

Wellington City Council
 PO Box 2199
 Wellington 6140
 New Zealand

18 April 2018

Attention: Peter Hemsley

Dear Peter,

WCC Wharves - High Level Costing for Repairs

Following our recent structural condition assessment of 10no. WCC wharves, we are pleased to provide the following high level costing study for undertaking maintenance works to the wharves' structural elements with a condition rating 3 or above.

The wharves included in the structural condition assessment, and thus considered in the high level costing exercise were as follows:

- Greta Point Wharf
- Cog Park Boat Ramp
- Cog Park Jetty
- Evans Bay Yacht Club, Northern Jetty
- Evans Bay Yacht Club, Southern Jetty
- Evans Bay Yacht Club Travel Lift
- Evans Bay Boat Ramp, Northern Jetty
- Evans Bay Boat Ramp, Southern Jetty
- Karaka Bay Wharf
- Seatoun Ferry Wharf

Structural Condition Ratings

During the initial visual assessment (as noted our report WCC Marine Structural Condition Assessment 2017), the structural elements of each structure were assigned a numeric rating based on their visible physical condition. Each element with a rating 3, 4, 5 or 6 was included in the high level costing exercise for maintenance, i.e. repair or replacement of structural elements (refer Table 1 for condition rating descriptions).

Table 1 – Condition Rating Descriptions

Rating	1	2	3	4	5	6
Description	No Visible damage/ decay, or minor damage with minor surface rot visible.	Less than 10% reduction in cross-section from original. Some extent of rot visible.	10-30% reduction in cross-section from original. Moderate extent of rot visible.	30-60% reduction in cross-section from original. Extensive not visible.	Greater than 60% reduction in cross-section from original. Rot likely penetrated full cross-sectional extent of pile.	Additional damage/ decay not covered by condition ratings 1-5. Comments/ notes included

Those structures with no structural elements rated 3 or above were excluded from the costing exercise. The excluded structures are as follows:

- Cog Park Boat Ramp
- Evans Bay Yacht Club Travel Lift
- Evans Bay Boat Ramp, Northern Jetty

Structural maintenance options were based on like-for-like replacement of structural elements where possible.

Refer Appendices A and B for plan sketches of the structural repairs/replacements and reference drawings from the construction of the Evans Bay Boat Ramp Northern Jetty.

Structural maintenance of Seatoun Ferry Wharf considered options for future use of the structure being either recreational or commercial. The options considered took into account the existing complexity of the structure and concept level staging for keeping the structure operational for commercial use during maintenance works.

Basis of High Level Costing

The high level costing of the assessed structural repair/replacement works included the 7no. structures with structural elements rated 3 or higher.

Evans Bay Boat Ramp Southern Jetty has been identified by WCC as not fit for purpose. At the request of WCC, the replacement cost of this jetty was based on the construction of a similar structure to that of the Evans Bay Boat Ramp Northern Jetty. The 2010 tendered price for the construction of the North Jetty was used as a base for the costing of this replacement jetty, as directed in the WCC brief, and adjusted accordingly for inflated construction costs over the past approximately 7 years.

The high level costing for Seatoun Ferry Wharf includes a costed option for maintenance of the wharf landing platform if the structure is not to be used by commercial vessels in the future, and a maintenance option if the wharf is required for commercial ferry use in the future. The commercial option utilises raker piles in the landing platform structure. We have also considered the construction staging of Seatoun Wharf to retain ferry use during any maintenance works.

A 30% contingency has been included in the rough order cost build ups to account for the concept level design.

The contingency sum included is integral to the estimating process. It is a general allowance for residual risk including design development and associated lack of detailing, assumptions made, errors and omissions, site conditions, and changes to construction methodology. The nominated figure is based on historical averages, not on any formal or robust risk assessment process.

Please note that this estimating contingency is not intended to cover the cost for the project risks such as unforeseen ground conditions or scope change. All costs apply at the date of this report.

Market Conditions

We note that the New Zealand construction tender market is currently experiencing unprecedented fluctuations in some trades along with uncertainty in both labour and fabrication resource availability. We recommend a conservative approach to establishing budgets, writing business cases and making applications for funding.

Refer Appendix C for the details of the Rough Order Cost Estimates, including details of exclusions and assumptions.

Costs

Refer Appendix C for details of the high level costing of the structural repairs/replacements.

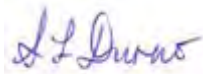
Table 2 below summarises the findings from the high level costing exercise:

Table 2 – High Level Cost Summary

Structure	Repair/Replacement Extent	Total Cost Estimate (excl. GST)
Greta Point Wharf	Replacement X-bracing and connections	\$19,200.00
Cog Park Jetty	Underpin with replacement piles and bearers, new fenders and access ladder	\$183,600.00
Evans Bay Yacht Club, Northern Jetty	Underpin with replacement piles and bearers, replacement precast slabs	\$204,300.00
Evans Bay Yacht Club, Southern Jetty	Underpin with replacement piles and bearers, replacement precast slabs	\$129,100.00
Evans Bay Boat Ramp, Southern Jetty	Replacement structure similar to Evans Bay Boat Ramp Northern (Finger) Jetty	\$100,000.00
Seatoun Ferry Wharf –Commercial Option	Reconstruction of landing platform with concrete infilled steel tubular piles, raker piles, joists and concrete decking	\$739,000.00
Karaka Bay Wharf	Underpin with replacement piles and bearers, sistering of joists, replacement connections	\$60,500.00
Total		\$1,435,700.00
Seatoun Ferry Wharf – Recreational Option (2)	Reconstruction of landing platform with timber piles, cross bracing, joists and concrete decking	\$510,000.00

Should you have any questions about the information provided or would like to discuss the cost estimates in more detail, please do not hesitate to contact the undersigned.

Yours sincerely



Sharon Durno

Associate - Project Management

on behalf of

Beca Limited

Direct Dial: +64 4 550 5931<Originator Phone Number>
Email: sharon.durno@beca.com

Copy

Calum Pringle, Beca Ltd.

Brian Smith, Beca Ltd.

Appendix A – Plan Sketches of Structural Repairs/Replacement

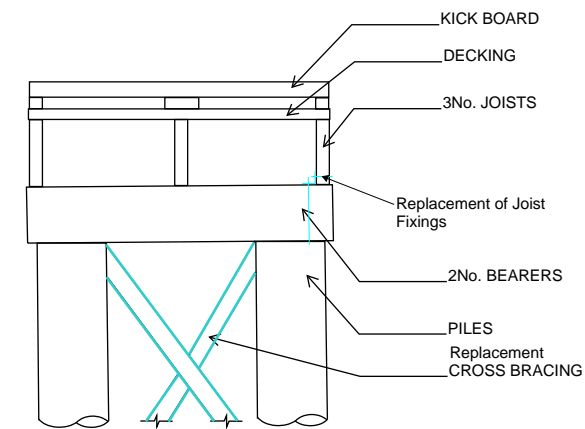
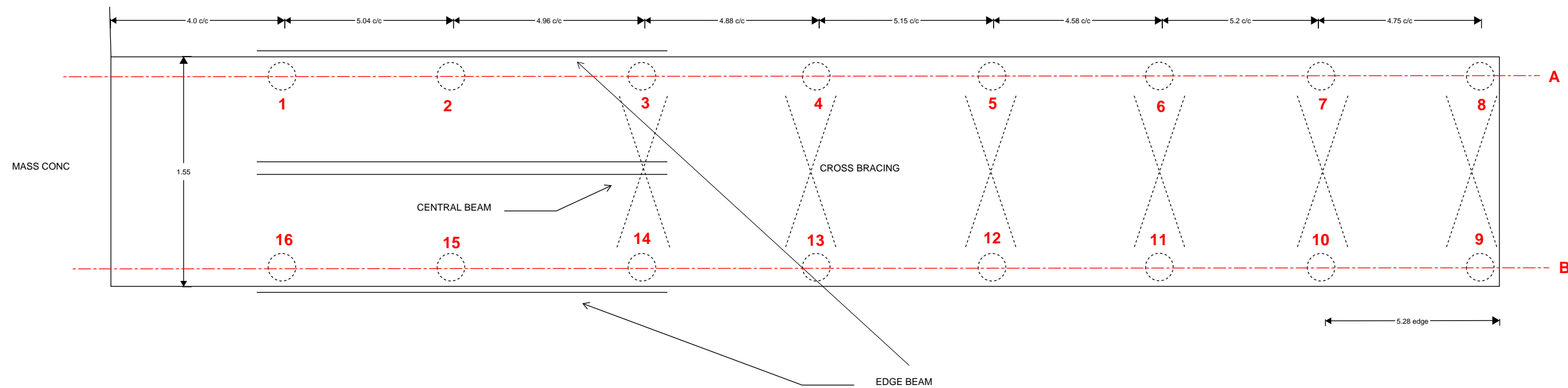
Title	Revision
• 3320740-SE-K100 Greta Point	A
• 3320740-SE-K101 Cog Park Jetty (Heritage)	A
• 3320740-SE-K102 Evans Bay Yacht Club Northern Finger Jetty	A
• 3320740-SE-K103 Evans Bay Yacht Club Southern finger Jetty	A
• 3320740-SE-K105 Seatoun Ferry Wharf	B
• 3320740-SE-K106 Karaka Bay Wharf	B

Scope of Repairs:

- Replacement of cross bracing six pier locations comprising 2000x50x200, grade H6
- Replacement of L-Brackets with stainless steel brackets at all pier locations, grade 316 : 2x 6 N. brackets and 6x 2x2 M16 bolts.

Legend:

- Existing structure
- Proposed new structure used for costing purposes



PDF ONLY
NO DWG FILE

A FOR INFORMATION		CP	11.17
No.	Revision	By	Appd. Date



Original Scale (A1)	Design	Approved For Construction*
N.T.S.	Drawn	Date
Reduced Scale (A3)	Dwg Verifier	
	Dwg Check	
* Refer to Revision 1 for Original Signature		

Client: WELLINGTON CITY COUNCIL

Project: WCC WHARF STRUCTURAL INSPECTIONS

Title: GRETA POINT

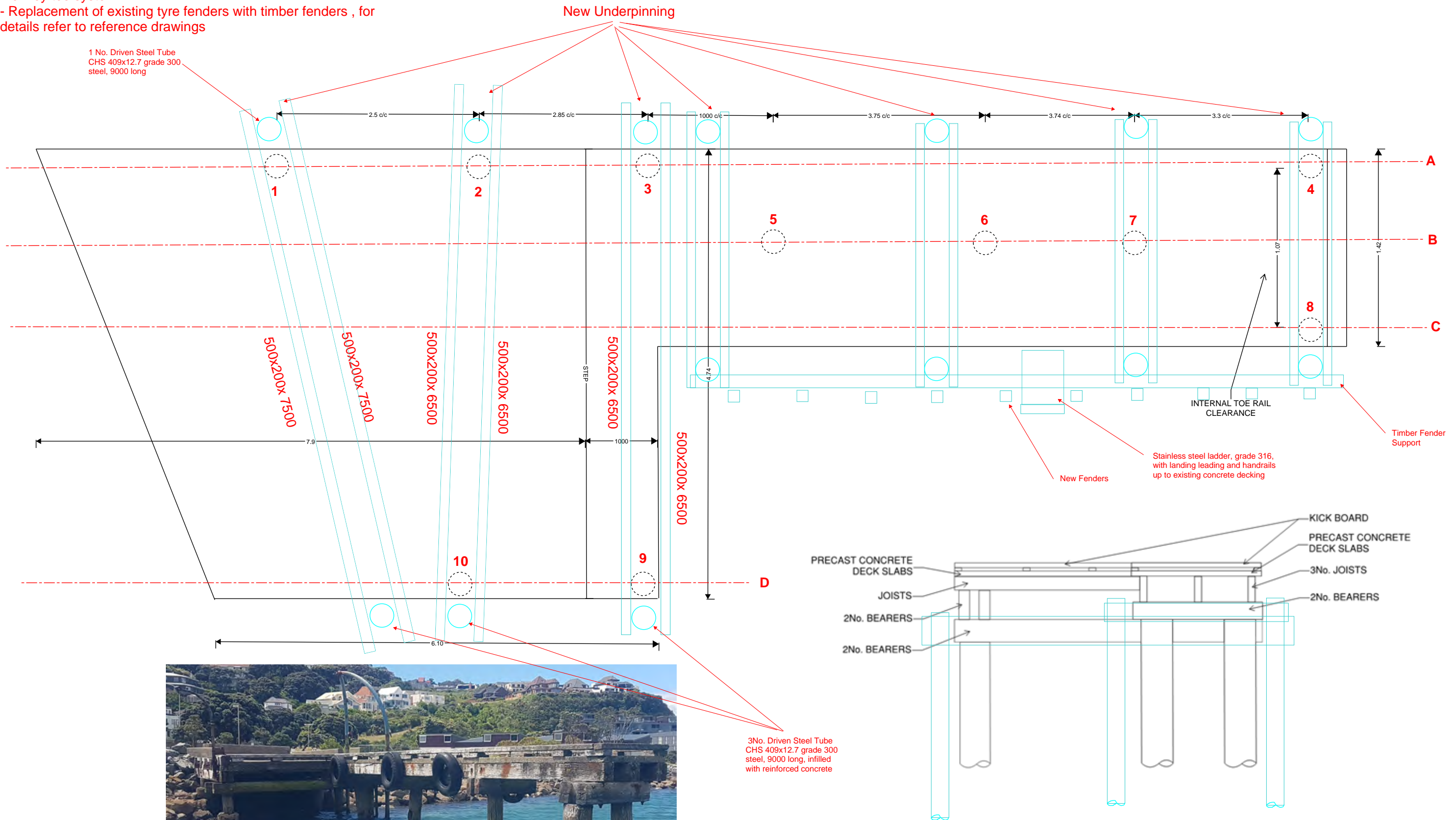
Discipline: MARINE STRUCTURAL	Rev: A
Drawing No: 3320740-SE-K100	

