Request for Information

ALTERNATIVE DELIVERY CONTRACT OPTION

Cape Fear Memorial Bridge

Balfour Beatty | McLean | *in association with* STV 100 Years

INTRODUCTORY LETTER

May 26, 2022

Mr. David Stark – Manager Priority Projects

North Carolina Department of Transportation

E-mail: dstark@ncdot.gov Tel. (919) 707-6605

Reference: Response to NCDOT Request for Information – Alternate Delivery Contract Option

Cape Fear Memorial Bridge

Dear Mr. Stark

The team of **Balfour Beatty US and McLean Contracting (BB-M JV)** and **STV Engineers, Inc. (STV)** are excited for the opportunity to submit our response to the North Carolina Department's Request for Information dated April 25, 2022. BBII's team offers a wealth of similar project experience.

Expression of Interest | The Balfour Beatty Team is well-suited to deliver accurate, dependable, and timely preconstruction, construction, and financial services for NCDOT as evidenced with the creativity and openness Balfour Beatty has demonstrated in working with NCDOT on dozens of projects in North Carolina since 1998.

Legal Structure of Design-Build Finance Team | BB-M JV is the prime contractor. As a subconsultant to BB-M JV, STV is the lead designer. BB-M JV can self-perform the majority of the construction. Our team is composed of the following firms:

Balfour Beatty US | Balfour Beatty US and its subsidiaries Balfour Beatty Infrastructure, Balfour Beatty Rail, and Balfour Beatty Construction have over 30 years' experience delivering Design-Build, Design-Build Finance, Design-Build Finance and Maintain projects. More information at: https://www.balfourbeattyus.com/our-work/project-portfolio

Balfour Beatty Investments | Balfour Beatty Investments is a global infrastructure investor that raises and structures finance to help customers achieve their goals. They also invest directly in infrastructure assets, particularly where there are opportunities to manage the project upon completion and enhance operational efficiency.

McLean Contracting Company | McLean is a well-known and respected heavy civil contractor in the Southeast who specializes in constructing complex structures particularly over water using marine equipment. McLean brings the marine support assets and skill set that is essential for the construction of a large structure over the Cape Fear River. More information at https://mcleancontracting.com/

STV Engineers, Inc. | Design management, design quality management, roadway design, structural design, environmental/ permitting, public involvement, design utility coordination, traffic analyses, ITS, signals, and management of all second-tier design subconsultants.

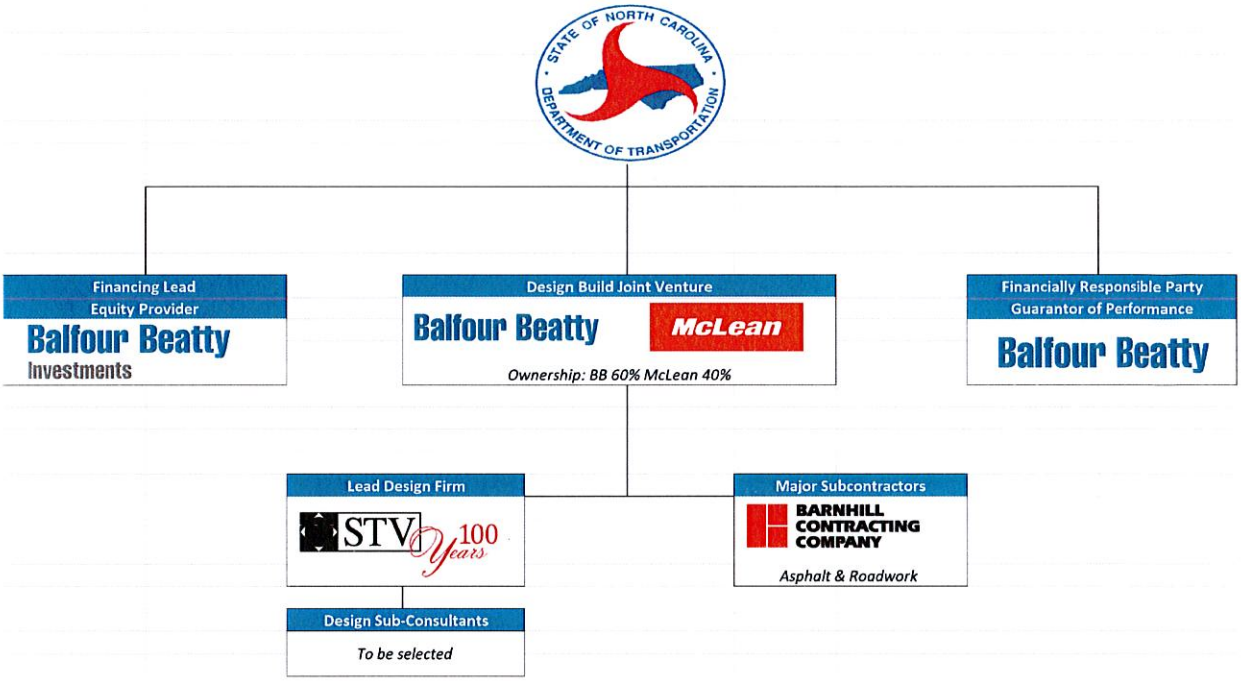
Prequalification | All members of the Balfour Beatty team are currently prequalified with NCDOT. None of the principals or staff employees of the team are engaged in any activities or have any interest that may be construed to be a conflict of interest

