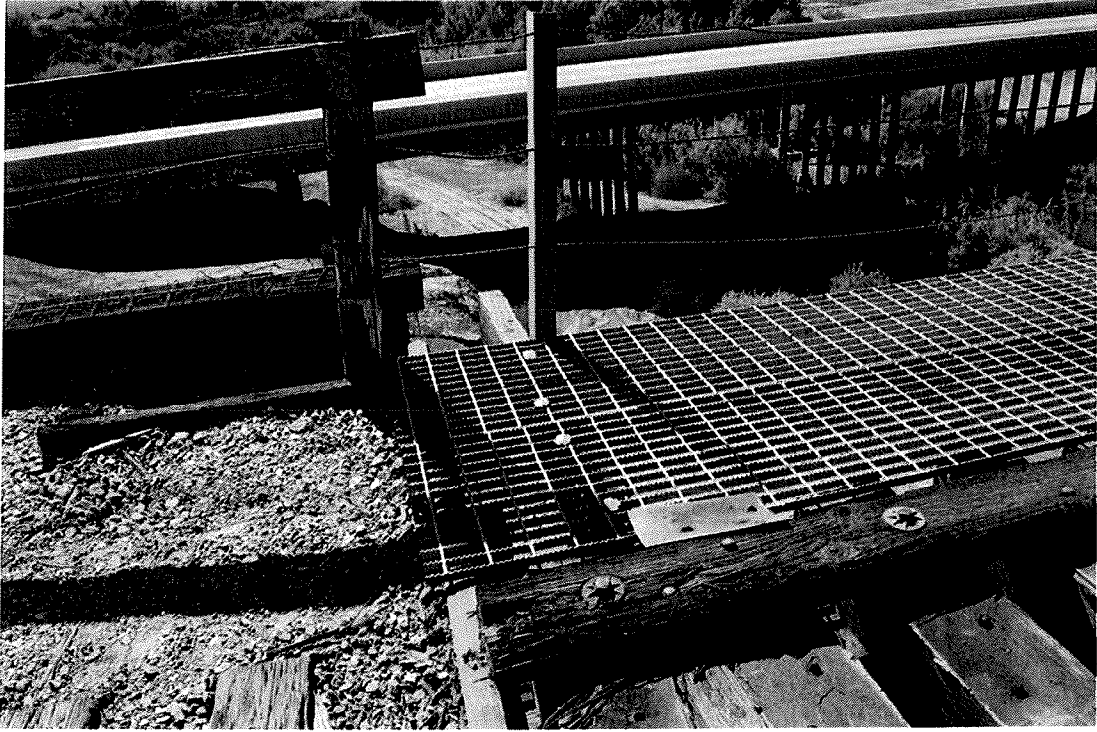


Photo 3

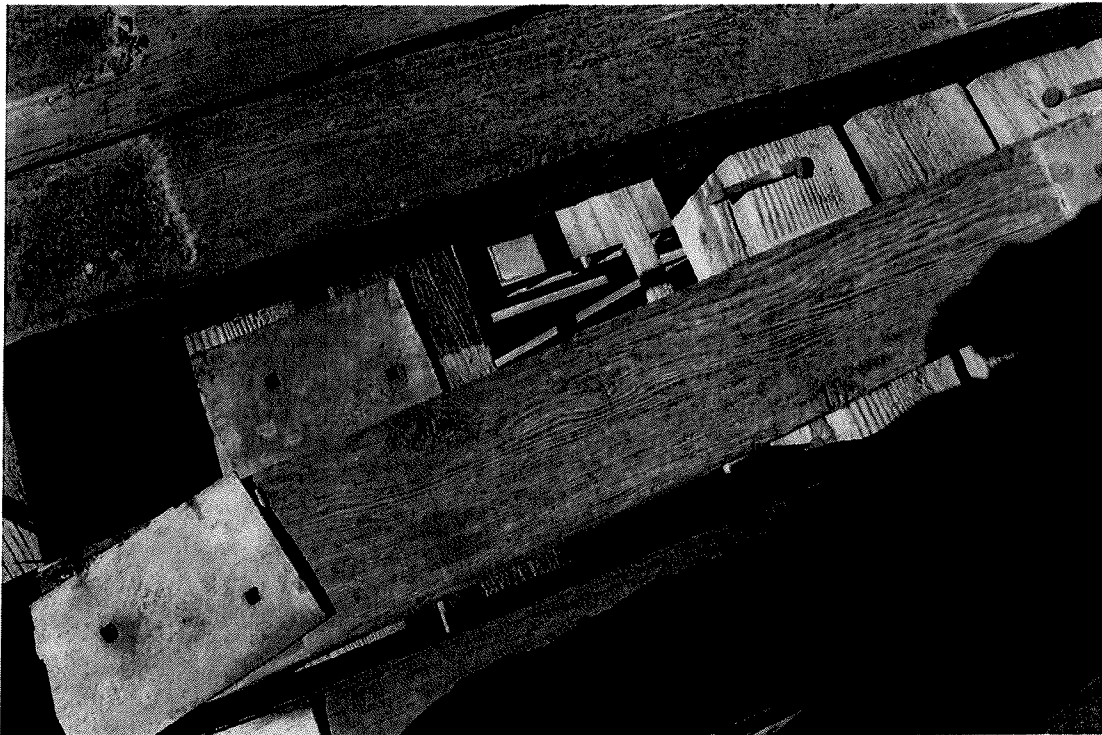


Photo 4

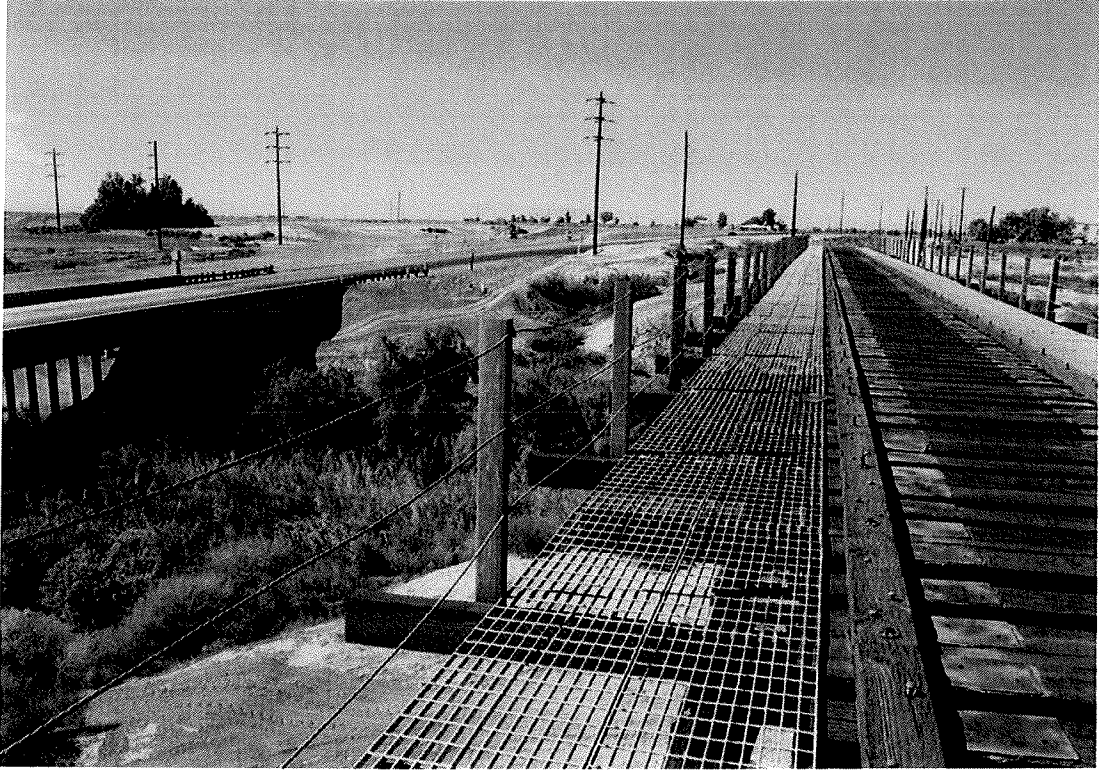


Photo 5



Photo 6



Photo 7



Photo 8

Attachment "B"

Alamo River Bridge Train Trestle

2010 Visual Structural Review & Report

Prepared by

Simon Wong Engineering



July 14, 2015

Mr. Nicholas D. Wells
City Manager
City of Holtville
125 West Fifth Street
Holtville, CA 92250

**Re: City of Holtville, Train Trestle over the Alamo River – Updated Repair Estimate
SWE Job No. 600-912**

Dear Mr. Wells:

Pursuant to your request, Simon Wong Engineering, Inc. (SWE) is providing an updated estimate for the repair of the train trestle over the Alamo River. We have visited the site to have a better understanding of the construction of the trestle and we have utilized information of the Simon Wong Engineering report of May 13, 2010. The original conditions that were presented in the original report still apply. The conditions were no destructive testing performed, no precision measurements performed and no structural calculations were performed.

Project Understanding:

SWE is updating the costs to repair the trestle based on the assumptions provided in the “Project Understanding” of the May 13, 2010 report. The recommendations in the earlier report regarding the repair/replacement work on the trestle have been followed. The report has been attached.

Estimate Preparation:

The following has been used to prepare the revised estimate:

1. The embedded portions of the timber piles will be exposed to a depth where no fire damage has occurred.
2. A designed pile splice will be installed to transfer load from the new timber poles to the existing timber piles. (An estimated cost for this design is included.)
3. At Bent 7, an alternate concrete pad that encompasses the 14 piles has been estimated instead of using pile splices. (An estimated cost for this design is included.)
4. The revised estimate is based on identifying each task needed to repair the trestle and estimating the labor, equipment, and material needed to perform each task and includes the following (a breakdown of these costs is attached to this letter):
 - a. Closure and signage of the pedestrian/bike path.
 - b. Fencing of environmental sensitive areas.



- c. Providing access for the workers and equipment.
 - d. Clearing the area and demolition of the structure.
 - e. Excavating the bent locations to expose the timber piles.
 - f. Providing the material needed to repair the structure. Salvaging material as appropriate.
 - g. Reconstructing Bents 5, 6, 7, and 8.
 - h. Replacing the superstructure from Bent 3 to Bent 9.
 - i. Restoring the site.
