

ADANI PORTS AND SPECIAL ECONOMIC ZONE LTD.
WELCOMES THE MASTER, OFFICERS AND CREW TO
MUNDRA PORT

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WEBSITE OF THE PORT

www.adaniports.com

WEBSITE OF THIS DOCUMENT

www.adaniports.com/pdfs/PIB_06122013.pdf

WEBSITE FOR PORT TARIFF

www.adaniports.com/Port_Operations_Port_Tariffs.aspx

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RECORD OF CORRECTION

Date	Page	Correction	Source
25.01.2016	48	Claus 14.5-Soot Blowing added	
25.01.2016	37	PFSO details amended	
07.02.2016	55	COU	
23.04.2016	37	PFSO details amended	
27.04.2016	54	Shore Gangway,Net requirement	
27.04.2016	11,14,16,18,28,32,35,36,40,43, & 41	Port Working channel amended Ch 77 (primary)	
27.04.2016	41	Mooring arrangements amended for capsized vessel.	
10.06.2016	54	Security Procedure for Vessel Crew to Visit Seaman's Shopping Centre in Mundra Port	
21.02.2017	55	Liferaft & Lifeboat/Rescue Boat Servicing	
23.05.2017	50	Sea Trails	
14.03.2018	38	Prohibition on use of Thuraya & Iridium satellite phone	
05.05.2018	56	Nitrogen gas (98%) purging	
19.12.2019	45	LNG mooring readiness	
19.12.2019	50	LPG Cargo Handling	
19.12.2019	52	LNG Cargo Handling	
19.12.2019	70	Master Pilot Information Exchange-LNG	
01-01-2021	10	Port report updated	
01-01-2021	40	PFSO Details updated	
01-01-2021	62	Drinking water service added	
01-12-2022	62	Drinking water service added	
01-12-2022	62	PFSO Details updated	

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Part 1

Introduction

Port Report

Port Performance

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1.1 INTRODUCTION LETTER

Dear Master,

We welcome you and your crew to Adani Ports and SEZ Ltd, Mundra.

A. For your information and compliance, along with the General Information of the Port, we enclose the following documents.

- a. **Safety & Pollution Requirement**
- b. **Condition of Use Letter.**
- c. **ISPS – Contact Details of PFSO and Dy. PFSO's.**
- d. **Passage Plan: Master – Pilot Information Exchange.**

B. **ON ARRIVAL:** After Pilot boards, kindly fill up the following documents and return to the Pilot, duly signed and stamped:-

- a. Acknowledgement Copy of "Condition Of Use" letter (Yellow Copy).
- b. Inward Pilotage Certificate .

Please note that "CONDITION OF USE" letter is a legal document and is to be filled up, signed, stamped and delivered to the Pilot without any remarks before commencement of Pilotage.

C. **PRIOR DEPARTURE:** Prior to vessel's departure, kindly fill up, sign & stamp the following documents which will be collected by the port representative:-

- a. Feedback Form.
- b. Ballast Water Reporting Form
- c. **In outward Pilot certificate kindly fill up the section "To be filled by Master" regarding the Port Clearance and Vessel's Particulars provided in the booklet.**

1. **RESPONSIBILITY**

While we have taken all reasonable care to ensure that the Port waters, berths, facilities as well as gear and equipment used (including gangway where provided) thereon, are safe and efficient, any vessel using them shall do so, and remain, at the sole risk of the vessel, its Master and Owners.

2. **SAFETY & POLLUTION**

You are required to take careful note of the contents of SAFETY AND POLLUTION REQUIREMENTS and ensure full compliance. Before commencement of operations, the SHIP – SHORE SAFETY CHECKLIST will be completed by port representative (**Form Enclosed**) and a Responsible Ship's Officer; this will be revalidated at regular intervals.

3. **NON- COMPLIANCE**

Any non-compliance or infringement of the SHIP – SHORE SAFETY CHECKLIST or of SAFETY AND POLLUTION REQUIREMENTS, by the vessel may result in operations being halted and the vessel ousted from the berth. All time, charges, delays arising from such an event will be to the account of the vessel.

4. **CONTRABAND & LIQUOR**

Dealing in contraband and drugs and illicit goods is strictly forbidden under Indian Law, with heavy penalties and imprisonment for anyone indulging in such activities. You are advised to ensure that your crew is suitably instructed.

The use and possession of alcohol is forbidden in Gujarat State. Alcohol should not be taken ashore or offered to shore personnel during the vessels stay in port.

All such contraventions of the Laws could also make the vessel liable to arrest, so please ensure your fullest attention to these matters.

We hope you have a pleasant stay.

Yours truly,



Capt Sachin Srivastava
Head - Marine Services
Adani Ports and SEZ Ltd.

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Tel: + 91-2838-252727, Fax: + 91-2838 – 289181

E-mail: sachin.srivastava@adani.com

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1.2 PORT REPORT

APSEZ Limited, Mundra is the largest privately developed port in the country and a multi-sector SEZ. It is spread over 100 sq. km. in the Northern Gulf of Kutch, Gujarat, on the western coast of India. The port is located enroute major maritime routes, and serves as one of the country's most convenient gateways for exim trade, especially for cargo bound west for Europe, Africa, America and Middle East. It's proximity to land locked hinterland of North and North-West India gives it a strategic advantage to service the Industry and Trade that accounts for nearly 70% of the country's total international cargo.

Operational since 1998, APSEZ Limited, Mundra is capable to handle 276 MMT per annum. Adani group's passion for converting opportunity into reality has led to APSEZ being conferred with the

- i. "Best Private port of the year by MALA Awards at Mumbai on 15th September 2017"
- ii. "Non Major Port Of The Year" & "Container Handling Terminal Of The Year" award in the MALA 2017.
- iii. Adani Ports and SEZ Ltd. Won GOLDEN PEACOCK AWARD in the 19th WORLD CONGRESS Global conference on Environment. Supreme Court Judge Hon Joseph Kurian presented the Award to Adani Team at Hyderabad on the 7th July, 2017.
- iv. "Private Port of the Year" which was awarded to Mundra Port at Sea Trade award ceremony at Kochi on 22nd September 2017"
- v. "Private Port of the Year" which was awarded to Mundra Port at Sea Trade award ceremony at Kochi on 22nd September 2017"
- vi. "Best Environment Protection Port of the Year Award From Maritime Nation Award –2017
- vii. "Best Terminals and Ports Operator" at the 11th Express, Logistics & Supply Chain Leadership Awards on 4th October 2017.
- viii. APSEZ, Mundra, has bagged the Best Shipping port of the year award at India Cargo award on 14th October 2017.
- ix. Port of the year – Containerised cargo award at Gujarat Junction 2018 - Cargo and Logistics Awards on 17th March 2018 at Radisson Hotel Kandla.
- x. Best Port of the year (Containerized) at 6th Edition of Gujarat Star Awards on 25th November 2017 at HOTEL RADISSON, GANDHIDHAM.
- xi. 12th ELSC Leadership Awards received on 04th October 2018 at Mumbai
- xii. "Smart Container Terminal 2018" award at Gate Maritime Award, New Delhi
- xiii. Container Handling Port / Terminal of the year at MALA Awards at Mumbai On 31st Aug 2018
- xiv. Mundra Port received "The Samudra Manthan Awards 2019 for "Best Private Port of the Year 2019" on 13thDecember 2019 at Mumbai.
- xv. "Best Port of the Year for Containerized Cargo"at the 8th edition of Gujarat Star Awards 2019 held at Kandla.
- xvi. APSEZ Mundra won "Greentech Sustainability Award 2020" for outstanding achievements in "Recycling & Waste Management" category.
- xvii. Mundra Port received "The Samudra Manthan Awards 2022 for "Non-Major Port of the Year 2022" & "Terminal of the year" at Mumbai

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1.3 PORT PERFORMANCE

- APSEZ Limited, Mundra has a diverse cargo base including Dry, Bulk, Break Bulk, Liquid, Crude Oil, Project Cargo, Cars, LNG, LPG and Containers. It embodies a unique and advantageous model for private ports.
- APSEZ Limited, Mundra enjoys one of the deepest drafts amongst the ports in India.
- 28 operational multipurpose berths having depth upto 17.5 m to handle dry bulk break bulk and liquid cargo. The berths are capable of handling Post Panamax vessels.
- APSEZL has four container terminals have capacity of 7.5 million TEUs, ranked 1st in the country.
- Pure Car Carrier/ Pure Car Truck Carrier (PCC / PCTC) berth with appropriate car parking space.
- West Basin – World’s Largest Coal Import Terminal.
- APSEZ Limited, Mundra has its own dedicated 64 km private rail network which has been doubled and is capable of handling double stack container trains. APSEZ provides logistic advantage of 380 km to the Northern hinterland of India as compared to JNPT.
- APSEZ Limited, Mundra has good connectivity to NH 8A, NH 15 and other state highways.
- APSEZ Limited, Mundra has a functional aerodrome capable of handling private jets. Mundra is also well connected to two commercial airports which are within a distance of 60 kms from Mundra.
- Dry cargo infrastructure capable of handling all types of dry cargo.
- A 3.6 km long import conveyor system capable of handling 1500 TPH of import cargo.
- F.C.C– Fertilizer Cargo Complex. Mechanized system for bagging and loading of fertilizer bags into railway wagons for fast evacuation of cargo.
- Large storage capacity is available within the port in the form of open and covered warehouses.

FUTURE PLANS OF APSEZ, MUNDRA

- VLCC berth for crude oil tankers
- Container Terminal 5

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PART I / 2. CONTACT INFORMATION AND REGULATION

2.1 CONTACT INFORMATION

Port Operation Center

Telephone: +91-2838-255781
+91-2838-255762
Mobile: +91-98250 00949
E mail portopscenter@adani.com

Marine Control (MMPT)

VHF Channel Primary working CH 77
Secondary Working CH 73
E Mail marine.control@adani.com

Marine Control (West Basin Terminal)

VHF Channel : Primary working CH 77
Secondary Working CH 73
E mail : marinecontrol.westbasin@adani.com

2.2 RULES AND REGULATION

The rules and regulation of the port contributes to the safe, efficient and environmentally responsible handling of shipping traffic. The international rules of IMO, such as SOLAS convention and its amendments and national regulations are in force at APSEZ, Mundra.

APPLICABLE REGULATION

Port Security Law (ISPS)
Indian Port Act
Gujrat Maritime Board Act 1981
Navigational Safety Port Committee (NSPC)
All relevant international rules and regulations on MARPOL, Load lines Etc.

2.3 EXEMPTION AND PERMITS

The port operation center can grant permission for special activity such as repairs/hot work/Main Engine Immobilisation and cleaning etc. All request to be sent to Port Operations Center through local agent via E mail portopscenter@adani.com

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Part II

Notification, Documentation and Reporting

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PART II / 3. ARRIVAL DEPARTURE CHECK LISTS

3.1 ARRIVAL CHECKLISTS

Documents	When	To Whom & How
The vessel to submit the required Declaration / statutory compliance of government directives as issued from time to time. [Vessel owner / agents are required to declare their vessels in the prescribed format giving full details].	At least 24/96 hours prior to the arrival of the vessel.	Port Operation Center through local agent by email & to be declared in system. mail id- portopscenter@adani.com
Pre-Arrival Notification of Security (PANS), Crew list and Port call details	At least 24/96 hours prior to the arrival of the vessel.	Port Operation Center, Indian coast guard, GMB and Indian Navy directly or through local agent by Email to below mail id's- Indsar@vsnl.net , cgs-mdr@indiancoastguard.nic.in , wncmocmb-navy@nic.in , mrccwest@indiancoastguard.nic.in , pomgmb@yahoo.in , portopscenter@adani.com
Free Pratique Documents	At least 72 hours prior to the arrival of the vessel.	Port Health Organisation by Email to below mail id- phokandla@gmail.com
Ballast Water Reporting Form in accordance with IMO Resolution A 868 (20), Appendix 1.	Initial Ballast Water Reporting Form 24 hrs to be send prior arrival at Mundra. If ballast water exchanged at berth, an updated Ballast Water Reporting Form to be send prior departure from Mundra.	portopscenter@adani.com
Arrival information to VTS	Before arrival in Gulf of Kutch	VTS information through agent or directly send mail to- vtsgok@yahoo.com and vtsgok@yahoo.com

3.2 DEPARTURE CHECKLIST

Departure information to VTS	Before departure from Gulf of Kutch	VTS information through agent or directly send mail to- vtsgok@yahoo.com and vtsgok@yahoo.com
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PART II / 4. NOTIFICATION

4.1 HEALTH

Source: Port Health Organisation

Yellow Fever Countries- PHO may board on the vessels arriving from Yellow Fever prone Countries at anchorage. Vessels are are requested to contact their local agent for clarification.

The master has to complete and sign a Maritime Declaration of Health. The standard forms have to be used. In all cases keep the "Maritime Declaration of Health" form stand-by.

In case of an epidemic threat the master can be requested to report the health situation on board to Port control on Vhf Ch 77/16 and also has to inform customs and immigration through agent.

Definition:

Free pratique: means permission for Ship/vessel to enter into the port limits, embark or disembark, discharge or load cargo or stores;

Quarantine: means the restriction of activities and/or separation of suspect persons who are not ill or of suspect baggage, containers, ship/vessel or goods from others in such a manner as to prevent the possible spread of infection or contamination;

Free Pratique is granted by Public health officer (PHO). Any ship/vessel coming within 30 days from yellow fever affected countries as notified by WHO shall be inspected by Port Health Officer before granting free pratique as per Annex 8. For vessels that arrive from epidemic affected countries, same procedure will be followed. The person so affected will have to be kept in quarantine for the entire duration of vessels stay in port limits.

Annexure -8

List of yellow fever endemic countries

Countries in the Yellow Fever-Endemic Zone

Africa			Central and South America
Angola	Ethiopia	Rwanda	Argentina ¹
Benin	Gabon	Senegal	Bolivia ¹
Burkina Faso	The Gambia	Sierra Leone	Brazil ¹
Burundi	Ghana	Sudan	Colombia
Cameroon	Guinea	Togo	Ecuador ¹
Cape Verde	Guinea-	Uganda	French Guiana
Central African Republic	Bissau		Guyana
Chad	Kenya		Panama ¹
Congo	Liberia		Paraguay ¹
Côte d'Ivoire	Mali		Peru ¹
Democratic Republic of Congo	Mauritania		Suriname
Equatorial Guinea	Niger		Trinidad and Tobago
	Nigeria		Venezuela ¹

source: WHO (amenable for the periodic changes)

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4.2 IMMIGRATION

Source: Mundra Marine Police (responsible for Immigration)

Prior to arrival Mundra Port, the Master of the vessel should forward the following documents via agent:

- forward a Crew and Passenger list to Immigration
- Report the presence of any stowaways

Immigration officials will board the vessel to carry out a physical inspection for border control purposes once vessel comes along side. During an inspection of this kind, the Master must present and offer his full co-operation during the inspection.

4.3 CUSTOMS

Source: Indian Customs

Detailed list of the documents required to be asked from agent prior to arrival. The following documents must be available:

- cargo-statements (e.g. bills of lading)
- crew's effects declaration
- vessel's stores declaration

It is strongly recommended that these papers are at hand before arrival in port.

Goods, which are not to be cleared, must be stored in one room, which room can be sealed by Customs. It is recommended to put these goods in that room before entering the harbour. Masters of ships must be careful that these seals are not damaged. If renewal or removal is wanted, this can be applied by Customs.

As long as an incoming vessel is within Mundra Port limit and has not been cleared by Customs, it is strictly forbidden:

- to allow any person to board the ship
- to allow any member of the crew to disembark
- to load or unload any goods
- to allow contact with any other craft

The following persons are exempted from these rules:

- Commissioned and licensed pilots
- Harbour Master's representatives
- Customs officers
- Agents in possession of special permits
- Personnel on tugs employed in assisting the vessel
- Port Health Officer

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4.4 ETA

Vessel has given at least 5/3/2/1 days notices of Expected Time of Arrival (ETA), except vessels calling from nearby ports or from within the Gulf of Kutch which are required to provide one day notice. Vessel which has physically arrived within the port limits & registered herself with Port Marine Control on VHF CH 77/16 by giving all the vessels particulars. Physical arrival means the time of arrival of vessel into Mundra Port Limits.

After Pilot boards, kindly fill up the following documents and return to the Pilot, duly signed and stamped:-

- a. Acknowledgement Copy of "Condition of Use" letter (Yellow Copy).
- b. Inward Pilotage Certificate (Yellow Form).

Please note that "CONDITION OF USE" letter is a legal document and is to be filled up, signed, stamped and delivered to the Pilot without any remarks before commencement of Pilotage.

4.5 ETD

Vessel should be ready in all respect for sailing before Pilot boarding time. All shore personal must be disembarking prior pilot boarding. Vessel has to confirm the exact Pilot boarding time from marine control on VHF CH – 77, 1 hr before the above-mentioned time.

In case the vessel is not ready to sail at the nominated POB time, the Vessel Master/ Agent may extend or cancel outward pilot at least 45 minutes before over VHF without application of pilot cancellation charges.

Prior to vessel's departure, kindly fill up, sign & stamp the following documents which will be collected by the port representative:

- a. Feedback Form
- b. Ballast Water Reporting Form
- c. In "outward Pilot" certificate kindly fill up the section regarding the Port Clearance and Vessel's Particulars provided in the booklet.

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4.6 SECURITY

All vessels calling APSEZ Ltd, Mundra to forward Pre-Arrival Notification of Security (PANS), Crew list and Last Port of call details to Port Operation Center through local agent 96 before ETA.

4.7 DANGEROUS GOODS

All vessels calling APSEZ Limited, Mundra to notify Dangerous Goods details to Port Operation Center through local agent at the time of vessel declaration.

4.8 WASTE

Vessels calling APSEZ, Mundra can declare "Waste" to port operations center through local agent.

- **MARPOL Annex I**

Oily Bilge Water, Oil residues (Sludge), Oil Tank Washings (Slop)
Dirty Ballast Water, Scale and Sludge from Tank Cleanings

- **MARPOL Annex II (Category of NLS residue/water mixture for discharge to facility from tank washings)**

Category X Substances, Category Y Substances, Category Z Substances

MARPOL Annex IV- Sewage

- **MARPOL Annex V**

Plastics, domestic waste, cooking oil,
Floating dunnage, lining, or packing materials
Cargo residues, paper products, rags, glass, metal, bottles, crockery
Food waste, Animal Carcass, E waste, Fishing Gear, Operational Waste
Incinerator ash

- **MARPOL Annex VI**

The port does not have facility to collect Annex VI waste.

Garbage Collection facility is available (24/7), The request for garbage collection should be placed 24 hours prior berthing. Garbage collection requests with less than 24 hour notice prior berthing will be serviced on the basis of availability of resources. Food waste of more than 02 days old will not be acceptable.

Note: Expired Pyrotechnics is not accepted.

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4.9 IOPP

Vessels calling APSEZ, Mundra to have valid IOPP certificate onboard.

PART II / 5. DOCUMENTATION

5.1 REQUIRED DOCUMENTATION, TO BE AVAILABLE AT ALL TIMES

All statutory and international sailing certificates should be available onboard at all times.