Commitment | The Balfour Beatty Team can provide all the necessary resources, including the key personnel to successfully complete the preconstruction, design and construction scope of this project

and to NCDOT's quality and schedule expectations. The firms and key personnel included within this submission will not be removed or replaced without written approval by NCDOT.

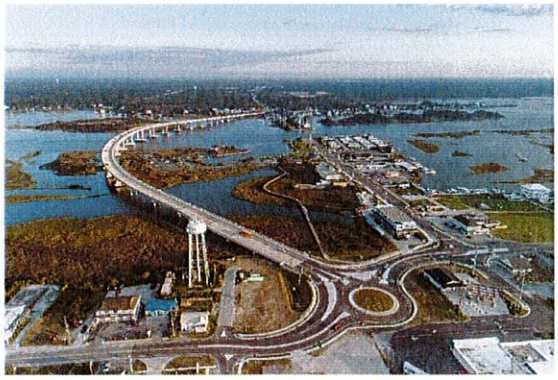
Team Strengths | The BB team features experienced management and demonstrated leadership. **Keith Nixon** (BB) will lead our team as the design-build project manager and will be the single point of contact. Keith has more than 30 years of experience and has worked with BB for 23 years.

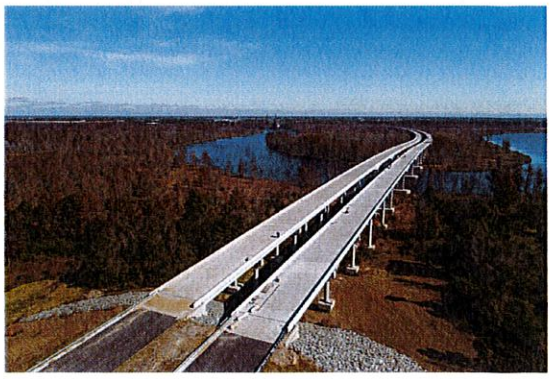
BB and STV have worked together for 23 years and have delivered several NCDOT design-build projects. The BB team will operate as a cohesive partnership that combines quality assets from each of our organizations. The team organization is anticipated to be structured as follows:



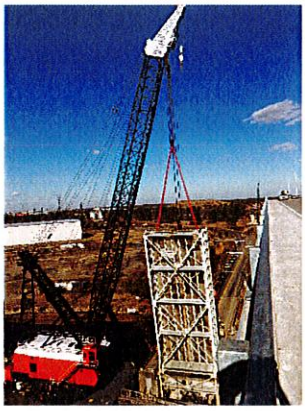
Our team features the following standout attributes:

- Fully integrated team of estimators, design-build leaders, construction managers, finance experts, and subject matter expert sub-consultants.
- Extensive experience working over wetlands and waterways in collaboration with State Environmental Agencies and US Coast Guard, including (locally) for example Surf City Bridge (B-4929), and I-140 Wilmington Bypass (R-2633B)projects, shown below





Below are photos of construction at the Jordan Bridge Balanced Cantilever and the Dominion Blvd Bascule Projects



- Extensive experience constructing complex structures, including moveable bridges
- Extensive experience designing and constructing foundations in eastern North Carolina
- Broad experience with erosion control, grading, roadway and bridge design and construction
- Extensive experience constructing major projects
- Local resources of more than 200 employees
- Balfour Beatty Investments offers multiple potential financial solutions and has unique and relevant experience collaborating with owners on alternate financing
- Balfour Beatty US has extensive experience with several alternative delivery contract mechanisms and will provide support as necessary.
- Lead designer STV has extensive experience designing major bridge structures over waterways
- As part of a multinational global construction company, Balfour Beatty Infrastructure ("BBI") can bond single or individual projects more than $300M. Balfour Beatty Infrastructure's current bonding program provides capacity of more than $5B.

The BB team is ready to commit the professional and financial resources to both respond to the NCDOT's RFI and ultimately deliver this project. We extend our appreciation for the opportunity to outline our qualifications, respond to NCDOT's RFI, and look forward to participating in the next phase of procurement to further demonstrate our innovative capabilities. Should you have any questions, please contact our point of contact **Keith Nixon** at **910-231-4636** or **knixon@balfourbeattyus.com.**

Respectfully submitted

Mark Johnnie

Vice President - Southeast Region

Balfour Beatty US

Attachment – BB 5.26.22 RFI Response

Balfour Beatty McLean | in association with STV 100 Years

RFI RESPONSE

Alternative Financing Options

There are many different alternative delivery options available to NCDOT and the WMPO that can convey different benefits. Such options include Design-Build, Design-Build-Finance, Design-Build-Finance-Maintain and Design-Build-Finance-Operate-Maintain. A brief description of these options is detailed below:

Design-Build (DB)- the DB alternative delivery method reduces the lengthy timeline that often accompanies more traditional Design-Bid-Build. It replaces the designer and the contractor from the perspective of NCDOT and WMPO with a single party who fills both roles, called a design-builder. The design-builder, who is usually an architect, engineer, or contractor, serves as the owner's single contact for the entirety of the project. This allows for efficient communication and means that the design-builder is singularly accountable for the outcome of the project.

Typically, an owner drafts an initial project design and requests project proposals from various design-builders. These proposals typically reflect a design-builders best price but also include notes and amendments to the initial project design. This approach allows owners to solicit private entities input into the design process instead of having a simple price only Design-Bid-Build process.

Once selected the design builder starts securing permits, finalizing design and beginning construction. The project can also be completed in phases, where the first phase is designed and construction begins while the second phase is designed, again allowing for a faster start to construction. This makes Design-Build ideal for large projects that require an accelerated timeline.

The Design Build approach combines private sector innovation with the transference of risk for design and delivery to the private sector. However, it should be noted that owners who choose the D-B delivery method for their projects lose some of the control that comes with holding design and construction contracts separately (as such choosing a trustworthy design-builder is integral to success in Design-Build). It also typically includes a slightly higher margin because of the risks conveyed to the design-builder.

DB only focuses on the risk transfer during the construction and commissioning phase of a project. The operations, maintenance, lifecycle, and residual life risk are all taken by the public sector.

Design-Build-Finance (DBF) - a DBF conveys all the benefits that come with a DB but also allows the Owner to schedule its payment for the work to the Design-Builder in line with the forecast revenue stream that it has available. The gap in between is financed by the private sector.

Typically, this gap can either take the form of sale of receivables, where the finance party is simply taking counterparty risk on the Owner to pay the receivable at some given point in the future or it can include true project finance risk where the finance parties take risk of delivery. These structures can help owners to bridge funding gaps and accelerate delivery of projects. Like D-B a DBF project will have the owner retain the operations, maintenance, lifecycle, and residual life risk.

