SUBIC BAY
METROPOLITAN AUTHORITY

BAGONG PILIPINAS

DMS Ref # 2025-SEAD-0010016
SOP-25-271

SUBIC BAY METROPOLITAN AUTHORITY (SBMA)

Technical Specifications for the Preventive Maintenance of Piers and Wharves

Replacement of Wave Vents/Steel Gratings, Repair and Repainting of Curbs, Bollards/Cleats, Vertical Ladders

Project Location: Nabasan Wharf, Subic Bay Freeport Zone

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Amm 3/20/25
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CERTIFIED MANAGEMENT SYSTEM IQNet
Quality Management ISO 9001:2015
Environmental Management ISO 14001

I. GENERAL REQUIREMENTS

GENERAL DESCRIPTION

1. The work covered by these specifications comprises the Preventive Maintenance Works at Nabasan Wharf located in the Subic Bay Freeport Zone, specifically on the following items:

1.1. Replacement of marine wave vents / steel gratings

1.2. Repair of wharf curbs through concrete pouring

1.3. Repainting of wharf marine bollards and cleats

1.4. Replacement of corroded bottom sections of wharf vertical ladders

2. All works shall include the supply of labor, materials, tools, equipment, permits, personal protective equipment (PPE), and all other necessary resources for the complete, timely, and satisfactory execution of the project per these specifications and standard industry practices.

2. SITE LOCATION

Nabasan Wharf, Subic Bay Freeport Zone, Zambales, Philippines.

3. DURATION

Contract duration: 120 Calendar Days from the date of issuance of Notice to Proceed.

II. DETAILED TECHNICAL SPECIFICATIONS

LOCATION	Approx. Length of Wave Vent (for replacement)	Approx. Length of Steel Grating (for replacement)	Approx. Area of Curb (for repainting)	Approx. Area of Curb (for repair)	No. of Ladder for repainting	Lenth of Ladder for repair	No. of Bollards(B) / Cleats (for repainting)
NABASAN WHARF							
Northside	136.3m	183m	170 Sqm	4.0 Sqm	2	2.25m each	6 (B) , 5 (C)
Westside	-	-	124 Sqm				1 (B)
Eastside	-	-	124 Sqm				1 (B)
Paint Specifications	Epoxy Resin Paint - Gray		For Curb - Black & Yellow CRB Paint		Epoxy Resin Paint- Black		Epoxy Resin Paint - Yellow

NOTE: Please see attached plans for technical specification references.

1. REPLACEMENT OF MARINE WAVE VENT / STEEL GRATING

Scope

1. Verify and measure existing wave vents and steel gratings for accurate sizing and material specification.
2. Removal and disposal of existing damaged or deteriorated wave vents or steel gratings.

3. Provide and install new marine-grade galvanized wave vent and steel gratings, conforming to ASTM A123 or equivalent standard for marine environment corrosion resistance.

4. Securely anchor gratings to existing support infrastructure using corrosion-resistant fasteners (galvanized fasteners).

Materials

1. Grating Material: Hot-dipped galvanized steel, marine grade, compliant with ASTM standards.

2. Fasteners: Hot-dipped galvanized bolts, nuts, and washers.

Installation

1. Ensure proper alignment and leveling.

2. Allow adequate clearances to accommodate thermal expansion and contraction.

3. Ensure safety and loading requirements are met according to applicable marine and structural standards.

NOTE: Please see paint specifications on the table and attached plans for references.

2. REPAIR AND REPAINTING OF WHARF CURBS THROUGH CONCRETE POURING

Scope

1. Removal of all loose, cracked, deteriorated, or spalled concrete from the curb areas.

2. Cleaning and preparation of exposed concrete..

3. Application of low-viscosity concrete epoxy as bonding agent.

4. Formwork erection (if necessary) and pouring of fresh concrete to restore original curb dimensions.

Materials

1. Concrete: Minimum compressive strength of 28 MPa (4,000 psi) at 28 days; suitable for marine exposure.

2. Epoxy Adhesive: Low viscosity, moisture-resistant epoxy bonding agent compliant with ASTM C881 standards.

Procedure

1. Remove all defective concrete areas thoroughly until sound substrate is exposed.

2. Clean and prepare substrate surfaces by pressure washing to remove contaminants.

3. Install formwork (if necessary) securely to maintain specified dimensions and alignment if necessary for the repair.

4. Apply epoxy adhesive on prepared surfaces prior to concrete pouring.

5. Pour concrete, compact thoroughly to prevent voids, and cure adequately.

6. After curing, paint the surface.

Paint Coverage Requirements

1. Chlorinated Rubber-Based (CRB) paint, black and yellow, shall consist of two coats minimum, complying with marine corrosion protection standards.

