JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)

THE DETAILED DESIGN
ON
PORT REACTIVATION PROJECT IN LA UNION PROVINCE
OF
THE REPUBLIC OF EL SALVADOR

FINAL REPORT

QUANTITY CALCULATION REPORT

Civil Works (2/4)

LIBRARY 11169704[2]

OCTOBER 2002

NIPPON KOEI CO., LTD.

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BOQ Item	Work Section Title	Quantity Item	Quantity	Unit	Remarks
	Multi-purpose Berth Work		220.0	m	
C-0101	Rubble Mound of Caisson	Rubble	71,400	m3	10~250kg/pc
C-0102		Leveling	16,400	ni2	
2C-0103		Compaction	5,550	m2	
C-02	Asphalt Matt		5,280	m2	
C-0301	Armor Stone	Rubble	4,460	m3	200~300kg/pc
C-0302		Leveling	9,090	m2	
C-0401	Scaffolding	Outer	15,500	m2	1290m2 / 1caisson
C-0402		Inner	6,290	m2	524m2 / 1caisson
2C-0403	Reinforcement of Caisson		2040 Incld. Lifting Bar 6.3t	· t	per 1 Caisson D25 18.11 D22 48.8 D19 24.7t D16 52.0 D13 25.6t
2C-0404	Concrete of Caisson		13,400	m3	
C-0405	Form of Caisson		69,800		
C-05	Temporary anchoring of Caisson		12	Nos	·
2C-06	Placing of Caisson		12	Nos	
C-07	Sand Filling into Caisson		59,700	m3	
2C-08	Cover Concrete of Caisson		1,960	m3	
C-0901	Coping Concrete of Caisson	Concrete	6,430	m3	
C-0902	coping concrete of Calsson	Elas Tigh Board	276	m2	<u> </u>
C-0903		Reinforcement	490	t	44.5t / 1block
C-0904					44.307 1010CK
C-0904 C-0905		Form	4,530	m2	
2C-0903 2C-0906		Corner Protection	220	. m	
2C-0908 2C-0907		Concrete for Curb	10.9	m3 ·	
2C-0907 2C-0908		Form for Curb Reinforcement for Curb	3,130	m2 kg	
C-0909		Drain Pipe	2.03m x 26 2.0m x 12 1.72m x 1 0.55m x 3 0.50m x 12 Total 87.0m	m	
2C-10	Apron Concrete Pavement		1,980	m2	
C-1001		Concrete	600	m3	t=30cm
2C-1002		Base Concrete	300	m3	t=15cm
2C-1003		Sub-Base Concrete	300	m3	t=15cm
2C-1004		Prime Coating	1,980	m2	
C-1005		Sand	1,200	m3	
2C-1006		Reinforcement and joint bar	5,500	kg	
C-1007		Elas Tigh Board	190	m2	<u> </u>
2C-1008		Joint filter	30	m2	
2C-1009		Iron mesh	1,980	m2	
	Cond Destruction Chant	·	ļ		
PC-1101 PC-1102	Sand Protection Sheet	Sand Protection Sheet Steel Plate	280 1,100	m ka	
	ID A DIE A LE A CAL	 		kg	
C-1201	Back Filling behind Caisson	Back filling stone	37,200	m3	
C-1202		Leveling Control Short	7,180	m2	
C-1203		Geotextile Sheet	10,600	m2	

			·		
BOQ Item	Work Section Title	Quantity Item	Quantity	Unit	Remarks
2C-1301	Steel Pipe Pile for Crane Rail Foundation	Steel Pipe Pile	L1=24.0m t=11; 29 L2=21.5m t=11; 9 L3=24.0m t=14; 6 Total 230t	Nos	φ 800 W1=5140kg W2=4610kg W3=6510kg
2C-1302		Steel Plate	4970	kg	112.8kg x 44sets
2C-1401	Concrete for Crane Rail Foundation	Concrete	750	m3	
2C-1402		Elas Tigh Board	33.0	m2	
2C-1403		Reinforcement	63.2	t	
2C-1404		Form	990	m2	
2C-1405		Crushed Stone	41.9	m3	t≈10cm
2C-1406		Leveling of Crushed Stone	419	m2	
2C-1407		Lean Concrete	21.0	m3	t=5cm
2C-1408		Drain Pipe	0.85m x 31 1.76m x 2 0.31m x 4 Total 32.0m	m	
2C-1501	Crane Rail with Accessories	Crane Rail with Accessories	658	m	Rail Weight 73kg/m
2C-1502		Asphalt Mixture	32.9	m3	
2C-1503		Corner Angle	5,990	kg	
2C-1504		Re-Bar	1,640	kg	
2C-1601	Cable Trench	Corner Angle	5,990	kg	· .
2C-1602	and the second s	Re-Bar	1,640	kg	
2C-17	End Stopper		2	Nos	
2C-1701		Sand	1.36	m3	0.68m3 / 1spot
2C-1702		Form for cover	6.72	m2	3.36m2 / 1spot
2C-1703	/	Concrete for cover	0.14	m3	0.07m3 / 1spot
2C-1704		Angle	58.60	kg	29.3kg / 1spot
2C-1705		Re-Bar	2.40	kg	1.2kg / 1spot
2C-18	Socket block		4	Nos	
2C-1801		Sand	0,48	m3	0.12m3 / 1spot
2C-1802		Form for cover	3.32	m2	0.83m2 / 1spot
2C-1803		Concrete for cover	0.12	m3	0.03m3 / 1spot
2C-1804		Angle	78.0	kg	19.5kg / 1spot
2C-1805		Re-Bar	3.40	kg	0.85kg / 1spot
2C-19	Crane anchoring frame		8	Nos	
2C-1901		Sand	6.48	m3	0.81m3 / 1spot
2C-1902		Form for cover	8.24	m2	1.03m2 / 1spot
2C-1903		Concrete for cover	0.32	m3	0.04m3 / 1spot
2C-1904		Angle	124.0	kg	15.5kg / 1spot
2C-1905		Re-Bar	7.2	kg	0.9kg / 1spot
2C-20	Fender	Туре-А	17	Sets	
2C-21	Bollard	Bollard	8	Sets	
2C-22	Ladder		3	Sets	
	Passenger Berth Work		240.0	. m	
2D-P10101	Platform 1	Steel Pipe Pile	L=31.0m t=12; 12 Total 75.9t	Nos	φ 700 W=6324kg
2D-P10102		Plate	1,150.0	kg	70.2kg x 12, 24.9kg x 12
2D-P10103		Ribband	190	kg	3.9kg x 24, 3.7kg x 24

BOQ Item	Work Section Title	Quantity Item	Quantity	Unit	Remarks
2D-P10201		Concrete for Coping	141	m3	Tomano
2D-P10202		Form for Coping	390	m2	
2D-P10203		Reinforcement for Coping	15.5	ł	per Platform1 D22 5.7t D16 5.4t D13 4.5t
2D-P10204		Corner Protection	10.0	m	
2D-P10205		Concrete for Curb	2.5	m3	
2D-P10206		Form for Curb	23,8	m2	
2D-P10207		Reinforcement for Curb	720	kg	
2D-P20101	Platform 2	Steel Pipe Pile	L≈31.5m t≈14 ; 17 Total 146.0t	Nos	φ 800 W=8537kg
2D-P20102	,	Plate	1,780.0	kg	71.3kg x 17, 32.9kg x 17
2D-P20103		Ribband	395	kg	6.0kg x 34, 5.6kg x 34
2D-P20201		Concrete for Coping	305	m3	
2D-P20202		Form for Coping	850	m2	
2D-P20203		Reinforcement for Coping	49.4	t	per Platform2 D25 15.3t D19 26.8t D16 3.4t D13 4.0t
2D-P20204		Corner Protection	40.0	m	
2D-P20205		Concrete for Curb	2.7	m3	
2D-P20206		Form for Curb	25.9	m2	
2D-P20207		Reinforcement for Curb	760	kg	
2D-BD01	Bresting Dolphin		2	Nos	
2D-BD0101		Steel Pipe Pile	L=31.0m t=14; 8 Total 93.0t	Nos	φ 1100 W=11625kg
2D-BD0102		Plate	1,360.0	kg	105.5kg x 8, 63.5kg x 8
2D-BD0103		Ribband	256	kg	8.2kg x 16, 7.8kg x 16
2D-BD0201		Concrete	371	m3	
2D-BD0202		Form	298	m2	
2D-BD0203		Reinforcement	20.9	t	per 1 Bresting Dolphin D25 7.2t D19 3.0t D13 0.4t
2D-BD0204		Comer Protection	46.0	m	
2D-0301	Сопоsion-proof	Aluminium Anode (3.0A x 20year)	31	pcs	
2D-0302		Aluminium Anode (3.5A x 20year)	12	pcs	
2D-0303		Mesuring Terminal	4	pcs	
2D-0304		FRP protection	414	m2	
2D-04	Cat Walk		2	Sets	ļ
2D-0401		Base Steel	8,580	kg	<u> </u>
2D-0402		Pipe Rail	738	kg	
2D-0403		Grating	1,500	kg	
2D-0501	Fender	Туре-В	2	Nos	
2D-0502		Турс-С	16	Nos	
2D-0601	Bollard	Bollard 100t with anchor bolt	7	Sets	
2D-0602		Form	330	m2	
2D-0603		Concrete	585	m3	
2D-0604	<u> </u>	Bitte 15t	10	Sets	

BOQ Item	Work Section Title	Quantity Item	Quantity	Unit	Remarks
2D-07	Access Bridge		10	Blocks	
2D-0701		Concrete	16.6	m3	
2D-0702		Form	27.8	m2	
2D-0703		Reinforcement	4,580	kg	
2D-0704		Lifting Bar & Plate	142.0	kg	
2D-0705		Corner Angle & Re-Bar	1,030	kg	
2D-0706		Rubber Shoe	40	m	
2D-08	Ladder		7	Nos	
·/	Revetment Work		* .		
2E-01	West Revetment		400.0	m	Incld. Passenger Berth
2E-010101		Rubble Mound (Lower)	49,300	m3	10~250kg/pc
2E-010102		Rubble Mound (Upper)	30,100	m3	10~250kg/pc
2E-010103		Leveling of Rubble Mound	20,900	m2	
2E-010104		Geotextile Sheet	10,300	m2	
2E-010201		Armor Stone	10,200	m3	1.5t/pc
2E-010202		Leveling of Armor Stone	11,500	m2	1.54рс
2E-010301	· ·	Concrete Block (A)	42.0	m3	3pieces
2E-010302		Concrete Block (B)	52.5		
2E-010303		Concrete Block (C)	60.0	m3	3pieces
2E-010304		Form for (A)	87.0	m3	4pieces
2E-010305		Form for (B)	98.4	m2 :	29m2 / pc
2E-010305 2E-010306		Form for (C)		m2	32.8m2 / pc
		······································	118.0	m2	29.5m2 / pc
2E-010307		Lifting Bar for Concrete Block	446	kg	
2E-010401		Concrete Wall	1,170	m3	
2E-010402		Form of Concrete Wall	1,550	m2	
2E-010403		Elas Tigh Board	67.0	m2	
2E-015101	Tug boat & small o		17,860	m3	10~250kg/pc
2E-010502		Leveling of Rubble Mound	1,020	m2	
2E-010503	· · · · · · · · · · · · · · · · · · ·	Back filling	8,780	m3	
2E-010504		Geotextile Sheet	4,330	m2	
2E-010601		Concrete Block (D)	324.0	m3	27pieces
2E-010602		Concrete Block (E)	1,125.0	m3	60pieces
2E-010603		Concrete Block (F)	1,170.0	m3	52pieces
2E-010604		Form for (D)	702.0	m2	26m2 / pc
2E-010605		Form for (E)	2,100.0	m2	35m2 / pc
2E-010606		Form for (F)	2,030.0	m2	39m2 / pc
2E-010607		Lifting Bar for Concrete Block	7,776	kg	
2E-010701		Concrete Wall	141	m3 .	
2E-010702		Form of Concrete Wall	150	m2	
2E-010703		Elas Tigh Board	6.0	m2	
2E-010801		Rubble stone	12,600	m3	
2E-010802		Armor Stone	2,160	m2	
2E-02	East Revetment		250.0	m	
2E-020101		Rubble Mound (Lower)	22,900	m3	10~250kg/pc
2E-020102		Rubble Mound (Upper)	25,600	m3	10~250kg/pc
2E-020103		Leveling of Rubble Mound	12,700	m2	1v TookBhe
2E-020104	- MA-27%, WARELEN,	Geotextile Sheet	7,940	+	
2E-020201		Armor Stone		m2	1.51/
-5 050601		ranioi ototte	6,300	m3	1.5t/pc

BOQ Item	Work Section Title	Quantity Item	Quantity	Unit	Remarks
2E-020202		Leveling of Armor Stone	6,550	m2	
2E-020301		Concrete Wall	980	m3	
2E-020302		Form of Concrete Wall	1,220	m2	
2E-020303		Elas Tigh Board	47.0	m2	

	QUANTITY CALCULATION C		
Project	Detailed Design on Port Reactivation Project in La Union Province	Project Code	JC1N004/2N001
Work Section Title	RUBBLE HOUND OF CAISSON	Pay item No. (BOQ)	20-0101
Quantity Item	RUBBLE	Unit	m ³

