

**CHESAPEAKE BAY BRIDGE and TUNNEL DISTRICT**

REQUEST FOR QUALIFICATIONS

FOR

**General Consulting Engineering Services**

“GCES”

PROPOSAL NUMBER: M-21-002

ISSUED: November 13, 2020

**General Consulting Engineering Services  
Request for Qualifications  
Chesapeake Bay Bridge and Tunnel District**

**Table of Contents**

1. Introduction ..... 2  
2. General Description..... 2  
3. Scope of Services..... 2  
4. Submittal and Evaluation Criteria. .... 6  
5. Submittal Requirement ..... 9  
6. Schedule.... 10  
7. Selection and Award of Contract..... 10  
8. Payment for Services ..... 10  
9. Insurance Requirement. .... 11  
10. Miscellaneous Provisions ..... 12

**Tables**

Table 1 - Maintenance Rating Program..... 3  
Table 2 - Schedule ..... 10  
Table 3 - Net Fee Calculation..... 11

**Appendices**

- Appendix A - Bridge and Pier Facilities Inspection List
- Appendix B – Bridge Insurance Limit Estimate

## 1. Introduction

The Chesapeake Bay Bridge and Tunnel District ("District") issues this request for qualifications for General Consulting Engineering Services for the Chesapeake Bay Bridge and Tunnel District. The District is inviting proposals from individual Consulting Engineering Firms or Corporations having a nationwide and favorable reputation for skill and experience to perform duties imposed on the Consulting Engineer (CE) by the Chesapeake Bay Bridge and Tunnel District's General Revenue Bond Resolution, adopted October 24, 2016, Please refer to Section 503 Annual Condition Assessment Report and 509 Insurance.

## 2. General Description

The Chesapeake Bay Bridge-Tunnel (CBBT) is a 20-mile-long vehicular toll crossing of the lower Chesapeake Bay. The facility carries US 13, the main north-south highway on Virginia's Eastern Shore, and provides the only direct link between Virginia's Eastern Shore and south Hampton Roads, Virginia. The crossing consists of a series of four-lane low-level trestles and bridges that are connected by two approximately one-mile-long two-lane tunnels beneath Thimble Shoal and Chesapeake navigation channels. The manmade islands, each approximately 5.25 acres in size, are located at each end of the two tunnels. There are also high-level bridges over two other navigation channels: North Channel Bridge and Fisherman Inlet Bridge. Finally, between North Channel and Fisherman Inlet, the facility crosses at-grade over Fisherman Island, a barrier island that includes the Fisherman Island National Wildlife Refuge administered by the U. S. Fish and Wildlife Service. Toll collection facilities are located at each end of the facility.

## 3. Scope of Services

The District is required to maintain various inspections, maintenance programs and reporting instruments as further identified below. The various inspections and reports are intended for different uses; however, each has the same basic purpose, to verify the facility is being regularly inspected and maintained in a reasonable manner. The CE will be required to complete the inspections and reports and, to the greatest extent possible, minimize duplication of effort and leverage the various inspection requirements to create efficiencies in the execution of the work.

### 3.1. Annual Condition Assessment Report

The CE will perform all engineering services specified in the Chesapeake Bay Bridge and Tunnel District's Revenue Bond Resolution and other services as requested by the District and generally outlined as follows.

On or before the 1st day of January, the CE will submit to the Commission a Summary Report setting forth with respect to the Chesapeake Bay Bridge and Tunnel:

- a) Findings whether the Chesapeake Bay Bridge and Tunnel Crossing has been maintained in good repair, working order and condition, incorporating the National Bridge Inspection Standards (NBIS) and National Tunnel Inspection Standards (NTIS) condition assessment ratings from the current Fiscal Year, as well as the condition assessment rating of the non-bridge and non-trestle facility components to

comply with Governmental Accounting Standards Board Statement No. 34 and the District's Infrastructure Preservation Policy from the current Fiscal Year.

- b) Recommendations for the proper maintenance, repair and operation of the Chesapeake Bay Bridge and Tunnel during the ensuing Fiscal Year. The CE will be required to provide the Director of Maintenance with a list of recommended repair items that can be used to facilitate planning and execution of repairs, retrofits, and rehabilitations in accordance with the findings of the Annual Condition Assessment Report.
- c) The CE's recommendations as to the value of the facility, for insurance purposes, to be carried under Section 509 of said Resolution. [Jacobs letter dated January 28, 2020 – Appendix - B]

The bridges and tunnels will be inspected in accordance with current NBIS and NTIS requirements, respectively, including the inspection frequencies stated in NBIS and NTIS. The CE may rely upon the most recent NBIS and NTIS inspection reports to prepare the Annual Condition Assessment Report.