PART II / 6. REPORTING

6.1 ISSUES TO BE REPORTED

Issues to be reported	To	Via
Bunkering Operation start/stop	Port Control	VHF Ch 77
Oil Spill	Port Control	VHF Ch 77
Collision/grounding/fire/serious injury/MOB	Port Control	VHF Ch 77
Losing of anchor or chain	Port Control	VHF Ch 77
Entering/leaving port limit	Port Control	VHF Ch 77
Anchoring in port	Port Control	VHF Ch 77
Collision or in any way out of control or in situation that may endanger the safety of shipping	Port Control	VHF Ch 77
Under water inspection /diving	Port Control	VHF Ch 77
Lowering of life boats	Port Control	VHF Ch 77
Robbery/Theft in Port Limit	Port Control	VHF Ch 77
Sighting of suspicious craft/boat	Port Control	VHF Ch 77
Any other activity or incident that vessel wish to report	Port Control	VHF Ch 77

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Part III

Port Description and Navigation

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PART III/ 7. PORT DESCRIPTION

7.1 PORT LOCATION

APSEZ Ltd, Mundra Port is all weather, independent, commercial port with geographical and hydrological advantages on the West Coast of India, in the Gulf of Kutch. The port has been developed using latest and state of the art technologies, facilities and offers unparalleled services benchmarked to international standards.

Position : Lat 22° 43.8'N., Long 069° 42.3' E

7.2 PORT LIMITS

(A)	22° 49'24" N / 069° 47'12" E	(F)	22° 49'24" N / 069° 39'00" E
(M)	22° 48'23" N / 069° 38'58" E	(N)	22° 48'25" N / 069° 32'20" E
(O)	22° 38'57" N / 069° 32'18" E	(P)	22° 37'33" N / 069° 36'55" E
(Q)	22° 37'24" N / 069° 37'03" E	(K)	22° 37'24" N / 069° 38'48" E
(L)	22° 37'24" N / 069° 42'00" E	(J)	22° 40'36" N / 069° 47'12" E

7.3 LOAD LINES

Vessels in APSEZ Ltd, Mundra to comply with Load Line regulations.

7.4 MAXIMUM SIZE VESSELS

There are no restriction regarding length and beam. Not every berth can accommodate maximum size vessel. Please check berth information for suitability of a vessel for a particular berth.

7.5 TIME ZONE

Local Time : GMT + 5.5 hrs

7.6 LOCAL HOLIDAYS

Please see port website for local holiday list.

7.7 WORKING HOURS

The Port works 24 hours x 7 days in a week.

7.8 TRAFFIC

During the financial year 2021-22 total **3508** vessels called Adani Ports and SEZ Limited, Mundra.

7.9 CARGO

150.11 million tons of cargo handled in year 2021-2022. For more information please refer port website www.adaniports.com

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7.10 CHARTS AND BOOKS

Navigational Charts : Indian Hydrographic Office Charts: 203, 2106, 2107 and 2079
British Admiralty Charts: IN2106, IN2107, IN2079, 670 and 682

Navigational Volume: ALRS Vol 6

7.11 SHIPPING ANNOUNCEMENT FOR THE PORT AREA

- EXIM India (www.eximin.net)
- Daily Shipping (www.dailyshippingtimes.com)

7.12 PILOT STATION

PILOT BOARDING GROUND **ALPHA:** Lat. 22° 42.20' N, Long. 069° 43.56' E

PILOT BOARDING GROUND **BRAVO:** Lat. 22° 42.20' N, Long. 069° 42.12' E

WEST BASIN PBG: Lat. 22° 41.00' N, Long. 069° 33.55' E

SPM PILOT BOARDING GROUND: Lat. 22° 38.90' N, Long. 069° 38.26' E

Marine control will guide the vessel on to which pilot station vessel has to approach.

7.13 PORT INFRASTRUCTURE

SPM/STS ANCHORAGE AREA

(A) Lat. 22° 38.55'N Long 069° 38.07'E (B) Lat. 22° 37.60'N Long 069° 38.06'E
(C) Lat. 22° 38.55'N Long 069° 36.09'E (D) Lat. 22° 37.96'N Long 069° 36.07'E

GENERAL ANCHORAGE AREA 'A'

(A) 22° 41.26'N, 069° 44.06'E (B) 22° 39.82'N, 069° 45.70'E
(C) 22° 39.48'N, 069° 42.06'E (D) 22° 37.58'N, 069° 42.06'E

GENERAL ANCHORAGE AREA 'B'

(A) Lat. 22° 39.88'N, Long 069° 32.43'E (B) Lat. 22° 39.00'N, Long 069° 32.43'E
(C) Lat. 22° 38.25'N, Long 069° 35.01'E (D) Lat. 22° 39.88'N, Long 069° 35.01'E

LNG ANCHORAGE AREA

(A) Lat. 22° 39.88'N, Long 069° 35.01'E (B) Lat. 22° 38.25'N, Long 069° 35.01'E
(C) Lat. 22° 37.93'N, Long 069° 36.07'E (D) Lat. 22° 39.88'N, Long 069° 36.07'E

Note- Anchorage ground has a depth of 30 meters and is a good holding ground throughout the year.

TIDAL CURRENT: Kindly note that the current in the anchorage area are very strong. The current strength is about 3 to 4 knots and sets in the direction 253 in ebb tide and 073 in flood tide. Vessel advised to exercise caution.

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MUNDRA PORT MULTIPURPOSE TERMINAL

CHANNEL BUOYS

Starboard hand	No. 1 with top mark: Q Fl (G)
Port hand	No. 2 with top mark: Fl (R)
Starboard hand	No. 3 with top mark: Fl (G)
Cardinal Buoy	No. 5 with top mark: Q 9 Fl (W)
Cardinal Buoy	No. 7 with top mark: Q (6) + Lfl (W)
Starboard hand	No. 9 with top mark: Fl G 5s

TURNING CIRCLE

The turning circle has a radius of 700m, centered on channel joining point.

TRANSIT LIGHTS

The transit lights mark 90 m distance from the quay side.

Front: Q Fl (G) 19m, 10 NM, Rear: OCC (G) 34m, 10 NM.

FENDERS

All the berths are fitted with state of the art, Cell type modern fenders. Their outage from the berth face at T-1 is 1.65 mtr, and their outage from berth face at T-2, T-3 is 2.07 m.

TIDES AND TIDAL STREAMS

Tidal range is between +2.2 m during Neaps and + 6.40 m during springs.

Tidal streams flow 070° – 250° at an average rate of 2.5 kts, and 3-4 kts. during spring tides. Wave height is about 0.14 - 1.30 m and Wave period is about 6.50 sec. - 17.0 sec.

SOUTH BASIN TERMINAL

CHANNEL BUOYS

Stbd Hand (Green)	Buoy No. 1: Lat 22 43' 43.86" N	Long 069 41' 50.37" E
Port Hand (Red)	Buoy No. 2: Lat 22 43' 40.48" N	Long 069 41' 23.66" E
Stbd Hand (Green)	Buoy No. 3: Lat 22 43' 50.23" N	Long 069 41' 45.29" E
Port Hand (Red)	Buoy No. 4: Lat 22 43' 47.46" N	Long 069 41' 27.89" E
Stbd Hand (Green)	Buoy No. 5: Lat 22 44' 01.50" N	Long 069 41' 47.56" E
Port Hand (Red)	Buoy No. 6: Lat 22 44' 01.66" N	Long 069 41' 20.26" E
Stbd Hand (Green)	Buoy No. 7: Lat 22 42.12" N	Long 069 42.09" E (Temporary Removed)
Port Hand (Red)	Buoy No. 8: Lat 22 44.13" N	Long 069 41.00" E

TURNING CIRCLE

The turning circle has a radius of 750m, abreast of the berths.

SOUTH BASIN LEADING LIGHTS (HIGH MAST TOWER ARRANGEMENTS)

Leading Light - High Mast Tower Arrangement:

Night Visibility: The High Mast Light Towers are fitted with "Incandescent White Light" pointing towards the sea and Amber coloured lights pointing towards the backup yard. The remaining High Mast Light Towers are fitted with Amber coloured lights.

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Day Visibility: The seaward Leading High Mast Towers are 30 metres high. The top 15 metres is painted '**Signal Yellow**' in colour. The landward Leading High mast Towers are 40 metres high. The top 20 metres is painted 'Black' in colour. The remaining High Mast Towers are of their original metallic colour as manufactured.

FENDERS: Dual cone fenders- DCN 1200, outage from berth face 2.07 meters.

TIDES AND TIDAL STREAMS

Tidal range is between +2.2 m and +6.40 m; tidal streams flow 070⁰ – 250⁰ at an average rate of 2.5 kts (Outer channel), 1 kts (Inner channel) and less than 0.5 kts at berth/ inside basin.

Wave height: 0.14 - 1.30 m. Wave period: 6.50 sec. - 17.0 sec. *

THE TIDAL CURRENT CLOSE TO THE SHORE (UPTO 400 MTR) REVERSES 30 MINS BEFORE PRINTED TIME

WEST BASIN TERMINAL

CHANNEL BUOYS

Starboard hand	No. 1 with top mark: ISO 4s (G)
Port hand	No. 2 with top mark: ISO 4s (R)
Starboard hand	No. 3 with top mark: Q 1s (G)
Port hand	No.4 with top mark: Q 1s (R)
Starboard Hand	No.5 with top mark: OC (2) 8s (G)
Port hand	No.6 with top mark: OC (2) 8s (R)
Starboard hand	No.7 with top mark: Q 1s (G)
Port hand	No.8 with top mark: Q 1s (R)
Starboard hand	No.9 with top mark: OC (2) 8s (G)
Starboard hand	No.11 with top mark:MO (U) 10s (G)
Starboard hand	No. 13 with top mark Oc(2) G 8s Green

BREAK WATER LIGHT: Fixed (R): Range: 5.0 NM

TURNING CIRCLE: The turning circle has a radius of 841 m.

WEST BASIN LEADING LIGHTS

FRONT LEADING LIGHT: ISO 3s (W), Range: 7.7 NM Height: 30 m,
REAR LEADING LIGHT: OC 9s (W), Range: 7.7 NM Height: 44 m,

FENDERS: Dual cone fenders- DCN 1200, outage from berth face 2.07 meters.

TIDES AND TIDAL STREAMS

Tidal range is between +2.20 m and +6.40 m; tidal streams flow 0900 – 270⁰ at an average rate of 2.5 kts (Outer channel), 1 kts (Inner channel) and less than 0.5 kts at berth/ inside basin. Wave height: 0.14 - 1.30 m. Wave period: 6.50 sec. - 17.0 sec.

THE TIDAL CURRENT CLOSE TO THE SHORE (UPTO 400 MTR) REVERSES 30 MINS BEFORE PRINTED TIME

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SINGLE POINT MOORINGS

ADANI PORT SPM - SPM is developed, maintained and operated by APSEZL.

SPM is installed in position: Lat.22° 40.65 N, Long.069° 39.28 E
 Characteristics of SPM & Light: CALM Type SPM, Shape – Cylindrical, Colour – Red.
 Light: - Color– White, Characteristic– Morse Code 'U'
 (Two quick flashes and one long flash)
 Range – 5 NM, Fog Horn – Installed,

HMEL SPM - SPM is developed, maintained and operated by HMEL.

SPM is installed in position: Lat. 22° 40' 55" N, Long. 069° 37' 28" E
 Characteristics of SPM & Light: CALM Type SPM, Shape – Cylindrical, Colour – Red.
 Light: - Colour– White, Characteristic– Morse Code 'U' 15 s
 (Two quick flashes and one long flash)
 Range – 10 NM, Fog Horn – Not Installed,

7.14 PORT ACCOMMODATION AND BERTH

MUNDRA MULTI PURPOSE TERMINAL

The Port Multipurpose terminal includes: Twelve operational Multipurpose berths with drafts of up to 15.5 meters suitable for berthing Post – Panamax, Camsarmax and Capsize vessels.

TERMINAL No. 1: The facility is located in position (approx): Lat. 22° 43.8'N, Long 069° 42.3' E, and comprises of 04 multipurpose berths and 1 barge berth.

<u>Berth</u>	<u>Max vessel LOA</u>	<u>Beam</u>	<u>Type</u>	<u>Heading on berth</u>
No.1	295 m	48 m	LPG / Liquid	073 - 253
No.2	185 m	35 m	Liquid	073 – 253
No.3	230 m	45 m	Liquid	073 – 253
No.4	230 m	35 m	Liquid	073 – 253
Barge berth	85 m	15 m	Harbour Crafts	

TERMINAL No. 2: The facility includes 04 nos. multipurpose berths.

<u>Berth</u>	<u>Max vessel LOA</u>	<u>Beam</u>	<u>Type</u>	<u>Heading on berth</u>
No.5	300 m	45 m	Cont.	127 – 307
No.6	300 m	45 m	Dry	127 – 307

Total quay length of berth 5 & 6 is 575 meters. Since these berths are in a straight line, hence, more than 2 ships can be berthed in each quay depending on LOA subject to 35 meters clearance between each vessel.

TERMINAL No.3: The facility comprises of 04 nos. multipurpose berths.

<u>Berth</u>	<u>Max vessel LOA</u>	<u>Beam</u>	<u>Type</u>	<u>Heading on berth</u>
No.9	295 m	48 m	Dry	073 - 253
No.10	295 m	48 m	Dry	073 – 253
No.11	295 m	48 m	Dry	073 – 253
No.12	235 m	35 m	Dry	045 – 225

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Total quay length of berth 9, 10 & 11 is 790 meters. Since these berths are in a straight line, hence, more than 3 ships can be berthed in each quay depending on LOA subject to 35 meters clearance between each vessel.

DIRECTIONS

The general directions, rules and regulations pertaining to safety of navigation are in accordance with the International Regulations for Prevention of Collisions at Sea 1972 and The IALA Buoyage System – Region A. APSEZ Ltd, Mundra Port has a clear deep water approach with a minimum depth of 18 m at any state of tide.

CONTAINER TERMINALS: The facility includes the Container Terminal Quay

- Mundra International Container Terminal with 2 berths and a total quay length of 631 meters.
- Adani Mundra Container Terminal with 2 berths and a total quay length of 631 meters.
- South Basin Container Terminal with 6 berths and a total quay length of 2110 meters.

MUNDRA INTERNATIONAL CONTAINER TERMINAL (MICT)

<u>Berth</u>	<u>Max vessel LOA</u>	<u>Beam</u>	<u>Type</u>	<u>Heading on berth</u>
CB - 1	370 m	55 m	Container	127 - 307
CB - 2	370 m	55 m	Container	127 - 307

Total quay length of berth CB-1 and CB-2 is 631 meters. Since these berths are in a straight line, hence, more than 2 ships can be berthed in each quay depending on LOA subject to 35 meters clearance between each vessel.

ADANI MUNDRA CONTAINER TERMINAL (AMCT)

<u>Berth</u>	<u>Max vessel LOA</u>	<u>Beam</u>	<u>Type</u>	<u>Heading on berth</u>
CB - 3	370m	55 m	Container	127 - 307
CB - 4	370m	55 m	Container	127 - 307

Total quay length of berth CB-3 and CB-4 is 631 meters. Since these berths are in a straight line, hence, more than 2 ships can be berthed in each quay depending on LOA subject to 35 meters clearance between each vessel.

DIRECTIONS

The general directions, rules and regulations pertaining to safety of navigation are in accordance with the International Regulations for Prevention of Collisions at Sea 1972 and The IALA Buoyage System – Region A. Mundra Port has a clear deep water approach with a minimum depth of 18 m at any state of tide.

SOUTH BASIN TERMINAL

The facility is strategically located 1 miles west of MMPT in position Lat 22° 44'3.10"N, Long 069° 41'5.60" E. South Basin is being developed as the India's largest capacity container terminal with International standard norms, excellent storage infrastructure, eco-friendly and world class technology. The site has good rail links and natural & dredged deepwater channels.

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Berth	Max vessel LOA	Beam	Type	Heading on berth
SB-4	405 m	60 m	Container	090-270
SB-5	405 m	60 m	Container	090-270
SB-6	405 m	60 m	Container	090-270
SB-7	405 m	60 m	Container	090-270
SB-8	405 m	60 m	Container	090-270
SB-9	405 m	60 m	Container	090-270

*Total quay length is 2110 meters. More than 2 ships can be berthed in each terminal depending on LOA subject to a minimum of 35 meters clearance between vessels.

DIRECTIONS

Berth entrance consists of a buoyed channel of Length 1153 meters, Width 502 meters and a turning circle radius 750 meters just abreast of the berths. A moderate swell may be encountered outside the break water during the monsoon season from May to September.

WEST BASIN TERMINAL- MUNDRA PORT

The facility is strategically located 09 miles west of MMPT in position Lat 22° 44'53.10"N, Long 069° 33'55.60" E. West Basin is being developed as the World's largest capacity bulk import terminal with International standard norms, excellent storage infrastructure, eco-friendly and world class technology. The site has good rail links and natural & dredged deepwater channels.

Berth	Max vessel LOA	Beam	Type	Heading on berth
WB - 1	325 m	55 m	Dry	024 - 204
WB - 2	325 m	55 m	Dry	024 - 204
WB - 3	325 m	55 m	Dry	024 - 204
WB - 4	325 m	55 m	Dry	024 - 204

*Total quay length is 1511.3 meters and hence ships can be berthed depending on LOA subject to a minimum of 35 meters clearance between vessels.

DIRECTIONS

Berth entrance consists of a buoyed channel of Length 3700 meters, Width 320 meters with a Depth of 17.5 meters (Below Chart Datum) and a turning circle radius 841 meters just abreast of the berths. A heavy swell may be encountered outside the break water during the monsoon season from May to September.

SINGLE POINT MOORINGS

ADANI PORT SPM - SPM is developed, maintained and operated by APSEZL.

SPM is installed in position: Lat.22° 40.65 N, Long.069° 39.28 E
Characteristics of SPM & Light: CALM Type SPM, Shape – Cylindrical, Colour – Red.

HMEL SPM - SPM is developed, maintained and operated by HMEL.

SPM is installed in position: Lat. 22° 40' 55" N, Long. 069° 37' 28" E
Characteristics of SPM & Light: CALM Type SPM, Shape – Cylindrical, Colour – Red.

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DIRECTIONS

The general directions, rules and regulations pertaining to safety of navigation are in accordance with The International Regulations for Prevention of Collisions at Sea 1972 and The IALA Buoyage System – Region A.

LNG TERMINAL

LNG terminal is constructed west of south basin terminal having capacity of 05 MMTPA (expandable to 10 MMTPA) LNG Receiving, Storage and Regasification Terminal at Mundra.

<u>Berth</u>	<u>Max vessel LOA</u>	<u>Beam</u>	<u>Type</u>	<u>Heading on berth</u>
LNG - 1	350 m	55 m	Gas	090-270

DIRECTIONS

The general directions, rules and regulations pertaining to safety of navigation are in accordance with The International Regulations for Prevention of Collisions at Sea 1972 and The IALA Buoyage System – Region A.

Mooring dolphin light - 2(two) all round red lights on both side end mooring dolphins
2 (two) white light of both end breasting dolphins.

7.15 WEATHER AND TIDAL INFORMATION

Tidal Information

Tidal range is between +2.2 m and +6.40 m; tidal streams flow 0900 – 270⁰ at an average rate of 2.5 kts (Outer channel), 1 kts (Inner channel) and less than 0.5 kts at berth/ inside basin.

Wave height: 0.14 - 1.30 m. Wave period: 6.50 sec. - 17.0 sec. *

THE TIDAL CURRENT CLOSE TO THE SHORE (UPTO 400 MTR) REVERSES 30 MINS BEFORE PRINTED TIME

WATER DENSITY

Water density varies from **1.020 to 1.023** during the South West Monsoon period and ranges between **1.024 to 1.025** during the remaining part of the year.

7.16 WEBCAMS

All Berths and Port Area is under continuous CCTV surveillance and monitored from Central Security Control Room.

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PART III / 8. PORT NAVIGATION

8.1 SPEED

Vessel approaching to Pilot boarding ground should have speed less than 4 knots. Vessels are advised not to cross north of PBG till pilot boards the vessel. Marine Control directives are to be strictly followed.

Please note that the tidal current in the area is very strong. The current strength is about 3 to 4 knots and sets in the direction 253 in ebb tide and 073 in flood tide. Vessels are advised to exercise caution.

