

Ref: B2B-NTE-0907

31 May 2019

Beca  
32 Harington Street  
P.O. Box 903  
TAURANGA 3140  
NEW ZEALAND

By email: s 9(2)(a)

**Attention:**

s 9(2)(a)

Dear s 9(2)(a)

**CONTRACT NO. 2/09-024/603  
BAYPARK TO BAYFAIR LINK UPGRADE WORKS – PHYSICAL WORKS  
Underpass Detailed Design and Construction Indicative Price Submission**

We refer to recent conversations regarding our detailed design and construction submission relating to Contract Instruction 0838 - VPR 035

Currently, we are unable to submit a formal respond to this CI as both the price and programme are still under internal review. In order to assist your evaluation of the proposal however, we do issue an indicative price schedule for your consideration. This includes work items to complete the detailed design and construction of the Underpass north of MGI for an indicative price of \$19,996,135 (excluding GST). Please note that this indicative price excludes risk allowance and any extension of time entitlements.

**1. Programme**

Milestone programme dates which support the design and construction of this Underpass includes:

- |                        |               |
|------------------------|---------------|
| • 100% Design IFC      | November 2019 |
| • Early works commence | August 2019   |
| • Underpass Completion |               |
| ▪ Stage 1 West         | December 2020 |
| ▪ Stage 2 Central      | October 2021  |
| ▪ Stage 3 East         | March 2022    |

**2. Variances**

Scope development since the Design Philosophy Report has generated cost variance from the ROC provided September 2018:

- Ground improvements: increased area of stone columns and the introduction of sheet pile cut-off walls at entrance ramps
- Temporary works and sheet piling required for excavation support
- Temporary pavement work and temporary traffic management to safely control traffic and pedestrian movements

### 3. Alternate Options and Opportunities

Further to discussions with you, the project team continues to consider possible time and cost reduction strategies and would like to develop these further with both the Principle Advisor and the Transport Agency. Some opportunities to better improve the outcome may involve altering construction methodologies, the location of the underpass or potentially mutually agreeing departures to the Principals Requirements.

Further alternatives of opportunities include:

- a) Adding extra bridge spans to the northern end of Bridge 1. This eliminated embankment loadings and potentially reduces overall time impacts by six months.
- b) Reassessing approaches taken in Design Philosophy Report such as ground water levels and quantum of stone columns at both Eastern & Western Portals
- c) Departure from PR A3.6.3.1 Construction Stage Settlement.
- d) Departure from PR N4 Minimum Standards of Traffic Management .

### 4. Closing Statement

Given known financial constraints and time pressures, CPB seeks the opportunity to meet with you to discuss this proposal collaboratively and specifically, to explore potential opportunities to mitigate costs, delays and work scope risk.

Please contact me if you have any questions.

Yours sincerely

CPB CONTRACTORS PTY LIMITED

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Contractor's Representative

## Indicative Price Breakdown

Bay Link - VPR 035 Underpass Detailed Design and Construction Pricing			
Item	Description	Price	% of Total Price
1	Design	\$ s 9(2)(b)(ii)	
2	Indirect and Mobilisation Cost	\$	
3	Earthworks	\$	
4	Structural		
4.1	Bayfair Eastern Portal	\$	
4.2	Eastern Tunnel	\$	
4.3	Central Tunnel Underpass	\$	
4.4	Western Tunnel Underpass	\$	
4.5	Matapihi Western Portal	\$	
4.6	Stitch Pours	\$	
5	Ground Improvements	\$	
6	Urban design	\$	
7	Roading	\$	
8	Stormwater Drainage	\$	
9	Utilities	\$	
10	Lighting	\$	
11	Traffic Management and Temporary works		
11.1	Sheetpiling Shoring and Propping	\$	
11.2	De Watering	\$	
11.3	Asphalt Enabling works for Switches	\$	
11.4	Diversion Construction	\$	
11.5	Pedestrian Ways	\$	
11.6	Temporary Traffic Management	\$	
12	MSQA	\$	
	<b>Sub Total</b>	<b>\$ 21,983,959</b>	<b>100%</b>
13	Risk and contingency included above	\$ s 9(2)(b)(ii)	
	<b>Indicative Price Excluding Risk</b>	<b>\$ 19,996,135</b>	

