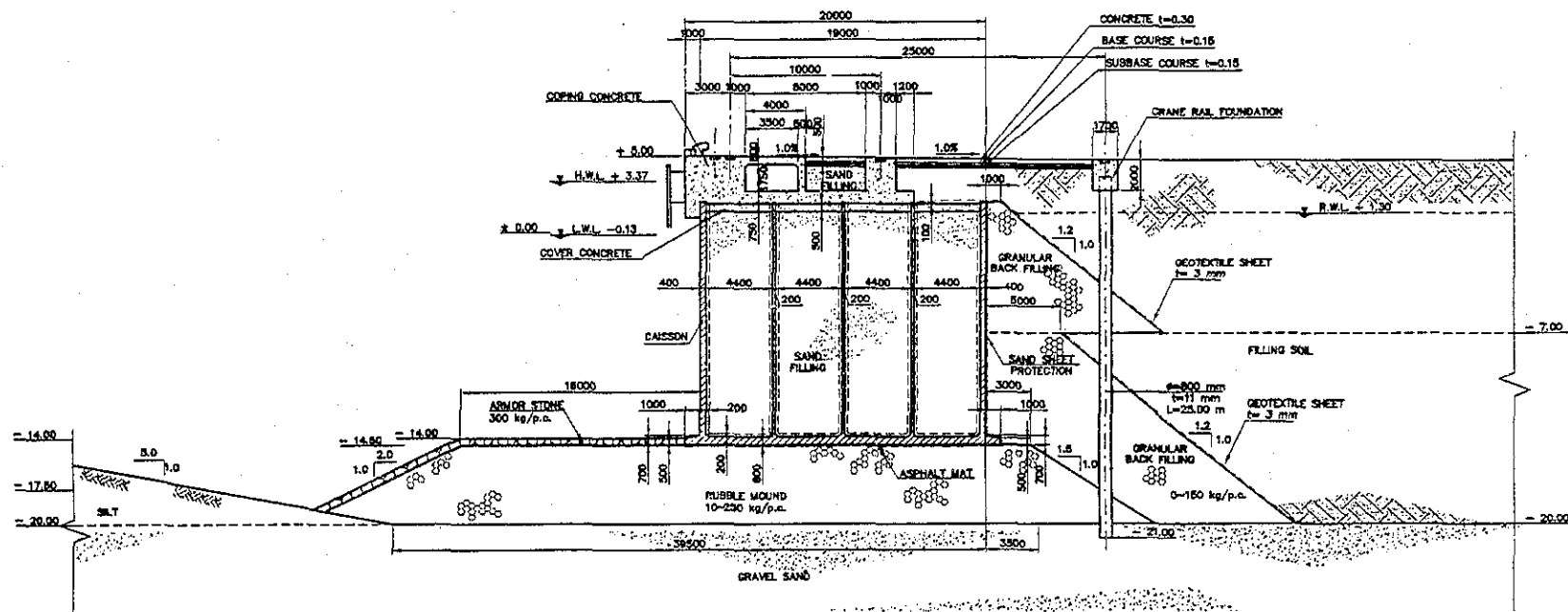


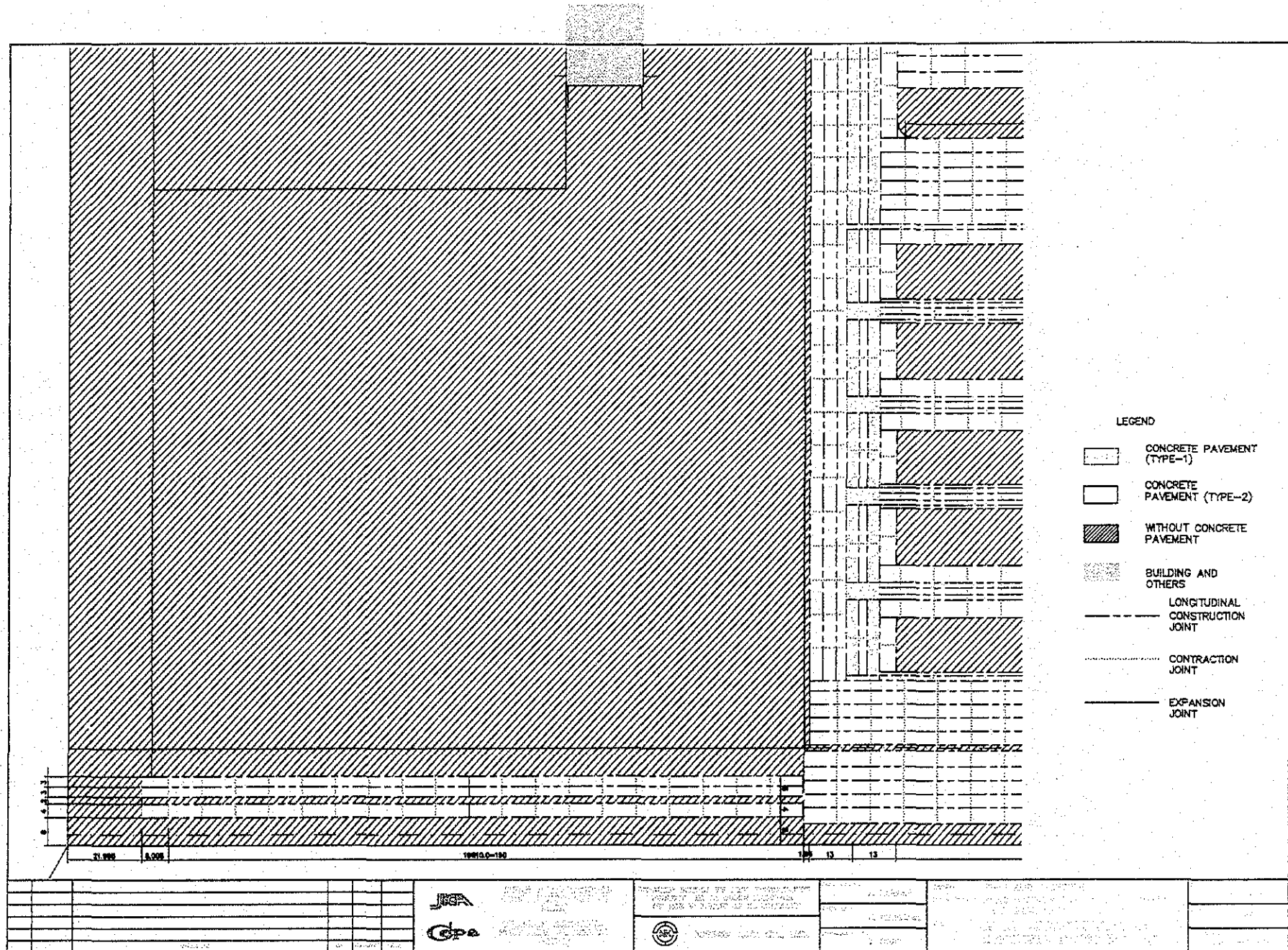
QUANTITY CALCULATION COVER SHEET								
Project	Detailed Design on Port Reactivation Project in La Union Province			Project Code	JC1N004/2N001			
Work Section Title	APRON CONCRETE PAVEMENT			Pay Item No. (BOQ)	2C - 1001			
Quantity Item	CONCRETE			Unit	m ²			
Calculation Procedure Applied								
<p>Volume of concrete for apron concrete pavement was computed multiplying apron concrete pavement area by thickness.</p>								
References, Calculation Base and Revisions								
<p>References: Tender Drawings:</p> <p>DW - QW - 01 - 005 Typical Cross Section Type III</p> <p>DW - PV - 01 - 007 Joint Arrangement of Concrete Pavement (3)</p>								
Rev	Prepared		No. of Pages	Checked		Reviewed		Superseded by Calc No.
	by	Date		by	Date	by	Date	
0	Karla Garcia			Mr. Inuma		Mr. Ando		
1								
2								
3								



TYPICAL CROSS SECTION TYPE III
MULTI-PURPOSE BERTH (-14.0m)

SCALE 1:300 0 5.0 10.0 15.0 20.0 25.0 30.0

				JICA JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	DETAILED DESIGN ON PORT REACTIVATION PROJECT IN LA UNION PROVINCE OF THE REPUBLIC OF EL SALVADOR	DESIGNED BY : CHECKED BY : APPROVED BY :	SECTION : QUAYWALL WORK SUB-SECTION : CONTAINER AND MULTI-PURPOSE BERTH TITLE : TYPICAL CROSS SECTION TYPE III MULTI-PURPOSE BERTH (-14.0m)	DATE : JULY/2002 SCALE : 1:300 DRAWING NO. : DW-CW-01-005
REV.	NO.	DATE	COORDINATE					
				GPA COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)	NIPPON KOEI CO., LTD.			