8.2 UKC

A Minimum under keel clearance of "10 % of the ship's max draft" will be maintained at the all time of berthing. While alongside berth minimum clearance of 50 cm is maintained. Maximum acceptable draft is basis the Lowest Low Water for the month. Actual berthing draft may be higher basis tide. Minimum Entrance Channel Depth at Chart Datum for MMPT, South Basin and West Basin is declared monthly by the port.

8.3 RIGHT OF THE WAY

The outbound vessel will have priority Right of the Way. Any changes will be communicated by Marine Control on CH-77. Passing sides between the vessels will be communicated to inbound vessel by outbound vessel pilot.

8.4 SPACING OF VESSELS

Under Way vessels in port limit to maintain minimum 1 NM distance with each other.

8.5 PASSING ARRANGEMENT

The outbound vessel will have priority Right of the Way. Any changes will be communicated by Marine Control on CH-77. Passing sides between the vessels will be communicated to inbound vessel by outbound vessel pilot.

8.6 RESTRICTIONS

- Berthing/unberthing activity is suspended, if visibility falls below 1000 meter.
- While maneuvering in Port Limit, please pass 02 miles south of Mundra SPM located in position Lat 22° 40'65"N, Long 069° 39.28'E and HMEL SPM located in position Lat 22° 40'53.59"N, Long 069° 37'28.26'E failing which vessel will be liable to penal action. Kindly exercise caution. **Passing North of SPM Buoys is strictly prohibited.**

8.7 INWARD AND OUTWARD BOUND VESSELS

The outbound vessel will have priority Right of the Way. Any changes will be communicated by Marine Control on CH-77. Passing sides between the vessels will be communicated to inbound vessel by outbound vessel pilot. The Port Control updates all Inbound and outbound traffic on VHF Ch 77.

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8.8 SHIFTING VESSELS

Vessel at berth, which poses threat to port property or other vessels at berth, will be shifted to anchor.

8.9 DOCKING

Docking of vessels is done by APSEZ Ltd, Mundra Pilot.

8.10 DISPLAY OF SIGNALS AND LIGHTS

All vessels in port limit are required to display lights and signal in accordance with International Rules of Road.

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Part IV

Port Safety and Security

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PART IV / 9. PORT SAFETY

CERTIFICATION

The port complies with **ISO 9001:2015**, **ISO 14001:2015** and **ISO 45000:2018** standards. In addition to the above, the Port also has valid **NSPC** and **ISPS** Certification from Govt. of India.

SAFETY

The services, facilities and assistance provided by the Company to vessels at / off its Navinal Island complex are subject to the following stipulations being complied with. The Masters of vessels in port are advised to take serious note of contents of this circular to avoid punitive action.

1. Vessel should arrive Mundra Port with positive trim and no list. **In no case should the vessel be trimmed down by the head or have a list of more than 0.2 degree.** In case a vessel is found to be trimmed down by head or has a list of more than 0.2 degree, draft survey will not be conducted till she comes on even keel and uprights herself. All delay, detention and cost arising because of the same will be on vessels account.
2. **Vessels alongside must moor with the mooring plan as discussed with pilot (at least 3 head /stern lines, 2 breast lines and 2 back springs aft). Do not use wire and fiber ropes in the same direction. Lesser mooring arrangement may be decided by the pilot depending on the weather condition.**
3. In the interest of safety of the berths and vessels, please ensure that moorings are taut at all times. The vessel's side must rest fully alongside all fenders within the parallel body length. Since the currents are strong and the tidal range is large, the vessel will come out of the berth if the mooring lines are not properly tended to. Non-compliance may result in stoppage of cargo operations, all time lost and incidental expenses will be on vessels account.
4. No repairs or maintenance is to be carried out on the main engine or any other machinery which is essential for vacating the berth at short notice, without informing the Port in advance.
5. Hot work is normally not permitted on the berth. If Hot-Work permit is granted, the work will be carried out under attendance of the port's Fire & Safety unit, subject to payment of specified charges.
6. Smoking and naked lights are not permitted on vessel's decks or on the berths.
7. An efficient deck watch under a responsible officer must be maintained at all times when at berth.
8. All working areas, decks and access points as well as liquid cargo manifold and gangway must be properly illuminated during hours of darkness.
9. Radio transmissions, under-water activity or small craft alongside the vessel are strictly prohibited.

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POLLUTION

1. It is an offence to discharge or allow escape, willfully, or accidentally, any oil, oily mixture, oily/dirty ballast, contaminated bilge water or noxious sewage from any vessel within Mundra Port limits. International and Indian Laws stipulate heavy penalties including arrest, on the offending vessel and crew.
2. Replenishment of bunkers, whether from sea or shore, will be permitted only on special application, monitored by the port's Marine/ Safety personnel.
3. De-ballasting of dirty ballast or discharge over board of tank and hold wash water etc. is not to be carried out within the Port Limit.
4. Emission of dense smoke is prohibited from vessels within Port limits. Violations of stipulations under current Indian laws will incur heavy penalties.
5. It is an offence to throw or dump galley refuse, garbage, and rubbish, hold sweepings etc. into the water while the vessel is at the berth or within the Port limit. Offending vessel is liable to large fines. No chipping or painting overboard is to be carried out while the vessel is alongside the berth.

9.1 EMERGENCY CONTACT

Any Emergency, Incidents or accidents onboard is to be reported to **Port Control on VHF Channel- 77**

Details to be reported: Name of the Ship, Name and number of the berth, nature of Emergency.

9.2 EMERGENCY RESPONSE EQUIPMENT

FIRE FIGHTING EQUIPMENTS

Fire Fighting Facilities Available at Mundra Port- Multi Purpose Terminal / South Basin Terminal.

1. Fixed Firefighting System (Hydrants, monitor, water spray, foam purer) with pressurized water supply.

Location	Hydrant	Hose Reel Hose	Tower Water Cum Foam Monitor	Water Monitor	Water cum Foam Monitor	Water Curtain System	Water Spray System	Foam Pourer System
Terminal- 1	41	03	10	0	08	10	4	0
LPG Terminal	96	07	03	0	10 + 8 (HVL R)	0	19	0
Terminal- 2	30	0	0	0	1	0	0	0
Terminal- 3	0	0	0	0	0	0	0	0
Adani Container Terminal (CT-02)	33	0	0	06	0	0	0	0
Dry Cargo Area	148	5	0	0	0	0	0	0
Liquid Terminal	112	0	0	10	54	0	84	71

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T-02 Building	04	03	0	0	0	0	0	0
CT-02 Building	04	03	0	0	0	0	0	0
CT-03 Building	04	03	0	0	0	0	0	0
CT-04 Building	02	03	0	0	0	0	0	0
CT-04 (ACMTPL)	50	02	0	02	0	0	0	0
CT-03 Extension (AICTPL)	44	02	0	0	0	0	0	0
FCC Naphtha Railway Siding	22	0	0	0	22	0	0	0
Exim Yard	05	03	0	02	0	0	0	0
Total	597 nos.	24 nos.	13 nos.	20 nos.	102 nos.	10 nos.	107 nos.	71 nos.

2. Fire Pumps: Electrical and Diesel operated.

Location	Electric Operated Jockey Pump	Diesel Operated Jockey Pump	Electric Operated Pump	Diesel Operated Pump
Terminal-1 Fire Pump House (Sweet Water)	1	1	0	3
Terminal-1 Fire Pump House (Sea Water)	0	0	0	6
Adani Container Terminal (CT-02) Fire Pump House	1	0	1	1
Dry Cargo Fire Pump House	1	0	2	1
Liquid Terminal Fire Pump House No. 01	1	0	0	3
Liquid Terminal Fire Pump House No. 02	1	0	4	2
CT-04 (ACMTPL) Fire pump house	2	0	1	1
CT-03 Building	0	0	0	1
CT-03 Extension (AICTPL)	2	0	1	1
Exim Yard Fire Pump House	0	0	1	0
Total	09 nos.	01 Nos	09 nos.	19 nos.

3. Overhead and underground static dedicated water storage for fire fighting at Port back up area.

Location	U/G Water Storage Tank	O/H Water Storage Tank
Terminal-1 Fire Pump House (Sweet Water)	N/A	10386 m ³
Dry Cargo Fire Pump House	1300 m ³	N/A
Liquid Terminal Fire Pump House No. 01	1047 m ³	6108 m ³
Liquid Terminal Fire Pump House No. 02	N/A	11000 m ³

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CT-04 (ACMTPL)	N/A	550 m ³
CT-03 Extension (AICTPL)	N/A	828 m ³
CT-03 Building Fire Pump	50 m ³	N/A
Exim Yard Fire Pump	N/A	05 m ³
Total	2397 m³	28877 m³
Grand Total	31274 m³	

4. Foam Pumps for jetty area.

Location	Electric Operated Jockey Pump	Electric Operated Pump	Foam Tank Capacity
Terminal-1 Fire Pump House	1	1	24 KL
Total	01 nos.	01 no.	24 KL

5. Direct seawater suction pumps for jetty area.

Location	Electric Operated Jockey Pump	Electric Operated Pump	Diesel Operated Pump
Terminal-1 Fire Pump House	0	0	6
Terminal-2 Fire Pump House	1	0	2
Adani Container Terminal Fire Pump House (AMCT)	1	1	1
Total	02 nos.	01 no.	09 nos.

6. Fire tender: **One Multiple Purpose Fire Tender, Three Foam Tenders and Two Water Bouser fitted with Pump and PTO, One Aviation Fire Tender with 500 DCP and Water Mist System)**

7. Trailer Pumps- **03 nos. Capacity 1800 LPM each**

8. Fire Extinguishers:

MPT:-DCP Type – 1465 Nos., CO2 Type – 1097 Nos., Mechanical Foam Type-21 Nos. , CAFS- 03 Nos. & Water CO2- 04 Nos.

LPG:- DCP Type- 120 Nos., CO2 Type- 40 Nos., Mechanical Foam Type-01 No.

9. Breathing Apparatus set :

MPT:- 1 No. Of Air Line SCBA Trolley, 29 Nos. of SCBA Set and 25 Nos. of Spare Cylinder

LPG:- 04 nos. of SCBA set and 02 nos. of spare cylinder

10. Aluminized suits: **8 Nos. (MPT) + 02 nos. (LPG)**

11. Portable Gas detectors: **08 Nos. (MPT) + 01 (LPG)**

12. Cryogenic Suit- **03 Nos. (MPT) + 02 Nos. (LPG)**

13. Thermal Imagine Camera- **03 Nos.**

14. International Ship Shore coupling for connectivity from Ship to Shore for firefighting-**04 Nos.**

Fire Fighting Facilities Available at West Basin:

1. Fixed Firefighting System (Fire Hydrants, Water Monitors, Wet Riser System, Dry Riser System etc.

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Location	Hydrant	Water Monitor	Foam Monitor	Dry Riser System	Wet Riser System	Water Spray System	Foam Pourer System
West Basin-Jetty (Berth 1, 2 & 3)	24	0	0	0	0	0	0
Coal Stack Yard & Belt-conveyor	236	213	0	0	0	0	0
Transfer Towers, Stacker/Reclaimer, Silos	0	0	0	09	27	0	0
Buildings (SS-01 & CWS)	18	00	00	00	02	00	00
Total	275	213	0	09	29	0	0

2. Fire Pumps:

Fire Pump House No. 01:

- i. 2 nos. of Electric Operated Main Pump – Capacity: 273 m³/hr.
- ii. 1 No. of Diesel Engine Operated Pump (Stand-by) – Capacity: 273 m³/hr.
- iii. 2 Nos. of Electric Operated Jockey Pump – Capacity: 10.8 m³/hr.

Location	Electric Operated Jockey Pump	Electric Operated Main Pump	Diesel Engine Operated Pump (Stand-by)
Near Sub-Station-1	2	2	1
Total	2	2	1

Fire Pump House No. 02:

- j. 2 nos. of Electric Operated Main Pump – Capacity: 273 m³/hr.
- ii. 1 No. of Diesel Engine Operated Pump (Stand-by) – Capacity: 273 m³/hr.
- iii. 2 Nos. of Electric Operated Jockey Pump – Capacity: 20 m³/hr.

Location	Electric Operated Jockey Pump	Electric Operated Main Pump	Diesel Engine Operated Pump (Stand-by)
Near GIS	2	2	1
Total	2	2	1

3. Overhead and underground static dedicated water storage for fire fighting at Port back up area.

Location	U/G Water Storage Tank	O/H Water Storage Tank
West Basin – Fire Pump House No. 01	NA	1100 KL + 2750 KL = 3850 KL
West Basin – Fire Pump House No. 02	NA	1100 KL
Total	NA	4950 KL
Grand Total	4950 KL	

4. Fire Tender: **One Water (Fire) Tender & Two Fire Water Bousers**

5. Fire Extinguishers: **634 nos.** (DCP type–320 nos., Co2 type–296 nos., M. Foam type-18 nos.)

6. Breathing Apparatus Set: **3 nos. SCBA Set and 3 nos. of spare cylinder**

7. Aluminized suits: **1 Nos.**

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A) Fire Protection & Fighting System LNG Terminal:

Jetty Area	Plant Area
Remote Operated Tower Monitors Water Spray System Water Curtain System Fixed DCP System Foam System Clean Agent System in Jetty Control Room Fire Extinguishers Access for Fire Tender Fire & Gas detection system Jetty Monitoring Building Fire Alarm System Indoor hose cabinets	Water Spray System Water Curtain System Fixed DCP System Nitrogen Snuffing System for LNG Storage Tank PSVs Clean Agent System Fire Tenders Fire Extinguishers Fire & Gas detection system Building Fire Alarm System Outdoor Water Hydrant Water cum Foam monitor system Indoor Hose Cabinets

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9.3 OIL SPILL EQUIPMENTS

APSEZ Ltd, Mundra is equipped with to handle Oil Spill upto Tier-1.

Pollution Response Equipment			
Sr. No.	ITEM	Qty	Remarks
1	Inflatable boom with accessories (Material: Neoprene/ Neoprene Rubber/ Rubber) with 04 power pack (Meter)	2000	
2	Fence Boom (Material: Neoprene/ Neoprene Rubber/ Rubber) with freeboard of 450mm and over all height of 1200mm and length of 100m etc. complete as per specifications (Meter)	235	
3	Drum/ brush type oil skimmer 50 m ³ /hr capacity oil recovery free floating skimmer, along with suitable pump and hydraulic Power Pack complete with all accessories etc. complete as per specifications. (Nos.	6	Lamor Skimmer-2 Yikoma Skimmer-4
4	OSD Applicator with spray arm type along with 02 Nozzles and 02 hand lancers (Nos)	2	
5	Oil Spill Dispersant, concentrate type-3 combined, approved by the Indian Coast Guard (liter)	3000	
6	Portable dispersant storage tank: 1000 ltr capacity	1	
7	Bio Remediation (Liter)	2000	
8a	Flex Barge of 25 m ³ along with its accessories.	1	
8b	Flexible Floating Storage Tank (12.5T) with its accessories.	3	
9	Sorbent Boom size (Min. Dia -5 inch, Min Length - 5 feet) (Nos.)	500	
10	Sorbent pads 20-inch x 20 inch (nos)	2000	
11	Absorbent (oil only) 80 L Kit for quick oil spill response (Nos.)	2	
12	Current Buster Boom-Fasflo -75 (for response in fast current) (Nos.)	2	
13	Mini Vacuum system Pump Capacity 25 m ³ (Nos.)	5	
14	Portable Oil temporary Storage Facility capacity 10m ³ (Nos.)	2	Star tank with Capacity 10000 liter (10m ³)- 2 nos.
15	Protective Equipment (PPE) kit for oil spill response. (Nos)	15	

9.4 EMERGENCY CO-ORDINATION CENTRE

The emergency co ordination centre is Marine Control (MMPT) **VHF CHANNEL -77**.

9.5 EMERGENCY SCENARIOS

- a. Every vessel must have onboard, at all times, a sufficient number of responsible officers and crew to deal with emergency situations.

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- b. Vessel's Safety, Fire - Fighting as well as Pollution Prevention and control equipment, appliances and essential devices must be in a state of readiness at all times and be available and accessible for immediate use.
- c. Safe access to the vessel must be made available at all times.
- d. Any fire mishap, accident or case of pollution on / by or near a vessel must be notified immediately to Mundra Port Control through VHF Ch. 77, and by sounding appropriate alarm signals. Port's Marine / Safety personnel will attend the vessel and initiate shore emergency response to deal with the emergency.

EMERGENCIES

PERSONNEL INJURIES, CARGO RELATED INJURIES, EVACUATION OF SICK AND INJURED PERSONNEL

1. Provide first aid to injured personnel.
2. In case of serious injury, inform Port Control on VHF Channel 77 and transfer the injured personnel ashore for further medical attention.

FIRE ONBOARD

1. Stop cargo discharging.
2. Inform Port Control on VHF channel 77.
3. Initiate on board fire emergency plan.

SECURITY BREACH

1. Stop cargo operations
2. Inform Port Control on VHF Ch 77
3. Initiate actions as per SSP.

TERRORIST ONBOARD VESSEL

1. Initiate actions as per SSP.
2. Inform Port Control on VHF channel 77.

GROUNDING OF SHIP

1. Inform Port Control on VHF channel 77
2. Initiate on board emergency action plan for grounding as per onboard check list

COLLISION

1. Inform Port Control on VHF channel 77.
2. Initiate on board emergency action plan for collision as per onboard check list.
3. If Oil Spill, inform Port Control and initiate on board emergency action plan for Oil Spill as per onboard check list.
4. If any injury to ship's crew, provide first aid to injured personnel. In case of serious injury to personnel, inform Port Control on VHF Channel 77 and transfer the injured personnel ashore for further medical attention.
5. If there is DANGER to VESSEL'S SAFETY, then it is to be ANCHORED in safe water, so that she does not pose any threat to the port's water.

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BAD WEATHER / CYCLONE

- 1 Vessel at berth to double up mooring lines and keep them taught at all times.
- 2 Vessels at anchor to pay out sufficient length of chain into water and keep good anchor watch.
- 3 Vessels to keep watch on VHF channel 77.
- 4 In case of persistent wind speed >35 vessel at berth may be shifted to anchorage.

MAN OVERBOARD / FALLEN FROM JETTY INTO SEA

- 1 Inform Port Control on VHF channel 77
- 2 Person on site to throw Life buoy and should NOT LOOSE SIGHT of the person fallen overboard.
- 3 Initiate on board emergency action plan for MOB as per onboard check list.

OIL SPILL

- 1 Inform Port Control on VHF channel 77
- 2 Initiate on board Oil spill contingency plan as per onboard check list.

DOUBLE BANKING PRECAUTION

1. Ensure adequate fendering between vessels.
2. Continuous monitoring of weather condition.
3. Double banking bunker at anchorage is not permitted if wind speed > 20 Kts.

PART IV / 10. PORT SECURITY

CERTIFICATION: The port complies with **ISPS** and **ISO 28000:2007** (Security Management System) standards.

Strict enforcement of security measures is advised. Any suspicious activity in the vicinity of the vessel must be reported immediately to the Marine Control on VHF Channel 77. Vessels are advised to keep an effective Anti-Piracy watch at all times.