## Indicative Tags and clarifications to this offer

- Offer is subject to NZTA acceptance of the Design Philosophy Statement, 0-50% Design Detail including agreed PR changes and any departures required prior to the start of the 50-100% Design.
- We have not considered impacts or re-design required for the overlying MSE wall, Bridge 1, MGI Roundabout, or other changes to works currently under the contract, resulting from the integration of the Underpass. No provision has been made to cover this potential issue and any such work required will be subject to future variation.
- No allowance has been made for the installation of any security or CCTV monitoring equipment.
- It is assumed that there will be one design review stage at 85% for both the Peer Reviewer and The Principal's Advisor at the same time. Given the collaborative nature during design development we have allowed in the programme one week for return of comments, and one week to close out PA comments only.
- No provision has been made to undertake flood modelling or further define the ground water level. The ground water levels used to inform the 50% Design are as identified in the revised pricing packs.
- Service owner diversion costs have been included based on indicative quotations provided during the pricing exercise. Since it is not possible at this stage to provide a final value for each service diversion, our indicative price is contingent on these values been treated as provisional sums.
- Time delays as a result of service asset owners impacting the programme
- Our indicative price is based on service relocation methodologies identified in the pricing packs. It is assumed that these are feasible, and acceptable to the service owners.
- No provision has been made to include the underpass into the Greenroads certification process.
- No allowance has been made for temporary works required at Bridge 1 to allow the first two spans to be installed independently, thus reducing time delays.
- The Impacts to the design and construction of Bridge 1 as a result of introducing the Underpass.
- It is assumed that the arrangements for dealing with traffic will be acceptable and that Traffic Management Plans for the proposed traffic staging will be approved in the 20 day TMP approval process timeframe.
- Part time MSQA personal only are allowed for.
- Any impact due to consenting and land acquisition requirements are excluded.
- Additional cost associated with retrofitting barriers and completing pavement works due to settlement incurred from the Bridge 1 northern fill embankment, north of MGI are excluded.
- No Urban Design negative detailing has been allowed for into reinforced concrete walls, precast barriers and panels. As agreed, only standard formwork systems such as Doka, providing off shutter finishes have been allowed for.
- No special paint finishes to concrete surfaces are included.
- Dewatering requirements for service relocation and stormwater installation, if required are excluded.
- The physical costs and cost of time delays as a result of other parties such as service providers, PA design comment closure.
- Settlement slabs under the central section of the underpass have not been allowed for.

- Removal of all sheet piles, as many are sacrificial and will be left in place.
- Contractors risk duration within the Construction Programme is only 29 days.

Released under the Official Information Act 1982

NZ Transport Agency - Tauranga  
PO Box 13-055  
Tauranga Central 3141  
New Zealand

5 August 2019

**Attention: John McCarthy**

Dear John

**Baylink - Cycle Underpass Variation Value Assessment**

The purpose of this letter is to outline the potential additional costs associated with the proposed cycle underpass, based on the 50% design submission supplied by CPB on 31 May 2019 in NTE 0907.

CPB presented a physical works cost of \$21,983,959 excl GST with an estimated programme delay of 116 weeks. Our comparison between their preliminary design and 50% design estimates is provided in Attachment 1.

The CPB submission excluded costs for extension of time and excluded 22 price risks. The estimated cost for CPB's 116 week programme delay is shown below.

<b>Description</b>	<b>Price based on 50% design (May 2019)</b>
CPB Total of Physical works (refer attached spreadsheet)	\$21,983,959
Add: On Site Overheads	\$1,758,717
Add: Off Site Overheads	<u>\$2,255,554</u>
New Physical Works estimate	\$25,998,230
Assessed 116 week Extension of Time (EoT) cost \$8,250,000 (based on Working Day rate \$15k/day, assumed 5 working day/week)	
Add: Net EoT entitlement (\$8,250,000 less On Site and Off Site overheads above)	<u>\$4,235,729</u>
<b>Estimated Underpass Variation Value (excl risks identified by contractor)</b>	<b><u>\$30,233,959 (excl GST)</u></b>

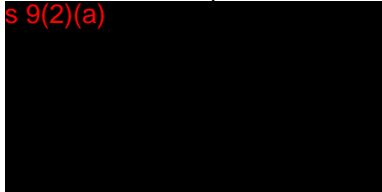
Note there are 22 Price Tags in NTE 0907. If encountered, then the cost risk of these tags will likely rest with NZTA.

The estimated value of the underpass of \$30.2M, is made up of \$21.98M (Physical works), \$4.01M (Overheads) and \$4.23M (EoT cost entitlement from the 116 weeks).

