

Tender Document

Construction of Ro-Ro Yard at Pipavav

BMT-1511-GPPL-TEN-BOQ-001

Volume - 3

Bill of Quantities

September - 2023

Sr No:	PREAMBLE TO BILL OF QUANTITIES
1	The contract will be based on FIDIC "Conditions of Contract for Construction for Building and Engineering Works Designed by the Employer, First Edition 1999", supplemented by Particular Conditions. The Bill of Quantities shall be read in conjunction with the Instructions to Bidders, General and Special Conditions of Contract, Technical Specifications, and Drawings.
2	Whenever reference is made to "The Project Manager (or "The Resident Engineer")" or "The Engineer's Representative" in the Bills of Quantities, it shall be construed to mean "The Engineer to the Contract" or "The Employer's Representative".
3	The quantities given in the Bill of Quantities are estimated and provisional, and are given to provide a common basis for bidding. The basis of payment will be the actual quantities of work ordered and carried out, as measured by the Contractor and verified by the Engineer and valued at the rates and prices bid in the priced Bill of Quantities, where applicable, and otherwise at such rates and prices as the Engineer may fix within the terms of the Contract.
4	The quantities set forth in the Bill of Quantities represent the character of the work to be carried out. There is no guarantee to the Contractor that he will be required to carry out the quantities of work indicated under any one particular item or group of items in the Bills of Quantities, though on the Contract as a whole the quantities are intended to represent the overall value of the work to be carried out.
5	The prices and rates inserted in the Bill of Quantities will be used for valuing the work executed and the Engineer will measure the whole of the works executed in accordance with the Contract.
6	The rates and prices bid in the priced Bill of Quantities shall, except in so far as it is otherwise provided under the Contract, include all Constructional Plant, labour, supervision, materials, erection, maintenance, insurance, profit, taxes, and duties (including all materials, labour, installation, testing, balancing, commissioning, import/ excise duty, special duty/cess, sales tax, TCS, royalties, labour & BOCW cess, works contract tax, clearance charges & freight, lifting-shifting, handling, insurance, royalties etc.) together with all general risks, liabilities, and obligations set out or implied in the Contract.
7	The rates and prices shall be quoted entirely in Indian Rupees
8	A rate or price shall be entered against each item in the Bill of Quantities, whether quantities are stated or not. The cost of items against which the Contractor has failed to enter a rate or price shall be deemed to be covered by other rates and prices entered in the Bill of Quantities and no separate payment shall be made for such un-priced items.
9	The whole cost of complying with the provisions of the Contract shall be included in the Items provided in the priced Bill of Quantities, and where no Items are provided, the cost shall be deemed to be distributed among the rates and prices entered for the related Items of Work.
10	General directions and descriptions of work and materials are not necessarily repeated nor summarized in the Bill of Quantities. References to the relevant sections of the Contract documentation shall be made before entering prices against each item in the priced Bill of Quantities.
11	The brief description of the items given in the Bill of Quantities are purely for the purpose of identification and in no way modify or supersede the detailed descriptions given in the Conditions of Contract, Specifications or Drawings. When pricing items, reference is to be made to the Conditions of Contract, Standard Specifications, Drawings and Special Specification for the full directions and description of work and materials.
12	Provisional Sums item quantities which have been left blank in the Bill of Quantities included and so designated in the Bill of Quantities shall be expended in whole or in part at the direction and discretion of the Engineer in accordance with relevant Conditions of Contract.
13	A price or rate is to be inserted against each item in the Bill of Quantities, whether quantities are stated or not, and if the Bidder includes the cost of a particular item elsewhere in his rates or prices, he shall insert the word "nil" or " - " against both the rate and extension of that particular item. Should the Bidder omit to price an item, then it will be assumed that he has included the cost of the item elsewhere in his rates or prices.
14	The method of measurement of completed work for payment shall be as per the relevant clauses of the technical specification provided with the Tender and wherever details are not available, the standards of reference shall be IS codes
15	Errors will be corrected by the Employer for any arithmetic errors in computation or summation as follows: 1) where there is a discrepancy between amounts in figures and in words, the amount in words will govern; and 2) where there is a discrepancy between the unit rate and the total amount derived from the multiplication of the unit price and the quantity, the unit rate as quoted will govern, unless in the opinion of the Employer, there is an obviously gross misplacement of the decimal point in the unit price, in which event the total amount as quoted will govern and the unit rate will be corrected.
16	No alteration shall be made to the Bill of Quantities and no extra item shall be inserted. The Bidder shall satisfy himself that the Contract Sum arrived at by pricing the quantities and items given is sufficient compensation for constructing and maintaining the whole of the works in accordance with the Contract Documents.
17	During construction the unit rate established for an item in one Bill of Quantities may be used as a basis for establishing a unit rate for similar work in another Bill of Quantities, which contains no such item. No additional cost will be considered for such an eventuality.