### 3.2. Modified Approach to Infrastructure Reporting

The Chesapeake Bay Bridge and Tunnel Commission ("Commission") has adopted the Governmental Accounting Standards Board (GASB) modified approach to infrastructure reporting GASB 34. The Commission's preservation policy is to maintain 90% of the bridge and tunnel assets at a maintenance rating program (MRP) condition level of "generally good" or better. The MRP Condition Scale used by the District is as follows:

Condition Rating	Definition
9	New Condition
8	Good condition; no repairs needed
7	Generally good condition; potential exists for minor maintenance
6	Fair condition; potential exists for major maintenance
5	Generally fair condition; potential exists for minor rehabilitation
4	Marginal condition; potential exists for major rehabilitation
3	Poor condition; repair or rehabilitation required immediately
2	Critical condition; need for repair or rehabilitation is urgent
1	Critical condition; facility is closed; study feasibility for repair

<b>0</b>	Critical condition; facility is closed and beyond repair
----------	--

*Table 1- Maintenance Rating Program*

A copy of the most recent GASB 34 Report is included in the FY2020 Annual Inspection Report. The Annual Inspection Report can be found on the cbbt.com website at: <http://www.cbbt.com/investor-relations/annual-inspection-reports/>

### **3.3. Bridge Inspections**

#### **3.3.1. Bridge Inspections**

The District complies with the National Bridge Inspection Standards (NBIS), Federal Highway Administration (FHWA) and Virginia Department of Transportation (VDOT) bridge inspection standards and frequency requirements. The CBBT facilities and inspection cycles are provided in Appendix A. The CE will be required to complete the inspections and reports to meet the requirements for submittal of reports to VDOT and FHWA. The CE will rely upon the most recent NBIS bridge inspection report(s) when completing the annual condition evaluation report described above.

#### **3.3.2. Fracture Critical Inspections**

The consultant shall provide the engineering services required for a fracture critical inspection of the fracture critical portions of the approach spans steel girders and of the fracture critical steel truss member of the main span of North Channel Bridge, northbound. Also included will be a routine cursory inspection of other components of the bridge.

This inspection shall be done in accordance with applicable Federal Guidelines as well as in accordance with NBIS and VDOT procedures.

#### **3.3.3. Underwater Inspections**

The CE shall provide the services required for Underwater Inspections of Substructure Units in accordance with the 60-month cycles, as required by NBIS and FHWA standards. All Inspections will be performed in accordance with applicable NBIS Guidelines, including Levels I, II, and III Underwater Inspections.

#### **3.3.4. Scour Evaluations**

District forces annually perform hydrographic surveys to monitor scour around the facility. The most recent surveys will be provided to the CE for use in conducting the Annual Condition Assessment, as well as for routine bridge inspections.

### **3.4. Tunnel Inspections**

The FHWA now requires all roadway tunnels to be inspected on a two-year cycle and in accordance with the Tunnel Operations, Maintenance, Inspection, and Evaluation (TOMIE) Manual. The District will require the CE to complete the tunnel inspections in accordance with the current TOMIE Manual and to produce the reports to meet the submittal requirements of VDOT and FHWA. The existing tunnels will be inspected in alternating years. The CE will rely upon the most recent tunnel inspection report(s) when completing the annual condition evaluation report described above.

### **3.5. Reporting, Submittals and Emergency Response**

Any deficiency deemed to be critical shall be reported immediately to the Director of Maintenance, followed by written correspondence.

The District may request that completed and signed drafts and/or final plans and other materials developed be submitted in both hard copy format and electronic format for reproduction and distribution. When plans or drawings are submitted for review, all submittals must be in formats as specified by the District. It shall be the responsibility of the CE to perform any and all necessary electronic file conversions before the District will accept any portion of the CE's work. Electronic file submissions shall be continuous throughout the project such that the District's files are representative of the current stage of work.

In the event of an emergency due to accident damage, hurricane, or similar, the CE shall be ready to mobilize within one hour of notification. The CE shall notify the Director of Maintenance of any defects found during the inspection immediately upon finding.

The CE shall furnish the District with two (2) copies of final, bound report(s), complete with captioned photographs. Report(s) shall include a description of the Inspection Findings, Inspection Report Forms and Conclusions/Recommendations, as appropriate. A draft report shall be forwarded to the District for review prior to the Final Report production. All hardcopy submittals shall be accompanied with electronic files in both pdf format, as well as the original document preparation format (Word, Excel, AutoCAD, etc.)

### **3.6. Safety**

The CE shall be responsible for the safety of their employees, contractors and subcontractors and for ensuring compliance with all Federal, State and local laws (OSHA, VOSHA, etc.) while working on the facility.

### **3.7. Maintenance of Traffic (MOT) and Bridge Inspection Vehicles**

The District will provide an under bridge inspection vehicle (Snooper), safety vessel and traffic control in accordance with the Virginia Work Area Protection Manual for above water bridge inspections. The CE will be responsible for any other specialized equipment deemed necessary for special inspections and for all equipment required for underwater bridge inspections. Toll-free passage is provided for all District Business.

### **3.8. Miscellaneous Services**

The CE will provide the District with professional services for unusual or extraordinary maintenance or repair projects when requested by the District and approved as to the terms, costs and conditions. Professional services may include, but are not limited to, the following skill sets:

1. Bridge Design (New and Rehab)
2. Tunnel Design (include MEP, FLS, Structures, etc.)
3. Coastal Engineering (scour analysis, metocean analysis, etc.)
4. Building Rehabilitation and Design (Architectural, MEP, new and rehab)
5. Surveying (Utility location, topographic, hydrographic services)
6. SCADA / ITS
7. Civil and Roadway Design Services

The District may request services that include, but are not limited to, the following:

1. Concept Studies
2. Feasibility Studies
3. Cost Estimates
4. Detailed Design Reports
5. Construction Inspections
6. Environmental Planning and Permitting

The CE must be able to provide immediate services within three (3) days of notification if a project assignment so warrants. No overtime work shall be performed unless directed in writing by the District.

For all tasks, with the exception of an emergency assignment, the CE will respond in writing, with a proposal, within ten (10) working days after receipt of a verbal/written request by the District. This response shall include a proposed work plan, including work scope, staff, schedule, and price proposal.