 - j. Providing supervision, miscellaneous facilities, and supplies.
5. There has been no work completed on the steel truss except for any attachments or minor modifications to install the timber features.
 6. The estimate provided is based on current labor, equipment, and material costs. All of these costs may be affected by market conditions.
 7. The original support costs have not been adjusted, as they are affected by the level of detail requested and/or the city has control of the costs.
 8. Environmental permitting and cost is not included.
 9. Mitigation permitting and cost is not included.

We have utilized the original table to show the estimated costs for the repair of the train trestle as shown below:

	Description	Original Estimated Cost	Current Estimated Cost
1	Demolition	\$100,000	Included in Item 8
2	Crane (4 Months)	\$240,000	Included in Item 8
3	New Bents 5, 6, 7, and 8 (4 bents x \$125,000)	\$500,000	Included in Item 8
4	Bridge deck/railing/grating (\$60/SFx10ftx100ft)	\$ 60,000	Included in Item 8
5	Per diem for crew (crew of 6 for 120 days)(\$150/day x 6 x 120 days)	\$108,000	Included in Item 8
6	Shoring on Bent 7	\$ 20,000	Included in Item 8
7	Power, water, bathroom, etc.	\$ 50,000	Included in Item 8
8	Repair trestle	Included in Items 1-7	\$606,394
9	Subtotal Hard Costs	\$1,078,000	\$606,394
10	Add 15% contractor overhead and profit	\$161,700	\$90,959
11	Total Hard Costs	\$1,239,700	\$697,353
12	Steel truss reuse/rehab/investigation (assume reuse truss)	\$ 50,000	\$ 50,000
13	Consultant to set up bid documents	\$180,000	\$180,000
14	Construction management/inspection	\$100,000	\$100,000
15	City administration cost	\$50,000	\$50,000
16	City permitting/inspection	\$20,000	\$20,000
17	City QA/QC	\$30,000	\$30,000
18	Subtotal Soft Costs	\$430,000	\$430,000
19	Total Costs	\$1,669,700	\$1,127,353



20	Add 30% contingency	\$500,910	\$338,206
21	Total	\$2,170,610	\$1,465,559
22	Additional cost for Bent 7 concrete pad	N/A	\$1,160
23	Subtotal Hard Costs w/Alternate	N/A	\$607,554
24	Add 15% contractor overhead and profit	N/A	\$91,133
25	Total Hard Costs w/Alternate	N/A	\$698,687
26	Total Costs w/alternate	N/A	\$1,128,687
27	Add 30% contingency	N/A	\$338,606
28	TOTAL COST W/ALTERNATE	N/A	1,467,293

Notes:

1. Line 12 "Steel truss reuse/rehab/investigation (assume reuse truss)" has been moved down in the table to remove the item out of the contractor's cost.
2. Line 10 "15% Contractor overhead and profit" has been added at the end of the contractor's work instead of at the end of all the items. By making this change the original estimate of \$2,254,460 is reduced to \$2,170,610.

If there are any questions regarding the revised estimate please let us know.

