

**Chittaranjan National Cancer Institute(CNCI)
Kolkata (W.B)**



Dated:19.02.2015

AMENDMENT NO.-I

Project Name-Construction of Hospital Building, Residences, Hostels, etc including Associated Services and Operations & Maintenance during defect liability period at CNCI, Rajarhat, Kolkata

Tender No.-HSCC/CNCI/2015; dated 05.02.2015

This has reference to subject work, the following Amendment may be noted, which shall be treated as a part of the contract to be uploaded along with tender/contract:

Reply to Pre Bid Queries raised by bidders during pre-bid meeting held on 13.02.2015 at HSCC (India) Ltd Head office, Noida.

S.No	Clause, Section & Vol No	Description	Pre-bid Queries	Reply to Pre-bid Queries
1	Schedule F / Vol02GCC	Table for Mile stone	We request you to amend the clause such that contractor shall complete the work based on the over all contract duration of 24 months. Hence, there shall not be any retention towards this.	No change in tender conditions
2	Clause 2	Compensation for Delay	We request to amend the clause as 1% per month of delay and max. not exceeding 5% of the Tender Value	No change in tender conditions
3		Makes of Material	Kindly confirm whether we can propose alternative makes other then makes mentioned in the Approved list.	Shall be dealt as per tender condition.
4	Clause 10B / Schedule F	Mobilisation Advance	We request to provide the applicability of mobilisation advance clause in Schedule F to "Yes".	Mobilisation advance is not applicable and will not be paid.
5	Clause 10B	Mobilisation Advance	We request to issue interst free mobilisation advance.	Mobilisation advance is not applicable and will not be paid.
6	Clause 10B	Mobilisation Advance	Request to amend the Recovery of Advance in Running Bill From 20% of CV Till 90% of CV	As mobilisation advance is not payable, this is not applicable
7	Clause 10CA	Price variation	We presume that 10CA is applicable for Cement, Reinforcement steel and Structural steel. Kindly confirm it.	Please refer pg-115 Vol-II(GCC).It is clearly stated that clause 10CA is applicable only for Cement, Steel reinforcement bars & Structural steel and not for any other materials.
8	Clause 10CC	Price variation	We request to modify the % of component as follows since, Cement and steel covers 15% to 20% of component for price variation. Materials Xm = 50% + Labour Y = 25% + POL Z = 5%	No change in tender conditions

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9	iv / Vol03SCC	Approval required	Since, this being the item rate contract all the approvals / clearance like Construction permit, MOEF, Civil Aviation and Occupancy certificate are part of Client scope. The contractor shall responsible only for construction related approvals. Also, as we found that all the MEP works are not considered in this package, obtaining approvals except HVAC, Transformer, DG, Lifts and Medical system which are not in the present scope of work is critical. Kindly confirm it.	No change in tender conditions
10	31.e / Vol03SCC	Retention	We presume that there is no cash retention as per GCC. Hence, 2.5% of BG only to be provided within 30 days from LOI. Kindly confirm it.	Please Refer pg-35 Clause 31(e) of SCC which states as under Within 30 days of award of work, The contractor shall furnish a bank Guarantee from any nationalised/Scheduled bank for an amount of 2.5% (Two & half) of the contract price in the form approved by the Engineer and having validity upto completion period with a claim period of three months as per format attached at Annexure-F and shall be released after taking over of the work by the Employer. Further retention money @ 5% (Five) shall be Deducted from each interim certificate from First RA bill subject to a maximum of 2.5 % (Two & half) of the contract price and shall be released after successful completion of defect liability period. Alternatively/or Retention money at the rate of 10% (ten percent) shall be deducted from each interim certificate subject to the maximum of 5%(Five percent) of the contract price after approval by engineer. (50% of retention money shall be released after taking over of work by the Employer and balance 50% shall be released after successful completion of defect liability period.
11	42.2.4 / Vol03SCC	Water supply & power supply	Request you to provide electricity and water at one point on chargeable basis. Further tapping in Contractors Scope.	No change in tender conditions
12	42.2.5/ Vol03SCC	Site office and Infrastructure	We presume furnished site office to be provided to Client / Consultant. We request to provide required builtup area and no. of occupants to enable us to make consideration.	For office purpose built up area about 160 sqm would be required.
13	42.2.6/ Vol03SCC	Temporary Fencing	Request to provide the length of temporary fencing and type of material to be considered.	As per site requirement
14	42.2.2/ Vol03SCC	Space for Temporary Infrastructure.	Request to provide the space for the temporary Infrastructure on free of cost within the site premises for the following, 1. Batching Plant 2. Labour Colony 3. Site Office 4. Stores, Workshop, Material yard & Precast yard & other Amenities required for execution.	labour camp is not allowed at site. Space for other construction activity infrastructure will be provided at site as per availability of space. However, contractor have no claim in case of non availability of the space.

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15	VOL01NITandPQ	SECTION-II INSTRUCTIONS TO BIDDERS (ITB)	Request you to kindly confirm whether both Operation and Maintenance required during defect liability period of 12 months. There are 18 Lifts in the tender BOQ. Request you to kindly confirm whether operators are required for maintaining the lift during defects liability period of 12 months. If required, kindly specify the number of operators to be considered.	Please refer pg -50 clause 45.0 of Vol III, SCC, which is amended as: "The contractor shall carry operation & maintenance of the entire system for one (01) year after satisfactory completion of entire work unless otherwise mentioned specifically under any items of work. Operation of Lifts during DLP for use by the Institute, is not included in the scope of work."
16	SCC-P-78	22.Terms of payment	We Propose the following Payment terms for HVAC system for a healthy cash flow for competitive Bid A) 80% of BOQ rate shall be paid on receipt of equipment at Site and after inspection and passing on prorata basis B) 15% of BOQ rate shall be paid on satisfactory erection and installation of equipment on prorata basis D) 5% after provisional taking over & after final performance -cum-seasonal test to be conducted in summer or monsoon . Request you to accept the same.	No change in tender conditions
17	SCC-P-76	13.2 Final Performance and Capacity Test	Request you to allow to carry out the performance and capacity test in tandem with commissioning process Immediately after the readiness of the plant Irrespective of start of DLP period. Please confirm.	No change in tender conditions
18	SCC-P-74	11.Samples and Prototypes	Submission of Samples shall be limited to HVAC visible items inside the Conditioned Space like Grilles & Diffusers & Valves For equipmenmts he contractor shall provide the detailed material submittal as per clause 10.0 od SCC- Pg 74 before vendor finalization. Please confirm	No change in tender conditions
19	SCC-P-71	4.Approved List pf Makes	Since this is a competitive bid and List of approved makes has been provided as part of NIT documents, to ensure fair bidding ,the contractor shall have the liberty to choose from any of the approved makes listed subject to compliance to specifications . Please confirm. And thereby request you to delete the clause "However, final choice of make shall lie with the Engineer."	No change in tender conditions

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20	General	Soil Investigation Report	Request you to provide the Soil Investigation Report with Borelog details.	Refer pg-13 of NIT Vol-I Clause 1.28 which states as under: "Tenderers are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their tenders as to the nature of the ground and sub-soil (so far as is practicable), the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their tender."
21	General	Area statement	Request to provide building wise total area statement	Detail Drawings have been Provided along with Tender Documents
22	General	Drawing	Please provide Drawing no HSCC/CNCI/TD/MP/01 Master Plan.	Drawing No HSCC/CNCI/TD/MP/01 is uploaded as annexure-'A'
23	Schedule of Quantities (Civil works)	All concrete works	We understand that flyash is allowed to blend with OPC 43 grade during production of concrete. Kindly confirm.	As per BOQ Item
24	Schedule of Quantities (Civil works)	Flooring	Kindly provide the pattern and colour of tiles and stones as the price varies based on colour and pattern.	Work shall be carried out as per respective BOQ items and corresponding CPWD specifications.
25	Schedule of Quantities (Civil works)	Flooring	Kindly provide the flooring and cladding pattern drawings for working purpose.	Work shall be carried out as per respective BOQ items and corresponding CPWD specifications.
26	1.08 / Vol04 Technical spec	General	We presume co-ordination and facilities to sub-agencies directly engaged by Client is not in our scope of work. If the same is required, kindly provide the separate item to price it for co-ordination and facilities.	No change in tender conditions
27	SCC-P-55	11 Inspection and Testing	Request you to provide the list of equipments along with the detailed specification of testing required to be witnessed by the client(FAT) , as NIT document is silent on the same	No change in tender conditions
28	Spec AC Page 17, 18	5.0, 6.0 Chillers	Based on the input from approved vendors it is to be noted that Most of them are not able to comply to specification of ASME stamping for evaporators and condensers. Request you allow us to proceed with Pressure vessel code as per approved manufacturing standards. Please confirm	No change in tender conditions
29	BOQ AC Page 2,	1 Chillers	It is to be noted that most of approved vendors listed are not able to meet the mentioned 1) COP(>6.3) 2) Max kW/ TR - 0.66 for the Chiller mentioned in the BOQ. To ensure fair bidding request you to amend the same to suitable values met by all vendors.	No change in tender conditions