Scope of Repairs:

- Underpinning of all existing piles with new 400 dia timber piles, 9m long, unless noted otherwise and 300x200x 2000 joists unless noted otherwise
- Replacement of ladder, using a proprietary system, such as Monkey toe system
- Replacement of existing tyre fenders with timber fenders, for details refer to reference drawings

Legend:

- Existing structure
- Proposed new structure used for costing purposes



PDF ONLY
NO DWG FILE

A FOR INFORMATION		CP	11.17
No.	Revision	By	Chk. Appd. Date



Original Scale (A1)	Design	Approved For Construction*
N.T.S.	Drawn	Date
Reduced Scale (A3)	Dwg Verifier	
	Dwg Check	
* Refer to Revision 1 for Original Signature		

Client: WELLINGTON CITY COUNCIL

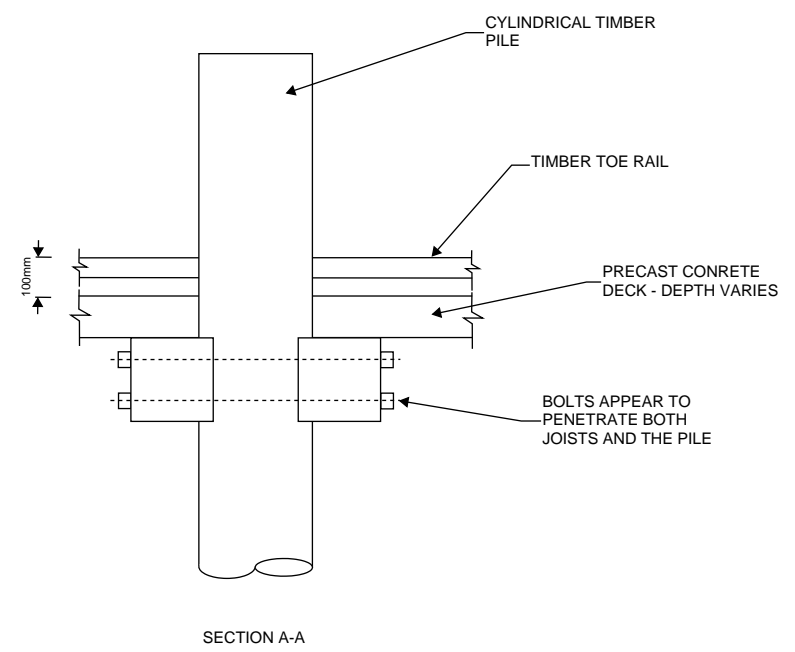
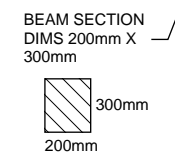
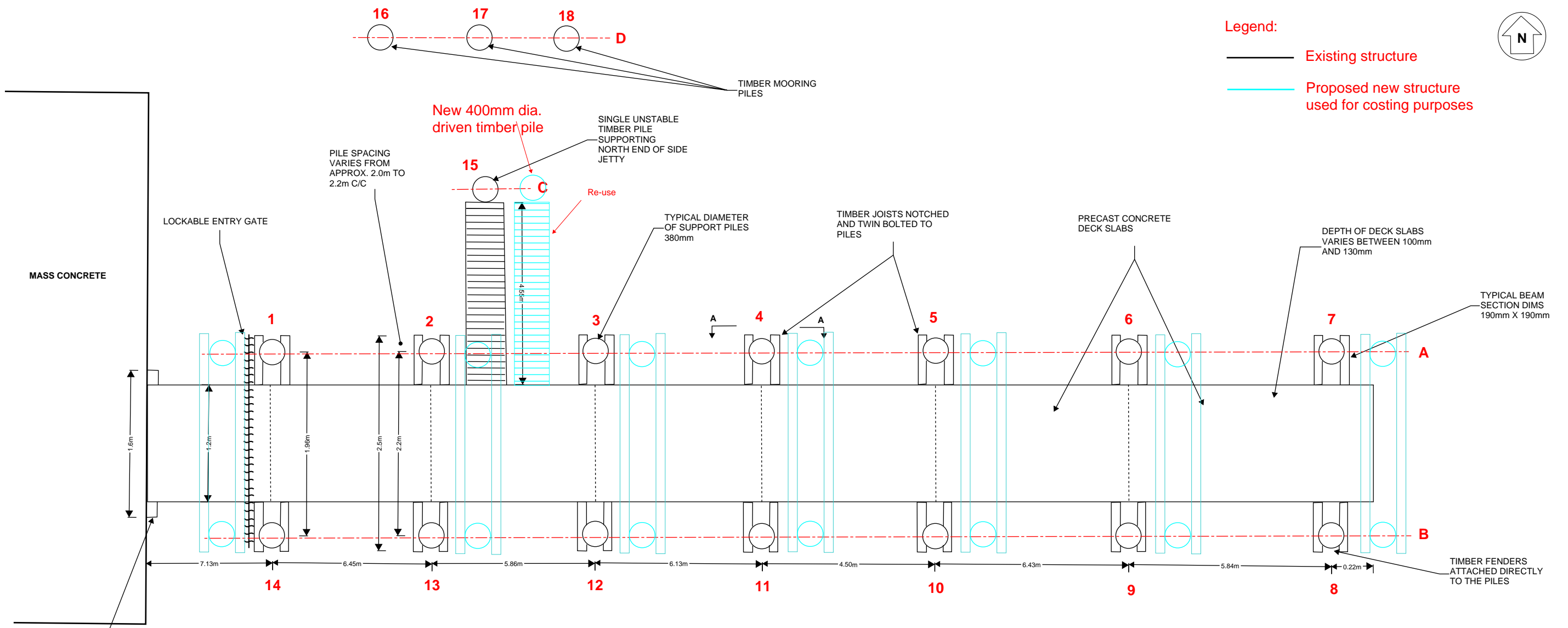
Project: WCC WHARF STRUCTURAL INSPECTION

Title: COG PARK JETTY (HERITAGE)

Discipline	MARINE STRUCTURAL
Drawing No.	3320740-SE-K101
Rev.	A



Legend:
 — Existing structure
 — Proposed new structure used for costing purposes



Scope of Repair works:

- Underpinning of piers, for pile and bearer details refer to reference drawing set
- replacement of slabs with new precast concrete slabs, 200mm deep, 150kg/m³ reinforcement

No.	Revision	By	Chk.	Appd.	Date
A	FOR INFORMATION	CP			03.18



Original Scale (A1)	Design	Approved For Construction*
N.T.S.	Drawn	Date
Reduced Scale (A3)	Design Verifier	
	Design Check	

* Refer to Revision 1 for Original Signature

Client: WELLINGTON CITY COUNCIL

Project: WCC WHARF STRUCTURAL INSPECTIONS

Title: EVANS BAY YACHT CLUB NORTHERN FINGER JETTY

Discipline	MARINE STRUCTURAL
Drawing No.	3320740-SE-K102
Rev.	A

DO NOT SCALE

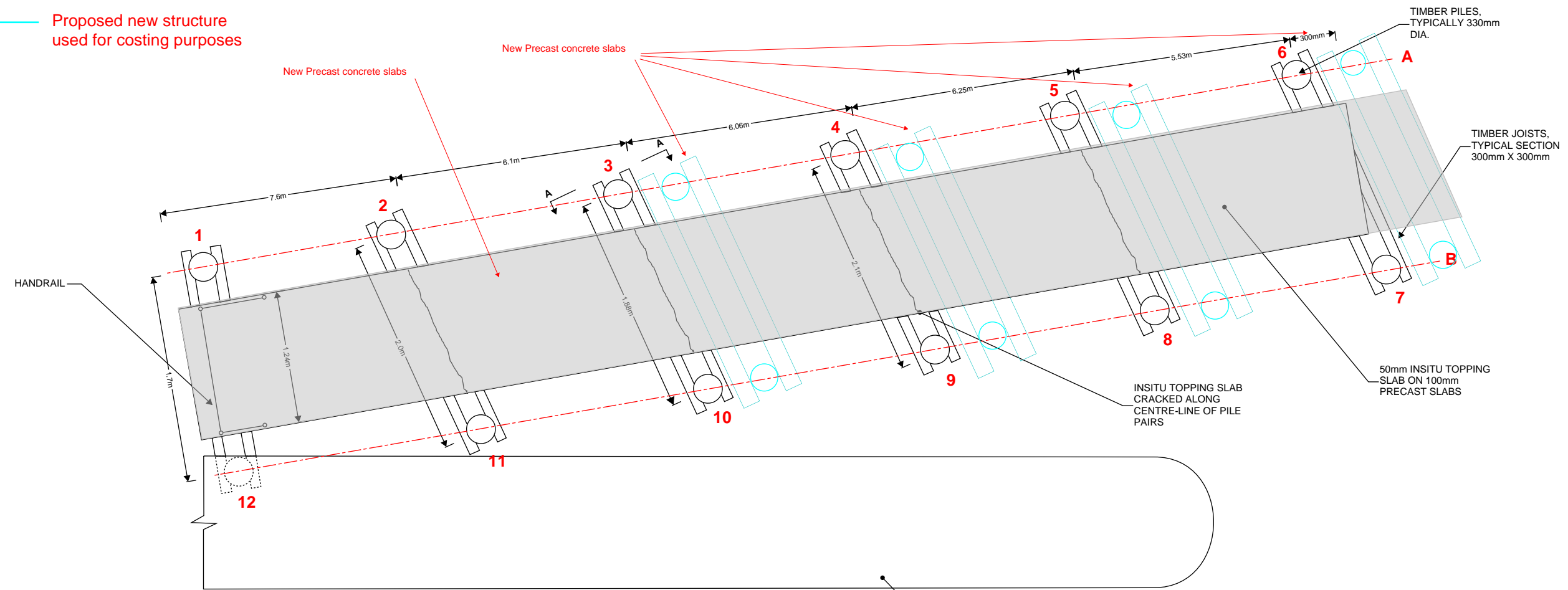
IF IN DOUBT ASK.

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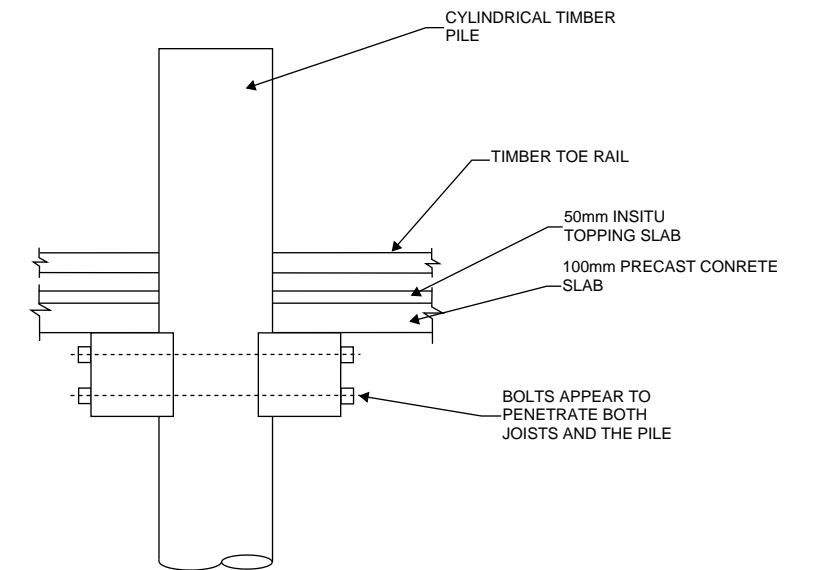
Legend:

- Existing structure
- Proposed new structure used for costing purposes



Scope of Repair works:

- Underpinning of piers, for pile and bearer details refer to reference drawing set
- replacement of slabs with new precast concrete slabs, 200mm deep, 150kg/m3 reinforcement



SECTION A-A

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A FOR INFORMATION		CP	11.17
No.	Revision	By	Chk. Appd. Date



Original Scale (A1)	Design	Approved For Construction*
N.T.S.	Drawn	Date
Reduced Scale (A3)	Dwg Verifier	
	Dwg Check	
* Refer to Revision 1 for Original Signature		