Sincerely,

T. Duff Joseph, P. E.
Senior Resident Engineer
Simon Wong Engineering, Inc.

Attachments

Holtville Train Trestle over the Alamo River - Estimated Construction Costs

Estimate Sheet	Estimated Cost	Manhours	Estimate Sheet (Bent 7 Alternate)	Estimated Cost	Manhours
Public Safety	\$ 4,900.00	16	Public Safety	\$ 4,900.00	16
ESA Fence	\$ 3,900.00	16	ESA Fence	\$ 3,900.00	16
Install and Remove Access	\$ 8,640.00	24	Install and Remove Access	\$ 8,640.00	24
Clear	\$ 3,630.00	8	Clear	\$ 3,630.00	8
Demo	\$ 37,000.00	40	Demo	\$ 37,000.00	40
Excavate - 4 Locations	\$ 5,680.00	16	Excavate - 4 Locations	\$ 5,680.00	16
Construct Bent 8 - 10 piles	\$ 39,200.00	40	Construct Bent 8 - 10 piles	\$ 39,200.00	40
Bent 7 Support	\$ 13,200.00	16	Bent 7 Support	\$ 13,200.00	16
Construct Bent 7 - 14 piles	\$ 41,200.00	40	Construct Bent 7 - 14 piles (ALT)	\$ 42,360.00	40
Construct Bent 7 - 5 Posts (Upper)	\$ 14,120.00	16	Construct Bent 7 - 5 Posts (Upper)	\$ 14,120.00	16
Install Superstructure Bents 9 - 7	\$ 26,280.00	32	Install Superstructure Bents 9 - 7	\$ 26,280.00	32
Construct Bent 6 - 5 piles	\$ 35,100.00	40	Construct Bent 6 - 5 piles	\$ 35,100.00	40
Construct Bent 5 - 5 piles	\$ 35,100.00	40	Construct Bent 5 - 5 piles	\$ 35,100.00	40
Install Superstructure Bents 7 - 3	\$ 26,280.00	32	Install Superstructure Bents 7 - 3	\$ 26,280.00	32
Restore Site	\$ 7,760.00	16	Restore Site	\$ 7,760.00	16
Materials	\$ 211,364.00	-	Materials	\$ 211,364.00	-
Support	\$ 93,040.00		Support	\$ 93,040.00	
Total	\$ 606,394.00	392		\$ 607,554.00	392

Operation			Quantity	Unit	Rate/Production	Work Hours
Clear			2000	SF	250	8
Equip No.	Req'd Men	Description	Labor Cost/HR	Equip Cost/HR	Remarks	
	2	Labors	\$ 120.00			
1		Pickup		\$ 30.00		
1		Backhoe		\$ 45.00		
	1	Operator	\$ 80.00			
	1	Operator Foreman	\$ 85.00			
Totals of Labor and Equip/HR			\$ 285.00	\$ 75.00		
Sub Item	Quantity	Unit	Unit Cost	Extension		
Description of Materials	Quantity	Unit	Unit Cost	Extension		
Dumpster	2	LD	\$ 375.00	\$ 750.00		
Recap Labor	Equipment	Materials	Subcontractors	Grand Total		
\$ 2,280.00	\$ 600.00	\$ 750.00	\$ -	\$ 3,630.00		
\$ 1.14	\$ 0.30	\$ 0.38	\$ -	\$ 1.82		

Operation			Quantity	Unit	Rate/Production	Work Hours
Demo			1	LS	0.025	40
Equip No.	Req'd Men	Description	Labor Cost/HR	Equip Cost/HR	Remarks	
	4	Labors	\$ 240.00			
1		Pickup		\$ 30.00		
1	1	Crane operated		\$ 180.00		
	1	Operator	\$ 80.00			
	1	Operator Foreman	\$ 85.00			
1		Forklift		\$ 50.00		
2		Manlift		\$ 100.00		
1		Generator		\$ 10.00		
Totals of Labor and Equip/HR			\$ 405.00	\$ 370.00		
Sub Item	Quantity	Unit	Unit Cost	Extension		
Description of Materials	Quantity	Unit	Unit Cost	Extension		
Mob Crane	1	LS	\$ 1,000.00	\$ 1,000.00		
Dumpster	10	EA	\$ 500.00	\$ 5,000.00		
Recap Labor	Equipment	Materials	Subcontractors	Grand Total		
\$ 16,200.00	\$ 14,800.00	\$ 6,000.00	\$ -	\$ 37,000.00		
\$ 16,200.00	\$ 14,800.00	\$ 6,000.00	\$ -	\$ 37,000.00		

Operation			Quantity	Unit	Rate/Production	Work Hours
Excavate - 4 Locations			75	CY	4.6875	16
Equip No.	Req'd Men	Description	Labor Cost/HR	Equip Cost/HR	Remarks	
	2	Labors	\$ 120.00			
1		Pickup		\$ 30.00		
1		Mini-excavator		\$ 40.00		
	1	Operator	\$ 80.00			
	1	Operator Foreman	\$ 85.00			
Totals of Labor and Equip/HR			\$ 285.00	\$ 70.00		
Sub Item	Quantity	Unit	Unit Cost	Extension		
Description of Materials	Quantity	Unit	Unit Cost	Extension		
				\$ -		
Recap Labor	Equipment	Materials	Subcontractors	Grand Total		
\$ 4,560.00	\$ 1,120.00	\$ -	\$ -	\$ 5,680.00		
\$ 60.80	\$ 14.93	\$ -	\$ -	\$ 75.73		

Operation			Quantity	Unit	Rate/Production	Work Hours
Construct Bent 8 - 10 piles			10	EA	0.25	40
Equip No.	Req'd Men	Description	Labor Cost/HR	Equip Cost/HR	Remarks	
	2	Labors	\$ 120.00			
2		Pickup		\$ 60.00		
1	1	Crane operated		\$ 180.00		
	3	Carpenters	\$ 195.00			
	1	Carpenter Foreman	\$ 75.00			
1		Forklift		\$ 50.00		
1		Manlift		\$ 50.00		
	1	Operator	\$ 80.00			
2		Generator		\$ 20.00		
Totals of Labor and Equip/HR			\$ 470.00	\$ 360.00		
Sub Item	Quantity	Unit	Unit Cost	Extension		
Description of Materials	Quantity	Unit	Unit Cost	Extension		
Mob Crane	1	LS	\$ 1,000.00	\$ 1,000.00		
Splice	10	EA	\$ 500.00	\$ 5,000.00		
				\$ -		
				\$ -		
Recap Labor	Equipment	Materials	Subcontractors	Grand Total		
\$ 18,800.00	\$ 14,400.00	\$ 6,000.00	\$ -	\$ 39,200.00		
\$ 1,880.00	\$ 1,440.00	\$ 600.00	\$ -	\$ 3,920.00		