- J. Calulation of Areas of sections.
- 2. Average of Arras of sections.
- 3. Calculation of volume: Average of oreas of sections times distances between sections

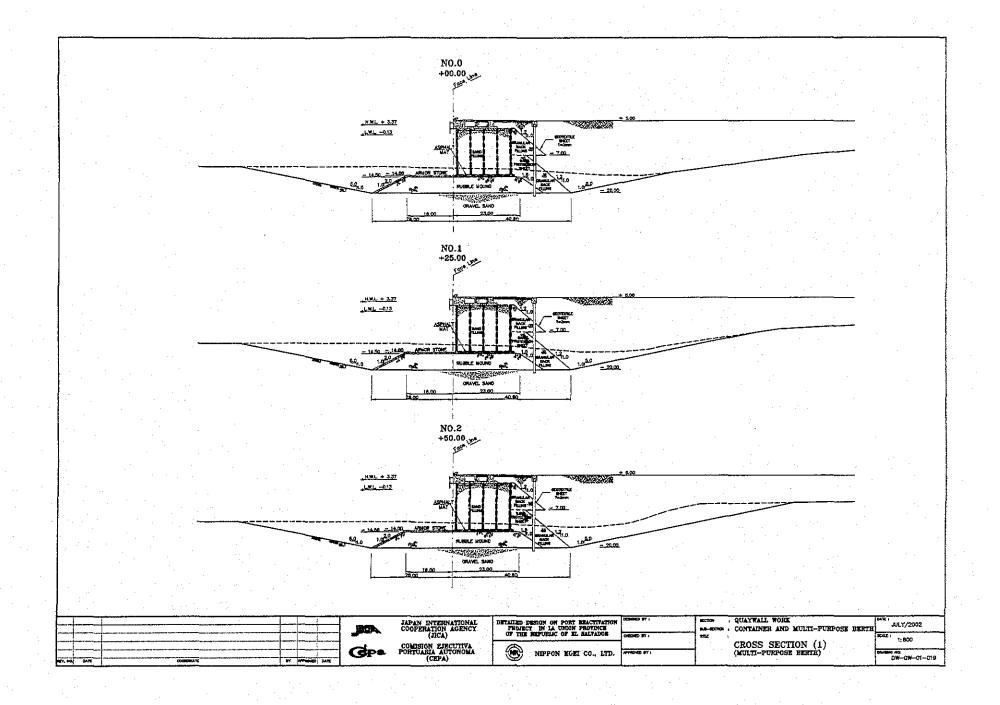
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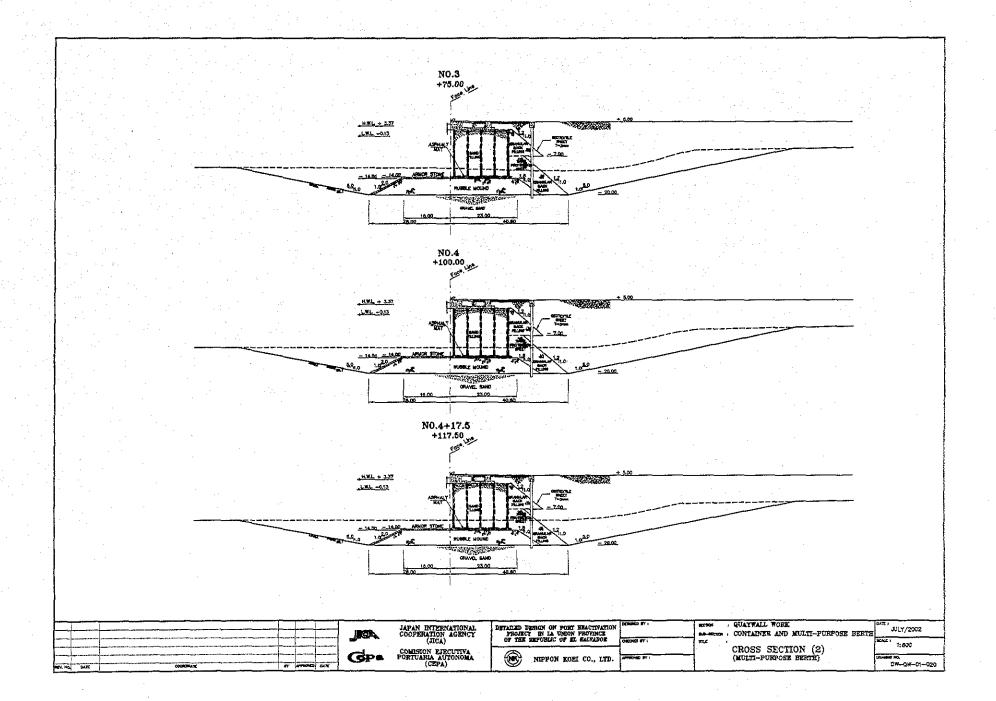
References, Calculation Base and Revisions

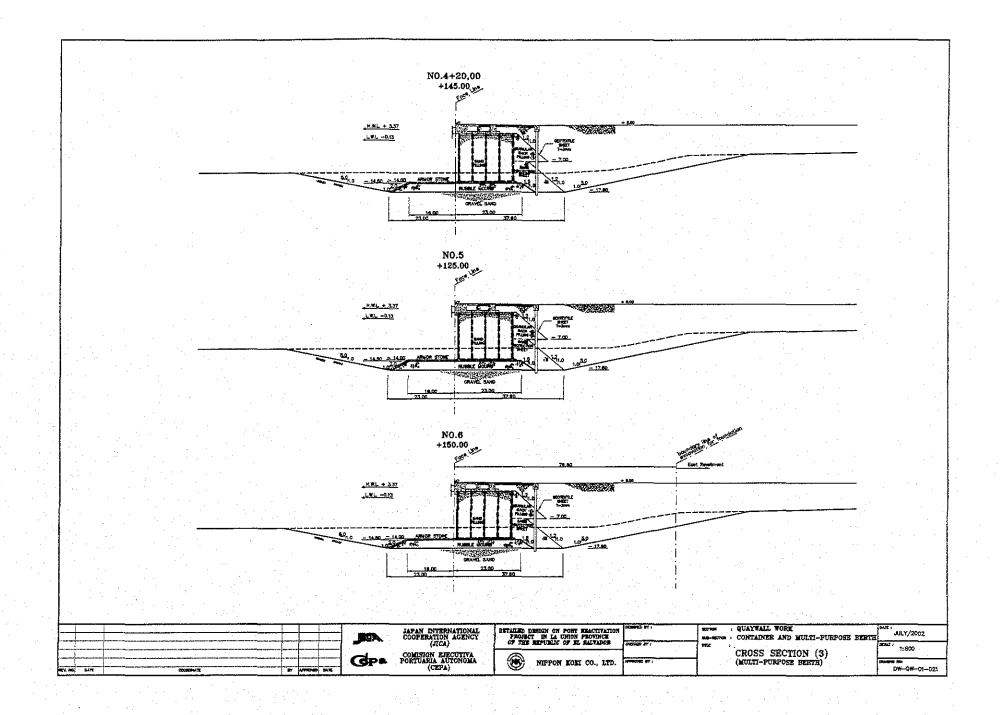
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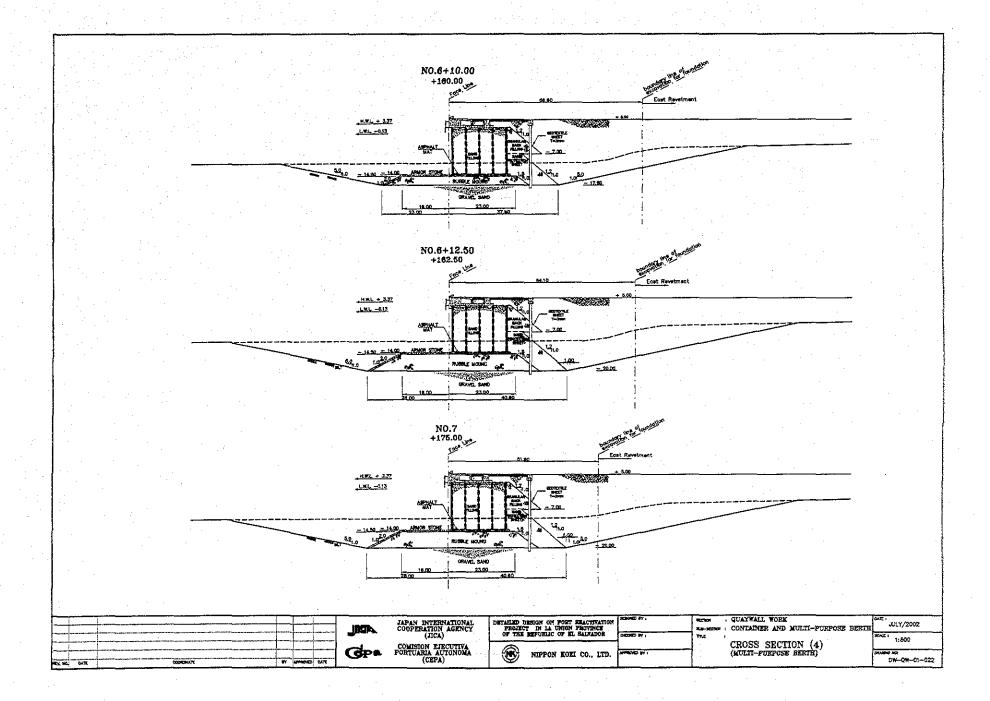
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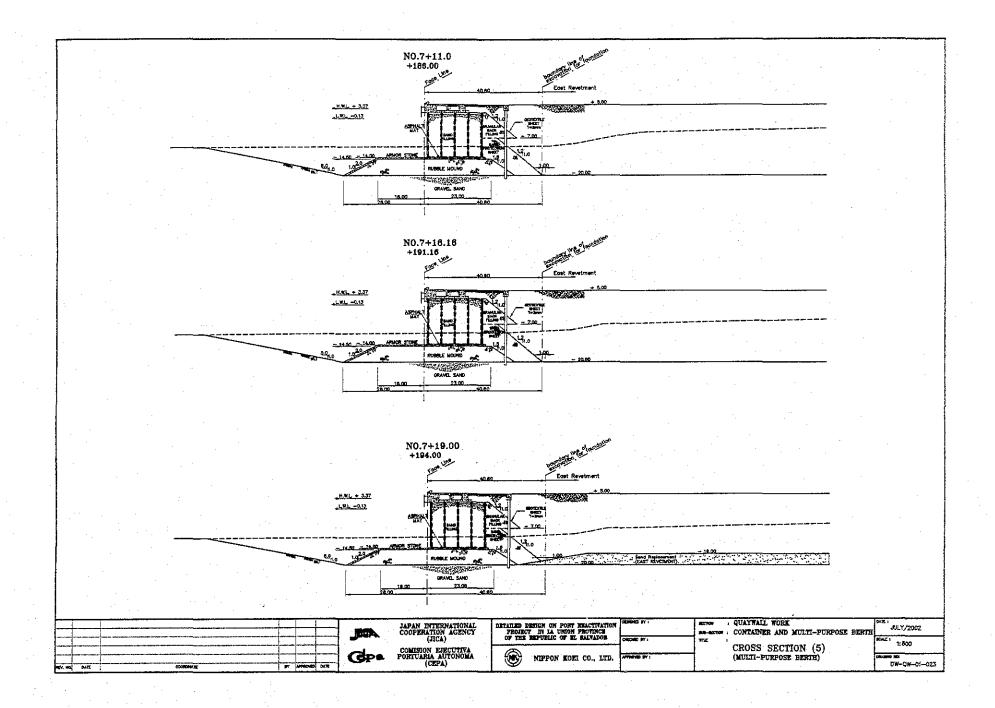
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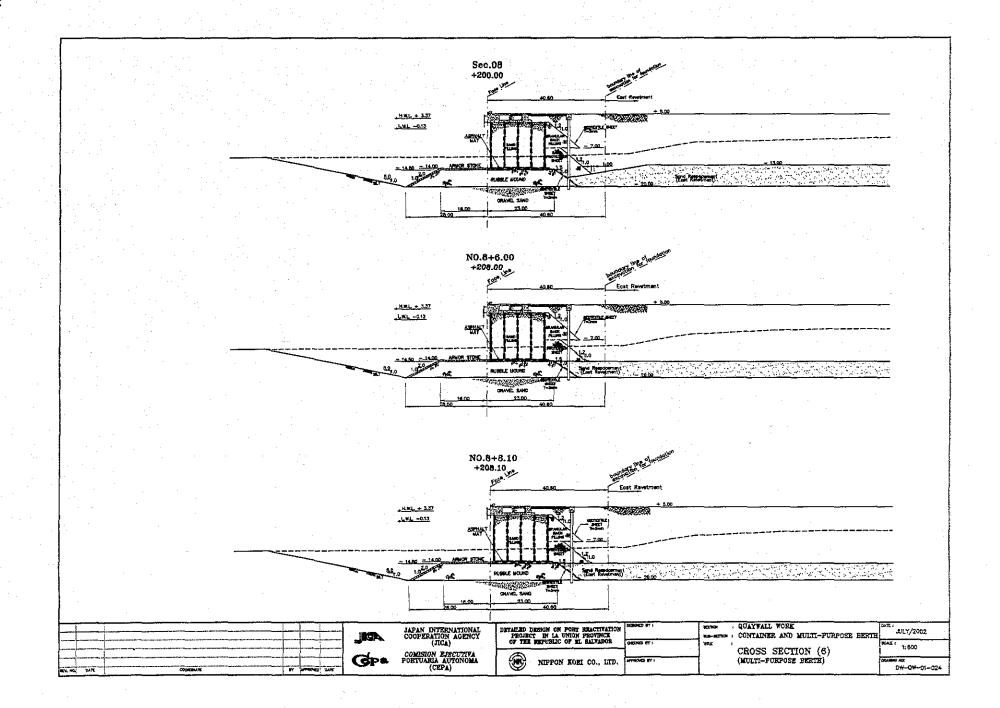


