



COCHIN PORT TRUST

Civil Engineering Department
E-Tender No. T15/T-1946/2021-C

NOTICE INVITING REQUEST FOR PROPOSAL
FOR
Construction of International and Domestic Cruise Terminal and
Other Allied Facilities at Mormugao Port Trust



VOLUME-IV EMPLOYER'S REQUIREMENTS AND MILESTONES JUNE 2021

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VOLUME-IV

EMPLOYER'S REQUIREMENT

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1..... V4 EMPLOYER'S REQUIREMENTS

1.1. ...V4 GENERAL

Employer's Requirements are that the Contractor shall carryout the Engineering, Design, Procurement of Materials & Labour and Construction / Installation of all the items listed along with associated Works including testing and commissioning as outlined in this Bid Document. For this purpose, the Bidder shall conduct all necessary field tests and surveys to satisfy / verify himself regarding the correctness of the data furnished vis-à-vis actual condition. No claim whatsoever will be entertained for any variation between the actual site condition met with during the execution of the Work and those indicated in the Tender Document.

2.V4 PROJECT FACILITIES OVER VIEW

2.1.....V4 The Project Site is located inside Mormugao Port Trust and near the Breakwater , with an area of 13.40 acres. There are four sheds existing thereon, which are proposed to be partially dismantled and used as the new construction area and partially to be upgraded/refurbished to serve as a new Cruise Terminal Building and an Ancillary Commercial building.

Ferry Terminal, Ro-Ro/Ro-Pax facilities and other ancillary facilities are also proposed to be provided adjacent to the said Terminal area.

2.1.1..V4 BRIFE DETAILS EXISTING SHED

The sizes of existing Sheds to be dismantled / refurbished under this contract are as follows:

- a) Shed 1 : 132m x 27m
- b) Shed 2 : 81m x 17m
- c) Shed 3. : 106mx17m
- d) Shed 4. : 82mx17m

2.1.2..V4 PROPOSED NEW FACILITIES OVER VIEW

The State of Art Cruise Terminal Building(total floor area to be around 9900 sqm.) shall house both the International Cruise Terminal and Domestic Cruise Terminal, with the following facilities:

International Cruise Terminal: 24 immigration counters, 10 check-in counters, waiting lounge, baggage carousel etc.

Domestic Cruise Terminal: 12 check-in counters, waiting lounge, baggage carousel, etc.

Other facilities in the Terminal Building will include Duty free retail shops, lounges, food court, etc.

The Ancillary Building(floor area to be around 3700 sqm.) shall house an experiential shopping zone mainly targeting Cruise Tourists but also made accessible to the General Public.

Sufficient Parking Area along with internal Road network and Utilities are also proposed for integrated development.

The proposed Utilities include Electrical (HT/LT), Air-Conditioning (HVAC System using Precision/VRV/VRFAir-conditioners in row cooling system etc.), Lifts/Elevators, DG sets, UPS system, IBMS (CCTV, Access Control, Public Address System, Fire & Safety Systems and integrating it with Building Management System), Security, Landscaping and other beautification works, Networking & IT Systems and all essential and ancillary services as required in a state of art International and Domestic Cruise Terminal.

The Operation and Maintenance of the Project Facilities developed under this Contract, viz., International and Domestic Cruise Terminal Facilities, Ferry and Ro-Ro/Ro-Pax Facilities, will be entrusted with separate agencies by the Mormugao Port Trust.

2.2....V4 PROJECT COMPONENTS

The entire Scope of Work of the Contractor for this Bid is split into various groups for the purpose of monitoring. The broad items of works covered under each group are listed below.

- a) Group A -TERMINAL BUILDING
- b) Group B - ANCILLARY COMMERCIAL BUILDING
- c) Group C -FERRY TERMINAL BUILDING (Portable cabins)
- d) Group D- EXTERNAL INFRASTRUCTURE DEVELOPMENT WORKS
- e) Group A – TERMINAL BUILDING

2.2.1..V4 Group A -TERMINAL BUILDING

- i) Non-Destructive Testing and furnishing Structural Report
- ii) Dismantling & Demolishing existing building
- iii) Civil Construction Works
- iv) Toilet Cubicles Ceiling and Wall Panelling works
- v) Plumbing Works
- vi) Electrical Works
- vii) Fire Fighting Works
- viii) Fire alarm and Public address system
- ix) Lifts (5nos)
- x) Escalators (2nos)
- xi) Civil work for Underground Baggage carousel
- xii) IBMS
- xiii) HVAC