Client: WELLINGTON CITY COUNCIL

Project: WCC WHARF STRUCTURAL INSPECTIONS

Title: EVANS BAY YACHT CLUB SOUTHERN FINGER JETTY

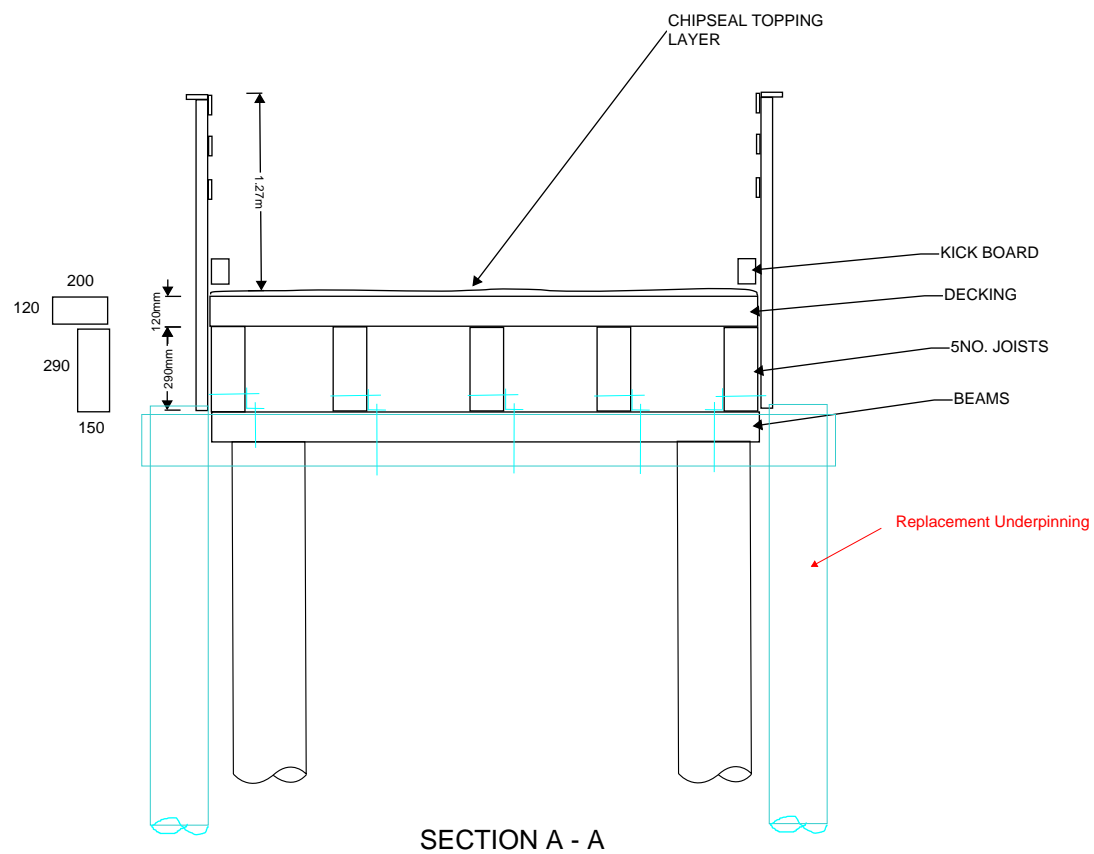
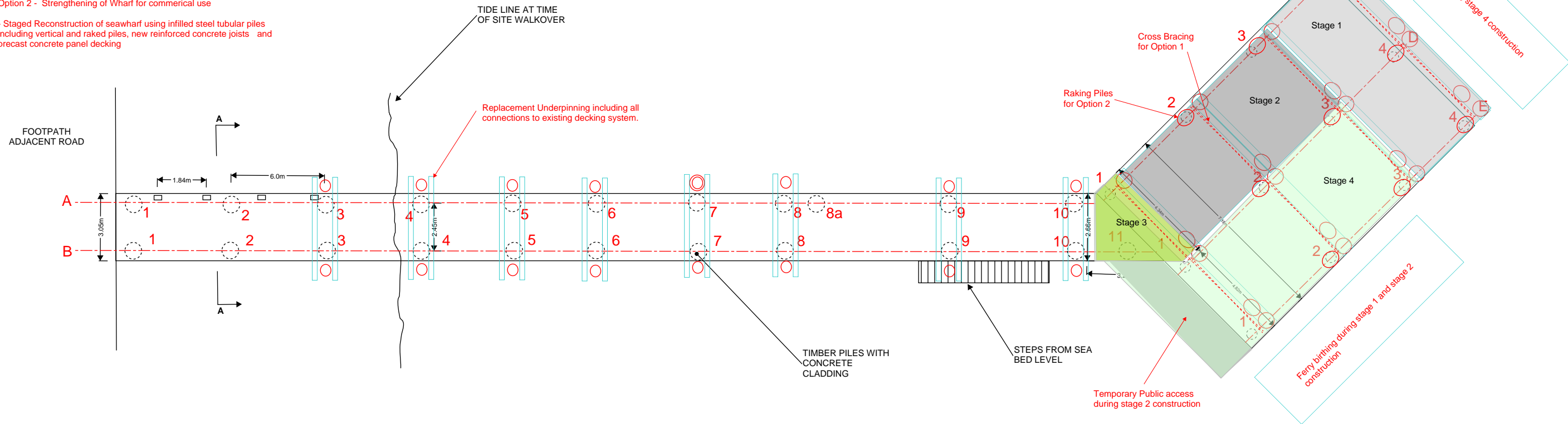
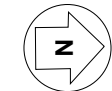
Discipline: MARINE STRUCTURAL	Rev: A
Drawing No: 3320740-SE-K103	

Option 1 - Strengthening of Wharf for recreational use

- Staged Reconstruction of seawharf using driven timber piles including vertical piles, new joists (like for like sizes) and precast concrete panel decking, cross bracing in lieu of installation of raked piles, 5000x 300x 50

Option 2 - Strengthening of Wharf for commercial use

- Staged Reconstruction of seawharf using infilled steel tubular piles including vertical and raked piles, new reinforced concrete joists and precast concrete panel decking



Legend:

- Existing structure
- Proposed new structure used for costing purposes

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No.	Revision	By	Chk.	Appd.	Date
B	FOR INFORMATION	CP			11.17
A	FOR INFORMATION	CP			11.17



Original Scale (A1)	Design	Approved For Construction
N.T.S.	Drawn	Date
Reduced Scale (A3)	Dwg Verifier	
	Dwg Check	
* Refer to Revision 1 for Original Signature		

Client: WELLINGTON CITY COUNCIL

Project: WCC WHARF STRUCTURAL INSPECTIONS

Title: SEATOUN FERRY WHARF

Discipline	MARINE STRUCTURAL
Drawing No.	3320740-SE-K105
Rev	B

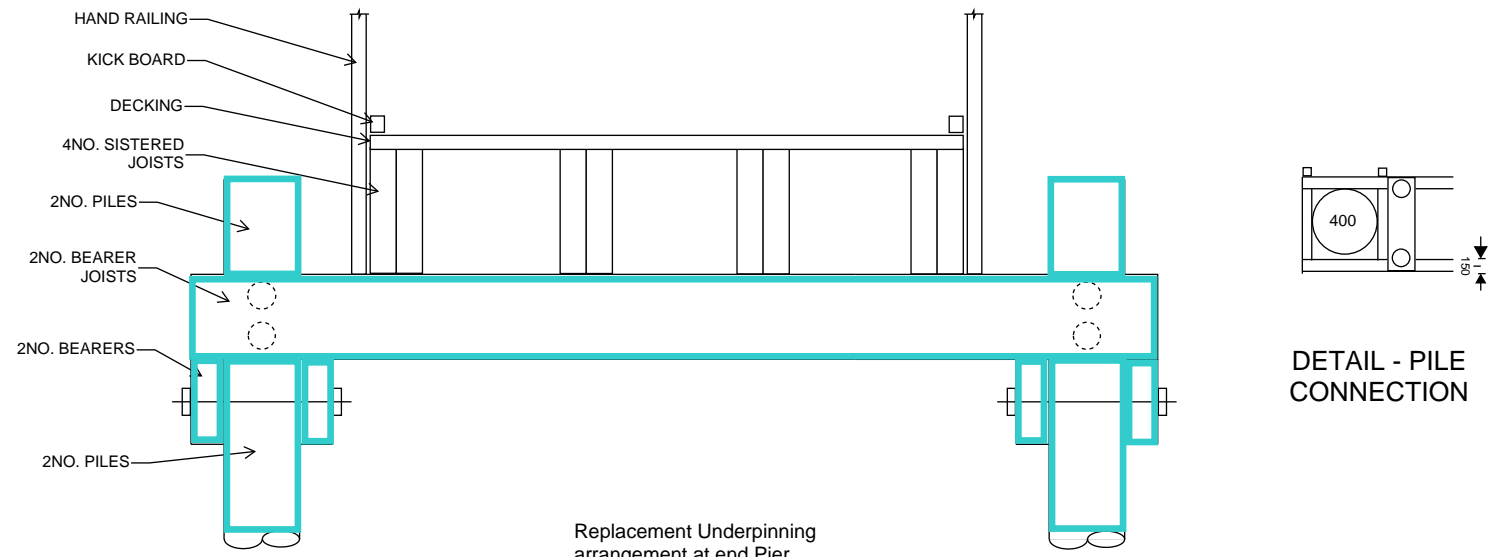
Scope of repairs:

- Replacement underpinning of end pier :

-2 No. 400 dia. driven timber piles, 10m long

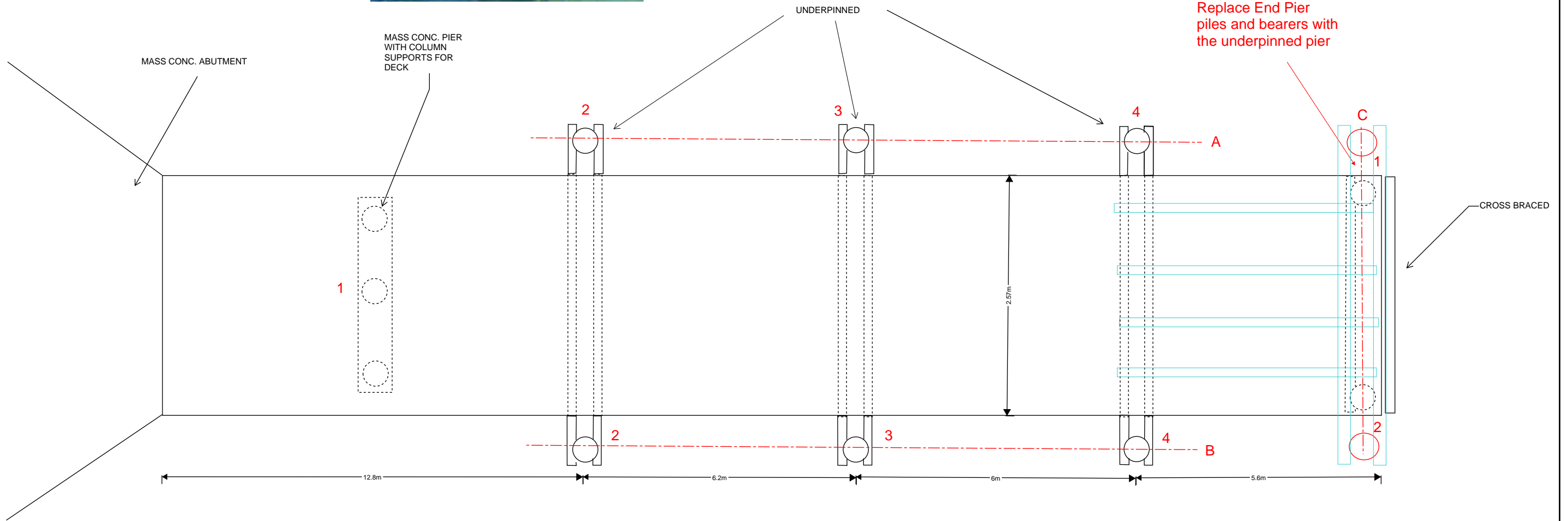
- 2 New bearer joists 300x 200x 4000 (to match already underpinned piers)

- Sistering of Endspan joists : 4No. 400x 100x 6000, grade H6 timber with 4 No. M16 stainless steel bolts, nuts and washers per joist



Replacement Underpinning arrangement at end Pier

DETAIL - PILE CONNECTION



Replace End Pier piles and bearers with the underpinned pier

NOTES
- handrails all along
- not used for boats

Legend:

- Existing structure
- Proposed new structure used for costing purposes

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No.	Revision	By	Chk	Appd	Date
B	FOR INFORMATION	CP			11.17
A	FOR INFORMATION	CP			11.17



Original Scale (A1)	Design	Approved For Construction
N.T.S.	Drawn	Date
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* Refer to Revision 1 for Original Signature		