18	The Contractor will be provided by the Employer with all that land occupied by the Permanent Works including the specified working width and other permanent construction works.
19	The Contractor is directed to refer to general notes provided in individual items in the Bill of Quantities for details of scope, inclusions, extent and liability of works.
20	Contractor shall submit the invoice and Original Minerals Royalty paid No Due Certificate (NDC) obtaining from local area Geology and Mining authorities (GOG or GOI) along with the final invoice. If Contractor fails to submit any royalties paid proof or no due certificate to the GPPL, GPPL shall deduct the equivalent amount of royalties from the Contractor invoices.
21	The Contractor shall submit the proper Tax invoice as prescribed in the GST Laws and issued in the name of "Gujarat Pipavav Port Limited" with details measurement sheet & drawing with all necessary supporting proof of document in the office of GPPL.
22	Charged GST by the Contractor shall be properly deposited in government treasury account, due tax returns are filed on time and other compliances as required by GST is undertaken well before the due date. The compliance of the same shall be solely responsible by the Contractor.
23.1	The Contractor undertakes to submit all the necessary information and documents including in particular, GSTIN of the Company/Firm, Company/Firm site, billing location, certificate of GST Registration and such other documents that may be required by Gujarat Pipavav Port Limited ('GPPL') to adhere to statutory compliances as applicable under the Goods and Service Tax ('GST') law. GPPL shall not be responsible for verification of GST registration number. Any tax Liability arising consequent to non-compliance of law or due to furnishing of incorrect registration number shall be borne by the Contractor. In the event, if the Company/Firm fails to furnish GST registration number, it will be treated as "unregistered"
23.2	The Contractor acknowledges and agrees that it would adhere to all the applicable GST compliance and accept / modify / reject the output supply as mentioned in GSTR – 1 filed by the Company within the statutory timelines as may be prescribed from time to time by the Government. The Contractor undertakes to intimate in case of any modifications required to be made in outward supply mentioned by GPPL in GSTR -1 against the Company/Firm, to GPPL within the statutory timelines prescribed by the Government.
23.3	The Contractor acknowledges and agrees that in the event any enquiry, scrutiny, audit assessment or any other tax proceedings are initiated against GPPL, the Company/Firm shall fully co-operate with GPPL by furnishing the relevant information related to the service provided by GPPL on timely basis as may be required by GPPL from the Company/Firm.
23.4	In case the GST credit is denied, or demand is recovered from GPPL on account of any non-compliance by the Contractor, including non-payment of GST Charged and recovered, the Contractor shall indemnify GPPL in respect of any claims of Tax, Penalty, Interest, Loss, Damage Cost, expense and liability that may arise due to such non-compliance. Gujarat Pipavav Port Limited GST Details as under. GSTN No. 24AAACG6975B1ZS PAN Card No. AAACG6975B
24	All quantities shall be measured in Metric Units.
25	Explanation of abbreviations of units of measurement used in the Bills of Quantities are as follows:-
26	For the pavement construction activity, in respect of technical specification to be referenced in the case of contradiction of two clause, MORTH specification shall be followed.
List of abbreviations used in BOQ	
	Sq.m.....Square metre
	Cu.m.....Cubic metre
	MT.....Metric Tonne
	Nos.....Numbers
	Rmt.....Running metre
	Kg.....Kilo gram
	hr.....Hours
	LS.....Lumpsum
List of Manufacture	
	Cement : Ultratech, ACC, Binani
	Reinforcement Steel : TATA, JSW, JINDAL, SAIL
	Sand : Yellow Dabholi
	Red Brick : ABC, JBC, VR, MB
	Paver Block : Vyara
	Thermoplastic Paint : Shalimar, DIC, Asian Paint,
	Wall/Floor tiles : Kajaria, Johnson, Cera,
	Flush Door : Masonite
	Prelam, Play Board : Rushil, Greenplay, Greenpanel
	Water Tank : Sintex

	Water Cooler : Blue Star, Voltas
	HDPE/UPVC/CPVC/PVC Pipe : Astral, Ashirvad, Supreme
	MS Pipe: JSW Steel, TATA, Suryalakshmi
	sanitaryware : Hindware, Jaquar, Cera
	Internal/External Paint : Asian Paint, Berger,
	Power Cable : RR Cable, Polycab, Havells
	Luminaires/Light/Fan fixtures : Bajaj, Philips, Havells
	Switches & Board : Cabtree, Havells, Bajaj, Philips
	MCB, ELCB : L&T, C&S,
	SS Pipe : Jindal Stainless, TATA
	Stainless Steel Hydrant :
	Fire hydrant and fittings : NewAge, Kartar
	Precast Drain : Fuji Silvertch

Development of Ro-Ro Yard at GPPL Pipavav			
Si.No:	ITEMS	AMOUNT (INR) IN FIGURES	AMOUNT (INR) IN WORDS
1	CIVIL WORKS	-	
2	UTILITIES WORKS	-	
	GRAND TOTAL	-	

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Office		AHMEDABAD - INDIA			Subject/Section		Volume-3, Part-1, Bill of Quantities														
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Prepared by		KC		25-10-2023																	
Checked by		AR		25-10-2023																	
Approved by		AR		25-10-2023																	

Bill of Quantities					
Note		All survey works with required instruments will be contractor's responsibilities. All excavation works shall be started only after joint survey record with client's engineer in-charge. All excavation quantities shall also be measured by SP-27 IS 1200 guidelines.			
Part - 1 Civil Work					
Sr. No	Description of work	Unit	Quantity	Rate	Amount
1	Earthwork				
1.1	Excavation by manual means / mechanical means				
	Excavation for roadway and yard area in soil such as hard murrum and boulders using manual means/mechanical means including sorting out and stacking of useful materials, dressing of the sides, ramming of bottom, for all kind of soil, including dewatering and backfilling in to trenches / foundation pits in layers, dressing section to the required grade, camber, side slopes and loading in a truck and carrying of cut earth to roadway and yard area site with all lifts and lead any where in to port premises and spreading for subgrade / embankment or stacking, disposing as directed by engineer in charge. Note: Quoted rate shall be inclusive of backfilling with the available excavated earth (For all purpose i.e.. civil, drainage & electrical works). consolidated earth measurement shall be measured and paid.	cu.m	11640		
1.2	Earth filling				
	Filling low lying area up to designed level with available/selected excavated earth from inside the plot (excluding rock and black cotton soil), in plinth in layers not exceeding 30 cm. in depth with optimum moisture conditions to give at least 90% of the maximum dry density (proctor density) including watering, ramming and compacting using mechanical vibrator (8 to 10 T capacity), including freight, transportation, loading, unloading, screening, passes etc. all complete including 95% proctor density test as per requirement and suggestion of client as directed by the Engineer-in-charge (Consolidated measurements of fill shall be paid for under this item). The rates shall include for all leads and lifts including transporting using mechanical / manual means within the port premises. Note: Low lying area area being filled 2 years back and no compaction being carried over, same to be considered.	cu.m	4030		
Sub Total					-

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Revision No.		0	Date	1	Date	2	Date	3	Date	4	Date
Prepared by		KC	25-10-2023								
Checked by		AR	25-10-2023								
Approved by		AR	25-10-2023								