2.2.2..V4 Group B - ANCILLARY COMMERCIAL BUILDING

- i) Dismantling, Internal Civil Construction Works, Elevation Finishes
- ii) Plumbing Works
- iii) Toilet cubicles and Toilet area Ceiling
- iv) Fire Fighting Works
- v) Electrical Works
- vi) Fire CCTV and access control system
- vii) HVAC
- viii) alarm Lifts (2nos)
- ix) and Public address system

2.2.3..V4 Group C - FERRY TERMINAL BUILDING

Portable Cabins- 2 Nos.

2.2.3..V4 Group D - RORO/ ROPAX FACILITIES

Development / Refurbishment Works- Civil works for Ramp

2.2.3..V4 Group E- EXTERNAL INFRASTRUCTURE DEVELOPMENT WORKS

- i) External Electrical Works, external Street Lighting and Parking area Lighting, High Mast (2 nos.)
- ii) External Plumbing Works
- iii) External Fire Fighting works
- iv) Civil works for Roads, SW Drain, External filling / levelling and parking area
- v) Civil works for Electrical Trench
- vi) Civil works for Sump, Pump Room, STP, Utility and Service buildings
- vii) General infrastructure works: Compound wall, Landscape, Streetscape works, Hardscape works, National flag development, Signages, other Unforeseen items and Miscellaneous works.

2.3....V4 The Contractor shall submit warranty/guarantee cards or receipts of the various parts used in the Works. In this regard, the Contractor has to enter into agreement with the suppliers, who have to pass on the said warranty/right to the Employer. The Contractor shall submit warranty / guarantee effective from the date of commissioning of the Works.

2.4...V4 The structures, equipment, system/sub-systems and components shall confirm in all respects to high standards of engineering, design and workmanship and shall be capable of performing in continuous operation in a manner acceptable to the Employer and shall also be in line with the current practices for reliable and efficient functioning of facility.

2.5...V4 In the event of conflict between requirements of any two clauses of the Specifications / Documents or requirements of different codes / standards specified, the more stringent requirement as per the interpretation of the Employer shall apply.

2.6...V4 The Contractor while executing the Works shall follow good industry practice, which however shall meet the Employer's Requirements. The Contractor shall adhere to and honour the Conditions of Contract, in all respects.

3.....V4 DESCRIPTION OF CONTRACTOR'S SCOPE OF WORK

3.1...V4 General

The Specifications provided in the Bid together with enclosed Scope Drawings outline the functional requirements and the operating characteristics which the structures/facilities must fulfill. Alternative technical features/designs other than those specified may be acceptable subject to meeting the functional requirements and the operating characteristics and has the approval of the Employer. In any case, the

performance of the system/ equipment, if any delivered, shall be guaranteed in every detail by the Contractor. Overall dimensions (boundary dimensions) and functional requirements as specified shall be strictly adhered to. The Scope of Work detailed below is for overall understanding of the Works and does not absolve the Contractor from successful commissioning and operation of the Works with best available latest technology. Any item/equipment not listed but required for completion of the Works shall be considered as included in the Scope of the Contractor.

The Contractor shall be deemed to have examined the Site and familiarized himself with all existing Site conditions. He shall accept the Site in the existing condition at the time of Award of Contract.

3.2...V4 Detailed Scope of Work under this Bid

3.2.1.V4 The Detailed Scope of Work under all Project Components are given below in the form of Scope Matrices. This shall be read in conjunction with the Tender Drawings provided as part of the Bid document.

Scope Matrix -01

TERMINAL BUILDING SCOPE MATRIX			
Sl. no	Scope of work	Location	Item spec / Materials
	Non Destructive Testing of the existing structures		
	Dismantling works		
1	Racking/Floor removal	Existing building floor	20mm Racking
2	Dismantling / Demolishing (Brick, Chipping old wall & RCC)	Existing building	Dismantling / Demolishing Mechanical mean/manually
3	Demolishing	Existing Beams	Demolishing R.C.C work