Design Build Finance Maintain (DBFM) / Design Build Finance Operate Maintain (DBFOM) - these procurement approaches result in the greatest risk transfer to the private sector for the entirety of the projects lifecycle.

The construction risks are like that of a DB and DBF project. Like a DBF project the private sector is responsible for financing the project - the owner (or the users of the asset) do not have to pay anything

until the project is substantially complete and the asset can operate. The private sector also operates and maintains the asset as well as taking on risk for lifecycle costs and asset hand back. This risk is often governed by a payment mechanism that will make deductions to any payment made to the private sector in the event of poor performance. The fundamental difference between DBFM and DBFOM on a roads project would come down to whether the road is tolled and the private sector runs the tolling (DBFOM) or not (DBFM).

The revenue stream that can accrue to the private sector on a roads DBFM, or DBFOM project typically can take one of two forms: (1) Real Tolls - where the private sector operate the tolling of the asset and are entitled to the revenues generated by that and (2) Availability Payment - where the public sector pays a known annual payment to the private sector over the concession life. Toll structures are riskier for the private sector so typically come with a higher financing cost when compared to Availability Payments.

We acknowledge that the project is not currently in the STIP and so does not have any state funding allocated to it. A DBF/DBFM/DBFOM can help to bridge any financing shortfall until additional state and other funding becomes available or can simply rely on toll revenue for the bridge to pay for itself. This should afford NCDOT and WMPO the ability to accelerate the delivery of the bridge replacement significantly when compared to waiting for additional State allocations.

The table below summarizes the primary risk for each of the alternative procurement types:

Procurement Type		Party Retaining type of risk					
	Design	Construction Cost	Construction Schedule	Financing	Maintenance	Operations	Residual Life
DBB	Public	Private	Public/Private	Public	Public	Public	Public
DB	Private	Private	Private	Public	Public	Public	Public
DBF	Private	Private	Private	Public/Private	Public	Public	Public
DBFM	Private	Private	Private	Public/Private	Private	Public	Private
DBFOM	Private	Private	Private	Public/Private	Private	Private	Private

It is also worth noting that on Alternative deliveries there are two principal procurement methodologies that an Owner can pursue.

The first is for a fixed price lumpsum bid. This is where the bidders during the procurement will submit a bid that will be capable of closing within a short timeframe and will provide the public sector certainty of the cost that it will incur. The downside is that these bid processes take much longer and are much more expensive to procure (which results in a higher outturn cost). The Owner is also then somewhat removed from innovations and design decisions that may arise through the rigid procurement process.

The second option is to engage in a progressive procurement. This is where an Owner runs a much shorter form procurement and selects its preferred partner. The owner and the partner then enter into a predevelopment agreement which sets out the approach to working together to finalize design, finalize pricing and ultimately deliver the project. This has the advantage of ensuring complete integration between the owner and private sector partner with regards to design development and overall project development and will be a lower cost procurement. The potential downside for the

Owner is that it does not have certainty of pricing. For this approach to be successful the Owner must select a private sector entity that it trusts and that it believes will be a true partner for the duration of the project.

Balfour Beatty has experience with all of these alternative delivery types and procurement methods. While we are agnostic with regards to the solution ultimately chosen by NCDOT and WMPO in our experience larger complex infrastructure projects such as the Cape Fear Memorial Bridge Replacement often offer better value-for-money for owners if they use a DBFM or DBFOM structure. Given the inflationary pressures that the construction is currently facing we would also suggest that NCDOT and WMPO consider using a progressive procurement process to find a partner to work with hand in glove in order to provide the best value for money for taxpayers. Further, should the public sector decide it wants to explore combining this project with another to gain certain economies of scale, then a progressive procurement would help to mitigate significant procurement costs and provide greater partnering early in the process - helping to drive better value for money for the users of the asset.