In all cases, the CE shall be required to certify his work, which must contain the signature and seal of a Professional Engineer who is registered in the State of Virginia and is a permanent employee of the Consulting Engineer.

### **3.9. Contract Term**

This Contract shall be an initial four (4) year term, with an additional four (4) year period upon mutual agreement of both parties.

## **4. Submittal and Evaluation Criteria**

Responses to this Request for Qualifications will be evaluated based on the following:

#### 4.1. Organizational Capability (10 Points)

Provide a description of the firm's, or the team's, organizational capability and the proposed use of sub-consultants. The CE is expected to provide a core team with the appropriate mix of management abilities, technical expertise, and experience. The following information will need to be provided in describing the firm's organizational capabilities.

- Prime Firm
  - Location of Office that will be responsible for the Contract
  - Year the office was opened
  - Number of employees firm-wide
  - Total years in business
  - Number of employees in Virginia
  - Number of employees in the CBBT region
  - Annual Gross Revenue (most recent year available)
  - Revenue attributed to Transportation
  
- Sub-Consultants (for each firm provide)
  - Years in business
  - Number of employees
  - Number of employees in Virginia
  - Number of employees in the CBBT region
  - Annual Gross Revenue (most recent year available)
  - Revenue attributed to Transportation

##### 4.1.1. SCC Registration

Professional corporations must possess a Commonwealth of Virginia Certificate of Authority from the State Corporation Commission to render professional services. Any business entity other than a professional corporation must be registered in the Commonwealth of Virginia with the Department of Commerce, State Board of Architects, Professional Engineers, Land Surveyors and Certified Landscape Architects. All firms involved that are to provide professional services must meet this criteria prior to a contract being executed by the District. Proof of this registration shall be submitted with the Statement of Qualification (SOQ), and will not count against the page limitations.

#### 4.2. Firm/Team's Experience Providing Similar Types of Services (30 points)

Describe the firm/team's cumulative experience, technical expertise, and qualifications in providing comparable services to those identified in Section 3.0. Provide a minimum of five (5) and a maximum of ten (10) project examples. At a minimum, provide the following information:

- Project Name

- Project Owner/Client
- Year(s) of the contract
- Description of services provided by the firm
- Contract value
- Point of Contact
- Phone Number for Point of Contact

#### **4.3. Personnel's Experience Providing Similar Type of Services (30 Points)**

Give a description of the Key Personnel's expertise, experience, and qualifications in providing services as related to the Scope of Work. Key Personnel are defined as those to whom the project will be assigned and who will be performing the actual services. Provide a matrix, table or list of relevant project examples where the Key Personnel held leadership positions in providing the noted services and describe the member's involvement in the project.

Provide resumes for each Key Personnel and include a list of relevant projects focused on the Key Personnel's experience, as well as project history. Each Key Personnel should have performed leadership roles in at least one major bridge or tunnel project.

Key Personnel should, at a minimum, include the following:

1. Bridge Inspector Team Leader
2. Tunnel Inspector Team Leader
3. Lead Bridge Designer
4. Lead Tunnel Designer
5. Tunnel Mechanical Designer
6. Tunnel Electrical Designer

The CE is also expected to supply any additional positions to its staff for successful program delivery, including any Key Personnel that may not initially be anticipated. At all times, the CE will be required to show the necessary experience, expertise, technical and managerial ability and skill in the areas identified in the Scope of Work and any other areas necessary for successful program delivery.

#### **4.4. Qualifications of Project Manager (30 Points)**

Provide a description of the Project Manager's expertise, experience, and qualifications in providing services, as related to the services described in Section 3.0. Provide a matrix, table or list of relevant project examples where the Project Manager held leadership positions in providing the noted services and describe the involvement in the project.

## 4.5. Contract Scope, Project Understanding and Project Approach

A Project Approach, (or similar) is not required to be submitted with the proposal.

## 5. Submittal Requirements

### 5.1. Pre-Proposal Conference

A **non-mandatory** virtual pre-proposal conference will be held via WebEx on November 24, 2020, starting promptly at 10:00 a.m. As there are a limited number of connections that can occur for this type of meeting, the District is limiting one connection per organization. You are free to have as many people at your location participating, but please limit your connection to the WebEx meeting to one per organization.

To participate by WebEx, click on the following link:

<https://cbbt.webex.com/cbbt/j.php?MTID=mb893b627dcfbec82b6938d0d0dfccfb0>

To participate by phone only, dial: 1-415-655-0002

- Meeting number (access code): 172 429 5549

### 5.2. Interpretation of Documents

Any comments or questions concerning this Request for Qualifications shall be directed to the Point of Contact, and be received at least ten (10) days prior to receipt of proposal. Answers will be provided at least five (5) days prior to the submittal date. The District is not responsible for any explanation, clarification or approval made or given in any manner except by addendum. A copy of each addendum will be posted on the CBBT website ([www.cbbt.com](http://www.cbbt.com)) and it shall be the responsibility of each offeror to verify that all addendums have been received and incorporated into their respective SOQ. Any addenda so issued are to be considered part of the Request for Proposal.

### 5.3. Submittal Format and Limitations

Proposals shall be prepared simply and economically, providing a straightforward, concise description of the firm's (or the team's) capabilities to satisfy the requirements of the RFQ. Emphasis should be on completeness and clarity of content. Elaborate brochures and other representations beyond that sufficient to present a complete and effective proposal are neither required nor desired. Under no circumstances shall the proposal exceed a total of fifty (50) pages.