			manually/ by mechanical means.
4	Removal (Shed, Windows, Doors, shutters, pipes, flooring)	Existing building	Dismantling
5	Carting / Disposal of Demolished material		Mechanical transport
	Structural - Civil works		
6	Earth work	Raft foundation /as per Structural design	Excavation by Hydraulic excavator
7	Bonding chemical & chemical emulsion for post construction anti termite treatment	Below new foundation	Structural grade bonding agent/old concrete to new concrete and Treatment of soil
8	Anchoring (in between new footing and old foundation)	Foundation	20mm dia bar c/c 1.5M
9	PCC below Foundation	Terminal buildings	PCC 1:2:4 (100mm thk)
10	Screed below flooring	Terminal buildings	PCC 1:2:4 (100mm thk)
11	RCC STRUCTURE	Proposed building structure	M40 grade Design mix
12	Sand and Gravel filling	under floor	Filling with Moorum, local earth and sand filling. Including watering, ramming, consolidating and dressing complete.
13	Steel Reinforcement	Proposed RCC Structure	Corrosion resistant steel bars as per Design Fe500D with epoxy coated bars as per IS:1786,13620, epoxy coated, Fusion bonded epoxy coated.
14	Steel Structural as per design	Proposed slabs/Mezzanine and roof structures	as per design Structural steel frame work including fabrication and erection, with structural steel tubes, rafts beams, purlins, Deck slab,

			Staircase with 6mm thick Chequered plate and mezzanine with GI deck sheet and screed as approved.
15	Roof	Terminal building	PEB Structural steel frame work and Aluminium Standing Seam Double Skin Roofing System
16	Tensile fabric structure	Terminal, new buildings and Entrance	Supply & fixing Tensile fabric

Scope Matrix -02

	Finishes		
17	Block work (200 & 100mm thick)	Proposed walls	Block work
18	Plastering	on walls	One side 20mm plastering & other side 12mm plastering
19	POP putty	Internal walls	Plaster of White Cement putty of 2 mm thickness over plastered surface
20	Painting	Proposed walls	Acrylic emulsion paint
21	Structural glazing		Double glazing system DGU 6-12-6
22	Internal Curtain glazing		vision glass panels (IGUs) 6-12-6 insulated with 12mm thick frameless toughened glass doors
23	Hand railing	Staircase	1.1m ht. SS hand railing ~ Grade 304
	Floor finishes		
24	Italian flooring	Main entrance lobby areas/ International arrival	Mirror polished Italian marble flooring of 18mm thickness @ Grand Entrance
25	Granite flooring & cladding	Lobby/ Lift lobby	18mm thick polished granite & 8mm Polished granite wall cladding

26	Staircase flooring & skirting	Staircase (Risers, treads & landing)	18mm thick Granite stone slab, edge moulding
27	Vitrified flooring & skirting	International & Domestic departure, Restaurants, workstations, office, meeting room and etc.,	Vitrified flooring tile of size 800 x 800mm of (not less than 12mm thickness/ not less than 8mm for skirting)
28	Anti skid vitrified tiles flooring & Glazed ceramic wall tiles	Toilet and wash areas	Vitrified antiskid tiles flooring of 10mm thickness, Ceramic glazed wall tile dadoing (8mm thickness) all around toilets
29	Granite counter top	Toilet block hand wash area	18mm Mirror polished platforms with edge moulding
30	Toilet Cubicles	Toilet blocks	Toilet Cubical fixtures with internal panels (Phenolic core board)
31	Kota stone	Kitchen, Loading bay	25mm thick Kota stone flooring
32	False Ceiling	Terminal - new buildings as per design intent	Supply & fixing Sound scapes shapes acoustical circular clouds and GI Metal Tile Lay-in Plain Tegular edge global white colour tiles For Toilet areas with Fine fissured grid ceiling

Scope matrix -03

33	ACP cladding	As per drawings/ design intent	ACP material cladding at external Roof ceiling deck / decorative column / wall as per designs
34	External Entrance wall	As per drawings/ design intent	with Reckli finish cladding
35	Reckli cladding	External entrance area	Reckli cladding
36	Aluminium Louvers	External	Powder coated finish
	Joinery		
37	Sliding door	Entrance	Sensor based Sliding 12mm thk Toughened glass
38	Glass door	Internal doors	Patch fitting 12mm thk Toughened glass
39	Fire Rated doors	Staircase / Emergency exit	Powder coated FR doors, Galvanized Iron sheet formed to double rebate profile Hot zinc coating and powder coating
40	Doors	Joinery scheduled details	30MM waterproof flush Shutters/Engineered wood door
41	Windows & Ventilators		uPVC
42	Louvers & shaft doors	Shafts / ducts	Fire rated /Aluminium Anodised louvered powder coated
43	Water proofing treatment	Toilet block areas and Mezzanine floor area	Chemical water proofing as per DSR-2019
44	Plumbing works		Sanitary Fixtures and CP fittings Drainage system Water supply system
45	Electrical works		Light fixtures Point wiring Switches & sockets Wiring Distribution Boards Lighting controls /