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30	BOQ AC Page 2 Spec AC Page 16,	1 Chillers	It is to be noted that among the approved vendors listed ,majority of them are not able to comply to the given specification of unloading to 20% at constant condenser entry temp as mentioned in the specification. To avoid monopoly Request you to amend the same to suitable values that is met by all approved vendors	No change in tender conditions
31	BOQ AC Page 2	1.1(f, g) Chillers	Kindly note that Marine Water Boxes are maintenance item required mainly in condenser only. We, therefore, request you to kindly accept standard dish end plates for Evaporators.	No change in tender conditions
32	Spec AC Page 46	2 Cooling Tower	It is to be noted that most of the approved vendors listed are not able to offer Fan Drive assembly of cooling towers with gear drive(speed reducer) as mentioned in the specification. Hence request you to allow us to proceed with Direct drive/ belt drive/ gear drive for fan assembly of cooling towers as offered by approved vendors((As per approved manufacturing standards).	No change in tender conditions
33	BOQ-AC Page 4,	2.2 Secondary Pumps	1. Please specify the number of Controllers to be included and also the number of DPTs' to be considered	Shall be as per tender
34	B.O.Q.-AC 8,9,10	5.1 Air Handling Units	Please confirm whether the static mentioned for AHUS is Total static or external static pressure	Total static pressure
35	B.O.Q.-AC 8,9,10 Spec - AC page	5.1 Air Handling Units	Please confirm whether we may proceed with 25 Mm thick panels as offered By approved Listed vendors	Shall be as per tender
36	B.O.Q.-AC 8,9,10	5.1 Air Handling Units	Request you to indicate the Air Handling Units for which Hepa filters are to be considered since the Air Handling Units schedule does not specify the same.	Shall be as per tender
37	B.O.Q.-AC 8,9,10	5.1 Air Handling Units	1. Please provide the size (dia mm) of PIBCV valves to be considered along with each AHU units mentioned as part of BOQ (5.1.1 to 5.1.34)	Shall be as per the AHU flow requirements
38	B.O.Q.-AC ,10	5.2 VAV BOXES	1) Please confirm whether the quoted prices should be inclusive of the Integrator and the Control Cabling part to be used for looping purpose. 2) If required, Please provide the length of cabling to be considered with each VAV Units	Shall be as per tender

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39	B.O.Q.-AC ,10	5.2 VAV BOXES	1. Please provide the detailed specification of VAV BOXES to be considered ,since the same is not given as a part of Technical specification document	Shall be as per tender
40	B.O.Q.-AC ,11	5.3 Heat Reclaim Ventilation Unit	1. Please provide the detailed specification of Heat reclaim ventilation Unit to be considered ,since the same is not given as a part of Technical specification document	Shall be as per tender
41	B.O.Q.-AC ,11	5.3 Heat Reclaim Ventilation Unit	1. Please provide the List of approved vendors to be considered for Heat Reclaim Units as the same is missing in approved vendor List provided as part of Tender documents	Enventus, Bry-air, Flaktwood
42	B.O.Q.-AC ,11	5.3 Heat Reclaim Ventilation Unit	1. Please provide the Total static pressure for which the units are to be selected for.	Shall be as per requirement
43	B.O.Q.-AC ,11	5.3 Heat Reclaim Ventilation Unit	Please provide the length of cabling, and earthing to be considered along with each Heat Reclaim Unit	Shall be as per tender
44	B.O.Q.-AC ,12	6 DX Precision Unit	We presume to proceed with Refrigerant R407 C/ R410A as offered by approved vendors for DX Precision Units as the same is not provided as part of technical specification	Shall be as per tender
45	B.O.Q.-AC ,12	6 DX Precision Unit	1. Please provide the length of 1) Refrigerant piping 2) Control cabling, Power cabling 3) Drain piping To be Considered along with each DX PAC Units.	Shall be as per tender
46	B.O.Q.-AC ,13	7 Air washer Units	Please confirm whether the static mentioned for Air Washer Units is Total static or external static pressure	Total St. Pressure
47	B.O.Q.-AC ,13	7 Air washer Units	Please provide the length of cabling, control cable and earthing to be considered along with each Air Washer Units	Shall be as per tender
48	B.O.Q.-AC 14 Spec- AC page 59	8 Centrifugal fans (Spec AC 2.1)	Please provide the data sheets for centrifugal fans as mentioned in the specification since the same is not provided as part of NIT documents	Shall be as per BOQ and Technical Specifications of the Tender

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49	B.O.Q.-AC 14 Spec- AC page 59	8Centrifugal Fans Impeller Rotor (Spec AC 2.1)	Please confirm whether the Impeller of centrifugal fans are to be backward curved or with aero foil section blades	Shall be as per BOQ and Technical Specifications of the Tender
50	B.O.Q.-AC 14	8,9 Centrifugal Fans Inline fans	Please confirm whether the static mentioned for centrifugal/ Inline Fans is Total static or external static pressure	Total st. Pressure
51	B.O.Q.-AC 14	9.1 Inline fans	1. Please provide the equipment schedule for Inline/ propeller fans as the same is not given as part of NIT documents	Shall be as per BOQ and Technical Specifications of the Tender
52	B.O.Q.-AC 14	9.1 Inline fans	Please provide the length of cabling, to be considered along with each Inline fans	Shall be as per BOQ and Technical Specifications of the Tender
53	B.O.Q.-AC 15,16	9.3 Fire Rated Fans	It is to be noted that for item No 9.3The BOQ heading calls for Vane Axial fans while the BOQ description and specification(technical specs) is given for tube axial fans. We presume to proceed with Tube axial fans for the same. Please confirm.	Vane Axial fan.
54	B.O.Q.-AC16 Specs-AC-Page-71	10 EXPANSION TANK 3.9 EXPANSION TANK	Please confirm the Expansion Tank to be considered is as per Specifications (PVC Double layered) or description given in the	Shall be as per BOQ
55	B.O.Q.-AC16	10 EXPANSION TANK	Please provide the size of the air separator to be considered along with each of the expansion tanks mentioned in the BOQ	Shall be as per BOQ
56	B.O.Q.-AC17	11 UVGI System	Please provide the detailed specification of UVGI system to be considered since the same is not given as a part of tech spec documents	Shall be as per BOQ
57	BOQ AC 21 Spec page AC 95	14 2.1 Insulated Chilled Water Piping	It is to be noted that as per BOQ description Chilled water Piping is to be insulated with Fiber glass(80 kg/ m3) while as per specification the material to be considered is EPS(24 Kg/m3). Please clarify	Shall be as per BOQ.Upto 150 mm dia: 50 mm, upto 400 mm dia:75 mm.
58	BOQ AC 21 Spec page AC 95	14 2.1 Insulated Chilled Water Piping	Please provide the thickness of insulation to be considered for each diameter of Piping mentioned in the BOQ.	As above

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59	BOQ AC 27	19 PIR Ducting	Please provide the specifications to be considered for PIR ducting as the same is missing as a part of NIT documents.	Shall be as per BOQ
60	BOQ AC 27	19 PIR Ducting	Please provide the list of approved makes to be considered for PIR ducting as the same is missing in the approved vendor List.	Pi-PAL, P3, Zeco, Europan
61	BOQ AC 28 Spec AC Page 82 Spec AC Page 120	20.2 4.7 Fire Dampers	It is be noted that as per clause 4.7 of tech spec, Fire dampers shall be Certified a as per UL555:1973 while List of approved makes calls for UL Listed Fire dampers(Page 120 tech spec). We presume to proceed as specification description with Fire dampers CBRI certified and as per UL 555. Please confirm.	Shall be as per Tender.
62	BOQ AC 32	30.2 Duct Silencer	Please provide the length for which individual silencers should be selected for.	Shall be as per selected fan and duct size.
63	Technical Specifications	Centrifugal Chillers – Evaporator/ Condenser	We shall be supplying chillers which are manufactured & stamped in accordance with GB Code. We wish to confirm that GB Code is equally stringent to ASME Code and should be equally acceptable. In fact, in certain criteria it is more stringent than ASME PV Code like pneumatic shell testing etc. We hereby attach a detailed comparison of GB vs ASME Code. Therefore, we request you to kindly also accept GB Pressure Vessel Code	No change in tender conditions
64	BOQ	A. Equipment: 1. Water Chilling Units 1.1 (o) & 1.1 (p)	As chillers operate at a higher condenser entering temperature at Kolkata, the compressors require a larger impeller size suitable for High Lift operations, which results in higher power consumption for a Chiller. Hence, request you to consider Max IKW/TR of 0.68 & Min COP at AHRI conditions of 6.1 for the Chiller.	No change in tender conditions
65	Technical Specifications	Centrifugal Chillers	This condition is generally applicable for large size chillers. As per this condition, each individual chiller of 425 TR capacity is required to unload up to 85 TR (20%) at constant condenser entering water temperature, meaning the plant room shall operate at 5% of the its total installed capacity of 1700 TR (425 TR # 4). This is highly impractical condition as the building shall always have a base air-conditioning load of 15-20%. Therefore, we request you to kindly amend this condition to capacity control 100% - 40% for each individual chiller	No change in tender conditions