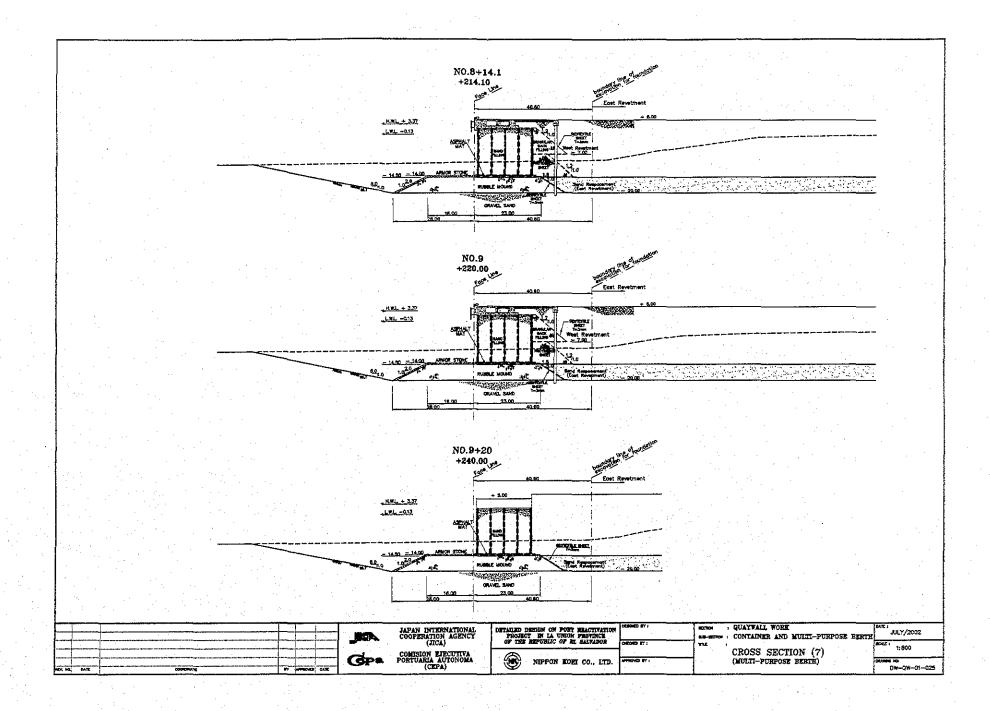


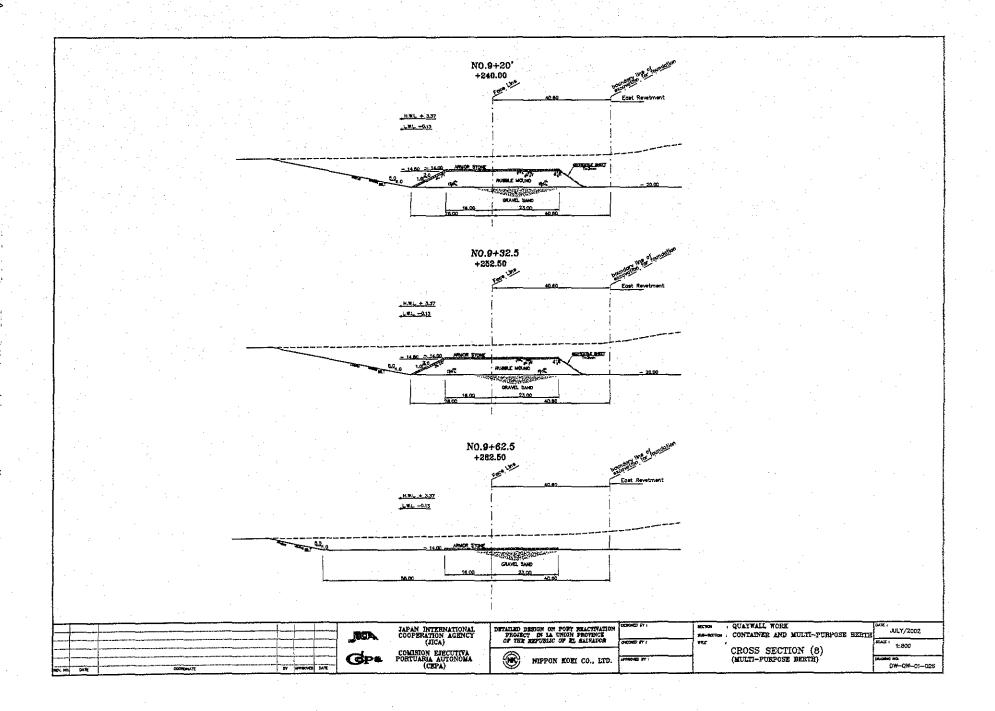












OMulti-Purpose Berth 3. Rubble Mound (ha

3. Ruddle Mon	nd (harbor side)	A		
Section No.	Area (m²)	Average Area of 2 Sections (m²)	Distance Between Sections (m)	Volume (m³)
No.0	149.19			
		149.19	25.00	3,729.75
No.1	149.19			
		149,19	25.00	3,729.75
No.2	149.19			
		149.19	25.00	3,729.76
No.3	149.19			and the second
		149.19	25.00	3,729.75
No.4	149.19			
		149.19	25.00	3,729.75
No.5	149.19			
		149.19	25.00	3,729.75
No.6	149.19			
		149.19	25.00	3,729.75
No.7	149.19			
		149.19	25.00	3,729.75
No.8	149.19			
		149.19	20.00	2,983.80
No.9	149.19	<u> </u>	1.144	
		149.19	20.00	2,983.80
No.9+20.00	149.19	gasta et gy		1 1 1 1 1 1 1
1	4.	149.19	0.00	0.00
No.9+20.00'	149.19	and the second	11111	
		149.19	12.50	1,864.88
No.9+32.50	149.19			
		74.60	30.00	2,237.85
No.9+62.50	0.00			1.
			::	
Total		1,864.88	282.50	39,908.33

OMulti-Purpose Berth 4. Rubble Mound (Sea side)

4. Rubble Moun	a (sea side)			·
Section No.	Area (m²)	Avorage Area of 2 Sections (m ²)	Distance Between Sections (m)	Volume (m³)
		(m)	Decions (III)	
				·
No.0	117.60	116.00	06.00	0.010.00
.,	115 88	117.60	25.00	2,940.00
No.1	117.60	117.00	05 00	0.040.00
, , , , , , , , , , , , , , , , , , , 	118.00	117.60	25,00	2,940.00
No.2	117.60	115.00	0F 65	0.010.00
	115.00	117.60	25.00	2,940.00
No.3	117.60	117.00		
		117.60	25.00	2,940.00
No.4	117.60			
	4.217.65	117.60	25,00	2,940.00
No.5	117.60	12000		
	445.00	117.60	25.00	2,940.00
No.6	117.60			
		117.60	25.00	2,940.00
No.7	117.60	11.5		
		117.60	25.00	2,940.00
No.8	117.60	115.00		
		117.60	20.00	2,352.00
No.9	117.60			
3.00	1 - 2 - 2	117.60	20.00	2,352.00
No.9+20.00	117.60			
	7.88.68	117.60	0.00	0.00
No.9+20.00'	117.60			4
		117.60	12.50	1,470.00
No.9+32.50	117.60			
N		58.80	30.00	1,764.00
No.9+62.50	0.00			
Total		1,470.00	282.50	31,458.00

(I) NIPPON KOEI CO.,LTD.

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	QUANTITY CALCULATION C		
Project	Detailed Design on Port Reactivation Project in La Union Province	Project Code	JC1N004/2N001
Work Section Title	RUBBLE HOUND OF CAISSON	Pay item No. (BOQ)	.20-0102
Quantity Item	LEYEUNG	Unit	mω

- 1. Calculation of lengths of sections
 2. Average of lengths of sections
 3. Calculations of orea: Average of lengths of sections.
 times distances between sections.

(Excel)

References, Calculation Base and Revisions

References: Tinder Dowings: From EW-OV-01-019 Hullipurpose Beilh 01
To DN - OW-01-026 Hullipurpose Beilh 08 (Pome as Rubble)

Rev	Prepa	ared	No. of	Chec	ked	Revie	wed	Superseded
1100	by	Date	Pages	by	Date	by	Date	by Calc No.
0	Koila Garia 4			Hr. Journa		Mr. Ando		
1								
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OMulti-Purpose Berth
5. Final Trimming of Rubble Mound

• 1		Average	Distance	
Section No.	Length (m)	Length of 2	Between	Area (m²)
		Sections (m)	Sections (m)	
No.0	23.00			
		23.00	25.00	575.00
No.1	23.00			
		23.00	25.00	575.00
No.2	23.00			
		23.00	25.00	575,00
No.3	23.00			
	1000	23.00	25.00	575.00
No.4	23.00			
		23.00	17.50	402.50
No.4+17.50	23.00			
		23.00	2.50	57,50
No.4+20.00	23.00			
		23.00	5.00	115.00
No.5	23.00			
		23.00	25.00	575.00
No.6	23.00			·
4 2 4 1		23.00	10.00	230.00
No.6+10.00	23.00			
		23.00	2.50	57.50
No.6+12.50	23.00	1.0	4.0	4.32
		23.00	12.50	287.50
No.7	. 23.00			
		23.00	25.00	575.00
No.8	23.00			
		23.00	20.00	460.00
No.9	23.00			
		23.00	20.00	460.00
No.9+20.00	23.00			:
		23.00	1.00	23.00
No.9+21.00	23.00			
Total		345.00	241.00	5,543.00

OMulti-Purpose Berth 6. Rough Trimming of Rubble Mound

		Avorago	Distance	
Section No.	Length (m)	Length of 2	Between	Area (m²)
		Sections (m)	Sections (m)	
No.0	38.10			
	a saada ga	38.10	25.00	952.50
No.1	38.10			4 4 4
,		38.10	25.00	952.50
No.2	38.10			
		38.10	25.00	952.50
No.3	38.10			
		38.10	25.00	952.50
No.4	38.10			
		38.10	25.00	952.50
No.5	38.10			
		38.10	25.00	952.50
No.6	38.10			
		38.10	25.00	952.50
No.7	38.10	11 11 11 11		
1 4		38.10	25.00	952.50
No.8	38.10			
		38.10	20.00	762,00
No.9	38.10			to a second second
	1.0	38.10	20.00	762.00
No.9+20.00	38.10			
		49.60	0.00	0.00
No.9+20,00'	61.10			
		61.10	12.50	7 63.75
No.9+32.50	61.10			
		30.55	30.00	916.50
No.9+62.50	0.00			
		a (17 1		
Total		522.25	282.50	10,824.25

MIPPON KOEI CO.,LTD.

