



MAZAGON DOCK SHIPBUILDERS LIMITED

(Formerly known as Mazagon Dock Ltd.)

CIN : U35100MH1934GOI002079

(A Government of India Undertaking)

Shipbuilders to the Nation

Dockyard Road, Mazagon,

Mumbai 400 010.

INDIA

**Provision of Fire Water Hydrant System inside SSA
Workshop, Alcock Yard, MDL Mumbai.**

VOLUME-III

Scope of Work

Tender Drawings

Price Bid (Part-II)

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1. SCOPE OF WORK :

The Contractor has to execute the work in respect of Fire Water pipeline inside MDL premises at Dockyard Road, Mumbai, as per tender specifications & drawing.

The work to be performed by the Contractor under the scope of this bid shall include, **BUT NOT LIMITED TO** the following:

- 1.1 Site visit and understanding the site condition and working feasibility in the site in all aspect. Assess the Scope/quantum of work before submitting their offer.
- 1.2 Submission and taking approval of Shutdown plan for taking tapping from existing Fire water line and for other front availability for execution works with prior written permission from MDL.
- 1.3 Civil construction of foundation / pedestal / supports for pipelines.
- 1.4 Supply, Fabrication, Erection, Alignment, Supporting, testing and Commissioning of New Pipelines as per layout / Specification and instructed by MDL.
- 1.5 Contractor under the scope of this bid is not limited to the above works but is bound to execute any other works required for the completion of the project.
- 1.6 The drawings attached in the tender are for concept/reference only Detail drawings/shop drawings shall be prepared & submitted by contractor for approval by MDL before starting of work.
- 1.7 The whole construction shall be as per design and layout drawing provided by MDL. Contractor is not required to do any designing but they are free to check the design and suggest any betterment at their own cost and inform to Client for corrective action before start of work, if any.
- 1.8 Quantities of the tender items are indicative. These quantities may vary during execution. In such case the contractor will not be entitled for any damages & compensation whatever the change in quantity. The Contractors are bound to execute any additional work of similar nature at the rates approved by the client.
- 1.9 All equipments, manpower and material required for completing the tendered job is to be arranged and supplied by the contractor without any extra cost and complete as per the instructions of the client.
- 1.10 In general, only specified material, Make & Model to be brought at site and used in project. The equivalent material shall be used only against the consent and approval of the client.
- 1.11 Clearing job sites of all surplus material, debris, scrap, construction equipment, water logging etc. are in scope of work and to done as per directions of client.

- 1.12 The scope of work is defined in general and is not limited to above. Bidder has also to carry out job which is not listed here but required for completion and commissioning of facilities.
- 1.13 The Tenderer shall note that the whole work shall be completed under supervision of our authorized representative. However, Tenderer is supposed to depute his representative at site at his own cost for complete duration of contract for proper site supervision, recording of deviations, asking any decision from MDL, quality test of ongoing works and recording thereof, getting work done as per contract terms, recording of measurements, and liaising with other Contractors/Agencies for proper quality completion of whole work and any other works etc.
- 1.14 MDL shall allocate the space for contractor within the plant area only for storing their material. All utilities/ facilities required for the work shall be arranged by contractor at their own cost.
- 1.15 All works shall be as per enclosed "Bill of Quantities (BOQ)".
- 1.16 Any item/job, which is not included in enclosed BOQ but is required for successful completion of job, is also in the scope of the Contractor.
- 1.17 The Contractor shall make his own arrangement for Crane/Hydra/Tools & tackles/ any other necessary machinery & equipment facility as required during the execution of the work at his own cost.
- 1.18 Providing all accessories / structure/equipments for, testing and commissioning the system.
- 1.19 Providing Pipe supports - RCC pedestals, wherever required or described in drawing / specifications.
- 1.20 All other miscellaneous works required for commissioning / completion of the project.
- 1.21 Carrying out hydro testing, Pneumatic tests and other tests including supply of water, Compressed Air / Nitrogen, required materials / items as specified in codes / specifications using contractor's own equipment.
- 1.22 All equipments, manpower and material required for completing the tendered job is to be arranged and supplied by the party without any extra cost to MDL and complete as per the instructions of client/consultant
- 1.23 Contractor shall follow all safety rules and regulations of MDL premises and as per client/consultant instructions.
- 1.24 All height works shall be done under close supervision of contractor's safety engineer/Responsible engineer with prior information to client.
- 1.25 Contractor shall follow all special safety norms, which is required for any critical job without any extra cost to MDL.
- 1.26 The work of excavation in all types of soil including back filling with excavated earth is in the scope of excavation items.