Client: WELLINGTON CITY COUNCIL

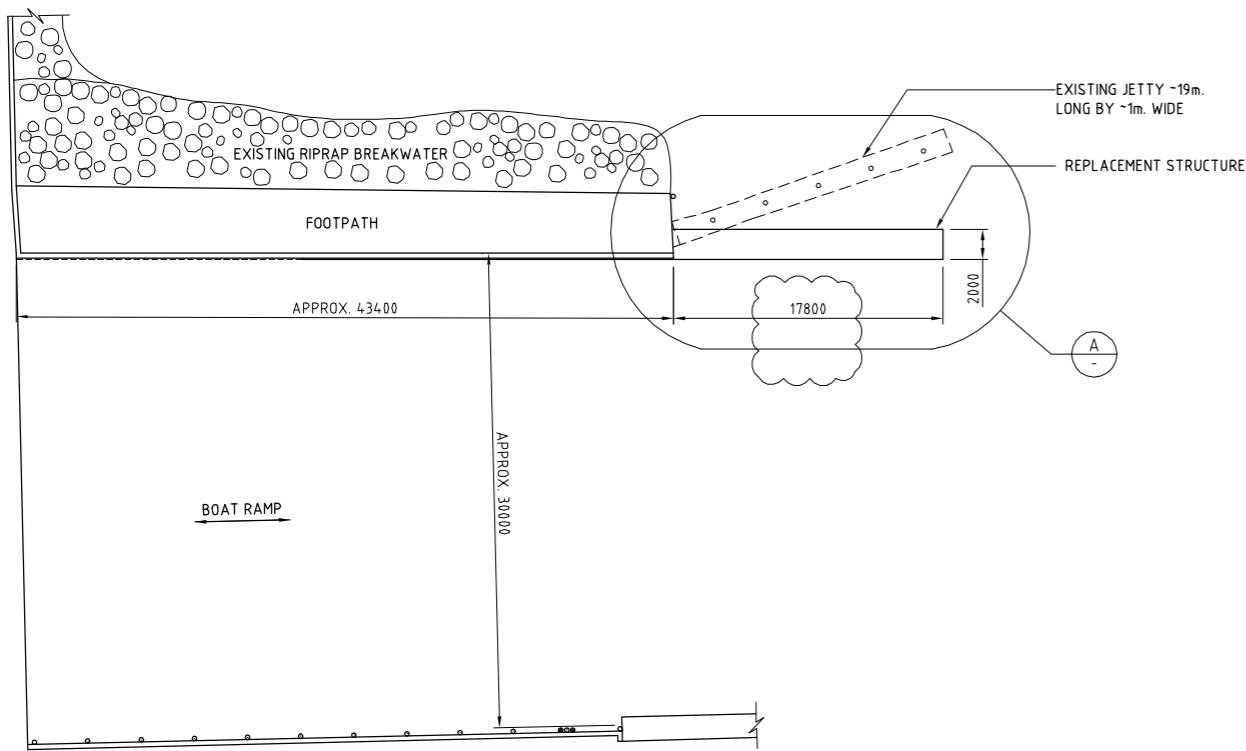
Project: WCC WHARF STRUCTURAL INPSECTIONS

Title: KARAKA BAY WHARF

Discipline	MARINE STRUCTURAL
Drawing No.	3320740-SE-K106
Rev	B

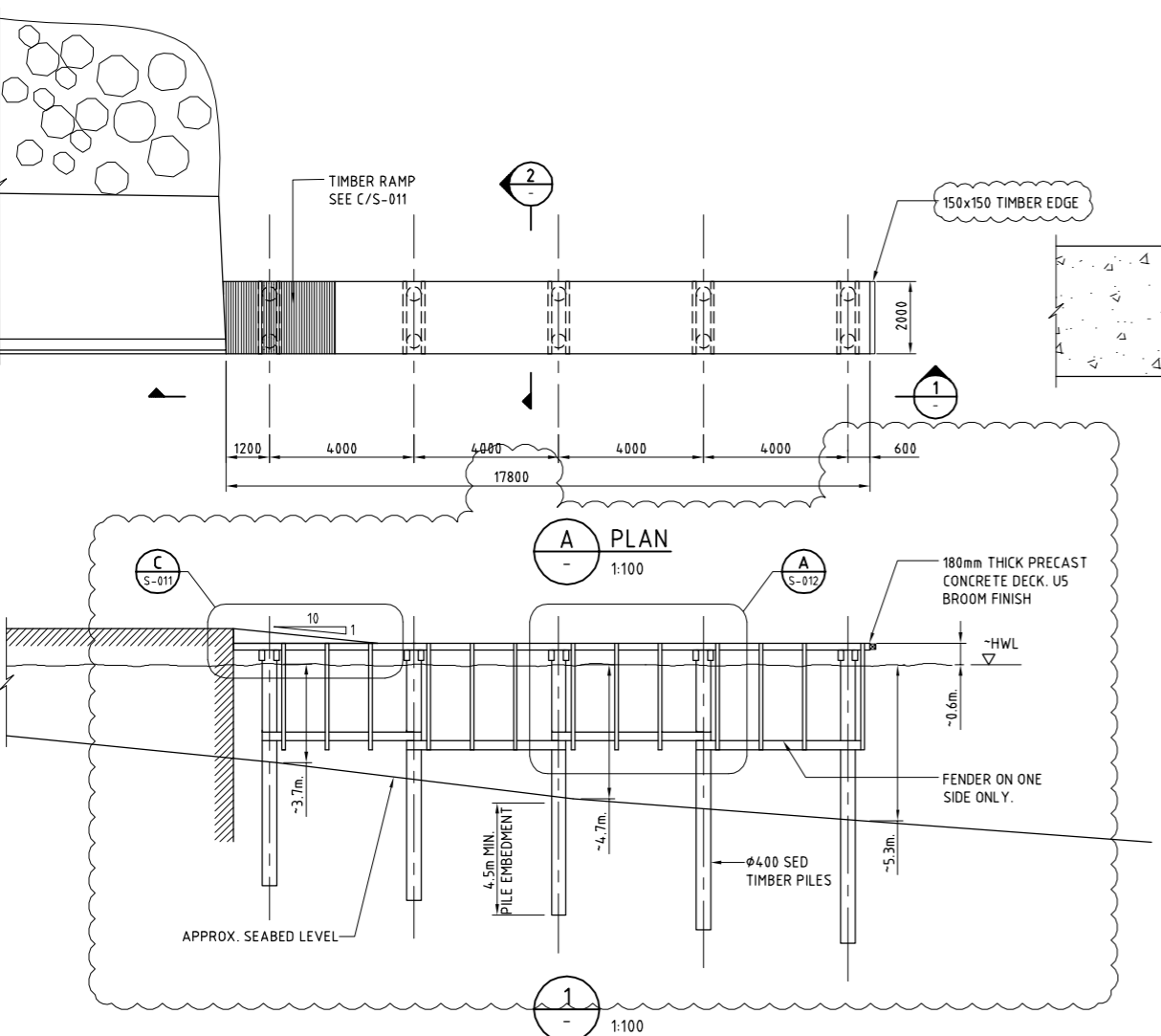
Appendix B – Structural Reference Drawings; Evans Bay Boat Ramp Northern (Finger) Jetty, Constructed 2011

Title	Revision
• 3320740-S-010 Finger Jetty Replacement General Arrangement	1
• 3320740-S-011 Finger Jetty Replacement General Details	1
• 3320740-S-012 Finger Jetty Replacement General Details	1



PLAN - EVANS BAY YACHT CLUB BOAT RAMP

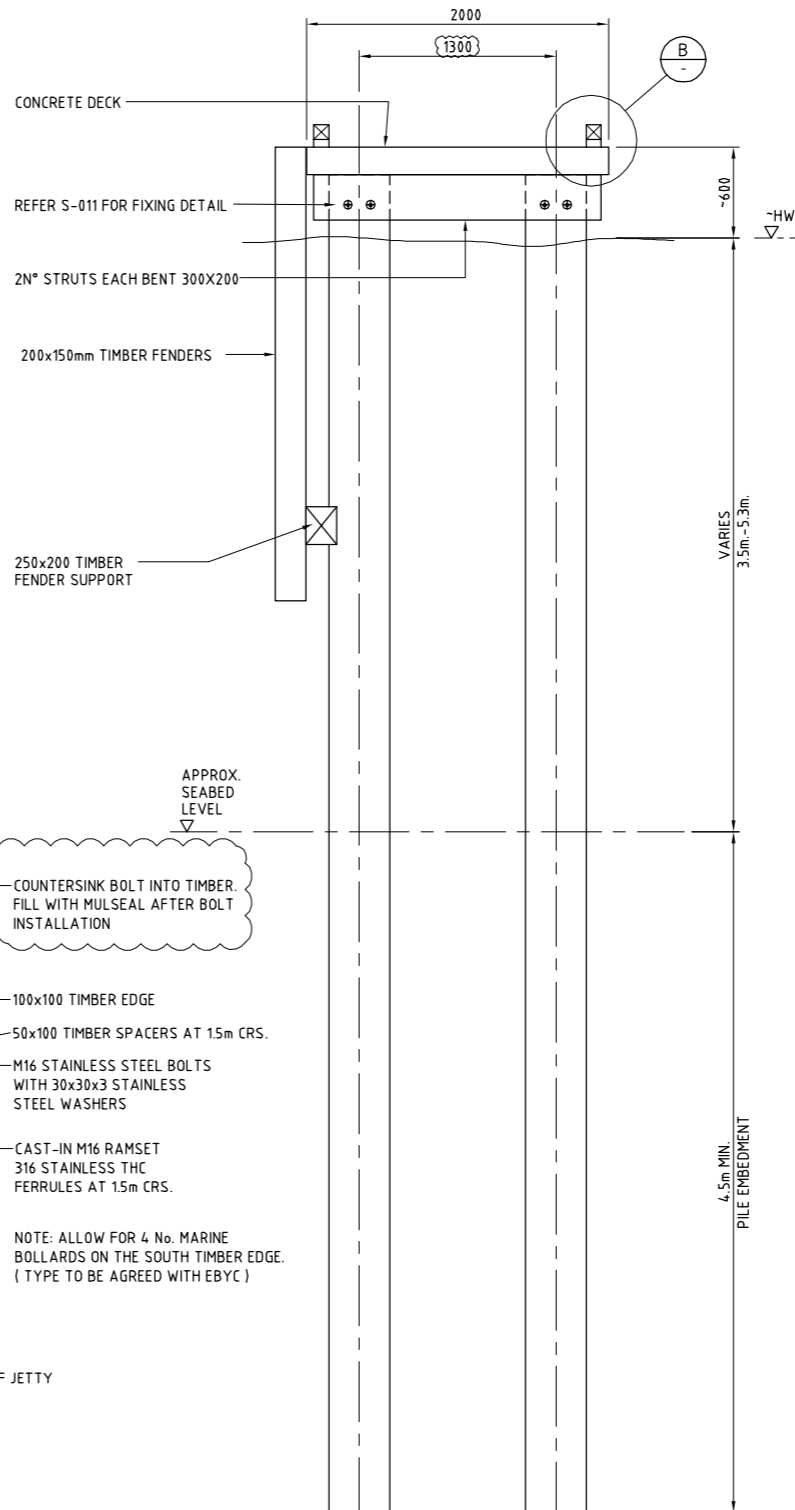
1:500



B DETAIL
1:5

TYPICAL BOTH SIDES OF JETTY

2 SECTION
1:25



GENERAL NOTES:

1. ALL DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE SPECIFICATION, ANY DISCREPANCIES SHALL BE REFERRED TO THE ENGINEER FOR RESOLUTION.
2. SUBSTITUTION FOR OR AMENDMENT OF SPECIFIED DETAILS OR MATERIALS SHALL NOT BE CARRIED OUT WITHOUT APPROVAL FROM THE ENGINEER.
3. STANDARDS LISTED REFER TO THEIR LATEST ISSUE INCLUDING AMENDMENTS THAT ARE CURRENT AT THE TIME OF TENDER.

DIMENSIONS:

1. DISCREPANCIES SHALL BE REFERRED TO THE ENGINEER FOR RESOLUTION.
2. DO NOT SCALE THE DRAWINGS.
3. ALL DIMENSIONS TO EXISTING WORK ARE APPROXIMATE ONLY AND SHALL BE VERIFIED BY SITE MEASUREMENT PRIOR TO FABRICATION AND CONSTRUCTION.