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10.1 PRESENT ISPS SECURITY INFORMATION

PRESENT MARINE SECURITY LEVEL: **LEVEL - 1**

PFSO / Dy. PFSO Contact Details

<p>CAPT. SACHIN SRIVASTAVA HEAD-MARINE & PFSO PHONE : 91-2838 – 255727 (O) MOBILE : 91 63598 83102 (AOH) E-MAIL:- Sachin.srivastava@adani.com</p>	
<p>CAPT. RAJAT GARG (HOS – Marine) Dy. PFSO / FSO- SPM+WB PHONE : +91-2838 - 255947 MOBILE : +91 6357160037 (AOH) E-MAIL:- Rajat.Garg@adani.com</p>	
<p>MR. CHERIAN ABRAHAM (Head-CT3) FSO CT-3 PHONE : 91-2838 - 252733 (O) MOBILE: +91 8980048850 (AOH) E-MAIL:- cherian.abraham@adani.com</p>	<p>MR. SUDHAKAR SINGH (AM-Marine) FSO – MMPT PHONE : 91-2838 - 255787(O) MOBILE: 91-70690 83039 (AOH) FAX : 91-2838-255002 E-MAIL:- Sudhakar.Singh@adani.com</p>
<p>MR. AHMED ALI (Assistant Mgr - Security) FSO- CT-2 & CT-4 PHONE : - MOBILE : +91 6358910565 (AOH) E-MAIL:- Ahmed.Ali@adani.com</p>	<p>MR. HARI GOVINDAN V FSO - MICT PHONE : 91-2838 - 285072(O) MOBILE: 91-82388 55163(AOH) E-MAIL:- hari.govindan@dpworld.com</p>
<p>MR. AKHAND PRATAP SINGH RATHORE FSO-LNG Terminal(GSPC) PHONE : - MOBILE: 91-99090 38941(AOH) E-MAIL:- Akhand.r@gspc.in</p>	

Speed Patrol Boat – Security Patrolling done by Dolphin-19 at regular intervals.

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10.2 REPORTING TO PORT FACILITIES

Embarkation and Disembarkation of visitors and crew

Embarkation and Disembarkation of visitors and sign on/sign off crew should be reported to PFSO of the facility called at.

Stores and Bunkers

Stores and Bunkers over land should be reported to PFSO of the facility called at. Transfer of goods/ship spares/ship supplies can only take place before commencement or after completion of cargo transfer, nevertheless not causing any delay on normal loading/discharging operation. Deliveries of small quantities of stores, supplies or equipment parts that do not require special handling and that can be hand-carried by crew members up the gangway are allowed during daylight hours upon specific authorization by the PFSO/ Dy.PFSO.

10.3 PROHIBITION ON USE OF THURAYA & IRIDIUM SATTELITE PHONES

The Government of India vide DG Shipping Circular No. 18NT(04)/2007/PT dated 06th Sep 2012 have **banned use of Thuraya or Iridium satellite phones in Indian Waters.**

Vessels are required to provide declaration on presence of Thuraya and Iridium phones prior to arrival at Mundra Port alongwith Pre arrival Notification on Security (PANS). Vessels Masters are required to keep the Thuraya/Iridium Phones switch off prior entering Indian Exclusive Economic Zone (EEZ) and keep it switched off till the vessel is out of Indian EEZ.

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Part V

Nautical Services and Communication

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PART VI/ 11. NAUTICAL SERVICES

11.1 VTS

A VTS service for Gulf of Kutch is provided by the **VTS Gulf of Kutch**, operated by Directorate General of Lighthouses and Lightships (DGLL), Govt. of India.

Marine Control provides traffic update to vessels in Mundra Port Limit on **VHF Channel- 77**.

11.2 PILOTAGE

PILOTS ARE AVAILABLE 24hrs A DAY. Pilots board vessels using Tug Boats having White accommodation and Black Hull. All Pilot Boats maintain a listening watch **on VHF Ch – 77** at all times.

Pilotage within port limits is compulsory. No movements are to be undertaken without a licensed pilot on board and without express instructions from the Mundra Port Control (**VHF Ch.77**).

Tugs will be deployed for assistance in manoeuvres at the sole discretion of the Pilot.

PILOT TRANSFER ARRANGEMENTS

Pilot ladders and other pilot transfer arrangements of all vessels, entering or departing Mundra Port shall be rigged in strict accordance with **regulation 23 of chapter 5 of SOLAS (Safety of Life at Sea) and IMO resolution A1045(27)**. Pilots normally board vessels from the Lee Side using one of the Tug Boats. The deck on the Tug Boat, from where the Pilots board, is approximately 4 meters above the water level. Mundra Port Control will advise the “height of pilot ladder above the water”, but in general should be **4 meters above water line. The Pilot Ladder should have tripping line attached so that it is not damaged when the tug comes alongside.**

Vessels with freeboard more than or equal to 9 meters are required to rig Combination Ladder for Pilot Transfer.

11.3 TUGS

Mundra port has fleet of new, state of the art Japanese tug boats. All Tugs are equipped with proper rubber fenders on front and astern

TUG NAME	TYPE	BHP	BOLLARD PULL	ADDITIONAL EQUIPMENT
Dolphin – 2	ASD	2200 X 2	55 T	Half Fi-Fi
Dolphin – 4	ASD	2200 X 2	55 T	Half Fi-Fi
Dolphin – 7	ASD	2200 X 2	55 T	Half Fi-Fi
Dolphin – 10	ASD	3000 X 2	70 T	Half Fi-Fi
Dolphin – 11	ASD (DSV)	2200 X 2	55 T	Half Fi-Fi , DIVING SUPPORT
Dolphin – 14	ASD	3000 X 2	70 T	Half Fi-Fi and Tow Winch
Dolphin – 15	ASD	3000 X 2	70 T	Half Fi-Fi and Tow Winch
Dolphin – 16	ASD	3000 X 2	70 T	Half Fi-Fi
Dolphin – 17	ASD	3000 X 2	70 T	Half Fi-Fi
Dolphin – 18	ASD	3000 X 2	70 T	Half Fi-Fi
Dolphin – 33	ASD	3000 X 2	70 T	Full Fi-Fi
Tug Brahmani		2000 X 2	69 T	Full Fi-Fi
Tug Baitarni		2000 X 2	69 T	Full Fi-Fi
Dol-19		ISPS Patrol Boat		

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11.4 MOORING

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PRE MOORING ARRANGEMENT PRIOR BERTHING FOR VESSEL CALLING MUNDRA PORT

SHIPS SIDE READINESS

- Forward and Aft mooring station crew should be standby when the ship is arriving Pilot station.
- The tugs are made fast at Pilot station itself before the vessel picks up a speed of more than 3 knots.
- Vessel should keep ready gantlines leading from the shoulder and quarter bollards (where the tug will be made fast) to the mooring winch for picking up the tugs towing lines which are heavy.
- Arrangement for mooring is as per below diagram. All lines will be passed ashore by heaving line.

IMPORTANT - It is assumed that vessel will berth **STARBOARD** alongside. If berthing **PORTSIDE** then mooring plan will be similar on the other side.

- a) **CONTAINER VESSEL**: Vessel should keep ready 6 lines Fwd (4 Headline + 2 Spring) & 6 lines Aft (4 Stern + 2 Spring).
- b) **TANKER VESSEL**: Vessel should keep ready 7 lines Fwd (3 Headline + 2 Breast + 2 Spring) & 7 lines Aft (3 Stern + 2 Breast + 2 Spring) **(IF WIRE LINE, LINE WILL PASS BY GANT LINE)**
- c) **CAPE SIZE VESSEL**: Vessel should keep ready 08 lines Fwd (4 Headline + 2 Spring + 2 breast) & 08 lines Aft (4 Stern line + 2 Spring + 2 breast)
- d) **OTHER VESSEL**: Vessel should keep ready 7 lines Fwd (3 Headline + 2 Breast + 2 Spring) & 7 lines Aft (3 Stern + 2 Breast + 2 Spring)
- e) **TUG & BARGE**: Tug should keep ready with 3 lines Fwd (2 Headline + 1 Spring) & 3 lines Aft (2 Headline + 1 Spring); tug crews should be ready for transfer to Barge.

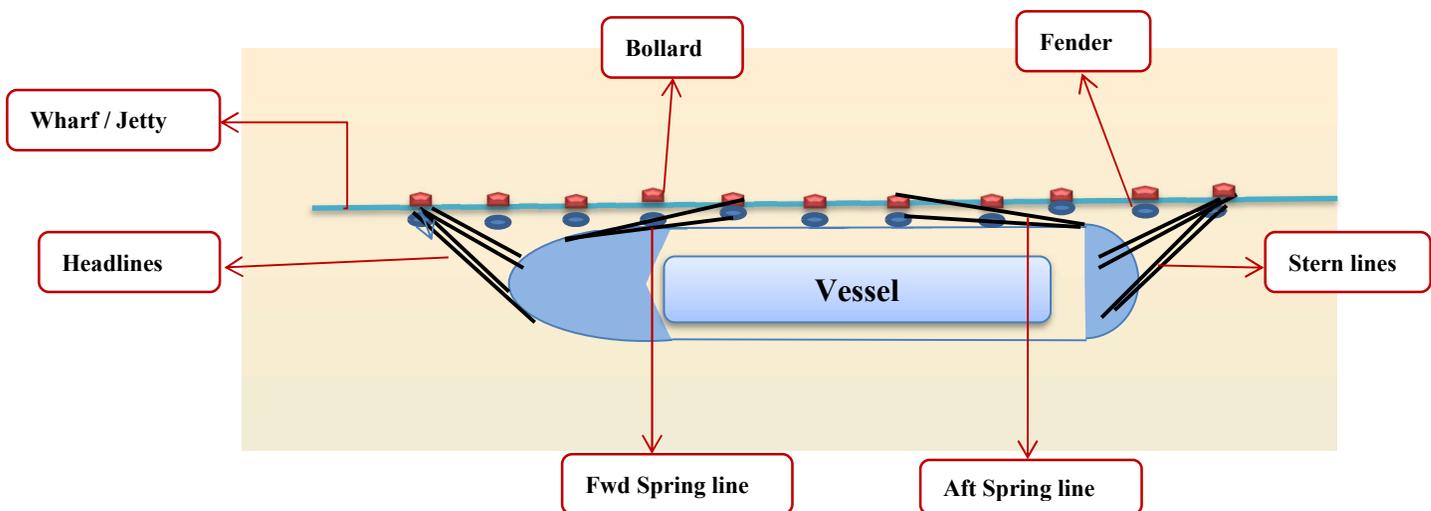
Step 1. When vessel is about **20-30 mtr off** the berth / wharf, the vessel shall pass a **single spring line** from both the fore and aft stations using the vessel's heaving line.

Step 2. Once the vessel is in position and alongside the berth, springs should be doubled up. After that pass the **Headlines & Stern lines** which will be secured by mooring crew on shore bollard.

Step 3. Vessel shall be positioned as below:

The bollard on which the vessels mooring lines will be made fast will depend upon the length of the ship.

- All ships lines will be connected to shore bollards



*** The above mooring plan will also be discussed by Pilot upon boarding the vessel.**

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PRE MOORING ARRANGEMENT FOR PCC VESSELS

SHIPS SIDE READINESS

- Vessel should keep ready Fwd -6 (4+2) lines & Aft -6 (3+2+2) lines
- Fwd (4- Head line + 2- Spring line); Aft (2- Stern lines + 2 Breast line + 2 Spring line)
- Arrangement for mooring is as per below diagram. All lines will go ashore by heaving line.

Step 1. The PCC will be turned around in the turning basin & backed down (about 1400 mtrs) towards the Ro Ro pontoon. When vessel is about **30-35 mtr away** from the **pontoon and 20-30 mtr off** the berth / wharf, the vessel shall pass a **single spring line from both the stations using the vessel's heaving line.**

Step 2. Once the vessel is in position and alongside the berth (distance of vessel's stern from pontoon in the final position will be about 6.5 mtrs), the springs should be doubled up. Simultaneously pass the aft Breast line which will be secured by shore staff on a **D shackle.**

Step 3 . As per below bollard plan & vessel position layout final position as follows:

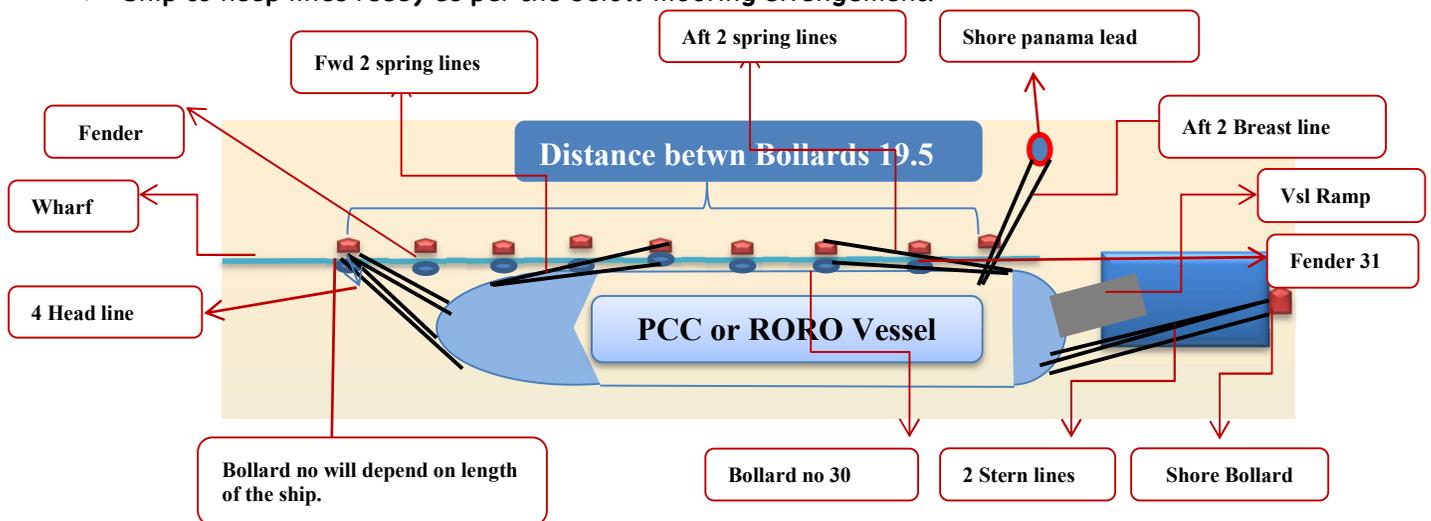
So, **Bollard Plan Position;**

Stern of the vessel will be in line with the jetty end. The backing down of the vessel after coming alongside till the vessel is in final position will be carried out in a controlled manner using forward spring. Build-up of vessel movement towards aft should be controlled using the aft spring line.

The Aft Spring line will be made fast at Bollard no 30.

The bollard on which the forward springs will be made fast will depend upon the length of the vessel.

- Make fast the **Head line. The 2 stern lines will be connected to shore wire using a D shackle.**
- Final mooring **Fwd 4 + 2 & Aft 2+2+2**
- **Ship to keep lines ready as per the below mooring arrangement.**



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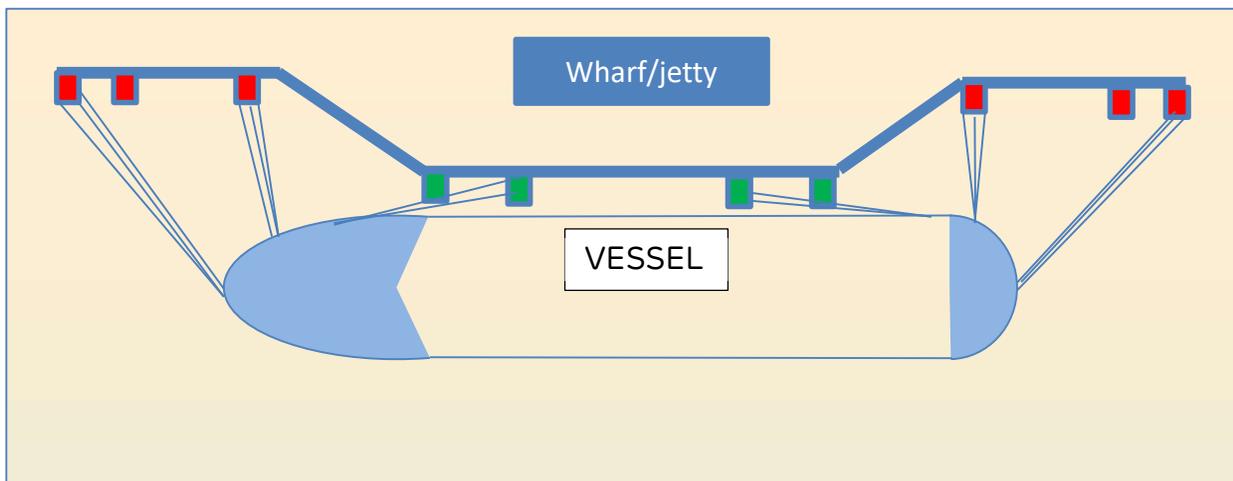
Mooring Readiness Prior Berthing LNG vessel at Mundra Port

The normal mooring pattern at the terminal is 3-3-2 (3 headlines / stern lines, 3 breast lines and 2 springs) forward and aft from the ship; however the Master should not hesitate to increase the number of mooring lines, if he considers it is prudent to do so. Ships accepted at Mundra LNG Terminal with HMPE mooring lines, shall have spare HMPE ropes available on board at a location, which allows easy usage of such spare ropes by ship's crew. Vessel should try to deploy requisite officers and crew at forward & aft stations to handle 3 lines simultaneously.

Mooring arrangement is as per diagram. Shore will keep ready messenger lines from all the mooring dolphins to the upper deck of LNG platform.

Details of mooring procedure is as detailed below

1. When the vessel is about 20 meters from the jetty, vessel to pass 2 heaving lines from forward station and aft station to the upper deck of LNG platform.
2. Shore team will connect 3 messenger lines to each forward and aft station heaving line.
3. Vessel will heave all the messenger lines on board.
4. Vessel will connect head line / breast line / spring line at forward station and stern line / breast line / spring line at aft station to messenger line. The messenger lines should be connected to the mooring lines via jockey stop using 3T joining shackle. Vessel should additionally connect a heaving line to the shore messenger line using the shackle while passing the mooring line.
5. Mooring lines should be heaved together at forward and aft station.
6. Vessel should keep the mooring line just above the water level for easy and quick handling of lines during mooring operations.
7. Ship positioning to be done by use of spring ropes and tugs. Engine movements to be avoided.



The above mooring plan will also be discussed by Pilot upon boarding the vessel.

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11.5 LASHING OF CARGO

Lashing of cargo is done by stevedore. Master is responsible for proper and timely lashing of cargo before sailing.

PART VI/ 12. NAUTICAL COMMUNICATION

12.1 VHF CHANNEL NAUTICAL COMMUNICATION

MUNDRA PORT CONTROL continuously monitors VHF Ch. 16. Port Working Channel is VHF Ch 77.

Call "MUNDRA Port Control" on VHF Ch: 77 &16

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Part VI

Port Operations

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PART VI/ 13. CARGO OPERATION

APSEZ Ltd, Mundra handles a variety of cargo ranging from Bulk Cargo like Coal, Wheat, Fertilizer, Minerals, Ores, Steel, Edible Oils, Chemicals, and Petroleum Products to Container Cargo, Automobiles and Crude Oil.

13.1 LOADING/DISCHARGING PROCEDURES

The Master is responsible at all times for the safe loading & discharging of the ship cargo, details of which should be confirmed to the terminal in the form of a loading/discharging plan. In addition, the Master should ensure that the ship-shore safety checklist is completed in consultation with the terminal and signed before loading or unloading is commenced.

The Master and terminal manager, or their representatives, should complete the checklist jointly.

It is prohibited to transfer dangerous or noxious substance in APSEZ Ltd, Mundra.

CARGO HANDLING

DRY CARGO HANDLING

The Terminal Operators, M/s. APSEZ Ltd arrange all cargo handling activities in the port, including warehousing and storage, internal transportation and cargo loading/ unloading, round- the- clock.

GROUND HANDLING EQUIPMENT: Dumpers, Pay loaders, Forklifts and stackers used for quick transfer of cargo between storage area and berths.

COMPUTERISED WEIGH BRIDGES: 40 Mt capacity: 04 Nos., 60 Mt capacity: 02 Nos., 100 Mt Capacity: 02 Nos.