- 1.27 The Contractor shall prepare a detailed work methodology, inspection methodology & Quality Assurance Plan (QAP) and submit to MDL for approval and incorporate instructions given by Client before starting of work.
- 1.28 The Contractor has to arrange the inspection with required front / accessibility, as and when required / instructed as per work inspection and testing methodology.
- 1.29 The successful tenderer within 10 days of receipt of acceptance of tender, name an graduate engineer responsible for the job at site on behalf of the contractor Tendered shall give in writing to Client / Consultants, the name of his authorized and qualified engineer who will supervise the work and shall remain at the site during execution of the job.
- 1.30 After successful completion of installation, testing & commissioning of the scope of work as per contract, the contractor shall submit AS-BUILT drawings of the work in A1 size in three sets.

The detailed scope of work has been indicated in the Bill of Quantities (BOQ) Price Bid Part-II at Enclosure-1.

2. TENDER DRAWINGS:

SR.NO	DESCRIPTION OF DRAWING	TENDER DRAWING NO
01	FIRE HYDRANT LOCATION LAYOUT Model	MDL/IP/SSA/Civil-1

The above Tender Drawings in PDF form are attached separately along with Tender Document.

Enclosure-1

PRICE BID (PART-II)
BILL OF QUANTITIES
(To be submitted online)

Sub: Provision of Fire Water Hydrant System inside SSA Workshop, Alcock Yard, MDL Mumbai

Ref: MDL Tender No. 180000032

INSTRUCTION TO THE BIDDER:

1. Bidder shall **NOT INCLUDE** The Work Contract Tax (WCT) under VAT and Service Tax in the rates for this section. Bidder is required to quote Work Contract Tax (WCT) under VAT and Service Tax including Swachh Bharat Cess and Kisan Kalyan Cess **SEPERATELY** in Percentage which will be added to the rate quoted for this section.
2. Bidder to note Clause No. 2 (Defect Liability Period), Clause No 3 (SECURITY DEPOSIT/Performance bank Guarantee), Clause No 7 (Prices and Taxes), Clause No 15 (Insurance) & Clause No 16 (Other Site requirements) of Volume II before quoting.
3. MDL reserves the right to increase the quantity of any item in the BOQ to any extent provided the increase in the total Estimated Amount due to this change in the quantity over BOQ quantity multiplied by specified rate for all the items put together do not exceed 25% of the Accepted Contract Value. Bidder to note Clause No 13 of Volume II before quoting.
4. Bidder should also note Clause No 5.1.4 (Stage Payment) in Volume II before quoting.

Sr. No	Item	Description	Qty	Unit	Rate	Amount
A		CIVIL WORKS				
1	Earth work	Earth work in Excavation (including for foundation) by mechanical means/ manual means in all types of soils , such as Earth, Marine Clay, Marshy Land, Running Sand, Garbage, Slush, Murum, Rock Boulders, RCC boulders, any type of road layer etc. as directed by Engineer in-charge. The rate includes pumping out water if required, removing the rank vegetation and refilling the excavated materials wherever required within lead of 150 mtr as directed including leveling, ramming etc and removing the surplus excavated materials to municipal dumping ground at any distance as directed. The rate also includes supporting public utilities such as cables, drains services pipes water mains, but shall not include the cost of shoring. Where unshored trenches are allowed slope as specified shall be given. (cutting of MS plates & old RCC foundation coming during excavation shall be paid	295.00	Cum		