Financing Alternative Delivery

The funding options which could support an alternative contract delivery for the Memorial Bridge replacement would be structured to achieve a number of key objectives:

- To align the interests of the potential private and public sector beneficiaries of a new Cape Fear crossing.
- To provide a clear framework of stakeholder sponsorship which promotes the Project to the widest possible pool of potential capital providers.
- To facilitate a transparent and fair allocation of the financial burden of the Project to those users who will enjoy the most valuable benefit from the Project over its contract life.
- To facilitate a clear allocation of design, construction, and ongoing operational risks to those Project participants best able to manage, mitigate and price those risks.
- To promote a transparent and competitive financing process which will drive down the overall cost of the Project's risk capital.
- To deliver all the necessary funding components in a coordinated and timely manner.

The viability and efficiency of any financing that would look to support the new Cape Fear Road crossing would be dependent on both a robust demand study coupled with a sponsor that brings experience of successfully building similar assets with strong ties to the local subcontractor market. The vertically integrated offering that Balfour Beatty could provide would help ensure that the financing structure for the project is as efficient as possible.

<u>Ensuring Efficient Pricing of Risk to Improve Bankability</u>

Potential providers of capital for such an alternative financing option will expect to see a standard P3 risk-share approach from the Project stakeholders - with key project design, construction and operations risks allocated to those parties most able to evaluate and manage those risks.

A long term DBFOM contract provides the most efficient vehicle to provide the transparency required by the project's Government sponsors and private capital providers to best allocate and mitigate those project risks - and therefore to provide the most competitively sourced finance package for the benefit of the users who will therefore enjoy lower usage charges.

The efficient structuring of the Project's patronage (revenue) risk will also be a main driver of the overall credit rating and cost of financing for the Project. To ensure transparency and fair allocation of the cost

of crossing benefits to those extracting most economic value from its use, we would suggest exploring a 'Shadow Toll' arrangement in addition to a more traditional 'Point of Use Cash Toll' mechanism.

Shadow Tolls are Simple to Implement & Less Expensive To Finance

We understand that putting in place a toll structure across the Cape Fear River may have significant political headwinds. A 'shadow-toll' would not be charged to any individual user at the point of use of the crossing - thus removing the need for toll collection-related infrastructure such as toll booths which add design, build and staffing costs, cause congestion, extend travel time, increase pollution impacts and enhance operational safety issues.

The shadow tolling mechanism would reimburse the DBFOM Project developer based on the volume of counted crossings for certain targeted categories of users - e.g. larger vehicular traffic (above certain weight/dimensions) crossing the bridge into the Port of Wilmington.

This mechanism allows different toll levels to be set for different user groups depending upon that user group's physical impact on the project asset (e.g. heavier single loads resulting in higher wear and tear and thus incremental maintenance costs for the Project developer) and the relative value of the user's 'one-time use' of the crossing.

With such a flexible user charge mechanism, certain user groups can be excluded from the tolling regime completely (e.g. individual cars, public transit vehicles and cyclists), or alternatively can be exempt from any toll up to a certain volume limit beyond which it could be deemed the incremental traffic volume imposes a maintenance burden on the Project operator and a shadow toll would then be warranted. With such banded shadow toll charge levels there can be a more fine-tuned sharing of revenue risk between, its owners/stakeholders, the private developer, and the funding providers.

Furthermore, by contractually indexing usage thresholds and user charge levels over time there could be an effective evolution in revenue risk transfer between public and private parties over the contract life - for example, this approach could efficiently deliver lower risk transfer to private funders in the early years of operations when uncertainty is highest and subsequently higher risk transfer later in the contract life when operations and demand patterns are typically more settled and understood.

The Owner would back out this 'shadow' usage payment obligation to its owners/stakeholders based upon each stakeholder's effective level of usage of the crossing and the economic value they extracted from such usage - for example, the shadow usage charge on a large HGV would be ultimately paid for by a combination of the truck owner, Port of Wilmington and the NCDOT on some pre-agreed formula basis which reflected the relative economic interest of each stakeholder in that truck movement.

One major benefit of such a shadow toll-based revenue mechanism is its technical simplicity and operational robustness - simply counting crossings by a small number of defined road user groups with individual users having no knowledge of being 'tolled' as they cross, no need to install any in-vehicle toll mechanism, and no direct responsibility for the toll payment they may have triggered to the private DBFOM developer.