All pages shall be 8 ½" X 11" and printed on one side, with single-spaced type no smaller than 12 pitch. Graphics, organizational charts and similar material may use 11" X 17" sheets folded to 8 ½" X 11".

## 5.4. Submittal Deadline

All information must be submitted with one (1) digital and five (5) paper copies and received no later than December 18, 2020, at 4:00 pm. Responses received after this time will not be considered.

All questions, correspondence and submittals shall be directed to:

Point of Contact: Michael T. Crist, P. E.  
Deputy Executive Director, Infrastructure  
Chesapeake Bay Bridge and Tunnel District  
32386 Lankford Highway  
Cape Charles, Virginia 23310  
(757) 331-2960  
[mcrist@cbbt.com](mailto:mcrist@cbbt.com)

## 6. Schedule

Item	Description	Date
1	Issue Request for Qualifications	November 13, 2020
2	Non-Mandatory Pre-proposal Conference	November 24, 2020
3	Submittal of Qualifications	December 18, 2020
4	Notification to Short-Listed Firms	January 4, 2021
5	Short-List Interviews	January 28-29, 2021
6	Recommendation to Commission	March 9, 2021

*Table 2 – Schedule*

## 7. Selection and Award of Contract

The District will evaluate SOQs in accordance with the criteria outlined in Section 4.0 and short-list the most qualified firms for interviews. At a minimum, short listed firms will be expected to have the proposed Project Manager present at the interview. The District will provide guidance to the interview requirements at the time of short-list notification. Interviews may be conducted remotely via Web-Ex. Based on the interviews, the District will select the best firm (or team) to provide the services outlined in the RFQ and will conduct negotiations with that firm for award of a contract.

## 8. Payment for Services

Services under this contract will be paid for on a cost plus net fee basis. The net fee shall be limited to 10% for each supplemental agreement and shall be determined as follows:

The District strives to operate an efficient and cost effective entity. The CE will be held accountable to provide services under this contract that meet the objectives of the District. These services will be evaluated for each supplemental agreement and the net fee will be adjusted in accordance with the following scale:

Score	Fee
<b>91% - 100%</b>	10%
<b>81% - 90%</b>	9%
<b>71% - 80%</b>	8%
<b>61% - 70%</b>	7%
<b>51% - 60%</b>	6%
<b>&lt;50%</b>	0%

*Table 3 - Net Fee Calculation*

Scoring criteria and allocation for each category will be developed prior to award of the supplemental agreement. The evaluation categories will be based on:

1. Scoping
2. Quality
3. Competence of Technical Personnel
4. Communication
5. Continuity of Project Personnel
6. Responsiveness
7. Project Management
8. Project Cost Control

## 9. Insurance Requirements

- a. The CE shall provide the District Certificates of Insurance providing the following:
  - i. Certification of insurance for a general liability policy, including products liability on an occurrence basis:
 

-Combined Single Limit	\$1,000,000
-General Aggregate Limit	\$2,000,000
  - ii. Certification of insurance for a Worker's Compensation Insurance policy, meeting the requirements of the Worker's Compensation Laws of the Commonwealth of Virginia.

- iii. Errors and Omissions liability policy
  - Single Limit \$5,000,000
  - General Aggregate Limit \$5,000,000
- iv. Certification of Insurance for an automobile liability policy for vehicles used by the Contractor in connection with the said Contract.
  - Combined Single Limit \$1,000,000
  - General Aggregate Limit \$2,000,000

## 10. Miscellaneous Provisions

### 10.1. Non-Discrimination

During the performance of this Contract, CE agrees as follows:

- a. CE will not discriminate against any employee or applicant for employment because of race, religion, color, sex, or national origin, except when religion, sex, or national origin in a bona fide occupational qualification reasonably necessary to the normal operation of the CE. The CE agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provision of this non-discrimination clause.
- b. The CE, in all solicitations or advertisements for employees placed by or on behalf of the Firm, will state that such Firm is an equal opportunity employer.
- c. Notices, advertisements, and solicitations placed in accordance with Federal law, rule or regulation shall be deemed sufficient for the purpose of meeting the requirements of this section.
- d. The CE shall include the provisions of the foregoing Paragraphs a, b, and c in every subcontract or purchase order of over \$10,000, so that the provisions will be binding upon each Subcontractor vendor.

### 10.2. Drug-Free Workplace

The following shall apply for every Contract over \$10,000 in value:

- a. During the performance of this Contract, CE agrees to (i) provide a drug-free workplace for the Firm's employees; (ii) post in conspicuous places, available to employees and applicants for employment, a statement notifying employees that the unlawful manufacture, sale, distribution, dispensation, possession, or use of a controlled substance or marijuana is prohibited in the Firm's workplace and specifying the actions that will be taken against employees for violations of such prohibition; (iii) state in all solicitations or advertisements for employees placed by or on behalf of CE that CE maintains a drug-free workplace; and (iv) include the provisions of the foregoing clauses in every subcontract or purchase order of over \$10,000, so that the provisions will be binding upon each Sub-consultant or Vendor.

- b. For the purposes of this section, “*drug-free workplace*” means a site for the performance of work done in connection with a specific Contract awarded to CE in accordance with these General Provisions, the employees of whom are prohibited from engaging in the unlawful manufacture, sale, distribution, dispensation, possession or use of any controlled substance or marijuana during the performance of the Contract.

### **10.3. Employee Identification**

All employees that are required to access sensitive areas shall be required to sign a blanket release form provided by the District authorizing the District to conduct an in-depth background investigation on all personnel working on the project. Additionally, a photo ID and a social security card or proper immigration identification, as appropriate, shall be provided by all employees for examination upon request by the District.