Sr. No	Description of work	Unit	Quantity	Rate	Amount
1.3	Subgrade				
	Construction of subgrade / embankment to have CBR of 8% with approved materials obtained from private land/borrow pit or material obtained from cutting & excavation from land at site including all lifts and laying in layers of 500mm thickness, breaking clods, dressing to the required lines, curves, grade and section, watering and rolling compaction to 97% of standard proctor density with vibratory roller.	cu.m	Rate only		
2	Granular sub base				
	Construction of granular sub-base by providing coarse graded material, spreading in uniform layers with motor grader on prepared surface, mixing by mix in place method with rotavator at OMC, and compacting with vibratory roller to 98% of maximum dry density density, complete (payment will be done for consolidated volume) as per MORTH specification	cu.m	13230		
3	Dry Lean Concrete (DLC)				
	Providing and construction of dry lean concrete having 28-days characteristic compressive strength of 10 MPa conforming to IRC:SP:49-2014, as sub-base for cement concrete pavement in accordance with the requirements as per technical specifications and in conformity with the lines, grades and cross-sections shown on the drawings or as directed by the Engineer. The work shall include furnishing of all plant and equipment, materials and labour and performing all operations, in connection with the work, as approved by the Engineer. Cement content: The minimum cement content in the lean concrete shall not be less than 180 kg/cu.m. of concrete.	cu.m	6615		
4	Precast Interlocking Concrete Paver Blocks				
	Providing and laying high strength interlocking concrete "Unipavers Blocks" (of 50 MPA strength) of Vyara make of approved shapes and sizes, laid in required colour and pattern to proper line and level on the sand bedding including filling of joints with approved sand and Sq.m. vibratory compaction etc complete including material, transportation, loading & unloading, manpower, tools & tackles etc complete and as directed by Engineer. Laid paver block shall be mechanically compacted. The work of the paving blocks shall be executed in line and level by skilled mason of flooring work only. It should be laid in such a way that the no cutting of the paver block to be necessary. Cutting of paver block by machine cut only. The Finished surface of the Paver Block shall have Coarse Sand Texture Finish. Paver blocks shall be compacted and shall be re-laid if necessary. Sand shall be used yellow sand from the Dabholi area.				
	Sub Total				-

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Bill of Quantities					
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5	Concrete, Steel and Brick Work				
5.1	Plain Cement Concrete				
	Providing & Placing Plain cement concrete in sub-structure & super-structure complete including formwork, compaction, curing & admixtures as per drawings and technical specifications. Sand shall be used yellow sand from the Dabholi area.				
	M15 grade	cu.m	50		
5.2	Reinforced Cement Concrete				
	Providing & Placing precast or cast-in-situ reinforced cement concrete in sub-structure & super-structure complete including cover blocks, formwork, scaffolding, compaction, curing & admixtures (but excluding reinforcement) as per drawings and technical specifications. Sand shall be used yellow sand from the Dabholi area.				
	M30 grade	cu.m	237		
5.3	Reinforcement bars				
	Supplying, fitting and placing in position HYSD bars (Fe 500D conforming to IS 1786:2008) reinforcement of various diameters for precast or cast-in-situ reinforced concrete works in structure complete including cutting, bending, hooking, binding with wires or tack welding and supporting as required as per drawings and technical specifications. Reinforcement @ 125 Kg/m³	MT	30		
5.4	Structural Steel				
	Providing and fabricating structural steel work in rolled sections like joist, channels, angles, tees etc., in hollow sections like RHS, SHS & CHS as per detailed design and drawings or as directed by Engineer-In-Charge, including cutting, fabricating, hoisting, erecting, welding, fixing in position making riveted / bolted / welded connections with connecting plates, braces etc. and including one coat of anticorrosive paint and over it two coats of oil painting of approved quality and shade etc. complete.	MT	5.5		
5.5	Brick work				
	Providing and laying brick work using common burnt clay conventional building bricks conforming to IS 1077-1992 having compressive strength not less than 35 kg/cm² in cement mortar 1:4 (1 Cement : 4 coarse sand) for all heights/all levels, in any shape, in any position, including curing, scaffolding, etc. complete, as directed. (for all civil, plumbing & electrical works). Whenever required.	Cu.m	Rate only		
	Sub Total				-

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Checked by	AR	25-10-2023								
Approved by	AR	25-10-2023								

Sr. No	Description of work	Unit	Quantity	Rate	Amount
6 Plastering Work					
6.1	External Plastering with chicken mesh				
	Providing & laying average 18 mm. thick cement plaster in two coats (External Plaster) at all heights, all shapes and all levels with first coat of 12mm thick in CM 1:4 (1 cement: 4 coarse sand) rough wired finish and second coat of 6mm thick in CM 1:2 cement mala finish (finished with steel trowel) including scaffolding, curing, making grooves, chicken mesh, forming pattas and drip mould, hacking RCC surface etc. complete, as directed by Engineer-In charge. (for all civil, plumbing & electrical works).	Sq.m	Rate only		
6.2	Internal Plastering with chicken mesh				
	Providing and laying average 15 mm thick single coat mala finish internal plaster in CM 1:4, on sides of masonry work / block work / RCC at all levels, floors, all shapes and all heights with necessary scaffolding, curing, making grooves, chicken mesh, forming pattas, hacking properly RCC surface etc. complete as directed by Engineer-in-charge (for all civil, plumbing & electrical works).	Sq.m	Rate only		
	Chicken mesh description				
	Providing and fixing hexagonal chicken mesh of size 20 mm. x 20 mm. of 26 gauge and minimum 150mm wide patta with GI nails at junction of concrete and brick work or between different materials, etc. as directed by engineer in charge. (for all civil, plumbing & electrical works).				
	Sub Total				-