It is important to note that a shadow toll structure would require the Owner to pay the equivalent funds to the developer - however if calibrated accurately it should allow for the majority of that to be offloaded to a discrete set of ultimate 'user beneficiaries'.

The other benefit of a shadow tolling structure is that should NCDOT look to combine this project with other projects, the formula can easily be calibrated to reflect usage from those additional assets as well.

Shadow Tolling or Regular Tolling Could Support a Wide Range of High-Quality Funding Structures

Shadow tolling is an efficient tool which because of its transparency (user charges can be contractually determined over the entire contract life), commercial logic (higher value users are seen to shoulder more financial burden) and fine-tuned risk sharing, such a tolling mechanism can support a high quality credit rating to ensure efficient project financing which minimizes overall cost of capital. Regular tolling is well understood in the industry and providing there is a robust demand study underpinning the new bridge it can also support a high-quality credit rating - although it should be noted that this would likely be at a lower leverage point and so would have a higher overall cost of capital than the shadow tolling alternative.

An alternative funding option for the financing of the design, construction, and long-term operations of the Project via a special purpose project vehicle could be financed from a number of potential sources, including:

- Tax exempt debt investors via a 'muni-style' public bond issuance or Private Activity Bond
- Taxable debt investors via a private placement to expert institutional investors
- A bank loan from a syndicate of project finance banks
- An investment of equity from developers and /or specialist infrastructure investment funds

The final form of the Project's debt would be determined by exactly how the Project was structured, its exact scope and how its contract structure incentivized performance from the private sector partners.

Well-structured Projects Attract Cost Effective Capital

Ultimately, we are confident that the Project could utilize a highly effective 'shadow' usage toll structure which facilitated an investment grade credit rating for the Project's debt funding which would then attract a deep pool of well-priced capital eager to finance the Project.

In addition to the cost-effective debt attracted to the Project, based on the DBFOM contract structure and a credit-worthy revenue support profile, there would also be a ready source of risk equity willing to invest in the demand characteristics we believe such a crossing could generate.

OTHER CONSIDERATIONS

As requested, this RFI response has focused on possible funding methods and is not intended to address constructability, logistics, risks, and opportunities. However, as we have outlined in our cover letter, we have assembled a team that addresses the Cape Fear Memorial Bridge Replacement scope and challenges such as:

Engineering – *bringing a design firm that has experience in solving the anticipated technical issues such as geometrical challenges both at Eagle Island and Wilmington connections, address the geotechnical concerns, provide effective utility coordination and if necessary, railroad coordination*

MOT – *ability to address accessibility and the safety risks to motorists and construction workers/inspectors, maintain acceptable traffic flows*

Public engagement – *assist in sponsoring the project with the public, for example early engagement with local environmental agencies and third parties – such as NC Coastal Federation, NAACP. These third parties could be a front for a potential future lawsuit from Southern Environmental Law Center*

Constructability – *bringing the resources with the required experience in heavy marine construction and local knowledge of subsurface conditions, bringing an established local workforce, dedicated local subcontractors, and logistical support from Balfour Beatty's Regional office in Wilmington*

Synergy – *explore the opportunity to leverage synergy with the upcoming Wilmington Rail Re-alignment project, for example combining the NEPA process as opposed to duplicating the effort*

Risk Sharing Strategies – *deploy our experience working with other clients in risk analysis and innovation*

The above is not an exhaustive list of our potential conceptual solutions for the Cape Fear Memorial Bridge. We would welcome the opportunity to work with NCDOT and deploy our experience and skills either under a traditional design build finance or some form of progressive design build procurement.

The materials and information provided in response to the Request For Information (RFI) have been prepared or assembled by the Balfour Beatty Team and are intended for use solely by NCDOT to inform the WMPO of possible alternative delivery options for the Cape Fear Memorial Bridge and are not to be used for any other purpose.

Balfour Beatty McLean | in association with STV 100 Years