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66	BOQ	A. Equipment: 1. Water Chilling Units 1.1.(a)	Compressor motor specifications are not clear. As per CPWD HVAC Specifications 5.3.10, the drive motor shall be totally enclosed IP-42 protected fan cooled for open type compressors and refrigerant cooled for semi-hermetic type chiller units. We request you to accept both type of motors with IP- 42 protection	Shall be as per tender
67	BOQ	Equipment Primary Chilled Water Pump 2.1	Please confirm Can we consider Horizontal End Suction Pump.	Shall be as per tender
68	BOQ	Equipment Secondary Chilled Water Pump 2.2	Please confirm can we consider Horizontal end suction pump for Secondary pumping system	Shall be as per tender
69		Point No. 7 General Design Guideline	We would like to suggest you kindly Provide us Same velocity Across the filters & Cooling Coil and we would like to Recommend you a uniform Air velocity of 150 Meter Per Min. Across the Filters & Coils.	Uniform air velocity 150 m/min is acceptable.
70	BOQ	Item No. 19	Kindly Consider the Pal, P3, &Kingspan Make Duct	Pi-PAL, P3, Zeco, Europan
71	SL NO: 10, 14,15 &16 Approved Make List		M/s Unique Engineers Pvt. Ltd. a pioneer Company in the field of HVAC integrated solution are having PAN India presence and executing a number of Government and Private sector Projects across the nation and off-shore. they are also the manufacturer of AHUs, FCUs, Air washers etc. and their AHUs are approved by CPWD and the same have been installed on a number of prestigious projects of NDMC and M/s NBCC Ltd. This is prudent to mention that their AHUs were considered in the approved make list of the Prestigious HVAC Project for The Honourable Supreme Court of India(CPWD), GTB Hospital Shahdra, Delhi (PWD) which are the most recent Projects. As claimed by them their product is at par to all the other makes listed in your approved List of Make.	Shall be as per tender
72	SL NO: 84 Approved Make List		M/s Unique Engineers Pvt. Ltd. a pioneer Company in the field of HVAC integrated solutions. As claimed by them that being a pioneer in HVAC have highest regard for your prestigious project and voluntarily willing to initiate some value addition. They are proposing DurKee-flex make, a new generation insulation which is better in quality as compare to conventional make of insulation i.e Armacell Armaflex, K- Flex etc. This would be prudent to mention that the proposed insulation is being used widely in US and Europe and has already emerged as top most brand in US HVAC industry. This make has been considered in a recent Tender of CCIL (Container Corporation of India Ltd.). The induction of this insulation in your project would enhance the overall quality and efficiency of the system. As per them they do believe in innovative and fruitful technology and want to extend the benefit of the same to our valued clients.	Shall be as per tender

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73	SL NO: 4,6 & 7 Approved Make List		ITT, the Approved Make for the Pumps is now available with the brand name Xylem so please accept the ITT make Pump with the xylem brand name.	Xylem is acceptable.
74	BOQ	Item No.4:Hot Water Generator	As per the BOQ Specs Hot water GPM is Selected on the 1 GPM per KW which is incorrect on the given Hot water in & Out Temp. as per the Given In & Out temp. & Given Capacity it should be as 114 GPM or as per manufacturer standard. Further, as per tender technical specs Working pressure for the hot water generator should be 21 KG/CM2. Please accept the Hot water generator with 150 Psi working pressure which is sufficient.	Shall be as per tender. Working pressure 150 psig and test pressure 300 Psig.
75	BOQ	Item No 5		Shall be as per tender.
76		Axial Fans		Shall be as per tender.
77	SL NO: 65 Approved Make List			Shall be as per tender.
78	39, Volume-IV, Technical Specification	10.00 Fire Fighting System	Incase of introduction of any new additional hydrant points in external/internal areas by the Engineer/Local Fire Authority, it will have an impact in the bill of quantities towards hydrant point, piping, valves, etc., since this being an item rate contract, kindly confirm	As per BOQ and Tender conditions
79	11 & 12, Volume-V, Bill of Quantities	1.00 Fire Fighting System	Kindly share the dimension of the panels	3000mmX2250mmX1800mm
80	81,Volume-IV, Technical Specification	14.00 List of approved makes : Fire Fighting works	Request for the additional makes (since the cummins make engine will be available in higher HP ratings) with KOEL/Greaves Cotton.	Greaves Cotton
81	BOQ-E112_R1, Volume-V, Bill of Quantities	21.00 Building Management System	Kindly provide the I/O summary	I/O Summary is uploaded as Annexure-"B"
82	Vol001NIT	NOTICE INVITING BIDS Clause 1.37 Page 14	We presume that Form H need not submit along with the bid, if the contractor is themselves eligible for specialized E&M works Please confirm	No change in tender conditions
83	Vol001NIT	NOTICE INVITING BIDS Clause 1.37 Page 14	Associating agency shall be finalized after award of contract only. So request you to kindly amend this clause that the form H for associating agency (from list of approved makes) shall be submitted for Engineer In Charge's approval after award of contract.	At this stage only undertaking in form H to be submitted.The name & details of agency be submitted at execution stage.
84	vol6tenderdrawing	Tender Drawings	Electrical busduct routing layout is not available in the tender documents. Request you to kindly provide the same.	Lay-out will be as per actual site conditions

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85	vol6tenderdrawing	Tender Drawings	Electrical SLD layouts are not available in the tender documents. Request you to kindly provide the same.	SLD will be given to successful bidder
86	Vol04Techspecs	1.00 GENERAL SCOPE OF WORK Clause xx SPEC Page E-2 R01	Being an item rate tender, our scope is limited to the works mentioned in the tender BOQ only. Hence we presume that this clause is applicable for the line items mentioned in the BOQ only	Tender conditions will prevail.
87	Vol04Techspecs	1.00 GENERAL SCOPE OF WORK Clause xxi SPEC Page E-2 R01	Being an item rate tender, and separate line item is not furnished for Enhancement / Sanctioning Electrical Load from State Electricity Board. Hence we presume that it is not part of contractor scope of work	liaisoning for getting the enhancement/ sanctioning electrical load on behalf of the client in the scope however the statutory fee deposit will be reimbursed on submission of documentary proof.
88	Vol04Techspecs	1.00 GENERAL SCOPE OF WORK Clause xxiii SPEC Page E-2 R01	Being an item rate tender, and separate line item is not furnished for Obtaining approvals from Chief Electrical Inspectors, Local Electricity Supply Authority, Telecom Department, and any other statutory authorities for the complete scope. Hence we presume that it is not part of contractor scope of work Please confirm	liaisoning for getting the work done on behalf of the client in the scope however the statutory fee deposit will be reimbursed on submission of documentary proof.
89	Vol04Techspecs	3.0 11 KV VACUUM CIRCUIT BREAKER PANEL BOARD 3.20.12.1 Factory Tests SPEC Page E-9 R01	Vendors shall be finalized after award of contract only. Hence the type test certificates equipments shall be furnished during vendor finalization after award of contract Kindly confirm	It will be after award of the contract but before procurement of material.
90	Vol04Techspecs	15.0 BUS TRUNKING 15.4.1 Technical Parameters SPEC Page E-84 R01	In VOL05BOQ , page no 182 SI No 1.05 Busducts - short circuit ratings of busducts are not specified Request you to kindly specify 50KA (OR) 75KA short circuit current rated bus ducts to be considered	It will be same as of main LT Panel.
91	Vol04Techspecs	15.0 BUS TRUNKING 15.3 Standards for compliance SPEC Page E-84 R01	As per IS 8623, busducts shall be designed for 40 deg C (35 deg C ambient average over a period of 24 hours) Please confirm whether temperature withstand capacity for busducts shall be considered as per IS 8623	As per technical specifications
92	Vol04Techspecs	18.0 11 KV TRANSFORMERS (OLTC TYPE) Page SPEC Page E-92 R01	Request you to kindly confirm indoor (OR) outdoor type transformers to be considered for this project	Out door type
93	Vol04Techspecs	8.0 LIFT INSTALLATION 8.6 MAINTENANCE SPEC Page E-39 R01	Maintenance service generally offered by approved lift OEM's during the DLP of 12 month shall be provided for the Lifts. Please confirm.	OK as per tender conditions