CONCRETE:

1. CONCRETE TO BE 40MPa PRECAST WITH 30% FLYASH WITH MINIMUM CONCRETE COVER OF 60mm ASSUMING AN EXPOSURE CLASSIFICATION "C".
2. 20x20mm CHAMFERS TO USED ON CORNERS.
3. ALL REINFORCEMENT SHALL BE GRADE 500 AS PER AS/NZS 4671

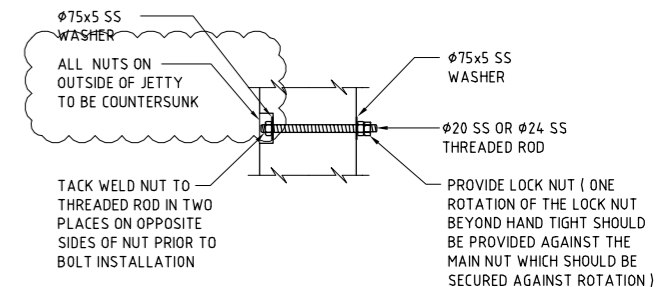
TIMBER:

1. UNLESS SPECIALLY INDICATED OTHERWISE ALL TIMBER CONSTRUCTION SHALL COMPLY WITH NZS 3603, NZS 3604 AND AS/NZS 4357.
2. TIMBER BEARERS TO BE No. 1 FRAMING RADIATA PINE OR GREATER AND TREATED TO TPC GRADE H6.
3. PILES TO BE HARDWOOD PILES STRENGTH GRADE S5 OR HIGHER IN ACCORDANCE WITH AS/NZS 2878:2000 AND PROVIDED WITH CCA TREATMENT TO GRADE H6 AS PER AS1604:2000 TO ACHIEVE DURABILITY OF 40+ YEARS IN MARINE ENVIRONMENT. THE CONTRACTOR SHALL SUBMIT THE SELECTED PILE TYPE FOR ENGINEER APPROVAL SHOWING THAT IT MEETS THE SPECIFIED REQUIREMENTS.
4. PILES TO BE DRIVEN TO ACHIEVE A SAFE WORKING LOAD OF 90kN USING HILEY FORMULA. MINIMUM EMBEDMENT SHALL BE 4.5m (METRES) DEEP INTO SEABED. PILES TO BE REDRIVEN AFTER AT LEAST 24 HOURS TO CONFIRM SET.

FIXINGS:

1. ALL FITTINGS INCLUDING BOLTS, THREADED RODS, NUTS, WASHERS ETC. SHALL BE STAINLESS STEEL GRADE 316 AS PER THE SAE DESIGNATION.

TYPICAL BOLTING DETAIL:



DESIGN BASIS:

1. DESIGN CODES:
 NZS 3101:2006 - CONCRETE STRUCTURES
 NZS 3603:1993 - TIMBER STRUCTURES
 AS 4997:2005 - GUIDELINES FOR THE DESIGN OF MARINAS
2. DESIGN LIFE 50 YEARS
3. IMPORTANCE LEVEL 1

FOR CONSTRUCTION

1	FOR CONSTRUCTION	RAL	HWT	RDJ	22.12.10
0B	FOR BUILDING CONSENT	RAL	VH	RDJ	01.10.10
0A	RE-ISSUED FOR TENDER	RAL	VH	RDJ	24.09.10
0	FOR TENDER	WN	VH	RDJ	14.09.10
No.	Revision	By	Chk	Appd	Date

Drawing Originator:



Original Scale (A1)	Design	CA	22.12.10	Approved For Construction*
SHOWN	Drawn	WN	22.12.10	BJS
Reduced Scale (A3)	Dwg Verifier	SK	22.12.10	Date
SHOWN	Dwg Check	VH	22.12.10	

* Refer to Revision 1 for Original Signature

Client:



Project: EVANS BAY SEAWALL REMEDIAL WORKS

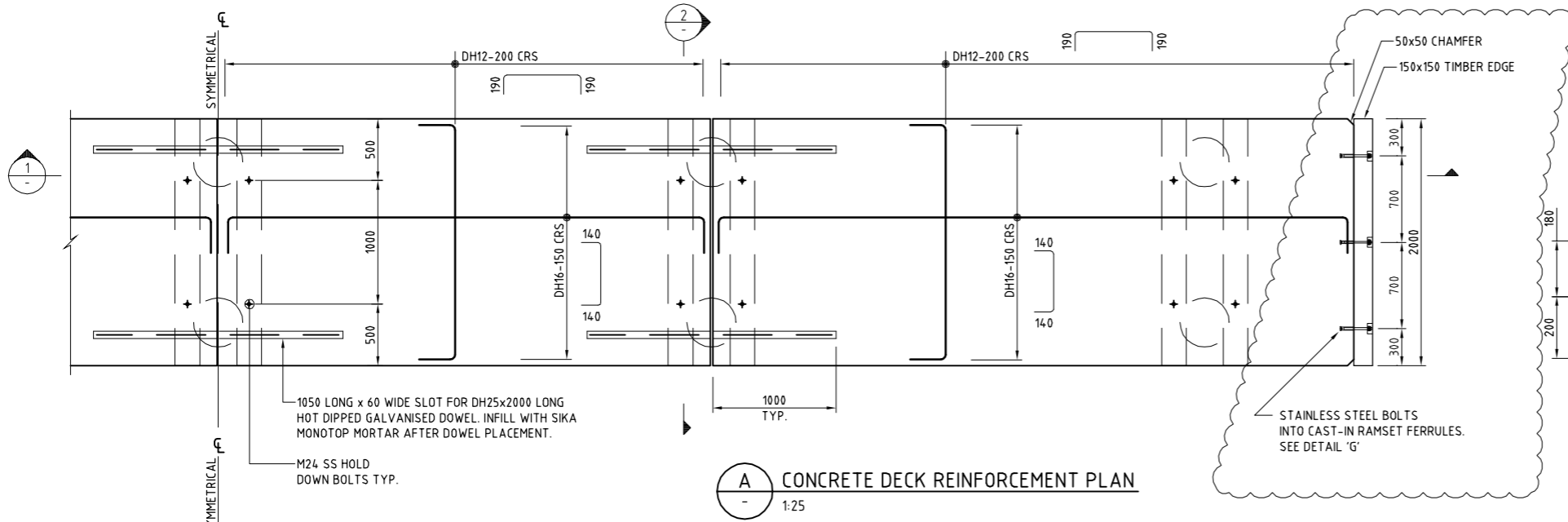
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Discipline: STRUCTURAL

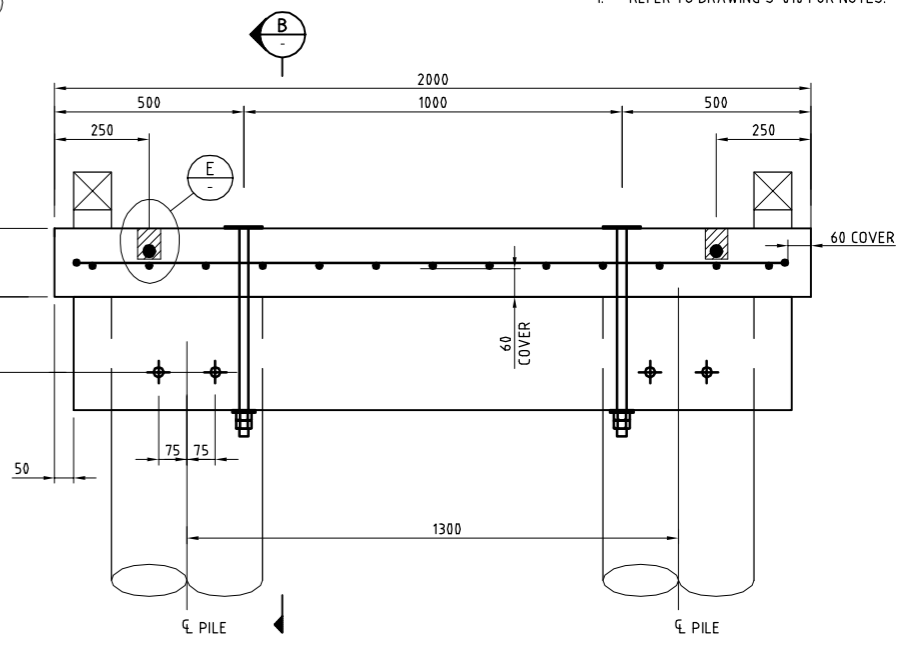
Drawing No. 3320740-S-010

Rev. 1

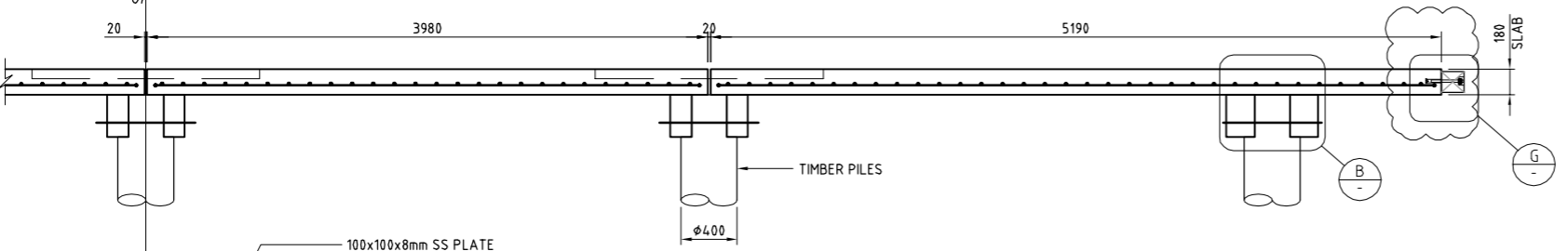
NOTES:
1. REFER TO DRAWING S-010 FOR NOTES.



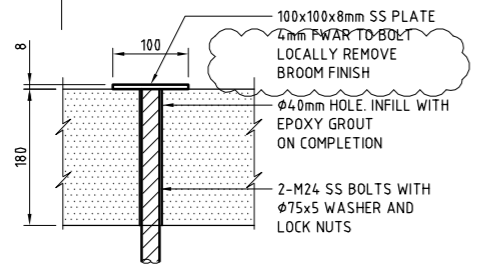
A CONCRETE DECK REINFORCEMENT PLAN
1:25



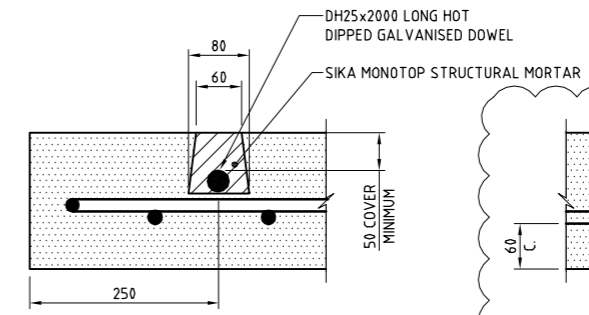
2 CONCRETE DECK CROSS SECTION
1:10



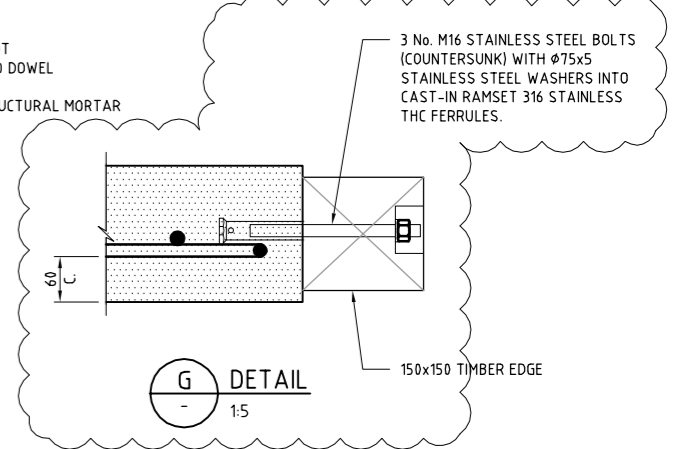
1 CONCRETE DECK LONG SECTION
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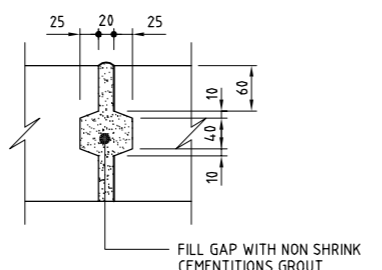
D DETAIL
1:5