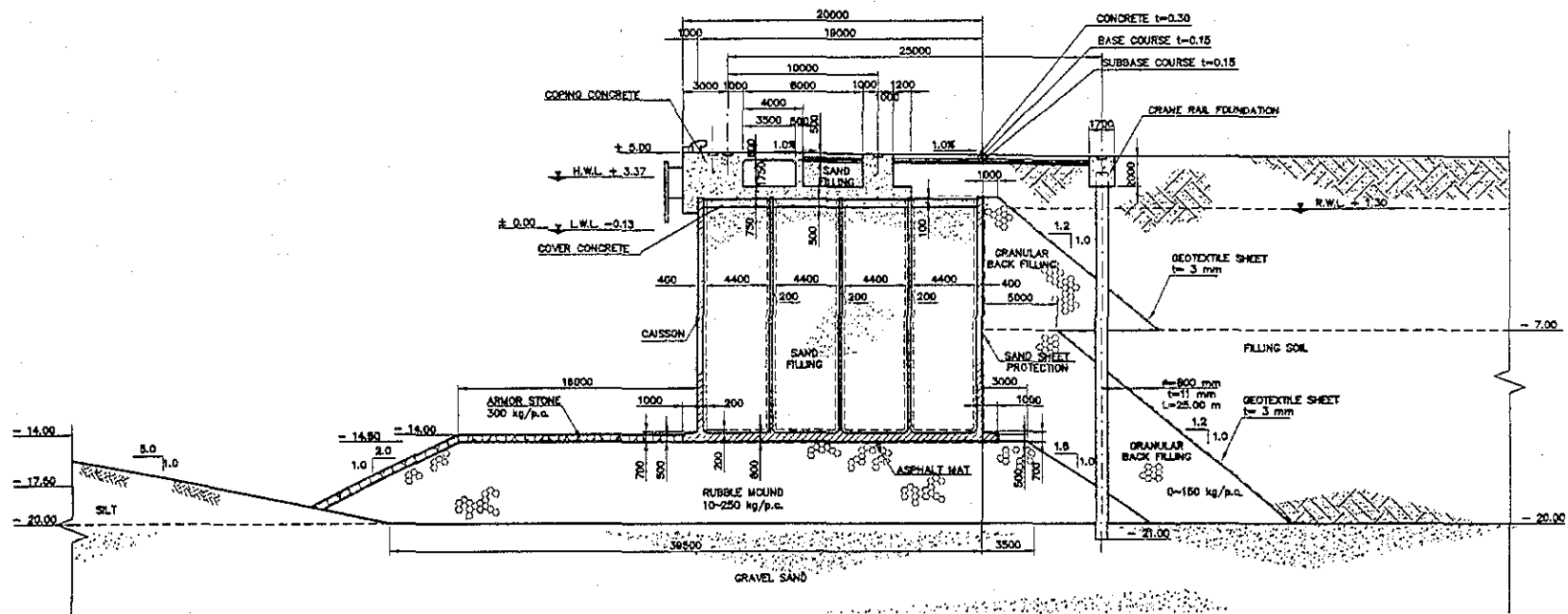


Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	APRON CONCRETE PAVEMENT	Calc. Index No.	
Subject	CONCRETE	Page No.	Rev.
<p>Apron Concrete Pavement Area :</p> $A = (6.00 \text{ m})(198.00 \text{ m}) + (4.00 \text{ m})(198.00 \text{ m})$ $A = 1,980 \text{ m}^2$ <p>Concrete Volume :</p> $V = (1980 \text{ m}^2)(0.30 \text{ m})$ $= 594 \text{ m}^3 \approx 600 \text{ m}^3$		References/Notes	
Prepared by		Checked by	
/ /200		/ /200	

QUANTITY CALCULATION COVER SHEET								
Project	Detailed Design on Port Reactivation Project in La Union Province			Project Code	JC1N004/2N001			
Work Section Title	APRON CONCRETE PAVEMENT			Pay Item No. (BOQ)	2C-1002			
Quantity Item	BASE CONCRETE			Unit	m ³			
Calculation Procedure Applied <p style="font-size: 1.2em; margin-top: 20px;">Volume of base concrete was computed by multiplying apron concrete pavement by thickness.</p>								
References, Calculation Base and Revisions <p style="font-size: 1.2em; margin-top: 20px;">References: Tender Drawings:</p> <p style="margin-left: 40px;">DW - GW - 01 - 005 Typical Cross Section Type III</p> <p style="margin-left: 40px;">DW - PV - 01 - 007 Joint Arrangement of Concrete Pavement (3)</p>								
Rev	Prepared		No. of Pages	Checked		Reviewed		Superseded by Calc No.
	by	Date		by	Date	by	Date	
0	Karl G. Garcia			Mr. Inuma		Mr. Ando		
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Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	APRON CONCRETE PAVEMENT	Calc. Index No.	
Subject	BASE - CONCRETE	Page No.	Rev.
$A = 1,980 \text{ m}^2$ $V = (1,980 \text{ m}^2)(0.15 \text{ m})$ $= 297 \text{ m}^3 \approx \boxed{300 \text{ m}^3}$		References/Notes	
Prepared by		Checked by	
/ /200		/ /200	

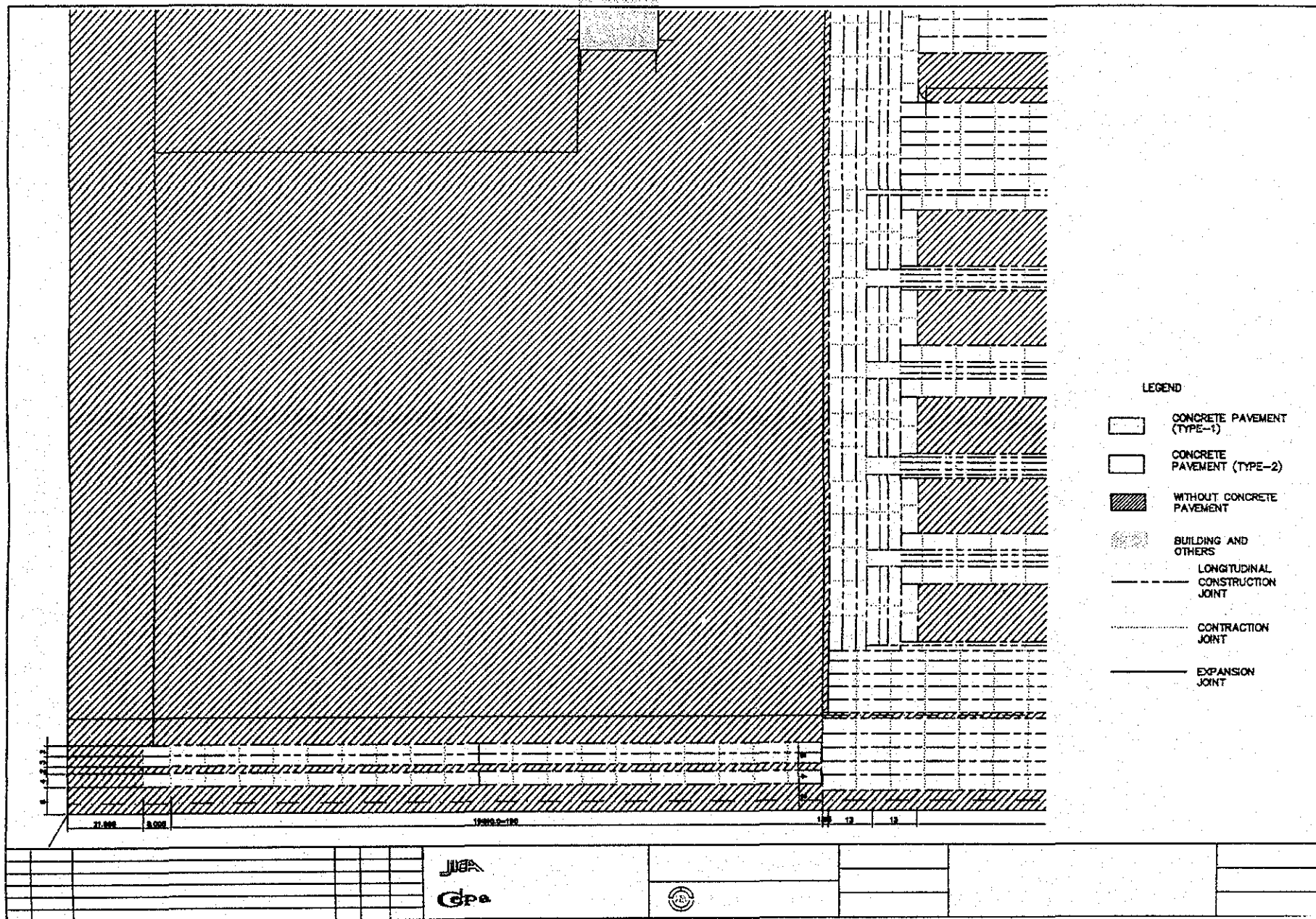
QUANTITY CALCULATION COVER SHEET								
Project	Detailed Design on Port Reactivation Project in La Union Province			Project Code	JC1N004/2N001			
Work Section Title	APRON PAVEMENT CONCRETE			Pay Item No. (BOQ)	2C -1003			
Quantity Item	SUB-BASE CONCRETE			Unit	m ³			
Calculation Procedure Applied <p style="margin-left: 40px;">Volume of sub-base concrete was computed by multiplying apron concrete pavement area by thickness.</p>								
References, Calculation Base and Revisions <p style="margin-left: 40px;">References: Tender Drawings:</p> <p style="margin-left: 40px;">DW-QW-01-005 Typical Cross Section Type III</p> <p style="margin-left: 40px;">DW-PV-01-007 Joint Arrangement of Concrete Pavement (3)</p>								
Rev	Prepared		No. of Pages	Checked		Reviewed		Superseded by Calc No.
	by	Date		by	Date	by	Date	
0	Karl Garcia			Mr. Inuma		Mr. Ando		
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TYPICAL CROSS SECTION TYPE III
MULTI-PURPOSE BERTH (-14.0m)

SCALE 1:300 0 5.0 10.0 15.0 20.0 25.0 30.0

REV. NO.	DATE	COORDINATE	BY	APPROVED	DATE	 JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	DETAILED DESIGN OF PORT REACTIVATION PROJECT IN LA UNION PROVINCE OF THE REPUBLIC OF EL SALVADOR  NIPPON KOEI CO., LTD.	DESIGNED BY : CHECKED BY : APPROVED BY :	SECTION : QUAYWALL WORK SUB-SECTION : CONTAINER AND MULTI-PURPOSE BERTH TITLE : TYPICAL CROSS SECTION TYPE III MULTI-PURPOSE BERTH (-14.0m)	DATE : JULY/2002 SCALE : 1:300 DRAWING NO. : DW-CW-01-005
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Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	APRON CONCRETE PAVEMENT	Calc. Index No.	
Subject	SUB-BASE CONCRETE	Page No.	Rev.
$A = 1,980 \text{ m}^2$ $V = (1,980 \text{ m}^2)(0.15 \text{ m})$ $= 297 \text{ m}^3 \approx 300 \text{ m}^3$		References/Notes	
Prepared by		Checked by	
/ /200		/ /200	

QUANTITY CALCULATION COVER SHEET

Project	Detailed Design on Port Reactivation Project in La Union Province	Project Code	JC1N004/2N001
Work Section Title	APRON CONCRETE PAVEMENT	Pay Item No. (BOQ)	2C-1004
Quantity Item	PRIME COATING	Unit	m ²