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7	PVC coated chain link fence				
	Providing, Supplying, Transporting & fixing of PVC coated chain linked fencing of upto 2m height having the diagonal opening (Diamond Shape) size of the mesh is 50mm x 50mm in both ways. The chain linked fencing should be made of poly coated 3.15mm GI wires. Total dia of the GI wire with the PVC coating (Green Colour) should be 4mm. Chain fencing shall be secured between respective concrete posts by 1600mm x 50mm x 4mm GI strips, 10mm dia threaded bolts, washers & nuts as mentioned in the drawings or Rmt specification & MS angle sections. Bolts, nuts & washers should be of galvanized to a min. 80micron coating. Supporting Pole & Main pole to be fixed rigidly with 50mm width GI Strip on outer face (only 1 side of pole), using 10mm dia GI Bolt. The chain link shall be of approved make and as per IS 2721 : 2003 and shall be got approved by the Engineer-in Charge before incorporation in the work and as directed by the Engineer In Charge.	Rmt	966		
8	Precast concrete poles				
	Providing, Supplying, Transporting & fixing precast reinforced concrete poles (M30 grade concrete) with 10mm holes @ 300mm c/c along the length. The dimension of the precast concrete poles should be 150mm x 150mm x 2100mm. Diagonally supporting poles of same dimension as mentioned above to the vertical poles should be fixed at a distance of 100m c/c & at each corner where fencing is diverting from the main alignment. The poles should be correct to its dimensions without any honeycombs. Any damaged piece shall be rejected & has to be replaced by a new one by the contractor at his own cost. The surface of the poles should be a levelled & smooth. Supplying, transporting & fixing of poles shall be with all manpower, materials, machineries, tools, tackles & PPE to complete the work in all respect and as directed by the Engineer In Charge	Nos	360		
Sub Total					-

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Sr.No	Description of work	Unit	Quantity	Rate	Amount	
9 Road Marking Painting						
9.1	Providing and laying of hot applied thermoplastic compound 3.00 mm thick Yellow / White including reflectorising glass beads @250 gm. Per sqm area, thickness of 3.00mm is exclusive of surface applied glass beads as per IRC:35. The finished surface to be level, uniform and free from streaks and holes etc. Complete as per drawings, technical specifications and MoRT&H SPEC No. 803 with 3 years guarantee. (traffic lane edge/centre lines strips 10cm. wide)	Sq.m	483			
9.2	Slot marking: Providing and painting centre line, dashes, arrows, zebra pattern at pedestrian crossing etc.in two coats with ready mixed road marking paint conforming to IS:164 on road & pavement surface, including cleaning the surface of all dirt, dust and other foreign matter, demarcation at site and traffic control involved etc. complete as per drawings, technical specifications and MoRT&H SPEC No. 803 with 3 years guarantee.(10 cm in width). Considered only main area marking.	Sq.m	1564.5			
Sub Total						-

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Checked by	AR	25-10-2023								
Approved by	AR	25-10-2023								

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10	Construction of Toilet Block					
10.1	Construction of Toilet Block building including, but not limited to, the following items complete as per the drawings and technical specifications. It is clarified hereby that the mode of measurement shall be based on the built-up area of the building. 2 nos. (one each near entry gate & exit gate)	Sq.m	22			
	Earthwork - Excavation & Backfilling					
	Foundation, Footing & Plinth works					
	Plain & Reinforced Concrete works					
	Brick, Stone or Concrete Block Masonry works					
	Waterproofing & Anti-termite Treatment					
	Internal & External Plastering & Painting works					
	Internal & External Flooring, Dado & Paving works. Tiles for Floor and wall along with plinth protection					
	Door, window, ventilators & Partition works					
	Internal & External Electrification & Lighting works, luminaires, fixtures, fittings, fans, exhaust fans, wiring, cabling, switch boards, panels, distribution boards, MCB, ELCB, etc					
	Internal & External Storm water drainage					
	Internal & External Water supply, plumbing & sanitary works, underground water tank, high density polyethylene UV stabilized triple layer overhead water storage tank of 1000 litre capacity conforming to IS 12701 of Sintex or equivalent brand with accessories, connections, testing etc complete.					
	M.S. cage ladder for accessing roof of toilet block, as per drawing & as directed by Engineer in-charge.					
	Rain water grating, 110mm dia rain water pipe TB, 110mm rain water pipe for connecting to nearest storm water drain & Khura 350 x 350, as per drawing & as directed by Engineer in-charge.					
	UPVC piping, fittings & accessories					
	Bib cock, stop cock, angle cock, flush cock, ball cock, health faucets, etc					
	Nahani trap, gully trap, inspection chamber, interseptic chambers, Manholes, etc complete					
	Cast iron, Salt glazed stoneware/NP2 class precast concrete/UPVC/HDPE sewage/waste water pipes, fittings & collars etc complete					
	Water Closets - Indian, Orissa, European including P or S trap, flush cock, health faucet, flushing cistern, bib cock, etc					
	Urinals with angle cocks, flush cocks, traps, marble/granite/glass partitions, etc					
	Wash hand basins with pillar cocks, traps, polished marble/granite counter top, mirrors, etc					
	All toilet accessories & ladders, Portable fire extinguishers, miscellaneous items as required.					
	Septic tank and soak well					
Sub Total					-	

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	Bill of Quantities								
	Sr. No	Description of work				Unit	Quantity	Rate	Amount
	10	Construction of Operation Building							
		Construction of Operation building including, but not limited to, the following items complete as per the drawings and technical specifications. It is clarified hereby that the mode of measurement shall be based on the built-up area of the building.				Sq.m	11		
		Earthwork - Excavation & Backfilling							
		Foundation, Footing & Plinth works							
		Plain & Reinforced Concrete works							
		Brick, Stone or Concrete Block Masonry works							
		Waterproofing & Anti-termite Treatment							
		Internal & External Plastering & Painting works							
		Internal & External Flooring, Dado & Paving works. Tiles for Floor and wall along with plinth protection							
		Door, window, ventilators & Partition works							
		Internal & External Electrification & Lighting works, luminaires, fixtures, fittings, fans, exhaust fans, wiring, cabling, switch boards, panels, distribution boards, MCB, ELCB, etc							
	11	Mild Steel Sliding Gate							
	11.1	Providing and fixing mild steel sliding gate 9.2m wide & 1.7m high with SHS member frame & 25 NB vertical members @ 125mm c/c, including hinges, heavy duty rollers (minimum 2nos per gate), 6mm catch plate (4nos per gate), guided rollers (8nos per gate), locking arrangement, rail for movement of gate (1nos per gate, to be fixed on RCC beam beneath it), cleats welded to gate track at suitable spacing for proper gate positioning & SHS member gate frame (for gate placement & positioning) (4nos per gate) with base plate & anchor bolts, welding, riveting with oil painting in three coat of approved colour shade etc. complete as per drawing & technical specification, 2 nos. (one each for entry & exit) (Weight of gate must be 50 kg /sq.m.)				Sq.m	33		
	12	Mild Steel Wicket Gate							
11.2	Providing and fixing mild steel wicket gate 0.85m wide & 1.7m high with ISA 65 x 65 x 10mm frame & 10mm wide MS flat @ 150mm c/c and 8mm thick plate placed at bottom as per detail drawing & technical specification, including hinges, pivot blocks, locking arrangement, welding, riveting with oil painting in three coat of approved colour shade etc. complete. 2 nos. (one each for entry & exit) beside security cabin.				Sq.m	4			
	Sub Total							-	