### **10.4. Cost Proposals Not Accepted**

The District will not consider for award any cost proposals submitted by any consultants and will not consent to subcontracting any portions of the contract to any sub-consultants in violation of the provisions of the Federal Immigration Reform and Control Act of 1986, which prohibits employment of illegal aliens.

### **10.5. Accounting Controls to Meet FAR Audit Requirements**

All firm’s proposals must reference internal accounting systems that meet any applicable Federal requirements, including a transparent overhead calculation and acceptance of any required Federal audit requests.

### **10.6. Civil Rights Acts Compliance**

The District assures compliance with Title VI of the Civil Rights Act of 1964, as amended. The consultant and all sub-consultants selected for this project will be required to submit a Title VI Evaluation Report (EEO-D2) within ten (10) work days of notification of selection when requested by the District. This requirement applies to all consulting firms when the contract amount equals or exceeds \$10,000.

### **10.7. Discrimination Disclaimer**

The District does not discriminate against an offeror because of race, religion, color, sex, national origin, age, disability, or any other basis prohibited by state law relating to discrimination in employment.

### **10.8. Lobbying**

All firm’s/team’s proposals must acknowledge Federal lobbying restrictions in PL 101-121, Section 319, and associated laws and regulations.

**10.9. Critical Infrastructure Information/Sensitive Security Information (CII/SSI):**

1. Contract documents or project material containing CII/SSI in whole or in part are subject to the terms of this Section and comply with the requirements of CII/SSI Guide. This guide can be located at: <http://www.virginiadot.org/business/const/CII-CriticalStructureInformation.asp>.
2. CE shall be responsible for safeguarding Critical Infrastructure/Sensitive Security Information (CII/SSI) (as defined in the VDOT CII/SSI Policy) in their custody or under their control. Individuals are responsible for safeguarding CII/SSI entrusted to them. The extent of protection afforded CII/SSI shall be sufficient to reasonably foreclose the possibility of its loss or compromise.
3. CE shall ensure that all employees using this information are aware of the prohibition against disclosing CII/SSI in any manner (written, verbal, graphic, electronic, etc.) that permits interception by unauthorized persons.
4. CE shall protect CII/SSI at all times, either by appropriate storage or having it under the personal observation and control of a person authorized to receive it. Each person who works with protected CII/SSI is personally responsible for taking proper precautions to ensure that unauthorized persons do not gain access to it.
5. The use and storage of CII/SSI shall conform to the following guidelines: During working hours, reasonable steps shall be taken to minimize the risks of access to CII/SSI by unauthorized personnel. After working hours, CII/SSI shall be secured in a secure container, such as a locked desk, file cabinet or facility where contract security is provided.
6. The reproduction of CII/SSI documents or material containing CII/SSI shall be kept to the minimum extent necessary consistent with the need to carry out official duties. The reproduced CII/SSI material shall be marked and protected in the same manner as the original material.
7. Material containing CII/SSI shall be disposed of by any method that prevents unauthorized retrieval. (e.g. shredding, burning, returning to original source, etc.)
8. CII/SSI shall be transmitted only by US first class, express (US Postal, FedEx, UPS, etc.), certified or registered mail, or through secure electronic means.
9. The portions of the documents that are marked as CII/SSI are not subject to disclosure under Code of Virginia §2.2-3705.2, and may not be released except with written permission from the District. Unauthorized release or reproduction of these documents may result in civil penalty or other legal action.
10. By copying, downloading, or receiving a copy of any documentation containing CII/SSI, or any part thereof, the CM or any other recipient acknowledges and agrees to the terms of this Section and will advise any individual using these documents, or any part thereof, that they, too, shall be responsible for safeguarding the CII/SSI in their custody or under their control. All costs associated with performing these CII/SSI requirements are the responsibility of the prime CE.
11. In the event of loss, suspected loss or compromise of any District CII/SSI material, the CE having possession of the said CII/SSI material will immediately upon having knowledge of the loss, suspected

loss or compromise of any District CII/SSI material, notify the District. If the loss is a result of a theft or suspected theft, of either the actual CII/SSI material or any device containing or storing CII/SSI material, the CE will immediately file a report with a law enforcement agency having jurisdiction and forward a copy of the report to the District.)

12. CE shall include the terms of this Section and comply with the CII/SSI Guide, in any further dissemination of any contract documents or project materials containing CII/SSI in whole or in part, and in all subcontracts awarded under this contract.

**Appendix A**  
**Bridge and Pier Facilities Inspection List**

Facility Element	Inspection	Bents	Piles	UWI	Notes
A Trestle NB	2020	235	717	2013	Includes A' 1-10
A Trestle SB	2020	203	646	2013	
B Trestle NB	2019	262	805	81	243 ea. three pile bents, 19 four pile bents,
B Trestle SB	2020	201	634	2011	
C Trestle NB	2020	321	983	2015	
C Trestle SB	2020	245	753	2012	
NCB NB	2020	18	845	2011	18 Piers supported on 14 BP 89 Steel Bearing Piles of various numbers. 75.80' Clearance.
NCB SB	2019		220	2014	2 ten-pile piers, 3 thirteen-pile piers, 10 sixteen pile piers, 2 fender systems 187 54" OD Cylinder / 33 14" Square Precast
D Trestle NB	2019	18	54	2011	
D Trestle SB	2019	20	70	2014	
E Trestle NB	2019	10	30	2014	
E Trestle SB	2019	14	40	2011	
FIB NB	2019				2 four-pile piers, 2 six pile piers, 2 fender systems
FIB SB	2019				