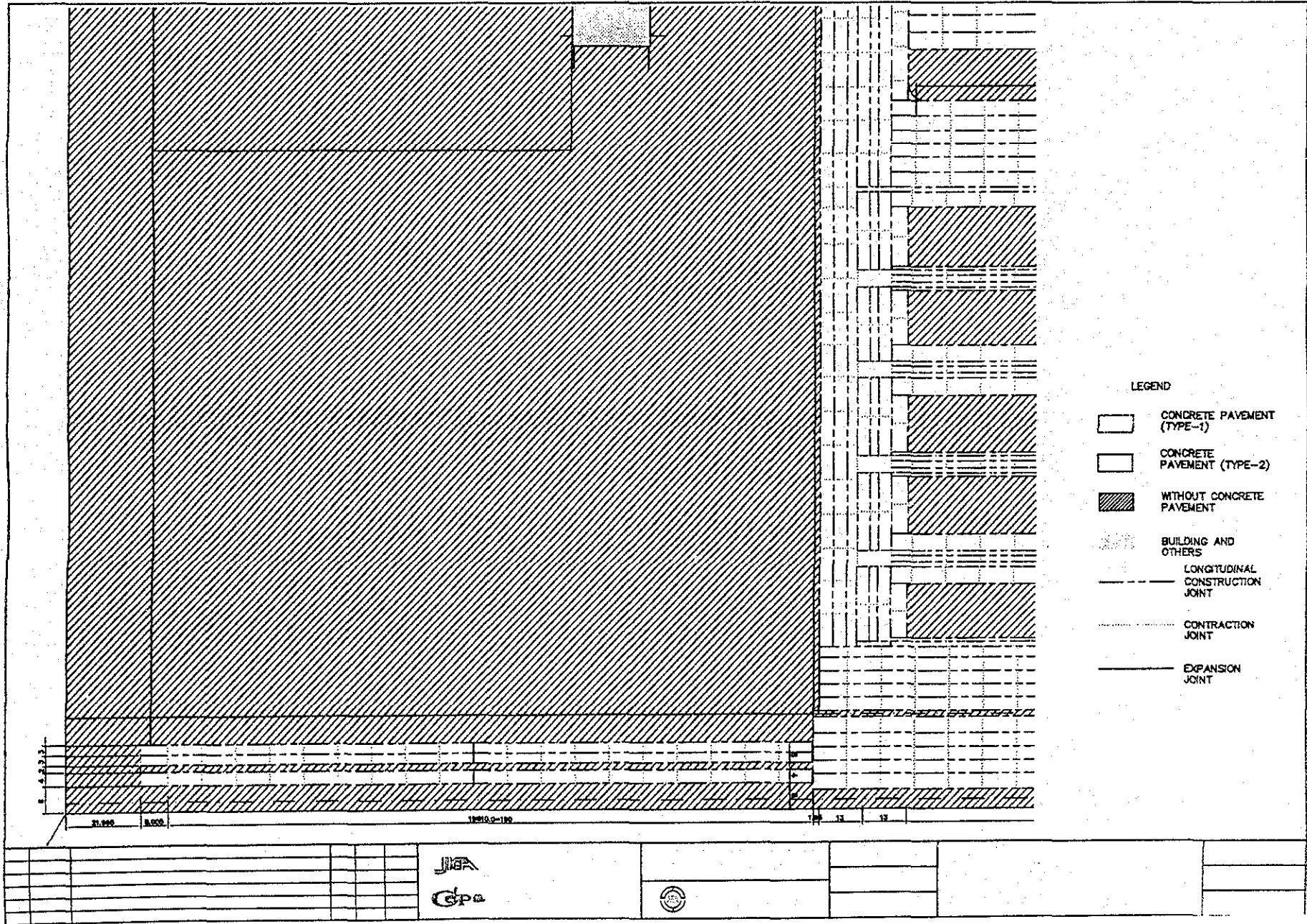
Calculation Procedure Applied

Area of prime coating was computed. This coating will cover all area of apron concrete pavement.

References, Calculation Base and Revisions

References: Tender Drawings:
 001 - PU - 01 - 007 Joint Arrangement of Concrete Pavement (3)

Rev	Prepared		No. of Pages	Checked		Reviewed		Superseded by Calc No.
	by	Date		by	Date	by	Date	
0	Mr. Garcia			Mr. Inuma		Mr. Ando		
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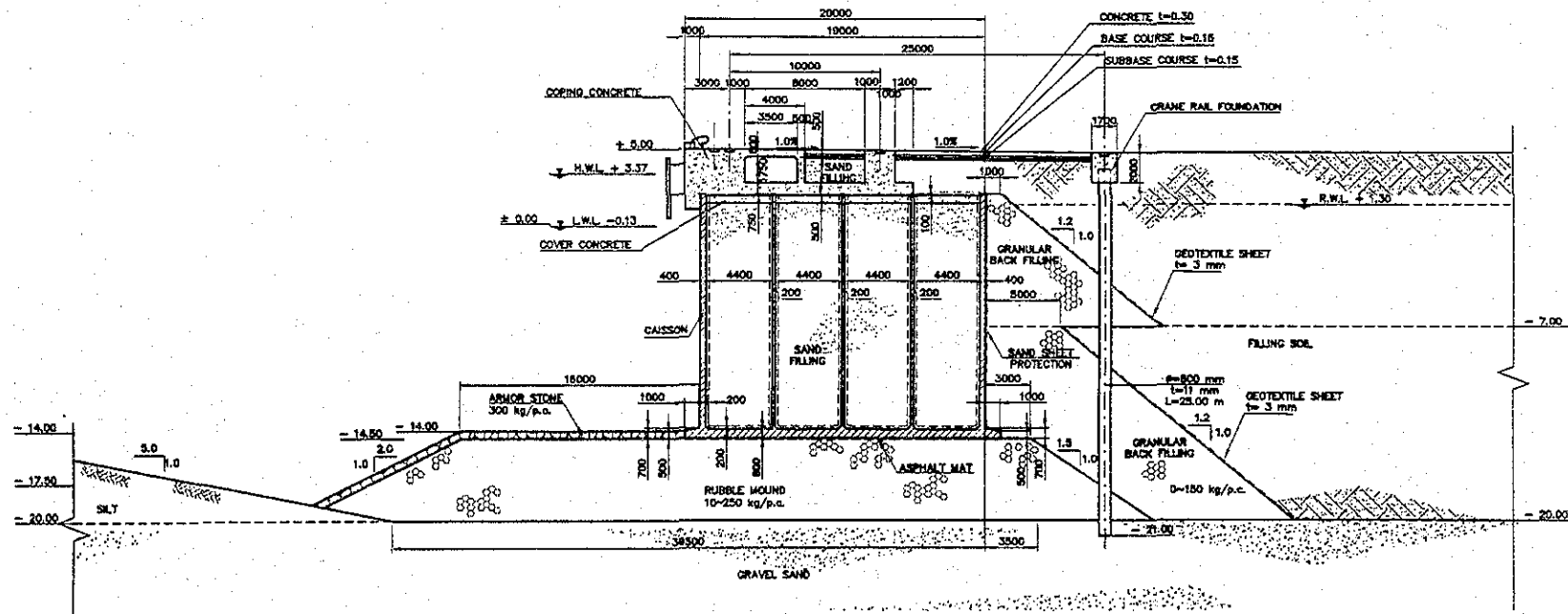


Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	APRON CONCRETE PAVEMENT	Calc. Index No.	
Subject	PRIME COATING	Page No.	Rev.

<p>Apron Concrete Pavement Area :</p> <div style="border: 1px solid black; padding: 10px; width: fit-content; margin: 20px auto;"> $A = 1,980 \text{ m}^2$ </div>	<p>References/ Notes</p>
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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	APRON CONCRETE PAVEMENT			Pay Item No. (BOQ)	2C-1005			
Quantity Item	SAND			Unit	m ³			
Calculation Procedure Applied <div style="font-family: cursive; padding-left: 20px;"> Sand filling volume was computed for Multi-purpose Berth only. Cross section area was computed by geometric formula and multiplied to the length. </div>								
References, Calculation Base and Revisions <div style="font-family: cursive; padding-left: 20px;"> References : Tender Drawings : DW - QW - 01 - 005 Typical Cross Section Type III </div>								
Rev	Prepared		No. of Pages	Checked		Reviewed		Superseded by Calc No.
	by	Date		by	Date	by	Date	
0	Koko Garcia	[Signature]		Mr. Inuma		Mr. Ando		
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3								



TYPICAL CROSS SECTION TYPE III
MULTI-PURPOSE BERTH (-14.0m)