3. REPAINTING OF WHARF MARINE BOLLARDS AND CLEATS

Surface Preparation

1. Remove existing rust, paint, dirt, grease, marine growth, and other contaminants through mechanical means (wire brushing, grinding, power tool cleaning).

2. Repaint the surface

Painting System

1. The painting shall consist of:

COAT NO.	PAINT TYPE	COATING THICKNESS
1st Coat	Anti-corrosive primer (Zinc-rich epoxy primer)	75-100 microns
2nd Coat	Epoxy Intermediate Primer Coat	75-100 microns
3rd & 4th Coat	Epoxy Resin Finish (Marine-grade)	100-150 microns total for two coats

2. All paint materials shall be marine-grade epoxy resin type, yellow, compliant with international marine standards.

Application Conditions

1. Paint application shall not be undertaken during rain, mist, fog, or when atmospheric humidity exceeds 85%.
2. Surface temperatures must be at least 3°C above the dew point to avoid condensation.
3. Avoid painting on surfaces heated excessively by sunlight as it may cause blistering.
4. Ensure uniform thickness, smooth finish, and proper adhesion.

4. REPAIR AND REPAINTING OF WHARF VERTICAL LADDER (REPLACEMENT OF CORRODED SECTION OF VERTICAL LADDERS - BOTTOM AREA ONLY WITH CORROSION)

Scope

1. Carefully detach existing ladder sections that exhibit significant corrosion at bottom portions.

2. Cut, remove, and dispose of corroded sections appropriately, approximately 2.25m long each ladder.

3. Repair by fabricating and installing a new portion of ladder using SS400 grade galvanized steel material matched to original specifications and dimensions.

4. Repaint vertical ladders.

Materials

1. Ladder Material: Hot-dipped galvanized steel, matching original design.
2. Bolts, Nuts, and Fasteners: hot deep galvanized steel , marine grade.
3. Painting materials: Epoxy Resin type, black, compliant with international marine standards.

Installation Procedure

1. Ensure accurate alignment and proper vertical positioning of repaired ladder sections.
2. Welding joints shall be performed by certified welders using appropriate welding rods/electrodes suitable for marine environment (AWS D1.1 standards).
3. All welding areas shall be cleaned, ground to a smooth surface, and coated with anti-corrosive primer and epoxy resin marine-grade paint following the same painting system previously described.

III. SAFETY AND ENVIRONMENTAL COMPLIANCE

SAFETY

1. The contractor shall comply with all safety regulations governed by SBMA, DOLE-OSHC, and other applicable safety standards.
2. All personnel shall wear appropriate PPE, including life vests, harnesses, helmets, safety shoes, goggles, gloves, and respirators as applicable.

ENVIRONMENTAL COMPLIANCE

1. Waste materials and debris must be disposed of properly at approved disposal areas.
2. Prevent contamination of marine waters and surrounding environment.

IV. QUALITY CONTROL AND ASSURANCE

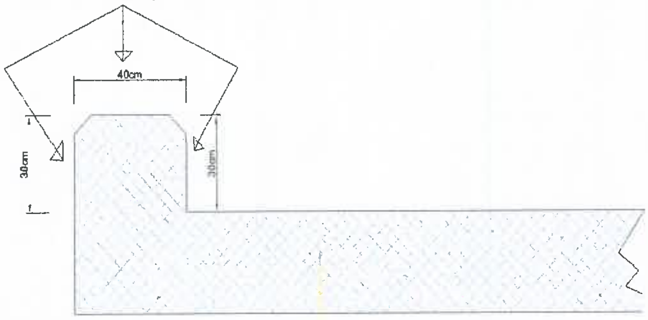
1. Contractor shall submit certificates of material origin and compliance to standards.
2. Inspection of completed works shall be carried out jointly by contractor representative and SBMA Seaport engineers.
3. Contractor shall rectify any work noted as defective or non-compliant with specifications at their own expense.

