wtpartnership.com

17 May 2021

Christopher Jennings
Structural Senior Project Engineer
Stantec Australia
Level 6, Building B, 207 Pacific Hwy
christopher.jennings@stantec.com

Dear Christopher

SYDNEY HARBOUR HIGHLINE

DESKTOP REVIEW OF FEASIBILITY ESTIMATE

Following our meeting on Monday 26th April 2021, we are pleased to submit our Desktop Review of the Feasibility Estimate for the Sydney Harbour HighLine.

Please, note that this report is high-level in nature and therefore it contains our professional opinion at the time of preparation, based upon the information available and provided to us.

We thank you for the opportunity to carry out this Desktop Review and if there are any questions, please do not hesitate to contact me.

Yours faithfully

SAM MENDOZA

Associate Director

SYDNEY HARBOUR HIGHLINE

DESKTOP REVIEW OF FEASIBILITY ESTIMATE

17 May 2021

CONTENTS

CONTACT

DETAIL	DESCRIPTION
Name of Company/Trading Name	WTP Australia Pty Ltd
ABN	69 605 212 182
Name of Representative	Sam Mendoza
Position	Associate Director
Head Office Address	L26, 45 Clarence Street, Sydney NSW 2000
Telephone	+61 2 9929 7422
Email	smendoza@wtpartnership.com.au

DOCUMENT STATUS	NAME	DATE
PREPARED BY	Sam Mendoza	
REVIEWED BY	Gary Boyd	
E-SIGNATURE APPROVED		

REVISION NO.	REVISION DATE	DRAFT.FINAL
0	17/05/2021	Draft

1 DISCLAIMER

This report has been prepared by WT expressly for Stantec for the purpose of providing independent peer review of the Sydney Harbour HighLine Feasibility Estimate, and may not be provided to, relied upon, or used by any third party not involved with this project. Any use of this report is subject to the terms and conditions.

This report is meant to be read as a whole, and sections should not be read or relied upon out of context. The report includes information provided by the Client and by other parties on behalf of the Client. Unless specifically stated otherwise, WT has not verified such information and disclaims any responsibility or liability in connection with such information.

This report herein contains the professional opinion of WT, based upon information available at the time of preparation. The quality of the information and conclusions contained herein is consistent with the intended level of accuracy as set out in this report, as well as the circumstances and constraints under which this report was prepared.

All estimates and projections contained herein are based on preliminary design data where applicable. Therefore, while the work, results, estimates and projections herein may be considered generally indicative of the nature and quality of the Project, they are not definitive. No representations or predictions are intended as to the results of future work, nor can be there be any promises that the estimates and projections in this report will be sustained in future work.

This document is commercial in confidence and contains privileged information. The information contained in the document is not to be given to or discussed with anyone other than the relevant employees of Stantec and the Client acting on this project.

2 EXECUTIVE SUMMARY

WT Partnership (WT) has been approached by Stantec to carry out a Desktop Peer Review of the Feasibility Cost Estimate for the Sydney Harbour HighLine. The Feasibility Estimate was prepared by QS1 Pty Ltd. The Feasibility Estimate is titled "*Preliminary Feasibility Estimate of Cost*" referenced as "*Cost Plan No.1 Revision 01"* and dated May 2018.

This peer review focuses on the robustness and completeness of the cost estimate to provide assurance to Stantec that appropriate cost estimating methodologies have been adopted and to identify potential gaps in scope.

WT **has not** prepared an independent cost estimate for comparative purposes.

A summary of the Feasibility Estimate for the project – as per QS1's report – is contained in the table below:

ITEM	QTY	UOM	RATE	AMOUNT
Fencing	1,281	m	$447.80	$573,637
Paving & Concrete Works	1,281	m	$1,180.41	$1,512,104
Drainage Works	1,281	m	$85.35	$109,329
Landscaping	1,281	m	$1,224.90	$1,569,095
Tunnel Ventilation	1,281	m	$49.38	$63,250
CCTV & Help Point System	1,281	m	$178.69	$228,900
Lighting	1,281	m	$897.46	$1,149,648
Fire Services	1,281	m	$11.71	$15,000
DDA Compliance Reqs	1,281	m	$61.48	$78,750
Subtotal – Construction Works				**$5,299,712**
Preliminaries & Supervision	10%			$529,971
Margin	5%			$291,484
Subtotal – Prelims & Margin				**$821,455**
Design Contingency	15%			$918,175
Construction	7.5%			$527,951
Subtotal – Contingencies				**$1,446,126**
Professional Fees	8.5%			$643,220
Council Fees & Charges				$36,579
Subtotal – Soft Costs				**$679,799**
TOTAL COST (Excl. GST)	**1281**	**m**	**6,443.04**	**$8,247,093**

2.1 GLOSSARY OF TERMS

TERMS	MEANING
AACE	American Association of Cost Engineers
BoQ	Bill of Quantities
QTO	Quantity Take-off
QTY	Quantity
SHHL	Sydney Harbour HighLine
TfNSW	Transport for NSW
UOM	Unit of Measurement

3 SCOPE OF REPORT & METHODOLOGY

3.1 SCOPE OF REPORT

WT has been approached by Stantec to provide a high-level Peer Review of the Feasibility Estimate prepared by QS1 for the Sydney Harbour HighLine.