SCALE 1:300 0 5.0 10.0 15.0 20.0 25.0 30.0

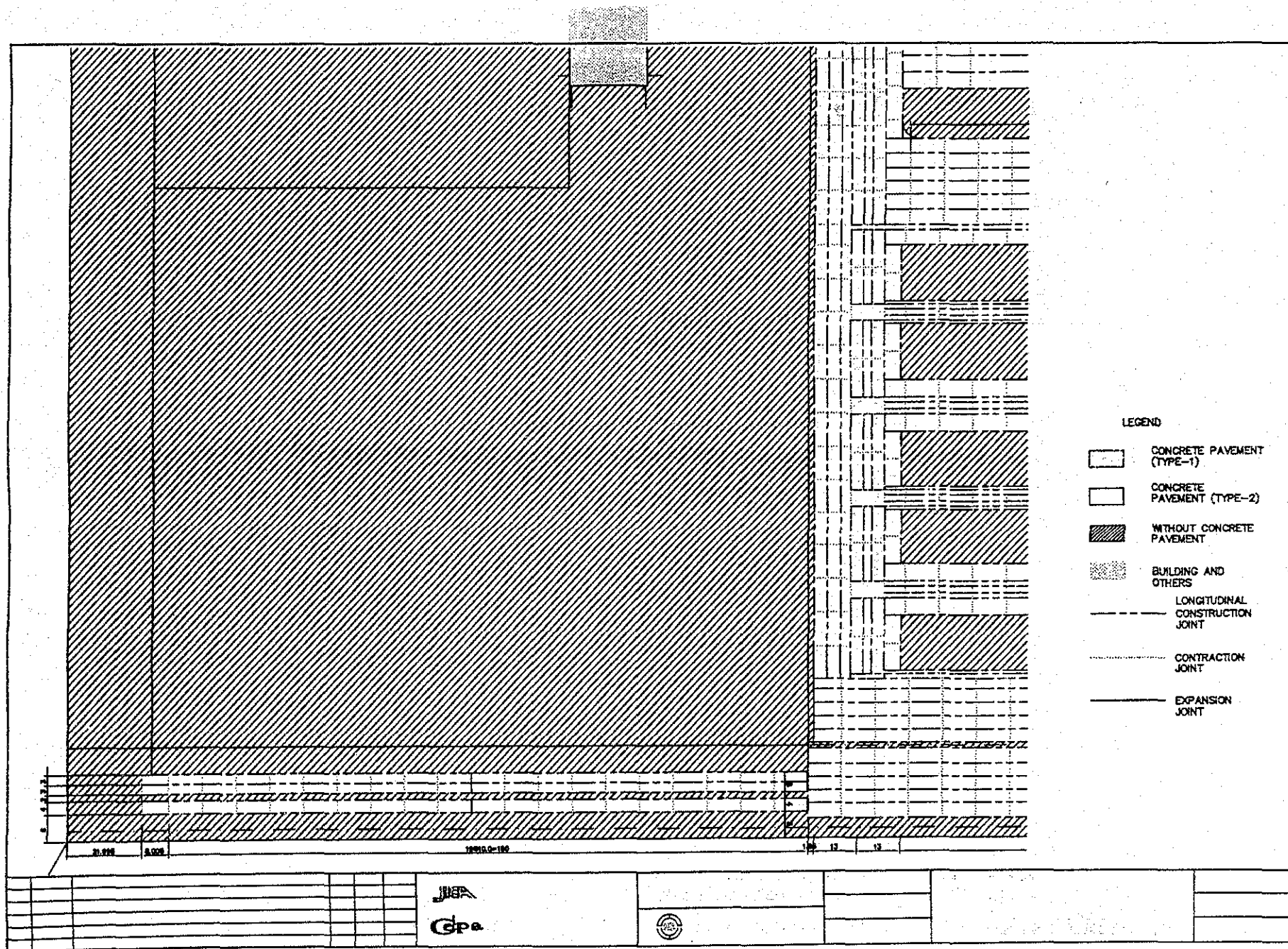
REV. NO.	DATE	COORDINATE	BY	APPROVED	DATE	 	JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)	DETAILED DESIGN ON PORT REACTIVATION PROJECT IN LA UNION PROVINCE OF THE REPUBLIC OF MYANMAR  NIPPON KOEI CO., LTD.	DESIGNED BY : CHECKED BY : APPROVED BY :	SECTION : QUAYWALL WORK SUB-SECTION : CONTAINER AND MULTI-PURPOSE BERTH TITLE : TYPICAL CROSS SECTION TYPE III MULTI-PURPOSE BERTH (-14.0m)	DATE : JULY/2002 SCALE : 1:300 DRAWING NO. : DW-QW-01-005
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Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	APRON CONCRETE PAVEMENT	Calc. Index No.	
Subject	SAND	Page No.	Rev.

$A = \frac{(1.51\text{ m} + 1.47\text{ m})}{2} (4\text{ m})$ $= 5.96\text{ m}^2$ $V = (5.96\text{ m}^2) (198\text{ m})$ $= 1,180.08\text{ m}^3$ $\approx \boxed{1,200\text{ m}^3}$	References/ Notes
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	Prepared by	Checked by	
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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	APRON CONCRETE PAVEMENT			Pay Item No. (BOQ)	2C-1006			
Quantity Item	REINFORCEMENT AND JOINT BAR			Unit	Kg			
Calculation Procedure Applied <div style="font-family: cursive;"> Reinforcement and joint bar was computed for Multipurpose apron pavement. Reinforcement length was computed summarizing all dis- tances of the reinforcement. </div>								
References, Calculation Base and Revisions <div style="font-family: cursive;"> DW - PV - 02 - 007 References: Tender Drawings: DW - PV - 01 - 007 Joint Arrangement of Concrete Pavement (3) </div>								
Rev	Prepared		No. of Pages	Checked		Reviewed		Superseded by Caic No.
	by	Date		by	Date	by	Date	
0	Karl G.	4 July 2002		Mr. Inoma		Mr. Ando		
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Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	APRON CONCRETE PAVEMENT.	Calc. Index No.	
Subject	REINFORCEMENT AND JOINT BAR	Page No.	Rev.

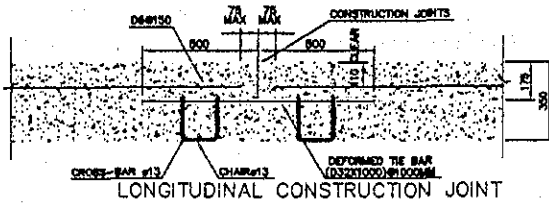
<p>Apron (Multipurpose Berth):</p> <p>1. Longitudinal Construction Joint:</p> <p>1.1 Length (m)</p> $L = (198.00 \text{ m})(2) = 396.00 \text{ m}$ <p>1.2 Total Re-bar (K_g)</p> <p>D32 $W = (6.23 \text{ kg/m})(11 \text{ m}) = 6.23 \text{ kg}$</p> <p>D13 $W = (6.995 \text{ kg/m})(1.50 \text{ m})(2) = 2.99 \text{ kg}$</p> $W = 6.23 \text{ kg} + 2.99 \text{ kg} = 9.22 \text{ kg}$ <p>No Sets = 396</p> $W_T = (9.22 \text{ kg})(396) = 3,651.12 \text{ kg} \approx W_1 = 3,652 \text{ kg}$ <p>2. Contraction Joint</p> <p>2.1 Length (m):</p> $L = (3 \text{ m} + 6 \text{ m})(13) = 117.00 \text{ m}$ <p>2.2 Total Re-bar (K_g)</p> $W = 9.22 \text{ kg}$ <p>No Sets = 117</p> $W_T = (9.22 \text{ kg})(117) = 1,078.74 \text{ kg} \approx W_2 = 1,079 \text{ kg}$ <p>3. Expansion Joint</p> <p>3.1 Length (m)</p> $L = 6 \text{ m} + 4 \text{ m} = 10.00 \text{ m}$	<p>References/ Notes</p>
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	Prepared by	Checked by
	Karla G. 9 July 2002	/ /200

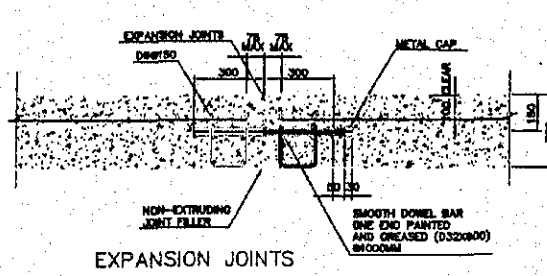
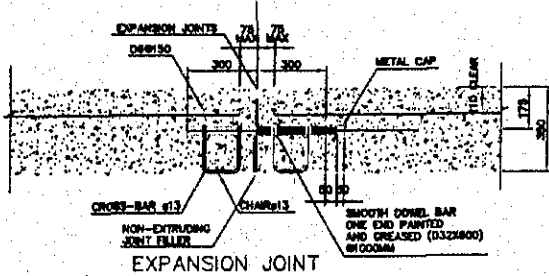
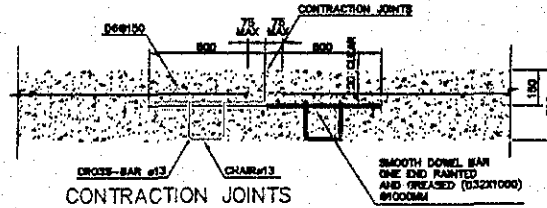
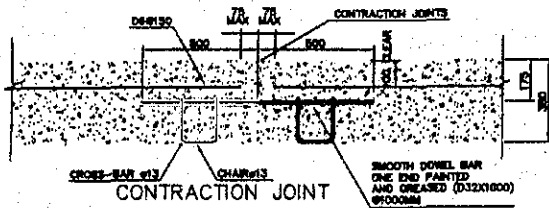
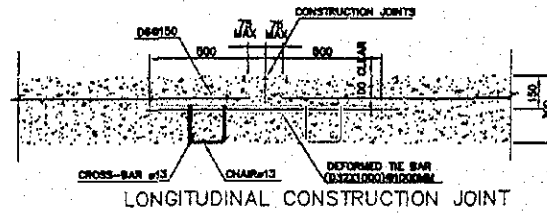
Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	APRON CONCRETE PAVEMENT	Calc. Index No.	
Subject	REINFORCEMENT AND JOINT BAR	Page No.	Rev.
3.2 Total Re-bar (K_g)		References/ Notes	
$D32 \Rightarrow W = (6.23 \text{ kg/m}) (0.60 \text{ m}) = 3.74 \text{ kg}$			
$D13 \Rightarrow W = (0.895 \text{ kg/m}) (1.50 \text{ m}) (2) = 2.99 \text{ kg}$			
$W = 3.74 \text{ kg} + 2.99 \text{ kg} = 6.73 \text{ kg}$			
No Sells = 10			
$W_T = (6.73 \text{ kg}) (10) = 67.30 \text{ kg} \approx 68 \text{ kg}$		$W_3 = 68 \text{ kg}$	
4. Joint with existing concrete :			
4.1 length - (m) :			
$l = (198.00 \text{ m}) (3) + 4 \text{ m} = 598.00 \text{ m}$			
$W_T = (3,632 + 1,752 + 68) \text{ kg} = 5,452 \text{ kg} \approx$		$W_T = 5,500 \text{ kg}$	
Iron Mesh Area :			
$A = (6 \text{ m}) (198 \text{ m}) + (4 \text{ m}) (198 \text{ m}) = 1980 \text{ m}^2$			
Prepared by		Checked by	
Kaila G.		7/1 July 2002	
		1/200	

DETAILS OF JOINT

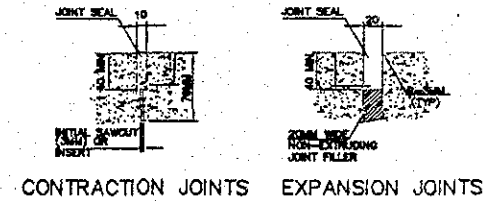
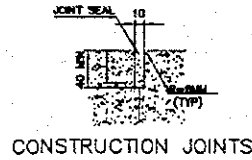
CONCRETE PAVEMENT (TYPE-1)
SCALE 1:20



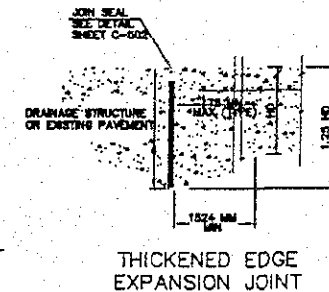
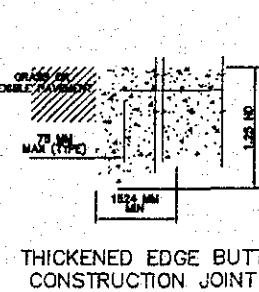
CONCRETE PAVEMENT (TYPE-2)
SCALE 1:20