STORAGE CAPACITY

COVERED:

1. Closed Godowns (17 Nos.)	=	1,48,215 Sq. Mtrs
2. Covered Sheds (03 Nos.)	=	5,787 Sq. Mtrs
3. FRM (04 Nos.)	=	49,685 Sq. Mtrs
TOTAL COVERED SPACE	=	2,03,687 Sq.Mtrs
OPEN STACKYARDS (14 Nos.)	=	7,57,805 Sq. Mtrs
OVERALL TOTAL STORAGE SPACE	=	9,61,492 Sq. Mtrs

HARBOUR CRANES

02 Nos. Mobile cranes with a capacity of 100 tons (with hook) at T2 for berths 5, 6, 7 and 8.

05 Nos. Mobile cranes with a capacity of 100 tons each at T3, berth No. 9, 10, 11, 12.

03 Nos. Mobile cranes (Goliath) with a capacity of 10 / 20 tons at Steel Storage Yard.

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CONVEYOR SYSTEMS

Fertilizer Cargo: 1500 MTPH online bagging system with a capacity of 10 rakes per day.

Bulk Cargo : 2 x 200 MTPH bleeding lines for storing cargo in bulk.

Import conveyor system with a capacity of 1500 MTPH.

Export conveyor and ship loader with a capacity of 1000 MTPH at Berth No. 1 at MPT Terminal-1.

LIQUID CARGO HANDLING

MANIFOLDS AT BERTH: T1 berth 1, 2, 3 and 4 are equipped with 8”(dia) manifold lines connected to flexible pipelines to handle liquid cargo.

TANK FARMS

State-of-the-art TANK FARMS, inventory management systems with:

78 Tanker loading bays and 12 Un-loading bays.

Storage Tanks / capacity: 81/ 3, 45,542 KL

Storing capacity exclusively for Edible Oils: 9 X 5000 = 45000 kl

For all classes of chemicals / Edible oils : 45 Tanks = 100000 kl

Total Capacity = **1.45 lacs kl**,

GENERAL CARGO TANKS

<u>STORAGE CAPACITY</u>	<u>No. of TANKS</u>	<u>TANK TYPE</u>	<u>CAPACITY in KL</u>
1000 KL	13	Carbon Steel Fixed Conical Roof	14491
	1	Stainless Steel Fixed Conical Roof	
1500 KL	15	Carbon Steel Fixed Conical Roof	24554
	1	Stainless Steel Fixed Conical Roof	
3000 KL	19	Carbon Steel Fixed Conical Roof	63375
	1	Stainless Steel Fixed Conical Roof	
5000 KL	15	Carbon Steel Fixed Conical Roof	76119
6800 KL	5	Carbon Steel Fixed Conical Roof	34302
15000 KL	2	Carbon Steel Floating Roof	30098
	6	Carbon Steel Fixed Conical Roof	96281
BITUMEN CARGO TANKS			
3000 KL	2	Carbon Steel Fixed Conical Roof	5976
430 KL	1	Carbon Steel Fixed Conical Roof	429
		Total	345625
ADDITIONAL VEGETABLE OIL TANKS			
5000 KL	16	Carbon Steel	80000
15000 KL	4	Carbon Steel	60000

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LIQUIFIED PETROLIUM GAS (LPG)

Berth: B1 (Terminal T1)

Max. Displacement: 90000MT

Max LOA accepted: 295m

Max. shore line available: 2 x 12", Class 300

Max discharge rate: 1000MT/Hr.

Shore Tanks: 50000 MT (2 shore tanks of 48000 CBM each)

Loading method: Presently through shore trucks. LPG line is in the final phase of construction which will be connected to the national grid.

Berthing restriction: No berthing restrictions

BUNKERING SERVICES: FO 180/ 380 CST BUNKER FACILITY

The Adani Bunkering Services offer all grades of Fuel Oil and Gas Oil as per ISO specification at globally competitive prices. Services offered are at par with International Standards, by virtue of two owned barges and oil terminal inside Mundra Port. ISO 9001-2000 accredited Bunker Supply Chain Management ensures the quality of bunker fuels. Road Tank Wagon supplies are available for alongside jetties. For storage of POL/ EOL, there are total 2 enclosures consisting of:

- 4 tank each with total capacity of 1, 20,000 KL.
- 4 no's Fixed roof tanks for black oil (Insulated) and 2 no's Floating roof tanks.
- 2 nos. Fixed roof tanks for White oil storage (Insulated).

COMPUTERISED WEIGHBRIDGES: 40 Mt capacity: 04 Nos., 100 Mt Capacity: 02 Nos.

PIPELINES: (i) 1 x 08" diameter Stainless Steel (ii) 6 x 12" diameter Carbon Steel
(iii) 1 x 16" diameter Carbon Steel (iv) 2 x 24" diameter Carbon Steel

CONTAINER CARGO HANDLING EQUIPMENT

MUNDRA INTERNATIONAL CONTAINER TERMINAL (M I C T)

1. Post Panamax rail mounted Quay crane (RMQC), Noell, SWL 40 MT 2 Nos.
2. Super Post Panamax rail mounted Quay crane (RMQC), Noell, SWL 40 MT 4 Nos.
3. Rubber tyre gantry crane (RTGC), Noell, SWL 40 18 Nos.
4. Rail mounted gantry crane (RMGC), Noell 2 Nos.
5. Reach stacker, Kalmar, SWL 40 MT 2 Nos.
6. Empty Container Handler (ECH) 1 No.
7. Total Ground slots 6490 Slots
8. Total Refer plugs 242 Plugs

ADANI MUNDRA CONTAINER TERMINAL (A M C T)

1. Super Post Panamax Cranes (PMQC) with 22 wide outreach twin lift capacity 6 Nos.
2. Rubber Tyre Gantry (RTG) Cranes – 16 Nos.
3. Kalmar Top loaders of 45 Tons – 2 Nos.
4. Empty Container Handler (ECH) 1 No.
5. Total Ground Slots 4050 Slots
6. Total Refer Plugs 240 Plugs

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SOUTH BASIN TERMINAL(CT-3)

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- 1) Super Post Panamax Rail Mounted Quay Cranes (RMQC) with **24** across outreach twin lift capacity = 15 Nos x 65 tons under spreader on twin lift mode, 45 tons under spreader on single lift mode and 75 tons under cargo beam hook.
- 2) Rubber Tyre Gantry (RTG) Cranes 31Nos x 41 tons
- 3) Kalmar Top loaders of 45 Tons 3 Nos
- 4) Empty container handler (ECH) 1 No
- 5) Total Ground Slots 8260
- 6) Total Reefer Plugs 168

The terminal operators, M/s. APSEZ will arrange all Cargo handling activities in port, including warehousing and storage, internal transportation and cargo loading and unloading round- the-clock.

SOUTH BASIN TERMINAL(CT-4)

- 1) Super Post Panamax Rail Mounted Quay Cranes (RMQC) with **24** across outreach twin lift capacity = 6 Nos x 65 tons under spreader on twin lift mode, 45 tons under spreader on single lift mode and 75 tons under cargo beam hook.
- 2) Rubber Tyre Gantry (RTG) Cranes 12 Nos x 41 tons
- 3) Kalmar Top loaders of 45 Tons 2 Nos
- 4) Empty container handler (ECH) 1 No
- 5) Total Ground Slots 6500
- 6) Total Reefer Plugs 458

The terminal operators, M/s. APSEZ will arrange all Cargo handling activities in port, including warehousing and storage, internal transportation and cargo loading and unloading round- the-clock.

Terminal -2(B-5)

- 1) Super Post Panamax Rail Mounted Quay Cranes (RMQC) with **24** across outreach twin lift capacity = 4 Nos x 65 tons under spreader on twin lift mode, 45 tons under spreader on single lift mode and 75 tons under cargo beam hook.
- 2) Rubber Tyre Gantry (RTG) Cranes 8 Nos x 41 tons

WEST BASIN - MUNDRA PORT

DRY CARGO HANDLING EQUIPMENT

The facility is strategically located 09 miles west of Mundra Port in position Lat 22° 44'53.10"N, Long 069° 33'55.60" E. West Basin is being developed as the World's largest capacity bulk import terminal with International standard norms, excellent storage infrastructure, eco-friendly and world class technology. The site has good rail links and natural & dredged deepwater channels. The terminal operators, M/s. APSEZ will arrange all Cargo handling activities in port, including warehousing and storage, internal transportation and cargo loading and unloading round- the-clock.

STORAGE CAPACITY (YARDS): West port has **5,90,000** sq meters area for the storage of **3.8** MMT bulk - cargo and other conventional cargo.

CARGO HANDLING EQUIPMENT:

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- **07** Nos. Stack Reclaimers with a capacity of 6000 TPH in stacking mode and 2500 TPH in reclaiming mode.
- **02 Nos of reclaimers with reclaiming capacity Of 2500 TPH.**
- **10** Nos. Grab Ship Unloaders (GSU) available on berth WB-1, WB-2, WB-3 **with a capacity of 2000 TPH each.**

CONVEYOR SYSTEMS

Total length of conveyor system is **25026** meters.

Receiving conveyor: 6000 TPH with belt speed of **4.7** meters per second, 2200 mm belt width.

Dispatch Conveyor: 5000 TPH with 7.5 mtr per second belt speed for APL delivery and 5000 TPH with belt speed of 4.7 mtr per second for rake dispatch.

Dispatch Conveyor: 2500 TPH with 4.7 mtr per second belt speed for Truck Loading system.

LNG Terminal

LNG terminal is constructed west of south basin terminal having capacity of 05 MMTPA (expandable to 10 MMTPA) LNG Receiving, Storage and Regasification Terminal at Mundra. The terminal consist of 2 LNG tanks, one jetty and other facilities required for regasification and send-out of gas. The LNG terminal has following provisions;

- Safe berthing, receipt of LNG cargo from LNG ships in the range of 70,000 m³ to 265,000 m³. The LNG is unloaded by the ship pumps via the jetty unloading arms and the main unloading line on the jetty to the on-shore LNG storage tanks.
- Storage of LNG (at cryogenic temperature and atmospheric pressure) and the continuous natural gas send out;
- Open Rack Vaporises to vapourize LNG to natural gas on a continuous basis.
- Pumping of regassified LNG to gas grid
- LNG truck loading facility

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PART VI/ 14. VESSEL OPERATION

14.1 LOWERING OF LIFE BOATS

The vessel is permitted to lower its lifeboat till water level at anchorage after taking clearance from Marine Control on Vhf Channel 77. The vessel should take all due precaution when lowering the lifeboat so that no accident or untoward incident takes place. The lifeboat should not be maneuvered in the water away from the vessel by letting go the lifeboat painters in view of strong currents at Mundra. The life boat engines should be in good working conditions or else the lifeboat should only be lowered in to the water and picked up. Marine control will provide a suitable time slot to the vessel for carrying out the above mentioned drill when no vessel movements are taking place in the channel.

14.2 MAINTENANCE AND REPAIR

All type of maintenance and repair facility is available at Port. Port can provide a suitable berth to carry out repair and maintenance of vessel subject to availability of berth.

14.3 UNDERWATER INSPECTION/CLEANING

Under water Hull inspection can be carried out by divers from authorized external Agencies or by the Port divers. However please note that the Port divers are not class approved.

Regarding cleaning facilities, kindly note that under water Hull cleaning/shipside painting is not permitted at APSEZ Ltd, Mundra.

14.4 RAZOR WIRE

Kindly note that the tug's tow line tends to get damaged due to the protrusion extending outside the ship side for fitting anti piracy razor wires or other devices. The tugs are used not only for pushing and pulling but also for pulling back after being made fast to the ship's shoulder and quarter. The vessel's Master should keep the ship side clear from where the tug will be made fast on the shoulder and quarter so that no damage takes place to the tug's towing line. In case any damage takes place to the tugs towing line, the cost of replacing the tow line will be recovered from the vessel.

14.5 SOOT BLOWING

Soot blowing is prohibited in port limits. There have been several instances of vessel ropes catching fire after soot blowing. The soot may also blow towards the forward part of the ship if the wind direction is not taken care off during this operation and may become the cause of fire or explosion depending on the nature of cargo.

The vessel should, if required carry out soot blowing before arriving into port waters.

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14.6 Sea trial

Sea trial of vessel can be carried out subject to the following conditions.

1. Both the vessel anchors and windlass are in good working condition.
2. The vessel anchors should be reading for letting go and dredging in case the engines fail.
3. The vessel engines have been tried out sufficiently on ahead and astern mode with short kicks before heaving up anchor.
4. The vessel will inform Marine Control on VHF channel 77 and VTS GoK before getting underway.
5. The vessel will keep atleast 2 miles of the anchored vessels.
6. The vessel will steam in the direction of the flood / ebb tide (090-270) so that she does not drift sideways while carrying out sea trials.
7. The vessel should alter her course for reverse steaming when clear of the other vessel.
8. The vessel should keep well clear of other anchored vessels and SPM.
9. The vessel should steam atleast 1.5 miles south of the SPM.
10. In case the vessel engine fails, the vessel should inform the Marine Control immediately on VHF Channel 77.
11. The vessel should remain inside the port limit at all times.
12. The vessel should maintain sufficient bridge team members so that a sharp lookout is kept of all inbound and outbound Port traffic.
13. The sea trials should be completed before sunset. No sea trials are permitted during dark hours.

14.7 CLEANING PROCEDURES

Freighters and Bulk Carriers

The holds of a Freighters or bulk carriers may always be cleaned, provided that the refuse or the cargo residues stay on board.

- 1) The vessel is not permitted to discharge hold wash water in the Gulf of Kutch.
- 2) The vessel should retain the hold wash water in vessel tanks & there should be provision for transferring the hold wash water into the tank.
- 3) Port representative will board the vessel upon its re-berthing to verify the storage of hold wash water. Any breach of MARPOL regulation observed will be reported to Port State Control for their further action.
- 4) The master will have to demonstrate the tank transfer arrangement and safe containment of hold wash water retained on board.

The matter involves compliance with MARPOL and any deviation from the regulations is not permitted by MMD or DGS.

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PART VI/ 15. PORT INSPECTIONS

15.1 INSPECTIONS FROM PORT STATE CONTROL, INSPECTIONS FROM OTHER PARTIES

The office of Port state control is located at Kandla 70 Km away from Mundra port. The officials from Port state control or from government agencies can board the vessel anytime for necessary inspection during her stay at Mundra if required.

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Part VII

Port Services

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16.1 Fuel and Lubrication Oil

Bunkers can be arranged by Agents with sufficient notice after obtaining permission from Port Operations Centre. Bunker facility available through Dock Lines connected to shore tanks and also through Tankers and Bunker Barges.

16.2 Fresh Water

Fresh Water Supply facility is available at all berths on prior requisition to Port Operations Center through local agent on chargeable basis as per port tariff.

16.3 Stores

Ship store supply facility is available through registered ship chandlers only.

Transfer of goods/ship spares/ship supplies can only take place before commencement or after completion of cargo transfer, nevertheless causing any delay on normal loading/discharging operation. Deliveries of small quantities of stores, supplies or equipment parts that do not require special handling and that can be hand-carried by crew members up the gangway are allowed during daylight hours upon specific authorization by the PFSO/ Dy.PFSO.

16.4 Shore Based Electricity

Shore based electricity can be provided if prior request is made through agent and charges will be applicable as per port tariff.

16.5 Waste Disposal

Garbage removal facility is available on prior requisition to Port Operations Center through local agent on chargeable basis as per port tariff.

Wastes like used batteries, expired pyrotechnics, expired medicines, incinerator ash will not be handled at our end as we do not have disposal facility and requisite permission.

Garbage collection will be carried out during office hrs only (i.e from 1000 hrs to 1700 hrs). Further it is also be noted that, during Sunday and holidays service will be provided as per the availability.

For More Info: <https://www.adaniports.com/ports-downloads?port=Mundra-Port>

The vessel master can send waste disposal request through Log in **Centralised Port Reception Facility Portal** created by DG Shipping.

Link: <http://prf.irclass.net/>

16.6 Repair

All types of repair facility are provided by approved workshop. Please contact local agent for clarification.

16.7 De-ratting

The service is not available in port.

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16.8 Surveyors

Vessels are advised to liaise with local agent for surveyor.

16.9 Shipping Agents

The offices of various steamer agencies are located at Mundra and Gandhidham. A list of agencies is available with daily shipping times.

16.10 Medical Facilities

A Multi – Specialty Adani Hospitals is located close to the Port. An Occupation Health Centre with Ambulance service is available inside port premises.

16.11 Seaman's Missions

Seaman's club is available in the Port. The contact details is mentioned below.

The Seaman's club
Near Tug Berth
Adani Port and SEZ Ltd.,
Contact Person
Mr Jhonty Mobile No.+91 97142 92929
Mr David Mobile No. +91 99794 48614
Mr Ravin Mobile No +91 8758757415
FREE PICK UP AND DROP FACILITY AVAILABLE

16.12 Transport

Transport facility can be arranged by local agents only.

16.13 Sludge Removal

Sludge removal facility is available on prior requisition through local agents by registered contractors.

16.14 Custom / Immigration

The Custom and Immigration Authorities have their offices within APSEZ premises.

16.15 Shore Crane and Hydra

Shore Crane and Hydra service is available on prior requisition to Port Operations Center through local agent on chargeable basis as per port tariff.

16.16 Tug and Boat

Tug and Boat service is available on prior requisition to Port Operations Center through local agent on chargeable basis as per port tariff.

16.17 Airport

Bhuj Air Port is located 65 km from Mundra. Daily 2 flights from Bhuj to Mumbai.

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Kandla Air Port is located 60 KM from Mundra. Daily one flight from Mumbai.
Mundra Air Port- Air Odissa operates flight between Ahmedababd and Mundra.

16.18 Nationalised Bank in Port

State Bank of India - Having facility of encashment of Dollars, Pounds, Sterlings and Euros.

AXIS Bank Ltd. – Bank and ATM facility is also available in Port User Building.

YES Bank Ltd. - Bank and ATM facility is also available in Port User Building.

16.19 Telephone

Facility available inside Port (Internet facility - Future plan)

Thru Authorised Service Provider

Mr.K.D.Vyas

Maruti Telecom

9099810002, 9727282930

16.20 Duty Free Shops

Duty Free Shops are available inside the Port.

Timings: 0900 Hrs to 1900 Hrs. (Free Pickup facility from Vessel available).

<p>1. Flemingo Duty Free Shop Pvt. Ltd. Near Weigh Bridge No.1, Opposite- CG7 Adani Port and SEZ Ltd., Tel- +91 2838 288333 Email- mundraport@flemingo-intl.com Website – www.flemingodutyfree.in Contact Person – Mr.Dinesh Chettiyar Mobile - +91 9327005920</p>	<p>2. Planets F. & B. Park Shop No.1 Near Porta cabin, CT-2, Adani Port and SEZ Ltd., Contact Person–Mr. Viram Dev Sinh Jadeja Mobile – +91 9099987694</p>
<p>3. The Seaman's club Near Tug Berth Adani Port and SEZ Ltd., Contact Person Mr Jhonty Mobile No.+91 97142 92929 Mr David Mobile No. +91 99794 48614 Mr Ravin Mobile No +91 8758757415 FREE PICK UP AND DROP FACILITY AVAILABLE</p>	<p>4. Planets F. & B. Park Near SS 1 Building, Adani Port and SEZ Ltd., West Basin Contact Person–Mr. Vivek Jani Mobile – +91 9099987693</p>

16.21 Security Procedure for Vessel Crew to Visit Seaman's Shopping Centre in Mundra Port

1. Vessel crew proceeding to Seaman's Shopping Centre to carry following documents

A) Two copies of crew list signed and stamp by vessel Master with individual's names highlighted.

B) Valid photo ID proof.