Operation			Quantity	Unit	Rate/Production	Work Hours
Bent 7 Support			1	LS	0.0625	16
Equip No.	Req'd Men	Description	Labor Cost/HR	Equip Cost/HR	Remarks	
	2	Labors	\$ 120.00			
1		Pickup		\$ 30.00		
1	1	Crane operated		\$ 180.00		
	3	Carpenters	\$ 195.00			
	1	Carpenter Foreman	\$ 75.00			
1		Forklift		\$ 50.00		
2		50 TN Jacks		\$ 30.00		
2		Generator		\$ 20.00		
Totals of Labor and Equip/HR			\$ 390.00	\$ 310.00		
Sub Item	Quantity	Unit	Unit Cost	Extension		
Description of Materials	Quantity	Unit	Unit Cost	Extension		
FW Material	1	LS	\$ 2,000.00	\$ 2,000.00		
				\$ -		
				\$ -		
				\$ -		
Recap Labor	Equipment	Materials	Subcontractors	Grand Total		
\$ 6,240.00	\$ 4,960.00	\$ 2,000.00	\$ -	\$ 13,200.00		
\$ 6,240.00	\$ 4,960.00	\$ 2,000.00	\$ -	\$ 13,200.00		

Operation			Quantity	Unit	Rate/Production	Work Hours
Construct Bent 7 - 14 piles			14	EA	0.35	40
Equip No.	Req'd Men	Description	Labor Cost/HR	Equip Cost/HR	Remarks	
	2	Labors	\$ 120.00			
2		Pickup		\$ 60.00		
1	1	Crane operated		\$ 180.00		
	3	Carpenters	\$ 195.00			
	1	Carpenter Foreman	\$ 75.00			
1		Forklift		\$ 50.00		
1		Manlift		\$ 50.00		
	1	Operator	\$ 80.00			
2		Generator		\$ 20.00		
Totals of Labor and Equip/HR			\$ 470.00	\$ 360.00		
Sub Item	Quantity	Unit	Unit Cost	Extension		
Description of Materials	Quantity	Unit	Unit Cost	Extension		
Mob Crane	1	LS	\$ 1,000.00	\$ 1,000.00		
Splice	14	EA	\$ 500.00	\$ 7,000.00		
				\$ -		
				\$ -		
Recap Labor	Equipment	Materials	Subcontractors	Grand Total		
\$ 18,800.00	\$ 14,400.00	\$ 8,000.00	\$ -	\$ 41,200.00		
\$ 1,342.86	\$ 1,028.57	\$ 571.43	\$ -	\$ 2,942.86		

Operation			Quantity	Unit	Rate/Production	Work Hours
Construct Bent 7 - 14 piles (ALT)			14	EA	0.35	40
Equip No.	Req'd Men	Description	Labor Cost/HR	Equip Cost/HR	Remarks	
	3	Labors	\$ 180.00			
2		Pickup		\$ 60.00		
1	1	Crane operated		\$ 180.00		
	3	Carpenters	\$ 195.00			
	1	Carpenter Foreman	\$ 75.00			
1		Forklift		\$ 50.00		
1		Manlift		\$ 50.00		
	1	Operator	\$ 80.00			
2		Generator		\$ 20.00		
Totals of Labor and Equip/HR			\$ 530.00	\$ 360.00		
Sub Item	Quantity	Unit	Unit Cost	Extension		
Description of Materials	Quantity	Unit	Unit Cost	Extension		
Mob Crane	1	LS	\$ 1,000.00	\$ 1,000.00		
Concrete	16	CY	\$ 200.00	\$ 3,200.00		
Forms	128	SF	\$ 20.00	\$ 2,560.00		
				\$ -		
Recap Labor	Equipment	Materials	Subcontractors	Grand Total		
\$ 21,200.00	\$ 14,400.00	\$ 6,760.00	\$ -	\$ 42,360.00		
\$ 1,514.29	\$ 1,028.57	\$ 482.86	\$ -	\$ 3,025.71		

Operation			Quantity	Unit	Rate/Production	Work Hours
Construct Bent 7 - 5 Posts (Upper)			5	EA	0.3125	16
Equip No.	Req'd Men	Description	Labor Cost/HR	Equip Cost/HR	Remarks	
	2	Labors	\$ 120.00			
2		Pickup		\$ 60.00		
1	1	Crane operated		\$ 180.00		
	3	Carpenters	\$ 195.00			
	1	Carpenter Foreman	\$ 75.00			
1		Forklift		\$ 50.00		
1		Manlift		\$ 50.00		
	1	Operator	\$ 80.00			
1		Generator		\$ 10.00		
Totals of Labor and Equip/HR			\$ 470.00	\$ 350.00		
Sub Item	Quantity	Unit	Unit Cost	Extension		
Description of Materials	Quantity	Unit	Unit Cost	Extension		
Mob Crane	1	LS	\$ 1,000.00	\$ 1,000.00		
				\$ -		
				\$ -		
				\$ -		
Recap Labor	Equipment	Materials	Subcontractors	Grand Total		
\$ 7,520.00	\$ 5,600.00	\$ 1,000.00	\$ -	\$ 14,120.00		
\$ 1,504.00	\$ 1,120.00	\$ 200.00	\$ -	\$ 2,824.00		

Operation			Quantity	Unit	Rate/Production	Work Hours
Install Superstructure Bents 9 - 7			500	SF	15.625	32
Equip No.	Req'd Men	Description	Labor Cost/HR	Equip Cost/HR	Remarks	
	2	Labors	\$ 120.00			
1		Pickup		\$ 30.00		
1	1	Crane operated		\$ 180.00		
	3	Carpenters	\$ 195.00			
	1	Carpenter Foreman	\$ 75.00			
1		Forklift		\$ 50.00		
1		Manlift		\$ 50.00		
	1	Operator	\$ 80.00			
1		Generator		\$ 10.00		
Totals of Labor and Equip/HR			\$ 470.00	\$ 320.00		
Sub Item	Quantity	Unit	Unit Cost	Extension		
Description of Materials	Quantity	Unit	Unit Cost	Extension		
Mob Crane	1	LS	\$ 1,000.00	\$ 1,000.00		
				\$ -		
				\$ -		
				\$ -		
Recap Labor	Equipment	Materials	Subcontractors	Grand Total		
\$ 15,040.00	\$ 10,240.00	\$ 1,000.00	\$ -	\$ 26,280.00		
\$ 30.08	\$ 20.48	\$ 2.00	\$ -	\$ 52.56		