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94	Vol04Techspecs	13.0 DIESEL GENERATOR SETS 13.16 TESTS AT MANUFACTURER'S WORK SPEC Page E-64 R01	We presume that testing to be done on one (1) DG Set of each rating specified in the BOQ. Please confirm	OK
95	Vol04Techspecs	13.0 DIESEL GENERATOR SETS 13.16 TESTS AT MANUFACTURER'S WORK SPEC Page E-64 R01	We presume that DG Panel shall be supplied by the contractor as per the BOQ line item and not by the Owner Please confirm	As per BOQ
96	Vol04Techspecs	13.0 DIESEL GENERATOR SETS 13.16 TESTS AT MANUFACTURER'S WORK SPEC Page E-64 R01	Only engine coupled with alternator shall be offered for witness test at Original Equipment Assembler (OEA) Works. For Alternator, Only tests certificates conducted on alternator for routine factory test shall be submitted for approval. Please confirm	OK
97	Vol04Techspecs	13.0 DIESEL GENERATOR SETS 13.18 TRIALS (AT SITE) SPEC Page E-65 R01	We presume that building load can be considered for load test at site. Please confirm	OK
98	Vol04Techspecs	24. SOLAR PHOTOVOLTAIC MODULES: SPEC Page E-131 R01	Single line diagram related to solar grid interfacing with EB Power is not available in the tender drawings. Request you to kindly furnish the same.	It will be as per MNRE guidelines.
99	Vol04Techspecs	24. SOLAR PHOTOVOLTAIC MODULES: SPEC Page E-131 R01	Evacuation voltage level is not specified in the tender documents. Request you to kindly confirm the evacuation voltage to be considered for grid interactive Solar Photovoltaic System	It will be synchronized with grid at 415 Volt AC.
100	Vol04Techspecs	24. SOLAR PHOTOVOLTAIC MODULES: SPEC Page E-131 R01	Please confirm the distance between solar PV array and solar inverter and other panel locations	As per actual site conditions.
101	Vol04Techspecs	24. SOLAR PHOTOVOLTAIC MODULES: 3. ARRAY STRUCTURE: SPEC Page E-132 R01	Performance ratio is not specified in the tender document. Request you to kindly specify the performance ratio to be considered for solar PV System.	As per actual site conditions.
102	Vol04Techspecs	24. SOLAR PHOTOVOLTAIC MODULES: 6. DATA MONITORING: SPEC Page E-133 R01	Kindly mention the equipments and their parameters to be monitored, please share the data point schedule related to SCADA	As per actual requirement however following are the minimum: 1.Units generated, 2.Remote monitoring. 3.Weather monitoring.
103	Vol04Techspecs	24. SOLAR PHOTOVOLTAIC MODULES: 6. DATA MONITORING: SPEC Page E-133 R01	Request you to kindly furnish the I/O summary for SCADA related solar PV system	As per actual requirement at site.

S.No	Clause, Section & Vol No	Description	Pre-bid Queries	Reply to Pre-bid Queries
104	VOL05BOQ	BUS DUCTS SI No 1.05 BOQ-E 8_R1	Request you to kindly confirm indoor (OR) outdoor type busduct to be considered for this line item	Partly indoor & partly outdoor
105	VOL05BOQ	BUS DUCTS SI No 1.05 BOQ-E 8_R1	Request you to kindly confirm indoor (OR) outdoor type busduct to be considered for this line item	Partly indoor & partly outdoor
106	VOL05BOQ	BUS DUCTS SI No 1.05 BOQ-E 8_R1	Request you to kindly confirm indoor (OR) outdoor type busduct to be considered for this line item	Partly indoor & partly outdoor
107	VOL05BOQ	BUS DUCTS SI No 1.05 BOQ-E 8_R1	Request you to kindly confirm indoor (OR) outdoor type busduct to be considered for this line item	Partly indoor & partly outdoor
108	VOL05BOQ	BUS DUCTS SI No 1.05 BOQ-E 8_R1	Request you to kindly confirm indoor (OR) outdoor type busduct to be considered for this line item	Partly indoor & partly outdoor
109	VOL05BOQ	BUS DUCTS SI No 1.05 BOQ-E 8_R1	Request you to kindly specify the number of bends, end terminations & end flexible joints to be considered for this line item.	As per actual site conditions
110	VOL05BOQ	BUS DUCTS SI No 1.05 BOQ-E 8_R1	Request you to kindly specify the number of bends, end terminations & end flexible joints to be considered for this line item.	As per actual site conditions
111	VOL05BOQ	BUS DUCTS SI No 1.05 BOQ-E 8_R1	Request you to kindly specify the number of bends, end terminations & end flexible joints to be considered for this line item.	As per actual site conditions
112	VOL05BOQ	BUS DUCTS SI No 1.05 BOQ-E 8_R1	Request you to kindly specify the number of bends, end terminations & end flexible joints to be considered for this line item.	As per actual site conditions
113	VOL05BOQ	BUS DUCTS SI No 1.05 BOQ-E 8_R1	Request you to kindly specify the number of bends, end terminations & end flexible joints to be considered for this line item.	As per actual site conditions
114	VOL05BOQ	H.T. CABLE SI No 1.06 BOQ-E 9_R1	Request you to kindly confirm whether earthed (OR) unearthed HT Cable to be used	Earthed cables to be used
115	VOL05BOQ	H.T. CABLE SI No 1.06 BOQ-E 9_R1	Request you to kindly specify the depth of excavation required for this particular line item. Please confirm	As per CPWD/ latest IS specifications
116	VOL05BOQ	Cable Trays SI No 1.16 BOQ-E 11_R1	Request you to kindly confirm whether site fabricated bends, reducers, Tee, crossmember etc are accepted for cable tray installation.	Can be accepted as per tender conditions

S.No	Clause, Section & Vol No	Description	Pre-bid Queries	Reply to Pre-bid Queries
117	VOL05BOQ	Cable Trays SI No 1.16 BOQ-E 11_R1	Specifiation calls form 10mm dia MS round rod whereas BOQ calls for 12mm rod spsuspenders for cable tray support. We presume that 12mm rod to be used for suspending the cable trays from ceiling as per BOQ Please confirm	As per BOQ
118	VOL05BOQ	Cable Trays SI No 1.16 BOQ-E 11_R1	Separate line items for cable tray supports are specified in SI No 1.14 and 1.15. Hence we presume that for SI No 1.16 line items, cost for the cable tray support not to be considered. Please confirm	All items to be considered in 1.16 including items for suspension from ceiling./ wall.
119	VOL05BOQ	SUBHEAD 3 : DG SET & ACCESSORIES SI No 3.01 BOQ-E 27_R1	DG Set room layout is not available in the tender documents. Request you to kindly furnish the details / quantities required for exhaust structure of each DG Set	DG sets may be installed out door and the layout will be submitted by the sucessful bidder.
120	VOL05BOQ	SUBHEAD 3 : DG SET & ACCESSORIES SI No 3.02 BOQ-E 30_R1	DG Set room layout is not available in the tender documents. Request you to kindly furnish the details / quantities required for exhaust structure of each DG Set	DG sets may be installed out door and the layout will be submitted by the sucessful bidder.
121	VOL05BOQ	SUBHEAD 3 : DG SET & ACCESSORIES SI No 3.01 BOQ-E 27_R1	Engines offered by the Approved Makes comply to latest CPCB Emission Norms and hence Catalytic Convertors are not being offered by the approved Engine OEA's. Hence Offered DG Sets shall be provided without catalytic Converter. Please confirm	Engines offered must meet the latest CPCB norms at the time of installation of DG sets.
122	VOL05BOQ	SUBHEAD 3 : DG SET & ACCESSORIES SI No 3.02 BOQ-E 30_R1	Engines offered by the Approved Makes comply to latest CPCB Emission Norms and hence Catalytic Convertors are not being offered by the approved Engine OEA's. Hence Offered DG Sets shall be provided without catalytic Converter. Please confirm	Engines offered must meet the latest CPCB norms at the time of installation of DG sets.
123	VOL05BOQ	SUBHEAD 3 : DG SET & ACCESSORIES SI No 3.03 BOQ-E 33_R1	Engines offered by the Approved Makes comply to latest CPCB Emission Norms and hence Catalytic Convertors are not being offered by the approved Engine OEA's. Hence Offered DG Sets shall be provided without catalytic Converter. Please confirm	Engines offered must meet the latest CPCB norms at the time of installation of DG sets.
124	VOL05BOQ	SUBHEAD 3 : DG SET & ACCESSORIES SI No 3.03 BOQ-E 33_R1	Request you to kindly confirm whether radiator cooled (OR) heat exchanger type DG Set to be considered	Radiator cooled.
125	VOL05BOQ	SUBHEAD 3 : DG SET & ACCESSORIES SI No 3.03 BOQ-E 33_R1	Since DG Room layouts are not available in the tender documents, request you to kindly confirm whether the DG set is with acoustic enclosure or with room acoustic.	DG sets may be installed out door and will be as per BOQ.