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Office		AHMEDABAD - INDIA		Document Title		Volume-3, Part-1, Bill of Quantities				
BMT Doc No:		BMTI-1511-GPPL-TEN-DOC-002								
Revision No.	0	Date	1	Date	2	Date	3	Date	4	Date
Prepared by	KC	25-10-2023								
Checked by	AR	25-10-2023								
Approved by	AR	25-10-2023								

Bill of Quantities										
Sr. No	Description of work				Unit	Quantity	Rate	Amount		
13	Porta Cabin for Security Guard									
	Providing and installing Porta Cabin of size 6'0" x 6'-0" including 40 x 60 Rec. GI pipe Top & Bottom with 2' x 2' skid spacing in bottom & truss as specified in specifications at top, 8mm Pre-Lam MDF board as wall basic, 1 nos of door & windows on all four sides, paint, seat, electrical including 1 nos of fan, 1 nos of light, suitable nos of chairs for seating, 1 nos of table & telephone wiring, etc complete in all respect as per drawings and technical specifications.				Nos	5				
14	Removal of existing chain link fencing									
	Removal of the existing fencing inside the proposed yard area by all means of removal of foundation blocks, poles and fencing such a that good quality fencing can be reused whenever required. Rate shall be including removing of complete fencing with all means and staking at the desired location within the port premises mentioned by the Engineer in charge.				Rmt	170				
15	Oil Water separator near Washing area									
	Providing Oil Water separator near washing areas with Closed drain from washing area to collection pit, 1 nos. of collection pit, 1 nos. Oil Water pit, 1 nos. of Water pit & 1 nos. of Oil collection pit with Steel cover & outlet pipe from Water pit to Main Existing Drain, complete as per drawing or as directed by the Engineer in-charge.				Nos.	1				
16	Water Cooler									
	Providing 2 nos of water cooler with RO in drinking water facility for min 150 ltrs storage capcity as per drawing & specification & as directed by engineer in-charge.									
	Sub Total							-		
	Grand Total							-		

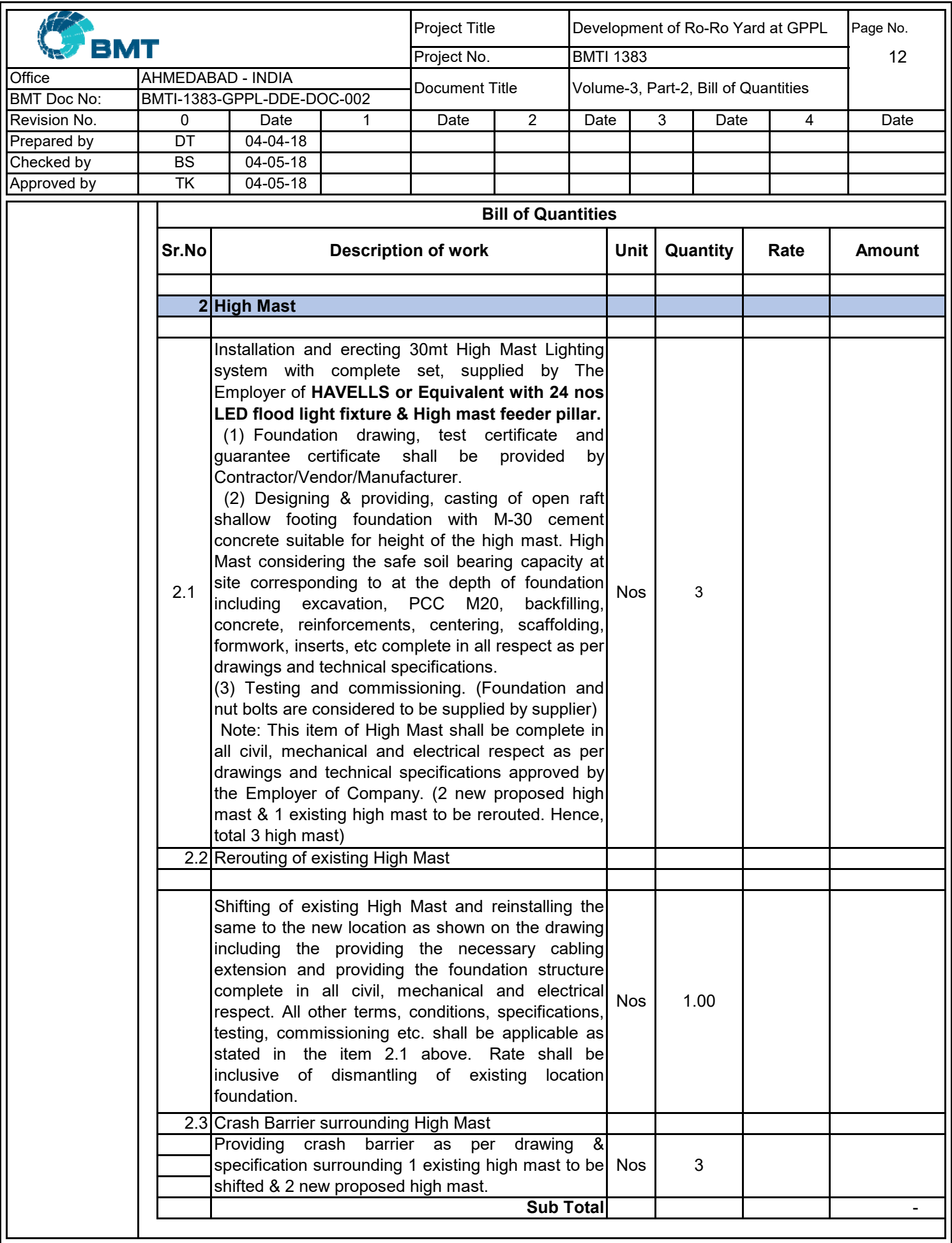
 Merizen				Project Title		Development of Ro-Ro Yard at GPPL				Page No. 10
				Project No.		BMTI 1383				
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BMT Doc No:		BMTI-1511-GPPL-TEN-BOQ-001								
Revision No.	0	Date	1	Date	2	Date	3	Date	4	Date
Prepared by	DT	04-04-18								
Checked by	BS	04-05-18								
Approved by	TK	04-05-18								