The intent of this report is to check the robustness and completeness of the cost estimate and identify potential gaps in both scope and methodology.

This report is only high-level, and an independent cost estimate has not been prepared.

3.2 PROJECT SCOPE

The Sydney Harbour HighLine is a proposed project that intents to convert the existing train line between Lavender Bay and Waverton into a pedestrian and recreational link connecting several parks and lookouts, regenerating bushland and providing new relaxation and event spaces.

The route is approximately 1.6 kilometres between Waverton Station and Luna Park and the proposed link will run along the existing rail corridor including approximately 300 meters of tunnel.

3.3 METHODOLOGY

In preparing this report, and to the extent possible from the available information, WT have:

- Attended a kick-off meeting with Stantec.
- Taken receipt of and reviewed available project documentation.
- Reviewed cost estimate including:
    - **Information and assumptions**: reviewed the project information and drawings to determine the full project scope, together with any assumptions made in the preparation of the cost estimates.
    - **Work Breakdown Structure (WBS)**: To ensure all project scope is adequately included in the cost estimate.
    - **Quantities**: Undertook an independent review of the major cost items to verify that the quantities appear reasonable.
    - **Rates**: Undertook a review of the major cost items to verify that the rates appear reasonable.
    - **Constructability**: Ensured that the construction methodologies used as part of the estimate are sensible and appropriate.
    - **Indirect Costs**: Including allowances for preliminaries, overheads & profit.
- Prepared this report.

WT has not prepared an Independent Cost Estimate for comparative review.

In carrying out the review, we have assessed the cost plan for compliance with:

- 'Guidance Note 2: Base Cost Estimation' – March 2017 prepared by the Department of Infrastructure and Regional Development.
- 'Project Estimating Manual' – 16 June 2020, Version 4.1

4 LIMITATIONS

WT has not prepared an independent cost estimate for comparative review and consequently have not carried out a detailed line-by-line review of the Feasibility Estimate.

This Report does not include the review of the following:

- Technical adequateness of the design solution proposed.
- Construction Programme
- Property Acquisition

This Report has been compiled from information provided to WT by third parties, however WT does not warrant the accuracy of that information. If the information provided to WT is inaccurate or incomplete, then it may invalidate the conclusions and advice in the Report.

5 KEY FINDINGS

5.1 GENERAL

Gross Length - We note that QS1 Feasibility Estimate is based on a length of 1,280 meters from Union Street to Wendy's Garden. However, based on conversations with Stantec, the project might run from Waverton Train Station and finish at the existing train spur terminus, right next to Luna Park.

Based on this information, we calculate that the revised total gross length to be approximately 1,750 meters. This is approximately a 36% increase in alignment length.

Waverton Station Works – Works to be carried out in Waverton Station – if the project is extended to that location - would be complex in nature. The Waverton Station is a busy junction of the Sydney Trains network. Any works will require extensive planning and coordination with Sydney Trains and Transport for NSW. Dependant on the final alignment, any rail-adjacent works will require to comply with vertical and lateral clearances and on-site works might potentially require track possessions or partial occupation of track corridor. These works are considered high-risk to the Feasibility budget.

Sydney Trains Works – We note that several works to be carried out by Sydney Trains have been excluded from this estimate. They consist of the relocation and/or removal of the Combined Services Route, the remediation and management of ballast material and the relocation/removal of overhead wiring poles and gantries.

We note that the scope identified under Sydney Trains is complex and, if to be accounted under the SHHL Feasibility budget, would have a significant impact to the total figure.

5.2 RATES

PAVING & CONCRETE WORKS

5.G "Traffic Management" – Allowances include $15,000 for Traffic Management Plans and $42,240 for Traffic Management. This equates to approximately 1% of the Total Construction Costs. Whilst we understand that most of the alignment is off-road corridors, there will be requirements of traffic management at entry/exit points or during specific activities such as the erection of the pedestrian footbridge at John Street. We recommend this allowance to be increased to a benchmark percentage between 2% and 5%.

5.R "Allow to remove existing ballast, allow 200mm thick (assume ballasts can be recycled and provided to Sydney Trains at NIL cost" – We note that ballast material to be recycled must be tested for contamination – costs for testing or remediating ballast have not been included in the estimate.

5.S "Allow to trim for new concrete blinding slab, say 100mm deep; assume 0TR". - We note that no other allowances for excavation, imported fill or cut and fill have been allowed, therefore the assumption is that the existing levels would be suitable for the pedestrian path. We recommend confirming this assumption as it does carry a significant impact to the overall project budget.