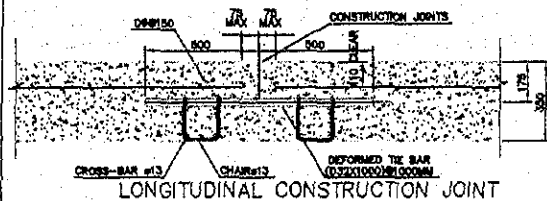
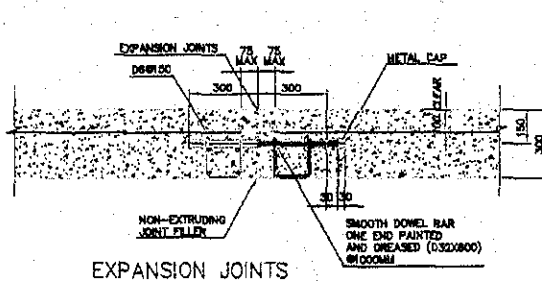
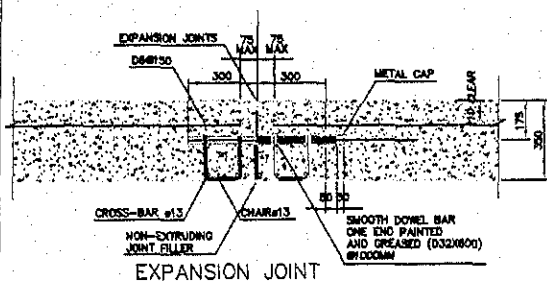
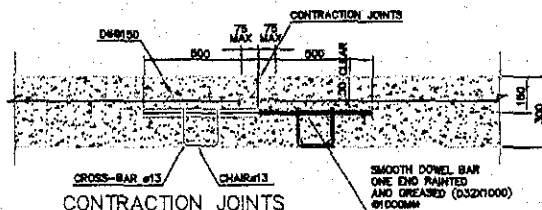
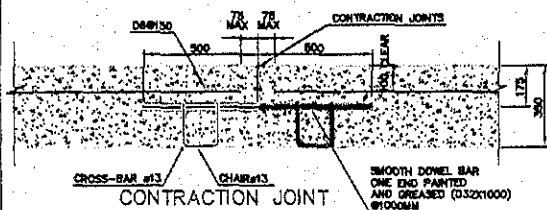
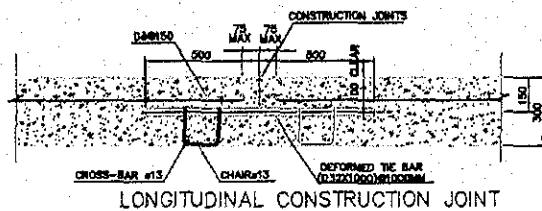
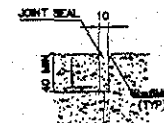
DETAILS OF JOINT SEALING SCALE 1:5



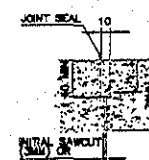
JOINTS BETWEEN CONCRETE PAVEMENT AND OTHERS



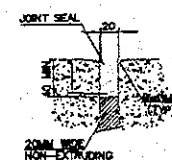
DETAILS OF JOINT

CONCRETE PAVEMENT (TYPE-1)
SCALE 1:20CONCRETE PAVEMENT (TYPE-2)
SCALE 1:20DETAILS OF JOINT SEALING
SCALE 1:5

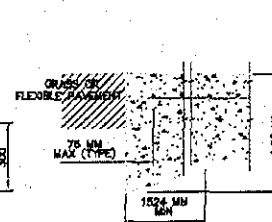
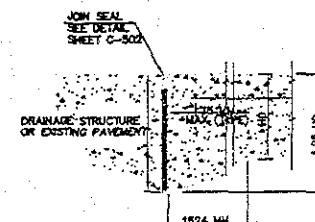
CONSTRUCTION JOINTS



CONTRACTION JOINTS



EXPANSION JOINTS

JOINTS BETWEEN CONCRETE
PAVEMENT AND OTHERSTHICKENED EDGE BUTT
CONSTRUCTION JOINTTHICKENED EDGE
EXPANSION JOINT

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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	APRON CONCRETE PAVEMENT			Pay Item No. (BOQ)	20-1007			
Quantity Item	ELAS TIGH BOARD			Unit	m ²			
Calculation Procedure Applied								
<p>Elas high board area was computed for multi-purpose apron pavement.</p> <p>Area was computed multiplying the length of elas high to the width.</p>								
References, Calculation Base and Revisions								
<p>References: Tender Drawings:</p> <p>DW - PV - 01 - 009 Details of Concrete Pavement</p>								
Rev	Prepared		No. of Pages	Checked		Reviewed		Superseded by Calc No.
	by	Date		by	Date	by	Date	
0	Karla G. [Signature]	1 July 2002		Mr. Inuma		Mr. Ando		
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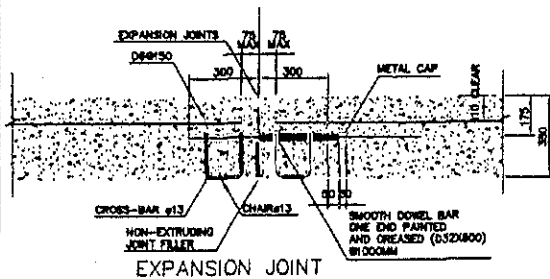
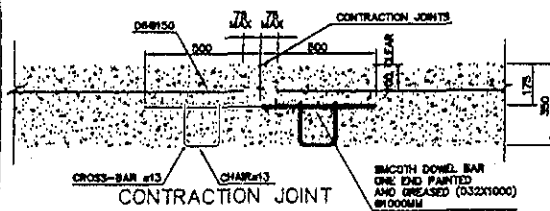
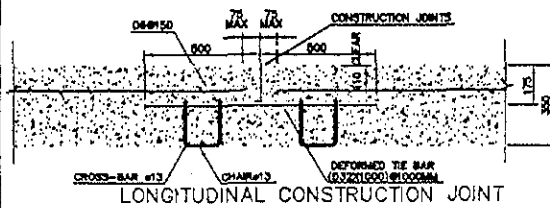
Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	APRON CONCRETE PAVEMENT	Calc. Index No.	
Subject	ELASTIC BOARD	Page No.	Rev.

<p>APRON (10m wide) : $10 \times 30 \text{ cm}$ $= 10 \text{ m}$ $Width = 30 \text{ cm}$</p> <p>$A = (0.30 \text{ m})(10 \text{ m}) = 3 \text{ m}^2$</p> <p>Joint with existing concrete : $L = 598 \text{ m}$ $Width = 30 \text{ cm}$</p> <p>$A = (0.30 \text{ m})(598 \text{ m}) = 179.40 \text{ m}^2 \approx 180 \text{ m}^2$</p> <p>$A_T = (3 + 180) \text{ m}^2 = 183 \text{ m}^2 \approx$</p>	<p>References/ Notes</p> <p>$A = 3 \text{ m}^2$</p> <p>$A = 180 \text{ m}^2$</p> <p>$A_T = 183 \text{ m}^2$</p>
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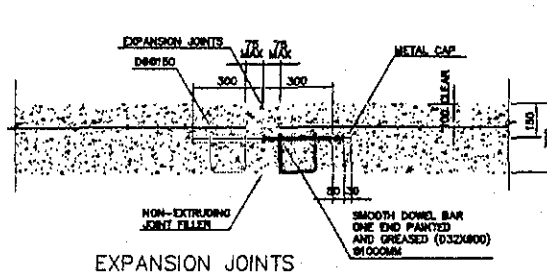
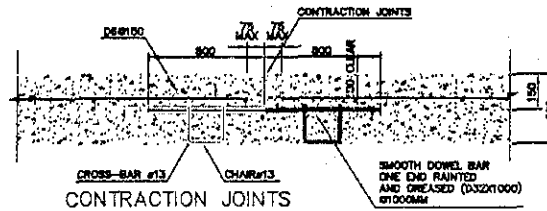
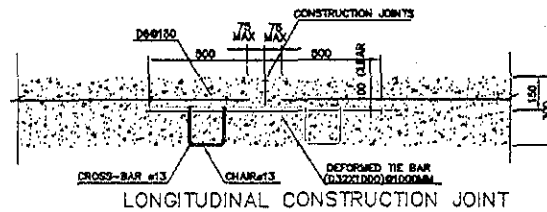
Prepared by		Checked by	
Karla G.	4 / Feb / 2003		1 / 200

DETAILS OF JOINT

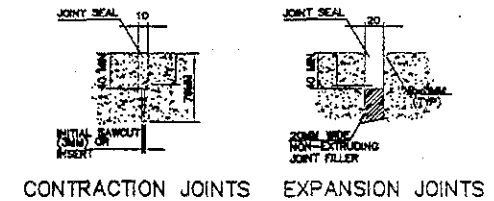
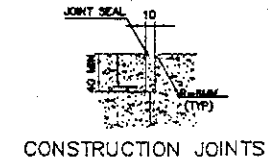
CONCRETE PAVEMENT (TYPE-1)
SCALE 1:20



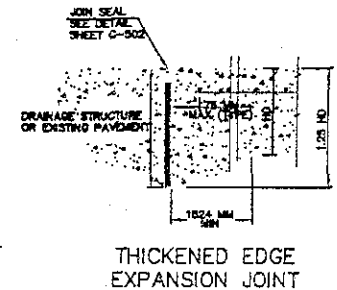
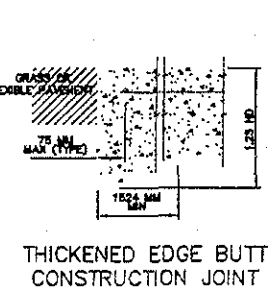
CONCRETE PAVEMENT (TYPE-2)
SCALE 1:20