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	QUANTITY CALCULATION COVER SHEET									
Project	Detailed Design on Port Reactivation Project in La Union Province	Project Code	JC1N004/2N001							
Work Section Title	RUBBLE HOUND OF CAISSON	Pay Item No. (BOQ)	20-0103							
Quantity Item	COMPACTION	Unit	Mδ							

- 1. Calculation of length of Sections.
 2. Average of lengths of sections.
 3. Calculation of Yolume: Average of length of sections times distance between sections (Excel)

Refrences: Tender Drowings:

From cw - aw - 01 - 019 Mulhipurpose Enth 01
To pw - aw - 01 - 026 Mulhipurpose Brish 03

(Some as Rubble)

Rev	Prepa	red	No. of	Chec	ked	Revie	ewed	Superseded
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OMulti-Purpose Berth

5. Final Trimming of Rubble Mound

5. Final Trimmi	ing of Rubble Mo	ound	1.2.3	
		Average	Distance	
Section No.	Length (m)	Length of 2	Between	Area (m²)
		Sections (m)	Sections (m)	
No.0	23.00			
		23.00	25.00	575.00
No.1	23,00			
		23.00	25.00	575.00
No.2	23.00			
		23.00	25.00	575.00
No.3	23.00			
		23.00	25.00	575.00
No.4	23.00			
		23.00	17.50	402.50
No.4+17.50	23.00	1		
		23.00	2.50	57.50
No.4+20.00	23.00			
		23.00	5.00	115.00
No.5	23.00			
		23.00	25.00	575.00
No.6	23.00			
		23.00	10.00	230.00
No.6+10.00	23.00			
		23.00	2.50	57.50
No.6+12.50	23.00			
	The second	23.00	12.50	287.50
No.7	23.00			
		23.00	25.00	575.00
No.8	23.00			
		23.00	20.00	460.00
No.9	23.00		20.00	100.00
		23.00	20.00	460.00
No.9+20.00	23.00		20.00	200.00
210,0120,00	23.00	23.00	1.00	23.00
No.9+21.00	23.00	20.00	1.00	20.00
	23.00			
Total		345.00	241.00	5,543.00
		030.00	441.00	0,040.00

N 5,550 m2

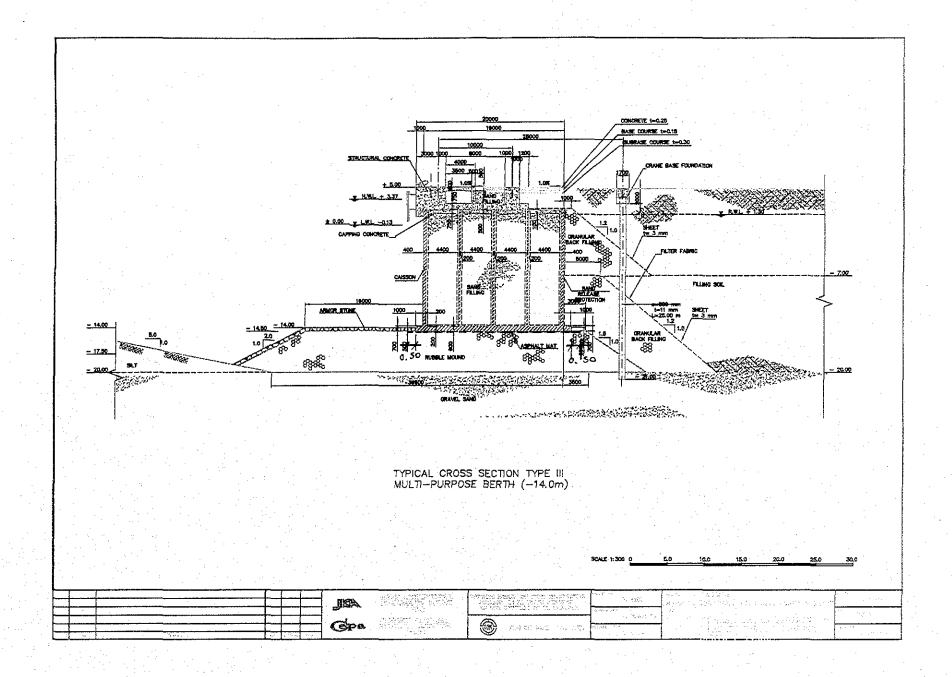
	QUANTITY CALCULATION C		
Project	Detailed Design on Port Reactivation Project in La Union Province	Project Code	JC1N004/2N001
Work Section Title	ASPHALT MAT	Pay Item No. (BOQ)	20-02
Quantity Item		Unit	mB

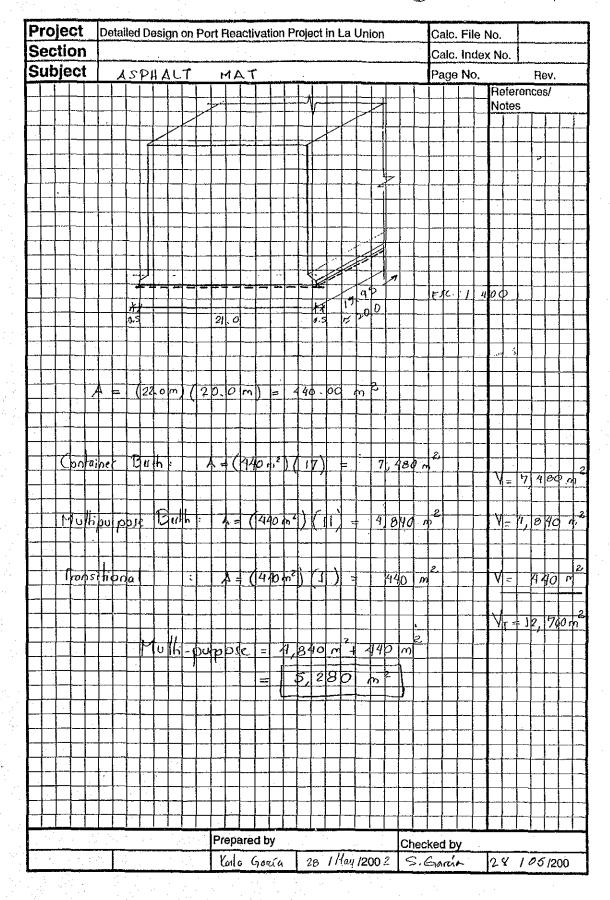
This orco was computed multiplying the length by the width of a coisson plus 1 meter.

References, Calculation Base and Revisions

References: Tender Drawings: DW - QW - 21 - 005 Typical Cross Section Type III

Rev	Prep	ared	No. of	Che	cked	Revi	ewed	Superseded
, 10 V	by	Date	Pages	by	Date	by	Date	by Calc No.
0	Korla Garaía 4			Hi. Troma		Mr. Ando		
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	QUANTITY CALCULATION C		
Project	Detailed Design on Port Reactivation Project in La Union Province	Project Code	JC1N004/2N001
Work Section Title	ARMOR STONE	Pay Item No. (BOQ)	2C-0301
Quantity Item	RUBBLE	Unit	m ³

- of Areas of sections Calwlation
- Average of Areas of sections
- 3. Calculation of volume: Average of Areas of sections times distance between sections

(Excel).

References, Calculation Base and Revisions

Refiners: Tinder Drowings:

From: DW-OW-01-019 Hullipurpose Bulhos
To: DW-OW-01-026 Hullipurpose Bulh 08

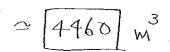
(Some as Rubble Hound of Careson").

Rev	Prepa	red	No. of	Chec	ked	Revie	wed	Superseded
	by	Date	Pages	by	Date	by	Date	by Calc No.
0	Koila Godo +			H. Truma		Hi, Ando		
1								
2								
3								

OMulti-Purpose Berth

7. Armor Stone

Area (m²)	Average Area of 2 Sections (m ²)	Distance Between Sections (m)	Volume (m³)
14.40			
11.70	14.40	25.00	360.00
14.40	14.10	05.00	000.00
14 40	14.40	25.00	360,00
14.40	14.40	25.00	360.00
14.40	1-110	20.00	500.00
	14.40	25.00	360.00
14.40			
	14.40	25.00	360.00
14.40			
	14.40	25.00	360.00
14.40			
	14.40	25.00	360.00
14.40			
	14.40	25.00	360.00
14.40			
	14.40	20.00	288.00
14.40			
	14.40	20.00	288.00
14.40			
	20.12	0.00	0.00
25.84			
	25.84	12.50	323.00
25.84			
	22.67	30.00	680.10
19.50			
	212.63	282.50	4,459.10
	14.40 14.40 14.40 14.40 14.40 14.40 14.40 14.40 14.40 25.84	(m ²) 14.40 14.40 14.40 14.40 14.40 14.40 14.40 14.40 14.40 14.40 14.40 14.40 14.40 14.40 14.40 14.40 14.40 14.40 14.5 20.12 25.84 25.84 25.84	Area (m²) of 2 Sections (m²) 14.40 14.40 14.40 14.40 14.40 25.00 14.40 14.40 25.00 14.40 14.40 25.00 14.40 14.40 25.00 14.40 14.40 25.00 14.40 14.40 25.00 14.40 14.40 25.00 14.40 14.40 25.00 14.40 14.40 25.00 14.40 25.00 14.40 25.00 14.40 25.00 14.40 25.00 14.40 25.00 14.40 25.00 14.40 25.00 14.40 25.00 14.40 25.00 14.40 25.00 14.50 25.84 25.84 25.84 25.84 25.84 25.84



	QUANTITY CALCULATION C		
Project	Detailed Design on Port Reactivation Project in La Union Province	Project Code	JC1N004/2N001
Work Section Title	ARMOR STONE	Pay Item No. (BOQ)	2C-0302
Quantity Item	LEYELING	Unit	a a

- 1. Calculation of linghts of sections
- 2. Average of lengths of sections
- 3. Colubtion of Area. Average of lengths of sections limes distance between sections.

(Excel).

References, Calculation Base and Revisions

References: Tinder Drowings:

From: DW-QW-01-019 Hullipurpose 01
To: EN-QN-01-026 Mullipurpose 08

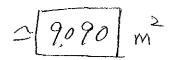
(Come drawings as "Rubble Mound of Coisson")

Rev	Prepared		No. of	Checked		Reviewed		Superseded
	7.0	by	. Date	Pages	by	Date	by	Date
0	Karla Garaía L			Mr. Journa		H. Ando		
1					-			
2								
3								

OMulti-Purpose Berth

8. Trimming of Armor Stone

		Average	Distance	
Section No.	Length (m)	Length of 2	Between	Area (m²)
		Sections (m)	Sections (m)	
X7 A	20.40	· · · · · · · · · · · · · · · · · · ·		
No.0	29.42	00.40	05 00	735.50
No.1	29.42	29.42	25.00	730.00
170.1	45,44	29.42	25.00	735.50
No.2	29.42	45.42	20.00	100.00
11012	20.72	29.42	25.00	735,50
No.3	29.42	·····		
	· · · · · · · · · · · · · · · · · · ·	29.42	25,00	735.50
No.4	29.42			
		29.42	25.00	<i>7</i> 35.50
No.5	29.42			
		29.42	25.00	735.50
No.6	29.42			
NI 0	90.40	29.42	25.00	735.50
No.7	29.42	29.421	25.00	735.50
No.8	29.42	29.42	20.00	130.30
140.8	20.12	29.42	20.00	588.40
No.9	29.42	30.12		
	·	29.42	20.00	588.40
No.9+20.00	29.42			
		40.92	0.00	0.00
No.9+20.00'	52.42			
		52.42	12.50	655.25
No.9+32.50	52.42			
N. 0.00.50	86.00	45.71	30.00	1,371.30
No.9+62.50	39.00	·····		



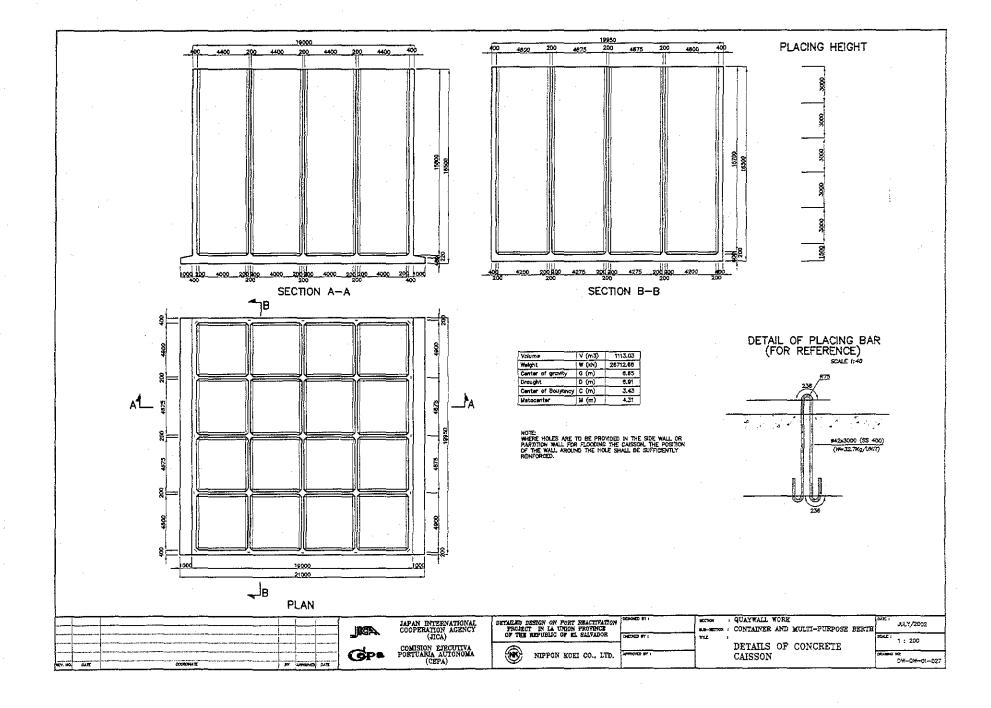
QUANTITY CALCULATION COVER SHEET						
Project	Detailed Design on Port Reactivation Project in La Union Province	Project Code	JC1N004/2N001			
Work Section Title	Scaffolding of Caisson	Pay Item No. (BOQ)	2C-0401			
Quantity Item	Outer	Unit	M ₂			

Outer Scaffolding is put up on the outside of a calsson from the bottom to the top in the caisson yard.