			Sensors
46	Fire fighting works		Fire pump equipment Hydrant system Fire extinguishers Fire safety Signages Automatic sprinkler & water curtain systems
47	Fire alarm and Public address system		Panels, addressable photo thermal Detectors, short circuit isolator, voice alarm, Speaker.
48	Lifts		5 nos, Product from approved make. Like: Schindler, Otis, Kone, Thyseenkrupp.
49	Escalators		2 nos, Product from approved make. Like: Schindler, Otis, Kone, Thyseenkrupp.

Scope matrix -04

50	Civil work for underground Baggage carousel	Baggage carousel routing	Earth work excavation ,Anti termite treatment, PCC, M25 Concrete RCC Section, TMT steel, Back filling.
51	IBMS		Access control system Building Management systems Rodent Repellent system Early smoke and water leak detection system
52	HVAC		Centrifugal direct drive

Scope matrix -05

ANCILLARY BUILDING SCOPE MATRIX			
Sno.	Scope of work	Location	Specification
	Dismantling works		
1	Racking/Floor removal	Existing building surface area	20mm Racking
2	Dismantling / Demolishing (Brick, Chiping old wall & RCC)	Existing building	Dismantling / Demolishing Mechanical mean/manually as per direction of Engineer-in-charge
3	Demolishing	Existing Beams	Demolishing R.C.C work manually/ by mechanical means.
4	Removal (Shed, Windows, Doors, shutters, pipes, flooring)	Existing building	Dismantling
5	Carting / Disposal of Demolished material		Mechanical transport
	Structural - Civil works		
6	Earth work	Raft foundation/as per Structural design	Excavation by Hydraulic excavator
7	Bonding chemical & chemical emulsion for post construction anti termite treatment	Below new foundation	Structural grade bonding agent/old concrete to new concrete and Treatment of soil
8	Anchoring (in b/w new footing and old foundation)	Foundation	20mm dia @ 1.5M c/c rebar
9	PCC below Foundation	Terminal buildings	PCC 1:2:4 (100MM thk)
10	Screed below flooring	Terminal buildings	PCC 1:2:4 (100MM thk)
11	RCC STRUCTURE	Proposed building structure	M40 grade Design Mix
12	Sand and Gravel filling	under floor	Filling with Morrums, local earth and sand filling. Including watering, ramming, consolidating and dressing complete.

13	Steel Reinforcement	Proposed RCC Structure	Corrosion resistant steel bars as per Design Fe500D with epoxy coated bars as per IS:1786,13620, epoxy coated, Fusion bonded epoxy coated.
14	Steel Structural as per design	Proposed slabs/Mezzanine and roof structures	as per design Structural steel frame work including fabrication and erection, with structural steel tubes, rafts beams, purlins, Deck slab, Staircase with 6mm thick Chequered plate and mezzanine with GI deck sheet and screed as approved.
15	Roof	Ancillary building	PEB Structural steel frame work and Aluminium Standing Seam Double Skin Roofing System
16	Tensile fabric roofing	External corridor between Ancillary building	Tensile fabric umbrella shaped Module as per Architectural intent.

Scope matrix -06

	Finishes		
17	Block work (200 & 100mm thick)	Proposed walls	Blocks work
18	Plastering	on walls	One side 20mm plastering & other side 12mm plastering
19	POP putty	Internal walls	Plaster of paris putty of 2 mm thickness over plastered surface
20	Painting	Proposed walls	Acrylic emulsion paint
21	Hand railing	Staircase	SS hand railing ~ 304
	Floor finishes		