#	Bill of Quantities					
	Part - 2 Utilities Work					
	Sr.No	Description of work	Unit	Quantity	Rate	Amount
	1	External Fire-fighting Hydrant System complete in all respect including but not limited to the following items with providing, installation, testing & commissioning				
	1.1	Providing, laying, testing & commissioning of 'C' class heavy duty MS pipe conforming to IS 3589/IS 1239 including Welding, fittings like elbows, tees, flanges, tapers, nuts bolts, gaskets etc. and fixing the pipe on the wall/ceiling with suitable clamp/support frame and painting with two or more coats of synthetic enamel paint of required shade complete as required :				
		(a) 100 mm dia	Rmt	905		
	1.2	Supply and Apply for Painting of the aboveground pipes with one coat of zinc chromate yellow primer and two coat of fire red enamel paint				
		(a) 100 mm dia	Rmt	905		
	1.3	Supply, Erection, testing and commissioning Cast Iron Sluice Valve non-Rising Spindle type with matching flange, Nut/Bolts, gasket, etc.,				
		(a) 100 mm dia	Rmt	9		
	1.4	Supply, Installation, Testing and Commissioning Single headed, Stainless Steel Hydrant valve, oblique type 63 mm Dia with flanged inlet with blank cap & chain as per IS:5290 with ISI Mark	Nos	20		
	1.5	Providing and fixing 63 mm Dia instantaneous pattern branch short SS pipe, 20 mm Dia nozzle conforming to relevant IS standard, suitable for inter connection to hose pipe coupling complete as required	Nos	20		
	1.6	Providing & fixing non-percolating, rubber reinforced lined fire hose pipe of 63 mm Dia and 15 meter length as described below. The hose shall be rated for burst pressure of 35.7 Kg/sqcm. Hose shall be complete with ISI marked brass male & female coupling bound & riveted to hose pipe with copper rivets & 1.5 mm copper wire	Nos	40		
		Sub Total				-



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BMT Doc No:	BMTI-1383-GPPL-DDE-DOC-002									
Revision No.	0	Date	1	Date	2	Date	3	Date	4	Date
Prepared by	DT	04-04-18								
Checked by	BS	04-05-18								
Approved by	TK	04-05-18								

Sr.No	Description of work	Unit	Quantity	Rate	Amount
1.7	Supply and Installation of Hydrant box made of FRB Size: 750 x 600 x 250 with glass fronted door, painted red outside and white inside, having central opening and 4 mm thick glazed glass doors (Two nos.) suitably marked on the outside with the letters "FIRE HOSE" including necessary locking arrangement and shall be painted with one coat of primer and two coats of synthetic enamel paint of approved shade. The cabinet shall be suitable to accommodate 2 nos. or 4 nos 15 mtr long Hose pipe & 2 Nos branch pipe nozzle. (Cost shall be inclusive of providing break glass box containing key for the cabinet along with hammer)	Nos	20		
1.8	Supplying and fixing of fire brigade connection of cast iron body with gun metal male instantaneous inlet couplings complete with cap and chain as reqd. for suitable dia MS pipe connection conforming to IS 904 as required :	Nos	20		
1.9	Providing and Fixing Fire Sand buckets round bottom type enamel painted, white inside & Red out side and Letter "FIRE" in black out side and handle with mounting bracket.				
1.10	2 way-100 mm dia M.S. Pipe	Nos	2		
1.10	Rerouting of existing Fire Fighting Line				
	Rerouting of the existing fire fighting line, the existing fire fighting line fall within the proposed plot area shall be rerouted as per the fire fighting services line of developed yard. Rerouting shall be done in such a manner that maximum material shall be reused.	Rmt	65		
Sub Total					-





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Revision No.		0	Date	1	Date	2	Date	3	Date	4	Date
Prepared by		DT	04-04-18								
Checked by		BS	04-05-18								
Approved by		TK	04-05-18								

Bill of Quantities					
Sr.No	Description of work	Unit	Quantity	Rate	Amount
3 HDPE Pipes for Water Supply					
	Providing and fixing in position High Density Polyethylene (HDPE) water supply & plumbing pipes of designation PE 80 PN 10, specified outer diameter required standard thickness confirming to I.S.. 4984, and IS 7634 for Laying & Jointing of Polyethylene (PE) pipes, including necessary fittings confirming to I.S. 7328 & IS 8008 such as bends, elbows, tees, couplings, unions, reducers, clamps, brackets, plugs, sockets, union nuts, jointing of pipes with Butt or Electro-fusion Process, and brick masonry chamber with cast iron frame & mild steel hinged cover with locking arrangements, all necessary accessories & fittings including valves such as sluice valves, butterfly valves, air valves & stop cocks/bib cocks, taps etc. necessary excavation trench, refilling, necessary drilling holes in walls / slab, etc and refilling the same in cement mortar 1:3, making good the surface etc., making connections watertight with solvent cement, cutting, excavating the trench & backfilling the same, thrust blocks, valve chambers, hydraulic testing, commissioning, etc complete as per the drawings and technical specifications. (For 10.00 Kg/Sq.cm.. pressure)(including defect liability period and bond for three years.)				
	50 mm dia	Rmt	475		
	Supply & fixing of Ball Valve. Tested to a pressure of 15 kg/sq.cm. Including rubber gasket, flanges, nuts, bolts, washers & painting complete as required.				
	50 mm dia	Nos	5		
	Supply, Erection, Testing and Commissioning of C.I. Non-return valve Ball type with matching flange, Nut/Bolts, gasket, etc., - 50 mm Dia				
	50 mm dia	Nos	1		
	Support for Water supply line				
	Sub Total				-