V. DOCUMENTATION

1. Contractor must submit documentations such as but not limited to progress reports, as-built drawings, and photographic evidence documenting all stages of the works.

NA' SAN Bollards, Cleats & Curbs

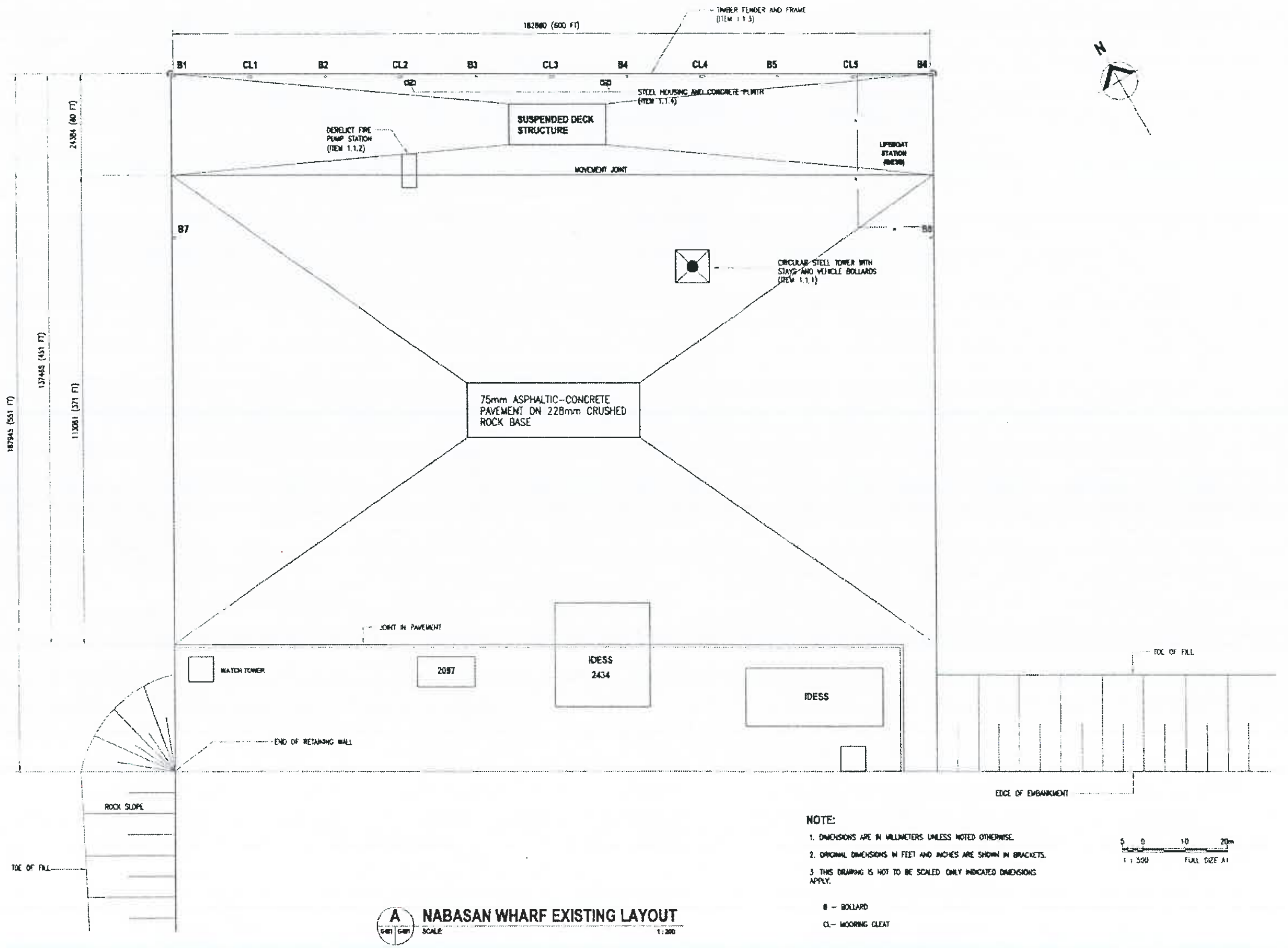
Area to be painted



Color pattern

Ladder

Wave Vent / Steel Gratings



NOTE:

1. DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
2. ORIGINAL DIMENSIONS IN FEET AND INCHES ARE SHOWN IN BRACKETS.
3. THIS DRAWING IS NOT TO BE SCALED. ONLY INDICATED DIMENSIONS APPLY.