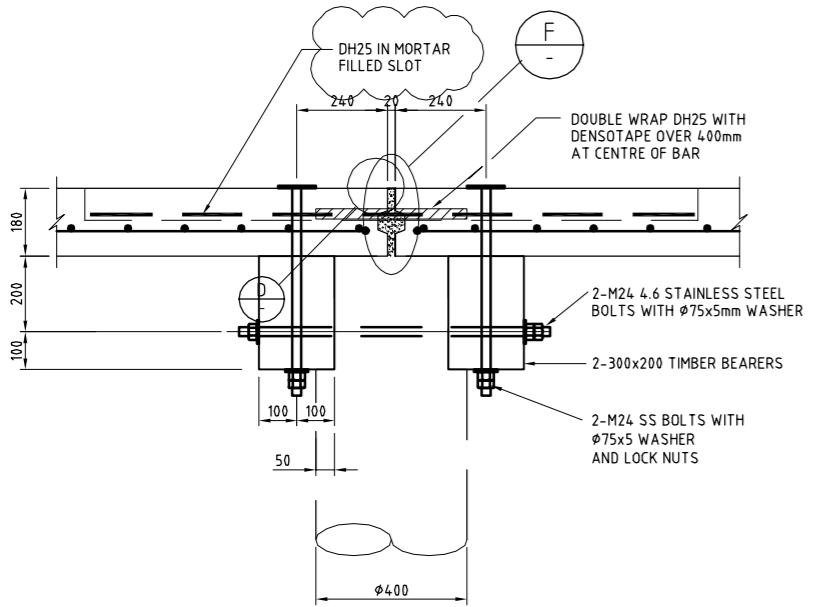
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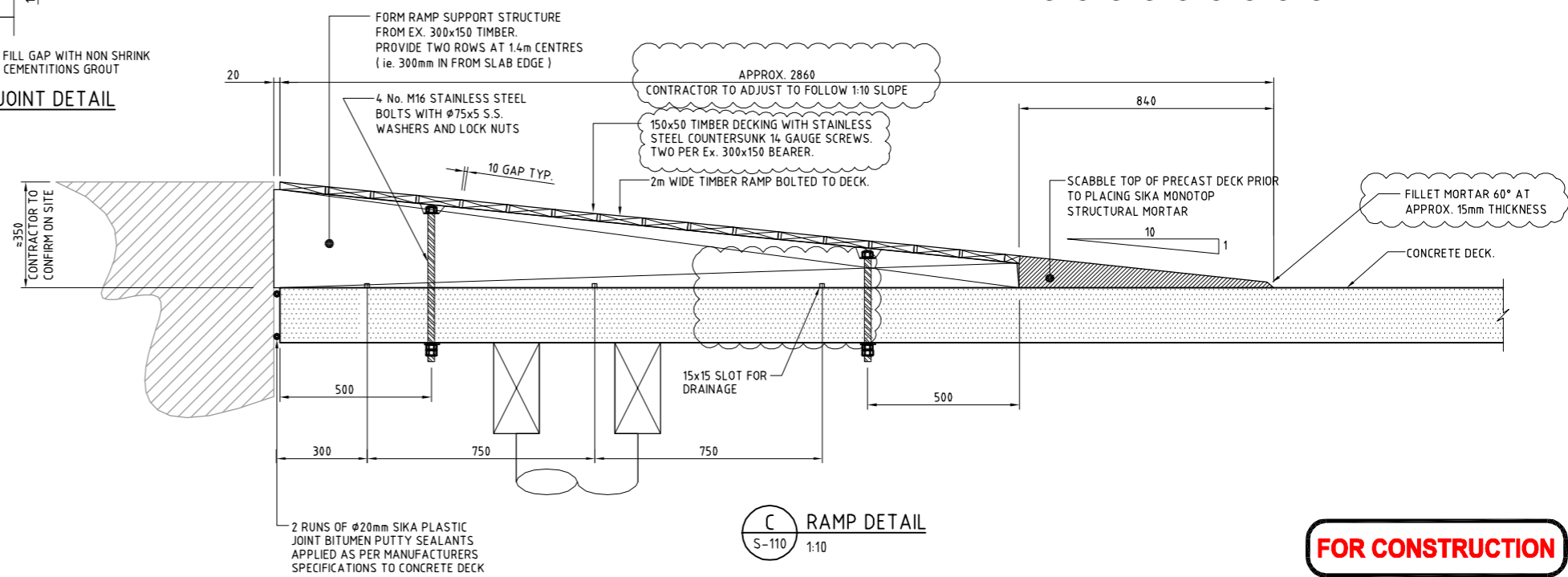
G DETAIL
1:5



F DECK JOINT DETAIL
1:10



B TIMBER BEARER FIXING DETAIL
1:10



C RAMP DETAIL
S-110 1:10

FOR CONSTRUCTION

1	FOR CONSTRUCTION	RAL	HWT	RDJ	22.12.10
0B	FOR BUILDING CONSENT	RAL	VH	RDJ	01.10.10
0A	RE-ISSUED FOR TENDER	RAL	VH	RDJ	26.09.10
0	FOR TENDER	WN	VH	RDJ	14.09.10
No.	Revision	By	Chk	Appd	Date

Drawing Originator:
Beca

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Reduced Scale (A3) SHOWN	Drawn	WN	22.12.10	BJS
	Dwg Verifier	SK	22.12.10	
	Dwg Check	VH	22.12.10	Date

* Refer to Revision 1 for Original Signature

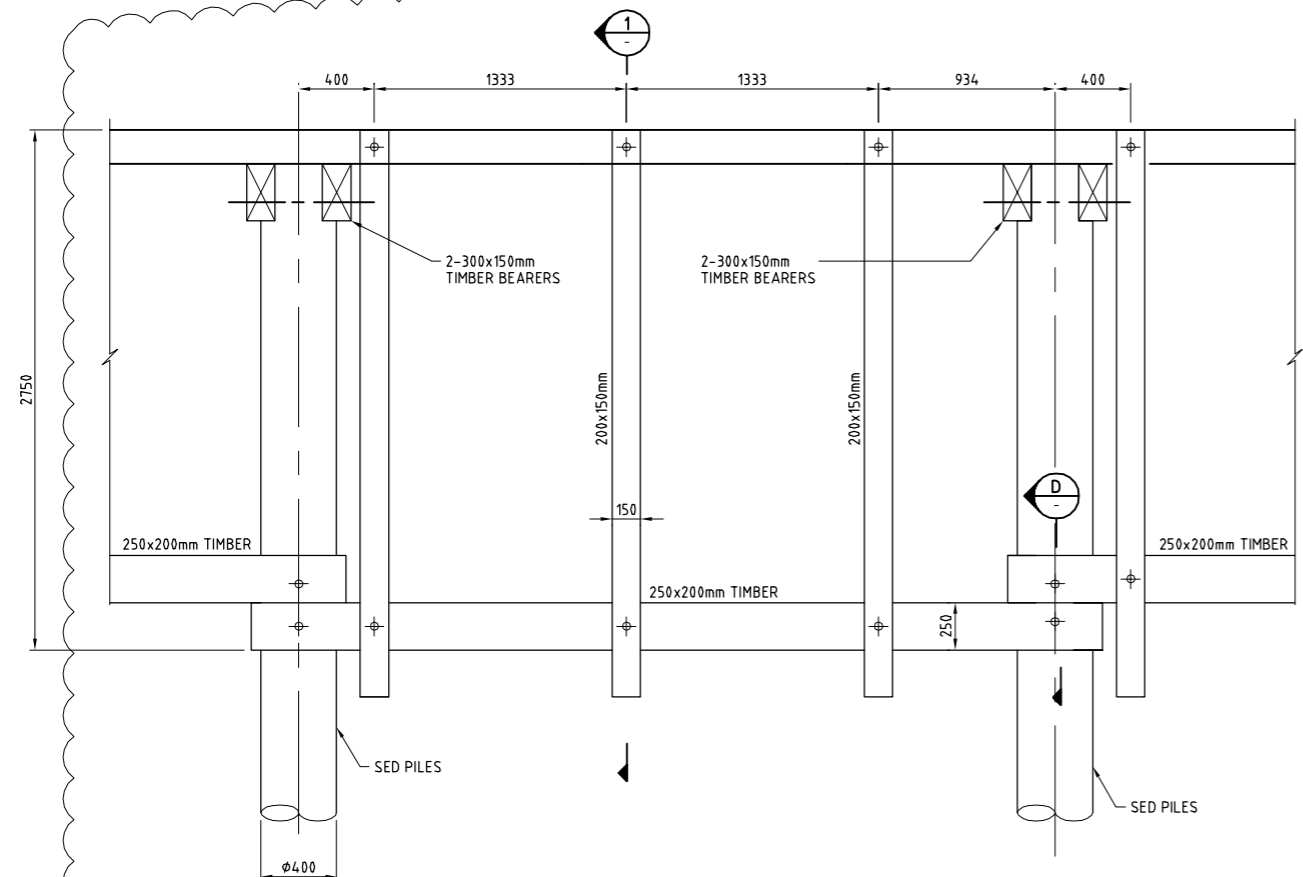
Client:
Absolutely Positively Wellington

Project: **EVANS BAY SEAWALL REMEDIAL WORKS**

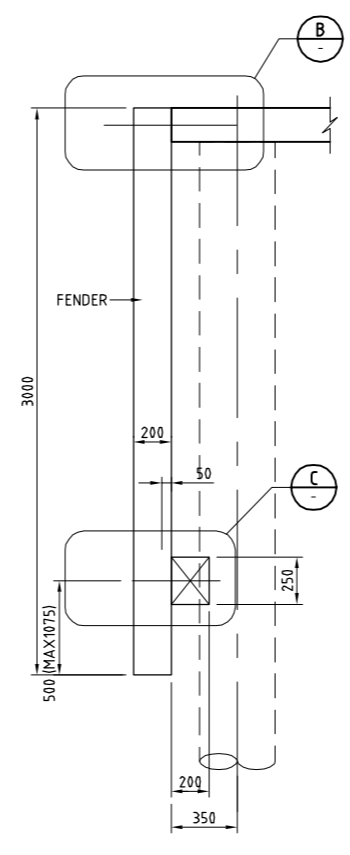
Title: **FINGER JETTY REPLACEMENT GENERAL DETAILS**

Discipline	STRUCTURAL
Drawing No.	3320740-S-011
Rev.	1

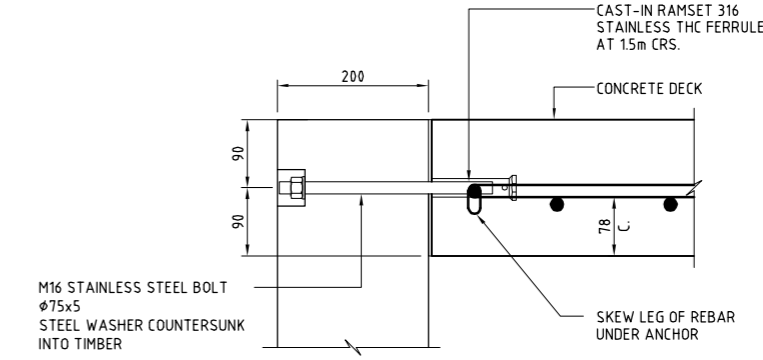
NOTES:
 1. REFER TO DRAWING S-010 FOR NOTES.



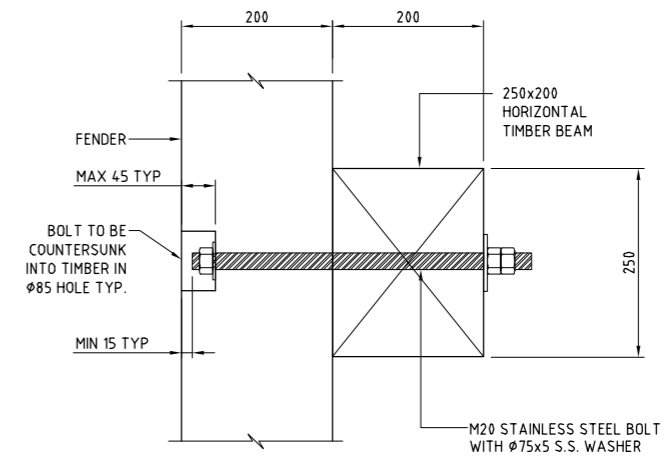
A FENDER SYSTEM PER BAY, TYP.
 S-010 1:20