22	Granite flooring	Lobby/ Lift lobby	18mm thick polished granite
23	Staircase flooring & skirting	Staircase (Risers, treads & landing)	18mm thick Granite stone slab, edge moulding
24	Vitrified flooring & skirting	Mall / Rooms	Vitrified flooring tiles (600 X 600MM)
25	Anti skid vitrified tiles flooring & Glazed ceramic wall tiles	Toilet and wash areas	Vitrified antiskid tiles flooring (320x320), Ceramic glazed wall tile dadoing all around toilets.
26	Granite counter top	Toilet block hand wash area	18mm Mirror polished platforms with edge moulding
27	Toilet Cubicals	Toilet blocks	Toilet Cubical fixtures with internal panels (Phenolic core board)
28	False Ceiling	Ceiling area	Fine fissured grid ceiling
	Joinery		
29	Doors	Joinary scheduled details	Engineered wood doors
30	Doors	Toilet doors	30MM waterproof flush Shutters
31	Windows & Ventilators		Anodized aluminium shutters with figured glass
32	Louvers & shaft doors	Shafts / ducts	Fire rated /Aluminium Anodised louvered powder coated

Scope matrix -07

33	Plumbing works		Sanitary Fixtures and CP fittings Drainage system Water supply system
34	Electrical works		Light fixtures Point wiring Switches & sockets Wiring Distribution Boards

			Lighting controls / Sensors
35	Fire fighting works		Fire pump equipment Hydrant system Fire extinguishers Fire safety Signages Automatic sprinkler & water curtain systems
36	Fire alarm and Public address system		Panels, addressable photo thermal Detectors, short circuit isolator, voice alarm, Speaker.
37	Lifts		2 nos, Product from approved make. Like: Schindler, Otis, Kone, Thyseenkrupp.
38	HVAC		Centralized Aircooled chiller

Scope matrix -08

EXTERNAL INFRASTRUCTURE DEVELOPMENT WORKS			
Sl no	Scope of work	Location	Item of work
1	External electrical works, External street lighting, and parking area lighting, 2 high mast		
2	External Plumbing works		
3	External Fire Fighting works		
4	Civil works for Roads	Site Internal Roads at Terminal, Ferry and ancillary allied zones	
i	Earth work		Earth work in surface excavation
ii	Sub grade		Consolidation of sub grade with power road roller
iii	Filling		Laying water bound

			macadam sub-base with brick aggregate and binding material, earth etc
iv	Road		Cement concrete M-30 grade
v	Expansion joints		Bitumen hot sealing compound
vi	RCC work	Strom water drain	RC wall of M-30 grade with steel reinforcement of grade Fe500D
vii	Road marking		Painting median/taxi track/apron marking with adequate no. of coats to give uniform finish with road marking paint 2.5 mm thick road marking strips (retro reflective) of specified shade/ colour
viii	Sign board		Providing Retro-reflective regulatory sign board of size 900 mm diameter made out of 2 mm thick aluminium sheet, face to be fully covered with high intensity encapsulated lens type
ix	Kerb stone		M-25 grade cement concrete (0.15X0.45M) with PCC below
x	Paver block	Footpaths / walk way	80mm thick Cement concrete paver block
5	External filling/ Site levelling	Site area Terminal, Ferry and ancillary allied zones	
i	Earth filling		Stacking of good earth
ii	Sand filling		Sand filling
iii	PCC		PCC of 1:2:4
iv	Retaining wall	Berth facing/Terminal building void	Raft footing & wall M40 grade

		bund walls	
v	Steel reinforcement for R.C.C		Corrosion resistant steel bars
vi	Anti termite treatment		Post construction treatment
vii	Water proofing	Retaining wall	Integral Crystalline slurry of hydrophilic in nature for waterproofing treatment to the RCC structures
viii	Paver blocks	walk way	80mm thick Cement concrete paver block
6	Parking area		
i	Sub grade		Consolidation of sub grade with power road roller
ii	WMM		Laying, spreading and compacting stone aggregate of specified sizes as per WMM specifications in uniform thickness
iii	Paver blocks / Hardscape	Footpath, Park, & lawns, drive way or light & traffic parking etc.	80mm thick Cement concrete paver block
7	Civil work for Electrical trench		
	Earth work, anti-termite treatment, PCC, RC walls, Steel, back filling		
8	Ferry Terminal building PCC, Porta cabins		
9	Utility and service buildings		
	Yard 1 , 2, Electrical Shed, Sump, Pump Room provision, STP civil works: Earth work, PCC, RCC, Steel, shuttering, block work, plastering, painting, MS gate, security cabins		
10	General infra structure work		

i	Compound wall work: Earth work, anti-termite treatment, PCC, RCC, Steel, shuttering, block work, plastering, painting, MS gates, security cabins, toilet cabins		
ii	PCC, Plum Concrete, RCC works		
iii	Landscape works		
iv	National flag development, Signages, Street scape works, pigmented hardscapes other Unforeseen item and Miscellaneous works		
11	RORO/ ROPAX FACILITIES Development / Refurbishment Works- Civil works for Ramp	RORO/ ROPAX	

3.2.2.V4 The buildings are to be provided with all provisions for power, lighting, ventilation, air conditioning, communication, water distribution, sanitary arrangements and architectural finishes, etc. in accordance with the Specifications and Drawings.