B – BOLLARD

CL– MOORING CLEAT

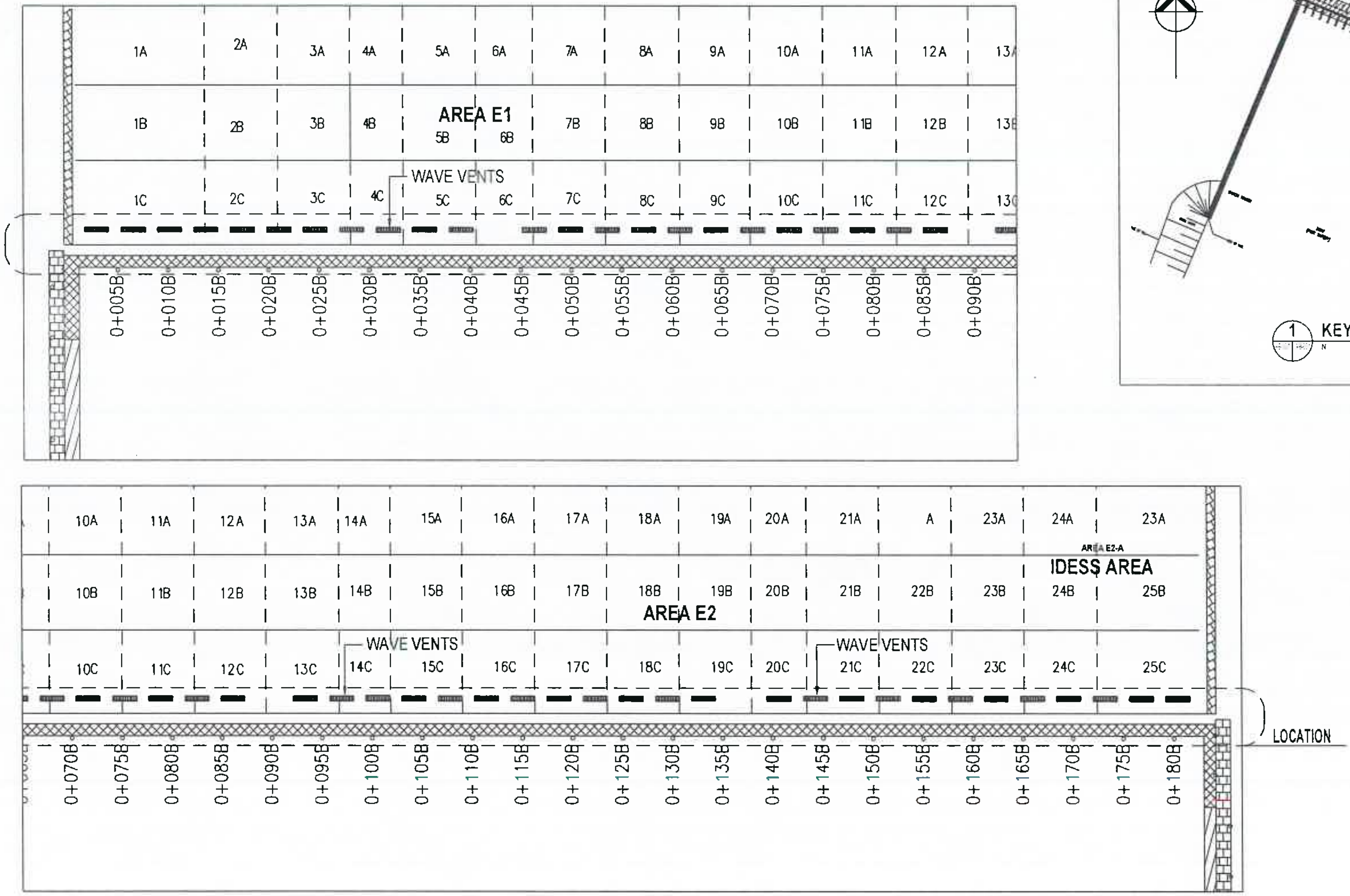
A NABASAN WHARF EXISTING LAYOUT

G401 G401

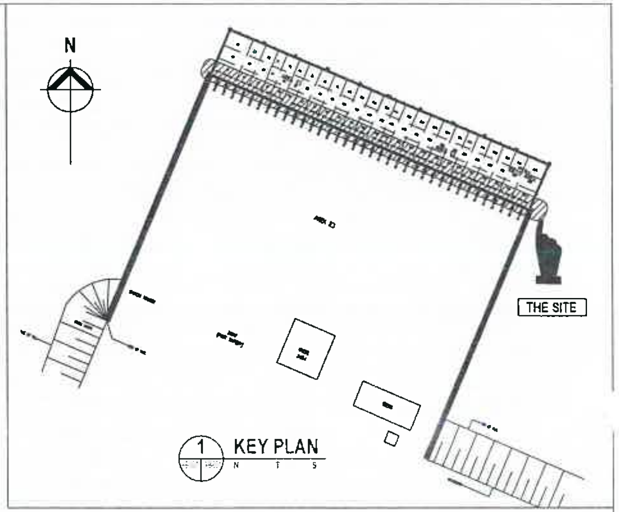
SCALE 1 : 200

AS–BUILT DRAWINGS

CONTRACTOR:	CONSULTANT:	OWNER:	REPUBLIC OF THE PHILIPPINES							SUBIC BAY PORT DEVELOPMENT PROJECT	
PREPARED & SUBMITTED BY : PENTA-SHIMIZU-TOA JOINT VENTURE PSTJV ISAO MICHISHITA Project Manager	REVIEWED & CHECKED BY : ORIENTAL CONSULTANTS CO., LTD. in association with OCDI, DCCD, BASIC and ECI MASATO SUZUKI Project Manager	SUBIC BAY METROPOLITAN AUTHORITY	RECOMMENDING APPROVAL: JOSELITO B. BAUTISTA Project Manager SBPDP-JMC-II	ENGR. MARCO A. ESTABILLO Department Head Eng'g. Dept.	PERFECTO C. PASCUAL Department Manager Seaport Dept	MARCELINO S. SANQUI Deputy Administrator Public Works & Tech. Service Group	APPROVED BY : SEE SIGNATURE ON COVER FOR APPROVAL ATTY. FERDINAND L. HERNANDEZ Senior Deputy Administrator for Operations	SEE SIGNATURE ON COVER FOR APPROVAL ARMANDO C. ARREZA Administrator & CEO SBMA	SEE SIGNATURE ON COVER FOR APPROVAL CHMN. FELICIANO G. SALONGA Chairman SBMA	SHEET CONTENTS : NABASAN WHARF / CIVIL WORKS / GENERAL INFORMATION OF EXISTING WHARF / EXISTING WHARF LAYOUT	DRAWING NO. NAB-CW-G-001