2. The Security Staff at Terminal gate will check the crew list and the identity document.

3. Crew members of vessel berthed at Terminal 1, 2 & 3 are not permitted to cross ISPS Gate near SPM store.

4. Crew members of vessel berthed at CB1-CB4 and SB6-SB7 are to use free pick up and drop facility. They are not permitted to cross Port Main Gate.

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5. The shopping Centre is open from 0900-1800 hrs.
6. Crew members are to return back to their ship by 1900 hrs.
7. Crew Members are not permitted to move to any area other than shortest transit route from berth to Shopping Centre.
8. Crew members are advised to avail free pick up and drop facility provided by Shopping Centre.
9. Crew members are not permitted to carry out any transactions with anyone in the port other than purchases made from the Seaman Shopping Centre.

PLEASE NOTE: NATIONALS FROM PAKISTAN AND BANGLADESH ARE NOT ALLOWED FOR THE ABOVE SERVICE.

16.22 Shore Leave

APSEZ Ltd, Mundra permits the ship's crew to land ashore subject to Immigration clearance. The crew member proceeding for shore leave should carry the shore leave pass, issued by the immigration officer and passport.

There are two Security Check Points for Vessel's Crew leaving ashore if permitted by Immigration Officer. They are subjected to frisking at both Access Control Points. Shore leave pass issued by Immigration Officer and Passport are checked at both points and documented.

- At Terminal 1 Gate / Terminal 2 Gate - As Applicable
- At Port's Main Gate - In addition to Security Check, Ship's crew is required to obtain clearance from Customs PO at Main Gate to exit / enter.

16.23 Shore Gangway

Shore Gangway is available on prior requisition to Port Operations Center through local agent on chargeable basis as per port tariff. Please note that gangway will be provided subject to following :

1. The vessel master will have to provide gangway net.
2. The vessel master will be responsible to ensure that gangway net is rigged immediately after the gangway is provided to the vessel. Gangway net will be rigged by vessel crew.
3. The vessel master will be responsible to ensure that gangway net is removed before vessel departure. Gangway net will be removed by vessel crew.

In case gangway is required to be repositioned, please contact marine control on VHF ch 77.

16.24 Mundra Charts Conveying by Berthing Pilot

In case vessel is not carrying navigational charts for Mundra, the vessel agent can arrange for the same and hand it over to the Port Operation Center. The berthing pilots will hand over the charts to the vessel master on boarding of the vessel at no cost.

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16.25 Liferaft Lifeboat/Rescue Boat Servicing

The liferaft, Lifeboat/Rescue boat servicing facility is available at Gandhidham. The sales and service with contact details are mentioned below.

<ul style="list-style-type: none"> • Liferaft Servicing • Lifeboat/Rescue Boat Servicing • Fire Fighting • Pyro Disposal with Certificate 	<p>sales@asmolobhoy.com</p> <p>+91 – 96198 00209</p>
<ul style="list-style-type: none"> • SRT Survey-ClassNK, BV, DNV, RINA, ABS, GL, LR, KR & IRS • Magnetic Compass • GYRO Servicing • EPRIB/SART/SSAS • Exclusive Sales & Service of Furuno in India 	<p>service@asmolobhoy.com</p> <p>+91-96199 30554</p>

16.26 Nitrogen gas (98%) purging

Nitrogen gas (98%) purging facilities is available at terminal-1 berths (B-1,B-2, B-3 & B-4) supply rate 600~800 Nm³/hr with maxi. 04 kg/sq.cm.

16.27 Drinking Water

Drinking Water Supply facility is available at all berths on prior requisition to Port Operations Center through local agent on chargeable basis as per port tariff.

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CONDITION OF USE OF FACILITIES AND SERVICES AT MUNDRA PORT

The Chief Executive Officer,
Adani Ports & Special Economic Zone Limited (APSEZL), Mundra– Kutch - Gujarat (India)

Dear Sirs,

I, **Capt** _____, Master ("**Master**") of M.V. _____ ("**Vessel**"),
owned by _____ ("**Owner**") whose address is at _____
hereby acknowledge receipt of these Conditions of Use ("**Conditions of Use**") of Mundra Port ("**Port**") and to
avail the Port Facilities* and Port Services* as detailed hereunder and agree that:

- (a) The Master shall at all times and under all circumstances be responsible for the safe and proper operation, navigation and berthing of the Vessel at the Port operated by Adani Ports & Special Economic Zone Limited ("**Company**"). It is further agreed the Port Management shall not be responsible for delay in pilotage, berthing, ingress or egress, delay in cargo operation, etc., for any reasons whatsoever.
- (b) The Vessel shall abide by all rules, regulations, guidelines and recommendations with reference to prevention of pollution, including pollution due to bilges, ballast water, vessel waste, garbage and the like; in addition to any other laws, rules, regulations, or procedures, declared or issued by the Government of India, or the State of Gujarat, or by the Company ("**Port Management**").
- (c) The Vessel will be held responsible for any loss or damage caused to the Port property and all costs, charges and expenses in that behalf, which shall be paid on a demand being made, without any demur and shall be responsible for, indemnify and hold harmless the Company from and against all claims, losses, damages, delays, costs (including legal costs), expenses and liabilities of every nature.
- (d) The Port endeavors that the berths, its facilities, equipment's, tugs and crafts are deployed and operated safely, but does not guarantee any such safety. The Port shall not be responsible for any damage, delay or loss (including cargo loss) sustained by the vessel for any such reasons.
- (e) If the Vessel or any person on board or any object, article, substance, equipment or installation on its board sinks, grounds or otherwise becomes or is likely to become, in the sole opinion of the Port Management, an obstruction, threat, hazard or danger to navigation, operations, safety, health, security or environment in or adjacent to the Port, then the Master shall upon receiving the Port Management request, without any delay allow the Port Management to remove or deal with the obstruction, threat, hazard, for which reasonable costs shall be paid by the Vessel / Owner.
- (f) It is mandated by Gujarat Maritime Board that pilotage in this Port for all vessels is compulsory. The Master of a Vessel shall alone be answerable for any loss or damage caused by the Vessel or by any fault of the navigation of the Vessel in a manner as he would have been at pilotage.
- (g) A no due certificate shall be issued by the Port subject to clearance of all outstanding invoices by the Vessel / Owner.
- (h) All disputes between the Port and the Vessel, its Owner, Master, agents and charterers shall be subject to the exclusive jurisdiction of the Courts at Gujarat in India.

Signature:

Name: Capt.

(For and on behalf of) VESSEL OWNER/ MASTER (with Seal)

* "**Port Facilities**" mean all facilities, assets, equipment and installations, whether the same are fixed or movable, including, without limitation, the channel, berths, bunkering, loading facilities including buoys or other channel markings;

* "**Port Services**" mean any service advice, instruction or assistance tendered or provided by the Port Management to Vessel, including, without limitation, by way of pilotage, towage, tug assistance, mooring, berthing, ingress egress or other navigational services.

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Gulf of Kutch: Navinal Point (Mundra Port)

Predicted Tide – January 2023						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
01/Jan	02/Jan	03/Jan	04/Jan	05/Jan	06/Jan	07/Jan
L0332 2.54	L0453 2.55	L0602 2.44	H0044 5.90	H0127 5.97	H0204 5.95	H0235 5.88
H0925 5.16	H1032 4.98	H1134 4.87	L0658 2.31	L0744 2.25	L0822 2.23	L0855 2.24
L1605 1.28	L1703 1.19	L1755 1.12	H1226 4.82	H1310 4.81	H1348 4.83	H1420 4.86
H2250 5.43	H2352 5.70		L1840 1.10	L1920 1.11	L1957 1.14	L2029 1.17
08/Jan	09/Jan	10/Jan	11/Jan	12/Jan	13/Jan	14/Jan
H0302 5.83	H0328 5.82	H0355 5.87	H0423 5.93	H0456 5.95	H0531 5.89	L0000 1.87
L0923 2.22	L0951 2.16	L1019 2.04	L1050 1.90	L1125 1.77	L1205 1.66	H0612 5.71
H1451 4.91	H1522 4.95	H1555 4.98	H1631 4.99	H1711 4.97	H1758 4.94	L1249 1.57
L2100 1.19	L2131 1.22	L2203 1.27	L2237 1.39	L2316 1.58		H1854 4.93
15/Jan	16/Jan	17/Jan	18/Jan	19/Jan	20/Jan	21/Jan
L0053 2.23	L0200 2.59	L0322 2.82	L0449 2.84	L0602 2.69	H0038 5.85	H0129 6.03
H0659 5.44	H0755 5.13	H0901 4.87	H1012 4.73	H1121 4.74	L0701 2.48	L0752 2.26
L1340 1.50	L1439 1.42	L1544 1.29	L1649 1.11	L1750 .90	H1223 4.85	H1319 4.99
H2001 4.96	H2117 5.10	H2232 5.34	H2340 5.61		L1846 .72	L1939 .61
22/Jan	23/Jan	24/Jan	25/Jan	26/Jan	27/Jan	28/Jan
H0215 6.14	H0257 6.20	H0338 6.23	H0418 6.22	H0459 6.13	H0543 5.92	L0032 1.88
L0839 2.04	L0923 1.81	L1006 1.57	L1050 1.36	L1135 1.20	L1223 1.13	H0632 5.59
H1410 5.14	H1459 5.25	H1548 5.31	H1638 5.31	H1731 5.27	H1830 5.20	L1315 1.17
L2028 .59	L2115 .66	L2201 .83	L2248 1.10	L2337 1.46		H1939 5.14
29/Jan	30/Jan	31/Jan				
L0136 2.30	L0256 2.60	L0427 2.66				
H0730 5.16	H0839 4.75	H0959 4.48				
L1413 1.28	L1518 1.41	L1626 1.47				
H2056 5.14	H2215 5.24	H2326 5.40				

Predicted Tide – February 2023						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			01/Feb	02/Feb	03/Feb	04/Feb
			L0549 2.52	H0025 5.55	H0111 5.63	H0147 5.65
			H1114 4.41	L0649 2.33	L0732 2.20	L0806 2.13
			L1730 1.45	H1214 4.48	H1300 4.60	H1336 4.73
				L1824 1.38	L1908 1.29	L1944 1.22
05/Feb	06/Feb	07/Feb	08/Feb	09/Feb	10/Feb	11/Feb
H0216 5.65	H0242 5.68	H0305 5.76	H0330 5.86	H0356 5.94	H0425 5.95	H0457 5.83
L0835 2.07	L0901 1.99	L0925 1.85	L0951 1.67	L1019 1.49	L1051 1.32	L1126 1.21
H1407 4.85	H1436 4.97	H1506 5.08	H1536 5.17	H1610 5.23	H1647 5.27	H1728 5.26
L2016 1.17	L2045 1.14	L2115 1.14	L2145 1.19	L2218 1.31	L2254 1.51	L2335 1.81
12/Feb	13/Feb	14/Feb	15/Feb	16/Feb	17/Feb	18/Feb
H0532 5.60	L0023 2.18	L0124 2.57	L0246 2.85	L0425 2.88	L0551 2.63	H0025 5.63
L1205 1.18	H0613 5.26	H0705 4.86	H0818 4.52	H0947 4.38	H1111 4.50	L0652 2.28
H1816 5.21	L1252 1.22	L1350 1.31	L1502 1.37	L1622 1.31	L1737 1.11	H1219 4.76
	H1917 5.12	H2034 5.07	H2201 5.15	H2320 5.37		L1840 .88
19/Feb	20/Feb	21/Feb	22/Feb	23/Feb	24/Feb	25/Feb
H0116 5.85	H0159 6.01	H0238 6.10	H0315 6.14	H0352 6.11	H0430 5.98	H0509 5.71
L0740 1.95	L0822 1.64	L0902 1.36	L0942 1.11	L1021 .92	L1102 .84	L1144 .88
H1315 5.04	H1404 5.27	H1450 5.44	H1535 5.54	H1621 5.58	H1708 5.55	H1800 5.45
L1932 .72	L2019 .68	L2103 .76	L2147 .94	L2230 1.20	L2316 1.52	
26/Feb	27/Feb	28/Feb				
L0008 1.89	L0107 2.27	L0223 2.57				
H0554 5.31	H0648 4.82	H0758 4.36				
L1230 1.07	L1323 1.37	L1427 1.68				
H1859 5.29	H2010 5.13	H2131 5.04				

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Predicted Tide – March 2023						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			01/Mar	02/Mar	03/Mar	04/Mar
			L0357 2.66	L0528 2.51	L0627 2.29	H0042 5.28
			H0928 4.09	H1055 4.12	H1157 4.31	L0707 2.11
			L1545 1.88	L1704 1.86	L1806 1.71	H1243 4.55
			H2250 5.06	H2354 5.16		L1850 1.53
05/Mar	06/Mar	07/Mar	08/Mar	09/Mar	10/Mar	11/Mar
H0118 5.38	H0146 5.48	H0211 5.59	H0235 5.69	H0300 5.76	H0327 5.77	H0354 5.70
L0738 1.97	L0804 1.83	L0828 1.67	L0852 1.48	L0919 1.29	L0946 1.13	L1017 1.00
H1318 4.79	H1349 4.99	H1418 5.17	H1448 5.31	H1517 5.43	H1550 5.51	H1624 5.56
L1926 1.37	L1957 1.27	L2026 1.23	L2056 1.26	L2127 1.34	L2201 1.49	L2236 1.69
12/Mar	13/Mar	14/Mar	15/Mar	16/Mar	17/Mar	18/Mar
H0425 5.54	H0459 5.28	L0005 2.26	L0107 2.58	L0232 2.78	L0417 2.70	L0539 2.34
L1051 .95	L1129 1.00	H0540 4.94	H0636 4.56	H0802 4.26	H0945 4.24	H1111 4.52
H1703 5.54	H1748 5.43	L1216 1.16	L1316 1.39	L1435 1.59	L1609 1.58	L1730 1.37
L2317 1.95		H1847 5.25	H2006 5.08	H2139 5.07	H2302 5.27	
19/Mar	20/Mar	21/Mar	22/Mar	23/Mar	24/Mar	25/Mar
H0004 5.52	H0053 5.74	H0135 5.88	H0212 5.94	H0248 5.93	H0323 5.84	H0359 5.66
L0634 1.92	L0719 1.53	L0759 1.21	L0836 .96	L0913 .78	L0949 .69	L1027 .72
H1217 4.90	H1309 5.24	H1355 5.51	H1438 5.69	H1520 5.80	H1601 5.84	H1644 5.80
L1831 1.14	L1922 1.01	L2006 1.01	L2048 1.11	L2130 1.28	L2212 1.48	L2258 1.72
26/Mar	27/Mar	28/Mar	29/Mar	30/Mar	31/Mar	
H0439 5.37	H0522 4.98	L0043 2.26	L0151 2.50	L0315 2.61	L0444 2.52	
L1106 .88	L1148 1.17	H0612 4.55	H0721 4.15	H0851 3.95	H1020 4.03	
H1730 5.66	H1821 5.43	L1235 1.55	L1335 1.94	L1454 2.21	L1623 2.23	
L2347 1.98		H1923 5.16	H2036 4.93	H2156 4.85	H2304 4.91	

Predicted Tide – April 2023						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						01/Apr
						L0544 2.30
						H1126 4.29
						L1731 2.06
						H2354 5.06
02/Apr	03/Apr	04/Apr	05/Apr	06/Apr	07/Apr	08/Apr
L0624 2.06	H0032 5.22	H0103 5.38	H0132 5.50	H0159 5.56	H0227 5.55	H0256 5.48
H1213 4.62	L0656 1.82	L0723 1.58	L0749 1.36	L0816 1.16	L0844 1.00	L0914 .90
L1819 1.83	H1251 4.93	H1324 5.21	H1355 5.44	H1426 5.61	H1458 5.72	H1530 5.79
	L1856 1.65	L1931 1.54	L2003 1.52	L2036 1.57	L2110 1.68	L2145 1.83
09/Apr	10/Apr	11/Apr	12/Apr	13/Apr	14/Apr	15/Apr
H0327 5.35	H0400 5.18	H0438 4.95	H0527 4.67	L0106 2.53	L0231 2.56	L0403 2.34
L0947 .85	L1023 .88	L1105 1.02	L1156 1.26	H0635 4.38	H0810 4.24	H0947 4.39
H1605 5.79	H1644 5.73	H1732 5.57	H1833 5.36	L1301 1.56	L1425 1.79	L1559 1.82
L2224 1.99	L2307 2.17	L2359 2.36		H1953 5.19	H2121 5.18	H2236 5.33
16/Apr	17/Apr	18/Apr	19/Apr	20/Apr	21/Apr	22/Apr
L0515 1.94	L0608 1.51	H0024 5.66	H0106 5.72	H0144 5.70	H0220 5.61	H0256 5.48
H1107 4.76	H1208 5.17	L0651 1.15	L0730 .88	L0807 .72	L0843 .65	L0919 .68
L1717 1.66	L1817 1.50	H1259 5.51	H1343 5.76	H1424 5.92	H1504 6.00	H1542 6.00
H2336 5.52		L1906 1.43	L1951 1.46	L2033 1.56	L2115 1.68	L2157 1.81
23/Apr	24/Apr	25/Apr	26/Apr	27/Apr	28/Apr	29/Apr
H0334 5.29	H0413 5.06	H0455 4.77	L0018 2.26	L0114 2.42	L0221 2.51	L0335 2.46
L0955 .80	L1032 1.01	L1112 1.31	H0544 4.46	H0644 4.19	H0800 4.05	H0922 4.11
H1621 5.92	H1702 5.75	H1746 5.52	L1155 1.66	L1247 2.01	L1354 2.30	L1518 2.42
L2241 1.94	L2327 2.09		H1838 5.25	H1940 5.01	H2047 4.89	H2152 4.90
30/Apr						
L0438 2.26						
H1033 4.36						
L1635 2.34						
H2248 5.02						

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Predicted Tide - May 2023						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	01/May	02/May	03/May	04/May	05/May	06/May
	L0525 1.98	L0603 1.66	H0012 5.30	H0047 5.36	H0122 5.35	H0155 5.28
	H1128 4.71	H1212 5.09	L0635 1.36	L0707 1.11	L0739 .92	L0812 .81
	L1732 2.16	L1819 2.00	H1252 5.42	H1328 5.68	H1403 5.85	H1437 5.94
	H2333 5.17		L1859 1.90	L1938 1.88	L2015 1.94	L2054 2.03
07/May	08/May	09/May	10/May	11/May	12/May	13/May
H0229 5.18	H0306 5.07	H0346 4.94	H0433 4.78	L0002 2.30	L0106 2.27	L0220 2.15
L0847 .77	L0925 .80	L1007 .90	L1055 1.08	H0531 4.61	H0644 4.47	H0812 4.48
H1514 5.95	H1553 5.91	H1636 5.82	H1727 5.68	L1151 1.34	L1257 1.63	L1416 1.88
L2134 2.12	L2217 2.21	L2305 2.27		H1829 5.53	H1940 5.42	H2054 5.39
14/May	15/May	16/May	17/May	18/May	19/May	20/May
L0336 1.88	L0442 1.52	L0535 1.16	L0621 .89	H0037 5.47	H0118 5.38	H0157 5.26
H0938 4.69	H1052 5.04	H1153 5.41	H1245 5.73	L0702 .72	L0740 .66	L0817 .70
L1540 1.99	L1655 1.95	L1758 1.88	L1850 1.85	H1329 5.93	H1410 6.03	H1448 6.04
H2201 5.44	H2300 5.49	H2352 5.51		L1937 1.86	L2021 1.92	L2103 1.98
21/May	22/May	23/May	24/May	25/May	26/May	27/May
H0235 5.14	H0314 5.01	H0352 4.87	H0432 4.72	H0517 4.55	L0034 2.26	L0125 2.28
L0853 .80	L0929 .95	L1006 1.14	L1044 1.36	L1124 1.60	H0607 4.40	H0707 4.30
H1525 5.98	H1601 5.87	H1638 5.73	H1716 5.57	H1758 5.41	L1209 1.87	L1303 2.13
L2145 2.04	L2225 2.10	L2306 2.16	L2349 2.21		H1846 5.26	H1940 5.16
28/May	29/May	30/May	31/May			
L0223 2.22	L0322 2.06	L0416 1.80	L0504 1.49			
H0817 4.32	H0929 4.50	H1033 4.81	H1127 5.19			
L1408 2.35	L1524 2.45	L1636 2.42	L1735 2.32			
H2038 5.10	H2135 5.10	H2229 5.12	H2318 5.14			