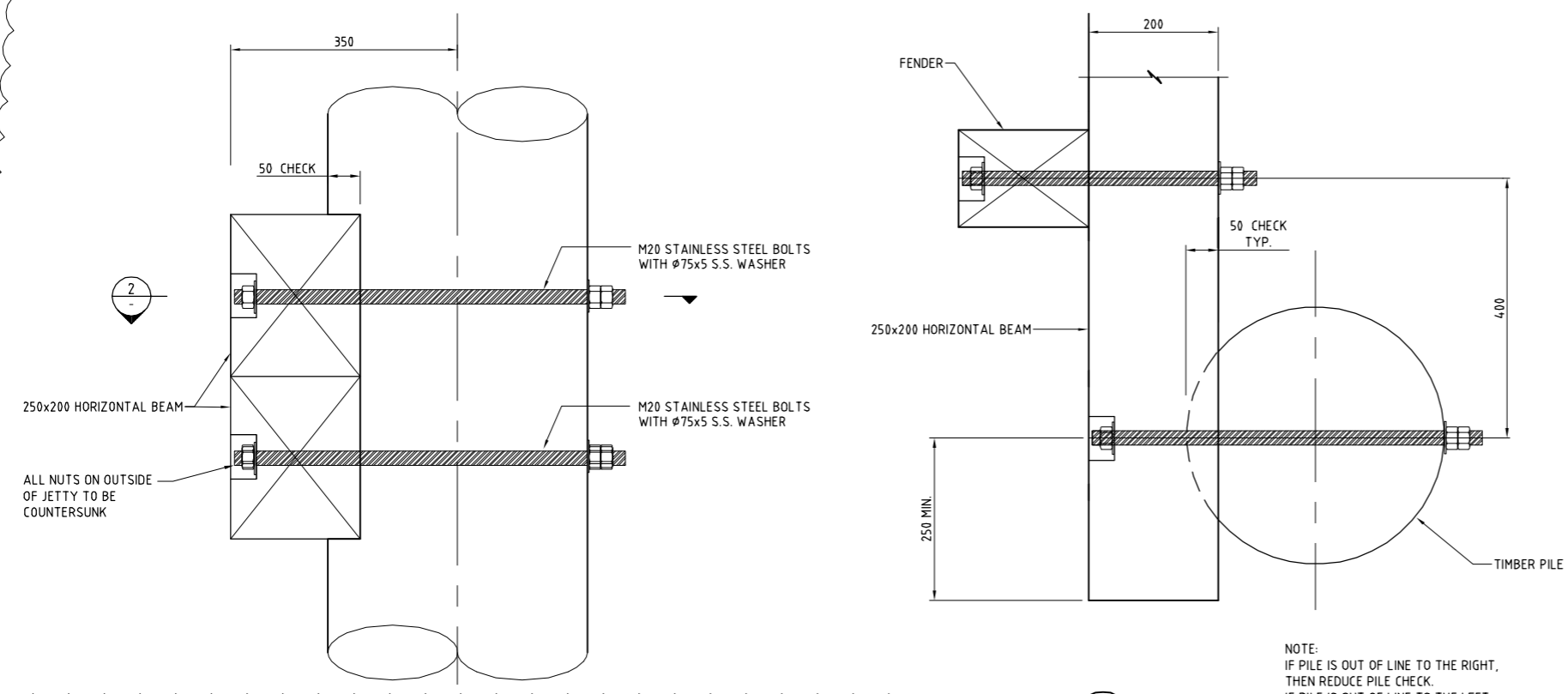
1 SECTION
 1:20



B FENDER FIXING DETAIL AT DECK LEVEL
 1:5



C FENDER FIXING DETAIL AT BOTTOM LEVEL
 1:5



D FENDER FIXING DETAIL AT BOTTOM LEVEL
 1:5

2 SECTION
 1:5

FOR CONSTRUCTION

1	FOR CONSTRUCTION	RAL	HWT	RDJ	22.12.10
0B	FOR BUILDING CONSENT	RAL	VH	RDJ	01.10.10
0A	RE-ISSUED FOR TENDER	RAL	VH	RDJ	24.09.10
0	FOR TENDER	WN	VH	RDJ	14.09.10
No.	Revision	By	Chk	Appd	Date

Drawing Originator:

Original Scale (A1) SHOWN	Design	CA	22.12.10	Approved For Construction*
Reduced Scale (A3) SHOWN	Drawn	WN	22.12.10	BJS
	Dwg Verifier	SK	22.12.10	Date
	Dwg Check	VH	22.12.10	Date

* Refer to Revision 1 for Original Signature

Client:



Project: **EVANS BAY SEAWALL REMEDIAL WORKS**

Title: **FINGER JETTY REPLACEMENT GENERAL DETAILS**

Discipline	STRUCTURAL
Drawing No.	3320740-S-012
Rev.	1

Appendix C – Detailed Breakdown of Structural Maintenance Rough Order Costs



ROUGH ORDER COST ESTIMATE Greta Point

Code	Description	Quantity	Unit	Rate	Total
	<p>GRETA POINT WHARF</p> <p>Rough Order of Cost estimate for Concept Repair Scheme of Greta Point Wharf</p> <p>Estimated 13 April 2018 by Barry Calvert</p> <p>Verified 17 April 2018 by Kobus Beukes</p> <p>Basis of Estimate</p> <p>This estimate is based on the following documentation:</p> <p>Beca concept plan 3320740-SE-K100 rev.A</p> <p>Rates assume competitive tender for 3 or more jetties/wharfs to be completed under one contract. Additional cost should be expected if tenders are called for only one jetty/wharf at a time.</p> <p>Assumptions and Clarifications</p> <p>Concept plan is not drawn to scale. Measurement taken from stated dimensions and calibrated Google Map images</p> <p>Repair concept assumes the existing piles and bearers will remain in place to reduce the cost of removal</p> <p>All timber assume to be VSG8 H6</p> <p>No specific risk of analysis undertaken</p> <p>All fixings to be marine quality stainless steel</p> <p>Exclusions</p> <p>Temporary or permanent removal, relocation or replacement of wharf services incl. overhead lighting, power and water supply lines</p> <p>Professional fees</p> <p>Local Authority fees and consents</p> <p>Working after-hours</p> <p>Admin, legal or financial costs</p> <p>Costs associated with continued use of wharf during repair work</p> <p>Escalation of rates beyond the date of this estimate</p> <p>Goods and Services Tax</p> <p>Contingencies</p> <p>The estimating contingency is integral to the estimating total. It is a general allowance for residual cost risk including design development, errors, omissions and assumptions, site conditions and changes to methodology.</p> <p>The Contingency allowance below is considered appropriate for the level of design detail available.</p> <p>No allowance for clients Project Contingency.</p> <p>ESTIMATE</p> <p>Demolition</p> <p>200x50 timber braces</p> <p>M24 stainless steel threaded rod for timber to timber connections</p> <p>M24 stainless steel nut and 75x75x5 washer</p> <p>316 stainless steel L-bracket (bearer to joist) incl bolts</p> <p>Rounding</p> <p>SubTotal</p>				
		1	sum		2,000
		24	m	40.00	960
		12	m	90.00	1,080
		48	no	45.00	2,160
		24	no	250.00	6,000
		-2	dec.		0
					12,200



ROUGH ORDER COST ESTIMATE
Greta Point

Code	Description	Quantity	Unit	Rate	Total
	Contractors Overheads & Margin	20	%		2,500
	Contingency for Concept Level Design	30	%		4,500
	Total for Estimate (NZD)				19,200



ROUGH ORDER COST ESTIMATE Cog Park Jetty

Code	Description	Quantity	Unit	Rate	Total
	<p>COG PARK JETTY</p> <p>Rough Order of Cost estimate for Concept Repair Scheme of Cog Park Jetty</p> <p>Estimated 13 April 2018 by Barry Calvert</p> <p>Verified 17 April 2018 by Kobus Beukes</p> <p>Basis of Estimate</p> <p>This estimate is based on the following documentation:</p> <p>Beca concept plan 3320740-SE-K101 rev.A</p> <p>Rates assume competitive tender for 3 or more jetties/wharfs to be completed under one contract. Additional cost should be expected if tenders are called for only one jetty/wharf at a time.</p> <p>Assumptions and Clarifications</p> <p>Concept plan is not drawn to scale. Measurement taken from stated dimensions and calibrated Google Map images</p> <p>Repair concept assumes the existing piles will remain in place to bi-pass the cost of removal</p> <p>All timber assume to be VSG8 H6</p> <p>No specific risk of analysis undertaken</p> <p>All fixings to be marine quality stainless steel</p> <p>Exclusions</p> <p>Temporary or permanent removal, relocation or replacement of wharf services incl. overhead lighting, power and water supply lines</p> <p>Professional fees</p> <p>Local Authority fees and consents</p> <p>Working after-hours</p> <p>Admin, legal or financial costs</p> <p>Costs associated with continued use of wharf during repair work</p> <p>Escalation of rates beyond the date of this estimate</p> <p>Goods and services tax</p> <p>Contingencies</p> <p>The estimating contingency is integral to the estimating total. It is a general allowance for residual cost risk including design development, errors, omissions and assumptions, site conditions and changes to methodology.</p> <p>The Contingency allowance below is considered appropriate for the level of design detail available.</p> <p>No allowance for clients Project Contingency.</p> <p>ESTIMATE</p> <p>Demolition and Temporary Removal</p> <p>409x12.7 grade 300 CHS tube 9.0m long driven into rock, filled with 30MPa concrete and 75kg/m³ rebar (assumed)</p> <p>400 dia timber piles 9.0m long driven to solid</p> <p>500x200 laminated bearer</p> <p>250x200 fender support</p> <p>200x150 fender 3.0m long</p>				
		1	sum		1,000
		4	no	5,400.00	21,600
		10	no	4,400.00	44,000
		58	m	390.00	22,620
		19	m	190.00	3,610
		10	no	120.00	1,200



ROUGH ORDER COST ESTIMATE
Cog Park Jetty

Code	Description	Quantity	Unit	Rate	Total
	M24 4.6 stainless steel threaded rod in all locations	37	m	90.00	3,330
	M24 4.6 stainless steel nut and 75x75x5 washer	112	no	45.00	5,040
	316 stainless steel L-bracket (bearer to joist) incl bolts	57	no	240.00	13,680
	New stainless steel ladder	1	sum		1,500
	Rounding	-2	dec.		20
	SubTotal				117,600
	Contractors Overheads & Margin	20	%		23,600
	Contingency for Concept Level Design	30	%		42,400
	Total for Estimate (NZD)	54	m2	3,396	183,600



ROUGH ORDER COST ESTIMATE Evans Bay North

Code	Description	Quantity	Unit	Rate	Total
	<p>EVANS BAY YACHT CLUB - NORTH JETTY</p> <p>Rough Order of Cost estimate for Concept Repair Scheme of Evans Bay YC's Northern Finger Jetty</p> <p>Estimated 13 April 2018 by Barry Calvert</p> <p>Verified 17 April 2018 by Kobus Beukes</p> <p>Basis of Estimate</p> <p>This estimate is based on the following documentation:</p> <p>Beca concept plan 3320740-SE-K102 rev.A</p> <p>Rates assume competitive tender for 3 or more jetties/wharfs to be completed under one contract. Additional cost should be expected if tenders are called for only one jetty/wharf at a time.</p> <p>Assumptions and Clarifications</p> <p>Concept plan is not drawn to scale. Measurement taken from stated dimensions and calibrated Google Map images</p> <p>Repair concept assumes the existing piles and bearers will remain in place to reduce the cost of removal</p> <p>All timber assume to be VSG8 H6</p> <p>No specific risk of analysis undertaken</p> <p>All fixings to be marine quality stainless steel</p> <p>Exclusions</p> <p>Temporary or permanent removal, relocation or replacement of wharf services incl. overhead lighting, power and water supply lines</p> <p>Professional fees</p> <p>Local Authority fees and consents</p> <p>Working after-hours</p> <p>Admin, legal or financial costs</p> <p>Costs associated with continued use of wharf during repair work</p> <p>Escalation of rates beyond the date of this estimate</p> <p>Goods and Services Tax</p> <p>Contingencies</p> <p>The estimating contingency is integral to the estimating total. It is a general allowance for residual cost risk including design development, errors, omissions and assumptions, site conditions and changes to methodology.</p> <p>The Contingency allowance below is considered appropriate for the level of design detail available.</p> <p>No allowance for clients Project Contingency.</p> <p>ESTIMATE</p> <p>Demolition and Temporary Removal</p> <p>330 dia timber piles 9.0m long driven to solid</p> <p>300x300 timber support beams</p> <p>200 thick precast deck panels with rebar at 150kg/m3</p> <p>50 thick topping slab</p> <p>200x150 timber fender 3.0m long</p>				
		1	sum		17,000
		15	no	3,300.00	49,500
		30	m	310.00	9,300
		53	m2	460.00	24,305
		53	m2	30.00	1,585
		6	no	120.00	720



ROUGH ORDER COST ESTIMATE
Evans Bay North

Code	Description	Quantity	Unit	Rate	Total
	M24 stainless steel threaded rod welded to 100x100x8 ss plate, for slab to timber connections	28	no.	90.00	2,520
	M24 stainless steel threaded rod for timber to timber connections	33	m	90.00	2,970
	M24 stainless steel nut and 75x75x5 washer	112	no	45.00	5,040
	Relocate 4.5m long side jetty	1	sum		6,000
	New kick boards	90	m	110.00	9,907
	Reinstate security barrier	1	sum		2,000
	Rounding	-2	dec.		54
	SubTotal				130,900
	Contractors Overheads & Margin	20	%		26,200
	Contingency for Concept Level Design	30	%		47,200
	Total for Estimate (NZD)	53	m2	3,867	204,300