A LOCATION PLAN
SCALE 1:200



1 KEY PLAN
N T S

AS-BUILT DRAWINGS

CONTRACTOR:	CONSULTANT:	OWNER:	REPUBLIC OF THE PHILIPPINES		SUBIC BAY PORT DEVELOPMENT PROJECT
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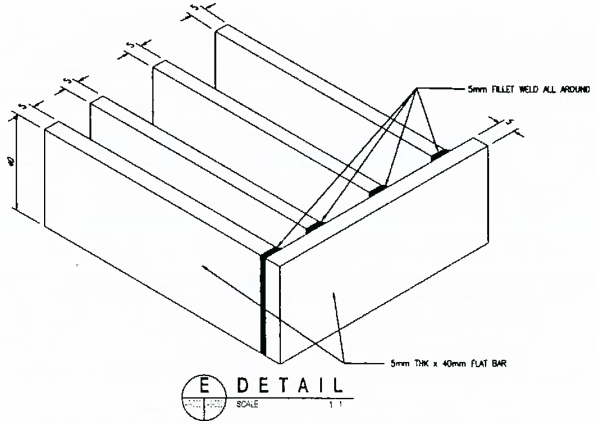
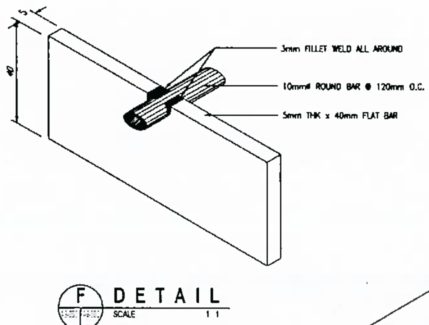
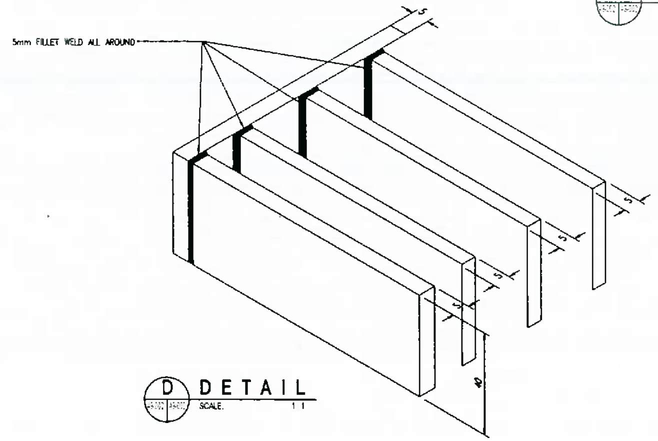