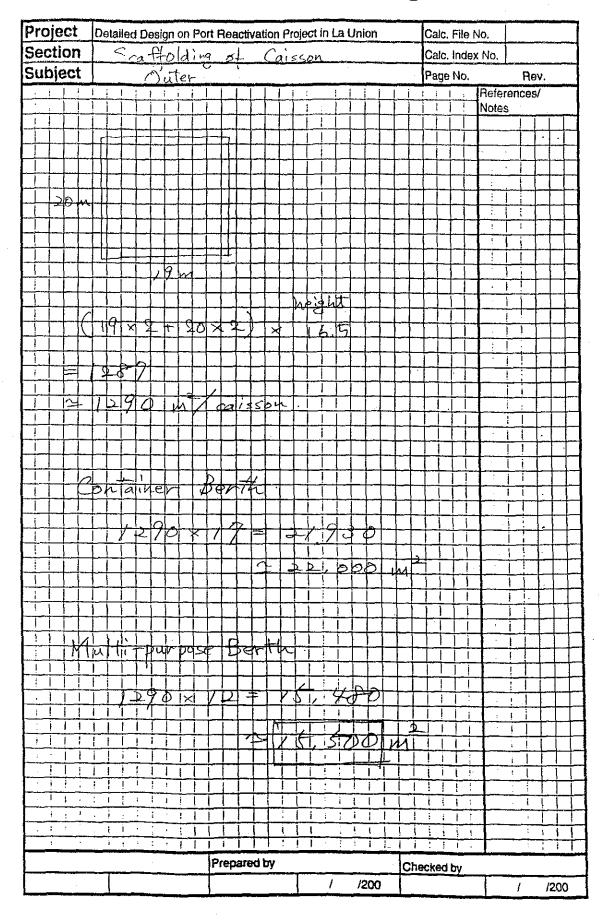
References, Calculation Base and Revisions

References: Tender Drowings:
DW-QW-01-027 Deboils of Concrete Coisson

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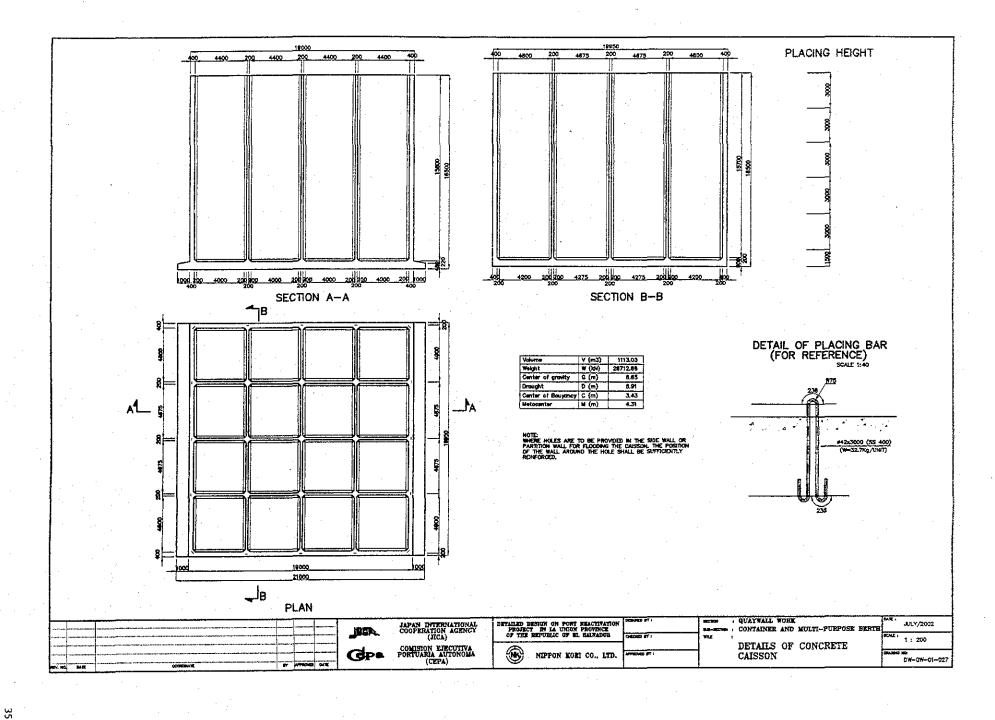
	QUANTITY CALCULATION C		
Project	Detailed Design on Port Reactivation Project in La Union Province	Project Code	JC1N004/2N001
Work Section Title	Scaffolding of Caisson	Pay Item No. (BOQ)	20-0402
Quantity Item	Inner	Unit	M

Inner Scaffolding can be moved up with the progress of placing concrete. So, the height of Inner Scaffolding is computed as 1.6 m.

References, Calculation Base and Revisions

References: Tender Drowings: OW-aW-01-027 Details of Concrete Gisson

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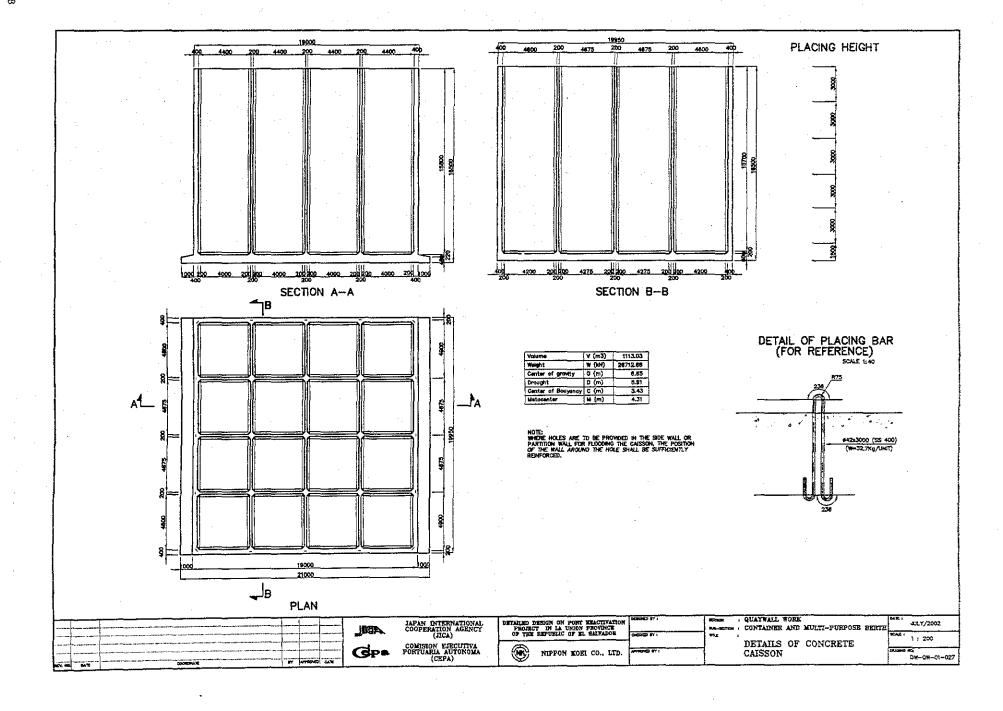
·	QUANTITY CALCULATION C		
Project	Detailed Design on Port Reactivation Project in La Union Province	Project Code	JC1N004/2N001
Work Section Title	REINFORCEHENT OF CAISSON	Pay Item No. (BOQ)	2C - 0403
Quantity Item		Unit	t

Reinforcement of caisson was computed including lifting bor. A caisson has 16 lifting bors.

References, Calculation Base and Revisions

References: Tender Drawings: DW-QW-01-027 Details of Concrete Poisson

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REINFORCEMENT OF CAISSON (13) BAR SCHEDULE

a.v	No.	OA	LENGTH (mm)	UNIT WT.	Q.T.Y.		TOTAL WT. SHAPE
	7.5	613	0.320	0.095	101	8.477	650
Bı	2	013	9.500	0.005	10)	9.403	955
٠.	3	013	7,000	0.115	101		
		02				9.945	703(
	<u> </u>		+790	7040		14,562	720
	<u> </u>	010	4,590	1,580	42	7,180	
	<u></u>	022	2,900	3049	50		
	35	518	2,900	1,510	50	4,524	
	<u></u>	013.	2,200	0.995	42	2,864	1211
5	<u></u>	013	9,190	0.995	30	9,144	437
	<u> </u>	013	1,930	1,99%	93	5.563	828
85	1	013	10,000	0.915	93	9,950	925
	٦.	013	7,000	0.992	93	0,945	049
	···	022	4,020		- 31	4433	703
	<u>, c</u>	719	4.720	2,739	22	10,620	2341
	11	018	1,129	1,340	42	7,207	303
	13	013	4,520	0.175	- 34	4,417	376
	15_	022	1,000	3,040		9,120	320
	14	0'1	3,000	2,250	33	5,750	223 —
	13	014	3,000	1,399	_33	4,657	154
. 8	_	0:3	2,000	0.113	54	2,000	197
	Н	013	3,840	0.223	101	3,850	901
617	.2	013	10,000	0.993	101	1.950	1,005
	3.	0(3	4,000	0.115	ומי	7,990	407
В	10	013	1,510	0.993	_50	9.542	477
Ä		014	2.100	1,540	50	4,524	
	20	013	2,000	0.993	42	Z 534	- 721 =
	7_	0.9.	1,740	Z.250	- 50	3,913	190
	22	013	1,740	6.115	42	1.731	73
<u>~</u>	Ϋ́,	013	0,530	0.795	170	9.398	742
823	2	013	10,000	4113	110	1.950	7,134
•	3	013	4,500	3,000	114	5.470	5191
				2,250			
		019	1,100		- 24	1,028	
			1,750	0.115	20	1,781	86
	29	013					
	26 27	019 013	7 000 7 000	2.250 0.925	34 30	9,730 2,965	243 —
	26	019	3,000	7.230		7,730	243
	26	019	3,000	7.230		9,730 2,963	243
	26	019	3,000	7.230		9,730 2,963 022	245 — 90 —
	26	019	3,000	7.230		9,730 2,963 0722 073	245 — 90 — 1,848 963
	26	019	3,000	7.230		9,730 2,963 072 079 018	743 — 90 — 1,848 963 1,210
	26	019	3,000	7.230		9,750 2,865 0722 079 018 213	243 — 90 — 1,848 963 1,210
	26	019	3,000	7.230		9,730 2,963 072 079 018	743 — 90 — 1,848 963 1,210
	26	979 913	7,000	2,230 0,913	30 30	9,730 2,963 072 079 016 013 Tetal	1,849 963 1,210 11,298 15,338 kg
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B;	26	919 913 913 913	3,000 3,000 1,400 3,400	2,230 0,793	391 301 301	9,730 2,960 072 076 016 013 1044 2,363	1,848 983 1,210 11,286 15,338 89 342 — 342 —
	1	919 913 913 913 913	1499 1499 1499	2,230 9,723 9,723 9,723 9,723	36 30 101 107	9,730 2,960 075 075 075 075 075 233 7,560 3,360 3,360	1,349 90 — 1,349 983 1,210 11,286 15,33849 15,33849
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9 8:	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	019 013 013 013 013 013 013 013 013 013 013	3,000 3,000 3,000 3,400 3,400 1,400 3,400 1,400 1,400 1,400 1,400 1,400 1,500	2,250 9,392 9,392 9,393 9,393 9,393 9,393 9,393 9,393 9,393 1,390	38 30 30 30 30 30 30 30 30 30 30 30 30 30	9.730 2.860 018 018 018 018 018 018 2.363	245 —— 1840 —— 1840 —— 1850 —— 1820 ——
8:	1 3 4 3 4 5	019 013 013 013 013 013 013 013 013 013 013	3,000 3,000 3,000 3,000 3,400	2,220 9,782 9,792 9,793 9,793 9,793 9,793 9,793 9,793 9,793 9,793 9,793 9,793 9,793 9,793 9,793 9,793 9,793 9,793 9,793 9,793	38 30 30 30 30 30 30 30 30 30 30 30 30 30	9.730 2.863 018 018 018 018 018 018 1.363	245 — 90 1.440 903 1.250
9 8:	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	019 013 013 013 013 013 013 013 013 013 013	3,000 3,000 3,000 3,400	2,250 9,392 9,392 9,393 9,393 9,393 9,393 9,393 9,393 9,393 1,390	38 30 30 30 30 30 30 30 30 30 30 30 30 30	9.7300 2.8630 0722 073 076 076 2713 7 orbit 1.363,	245 —— 1840 —— 1840 —— 1840 —— 1831 —— 1820 ——
9 8:	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	019 013 013 013 013 013 013 013 013 013 013	3,000 3,000 3,000 3,400 3,400 3,400 3,400 3,400 1,700	2,220 0,772 0,772 0,772 0,773	38 30 30 30 30 30 30 30 30 30 30 30 30 30	9.730 2.863 779 719 718 718 718 2.363 2.36	245 —— 90 —— 1,548 983 1,258 19 1,258 1
9 8:	1	019 013 013 013 013 013 013 013 013 013 013	1,493 1,493 1,493 1,493 1,493 1,493 1,493 1,793	2,220 9,772 9,772 9,773	38 30 30 30 30 30 30 30 30 30 30 30 30 30	9.7300 2.9650 073 076 073 7.640 2.363 2.36	245 — 1.849
9 8:	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	018 013 013 013 013 013 013 013 013 013 013	3,000 3,000 3,000 3,400	2,220 0,992 0,992 0,993	38 30 30 30 30 30 30 30 30 30 30 30 30 30	9.7300 2.9631 075 075 073 7644 1.3631	245 —— 90 —— 1,544 983 12.308 h9 1,236 h9 13,338 h9 14,338 h9 14,338 h9 14,338 h9 14,338 h9 15,338 h9 16,338 h9 17,388 h9 18,338 h9 18,3
8 8 8	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	019 013 013 013 013 013 013 013 013 013 013	3,000 3,000 3,000 3,400	0,223 0,723	38 38 38 38 38 38 38 38 38 38 38 38 38 3	9.7300 2.9650 078 078 078 073 7.644 2.383	245 — 250 —
9 8:	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	019 013 013 013 013 013 013 013 013 013 014 015 016 016 016 016 016	3,000 3,000 3,000 3,400 3,400 3,400 3,400 1,700 3,400 1,700 3,200	2,220 0,912 0,912 0,913 0,913 0,913 0,913 0,913 0,913 1,940 1,940 1,940 1,940 1,940 1,940 1,940 1,940 1,940	38 39 39 39 39 39 39 39 39 39 39 39 39 39	9.730, 2.893 018 018 013 743 1.303 1.	245 —— 90 —— 1,544 983 12.308 hs 12.308 hs 13.308 hs 14.308 hs 14.308 hs 15.308 hs 15.308 hs 16.
8 8 8 8	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	019 013 013 013 013 013 013 013 013 014 015 018 019 019 019 019 019	3,000 3,000 3,000 3,400 3,400 3,400 1,400 3,400 1,400 3,400 1,200 3,200	2,220 0,992 0,992 0,992 0,993 0,993 0,993 0,993 1,390 1,300	70 100 100 100 100 100 100 100 100 100 1	9.7300 2.8931 075 076 0713 7676 2.1383 3.383 3.383 3.383 3.383 1.8	245 — 250 —
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53 54	1 2 2 2 3 4 3 4 1 2 2 4 1 2 2 3 4 1 2 4 3 4 4 1 2 4 4 1 4 1 4 1 4 1 4 1 4 1 4 1 4	013 013 013 013 013 013 013 013 013 013	3,000 3,000 3,000 3,400	0,722 0,722 0,723 0,723 0,723 0,723 0,723 0,723 0,723 0,723 0,723 1,240	38 39 39 39 39 39 39 39 39 39 39 39 39 39	9,799, 2,845, 2,799, 2,845, 2,799, 2,845, 2,853, 2,	245 —— 1,544 983 12.28 19.28 1
8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	1 2 3 4 3 4 1 2 4	013 013 013 013 013 013 013 013 013 013	1.500 1.500	9.773 9.773	38 38 38 38 38 38 38 38 38 38 38 38 38 3	5,739,3 2,853,2 012 013 013 173 174 1,252,1 1,252	245 —— 250 —— 1,848 —— 1,848 —— 1,258 —— 1,258 —— 1,258 —— 1,258 —— 252 —— 252 —— 252 —— 252 —— 253 —— 253 —— 253 —— 253 —— 253 —— 253 —— 253 —— 253 —— 253 —— 253 —— 253 —— 254 —— 255 —— 255 —— 255 —— 257
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55 53 54	1 2 3 1	013 013 013 013 013 013 013 013 013 013	3,000 3,000	2,250 0,372 0,372 0,372 0,372 0,373	38 38 38 38 38 38 38 38 38 38 38 38 38 3	5,739,3 2,863,0 012 013 013 013 175 176 176 176 176 176 176 176 176	243 — 1,440 est 1,240 1,24
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55 54 54	1 2 3 1	013 013 013 013 013 013 013 013 013 013	3,000 3,000	9.872 9.872 9.872 9.873 9.773 9.774 9.773 9.774 9.773	38 38 38 38 38 38 38 38 38 38 38 38 38 3	5,739,3 2,863,0 012 013 013 013 114 125,3 1,3 1,3 1,3 1,3 1,3 1,3 1,3 1	243 — 1,440 est 1,240 1,24
55 54 54	20 27 27 2 2 3 4 3 4 3 4 1 2 4 1 2 4 1 2 4 1 2 4 1 2 4 1 4 1 1 1 1	013 013 013 013 013 013 013 013 013 013	3,000 3,000 3,000 3,400	0.172 0.172 0.172 0.173	38 38 38 38 38 38 38 38 38 38 38 38 38 3	5.729.2 2.892.2 2.892.2 2.992.	245 — 1.544