3.2.3.V4 The minimum built-up area of each building shall be as specified in Table 3.1. However, the Contractor shall be required to build more area, in case it is required to meet the functional and design requirements.

3.2.4.V4 The Contractor shall prepare architectural layouts for each building, meeting the requirements as set out in the Bid Document and submit to Employer. The detailed design of the buildings shall be taken up only after the Employer's acceptance of the final architectural scheme of the respective building.

3.3...V4 THIRD PARTY CERTIFICATION

3.3.1.V4 All the design calculations and reports shall be duly vetted by reputed Third Party Agencies of international repute such as IIT Madras or IIT Mumbai , IIT Kanpur or IIT Delhi and accordingly, a certificate shall be enclosed along with each submission for review and approval of the Employer.

3.3.2.V4 Structural Stability Certificate for the structures certified by the above said Third Party shall be submitted prior to Taking Over of the Works.

3.3.3.V4 All major Mechanical items of work executed for the Project shall be certified by renowned Classification Agencies at the cost of the Contractor. The Contractor shall appoint any one/ more among the list of agencies viz. IRS, ABS, LRS, DNV or BV as Classification Society.

3.3.4.V4 For the works where Third party inspection is required/ envisaged, the Third party inspection agency shall be selected by the Employer from the list of minimum 3 agencies suggested by the Contractor. The Employer may engage another Third party inspection agency also and the decision of the Third party inspection agency engaged by the Employer shall be final.

3.3.5.V4 Mere certification from the Third Party Agencies shall not relieve the Contractor from fulfilling his contractual obligations. The Contractor is responsible for the successful completion of the Works and the Works shall serve the required design life.

4.0...V4 MILESTONES FOR PAYMENTS

Stage payments at shall be released to the Contractor on completion of the work as per Milestones given in the Table below. The percentage figures as filled in Column (3) by the Employer for the apportionment of the Accepted Contract Amount for completion of the Works corresponding to the items given against each mile stones are fixed and payment will be released as per the percentage break-up of Accepted Contract Amount.

MILESTONES FOR PAYMENTS

Sl. No	Description of items of works	Payment (%)	Period of Mile Stone
1.	<p><u>MILESTONE 1</u> <u>Terminal Building & Ancillary Bldgs :</u></p> <p>i) All NDT ii) All dismantling works; iii) All earth cutting works iv) All filling works with sand/ moorum/ good earth including back filling ;</p>	5%	SD+ 3 months

	<ul style="list-style-type: none"> v) PCC works for foundation and for baggage carousel including applying epoxy bonding agent vi) Anti-termite treatment; vii) Providing fusion bond epoxy coated reinforcement for foundation viii) RCC works for foundation and baggage carousel 		
2.	<p><u>MILESTONE 2</u> <u>External Works:</u></p> <ul style="list-style-type: none"> i) All earth cutting works for providing roads, drains, electrical trench, sump, STP, compound wall including back filling; ii) Anti-termite treatment; iii) PCC for drains, electrical trench, sump, STP, compound wall, Ro-Ro, Ro- Pax iv) Providing fusion bond epoxy coated reinforcement for foundation & side walls for drains, electrical trench, sump, and for foundation of STP, compound wall and for Ro-Ro, Ro- Pax ramp works; v) RCC works for foundation and side walls for drains, electrical trench, sump; vi) RCC works for foundation of STP, compound wall and for Ro-Ro, Ro- Pax ramp works; vii) Granular sub-base, WMM work for roads and Parking Area viii) CC works of roads and parking Area ix) Paver block work of Parking Yard 	5%	<p>Commencement: at SD+ 1.5 months Completion: SD + 5 months (Time Period 3.5 months)</p>
3.	<p><u>MILESTONE 3</u> <u>Terminal Building & Ancillary Bldgs :</u></p> <ul style="list-style-type: none"> i) Providing fusion bond epoxy 	7%	