Operation			Quantity	Unit	Rate/Production	Work Hours
Construct Bent 6 - 5 piles			5	EA	0.125	40
Equip No.	Req'd Men	Description	Labor Cost/HR	Equip Cost/HR	Remarks	
	2	Labors	\$ 120.00			
1		Pickup		\$ 30.00		
1	1	Crane operated		\$ 180.00		
	3	Carpenters	\$ 195.00			
	1	Carpenter Foreman	\$ 75.00			
1		Forklift		\$ 50.00		
1		Manlift		\$ 50.00		
	1	Operator	\$ 80.00			
1		Generator		\$ 10.00		
Totals of Labor and Equip/HR			\$ 470.00	\$ 320.00		
Sub Item	Quantity	Unit	Unit Cost	Extension		
Description of Materials	Quantity	Unit	Unit Cost	Extension		
Mob Crane	1	LS	\$ 1,000.00	\$ 1,000.00		
Splice	5	EA	\$ 500.00	\$ 2,500.00		
				\$ -		
				\$ -		
Recap Labor	Equipment	Materials	Subcontractors	Grand Total		
\$ 18,800.00	\$ 12,800.00	\$ 3,500.00	\$ -	\$ 35,100.00		
\$ 3,760.00	\$ 2,560.00	\$ 700.00	\$ -	\$ 7,020.00		

Operation			Quantity	Unit	Rate/Production	Work Hours
Construct Bent 5 - 5 piles			5	EA	0.125	40
Equip No.	Req'd Men	Description	Labor Cost/HR	Equip Cost/HR	Remarks	
	2	Labors	\$ 120.00			
1		Pickup		\$ 30.00		
1	1	Crane operated		\$ 180.00		
	3	Carpenters	\$ 195.00			
	1	Carpenter Foreman	\$ 75.00			
1		Forklift		\$ 50.00		
1		Manlift		\$ 50.00		
	1	Operator	\$ 80.00			
1		Generator		\$ 10.00		
Totals of Labor and Equip/HR			\$ 470.00	\$ 320.00		
Sub Item	Quantity	Unit	Unit Cost	Extension		
Description of Materials	Quantity	Unit	Unit Cost	Extension		
Mob Crane	1	LS	\$ 1,000.00	\$ 1,000.00		
Splice	5	EA	\$ 500.00	\$ 2,500.00		
				\$ -		
				\$ -		
Recap Labor	Equipment	Materials	Subcontractors	Grand Total		
\$ 18,800.00	\$ 12,800.00	\$ 3,500.00	\$ -	\$ 35,100.00		
\$ 3,760.00	\$ 2,560.00	\$ 700.00	\$ -	\$ 7,020.00		

Operation			Quantity	Unit	Rate/Production	Work Hours
Install Superstructure Bents 7 - 3			510	SF	15.9375	32
Equip No.	Req'd Men	Description	Labor Cost/HR	Equip Cost/HR	Remarks	
	2	Labors	\$ 120.00			
1		Pickup		\$ 30.00		
1	1	Crane operated		\$ 180.00		
	3	Carpenters	\$ 195.00			
	1	Carpenter Foreman	\$ 75.00			
1		Forklift		\$ 50.00		
1		Manlift		\$ 50.00		
	1	Operator	\$ 80.00			
1		Generator		\$ 10.00		
Totals of Labor and Equip/HR			\$ 470.00	\$ 320.00		
Sub Item	Quantity	Unit	Unit Cost	Extension		
Description of Materials	Quantity	Unit	Unit Cost	Extension		
Mob Crane	1	LS	\$ 1,000.00	\$ 1,000.00		
				\$ -		
				\$ -		
				\$ -		
Recap Labor	Equipment	Materials	Subcontractors	Grand Total		
\$ 15,040.00	\$ 10,240.00	\$ 1,000.00	\$ -	\$ 26,280.00		
\$ 29.49	\$ 20.08	\$ 1.96	\$ -	\$ 51.53		

Train Trestle over Alamo River

City of Holtville

March 22, 2010 Site Visit Report (FINAL)



Submitted by:



Simon Wong Engineering



May 13, 2010

Ms. Laura Fischer
City Manager
City of Holtville
125 West Fifth Street
Holtville, CA 92250

Re: City of Holtville, Train Trestle Over Alamo River
Structural Site Visit and Observation Report
SWE Job #384-19

Dear Ms. Fischer:

Pursuant to your request, Simon Wong Engineering (SWE) conducted a site visit on March 22, 2010 to the fire damaged Train Trestle over Alamo River (trestle). A visual observation without destructive testing was performed. No precision measurement nor any structural calculation for the trestle was performed. Present at the site for the entire site visit was Mr. David Aguirre from the Holt Group. The City of Holtville also provided an operator and a lift to facilitate the observation.

Project Understanding:

SWE performed a site visit to the trestle on October 13, 2006 and provided an observation report to the City of Holtville in 2006. Crossing the Alamo River, the trestle originally functioned as a train carrier until 1995 and was acquired by the City recently. It was the intention of the City to convert the trestle to a community activity oriented bridge walk with mostly pedestrian traffic and light pick-up truck loading. Then on August 3, 2009, the trestle sustained damage from a fire incident. Apparently, the fire was caused by an accident relating to cutting metal with an acetylene torch. Damages to the trestle included portions of the deck, composed of timber beams, grating and railing, and a number of support bents. This site visit is to provide the City an opinion regarding the observed condition of the trestle and, under the standard of engineering practice, a rough order of magnitude of the repair and rehabilitation cost, to the trestle's pre-fire condition, for the trestle as the result of the fire damage.

It is our understanding that the City would like to reconstruct the trestle like it was including the use of wood pillars for the bents. Also, any damaged bent or bents, whether they are currently functioning as a structural element or not, will need to be re-installed at the same location. It is also assumed that the current steel truss is capable of supporting the future pedestrian and light truck loading. Since the proposed use is for pedestrian use, the City is willing to restore the trestle to the proposed loading instead of the freight rail traffic loading the trestle originally was built for. The replacement member sizes, albeit capable of meeting the proposed loading requirement with smaller sections, shall match the existing sizes, as well as geometric configurations, from an aesthetic standpoint.

Site Visit and Observation:

The Train Trestle over the Alamo River at Holtville, constructed around circa 1904 with a length of about 350 feet, is an open deck bridge consisting of a number of short spans, supported by a system of splayed vertical structural elements. A particular feature of this trestle is the apparent composite of both a timber bent system at both ends and a steel space truss system in the middle. The steel truss, unlikely to be part of the original structure, occupies the mid one-third of the length of the trestle and is bolted with rivet type connections. Available information dated the last major construction occurred around 1956 suggesting that the steel truss might have been installed as a retrofit or replacement at or before that time. The steel rails have been removed by A & K Railroad Materials for salvage use. As such, the remaining transverse timber beams, spaced at about 2 to 3 feet on center and served as sleepers or ties, form the current main top surface of the deck. These transverse beams are about 7-1/2 inch wide by 9-1/2 inch deep over the longitudinal wood girders and increase to 9-1/2 by 16 inches over the top chords of the steel truss. On each end of the transverse beams, a 3 feet wide metal grating sidewalk supported by double cantilevered wood rafters provides access and adds to the total width of the trestle top deck. A set of 3'-6" tall vertical metal angles at about 3 feet on center are bolted to the tips of the double cantilevers to form a handrail system with horizontal cables.