BAR	No.	OU.	(D)CDI	UNIT WT	Q.T.Y.		TOTAL WT.	SHAPE
_	7.,-	013	(mm) X400	-(0)	931	(kg) 3.363	316	
	7	013	3,400					
_		213	340		- 13	777	215	
58	13.		1 250	- 6.995	53	2347		
	٠	D13	7400		93	3.303	315	_=
	₽-		1,700		23	1,612	157	
	ببر	Dia	7.890			433		
	<u>, z</u> .,	018	3,500	140	- 91	3.440	407	
53	ᆂ	016	7500	1,560		3,460	497	
	4	Dig	1,500		22	-3493		
		014	1, 3500	1.560	91_	3.440	497	
	8	DIE	2100	1,560		3.276	210	
	ㅗ	018	7.350		- 91	5.234	451	
	عرا	D18	300	1.60	91	244	417	
310	<u> </u>	216.	1.00	2,540		3.442	447	
.,,	٠.	014	1500	1.560		5,440	497	
	1.5	010	3,500	1.40		3,440	497	
		D10	1,600	1.540	211	2414	227	_
\$1	1	025	3,420	7.380	97	14,408	1,328	
	2	018	3.320	1.49	- 80		414	
_	Lī.	022	6.400	3.049	166	23.5 X	4,238	
113	7	D22	10,000	3.240	. 186	30,400	5,044	
		022	1,500	3,040	184	25.340	4,200	
_		019	3,500	1,390	154	13.740		
514	-						2.042	
**	 	DIS	10,000	1.50	194	13,503	2,402	 -
_		010	7,910	1,540	1541	12,340	1,000	
	н-	222	070	2049	154	21,493	-3310	
573	-2	022	10.000	7.040	134	_39,494	4.867	
_	-	D22	1.500	3,044	134	13400	2.507	
	μ.	D23	500	7,440	19	17.910	179.	
76	ـيا	023	10.000	7140		1£6.5		
	٠.	025	7,270	3,000	10 [70.03	204	
_ 5		D25	840	7,090	3.0	4,577	2,010	_=
- 51	6	025	2,060	1,750	412	10.567	4,871	
	41.0	922	10,000	3,049	195	32.400	3,046	=
22.0	7	522	1999	2243	394	15.200	2,523	
	.1	015	2,000	0.993	_134	4.97	794	
120	2	D13	9.300	0.005	154	9.43	1.454	
_	1	.022	5,120	1,040	1543	8405	2113	_
527	1	022	10,000	3,040	151	30,400	4,942	
	5	022	4,500	3,040	134	7000	2,107	
	-	023	- 20	1990	101	17.100		
22	7	075	10,000	1990		39.800	- (71)	<u> </u>
•	-	023	5,320		10	25,154	200	 -
-		D23	1,600	7660			202	=-
_	~				306	5,306	1.94	
<u> \$</u>	·	023	7.580),980		10,288		
						025	18,076	
						222	40,896	
						D16	12,575	
						013	6.211	
						Tertal	85,750	ke .
	_							-
· · · ·	1	D16	1,970	1,580	231	10,405	_ 2.404	
ч I	3	219	(0.000	1.10	235	15,600	3004	
.]	3	014	500	1,540	231	7.070	1,622	
-	7	D18	+,300	2.730	249	10,125	2.411	=-
-2	3	OIL	10,300	3.750	2 2 4	21500	7,537	
•	÷	019	- 87Q	2,250	249	3.43		
-1	 -	014	2,910	1.760		4 540	- 1834	
- 1	+	010		1.380				<u></u> -
- 1	-		3,300	1.500	149	-2442		
13 Ì	۴	D14	7.200		-142	- 5.490	<u> </u>	
	4	018	7.40	1,540	149	5.440	914	
۱,	بد	014	7,200	1,160	149	1460	814	
		018	2100	1 590	149	3.279	449	
-3		719	7.410	1,340	- 191	5.320	797	=
	۲		1.500	1,300	148	2,480	804	=
-		019		1,340)	140	3.440	800	
-	۲	274	3,500					
•			1500	1.550	1487	3,440	Ace!	
••		016 016	1,500	1.550	149	3,440	604	
"	4-1-1-1	018 016	1500 1500	1,540	149	3440		=
••		016 016	1,500	1.550	149		000 800 300 1104	蒷

24.0				_				
0.65	No.	Dia.	PHC1X	OHT W.	Q.T.T.	NEGAL :	TOTAL NT.	SHAPE
			(rem)	(ke)		(10)		
	T	C14	6,720	1.560	231	7.703	2.741	
P6 [,	5/16	10,000	1.580	231	11,600	3,504	
	. 3	D16	4,000	1,549	731	0.240	1,441	
	1	D19	4,000	2,250	298	9.000		
FT	7	Din	10,000	2.730	244	22,500	5,333	_=_
[3	DIS	6,420	2,250	246	14.445		
	1	016	2.030	1.560	132	4.500	595	
	2	014	3,500	1.560	132	3,440	7.00	
PS .		018	3,500	1,560	137	5,450	721	
	4	D18	3,500		132	3,440	721	
	5	Ote	3.00	1,560	132	3,490	721	
_1	•	_D:4	2100	1.000	137	3.275		-= -
_		DI	720	1.550	132	1,25	494	
Į	2	314	3.500	7,540	132	5,460	721	
P9	3	018	7.20		132	5,680	721	_==_
	4	018	3.500	1,550	132		_725	
- 6	5	018	2,500		. 132		721	
[-	018	1,522	1.503	121	2 494	323	
ET(Daz	7,690	704	250	11.187		
						633	5390	
						019	23.131	
						214	31,546	
						Yeld	40,567	teq:
	_		_					
H1		\$13	1,810	0.99	126	1,0072		<u> </u>
_X		013	1.030	0.995	174	1,572	253	<u> </u>
113		013	1,340	. 0112	264	725	392	<u> </u>
	_	013	1,370	0.003	264	363	340	
H3		013	1.380	0,913	314	13/3		
H		D13	1,000	0.995	972	1.075		
H7		D13	700	0.913	1,458			
	_			7.7.4				
						253	3304	
						Total	1304	koa
_								
FT		018	2,110	2.251	104	4,749		
- 77	_	018	Z100	1,510	103			-
- 53		013	1,700		105			-
F4								
					105		220	<u></u>
_		D13	2110	0.415	100	7.021	720	<u> </u>
7		D19	1.700	1,540	100	7.097	292	
	1	D19	1.790 6.579	0.992	108 12	2.994 77 6.557	292 78	11
70	-	D19 D13 D13	1,790 6,579 10,000	0.947 0.947 0.947	108 12 12	2,091 2,777 6,557 9,950	78 78	
	1	D19	1.790 6.579	0.992 0.992	108 12 12	2.994 77 6.557	78 78	
	-	D19 D13 D13	1,790 6,579 10,000	0.947 0.947 0.947	108 12 12	2,777 6,537 9,950 3,980	792 78 119 49	
	-	D19 D13 D13	1,790 6,579 10,000	0.947 0.947 0.947	108 12 12	2,099 2,777 6,537 9,930 3,980	78 78 119 44	
	-	D19 D13 D13	1,790 6,579 10,000	0.947 0.947 0.947	108 12 12	2,099 2,777 6,557 9,850 3,980 019	292 78 519 44 484 629	
	-	D19 D13 D13	1,790 6,579 10,000	0.947 0.947 0.947	108 12 12	7.099 2.777 5.537 9.850 3.880 019 016 013	292 78 119 49 484 623 631	
	-	D19 D13 D13	1,790 6,579 10,000	0.947 0.947 0.947	108 12 12	2,099 2,777 6,557 9,850 3,980 019	292 78 519 44 484 629	
	-	D19 D13 D13	1,790 6,379 10,000 4,000	0.993 0.993 0.993	108 12 12 12	7,099 2,777 6,357 9,950 3,980 019 016 013 Total	792 78 119 44 484 629 651 1,774	keç
70	1 3	D19 D13 D13 D13	1,796 6,379 10,000 4,000	0.993 0.993	108 12 12 12 12	2,094 2,777 6,357 9,950 3,980 019 018 013 Total	787 78 119 44 484 629 651 1,774	log
	1 3	013 013 013 013	1,796 6,579 10,000 4,000 4,000	0.993 0.993 0.993	108 12 12 12 12 13 108	2,099 2,777 6,237 9,850 3,880 018 018 013 Total	292 78 119 44 484 629 651 1,774	log
70	1 3	D19 D13 D13 D13	1,796 6,379 10,000 4,000	0.993 0.993 0.993	108 12 12 12 12	2,094 2,777 6,357 9,950 3,980 019 018 013 Total	292 78 119 44 484 629 651 1,774	log
70	1 3	013 013 013 013	1,796 6,579 10,000 4,000 4,000	0.993 0.993 0.993	108 12 12 12 12 13 108	2.079 2.777 8.377 9.950 3.980 018 013 7066 0.925 0.844	292 78 119 44 484 629 651 1,774	log
70	1 3	013 013 013 013	1,796 6,579 10,000 4,000 4,000	0.993 0.993 0.993	108 12 12 12 12 13 108	2.079 2.777 6.377 9.950 3.580 019 016 013 7obs 0.824 0.834	292 78 119 49 484 629 651 1,774	log
70	1 3	013 013 013 013	1,796 6,579 10,000 4,000 4,000	0.993 0.993 0.993	108 12 12 12 12 13 108	2.079 2.777 8.377 9.950 3.980 018 013 7066 0.925 0.844	292 78 119 44 484 629 651 1,774	log
78	1 2 3	015 013 013 013 013	930 950 950 930 930 950	0.993 0.993 0.993 0.993 0.993	100 12 12 12 12 12 12 100 100	2,777 2,777 6,277 9,950 3,980 018 013 7otal	292 78 19 44 484 629 651 1,774 349 35 328	kę
78	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	919 913 913 913 913 913	1,796 6,579 19,000 4,000 4,000 930 930 850	0.993 0.993 0.993 0.993	105 12 12 12 12 12 105 105	2,099 2,777 6,277 9,950 3,980 019 018 013 7otal 0,850 0,850	292 78 78 49 44 484 627 627 637 1,774 349 53	kg
78	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	015 013 013 013 013	930 950 950 930 930 950	0.993 0.993 0.993 0.993 0.993	105 12 12 12 12 12 105 105	2,099 2,777 6,277 9,950 3,980 019 018 013 7otal 0,850 0,850	292 78 78 49 44 484 627 627 637 1,774 349 53	kg
78	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	919 913 913 913 913 913	1,796 6,579 19,000 4,000 4,000 930 930 850	0.993 0.993 0.993 0.993	105 12 12 12 12 12 105 105	2,019 2,777 5,277 7,939 018 018 013 Total 0,656 0,844 013 Total 1,842	292 78 19 44 484 627 651 144 95 95 328 328	kg
78	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	919 913 913 913 913 913	1,796 6,579 19,000 4,000 4,000 930 930 850	0.993 0.993 0.993 0.993	105 12 12 12 12 12 105 105	2,019 2,777 2,930 3,980 019 018 013 7otal 0,925 0,936 013 7otal	292 78 78 49 49 484 651 1,774 53 53 53 328 328 328 328 328 328	kg
78	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	919 913 913 913 913 913	1,796 6,579 19,000 4,000 4,000 590 550	0.993 0.993 0.993 0.993	105 12 12 12 12 12 105 105	2,019 2,777 5,277 7,939 018 018 013 Total 0,656 0,844 013 Total 1,842	292 78 19 44 484 627 651 144 95 95 328 328	kg