DETAILS OF JOINT SEALING SCALE 1:5



JOINTS BETWEEN CONCRETE PAVEMENT AND OTHERS



QUANTITY CALCULATION COVER SHEET								
Project	Detailed Design on Port Reactivation Project In La Union Province			Project Code	JC1N004/2N001			
Work Section Title	APRON CONCRETE PAVEMENT			Pay Item No. (BOQ)	2C-1008			
Quantity Item	JOINT FILTER			Unit	m ²			
Calculation Procedure Applied <div style="font-family: cursive;"> Joint filler area was computed for Multi-purpose Apron Pavement. Area was computed multiplying the length of joint filler to the width. </div>								
References, Calculation Base and Revisions <div style="font-family: cursive;"> DW - PV - 02 - 009 References: Tender Drawings: DW - PV - 01 - 009 Details of Concrete Pavement. </div>								
Rev	Prepared		No. of Pages	Checked		Reviewed		Superseded by Calc No.
	by	Date		by	Date	by	Date	
0	Karla Garcia	4 July 2002		Mr. Inuma		Mr. Ando		
1								
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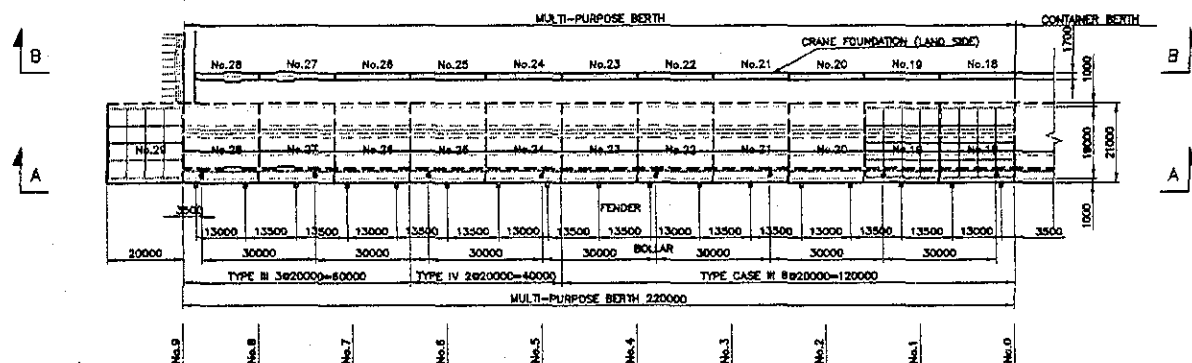
Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	APRON CONCRETE PAVEMENT	Calc. Index No.	
Subject	JOINT FILTER	Page No.	Rev.
<p>Apron (Multipurpose Berth):</p> <p>- Longitudinal Construction Joint:</p> <p>$L = 390 \text{ m}$</p> <p>Width = 4 cm</p> <p>$A = (0.04 \text{ m})(390 \text{ m}) = 15.84 \text{ m}^2 \approx 16 \text{ m}^2$</p> <p>- Contraction Joint:</p> <p>$L = 190 \text{ m}$</p> <p>Width = 4 cm</p> <p>$A = (0.04 \text{ m})(190 \text{ m}) = 7.6 \text{ m}^2 \approx 8 \text{ m}^2$</p> <p>$A_T = (16 + 8) \text{ m}^2 = 24 \text{ m}^2 \approx 30 \text{ m}^2$</p>		<p>References/ Notes</p>	
Prepared by		Checked by	
Kaila G.		4 July 2002	
		1 / 200	

QUANTITY CALCULATION COVER SHEET								
Project	Detailed Design on Port Reactivation Project in La Union Province			Project Code	JC1N004/2N001			
Work Section Title	APRON CONCRETE PAVEMENT			Pay Item No. (BOQ)	2C-1009			
Quantity Item	IRON MESH			Unit	m ²			
Calculation Procedure Applied <p align="center">Iron mesh area was computed for Multipurpose Apron Pavement. Area was computed using geometric formulas.</p>								
References, Calculation Base and Revisions <p align="center">DW - PV - 02 - 007</p> <p>References: Tender Drawings: DW - PV - 01 - 007 Joint Arrangement of Concrete Pavement (3)</p>								
Rev	Prepared		No. of Pages	Checked		Reviewed		Superseded by Calc No.
	by	Date		by	Date	by	Date	
0	Koko Garcia			Mr. Tama		Mr. Ando		
1								
2								
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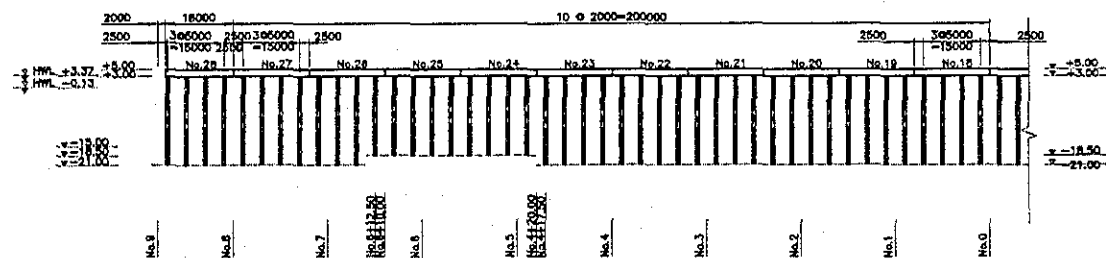


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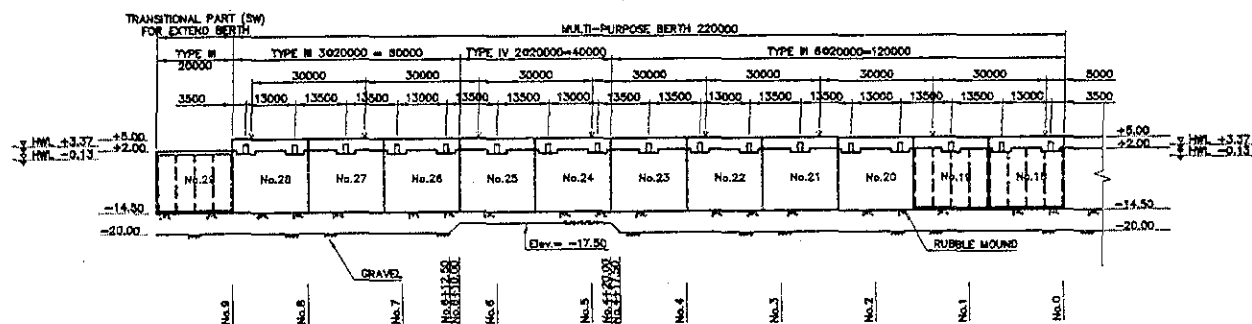
QUANTITY CALCULATION COVER SHEET								
Project		Detailed Design on Port Reactivation Project in La Union Province		Project Code		JC1N004/2N001		
Work Section Title		SAND PROTECTION SHEET		Pay Item No. (BOQ)		20-1101		
Quantity Item		SAND PROTECTION SHEET.		Unit		Lm		
Calculation Procedure Applied <p style="margin-left: 40px;">Caisson sand protection sheet was computed for Multipurpose Berth.</p> <p style="margin-left: 40px;">The total length was computed multiplying the perimeter of sand protection sheet to the total of caissons for each type of cross section.</p> <p style="margin-left: 40px;">The length was computed with zero decimal for total.</p>								
References, Calculation Base and Revisions <p style="margin-left: 40px;">Reference : Tender Drawings:</p> <p style="margin-left: 40px;">DW-QW-00-002 Plan and Profile Multipurpose Berth</p> <p style="margin-left: 40px;">DW-QW-00-005 Typical Cross Section Type III Multipurpose Berth</p> <p style="margin-left: 40px;">DW-QW-01-006 Typical Cross Section Type IV Multipurpose Berth</p>								
Rev	Prepared		No. of Pages	Checked		Reviewed		Superseded by Calc No.
	by	Date		by	Date	by	Date	
0	Karla Garcia	11 June 2002		Mr. Inuma		Mr. Ando		
1	Karla Garcia							
2								
3								