The trestle was reported to be dormant for rail freight since 1995 and no maintenance record or drawings was available for review. From SWE's 2006 site visit report, the timber and steel construction materials encountered seem to have been in place for some time, but appear to be in fair condition. No decaying timber or highly corroded steel were observed. No apparent deck surface discontinuity or major settlement was observed.

Prior to the fire, the bridge should have ample vertical load carrying capacity for the use of pedestrian traffic load. With knowledge that the trestle had been in use for freight rail traffic in the past, its vertical carrying capacity should be much higher than the intended pedestrian use proposed by the City. Available information indicates a train cab loading of over 200,000 lbs had been in use regularly prior to 1995. Even for a span of 75 feet as with the middle supports removed, the truss has a depth of 14'-6" indicating that there should be sufficient capacity for pedestrian loading even if the steel truss might have subjected to heat generated by the fire.

Although we did not perform any destructive testing, we were able to observe the extent of the fire damages of the trestle which actually is quite clear and distinct. Appendix B defines numbering and the locations of the bents and areas of damage. The length of trestle deck from bent 3 to 9, composed of wood beams, was charred and no longer has any structural capacity. Bents 5 to 8, although still standing, had sustained major damages. The north end of the steel truss had been engulfed in fire but the steel members do not appear to have buckled. As a result, it is likely that the steel truss retain a capacity that can support the proposed pedestrian loading. It is possible that any major earthquake or flood can cause further damage or even collapse of the bents. It is recommended to keep people away from the trestle and its surrounding area for safety.

In Appendix C, a set of representative photographs are enclosed from the site visit. Photo 1 was an original photo of the trestle taken on October 13, 2006, looking north from the south abutment.

Photo 2 shows the fire engulfed trestle. General views of the trestle showing charred timber bents are enclosed in Photos 5, 6, 7, and 8. Photos 9, 10, 11, 12, 13, and 14 showed the condition of the steel truss. Photos 15 and 16 showed the charred deck of the trestle. Photos 17 and 18 showed elevation of the truss, with gaps between the bottom of the truss and the top of the wood blocks of the bents. Photos 19 and 20 showed elevations of the trestle looking west and east with bent number indicated.

The extent of the damage can be summarized as:

1. Deck and support cross beams from bent 3 to 9 completely damaged and require complete replacement.
2. Grating and railings from bent 3 to 9 require complete replacement.
3. Bents 5 to 8 sustained major damages and require complete replacement.

The Trestle, in its fire damaged condition, is unsafe to carry any proposed pedestrian and light truck loading, let alone its original freight rail loading. The replacement of the bents, with matching sizes, shall be designed to maximize their capacities instead of limited only to the proposed loadings.

Repair/Replacement and Rough Cost Estimate:

It is recommended to restore the fire damaged trestle to its pre-fire condition. The objective is to repair/replace fire damaged components of the trestle:


1. Replace/restore trestle top deck, beams, grating, and railing from bents 3 to 9 as before.
2. Replace/restore bents 5 to 8 as before. It is possible to replace the bents with timber which is preferred by the City. It is also possible for the repair contractor to investigate the replacement with the method of posting the timber piles.
3. Verify that the steel truss is capable of carrying the proposed loading with further investigation and testing of the steel truss. Also, from Photos 11 and 12, repair and rehabilitation of the north end of the steel truss support are required.

Cost Estimate: \$2,254,460.00. Please see Appendix A for a breakdown of the Cost Estimate.

Should you have any questions concerning this Site Visit Report, please call me at 858-566-3113.

Sincerely,

SIMON WONG ENGINEERING


Simon Wong, S.E.
President



ROUGH COST ESTIMATE

Holtville Trestle Rehabilitation

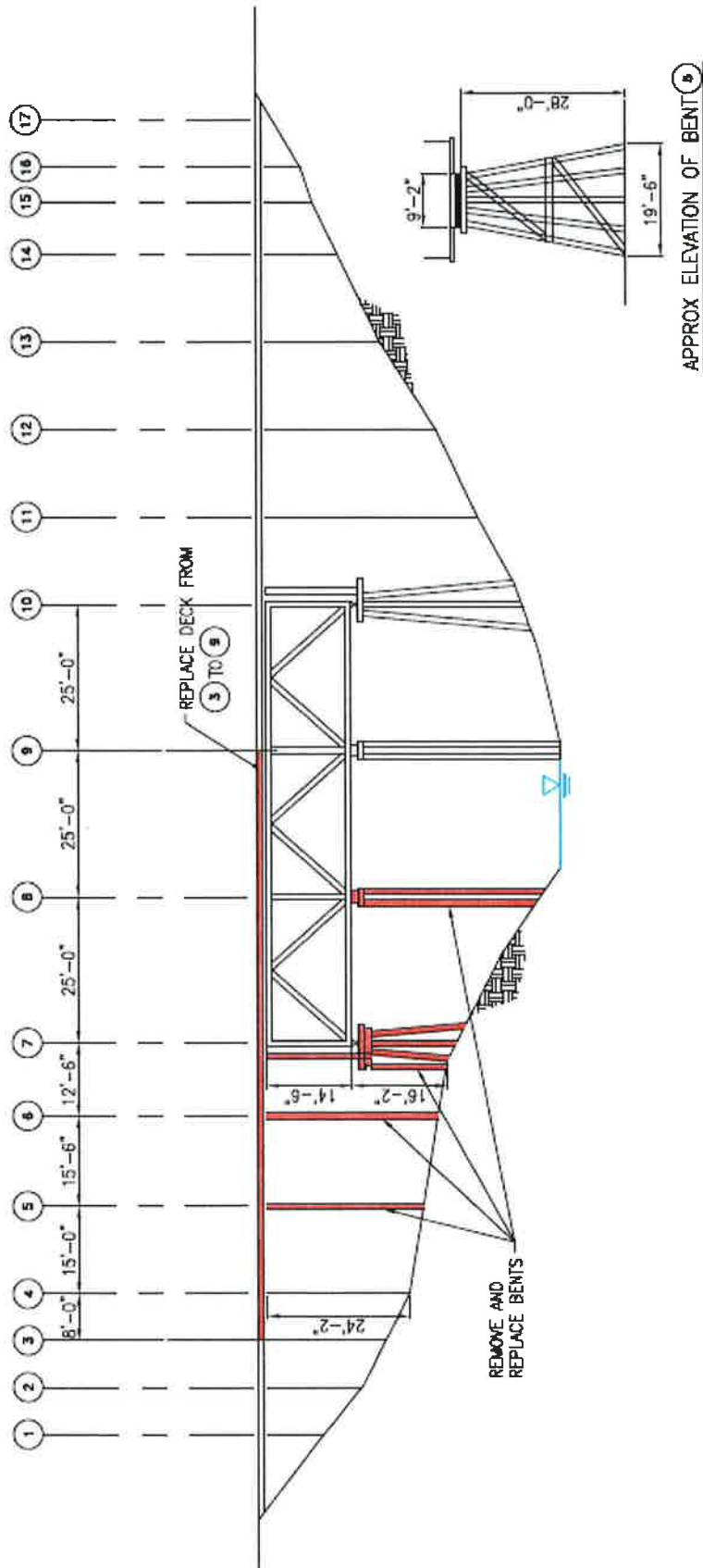
Demolition	\$ 100,000.00
Crane (4 months)	\$ 240,000.00
New Bents 5, 6, 7 and 8 (4 bents x \$125,000/each)	\$ 500,000.00
Bridge deck/railing/grating (\$60/SF x 10ft x 100ft)	\$ 60,000.00
Per diem for crew (crew of 6 for 120 days) (\$150/day x 6 x 120 days)	\$ 108,000.00
Steel Truss Re-use/Rehab/Investigation (Assume Reuse Truss)	\$ 50,000.00
Shoring on Bent 7	\$ 20,000.00
Power, water, bathroom, etc.	\$ 50,000.00
Consultant for design for bid document	\$ 180,000.00
Construction Management/Inspection	\$ 100,000.00
City Administration cost	\$ 50,000.00
City Permitting/Inspection	\$ 20,000.00
City QA/QC	\$ 30,000.00
Subtotal	\$1,508,000.00
Add 15% Contractor Overhead and Profit	\$ 226,200.00
Total	\$1,734,200.00
Add 30% contingency	\$ 520,260.00
Total	\$2,254,460.00