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Revision No.	0	Date	1	Date	2	Date	3	Date	4	Date
Prepared by	DT	04-04-18								
Checked by	BS	04-05-18								
Approved by	TK	04-05-18								

Bill of Quantities						
Sr.No	Description of work	Unit	Quantity	Rate	Amount	
4	Cable conduits with Chambers					
4.1	Excavation and back filling of cable trenches required for laying the cables directly buried in the ground. This includes supplying and providing cable markers at regular interval. The depth shall be app. 1.0 mtr and the width shall be as per requirement. Rate shall be inclusive of, but not limited to, below all items and requirements.	Rmt	1110.00			
4.2	Conduit Cable trenches for laying cable inside the yard with two conduits of dia 150mm	Rmt	780			
4.3	Conduit Cable trenches for laying cable inside the yard with two conduits of dia 100mm	Rmt	920			
4.4	Supply Installation, testing and commissioning of 1.1 KV LV, 3.5C X 185 Sqmm aluminium armoured XLPE Cable In ready made Trench & Pipe crossing with opening cleaning and refilling, refitting of trench cover as required and instruction of the client Make: Havells/RR. Form existing substation to yard panel	Rmt	400			
4.5	Supply Installation, testing and commissioning of 1.1 KV LV, 3.5C X 50 Sqmm aluminium armoured XLPE Cable In ready made Trench & Pipe crossing with opening cleaning and refilling, refitting of trench cover as required and instruction of the client Make: Havells/RR	Rmt	315			
4.6	Supply Installation, testing and commissioning of 1.1 KV LV, 3.5C X 35 Sqmm aluminium armoured XLPE Cable In ready made Trench & Pipe crossing with opening cleaning and refilling, refitting of trench cover as required and instruction of the client Make: Havells/RR	Rmt	220			
4.6	Supply Installation, testing and commissioning of 1.1 KV LV, 4C X 25 Sqmm aluminium armoured XLPE Cable In ready made Trench & Pipe crossing with opening cleaning and refilling, refitting of trench cover as required and instruction of the client Make: Havells/RR	Rmt	105			
4.7	Supply Installation, testing and commissioning of 1.1 KV LV, 4C X 16 Sqmm aluminium armoured XLPE Cable In ready made Trench & Pipe crossing with opening cleaning and refilling, refitting of trench cover as required and instruction of the client Make: Havells/RR	Rmt	450			
	Sub Total				-	



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Prepared by		DT	04-04-18								
Checked by		BS	04-05-18								
Approved by		TK	04-05-18								

Bill of Quantities						
Sr.No	Description of work	Unit	Quantity	Rate	Amount	
4.8	Supply Installation, testing and commissioning of 1.1 KV LV, 4C X 4 Sqmm copper armoured XLPE Cable In ready made Trench & Pipe crossing with opening cleaning and refilling, refitting of trench cover as required and instruction of the client Make: Havells/RR	Rmt	1295			
4.9	Service chamber (maintenance Pit) of 4ft X4ft. with 100mm thick sand bed & 100mm thick M15 PCC work & 150mm thick M30 RCC base slab & brick work using common burnt clay conventional building bricks conforming to IS 1077-1992 having compressive strength not less than 35 kg/cm2 in cement mortar 1:4 (1 Cement : 4 coarse Sand) for all heights/all levels, in any shape, in any position, including curing, scaffolding, etc. complete, as directed & 15mm thick water proofing plaster as per drawing & with 20 diameter PVC Rungs steps & M30 RCC work as per drawings for resting Ductile iron Gatic cover of size 610mm x 610mm (with Solid top with Class E loading) & providing Manhole as per drawing.	nos	37			
4.10	Supply Installation testing and commissioning of Main LT PANEL with incomer of 160 Amp 4P MCCB 35 KA with Micro Processor based release having inbuilt protection O/L ,S/C, E/F adjustable setting facility with rotary handle with Shunt trip & outgoing feeders of numbers of 63A FP MCCBs & 32A FP MCBs Full description will be attached here with.	Pcs	1			
4.11	Supply installation testing and commissioning of 6way VTPN MCBDB with outdoor type protection for car was area	Pcs	1			
4.12	Supply installation testing and commissioning of 4way TPN MCBDB (entry security cabin)	Pcs	1			
4.13	Supply installation testing and commissioning of 6way SPN MCBDB (Exit security cabin & Operational cabin)	Pcs	2			
	Sub Total				-	

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Revision No.	0	Date	1	Date	2	Date	3	Date	4	Date
Prepared by	DT	04-04-18								
Checked by	BS	04-05-18								
Approved by	TK	04-05-18								