S.No	Clause, Section & Vol No	Description	Pre-bid Queries	Reply to Pre-bid Queries
126	VOL05BOQ	SUBHEAD 3 : DG SET & ACCESSORIES SI No 3.03 BOQ-E 33_R1	DG Set room detail layouts are not available in the tender documents. So, request you to kindly furnish the detailed BOQ.	DG sets may be installed out door and will be as per BOQ.
127	VOL05BOQ	SUBHEAD 3 : DG SET & ACCESSORIES SI No 3.05 BOQ-E 39_R1	Request you to kindly specify the distance to be considered between under ground diesel tank and day tank.	Location of UG diesel tank tank will be decided as per actual site conditions.
128	VOL05BOQ	WIRING SI No 8.01 BOQ-E 80_R1	Request you to kindly specify the average lengths to be considered for group A points	Group A has been considered in Type-I, II, and type III quarters and other similar buildings sr resident & Jr resident etc. The average length will be as per the electrical layout drawings.
129	VOL05BOQ	WIRING SI No 8.01 BOQ-E 80_R1	Request you to kindly specify the average lengths to be considered for group B points	Group B has been considered in Type-Iv and typeV quarters and other similar buildings. The average length will be as per the electrical layout drawings.
130	VOL05BOQ	WIRING SI No 8.01 BOQ-E 80_R1	Request you to kindly specify the average lengths to be considered for group C points	Group C has been considered in hospital area. The average length will be as per the electrical layout drawings.
131	VOL05BOQ	WIRING SI No 8.02 BOQ-E 81_R1	Request you to kindly specify the average lengths to be considered for twin light control point	As per electrical layout drawings.
132	VOL05BOQ	LIGHT FIXTURES AND FANS SI No 9.01 BOQ-E 83_R1	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	Model numbers of other approved makes meeting all the BOQ requirements & technical specifications of mentioned model number may be accepted.
133	VOL05BOQ	LIGHT FIXTURES AND FANS SI No 9.01 BOQ-E 83_R1	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	- do -
134	VOL05BOQ	LIGHT FIXTURES AND FANS SI No 9.01 BOQ-E 83_R1	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	- do -
135	VOL05BOQ	LIGHT FIXTURES AND FANS SI No 9.01 BOQ-E 83_R1	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	- do -
136	VOL05BOQ	LIGHT FIXTURES AND FANS SI No 9.01 BOQ-E 84_R1	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	- do -
137	VOL05BOQ	LIGHT FIXTURES AND FANS SI No 9.01 BOQ-E 84_R1	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	- do -
138	VOL05BOQ	LIGHT FIXTURES AND FANS SI No 9.01 BOQ-E 84_R1	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	- do -

S.No	Clause, Section & Vol No	Description	Pre-bid Queries	Reply to Pre-bid Queries
139	VOL05BOQ	LIGHT FIXTURES AND FANS SI No 9.01 BOQ-E 84_R1	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	- do -
140	VOL05BOQ	LIGHT FIXTURES AND FANS SI No 9.01 BOQ-E 84_R1	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	- do -
141	VOL05BOQ	LIGHT FIXTURES AND FANS SI No 9.01 BOQ-E 84_R1	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	- do -
142	VOL05BOQ	LIGHT FIXTURES AND FANS SI No 9.01 BOQ-E 84_R1	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	- do -
143	VOL05BOQ	LIGHT FIXTURES AND FANS SI No 9.01 BOQ-E 84_R1	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	- do -
144	VOL05BOQ	LIGHT FIXTURES AND FANS SI No 9.01 BOQ-E 84_R1	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	- do -
145	VOL05BOQ	LIGHT FIXTURES AND FANS SI No 9.01 BOQ-E 84_R1	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	- do -
146	VOL05BOQ	LIGHT FIXTURES AND FANS SI No 9.01 BOQ-E 84_R1	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	- do -
147	VOL05BOQ	LIGHT FIXTURES AND FANS SI No 9.01 BOQ-E 84_R1	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	- do -
148	VOL05BOQ	LIGHT FIXTURES AND FANS SI No 9.01 BOQ-E 85_R1	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	- do -
149	VOL05BOQ	LIGHT FIXTURES AND FANS SI No 9.02 BOQ-E 85_R1	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	- do -
150	VOL05BOQ	LIGHT FIXTURES AND FANS SI No 9.02 BOQ-E 85_R1	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	- do -
151	VOL05BOQ	LIGHT FIXTURES AND FANS SI No 9.02 BOQ-E 85_R1	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	- do -
152	VOL05BOQ	LIGHT FIXTURES AND FANS SI No 9.02 BOQ-E 85_R1	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	- do -
153	VOL05BOQ	LIGHT FIXTURES AND FANS SI No 9.02 BOQ-E 85_R1	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	- do -

S.No	Clause, Section & Vol No	Description	Pre-bid Queries	Reply to Pre-bid Queries
154	VOL05BOQ	LIGHT FIXTURES AND FANS SI No 9.02 BOQ-E 85_R1	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	- do -
155	VOL05BOQ	LIGHT FIXTURES AND FANS SI No 9.02 BOQ-E 85_R1	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	- do -
156	VOL05BOQ	LIGHT FIXTURES AND FANS SI No 9.02 BOQ-E 85_R1	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	- do -
157	VOL05BOQ	LIGHT FIXTURES AND FANS SI No 9.02 BOQ-E 85_R1	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	- do -
158	VOL05BOQ	LIGHT FIXTURES AND FANS SI No 9.02 BOQ-E 85_R1	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	- do -
159	VOL05BOQ	LIGHT FIXTURES AND FANS SI No 9.02 BOQ-E 86_R1	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	- do -
160	VOL05BOQ	LIGHT FIXTURES AND FANS SI No 9.02 BOQ-E 86_R1	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	- do -
161	VOL05BOQ	LIGHT FIXTURES AND FANS SI No 9.02 BOQ-E 86_R1	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	- do -
162	VOL05BOQ	LIGHT FIXTURES AND FANS SI No 9.02 BOQ-E 86_R1	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	- do -
163	VOL05BOQ	LIGHT FIXTURES AND FANS SI No 9.03 BOQ-E 86_R1	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	- do -
164	VOL05BOQ	LIGHT FIXTURES AND FANS SI No 9.04 BOQ-E 86_R1	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	- do -
165	VOL05BOQ	LIGHT FIXTURES AND FANS SI No 9.05 BOQ-E 86_R1	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	- do -
166	VOL05BOQ	17.00 LT CABLES SI No 17.02 BOQ-E 105_R1	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	- do -
167	VOL05BOQ	LIGHT FIXTURES AND FANS SI No 20 BOQ-E 109_R1	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	- do -
168	VOL05BOQ	LIGHT FIXTURES AND FANS SI No 20.01 BOQ-E 109_R1	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	- do -

S.No	Clause, Section & Vol No	Description	Pre-bid Queries	Reply to Pre-bid Queries
169	VOL05BOQ	LIGHT FIXTURES AND FANS SI No 20.02 BOQ-E 110_R1	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	- do -
170	VOL05BOQ	LIGHT FIXTURES AND FANS SI No 20.03 BOQ-E 110_R1	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	- do -
171	VOL05BOQ	SOLAR PHOTVOLTAIC POWER GENERATION SI No 22.01 SPEC Page E-114 R01	In terrace layout, no details about solar PV arrangement has been shown. Request you to kindly confirm whether the requirement is for roof top solar system (OR) Ground based Solar System.	As per actual site conditions. Details will be prepared by the successful bidder. Roof top solar system.
172	VOL05BOQ	SOLAR PHOTVOLTAIC POWER GENERATION SI No 22.01 SPEC Page E-114 R01	Request you to kindly furnish the solar PV system layout and the area availability for mounting structure in order to decide the module arrangements	As per actual site condition successful bidder has to submit the layout.
173	Vol04Techspecs	12.00 List of approved makes Civil works, Sr no:52 pg no-77		Please see amended Annexure-'C'
174	Vol04Techspecs	Wireless Access Point (IT Works)		Amended Technical Specifications is enclosed as Annexure-'D'
175	Vol 05BOQ	Main LT Panel-Bus Coupler		Amended BOQ Item is enclosed as Annexure-'E'

Prospective bidders are advised to regularly scan through HSCC e-tender portal <http://www.tenderwizard.com/HSCC> as corrigendum/amendments etc., if any, will be notified on this portal only and separate advertisement will not be made for this.

Other terms & Conditions of the Tender shall remain unchanged

Executive Director
HSCC (India) Ltd.,
For & on behalf of Director, CNCI Kolkata

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NORTH

NOTES

1. ALL DIMENSIONS ON THIS DRAWING ARE IN MM.
2. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED. DRAWINGS SHOULD NOT BE SCALED UNDER ANY CIRCUMSTANCES. ALL MEASUREMENTS MUST BE CHECKED AND VERIFIED BY THE CONTRACTORS PRIOR TO EXECUTION OF WORK AT THE SITE.
3. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT STRUCTURAL SERVICES & FACILITY PLANNING DRAWINGS.

SPECIAL NOTE:
1. THIS TO BE REFERRED FOR PHASE-I ONLY.

PROJECT

Proposed Master Plan for Chittaranjan National Cancer Institute NewTown Campus, Rajarhat, Kolkata

TITLE

TENDER DRAWING

MASTER PLAN

HSSC/CNCI/TD/SH/06301

R-0

Drawing No.

Revision

HSSC/CNCI

1 : 100

Date: 10.04.2014

Job No.