		separately.) --Depth up to 1.5 m				
2	Timbering	Close timbering in trenches including strutting, shoring and packing cavities (wherever required) complete. (Measurements to be taken of the face area timbered). --Depth exceeding 1.5 m but not exceeding 3 m	100.00	Sqm		
3	Rubble soling	Providing and laying dry rubble soling in thickness specified by Engineer-In-charge with hand set in regular lines, interstices being filled in with small pieces of stones, hard murrum etc. thoroughly rammed, consolidated and watered complete as directed and specified.	4.00	Cum		
4	Pumping out water	Pumping out water from trenches, pits etc upto 4 mtrs. Depth from ground level and discharging of the water through hose to the nearest water gully/manhole/drain complete as directed (Pumping capacity should not be less than 3 litres per second) Note: <u>This item may be operated in areas other than excavation areas where puddles of water is noticed during execution of work is in progress solely at the discretion to the engineer-in-charge.</u>	5.00	Pump working hour		
5	Demolishing Works	Demolishing R.C.C. work manually/ by mechanical means including stacking of steel bars and disposal of unserviceable material to dumping ground as per direction of Engineer - in- charge. NOTES :- The work of demolishing, cutting down, dismantling, etc. includes propping wherever required as directed, stacking the removable material as detailed in individual items and carting away all unserviceable materials and debris from site. The amount should include cost for carrying out any other unforeseen items required for the proper execution of the work. The contractor will have to put up a proper and sufficient hoarding, screen and fence during the time as may be	10.00	Cum		

		necessary for the safety and convenience of the inmates of the existing buildings and maintain the same in the good condition during demolition and wherever necessary cause such hoarding or fence to be well lit during the night to prevent accidents. Contractor will have to make good without any extra payment any damage done during construction.				
6		Extra for cutting reinforcement bars manually/ by mechanical means in R.C.C. or R.B. work (Payment shall be made on the cross sectional area of R.C.C. or R.B. work) as per direction of Engineer -in -charge. NOTES :- The work of demolishing, cutting down, dismantling, etc. includes propping wherever required as directed, stacking the removable material as detailed in individual items and carting away all unserviceable materials and debris from site. The amount should include cost for carrying out any other unforeseen items required for the proper execution of the work. The contractor will have to put up a proper and sufficient hoarding, screen and fence during the time as may be necessary for the safety and convenience of the inmates of the existing buildings and maintain the same in the good condition during demolition and wherever necessary cause such hoarding or fence to be well lit during the night to prevent accidents. Contractor will have to make good without any extra payment any damage done during construction.	10.00	Sqm		
7	Dismantling PCC	Dismantling and removing lime or plain cement concrete with all leads & lifts including carting away debris etc. complete as directed.	10.00	Cum		
8	Cutting down masonry work	Cutting down masonry work of any size and shape in lime or cement mortar including plaster etc. complete as directed. Rate shall include the carting away of	10.00	Cum		

		the material out of premises.				
9	Dismantling steel work	Dismantling steel work in trusses, rafters, purlins, girders, rails etc and stacking within the premises as directed. Carriage of material by mechanical transport including loading, unloading and stacking. Taking material to south yard for weighing and stacking in designated steel scrap bin in MDL premises	500.00	Kg		
10	Disposal of unserviceable material	Disposal of building rubbish / malba / similar unserviceable, dismantled or waste materials by mechanical means, including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer-in-charge, beyond 50 m initial lead, for all leads including all lifts involved.	30.00	Cum		
11	CONCRETE WORKS	Providing and Laying in foundation bedding, backing or steps upto plinth level etc. with cement concrete in M-15 grade including formwork, curing, vibrating etc. complete as directed.	2.00	Cum		
12	CONCRETE WORKS	Proving and casting in situ M-30 grade RCC including formwork, curing, vibrating excluding reinforcement etc. complete as directed. -- for raft Slab/ Pedestals Notes: 1. The rates shall include the cost of complete work including mix design, site laboratory equipment, centring, form work, placing, vibrating, tamping, curing, roughening the exposed surfaces for receiving plaster/ finishing, reinforcement will be paid for separately, unless otherwise specified. The centring shall be only in steel scaffolding & adjustable steel props.2. The concrete shall be machine mixed. Use of mechanical vibrator shall be made for all R.C.C. work wherever directed. All joints and gaps in the form work shall be covered with water proof papers as directed and full water proofing paper shall be used for casting the terrace/floor slabs and sanitary blocks at every floor.	8.00	Cum		