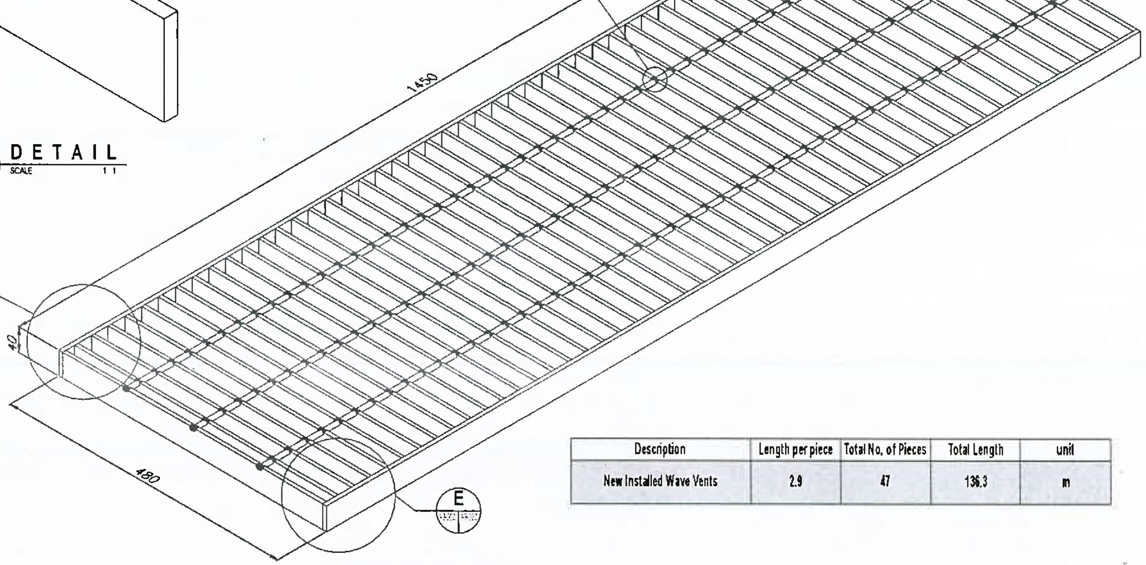
E DETAIL
SCALE 1:1



F DETAIL
SCALE 1:1

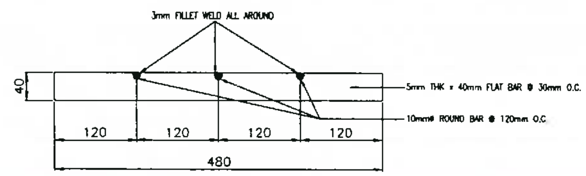


D DETAIL
SCALE 1:1

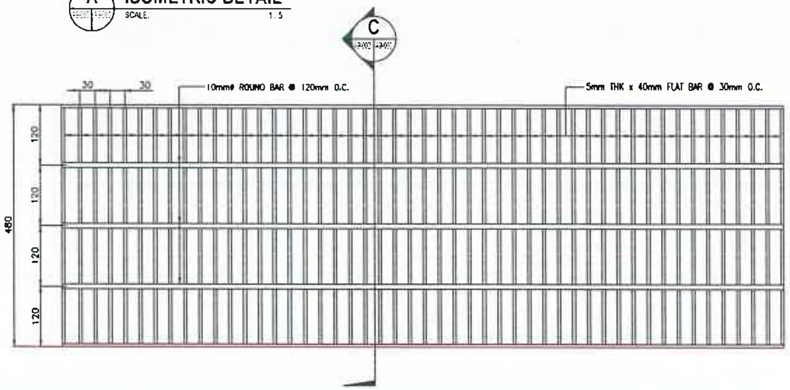


Description	Length per piece	Total No. of Pieces	Total Length	unit
New Installed Wave Vents	2.9	47	136.3	m

A ISOMETRIC DETAIL
SCALE 1:5



C SECTION
SCALE 1:5



B PLAN