Wright of Reinforcing Ber	s by Otemeter
· (Tye	ne of eteal minimument 521345)
929	18,076
922	44,735
. Dt9	24,638
C16	\$1,940
013	25,514
Crand Total .	188,903kg
Congrete values	7,734,78 m ³
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ADUL. Gpa. COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)

DETAILED DESIGN WEACTIVATION PROJECT ON EA UNION PROVINCE OF THE REPUBLIC OF EL SALVADOR NEPPON KOZI CO., LTD

. QUAYWALL WORK
. CONTAINER AND MULTIPURPOSE SERTE REINFORCEMENT OF

CAISSON (13)

MARCH/2002 1 : 100 0#+0#-0:-020

(I) NIPPON KOEI CO,,LTD.

Proje				De	tai	led	D	esi	gn .	on	Ро	rt F	} <i>ee</i>	ıcti	vat	ion	P	oje	ct	in L	a l	Jni	on				Calc, File N										
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	QUANTITY CALCULATION C		
Project	Detailed Design on Port Reactivation Project in La Union Province	Project Code	JC1N004/2N001
Work Section Title	CONCRETE OF CAISSON	Pay Item No. (BOQ)	20-0404
Quantity Item		Unit	η 3

Caisson concrete volume was computed for a respective caisson. Cross section area was computed using geometric formulas and multiplied to the section length of respective caisson. The volume was multiplied to the total of coissons.

The volume was computed with 2 decimal for section area and zero decimal for total.

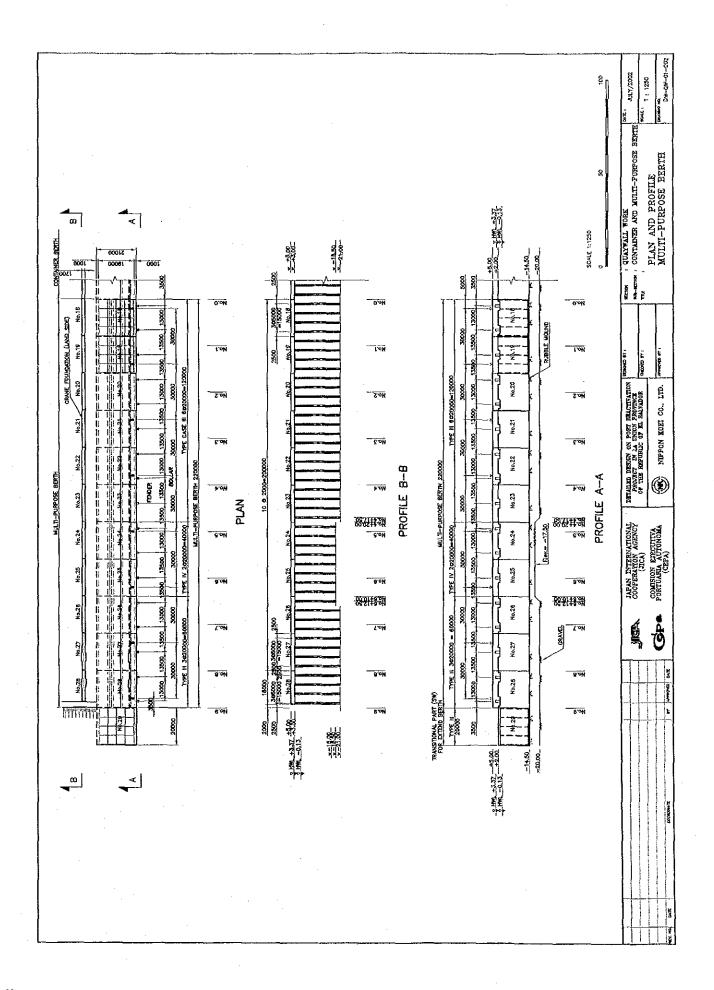
References, Calculation Base and Revisions

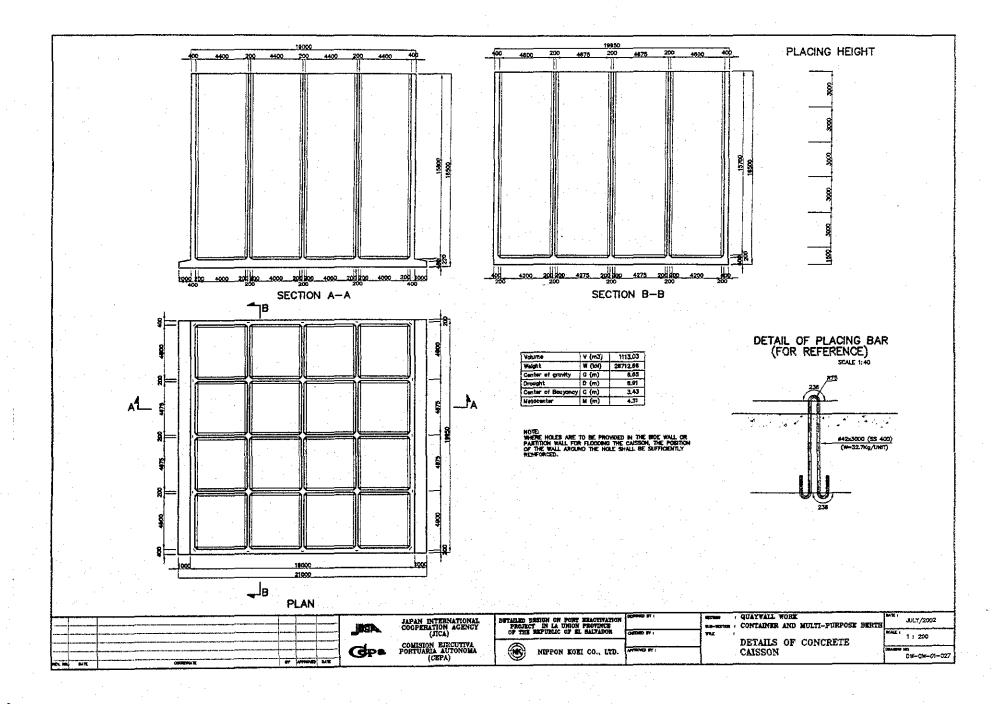
Peternes: Tender Downings:

0 - 00 - 002 Plan and Parte Hollipupor total

no - 000 - no - 007 Details of Conneck Coisson

Rev	Prep	ared	No. of	Che	cked	Revi	ewed	Superseded
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Project	Detailed Design on P	ort Reactivation Project in La Union	Calc. File No.
Section	CONCRETE OF	CAISSON	Calc. Index No.
Subject	CA12200 C	ONCRETE	Page No. Rev.
Yolun	e per Caision		References/ Notes
1= 19.0	m; (2 = 19.	75 m h = 15. 80 m No hole	25 - 16
			┤╶┤╌┤┈┤╸┨╌ ┤╌
1 1	(45 m) (15.00 m) (d.dom) + 227, 43 m	
1/2 - 10	40m 119 95m + (19 6	m - (a.4am (2)) [14,50m a,60m) (2)=	485 27 0
V = V			
	7 10 10 10	3) (3) + (9.0m - (0.4pm)(2) - (0.20	1/2/(2)
1		17 (3) 4 (150m) - (0.10m)/2) - (0.20	77157(3)]
(10	SDM - 0.50m		
V ₃ =	350 GO M	╂╅╫┼╆╄┿╁┼┤┼┼┼	
		3	
У 4 =	(o.120m)(b.210m) (1650	pm-p.4m) (4) (16) = 20.35 m	
V _S = (0	.20m) (4.20m) (4.0	m + 4.20m)(2)(8) + (9.6m+ 427	(5 m) (2) (2) (1)
V ₃ =	5. 27 m		
V =	(02m)(02m) (02	n) (4 (16) = 9.19 m	
16 =	3	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	(10m) (0.48m)	(17.95m)(2) = 19.15 m	
1/8=		19.75m)(2) = 4.39 m	
	2	3	
\$ 2.5	Y= 1/12.	63 m = 1,113 m	
		+	
Dorginer	Ball I	(1, 118 m) (17) = 18, 921 m	<u>' </u>
		 	19,000
Hulhau	oose Coilh. Y	$(1,113 \text{ m})$ $(11) = 12,243 \text{ m}^3$	
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	QUANTITY CALCULATION C		
Project	Detailed Design on Port Reactivation Project in La Union Province	Project Code	JC1N004/2N001
Work Section Title	TOOM OF CAISSON	Pay Item No. (BOQ)	20-0405
Quantity Item		Unit	WSJ

Caisson form one was computed for Multipurpore Bells.
Cross section area was computed by geometric formulas, multiplying the lingist to the width of sections of coissons.
This one was multiplied to the total of coissons.

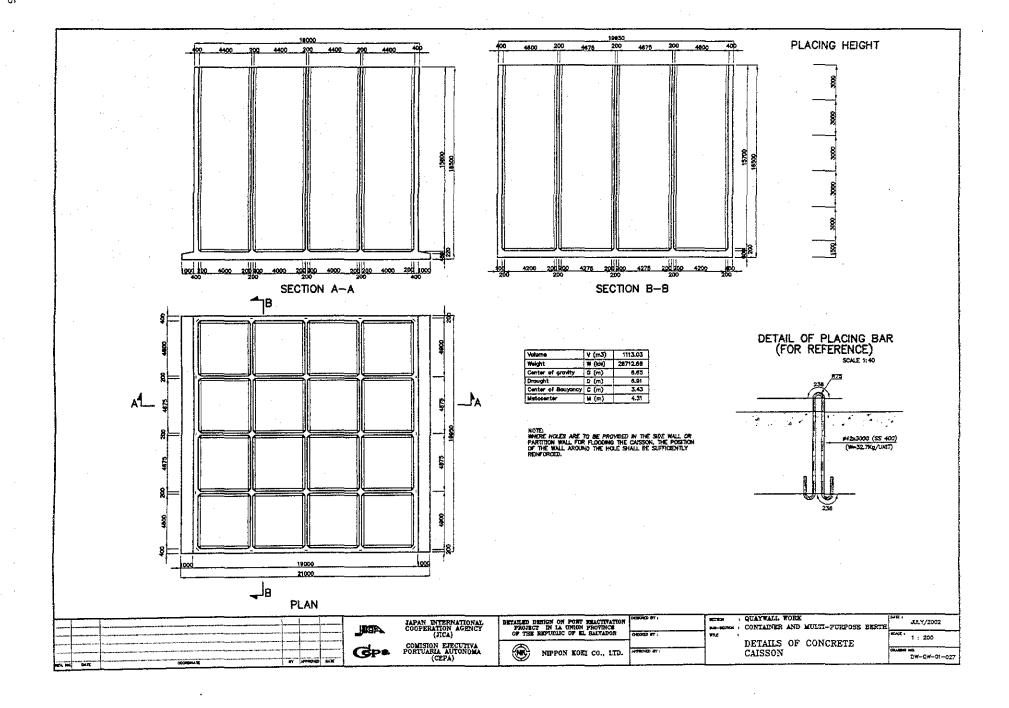
The volumen was computed with two decimal for section area and zero decimal for lotal.