The EoT cost for 116 weeks will be \$8.25M, this is based on contract Working Day rate which has included overheads. The overheads to be paid in Variation for physical works should then be deducted out from the EOT costs calculation, otherwise it will be double dipping. Refer to clause 9.3.11 of NZS 3916-2013.

Yours sincerely

s 9(2)(a)

A large black rectangular redaction box covers the signature area. The text 's 9(2)(a)' is written in red at the top left corner of the redaction.

Beca Project Team Leader.

on behalf of

**Beca Limited**

Email: tim.haig@beca.com

Attachment 1 – Comparison between preliminary design and 50% design estimates.

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Item	Description	Concept Price (September 2018)	Price based on 50% design (May 2019)	Difference	Reason
1	Design	\$ s 9(2)(b)(ii)	\$ s 9(2)(b)(ii)	\$ s 9(2)(b)(ii)	Design developed to 50% so the remaining cost should be less. Would need to compare cost to date and cost to complete to do comparison
2	General	\$	\$	\$	
3	Mobilisation	\$	\$	\$	General and Mobilisation has increased s 9(2)(b)(ii) Current sequence requires 3 mobilisations of the stone column rig, previously only allowed 1. Also need to mobilise sheet piling. \$100k additional for fencing, scaffold, access stairs, barrier protection to excavation, dewatering protection & other H&S requirements
4	Service Relocations	\$	\$	\$	Increased s 9(2)(b)(ii) due to more knowledge about required service diversions This includes s 9(2)(b) for a single Chorus cable s 9(2) due to stormwater (now designed and allows for night works Through the golf driving range)
5	SW Drainage Ground Improvements	\$	\$	\$	Ground improvement has increased by s 9(2) previous allowance was for ground improvements under the underpass box only. Ground improvements are required under the landings and ramps, and to protect the retaining walls holding up the road. Permanent sheet piles are also allowed for at the adjacent property boundaries to contain the liquefaction effects.
6	Box Culvert (4m x 3m)	\$	\$	\$	
7	Approach Ramps	\$	\$	\$	
8	In Situ Entrances Earthworks	\$	\$	\$	The combined structure cost have increased by s 9(2) This is primarily around the excavation and backfill. The trench is now wider (Box plus s each side) to provide safe working room. The excavation is now planned to be between sheet piles rather than battered. The excavated material had been assumed it could be reused. It is now allowed to be cut to waste. The approach ramps are wider and more open, hence a larger excavation. The Ground water level has also meant that buoyancy governs the concrete thickness of the ramps.
9	Pavements	\$	\$	\$	
10	MSQA	\$	\$	\$	MSQA has increased by s this reflect the longer Time
	Urban Design	\$	\$	\$	Previously no allowance
	Lighting	\$	\$	\$	Previously no allowance
	TTM and Temporary Works	\$	\$	\$	This largely reflects the time effect of the underpass. Price at Concept assumed open cut? Or no sheetpiling. Current staging has 3-4 traffic switches that added temporary pavements
	<b>Sub Total</b>	\$	\$	\$	<b>Note</b> the initial estimate had risk and contingency excluded. The current estimate has risk and contingency included. The Risk and contingency allowance has reduce by s 9(2)(b)
11	Risk Contingency	\$	\$	\$	
	<b>Sub Total</b>	\$	\$ 21,983,959	\$ 7,395,693	The apples for apples comparison should be <b>Sub total including risk and contingency</b> of \$14,588,266 vs \$21,983,959 a difference of \$7,395,693
13	On Site Overheads	\$	\$	\$	
14	Off Site Overheads	\$	\$	\$	
	<b>Project Base Estimate</b>	\$ 16,644,236			

Item	Description	18 weeks	116 weeks	Difference	Notes
15	EOT	18 weeks	116 weeks		The September Price was based on an 18 week delay to the overall programme. The current programme shows a 116 calendar weeks or 550 working days delay
	EOT cost (\$15k/day, assumed 5 working day/week))	\$ 1,350,000	\$ 8,250,000		
	EOT entitlement (+ve \$\$ of EOT cost less overheads)	0	\$ 4,235,729	\$ 4,235,729	
	Subtotal	\$ 16,644,236	\$ 30,233,959	\$ 13,589,723	There will be additional delay time related costs of \$8.25 M Less over head costs of \$4.236 M

Note there are 22 Price Tags in NTE 0907.