Predicted Tide - June 2023						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				01/Jun	02/Jun	03/Jun
				L0545 1.19	H0000 5.13	H0046 5.09
				H1215 5.53	L0625 .94	L0705 .77
				L1826 2.24	H1259 5.79	H1341 5.95
					L1913 2.20	L1956 2.20
04/Jun	05/Jun	06/Jun	07/Jun	08/Jun	09/Jun	10/Jun
H0128 5.04	H0210 4.99	H0253 4.95	H0341 4.90	H0433 4.85	H0533 4.78	L0054 1.82
L0745 .68	L0827 .67	L0912 .72	L1000 .83	L1051 1.01	L1147 1.27	H0641 4.73
H1421 6.01	H1502 6.01	H1545 5.97	H1632 5.91	H1721 5.85	H1816 5.76	L1247 1.58
L2040 2.22	L2125 2.23	L2213 2.19	L2302 2.10	L2356 1.97		H1915 5.65
11/Jun	12/Jun	13/Jun	14/Jun	15/Jun	16/Jun	17/Jun
L0156 1.64	L0300 1.43	L0403 1.19	L0500 .97	L0550 .82	H0013 5.10	H0100 5.02
H0758 4.78	H0917 4.95	H1030 5.23	H1134 5.54	H1229 5.80	L0636 .75	L0718 .76
L1356 1.90	L1513 2.13	L1630 2.21	L1738 2.18	L1836 2.12	H1316 5.95	H1358 5.98
H2017 5.53	H2122 5.41	H2224 5.30	H2322 5.20		L1927 2.08	L2013 2.08
18/Jun	19/Jun	20/Jun	21/Jun	22/Jun	23/Jun	24/Jun
H0142 4.94	H0221 4.89	H0258 4.85	H0334 4.82	H0410 4.78	H0449 4.72	H0533 4.65
L0757 .83	L0835 .93	L0911 1.04	L0945 1.15	L1020 1.28	L1056 1.43	L1136 1.63
H1436 5.93	H1510 5.83	H1543 5.74	H1614 5.68	H1647 5.64	H1722 5.61	H1800 5.55
L2054 2.10	L2132 2.12	L2207 2.13	L2242 2.10	L2316 2.05	L2353 1.99	
25/Jun	26/Jun	27/Jun	28/Jun	29/Jun	30/Jun	
L0035 1.91	L0121 1.83	L0213 1.71	L0309 1.54	L0405 1.33	L0458 1.10	
H0623 4.60	H0722 4.59	H0828 4.69	H0937 4.91	H1042 5.20	H1141 5.51	
L1221 1.89	L1315 2.18	L1422 2.43	L1539 2.57	L1653 2.57	L1756 2.48	
H1843 5.44	H1933 5.29	H2028 5.11	H2128 4.96	H2227 4.86	H2324 4.83	

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Predicted Tide - July 2023						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						01/Jul
						L0550 .88
						H1233 5.76
						L1852 2.38
02/Jul	03/Jul	04/Jul	05/Jul	06/Jul	07/Jul	08/Jul
H0018 4.84	H0109 4.89	H0158 4.95	H0246 5.01	H0336 5.05	H0428 5.06	H0523 5.05
L0639 .71	L0728 .60	L0816 .56	L0905 .59	L0953 .71	L1042 .91	L1133 1.20
H1322 5.92	H1408 6.00	H1452 6.04	H1535 6.05	H1618 6.05	H1703 6.02	H1750 5.92
L1942 2.28	L2030 2.19	L2116 2.06	L2202 1.90	L2248 1.70	L2337 1.49	
09/Jul	10/Jul	11/Jul	12/Jul	13/Jul	14/Jul	15/Jul
L0027 1.31	L0122 1.18	L0221 1.11	L0323 1.06	L0425 1.02	L0524 .98	H0000 4.72
H0625 5.02	H0734 5.03	H0849 5.12	H1005 5.30	H1114 5.52	H1213 5.71	L0617 .95
L1228 1.56	L1331 1.95	L1445 2.26	L1607 2.39	L1724 2.34	L1829 2.20	H1304 5.81
H1840 5.74	H1937 5.47	H2042 5.18	H2151 4.93	H2259 4.78		L1921 2.10
16/Jul	17/Jul	18/Jul	19/Jul	20/Jul	21/Jul	22/Jul
H0051 4.72	H0133 4.75	H0210 4.79	H0243 4.83	H0315 4.88	H0348 4.91	H0423 4.92
L0704 .95	L0745 .97	L0822 1.01	L0855 1.06	L0926 1.11	L0957 1.19	L1030 1.31
H1346 5.81	H1422 5.75	H1453 5.68	H1521 5.66	H1548 5.68	H1615 5.73	H1645 5.76
L2005 2.05	L2042 2.05	L2114 2.04	L2143 1.99	L2211 1.89	L2241 1.76	L2312 1.62
23/Jul	24/Jul	25/Jul	26/Jul	27/Jul	28/Jul	29/Jul
H0500 4.92	H0543 4.90	L0028 1.43	L0115 1.39	L0209 1.36	L0312 1.29	L0419 1.16
L1105 1.50	L1146 1.76	H0634 4.88	H0735 4.89	H0847 4.97	H1002 5.15	H1112 5.40
H1717 5.71	H1754 5.55	L1235 2.09	L1335 2.43	L1451 2.68	L1617 2.74	L1736 2.60
L2348 1.50		H1837 5.29	H1928 4.97	H2032 4.69	H2146 4.53	H2258 4.55
30/Jul	31/Jul					
L0524 .96	H0002 4.69					
H1214 5.65	L0623 .74					
L1838 2.39	H1306 5.86					
	L1930 2.15					

Predicted Tide – August 2023						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		01/Aug	02/Aug	03/Aug	04/Aug	05/Aug
		H0059 4.88	H0149 5.06	H0238 5.21	H0325 5.31	H0414 5.35
		L0717 .58	L0807 .51	L0854 .55	L0940 .70	L1025 .95
		H1354 6.00	H1436 6.09	H1516 6.13	H1554 6.14	H1634 6.08
		L2016 1.93	L2059 1.69	L2141 1.45	L2224 1.21	L2307 1.02
06/Aug	07/Aug	08/Aug	09/Aug	10/Aug	11/Aug	12/Aug
H0504 5.34	H0600 5.30	L0042 .92	L0139 1.04	L0242 1.21	L0353 1.33	L0503 1.34
L1113 1.28	L1205 1.66	H0705 5.24	H0818 5.21	H0937 5.25	H1052 5.37	H1156 5.51
H1716 5.91	H1802 5.62	L1306 2.06	L1420 2.38	L1549 2.49	L1716 2.37	L1822 2.16
L2353 .91		H1857 5.21	H2005 4.79	H2126 4.49	H2247 4.41	H2353 4.48
13/Aug	14/Aug	15/Aug	16/Aug	17/Aug	18/Aug	19/Aug
L0604 1.27	H0044 4.62	H0124 4.76	H0157 4.87	H0227 4.97	H0256 5.06	H0325 5.14
H1248 5.60	L0653 1.18	L0733 1.13	L0807 1.11	L0836 1.12	L0905 1.17	L0934 1.26
L1911 2.01	H1329 5.62	H1402 5.61	H1429 5.61	H1453 5.65	H1516 5.71	H1541 5.77
	L1949 1.93	L2021 1.89	L2048 1.84	L2112 1.74	L2136 1.59	L2203 1.43
20/Aug	21/Aug	22/Aug	23/Aug	24/Aug	25/Aug	26/Aug
H0357 5.19	H0431 5.23	H0509 5.23	H0554 5.18	L0025 1.23	L0119 1.35	L0229 1.43
L1004 1.39	L1038 1.58	L1117 1.84	L1203 2.16	H0650 5.10	H0803 5.03	H0930 5.09
H1608 5.77	H1638 5.66	H1711 5.44	H1749 5.12	L1259 2.51	L1417 2.78	L1554 2.82
L2232 1.28	L2304 1.19	L2341 1.17		H1839 4.74	H1950 4.41	H2121 4.29
27/Aug	28/Aug	29/Aug	30/Aug	31/Aug		
L0351 1.39	L0509 1.18	L0614 .91	H0051 5.07	H0140 5.33		
H1051 5.30	H1157 5.59	H1249 5.84	L0708 .72	L0755 .66		
L1723 2.58	L1825 2.22	L1914 1.87	H1332 6.02	H1411 6.12		
H2246 4.44	H2355 4.74		L1955 1.54	L2035 1.26		

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Predicted Tide – September 2023						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					01/Sep	02/Sep
					H0226 5.53	H0310 5.64
					L0839 .75	L0922 .94
					H1448 6.15	H1524 6.11
					L2114 1.01	L2153 .82
03/Sep	04/Sep	05/Sep	06/Sep	07/Sep	08/Sep	09/Sep
H0355 5.69	H0441 5.67	H0532 5.58	L0002 .94	L0055 1.25	L0201 1.58	L0321 1.81
L1005 1.20	L1051 1.51	L1142 1.85	H0630 5.43	H0741 5.26	H0903 5.15	H1024 5.17
H1602 5.99	H1642 5.74	H1726 5.36	L1243 2.19	L1357 2.46	L1529 2.54	L1700 2.39
L2233 .72	L2316 .76		H1821 4.89	H1933 4.44	H2106 4.19	H2235 4.23
10/Sep	11/Sep	12/Sep	13/Sep	14/Sep	15/Sep	16/Sep
L0445 1.81	L0550 1.66	H0030 4.70	H0107 4.93	H0138 5.12	H0207 5.27	H0234 5.39
H1132 5.27	H1223 5.39	L0637 1.49	L0714 1.37	L0745 1.33	L0814 1.34	L0842 1.41
L1804 2.15	L1848 1.96	H1301 5.47	H1331 5.53	H1356 5.59	H1419 5.65	H1442 5.69
H2342 4.45		L1921 1.83	L1949 1.72	L2013 1.60	L2036 1.46	L2100 1.30
17/Sep	18/Sep	19/Sep	20/Sep	21/Sep	22/Sep	23/Sep
H0303 5.48	H0332 5.55	H0403 5.58	H0439 5.56	H0522 5.46	H0616 5.28	L0044 1.51
L0911 1.51	L0943 1.66	L1016 1.84	L1055 2.07	L1140 2.34	L1239 2.62	H0733 5.11
H1507 5.69	H1534 5.61	H1603 5.45	H1636 5.21	H1715 4.90	H1808 4.54	L1400 2.82
L2126 1.17	L2154 1.08	L2226 1.06	L2302 1.13	L2347 1.28		H1931 4.26
24/Sep	25/Sep	26/Sep	27/Sep	28/Sep	29/Sep	30/Sep
L0202 1.71	L0334 1.71	L0459 1.49	L0603 1.23	H0041 5.39	H0128 5.69	H0211 5.89
H0906 5.10	H1031 5.31	H1134 5.60	H1223 5.84	L0654 1.07	L0739 1.06	L0822 1.18
L1542 2.75	L1707 2.39	L1804 1.95	L1849 1.52	H1305 6.00	H1343 6.06	H1419 6.04
H2116 4.26	H2242 4.57	H2348 5.00		L1929 1.16	L2007 .89	L2043 .71

Predicted Tide – October 2023						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
01/Oct	02/Oct	03/Oct	04/Oct	05/Oct	06/Oct	07/Oct
H0253 6.00	H0335 6.03	H0417 5.98	H0504 5.83	H0556 5.59	L0014 1.57	L0119 1.98
L0904 1.36	L0947 1.57	L1032 1.80	L1123 2.04	L1221 2.29	H0700 5.31	H0818 5.08
H1454 5.94	H1532 5.75	H1612 5.47	H1657 5.10	H1750 4.67	L1331 2.50	L1456 2.58
L2121 .63	L2159 .68	L2239 .85	L2324 1.16		H1903 4.28	H2039 4.11
08/Oct	09/Oct	10/Oct	11/Oct	12/Oct	13/Oct	14/Oct
L0241 2.26	L0412 2.28	L0521 2.11	H0004 4.84	H0041 5.15	H0113 5.41	H0143 5.61
H0940 5.00	H1049 5.07	H1140 5.20	L0610 1.92	L0647 1.77	L0719 1.70	L0750 1.70
L1624 2.47	L1727 2.24	L1809 2.00	H1219 5.33	H1249 5.44	H1317 5.53	H1342 5.57
H2209 4.22	H2316 4.51		L1841 1.79	L1908 1.58	L1932 1.39	L1957 1.23
15/Oct	16/Oct	17/Oct	18/Oct	19/Oct	20/Oct	21/Oct
H0211 5.76	H0239 5.85	H0309 5.90	H0341 5.89	H0418 5.82	H0501 5.67	H0558 5.46
L0820 1.77	L0852 1.87	L0925 2.00	L1001 2.15	L1042 2.31	L1131 2.48	L1233 2.64
H1409 5.55	H1436 5.48	H1505 5.36	H1537 5.20	H1614 4.99	H1659 4.75	H1801 4.48
L2023 1.10	L2051 1.03	L2122 1.02	L2156 1.07	L2236 1.21	L2325 1.43	
22/Oct	23/Oct	24/Oct	25/Oct	26/Oct	27/Oct	28/Oct
L0027 1.71	L0147 1.95	L0320 2.01	L0442 1.87	L0546 1.69	H0029 5.72	H0115 6.01
H0714 5.28	H0842 5.26	H1000 5.41	H1101 5.62	H1151 5.78	L0638 1.59	L0723 1.60
L1354 2.69	L1525 2.50	L1639 2.09	L1735 1.63	L1820 1.21	H1234 5.86	H1314 5.86
H1932 4.33	H2111 4.47	H2234 4.86	H2337 5.31		L1900 .89	L1938 .69
29/Oct	30/Oct	31/Oct				
H0157 6.19	H0237 6.27	H0316 6.25				
L0807 1.68	L0849 1.79	L0933 1.92				
H1351 5.78	H1429 5.64	H1508 5.46				
L2015 .62	L2051 .66	L2129 .81				

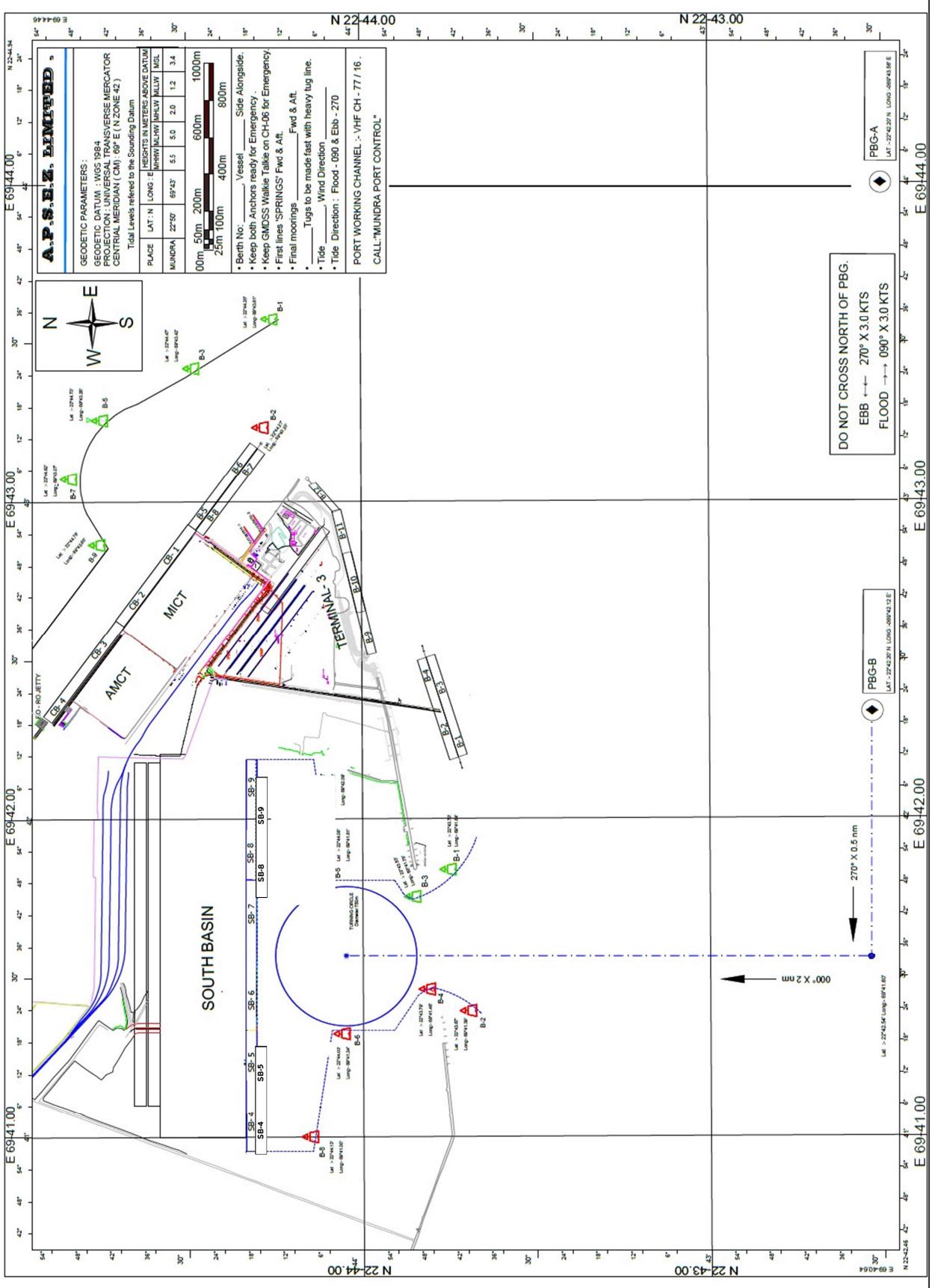
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Predicted Tide – November 2023						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			01/Nov	02/Nov	03/Nov	04/Nov
			H0356 6.15	H0438 5.96	H0524 5.71	H0617 5.42
			L1017 2.04	L1106 2.18	L1158 2.33	L1257 2.48
			H1549 5.22	H1634 4.93	H1725 4.63	H1829 4.35
			L2209 1.06	L2251 1.38	L2338 1.77	
05/Nov	06/Nov	07/Nov	08/Nov	09/Nov	10/Nov	11/Nov
L0034 2.16	L0145 2.48	L0310 2.63	L0428 2.57	L0526 2.41	H0005 5.27	H0042 5.60
H0721 5.16	H0832 5.00	H0940 4.98	H1036 5.06	H1121 5.18	L0611 2.26	L0649 2.15
L1405 2.56	L1520 2.51	L1625 2.32	L1712 2.05	L1748 1.76	H1158 5.28	H1233 5.34
H1949 4.21	H2115 4.28	H2227 4.54	H2323 4.90		L1819 1.49	L1849 1.25
12/Nov	13/Nov	14/Nov	15/Nov	16/Nov	17/Nov	18/Nov
H0116 5.86	H0147 6.02	H0219 6.10	H0252 6.11	H0328 6.07	H0408 5.98	H0455 5.85
L0725 2.11	L0800 2.13	L0836 2.19	L0913 2.27	L0953 2.34	L1038 2.40	L1130 2.43
H1305 5.35	H1337 5.31	H1410 5.23	H1445 5.14	H1523 5.04	H1606 4.91	H1659 4.76
L1919 1.08	L1950 .98	L2024 .95	L2100 .98	L2140 1.07	L2225 1.24	L2318 1.47
19/Nov	20/Nov	21/Nov	22/Nov	23/Nov	24/Nov	25/Nov
H0550 5.70	L0019 1.76	L0132 2.05	L0255 2.23	L0417 2.25	L0525 2.18	H0015 5.89
L1230 2.41	H0656 5.57	H0808 5.50	H0918 5.50	H1021 5.54	H1115 5.57	L0621 2.10
H1805 4.62	L1339 2.31	L1453 2.08	L1601 1.72	L1659 1.33	L1748 1.00	H1205 5.55
	H1928 4.59	H2057 4.76	H2215 5.11	H2320 5.52		L1831 .78
26/Nov	27/Nov	28/Nov	29/Nov	30/Nov		
H0102 6.15	H0145 6.29	H0224 6.31	H0302 6.25	H0340 6.12		
L0711 2.06	L0756 2.06	L0841 2.09	L0923 2.13	L1006 2.18		
H1249 5.49	H1331 5.40	H1412 5.29	H1452 5.17	H1533 5.04		
L1912 .68	L1951 .70	L2030 .81	L2108 .98	L2147 1.19		
Predicted Tide – December 2023						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					01/Dec	02/Dec
					H0418 5.97	H0457 5.79
					L1048 2.22	L1132 2.28
					H1615 4.89	H1700 4.72
					L2227 1.44	L2309 1.73
03/Dec	04/Dec	05/Dec	06/Dec	07/Dec	08/Dec	09/Dec
H0539 5.60	H0624 5.41	L0045 2.37	L0150 2.65	L0307 2.82	L0424 2.81	L0526 2.69
L1218 2.33	L1307 2.36	H0716 5.23	H0813 5.10	H0912 5.03	H1009 5.00	H1100 5.01
H1751 4.55	H1851 4.42	L1403 2.33	L1501 2.21	L1557 1.99	L1645 1.72	L1727 1.43
L2354 2.04		H2003 4.41	H2117 4.56	H2224 4.87	H2320 5.24	
10/Dec	11/Dec	12/Dec	13/Dec	14/Dec	15/Dec	16/Dec
H0006 5.60	H0047 5.88	H0126 6.07	H0204 6.15	H0242 6.17	H0322 6.15	H0404 6.11
L0616 2.55	L0701 2.45	L0743 2.39	L0825 2.36	L0906 2.33	L0949 2.29	L1035 2.20
H1146 5.03	H1229 5.04	H1311 5.04	H1352 5.04	H1434 5.04	H1517 5.03	H1605 5.00
L1807 1.19	L1846 1.00	L1925 .89	L2006 .84	L2049 .86	L2134 .94	L2222 1.10
17/Dec	18/Dec	19/Dec	20/Dec	21/Dec	22/Dec	23/Dec
H0449 6.05	H0537 5.97	L0008 1.67	L0111 2.04	L0225 2.37	L0346 2.55	L0504 2.54
L1124 2.08	L1216 1.93	H0630 5.84	H0728 5.67	H0831 5.48	H0937 5.30	H1042 5.18
H1659 4.95	H1801 4.89	L1313 1.77	L1415 1.58	L1519 1.38	L1621 1.16	L1717 .98
L2313 1.34		H1912 4.88	H2031 4.98	H2150 5.22	H2300 5.55	
24/Dec	25/Dec	26/Dec	27/Dec	28/Dec	29/Dec	30/Dec
H0001 5.85	H0052 6.06	H0137 6.15	H0217 6.13	H0254 6.06	H0327 5.97	H0359 5.89
L0609 2.42	L0705 2.30	L0754 2.22	L0836 2.18	L0916 2.17	L0952 2.16	L1027 2.13
H1142 5.10	H1234 5.05	H1322 5.02	H1404 5.00	H1443 4.98	H1520 4.96	H1557 4.92
L1807 .87	L1854 .84	L1937 .87	L2017 .96	L2056 1.06	L2132 1.19	L2207 1.34
31/Dec						
H0430 5.83						
L1101 2.08						
H1634 4.87						
L2242 1.54						