References, Calculation Base and Revisions

Retrances: Tinder Drawings

Dev - Qui-01-027 Details of Innerte Coisson

Rev	Prepa	red	No. of	Chec	ked_	Revie	wed	Superseded
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Project	Detailed Design on P	ort Reactivation Project in La Union	Calc. File No.
Section	Multi-purpos		Calc. Index No.
Subject			Page No. / Rev.
- 001 si		190	References/
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		15.80	
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1 1 1	80m 41.82m 1.5	(48m) (4) (19.95m) = 690, 27 m	2 1 1 1 1 1 1 1 1 1
A = (15			
1 1 7		40 4 4 4 4	2
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	1,319.	(B) n) =	
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42	(4.0 m + 4.20m)	2) (15.7m) (8)+ (4.0m + 4.275m)(2)(15 7m)]
	(8) + (13.70%)	0.28m)(4)(10) = 44 19.86 m2	
11111			
A2=	4 0m + 1 28 m	0. 28 m) (2) (16) + (4. 20m+ 4. 48m) (8	284)
		4.275m+ 4.555m (0.28 m) (8)	
 	76. 32 m²	┼╎┤╏╎┩┤╂╏╏┥╏	
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	QUANTITY CALCULATION C		
Project	Detailed Design on Port Reactivation Project in La Union Province	Project Code	JC1N004/2N001
Work Section Title	TEMPORARY ANCHORING OF CAISSON	Pay item No. (BOQ)	2C-05
Quantity Item		Unit	Nos

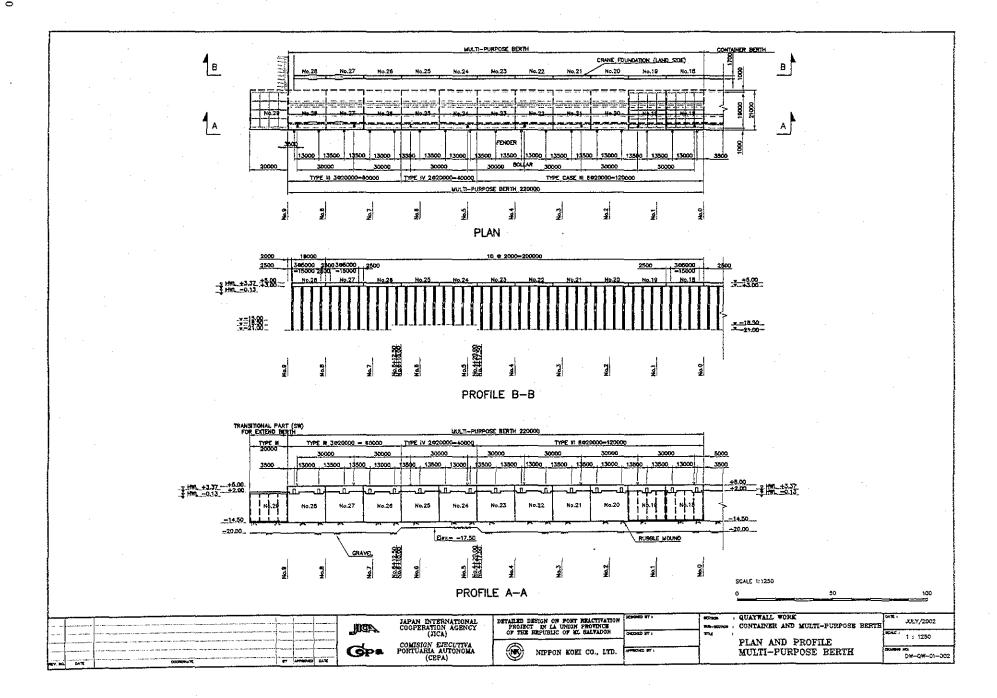
Caissons will be built in caisson yard. Allu hal, they will be orchored in relevant place until they will be placed on the mound.

References, Calculation Base and Revisions

References: Tender Drowings:

bw-aw-01-002 Plon and Profile.
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FN: Calculation_Sheet

	QUANTITY CALCULATION C	OVER SHEET	- The state of the				
Project	Detailed Design on Port Reactivation Project in La Union Province	Project Code	JC1N004/2N001				
Work Section Title	PLACING OF CAISSON	Pay Item No. (BOQ)	20-06				
Quantity Item		Unit	No 5				

Caissons will be built in caisson yord, and then, they will be towed into relevant place.

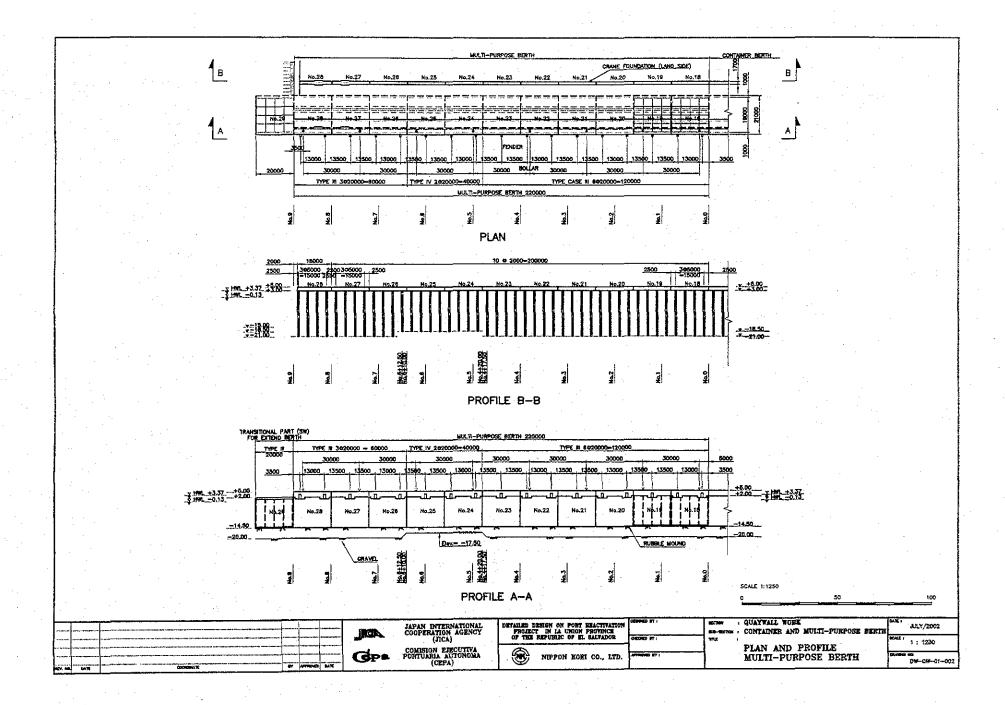
References, Calculation Base and Revisions

Reference: Tender Drowings:

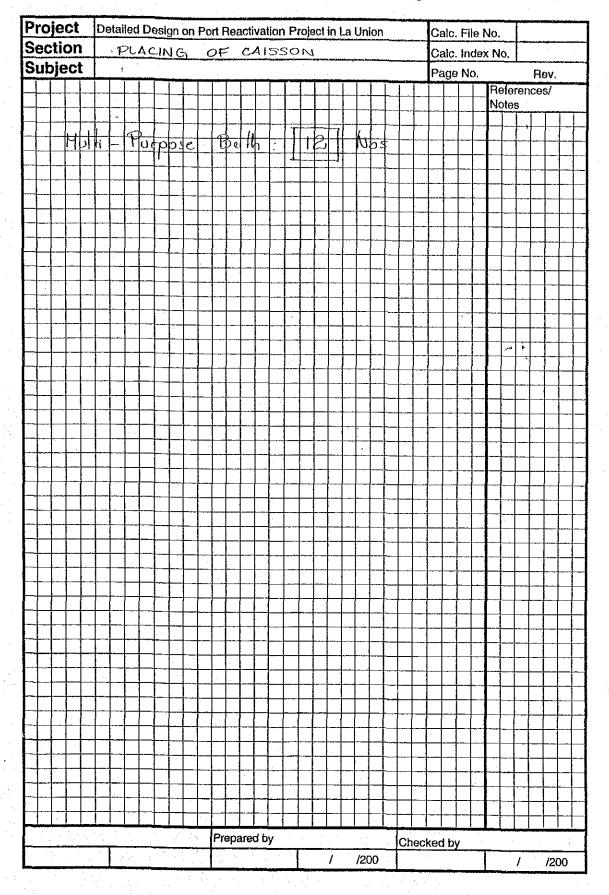
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NIPPON KOEI CO,,LTD.



					OVER SHEET	
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Work Section Title	SAND	FILLING	INTO	CAISSON	Pay Item No. (BOQ)	2C-07
Quantity Item					Unit	ηЗ

Coisson sond filling volume was computed for a respective coisson.

Cross section and was computed by geometric formulas and multiplied to the section length of respective coisson. The volume was multiplied to the letter of coissons.

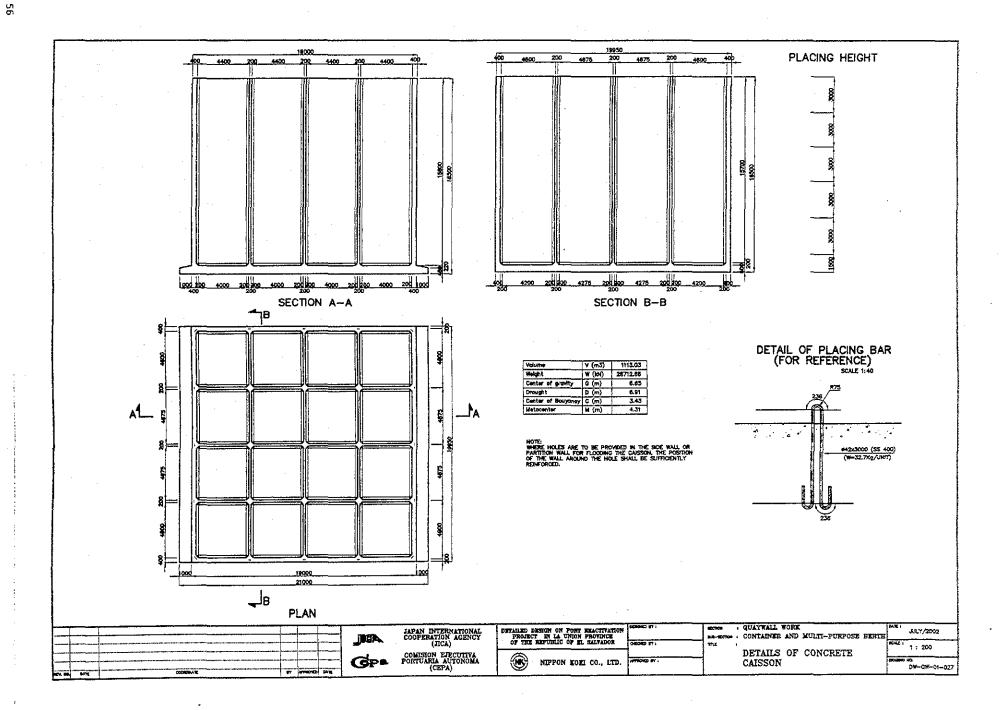
The volume was computed with two decimal by section area and was decimal by total.

References, Calculation Base and Revisions

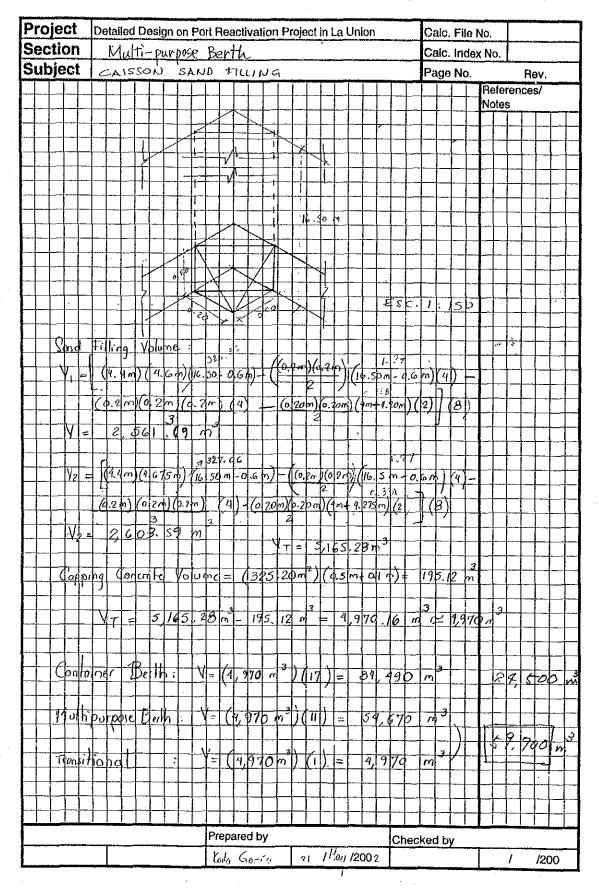
Terrences: Tinder Drawings:

DN - QW - 01-027 Défails of Boncele Coisson

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QUANTITY CALCULATION COVER SHEET							
Project	Detailed Design on Port Reactivation Project in La Union Province	Project Code	JC1N004/2N001				
Work Section Title	Multi-purpose Berth	Pay Item No. (BOQ)	20-08				
Quantity Item	Cover Courrete & Caisson	Unit	m ³				

Capping concrete volume was computed using geometric. Cosmular multiplied to the length of the capping. The result was multiplied for the total of raisons. The volume was computed with two dramal for section and one and sees ducimal for total.

The result was verified in Intelligend.

References, Calculation Base and Revisions

Dancercos: Tender Dannings:

Du - 6w - 01 - 005 Typical Cross section Type II

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