Bill of Quantities										
Sr.No	Description of work				Unit	Quantity	Rate	Amount		
4.14	Cable End Terminations									
a	Supply Installation, testing and commissioning Cable End termination for 1.1 KV LV, 3.5C X 185 Sqmm aluminium armoured XLPE Cable with Lugs and Double compressed gland with required hole cutting in panel as instruction of the client:- (Dowells & HMI make)				Pcs	2				
b	Supply Installation, testing and commissioning Cable End termination for 1.1 KV LV, 3.5C X 50 Sqmm aluminium armoured XLPE Cable with Lugs and Double compressed gland with required hole cutting in panel as instruction of the client:- (Dowells & HMI make)				Pcs	2				
c	Supply Installation, testing and commissioning Cable End termination for 1.1 KV LV, 3.5C X 35 Sqmm aluminium armoured XLPE Cable with Lugs and Double compressed gland with required hole cutting in panel as instruction of the client:- (Dowells & HMI make)				Pcs	2				
d	Supply Installation, testing and commissioning Cable End termination for 1.1 KV LV, 3.5C X 25 Sqmm aluminium armoured XLPE Cable with Lugs and Double compressed gland with required hole cutting in panel as instruction of the client:- (Dowells & HMI make)				Pcs	2				
e	Supply Installation, testing and commissioning Cable End termination for 1.1 KV LV, 4C X 16 Sqmm aluminium armoured XLPE Cable with Lugs and Double compressed gland with required hole cutting in panel as instruction of the client:- (Dowells & HMI make)				Pcs	4				
f	Supply Installation, testing and commissioning Cable End termination for 1.1 KV LV, 4C X 4 Sqmm aluminium armoured XLPE Cable with Lugs and Double compressed gland with required hole cutting in panel as instruction of the client:- (Dowells & HMI make)				Pcs	20				
	Sub Total							-		



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Approved by	TK	04-05-18								

Bill of Quantities							
Sr.No	Description of work			Unit	Quantity	Rate	Amount
4.15	Supply, Installation, Testing and Commissioning of earthing stations for electrical equipment and other stand alone installations as per IS 3043 (amended up to date) of 600 X 600X12 mm GI Plate/ GI Pipe Electrode and 50mm GI pipe, funnel etc,2.5/3m length and diameter suitable to give earth resistance less than one ohm, complete with riser earth strips of required size in hot dipped GI, Identical precast earth chambers at ground level with chamber cover of required strength as per site requirement in the yard complete with painting and identification to be included. The scope also covers testing of all earth pits for Resistance and submission of Test Results from Certified agency as required and instruction of the client.			Pcs	12		
4.16	Earthing strip hot deep GI of size 25X6mm			m	120		
4.17	2.5 Sq mm Point Wiring with conduits/concealed			Pcs	20		
4.18	Fabrication work to install panels and development of barricading to high masts and panels			Kg	600		
4.19	Civil Foundation of Main panel			Pcs	1		
5 CCTV Network and camera							
	Supply and procurement, lying of followings.						
	SONY	SNC-EB632R	Full HD Bullet camera , 2 MP,CMOS,Dynamic Range 130 db,Vari Focal Lens 3.0mm-9mm,30fps,H.264,IR 30 Mtr, ONVIF,T D/N,POE,UL (with pole hexa gonol mounting bracket)	Nos	6		
	D-LINK	DFE-855S-15i	Standalone Media Converter	Nos	10		
	D-LINK	DES-1008PA	8 Port switch unmnaged POE switch	Nos	2		
	DIGILINK	DIGILINK	SC-SC Fiber patch code 1 meter	Nos	10		
	DIGILINK	DIGILINK	Cat 6 Patch cord 1 mtr.	Nos	10		
	APC	APC650V	Ups 650 VA APC	Nos	6		
	Sub Total						-



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Prepared by	DT	04-04-18								
Checked by	BS	04-05-18								
Approved by	TK	04-05-18								

Bill of Quantities										
Sr.No	Description of work			Unit	Quantity	Rate	Amount			
	SS	IP 66 SS	Pole mounted SS Junction box with LIU mounting plate, power strip. C channel for MCB mounting & provision for 15 AMP socket mounting, tray 1no. With Hexa Gonol Pole mount stand. W600xH400XD500	Nos	6					
	Bajaj	GI	12 Mtr. Octagonal GI hot dipped Poll with foundation	Nos	6					
	Standard	Standard	POE CCTV IP Camera 12V DC O/p	Nos	6					
	Milestone	XPCODL	XProtect Corporate Device Channel License	Nos	6					
	Milestone	YXPCODL	One year SOP for XProtect Corporate Device Channel License	Nos	6					
	DIGILINK	DIGILINK	Fiber 24core armour single mode	Nos	950					
	DIGILINK	DIGILINK	Fiber splicing as actual	Nos	90					
	DIGILINK	DIGILINK	6 Port Loaded LIU with Pigtail, SC coupler and coupler plate	Nos	6					
	DIGILINK	DIGILINK	24 Port Loaded LIU with Pigtail, SC coupler and coupler plate	Nos	1					
	RYCHEM	RYCHEM	24 PORT FIBER	Nos	2					
	STD	STD	ISI HDPE PIPE 32mm	Nos	950					
	DIGILINK	--	Cat 6 STP Cable	Nos	1					
	--	--	Fiber Laying charges with HDPE pipe with shuddle	Nos	950					
	--	--	Excavation and Back filling as Actual	Nos	100					
	--	--	Installation with cabling & configuration Of CCTV Camera	Nos	6					
	--	--	IP 66 Junction box installation on pole with require cable access provision.	Nos	6					
	Sub Total						-			

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Revision No.	0	Date	1	Date	2	Date	3	Date	4	Date
Prepared by	DT	04-04-18								
Checked by	BS	04-05-18								
Approved by	TK	04-05-18								

	Bill of Quantities								
	Sr.No	Description of work				Unit	Quantity	Rate	Amount
	6	Storm water drainage							
	6.1	Precast Concrete Pipes							
		Providing & Laying precast cement concrete pipe complying to IS 458-1988 of specified Class in proper line level & slope including providing fixing collars in cement mortar 1:2 etc complete including bedding of granular soil, PCC & brick supports, excavating & backfilling the trench as per drawings and technical specifications.							
		NP3 Class 750mm diameter				Rmt	Rate only		
		NP3 Class 900mm diameter				Rmt	Rate only		
	6.2	Concrete 'U' Channel							
		Providing & Laying precast/in-situ cement concrete 'U' Channel complying related IS code in proper line level & slope including providing fixing joints in cement mortar 1:2 etc complete including bedding of granular soil, PCC & brick supports, excavating & backfilling the trench, Formwork, Centering, reinforcement, edge angles etc complete in all respects as per drawings and technical specifications.				Rmt	325		
		Sub Total							-
	Grand Total								-