		Precast cement mortar (1:2) cover blocks or approved plastic cover blocks shall be used for all beams, slabs, columns and footing as directed. R.C.C. slabs in sanitary blocks, washing places, bath rooms and nahani slab portions must be sunk as per drawings for which nothing extra will be paid. 3. The rates of R.C.C. items are for floor height upto 3 mt. in single stage centring including form work.				
13	Reinforcement	<p>Providing and fixing in position reinforcement of all dia for RCC piles, pile caps, footings, foundations, slabs, columns, beams, canopies, staircase, newels, chajjas, lintels pardis, copings, fins, arches etc. as per detailed designs, drawings and schedules including cutting, bending, hooking the bars, binding with wires or welding and supporting as required at all locations and height all labour and materials etc. complete.</p> <p>Wastage in cutting will not be paid for. only steel actually fixed in position will be paid by linear measurement including hooks and bends. No payment will be made for binding wires, pins, spacers and laps other than standard laps. Authorised/ Standard laps and Chairs as per BIS and as directed by engineer in-charge shall be payable.</p> <p>i) HYSD (Fe 500) --- MS round bars</p>	0.50	MT		
14	Reinforcement	<p>Providing and fixing in position reinforcement of all dia for RCC piles, pile caps, footings, foundations, slabs, columns, beams, canopies, staircase, newels, chajjas, lintels pardis, copings, fins, arches etc. as per detailed designs, drawings and schedules including cutting, bending, hooking the bars, binding with wires or welding and supporting as required at all locations and height all labour and materials etc. complete.</p> <p>Wastage in cutting will not be paid</p>	1.00	MT		

		for. only steel actually fixed in position will be paid by linear measurement including hooks and bends. No payment will be made for binding wires, pins, spacers and laps other than standard laps. Authorised/ Standard laps and Chairs as per BIS and as directed by engineer in-charge shall be payable. i) HYSD (Fe 500) --- HYSD bars				
15	CONCRETE WORKS	Providing and laying in position ready mixed M-30 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work, including pumping of R.M.C. from transit mixer to site of laying , including the cost of centering, shuttering finishing and reinforcement, including cost of admixtures in recommended proportions as per IS : 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in - charge.---- All works upto plinth level	10.00	Cum		
16	TACK COAT	Providing and applying TACK COAT with CATIONIC BITUMEN EMULSION (RS) @ 0.2 to 0.25 Kg. of Sq.mt. over prepared surface to receive bituminous mix by applying TACK COAT with mechanical spray bitumen, including cleaning of road surface etc. completed, as directed For NORMAL BITUMINOUS SURFACES & the tack coat shall be left to cure until all the volatiles have evaporated before any subsequent construction is started, which is indicated by change in colour from brown to black(As per New Road Specifications Clause No. 314, curing as per 314.3.4)	100.00	Sqm		