SCALE 1:5

AS-BUILT DRAWINGS

REPUBLIC OF THE PHILIPPINES

SUBIC BAY PORT DEVELOPMENT PROJECT

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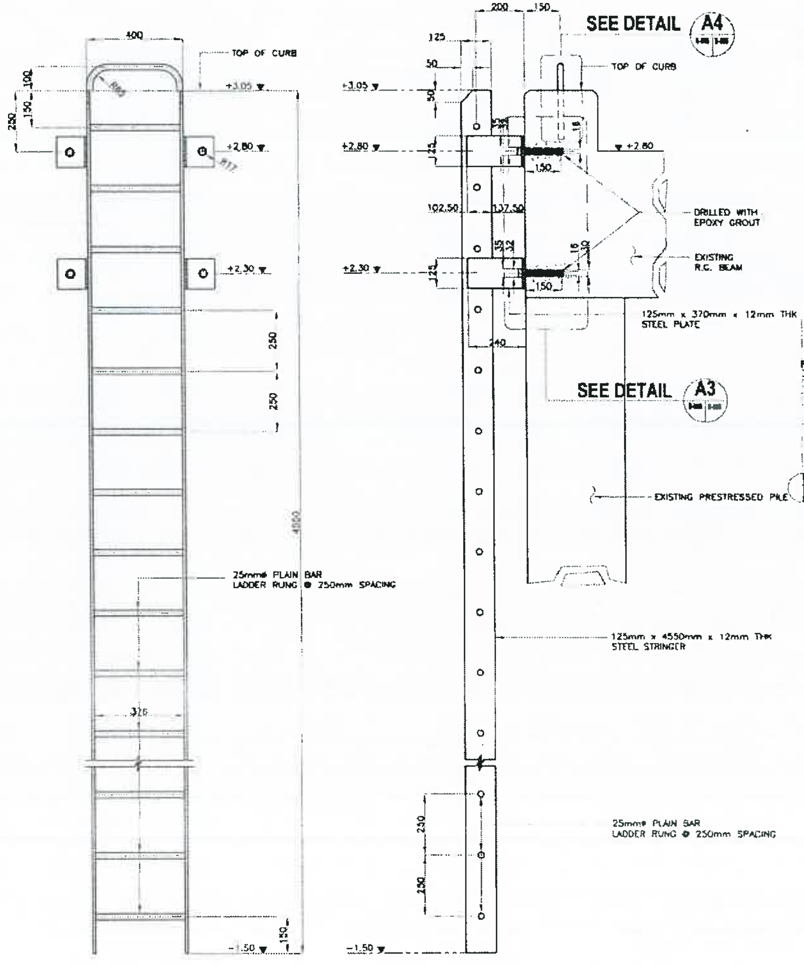
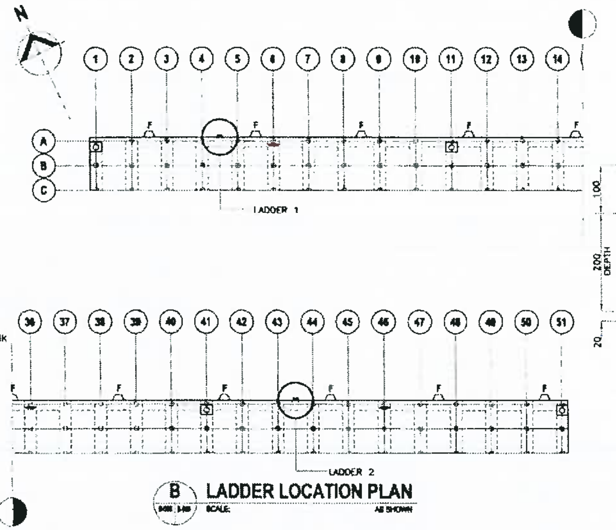
SHEET CONTENTS : NABASAN WHARF
CIVIL WORKS - STRUCTURAL REPAIRS
WAVE VENTS
STRUCTURAL REPAIRS ON WAVE VENTS LOCATION PLAN & DETAILS (2)