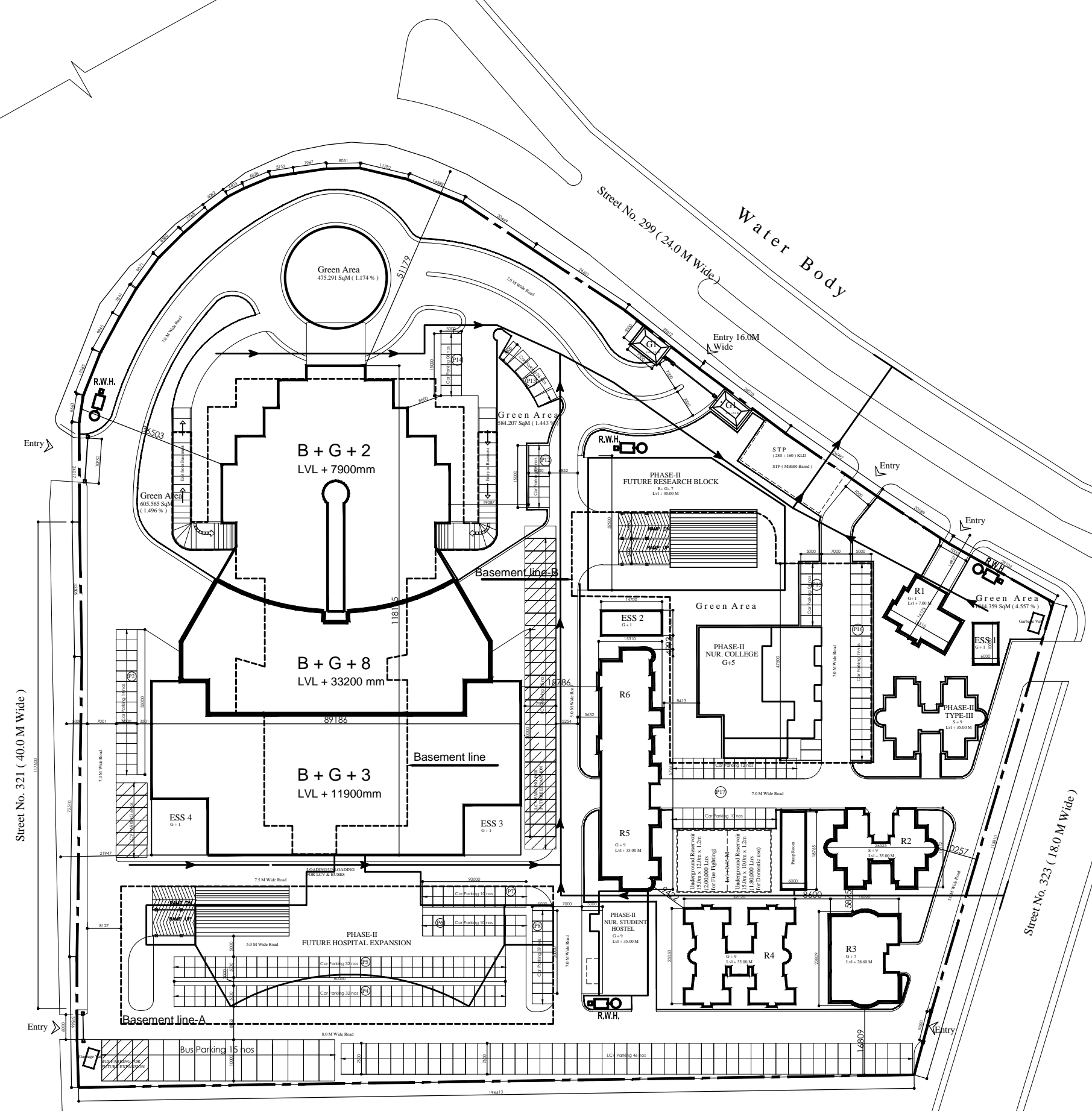
Scale

App. By.

Rev. By.

Prep. By.

Plot No. DJ/5
Sovana Apartments



MASTER PLAN WITH FUTURE PROPOSAL

PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

HSCC

HSCC (INDIA) LIMITED
(A GOVERNMENT OF INDIA ENTERPRISES)

NEW DELHI INDIA

Chittaranjan National Cancer Institute, KOLKATA(W.B)

Annexure-B

IO-Summary for IBMS

Sr. No.	Description	AI	DI	AO	DO	S/W	By IBMS Contractor	By 3rd Party Contractors
F.1	Chiller 4 Nos					90	Data to be integrated on Modbus/ BACnet/IP protocol from Chiller to BMS	HVAC Vendor to provide BACnet/IP or RS 485 MODBUS interface in each panel . All mapping details & the Master/slave ID setting in the Chillers to be done by the HVAC Contractor
F.1.1	Chiller oN Off command				4		Potential Free Contact from BMS to Chiller panel	Acceptance of Potential Free Output in Panel
F.1.2	Chiller run status		4				Potential Free Contact to BMS from Chiller MCC panel	Potential Free Contact in Chiller Panel
F.1.3	Chillers Trip / Fault		4				Potential Free Contact to BMS from Chiller MCC panel	Potential Free Contact in Chiller Panel
F.1.4	CHW supply temp.	4					Immersion temperature sensor	Suitable Insertion Provision in Water Line
F.1.5	CDW supply temp.	4					Immersion temperature sensor	Suitable Insertion Provision in Water Line
F.1.6	Common Header CHW supply / common return temp.	2					Immersion temperature sensor	Suitable Insertion Provision in Water Line
F.1.7	Common Header CDW supply / common return temp.	2					Immersion temperature sensor	Suitable Insertion Provision in Water Line
F.1.8	Ambient Temperature & Humidity	2					Ambient temp/Humidity sensor	
F.1.9	Chilled Water Flow Status		4				Water flow switch	Suitable Insertion Provision in Water Line
F.1.10	Chilled water outlet Motorised Butterfly valve Open/ close				4		Potential Free Contact from BMS to Valve actuator	Suitable BMS compatible Butterfly valve
F.1.11	Chilled water outlet Motorised Butterfly valve Open/ close Status		8				Signal from potential free contact.	Potential Free Contact from Valve actuator
F.1.12	Condensor water outlet Motorised Butterfly valve Open/ close				4		Potential Free Contact from BMS to Valve actuator	Suitable BMS compatible Butterfly valve
F.1.13	Condensor water outlet Motorised Butterfly valve Open/ close Status		8				Signal from potential free contact.	Potential Free Contact from Valve actuator
F.2	Primary Chilled Water Pumps 4 Nos							
F.2.1	Pump ON / OFF				4		Potential Free Contact from BMS to Pump Starter panel	Acceptance of Potential Free Output in Pump Panel
F.2.2	Pump run status		4				Differential Pressure switch	Potential Free Contact in Pump Panel
F.2.3	Pump Auto / Manual switch status		4				Potential Free Contact at Auto/Manual Switch	Potential Free Contact in Pump Panel

Sr. No.	Description	AI	DI	AO	DO	S/W	By IBMS Contractor	By 3rd Party Contractors
F.2.4	CHW pump trip status.		4				Signal from potential free contact.	Potential Free Contact in Pump Panel
F.3	Condenser water pump 4 Nos							
F.3.1	Pump ON / OFF				4		Potential Free Contact from BMS to Pump Starter panel	Acceptance of Potential Free Output in Pump Panel
F.3.2	Pump run status		4				Differential Pressure switch	Potential Free Contact in Pump Panel
F.3.3	Pump Auto / Manual switch status		4				Potential Free Contact at Auto/Manual Switch	Potential Free Contact in Pump Panel
F.3.4	CHW pump trip status.		4				Signal from potential free contact.	Potential Free Contact in Pump Panel
F.4	Cooling Towers -5 nos							
F.4.1	cooling Towers ON / OFF				4		Potential Free Contact from BMS to Pump Starter panel	Acceptance of Potential Free Output in Pump Panel
F.4.2	CT fan run status		4				Current relay	Potential Free Contact in Pump Panel
F.4.3	CT Auto / Manual switch status		4				Potential Free Contact at Auto/Manual Switch	Potential Free Contact in Pump Panel
F.4.4	CT fan trip status.		4				Signal from potential free contact.	Potential Free Contact in Pump Panel
F.4.5	CT outlet temp	4					Immersion temperature sensor	Suitable Insertion Provision in Water Line
F.4.6	Common Header CDW supply / common return temp.	2					Immersion temperature sensor	Suitable Insertion Provision in Water Line
F.4.7	Cooling tower water outlet Motorised Butterfly valve Open/ close				4		Potential Free Contact from BMS to Valve actuator	Suitable BMS compatible Butterfly valve
F.4.8	Cooling tower water outlet Motorised Butterfly valve Open/ close Status		8				Signal from potential free contact.	Potential Free Contact from Valve actuator
F.4.9	cooling tower Low level status		4				Water level switch	Suitable Insertion Provision
F.4.10	Chilled water header Flow rate	1					Water Flow meter	Suitable Insertion Provision
F.5	Secondary Chilled Water Pumps 4 Nos							
F.5.1	Pump Auto/Manual status		4				Potential Free Contact at Auto/Manual Switch	Potential Free Contact in Pump Panel
F.5.2	Secondary pump Enable/disable command				4		Potential Free Contact from BMS to PLC	Suitable provision in PLC
F.5.3	Secondary pumping PLC integration					60	Data to be integrated on Modbus RS485 protocol from CPM to BMS	HVAC Vendor to provide RS 485 MODBUS interface in each plc . All mapping details & the Master/slave ID setting in the Chillers to be done by the HVAC Contractor
	Sub Total (F.1+F.2+F.3+F.4+F.5)	21	80	0	32	150	0	0
F.6	Air Handling Units - Type -1							
F.6.1	AHU ON/OFF				10		Potential Free Contact from BMS to fan Starter panel	Acceptance of Potential Free Output in AHU Panel