F Trestle NB	2019	2	25	2014	
F Trestle SB	2019	5	15	2011	
Thimble Shoal	2020				5,552 feet in length, portal to portal/24 feet horizontal; 13 feet 6 inches
Chesapeake	2020				5,237 feet in length, portal to portal/24 feet horizontal; 13 feet 6 inches
Fishing Pier	2020	2	16	2014	
Little Creek Pier	2020	17	54		17 bents and one abutment

**Appendix B**

**Bridge Insurance Limit Estimate**



5701 Cleveland Street, Suite 200  
Virginia Beach, Virginia 23462  
United States  
T +1.757.518.9666

[www.jacobs.com](http://www.jacobs.com)

January 28, 2020

Attention: Mr. Michael T. Crist, P.E.  
Deputy Executive Director, Infrastructure  
Chesapeake Bay Bridge and Tunnel District  
32386 Lankford Highway  
Cape Charles, Virginia 23310

Project Name: General Consulting Engineering Services FY2020  
Project Number: F5Y68309

**Subject: Bridge-Tunnel Insurance Recommendations for FY2020-2021**

Dear Mr. Crist,

The replacement cost values for the bridges, trestles, tunnels, man-made portal islands and roadway sections most susceptible to damage have been reviewed and updated for your use and reference relative to the District's Special Risk Property policy. These values, updated to July FY2021, are shown in Table 1: Special Risk Property Replacement Costs with \$2,289,630,797 as the total Actual Computed Replacement Cost (ACRC). This includes the Construction Replacement Cost and Engineering for Replacement Cost, both of which are presented in separate columns in the table. The replacement cost values of the buildings and contents for the General Business Coverage Policy have been updated to July FY2021, and are shown in Table 2: Statement of Values - Buildings and Contents. The Total Blanket Limit for the insurance of buildings and contents was determined to be \$58,556,162. The "Property Damage and Use and Occupancy" value was determined to be \$171,942,011 when combining the maximum probable loss value determined in Section 3 of this letter and the estimated loss of revenue provided in the Steer Certificate of Use and Occupancy Insurance for FY2020-2021 letter.

The assumed 2.50% escalation rate used last year for the current year's replacement cost values was removed, and those cost values were then escalated by the actual escalation value of 1.56% from Engineering News-Record (ENR) Construction Cost Index History to take the cost values from January 2019 through December 2019. A 1.80% escalation value has been assumed to project the cost values through June 2020.

**1. Replacement Costs for Bridge Tunnel Special Risk Property Policy**

See Table 1 for Special Risk Property Replacement Costs updated to July FY2021, for policy year 2020/2021 (FY2021) with \$2,289,630,797 as the ACRC for all the bridges, tunnels, and exposed

roadway along the facility. The following sections provide an explanation on the derivation of the Replacement Costs from assessments performed in previous fiscal years.

## **1.1 Trestles, North Channel Bridge - Northbound (NCB-NB) and Southbound (NCB-SB), Fisherman Inlet Bridges - Northbound (FIB-SB) and Southbound (FIB-SB), and Exposed Roadway**

These replacement costs were revisited and were found to be in line with current construction costs. Therefore, the process of escalating the costs from the previous year will be continued to arrive at the updated replacement costs.

## **1.2 Fishing Pier**

The updated replacement cost for the Fishing Pier was determined by comparing the bids for the Parallel Thimble Shoal Tunnel (PTST) Project with the Conceptual Cost Estimate for the PTST Project that was completed in April 2015. The average bid price for the demo of the existing superstructure, rehabilitation of the existing substructure, and the replacement of the superstructure was \$2,576,947. The Jacobs PTST Conceptual Cost Estimate for a new Fishing Pier was \$2,412,000, which included all new superstructure and substructure. The bids carried demolition and replacement of the superstructure and rehabilitation of the substructure. It was decided that the best representative replacement cost was the Jacobs estimate and this cost was then escalated to July FY2021 for an estimated replacement cost of \$2,783,271 (excluding engineering), which is shown in the attached.

## **1.3 Portal Islands**

The PTST Conceptual Cost Estimate had determined that the costs for armor stone and for stone dike material has greatly outpaced routine adjustments for inflation, etc.; therefore, Jacobs took another look at the costs to construct replacement islands. New portal islands would be constructed similar to the way the original islands were constructed. Quantities were calculated based on an island of similar size to what is currently in place.

Escalating the updated component costs determined for FY2021 equates to an updated Replacement Cost for all four of the Portal Islands of approximately \$638,812,372, excluding engineering fees.

## **1.4 Tunnels**

The tunnel costs as presented in all three bids for the PTST Project were reviewed to best determine a basis for the replacement cost of the Thimble Shoal Channel Tunnel (TSCT) and Chesapeake Channel Tunnel (CCT) in FY2021. Escalating the updated component costs determined for FY2021 equates to an updated Replacement Cost of approximately \$520,226,032 for each of the tunnels, excluding engineering fees.