PLAN

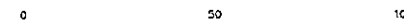


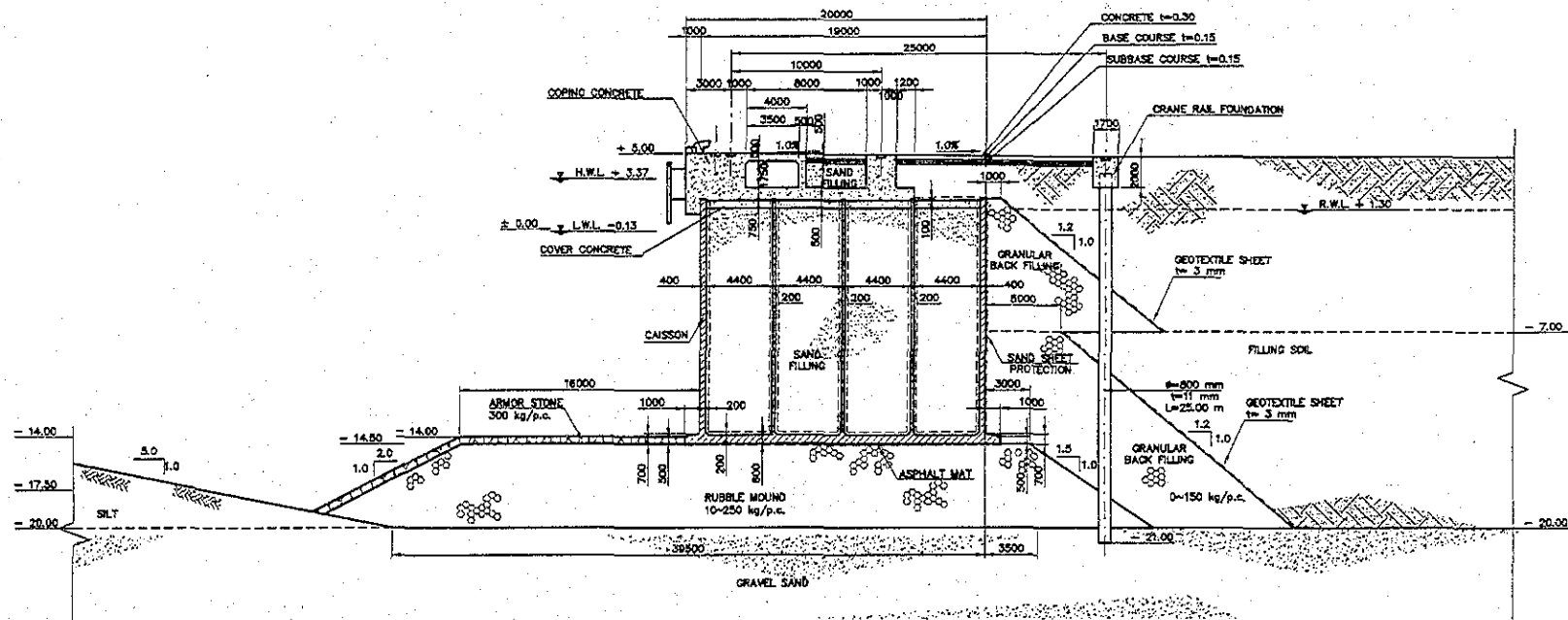
PROFILE B-B



PROFILE A-A




SCALE 1:1250

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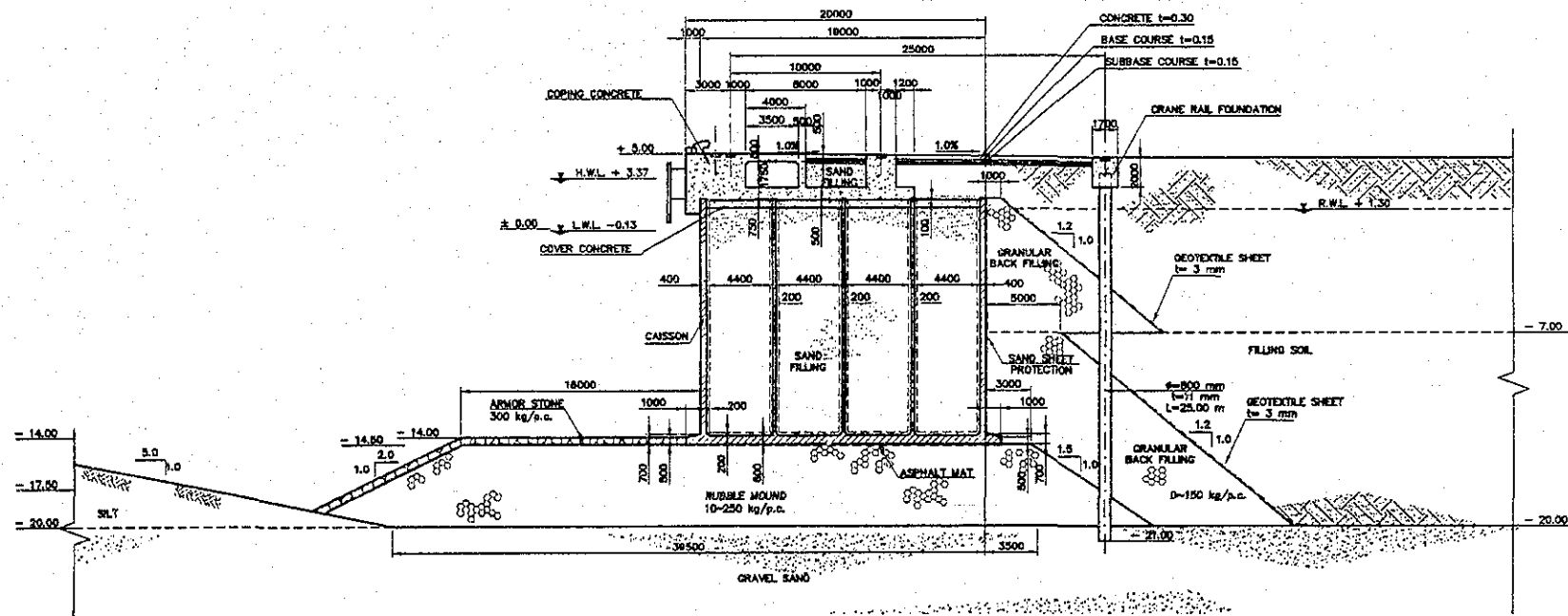
TYPICAL CROSS SECTION TYPE III
 MULTI-PURPOSE BERTH (-14.0m)

SCALE 1:300 0 5.0 10.0 15.0 20.0 25.0 30.0

REV. NO.	DATE	COORDINATE	BY	APPROVED	DATE	 JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)  COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)	DETAILED DESIGN ON PORT REACTIVATION PROJECT IN LA UNION PROVINCE OF THE REPUBLIC OF EL SALVADOR  NIPPON KOEI CO., LTD.	DESIGNED BY : CHECKED BY : APPROVED BY :	SECTION : QUAYWALL WORK SUB-SECTION : CONTAINER AND MULTI-PURPOSE BERTH TITLE : TYPICAL CROSS SECTION TYPE III MULTI-PURPOSE BERTH (-14.0m)	DATE : JULY/2002 SCALE : 1:300 DRAWING NO. : DW-QW-01-005
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Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	SAND PROTECTION SHEET	Calc. Index No.	
Subject	SAND PROTECTION SHEET	Page No.	Rev.
Container Berth:		References/ Notes	
Cross Section Type I:			
$L = (0.5\text{ m} + 14.10\text{ m} + 15.82\text{ m} + 1.02\text{ m} + 0.58\text{ m} + 0.5\text{ m})(8)$			
$L = 260.16\text{ m}$			
Cross Section Type II:			
$L = (0.5\text{ m} + 14.10\text{ m} + 15.82\text{ m} + 1.02\text{ m} + 0.58\text{ m} + 0.5\text{ m})(9)$			
$L = 292.68\text{ m}$			
$L = 552.84\text{ m} \approx 553\text{ m}$		$L = 553\text{ m}$	
Multipurpose Berth:			
Cross Section Type III:			
$L = (0.5\text{ m} + 4.90\text{ m} + 15.82\text{ m} + 1.02\text{ m} + 0.58\text{ m} + 0.5\text{ m})(10)$			
$L = 233.20\text{ m}$			
Cross Section Type IV:			
$L = (0.5\text{ m} + 4.90\text{ m} + 15.82\text{ m} + 1.02\text{ m} + 0.58\text{ m} + 0.5\text{ m})(2)$			
$L = 46.64\text{ m}$			
$L = 279.84\text{ m} \approx 280\text{ m}$		$L = 280\text{ m}$	
Prepared by		Checked by	
/ /200		/ /200	

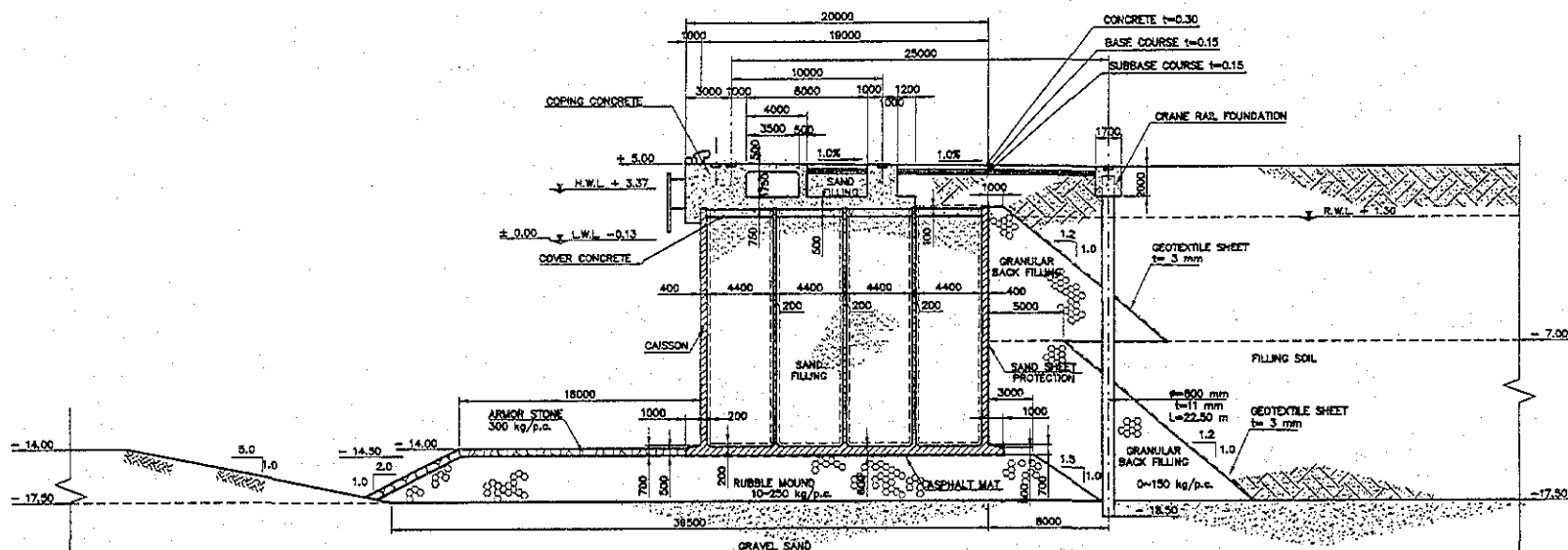
QUANTITY CALCULATION COVER SHEET								
Project	Detailed Design on Port Reactivation Project in La Union Province			Project Code	JC1N004/2N001			
Work Section Title	SAND PROTECTION SHEET			Pay Item No. (BOQ)	2C-1102			
Quantity Item	STEEL PLATE			Unit	Kg			
Calculation Procedure Applied <p style="margin-left: 40px;">Steel plate will be used for base plate of sand protection sheet. Two steel plates will be used on each edge of sand protection sand.</p>								
References, Calculation Base and Revisions <p style="margin-left: 40px;">References: Tender Drawings: DW-QW-01-002 Plan and Profile Multipurpose Berth DW-QW-01-005 Typical Cross Section Type III Multipurpose Berth DW-QW-01-006 Typical Cross Section Type IV Multipurpose Berth</p>								
Rev	Prepared		No. of Pages	Checked		Reviewed		Superseded by Calc No.
	by	Date		by	Date	by	Date	
0	Kaila Garcia			Mr. Inuma		Mr. Ando		
1								
2								
3								



TYPICAL CROSS SECTION TYPE III
MULTI-PURPOSE BERTH (-14.0m)