Sr. No.	Description	AI	DI	AO	DO	S/W	By IBMS Contractor	By 3rd Party Contractors
F.6.2	AHU Air Flow status		10				Differential Switch across Fans	Suitable Insertion Provision in AHU
F.6.3	AHU filter status		10				Differential Switch across Filter	Suitable Insertion Provision in AHU
F.6.4	AHU A/M Status		10				Potential Free Contact at Auto/Manual Switch	Potential Free Contact in A/M switch in AHU Panel
F.6.5	Return Air temperature & RH	10					Duct Temperature + RH Sensor	Suitable Insertion Provision in AHU
F.6.6	Chilled water valve control			10			0-10V DC/4-20mA signal to valve	Suitable Insertion Provision in AHU
F.6.7	Reheat strip heater			10			0-10V DC /4-20mA signal to thyrister heater banks	Suitable provision to accept BMS signal
F.6.8	AHUVFD control			10			0-10V DC/4-20mA signal to VFD	Suitable VFD
F.6.9	AHU Fan VFD feedback	10					0-10V DC/4-20mA signal from VFD to DDC	0-10 VDC/4-20mA signal to BMS
F.6.10	AHU VFD trip status		10				Signal from potential free contact.	Potential Free Contact from VFD in electrical Panel
F.6.11	Room Differential Pressure monitoring	10					Differential Pressure Sensor (Air)	Suitable Insertion Provision in room
	Sub Total (F.6)	30	40	30	10	0	0	0
		2.7	3.6	2.7	0.9			
F.7	Air Handling Units - (AHUs Type -2)							
F.7.1	AHU ON/OFF				42		Potential Free Contact from BMS to fan Starter panel	Acceptance of Potential Free Output in AHU Panel
F.7.2	AHU Air Flow status		42				Differential Switch across Fans	Suitable Insertion Provision in AHU
F.7.3	AHU filter status		42				Differential Switch across Filter	Suitable Insertion Provision in AHU
F.7.4	AHU A/M Status		42				Potential Free Contact at Auto/Manual Switch	Potential Free Contact in A/M switch in AHU Panel
F.7.5	Return temperature & RH	42					Room Temperature + RH Sensor	Suitable Insertion Provision in AHU
F.7.6	Chilled water valve control			42			0-10V DC/4-20mA signal to valve	Suitable Insertion Provision in AHU
F.7.7	Reheat strip heater			6			0-10V DC /4-20mA signal to thyrister heater banks	Suitable provision to accept BMS signal
F.7.8	AHUVFD control			10			0-10V DC/4-20mA signal to VFD	Suitable VFD
F.7.9	AHU Fan VFD feedback	10					0-10V DC/4-20mA signal from VFD to DDC	0-10 VDC/4-20mA signal to BMS
F.7.10	AHU VFD trip status		10				Signal from potential free contact.	Potential Free Contact from VFD in electrical Panel
F.7.11	Room Differential Pressure monitoring	12					Differential Pressure Sensor (Air)	Suitable Insertion Provision in room
	Sub Total (F.7)	64	136	58	42	0	0	0
		3	4	3	1			
F.8	Treated Fresh Air Handling Units -							
F.8.1	TFA ON/OFF				4		Potential Free Contact from BMS to fan Starter panel	Acceptance of Potential Free Output in TFA Panel
F.8.2	TFA Air Flow status		4				Differential Switch across Fans	Suitable Insertion Provision in TFA
F.8.3	TFA Air filter status		4				Differential Switch across Filter	Suitable Insertion Provision in TFA
F.8.4	TFA A/M Status		4					Potential Free contact from TFA panel
F.8.5	Chilled water valve control			4			0-10V DC/4-20mA signal to valve	Suitable Insertion Provision in AHU
F.8.6	Reheat strip heater			4			0-10V DC /4-20mA signal to thyrister heater banks	Suitable provision to accept BMS signal
F.8.7	TFA supply air temperature	4					Duct Temperature Sensor	Suitable Insertion Provision in TFA

Sr. No.	Description	AI	DI	AO	DO	S/W	By IBMS Contractor	By 3rd Party Contractors
	Sub Total (F.8)	4	12	8	4	0	0	0
F.9	VAV boxes- 26 Nos.							
F.9.1	VAV controllers intergration					130	Integration through BACnet/IP Protocol	VAV vendor to provide BACnet/IP procol for integratiopn to IBMS.
		0	0	0	0	130		
F.10	Liftwell & Pressurization Fans							
F.10.1	Fan Air Flow status		19				Differential Switch across Fans	Suitable Insertion Provision in AHU
F.10.2	Fan Air A/M status		19				Signal from potential free contact.	Potential Free Contact from A/M switch in electrical Panel
	Sub Total (F.10)	0	38	0	0	0	0	0
F.11	FA/ Exhaust Fans							
F.11.1	Fan On Off				40		Potential Free Contact from BMS to fan Starter panel	Acceptance of Potential Free Output in electrical Panel
F.11.2	Fan Air Flow status		20				Differential Switch across Fans	Suitable Insertion Provision
F.11.3	Fan A/M status		20				Signal from potential free contact.	Potential Free Contact from A/M switch in electrical Panel
F.11.4	Parking area CO level monitoring	6					CO sensor	Suitable Insertion Provision
	Sub Total (F.11)	6	40	0	40	0	0	0
F.12	Fire Fighting System							
F.12.1	Hydrant pressure monitroing	1					Pressure Sensor	Suitable Insertion Provision in Water Line
F.12.2	Sprinkler pressure monitroing	1					Pressure Sensor	Suitable Insertion Provision in Water Line
F.12.3	Jockey Pump run status		1				Differential Pressure switch	Suitable Insertion Provision in Water Line
F.12.4	Sprinkler Pump run status		1				Differential Pressure switch	Suitable Insertion Provision in Water Line
F.12.5	Hydrant Fire Pump Run Status		1				Differential Pressure switch	Suitable Insertion Provision in Water Line
F.12.6	Diesel Fire Pump Run Status		1				Differential Pressure switch	Suitable Insertion Provision in Water Line
F.12.7	FFTG room Diesel Tank Low level status		1				Flame Proof level switch	Suitable Insertion Provision
	Sub Total (F.12)	2	5	0	0	0	0	0
F.13	U G Tanks and pumps							
F.13.1	Raw UG Tank Level High /Low status		2				Water level switch	Suitable Insertion Provision
F.13.2	Treated water UG Tank Level High /Low status		2				Water level switch	Suitable Insertion Provision
F.13.3	Fire Tank Level High /Low status		4				Water level switch	Suitable Insertion Provision
F.13.4	Terrace Pump run status		1				Differential Pressure switch	Suitable Insertion Provision

Sr. No.	Description	AI	DI	AO	DO	S/W	By IBMS Contractor	By 3rd Party Contractors
F.13.5	Terrace Pump Trip status		1				Signal from potential free contact.	Potential Free Contact from electrical Panel
F.13.6	Borewell Pump run status		2				Differential Pressure switch	
F.13.7	Borwell Pump Trip status		2				Signal from potential free contact.	Potential Free Contact from electrical Panel
F.13.8	Hydropneumatic Domestic water supply pumps run status		2				Differential Pressure switch	
F.13.9	Hydropneumatic Domestic water supply pumps Trip status		2				Signal from potential free contact.	Potential Free Contact from electrical Panel
F.13.10	Filter Feed pumps run staus		2				Differential Pressure switch	
F.13.11	Filter Feed pumps trip staus		2				Signal from potential free contact.	Potential Free Contact from electrical Panel
F.13.12	Sump pumps run status		2				Differential Pressure switch	
F.13.13	Sump pumps trip status		2				Signal from potential free contact.	Potential Free Contact from electrical Panel
F.13.14	Make up/ Expansion water tank Hi Low level status		4				Signal from level switch	Suitable Insertion Provision
F.13	Sub Total (F.13)	0	30	0	0	0	0	0
F.14	Water Supply System							
F.14.1	water recycling pumps (flushing) run status		2				Differential Pressure switch	
F.14.2	water recycling pumps (flushing)trip status		2				Signal from potential free contact.	Potential Free Contact from electrical Panel
F.14.3	STP (Treated water) tank high/ low level		2				water level switch	Suitable insertion provision
F.14.4	STP pumps run status		10				Differential Pressure switch	
F.14.5	STP pumps trip status		10				Signal from potential free contact.	Potential Free Contact from electrical Panel
F.14.6	WTP pumps run status (Pump room)		4				Signal from potential free contact.	Suitable Insertion Provision in Water Line
F.14.7	WTP pumps trip status (Pump room)		4				Signal from potential free contact.	Potential Free Contact from electrical Panel
F.14.8	irrigation water pumps run status		2				Differential Pressure switch	Suitable Insertion Provision in Water Line
F.14.9	irrigation water pumps trip status		2				Signal from potential free contact.	Potential Free Contact from electrical Panel
F.14.10	Plant area Tank High / Low level status		2				water level switch	Suitable insertion provision
F.14.11	Overflow tank high/ low level ststus		2				water level switch	Suitable insertion provision
F.14.12	Solar System (circulation)pumps run status		2				Signal from potential free contact.	Suitable Insertion Provision in Water Line
F.14.13	Solar System (circulation)pumps trip status		2				Signal from potential free contact.	Potential Free Contact from electrical Panel
F.14	Sub Total (F.14)	0	46	0	0	0	0	0
F.15	Diesel Generator - 4 Nos.					90	Integration through Modbus RS485 Protocol	DG Panel vendor to provide RS 485 MODBUS RTU.All mapping details & the Master/slave ID setting in the meter to be done by the DG vendor