January 28, 2020

Subject: Bridge-Tunnel Insurance Recommendations for FY2020-2021

**Table 1: Special Risk Property Replacement Costs**

Description	Construction Replacement Cost	Engineering for Replacement <sup>1</sup>	Actual Computed Replacement Cost (ACRC) <sup>2,3</sup>
Trestle ANB	\$40,775,464	2%	\$41,590,973
Trestle BNB	\$45,902,486	2%	\$46,820,536
Trestle CNB	\$55,909,368	2%	\$57,027,555
Trestle DNB	\$3,137,897	3%	\$3,232,034
Trestle ENB	\$2,436,168	3%	\$2,509,254
Trestle FNB	\$1,394,860	3%	\$1,436,705
Trestle ASB	\$59,117,115	2%	\$60,299,457
Trestle BSB	\$59,611,441	2%	\$60,803,670
Trestle CSB	\$72,542,370	2%	\$73,993,217
Trestle DSB	\$6,269,346	3%	\$6,457,426
Trestle ESB	\$3,261,478	3%	\$3,359,323
Trestle FSB	\$1,658,142	3%	\$1,707,886
Fishing Pier	\$2,783,271	3%	\$2,866,770
TSCT	\$520,226,032	6%	\$551,439,594
CCT	\$520,226,032	6%	\$551,439,594
NCB-NB	\$69,783,814	2%	\$71,179,491
FIB-SB	\$4,027,684	3%	\$4,148,514
NCB-SB	\$73,194,665	2%	\$74,658,558
FIB-NB	\$5,211,918	3%	\$5,368,275
Portal Islands <sup>4</sup>	\$638,812,372	2%	\$651,588,620
Exposed Roadway	\$17,356,223	2%	\$17,703,347
<b>TOTAL</b>	<b>\$2,203,638,144</b>	<b>TOTAL</b>	<b>\$2,289,630,797</b>

1. Engineering for Replacement Estimate: Tunnels = 6%, Structures > \$15M = 2%, and Structures < \$15M = 3%.
2. ACRC for Parallel Crossing Project Structures (PCPS) based on Contractor's price; for original trestles, NCB, and FIB based on ratio considering similar PCPS, escalated<sup>5</sup> to Dec. 2019 plus an additional assumed 1.8% for 2020
3. ACRC Tunnels are based on bid prices received for the PTST Project and projected to be acceptable for use as of June 2017 and were escalated<sup>5</sup> to Dec. 2019 plus an assumed 1.80% for 2020.
4. Portal Islands cost includes Island Construction, Open Approaches and the Parallel Crossing Portal Island Expansion.
5. Previous escalations used include 0.78% from June 2017 to Dec. 2017.



January 28, 2020

Subject: Bridge-Tunnel Insurance Recommendations for FY2020-2021

## 2. Statement of Values - Building and Contents

The updated replacement cost values of the buildings and contents for the General Business Coverage Policy have also been determined. These values, updated to July FY2021, are shown in Table 2 for policy year 2020/2021 (FY2021), with \$58,052,227 as the Total Blanket Limit for the insurance of buildings and contents. Escalation adjustments performed for the replacement costs previously discussed were used on the values that were provided for FY2020 to arrive at the replacement costs as listed in the enclosed Statement of Values table. The same format from policy year FY2020 is used to distinguish Property In The Open values and Contents from the Building values, presenting this information in separate columns.

**Table 2: Statement of Values - Buildings and Contents**

Item	Description <sup>1</sup>	Buildings <sup>2</sup>	Contents	Property In The Open
<i>The following is situated in Northampton County, VA</i>				
<i>Administration Building and Maintenance Complex, West Side U.S. Highway 13:</i>				
1-1	Administration Building, one story, brick & concrete block, including all complex fencing: 17,300 SF	\$2,938,124	\$925,035	\$79,952
2-1	Vehicle Maintenance Building, shops, warehouse & office (2 sections) steel & concrete block: 14,800 SF	\$1,626,763	\$642,517	\$158,399
2-2	Water Pump Station	\$42,018	\$115,522	\$0
2-3	Water Storage Tank	\$52,656	\$0	\$0
3-1	Garage & Generator Equipment Building, steel & concrete block: 5,600 SF.	\$435,544	\$242,865	\$4,621
3-2	Salt Storage Building, timber-framed construction, asphalt pad: 3,100 SF	\$217,289	\$0	\$0
3-3	Electrical Storage Building, steel framed construction on concrete pad, with asphalt drive & pad: 5,000 SF	\$214,065	\$0	\$0
3-4	Equipment Storage Building, timber framed construction on stone pad: 2,000 SF	\$72,859	\$0	\$0



January 28, 2020

Subject: Bridge-Tunnel Insurance Recommendations for FY2020-2021

Item	Description <sup>1</sup>	Buildings <sup>2</sup>	Contents	Property In The Open
<b><i>The following is situated at the North Toll Plaza Complex, Northampton County, VA:</i></b>				
4-1	North Toll Plaza office building, brick & concrete block: 3,500 SF	\$566,003	\$365,586	\$14,937
4-2	Toll booths, canopies, steel, and concrete	\$571,592	\$93,170	\$0
5-1	Rest Stop - East parking area, steel, brick & concrete block: 2,500 SF	\$1,023,900	\$2,472	\$100,800
<b><i>The following is situated at the South Toll Plaza Complex, Virginia Beach, VA:</i></b>				
6-1	South Toll Plaza office building, brick & concrete block with all complex fencing: 3,500 SF	\$566,003	\$365,586	\$14,937
6-2	South Plaza Toll booths, canopies, steel, and concrete	\$571,592	\$93,170	\$0
6-3	Storage Garage, metal and concrete block with underground fuel tanks and pumps; 1,800 SF	\$171,187	\$43,200	\$64,692
<b><i>The following are located on the Bay Bridge and Tunnel Complex's Islands:</i></b>				
7-1	Ventilation Building, Island No. 1 wind resistive construction: 27,800 SF	\$6,446,873	\$4,319,444	\$0
8-1	Ventilation Building, Island No. 2 wind resistive construction: 27,200 SF	\$6,308,032	\$4,288,602	\$7,093
9-1	Ventilation Building, Island No. 3 wind resistive construction: 27,200 SF	\$6,446,873	\$4,319,444	\$7,093
10-1	Ventilation Building, Island No. 4 wind resistive construction: 27,200 SF	\$6,446,873	\$4,319,444	\$7,093
<b><i>"The following are located on the property in Little Creek Harbor:"</i></b>				
11-1	Warehouse, ICM; 28,600 SF	\$2,310,653	\$0	\$242,650
11-2	Office, CB Masonry; 8,300 SF	\$688,940	\$0	\$0
<b>STATED VALUES LESS EXCLUSION</b>		<b>\$37,717,841</b>	<b>\$20,136,055</b>	<b>\$702,266</b>
<b>TOTAL BLANKET LIMIT</b>		<b>\$58,556,162</b>		