DRAWING NO.
NAB-CW-A9-002

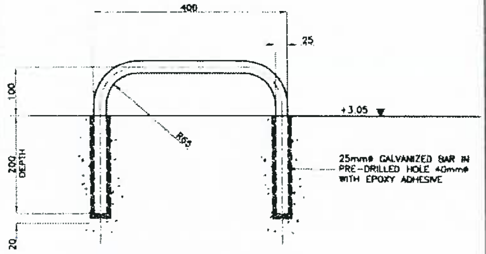


A1 FRONT ELEVATION SCALE: 1:10

A2 SIDE ELEVATION SCALE: 1:10



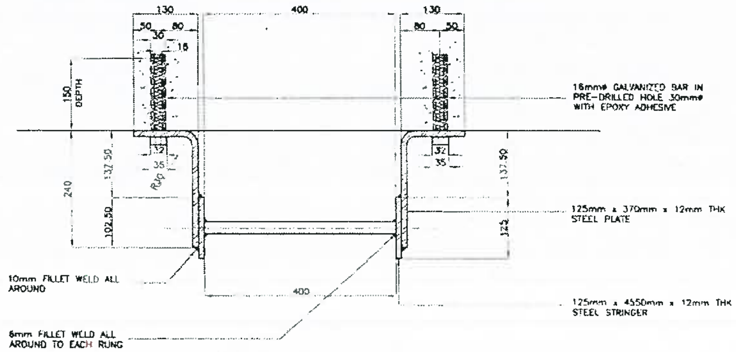
B LADDER LOCATION PLAN SCALE: AS SHOWN



A4 GRAB BAR DETAIL SCALE: 1:5

NOTE :

ALL METALS ARE HOT-DIP GALVANIZED CONFORMING TO ASTM A153



A3 LADDER RUNG DETAIL SCALE: 1:5

ITEM	TYPE	STANDARD	GRADE	W(mm)	Ø(mm)	t(mm)	h(mm)	LENGTH	QUANTITY	SECTION
GRIP BAR	CAST IRON	JISG3101	SS400	400	25		300	944	2	
PLATE	125 x 12	JISG3101	SS400	130		12	240	370	8	
STRINGER	125 x 12	JISG3101	SS400	125		12		4550	4	
RUNG	25Ø	JISG3101	SS400					378	36	
BOLT	16Ø				16			125	8	
WASHER	35Ø				35				8	
NUT	32Ø				32				8	

A TYPICAL LADDER DETAIL SCALE: AS SHOWN

AS-BUILT DRAWINGS

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SUBIC BAY PORT DEVELOPMENT PROJECT
SHEET CONTENTS : NABASAN WHARF
CIVIL WORKS
STEEL AND METAL WORKS
GALVANIZED MILD STEEL LADDER LOCATION PLAN & DETAIL
DRAWING NO. NAB-CW-B-006