	<p>coated reinforcement for RCC columns and beams upto First Floor level</p> <p>ii) RCC columns and beams upto First Floor level</p> <p>iii) Brick work - external wall, internal partitions including toilets in GF</p> <p>iv) Structural Steel work for deck floor including GI sheeting</p>		<p>Commencement: at SD+ 3 months</p> <p>Completion: SD + 5.5 months</p> <p>(Time Period- 2.5 months)</p>
4.	<p><u>MILESTONE 4</u></p> <p><u>External works</u></p> <p>i) Compound wall Superstructure.</p> <p>ii) Landscaping bed preparation work</p> <p>iii) Fire fighting arrangements – external pipeline and allied works</p> <p>iv) External filling and RCC works</p> <p>v) External plumbing pipeline laying work</p> <p>vi) Balance Road work excluding</p> <p>vii) Hardscaping works other than parking area</p>	5%	<p>Commencement: at SD+ 5 months</p> <p>Completion: SD + 8 months</p> <p>(Time Period- 3months)</p>
5.	<p><u>MILE STONE 5</u></p> <p><u>Terminal Building & Ancillary Bldgs :</u></p> <p>i) Providing fusion bond epoxy coated reinforcement for balance RCC works mainly of 1st Floor.</p> <p>ii) Balance RCC works.</p> <p>iii) Brick work- external wall, internal partitions including toilets in First floor</p> <p>iv) CC flooring in GF</p> <p>v) Cement Plastering of both ground floor and first floor</p> <p>vi) White Cement Putty work of both ground floor and first floor</p>	6%	<p>Commencement: at SD+ 5.5 months</p> <p>Completion: SD + 8.5 months</p> <p>(Time Period- 3months)</p>
6.	<p><u>MILE STONE 6</u></p> <p><u>Terminal Building & Ancillary Bldgs :</u></p> <p>i) Pre Engineered Building Structure with roofing</p>	15%	<p>Commencement: at SD+ 8.5 months</p> <p>Completion: SD + 11.5 months</p>

	<ul style="list-style-type: none"> ii) Tensile Roofing system with structural supports iii) Internal Wall painting both ground floor and first floor 		(Time Period-3months)
7.	<p><u>MILE STONE 7</u> <u>Terminal Building & Ancillary Bldgs :</u></p> <ul style="list-style-type: none"> i) External Wall painting both ground floor and first floor ii) Ceiling and wall panelling works iii) Fixing frame structure for lift and escalator iv) Electrical works – Laying cable after making necessary duct v) Fire fighting works –Laying pipelines vi) Fire Alarm and PA system TB-Laying cable lines vii) HVAC works – Laying cable and other pipelines 	6%	Commencement: at SD+ 11.5 months Completion: SD + 14months (Time Period- 2.5months)
8.	<p><u>MILE STONE 8</u> <u>Terminal Building & Ancillary Bldgs :</u></p> <ul style="list-style-type: none"> i) External glazing work with structure at Terminal Building ii) Internal curtain glazing in both the buildings iii) Providing and fixing all types of doors iv) Providing uPVC windows & louvers 	17%	Commencement: at SD+ 11.5 months Completion: SD + 14months (Time Period- 2.5months)
9	<p><u>MILE STONE 9</u></p> <ul style="list-style-type: none"> i) Waterproofing works to floor ii) Flooring with granite/ marble/ vitrified tile of both Terminal and Ancillary building iii) Dado, skirting, wall cladding with granite etc. iv) Balance External electrical works v) Balance work of lift and escalator vi) Balance Fire fighting works vii) Balance Fire Alarm and PA system including testing 	16%	Commencement: at SD+ 14 months Completion: SD + 16months (Time Period- 2months)

10	<p><u>MILE STONE 10</u></p> <ul style="list-style-type: none"> i) All Internal electrical works including fixing electrical fittings ii) All external electrical works including fixing electrical fittings iii) All internal plumbing works including all fixtures iv) All external plumbing works including all fixtures v) Balance HVAC works including commissioning vi) Balance works sump, STP etc vii) Painting compound wall and gate viii) Balance Landscape works ix) Aluminium Composite Panel work x) Ornamental Reckli finish external elevation work xi) S.S hand railing work, xii) Water proofing work of roofing area xiii) Miscellaneous / Additional works 	18%	Commencement: at SD+ 16 months Completion: SD + 18months (Time Period- 2months)
		100	18 months