ROUGH ORDER COST ESTIMATE
Evans Bay South

Code	Description	Quantity	Unit	Rate	Total
	<p>EVANS BAY YACHT CLUB - SOUTH JETTY</p> <p>Rough Order of Cost estimate for Concept Repair Scheme of Evans Bay YC's Southern Finger Jetty</p> <p>Estimated 13 April 2018 by Barry Calvert</p> <p>Verified 17 April 2018 by Kobus Beukes</p> <p>Basis of Estimate</p> <p>This estimate is based on the following documentation:</p> <p>Beca concept plan 3320740-SE-K103 rev.A</p> <p>Rates assume competitive tender for 3 or more jetties/wharfs to be completed under one contract. Additional cost should be expected if tenders are called for only one jetty/wharf at a time.</p> <p>Assumptions and Clarifications</p> <p>Concept plan is not drawn to scale. Measurement taken from stated dimensions and calibrated Google Map images</p> <p>Repair concept assumes the existing piles will remain in place to bi-pass the cost of removal</p> <p>All timber assume to be VSG8 H6</p> <p>No specific risk of analysis undertaken</p> <p>All fixings to be marine quality stainless steel</p> <p>Exclusions</p> <p>Temporary or permanent removal, relocation or replacement of wharf services incl. overhead lighting, power and water supply lines</p> <p>Professional fees</p> <p>Local Authority fees and consents</p> <p>Working after-hours</p> <p>Admin, legal or financial costs</p> <p>Costs associated with continued use of wharf during repair work</p> <p>Escalation of rates beyond the date of this estimate</p> <p>Goods and Services Tax</p> <p>Contingencies</p> <p>The estimating contingency is integral to the estimating total. It is a general allowance for residual cost risk including design development, errors, omissions and assumptions, site conditions and changes to methodology.</p> <p>The Contingency allowance below is considered appropriate for the level of design detail available.</p> <p>No allowance for clients Project Contingency.</p> <p>ESTIMATE</p> <p>Demolition and Temporary Removal</p> <p>330 dia timber piles 9.0m long driven to solid</p> <p>300x300 timber support beams</p> <p>200 thick precast deck panels with rebar at 150kg/m3</p> <p>50 thick topping slab</p> <p>M24 stainless steel threaded rod welded to 100x100x8 ss plate, for slab to timber connections</p>				
		1	sum		14,000
		8	no	3,600.00	28,800
		16	m	310.00	4,960
		43	m2	430.00	18,279
		43	m2	30.00	1,275
		20	no.	90.00	1,800



ROUGH ORDER COST ESTIMATE
Evans Bay South

Code	Description	Quantity	Unit	Rate	Total
	M24 stainless steel threaded rod for timber to timber connections	17	m	90.00	1,530
	M24 stainless steel nut and 75x75x5 washer	60	no	45.00	2,700
	New kick boards	66	m	110.00	7,304
	New stainless steel handrailing	1	sum		2,000
	Rounding	-2	dec.		51
	SubTotal				82,700
	Contractors Overheads & Margin	20	%		16,600
	Contingency for Concept Level Design	30	%		29,800
	Total for Estimate (NZD)	43	m2	3,037	129,100



ROUGH ORDER COST ESTIMATE Seatoun Ferry Wharf - Commercial Option

Code	Description	Quantity	Unit	Rate	Total
	<p>SEATOUN WHARF - COMMERCIAL OPTION</p> <p>Rough Order of Cost estimate for Concept Repair Scheme for Seatoun Ferry Wharf Suitable for Commercial Ferry Operations</p> <p>Estimated 13 April 2018 by Barry Calvert</p> <p>Verified 17 April 2018 by Kobus Beukes</p> <p>Basis of Estimate</p> <p>This estimate is based on the following documentation:</p> <p>Beca concept plan 3320740-SE-K105 rev.B</p> <p>Rates assume competitive tender for 3 or more jetties/wharfs to be completed under one contract. Additional cost should be expected if tenders are called for only one jetty/wharf at a time.</p> <p>Assumptions and Clarifications</p> <p>Concept plan is not drawn to scale. Existing access wharf is 67m long x 3m wide (201 m2) and existing berthing platform is 17m long x 7m wide (119 m2)</p> <p>Repair concept assumes the existing piles will remain in place to reduce the cost of removal</p> <p>New concrete bearers either side of new piles in all locations</p> <p>New concrete joists under berthing platform only - existing timber joists to be retained under access wharf</p> <p>New precast concrete decking to berthing platform only</p> <p>No handrailing shown to berthing platform on drawing - assume railing required to single side 17m long</p> <p>No fendering is shown to berthing platform on drawing - assume fendering as per Cog Park Jetty to single side 17m long and end 7m long</p> <p>Replacement of existing steel ladder</p> <p>All timber assume to be VSG8 H6</p> <p>No specific risk of analysis undertaken</p> <p>All fixings to be marine quality stainless steel</p> <p>Exclusions</p> <p>Replacement of existing wharf handrailing</p> <p>Temporary or permanent removal, relocation or replacement of wharf services incl. overhead lighting, power and water supply lines</p> <p>Professional fees</p> <p>Local Authority fees and consents</p> <p>Working after-hours</p> <p>Admin, legal or financial costs</p> <p>Costs associated with continued use of wharf during repair work</p> <p>Escalation of rates beyond the date of this estimate</p> <p>Goods and Services Tax</p> <p>Contingencies</p> <p>The estimating contingency is integral to the estimating total. It is a general allowance for residual cost risk including design development, errors, omissions and assumptions, site conditions and changes to methodology.</p> <p>The Contingency allowance below is considered appropriate for the level of design detail available.</p>				



ROUGH ORDER COST ESTIMATE
Seatoun Ferry Wharf - Commercial Option

Code	Description	Quantity	Unit	Rate	Total
	No allowance for clients Project Contingency.				
	ESTIMATE				
	Demolition	1	sum		40,000
	409x12.7 grade 300 CHS tube (vertical) 9.0m long driven into rock, filled with 30MPa concrete and 75kg/m3 rebar (assumed)	28	no	5,400.00	151,200
	409x12.7 grade 300 CHS tube (raking) 10m long driven into rock, filled with 30MPa concrete and 75kg/m3 rebar (assumed)	17	no	6,000.00	102,000
	400x200 reinforced concrete bearers	139	m	400.00	55,680
	300x150 reinforced concrete joists	85	m	200.00	17,000
	250x200 timber fender support	48	m	190.00	9,120
	200x150 timber fender 3.0m long spaced at 1.0m	26	no	120.00	3,120
	200 thick precast deck panels with rebar at 150kg/m3	119	m2	400.00	47,600
	50 thick topping slab	119	m2	30.00	3,570
	M24 stainless steel threaded rod welded to 100x100x8 ss plate, for slab to timber connections	24	no.	90.00	2,160
	M24 4.6 stainless steel threaded rod	124	m	90.00	11,160
	M24 4.6 stainless steel nut and 75x75x5 washer	364	no	45.00	16,380
	Timber handrailing to berthing platform 1.27m high	24	m	260.00	6,240
	New stainless steel ladder	1	sum		7,000
	Rounding	-3	dec.		770
	SubTotal				473,000
	Contractors Overheads & Margin	20	%		95,000
	Contingency for Concept Level Design	30	%		171,000
	Total for Estimate (NZD)	320	m2	2,309	739,000



ROUGH ORDER COST ESTIMATE Karaka Bay

Code	Description	Quantity	Unit	Rate	Total
	<p>KARAKA BAY WHARF</p> <p>Rough Order of Cost estimate for Concept Repair Scheme of Karaka Bay Wharf</p> <p>Estimated 13 April 2018 by Barry Calvert</p> <p>Verified 17 April 2018 by Kobus Beukes</p> <p>Basis of Estimate</p> <p>This estimate is based on the following documentation:</p> <p>Beca concept plan 3320740-SE-K106 rev.B</p> <p>Rates assume competitive tender for 3 or more jetties/wharfs to be completed under one contract. Additional cost should be expected if tenders are called for only one jetty/wharf at a time.</p> <p>Assumptions and Clarifications</p> <p>Concept plan is not drawn to scale. Measurement taken from stated dimensions and calibrated Google Map images</p> <p>Repair concept assumes the existing piles and bearers will remain in place to reduce the cost of removal</p> <p>All timber assume to be VSG8 H6</p> <p>No specific risk of analysis undertaken</p> <p>All fixings to be marine quality stainless steel</p> <p>Exclusions</p> <p>Temporary or permanent removal, relocation or replacement of wharf services incl. overhead lighting, power and water supply lines</p> <p>Professional fees</p> <p>Local Authority fees and consents</p> <p>Working after-hours</p> <p>Admin, legal or financial costs</p> <p>Costs associated with continued use of wharf during repair work</p> <p>Escalation of rates beyond the date of this estimate</p> <p>Goods and Services Tax</p> <p>Contingencies</p> <p>The estimating contingency is integral to the estimating total. It is a general allowance for residual cost risk including design development, errors, omissions and assumptions, site conditions and changes to methodology.</p> <p>The Contingency allowance below is considered appropriate for the level of design detail available.</p> <p>No allowance for clients Project Contingency.</p> <p>ESTIMATE</p> <p>Demolition and Temporary Removal</p> <p>400 dia timber piles 9.0m long driven to solid</p> <p>300x200 timber bearers</p> <p>300x200 timber bearer supports</p> <p>400x100 timber bearer supports</p> <p>200x50 timber cross brace</p> <p>M24 stainless steel threaded rod for timber to timber connections</p>				
		1	sum		17,000
		2	no	6,400.00	12,800
		8.0	m	230.00	1,840
		4.4	m	230.00	1,012
		24.0	m	160.00	3,840
		7.3	m	120.00	874
		6	m	90.00	540



ROUGH ORDER COST ESTIMATE
Karaka Bay

Code	Description	Quantity	Unit	Rate	Total
	M24 stainless steel nut and 75x75x5 washer	16	no	45.00	720
	Rounding	-2	dec.		74
	SubTotal				38,700
	Contractors Overheads & Margin	20	%		7,800
	Contingency for Concept Level Design	30	%		14,000
	Total for Estimate (NZD)				60,500



ROUGH ORDER COST ESTIMATE
Seatoun Ferry Wharf - Recreational Option 2

Code	Description	Quantity	Unit	Rate	Total
	<p>SEATOUN WHARF - RECREATIONAL OPTION 2</p> <p>Rough Order of Cost estimate for Concept Repair Scheme for Seatoun Ferry Wharf Suitable for Recreational Use with Diagonal Bracing in Lieu of Raking Piles</p> <p>Estimated 13 April 2018 by Barry Calvert</p> <p>Verified 17 April 2018 by Kobus Beukes</p> <p>Basis of Estimate</p> <p>This estimate is based on the following documentation:</p> <p>Based on Beca concept plan 3320740-SE-K105 rev.B</p> <p>Rates assume competitive tender for 3 or more jetties/wharfs to be completed under one contract. Additional cost should be expected if tenders are called for only one jetty/wharf at a time.</p> <p>Assumptions and Clarifications</p> <p>Concept plan is not drawn to scale. Existing access wharf is 67m long x 3m wide (201 m2) and existing berthing platform is 17m long x 7m wide (119 m2)</p> <p>Repair concept assumes the existing piles will remain in place to reduce the cost of removal</p> <p>New timber bearers (like for like sizes) either side of new piles in all locations</p> <p>New timber joists under berthing platform only - existing timber joists to be retained under access wharf</p> <p>New precast concrete decking to berthing platform only</p> <p>No handrailing shown to berthing platform on drawing - assume railing required to single side 17m long</p> <p>No fendering is shown to berthing platform on drawing - assume fendering as per Cog Park Jetty to single side 17m long and end 7m long</p> <p>Replacement of existing steel ladder</p> <p>All timber assume to be VSG8 H6</p> <p>No specific risk of analysis undertaken</p> <p>All fixings to be marine quality stainless steel</p> <p>Exclusions</p> <p>Replacement of existing wharf handrailing</p> <p>Temporary or permanent removal, relocation or replacement of wharf services incl. overhead lighting, power and water supply lines</p> <p>Professional fees</p> <p>Local Authority fees and consents</p> <p>Working after-hours</p> <p>Admin, legal or financial costs</p> <p>Costs associated with continued use of wharf during repair work</p> <p>Escalation of rates beyond the date of this estimate</p> <p>Goods and Services Tax</p> <p>Contingencies</p> <p>The estimating contingency is integral to the estimating total. It is a general allowance for residual cost risk including design development, errors, omissions and assumptions, site conditions and changes to methodology.</p> <p>The Contingency allowance below is considered appropriate for the level of design detail available.</p>				



ROUGH ORDER COST ESTIMATE
Seatoun Ferry Wharf - Recreational Option 2

Code	Description	Quantity	Unit	Rate	Total
	No allowance for clients Project Contingency.				
	ESTIMATE				
	Demolition	1	sum		40,000
	400 dia timber piles 9.0m long driven to solid (vertical)	28	no	4,100.00	114,800
	200x50 diagonal timber bracing	151	m	40.00	6,040
	400x200 timber bearers	139	m	320.00	44,544
	300x150 timber joists	85	m	170.00	14,450
	250x200 timber fender support	48	m	190.00	9,120
	200x150 timber fender 3.0m long spaced at 1.0m	26	no	120.00	3,120
	200 thick precast deck panels with rebar at 150kg/m3	119	m2	400.00	47,600
	50 thick topping slab	119	m2	30.00	3,570
	M24 stainless steel threaded rod welded to 100x100x8 ss plate, for slab to timber connections	24	no.	90.00	2,160
	M24 4.6 stainless steel threaded rod	127	m	90.00	11,430
	M24 4.6 stainless steel nut and 75x75x5 washer	346	no	45.00	15,570
	Timber handrailing to berthing platform 1.27m high	24	m	260.00	6,240
	New stainless steel ladder	1	sum		7,000
	Rounding	-3	dec.		356
	SubTotal				326,000
	Contractors Overheads & Margin	20	%		66,000
	Contingency for Concept Level Design	30	%		118,000
	Total for Estimate (NZD)	320	m2	1,594	510,000