Sr. No.	Description	AI	DI	AO	DO	S/W	By IBMS Contractor	By 3rd Party Contractors
F.15.1	DG set Run status		4				Signal from potential free contact.	Potential Free Contact from electrical Panel
F.15.2	Fault Alarm Status		4				Signal from potential free contact.	Potential Free Contact from electrical Panel
F.15.3	Oil tank Low level status		4				Flame Proof Level Switch	Suitable Insertion Provision
F.15.4	DG battery voltage status	4					DC voltage transducer	Suitable Insertion Provision
F.15.5	Main UG HSD tank level monitoring	1					Flame Proof Level transmitter	Suitable Insertion Provision
	Sub Total (F.15)	5	12	0	0	90	0	0
F.16	Electrical							
F16.1	HT Main incoming Breaker status		2				Signal from potential free contact.	Potential Free Contact from electrical Panel
F16.2	Trip Alarm		2				Signal from potential free contact.	Potential Free Contact from electrical Panel
F16.3	Over current Alarm		2				Signal from potential free contact.	Potential Free Contact from electrical Panel
F16.4	Earth Fault Alarm		2				Signal from potential free contact.	Potential Free Contact from electrical Panel
F16.5	Transformer Fault status		2				Signal from potential free contact.	Potential Free Contact from electrical Panel
F16.6	LT main Incoming / outgoing metering (50)					500	Integration of energy meter through Modbus Protocol.	Vendor to provide RS 485 MODBUS in each equipment
F16.7	LT Isolator outgoing breaker Status		3				Signal from potential free contact.	Potential Free Contact from electrical Panel
F16.8	Isolator panel Breaker On off status		3				Signal from potential free contact.	Potential Free Contact from electrical Panel
F16.9	Isolator panel Breaker trip status		3				Signal from potential free contact.	Potential Free Contact from electrical Panel
F16.10	LT main incomer Breaker status		5					
F16.11	Bus Coupler Status		2				Signal from potential free contact.	Potential Free Contact from electrical Panel
F16.12	Power Factor Monitoring	3					Single Phase Power Factor Transducer	Suitable Insertion Provision in electrical panel with required CT/PT
F16.13	Transformer Oil temperature Alarm		3				Signal from potential free contact.	Potential Free Contact from Transformer Panel
F16.14	Tap position Alarm		3				Signal from potential free contact.	Potential Free Contact from Transformer Panel
F16.15	Transformer various Alarm		12				Signal from potential free contact.	Potential Free Contact from Transformer Panel
F16.16	attery charger for substation		3				Signal from potential free contact.	Potential Free Contact from Transformer Panel
	Sub Total (F.16)	3	47	0	0	500	0	0
F.17	Scrubber							
F.17.1	Scrubber Start / stop				3		Potential Free Contact from BMS to fan Starter panel	Acceptance of Potential Free Output in electrical Panel

Sr. No.	Description	AI	DI	AO	DO	S/W	By IBMS Contractor	By 3rd Party Contractors	
F.17.2	Scrubber Run status		3				Signal from potential free contact.	Potential Free Contact from electrical Panel	
F.17.3	Scrubber A/M status		3				Signal from potential free contact.	Potential Free Contact from electrical Panel	
	Sub total F.17	0	6	0	3	0	0	0	
F.18	Lifts :(11 nos.)								
F.18.1	Lifts Run status		11				Signal from potential free contact.	Potential Free Contact from electrical Panel	
F.18.2	Lifts Alarm status		11				Signal from potential free contact.	Potential Free Contact from electrical Panel	
	Sub total F.18	0	22	0	0	0	0	0	
F.19	Fire Alarm System								
	Fire Alarm System	0	0	0	0	800	Integration of FAS through BACnet/IP Protocols of all devices/detectors	FDA Vendor to provide BACnet /IP in each equipment	
	Sub total F.19	0	0	0	0	800			
F.20	UPS								
F.20.1	UPS Common alarm		8				Signal from potential free contact.	Potential Free Contact from UPS Panel	
F.20.2	UPS integration	0	0	0	0	30	Integration of UPS microprocessor through BACnet/IP or Modbus RS 485 Protocol on the device	UPS Vendor to provide BACnet /IP or Modbus RS 485 protocol in each equipment	
	Sub Total (F.20)=	0	8	0	0	30	0	0	
	Grand Total (F.1 to F.20)	135	522	96	131	1700			
		884							

Chittaranjan National Cancer Institute(CNCI),Kolkata(W.B)				
				Annexure-C
Project Name-Construction of Hospital Building, Residences, Hostels, etc including Associated Services and Operations & Maintenance during defect liability period at CNCI, Rajarhat, Kolkata				
Tender No.-HSCC/CNCI/2015; dated 05.02.2015				
Vol 04 Technical specifications for Civil works Item 12.0 pg-77 is amended as below				
Sl.No	As Per Technical Specifications		As Amended	
	Material	Manufacturers	Material	Manufacturers
12.00	SS Railing	Ozone,D-Line,Jindal	SS Railing	SS 304 grade (as approved by the Engineer)

**Chittaranjan National Cancer Institute
Rajarhat, Kolkata**

Dated: 19.02.2015

Annexure.- D

Project Name - Construction of Hospital building, residence, hostels etc. Including associated services and operation and maintenance during defect liability period at CNCI, Rajarhat, Kolkata

Tender No. - HSCC/CNCI/2015;

Subject- IT works for CNCI, Rajarhat, Kolkata

Sl. No	As per existing tender document	Amendment
1	Specification of Wireless Access Point mentioned in Page no.51 in IT Works of Volume-IV TechSpecs	Deleted
2	Specification of Wireless Access Point (for Sr. No. 14.0 in BOQ IT)	Amended Technical Specification of Wireless Access Point is Mentioned below

Technical Specification of Wireless Access Point (Serial no. 14.0 in BOQ IT)	
S. No	Description
1	Access Point radio should be minimum 3x3 MIMO with 3 spatial streams or more. Dual Radio capable .
2	Access Point should be 802.11ac ready from day one.
3	AP should have 1x10/100/1000 Ge LAN port.
4	802.11 a/b/g/n/ac functionality certified by the Wi-Fi alliance.
5	Access Point can have integrated or external Antenna.

6	The Max transit power of the AP + Antenna should be as per WPC norms for indoor Access Points. OEM to give a undertaking letter stating that the AP will configured as per WPC guidelines for indoor AP and also submit the WPC certificate showing approval.
7	Should support 8x BSSID per AP radio.
8	Access point should support 802.11ac beam forming for 802.11ac.
9	The access point should be capable of performing security scanning and serving clients on the same radio. It should be also capable of performing spectrum analysis and security scanning using same radio.
10	Should support BPSK, QPSK, 16-QAM, 64-QAM and 256 QAM modulation types
11	Access point should support 802.3af/at POE standard.
12	Access point should have option of external power adaptor as well.
13	Access point should have console port.
14	Must support Proactive Key Caching and/or other methods for Fast Secure Roaming.
15	Must operate as a sensor for wireless IPS
16	AP model proposed must be able to be both a client-serving AP and a monitor-only AP for Intrusion Prevention services
17	AP mounting kit should be with locking mechanism so that AP cannot be removed without using special tools.
18	AP should have kensington lock slot.
19	AP should be UL 2043 certified.

Chittaranjan National Cancer Institute(CNCI),Kolkata(W.B)

Project Name-Construction of Hospital Building, Residences, Hostels, etc including Associated Services and Operations & Maintenance during defect liability period at CNCI, Rajarhat, Kolkata

Tender No.-HSCC/CNCI/2015; dated 05.02.2015

BOQ ITEM NO.	AS Per BOQ	AS AMENDED	
2.01	SUBHEAD 2: MAIN LT PANEL.	SUBHEAD 2: MAIN LT PANEL.	
	Description.		Description.
C. i)	<p>BUS COUPLER : 1 No. ACB Panels each having following: 1 No. 4000 A, 415 V, Motorised, Fully Drawout type (EDO), Four Pole, Air Circuit Breaker with microprocessor based overload, short circuit, Instantaneous & earth Fault trip including under voltage release and lockable trip push button. The ACB should have $I_{cw} = I_{cs} = I_{cu} = 65KA$ for 1 sec.</p> <p>1 set of indicating lamps to indicate OPEN, CLOSE, TRIP. Push button to CLOSE the ACB.</p> <p>1 Set of A meter with ASS and CTs.</p>	C. i)	<p>BUS COUPLER : 2 No. ACB Panels each having following: 1 No. 4000 A, 415 V, Motorised, Fully Drawout type (EDO), Four Pole, Air Circuit Breaker with microprocessor based overload, short circuit, Instantaneous & earth Fault trip including under voltage release and lockable trip push button. The ACB should have $I_{cw} = I_{cs} = I_{cu} = 65KA$ for 1 sec.</p> <p>1 set of indicating lamps to indicate OPEN, CLOSE, TRIP. Push button to CLOSE the ACB.</p> <p>1 Set of A meter with ASS and CTs.</p>