1. All square footages (SF) are approximate.
2. The stated values listed have a 5% exclusion.

### 3. Maximum Probable Loss

The Maximum Probable Loss Computations have been updated using the same basic escalation methodology as used to determine the replacement cost values. As mentioned above, the costs for armor stone and for stone dike material has outpaced inflation. Therefore, the unit costs for these in the Maximum Probable Loss Computations have been updated and similar adjustments have been made for the unit cost for island surface repairs. The cost of the fender system replacement on NCB-NB from the 2013 RMF Project has been incorporated and that cost has been escalated since that time.

The method of selecting the higher of two possible scenarios to determine a maximum probable loss as detailed in Jacobs letters to Bill Barnard dated February 25, 2004 and March 10, 2004, has continued to be used. The two scenarios are as follows:

1. Damage to two portal islands and various trestle spans from a catastrophic storm that exceeds the 100-year design storm event. This storm event is one of such magnitude that it would be highly improbable to find a ship at sea of a size sufficient to cause significant damage to either NCB-NB or NCB-SB.
2. A "lesser" storm, approaching the 100-year design event, causing an uncontrolled ship to collide with and cause damage to NCB-NB and NCB-SB. It is assumed that this "lesser" storm event will cause damage to two portal islands, but at approximately 1/3 of the magnitude of that presented in Scenario 1. No damage is assumed to the bridges and trestles due directly to the effects of this "lesser" storm, as it is a storm of magnitude not exceeding the 100-year design event for which the Parallel Crossing bridges and trestles were designed. This scenario could also include ship traffic of size sufficient to damage either or both NCB-NB and NCB-SB during a collision.

It is Jacobs' opinion that both scenarios represent probable loss occurrences, with the Scenario 2 presenting the governing Maximum Probable Loss.

The Maximum Probable Loss is estimated to be approximately \$66,183,830 for only the property damage portion of the Property Damage and Use and Occupancy Insurance. This loss figure is theoretical at best, and in no way can ensure that a catastrophe would not result in losses greater than those assumed herein.

For Scenario 2, which is the basis of the Maximum Probable Loss estimation, it would be quicker to replace the main piers and the main plate girder spans of NCB-SB, rather than the main pier, the truss span and a portion of the approach spans for NCB-NB. Considering delivery of the replacement plate girders is on the critical path and the replacement plate girders could be fabricated utilizing the existing shop drawings, NCB-SB materials could be ordered on the first day after assessing the damage. Reconstruction of NCB-NB would require additional lead time to design new piers and design new superstructure units to fit within the existing clearance envelopes and to ensure that they work with the remaining portions of the bridge.

Based on scheduling that utilizes accelerated construction, which is also included in the Maximum Probable Loss computations, it would take approximately 12 months to restore traffic flow across

January 28, 2020

Subject: Bridge-Tunnel Insurance Recommendations for FY2020-2021

the facility following the level of damage experienced in Scenario 2. This would entail bi-directional traffic on NCB-SB and on Southbound Trestles C (CSB) and D (DSB), with crossovers located on Portal Island No. 4 and on Fisherman Island. The application of the final top coat of paint on

NCB-SB is assumed to occur after NCB-NB is reopened to traffic and lane closures could be utilized on NCB-SB. To be conservative and to account for additional weather delays and additional delays in material procurement, it could potentially take up to 18 months to get this portion of NCB-SB reconstructed. Therefore, it is recommended to assume a loss of revenue period of 18 months.

#### **4. Property Damage and Use and Occupancy**

The "Property Damage and Use and Occupancy" value is the sum of the above maximum probable loss value and the "loss of revenue", which was provided in the SDG Certificate of Use and Occupancy Insurance for FY2020-2021 letter. SDG recommended using an 18-month total service interruption period, with the loss of revenue for that 18-month period estimated to be \$105,758,181 which will create a total value for Property Damage and Use and Occupancy equal to \$171,942,100 (rounded up to the nearest hundred).

Please call if you have any questions or need additional information.

Yours sincerely

JACOBS



**John E. Gaul**  
Senior Structural Engineer  
757-671-6285  
john.gaul@jacobs.com

Attachment: Steer Certificate of Use and Occupancy Insurance for FY2020-2021 letter, dated  
January 28, 2020

Copies to: Mr. Jeffrey B. Holland, Mr. Thomas R. Anderson, III, Mr. Timothy R. Holloway, and  
Mr. Jim Murray, P.E.