17	Asphalt Road	<p>Providing, Laying and construting Asphalt Road with following layers</p> <ol style="list-style-type: none"> 1. 250 mm thick GSB 2. 250 mm thick Granular base - WMM 3. 100 mm thick DBM - VG - 30 (will be executed in two layers) 4. 50 mm thick BC - PMB - 40 <p>All layers shall be constructed conforming to IRC</p> <p>Notes - Tack coats required in Asphalt layers shall be part of this item. as per above item specifications, three layers of tack coat will be required to complete the layers as per IRC procedure.</p>	25.00	Sqm		
18	plinth protection	<p>Making plinth protection 50 mm thick of cement concrete 1:3:6 (1 cement: 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) over 75mm thick bed of dry brick ballast 40 mm nominal size, well rammed and consolidated and grouted with fine sand, including finishing the top smooth.</p>	25.00	Sqm		
B		FIRE WATER HYDRANT SYSTEM				
		<p>Note for Item no: 19 to 26 Supply / Fabrication / Installation / Testing & Comissioning (SFITC) work for complete execution as per technical specifications & work instructions / Tender clause and under the supervision of Concern Engineer. The rates for various items under this head shall include bends, Reducers, flanges at every branch tapping, gasket, bolting, nipples, branch connection fittings & other fittings, support, steel member, civil foundation/padestral as per drawing / standard practice & pipe externally Painted as mentioned. The rate shall include cost of jointing, welding, scaffolding & all temporary supporting for access work/ inspection/safety/ tools/tackels/ equipments/ machinery & any other required accessories for completion of the works etc. Note 1: The cost is inclusive of all transportation, loading, unloading, painting. No extra charge will be paid</p>				

		<p>separately.</p> <p>Note 2: Painting on external surface of pipes shall be done as per following procedure: a) One Coat of High Build Epoxy coating (DFT 30 micron) + b) Two Intermediate coat of High Build Epoxy (DFT 100-125 micron per coat) c) Final coat of aliphatic acrylic PU paint(DFT 60 - 80 micron) of PO RED color as per codes of MDL along with the clamps required at suitable distances as directed for fixing the pipes to walls and Structure. The rate shall include cost of jointing, welding, scaffolding & all temporary supporting for access / work / inspection & safety.etc</p> <p>Note 3: Piping quantity is tentative it may vary at the time of execution.</p>				
19	Pipe	SFITC of G.I. pipe of C class ERW of size 80 mm dia with necessary flanges & fittings complete as per tender specification.	200	RM		
20	Tee	SFITC of G.I. reducing Tee of size 150 X 80 NB.	17	Nos		
21	Tape	SITC of Anti corrosion Tape for Underground Pipes for size 80 NB, as per tender specification.	50	RM		
22	Ball Valve	SITC of Socket weld end CS Ball Valves , for size 20 NB. [Valve Make: Leader / L&T / Nutech]	34	Nos		
23	Hydrant Valve	SITC of gun metal 80/63 NB dia.Single Outlet Hydrant Valve fitted with all accessories complete as per specification.	17	Nos		
24	Rubber hose reel	Providing & fixing drum type wall mounted hose reels , swivelling 180 degrees consisting of 20 mm dia x 30 mtr long (make - swastik or Dunlop) armoured rubber hose pipe with 6.3 mm dia bronze shut off type jet nozzle, making connection to the verticle riser by cutting , welding including providing 20 mm dia shut off valve, all necessary piping , fittings, fixing the hose reel with necessary anchor fastners by drilling holes in walls / RCC , making good the same all complete.	17	Nos		

25	Canvass hose reel & boxes	Providing & installing in position 2 lengths of 15 mtr long & 63 mm dia controlled , RPL lined canvass hose reels of approved make along with couplings, branch pipes & nozzles in a meta box with lockable glass doors & painted with post office red & fixing the same at ground level at suitable location so as to be easily seen & accessible etc all complete.	17	Nos		
26	Steel Support	Supply, Fabrication, Painting of Steel Support to be Including. - ISA , ISMC - ISMB - Others as required by Site condition (steel support shall have 1 coat primer & 2 coats epoxy painting.) Scope is including Supply & fitting of Nickle coated U clamps with nuts As per Pipe size	1500	Kg		
TOTAL FOR PIPING WORKS						
WCT under VAT (in Percentage)						
Service Tax including Swachh Bharat Cess and Kisan Kalyan Cess (in Percentage)						
FINAL TOTAL						