Not included:

Environmental Permitting and Mitigation Cost
and Permitting.

Appendix B

BRIDGE ELEVATION



♦ NOTE: ALL DIMENSIONS ARE ROUGH ESTIMATES.

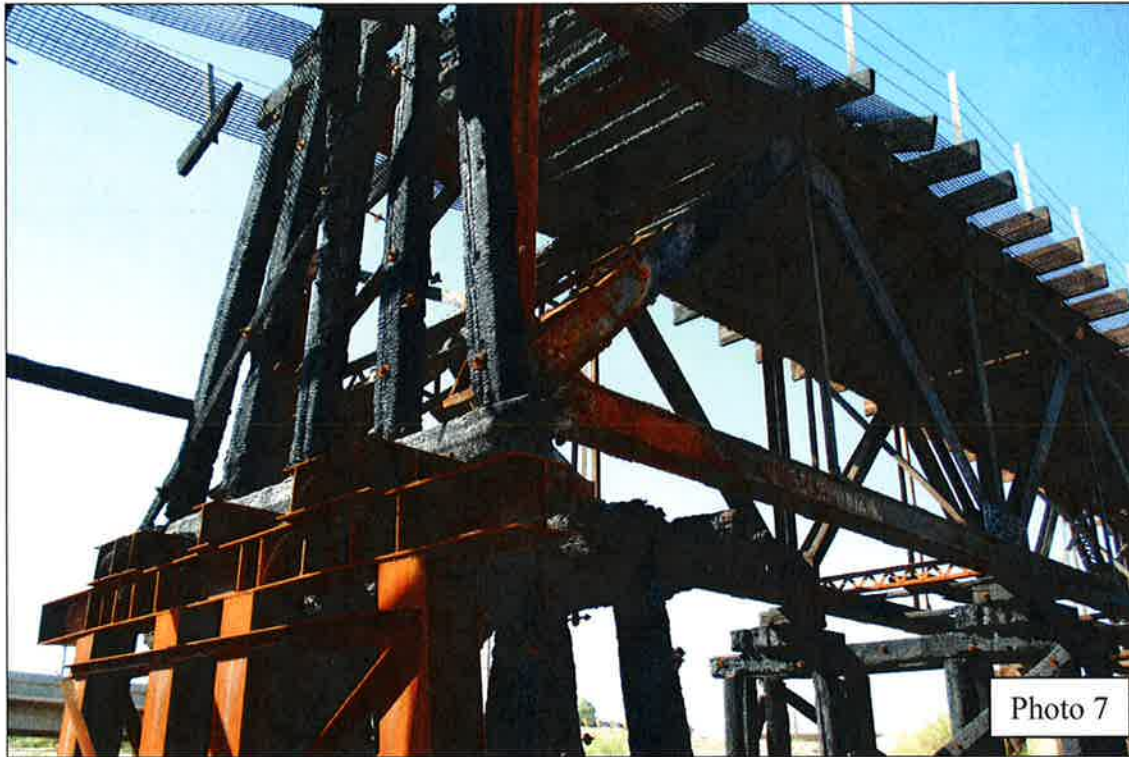
ELEVATION LOOKING EAST
 NO SCALE

Appendix C
PHOTOGRAPHS



















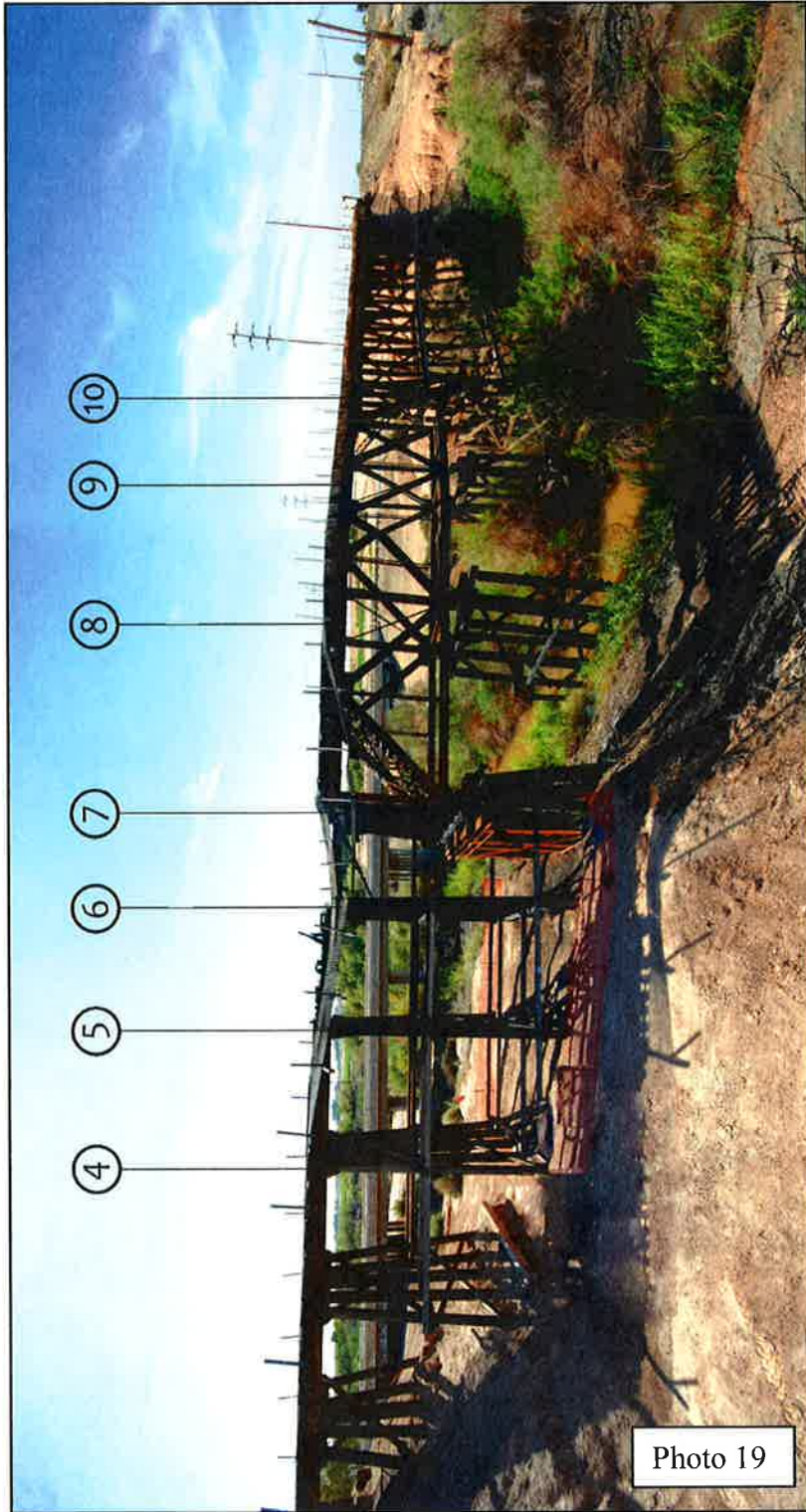


Photo 19



Photo 20

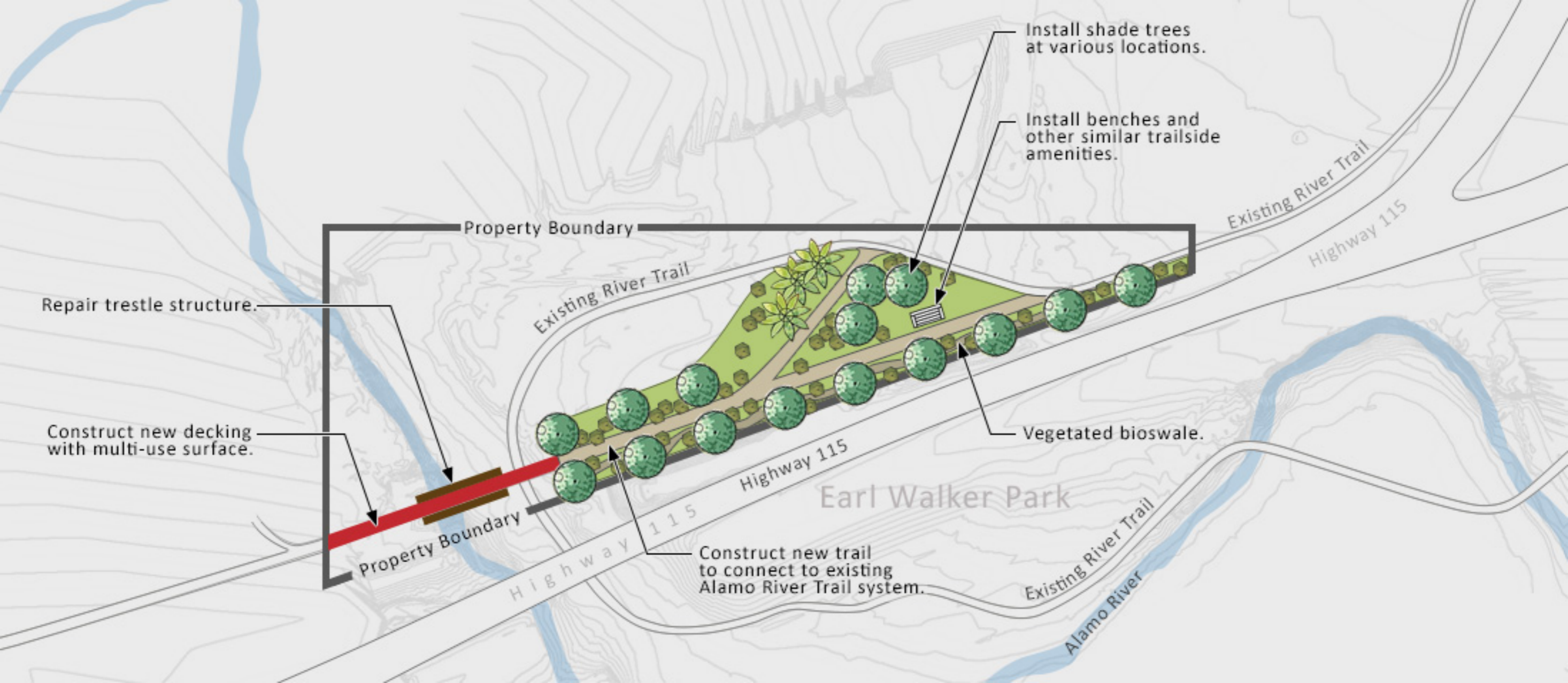
Attachment "C"

Alamo River Bridge Trestle

Repair & Landscaping

Improvements

City of Holtville



Install shade trees at various locations.

Install benches and other similar trailside amenities.

Property Boundary

Existing River Trail

Highway 115

Repair trestle structure.

Existing River Trail

Construct new decking with multi-use surface.

Vegetated bioswale.

Property Boundary

Highway 115

Earl Walker Park

Construct new trail to connect to existing Alamo River Trail system.

Highway 115

Existing River Trail

Alamo River