DRAINAGE

6.O "Drainage" – We note that the estimate includes only allowances for sub-soil drainage (100mm slotted pipe). We note that based on our recent experiences, this assumption might be insufficient. We recommend further investigation works to be conducted, including necessary connections to the existing network and potential requirements of stormwater lines and pits along the corridor.

LANDSCAPING

9.K "*Allow to supply and install timber/steel custom bench seating*" – The estimate only allows for 10 benches in an alignment of 1,281 metres. We find this number insufficient – averaging to one seat every 120 meters. We recommend increasing the number of seats to a more appropriate number.

9.M "*Allow to construct new footbridge structure to future design to meet RMS/Sydney Trains design connected to existing John Street railway bridge*". - The rate allowed for the construction of the bridge is $1,500 per square meter equating to a total of $202,500. WT, based on our past experiences with TfNSW/Sydney Trains in new footbridges and structures adjacent to rail corridors, finds this allowance insufficient – even if the assumption is that the existing brick abutment can be utilised as support. We would recommend at least an allowance of 3,500 per square metre based on benchmarked rates.

TUNNEL VENTILATION

10.G "Allow the Provisional Sum Amount of $45,000 for the supply, installation and commissioning of a jet fan system to future design and specification" – The estimate allows a Provisional Sum of $45,000 plus $10,000 for electrical supply. WT believes this allowance to be low. Whilst the cost of the jet fans is not high – a 300-meter-long tunnel will require several small jets spread along the tunnel. Moreover, there will be requirements for big attenuators to keep noise levels down for pedestrian comfort besides power supply, sensors and controls. WT recommends a total Provisional Sum of $250,000 to be included.

LIGHTING

12.N "No design works, or budgets have been formulated for overhead lighting on the High Line Walk. Whilst it is the intention to have the walk closed to the public between sunset and sunrise, we feel that for OH&S as well as public liability reasons, lighting will be required. As such we allowed for bollard style lighting along the trail which will not adversely impact the surrounding residential properties". – WT notes that based on our experience in cycleways and active transport corridors, overhead luminaires are frequently required. In such case, we note that the allowance of $237,600 might not be sufficient for a 1,280-metre-long pedestrian link.

DDA COMPLIANCE REQUIREMENTS

14.U "Allow the Provisional Sum amount of $40,000 for the supply and installation of a small platform lift to future specification". – Whilst we note that there is no design or information of requirements regarding the need of vertical transportation, we note that the sum of $40,000 might be insufficient based on our experience involved in precincts, public domain and train station works with vertical transportation requirements.

5.3 INDIRECT COST

PRELIMINARIES

An allowance of 6.4% has been included for Preliminaries and Supervision. We note this percentage to be low in comparison with our benchmark for similar civil and landscaping works in brownfield environments. Moreover, due to the complexity of the project, the several "pinch points" existing along the route and the constrained site access for plant and personnel, we believe the productivity of site-based activities will be lower than average. Therefore, we recommend the Preliminaries to be increased to account for the multiple interfaces with other key stakeholders such as Sydney Trains and TfNSW and the loss of productivity – equating an increase to an allowance of 20 to 25 percent of the Direct Costs.

CONTINGENCY

Allowances have been included for risk and contingency. 15% has been included for Design Contingency and 7% for Construction Contingency equating to a total of 22%. We note the following industry methodologies are often used to calculate deterministic contingencies:

Transport for NSW – Project Estimating Manual recommends for Strategic Estimates (lowest level of design definition) a contingency level at P90 from 35% up to 70%.

The AACE defines that an Estimate Class 4 – Study or Feasibility, the expected accuracy range and typical variation will set between -15% to -30% and from +20% to +50%.

Therefore, based on the existing documentation and level of project definition, we recommend the Contingency to be increased to, at least, 30% of the total construction costs.

ESCALATION

We note mthat Escalation is excluded from this estimate and the base date utilised for the estimate is May 2018. We recommend the feasibility estimate to be re-baselined to 2020 and cashflowed including escalation based on indicative programme to calculate expected total outturn costs.

OTHER CLIENT COST

We note that an allowance of $643,220 has been included for Consultant Fees – however is unclear what this allowance is based on and if it covers all professional fees such as site survey and investigation, planning, detailed design, quantity surveying, and client delivery team.

6 BENCHMARKING

Whilst there is not an existing project in Sydney exactly comparable to the SHHL, WT have been involved in several active transport links and cycleways projects in brownfield environments in Sydney. These projects involved earthworks, roadworks and pavements, landscaping, drainage and utilities adjustments, street lighting and line-marking.

A sample is shown below – based on total construction cost per linear metre and comparison with SHHL Feasibility Estimate.

BENCHMARK	CONSTRUCTION COST PER L/M
PROJECT 1	$8,981 per linear metre
PROJECT 2	$13,114 per linear metre
PROJECT 3	$13,352 per linear metre
PROJECT 4	$7,251 per linear metre
SHHL	$6,443 per linear metre