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MASTER - PILOT INFORMATION EXCHANGE

Passage Plan of Mundra Multipurpose Terminal-1, 2, 3, MICT, AMCT and South Basin

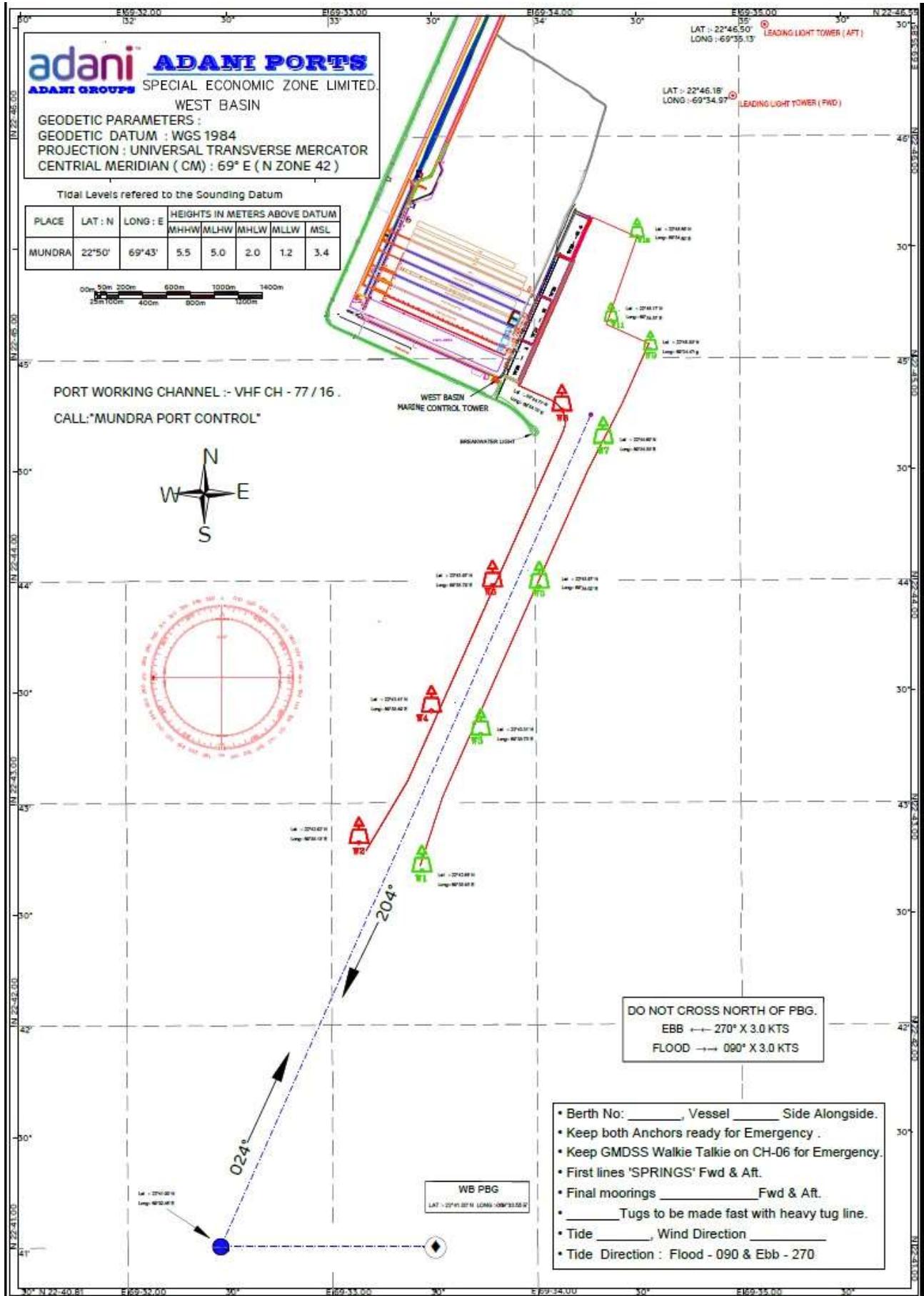


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**MASTER - PILOT INFORMATION EXCHANGE
PASSAGE PLAN OF MUNDRA PORT- WEST BASIN**

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APPENDIX - A PORT & BERTH INFORMATION AT A GLANCE

PORT PARTICULARS	Name of Terminal		MMPT Terminal - 1				MMPT Terminal - 2				MMPT Terminal - 3			
	Name of Berth	Name of Berth	B-1	B-2	B-3	B-4	B-5	B-6	B-7	B-8	B-9	B-10	B-11	B-12
Depths	Depth at Berth *		14.5 m	15.4 m	14.1 m	12.3 m	13.8 m	14.5 m	11.0 m	9.7 m	14.0 m	14.0 m	14.0 m	14.0 m
Water Density	At Berth		Water Density varies from 1.020 to 1.023 during SW Monsoon period. Remaining part of the year it ranges between 1.020 to 1.022.											
Berth PARTICULARS	Type of berth	Name of Terminal	Pile Berth	Pile Berth	Pile Berth	Pile Berth	Pile Berth	Pile Berth	Pile Berth	Pile Berth	Pile Berth	Pile Berth	Pile Berth	Pile Berth
	Length of Berth **	Name of Berth	216.5 m	187.8 m	164.5 m	164.5 m	575.2 m	575.2 m	441.0 m	441.0 m	269.225 m	269.225 m	225.0 m	215.0 m
Pilotage	Height of berth above CD	Name of Berth	8.2 m	8.5 m	8.5 m	8.5 m	8.5 m	8.5 m	8.5 m	8.5 m	8.5 m	8.5 m	8.5 m	8.5 m
	Nature of seabed	Seabed Measures	Sand	Sand	Sand	Sand	Mud / Silt	Mud / Silt	Mud / Silt	Mud / Silt	Mud / Silt	Mud / Silt	Mud / Silt	Mud / Silt
Mooring BOLLARDS	Make / Type	Distance to Berth	DIP T 11.6 NR M	-1.5 NR M	N 15 NR M	E 15 NR M	(20 NR M)	-2.0 NR M	N 15 NR M	TYPE HI-TECH	-TWIN HORN	TYPE		
	Number of BOLLARDS	Capacity of BOLLARD	Not 13	11 Yes	10 Yes	10 Yes	30	Yes	23	Yes	15	Yes	35	Yes
Weather Restriction	Distance between Berth BOLLARDS	FW Berth BOLLARDS	19.5 m	19.5 m	19.5 m	19.5 m	19.5 m	35 Kts	35 Kts	35 Kts	35 Kts	35 Kts	35 Kts	22.5 m
	Strength of BOLLARD	For Unberthing	125 MT	100 MT	125 MT	100 MT	150 MT	N/A	125 MT	N/A	100 / 150 MT			
Fender	Make / Type	Berthing Port Side	Dual Cell	Single Cell	Dual Cell	Single Cell	Dual Cell	Dual Cell	Dual Cell	Dual Cell	Dual Cell	Dual Cell	Dual Cell	Dual Cell
	Number of Fenders	Unberthing Port Side	9	7	8	8	30	45	37	35	14	15	19	10
Cargo Handling	Interval (Max)	Unberthing Stbd Side	26 m	26 m	26 m	26 m	19.5 m	19.5 m	13 m	13 m	19.5 m	19.5 m	19.5 m	22.5 m
	Projection	No. of Loader / Unloader	1.65 Mtrs	1.65 Mtrs	1.65 Mtrs	1.65 Mtrs	2.07 Mtrs	2.07 Mtrs	2.07 Mtrs	2.07 Mtrs	1.72 m			
Max Permissible Draft ***	Type of Loader / Make		N/A	N/A	Declared by the port every month basis the lowest low water.									
	Air Draft: HULL TO CRANE	Auto Crane	41.5 m	N/A	41.5 m	41.5 m	41.5 m	41.5 m	41.5 m	41.5 m	41.5 m	41.5 m	41.5 m	41.5 m
Navigation Channel	Length	Max Height Above CD	Not Applicable											
	Width	Travelling Speed	Not Applicable											
Working Hours	Nature of Seabed	Restriction of Hatch Size	Not Applicable											
	Navigation Aids	Unloading	Racon, The Terminal Operators M/s APSEZ arrange all cargo handling activities in the port including Warehousing and Storage, Internal Transportation and Cargo LOADING and UNLOADING AROUND THE CLOCK.											
Turning Basin	Diameter	Type of Cargo	N/A	N/A	N/A	N/A	700 MUs	700 MUs	N/A	N/A	N/A	N/A	N/A	N/A
	Nature of Seabed	Capacity of Stock Yard	N/A	N/A	N/A	N/A	Mud / Silt	Mud / Silt	N/A	N/A	N/A	N/A	N/A	N/A
Ballast Condition Required	For Sailing	Capacity of Stacker	There is no particular requirement of "MINIMUM DRAFT" for sailing out of any berth at MMPT.											
Side of Berthing	Capacity of Reclamer	Any side	Stbd Side	Any side	Any side	Any side	Any side	Any side	Any side	Any side	Any side	Any side	Any side	Any side

* Subject to change. For latest depths please refer to monthly Phycine data issued by Port.
 ** Quay is in straight line, hence more than 2 ships can be berthed in each terminal subject to a minimum of 55 metres clearance.
 *** Maximum acceptable draft is basis the Lowest Low Water for the Month (0.4 m). Actual Berthing Draft may be higher.

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APPENDIX - A PORT and BERTH INFORMATION AT A GLANCE

PORT PARTICULARS	Name of Terminal	M I C T		AMCT		CT-4 (S/ BASIN)		CT-3 (S/ BASIN)		CT-5 (CT3-Extension) -	
	Name of Berth	CB-1	CB-2	CB-3	CB-4	SB4	SB5	SB6	SB7	SB8	SB9
Depths	Depth at Berth *	14.0 m	14.6 m	14.1 m	13.8 m	16.0m	16.0m	16.0m	16.0m	16.0m	16.0m
Water Density	At Berth	Water Density varies from 1.020 to 1.023 during SW monsoon period. Remaining part of the year it ranges between 1.024 to 1.025.									
Berth	Type of berth	Pile Berth	Pile Berth	Pile Berth	Pile Berth	Pile Berth	Pile Berth	Pile Berth	Pile Berth	Pile Berth	Pile Berth
	Length of Berth **	Total Quay 631 m		Total Quay 631 m		650m		810m		650m	
	Height of berth above	8.5 m	8.5 m	8.5 m	8.5 m	8.5 m	8.5 m	8.5 m	8.5 m	8.5m	8.5m
	Nature of Seabed	Mud / Silt	Mud / Silt	Mud / Silt	Mud / Silt	Mud / Silt	Mud / Silt	Fine Silt	Fine Silt	Fine Silt	Fine Silt
Mooring Bollards	Make / Type	H I - T E C H - H O R N T Y P E									
	Number of Bollards	33		33		34		37		34	
	Distance betw. Blds	19.5 m		19.5 m		19.5m		22.5m		19.5m	
	Strength of Bollard	150 MT		150 MT		200MT		150MT		200MT-33Nos + 300T-1No	
Fender	Type	Dual Cell	Dual Cell	Dual Cell	Dual Cell	Dual Cell		Dual Cell		Dual Cell	
	Number of Fenders	34		31		34		36		34	
	Interval (Max)	19.5 m	19.5 m	19.5 m	19.5 m	19.5		22.5		19.5	
	Projection	2.07 Mtrs	2.07 Mtrs	2.07 Mtrs	2.07 Mtrs	2.14M	2.14M	2.14M	2.14M	2.14M	2.14M
Max Permissible	Draft ***	Declared by the port every month basis the lowest low water.									
	Air Draft: HHW of 6.4 mtrs to Crane	53.5 m	53.5 m	53.5 m	53.5 m	53.5 m	53.5 m	53.5 m	53.5 m	53.5m	53.5m
Navigational Channel	Length	500 m	500 m	500 m	500 m	1160 m	1160 m	1160 m	1160 m	1160m	1160m
	Width	370 m	370 m	370 m	370 m	502 m	502 m	502 m	502 m	502m	502m
	Nature of Seabed	Fine Silt	Fine Silt	Fine Silt	Fine Silt	Fine Silt	Fine Silt	Fine Silt	Fine Silt	Fine Silt	Fine Silt
	Navigational Aids	Channel Buoys , Leading Lights				Channel Buoys		Channel Buoys		Channel Buoys	
Turning Basin	Diameter	700 Mtrs	700 Mtrs	700 Mtrs	700 Mtrs	750 Mtrs		750 Mtrs		750 mtrs	
	Nature of Seabed	Mud / Silt	Mud / Silt	Mud / Silt	Mud / Silt	Mud / Silt		Mud / Silt		Mud / Silt	
Ballast Condition Required For Sailing											
Side of Berthing		Any Side	Any Side	Any Side	Any Side	Any Side	Any Side	Any Side	Any Side	Any Side	Any Side
Fresh Water		Bowser	Bowser	Bowser	Bowser	Bowser	Bowser	Bowser	Bowser	Bowser	Bowser

* Subject to change. For latest acceptable draft depths please refer to monthly data issued by Port.

** Quay is in straight line, hence more than 2 ships can be berthed in each terminal subject to a minimum of 35 metres clearance between each vessel.

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APPENDIX -A PORT and BERTH INFORMATION AT A GLANCE

PORT PARTICULARS	Name of Terminal	WEST BASIN				LNG Terminal	
	Name of Berth	WB-1	WB-2	WB-3	WB-4	LNG 1	
Depths	Depth at Berth *	18.0 m	18.0 m	18.0 m	18.0 m	16.0 m	
Water Density	At Berth						
Berth	Type of berth	Pile Berth	Pile Berth	Pile Berth	Pile Berth	Pile Berth	
	Length of Berth **	Total Quay 1511.3 m					
	Height of berth above CD	9.0 m	9.0 m	9.0 m	9.0 m	18.3 m	
	Nature of Seabed	Fine Silt	Fine Silt	Fine Silt	Fine Silt	Fine Silt	
Mooring Bollards	Make / Type	40 Bollards, 16 QRH's					
	Number of Bollards	Unidentical Distances between Bollard					
	Distance between Bollards						10 QRH
Fender	Strength of Bollard	150 MT	150 MT	150 MT	150 MT	150 Tonne	
	Type	Dual Cone	Dual Cone	Dual Cone	Dual Cone	SCN2000 (E1.0)	
	Number of Fenders	63					4
	Interval (Max)	24 m	24 m	24 m	24 m		
Max Permissible	Projection	2.07 Mtrs	2.07 Mtrs	2.07 Mtrs	2.07 Mtrs		
	Draft ***						
	Air Draft: HHW of 6.4 mtrs to Crane spreader or boom of the grab.	30	30	30	30	13	
Navigational Channel	Height Clearance from GSU cargo Spill Plate	18.2	18.2	18.2	18.2	na	
	Length	3852 m					NA
	Width	510 m Outer, 320 m Inner					NA
	Nature of Seabed	Hard Sand					NA
Turning Basin	Navigational Aids	Channel Buoys , Leading Lights					NA
	Diameter	841 m	841 m	841 m	841 m	NA	
	Nature of Seabed	Fine Silt	Fine Silt	Fine Silt	Fine Silt	NA	
Ballast Condition Required For Sailing							
Side of Berthing		Port Side	Any Side	Any Side	Any Side	Any Side	
Fresh Water		Bowser	Bowser	Bowser	Bowser		

* Subject to change. For latest acceptable draft depths please refer to monthly data issued by Port.

** Quay is in straight line, hence more than 2 ships can be berthed in each terminal subject to a minimum