SCALE 1:300 0 5.0 10.0 15.0 20.0 25.0 30.0

REV. NO. DATE COORDINATE BY APPROVED DATE	JICA JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)	DETAILED DESIGN ON PORT REACTIVATION PROJECT IN LA UNION PROVINCE OF THE REPUBLIC OF EL SALVADOR NIPPON KOKI CO., LTD.	DESIGNED BY: CHECKED BY: APPROVED BY:	SECTION: QUAYWALL WORK SUB-SECTION: CONTAINER AND MULTI-PURPOSE BERTH TITLE: TYPICAL CROSS SECTION TYPE III MULTI-PURPOSE BERTH (-14.0m)	DATE: JULY/2002 SCALE: 1:300 DRAWING NO: DW-QW-01-005
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TYPICAL CROSS SECTION TYPE IV
MULTI-PURPOSE BERTH (-14.0m)

SCALE 1:300 0 5.0 10.0 15.0 20.0 25.0 30.0

REV. NO.	DATE	COORDINATE	BY	APPROVED	DATE	 JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)  COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)	DETAILED DESIGN ON PORT REACTIVATION PROJECT IN LA UNION PROVINCE OF THE REPUBLIC OF EL SALVADOR  NIPPON KOKI CO., LTD.	DESIGNED BY : CHECKED BY : APPROVED BY :	SECTION : QUAYWALL WORK SUB-SECTION : CONTAINER AND MULTI-PURPOSE BERTH TITLE : TYPICAL CROSS SECTION TYPE IV MULTI-PURPOSE BERTH (-14.0m)	DATE : JULY/2002 SCALE : 1:300 DRAWING NO. : DW-QW-01-006
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Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	SAND PROTECTION SHEET	Calc. Index No.	
Subject	STEEL PLATE	Page No.	Rev.
		References/ Notes	
$L = 280 \text{ m}$ $W = 10 \text{ cm}$ $t = 0.50 \text{ cm}$ $d = 7.85 \text{ g/cm}^3 = 7,850 \text{ kg/m}^3$ $W = (280 \text{ m}) (0.10 \text{ m}) (0.005 \text{ m}) (7,850 \text{ kg/m}^3)$ $W = 1,099 \text{ kg}$ $\approx \boxed{1,100 \text{ kg}}$			
Prepared by		Checked by	
/ /200		/ /200	

QUANTITY CALCULATION COVER SHEET								
Project	Detailed Design on Port Reactivation Project in La Union Province			Project Code	JC1N004/2N001			
Work Section Title	BACKFILLING BEHIND CAISSON			Pay Item No. (BOQ)	20-1201			
Quantity Item	BACKFILL STONE			Unit	m ³			
Calculation Procedure Applied								
<ol style="list-style-type: none"> 1. Calculation of Areas of Sections. 2. Average of Areas of sections. 3. Calculation of volume: Average of Areas of Sections times distance between sections. (Excel). 								
References, Calculation Base and Revisions								
<p>References: Tender Drawings:</p> <p>From DW-QW-01-019 Cross Section (1) (Multi-purpose Bulk)</p> <p>To DW-QW-01-025 Cross Section (7) (Multi-purpose Bulk)</p> <p>(Same as "Bubble found of Caisson")</p>								
Rev	Prepared		No. of Pages	Checked		Reviewed		Superseded by Calc No.
	by	Date		by	Date	by	Date	
0	Kola Gorio			Mr. Inuma		Mr. Ando		
1								
2								
3								

OMulti-Purpose Berth

9. Backfill Rubble

Section No.	Area (m ²)	Average Area of 2 Sections (m ²)	Distance Between Sections (m)	Volume (m ³)
No.0	184.21			
		184.21	25.00	4,605.25
No.1	184.21			
		184.21	25.00	4,605.25
No.2	184.21			
		184.21	25.00	4,605.25
No.3	184.21			
		184.21	25.00	4,605.25
No.4	184.21			
		184.21	17.50	3,223.68
No.4+17.50	184.21			
		172.06	2.50	430.14
No.4+20.00	159.90			
		159.90	5.00	799.50
No.5	159.90			
		159.90	25.00	3,997.50
No.6	159.90			
		159.90	10.00	1,599.00
No.6+10.00	159.90			
		172.06	2.50	430.14
No.6+12.50	184.21			
		184.21	12.50	2,302.63
No.7	184.21			
		184.21	11.00	2,026.31
No.7+11.0	184.21			
		184.21	5.16	950.52
No.7+16.16	184.21			
		181.15	2.84	514.47
No.7+19.00	178.09			
		164.39	6.00	986.34
No.8	150.69			
		139.47	6.00	836.82
No.8+6.00	128.25			
		128.25	2.10	269.33
No.8+8.10	128.25			
		64.13	6.00	384.75
No.8+14.10	0.00			
Total		2,974.88	214.10	37,172.11

≈ 37,200 m³

QUANTITY CALCULATION COVER SHEET								
Project	Detailed Design on Port Reactivation Project in La Union Province			Project Code	JC1N004/2N001			
Work Section Title	BACKFILLING BEHIND CAISSON			Pay Item No. (BOQ)	2C-1202			
Quantity Item	LEVELING			Unit	m ³			
Calculation Procedure Applied <div style="margin-top: 10px;"> 1. Calculation of lengths of sections. 2. Average of lengths of sections. 3. Calculation of Area: Average of lengths of sections times distance between sections. <div style="text-align: right;">(Excel)</div> </div>								
References, Calculation Base and Revisions <div style="margin-top: 10px;"> References: Tender Drawings: From DW-AW-01-019 Cross Section (1) Multipurpose Bulk To DW-BW-01-025 Cross Section (7) Multipurpose Bulk (Same as "Rubble Mound of Caisson") </div>								
Rev	Prepared		No. of Pages	Checked		Reviewed		Superseded by Calc No.
	by	Date		by	Date	by	Date	
0	Karla Gorio			Mr. Inuma		Mr. Ando		
1								
2								
3								

OMulti-Purpose Berth

10. Trimming of Backfill Rubble

Section No.	Length (m)	Average Length of 2 Sections (m)	Distance Between Sections (m)	Area (m ²)
No.0	35.27			
		35.27	25.00	881.75
No.1	35.27			
		35.27	25.00	881.75
No.2	35.27			
		35.27	25.00	881.75
No.3	35.27			
		35.27	25.00	881.75
No.4	35.27			
		35.27	17.50	617.23
No.4+17.50	35.27			
		33.37	2.50	83.41
No.4+20.00	31.46			
		31.46	5.00	157.30
No.5	31.46			
		31.46	25.00	786.50
No.6	31.46			
		31.46	10.00	314.60
No.6+10.00	31.46			
		33.42	2.50	83.54
No.6+12.50	35.37			
		35.37	12.50	442.13
No.7	35.37			
		35.37	11.00	389.07
No.7+11.0	35.37			
		35.37	5.16	182.51
No.7+16.16	35.37			
		34.35	2.84	97.54
No.7+19.00	33.32			
		31.17	6.00	187.02
No.8	29.02			
		28.40	6.00	170.37
No.8+6.00	27.77			
		27.77	2.10	58.32
No.8+8.10	27.77			
		13.89	6.00	83.31
No.8+14.10	0.00			
Total		579.19	214.10	7,179.84

≈

7,180 m²

QUANTITY CALCULATION COVER SHEET								
Project	Detailed Design on Port Reactivation Project in La Union Province			Project Code	JC1N004/2N001			
Work Section Title	BACKFILLING BEHIND CAISSON			Pay Item No. (BOQ)	2C-1203			
Quantity Item	GEOTEXTILE SHEET			Unit	m ²			
Calculation Procedure Applied								
<p>1. Calculation of lengths of sections.</p> <p>2. Average of lengths of sections.</p> <p>3. Calculation of Area: Average of lengths of sections times distance between sections. (Excel).</p>								
References, Calculation Base and Revisions								
<p>References: Tender Drawings:</p> <p>Plan - N-01-01 - 010 Cross Section (1), Multi-purpose Emb.</p> <p>To - N-01-01 - 010 Cross Section (2), Multi-purpose Emb. (Same as Profile of Caisson)</p>								
Rev	Prepared		No. of Pages	Checked		Reviewed		Superseded by Calc No.
	by	Date		by	Date	by	Date	
0	Karla Garcia			Mr. Javma		Mr. Ando		
1								
2								
3								

○Multi-Purpose Berth

11. Filter Fabric (Backfill Rubble)

Section No.	Length (m)	Average Length of 2 Sections (m)	Distance Between Sections (m)	Area (m ²)
No.0	46.17			
		46.17	25.00	1,154.25
No.1	46.17			
		46.17	25.00	1,154.25
No.2	46.17			
		46.17	25.00	1,154.25
No.3	46.17			
		46.17	25.00	1,154.25
No.4	46.17			
		46.17	17.50	807.98
No.4+17.50	46.17			
		44.22	2.50	110.54
No.4+20.00	42.26			
		42.26	5.00	211.30
No.5	42.26			
		42.26	25.00	1,056.50
No.6	42.26			
		42.26	10.00	422.60
No.6+10.00	42.26			
		46.12	2.50	115.29
No.6+12.50	49.97			
		49.97	12.50	624.63
No.7	49.97			
		49.97	11.00	549.67
No.7+11.00	49.97			
		49.97	5.16	257.85
No.7+16.16	49.97			
		48.95	2.84	139.00
No.7+19.00	47.92			
		45.77	6.00	274.62
No.8	43.62			
		40.60	6.00	243.57
No.8+6.00	37.57			
		37.57	2.10	78.90
No.8+8.1	37.57			
		18.79	6.00	112.71
No.8+14.1	0.00			
Total		789.54	214.10	9,622.14

OMulti-Purposo Berth

12. Filter Fabric (Rubble Mound)

Section No.	Length (m)	Average Length of 2 Sections (m)	Distance Between Sections (m)	Area (m ²)
No.7+19.00	13.42			
		13.42	6.00	80.52
No.8	13.42			
		13.42	20.00	268.40
No.9	13.42			
		13.42	20.00	268.40
No9+20.00	13.42			
		12.67	0.00	0.00
No9+20.00'	11.92			
		11.92	12.50	149.00
No.9+32.50	11.92			
		5.96	30.00	178.80
No.9+62.50	0.00			
Total		70.81	88.50	945.12

Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	BACKFILLING BEHIND CAISSON	Calc. Index No.	
Subject	GEOTEXTILE SHEET	Page No.	Rev.

<p>Backfill Rubble = $9,622.19 \text{ m}^2$</p> <p>Rubble Mound = 945.12 m^2</p> <hr/> <p>$10,567.26 \text{ m}^2$</p> <p>\approx $10,600 \text{ m}^2$</p>		References/ Notes
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		Prepared by	Checked by
		/ /200	/ /200